



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 05:21 AM EST

PDB ID : 4V68
EMDB ID : EMD-5030
Title : T. thermophilus 70S ribosome in complex with mRNA, tRNAs and EF-Tu.GDP.kirromycin ternary complex, fitted to a 6.4 Å Cryo-EM map.
Authors : Schuette, J.-C.; Spahn, C.M.T.
Deposited on : 2008-12-11
Resolution : 6.40 Å (reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

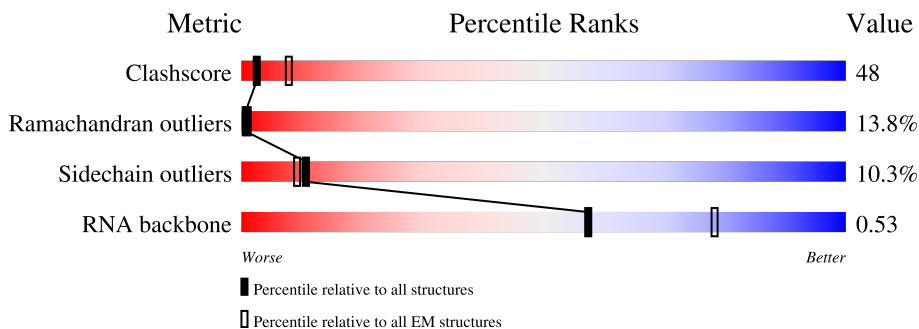
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 6.40 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	1504	
2	AB	235	
3	AD	208	
4	AE	151	
5	AF	101	
6	AH	138	
7	AK	119	

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Mol	Chain	Length	Quality of chain
8	AL	125	
9	AO	88	
10	AP	84	
11	AQ	100	
12	AR	70	
13	AT	99	
14	AC	207	
15	AG	155	
16	AI	127	
17	AJ	99	
18	AM	125	
19	AN	60	
20	AS	79	
21	AU	25	
22	AV	77	
23	AX	6	
24	AW	76	
25	AY	72	
26	A0	3	
27	AZ	405	
28	B0	85	
29	B1	89	
30	B2	51	
31	B3	60	
32	B4	50	

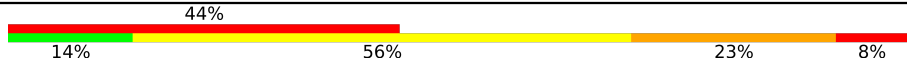

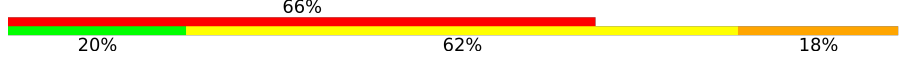
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Mol	Chain	Length	Quality of chain
33	B5	59	41% 22% 58% 15% 5%
34	B6	45	33% 18% 53% 27%
35	B7	49	35% 43% 47% 10%
36	B8	64	52% 17% 61% 22%
37	B9	35	43% 11% 66% 23%
38	BA	2852	7% 27% 54% 18%
39	BB	119	31% 59% 10%
40	BC	191	94% 47% 36% 16%
41	BD	272	46% 29% 51% 19%
42	BE	205	42% 23% 52% 23%
43	BF	208	49% 26% 60% 13%
44	BG	181	49% 19% 60% 18%
45	BH	160	53% 24% 55% 18%
46	BI	146	89% 21% 68% 10%
47	BL	138	94% 62% 30%
48	BN	139	45% 19% 56% 21%
49	BO	122	64% 32% 56% 10%
50	BP	146	48% 14% 55% 26% 5%
51	BQ	136	57% 19% 59% 21%
52	BR	117	27% 21% 58% 19%
53	BS	99	34% 12% 51% 35%
54	BT	138	40% 19% 54% 22% 5%
55	BU	117	33% 29% 58% 12%
56	BV	101	46% 14% 48% 36%
57	BW	113	37% 25% 61% 13%

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Mol	Chain	Length	Quality of chain
58	BX	93	
59	BY	101	
60	BZ	177	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	M2G	AY	26	-	-	X	-
25	OMG	AY	34	-	-	X	-

2 Entry composition [i](#)

There are 64 unique types of molecules in this entry. The entry contains 152000 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	AA	1504	32329	14390	5992	10444	1503	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	AB	235	1901	1213	342	341	5	0	1

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AD	208	1703	1066	339	291	7	0	0

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	AE	151	1147	724	218	201	4	0	1

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	AF	101	843	531	155	154	3	0	0

- Molecule 6 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	AH	138	1116	705	215	193	3	0	0

- Molecule 7 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	AK	119	885	549	168	165	3	0	0

- Molecule 8 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	AL	125	971	611	196	163	1	0	1

- Molecule 9 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AO	88	734	459	147	126	2	0	0

- Molecule 10 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	AP	84	701	443	140	117	1	0	1

- Molecule 11 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	AQ	100	824	528	152	142	2	0	1

- Molecule 12 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	AR	70	574	367	112	95	0	0

- Molecule 13 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	AT	99	763	470	162	129	2	0	0

- Molecule 14 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AC	207	Total	C	N	O	S	0	1
			1613	1016	315	281	1		

- Molecule 15 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AG	155	Total	C	N	O	S	0	0
			1257	781	252	218	6		

- Molecule 16 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	AI	127	Total	C	N	O	0	0
			1011	639	198	174		

- Molecule 17 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AJ	99	Total	C	N	O	S	0	1
			795	499	157	138	1		

- Molecule 18 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AM	125	Total	C	N	O	S	0	1
			988	611	206	169	2		

- Molecule 19 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AN	60	Total	C	N	O	S	0	0
			492	312	104	72	4		

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AS	79	Total	C	N	O	S	0	1
			630	403	115	110	2		

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
21	AU	25	209	128	51	30	0	1

- Molecule 22 is a RNA chain called P-SITE TRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
22	AV	77	1645	733	297	538	77	0	0

- Molecule 23 is a RNA chain called SYNTHETIC MRNA.

Mol	Chain	Residues	Atoms				AltConf	Trace	
			Total	C	N	O			P
23	AX	6	132	59	27	40	6	0	0

- Molecule 24 is a RNA chain called E-SITE TRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
24	AW	76	1623	723	290	534	76	0	0

- Molecule 25 is a RNA chain called AT-SITE TRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
25	AY	72	1546	698	275	501	72	0	0

- Molecule 26 is a RNA chain called MRNA CODON.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
26	A0	3	60	27	6	24	3	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A0	100	U	A	conflict	UNP Q5SHN6
A0	101	U	K	conflict	UNP Q5SHN6
A0	102	U	G	conflict	UNP Q5SHN6

- Molecule 27 is a protein called Elongation factor Tu-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	AZ	378	2962	1879	513	557	13	8	0

- Molecule 28 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	B0	85	650	401	137	111	1	0	0

- Molecule 29 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	B1	89	693	435	140	118		0	1

- Molecule 30 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	B2	51	421	263	85	72	1	0	1

- Molecule 31 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	B3	60	468	298	91	78	1	0	1

- Molecule 32 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	B4	50	242	143	50	49		0	1

- Molecule 33 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	B5	59	459	288	90	76	5	0	0

- Molecule 34 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	B6	45	Total	C	N	O	S	0	1
			381	235	78	64	4		

- Molecule 35 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	B7	49	Total	C	N	O	S	0	1
			419	257	105	55	2		

- Molecule 36 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	B8	64	Total	C	N	O	S	0	1
			508	326	102	78	2		

- Molecule 37 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	B9	35	Total	C	N	O	S	0	0
			294	181	66	44	3		

- Molecule 38 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BA	2852	Total	C	N	O	P	0	0
			61426	27338	11485	19752	2851		

- Molecule 39 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BB	119	Total	C	N	O	P	0	0
			2551	1136	471	826	118		

- Molecule 40 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	BC	191	Total	C	N	O	0	1
			1142	691	221	230		

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	?	-	LEU	deletion	UNP Q5SLP7
BC	?	-	VAL	deletion	UNP Q5SLP7
BC	?	-	LYS	deletion	UNP Q5SLP7
BC	?	-	GLU	deletion	UNP Q5SLP7
BC	?	-	LEU	deletion	UNP Q5SLP7
BC	?	-	ALA	deletion	UNP Q5SLP7
BC	?	-	ASP	deletion	UNP Q5SLP7
BC	?	-	ALA	deletion	UNP Q5SLP7
BC	?	-	VAL	deletion	UNP Q5SLP7
BC	?	-	VAL	deletion	UNP Q5SLP7
BC	?	-	ALA	deletion	UNP Q5SLP7
BC	?	-	THR	deletion	UNP Q5SLP7
BC	?	-	PRO	deletion	UNP Q5SLP7
BC	?	-	ASP	deletion	UNP Q5SLP7
BC	?	-	LEU	deletion	UNP Q5SLP7
BC	?	-	PRO	deletion	UNP Q5SLP7

- Molecule 41 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	BD	272	2105	1329	417	356	3	0	1

- Molecule 42 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	BE	205	1564	988	300	270	6	0	1

- Molecule 43 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	BF	208	1624	1035	304	282	3	0	1

- Molecule 44 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	BG	181	1474	942	268	260	4	0	0

- Molecule 45 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BH	160	Total	C	N	O	S	0	1
			1223	773	229	220	1		

- Molecule 46 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BI	146	Total	C	N	O	S	0	1
			1132	723	201	207	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BI	146	VAL	ALA	conflict	UNP Q5SLQ1

- Molecule 47 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BL	138	Total	C	N	O	S	0	0
			1025	654	181	185	5		

- Molecule 48 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BN	139	Total	C	N	O	S	0	1
			1105	712	207	182	4		

- Molecule 49 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BO	122	Total	C	N	O	S	0	0
			933	588	171	170	4		

- Molecule 50 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BP	146	Total	C	N	O	S	0	0
			1114	692	227	193	2		

- Molecule 51 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	BQ	136	1080	688	204	183	5	0	0

- Molecule 52 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	BR	117	960	599	202	159		0	0

- Molecule 53 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	BS	99	771	486	155	130		0	1

- Molecule 54 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	BT	138	1142	710	235	196	1	0	1

- Molecule 55 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	BU	117	958	604	202	151	1	0	0

- Molecule 56 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	BV	101	779	501	142	135	1	0	0

- Molecule 57 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	BW	113	896	563	176	155	2	0	0

- Molecule 58 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
58	BX	93	726	471	132	123	0	1

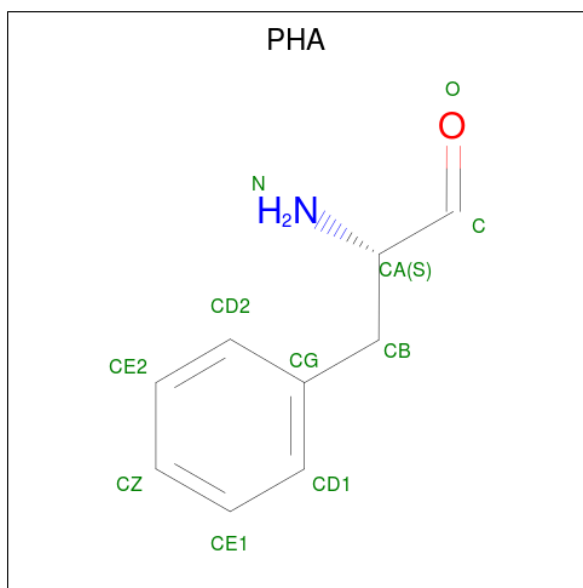
- Molecule 59 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	BY	101	776	500	149	123	4	0	1

- Molecule 60 is a protein called 50S ribosomal protein L25.

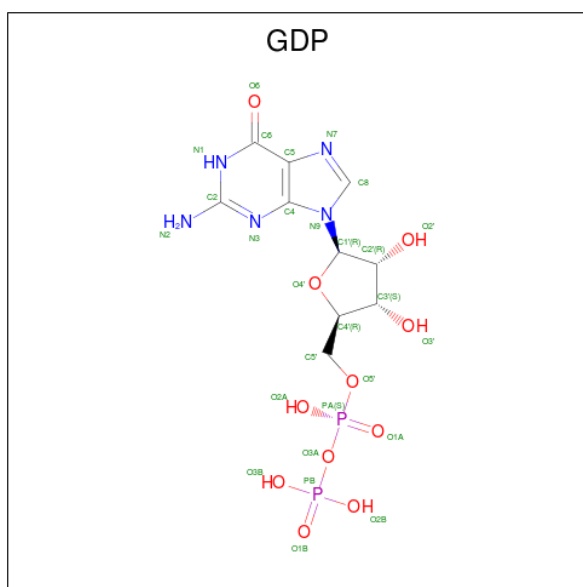
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	BZ	177	1404	897	253	252	2	0	1

- Molecule 61 is PHENYLALANINAL (three-letter code: PHA) (formula: C₉H₁₁NO).



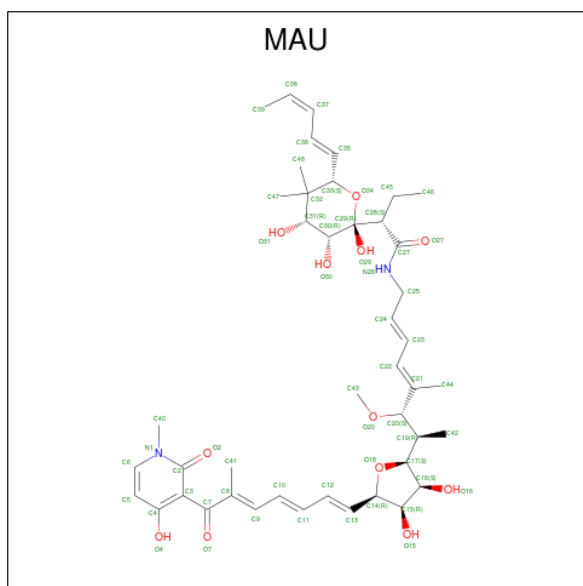
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
61	AY	1	11	9	1	1	0

- Molecule 62 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: C₁₀H₁₅N₅O₁₁P₂).



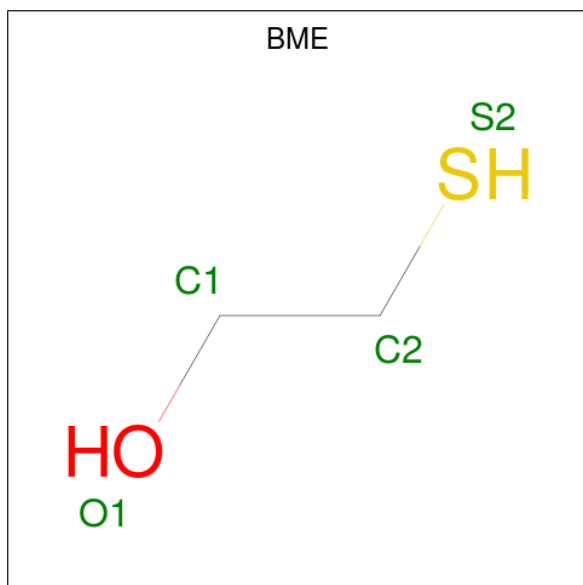
Mol	Chain	Residues	Atoms				AltConf	
			Total	C	N	O		P
62	AZ	1	28	10	5	11	2	0

- Molecule 63 is N-METHYL KIRROMYCIN (three-letter code: MAU) (formula: $C_{44}H_{62}N_2O_{12}$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
63	AZ	1	58	44	2	12	0

- Molecule 64 is BETA-MERCAPTOETHANOL (three-letter code: BME) (formula: C_2H_6OS).



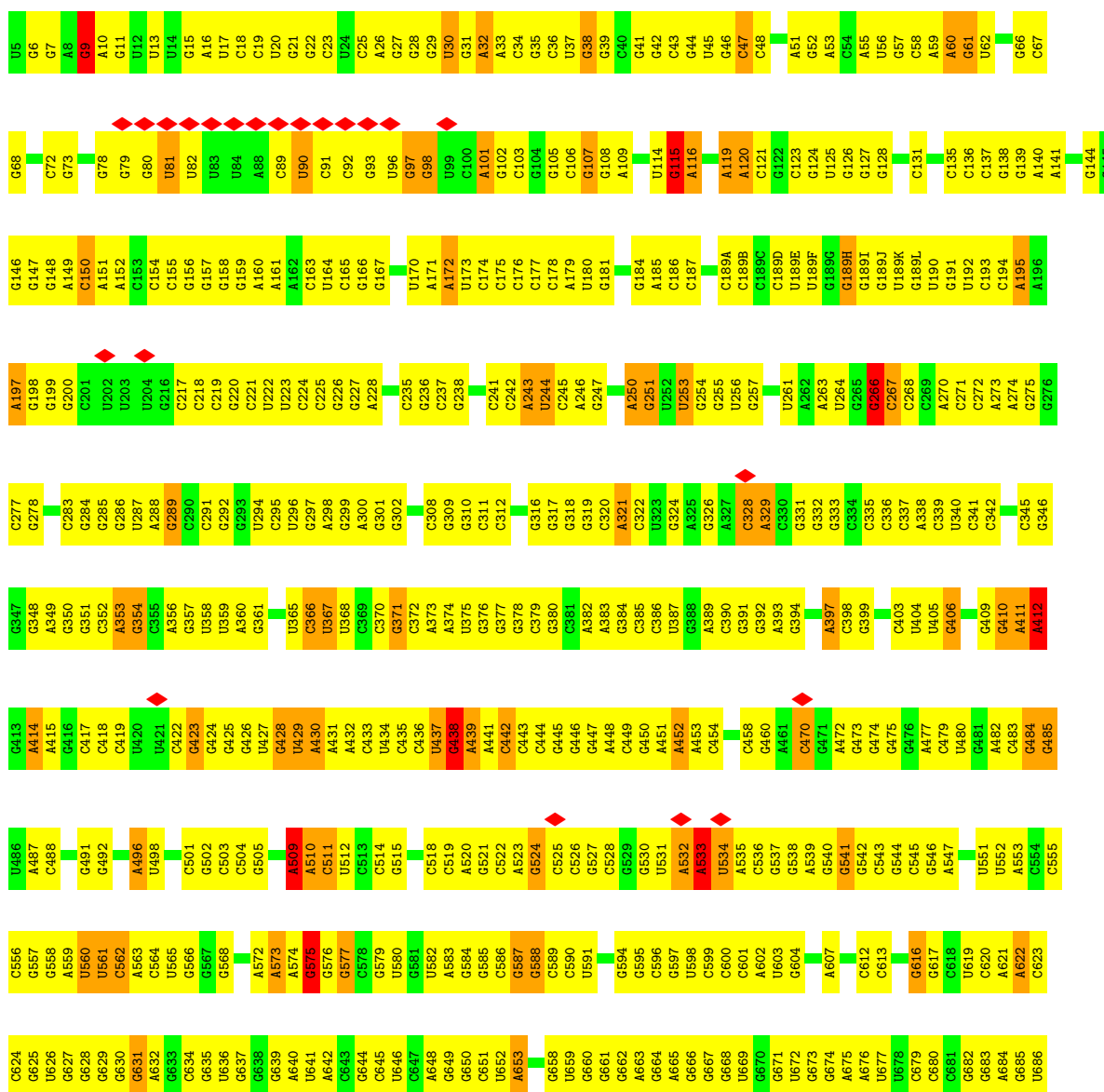
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	S	
64	AZ	1	4	2	1	1	0

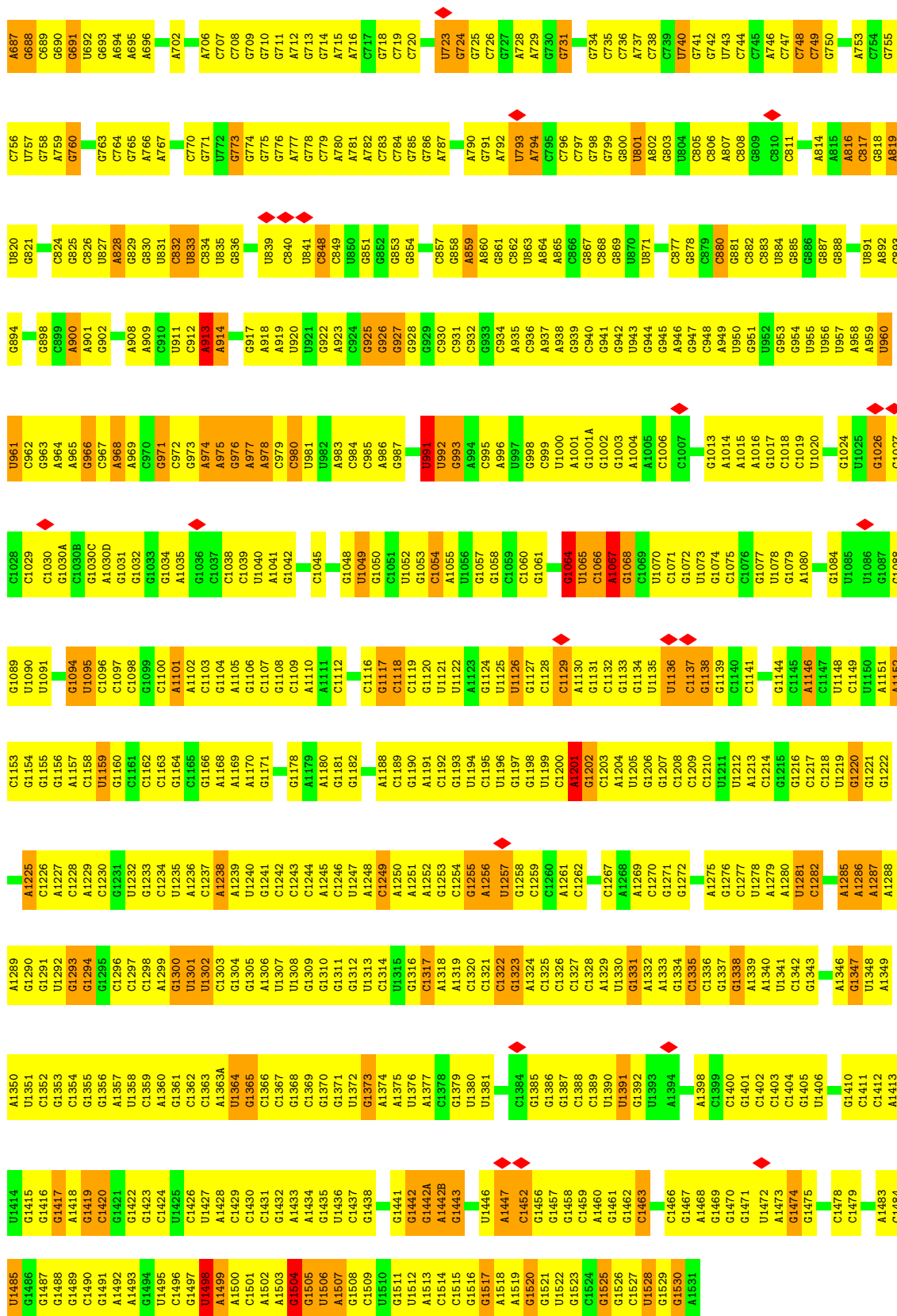
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

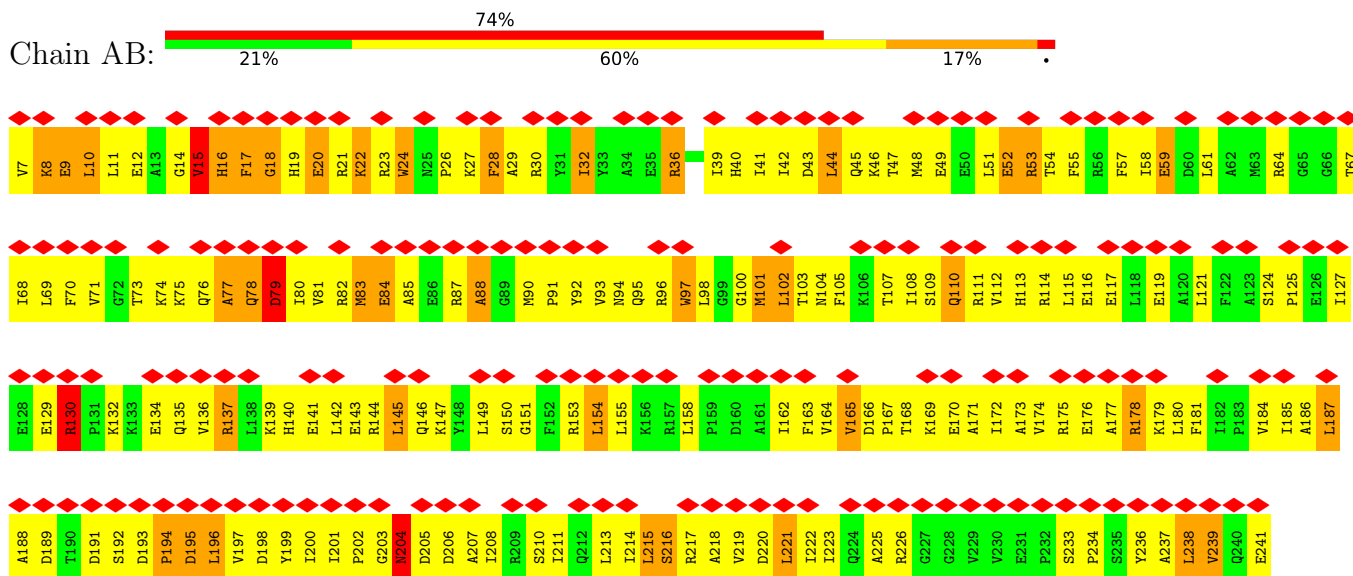
• Molecule 1: 16S rRNA

Chain AA: 

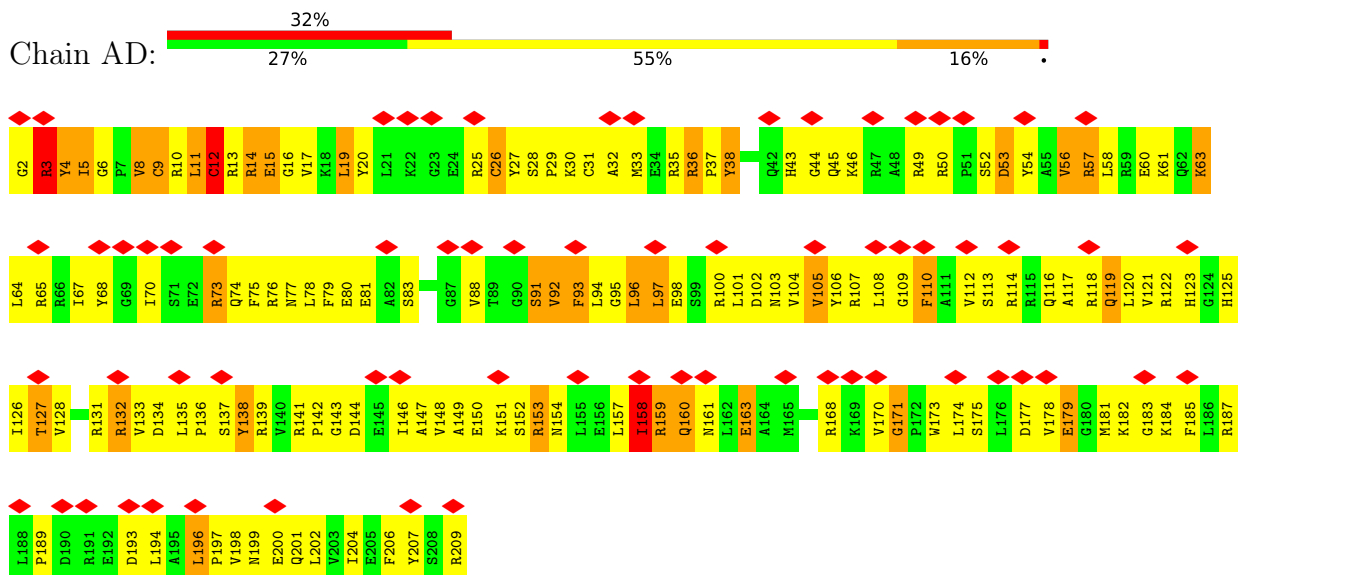




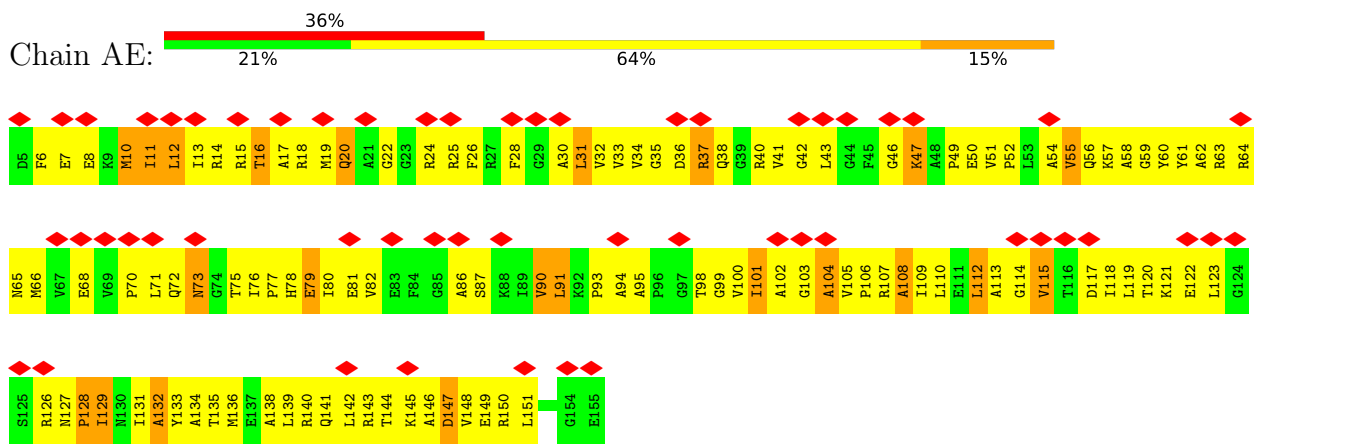
• Molecule 2: 30S ribosomal protein S2



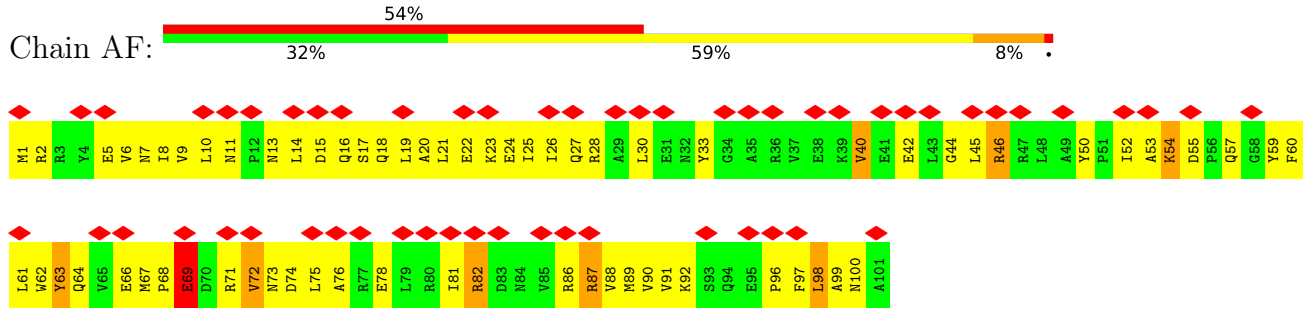
• Molecule 3: 30S ribosomal protein S4



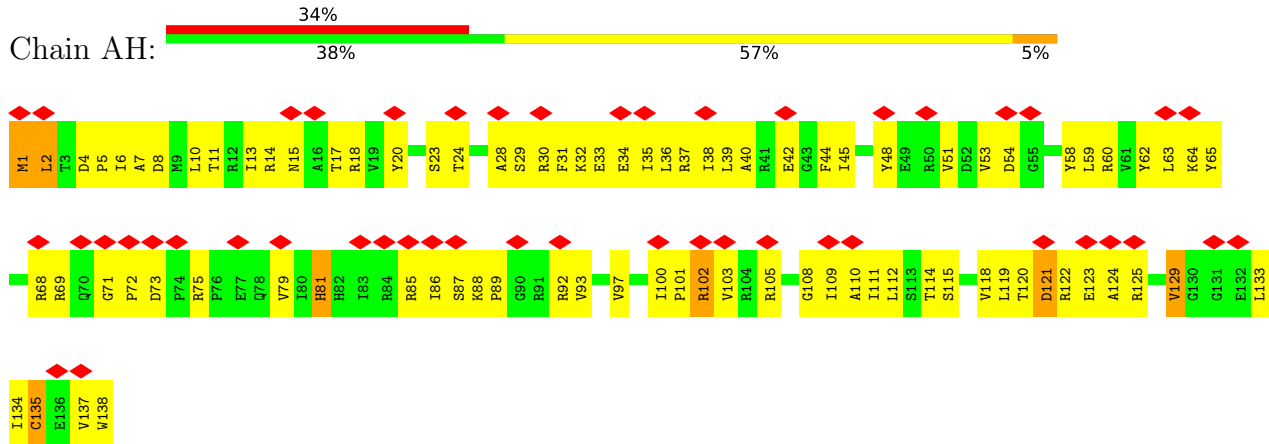
• Molecule 4: 30S ribosomal protein S5



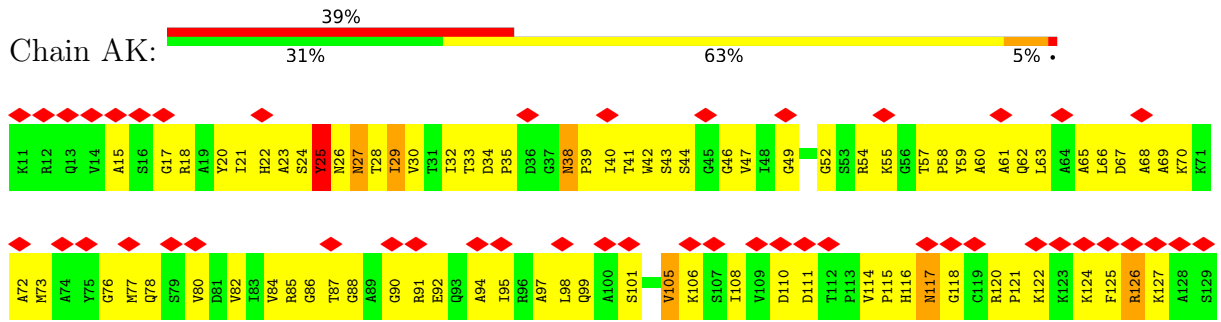
• Molecule 5: 30S ribosomal protein S6



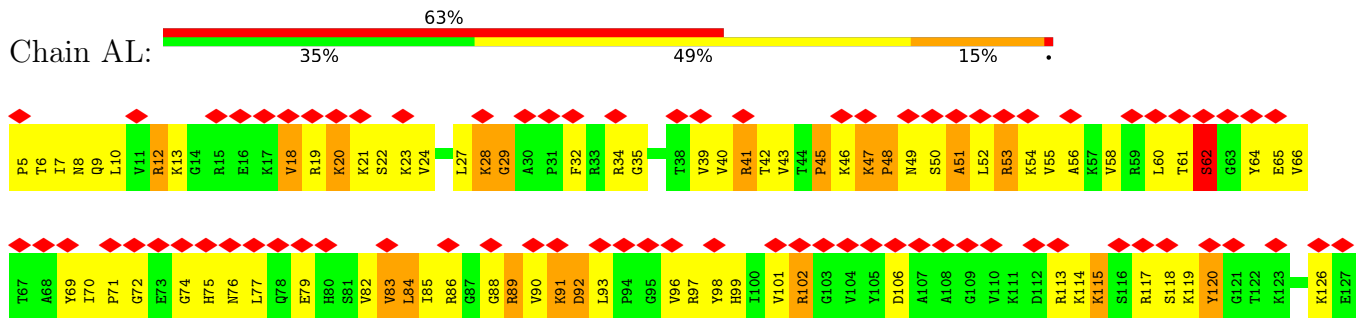
• Molecule 6: 30S ribosomal protein S8



• Molecule 7: 30S ribosomal protein S11

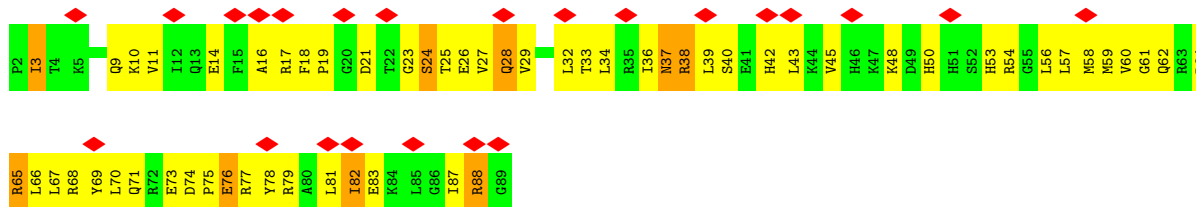


• Molecule 8: 30S ribosomal protein S12

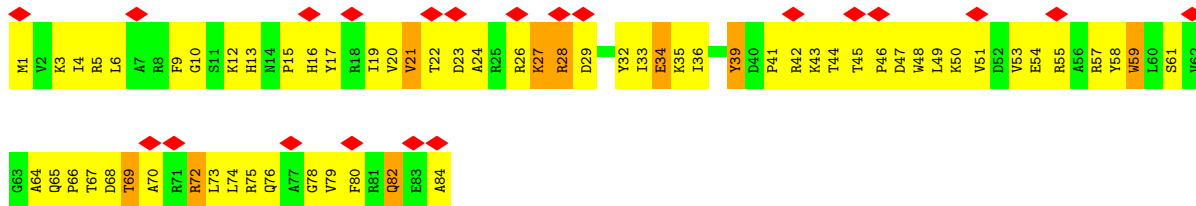




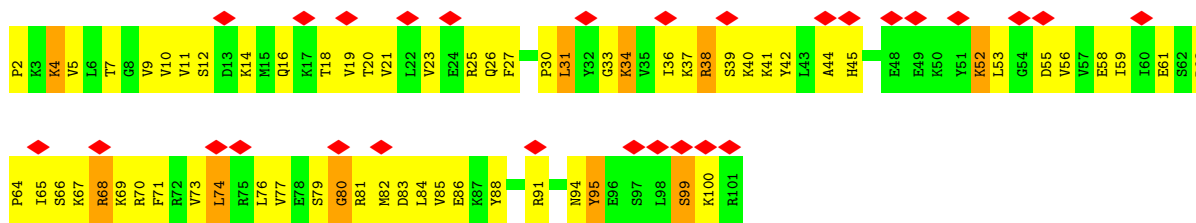
• Molecule 9: 30S ribosomal protein S15



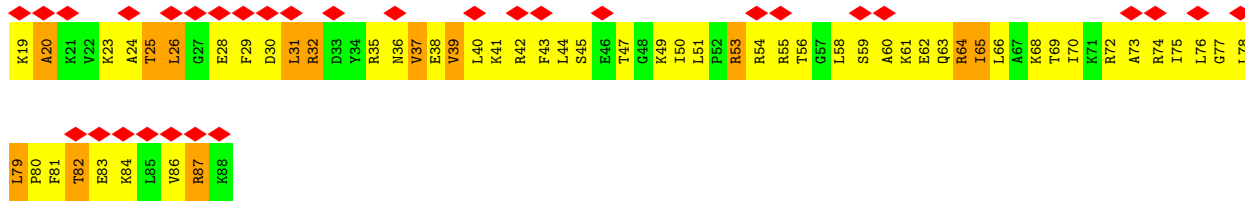
• Molecule 10: 30S ribosomal protein S16



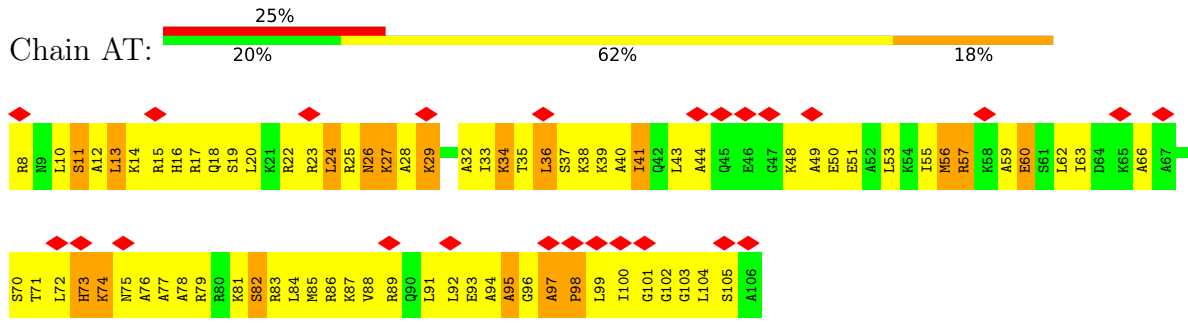
• Molecule 11: 30S ribosomal protein S17



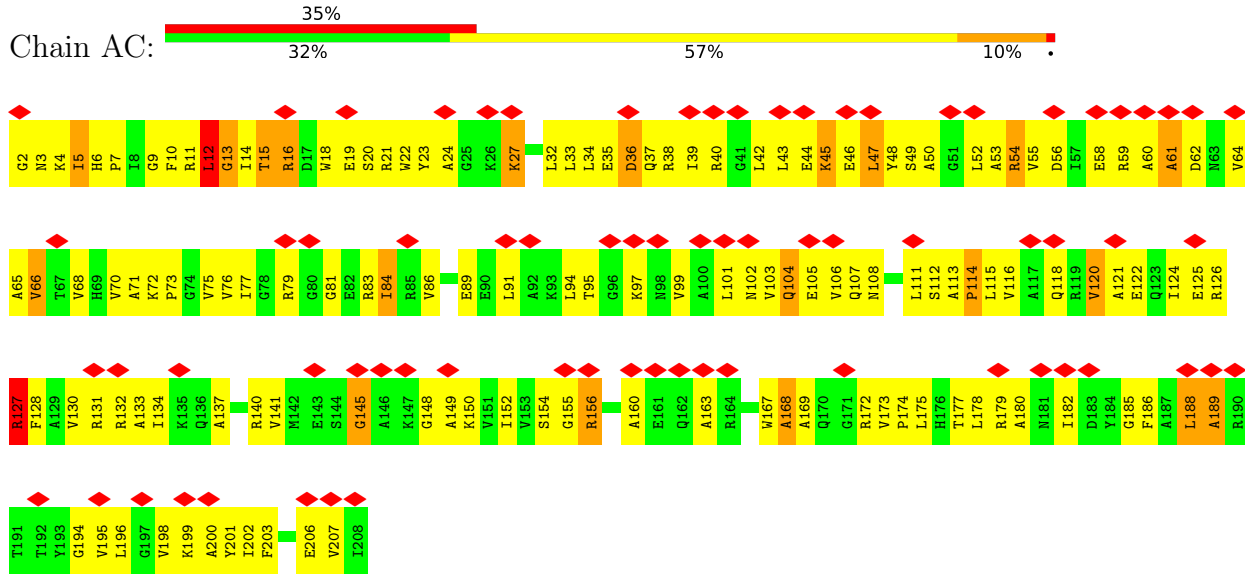
• Molecule 12: 30S ribosomal protein S18



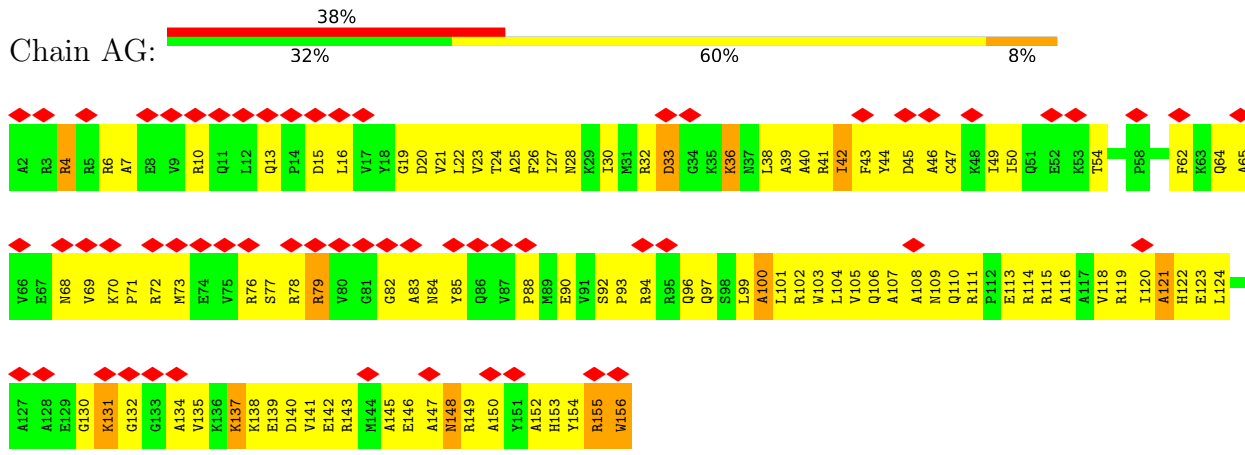
• Molecule 13: 30S ribosomal protein S20



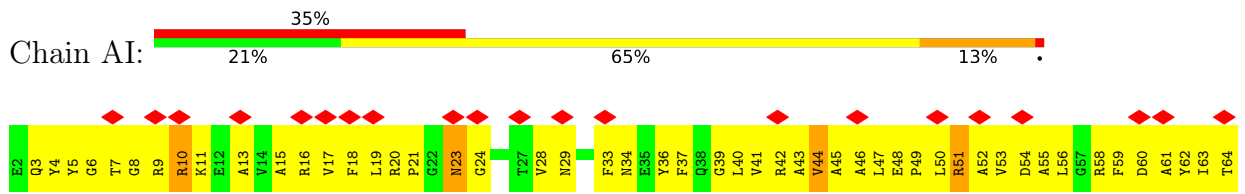
• Molecule 14: 30S ribosomal protein S3



• Molecule 15: 30S ribosomal protein S7



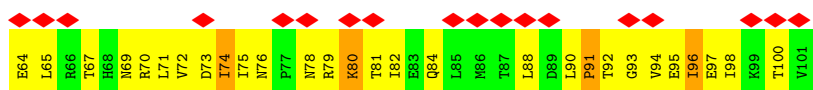
• Molecule 16: 30S ribosomal protein S9



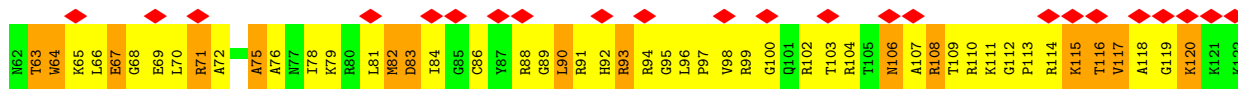
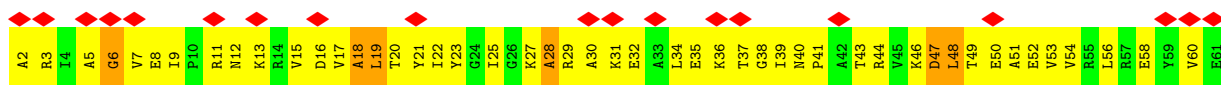


R128

• Molecule 17: 30S ribosomal protein S10



• Molecule 18: 30S ribosomal protein S13



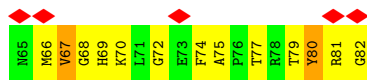
A123
P124
R125
K126

• Molecule 19: 30S ribosomal protein S14



• Molecule 20: 30S ribosomal protein S19





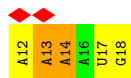
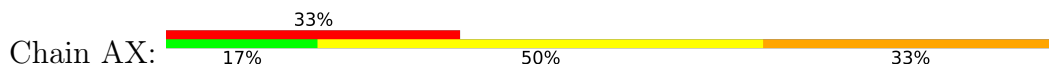
• Molecule 21: 30S ribosomal protein Thx



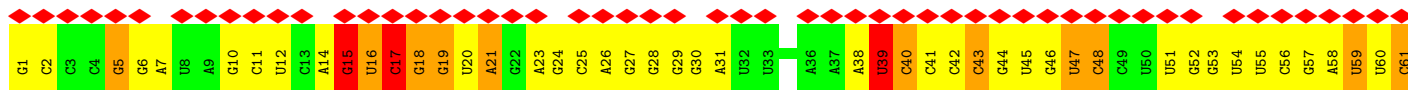
• Molecule 22: P-SITE TRNA



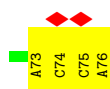
• Molecule 23: SYNTHETIC MRNA



• Molecule 24: E-SITE TRNA



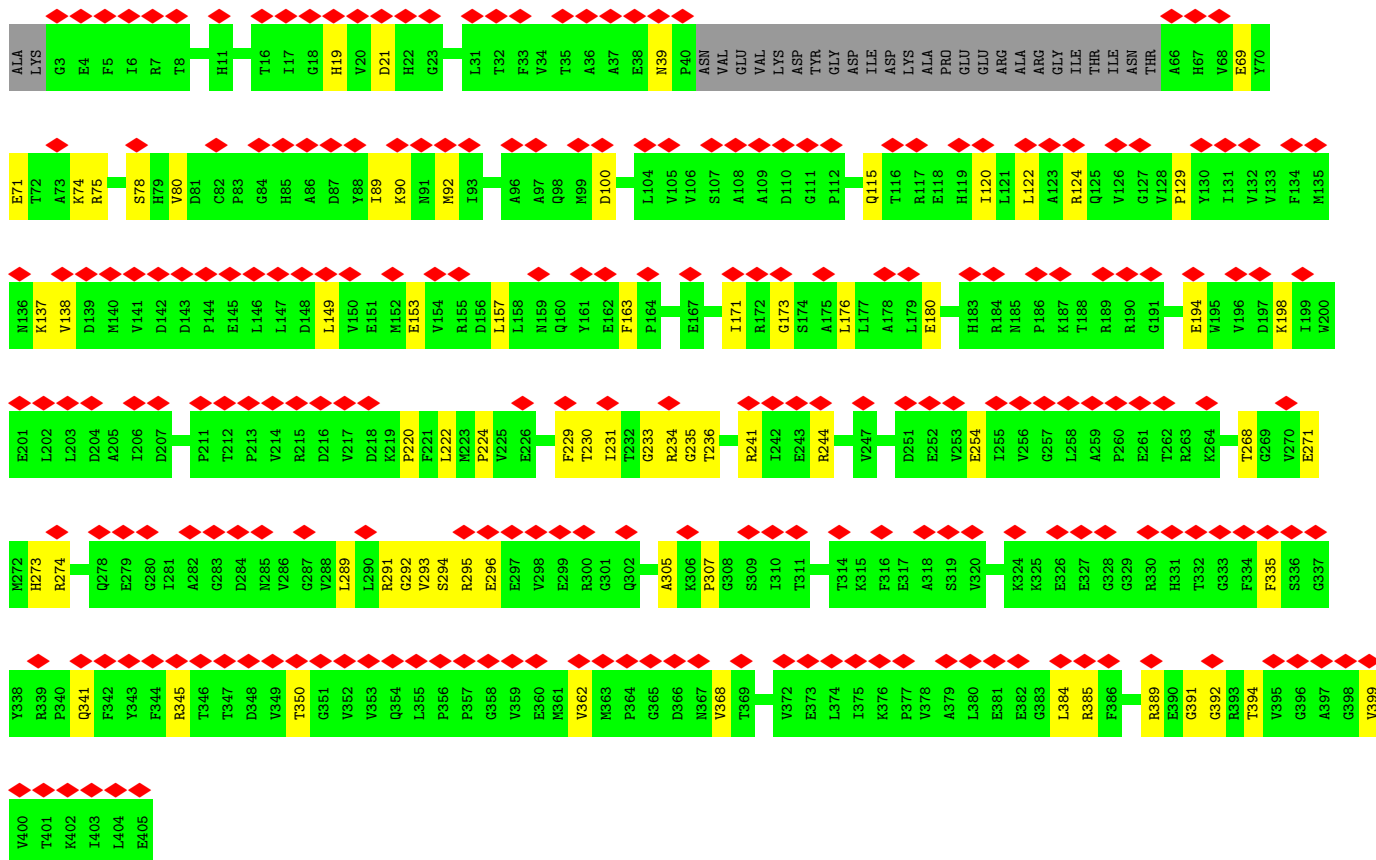
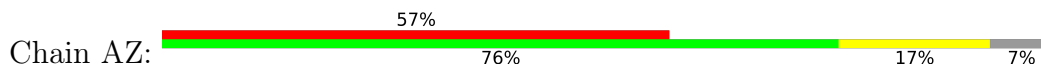
• Molecule 25: AT-SITE TRNA



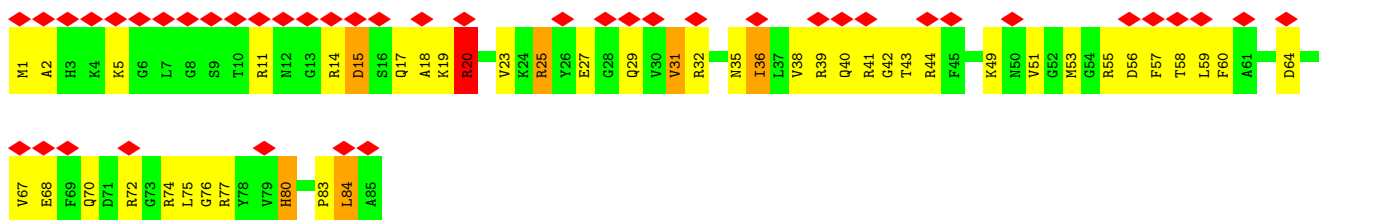
• Molecule 26: MRNA CODON



• Molecule 27: Elongation factor Tu-A

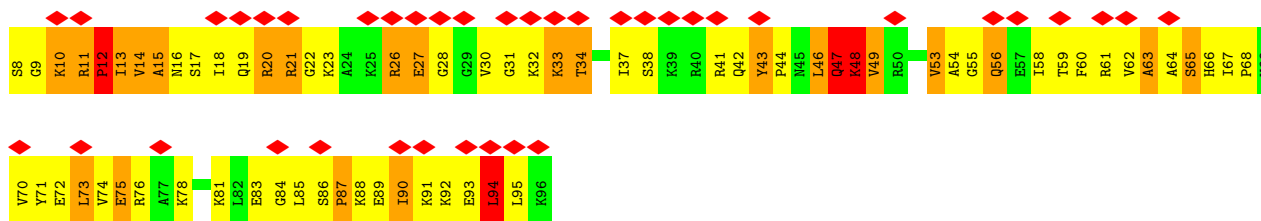


• Molecule 28: 50S ribosomal protein L27

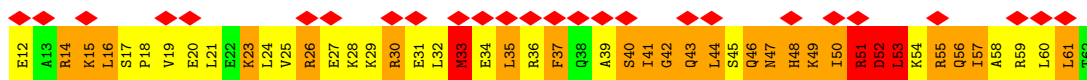


• Molecule 29: 50S ribosomal protein L28





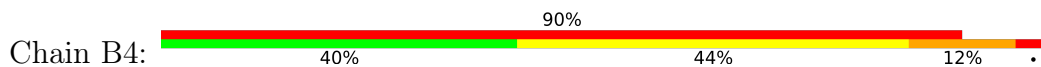
- Molecule 30: 50S ribosomal protein L29



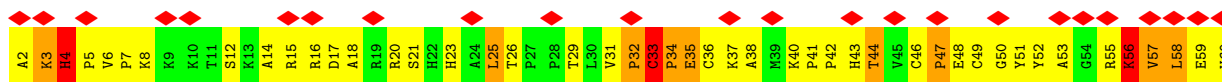
- Molecule 31: 50S ribosomal protein L30



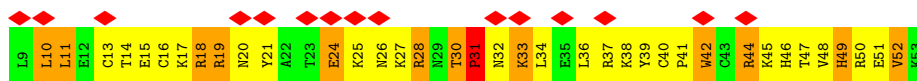
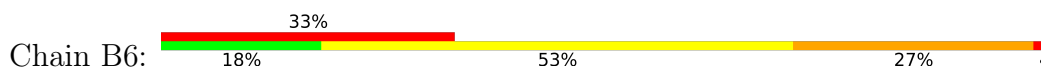
- Molecule 32: 50S ribosomal protein L31



- Molecule 33: 50S ribosomal protein L32

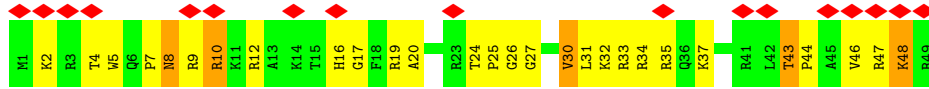


- Molecule 34: 50S ribosomal protein L33

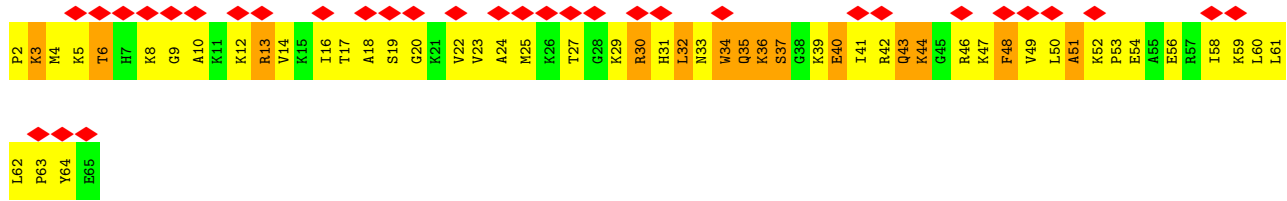


- Molecule 35: 50S ribosomal protein L34

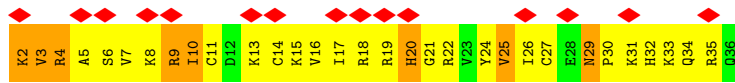
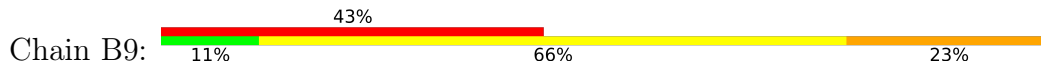




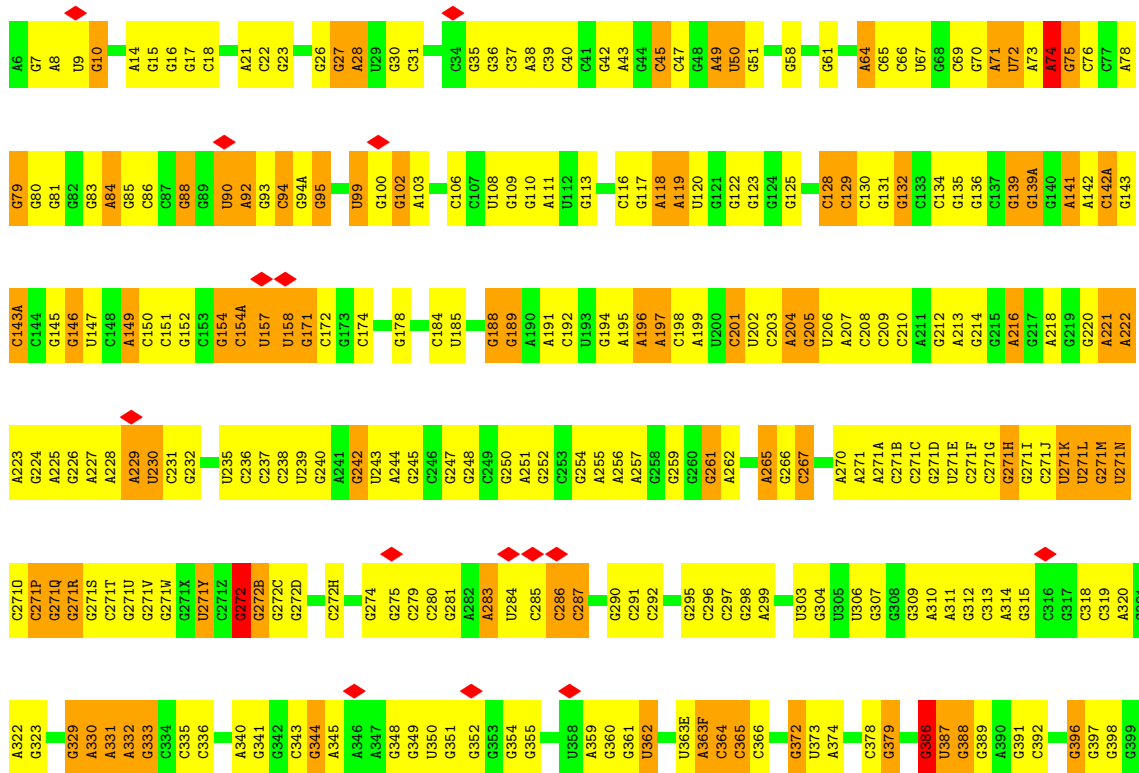
• Molecule 36: 50S ribosomal protein L35

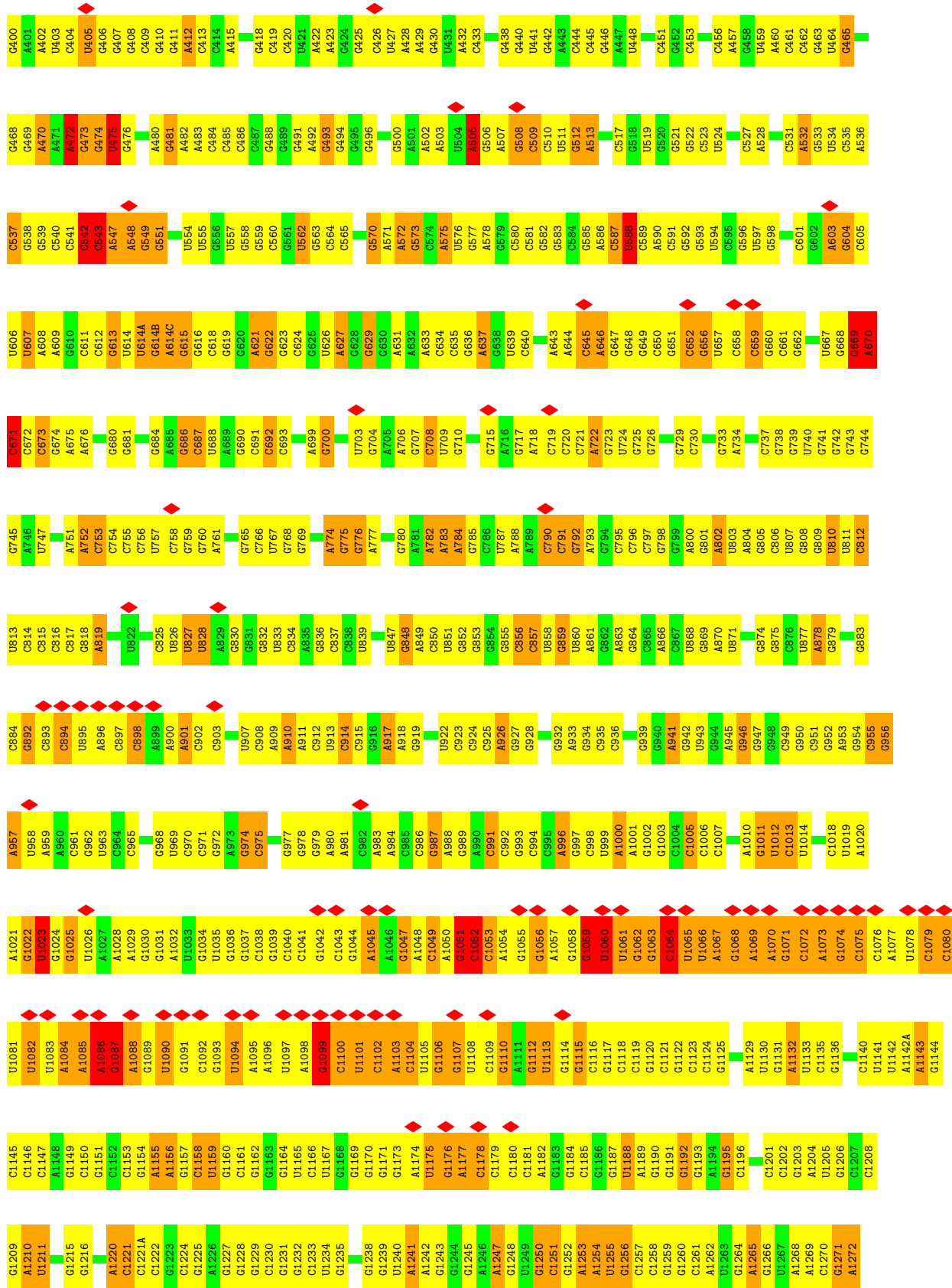


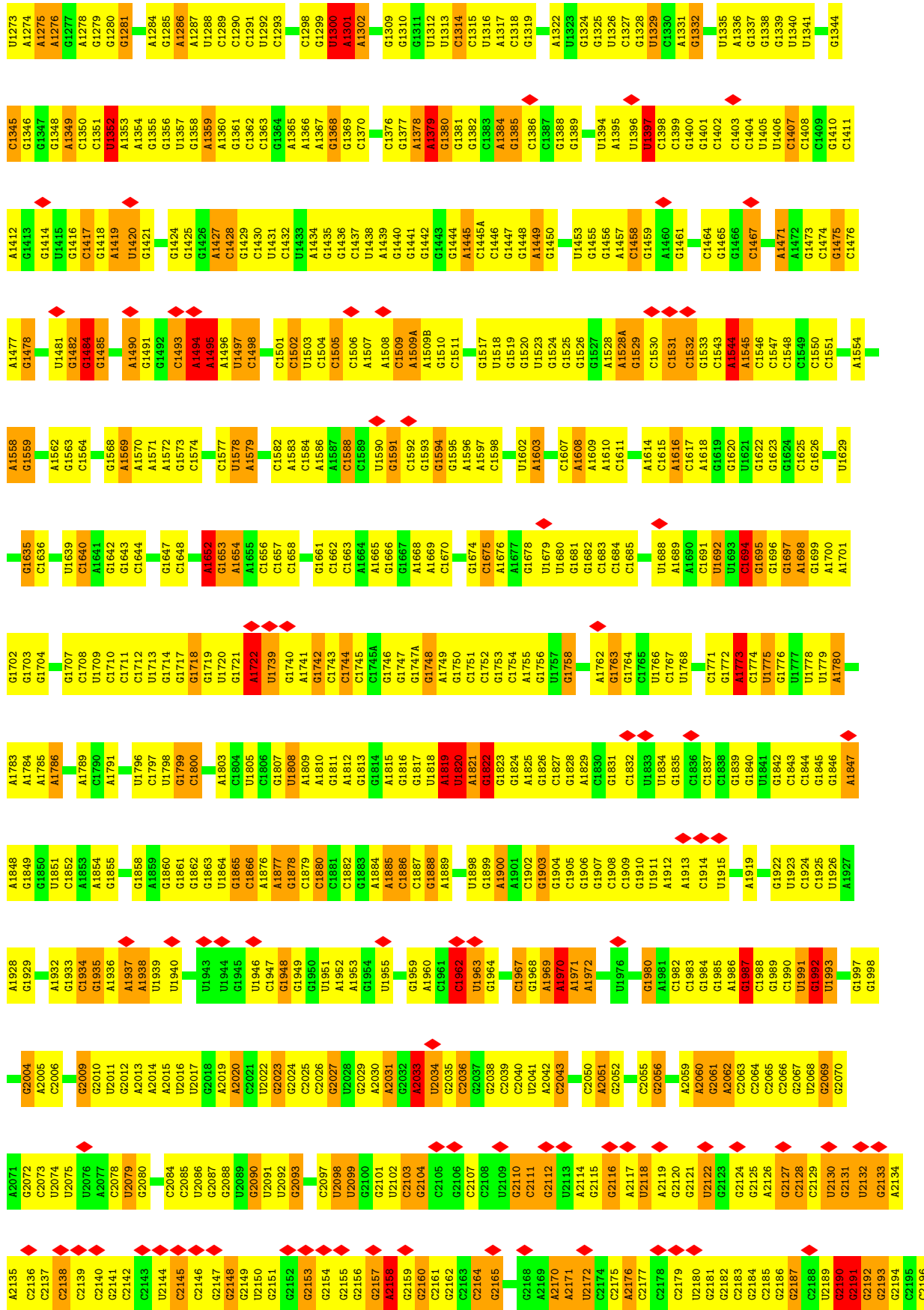
• Molecule 37: 50S ribosomal protein L36

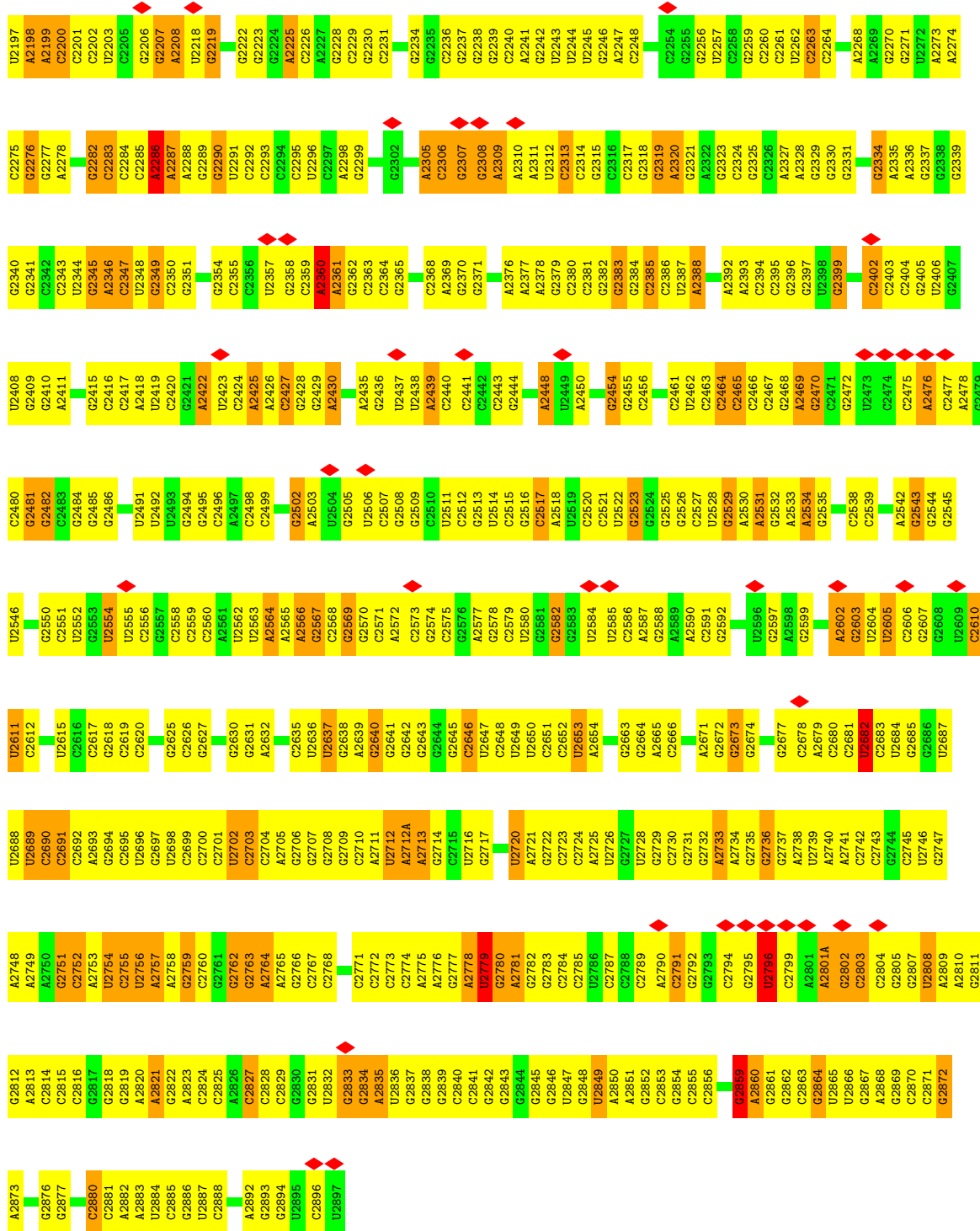


• Molecule 38: 23S rRNA

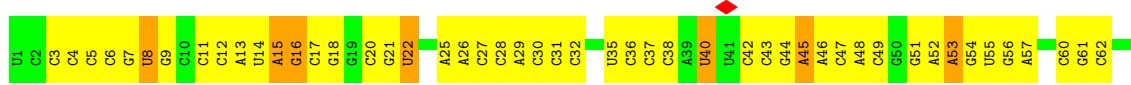


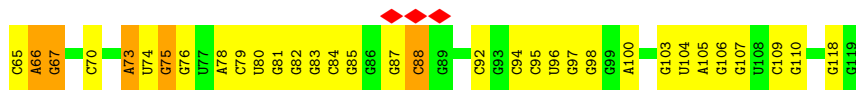




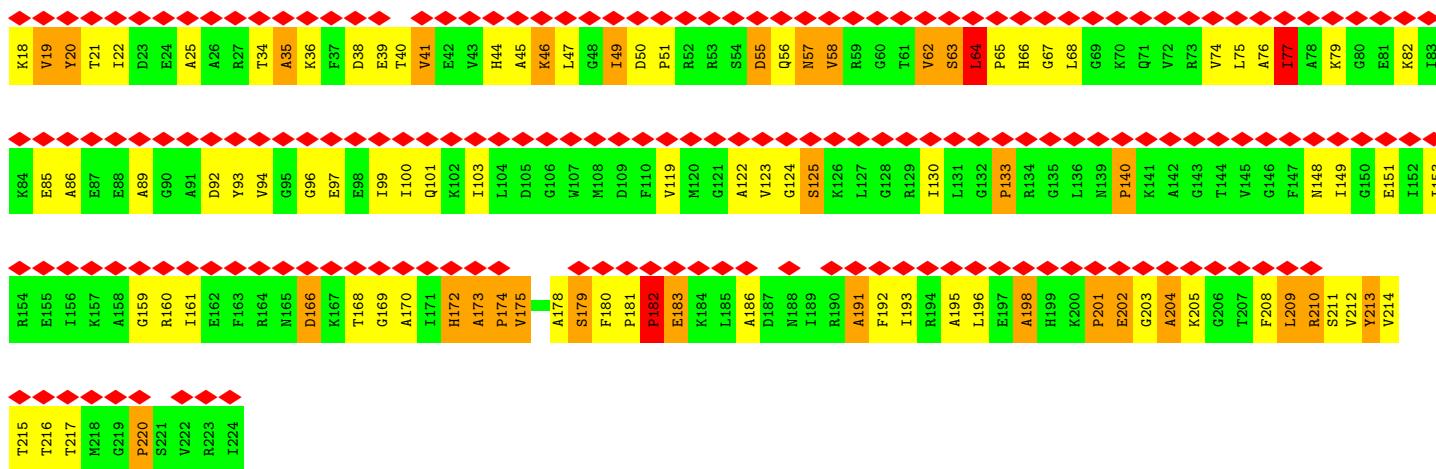


• Molecule 39: 5S rRNA

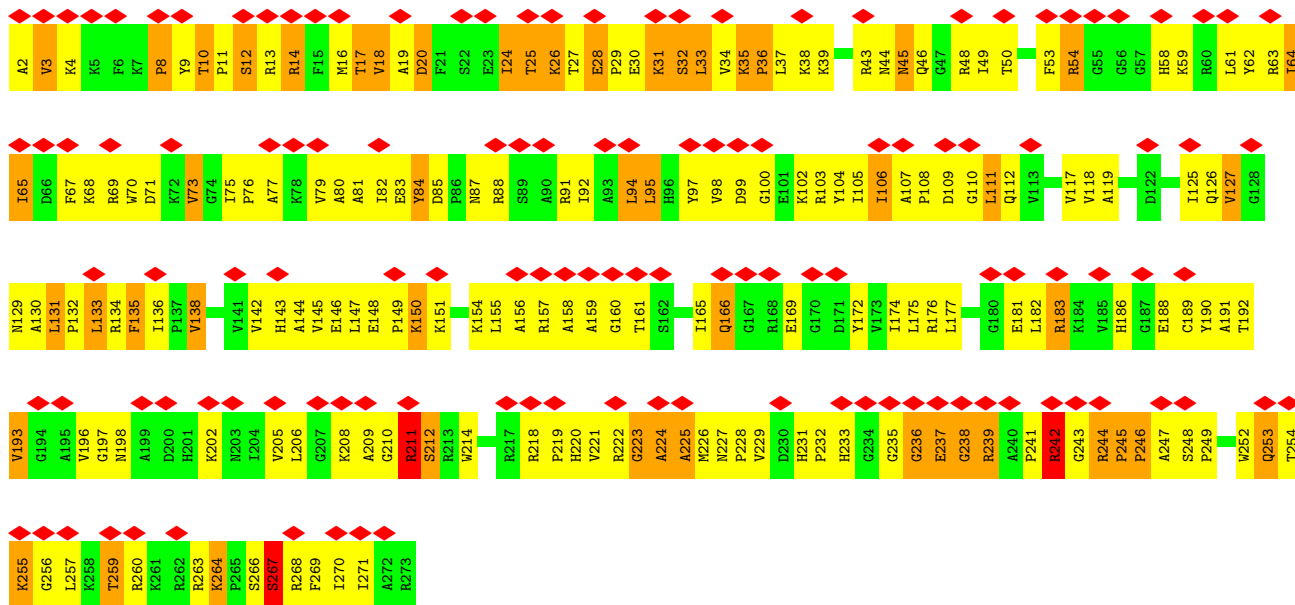




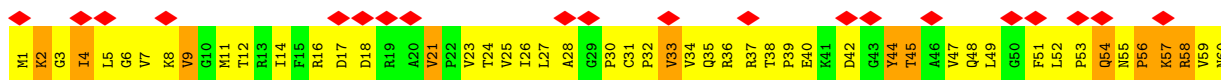
• Molecule 40: 50S ribosomal protein L1

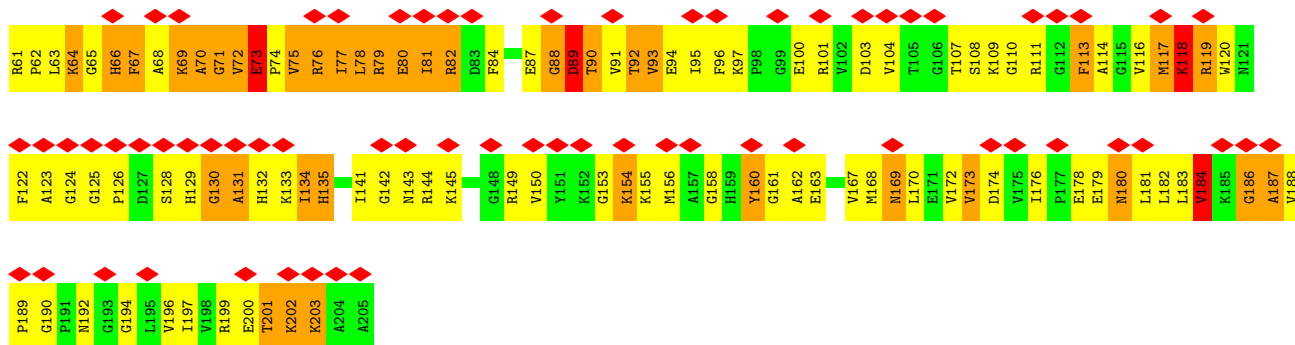


• Molecule 41: 50S ribosomal protein L2

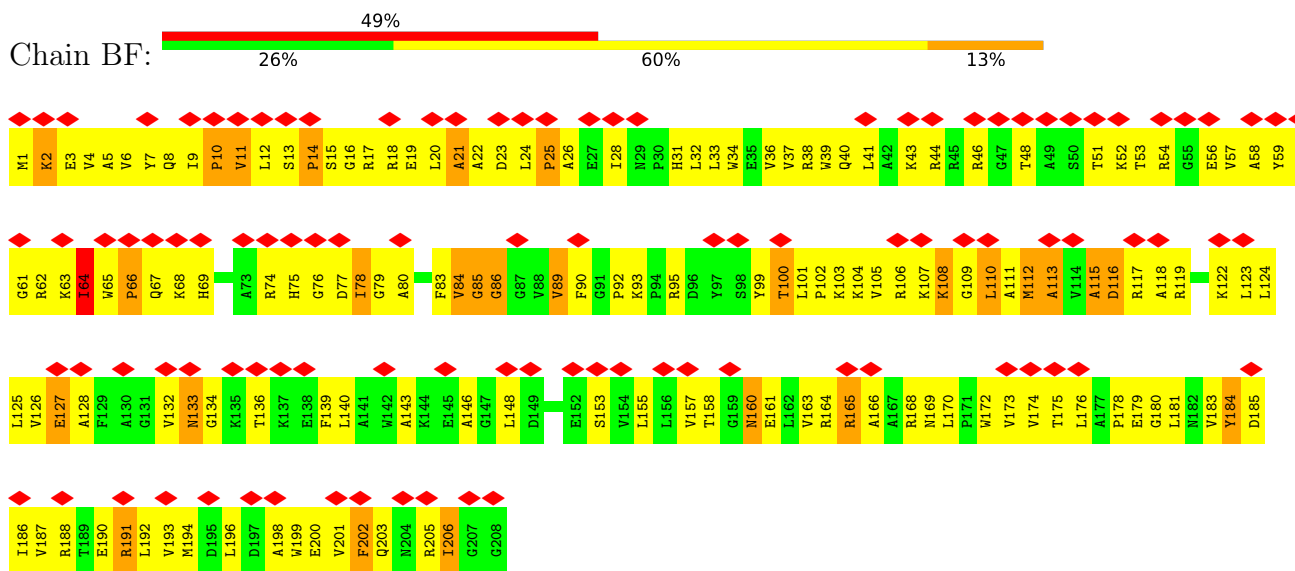


• Molecule 42: 50S ribosomal protein L3

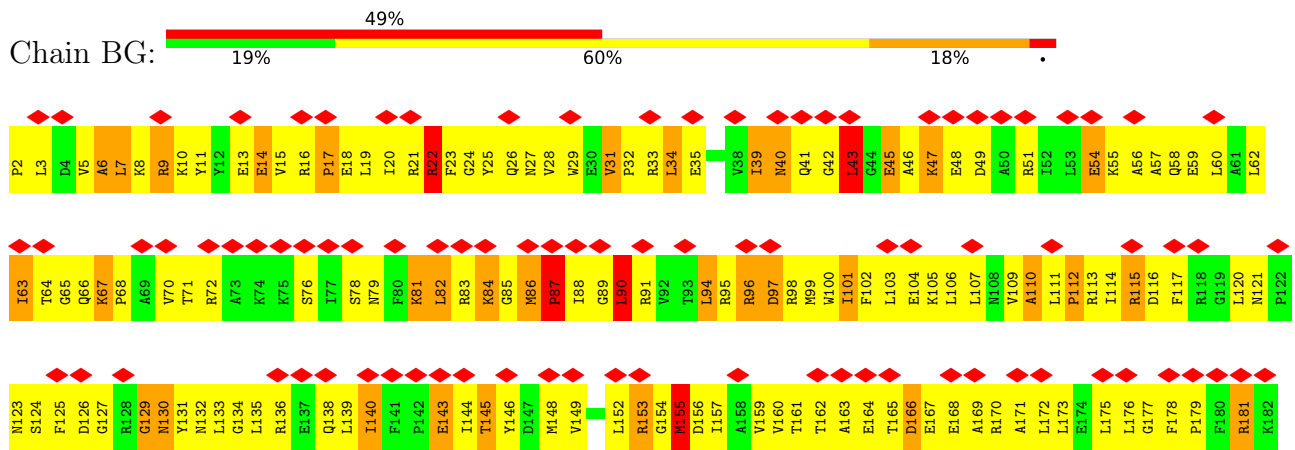




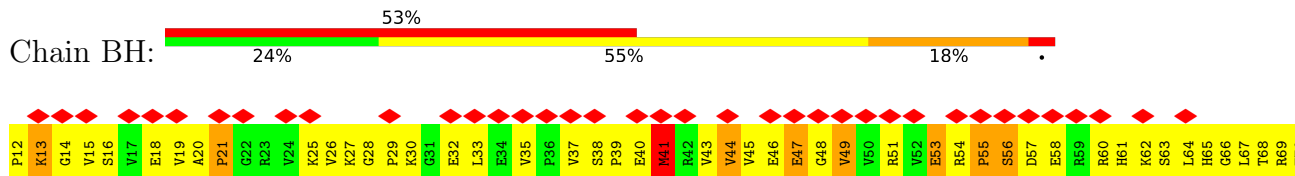
• Molecule 43: 50S ribosomal protein L4

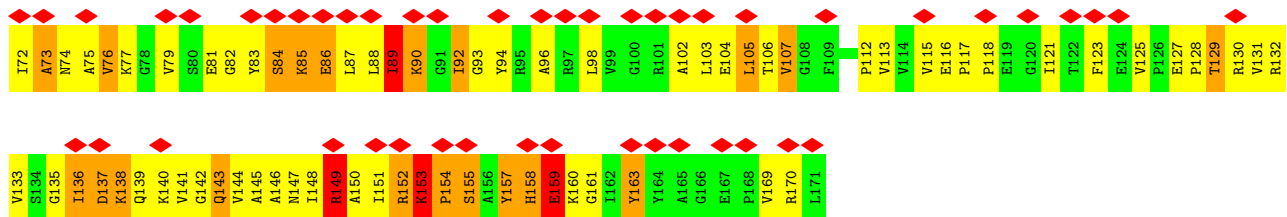


• Molecule 44: 50S ribosomal protein L5

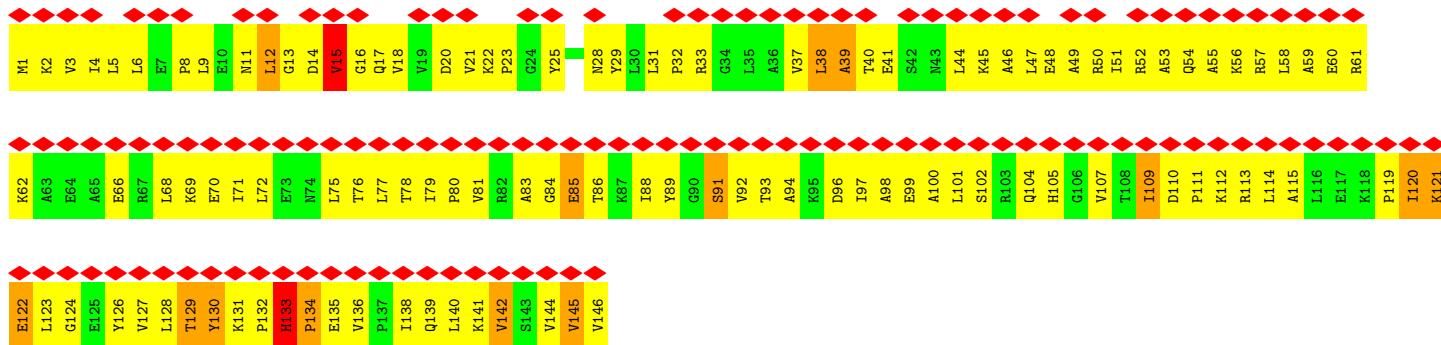
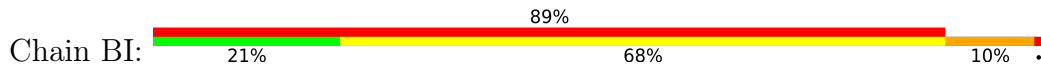


• Molecule 45: 50S ribosomal protein L6

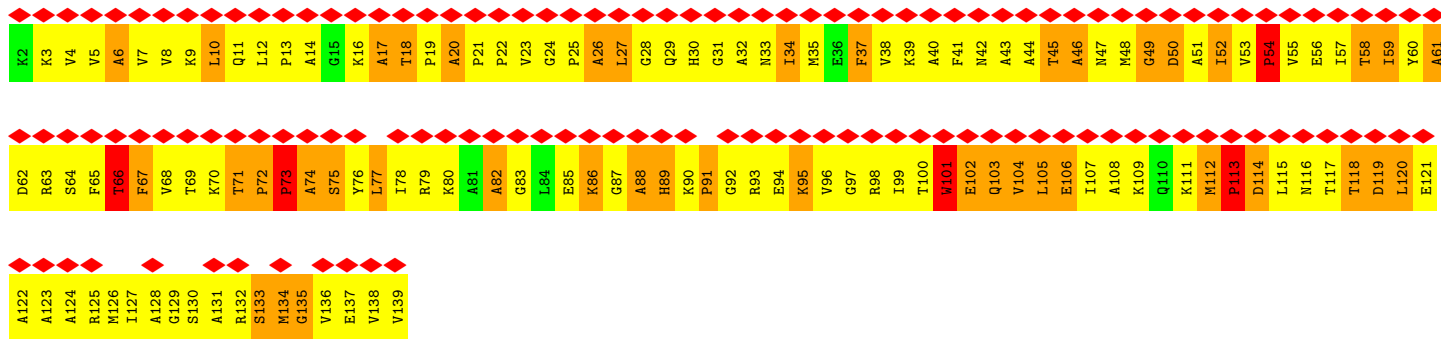
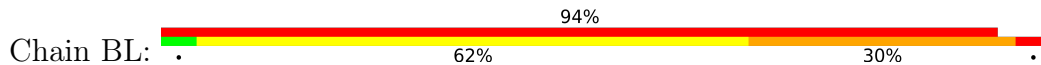




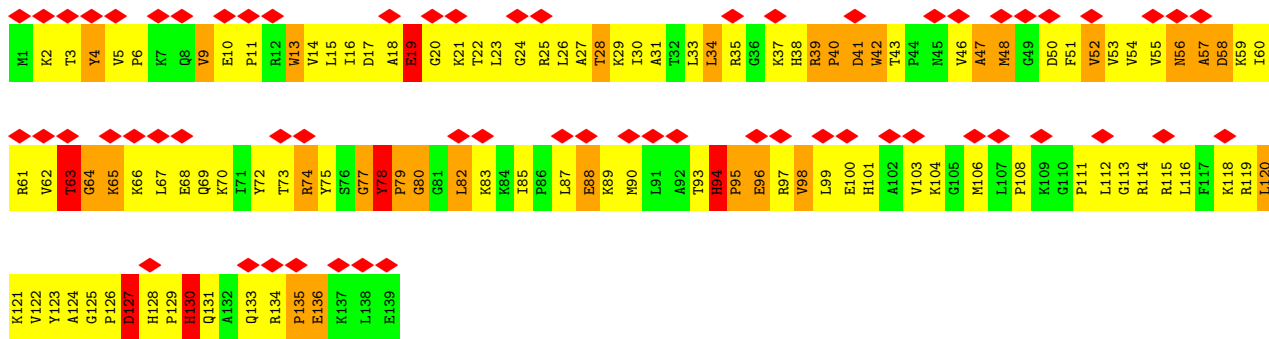
• Molecule 46: 50S ribosomal protein L9



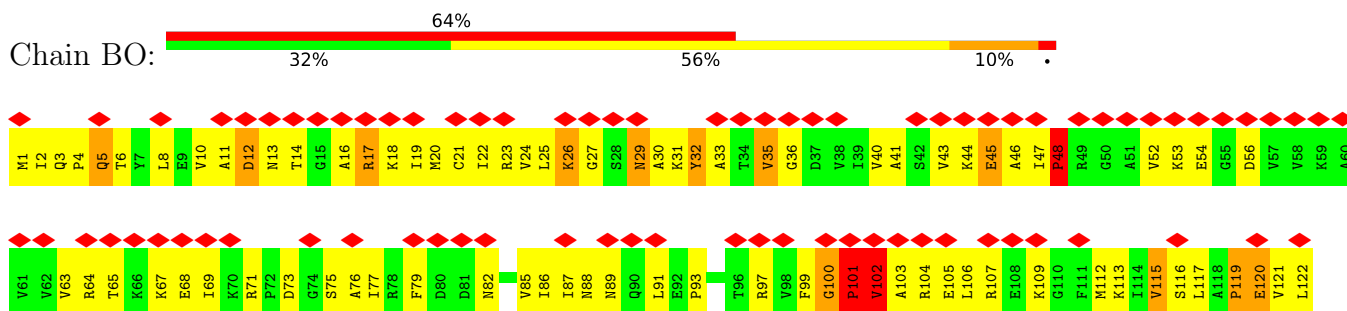
• Molecule 47: 50S ribosomal protein L11



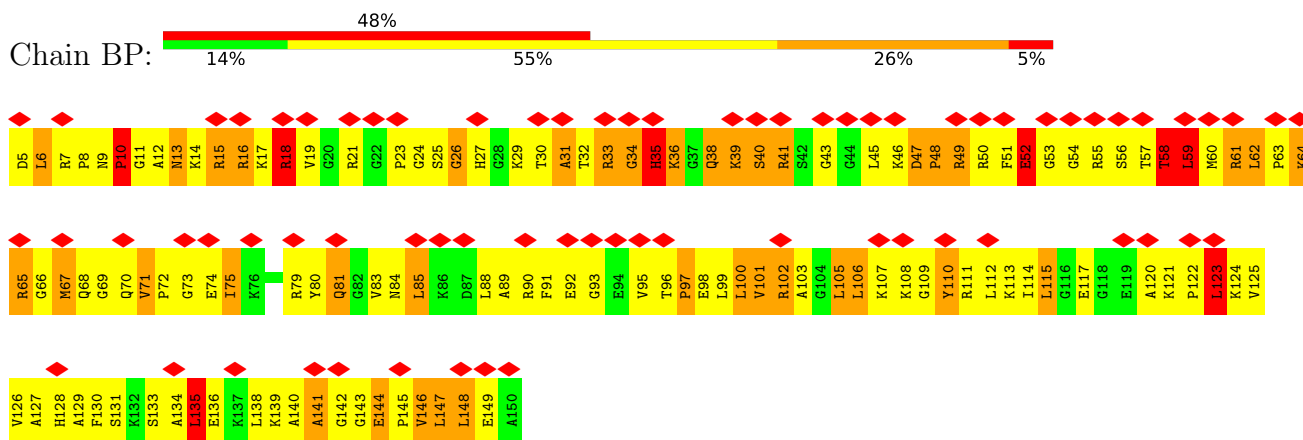
• Molecule 48: 50S ribosomal protein L13



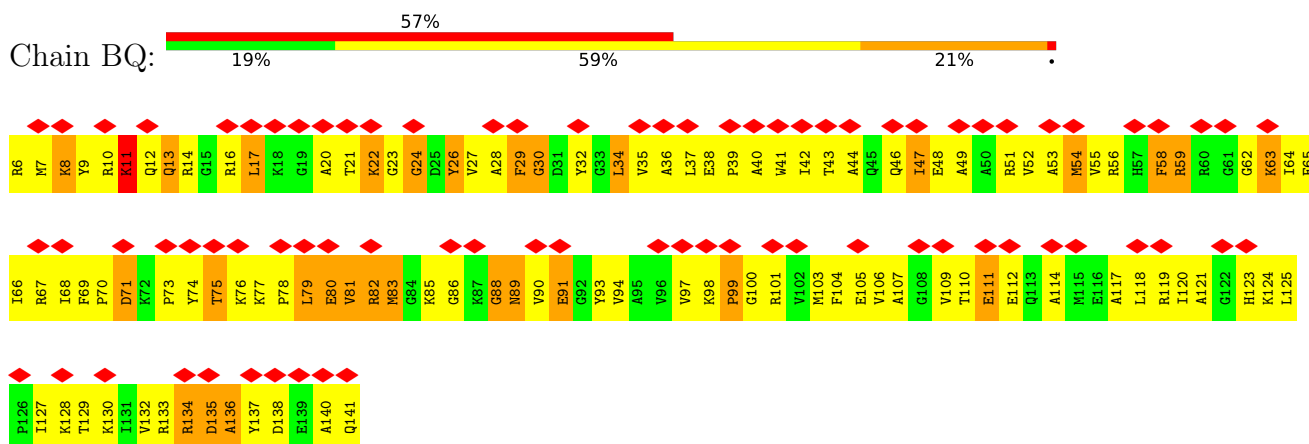
- Molecule 49: 50S ribosomal protein L14



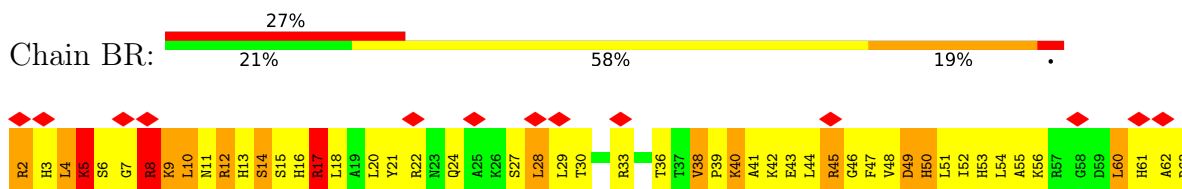
- Molecule 50: 50S ribosomal protein L15

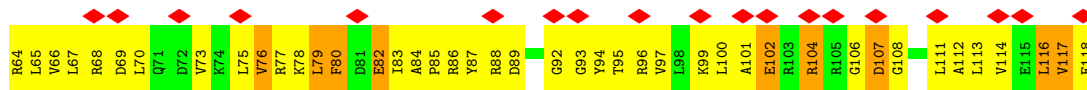


- Molecule 51: 50S ribosomal protein L16

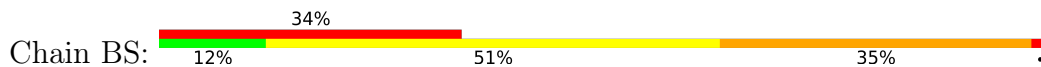


- Molecule 52: 50S ribosomal protein L17

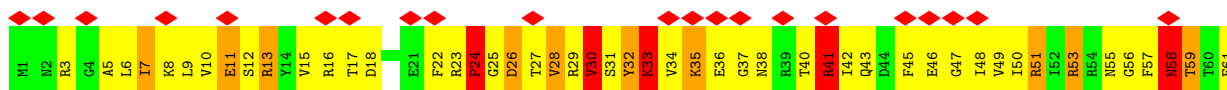




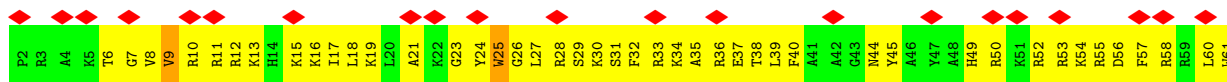
• Molecule 53: 50S ribosomal protein L18



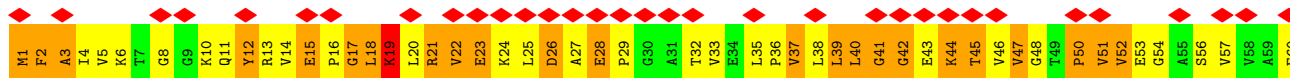
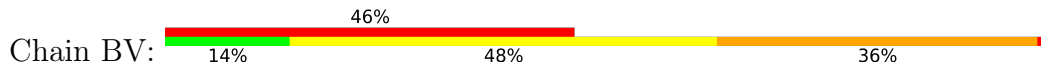
• Molecule 54: 50S ribosomal protein L19

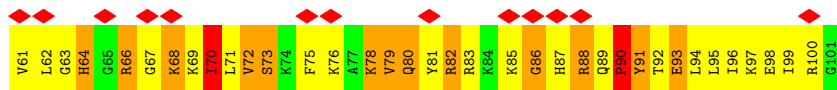


• Molecule 55: 50S ribosomal protein L20

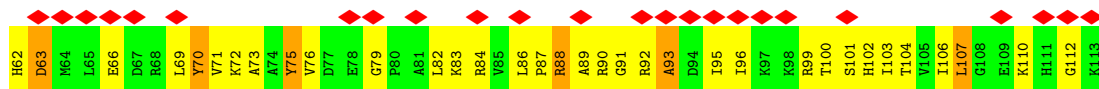
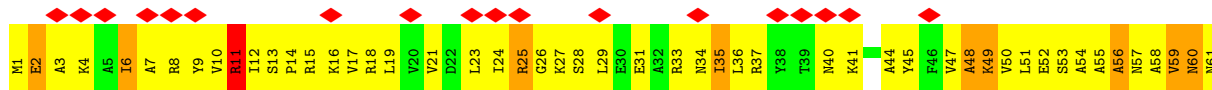


• Molecule 56: 50S ribosomal protein L21

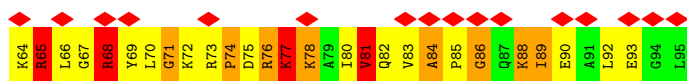
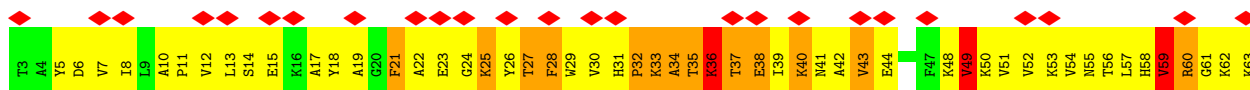
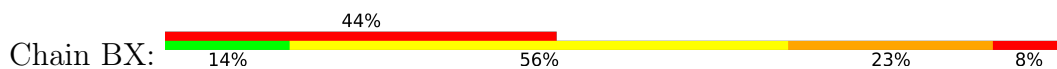




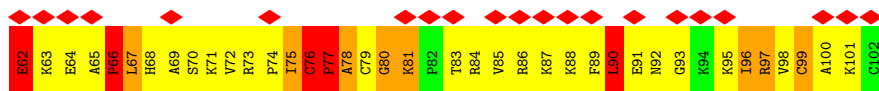
• Molecule 57: 50S ribosomal protein L22



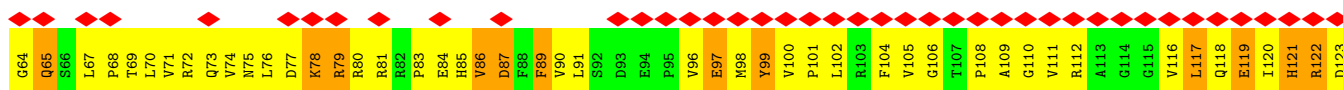
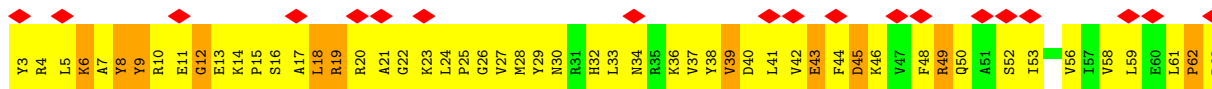
• Molecule 58: 50S ribosomal protein L23



• Molecule 59: 50S ribosomal protein L24



• Molecule 60: 50S ribosomal protein L25



I124	L125	V126	K127	V128	S129	P130	R131	N132	I133	P134	E135	F136	I137	E138	V139	D140	V141	S142	G143	L144	E145	I146	G147	D148	S149	L150	H151	A152	S153	D154	L155	K156	L157	P158	P159	G160	V161	E162	L163	A164	V165	S166	P167	E168	E169	T170	I171	A172	A173	V174	V175	P176	P177	E178	D179
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	323688	Depositor
Resolution determination method	Not provided	
CTF correction method	CTF correction of each defocus group volume prior to back projection.	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	23	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	39000	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	17.496	Depositor
Minimum map value	-4.419	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.958	Depositor
Recommended contour level	3.5	Depositor
Map size (Å)	378.0, 378.0, 378.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.26, 1.26, 1.26	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: BME, MAU, PSU, M2G, YG, 5MU, 7MG, 5MC, GDP, OMG, PHA, 1MA, OMC, 2MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	AA	0.51	0/36190	0.73	27/56486 (0.0%)
2	AB	0.33	0/1936	0.59	0/2611
3	AD	0.42	0/1733	0.67	0/2318
4	AE	0.42	0/1163	0.66	0/1566
5	AF	0.37	0/856	0.64	0/1154
6	AH	0.36	0/1136	0.62	0/1527
7	AK	0.38	0/900	0.64	0/1213
8	AL	0.42	0/987	0.72	0/1322
9	AO	0.38	0/745	0.63	0/992
10	AP	0.43	0/717	0.70	0/965
11	AQ	0.42	0/837	0.67	0/1119
12	AR	0.40	0/579	0.71	0/768
13	AT	0.34	0/765	0.59	0/1007
14	AC	0.35	0/1637	0.58	0/2207
15	AG	0.34	0/1276	0.55	0/1709
16	AI	0.32	0/1027	0.56	0/1372
17	AJ	0.36	0/808	0.62	0/1087
18	AM	0.35	0/994	0.63	0/1322
19	AN	0.39	0/501	0.66	0/664
20	AS	0.37	0/643	0.61	0/867
21	AU	0.46	0/213	0.56	0/279
22	AV	0.52	1/1814 (0.1%)	0.72	0/2825
23	AX	0.85	1/147 (0.7%)	0.83	0/223
24	AW	0.45	1/1813 (0.1%)	0.78	6/2823 (0.2%)
25	AY	1.12	4/1407 (0.3%)	2.35	13/2177 (0.6%)
26	A0	2.23	2/65 (3.1%)	1.08	0/98
27	AZ	0.30	0/3052	0.65	1/4141 (0.0%)
28	B0	0.39	0/658	0.65	0/878
29	B1	0.61	0/700	1.04	1/931 (0.1%)
30	B2	0.45	0/423	0.99	3/560 (0.5%)
31	B3	0.37	0/473	0.61	0/636
32	B4	0.47	0/241	0.88	4/334 (1.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	B5	0.43	0/473	0.74	0/639
34	B6	0.39	0/387	0.62	0/517
35	B7	0.51	0/427	0.73	0/563
36	B8	0.50	0/516	0.81	0/681
37	B9	0.55	0/297	0.61	0/392
38	BA	0.66	8/68796 (0.0%)	0.80	76/107396 (0.1%)
39	BB	0.39	0/2853	0.70	0/4451
40	BC	0.38	0/1145	0.68	7/1556 (0.4%)
41	BD	0.52	0/2155	0.87	3/2907 (0.1%)
42	BE	0.43	0/1597	0.76	0/2155
43	BF	0.44	0/1659	0.70	0/2246
44	BG	0.39	0/1498	0.72	1/2013 (0.0%)
45	BH	0.33	0/1246	0.69	0/1684
46	BI	0.35	0/1147	0.66	0/1553
47	BL	0.50	0/1044	0.92	1/1415 (0.1%)
48	BN	0.41	0/1132	0.78	0/1527
49	BO	0.48	0/943	0.74	0/1269
50	BP	0.42	0/1131	1.00	6/1504 (0.4%)
51	BQ	0.37	0/1100	0.72	1/1470 (0.1%)
52	BR	0.40	0/974	0.74	1/1302 (0.1%)
53	BS	0.40	0/779	0.73	0/1038
54	BT	0.43	0/1156	0.77	2/1544 (0.1%)
55	BU	0.38	0/975	0.68	0/1297
56	BV	0.38	0/789	0.73	0/1054
57	BW	0.43	0/907	0.72	0/1216
58	BX	0.53	0/740	0.89	3/995 (0.3%)
59	BY	0.41	0/789	0.78	0/1053
60	BZ	0.35	0/1436	0.64	0/1951
All	All	0.56	17/164527 (0.0%)	0.79	156/245569 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	2	37
22	AV	0	2
24	AW	3	1
25	AY	0	5
29	B1	0	1
38	BA	29	93
All	All	34	139

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BA	1051	G	O3'-P	37.08	2.05	1.61
38	BA	2190	G	O3'-P	-29.41	1.25	1.61
38	BA	2653	U	O3'-P	-27.37	1.28	1.61
25	AY	46	7MG	O3'-P	-19.71	1.37	1.61
25	AY	34	OMG	O3'-P	19.70	1.84	1.61
25	AY	47	U	O3'-P	13.22	1.77	1.61
26	A0	100	U	O3'-P	-12.31	1.46	1.61
26	A0	101	U	O3'-P	-12.20	1.46	1.61
38	BA	2098	U	O3'-P	-11.79	1.47	1.61
25	AY	1	G	OP3-P	-7.18	1.52	1.61
24	AW	1	G	OP3-P	-7.18	1.52	1.61
22	AV	1	C	OP3-P	-7.05	1.52	1.61
23	AX	12	A	OP3-P	-6.82	1.52	1.61
38	BA	783	A	C5-C6	-6.31	1.35	1.41
38	BA	774	A	C5-C6	-6.20	1.35	1.41
38	BA	652	C	C3'-O3'	5.40	1.49	1.42
38	BA	656	G	O5'-C5'	5.33	1.52	1.44

All (156) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	AY	47	U	P-O3'-C3'	-79.00	24.90	119.70
38	BA	1051	G	P-O3'-C3'	-45.69	64.87	119.70
25	AY	35	A	P-O3'-C3'	41.14	169.07	119.70
38	BA	2190	G	P-O3'-C3'	27.80	153.06	119.70
25	AY	46	7MG	P-O3'-C3'	23.58	147.99	119.70
25	AY	34	OMG	O3'-P-O5'	19.77	141.57	104.00
25	AY	47	U	OP2-P-O3'	-19.34	62.64	105.20
25	AY	46	7MG	OP1-P-O3'	19.13	147.28	105.20
1	AA	925	G	P-O3'-C3'	-18.97	96.94	119.70
1	AA	1390	U	P-O3'-C3'	-17.68	98.48	119.70
38	BA	2190	G	OP1-P-O3'	16.30	141.06	105.20
38	BA	2098	U	P-O3'-C3'	15.61	138.43	119.70
38	BA	2098	U	OP1-P-O3'	15.61	139.54	105.20
25	AY	46	7MG	OP2-P-O3'	-15.11	71.96	105.20
1	AA	925	G	OP2-P-O3'	14.53	137.16	105.20
25	AY	47	U	OP1-P-O3'	-14.17	74.03	105.20
38	BA	1051	G	OP2-P-O3'	13.11	134.04	105.20
1	AA	1390	U	O3'-P-O5'	11.76	126.34	104.00
25	AY	35	A	OP1-P-O3'	11.54	130.59	105.20
38	BA	1962	C	N1-C1'-C2'	10.46	127.60	114.00
38	BA	669	G	N9-C1'-C2'	10.35	127.45	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	AY	34	OMG	OP2-P-O3'	-10.10	82.98	105.20
38	BA	2098	U	OP2-P-O3'	-10.04	83.11	105.20
38	BA	1059	G	N9-C1'-C2'	-9.98	101.02	112.00
38	BA	1722	A	N9-C1'-C2'	9.95	126.94	114.00
38	BA	2190	G	O3'-P-O5'	-9.92	85.15	104.00
38	BA	1397	U	C2'-C3'-O3'	9.87	131.21	109.50
38	BA	1250	G	C2'-C3'-O3'	9.25	129.85	109.50
1	AA	925	G	OP1-P-O3'	-9.18	85.01	105.20
38	BA	283	A	C2'-C3'-O3'	9.05	129.41	109.50
50	BP	53	GLY	N-CA-C	-8.99	90.62	113.10
25	AY	35	A	O3'-P-O5'	-8.90	87.10	104.00
38	BA	2360	A	N9-C1'-C2'	-8.82	102.30	112.00
38	BA	1300	U	N1-C1'-C2'	8.76	125.39	114.00
1	AA	1498	U	C2'-C3'-O3'	8.65	128.52	109.50
38	BA	1819	A	C2'-C3'-O3'	8.59	128.41	109.50
38	BA	1544	A	N9-C1'-C2'	8.46	125.00	114.00
25	AY	18	G	C5'-C4'-O4'	-8.41	99.01	109.10
1	AA	1390	U	OP1-P-O3'	-8.38	86.76	105.20
1	AA	412	A	N9-C1'-C2'	8.24	124.72	114.00
25	AY	47	U	O3'-P-O5'	-7.97	88.86	104.00
38	BA	1051	G	OP1-P-O3'	-7.88	87.88	105.20
38	BA	2190	G	OP2-P-O3'	-7.84	87.95	105.20
24	AW	47	U	N1-C1'-C2'	7.80	124.14	114.00
50	BP	52	GLU	N-CA-C	7.78	132.01	111.00
1	AA	575	G	C2'-C3'-O3'	7.67	126.38	109.50
50	BP	41	ARG	N-CA-C	-7.64	90.38	111.00
50	BP	59	LEU	N-CA-C	-7.62	90.43	111.00
38	BA	1458	C	N1-C1'-C2'	7.60	123.88	114.00
38	BA	1652	A	C2'-C3'-O3'	7.59	126.19	109.50
1	AA	410	G	C2'-C3'-O3'	7.54	126.09	109.50
41	BD	238	GLY	N-CA-C	-7.50	94.36	113.10
1	AA	366	C	C2'-C3'-O3'	7.50	125.99	109.50
38	BA	783	A	N9-C1'-C2'	-7.49	103.76	112.00
38	BA	2191	G	C2'-C3'-O3'	7.49	125.97	109.50
38	BA	472	A	C2'-C3'-O3'	7.42	125.83	109.50
38	BA	1786	A	N9-C1'-C2'	7.41	123.64	114.00
38	BA	1052	C	O4'-C1'-N1	7.22	113.98	108.20
24	AW	70	G	C2'-C3'-O3'	7.21	125.37	109.50
38	BA	1484	G	C2'-C3'-O3'	7.21	125.35	109.50
1	AA	1064	G	C2'-C3'-O3'	7.20	125.33	109.50
1	AA	115	G	C2'-C3'-O3'	7.05	125.01	109.50
38	BA	2796	U	N1-C1'-C2'	6.89	122.96	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BA	2653	U	OP1-P-O3'	6.88	120.33	105.20
50	BP	54	GLY	N-CA-C	-6.85	95.96	113.10
41	BD	237	GLU	N-CA-C	6.83	129.43	111.00
38	BA	1379	A	N9-C1'-C2'	6.79	122.83	114.00
38	BA	1694	C	C2'-C3'-O3'	6.79	124.56	113.70
24	AW	17	C	N1-C1'-C2'	6.72	122.74	114.00
38	BA	1820	U	C2'-C3'-O3'	6.71	124.44	113.70
1	AA	1504	G	C2'-C3'-O3'	6.63	124.31	113.70
30	B2	51	ARG	N-CA-C	-6.62	93.11	111.00
38	BA	2033	A	N9-C1'-C2'	6.52	122.47	114.00
38	BA	1992	G	N9-C1'-C2'	6.51	122.47	114.00
24	AW	5	G	N9-C1'-C2'	-6.30	105.06	112.00
41	BD	267	SER	N-CA-C	-6.29	94.01	111.00
1	AA	913	A	C2'-C3'-O3'	6.29	123.75	113.70
24	AW	47	U	O4'-C1'-N1	6.28	113.22	108.20
38	BA	1616	A	N9-C1'-C2'	6.17	122.03	114.00
38	BA	1773	A	N9-C1'-C2'	-6.15	105.24	112.00
1	AA	760	G	N9-C1'-C2'	-6.07	105.33	112.00
40	BC	174	PRO	N-CA-CB	6.06	110.57	103.30
38	BA	1301	A	N9-C1'-C2'	6.03	121.84	114.00
1	AA	428	G	C2'-C3'-O3'	6.02	123.33	113.70
38	BA	1934	C	C2'-C3'-O3'	6.00	123.30	113.70
38	BA	1970	A	C5'-C4'-O4'	5.99	116.29	109.10
38	BA	671	C	C5'-C4'-O4'	-5.95	101.95	109.10
38	BA	1086	A	O4'-C1'-N9	5.93	112.94	108.20
38	BA	562	U	N1-C1'-C2'	5.89	121.65	114.00
38	BA	2286	A	N9-C1'-C2'	5.86	121.61	114.00
38	BA	2225	A	C2'-C3'-O3'	5.85	123.07	113.70
58	BX	75	ASP	N-CA-C	-5.85	95.21	111.00
32	B4	41	PRO	N-CA-CB	5.83	110.29	103.30
38	BA	265	A	N9-C1'-C2'	5.81	121.56	114.00
38	BA	1820	U	C4'-C3'-C2'	5.80	108.40	102.60
44	BG	54	GLU	N-CA-C	-5.75	95.48	111.00
51	BQ	11	LYS	N-CA-C	-5.69	95.64	111.00
1	AA	266	G	C2'-C3'-O3'	5.68	122.79	113.70
38	BA	1694	C	N1-C1'-C2'	5.66	121.36	114.00
38	BA	386	G	N9-C1'-C2'	5.65	121.34	114.00
38	BA	2796	U	O4'-C1'-N1	5.62	112.70	108.20
32	B4	29	PRO	N-CA-CB	5.61	110.03	103.30
30	B2	55	ARG	N-CA-C	-5.60	95.88	111.00
38	BA	272	G	C2'-C3'-O3'	5.60	122.66	113.70
50	BP	58	THR	N-CA-C	-5.59	95.91	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	412	A	O4'-C1'-N9	5.58	112.66	108.20
38	BA	673	C	C5'-C4'-C3'	-5.58	107.07	116.00
38	BA	2859	G	C2'-C3'-O3'	5.57	122.61	113.70
40	BC	133	PRO	N-CA-CB	5.57	109.98	103.30
27	AZ	78	SER	N-CA-C	-5.56	95.99	111.00
38	BA	2098	U	O3'-P-O5'	-5.48	93.59	104.00
32	B4	11	PRO	N-CA-CB	5.45	109.84	103.30
30	B2	52	ASP	N-CA-C	-5.44	96.31	111.00
47	BL	59	ILE	N-CA-C	-5.41	96.40	111.00
38	BA	1992	G	C2'-C3'-O3'	5.41	122.35	113.70
38	BA	1722	A	O4'-C1'-N9	5.40	112.52	108.20
40	BC	220	PRO	N-CA-CB	5.40	109.78	103.30
1	AA	533	A	C2'-C3'-O3'	5.39	122.33	113.70
40	BC	140	PRO	N-CA-CB	5.39	109.77	103.30
38	BA	1086	A	C8-N9-C1'	5.38	137.39	127.70
38	BA	387	U	C2'-C3'-O3'	5.36	122.28	113.70
54	BT	30	VAL	N-CA-C	5.36	125.48	111.00
38	BA	2346	A	N9-C1'-C2'	5.36	120.96	114.00
38	BA	2653	U	P-O3'-C3'	-5.35	113.28	119.70
58	BX	77	LYS	N-CA-C	5.33	125.38	111.00
40	BC	182	PRO	N-CA-CB	5.32	109.68	103.30
38	BA	1086	A	C4-N9-C1'	-5.29	116.77	126.30
29	B1	65	SER	N-CA-C	-5.29	96.72	111.00
1	AA	1335	C	N1-C1'-C2'	5.28	120.86	114.00
38	BA	1822	G	C5'-C4'-O4'	-5.27	102.78	109.10
38	BA	493	G	C5'-C4'-C3'	-5.25	107.60	116.00
38	BA	1051	G	O3'-P-O5'	-5.24	94.04	104.00
38	BA	1495	A	N9-C1'-C2'	5.24	120.81	114.00
1	AA	410	G	C4'-C3'-O3'	5.21	123.41	113.00
38	BA	1987	G	C5'-C4'-O4'	-5.20	102.86	109.10
40	BC	201	PRO	N-CA-CB	5.19	109.53	103.30
24	AW	15	G	C2'-C3'-O3'	5.17	121.97	113.70
52	BR	8	ARG	N-CA-C	5.14	124.88	111.00
1	AA	1067	A	C2'-C3'-O3'	5.14	121.92	113.70
32	B4	7	PRO	N-CA-CB	5.12	109.44	103.30
38	BA	1000	A	C5'-C4'-C3'	-5.11	107.82	116.00
38	BA	669	G	C5'-C4'-C3'	5.10	124.16	116.00
38	BA	1286	A	N9-C1'-C2'	5.10	120.63	114.00
38	BA	629	G	C5'-C4'-C3'	-5.09	107.85	116.00
38	BA	1458	C	O4'-C1'-N1	5.09	112.27	108.20
1	AA	925	G	O3'-P-O5'	-5.08	94.34	104.00
40	BC	181	PRO	N-CA-CB	5.08	109.40	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	BT	82	LEU	CA-CB-CG	5.08	126.98	115.30
38	BA	1250	G	C4'-C3'-C2'	5.04	107.64	102.60
58	BX	59	VAL	N-CA-C	5.04	124.61	111.00
1	AA	920	U	C5'-C4'-C3'	-5.02	107.97	116.00
1	AA	509	A	C2'-C3'-O3'	5.02	121.73	113.70
38	BA	1300	U	C5'-C4'-O4'	5.01	115.12	109.10
38	BA	283	A	C4'-C3'-O3'	5.01	123.02	113.00
38	BA	1494	A	C2'-C3'-O3'	5.01	121.71	113.70
1	AA	1201	A	C2'-C3'-O3'	5.00	121.70	113.70

All (34) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	AA	410	G	C3'
1	AA	412	A	C1'
24	AW	17	C	C1'
24	AW	47	U	C1'
24	AW	70	G	C3'
38	BA	100	G	C1'
38	BA	283	A	C3'
38	BA	472	A	C3'
38	BA	669	G	C3',C4',C1'
38	BA	945	A	C1'
38	BA	1250	G	C3'
38	BA	1300	U	C3',C4',C1'
38	BA	1379	A	C1'
38	BA	1397	U	C3'
38	BA	1458	C	C1'
38	BA	1484	G	C3'
38	BA	1544	A	C1'
38	BA	1609	A	C2'
38	BA	1652	A	C3'
38	BA	1694	C	C3',C4'
38	BA	1697	G	C3'
38	BA	1722	A	C1'
38	BA	1819	A	C3'
38	BA	1934	C	C3'
38	BA	1962	C	C4',C1'
38	BA	2191	G	C3'
38	BA	2286	A	C1'
38	BA	2796	U	C1'

All (139) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	107	G	Sidechain
1	AA	1077	G	Sidechain
1	AA	1220	G	Sidechain
1	AA	1293	G	Sidechain
1	AA	1373	G	Sidechain
1	AA	1391	U	Sidechain
1	AA	1417	G	Sidechain
1	AA	1418	A	Sidechain
1	AA	1420	C	Sidechain
1	AA	1434	A	Sidechain
1	AA	1463	C	Sidechain
1	AA	1474	G	Sidechain
1	AA	1485	U	Sidechain
1	AA	1525	G	Sidechain
1	AA	1528	U	Sidechain
1	AA	253	U	Sidechain
1	AA	371	G	Sidechain
1	AA	38	G	Sidechain
1	AA	438	G	Sidechain
1	AA	541	G	Sidechain
1	AA	575	G	Sidechain
1	AA	587	G	Sidechain
1	AA	622	A	Sidechain
1	AA	682	G	Sidechain
1	AA	691	G	Sidechain
1	AA	724	G	Sidechain
1	AA	740	U	Sidechain
1	AA	760	G	Sidechain
1	AA	773	G	Sidechain
1	AA	801	U	Sidechain
1	AA	832	C	Sidechain
1	AA	880	C	Sidechain
1	AA	884	U	Sidechain
1	AA	898	G	Sidechain
1	AA	9	G	Sidechain
1	AA	900	A	Sidechain
1	AA	991	U	Sidechain
22	AV	25	C	Sidechain
22	AV	4	G	Sidechain
24	AW	39	U	Sidechain
25	AY	18	G	Sidechain
25	AY	19	G	Sidechain

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Mol	Chain	Res	Type	Group
25	AY	22	G	Sidechain
25	AY	62	A	Sidechain
25	AY	8	U	Sidechain
29	B1	43	TYR	Sidechain
38	BA	1023	U	Sidechain
38	BA	1052	C	Sidechain
38	BA	1053	C	Sidechain
38	BA	1060	U	Sidechain
38	BA	1063	G	Sidechain
38	BA	1064	C	Sidechain
38	BA	1080	C	Sidechain
38	BA	1082	U	Sidechain
38	BA	1087	G	Sidechain
38	BA	1099	G	Sidechain
38	BA	1102	C	Sidechain
38	BA	1107	G	Sidechain
38	BA	1132	A	Sidechain
38	BA	1158	C	Sidechain
38	BA	1161	C	Sidechain
38	BA	1188	U	Sidechain
38	BA	1192	G	Sidechain
38	BA	1340	U	Sidechain
38	BA	1352	U	Sidechain
38	BA	1370	C	Sidechain
38	BA	1611	C	Sidechain
38	BA	1647	G	Sidechain
38	BA	1675	C	Sidechain
38	BA	1692	U	Sidechain
38	BA	1758	G	Sidechain
38	BA	1772	G	Sidechain
38	BA	1773	A	Sidechain
38	BA	1775	U	Sidechain
38	BA	1807	G	Sidechain
38	BA	1808	U	Sidechain
38	BA	1820	U	Sidechain
38	BA	1834	U	Sidechain
38	BA	188	G	Sidechain
38	BA	189	G	Sidechain
38	BA	1898	U	Sidechain
38	BA	1940	U	Sidechain
38	BA	1980	G	Sidechain
38	BA	1985	G	Sidechain

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Mol	Chain	Res	Type	Group
38	BA	1992	G	Sidechain
38	BA	2004	G	Sidechain
38	BA	2009	G	Sidechain
38	BA	201	C	Sidechain
38	BA	2010	G	Sidechain
38	BA	2017	U	Sidechain
38	BA	2033	A	Sidechain
38	BA	2079	U	Sidechain
38	BA	2090	G	Sidechain
38	BA	2158	A	Sidechain
38	BA	2306	C	Sidechain
38	BA	2360	A	Sidechain
38	BA	242	G	Sidechain
38	BA	2454	G	Sidechain
38	BA	2464	C	Sidechain
38	BA	2517	C	Sidechain
38	BA	2564	A	Sidechain
38	BA	2569	G	Sidechain
38	BA	2582	G	Sidechain
38	BA	2597	G	Sidechain
38	BA	2603	G	Sidechain
38	BA	2605	U	Sidechain
38	BA	2682	U	Sidechain
38	BA	271(H)	G	Sidechain
38	BA	271(Q)	G	Sidechain
38	BA	271(Y)	U	Sidechain
38	BA	2764	A	Sidechain
38	BA	2779	U	Sidechain
38	BA	379	G	Sidechain
38	BA	398	G	Sidechain
38	BA	459	U	Sidechain
38	BA	463	G	Sidechain
38	BA	465	G	Sidechain
38	BA	475	U	Sidechain
38	BA	476	G	Sidechain
38	BA	488	G	Sidechain
38	BA	505	A	Sidechain
38	BA	532	A	Sidechain
38	BA	542	C	Sidechain
38	BA	543	C	Sidechain
38	BA	562	U	Sidechain
38	BA	570	G	Sidechain

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Mol	Chain	Res	Type	Group
38	BA	588	U	Sidechain
38	BA	669	G	Sidechain
38	BA	670	A	Sidechain
38	BA	692	C	Sidechain
38	BA	700	G	Sidechain
38	BA	734	A	Sidechain
38	BA	74	A	Sidechain
38	BA	79	G	Sidechain
38	BA	802	A	Sidechain
38	BA	810	U	Sidechain
38	BA	939	G	Sidechain
38	BA	968	G	Sidechain
38	BA	987	G	Sidechain

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	32329	0	16318	1554	0
2	AB	1901	0	1951	280	0
3	AD	1703	0	1767	184	0
4	AE	1147	0	1207	167	0
5	AF	843	0	857	94	0
6	AH	1116	0	1177	129	0
7	AK	885	0	904	116	0
8	AL	971	0	1057	122	0
9	AO	734	0	771	76	0
10	AP	701	0	720	82	0
11	AQ	824	0	891	86	0
12	AR	574	0	644	97	0
13	AT	763	0	861	104	0
14	AC	1613	0	1677	212	0
15	AG	1257	0	1296	129	0
16	AI	1011	0	1041	140	0
17	AJ	795	0	840	145	0
18	AM	988	0	1055	179	0
19	AN	492	0	533	62	0
20	AS	630	0	652	104	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	AU	209	0	221	22	0
22	AV	1645	0	836	146	0
23	AX	132	0	67	15	0
24	AW	1623	0	821	97	0
25	AY	1546	0	801	196	0
26	A0	60	0	30	22	0
27	AZ	2962	0	2975	133	0
28	B0	650	0	654	82	0
29	B1	693	0	764	179	0
30	B2	421	0	461	124	0
31	B3	468	0	523	52	0
32	B4	242	0	103	20	0
33	B5	459	0	480	75	0
34	B6	381	0	390	55	0
35	B7	419	0	467	35	0
36	B8	508	0	576	111	0
37	B9	294	0	316	182	0
38	BA	61426	0	30956	3131	0
39	BB	2551	0	1295	107	0
40	BC	1142	0	865	99	0
41	BD	2105	0	2182	360	0
42	BE	1564	0	1629	326	0
43	BF	1624	0	1677	233	0
44	BG	1474	0	1534	270	0
45	BH	1223	0	1282	205	0
46	BI	1132	0	1218	203	0
47	BL	1025	0	1074	426	0
48	BN	1105	0	1180	213	0
49	BO	933	0	996	136	0
50	BP	1114	0	1187	325	0
51	BQ	1080	0	1127	225	0
52	BR	960	0	1021	176	0
53	BS	771	0	832	185	0
54	BT	1142	0	1202	238	0
55	BU	958	0	1015	188	0
56	BV	779	0	851	216	0
57	BW	896	0	953	112	0
58	BX	726	0	778	205	0
59	BY	776	0	870	220	0
60	BZ	1404	0	1429	241	0
61	AY	11	0	10	5	0
62	AZ	28	0	12	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
63	AZ	58	0	60	0	0
64	AZ	4	0	5	3	0
All	All	152000	0	103944	12176	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 48.

All (12176) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:33:LYS:CD	38:BA:2527:C:H4'	1.25	1.66
25:AY:65:G:C5'	27:AZ:391:GLY:HA2	1.20	1.60
37:B9:4:ARG:CZ	38:BA:2465:C:C4'	1.78	1.56
37:B9:33:LYS:HD3	38:BA:2527:C:C4'	1.34	1.54
25:AY:65:G:H5'	27:AZ:391:GLY:CA	1.08	1.53
25:AY:25:C:H2'	25:AY:26:M2G:C1'	1.36	1.51
22:AV:76:A:N7	28:B0:1:MET:CB	1.71	1.51
25:AY:64:A:C2'	27:AZ:391:GLY:HA3	1.30	1.49
25:AY:64:A:C3'	27:AZ:391:GLY:HA3	1.42	1.49
37:B9:4:ARG:CZ	38:BA:2465:C:H4'	1.03	1.47
37:B9:4:ARG:NH1	38:BA:2465:C:H4'	1.16	1.47
1:AA:1493:A:C2	26:A0:100:U:O2	1.65	1.46
25:AY:76:A:N7	27:AZ:231:ILE:HD13	1.29	1.42
37:B9:4:ARG:NH2	38:BA:2465:C:H4'	1.37	1.40
37:B9:14:CYS:SG	37:B9:32:HIS:HB3	1.63	1.40
37:B9:4:ARG:NH1	38:BA:2465:C:C5'	1.84	1.36
25:AY:38:A:H5'	38:BA:1913:A:N1	1.41	1.35
37:B9:27:CYS:SG	37:B9:32:HIS:HB2	1.66	1.35
38:BA:2098:U:H2'	38:BA:2099:U:C6	1.61	1.35
37:B9:4:ARG:NH1	38:BA:2465:C:C4'	1.79	1.34
37:B9:33:LYS:NZ	38:BA:2526:G:O2'	1.57	1.33
47:BL:93:ARG:CD	60:BZ:112:ARG:HG3	1.48	1.32
37:B9:33:LYS:NZ	38:BA:2527:C:O5'	1.62	1.31
22:AV:13:C:O2'	38:BA:1924:C:H4'	1.21	1.31
38:BA:2111:C:N3	38:BA:2146:C:N4	1.78	1.30
18:AM:9:ILE:HD13	44:BG:146:TYR:CZ	1.66	1.29
38:BA:1107:G:O3'	38:BA:1108:U:C5'	1.81	1.29
38:BA:1048:A:C6	38:BA:1107:G:O6	1.86	1.28
25:AY:25:C:C2'	25:AY:26:M2G:H1'	1.61	1.28
25:AY:76:A:N7	27:AZ:231:ILE:CD1	1.95	1.28
25:AY:64:A:O3'	27:AZ:391:GLY:CA	1.79	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:4:ARG:NH2	38:BA:2465:C:C3'	1.96	1.27
22:AV:56:C:O2'	44:BG:78:SER:HB2	1.12	1.27
1:AA:1442(A):G:O6	38:BA:2863:C:H4'	1.23	1.26
1:AA:1493:A:N3	26:A0:100:U:O2	1.65	1.26
37:B9:35:ARG:NH1	38:BA:2526:G:H1'	1.51	1.25
1:AA:1104:G:H4'	2:AB:111:ARG:NH1	1.51	1.24
37:B9:4:ARG:CZ	38:BA:2465:C:C5'	2.14	1.24
25:AY:64:A:C2'	27:AZ:391:GLY:CA	2.09	1.23
38:BA:1107:G:O3'	38:BA:1108:U:H5'	1.05	1.22
22:AV:13:C:H1'	38:BA:1924:C:C5'	1.71	1.21
25:AY:76:A:C8	27:AZ:231:ILE:HD13	1.76	1.20
47:BL:57:ILE:HA	47:BL:66:THR:O	1.39	1.20
37:B9:4:ARG:NH2	38:BA:2465:C:O3'	1.74	1.20
1:AA:1054:C:N3	25:AY:34:OMG:CM2	2.06	1.19
24:AW:17:C:H5	38:BA:2180:U:O3'	1.19	1.19
25:AY:25:C:C2'	25:AY:26:M2G:C1'	2.19	1.18
25:AY:33:U:C2	25:AY:35:A:H5'	1.77	1.18
37:B9:4:ARG:NH2	38:BA:2465:C:C4'	1.97	1.18
56:BV:28:GLU:HG3	56:BV:29:PRO:HD3	1.25	1.18
1:AA:1441:G:H5''	1:AA:1442:G:H5''	1.25	1.17
22:AV:13:C:C2'	38:BA:1924:C:H4'	1.74	1.17
25:AY:76:A:C8	27:AZ:231:ILE:CD1	2.26	1.17
25:AY:38:A:C5'	38:BA:1913:A:N1	2.09	1.16
37:B9:5:ALA:HB1	38:BA:2466:C:H5''	1.22	1.16
38:BA:2158:A:O2'	38:BA:2159:G:H5'	1.45	1.16
38:BA:2781:A:H5'	38:BA:2782:G:H5'	1.19	1.16
48:BN:65:LYS:HE2	48:BN:65:LYS:HA	1.25	1.16
50:BP:126:VAL:HA	50:BP:145:PRO:HB2	1.25	1.16
58:BX:72:LYS:HG3	58:BX:74:PRO:HD3	1.23	1.16
38:BA:1069:A:H4'	38:BA:1070:A:C5'	1.76	1.16
42:BE:52:LEU:HB2	42:BE:76:ARG:HB2	1.26	1.16
38:BA:2175:C:H2'	38:BA:2176:A:H5''	1.29	1.15
56:BV:70:ILE:HB	56:BV:90:PRO:HB2	1.20	1.15
1:AA:367:U:H4'	27:AZ:291:ARG:NH1	1.61	1.15
47:BL:93:ARG:CD	60:BZ:112:ARG:CG	2.18	1.15
58:BX:36:LYS:HZ2	58:BX:39:ILE:HA	1.09	1.15
47:BL:105:LEU:HD22	47:BL:124:ALA:HB1	1.20	1.14
53:BS:28:VAL:HG12	53:BS:29:PHE:H	1.11	1.14
50:BP:146:VAL:HG22	50:BP:147:LEU:H	1.11	1.14
22:AV:57:A:H5'	44:BG:78:SER:CB	1.76	1.14
61:AY:101:PHA:H	27:AZ:273:HIS:N	1.45	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AW:39:U:H2'	24:AW:40:C:H5''	1.25	1.13
22:AV:56:C:O2'	44:BG:78:SER:CB	1.95	1.13
37:B9:30:PRO:HB3	38:BA:2527:C:H5'	1.17	1.12
54:BT:28:VAL:HG22	54:BT:47:GLY:H	1.11	1.12
2:AB:22:LYS:HZ3	2:AB:22:LYS:HA	1.02	1.12
38:BA:1590:U:H2'	38:BA:1591:G:H5''	1.28	1.12
38:BA:2491:U:H5'	38:BA:2570:G:H5''	1.25	1.12
47:BL:68:VAL:HG11	47:BL:70:LYS:HE3	1.32	1.12
53:BS:89:ARG:HA	53:BS:89:ARG:HE	1.02	1.12
29:B1:13:ILE:HG21	29:B1:63:ALA:HB2	1.27	1.11
1:AA:1495:U:OP1	18:AM:125:ARG:NH2	1.84	1.11
29:B1:20:ARG:HD3	29:B1:41:ARG:HD3	1.33	1.11
14:AC:20:SER:HB2	14:AC:40:ARG:HH22	0.98	1.10
25:AY:65:G:H5'	27:AZ:391:GLY:N	1.64	1.10
1:AA:926:G:C6	1:AA:1505:G:C6	2.39	1.10
14:AC:14:ILE:HG12	14:AC:15:THR:H	1.12	1.10
37:B9:31:LYS:HG2	38:BA:2528:U:H5''	1.26	1.10
37:B9:33:LYS:HD2	38:BA:2527:C:H4'	1.25	1.10
40:BC:58:VAL:HG21	40:BC:166:ASP:H	0.96	1.10
51:BQ:82:ARG:HG2	51:BQ:82:ARG:HH11	1.14	1.10
38:BA:145:G:H2'	38:BA:146:G:H5''	1.33	1.10
38:BA:2701:C:H3'	38:BA:2702:U:H5''	1.24	1.10
25:AY:38:A:C5'	38:BA:1913:A:C6	2.35	1.09
46:BI:79:ILE:HG12	46:BI:140:LEU:HD11	1.21	1.09
58:BX:60:ARG:HG2	58:BX:74:PRO:HD2	1.26	1.09
59:BY:15:VAL:HG12	59:BY:16:ALA:H	1.07	1.09
38:BA:1332:G:H22	38:BA:1609:A:H2'	1.05	1.09
38:BA:2415:G:H4'	50:BP:67:MET:H	0.95	1.09
50:BP:45:LEU:HD23	50:BP:46:LYS:H	1.10	1.09
1:AA:1103:C:H5''	2:AB:98:LEU:HD13	1.32	1.09
30:B2:16:LEU:H	30:B2:18:PRO:HD2	1.11	1.09
31:B3:6:VAL:HG13	31:B3:54:VAL:HG11	1.25	1.09
41:BD:35:LYS:HD3	41:BD:63:ARG:HB3	1.21	1.09
53:BS:17:ARG:HA	53:BS:20:ARG:HE	1.15	1.09
7:AK:57:THR:HG21	15:AG:150:ALA:CA	1.83	1.09
38:BA:1048:A:N6	38:BA:1107:G:C6	1.89	1.09
47:BL:10:LEU:HD21	47:BL:57:ILE:HG12	1.29	1.09
22:AV:56:C:O2	44:BG:83:ARG:NH1	1.84	1.09
25:AY:76:A:H62	27:AZ:234:ARG:NH2	1.49	1.09
38:BA:1085:A:H1'	38:BA:1086:A:H4'	1.31	1.09
1:AA:950:U:H3'	18:AM:102:ARG:HH12	1.02	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:148:GLY:HA3	14:AC:203:PHE:HB3	1.29	1.08
13:AT:50:GLU:HB3	13:AT:100:ILE:HG12	1.35	1.08
38:BA:1069:A:H4'	38:BA:1070:A:H5''	1.08	1.08
38:BA:2118:U:O4	38:BA:2149:G:O2'	1.68	1.08
47:BL:79:ARG:HD3	47:BL:134:MET:HG3	1.32	1.08
59:BY:46:LYS:H	59:BY:62:GLU:HG2	1.02	1.08
25:AY:8:U:O4'	25:AY:48:C:H1'	1.54	1.08
38:BA:612:C:H2'	38:BA:613:G:H5''	1.26	1.08
38:BA:1061:U:H4'	38:BA:1070:A:C1'	1.84	1.08
38:BA:2758:A:H2'	38:BA:2759:G:H5''	1.35	1.08
41:BD:79:VAL:HG21	41:BD:111:LEU:HD11	1.28	1.08
38:BA:2562:U:H1'	49:BO:23:ARG:NH1	1.69	1.07
47:BL:23:VAL:HG13	47:BL:27:LEU:HD12	1.30	1.07
60:BZ:151:HIS:HB3	60:BZ:170:THR:HA	1.36	1.07
46:BI:77:LEU:HD21	46:BI:101:LEU:HD13	1.33	1.07
38:BA:2134:A:N6	38:BA:2157:G:O2'	1.87	1.07
30:B2:49:LYS:HD2	30:B2:53:LEU:HD13	1.34	1.07
1:AA:1463:C:H5'	54:BT:115:ARG:HH21	1.12	1.06
37:B9:2:LYS:CD	38:BA:2526:G:N3	2.12	1.06
38:BA:996:A:H4'	55:BU:92:ARG:HE	0.97	1.06
53:BS:74:ALA:HB1	53:BS:103:GLU:HG3	1.35	1.06
38:BA:2153:G:H8	38:BA:2153:G:OP2	1.36	1.06
42:BE:201:THR:HG22	42:BE:203:LYS:H	1.20	1.06
54:BT:91:ARG:HB3	54:BT:116:ALA:HA	1.36	1.06
2:AB:22:LYS:HA	2:AB:22:LYS:NZ	1.69	1.06
25:AY:38:A:H4'	38:BA:1913:A:N6	1.70	1.06
25:AY:56:C:H6	38:BA:1067:A:N1	1.54	1.06
1:AA:367:U:C4'	27:AZ:291:ARG:NH1	2.19	1.06
36:B8:62:LEU:HD13	38:BA:242:G:H5''	1.33	1.06
38:BA:2762:G:H2'	38:BA:2763:G:H5''	1.38	1.06
1:AA:1400:C:N4	22:AV:34:C:C6	2.22	1.05
29:B1:16:ASN:HB3	29:B1:46:LEU:HG	1.35	1.05
37:B9:4:ARG:CZ	38:BA:2465:C:H5''	1.83	1.05
43:BF:53:THR:HG22	43:BF:56:GLU:HB2	1.32	1.05
49:BO:47:ILE:HG13	49:BO:48:PRO:HD2	1.37	1.05
50:BP:59:LEU:HA	50:BP:61:ARG:NH1	1.70	1.05
17:AJ:4:ILE:HB	17:AJ:74:ILE:HD11	1.38	1.05
38:BA:49:A:H4'	38:BA:50:U:H5'	1.35	1.05
38:BA:954:G:H4'	51:BQ:13:GLN:HE21	1.21	1.05
38:BA:1484:G:H2'	38:BA:1485:G:H5''	1.34	1.05
38:BA:1826:G:H4'	41:BD:242:ARG:HH21	0.95	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BR:56:LYS:HD2	52:BR:88:ARG:HA	1.39	1.05
15:AG:64:GLN:HG3	15:AG:68:ASN:HD21	1.20	1.05
50:BP:45:LEU:HD23	50:BP:46:LYS:N	1.70	1.05
38:BA:2415:G:H4'	50:BP:67:MET:N	1.71	1.05
1:AA:1474:G:H4'	38:BA:1701:A:N3	1.72	1.04
22:AV:76:A:C5	28:B0:1:MET:CB	2.40	1.04
38:BA:571:A:H5'	38:BA:2030:A:H62	1.20	1.04
13:AT:13:LEU:HD12	13:AT:13:LEU:H	1.22	1.04
22:AV:13:C:O2'	38:BA:1924:C:C4'	2.04	1.04
38:BA:145:G:C2'	38:BA:146:G:H5''	1.87	1.04
38:BA:1884:A:H2'	38:BA:1885:A:H5''	1.40	1.04
44:BG:111:LEU:HA	44:BG:114:ILE:HG12	1.38	1.04
25:AY:76:A:N6	27:AZ:234:ARG:NH2	2.04	1.04
10:AP:45:THR:HG22	10:AP:47:ASP:H	1.23	1.04
44:BG:161:THR:HG22	44:BG:163:ALA:H	1.18	1.04
7:AK:127:LYS:HE2	7:AK:127:LYS:HA	1.39	1.04
22:AV:56:C:C2	44:BG:83:ARG:NH1	2.25	1.04
24:AW:17:C:C5	38:BA:2180:U:O3'	2.11	1.04
47:BL:10:LEU:HD12	47:BL:12:LEU:HD11	1.06	1.04
54:BT:29:ARG:HD3	54:BT:86:ILE:HG22	1.40	1.04
12:AR:56:THR:HB	12:AR:58:LEU:HD13	1.39	1.03
38:BA:1072:C:H2'	38:BA:1093:G:O6	1.55	1.03
8:AL:46:LYS:HG2	8:AL:47:LYS:H	1.20	1.03
17:AJ:37:PRO:HA	17:AJ:72:VAL:HG22	1.40	1.03
37:B9:4:ARG:CD	38:BA:2465:C:H5''	1.89	1.03
57:BW:25:ARG:HB2	57:BW:25:ARG:HH11	1.23	1.03
43:BF:3:GLU:HG3	43:BF:19:GLU:HB2	1.34	1.03
1:AA:1054:C:N3	25:AY:34:OMG:HM23	1.72	1.03
37:B9:4:ARG:NH1	38:BA:2465:C:H5'	1.71	1.03
37:B9:35:ARG:HH12	38:BA:2526:G:H1'	1.07	1.03
58:BX:36:LYS:NZ	58:BX:39:ILE:HA	1.72	1.03
1:AA:1363(A):A:H4'	1:AA:1364:U:H5''	1.35	1.02
60:BZ:145:GLU:HG3	60:BZ:146:ILE:H	1.18	1.02
17:AJ:48:THR:HA	17:AJ:62:HIS:HB3	1.41	1.02
38:BA:1578:U:H2'	38:BA:1579:A:H5''	1.41	1.02
38:BA:1066:U:H1'	38:BA:1069:A:OP2	1.58	1.02
38:BA:2533:A:H2'	38:BA:2534:A:H5''	1.41	1.02
59:BY:28:LYS:O	59:BY:38:ILE:HB	1.59	1.02
38:BA:2103:C:H3'	38:BA:2104:G:H5''	1.41	1.02
38:BA:2562:U:H1'	49:BO:23:ARG:HH12	1.14	1.02
22:AV:13:C:H1'	38:BA:1924:C:H5'	1.39	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:8:LYS:H	59:BY:8:LYS:HD2	1.23	1.02
7:AK:57:THR:HG21	15:AG:150:ALA:HA	1.36	1.01
29:B1:64:ALA:HA	29:B1:67:ILE:HG13	1.41	1.01
38:BA:2712:U:O2'	38:BA:2712(A):A:H5''	1.59	1.01
47:BL:93:ARG:HD3	60:BZ:112:ARG:CG	1.85	1.01
38:BA:2134:A:H62	38:BA:2157:G:H1'	1.24	1.01
53:BS:89:ARG:HE	53:BS:89:ARG:CA	1.73	1.01
31:B3:8:LEU:HD11	31:B3:31:LEU:HD23	1.41	1.01
59:BY:37:VAL:HG23	59:BY:38:ILE:H	1.21	1.01
60:BZ:69:THR:HG22	60:BZ:90:VAL:HA	1.42	1.01
1:AA:1347:G:H22	1:AA:1373:G:H2'	1.25	1.01
24:AW:16:U:C5	24:AW:18:G:H5'	1.95	1.01
33:B5:4:HIS:HB3	33:B5:5:PRO:HD3	1.43	1.01
13:AT:57:ARG:HB2	13:AT:57:ARG:HH11	1.26	1.01
52:BR:38:VAL:HB	52:BR:39:PRO:HD3	1.40	1.01
58:BX:65:ARG:NE	58:BX:65:ARG:HA	1.74	1.01
45:BH:41:MET:HB3	45:BH:43:VAL:HG13	1.39	1.00
47:BL:14:ALA:HB2	47:BL:53:VAL:HB	1.43	1.00
51:BQ:11:LYS:HE2	51:BQ:85:LYS:HG2	1.42	1.00
54:BT:27:THR:O	54:BT:28:VAL:HG23	1.59	1.00
25:AY:76:A:H2'	27:AZ:274:ARG:HG2	1.39	1.00
37:B9:4:ARG:NE	38:BA:2465:C:H5''	1.76	1.00
47:BL:112:MET:HE3	47:BL:118:THR:HG22	1.40	1.00
40:BC:58:VAL:HG21	40:BC:166:ASP:N	1.77	1.00
49:BO:64:ARG:HD3	49:BO:101:PRO:HB2	1.44	1.00
58:BX:65:ARG:HA	58:BX:65:ARG:HE	1.22	1.00
29:B1:47:GLN:HG2	38:BA:2230:G:H1'	1.02	0.99
37:B9:2:LYS:NZ	38:BA:2538:C:O2	1.94	0.99
47:BL:93:ARG:NE	60:BZ:112:ARG:O	1.94	0.99
59:BY:90:LEU:HG	59:BY:91:GLU:H	1.25	0.99
1:AA:1442(B):A:N1	54:BT:118:ARG:NH2	2.10	0.99
29:B1:19:GLN:HE21	38:BA:379:G:H21	1.05	0.99
39:BB:7:G:H3'	39:BB:8:U:H5''	1.43	0.99
25:AY:38:A:H5'	38:BA:1913:A:C6	1.97	0.99
38:BA:1879:C:H2'	38:BA:1880:C:H5''	1.41	0.99
48:BN:42:TRP:HB2	55:BU:64:ARG:CZ	1.91	0.99
42:BE:117:MET:HA	42:BE:122:PHE:H	1.26	0.99
47:BL:18:THR:HG23	47:BL:38:VAL:HG11	1.45	0.99
38:BA:612:C:C2'	38:BA:613:G:H5''	1.91	0.99
1:AA:950:U:H3'	18:AM:102:ARG:NH1	1.77	0.99
38:BA:92:A:H2'	38:BA:93:G:H8	1.27	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:13:LYS:HE2	45:BH:13:LYS:HA	1.45	0.99
1:AA:382:A:H2'	1:AA:383:A:H8	1.25	0.99
46:BI:9:LEU:H	46:BI:13:GLY:HA2	1.24	0.99
1:AA:367:U:C3'	27:AZ:291:ARG:NH1	2.25	0.99
1:AA:1256:A:H61	1:AA:1278:U:H1'	1.28	0.99
1:AA:382:A:H2'	1:AA:383:A:C8	1.98	0.98
38:BA:2098:U:H2'	38:BA:2099:U:H6	1.17	0.98
47:BL:14:ALA:HB1	47:BL:48:MET:O	1.61	0.98
1:AA:585:G:H4'	8:AL:8:ASN:HD21	1.26	0.98
4:AE:76:ILE:HG12	4:AE:77:PRO:HD2	1.45	0.98
10:AP:22:THR:HA	10:AP:33:ILE:HG12	1.43	0.98
22:AV:52:G:HO2'	22:AV:53:G:H8	1.00	0.98
38:BA:598:G:H5'	50:BP:15:ARG:HD2	1.43	0.98
38:BA:2262:U:C2'	38:BA:2263:C:H5''	1.93	0.98
48:BN:39:ARG:HE	48:BN:41:ASP:HB2	1.24	0.98
2:AB:185:ILE:HG22	2:AB:199:TYR:HB2	1.44	0.98
38:BA:2464:C:HO2'	38:BA:2465:C:H6	1.02	0.98
38:BA:2134:A:N6	38:BA:2157:G:H1'	1.78	0.98
45:BH:96:ALA:HB2	45:BH:105:LEU:HB3	1.43	0.98
38:BA:27:G:HO2'	38:BA:28:A:H8	0.98	0.98
1:AA:1054:C:N3	25:AY:34:OMG:HM21	1.77	0.98
24:AW:39:U:C2'	24:AW:40:C:H5''	1.92	0.98
1:AA:1400:C:O4'	23:AX:18:G:C6	2.17	0.97
38:BA:1064:C:H3'	38:BA:1065:U:C5	1.98	0.97
44:BG:76:SER:HB3	44:BG:84:LYS:H	1.29	0.97
47:BL:79:ARG:HH11	47:BL:87:GLY:HA2	1.28	0.97
1:AA:1229:A:O2'	22:AV:30:G:OP1	1.81	0.97
1:AA:1400:C:O4'	23:AX:18:G:O6	1.82	0.97
23:AX:18:G:O3'	26:A0:100:U:OP1	1.81	0.97
14:AC:14:ILE:HG12	14:AC:15:THR:N	1.77	0.97
46:BI:76:THR:HG22	46:BI:139:GLN:HB3	1.44	0.97
43:BF:24:LEU:HB3	43:BF:25:PRO:HD2	1.47	0.97
1:AA:1442(A):G:O6	38:BA:2863:C:C4'	2.11	0.97
37:B9:27:CYS:SG	37:B9:32:HIS:CB	2.52	0.97
38:BA:1076:C:O2'	47:BL:90:LYS:HD3	1.63	0.97
50:BP:24:GLY:HA3	50:BP:33:ARG:HH21	1.27	0.97
40:BC:46:LYS:HA	40:BC:46:LYS:HE2	1.47	0.97
46:BI:110:ASP:HB2	46:BI:113:ARG:HB2	1.45	0.97
1:AA:1463:C:H5'	54:BT:115:ARG:NH2	1.78	0.97
17:AJ:70:ARG:HG3	17:AJ:70:ARG:HH11	1.29	0.97
18:AM:3:ARG:NH2	44:BG:146:TYR:CD1	2.32	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:33:LYS:NZ	38:BA:2526:G:C2'	2.27	0.97
43:BF:78:ILE:H	43:BF:78:ILE:HD13	1.26	0.97
47:BL:93:ARG:HD3	60:BZ:112:ARG:HG3	0.99	0.97
37:B9:33:LYS:CD	38:BA:2527:C:C4'	2.08	0.96
25:AY:33:U:O2	25:AY:35:A:H5'	1.64	0.96
37:B9:14:CYS:SG	37:B9:32:HIS:CB	2.54	0.96
48:BN:43:THR:O	48:BN:46:VAL:HG12	1.65	0.96
38:BA:2175:C:C2'	38:BA:2176:A:H5''	1.96	0.96
1:AA:180:U:H2'	1:AA:181:G:H5''	1.47	0.96
54:BT:28:VAL:CG2	54:BT:47:GLY:H	1.78	0.96
60:BZ:39:VAL:HG23	60:BZ:40:ASP:N	1.80	0.96
60:BZ:151:HIS:HA	60:BZ:171:ILE:HG12	1.46	0.96
1:AA:1347:G:N2	1:AA:1373:G:H2'	1.81	0.96
38:BA:1948:G:H5'	38:BA:1948:G:H8	1.31	0.96
58:BX:12:VAL:HG11	58:BX:27:THR:HG23	1.45	0.96
60:BZ:6:LYS:HD3	60:BZ:6:LYS:H	1.28	0.96
25:AY:10:2MG:O6	25:AY:26:M2G:HM21	1.65	0.96
38:BA:2158:A:C2	38:BA:2159:G:H1'	2.00	0.96
12:AR:53:ARG:HG3	12:AR:63:GLN:HE21	1.29	0.96
25:AY:76:A:C4	27:AZ:271:GLU:OE1	2.19	0.96
25:AY:35:A:C2	26:A0:102:U:O4	2.19	0.96
38:BA:2118:U:OP1	38:BA:2148:G:O2'	1.77	0.96
56:BV:19:LYS:HG3	56:BV:20:LEU:N	1.80	0.96
1:AA:78:G:H22	1:AA:91:C:H42	1.12	0.96
22:AV:13:C:C1'	38:BA:1924:C:H4'	1.95	0.95
22:AV:57:A:H5'	44:BG:78:SER:HB3	1.48	0.95
29:B1:47:GLN:CG	38:BA:2230:G:H1'	1.94	0.95
38:BA:1590:U:C2'	38:BA:1591:G:H5''	1.95	0.95
44:BG:82:LEU:HD22	44:BG:87:PRO:HG3	1.46	0.95
38:BA:2359:C:H2'	38:BA:2360:A:H5'	1.46	0.95
8:AL:47:LYS:HB3	8:AL:48:PRO:HD3	1.47	0.95
50:BP:16:ARG:HH11	50:BP:18:ARG:HB2	1.31	0.95
60:BZ:10:ARG:HH21	60:BZ:26:GLY:H	1.13	0.95
60:BZ:152:ALA:HB1	60:BZ:167:PRO:HB2	1.48	0.95
36:B8:32:LEU:C	36:B8:34:TRP:H	1.68	0.95
60:BZ:79:ARG:H	60:BZ:79:ARG:HD2	1.30	0.95
1:AA:1075:C:H5'	2:AB:103:THR:HG21	1.46	0.95
40:BC:168:THR:HA	40:BC:173:ALA:HB2	1.45	0.95
1:AA:530:G:H21	25:AY:36:A:H4'	1.24	0.95
25:AY:76:A:C5	27:AZ:231:ILE:CD1	2.50	0.95
45:BH:152:ARG:HB3	45:BH:161:GLY:HA2	1.46	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:92:GLY:C	60:BZ:112:ARG:NH1	2.18	0.95
59:BY:46:LYS:N	59:BY:62:GLU:HG2	1.81	0.95
1:AA:1117:G:H4'	16:AI:104:ARG:CZ	1.97	0.95
38:BA:1689:A:H62	38:BA:1698:A:H2	0.98	0.95
58:BX:60:ARG:HE	58:BX:74:PRO:HG3	1.31	0.95
8:AL:6:THR:H	8:AL:9:GLN:HE21	1.13	0.95
38:BA:1717:G:H2'	38:BA:1718:G:H5''	1.48	0.95
19:AN:13:THR:N	19:AN:14:PRO:HD2	1.81	0.95
25:AY:8:U:C1'	25:AY:48:C:H1'	1.97	0.95
1:AA:975:A:H4'	1:AA:976:G:H5''	1.47	0.95
12:AR:56:THR:HB	12:AR:58:LEU:CD1	1.96	0.94
30:B2:23:LYS:HB2	58:BX:5:TYR:HE1	1.31	0.94
37:B9:5:ALA:HB1	38:BA:2466:C:C5'	1.97	0.94
1:AA:1493:A:H1'	26:A0:100:U:H1'	1.47	0.94
47:BL:99:ILE:HG22	47:BL:100:THR:H	1.29	0.94
60:BZ:39:VAL:HG23	60:BZ:40:ASP:H	1.32	0.94
22:AV:56:C:O2	44:BG:83:ARG:CZ	2.14	0.94
30:B2:32:LEU:HG	30:B2:33:MET:H	1.28	0.94
38:BA:1826:G:H4'	41:BD:242:ARG:NH2	1.80	0.94
41:BD:174:ILE:HD12	41:BD:174:ILE:H	1.30	0.94
58:BX:77:LYS:HD3	58:BX:78:LYS:HD2	1.49	0.94
38:BA:2679:A:O2'	38:BA:2680:C:H5'	1.66	0.94
50:BP:95:VAL:HA	50:BP:99:LEU:HD23	1.49	0.94
2:AB:18:GLY:H	2:AB:42:ILE:HG22	1.32	0.94
53:BS:89:ARG:HA	53:BS:89:ARG:NE	1.72	0.94
37:B9:18:ARG:NH1	38:BA:1032:A:O2'	2.00	0.94
38:BA:996:A:H4'	55:BU:92:ARG:NE	1.81	0.94
42:BE:14:ILE:HD11	42:BE:173:VAL:HG11	1.49	0.94
45:BH:16:SER:HB2	45:BH:27:LYS:HB2	1.47	0.94
45:BH:127:GLU:HB3	45:BH:128:PRO:HD2	1.50	0.94
47:BL:38:VAL:O	47:BL:41:PHE:HB2	1.68	0.94
1:AA:442:C:H42	1:AA:492:G:H1	1.13	0.94
38:BA:1301:A:O2'	38:BA:1302:A:H2'	1.68	0.94
48:BN:55:VAL:HG12	48:BN:126:PRO:HA	1.49	0.94
48:BN:73:THR:O	48:BN:75:TYR:N	2.01	0.94
50:BP:16:ARG:HG2	50:BP:18:ARG:H	1.31	0.94
1:AA:532:A:H2	1:AA:1206:G:H21	0.98	0.94
30:B2:55:ARG:NH1	38:BA:72:U:H5'	1.82	0.94
38:BA:1779:U:H5	38:BA:1784:A:N7	1.64	0.94
56:BV:15:GLU:HB3	56:BV:16:PRO:CD	1.97	0.94
56:BV:19:LYS:NZ	56:BV:20:LEU:H	1.65	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AK:57:THR:HG21	15:AG:150:ALA:CB	1.98	0.93
38:BA:2036:C:H5'	38:BA:2036:C:H6	1.31	0.93
41:BD:34:VAL:HG21	41:BD:103:ARG:HA	1.49	0.93
59:BY:95:LYS:HB3	59:BY:100:ALA:HA	1.49	0.93
1:AA:346:G:H5''	54:BT:41:ARG:CZ	1.97	0.93
1:AA:530:G:N2	25:AY:36:A:H4'	1.82	0.93
25:AY:65:G:O5'	27:AZ:391:GLY:HA2	1.67	0.93
38:BA:287:C:N4	38:BA:354:G:H1	1.65	0.93
43:BF:3:GLU:HB2	43:BF:20:LEU:H	1.33	0.93
47:BL:10:LEU:HD11	47:BL:57:ILE:HD11	1.50	0.93
51:BQ:30:GLY:HA2	51:BQ:107:ALA:HB2	1.47	0.93
1:AA:346:G:H5''	54:BT:41:ARG:NH2	1.83	0.93
3:AD:73:ARG:HH11	3:AD:73:ARG:HA	1.31	0.93
43:BF:22:ALA:HA	43:BF:26:ALA:HB2	1.47	0.93
54:BT:40:THR:O	54:BT:41:ARG:HB2	1.68	0.93
18:AM:125:ARG:C	25:AY:37:YG:H102	1.88	0.93
1:AA:979:C:H3'	1:AA:980:C:H5''	1.49	0.93
24:AW:16:U:H5	24:AW:18:G:H5'	1.31	0.93
25:AY:76:A:C8	27:AZ:231:ILE:HD11	2.00	0.93
30:B2:41:ILE:HG12	38:BA:94(A):G:N2	1.84	0.93
38:BA:1061:U:H4'	38:BA:1070:A:H1'	1.50	0.93
41:BD:27:THR:HG21	41:BD:83:GLU:HG2	1.50	0.93
18:AM:3:ARG:NH2	44:BG:146:TYR:CE1	2.36	0.93
38:BA:2639:A:H2'	38:BA:2640:G:H5''	1.48	0.93
47:BL:76:TYR:HD2	47:BL:80:LYS:HE2	1.32	0.93
1:AA:1493:A:C6	25:AY:37:YG:H4'	2.03	0.93
14:AC:20:SER:HB2	14:AC:40:ARG:NH2	1.82	0.93
29:B1:13:ILE:HG23	29:B1:14:VAL:H	1.34	0.93
34:B6:33:LYS:HE2	34:B6:33:LYS:HA	1.51	0.93
41:BD:35:LYS:HG2	41:BD:64:ILE:N	1.82	0.93
59:BY:95:LYS:HG2	59:BY:101:LYS:H	1.33	0.93
18:AM:97:PRO:C	18:AM:98:VAL:HA	1.89	0.93
38:BA:2893:G:H5'	38:BA:2894:G:H5'	1.49	0.93
51:BQ:75:THR:HG21	51:BQ:85:LYS:HE3	1.51	0.93
57:BW:6:ILE:HG12	57:BW:104:THR:HG23	1.50	0.93
37:B9:35:ARG:HH12	38:BA:2526:G:C1'	1.82	0.93
37:B9:35:ARG:CZ	38:BA:2526:G:H1'	1.78	0.93
38:BA:1019:U:H3	38:BA:1142(A):A:H62	1.11	0.93
38:BA:1224:C:O3'	56:BV:88:ARG:HB3	1.69	0.93
38:BA:2681:C:H5	38:BA:2725:A:H62	1.12	0.93
1:AA:818:G:O2'	1:AA:819:A:H5''	1.69	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:129:THR:HG23	46:BI:135:GLU:HB3	1.51	0.92
38:BA:1086:A:OP1	38:BA:1104:C:H4'	1.69	0.92
45:BH:44:VAL:HG12	45:BH:45:VAL:H	1.33	0.92
47:BL:10:LEU:CD1	47:BL:12:LEU:HD11	1.98	0.92
50:BP:131:SER:H	50:BP:134:ALA:HB3	1.34	0.92
19:AN:13:THR:H	19:AN:14:PRO:HD2	1.35	0.92
25:AY:41:U:H6	25:AY:41:U:H5'	1.35	0.92
29:B1:26:ARG:HB2	29:B1:34:THR:HA	1.50	0.92
43:BF:101:LEU:HD12	43:BF:102:PRO:HD2	1.51	0.92
50:BP:58:THR:O	50:BP:61:ARG:NE	2.02	0.92
38:BA:1332:G:H22	38:BA:1609:A:C2'	1.83	0.92
1:AA:1057:G:H5''	14:AC:154:SER:HB2	1.48	0.92
25:AY:8:U:C4'	25:AY:48:C:H1'	2.00	0.92
47:BL:132:ARG:HH21	47:BL:138:VAL:HG11	1.33	0.92
38:BA:1069:A:C4'	38:BA:1070:A:H5''	2.00	0.92
41:BD:147:LEU:HD13	41:BD:155:LEU:HD11	1.47	0.92
43:BF:139:PHE:HB2	43:BF:166:ALA:HB1	1.49	0.92
45:BH:92:ILE:HG22	45:BH:93:GLY:H	1.34	0.92
38:BA:2134:A:N1	38:BA:2158:A:H1'	1.85	0.92
1:AA:1321:C:C5'	1:AA:1322:C:H5''	1.99	0.92
33:B5:55:ARG:HG3	33:B5:56:LYS:H	1.33	0.92
49:BO:101:PRO:O	49:BO:102:VAL:HG13	1.70	0.92
55:BU:64:ARG:NE	55:BU:64:ARG:HA	1.83	0.92
58:BX:53:LYS:HE3	58:BX:55:ASN:HD21	1.32	0.92
7:AK:29:ILE:HB	7:AK:44:SER:HB3	1.52	0.92
29:B1:13:ILE:HG21	29:B1:63:ALA:CB	2.00	0.92
38:BA:914:C:H2'	38:BA:915:C:H5'	1.52	0.92
50:BP:101:VAL:HG23	50:BP:107:LYS:HA	1.52	0.92
4:AE:101:ILE:HG13	4:AE:119:LEU:HD23	1.50	0.91
38:BA:2153:G:OP2	38:BA:2153:G:C8	2.22	0.91
41:BD:17:THR:CG2	41:BD:205:VAL:HB	1.99	0.91
55:BU:24:TYR:HB2	55:BU:29:SER:HB3	1.52	0.91
19:AN:3:ARG:HB3	19:AN:3:ARG:HH11	1.35	0.91
37:B9:30:PRO:HB3	38:BA:2527:C:C5'	1.99	0.91
38:BA:2159:G:H2'	38:BA:2160:G:O4'	1.69	0.91
18:AM:3:ARG:HH21	44:BG:146:TYR:HD1	1.16	0.91
37:B9:11:CYS:HG	37:B9:14:CYS:HG	0.99	0.91
38:BA:2068:U:H3	38:BA:2430:A:H2	1.17	0.91
38:BA:2781:A:C5'	38:BA:2782:G:H5'	2.00	0.91
42:BE:77:ILE:HG22	42:BE:78:LEU:H	1.35	0.91
51:BQ:43:THR:HA	51:BQ:94:VAL:HG12	1.51	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2154:G:H2'	38:BA:2155:G:C8	2.05	0.91
41:BD:17:THR:HG23	41:BD:205:VAL:H	1.35	0.91
50:BP:101:VAL:HG13	50:BP:102:ARG:H	1.36	0.91
58:BX:12:VAL:HG12	58:BX:27:THR:O	1.70	0.91
38:BA:329:G:H1	59:BY:19:LYS:HE3	1.35	0.91
38:BA:2206:G:H21	38:BA:2207:G:H5'	1.32	0.91
49:BO:22:ILE:HG12	49:BO:41:ALA:HA	1.50	0.91
1:AA:55:A:C2	27:AZ:234:ARG:HG2	2.04	0.91
25:AY:46:7MG:O2'	25:AY:47:U:H4'	1.71	0.91
12:AR:65:ILE:HD12	12:AR:66:LEU:N	1.86	0.91
38:BA:1068:G:H4'	38:BA:1096:A:O2'	1.71	0.91
38:BA:2098:U:C2'	38:BA:2099:U:C6	2.54	0.91
38:BA:2111:C:C2	38:BA:2146:C:N4	2.31	0.91
56:BV:21:ARG:H	56:BV:21:ARG:HD3	1.36	0.91
1:AA:1293:G:HO2'	1:AA:1294:G:H8	0.96	0.91
3:AD:43:HIS:HA	3:AD:46:LYS:HE3	1.52	0.91
25:AY:65:G:C5'	27:AZ:391:GLY:CA	2.02	0.91
37:B9:4:ARG:HD3	38:BA:2465:C:H5''	1.53	0.91
49:BO:19:ILE:HG22	49:BO:43:VAL:HA	1.52	0.91
1:AA:954:G:H4'	18:AM:120:LYS:HG3	1.51	0.91
41:BD:27:THR:HG23	41:BD:28:GLU:H	1.34	0.91
53:BS:85:VAL:HG23	53:BS:106:ARG:HB2	1.52	0.91
38:BA:286:C:H2'	38:BA:287:C:H5''	1.51	0.90
57:BW:59:VAL:HG12	57:BW:60:ASN:N	1.86	0.90
60:BZ:158:PRO:HG2	60:BZ:161:VAL:HG21	1.51	0.90
38:BA:1494:A:O2'	38:BA:1495:A:H5''	1.71	0.90
60:BZ:4:ARG:HG2	60:BZ:58:VAL:HB	1.53	0.90
1:AA:16:A:O2'	1:AA:17:U:H5'	1.70	0.90
36:B8:59:LYS:HD3	50:BP:50:ARG:HB3	1.50	0.90
38:BA:2012:G:H4'	57:BW:96:ILE:HD11	1.53	0.90
41:BD:35:LYS:HG2	41:BD:64:ILE:H	1.34	0.90
43:BF:66:PRO:O	43:BF:67:GLN:HB3	1.70	0.90
55:BU:31:SER:HB3	55:BU:34:LYS:HB2	1.52	0.90
38:BA:1061:U:C4'	38:BA:1070:A:H1'	2.02	0.90
41:BD:35:LYS:HD3	41:BD:63:ARG:CB	2.00	0.90
47:BL:12:LEU:HB3	47:BL:13:PRO:HD2	1.52	0.90
56:BV:15:GLU:HB3	56:BV:16:PRO:HD2	1.52	0.90
38:BA:2159:G:H3'	38:BA:2160:G:H5''	1.53	0.90
38:BA:2348:U:C2'	38:BA:2349:G:H5''	2.02	0.90
41:BD:27:THR:O	41:BD:29:PRO:HD2	1.71	0.90
59:BY:15:VAL:HG12	59:BY:16:ALA:N	1.87	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:5:ALA:CB	38:BA:2466:C:H5''	2.01	0.90
38:BA:860:U:H5	38:BA:917:A:N7	1.69	0.90
44:BG:67:LYS:H	44:BG:67:LYS:HD2	1.36	0.90
54:BT:28:VAL:HG22	54:BT:47:GLY:N	1.87	0.90
38:BA:2358:G:H1	50:BP:55:ARG:HH22	1.18	0.90
48:BN:9:VAL:HG12	48:BN:10:GLU:H	1.34	0.90
54:BT:32:TYR:HD2	54:BT:32:TYR:N	1.68	0.90
58:BX:27:THR:HB	58:BX:78:LYS:N	1.86	0.90
14:AC:54:ARG:HH12	14:AC:56:ASP:HB2	1.36	0.90
48:BN:57:ALA:HB3	48:BN:124:ALA:HA	1.53	0.90
55:BU:34:LYS:HE2	55:BU:34:LYS:HA	1.54	0.90
8:AL:32:PHE:HB3	8:AL:84:LEU:HD21	1.51	0.90
29:B1:27:GLU:HG2	29:B1:32:LYS:HB2	1.54	0.90
38:BA:1081:U:H2'	38:BA:1082:U:O4'	1.71	0.90
51:BQ:127:ILE:HG22	51:BQ:128:LYS:H	1.36	0.90
60:BZ:33:LEU:HD23	60:BZ:90:VAL:HG21	1.53	0.90
1:AA:1504:G:OP1	1:AA:1507:A:H4'	1.72	0.90
38:BA:2781:A:H5'	38:BA:2782:G:C5'	2.02	0.89
56:BV:22:VAL:O	56:BV:23:GLU:HB2	1.72	0.89
59:BY:45:VAL:HA	59:BY:62:GLU:HB2	1.53	0.89
46:BI:38:LEU:H	46:BI:38:LEU:HD12	1.36	0.89
54:BT:29:ARG:HB3	54:BT:85:LYS:HA	1.50	0.89
2:AB:137:ARG:HH11	2:AB:137:ARG:HA	1.37	0.89
13:AT:56:MET:HG3	13:AT:88:VAL:HG21	1.51	0.89
38:BA:676:A:H8	38:BA:2069:G:H21	1.15	0.89
1:AA:9:G:H5''	4:AE:122:GLU:OE2	1.72	0.89
1:AA:1352:C:H2'	1:AA:1353:G:C8	2.07	0.89
36:B8:32:LEU:HB3	36:B8:35:GLN:H	1.37	0.89
38:BA:1453:U:H5'	52:BR:63:ARG:HE	1.35	0.89
46:BI:71:ILE:HG13	46:BI:72:LEU:HD22	1.55	0.89
59:BY:8:LYS:HZ1	59:BY:74:PRO:HD3	1.37	0.89
1:AA:1442:G:H5'	1:AA:1442:G:C8	2.08	0.89
1:AA:1493:A:C2	26:A0:100:U:C2	2.60	0.89
6:AH:102:ARG:H	6:AH:102:ARG:HE	1.20	0.89
29:B1:47:GLN:HG2	38:BA:2230:G:C1'	1.98	0.89
38:BA:2640:G:H5'	38:BA:2640:G:H8	1.37	0.89
60:BZ:15:PRO:O	60:BZ:19:ARG:HG3	1.71	0.89
40:BC:49:ILE:H	40:BC:49:ILE:HD12	1.37	0.89
47:BL:17:ALA:HB1	47:BL:38:VAL:HG13	1.52	0.89
55:BU:90:VAL:HG12	55:BU:91:ASP:H	1.35	0.89
4:AE:78:HIS:HE1	4:AE:143:ARG:H	1.20	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:4:ARG:NH2	38:BA:2465:C:O2'	2.04	0.89
37:B9:33:LYS:HD3	38:BA:2527:C:O4'	1.70	0.89
59:BY:28:LYS:HA	59:BY:39:VAL:H	1.38	0.89
1:AA:55:A:C6	27:AZ:233:GLY:O	2.26	0.89
1:AA:926:G:C6	1:AA:1505:G:C5	2.61	0.89
4:AE:101:ILE:HD13	4:AE:101:ILE:H	1.35	0.89
38:BA:286:C:H42	38:BA:355:G:H1	1.20	0.89
38:BA:2636:U:O2'	38:BA:2637:U:H5''	1.71	0.89
51:BQ:43:THR:OG1	51:BQ:46:GLN:HG3	1.71	0.89
53:BS:98:VAL:HG13	53:BS:100:ALA:H	1.37	0.89
1:AA:1463:C:C5'	54:BT:115:ARG:HH21	1.86	0.89
14:AC:105:GLU:HG2	14:AC:106:VAL:H	1.35	0.89
38:BA:1332:G:N2	38:BA:1609:A:H2'	1.88	0.89
47:BL:93:ARG:CG	60:BZ:112:ARG:CD	2.04	0.89
60:BZ:74:VAL:HG22	60:BZ:86:VAL:HG13	1.53	0.89
47:BL:71:THR:OG1	47:BL:114:ASP:HB3	1.73	0.88
1:AA:1103:C:C5'	2:AB:98:LEU:HD13	2.02	0.88
17:AJ:6:ILE:HD11	17:AJ:72:VAL:HB	1.55	0.88
38:BA:2348:U:H2'	38:BA:2349:G:H5''	1.55	0.88
19:AN:3:ARG:HB3	19:AN:3:ARG:NH1	1.88	0.88
37:B9:13:LYS:HB2	37:B9:27:CYS:HB2	1.52	0.88
50:BP:62:LEU:H	50:BP:62:LEU:HD13	1.38	0.88
51:BQ:52:VAL:HG13	51:BQ:53:ALA:H	1.39	0.88
17:AJ:5:ARG:HA	17:AJ:73:ASP:OD1	1.72	0.88
38:BA:389:G:H22	50:BP:71:VAL:HG12	1.37	0.88
38:BA:1048:A:N6	38:BA:1107:G:O6	0.74	0.88
44:BG:76:SER:HB2	44:BG:83:ARG:HB3	1.54	0.88
48:BN:54:VAL:HB	48:BN:122:VAL:HG22	1.55	0.88
58:BX:65:ARG:CZ	58:BX:66:LEU:H	1.87	0.88
25:AY:76:A:OP1	27:AZ:274:ARG:NE	2.06	0.88
38:BA:658:C:H2'	38:BA:659:C:H5''	1.55	0.88
38:BA:1131:G:HO2'	38:BA:1132:A:H8	0.89	0.88
39:BB:74:U:H2'	39:BB:75:G:H5''	1.53	0.88
41:BD:186:HIS:HD2	41:BD:188:GLU:H	1.17	0.88
50:BP:23:PRO:HB2	50:BP:33:ARG:HG3	1.53	0.88
50:BP:75:ILE:HD13	50:BP:75:ILE:N	1.86	0.88
50:BP:112:LEU:H	50:BP:128:HIS:CD2	1.92	0.88
52:BR:45:ARG:HG3	52:BR:46:GLY:H	1.37	0.88
29:B1:47:GLN:HB2	38:BA:397:G:H5''	1.53	0.88
38:BA:1024:G:H3'	38:BA:1025:G:H5''	1.53	0.88
48:BN:24:GLY:O	48:BN:28:THR:HG22	1.73	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:65:LYS:HD3	48:BN:67:LEU:HG	1.53	0.88
58:BX:63:LYS:HE3	58:BX:70:LEU:HD22	1.55	0.88
18:AM:126:LYS:N	25:AY:37:YG:H102	1.87	0.88
24:AW:39:U:H2'	24:AW:40:C:C5'	2.03	0.88
25:AY:76:A:OP1	27:AZ:274:ARG:NH2	2.06	0.88
38:BA:956:G:OP2	51:BQ:85:LYS:HD2	1.73	0.88
38:BA:2758:A:C2'	38:BA:2759:G:H5''	2.04	0.88
42:BE:35:GLN:HE21	42:BE:37:ARG:HE	1.20	0.88
46:BI:144:VAL:HG12	46:BI:145:VAL:H	1.35	0.88
25:AY:25:C:N4	25:AY:26:M2G:HM23	1.89	0.88
37:B9:24:TYR:CB	37:B9:35:ARG:HA	2.03	0.88
43:BF:32:LEU:HD21	43:BF:105:VAL:HG13	1.56	0.88
3:AD:96:LEU:HD22	3:AD:96:LEU:H	1.37	0.88
37:B9:4:ARG:HH11	38:BA:2465:C:C5'	1.87	0.88
38:BA:1594:G:H8	38:BA:1594:G:H5'	1.37	0.88
38:BA:2701:C:H3'	38:BA:2702:U:C5'	2.03	0.88
48:BN:14:VAL:HA	48:BN:135:PRO:HG2	1.56	0.88
41:BD:64:ILE:O	41:BD:64:ILE:HG12	1.73	0.88
37:B9:33:LYS:CE	38:BA:2526:G:O2'	2.21	0.87
38:BA:1902:C:H1'	41:BD:244:ARG:HD3	1.56	0.87
36:B8:30:ARG:HH21	50:BP:62:LEU:HB2	1.38	0.87
1:AA:1493:A:H2	26:A0:100:U:O2	1.26	0.87
28:B0:36:ILE:HD11	38:BA:2355:C:H5'	1.55	0.87
33:B5:20:ARG:HH12	57:BW:15:ARG:CZ	1.87	0.87
38:BA:1826:G:C4'	41:BD:242:ARG:HH21	1.85	0.87
44:BG:145:THR:HG23	44:BG:148:MET:HB2	1.56	0.87
45:BH:118:PRO:HG2	45:BH:121:ILE:HB	1.55	0.87
28:B0:20:ARG:HD3	28:B0:20:ARG:N	1.89	0.87
37:B9:24:TYR:HB3	37:B9:35:ARG:HA	1.57	0.87
38:BA:259:G:H21	38:BA:621:A:H8	1.21	0.87
47:BL:112:MET:CE	47:BL:118:THR:HG22	2.04	0.87
56:BV:89:GLN:HE21	56:BV:90:PRO:HD2	1.39	0.87
17:AJ:6:ILE:HG22	17:AJ:98:ILE:HG13	1.54	0.87
1:AA:1190:G:P	14:AC:5:ILE:HG23	2.14	0.87
38:BA:451:C:H4'	43:BF:52:LYS:NZ	1.90	0.87
41:BD:44:ASN:HB2	41:BD:48:ARG:O	1.75	0.87
45:BH:87:LEU:HD13	45:BH:148:ILE:HG21	1.55	0.87
48:BN:46:VAL:HG13	48:BN:47:ALA:H	1.38	0.87
1:AA:552:U:O2'	1:AA:553:A:H5'	1.74	0.87
2:AB:48:MET:HA	2:AB:51:LEU:HD12	1.57	0.87
38:BA:2135:A:N6	38:BA:2156:G:O2'	2.07	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:227:ASN:HB3	41:BD:228:PRO:HD2	1.57	0.87
49:BO:4:PRO:O	49:BO:5:GLN:HB2	1.75	0.87
25:AY:65:G:P	27:AZ:391:GLY:HA2	2.13	0.87
38:BA:571:A:H5'	38:BA:2030:A:N6	1.89	0.87
38:BA:807:U:H2'	38:BA:808:G:H8	1.39	0.87
38:BA:2472:G:H2'	38:BA:2529:G:N2	1.90	0.87
38:BA:2762:G:C2'	38:BA:2763:G:H5''	2.04	0.87
54:BT:30:VAL:HG21	54:BT:84:GLN:H	1.40	0.87
59:BY:48:ALA:HB3	59:BY:59:GLY:H	1.37	0.87
14:AC:16:ARG:NH1	14:AC:16:ARG:HB2	1.90	0.87
31:B3:8:LEU:CD1	31:B3:31:LEU:HD23	2.03	0.87
38:BA:191:A:O2'	38:BA:192:C:H5'	1.74	0.87
38:BA:1879:C:C2'	38:BA:1880:C:H5''	2.03	0.87
47:BL:75:SER:OG	47:BL:130:SER:HB2	1.75	0.87
48:BN:126:PRO:O	48:BN:127:ASP:HB2	1.75	0.87
58:BX:36:LYS:O	58:BX:36:LYS:HD2	1.75	0.87
1:AA:532:A:H2	1:AA:1206:G:N2	1.72	0.86
1:AA:579:G:H5'	1:AA:728:A:H1'	1.54	0.86
1:AA:1190:G:H3'	14:AC:3:ASN:ND2	1.88	0.86
14:AC:73:PRO:O	14:AC:76:VAL:HG22	1.73	0.86
25:AY:46:7MG:O2'	25:AY:48:C:OP2	1.93	0.86
38:BA:1484:G:H2'	38:BA:1485:G:C5'	2.05	0.86
59:BY:46:LYS:H	59:BY:62:GLU:CG	1.86	0.86
22:AV:56:C:H1'	44:BG:83:ARG:HD3	1.57	0.86
30:B2:23:LYS:HB2	58:BX:5:TYR:CE1	2.10	0.86
38:BA:1528(A):A:H3'	38:BA:1529:G:H5''	1.55	0.86
38:BA:1884:A:C2'	38:BA:1885:A:H5''	2.05	0.86
38:BA:2158:A:H2'	38:BA:2159:G:O4'	1.74	0.86
38:BA:2415:G:C4'	50:BP:67:MET:H	1.85	0.86
48:BN:46:VAL:HG11	48:BN:48:MET:HG3	1.56	0.86
59:BY:8:LYS:HB2	59:BY:28:LYS:HZ3	1.40	0.86
3:AD:11:LEU:C	3:AD:13:ARG:N	2.24	0.86
15:AG:47:CYS:HA	15:AG:50:ILE:HG12	1.57	0.86
18:AM:69:GLU:HB3	18:AM:72:ALA:HB3	1.56	0.86
24:AW:20:U:H2'	24:AW:21:A:H4'	1.55	0.86
31:B3:8:LEU:HA	31:B3:54:VAL:HG22	1.55	0.86
38:BA:271(D):G:H1	38:BA:271(T):C:H42	1.23	0.86
38:BA:481:G:H1'	38:BA:506:G:H21	1.41	0.86
42:BE:75:VAL:C	42:BE:77:ILE:H	1.76	0.86
42:BE:154:LYS:HA	42:BE:154:LYS:HE3	1.56	0.86
46:BI:133:HIS:HB2	46:BI:134:PRO:CD	2.06	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BU:88:ILE:C	55:BU:90:VAL:H	1.76	0.86
17:AJ:74:ILE:HD13	17:AJ:74:ILE:H	1.41	0.86
36:B8:35:GLN:HE21	36:B8:36:LYS:HZ2	1.20	0.86
46:BI:88:ILE:HG22	46:BI:89:TYR:H	1.41	0.86
53:BS:13:ARG:O	53:BS:15:ARG:HG2	1.74	0.86
11:AQ:67:LYS:HA	11:AQ:70:ARG:HH12	1.39	0.86
16:AI:47:LEU:C	16:AI:49:PRO:HD2	1.96	0.86
25:AY:56:C:C6	38:BA:1067:A:N1	2.42	0.86
38:BA:365:C:H6	38:BA:365:C:H5'	1.39	0.86
38:BA:1614:A:H62	57:BW:93:ALA:HB2	1.39	0.86
46:BI:115:ALA:HB2	46:BI:131:LYS:HE3	1.57	0.86
54:BT:55:ASN:HD22	54:BT:58:ASN:HD21	1.21	0.86
58:BX:30:VAL:HG12	58:BX:31:HIS:H	1.40	0.86
59:BY:8:LYS:NZ	59:BY:74:PRO:HD3	1.91	0.86
1:AA:1054:C:C2	25:AY:34:OMG:HM21	2.11	0.86
16:AI:95:LYS:HD3	16:AI:96:LEU:N	1.91	0.86
25:AY:64:A:O3'	27:AZ:391:GLY:C	2.13	0.86
38:BA:1057:A:H2'	38:BA:1058:G:H8	1.40	0.86
47:BL:55:VAL:HG22	47:BL:69:THR:HA	1.57	0.86
29:B1:89:GLU:CD	29:B1:89:GLU:H	1.78	0.86
37:B9:4:ARG:NH2	38:BA:2465:C:C2'	2.39	0.86
49:BO:1:MET:HE3	49:BO:67:LYS:HG2	1.56	0.86
1:AA:1074:G:O2'	2:AB:103:THR:HG22	1.76	0.86
1:AA:1117:G:H4'	16:AI:104:ARG:NH1	1.90	0.86
18:AM:9:ILE:HD13	44:BG:146:TYR:OH	1.76	0.86
30:B2:32:LEU:HG	30:B2:33:MET:N	1.90	0.86
30:B2:47:ASN:HA	30:B2:50:ILE:O	1.74	0.86
38:BA:925:C:H2'	38:BA:926:A:H5''	1.57	0.86
54:BT:32:TYR:N	54:BT:32:TYR:CD2	2.40	0.86
8:AL:41:ARG:HB3	8:AL:41:ARG:HH11	1.41	0.85
37:B9:4:ARG:CZ	38:BA:2465:C:C3'	2.46	0.85
47:BL:7:VAL:HA	47:BL:58:THR:HB	1.57	0.85
48:BN:42:TRP:N	55:BU:64:ARG:HH21	1.74	0.85
50:BP:115:LEU:HA	50:BP:134:ALA:HB2	1.54	0.85
30:B2:14:ARG:CZ	30:B2:57:ILE:HG21	2.05	0.85
38:BA:1095:A:H2'	38:BA:1096:A:O4'	1.75	0.85
38:BA:2377:A:H4'	53:BS:107:GLU:HB3	1.56	0.85
41:BD:35:LYS:NZ	41:BD:104:TYR:HB2	1.91	0.85
59:BY:15:VAL:CG1	59:BY:16:ALA:H	1.89	0.85
2:AB:187:LEU:HD23	2:AB:201:ILE:HG22	1.58	0.85
14:AC:179:ARG:HB2	14:AC:207:VAL:HA	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AV:70:G:H2'	22:AV:71:C:H5'	1.58	0.85
24:AW:16:U:H3'	24:AW:17:C:H5'	1.58	0.85
38:BA:1083:U:H2'	38:BA:1084:A:H5''	1.58	0.85
38:BA:2864:G:H5'	38:BA:2864:G:H8	1.42	0.85
54:BT:109:GLU:HB3	54:BT:113:LYS:HE3	1.59	0.85
58:BX:33:LYS:C	58:BX:35:THR:H	1.77	0.85
38:BA:2133:G:H8	38:BA:2133:G:OP2	1.58	0.85
58:BX:64:LYS:HG2	58:BX:65:ARG:N	1.89	0.85
1:AA:1493:A:N3	26:A0:100:U:C2	2.44	0.85
31:B3:6:VAL:CG1	31:B3:54:VAL:HG11	2.06	0.85
36:B8:35:GLN:HA	38:BA:2420:C:OP2	1.75	0.85
42:BE:51:PHE:HB3	42:BE:76:ARG:HB3	1.58	0.85
30:B2:14:ARG:NH2	30:B2:57:ILE:HG21	1.91	0.85
30:B2:47:ASN:C	30:B2:49:LYS:H	1.75	0.85
31:B3:4:LEU:HD21	31:B3:56:VAL:HG13	1.59	0.85
38:BA:1722:A:C2'	38:BA:1739:U:H5''	2.06	0.85
38:BA:1840:G:H1	38:BA:1902:C:H42	1.24	0.85
38:BA:2753:A:O2'	38:BA:2754:U:H5'	1.77	0.85
41:BD:102:LYS:O	41:BD:103:ARG:HG2	1.75	0.85
45:BH:19:VAL:HG21	45:BH:44:VAL:HG13	1.58	0.85
56:BV:72:VAL:HG12	56:BV:73:SER:H	1.41	0.85
8:AL:18:VAL:HG23	8:AL:19:ARG:H	1.42	0.85
15:AG:69:VAL:HA	15:AG:138:LYS:HD2	1.59	0.85
29:B1:26:ARG:CB	29:B1:34:THR:HA	2.06	0.85
38:BA:1072:C:H2'	38:BA:1093:G:C6	2.11	0.85
41:BD:27:THR:CG2	41:BD:28:GLU:H	1.89	0.85
42:BE:77:ILE:HG22	42:BE:78:LEU:N	1.91	0.85
41:BD:267:SER:C	41:BD:269:PHE:H	1.79	0.85
1:AA:1474:G:O2'	38:BA:1701:A:H2	1.60	0.85
3:AD:11:LEU:C	3:AD:13:ARG:H	1.79	0.85
38:BA:171:G:H2'	38:BA:172:C:O4'	1.75	0.85
38:BA:2136:C:H2'	38:BA:2137:C:H6	1.39	0.85
38:BA:2308:G:O6	38:BA:2310:A:H2'	1.76	0.85
41:BD:27:THR:HG23	41:BD:28:GLU:N	1.89	0.85
53:BS:28:VAL:N	53:BS:89:ARG:HD2	1.91	0.85
1:AA:1503:A:N6	23:AX:13:A:C8	2.45	0.84
50:BP:38:GLN:HG3	50:BP:39:LYS:H	1.39	0.84
56:BV:83:ARG:HG2	56:BV:83:ARG:HH11	1.39	0.84
58:BX:60:ARG:HG2	58:BX:74:PRO:CD	2.07	0.84
8:AL:60:LEU:HD21	8:AL:66:VAL:HG22	1.57	0.84
18:AM:3:ARG:HH22	44:BG:139:LEU:HD21	1.41	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:25:C:C2'	25:AY:26:M2G:O4'	2.24	0.84
36:B8:51:ALA:C	36:B8:53:PRO:HD2	1.97	0.84
38:BA:2287:A:H62	38:BA:2344:U:H3	1.25	0.84
47:BL:122:ALA:O	47:BL:126:MET:HG3	1.77	0.84
1:AA:17:U:H2'	1:AA:18:C:C6	2.13	0.84
14:AC:53:ALA:O	14:AC:54:ARG:HB2	1.76	0.84
37:B9:4:ARG:HH12	38:BA:2465:C:C4'	1.82	0.84
38:BA:1948:G:H5'	38:BA:1948:G:C8	2.12	0.84
45:BH:43:VAL:HG11	45:BH:53:GLU:H	1.41	0.84
47:BL:27:LEU:HD21	47:BL:57:ILE:HD11	1.58	0.84
60:BZ:108:PRO:HB3	60:BZ:142:SER:HA	1.59	0.84
1:AA:189(H):G:H2'	1:AA:189(I):G:H8	1.43	0.84
38:BA:571:A:C5'	38:BA:2030:A:H62	1.90	0.84
38:BA:2599:G:H8	41:BD:236:GLY:HA2	1.41	0.84
43:BF:206:ILE:HD12	43:BF:206:ILE:O	1.76	0.84
44:BG:31:VAL:HG22	44:BG:32:PRO:CD	2.07	0.84
47:BL:78:ILE:HD13	47:BL:131:ALA:HB2	1.58	0.84
1:AA:1104:G:H4'	2:AB:111:ARG:HH11	1.38	0.84
38:BA:2729:G:H2'	38:BA:2730:C:H6	1.41	0.84
42:BE:24:THR:HG23	42:BE:184:VAL:HG23	1.60	0.84
44:BG:111:LEU:HA	44:BG:114:ILE:CG1	2.07	0.84
47:BL:128:ALA:HB1	47:BL:132:ARG:NH2	1.91	0.84
10:AP:22:THR:HG22	10:AP:32:TYR:HA	1.58	0.84
18:AM:49:THR:HB	18:AM:52:GLU:HG3	1.60	0.84
37:B9:2:LYS:HD2	38:BA:2526:G:N3	1.91	0.84
43:BF:143:ALA:HA	43:BF:146:ALA:HB3	1.59	0.84
47:BL:68:VAL:CG1	47:BL:70:LYS:HE3	2.05	0.84
47:BL:92:GLY:O	47:BL:95:LYS:HG3	1.75	0.84
56:BV:28:GLU:CG	56:BV:29:PRO:HD3	2.07	0.84
1:AA:693:G:H1'	15:AG:82:GLY:HA3	1.58	0.84
22:AV:13:C:C1'	38:BA:1924:C:C4'	2.55	0.84
38:BA:2145:C:H2'	38:BA:2146:C:C2	2.13	0.84
38:BA:2723:C:H5''	52:BR:2:ARG:CD	2.07	0.84
51:BQ:20:ALA:HB2	51:BQ:99:PRO:HG2	1.59	0.84
38:BA:106:C:H1'	59:BY:2:ARG:HE	1.41	0.84
39:BB:7:G:C3'	39:BB:8:U:H5''	2.07	0.84
25:AY:25:C:O3'	25:AY:26:M2G:O4'	1.95	0.84
38:BA:1747(A):G:H2'	38:BA:1748:G:H5''	1.59	0.84
38:BA:2599:G:C8	41:BD:236:GLY:HA2	2.12	0.84
38:BA:2747:G:O6	38:BA:2755:C:H5''	1.78	0.84
40:BC:58:VAL:CG2	40:BC:166:ASP:H	1.86	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BG:86:MET:HG3	44:BG:87:PRO:HD2	1.58	0.84
53:BS:17:ARG:HA	53:BS:20:ARG:NE	1.93	0.84
38:BA:1717:G:C2'	38:BA:1718:G:H5''	2.08	0.83
53:BS:88:ASP:CG	53:BS:89:ARG:H	1.76	0.83
1:AA:1429:C:O2'	38:BA:1704:G:H5'	1.78	0.83
2:AB:51:LEU:HD23	2:AB:201:ILE:HD12	1.58	0.83
4:AE:76:ILE:HG22	4:AE:93:PRO:HB3	1.60	0.83
36:B8:14:VAL:HG11	36:B8:22:VAL:HG13	1.59	0.83
38:BA:676:A:H2	38:BA:802:A:H61	1.24	0.83
38:BA:1063:G:N7	38:BA:1064:C:N4	2.26	0.83
38:BA:2133:G:H8	38:BA:2133:G:P	2.00	0.83
38:BA:2206:G:N2	38:BA:2207:G:H5'	1.92	0.83
55:BU:92:ARG:O	55:BU:94:ASN:N	2.12	0.83
40:BC:44:HIS:CD2	40:BC:175:VAL:HA	2.13	0.83
47:BL:89:HIS:O	47:BL:90:LYS:HG2	1.79	0.83
52:BR:95:THR:HA	52:BR:116:LEU:O	1.78	0.83
3:AD:119:GLN:HG3	3:AD:123:HIS:CD2	2.13	0.83
4:AE:51:VAL:HB	4:AE:52:PRO:HD3	1.60	0.83
38:BA:2140:C:H2'	38:BA:2141:G:C8	2.12	0.83
38:BA:2359:C:C2'	38:BA:2360:A:H5'	2.07	0.83
47:BL:35:MET:HA	47:BL:38:VAL:HB	1.58	0.83
53:BS:28:VAL:HG12	53:BS:29:PHE:N	1.92	0.83
58:BX:60:ARG:HB2	58:BX:72:LYS:O	1.78	0.83
1:AA:882:C:O2'	1:AA:883:C:H5'	1.79	0.83
1:AA:1527:C:O2'	1:AA:1528:U:H5'	1.78	0.83
38:BA:673:C:H5'	43:BF:54:ARG:HH12	1.43	0.83
43:BF:18:ARG:HG2	43:BF:19:GLU:H	1.42	0.83
47:BL:10:LEU:HD12	47:BL:12:LEU:CD1	2.01	0.83
45:BH:136:ILE:O	45:BH:137:ASP:HB2	1.78	0.83
47:BL:10:LEU:HD21	47:BL:57:ILE:CG1	2.09	0.83
52:BR:10:LEU:HB3	52:BR:17:ARG:HD2	1.58	0.83
52:BR:63:ARG:HA	52:BR:80:PHE:CE2	2.12	0.83
58:BX:55:ASN:O	58:BX:77:LYS:HB3	1.79	0.83
37:B9:13:LYS:O	37:B9:27:CYS:HA	1.79	0.83
38:BA:814:C:H5''	56:BV:86:GLY:HA3	1.58	0.83
45:BH:105:LEU:HD13	45:BH:105:LEU:H	1.43	0.83
24:AW:62:C:H2'	24:AW:63:G:H8	1.44	0.83
38:BA:287:C:H42	38:BA:354:G:H1	0.87	0.83
38:BA:2426:A:H3'	38:BA:2427:C:H5'	1.61	0.83
48:BN:39:ARG:NE	48:BN:41:ASP:HB2	1.94	0.83
53:BS:61:ASN:HD22	53:BS:62:LYS:N	1.76	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BU:92:ARG:HB2	56:BV:11:GLN:NE2	1.93	0.83
36:B8:18:ALA:HB3	38:BA:651:G:H5''	1.60	0.83
38:BA:1348:G:H2'	38:BA:1349:A:H5''	1.61	0.83
30:B2:48:HIS:NE2	38:BA:75:G:H4'	1.94	0.83
36:B8:6:THR:CG2	36:B8:63:PRO:HD3	2.08	0.83
1:AA:184:G:H2'	1:AA:185:A:H8	1.42	0.82
1:AA:1116:C:H3'	1:AA:1117:G:H5''	1.61	0.82
22:AV:12:G:H4'	38:BA:1908:C:O2	1.78	0.82
38:BA:2189:U:H3'	38:BA:2190:G:H5''	1.61	0.82
38:BA:2262:U:H2'	38:BA:2263:C:H5''	1.58	0.82
52:BR:28:LEU:HD12	52:BR:48:VAL:HG21	1.60	0.82
53:BS:61:ASN:HD22	53:BS:61:ASN:C	1.82	0.82
53:BS:67:ARG:H	53:BS:69:VAL:HG12	1.44	0.82
60:BZ:12:GLY:O	60:BZ:13:GLU:HG3	1.77	0.82
38:BA:1846:G:H5'	38:BA:1847:A:OP2	1.79	0.82
38:BA:2134:A:OP2	38:BA:2157:G:N2	2.12	0.82
38:BA:2645:G:H3'	38:BA:2646:C:H5'	1.61	0.82
47:BL:76:TYR:O	47:BL:80:LYS:HD3	1.78	0.82
6:AH:103:VAL:HG21	6:AH:109:ILE:O	1.79	0.82
22:AV:15:G:H22	22:AV:48:C:H42	1.23	0.82
38:BA:2158:A:N3	38:BA:2159:G:H1'	1.94	0.82
42:BE:36:ARG:HH21	42:BE:88:GLY:HA3	1.42	0.82
46:BI:72:LEU:HB3	46:BI:138:ILE:HG12	1.59	0.82
47:BL:99:ILE:HG22	47:BL:100:THR:N	1.91	0.82
47:BL:103:GLN:O	47:BL:106:GLU:HG3	1.79	0.82
1:AA:1057:G:H5''	14:AC:154:SER:CB	2.08	0.82
3:AD:199:ASN:OD1	3:AD:201:GLN:HB2	1.77	0.82
46:BI:81:VAL:HG11	46:BI:88:ILE:HD12	1.62	0.82
50:BP:23:PRO:CB	50:BP:33:ARG:HG3	2.09	0.82
36:B8:25:MET:HG3	50:BP:64:LYS:HB2	1.61	0.82
37:B9:33:LYS:HZ3	38:BA:2527:C:P	2.01	0.82
38:BA:27:G:H22	38:BA:512:G:H2'	1.40	0.82
38:BA:1578:U:C2'	38:BA:1579:A:H5''	2.09	0.82
38:BA:2312:U:H4'	44:BG:71:THR:HG21	1.61	0.82
48:BN:39:ARG:HE	48:BN:41:ASP:CB	1.92	0.82
51:BQ:52:VAL:HG13	51:BQ:53:ALA:N	1.94	0.82
53:BS:85:VAL:CG2	53:BS:106:ARG:HB2	2.09	0.82
38:BA:2298:A:H2'	38:BA:2299:G:O4'	1.80	0.82
4:AE:126:ARG:HH11	4:AE:126:ARG:HG3	1.44	0.82
25:AY:64:A:O3'	27:AZ:392:GLY:N	2.12	0.82
32:B4:10:VAL:O	44:BG:2:PRO:HG2	1.79	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2787:C:H1'	42:BE:61:ARG:HB2	1.59	0.82
41:BD:267:SER:HA	41:BD:270:ILE:HG13	1.60	0.82
47:BL:23:VAL:HG12	47:BL:34:ILE:HA	1.61	0.82
47:BL:99:ILE:HG23	47:BL:103:GLN:HE22	1.45	0.82
56:BV:19:LYS:HB3	56:BV:96:ILE:O	1.80	0.82
12:AR:31:LEU:HG	12:AR:65:ILE:HD13	1.61	0.82
20:AS:20:LEU:O	20:AS:23:ASN:HB3	1.79	0.82
38:BA:536:A:H2'	38:BA:537:C:C6	2.14	0.82
38:BA:2135:A:H61	38:BA:2156:G:C2'	1.93	0.82
54:BT:109:GLU:HA	54:BT:112:ARG:HG2	1.60	0.82
1:AA:624:C:O3'	10:AP:10:GLY:HA2	1.80	0.82
30:B2:30:ARG:H	30:B2:30:ARG:HD2	1.43	0.82
32:B4:6:HIS:HA	44:BG:67:LYS:HE3	1.61	0.82
38:BA:2201:C:O2'	38:BA:2202:C:H5'	1.79	0.82
60:BZ:10:ARG:HD2	60:BZ:36:LYS:HB3	1.62	0.82
25:AY:8:U:O2'	25:AY:48:C:N1	2.12	0.81
37:B9:14:CYS:N	37:B9:27:CYS:HB3	1.95	0.81
42:BE:91:VAL:HG13	42:BE:95:ILE:HD11	1.62	0.81
47:BL:117:THR:O	47:BL:118:THR:HG23	1.79	0.81
53:BS:17:ARG:C	53:BS:19:LYS:H	1.83	0.81
56:BV:70:ILE:CB	56:BV:90:PRO:HB2	2.08	0.81
1:AA:1495:U:O2'	38:BA:1919:A:N1	2.11	0.81
6:AH:33:GLU:HA	6:AH:36:LEU:HD12	1.61	0.81
20:AS:48:THR:HG22	20:AS:61:TYR:HA	1.61	0.81
38:BA:2158:A:O2'	38:BA:2159:G:C5'	2.27	0.81
1:AA:438:G:H4'	1:AA:439:A:OP1	1.79	0.81
1:AA:735:C:O2'	1:AA:736:C:H5'	1.80	0.81
1:AA:1468:A:H2'	1:AA:1469:G:O4'	1.80	0.81
8:AL:24:VAL:HG13	8:AL:98:TYR:CE2	2.16	0.81
14:AC:189:ALA:HB3	14:AC:196:LEU:HB2	1.62	0.81
18:AM:3:ARG:NH2	44:BG:139:LEU:HD22	1.95	0.81
24:AW:17:C:C6	38:BA:2180:U:H4'	2.14	0.81
25:AY:76:A:C5	27:AZ:271:GLU:OE1	2.32	0.81
35:B7:19:ARG:HG2	35:B7:19:ARG:HH11	1.44	0.81
38:BA:1071:G:H2'	38:BA:1072:C:H5'	1.60	0.81
38:BA:2533:A:C2'	38:BA:2534:A:H5''	2.09	0.81
45:BH:92:ILE:HG22	45:BH:93:GLY:N	1.94	0.81
47:BL:14:ALA:HB3	47:BL:49:GLY:HA2	1.61	0.81
48:BN:33:LEU:HD23	48:BN:52:VAL:HG22	1.61	0.81
50:BP:6:LEU:HG	50:BP:8:PRO:O	1.80	0.81
50:BP:48:PRO:HG2	50:BP:49:ARG:H	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AF:9:VAL:C	5:AF:10:LEU:HD12	2.00	0.81
28:B0:70:GLN:OE1	28:B0:72:ARG:HD3	1.81	0.81
38:BA:639:U:H2'	38:BA:640:C:C6	2.16	0.81
43:BF:181:LEU:HD11	43:BF:186:ILE:HD11	1.59	0.81
47:BL:75:SER:O	47:BL:78:ILE:HB	1.81	0.81
47:BL:111:LYS:C	47:BL:113:PRO:HD2	2.01	0.81
48:BN:28:THR:HG23	48:BN:29:LYS:H	1.44	0.81
52:BR:73:VAL:O	52:BR:76:VAL:HG12	1.79	0.81
53:BS:54:LEU:C	53:BS:56:LEU:H	1.82	0.81
54:BT:89:VAL:CG1	54:BT:91:ARG:HE	1.93	0.81
54:BT:109:GLU:O	54:BT:112:ARG:HG3	1.80	0.81
56:BV:71:LEU:HD13	56:BV:72:VAL:N	1.96	0.81
57:BW:25:ARG:HB2	57:BW:25:ARG:NH1	1.96	0.81
1:AA:55:A:C2	27:AZ:234:ARG:CG	2.64	0.81
1:AA:1152:A:H5''	17:AJ:13:HIS:HD2	1.45	0.81
17:AJ:8:LEU:HB3	17:AJ:16:LEU:HD21	1.62	0.81
18:AM:3:ARG:NH2	44:BG:139:LEU:CD2	2.44	0.81
42:BE:109:LYS:HB3	52:BR:2:ARG:HH12	1.44	0.81
51:BQ:133:ARG:O	51:BQ:134:ARG:HB2	1.77	0.81
38:BA:1064:C:H3'	38:BA:1065:U:C6	2.15	0.81
38:BA:2712:U:H1'	38:BA:2712(A):A:C8	2.15	0.81
49:BO:25:LEU:O	49:BO:26:LYS:HG3	1.80	0.81
55:BU:6:THR:HG21	55:BU:10:ARG:NH2	1.95	0.81
38:BA:481:G:H1'	38:BA:506:G:N2	1.95	0.81
38:BA:483:A:H8	59:BY:47:LYS:HZ3	1.26	0.81
38:BA:1061:U:H4'	38:BA:1070:A:O4'	1.80	0.81
38:BA:2189:U:C3'	38:BA:2190:G:H5''	2.10	0.81
24:AW:17:C:C5	38:BA:2180:U:H4'	2.15	0.81
30:B2:44:LEU:C	30:B2:46:GLN:H	1.80	0.81
33:B5:32:PRO:O	33:B5:33:CYS:HB3	1.80	0.81
41:BD:35:LYS:HZ1	41:BD:104:TYR:HB2	1.46	0.81
38:BA:2348:U:H2'	38:BA:2349:G:C5'	2.11	0.81
39:BB:74:U:C2'	39:BB:75:G:H5''	2.10	0.81
51:BQ:140:ALA:HB3	60:BZ:53:ILE:HG13	1.61	0.81
55:BU:112:ARG:HG2	55:BU:112:ARG:HH11	1.46	0.81
1:AA:1474:G:HO2'	38:BA:1701:A:H2	0.86	0.81
2:AB:67:THR:HG21	2:AB:155:LEU:HG	1.63	0.81
4:AE:78:HIS:CE1	4:AE:143:ARG:H	1.97	0.81
17:AJ:48:THR:CA	17:AJ:62:HIS:HB3	2.11	0.81
19:AN:24:CYS:HB3	19:AN:27:CYS:O	1.81	0.81
25:AY:51:G:H4'	27:AZ:335:PHE:HZ	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:871:U:H4'	51:BQ:69:PHE:CE2	2.15	0.81
39:BB:44:G:H1'	39:BB:47:C:H42	1.46	0.81
41:BD:4:LYS:NZ	41:BD:20:ASP:HA	1.96	0.81
43:BF:46:ARG:HH11	43:BF:46:ARG:HG3	1.46	0.81
53:BS:101:LEU:HD22	53:BS:102:ALA:H	1.46	0.81
54:BT:80:SER:CB	54:BT:81:PRO:HD3	2.11	0.81
56:BV:62:LEU:HD22	56:BV:98:GLU:HA	1.62	0.81
1:AA:1190:G:OP1	14:AC:5:ILE:HD12	1.81	0.80
30:B2:41:ILE:HG12	38:BA:94(A):G:H21	1.44	0.80
36:B8:25:MET:HB2	50:BP:62:LEU:CD2	2.11	0.80
38:BA:1064:C:H3'	38:BA:1065:U:H5	1.45	0.80
38:BA:1102:C:H2'	38:BA:1102:C:O2	1.81	0.80
38:BA:2394:C:OP1	50:BP:63:PRO:HD2	1.82	0.80
39:BB:80:U:H2'	39:BB:81:G:H21	1.45	0.80
41:BD:76:PRO:HG2	41:BD:98:VAL:HG21	1.62	0.80
47:BL:67:PHE:CD2	47:BL:68:VAL:HG23	2.16	0.80
56:BV:47:VAL:HG22	56:BV:48:GLY:H	1.44	0.80
60:BZ:10:ARG:HH21	60:BZ:26:GLY:N	1.78	0.80
1:AA:1474:G:O2'	38:BA:1701:A:C2	2.32	0.80
37:B9:4:ARG:HH12	38:BA:2465:C:H4'	1.30	0.80
38:BA:1747(A):G:C2'	38:BA:1748:G:H5''	2.11	0.80
38:BA:2579:C:H4'	42:BE:134:ILE:HD12	1.63	0.80
48:BN:83:LYS:HE2	48:BN:85:ILE:HD11	1.63	0.80
50:BP:30:THR:HG22	50:BP:31:ALA:H	1.46	0.80
60:BZ:149:SER:HB2	60:BZ:172:ALA:O	1.80	0.80
25:AY:64:A:C3'	27:AZ:391:GLY:CA	2.27	0.80
28:B0:41:ARG:H	28:B0:41:ARG:HD2	1.45	0.80
38:BA:1341:U:C2	58:BX:77:LYS:HE2	2.17	0.80
40:BC:49:ILE:HG22	40:BC:50:ASP:H	1.44	0.80
42:BE:60:ASN:OD1	42:BE:62:PRO:HD2	1.82	0.80
47:BL:105:LEU:HD22	47:BL:124:ALA:CB	2.07	0.80
50:BP:146:VAL:HG22	50:BP:147:LEU:N	1.95	0.80
51:BQ:75:THR:HB	51:BQ:88:GLY:HA2	1.63	0.80
56:BV:19:LYS:NZ	56:BV:20:LEU:N	2.28	0.80
9:AO:87:ILE:HG22	9:AO:88:ARG:H	1.47	0.80
22:AV:12:G:H1'	38:BA:1923:U:H1'	1.63	0.80
30:B2:47:ASN:O	30:B2:49:LYS:N	2.13	0.80
38:BA:1378:A:O2'	38:BA:1379:A:H5''	1.81	0.80
38:BA:2317:C:C2'	38:BA:2318:G:H5'	2.12	0.80
5:AF:55:ASP:HB2	5:AF:86:ARG:HH12	1.43	0.80
36:B8:49:VAL:O	36:B8:53:PRO:HD3	1.81	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:541:C:H2'	38:BA:542:C:C6	2.16	0.80
38:BA:543:C:H42	38:BA:551:G:H1	1.27	0.80
44:BG:43:LEU:HD23	44:BG:88:ILE:HG22	1.62	0.80
44:BG:60:LEU:O	44:BG:64:THR:HG22	1.82	0.80
45:BH:55:PRO:HG2	45:BH:56:SER:H	1.43	0.80
1:AA:1031:G:H2'	1:AA:1032:G:H8	1.44	0.80
1:AA:1400:C:C4	22:AV:34:C:C6	2.69	0.80
1:AA:1495:U:O2'	38:BA:1919:A:C2	2.34	0.80
2:AB:44:LEU:H	2:AB:44:LEU:HD12	1.45	0.80
6:AH:20:TYR:HA	6:AH:65:TYR:CE2	2.17	0.80
25:AY:38:A:C4'	38:BA:1913:A:N6	2.45	0.80
38:BA:1078:U:H5''	38:BA:1079:C:OP1	1.81	0.80
50:BP:71:VAL:HG12	50:BP:72:PRO:HD3	1.62	0.80
58:BX:50:LYS:HB3	58:BX:82:GLN:HB2	1.64	0.80
1:AA:179:A:H2'	1:AA:180:U:H6	1.47	0.80
24:AW:76:A:C2	38:BA:2422:A:C2	2.70	0.80
25:AY:11:C:H2'	25:AY:12:U:H5'	1.64	0.80
38:BA:106:C:H1'	59:BY:2:ARG:NE	1.96	0.80
41:BD:79:VAL:CG2	41:BD:111:LEU:HD11	2.10	0.80
50:BP:47:ASP:HB3	50:BP:48:PRO:CA	2.12	0.80
59:BY:37:VAL:O	59:BY:38:ILE:HB	1.82	0.80
60:BZ:10:ARG:NH2	60:BZ:26:GLY:N	2.28	0.80
1:AA:584:G:H1	1:AA:757:U:H3	1.30	0.80
3:AD:9:CYS:HA	3:AD:12:CYS:HB2	1.64	0.80
3:AD:119:GLN:HG3	3:AD:123:HIS:HD2	1.43	0.80
4:AE:76:ILE:HD11	4:AE:142:LEU:HD11	1.60	0.80
6:AH:29:SER:HB3	6:AH:32:LYS:HD2	1.62	0.80
47:BL:79:ARG:NH1	47:BL:87:GLY:HA2	1.96	0.80
50:BP:100:LEU:O	50:BP:102:ARG:N	2.14	0.80
1:AA:926:G:O6	1:AA:1505:G:C6	2.33	0.80
14:AC:20:SER:CB	14:AC:40:ARG:HH22	1.90	0.80
17:AJ:33:GLN:H	17:AJ:75:ILE:HD11	1.45	0.80
38:BA:2729:G:H1'	42:BE:187:ALA:HB2	1.64	0.80
40:BC:64:LEU:HD13	40:BC:65:PRO:HD2	1.64	0.80
49:BO:35:VAL:HG11	49:BO:103:ALA:HB3	1.63	0.80
56:BV:70:ILE:HB	56:BV:90:PRO:CB	2.08	0.80
57:BW:50:VAL:HG13	57:BW:51:LEU:H	1.47	0.80
1:AA:1497:G:O2'	1:AA:1498:U:H5'	1.82	0.80
46:BI:79:ILE:HG12	46:BI:140:LEU:CD1	2.07	0.80
47:BL:13:PRO:HB2	47:BL:16:LYS:HD3	1.63	0.80
38:BA:2131:G:H5'	38:BA:2132:U:N3	1.97	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BG:31:VAL:HG22	44:BG:32:PRO:HD2	1.63	0.79
1:AA:434:U:H2'	1:AA:435:C:C6	2.16	0.79
14:AC:104:GLN:CD	14:AC:105:GLU:H	1.85	0.79
38:BA:482:A:H4'	59:BY:47:LYS:NZ	1.97	0.79
38:BA:1722:A:H2'	38:BA:1739:U:H5''	1.63	0.79
38:BA:2577:A:H5''	38:BA:2578:G:H5'	1.64	0.79
40:BC:18:LYS:HD2	40:BC:19:VAL:HG23	1.63	0.79
54:BT:98:LYS:HB3	54:BT:100:TYR:CE1	2.17	0.79
60:BZ:10:ARG:NH2	60:BZ:26:GLY:H	1.79	0.79
14:AC:16:ARG:HB2	14:AC:16:ARG:HH11	1.47	0.79
25:AY:46:7MG:HO2'	25:AY:47:U:H4'	1.46	0.79
38:BA:229:A:H3'	38:BA:230:U:H5'	1.64	0.79
38:BA:1485:G:H1'	38:BA:1505:C:N4	1.98	0.79
38:BA:141:A:H8	38:BA:1408:C:HO2'	1.26	0.79
38:BA:2161:C:O3'	38:BA:2162:G:OP2	2.00	0.79
49:BO:87:ILE:HG23	49:BO:91:LEU:HA	1.64	0.79
13:AT:12:ALA:H	13:AT:13:LEU:HD12	1.46	0.79
14:AC:116:VAL:HG21	14:AC:202:ILE:HD11	1.63	0.79
38:BA:780:G:H21	38:BA:783:A:H62	1.29	0.79
38:BA:1987:G:H5'	38:BA:1987:G:H8	1.45	0.79
39:BB:6:C:HO2'	53:BS:29:PHE:HE1	1.27	0.79
46:BI:133:HIS:HB2	46:BI:134:PRO:HD3	1.65	0.79
47:BL:54:PRO:HG3	47:BL:73:PRO:HD3	1.64	0.79
53:BS:35:ILE:H	53:BS:53:SER:HB2	1.47	0.79
14:AC:83:ARG:O	14:AC:86:VAL:HG22	1.83	0.79
18:AM:91:ARG:HB2	18:AM:98:VAL:HG21	1.64	0.79
30:B2:30:ARG:HH11	30:B2:30:ARG:HG3	1.48	0.79
34:B6:20:ASN:ND2	34:B6:21:TYR:H	1.80	0.79
38:BA:1069:A:H8	38:BA:1074:G:O6	1.65	0.79
38:BA:1652:A:OP1	52:BR:9:LYS:HD2	1.83	0.79
38:BA:2154:G:H2'	38:BA:2155:G:H8	1.43	0.79
46:BI:79:ILE:HB	46:BI:142:VAL:HG13	1.63	0.79
54:BT:50:ILE:N	54:BT:50:ILE:HD12	1.98	0.79
1:AA:1316:G:H2'	1:AA:1317:C:H5''	1.65	0.79
18:AM:23:TYR:HE1	18:AM:70:LEU:HD22	1.47	0.79
29:B1:19:GLN:HG3	29:B1:44:PRO:HG3	1.64	0.79
38:BA:1175:U:H4'	38:BA:1176:G:H5'	1.63	0.79
38:BA:2098:U:C2'	38:BA:2099:U:H6	1.93	0.79
38:BA:2161:C:O2'	38:BA:2162:G:P	2.41	0.79
1:AA:328:C:H4'	1:AA:329:A:H5'	1.64	0.79
1:AA:353:A:H8	1:AA:353:A:H5'	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:625:G:H2'	1:AA:626:U:H6	1.47	0.79
38:BA:1365:A:H2'	38:BA:1366:A:H8	1.47	0.79
47:BL:99:ILE:CG2	47:BL:100:THR:H	1.94	0.79
49:BO:69:ILE:HD13	49:BO:77:ILE:HG23	1.65	0.79
50:BP:65:ARG:NH1	50:BP:65:ARG:HB2	1.98	0.79
51:BQ:68:ILE:HG23	51:BQ:103:MET:HA	1.65	0.79
51:BQ:82:ARG:HG2	51:BQ:82:ARG:NH1	1.93	0.79
55:BU:83:LEU:HB3	55:BU:88:ILE:CD1	2.13	0.79
60:BZ:53:ILE:HG22	60:BZ:71:VAL:HB	1.62	0.79
1:AA:1194:U:H4'	4:AE:22:GLY:O	1.83	0.79
33:B5:57:VAL:HG23	33:B5:58:LEU:H	1.47	0.79
37:B9:4:ARG:HH11	38:BA:2465:C:H5'	1.42	0.79
47:BL:72:PRO:HG2	47:BL:77:LEU:CD1	2.13	0.79
58:BX:58:HIS:O	58:BX:59:VAL:HG13	1.83	0.79
1:AA:1229:A:H4'	22:AV:29:G:O3'	1.83	0.79
1:AA:1281:U:H4'	1:AA:1282:C:OP2	1.82	0.79
13:AT:32:ALA:O	13:AT:36:LEU:HB2	1.83	0.79
29:B1:19:GLN:OE1	29:B1:44:PRO:HB3	1.82	0.79
38:BA:528:A:C2	38:BA:2043:C:H4'	2.18	0.79
38:BA:969:U:H2'	38:BA:970:C:C6	2.18	0.79
38:BA:2133:G:H2'	38:BA:2157:G:H21	1.48	0.79
48:BN:55:VAL:HG12	48:BN:56:ASN:H	1.47	0.79
50:BP:35:HIS:O	50:BP:36:LYS:HG3	1.83	0.79
56:BV:70:ILE:HG12	56:BV:71:LEU:N	1.97	0.79
57:BW:10:VAL:O	57:BW:11:ARG:HB2	1.82	0.79
58:BX:64:LYS:HG2	58:BX:65:ARG:H	1.45	0.79
4:AE:50:GLU:HG3	4:AE:52:PRO:HD2	1.64	0.78
38:BA:2729:G:H2'	38:BA:2730:C:C6	2.17	0.78
41:BD:79:VAL:HG21	41:BD:111:LEU:CD1	2.12	0.78
41:BD:118:VAL:HG22	41:BD:119:ALA:H	1.47	0.78
44:BG:161:THR:HG22	44:BG:163:ALA:N	1.97	0.78
47:BL:77:LEU:HB2	47:BL:111:LYS:NZ	1.98	0.78
9:AO:39:LEU:HD12	9:AO:56:LEU:HD13	1.65	0.78
11:AQ:26:GLN:HB3	11:AQ:37:LYS:HG2	1.66	0.78
18:AM:9:ILE:CD1	44:BG:146:TYR:CZ	2.60	0.78
20:AS:63:THR:O	20:AS:66:MET:HG2	1.83	0.78
29:B1:46:LEU:HD12	29:B1:46:LEU:H	1.49	0.78
34:B6:15:GLU:OE1	34:B6:18:ARG:HG3	1.83	0.78
38:BA:1019:U:H3	38:BA:1142(A):A:N6	1.80	0.78
38:BA:1577:C:H2'	38:BA:1578:U:C6	2.18	0.78
38:BA:1947:C:C2'	38:BA:1948:G:H5''	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2639:A:C2'	38:BA:2640:G:H5''	2.12	0.78
47:BL:18:THR:HG21	47:BL:35:MET:HG2	1.65	0.78
50:BP:89:ALA:HB1	50:BP:121:LYS:NZ	1.98	0.78
59:BY:8:LYS:HB2	59:BY:28:LYS:NZ	1.97	0.78
60:BZ:5:LEU:HD13	60:BZ:43:GLU:HB3	1.66	0.78
11:AQ:67:LYS:O	11:AQ:69:LYS:N	2.16	0.78
20:AS:40:ILE:HB	20:AS:67:VAL:O	1.83	0.78
38:BA:621:A:H2'	38:BA:622:G:H5'	1.65	0.78
38:BA:1062:G:N2	47:BL:91:PRO:HG3	1.98	0.78
38:BA:1353:A:H4'	41:BD:38:LYS:NZ	1.98	0.78
38:BA:2134:A:OP2	38:BA:2156:G:N1	2.15	0.78
41:BD:25:THR:HG21	41:BD:81:ALA:HB1	1.66	0.78
50:BP:59:LEU:HA	50:BP:61:ARG:CZ	2.13	0.78
52:BR:11:ASN:OD1	52:BR:12:ARG:N	2.17	0.78
1:AA:865:A:H5'	1:AA:1078:U:O4	1.82	0.78
1:AA:1442:G:H2'	1:AA:1442(A):G:H5''	1.65	0.78
37:B9:2:LYS:N	37:B9:35:ARG:HB2	1.98	0.78
38:BA:811:U:H3'	50:BP:25:SER:O	1.84	0.78
38:BA:919:G:H5''	39:BB:81:G:H1'	1.63	0.78
38:BA:1453:U:H5'	52:BR:63:ARG:NE	1.97	0.78
42:BE:77:ILE:CG2	42:BE:78:LEU:H	1.96	0.78
43:BF:8:GLN:HB3	43:BF:126:VAL:HA	1.65	0.78
60:BZ:126:VAL:HG12	60:BZ:163:LEU:HA	1.66	0.78
2:AB:20:GLU:HG3	2:AB:191:ASP:HB2	1.65	0.78
5:AF:10:LEU:HD12	5:AF:10:LEU:N	1.97	0.78
15:AG:64:GLN:HG3	15:AG:68:ASN:ND2	1.96	0.78
18:AM:3:ARG:HH22	44:BG:139:LEU:CD2	1.96	0.78
36:B8:43:GLN:C	36:B8:44:LYS:HD2	2.04	0.78
37:B9:4:ARG:HH22	38:BA:2465:C:C2'	1.96	0.78
38:BA:1902:C:O2'	41:BD:244:ARG:HB2	1.83	0.78
38:BA:2133:G:OP2	38:BA:2133:G:C8	2.36	0.78
2:AB:36:ARG:HB2	2:AB:41:ILE:HD11	1.65	0.78
18:AM:13:LYS:HA	18:AM:44:ARG:HH11	1.49	0.78
22:AV:75:C:OP1	38:BA:2602:A:O5'	2.02	0.78
38:BA:2415:G:O3'	50:BP:66:GLY:HA3	1.83	0.78
42:BE:100:GLU:O	42:BE:172:VAL:HG23	1.84	0.78
44:BG:111:LEU:CA	44:BG:114:ILE:HG12	2.11	0.78
56:BV:19:LYS:HG3	56:BV:20:LEU:H	1.47	0.78
56:BV:43:GLU:HA	56:BV:48:GLY:CA	2.13	0.78
19:AN:39:LEU:HD13	19:AN:47:LEU:HD12	1.64	0.78
36:B8:27:THR:HA	50:BP:62:LEU:HD11	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1490:A:H5'	38:BA:1491:G:OP2	1.84	0.78
38:BA:1665:A:C2'	38:BA:1666:G:H5'	2.14	0.78
40:BC:44:HIS:HD2	40:BC:175:VAL:HA	1.49	0.78
41:BD:25:THR:O	41:BD:27:THR:N	2.17	0.78
1:AA:737:A:H2'	1:AA:738:C:C6	2.19	0.78
1:AA:1347:G:C8	16:AI:107:ARG:HB3	2.18	0.78
1:AA:1400:C:C4	22:AV:34:C:C5	2.71	0.78
38:BA:2283:C:H2'	38:BA:2284:C:H5'	1.64	0.78
39:BB:74:U:C3'	39:BB:75:G:H5''	2.14	0.78
46:BI:9:LEU:HB2	46:BI:12:LEU:O	1.84	0.78
46:BI:127:VAL:HG22	46:BI:139:GLN:HG3	1.65	0.78
48:BN:46:VAL:HG13	48:BN:47:ALA:N	1.98	0.78
49:BO:64:ARG:CZ	54:BT:70:VAL:HG21	2.14	0.78
50:BP:17:LYS:C	50:BP:19:VAL:H	1.87	0.78
56:BV:19:LYS:HZ2	56:BV:20:LEU:H	1.27	0.78
56:BV:43:GLU:HA	56:BV:48:GLY:HA3	1.66	0.78
58:BX:27:THR:HB	58:BX:78:LYS:H	1.46	0.78
1:AA:1118:C:H42	1:AA:1155:G:H1	1.31	0.78
29:B1:18:ILE:HA	29:B1:44:PRO:HD2	1.64	0.78
38:BA:1484:G:C2'	38:BA:1485:G:H5''	2.13	0.78
38:BA:1805:U:O2	41:BD:50:THR:HB	1.84	0.78
47:BL:138:VAL:O	47:BL:139:VAL:HG23	1.84	0.78
49:BO:63:VAL:HG23	49:BO:64:ARG:N	1.99	0.78
56:BV:19:LYS:HG2	56:BV:96:ILE:HB	1.65	0.78
1:AA:376:G:H2'	1:AA:377:G:H8	1.49	0.78
1:AA:386:C:C2'	1:AA:387:U:H5'	2.14	0.78
5:AF:97:PHE:O	12:AR:31:LEU:HD23	1.84	0.78
25:AY:38:A:OP1	38:BA:1913:A:C2	2.36	0.78
61:AY:101:PHA:H	27:AZ:273:HIS:H	0.80	0.78
38:BA:2009:G:N3	52:BR:107:ASP:HA	1.99	0.78
41:BD:63:ARG:HG3	41:BD:63:ARG:HH11	1.49	0.78
42:BE:93:VAL:C	42:BE:95:ILE:H	1.87	0.78
47:BL:79:ARG:HG2	47:BL:134:MET:HE3	1.64	0.78
48:BN:42:TRP:N	55:BU:64:ARG:NH2	2.32	0.78
48:BN:120:LEU:HD11	48:BN:122:VAL:HG23	1.65	0.78
1:AA:979:C:H3'	1:AA:980:C:C5'	2.15	0.77
1:AA:1169:A:H2'	1:AA:1170:A:C8	2.19	0.77
17:AJ:40:LEU:HB2	17:AJ:41:PRO:HD2	1.66	0.77
35:B7:12:ARG:HD3	35:B7:46:VAL:HG21	1.65	0.77
38:BA:2134:A:C4	38:BA:2158:A:C2	2.71	0.77
38:BA:2136:C:H2'	38:BA:2137:C:C6	2.19	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2530:A:H2'	38:BA:2531:A:H5'	1.63	0.77
41:BD:255:LYS:HE3	41:BD:255:LYS:H	1.48	0.77
47:BL:7:VAL:HG12	47:BL:58:THR:HG21	1.66	0.77
50:BP:131:SER:HB2	50:BP:134:ALA:H	1.48	0.77
56:BV:69:LYS:HG3	56:BV:70:ILE:H	1.49	0.77
1:AA:114:U:H2'	1:AA:115:G:C8	2.18	0.77
7:AK:57:THR:HG21	15:AG:150:ALA:HB1	1.66	0.77
18:AM:19:LEU:HB3	18:AM:25:ILE:HG21	1.66	0.77
22:AV:13:C:C1'	38:BA:1924:C:C5'	2.56	0.77
31:B3:8:LEU:CD1	31:B3:31:LEU:HA	2.14	0.77
38:BA:622:G:O2'	38:BA:623:G:H5'	1.83	0.77
38:BA:1038:C:H42	38:BA:1117:G:H1	1.33	0.77
43:BF:65:TRP:CZ3	43:BF:75:HIS:HD2	2.02	0.77
43:BF:65:TRP:HZ3	43:BF:75:HIS:HD2	1.32	0.77
43:BF:205:ARG:O	43:BF:206:ILE:HG23	1.84	0.77
44:BG:41:GLN:HG2	44:BG:155:MET:HB3	1.65	0.77
45:BH:37:VAL:HG12	45:BH:38:SER:H	1.49	0.77
50:BP:47:ASP:OD1	50:BP:49:ARG:HB2	1.84	0.77
51:BQ:47:ILE:HG12	51:BQ:68:ILE:HD11	1.67	0.77
1:AA:630:G:H2'	1:AA:631:G:H5''	1.66	0.77
1:AA:1490:C:O2'	1:AA:1491:G:H5'	1.84	0.77
2:AB:19:HIS:O	2:AB:39:ILE:HG23	1.84	0.77
9:AO:69:TYR:CZ	9:AO:73:GLU:HG3	2.19	0.77
15:AG:79:ARG:NE	15:AG:84:ASN:HD21	1.82	0.77
29:B1:19:GLN:H	29:B1:44:PRO:HD3	1.48	0.77
33:B5:20:ARG:NH1	57:BW:15:ARG:CZ	2.48	0.77
38:BA:658:C:C2'	38:BA:659:C:H5''	2.15	0.77
38:BA:1076:C:H4'	47:BL:93:ARG:CZ	2.13	0.77
38:BA:1639:U:O2'	38:BA:1640:C:H5''	1.84	0.77
43:BF:39:TRP:O	43:BF:43:LYS:HG2	1.83	0.77
53:BS:92:TYR:CD1	53:BS:93:LYS:N	2.52	0.77
58:BX:34:ALA:O	58:BX:36:LYS:HG3	1.84	0.77
59:BY:10:GLY:HA2	59:BY:27:VAL:HG13	1.67	0.77
59:BY:37:VAL:HG23	59:BY:38:ILE:N	1.99	0.77
1:AA:834:C:H2'	1:AA:835:U:H6	1.50	0.77
14:AC:77:ILE:O	14:AC:83:ARG:HB3	1.85	0.77
18:AM:118:ALA:HB1	18:AM:119:GLY:N	2.00	0.77
30:B2:46:GLN:HG2	30:B2:50:ILE:HG13	1.65	0.77
38:BA:955:C:H5'	38:BA:956:G:OP2	1.84	0.77
38:BA:1689:A:N6	38:BA:1698:A:H2	1.81	0.77
47:BL:112:MET:HE3	47:BL:115:LEU:HD12	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:28:LYS:HB2	59:BY:37:VAL:C	2.04	0.77
6:AH:103:VAL:CG2	6:AH:110:ALA:HB2	2.14	0.77
22:AV:56:C:C2'	44:BG:78:SER:HB2	2.14	0.77
38:BA:1076:C:H2'	47:BL:91:PRO:HD2	1.66	0.77
38:BA:2746:U:H4'	45:BH:138:LYS:HD3	1.64	0.77
25:AY:33:U:C2	25:AY:35:A:C5'	2.66	0.77
25:AY:38:A:H4'	38:BA:1913:A:C6	2.20	0.77
29:B1:13:ILE:CG2	29:B1:63:ALA:HB2	2.11	0.77
37:B9:26:ILE:HG12	37:B9:33:LYS:HA	1.65	0.77
38:BA:1141:U:H2'	48:BN:63:THR:HG22	1.64	0.77
38:BA:2245:U:H5'	38:BA:2246:G:H5'	1.63	0.77
45:BH:148:ILE:O	45:BH:151:ILE:HG12	1.83	0.77
47:BL:39:LYS:HA	47:BL:42:ASN:HD22	1.50	0.77
48:BN:33:LEU:HD23	48:BN:52:VAL:CG2	2.14	0.77
50:BP:24:GLY:CA	50:BP:33:ARG:HH21	1.98	0.77
53:BS:27:SER:HB3	53:BS:89:ARG:NH1	1.99	0.77
53:BS:37:ALA:HB2	53:BS:99:LYS:NZ	1.99	0.77
58:BX:56:THR:C	58:BX:57:LEU:HD12	2.05	0.77
60:BZ:53:ILE:CG2	60:BZ:71:VAL:HB	2.15	0.77
29:B1:53:VAL:HG21	29:B1:74:VAL:HG21	1.66	0.77
38:BA:271(U):G:O2'	38:BA:271(V):G:H5'	1.85	0.77
38:BA:2845:G:O2'	38:BA:2846:G:H5'	1.85	0.77
18:AM:65:LYS:HA	18:AM:66:LEU:HD12	1.67	0.77
25:AY:38:A:H5''	38:BA:1913:A:C6	2.18	0.77
28:B0:72:ARG:HB3	28:B0:75:LEU:HB2	1.67	0.77
37:B9:26:ILE:HG12	37:B9:34:GLN:H	1.49	0.77
37:B9:31:LYS:HG2	38:BA:2528:U:C5'	2.12	0.77
37:B9:33:LYS:NZ	38:BA:2527:C:P	2.58	0.77
38:BA:2645:G:H3'	38:BA:2646:C:C5'	2.14	0.77
41:BD:8:PRO:HB3	41:BD:14:ARG:HB2	1.65	0.77
45:BH:85:LYS:HD3	45:BH:133:VAL:HB	1.66	0.77
46:BI:88:ILE:HG22	46:BI:89:TYR:N	2.00	0.77
48:BN:46:VAL:CG1	48:BN:48:MET:HG3	2.15	0.77
56:BV:73:SER:HB2	56:BV:75:PHE:CE1	2.20	0.77
1:AA:1321:C:H5'	1:AA:1322:C:H5''	1.65	0.77
8:AL:89:ARG:HB2	8:AL:89:ARG:NH1	1.99	0.77
19:AN:13:THR:H	19:AN:14:PRO:CD	1.98	0.77
37:B9:13:LYS:CB	37:B9:27:CYS:HB2	2.14	0.77
38:BA:292:C:H42	38:BA:348:G:H1	1.32	0.77
44:BG:23:PHE:HZ	44:BG:171:ALA:HB3	1.50	0.77
54:BT:65:LYS:HA	54:BT:65:LYS:NZ	2.00	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:61:GLY:O	58:BX:70:LEU:HB3	1.83	0.77
59:BY:87:LYS:O	59:BY:88:LYS:HB2	1.85	0.77
13:AT:50:GLU:HG3	13:AT:51:GLU:H	1.50	0.77
30:B2:34:GLU:O	30:B2:36:ARG:N	2.18	0.77
38:BA:2052:G:H4'	42:BE:143:ASN:O	1.84	0.77
43:BF:157:VAL:HG23	43:BF:194:MET:HB3	1.67	0.77
50:BP:66:GLY:O	50:BP:67:MET:C	2.23	0.77
1:AA:1015:A:H2'	1:AA:1016:A:C8	2.20	0.76
14:AC:58:GLU:H	14:AC:65:ALA:HB3	1.47	0.76
20:AS:9:VAL:O	20:AS:11:VAL:N	2.18	0.76
38:BA:2555:U:H2'	38:BA:2556:C:H5'	1.65	0.76
46:BI:98:ALA:HB1	46:BI:109:ILE:HD13	1.67	0.76
47:BL:106:GLU:HA	47:BL:109:LYS:HE3	1.66	0.76
48:BN:57:ALA:HB2	48:BN:123:TYR:O	1.85	0.76
50:BP:7:ARG:HB3	50:BP:8:PRO:HD3	1.67	0.76
53:BS:34:HIS:HB3	53:BS:53:SER:HB3	1.68	0.76
17:AJ:33:GLN:O	17:AJ:75:ILE:HG12	1.86	0.76
22:AV:70:G:C2'	22:AV:71:C:H5'	2.15	0.76
38:BA:2111:C:C2	38:BA:2147:G:O6	2.37	0.76
42:BE:26:ILE:HD12	42:BE:196:VAL:HG21	1.66	0.76
44:BG:42:GLY:C	44:BG:43:LEU:HD22	2.06	0.76
45:BH:43:VAL:CG1	45:BH:53:GLU:H	1.97	0.76
45:BH:68:THR:HA	45:BH:71:LEU:HB2	1.67	0.76
48:BN:66:LYS:HA	48:BN:69:GLN:HB2	1.66	0.76
56:BV:2:PHE:HB3	56:BV:42:GLY:HA2	1.68	0.76
4:AE:7:GLU:HB3	4:AE:112:LEU:HD13	1.66	0.76
18:AM:91:ARG:HG3	18:AM:98:VAL:HG11	1.68	0.76
22:AV:13:C:H1'	38:BA:1924:C:C4'	2.15	0.76
25:AY:51:G:H4'	27:AZ:335:PHE:CZ	2.20	0.76
28:B0:27:GLU:HG3	28:B0:68:GLU:HA	1.64	0.76
30:B2:44:LEU:C	30:B2:46:GLN:N	2.39	0.76
38:BA:1169:G:H1	38:BA:1180:C:H42	1.30	0.76
38:BA:1484:G:H21	38:BA:1505:C:H41	1.34	0.76
38:BA:2158:A:N3	38:BA:2159:G:C1'	2.48	0.76
2:AB:201:ILE:HG21	2:AB:214:ILE:HG21	1.67	0.76
24:AW:19:G:H22	24:AW:56:C:H42	1.33	0.76
38:BA:2137:C:O2	38:BA:2154:G:N2	2.17	0.76
45:BH:44:VAL:HG12	45:BH:45:VAL:N	2.01	0.76
47:BL:109:LYS:O	47:BL:112:MET:HB2	1.84	0.76
2:AB:84:GLU:HB3	2:AB:219:VAL:HG21	1.66	0.76
17:AJ:38:ILE:HD11	17:AJ:71:LEU:HD23	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AS:16:LEU:H	20:AS:16:LEU:HD12	1.50	0.76
29:B1:17:SER:C	29:B1:18:ILE:HD12	2.05	0.76
29:B1:86:SER:N	29:B1:87:PRO:HD3	2.01	0.76
38:BA:2110:G:H1	38:BA:2179:C:H42	1.32	0.76
38:BA:2262:U:O2'	38:BA:2263:C:H5''	1.84	0.76
38:BA:2876:G:H4'	54:BT:3:ARG:HD3	1.65	0.76
38:BA:2884:U:H2'	38:BA:2885:C:H5'	1.68	0.76
41:BD:106:ILE:HD11	41:BD:196:VAL:HG13	1.66	0.76
1:AA:979:C:C3'	1:AA:980:C:H5''	2.15	0.76
2:AB:158:LEU:H	2:AB:158:LEU:HD12	1.51	0.76
33:B5:29:THR:HG21	38:BA:2814:C:O2'	1.85	0.76
37:B9:4:ARG:HH22	38:BA:2465:C:C4'	1.99	0.76
38:BA:1141:U:H2'	48:BN:63:THR:CG2	2.15	0.76
41:BD:102:LYS:C	41:BD:103:ARG:HG2	2.05	0.76
46:BI:69:LYS:HA	46:BI:136:VAL:CG2	2.16	0.76
53:BS:78:LEU:HD11	53:BS:103:GLU:HB3	1.68	0.76
56:BV:43:GLU:H	56:BV:48:GLY:HA2	1.51	0.76
58:BX:63:LYS:HD2	58:BX:70:LEU:HD13	1.67	0.76
58:BX:76:ARG:O	58:BX:77:LYS:HB2	1.82	0.76
10:AP:20:VAL:HG23	10:AP:35:LYS:HA	1.68	0.76
14:AC:94:LEU:HD12	14:AC:95:THR:N	2.01	0.76
17:AJ:40:LEU:HD23	17:AJ:40:LEU:H	1.49	0.76
36:B8:35:GLN:HE21	36:B8:36:LYS:NZ	1.84	0.76
37:B9:26:ILE:HD13	37:B9:33:LYS:HB2	1.66	0.76
38:BA:528:A:H5''	48:BN:114:ARG:HH12	1.50	0.76
58:BX:56:THR:HA	58:BX:77:LYS:HB2	1.67	0.76
1:AA:1522:U:H2'	1:AA:1523:G:H8	1.49	0.76
28:B0:51:VAL:HG21	28:B0:80:HIS:HA	1.67	0.76
33:B5:40:LYS:CD	33:B5:46:CYS:HB3	2.16	0.76
37:B9:16:VAL:HA	37:B9:25:VAL:CB	2.16	0.76
38:BA:1092:C:H3'	38:BA:1092:C:C6	2.20	0.76
38:BA:1799:G:H4'	38:BA:1800:C:O5'	1.86	0.76
41:BD:24:ILE:HG23	41:BD:24:ILE:O	1.84	0.76
41:BD:176:ARG:HG2	41:BD:176:ARG:HH11	1.48	0.76
4:AE:6:PHE:HB2	4:AE:34:VAL:HG13	1.66	0.76
15:AG:102:ARG:HG2	15:AG:106:GLN:HE21	1.51	0.76
24:AW:27:G:H1	24:AW:43:C:H42	1.33	0.76
30:B2:33:MET:HG2	58:BX:11:PRO:HD2	1.66	0.76
30:B2:55:ARG:H	30:B2:56:GLN:HE21	1.32	0.76
37:B9:2:LYS:HD3	38:BA:2526:G:N3	1.98	0.76
37:B9:33:LYS:HD3	38:BA:2527:C:H4'	0.82	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:784:A:H5'	38:BA:785:G:OP1	1.85	0.76
38:BA:1518:U:H2'	38:BA:1519:G:O4'	1.85	0.76
50:BP:95:VAL:HG23	50:BP:125:VAL:HG23	1.68	0.76
57:BW:29:LEU:HD21	57:BW:33:ARG:HH21	1.49	0.76
58:BX:60:ARG:NE	58:BX:74:PRO:HG3	2.01	0.76
16:AI:4:TYR:HB2	16:AI:19:LEU:HB2	1.68	0.76
28:B0:23:VAL:HA	28:B0:38:VAL:HG22	1.66	0.76
35:B7:43:THR:HG23	35:B7:44:PRO:HD2	1.68	0.76
38:BA:286:C:C2'	38:BA:287:C:H5''	2.15	0.76
38:BA:1798:U:H5'	41:BD:259:THR:HG22	1.67	0.76
38:BA:2307:G:H21	38:BA:2308:G:C5'	1.97	0.76
60:BZ:151:HIS:HB3	60:BZ:170:THR:CA	2.14	0.76
30:B2:52:ASP:O	30:B2:53:LEU:C	2.25	0.75
37:B9:16:VAL:HA	37:B9:25:VAL:HB	1.66	0.75
38:BA:1061:U:H4'	38:BA:1070:A:C4'	2.15	0.75
38:BA:1779:U:C5	38:BA:1784:A:N7	2.53	0.75
38:BA:2131:G:O4'	38:BA:2131:G:OP1	2.03	0.75
1:AA:1321:C:H5'	1:AA:1322:C:C5'	2.15	0.75
3:AD:17:VAL:HG11	3:AD:197:PRO:HB2	1.68	0.75
6:AH:13:ILE:O	6:AH:17:THR:HG23	1.85	0.75
38:BA:1887:C:C3'	38:BA:1888:G:H5''	2.17	0.75
38:BA:1947:C:H2'	38:BA:1948:G:H5''	1.68	0.75
42:BE:111:ARG:HA	52:BR:2:ARG:HB3	1.68	0.75
45:BH:85:LYS:NZ	45:BH:145:ALA:HA	2.02	0.75
45:BH:98:LEU:HD13	45:BH:125:VAL:HG23	1.68	0.75
47:BL:12:LEU:HD22	47:BL:23:VAL:HG23	1.67	0.75
47:BL:105:LEU:CD2	47:BL:124:ALA:HB1	2.12	0.75
48:BN:55:VAL:CG1	48:BN:126:PRO:HA	2.16	0.75
50:BP:71:VAL:CG1	50:BP:72:PRO:HD3	2.16	0.75
7:AK:23:ALA:HB3	7:AK:86:GLY:O	1.86	0.75
18:AM:120:LYS:HA	18:AM:120:LYS:HE3	1.69	0.75
38:BA:1899:G:N2	38:BA:1902:C:H41	1.85	0.75
43:BF:25:PRO:HB3	43:BF:119:ARG:HB2	1.68	0.75
43:BF:57:VAL:HG12	43:BF:58:ALA:N	1.98	0.75
47:BL:61:ALA:C	47:BL:63:ARG:H	1.89	0.75
54:BT:100:TYR:HD2	54:BT:103:ARG:HH21	1.34	0.75
58:BX:59:VAL:HG23	58:BX:74:PRO:HG2	1.68	0.75
1:AA:1392:G:N2	1:AA:1502:A:H8	1.85	0.75
24:AW:38:A:H2'	24:AW:39:U:H5''	1.67	0.75
24:AW:61:C:H2'	24:AW:62:C:C6	2.22	0.75
25:AY:38:A:H5''	38:BA:1913:A:N1	2.01	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:B6:20:ASN:HD22	34:B6:21:TYR:H	1.34	0.75
38:BA:1899:G:H22	38:BA:1902:C:H41	1.33	0.75
38:BA:2180:U:H2'	38:BA:2181:G:C8	2.20	0.75
38:BA:2506:U:H4'	38:BA:2507:C:OP1	1.86	0.75
38:BA:2632:A:H1'	42:BE:61:ARG:HH12	1.52	0.75
43:BF:148:LEU:HD21	43:BF:191:ARG:HH11	1.49	0.75
45:BH:40:GLU:O	45:BH:41:MET:HB2	1.85	0.75
12:AR:29:PHE:CE1	12:AR:31:LEU:HB3	2.22	0.75
13:AT:104:LEU:HD23	13:AT:105:SER:N	2.01	0.75
37:B9:4:ARG:HH22	38:BA:2465:C:H4'	1.49	0.75
38:BA:271(P):C:H2'	38:BA:271(Q):G:C8	2.21	0.75
44:BG:64:THR:HG23	44:BG:65:GLY:H	1.50	0.75
47:BL:24:GLY:HA2	47:BL:34:ILE:CG2	2.17	0.75
51:BQ:85:LYS:HG3	51:BQ:86:GLY:N	2.00	0.75
54:BT:92:GLY:HA2	54:BT:114:LEU:HA	1.69	0.75
59:BY:75:ILE:CD1	59:BY:76:CYS:H	2.00	0.75
1:AA:1458:G:H2'	1:AA:1459:C:H6	1.51	0.75
2:AB:67:THR:C	2:AB:68:ILE:HD12	2.07	0.75
38:BA:1822:G:H5'	38:BA:1822:G:H8	1.52	0.75
38:BA:2810:A:H2'	42:BE:61:ARG:NH2	2.01	0.75
47:BL:112:MET:SD	47:BL:115:LEU:HG	2.26	0.75
47:BL:115:LEU:HD21	47:BL:126:MET:SD	2.27	0.75
60:BZ:125:LEU:HD23	60:BZ:126:VAL:N	2.01	0.75
2:AB:204:ASN:HD21	2:AB:207:ALA:N	1.85	0.75
4:AE:101:ILE:CG1	4:AE:119:LEU:HD23	2.16	0.75
13:AT:71:THR:HG22	13:AT:72:LEU:N	2.02	0.75
20:AS:36:ARG:HH12	20:AS:75:ALA:HB3	1.50	0.75
38:BA:1075:C:O2	38:BA:1075:C:H2'	1.86	0.75
38:BA:2707:G:H5''	52:BR:68:ARG:NH2	2.02	0.75
41:BD:75:ILE:O	41:BD:118:VAL:HG23	1.87	0.75
47:BL:101:TRP:CZ3	47:BL:105:LEU:HD11	2.21	0.75
57:BW:29:LEU:O	57:BW:33:ARG:HG3	1.87	0.75
1:AA:337:C:H2'	1:AA:338:A:H8	1.51	0.75
2:AB:77:ALA:HB2	2:AB:211:ILE:HD13	1.68	0.75
6:AH:11:THR:HG22	6:AH:15:ASN:HD21	1.52	0.75
6:AH:73:ASP:OD2	6:AH:75:ARG:HG3	1.86	0.75
28:B0:32:ARG:H	28:B0:35:ASN:ND2	1.83	0.75
38:BA:1081:U:H4'	47:BL:122:ALA:HB1	1.68	0.75
41:BD:76:PRO:HG2	41:BD:98:VAL:CG2	2.15	0.75
47:BL:26:ALA:O	47:BL:30:HIS:HB3	1.87	0.75
51:BQ:82:ARG:HH11	51:BQ:82:ARG:CG	1.98	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:367:U:C4'	27:AZ:291:ARG:HH11	1.99	0.75
1:AA:1154:G:H2'	1:AA:1155:G:H8	1.52	0.75
18:AM:125:ARG:O	25:AY:37:YG:H102	1.87	0.75
36:B8:32:LEU:C	36:B8:34:TRP:N	2.36	0.75
38:BA:1598:C:H5'	58:BX:37:THR:HB	1.69	0.75
38:BA:2468:G:N2	38:BA:2481:G:H2'	2.00	0.75
42:BE:79:ARG:HG2	42:BE:79:ARG:HH11	1.52	0.75
47:BL:95:LYS:HG2	47:BL:137:GLU:OE2	1.86	0.75
48:BN:131:GLN:HE22	48:BN:134:ARG:HA	1.51	0.75
50:BP:85:LEU:H	50:BP:85:LEU:CD2	2.00	0.75
1:AA:673:G:H2'	1:AA:674:G:C8	2.22	0.74
1:AA:1054:C:H42	25:AY:34:OMG:HN22	1.32	0.74
9:AO:60:VAL:HG11	38:BA:715:G:O4'	1.87	0.74
18:AM:3:ARG:HG2	18:AM:9:ILE:CG1	2.17	0.74
30:B2:32:LEU:O	30:B2:33:MET:HB2	1.87	0.74
34:B6:45:LYS:HZ1	38:BA:2370:G:H21	1.34	0.74
38:BA:847:U:H2'	38:BA:848:G:H5''	1.69	0.74
38:BA:1067:A:N7	38:BA:1068:G:N7	2.35	0.74
42:BE:38:THR:HG22	42:BE:40:GLU:H	1.51	0.74
51:BQ:23:GLY:O	51:BQ:100:GLY:HA3	1.85	0.74
1:AA:189(H):G:H2'	1:AA:189(I):G:C8	2.20	0.74
1:AA:383:A:H2'	1:AA:384:G:H5'	1.69	0.74
1:AA:976:G:H5'	1:AA:1358:U:O2'	1.87	0.74
38:BA:361:G:H2'	38:BA:362:U:H5''	1.69	0.74
38:BA:1131:G:O2'	38:BA:1132:A:H8	1.68	0.74
39:BB:29:A:H2'	39:BB:30:C:C6	2.22	0.74
45:BH:46:GLU:O	45:BH:47:GLU:HB2	1.86	0.74
50:BP:102:ARG:HD2	50:BP:102:ARG:O	1.87	0.74
50:BP:105:LEU:O	50:BP:106:LEU:HB2	1.85	0.74
59:BY:28:LYS:HE2	59:BY:30:VAL:HG22	1.68	0.74
1:AA:1308:U:H5''	18:AM:98:VAL:N	2.02	0.74
7:AK:21:ILE:HB	7:AK:84:VAL:HG12	1.70	0.74
25:AY:9:A:O2'	25:AY:10:2MG:N7	2.18	0.74
25:AY:76:A:H62	27:AZ:234:ARG:CZ	2.00	0.74
35:B7:48:LYS:HE3	38:BA:125:G:H21	1.53	0.74
38:BA:143:G:H2'	38:BA:143(A):C:H6	1.53	0.74
38:BA:782:A:H5'	38:BA:783:A:C2	2.22	0.74
38:BA:1051:G:O2'	38:BA:1052:C:H5'	1.87	0.74
38:BA:2468:G:H22	38:BA:2481:G:H2'	1.50	0.74
1:AA:328:C:H4'	1:AA:329:A:C5'	2.17	0.74
3:AD:96:LEU:HD22	3:AD:96:LEU:N	2.02	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AO:23:GLY:O	9:AO:24:SER:HB3	1.85	0.74
15:AG:15:ASP:HB3	15:AG:19:GLY:N	2.02	0.74
17:AJ:32:ALA:HB1	17:AJ:75:ILE:HG13	1.69	0.74
20:AS:6:LYS:H	20:AS:6:LYS:HD2	1.51	0.74
25:AY:46:7MG:O2'	25:AY:47:U:C4'	2.33	0.74
28:B0:41:ARG:HD3	28:B0:44:ARG:HD2	1.69	0.74
38:BA:1107:G:HO3'	38:BA:1108:U:H5'	0.94	0.74
1:AA:926:G:O6	1:AA:1505:G:O6	2.05	0.74
16:AI:50:LEU:O	16:AI:53:VAL:HG22	1.88	0.74
38:BA:1071:G:O4'	38:BA:1089:G:N7	2.20	0.74
43:BF:84:VAL:HG12	43:BF:85:GLY:N	2.03	0.74
50:BP:64:LYS:O	50:BP:66:GLY:N	2.20	0.74
55:BU:83:LEU:HB3	55:BU:88:ILE:HG12	1.69	0.74
58:BX:21:PHE:HD1	58:BX:21:PHE:H	1.34	0.74
1:AA:336:C:H2'	1:AA:337:C:H6	1.51	0.74
1:AA:1381:U:H1'	15:AG:78:ARG:NH1	2.02	0.74
24:AW:16:U:OP1	24:AW:16:U:H4'	1.87	0.74
36:B8:52:LYS:N	36:B8:53:PRO:CD	2.50	0.74
37:B9:2:LYS:N	37:B9:35:ARG:HD2	2.01	0.74
38:BA:2632:A:H1'	42:BE:61:ARG:NH1	2.01	0.74
42:BE:2:LYS:HD3	42:BE:95:ILE:HG22	1.69	0.74
45:BH:102:ALA:HB2	45:BH:117:PRO:HB3	1.68	0.74
58:BX:31:HIS:ND1	58:BX:32:PRO:HD2	2.03	0.74
1:AA:368:U:P	27:AZ:291:ARG:HH22	2.09	0.74
1:AA:1074:G:O2'	2:AB:103:THR:CG2	2.34	0.74
2:AB:178:ARG:HH22	2:AB:196:LEU:C	1.91	0.74
7:AK:57:THR:CG2	15:AG:150:ALA:HA	2.15	0.74
37:B9:4:ARG:CZ	38:BA:2465:C:O3'	2.32	0.74
38:BA:132:G:H8	38:BA:132:G:H5'	1.52	0.74
38:BA:539:G:H2'	38:BA:540:C:H6	1.51	0.74
38:BA:1051:G:H5'	38:BA:1052:C:OP2	1.86	0.74
38:BA:1639:U:C2'	38:BA:1640:C:H5''	2.17	0.74
38:BA:2133:G:H2'	38:BA:2157:G:N2	2.03	0.74
38:BA:2327:A:H2'	38:BA:2328:A:C8	2.23	0.74
41:BD:142:VAL:HG23	41:BD:192:THR:C	2.08	0.74
47:BL:95:LYS:H	60:BZ:112:ARG:HH12	1.35	0.74
55:BU:64:ARG:NE	55:BU:64:ARG:CA	2.51	0.74
58:BX:33:LYS:C	58:BX:35:THR:N	2.38	0.74
60:BZ:116:VAL:HG13	60:BZ:117:LEU:HD23	1.69	0.74
22:AV:12:G:H4'	38:BA:1922:G:H22	1.53	0.74
28:B0:32:ARG:H	28:B0:35:ASN:HD21	1.35	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:587:C:C5	50:BP:33:ARG:HG2	2.23	0.74
38:BA:1061:U:H5''	38:BA:1070:A:H4'	1.70	0.74
38:BA:1937:A:O2'	38:BA:1938:A:H5'	1.88	0.74
47:BL:8:VAL:HG11	47:BL:27:LEU:HD23	1.70	0.74
1:AA:349:A:O2'	1:AA:350:G:H5'	1.87	0.74
1:AA:1054:C:C2	25:AY:34:OMG:CM2	2.69	0.74
25:AY:56:C:O4'	38:BA:1067:A:N1	2.17	0.74
37:B9:33:LYS:HZ3	38:BA:2527:C:C5'	1.99	0.74
38:BA:925:C:C2'	38:BA:926:A:H5''	2.17	0.74
38:BA:1057:A:H2'	38:BA:1058:G:C8	2.23	0.74
54:BT:61:PHE:CE2	54:BT:76:PHE:HB2	2.23	0.74
1:AA:521:G:O2'	1:AA:522:C:H5'	1.87	0.74
1:AA:1292:U:O2'	1:AA:1293:G:H5'	1.88	0.74
3:AD:4:TYR:O	3:AD:5:ILE:HB	1.88	0.74
6:AH:102:ARG:HE	6:AH:102:ARG:N	1.84	0.74
37:B9:8:LYS:O	37:B9:9:ARG:HB3	1.87	0.74
38:BA:61:G:H1	38:BA:94:C:H42	1.35	0.74
38:BA:171:G:H2'	38:BA:172:C:C4'	2.17	0.74
38:BA:1509(A):A:H2'	38:BA:1509(B):A:H8	1.51	0.74
38:BA:1751:C:O2'	38:BA:1752:C:H5'	1.88	0.74
41:BD:14:ARG:HG2	41:BD:14:ARG:HH11	1.50	0.74
47:BL:51:ALA:O	47:BL:80:LYS:HE3	1.86	0.74
48:BN:42:TRP:H	55:BU:64:ARG:HH21	1.36	0.74
1:AA:179:A:H2'	1:AA:180:U:C6	2.22	0.73
1:AA:255:G:H1'	11:AQ:16:GLN:NE2	2.02	0.73
6:AH:30:ARG:NH1	6:AH:30:ARG:HB3	2.03	0.73
18:AM:3:ARG:HG2	18:AM:9:ILE:HG12	1.69	0.73
34:B6:41:PRO:HG2	34:B6:44:ARG:O	1.86	0.73
48:BN:58:ASP:C	48:BN:60:ILE:H	1.90	0.73
1:AA:19:C:H5''	4:AE:86:ALA:HB2	1.69	0.73
1:AA:186:C:H5'	13:AT:78:ALA:HB1	1.68	0.73
1:AA:539:A:H2'	1:AA:540:G:C8	2.23	0.73
1:AA:1208:C:H2'	1:AA:1209:C:H6	1.53	0.73
6:AH:86:ILE:HG21	6:AH:133:LEU:HD22	1.70	0.73
16:AI:10:ARG:HH21	16:AI:11:LYS:HB2	1.51	0.73
18:AM:3:ARG:NH2	44:BG:146:TYR:HD1	1.81	0.73
37:B9:14:CYS:HA	37:B9:27:CYS:N	2.03	0.73
38:BA:1708:C:H2'	38:BA:1709:U:H6	1.53	0.73
38:BA:1879:C:C3'	38:BA:1880:C:H5''	2.18	0.73
38:BA:2142:C:O2	38:BA:2149:G:N2	2.16	0.73
43:BF:46:ARG:HG3	43:BF:46:ARG:NH1	2.00	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:105:LEU:O	47:BL:108:ALA:HB3	1.87	0.73
50:BP:84:ASN:HA	50:BP:115:LEU:O	1.88	0.73
1:AA:1343:G:H1'	16:AI:121:ARG:HH12	1.53	0.73
2:AB:69:LEU:HB3	2:AB:162:ILE:HG22	1.70	0.73
3:AD:96:LEU:H	3:AD:96:LEU:CD2	2.01	0.73
9:AO:56:LEU:O	9:AO:60:VAL:HG23	1.87	0.73
12:AR:29:PHE:HE1	12:AR:31:LEU:HB3	1.52	0.73
14:AC:14:ILE:CG1	14:AC:15:THR:H	1.97	0.73
14:AC:52:LEU:H	14:AC:52:LEU:HD23	1.53	0.73
14:AC:206:GLU:HG2	14:AC:207:VAL:HG23	1.68	0.73
25:AY:66:A:H5'	27:AZ:341:GLN:OE1	1.88	0.73
29:B1:19:GLN:NE2	38:BA:379:G:H21	1.85	0.73
38:BA:1071:G:C2'	38:BA:1072:C:H5'	2.18	0.73
38:BA:2635:C:OP1	42:BE:77:ILE:HG21	1.87	0.73
39:BB:20:C:C2'	39:BB:21:G:H5''	2.18	0.73
55:BU:64:ARG:CA	55:BU:64:ARG:HE	2.00	0.73
58:BX:65:ARG:NE	58:BX:65:ARG:CA	2.52	0.73
1:AA:774:G:OP1	41:BD:202:LYS:NZ	2.21	0.73
1:AA:1352:C:H2'	1:AA:1353:G:H8	1.54	0.73
4:AE:43:LEU:HD21	4:AE:132:ALA:HB1	1.71	0.73
6:AH:11:THR:HA	6:AH:14:ARG:NH1	2.03	0.73
6:AH:58:TYR:O	6:AH:59:LEU:HD23	1.88	0.73
38:BA:807:U:H2'	38:BA:808:G:C8	2.21	0.73
38:BA:1396:U:O2	38:BA:1396:U:H2'	1.88	0.73
41:BD:92:ILE:HD13	41:BD:104:TYR:HD2	1.52	0.73
50:BP:85:LEU:H	50:BP:85:LEU:HD23	1.53	0.73
50:BP:138:LEU:HD13	50:BP:142:GLY:HA3	1.71	0.73
59:BY:17:SER:CB	59:BY:71:LYS:HD2	2.18	0.73
59:BY:76:CYS:O	59:BY:78:ALA:N	2.22	0.73
1:AA:524:G:H2'	1:AA:525:C:C6	2.23	0.73
1:AA:1443:G:N2	1:AA:1460:A:H1'	2.04	0.73
38:BA:1053:C:H2'	38:BA:1054:A:C8	2.23	0.73
38:BA:1093:G:H21	38:BA:1098:A:N6	1.85	0.73
38:BA:1107:G:H2'	38:BA:1108:U:O4'	1.87	0.73
38:BA:2146:C:H3'	38:BA:2146:C:C6	2.24	0.73
47:BL:54:PRO:HG3	47:BL:73:PRO:CD	2.18	0.73
47:BL:72:PRO:HG2	47:BL:77:LEU:HG	1.71	0.73
50:BP:62:LEU:HD22	50:BP:62:LEU:N	2.04	0.73
51:BQ:140:ALA:CB	60:BZ:99:TYR:HB2	2.19	0.73
1:AA:1194:U:H4'	4:AE:22:GLY:CA	2.18	0.73
2:AB:97:TRP:CH2	2:AB:173:ALA:HA	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AV:13:C:H1'	38:BA:1924:C:H5''	1.69	0.73
22:AV:20:U:H5'	22:AV:21:A:OP2	1.89	0.73
25:AY:34:OMG:OP2	25:AY:34:OMG:H8	1.71	0.73
25:AY:64:A:O3'	27:AZ:391:GLY:HA3	1.54	0.73
29:B1:92:LYS:C	29:B1:94:LEU:H	1.91	0.73
30:B2:49:LYS:HB3	30:B2:53:LEU:HD22	1.69	0.73
38:BA:1012:U:O4	48:BN:28:THR:HG21	1.89	0.73
38:BA:1903:G:OP2	41:BD:241:PRO:HB2	1.89	0.73
38:BA:2822:G:H2'	38:BA:2823:A:H5''	1.69	0.73
41:BD:30:GLU:HG3	41:BD:63:ARG:CZ	2.19	0.73
60:BZ:145:GLU:HG3	60:BZ:146:ILE:N	2.01	0.73
1:AA:197:A:N7	1:AA:221:C:H4'	2.04	0.73
20:AS:6:LYS:HG2	20:AS:7:LYS:HD3	1.69	0.73
22:AV:24:U:O2	38:BA:1923:U:C5'	2.37	0.73
34:B6:32:ASN:CG	34:B6:33:LYS:H	1.91	0.73
36:B8:25:MET:HB2	50:BP:62:LEU:HD23	1.71	0.73
37:B9:14:CYS:HG	37:B9:27:CYS:HB3	1.54	0.73
38:BA:541:C:H2'	38:BA:542:C:C5	2.24	0.73
38:BA:1221(A):C:O2'	38:BA:1222:C:H5'	1.89	0.73
38:BA:2810:A:H2'	42:BE:61:ARG:HH21	1.53	0.73
55:BU:87:GLY:O	55:BU:88:ILE:HG23	1.88	0.73
60:BZ:18:LEU:O	60:BZ:21:ALA:N	2.22	0.73
1:AA:1442(A):G:H3'	1:AA:1442(B):A:H5''	1.71	0.73
17:AJ:49:VAL:O	17:AJ:60:ARG:HB2	1.89	0.73
20:AS:42:PRO:O	20:AS:43:GLU:HB3	1.87	0.73
28:B0:36:ILE:HD11	38:BA:2355:C:C5'	2.17	0.73
28:B0:51:VAL:CG2	28:B0:80:HIS:HA	2.19	0.73
30:B2:25:VAL:C	30:B2:27:GLU:H	1.91	0.73
38:BA:17:G:H4'	55:BU:25:TRP:CH2	2.23	0.73
38:BA:858:U:O2	38:BA:2268:A:H2'	1.88	0.73
45:BH:144:VAL:O	45:BH:144:VAL:HG12	1.88	0.73
52:BR:38:VAL:HB	52:BR:39:PRO:CD	2.19	0.73
53:BS:37:ALA:HB2	53:BS:99:LYS:HZ1	1.54	0.73
56:BV:73:SER:N	56:BV:88:ARG:HH22	1.87	0.73
58:BX:89:ILE:HA	58:BX:92:LEU:HD12	1.70	0.73
60:BZ:139:VAL:HG12	60:BZ:141:VAL:HG12	1.71	0.73
2:AB:36:ARG:H	2:AB:41:ILE:HD13	1.51	0.73
10:AP:50:LYS:HD3	10:AP:51:VAL:N	2.04	0.73
14:AC:70:VAL:HG12	14:AC:71:ALA:N	2.04	0.73
17:AJ:70:ARG:HH11	17:AJ:70:ARG:CG	2.01	0.73
22:AV:24:U:H1'	38:BA:1923:U:H5''	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:76:A:OP1	27:AZ:274:ARG:CZ	2.37	0.73
29:B1:67:ILE:N	29:B1:68:PRO:HD2	2.04	0.73
33:B5:2:ALA:HA	38:BA:2015:A:H1'	1.70	0.73
33:B5:40:LYS:CE	33:B5:46:CYS:HB3	2.19	0.73
38:BA:1509(A):A:H2'	38:BA:1509(B):A:C8	2.24	0.73
38:BA:1635:G:H5'	38:BA:1635:G:H8	1.54	0.73
44:BG:16:ARG:O	44:BG:20:ILE:HG13	1.89	0.73
55:BU:69:CYS:HG	55:BU:79:PHE:HD1	1.37	0.73
1:AA:55:A:C5	27:AZ:233:GLY:O	2.42	0.73
2:AB:7:VAL:O	2:AB:11:LEU:HG	1.88	0.73
15:AG:148:ASN:HD22	15:AG:148:ASN:N	1.84	0.73
18:AM:9:ILE:HD13	44:BG:146:TYR:CE1	2.24	0.73
37:B9:2:LYS:HA	37:B9:2:LYS:HE3	1.70	0.73
38:BA:8:A:H2'	38:BA:9:U:C6	2.23	0.73
38:BA:2502:G:H5''	38:BA:2503:A:H5''	1.69	0.73
42:BE:109:LYS:CB	52:BR:2:ARG:HH12	2.00	0.73
47:BL:41:PHE:CE2	47:BL:57:ILE:HD13	2.24	0.73
2:AB:204:ASN:HD21	2:AB:207:ALA:H	1.36	0.72
25:AY:37:YG:C1'	25:AY:37:YG:H31	2.18	0.72
38:BA:997:G:OP1	55:BU:93:LYS:HD3	1.88	0.72
38:BA:1063:G:N2	38:BA:1076:C:C5	2.55	0.72
38:BA:2749:A:H1'	45:BH:63:SER:OG	1.89	0.72
45:BH:141:VAL:HG12	45:BH:142:GLY:N	2.04	0.72
47:BL:38:VAL:HA	47:BL:41:PHE:CD1	2.23	0.72
47:BL:104:VAL:HG13	47:BL:127:ILE:HG21	1.69	0.72
54:BT:80:SER:HB3	54:BT:81:PRO:HD3	1.70	0.72
59:BY:31:LEU:HB3	59:BY:32:PRO:CA	2.19	0.72
59:BY:31:LEU:HB3	59:BY:32:PRO:HA	1.70	0.72
1:AA:367:U:H4'	27:AZ:291:ARG:CZ	2.18	0.72
1:AA:1422:G:H2'	1:AA:1423:G:H8	1.53	0.72
16:AI:15:ALA:HA	16:AI:65:VAL:HA	1.71	0.72
25:AY:25:C:C3'	25:AY:26:M2G:O4'	2.37	0.72
28:B0:25:ARG:HD2	28:B0:29:GLN:HE22	1.54	0.72
47:BL:72:PRO:HG2	47:BL:77:LEU:CG	2.19	0.72
51:BQ:75:THR:HA	51:BQ:88:GLY:HA2	1.71	0.72
55:BU:64:ARG:HA	55:BU:64:ARG:HE	1.54	0.72
59:BY:17:SER:HB2	59:BY:71:LYS:HD2	1.70	0.72
59:BY:27:VAL:HG12	59:BY:29:GLU:H	1.54	0.72
1:AA:728:A:H2'	1:AA:729:A:C8	2.23	0.72
1:AA:1189:C:H5''	14:AC:5:ILE:HG21	1.71	0.72
4:AE:71:LEU:O	4:AE:72:GLN:HG3	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:37:YG:H31	25:AY:37:YG:C2'	2.19	0.72
30:B2:16:LEU:N	30:B2:18:PRO:HD2	1.95	0.72
38:BA:1188:U:C2'	38:BA:1189:A:H5'	2.19	0.72
44:BG:39:ILE:HD13	44:BG:155:MET:CE	2.19	0.72
48:BN:55:VAL:HG12	48:BN:56:ASN:N	2.03	0.72
1:AA:107:G:H2'	1:AA:108:G:H5'	1.71	0.72
1:AA:135:C:H2'	1:AA:136:C:H5'	1.72	0.72
16:AI:18:PHE:HB3	16:AI:20:ARG:NH1	2.05	0.72
42:BE:11:MET:HB3	42:BE:24:THR:HA	1.70	0.72
48:BN:128:HIS:CD2	48:BN:131:GLN:HB2	2.23	0.72
51:BQ:130:LYS:HD2	60:BZ:80:ARG:NH1	2.03	0.72
58:BX:65:ARG:NH2	58:BX:66:LEU:H	1.87	0.72
1:AA:1095:U:H2'	1:AA:1096:C:C6	2.25	0.72
1:AA:1493:A:H1'	26:A0:100:U:C1'	2.18	0.72
2:AB:10:LEU:HD23	2:AB:10:LEU:H	1.54	0.72
9:AO:54:ARG:NH1	9:AO:58:MET:HE1	2.04	0.72
12:AR:36:ASN:HD22	12:AR:39:VAL:HG21	1.55	0.72
30:B2:55:ARG:N	30:B2:56:GLN:HE21	1.87	0.72
33:B5:29:THR:O	33:B5:42:PRO:HD3	1.88	0.72
36:B8:25:MET:CG	50:BP:64:LYS:HB2	2.20	0.72
38:BA:154:G:H1	38:BA:172:C:N4	1.87	0.72
38:BA:1594:G:H5'	38:BA:1594:G:C8	2.24	0.72
38:BA:1899:G:H22	38:BA:1902:C:N4	1.87	0.72
44:BG:94:LEU:N	44:BG:94:LEU:HD23	2.05	0.72
47:BL:21:PRO:HG2	47:BL:22:PRO:HD3	1.69	0.72
47:BL:77:LEU:HB2	47:BL:111:LYS:HZ2	1.53	0.72
50:BP:58:THR:O	50:BP:61:ARG:CZ	2.38	0.72
54:BT:48:ILE:O	54:BT:63:VAL:HA	1.90	0.72
58:BX:65:ARG:CZ	58:BX:66:LEU:N	2.52	0.72
1:AA:530:G:N2	25:AY:36:A:C4'	2.53	0.72
1:AA:1392:G:H21	1:AA:1502:A:H8	1.37	0.72
5:AF:99:ALA:HB1	12:AR:23:LYS:NZ	2.05	0.72
25:AY:65:G:P	27:AZ:391:GLY:CA	2.76	0.72
29:B1:85:LEU:C	29:B1:87:PRO:HD3	2.09	0.72
38:BA:1188:U:O2'	38:BA:1189:A:H5'	1.90	0.72
46:BI:109:ILE:H	46:BI:109:ILE:HD12	1.55	0.72
52:BR:9:LYS:O	52:BR:10:LEU:HG	1.88	0.72
2:AB:178:ARG:HB2	2:AB:178:ARG:HH11	1.53	0.72
20:AS:49:ILE:H	20:AS:49:ILE:HD12	1.54	0.72
33:B5:2:ALA:HA	38:BA:2015:A:C1'	2.20	0.72
40:BC:45:ALA:CB	40:BC:210:ARG:HA	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BG:112:PRO:C	44:BG:113:ARG:HA	2.09	0.72
47:BL:92:GLY:O	60:BZ:112:ARG:NH1	2.22	0.72
54:BT:89:VAL:HG11	54:BT:91:ARG:HE	1.53	0.72
60:BZ:117:LEU:HA	60:BZ:174:VAL:HA	1.72	0.72
1:AA:1230:C:H5'	22:AV:30:G:H5''	1.71	0.72
2:AB:18:GLY:H	2:AB:42:ILE:CG2	2.02	0.72
2:AB:74:LYS:NZ	2:AB:76:GLN:HB2	2.04	0.72
6:AH:85:ARG:NE	6:AH:87:SER:O	2.23	0.72
14:AC:76:VAL:HG23	14:AC:77:ILE:HG13	1.72	0.72
25:AY:35:A:C2	26:A0:102:U:C4	2.77	0.72
38:BA:1083:U:C2'	38:BA:1084:A:H5''	2.19	0.72
38:BA:1262:A:P	57:BW:99:ARG:HH12	2.13	0.72
38:BA:1593:G:C2'	38:BA:1594:G:H5''	2.19	0.72
43:BF:101:LEU:HD12	43:BF:102:PRO:CD	2.20	0.72
50:BP:122:PRO:HB3	50:BP:141:ALA:HB1	1.72	0.72
57:BW:40:ASN:O	57:BW:41:LYS:HG2	1.90	0.72
58:BX:36:LYS:HD3	58:BX:38:GLU:HB2	1.72	0.72
58:BX:40:LYS:O	58:BX:42:ALA:N	2.20	0.72
60:BZ:61:LEU:HB2	60:BZ:65:GLN:HB2	1.71	0.72
1:AA:735:C:H2'	1:AA:736:C:H6	1.53	0.72
1:AA:963:G:H1	1:AA:972:C:H42	1.37	0.72
1:AA:1483:A:C2	38:BA:1959:G:O2'	2.43	0.72
4:AE:144:THR:O	4:AE:148:VAL:HG23	1.90	0.72
14:AC:113:ALA:HB3	14:AC:114:PRO:HD3	1.72	0.72
14:AC:150:LYS:HG3	14:AC:169:ALA:HB2	1.72	0.72
14:AC:150:LYS:HB3	14:AC:201:TYR:HB2	1.71	0.72
25:AY:56:C:O4'	38:BA:1067:A:C6	2.42	0.72
29:B1:26:ARG:HH21	29:B1:28:GLY:HA2	1.55	0.72
30:B2:41:ILE:O	30:B2:42:GLY:C	2.28	0.72
37:B9:3:VAL:CG1	37:B9:34:GLN:HB3	2.19	0.72
38:BA:419:C:H2'	38:BA:420:C:H6	1.54	0.72
38:BA:2313:C:H2'	38:BA:2314:C:H6	1.55	0.72
41:BD:35:LYS:CD	41:BD:63:ARG:HB3	2.12	0.72
45:BH:41:MET:SD	45:BH:55:PRO:HD3	2.30	0.72
47:BL:7:VAL:CG1	47:BL:58:THR:HG21	2.19	0.72
50:BP:30:THR:HG22	50:BP:31:ALA:N	2.04	0.72
55:BU:12:ARG:O	55:BU:15:LYS:HG2	1.89	0.72
1:AA:155:C:H2'	1:AA:156:G:C8	2.25	0.72
1:AA:346:G:C5'	54:BT:41:ARG:CZ	2.68	0.72
1:AA:1302:U:C5	18:AM:17:VAL:HG21	2.25	0.72
25:AY:10:2MG:O6	25:AY:26:M2G:CM2	2.33	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:142:A:C8	38:BA:1408:C:H1'	2.25	0.72
41:BD:4:LYS:HZ1	41:BD:20:ASP:HA	1.51	0.72
45:BH:106:THR:HG22	45:BH:112:PRO:HB3	1.70	0.72
46:BI:58:LEU:O	46:BI:58:LEU:HD23	1.89	0.72
47:BL:18:THR:CG2	47:BL:38:VAL:HG21	2.19	0.72
48:BN:31:ALA:HA	48:BN:34:LEU:HD23	1.72	0.72
52:BR:78:LYS:O	52:BR:82:GLU:HB3	1.89	0.72
1:AA:1194:U:H2'	1:AA:1195:C:C6	2.25	0.71
3:AD:32:ALA:O	3:AD:36:ARG:N	2.22	0.71
6:AH:103:VAL:HG21	6:AH:110:ALA:HB2	1.71	0.71
29:B1:64:ALA:HA	29:B1:67:ILE:CG1	2.20	0.71
38:BA:1353:A:H4'	41:BD:38:LYS:HZ1	1.53	0.71
38:BA:2362:G:O2'	38:BA:2363:C:H5'	1.90	0.71
38:BA:2836:U:H2'	38:BA:2837:G:H8	1.55	0.71
44:BG:19:LEU:HD22	44:BG:23:PHE:CE1	2.24	0.71
44:BG:67:LYS:HD2	44:BG:67:LYS:N	2.04	0.71
60:BZ:150:LEU:H	60:BZ:150:LEU:HD13	1.55	0.71
1:AA:107:G:C2'	1:AA:108:G:H5'	2.20	0.71
29:B1:26:ARG:NH2	29:B1:28:GLY:HA2	2.04	0.71
38:BA:536:A:H2'	38:BA:537:C:H6	1.55	0.71
38:BA:1061:U:C5'	38:BA:1070:A:H4'	2.20	0.71
38:BA:1502:C:O2	38:BA:1502:C:H2'	1.90	0.71
38:BA:1503:U:H2'	38:BA:1504:C:C6	2.25	0.71
38:BA:2138:C:OP2	38:BA:2138:C:H6	1.74	0.71
45:BH:20:ALA:HB1	45:BH:21:PRO:CD	2.19	0.71
47:BL:68:VAL:HG11	47:BL:70:LYS:CE	2.17	0.71
55:BU:91:ASP:O	55:BU:95:LEU:HB2	1.90	0.71
1:AA:1244:C:H2'	1:AA:1245:A:H8	1.54	0.71
14:AC:6:HIS:ND1	19:AN:49:HIS:HB3	2.04	0.71
24:AW:38:A:H3'	24:AW:39:U:H5''	1.71	0.71
24:AW:59:U:H2'	24:AW:60:U:O4'	1.90	0.71
37:B9:14:CYS:SG	37:B9:27:CYS:HB3	2.30	0.71
38:BA:598:G:H5'	50:BP:15:ARG:CD	2.19	0.71
38:BA:1112:G:H1'	38:BA:1113:U:OP1	1.91	0.71
38:BA:1358:G:O2'	38:BA:1359:A:H5''	1.90	0.71
42:BE:36:ARG:HH21	42:BE:88:GLY:CA	2.03	0.71
52:BR:62:ALA:O	52:BR:66:VAL:HG23	1.91	0.71
9:AO:82:ILE:O	9:AO:82:ILE:HD13	1.89	0.71
14:AC:76:VAL:HG23	14:AC:77:ILE:N	2.05	0.71
38:BA:27:G:N2	38:BA:512:G:H2'	2.05	0.71
38:BA:1085:A:O2'	38:BA:1086:A:O4'	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:40:ALA:O	47:BL:43:ALA:HB3	1.91	0.71
51:BQ:47:ILE:CG1	51:BQ:68:ILE:HD11	2.20	0.71
56:BV:69:LYS:HG3	56:BV:70:ILE:N	2.05	0.71
57:BW:75:TYR:N	57:BW:75:TYR:HD1	1.88	0.71
1:AA:155:C:H2'	1:AA:156:G:H8	1.55	0.71
1:AA:474:G:H2'	1:AA:475:G:H8	1.55	0.71
1:AA:1160:G:OP1	2:AB:132:LYS:HE3	1.90	0.71
5:AF:60:PHE:C	5:AF:61:LEU:HD12	2.11	0.71
8:AL:115:LYS:O	8:AL:117:ARG:HG3	1.90	0.71
15:AG:20:ASP:HB3	15:AG:23:VAL:HG23	1.72	0.71
22:AV:73:A:H8	22:AV:73:A:H5'	1.56	0.71
43:BF:103:LYS:HA	43:BF:106:ARG:HG3	1.71	0.71
45:BH:67:LEU:O	45:BH:71:LEU:HD13	1.90	0.71
46:BI:93:THR:HG22	46:BI:119:PRO:HB3	1.71	0.71
47:BL:21:PRO:HG2	47:BL:22:PRO:CD	2.20	0.71
56:BV:75:PHE:CE1	56:BV:89:GLN:HB3	2.25	0.71
56:BV:80:GLN:O	56:BV:81:TYR:N	2.24	0.71
1:AA:1249:C:H6	1:AA:1249:C:H5'	1.54	0.71
1:AA:1428:A:H2'	1:AA:1429:C:C6	2.26	0.71
3:AD:11:LEU:O	3:AD:13:ARG:N	2.24	0.71
24:AW:57:G:H2'	24:AW:58:A:H5'	1.72	0.71
29:B1:62:VAL:HG13	29:B1:64:ALA:H	1.56	0.71
38:BA:2312:U:O3'	44:BG:71:THR:HG21	1.90	0.71
46:BI:1:MET:HG3	46:BI:23:PRO:HA	1.72	0.71
51:BQ:34:LEU:C	51:BQ:34:LEU:HD12	2.10	0.71
52:BR:2:ARG:HD3	52:BR:5:LYS:HZ2	1.56	0.71
52:BR:116:LEU:O	52:BR:117:VAL:HB	1.90	0.71
53:BS:89:ARG:O	53:BS:92:TYR:HB3	1.91	0.71
1:AA:450:G:H4'	10:AP:41:PRO:O	1.91	0.71
1:AA:1244:C:H2'	1:AA:1245:A:C8	2.26	0.71
15:AG:132:GLY:H	15:AG:135:VAL:CG2	2.03	0.71
38:BA:212:G:O2'	38:BA:213:A:H5'	1.89	0.71
38:BA:2680:C:H2'	38:BA:2681:C:O2	1.90	0.71
38:BA:2859:G:H2'	38:BA:2860:A:C8	2.25	0.71
41:BD:154:LYS:C	41:BD:155:LEU:HD12	2.10	0.71
55:BU:92:ARG:HD2	56:BV:11:GLN:CG	2.20	0.71
13:AT:50:GLU:HG3	13:AT:51:GLU:N	2.05	0.71
17:AJ:96:ILE:HD13	17:AJ:96:ILE:H	1.56	0.71
24:AW:66:U:H2'	24:AW:67:C:C6	2.26	0.71
29:B1:46:LEU:HD12	29:B1:46:LEU:N	2.05	0.71
29:B1:60:PHE:HD1	29:B1:70:VAL:HG22	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B5:55:ARG:HG3	33:B5:56:LYS:N	2.03	0.71
38:BA:1083:U:HO2'	38:BA:1084:A:H8	1.37	0.71
38:BA:1083:U:O2'	38:BA:1084:A:H8	1.73	0.71
38:BA:2834:G:H5'	38:BA:2835:A:OP2	1.90	0.71
41:BD:35:LYS:HD2	41:BD:104:TYR:CE1	2.25	0.71
47:BL:14:ALA:HB2	47:BL:53:VAL:CB	2.21	0.71
47:BL:61:ALA:C	47:BL:63:ARG:N	2.44	0.71
1:AA:67:C:H2'	1:AA:68:G:C8	2.25	0.71
5:AF:67:MET:HB2	5:AF:68:PRO:HD2	1.73	0.71
16:AI:97:LYS:HB3	16:AI:98:PRO:HD3	1.70	0.71
22:AV:12:G:H5'	38:BA:1909:C:H1'	1.72	0.71
28:B0:36:ILE:HD11	38:BA:2355:C:C4'	2.19	0.71
29:B1:15:ALA:O	29:B1:46:LEU:HD23	1.90	0.71
29:B1:21:ARG:HD3	29:B1:22:GLY:H	1.56	0.71
38:BA:1086:A:H3'	38:BA:1087:G:H5'	1.73	0.71
38:BA:1286:A:H2'	38:BA:1288:U:OP2	1.91	0.71
38:BA:1666:G:O3'	49:BO:6:THR:HG23	1.91	0.71
38:BA:2591:C:H2'	38:BA:2592:G:C8	2.26	0.71
39:BB:15:A:H5'	39:BB:16:G:C8	2.26	0.71
55:BU:91:ASP:O	55:BU:92:ARG:O	2.09	0.71
59:BY:8:LYS:CE	59:BY:72:VAL:HG23	2.21	0.71
1:AA:625:G:H2'	1:AA:626:U:C6	2.26	0.71
1:AA:922:G:N3	1:AA:1398:A:H2	1.88	0.71
1:AA:1251:A:H2'	1:AA:1252:A:C8	2.25	0.71
24:AW:25:C:H2'	24:AW:26:A:H8	1.56	0.71
39:BB:15:A:H3'	39:BB:16:G:H5'	1.71	0.71
41:BD:35:LYS:HG2	41:BD:64:ILE:HG23	1.73	0.71
45:BH:12:PRO:O	45:BH:15:VAL:HG22	1.91	0.71
45:BH:154:PRO:HG2	45:BH:155:SER:H	1.54	0.71
49:BO:87:ILE:CG2	49:BO:91:LEU:HA	2.21	0.71
58:BX:60:ARG:HG3	58:BX:72:LYS:H	1.56	0.71
59:BY:81:LYS:CD	59:BY:96:ILE:HB	2.21	0.71
5:AF:99:ALA:HB1	12:AR:23:LYS:HZ1	1.54	0.70
18:AM:19:LEU:O	18:AM:22:ILE:HD12	1.90	0.70
28:B0:77:ARG:HH22	38:BA:857:C:H5'	1.55	0.70
29:B1:13:ILE:O	29:B1:14:VAL:HB	1.91	0.70
38:BA:344:G:H8	38:BA:344:G:H5'	1.54	0.70
43:BF:23:ASP:O	43:BF:24:LEU:HD22	1.91	0.70
43:BF:78:ILE:H	43:BF:78:ILE:CD1	2.03	0.70
44:BG:6:ALA:HB3	44:BG:104:GLU:OE1	1.91	0.70
47:BL:66:THR:O	47:BL:67:PHE:HB2	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:162:GLU:HG3	60:BZ:162:GLU:O	1.90	0.70
1:AA:1031:G:H2'	1:AA:1032:G:C8	2.25	0.70
1:AA:1291:G:H4'	16:AI:39:GLY:HA3	1.72	0.70
5:AF:11:ASN:O	5:AF:14:LEU:HG	1.91	0.70
13:AT:50:GLU:HB3	13:AT:100:ILE:CG1	2.17	0.70
17:AJ:80:LYS:HZ3	17:AJ:80:LYS:HB2	1.56	0.70
24:AW:30:G:O2'	24:AW:31:A:H5'	1.90	0.70
25:AY:12:U:H5'	25:AY:12:U:H6	1.56	0.70
41:BD:267:SER:C	41:BD:269:PHE:N	2.43	0.70
41:BD:270:ILE:O	41:BD:270:ILE:HD12	1.92	0.70
42:BE:167:VAL:HG11	42:BE:187:ALA:O	1.91	0.70
47:BL:24:GLY:O	47:BL:34:ILE:HG12	1.91	0.70
47:BL:128:ALA:HB1	47:BL:138:VAL:HG11	1.72	0.70
55:BU:17:ILE:HG23	55:BU:39:LEU:HD12	1.72	0.70
60:BZ:141:VAL:HG23	60:BZ:144:LEU:HD23	1.72	0.70
1:AA:626:U:H2'	1:AA:627:G:H8	1.56	0.70
1:AA:1474:G:H4'	38:BA:1701:A:C2	2.26	0.70
14:AC:36:ASP:HA	14:AC:39:ILE:HD12	1.72	0.70
38:BA:549:G:C3'	38:BA:551:G:H5''	2.20	0.70
38:BA:2689:U:H5''	38:BA:2690:C:H5'	1.72	0.70
39:BB:44:G:H1'	39:BB:47:C:N4	2.06	0.70
42:BE:38:THR:HG23	42:BE:39:PRO:HD2	1.73	0.70
46:BI:91:SER:H	46:BI:121:LYS:HE3	1.56	0.70
48:BN:41:ASP:N	55:BU:64:ARG:HH21	1.89	0.70
49:BO:46:ALA:H	49:BO:54:GLU:HG2	1.55	0.70
57:BW:84:ARG:HB2	57:BW:96:ILE:HG22	1.72	0.70
58:BX:33:LYS:O	58:BX:35:THR:N	2.24	0.70
60:BZ:118:GLN:O	60:BZ:120:ILE:HG12	1.91	0.70
11:AQ:68:ARG:HG2	11:AQ:68:ARG:HH11	1.55	0.70
38:BA:1547:C:O2'	38:BA:1548:C:H5'	1.92	0.70
38:BA:2197:U:O2'	38:BA:2198:A:H5''	1.92	0.70
38:BA:2461:C:H2'	38:BA:2462:U:C6	2.27	0.70
38:BA:2736:G:H5'	38:BA:2736:G:H8	1.56	0.70
50:BP:124:LYS:HA	50:BP:143:GLY:HA3	1.73	0.70
50:BP:144:GLU:N	50:BP:145:PRO:HD3	2.05	0.70
53:BS:101:LEU:HD13	53:BS:102:ALA:N	2.05	0.70
54:BT:88:ILE:HG22	54:BT:89:VAL:HG23	1.73	0.70
59:BY:28:LYS:HD2	59:BY:37:VAL:HG12	1.72	0.70
59:BY:43:ASN:ND2	59:BY:64:GLU:HG3	2.05	0.70
2:AB:21:ARG:HB3	2:AB:39:ILE:HA	1.73	0.70
2:AB:88:ALA:HB2	2:AB:219:VAL:HG13	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AM:116:THR:HG22	18:AM:117:VAL:N	2.07	0.70
28:B0:77:ARG:NH2	38:BA:857:C:H5'	2.06	0.70
29:B1:78:LYS:NZ	29:B1:93:GLU:HB2	2.06	0.70
38:BA:271(G):C:H2'	38:BA:271(H):G:H8	1.54	0.70
38:BA:2180:U:H2'	38:BA:2181:G:H8	1.55	0.70
38:BA:2538:C:O2'	38:BA:2539:C:H5'	1.92	0.70
49:BO:16:ALA:HA	49:BO:46:ALA:HA	1.72	0.70
50:BP:47:ASP:HB3	50:BP:48:PRO:HA	1.74	0.70
50:BP:62:LEU:HD13	50:BP:62:LEU:N	2.06	0.70
1:AA:346:G:OP1	54:BT:35:LYS:HE3	1.92	0.70
1:AA:975:A:H5'	1:AA:975:A:H8	1.56	0.70
1:AA:1003:G:H2'	1:AA:1004:A:H4'	1.72	0.70
2:AB:30:ARG:HH21	2:AB:194:PRO:CG	2.05	0.70
2:AB:121:LEU:HD23	2:AB:121:LEU:O	1.92	0.70
4:AE:87:SER:HB3	4:AE:131:ILE:HD13	1.72	0.70
8:AL:47:LYS:CB	8:AL:48:PRO:HD3	2.19	0.70
10:AP:20:VAL:HG21	10:AP:32:TYR:CG	2.27	0.70
15:AG:118:VAL:O	15:AG:121:ALA:HB3	1.91	0.70
19:AN:13:THR:N	19:AN:14:PRO:CD	2.54	0.70
31:B3:31:LEU:HD12	38:BA:1157:G:O2'	1.90	0.70
34:B6:45:LYS:NZ	38:BA:2370:G:H21	1.90	0.70
41:BD:17:THR:HG22	41:BD:205:VAL:HB	1.74	0.70
42:BE:111:ARG:HA	52:BR:2:ARG:CG	2.21	0.70
50:BP:24:GLY:HA2	50:BP:33:ARG:HE	1.56	0.70
50:BP:96:THR:O	50:BP:99:LEU:HB3	1.92	0.70
58:BX:77:LYS:CD	58:BX:78:LYS:HD2	2.20	0.70
59:BY:15:VAL:HG12	59:BY:17:SER:H	1.53	0.70
1:AA:706:A:H1'	7:AK:29:ILE:HD11	1.72	0.70
4:AE:56:GLN:HE22	4:AE:60:TYR:HB2	1.56	0.70
20:AS:16:LEU:O	20:AS:20:LEU:HG	1.91	0.70
25:AY:35:A:N3	26:A0:102:U:O4	2.24	0.70
25:AY:37:YG:H101	25:AY:37:YG:N20	2.07	0.70
28:B0:20:ARG:HD3	28:B0:20:ARG:H	1.57	0.70
38:BA:451:C:H4'	43:BF:52:LYS:HZ1	1.55	0.70
38:BA:893:C:H2'	38:BA:894:C:H5'	1.73	0.70
44:BG:165:THR:HB	44:BG:167:GLU:OE1	1.91	0.70
47:BL:18:THR:HA	47:BL:38:VAL:HG21	1.74	0.70
47:BL:93:ARG:CD	60:BZ:112:ARG:CD	2.64	0.70
1:AA:368:U:P	27:AZ:291:ARG:NH2	2.64	0.70
1:AA:811:C:O2'	1:AA:901:A:N1	2.24	0.70
1:AA:950:U:H4'	1:AA:971:G:N2	2.07	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AJ:39:PRO:HA	17:AJ:70:ARG:NH1	2.07	0.70
17:AJ:75:ILE:HG13	17:AJ:76:ASN:H	1.56	0.70
37:B9:10:ILE:CD1	38:BA:2476:A:C2	2.75	0.70
38:BA:154:G:H1	38:BA:172:C:H42	1.39	0.70
38:BA:1987:G:H5'	38:BA:1987:G:C8	2.25	0.70
41:BD:35:LYS:HE3	41:BD:64:ILE:C	2.12	0.70
46:BI:83:ALA:HA	46:BI:89:TYR:CD1	2.26	0.70
50:BP:33:ARG:O	50:BP:34:GLY:C	2.29	0.70
51:BQ:82:ARG:O	51:BQ:83:MET:HB2	1.91	0.70
51:BQ:132:VAL:HG11	60:BZ:81:ARG:CZ	2.22	0.70
52:BR:2:ARG:HD2	52:BR:2:ARG:O	1.92	0.70
1:AA:790:A:H5'	22:AV:39:C:OP1	1.90	0.70
2:AB:233:SER:HB2	2:AB:234:PRO:HD2	1.74	0.70
7:AK:43:SER:HA	7:AK:47:VAL:HG21	1.74	0.70
34:B6:28:ARG:HG2	34:B6:28:ARG:HH11	1.55	0.70
36:B8:30:ARG:NH2	50:BP:62:LEU:HB2	2.07	0.70
38:BA:954:G:H4'	51:BQ:13:GLN:NE2	2.02	0.70
38:BA:1085:A:H1'	38:BA:1086:A:C4'	2.17	0.70
38:BA:1085:A:O2'	38:BA:1086:A:C4'	2.40	0.70
38:BA:1240:U:O2'	38:BA:1241:A:H5'	1.92	0.70
38:BA:1679:U:H2'	38:BA:1680:U:H5'	1.73	0.70
38:BA:2158:A:C2'	38:BA:2159:G:H5'	2.21	0.70
38:BA:2672:G:H2'	38:BA:2673:G:H5''	1.73	0.70
43:BF:24:LEU:HB3	43:BF:25:PRO:CD	2.20	0.70
50:BP:16:ARG:NH1	50:BP:18:ARG:HB2	2.04	0.70
51:BQ:75:THR:HA	51:BQ:89:ASN:H	1.56	0.70
58:BX:18:TYR:HA	58:BX:21:PHE:CE1	2.27	0.70
1:AA:1116:C:C3'	1:AA:1117:G:H5''	2.21	0.70
14:AC:105:GLU:HG2	14:AC:106:VAL:N	2.06	0.70
14:AC:127:ARG:N	14:AC:127:ARG:HD2	2.06	0.70
16:AI:83:ARG:O	16:AI:86:VAL:HG12	1.91	0.70
20:AS:29:ARG:HD2	20:AS:30:LEU:H	1.56	0.70
36:B8:23:VAL:HG12	36:B8:46:ARG:HH11	1.55	0.70
36:B8:35:GLN:NE2	36:B8:36:LYS:HZ2	1.89	0.70
38:BA:884:C:O2'	38:BA:892:G:C8	2.42	0.70
38:BA:1104:C:H2'	38:BA:1105:U:C6	2.27	0.70
38:BA:1914:C:H2'	38:BA:1915:U:O4'	1.92	0.70
38:BA:2134:A:N6	38:BA:2157:G:C1'	2.55	0.70
44:BG:96:ARG:O	44:BG:99:MET:HB3	1.91	0.70
45:BH:136:ILE:HD12	45:BH:136:ILE:H	1.57	0.70
50:BP:16:ARG:HH11	50:BP:16:ARG:HG3	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BR:5:LYS:H	52:BR:5:LYS:HD2	1.57	0.70
54:BT:91:ARG:HA	54:BT:117:ASP:H	1.56	0.70
56:BV:35:LEU:HD22	56:BV:61:VAL:HA	1.73	0.70
1:AA:194:C:H2'	1:AA:195:A:H5''	1.74	0.69
1:AA:1256:A:N6	1:AA:1278:U:H1'	2.05	0.69
1:AA:1513:A:H2'	1:AA:1514:C:C6	2.27	0.69
9:AO:37:ASN:HD22	9:AO:37:ASN:N	1.88	0.69
37:B9:35:ARG:NH1	38:BA:2526:G:C1'	2.41	0.69
38:BA:1093:G:N2	38:BA:1098:A:N6	2.40	0.69
38:BA:1803:A:H4'	41:BD:259:THR:CG2	2.22	0.69
41:BD:35:LYS:HD2	41:BD:104:TYR:CD1	2.26	0.69
49:BO:64:ARG:NH1	54:BT:70:VAL:HG21	2.06	0.69
50:BP:50:ARG:O	50:BP:57:THR:HG23	1.92	0.69
50:BP:80:TYR:CZ	50:BP:111:ARG:HG2	2.27	0.69
58:BX:11:PRO:HB3	58:BX:26:TYR:HE2	1.57	0.69
59:BY:75:ILE:HD13	59:BY:76:CYS:H	1.57	0.69
60:BZ:39:VAL:CG2	60:BZ:40:ASP:N	2.53	0.69
2:AB:36:ARG:H	2:AB:41:ILE:CD1	2.05	0.69
16:AI:115:GLY:O	16:AI:116:LYS:HG2	1.92	0.69
20:AS:5:LEU:HG	20:AS:10:PHE:CD1	2.27	0.69
28:B0:49:LYS:N	28:B0:80:HIS:HB3	2.07	0.69
30:B2:46:GLN:NE2	30:B2:47:ASN:HA	2.06	0.69
38:BA:528:A:H5''	48:BN:114:ARG:NH1	2.06	0.69
38:BA:1887:C:H3'	38:BA:1888:G:H5''	1.74	0.69
38:BA:2127:G:C5	38:BA:2162:G:N1	2.42	0.69
38:BA:2307:G:H21	38:BA:2308:G:H5'	1.55	0.69
38:BA:2784:C:H2'	38:BA:2785:C:H6	1.56	0.69
38:BA:2866:U:C6	38:BA:2868:A:H1'	2.27	0.69
1:AA:1388:C:H2'	1:AA:1389:C:H6	1.57	0.69
2:AB:218:ALA:O	2:AB:222:ILE:HG13	1.92	0.69
12:AR:53:ARG:HA	12:AR:56:THR:OG1	1.92	0.69
36:B8:29:LYS:O	36:B8:32:LEU:N	2.25	0.69
38:BA:879:G:H1	38:BA:898:C:N4	1.90	0.69
38:BA:2135:A:N1	38:BA:2156:G:O2'	2.25	0.69
44:BG:76:SER:CB	44:BG:84:LYS:H	2.04	0.69
47:BL:90:LYS:HD2	47:BL:93:ARG:NH1	2.07	0.69
55:BU:92:ARG:HD2	56:BV:11:GLN:HG3	1.74	0.69
5:AF:89:MET:SD	12:AR:76:LEU:HD21	2.31	0.69
29:B1:48:LYS:HG3	29:B1:49:VAL:H	1.57	0.69
44:BG:131:TYR:HB3	44:BG:159:VAL:CG1	2.23	0.69
45:BH:20:ALA:HB1	45:BH:21:PRO:HD2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:78:THR:HA	46:BI:141:LYS:O	1.92	0.69
54:BT:29:ARG:HH21	54:BT:84:GLN:NE2	1.90	0.69
56:BV:19:LYS:CG	56:BV:20:LEU:N	2.55	0.69
56:BV:47:VAL:HG22	56:BV:48:GLY:N	2.06	0.69
16:AI:3:GLN:C	16:AI:4:TYR:HD1	1.96	0.69
20:AS:31:ILE:HG23	20:AS:49:ILE:HG23	1.72	0.69
25:AY:46:7MG:O2'	25:AY:47:U:H5'	1.92	0.69
35:B7:7:PRO:HB2	38:BA:1309:G:H4'	1.73	0.69
38:BA:80:G:O2'	38:BA:81:G:H5'	1.92	0.69
38:BA:146:G:H2'	38:BA:147:U:O4'	1.91	0.69
38:BA:320:A:H2'	43:BF:136:THR:OG1	1.91	0.69
38:BA:598:G:C5'	50:BP:15:ARG:HD2	2.22	0.69
38:BA:1059:G:N2	47:BL:130:SER:HB3	2.07	0.69
38:BA:1062:G:O6	38:BA:1077:A:C5	2.45	0.69
38:BA:1074:G:C5	38:BA:1075:C:N4	2.60	0.69
41:BD:131:LEU:HB2	41:BD:136:ILE:HD11	1.73	0.69
47:BL:112:MET:CE	47:BL:115:LEU:HD12	2.23	0.69
50:BP:13:ASN:H	50:BP:13:ASN:HD22	1.40	0.69
50:BP:106:LEU:O	50:BP:107:LYS:HG2	1.93	0.69
52:BR:18:LEU:HD13	52:BR:18:LEU:C	2.13	0.69
3:AD:138:TYR:HD2	3:AD:139:ARG:N	1.90	0.69
7:AK:124:LYS:HD2	7:AK:125:PHE:CE1	2.28	0.69
22:AV:76:A:H62	28:B0:1:MET:CB	2.06	0.69
25:AY:37:YG:H31	25:AY:37:YG:H1'	1.74	0.69
37:B9:3:VAL:HG12	37:B9:35:ARG:H	1.58	0.69
38:BA:613:G:H5'	38:BA:613:G:H8	1.58	0.69
38:BA:1061:U:H3'	38:BA:1061:U:OP2	1.92	0.69
38:BA:2317:C:H2'	38:BA:2318:G:H5'	1.74	0.69
43:BF:34:TRP:HB2	50:BP:10:PRO:O	1.92	0.69
47:BL:91:PRO:HB3	47:BL:134:MET:O	1.92	0.69
59:BY:14:LEU:HG	59:BY:15:VAL:O	1.92	0.69
59:BY:97:ARG:HG3	59:BY:97:ARG:O	1.92	0.69
60:BZ:145:GLU:CG	60:BZ:146:ILE:H	1.97	0.69
1:AA:32:A:H2'	1:AA:33:A:C8	2.28	0.69
1:AA:375:U:H2'	1:AA:376:G:H8	1.57	0.69
1:AA:724:G:O2'	1:AA:725:G:H5'	1.92	0.69
1:AA:1435:G:H2'	1:AA:1436:U:C6	2.27	0.69
3:AD:127:THR:HA	3:AD:132:ARG:HA	1.75	0.69
4:AE:135:THR:O	4:AE:138:ALA:HB3	1.93	0.69
37:B9:9:ARG:NH2	37:B9:15:LYS:HG2	2.07	0.69
38:BA:1071:G:H2'	38:BA:1072:C:C5'	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1071:G:N3	38:BA:1089:G:H2'	2.08	0.69
38:BA:1085:A:O2'	38:BA:1086:A:OP2	2.10	0.69
38:BA:1140:C:H1'	38:BA:1143:A:C2	2.27	0.69
38:BA:2159:G:C2	38:BA:2160:G:H1'	2.28	0.69
38:BA:2682:U:O4	38:BA:2728:U:H1'	1.92	0.69
39:BB:20:C:H2'	39:BB:21:G:H5''	1.74	0.69
47:BL:132:ARG:HH21	47:BL:138:VAL:CG1	2.06	0.69
54:BT:80:SER:OG	54:BT:81:PRO:HD3	1.93	0.69
57:BW:34:ASN:O	57:BW:37:ARG:HB3	1.92	0.69
59:BY:60:PHE:C	59:BY:61:ILE:HD12	2.13	0.69
59:BY:90:LEU:HG	59:BY:91:GLU:N	2.04	0.69
1:AA:1054:C:H42	25:AY:34:OMG:N2	1.91	0.69
4:AE:71:LEU:HD11	4:AE:114:GLY:HA3	1.73	0.69
8:AL:24:VAL:HG13	8:AL:98:TYR:HE2	1.54	0.69
9:AO:60:VAL:CG1	38:BA:715:G:O4'	2.41	0.69
10:AP:28:ARG:HG2	10:AP:28:ARG:HH11	1.58	0.69
15:AG:97:GLN:HG2	15:AG:101:LEU:HD11	1.75	0.69
17:AJ:47:PHE:CE1	17:AJ:63:PHE:HB2	2.27	0.69
25:AY:76:A:P	27:AZ:274:ARG:HE	2.15	0.69
38:BA:587:C:H5	50:BP:33:ARG:NH1	1.91	0.69
38:BA:911:A:H2'	51:BQ:9:TYR:OH	1.92	0.69
38:BA:1081:U:H5''	47:BL:122:ALA:HA	1.74	0.69
38:BA:1231:G:H2'	38:BA:1232:G:H8	1.58	0.69
38:BA:1434:A:H61	38:BA:1558:A:H62	1.39	0.69
38:BA:2023:G:H5'	38:BA:2617:C:H4'	1.73	0.69
38:BA:2312:U:H2'	38:BA:2313:C:H5''	1.74	0.69
38:BA:2689:U:H4'	38:BA:2690:C:H6	1.58	0.69
41:BD:71:ASP:HB2	41:BD:103:ARG:HH22	1.58	0.69
41:BD:155:LEU:HD23	41:BD:177:LEU:HD22	1.75	0.69
42:BE:11:MET:CB	42:BE:24:THR:HA	2.23	0.69
42:BE:134:ILE:HD13	42:BE:134:ILE:H	1.58	0.69
43:BF:9:ILE:HG12	43:BF:14:PRO:C	2.12	0.69
43:BF:57:VAL:CG1	43:BF:58:ALA:N	2.56	0.69
44:BG:134:GLY:HA2	44:BG:156:ASP:HA	1.74	0.69
46:BI:75:LEU:HD21	46:BI:105:HIS:ND1	2.06	0.69
46:BI:145:VAL:HG12	46:BI:146:VAL:N	2.08	0.69
47:BL:56:GLU:O	47:BL:67:PHE:HB3	1.92	0.69
51:BQ:134:ARG:HG2	51:BQ:135:ASP:H	1.58	0.69
52:BR:64:ARG:HA	52:BR:67:LEU:HD23	1.72	0.69
55:BU:83:LEU:HB3	55:BU:88:ILE:CG1	2.22	0.69
58:BX:60:ARG:CG	58:BX:74:PRO:HD2	2.15	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:63:LYS:O	58:BX:68:ARG:HA	1.92	0.69
1:AA:674:G:H2'	1:AA:675:A:H8	1.56	0.69
1:AA:818:G:C2'	1:AA:819:A:H5''	2.22	0.69
24:AW:38:A:C3'	24:AW:39:U:H5''	2.22	0.69
30:B2:30:ARG:HA	30:B2:33:MET:SD	2.33	0.69
37:B9:3:VAL:HG22	37:B9:4:ARG:H	1.56	0.69
38:BA:1820:U:C2	41:BD:202:LYS:HB3	2.27	0.69
38:BA:2111:C:H2'	38:BA:2147:G:O6	1.93	0.69
38:BA:2159:G:H5''	38:BA:2160:G:OP2	1.93	0.69
38:BA:2579:C:O3'	42:BE:131:ALA:HB2	1.93	0.69
47:BL:23:VAL:HG11	47:BL:38:VAL:HG23	1.74	0.69
1:AA:59:A:H1'	1:AA:354:G:N2	2.08	0.69
1:AA:1003:G:H2'	1:AA:1004:A:C4'	2.22	0.69
1:AA:1129:C:H4'	1:AA:1130:A:H5'	1.75	0.69
1:AA:1256:A:H61	1:AA:1278:U:C1'	2.05	0.69
3:AD:133:VAL:HG11	3:AD:138:TYR:HD1	1.57	0.69
4:AE:147:ASP:HA	4:AE:150:ARG:HB3	1.75	0.69
29:B1:88:LYS:O	29:B1:92:LYS:N	2.26	0.69
30:B2:14:ARG:CD	30:B2:57:ILE:HB	2.23	0.69
38:BA:203:C:H3'	38:BA:204:A:H5''	1.74	0.69
38:BA:1114:G:H2'	38:BA:1115:G:H5''	1.74	0.69
38:BA:1722:A:C2	38:BA:1740:G:H2'	2.27	0.69
38:BA:2111:C:N1	38:BA:2147:G:O6	2.26	0.69
38:BA:2709:G:O2'	38:BA:2710:C:H5'	1.93	0.69
38:BA:2741:A:H2'	38:BA:2742:C:O4'	1.93	0.69
38:BA:2836:U:H2'	38:BA:2837:G:C8	2.28	0.69
38:BA:2873:A:C2	52:BR:6:SER:HB2	2.28	0.69
42:BE:111:ARG:HA	52:BR:2:ARG:CB	2.23	0.69
55:BU:83:LEU:HB3	55:BU:88:ILE:HD11	1.75	0.69
58:BX:56:THR:O	58:BX:57:LEU:HD12	1.91	0.69
1:AA:626:U:H2'	1:AA:627:G:C8	2.28	0.68
9:AO:17:ARG:HH11	9:AO:17:ARG:HG3	1.58	0.68
38:BA:603:A:H4'	38:BA:604:G:O5'	1.93	0.68
38:BA:1071:G:C3'	38:BA:1072:C:H5'	2.23	0.68
38:BA:1087:G:H21	38:BA:1103:A:H2'	1.58	0.68
38:BA:2121:G:H2'	38:BA:2122:U:C6	2.28	0.68
38:BA:2712:U:HO2'	38:BA:2712(A):A:H5''	1.58	0.68
41:BD:231:HIS:ND1	41:BD:232:PRO:HD2	2.08	0.68
42:BE:111:ARG:HA	52:BR:2:ARG:HG3	1.75	0.68
43:BF:123:LEU:HD12	43:BF:124:LEU:N	2.08	0.68
47:BL:18:THR:H	47:BL:19:PRO:CD	2.05	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:65:LYS:HE2	48:BN:65:LYS:CA	2.15	0.68
50:BP:146:VAL:HG13	50:BP:147:LEU:HG	1.74	0.68
53:BS:87:PHE:O	53:BS:88:ASP:HB2	1.92	0.68
57:BW:27:LYS:O	57:BW:70:TYR:HB2	1.93	0.68
58:BX:37:THR:HG23	58:BX:54:VAL:HB	1.74	0.68
1:AA:954:G:H4'	18:AM:120:LYS:CG	2.23	0.68
8:AL:92:ASP:O	8:AL:93:LEU:HD23	1.93	0.68
16:AI:18:PHE:HB3	16:AI:20:ARG:HH11	1.58	0.68
20:AS:63:THR:HG22	20:AS:66:MET:HE2	1.75	0.68
25:AY:74:C:O2'	25:AY:75:C:H5'	1.93	0.68
33:B5:4:HIS:HB3	33:B5:5:PRO:CD	2.13	0.68
37:B9:19:ARG:HG2	37:B9:20:HIS:H	1.56	0.68
38:BA:27:G:H1'	38:BA:513:A:H62	1.57	0.68
38:BA:195:A:H5''	38:BA:196:A:OP2	1.93	0.68
38:BA:1057:A:H61	38:BA:1086:A:H2	1.41	0.68
38:BA:1925:C:O2'	38:BA:1926:U:H5'	1.92	0.68
38:BA:2158:A:C2'	38:BA:2159:G:C5'	2.72	0.68
40:BC:49:ILE:HG22	40:BC:50:ASP:N	2.06	0.68
41:BD:138:VAL:HA	41:BD:165:ILE:HG21	1.75	0.68
46:BI:52:ARG:HG3	46:BI:53:ALA:H	1.58	0.68
48:BN:78:TYR:HD1	48:BN:79:PRO:N	1.90	0.68
49:BO:91:LEU:HD22	49:BO:91:LEU:N	2.09	0.68
50:BP:85:LEU:HB2	50:BP:120:ALA:HB2	1.75	0.68
54:BT:91:ARG:CB	54:BT:116:ALA:HA	2.19	0.68
59:BY:8:LYS:HD2	59:BY:8:LYS:N	2.03	0.68
59:BY:28:LYS:HD2	59:BY:37:VAL:CG1	2.23	0.68
2:AB:102:LEU:CD1	2:AB:102:LEU:H	2.06	0.68
6:AH:109:ILE:HG12	6:AH:110:ALA:N	2.07	0.68
6:AH:122:ARG:HB2	6:AH:122:ARG:HH11	1.58	0.68
13:AT:13:LEU:H	13:AT:13:LEU:CD1	1.99	0.68
18:AM:19:LEU:HA	18:AM:22:ILE:HD12	1.75	0.68
22:AV:40:C:H2'	22:AV:41:C:C6	2.29	0.68
29:B1:62:VAL:C	29:B1:64:ALA:H	1.96	0.68
29:B1:92:LYS:C	29:B1:94:LEU:N	2.44	0.68
32:B4:11:PRO:C	32:B4:13:ARG:H	1.96	0.68
36:B8:32:LEU:HD11	36:B8:41:ILE:HG22	1.74	0.68
38:BA:408:G:H2'	38:BA:409:C:H6	1.57	0.68
38:BA:1074:G:C4	38:BA:1075:C:N4	2.61	0.68
43:BF:157:VAL:HG12	43:BF:176:LEU:O	1.94	0.68
47:BL:98:ARG:HD3	47:BL:139:VAL:HB	1.75	0.68
47:BL:113:PRO:O	47:BL:115:LEU:N	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:15:LEU:O	48:BN:136:GLU:HA	1.93	0.68
49:BO:2:ILE:HD11	49:BO:82:ASN:ND2	2.08	0.68
57:BW:82:LEU:N	57:BW:82:LEU:HD12	2.08	0.68
1:AA:295:C:H2'	1:AA:296:U:C6	2.28	0.68
2:AB:163:PHE:HA	2:AB:185:ILE:HG13	1.75	0.68
3:AD:43:HIS:O	3:AD:45:GLN:N	2.27	0.68
8:AL:41:ARG:CG	8:AL:42:THR:H	2.05	0.68
29:B1:41:ARG:HH12	38:BA:189:G:P	2.16	0.68
38:BA:814:C:O2'	38:BA:815:C:H5'	1.94	0.68
38:BA:1162:G:H1'	56:BV:91:TYR:OH	1.92	0.68
38:BA:1345:C:O2'	38:BA:1346:G:H5'	1.93	0.68
51:BQ:22:LYS:HA	51:BQ:22:LYS:NZ	2.09	0.68
59:BY:90:LEU:CG	59:BY:91:GLU:H	2.04	0.68
1:AA:556:C:O2'	1:AA:557:G:H5'	1.92	0.68
2:AB:18:GLY:N	2:AB:42:ILE:HG22	2.08	0.68
8:AL:24:VAL:O	8:AL:24:VAL:HG12	1.92	0.68
14:AC:70:VAL:O	14:AC:106:VAL:HG23	1.94	0.68
15:AG:116:ALA:O	15:AG:120:ILE:HG12	1.94	0.68
30:B2:41:ILE:CG1	38:BA:94(A):G:N2	2.57	0.68
38:BA:774:A:O2'	38:BA:775:G:OP2	2.12	0.68
38:BA:1504:C:O2'	38:BA:1505:C:H5'	1.92	0.68
38:BA:2036:C:H5'	38:BA:2036:C:C6	2.22	0.68
43:BF:132:VAL:HG22	43:BF:133:ASN:H	1.59	0.68
46:BI:1:MET:O	46:BI:20:ASP:HA	1.94	0.68
49:BO:13:ASN:ND2	49:BO:97:ARG:HB2	2.09	0.68
49:BO:47:ILE:CG1	49:BO:48:PRO:HD2	2.20	0.68
51:BQ:78:PRO:O	51:BQ:79:LEU:CB	2.42	0.68
57:BW:75:TYR:N	57:BW:75:TYR:CD1	2.60	0.68
59:BY:75:ILE:HD11	59:BY:79:CYS:CA	2.24	0.68
1:AA:19:C:H5''	4:AE:86:ALA:CB	2.23	0.68
7:AK:44:SER:O	7:AK:47:VAL:HB	1.92	0.68
8:AL:6:THR:OG1	8:AL:9:GLN:HG3	1.93	0.68
14:AC:73:PRO:HA	14:AC:76:VAL:HG13	1.74	0.68
22:AV:40:C:H2'	22:AV:41:C:H6	1.58	0.68
27:AZ:224:PRO:HG3	27:AZ:345:ARG:HD3	1.74	0.68
38:BA:1348:G:C2'	38:BA:1349:A:H5''	2.23	0.68
38:BA:2314:C:O2'	38:BA:2315:G:H5'	1.94	0.68
38:BA:2771:C:H2'	38:BA:2771:C:O2	1.94	0.68
41:BD:70:TRP:CH2	41:BD:150:LYS:HA	2.28	0.68
43:BF:8:GLN:CB	43:BF:126:VAL:HA	2.23	0.68
45:BH:46:GLU:CG	45:BH:51:ARG:HB2	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:57:ALA:CB	48:BN:124:ALA:HA	2.23	0.68
51:BQ:47:ILE:H	51:BQ:47:ILE:HD12	1.57	0.68
51:BQ:78:PRO:O	51:BQ:79:LEU:HB2	1.94	0.68
58:BX:14:SER:H	58:BX:17:ALA:HB3	1.57	0.68
1:AA:375:U:H4'	10:AP:17:TYR:CE2	2.28	0.68
1:AA:1255:G:H5'	1:AA:1256:A:OP1	1.93	0.68
17:AJ:48:THR:HA	17:AJ:62:HIS:CB	2.21	0.68
25:AY:76:A:C5	27:AZ:231:ILE:HD11	2.28	0.68
38:BA:539:G:H2'	38:BA:540:C:C6	2.29	0.68
38:BA:2312:U:H4'	44:BG:71:THR:CG2	2.24	0.68
49:BO:24:VAL:HG23	49:BO:33:ALA:HB2	1.76	0.68
49:BO:113:LYS:O	49:BO:117:LEU:HG	1.94	0.68
50:BP:65:ARG:HB2	50:BP:65:ARG:HH11	1.59	0.68
50:BP:74:GLU:C	50:BP:75:ILE:HD13	2.14	0.68
58:BX:57:LEU:HD13	58:BX:77:LYS:HG3	1.75	0.68
58:BX:76:ARG:HD3	58:BX:76:ARG:C	2.13	0.68
1:AA:72:C:H2'	1:AA:73:G:H8	1.57	0.68
1:AA:376:G:OP2	10:AP:67:THR:HG21	1.93	0.68
1:AA:389:A:H2'	1:AA:390:C:C5'	2.24	0.68
8:AL:58:VAL:O	8:AL:65:GLU:HA	1.93	0.68
11:AQ:56:VAL:O	11:AQ:77:VAL:HB	1.93	0.68
16:AI:46:ALA:HB2	16:AI:74:ILE:HG23	1.74	0.68
18:AM:96:LEU:O	18:AM:98:VAL:HG22	1.93	0.68
37:B9:11:CYS:SG	37:B9:13:LYS:HB2	2.34	0.68
38:BA:141:A:H8	38:BA:1408:C:O2'	1.75	0.68
38:BA:2631:G:N2	42:BE:61:ARG:NH1	2.42	0.68
38:BA:2725:A:O2'	38:BA:2726:U:H2'	1.94	0.68
41:BD:118:VAL:HG22	41:BD:119:ALA:N	2.07	0.68
42:BE:75:VAL:O	42:BE:77:ILE:N	2.26	0.68
5:AF:86:ARG:O	5:AF:87:ARG:HG2	1.94	0.68
24:AW:18:G:H1	24:AW:55:U:H1'	1.59	0.68
24:AW:27:G:H2'	24:AW:28:G:C8	2.29	0.68
36:B8:61:LEU:HB3	38:BA:593:G:H4'	1.74	0.68
37:B9:22:ARG:HD2	38:BA:2742:C:OP1	1.93	0.68
38:BA:1190:G:H5'	50:BP:35:HIS:HB3	1.76	0.68
38:BA:2182:G:H2'	38:BA:2183:C:H6	1.59	0.68
39:BB:78:A:O2'	51:BQ:21:THR:HG21	1.93	0.68
43:BF:63:LYS:CE	43:BF:67:GLN:HB2	2.24	0.68
43:BF:164:ARG:HD3	43:BF:175:THR:OG1	1.93	0.68
45:BH:84:SER:O	45:BH:85:LYS:HB2	1.94	0.68
47:BL:115:LEU:HD13	47:BL:116:ASN:O	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BP:126:VAL:HA	50:BP:145:PRO:CB	2.14	0.68
55:BU:95:LEU:C	55:BU:97:ASP:H	1.98	0.68
60:BZ:16:SER:HA	60:BZ:19:ARG:HD2	1.74	0.68
1:AA:1318:A:H1'	20:AS:37:ARG:NH2	2.08	0.68
1:AA:1426:C:O2'	1:AA:1427:U:H5'	1.94	0.68
3:AD:146:ILE:N	3:AD:146:ILE:HD12	2.08	0.68
9:AO:53:HIS:CE1	38:BA:715:G:O6	2.47	0.68
11:AQ:76:LEU:HG	11:AQ:77:VAL:N	2.07	0.68
14:AC:130:VAL:O	14:AC:134:ILE:HG12	1.93	0.68
25:AY:38:A:C4'	38:BA:1913:A:C6	2.77	0.68
34:B6:19:ARG:HE	34:B6:19:ARG:N	1.92	0.68
38:BA:581:C:O2'	38:BA:582:G:H5'	1.94	0.68
38:BA:925:C:C3'	38:BA:926:A:H5''	2.24	0.68
38:BA:2292:C:O2'	38:BA:2293:C:H5'	1.94	0.68
47:BL:41:PHE:CZ	47:BL:57:ILE:HD13	2.28	0.68
47:BL:134:MET:HB3	47:BL:136:VAL:HG23	1.76	0.68
50:BP:50:ARG:HH21	50:BP:50:ARG:HG2	1.59	0.68
52:BR:60:LEU:HD23	52:BR:60:LEU:C	2.15	0.68
56:BV:79:VAL:O	56:BV:80:GLN:HB3	1.93	0.68
1:AA:939:G:H2'	1:AA:940:C:H6	1.58	0.67
1:AA:1015:A:H2'	1:AA:1016:A:H8	1.58	0.67
8:AL:41:ARG:HH11	8:AL:41:ARG:CB	2.07	0.67
8:AL:46:LYS:CG	8:AL:47:LYS:H	1.98	0.67
19:AN:7:ILE:HG13	19:AN:8:GLU:N	2.08	0.67
30:B2:14:ARG:O	30:B2:18:PRO:HD3	1.95	0.67
38:BA:8:A:H2'	38:BA:9:U:C5	2.29	0.67
38:BA:78:A:H2'	38:BA:79:G:C8	2.29	0.67
38:BA:271(G):C:H2'	38:BA:271(H):G:C8	2.30	0.67
38:BA:676:A:H8	38:BA:2069:G:N2	1.89	0.67
38:BA:1092:C:H3'	38:BA:1092:C:H6	1.57	0.67
38:BA:1106:G:C6	38:BA:1107:G:C6	2.82	0.67
38:BA:1493:C:H2'	38:BA:1493:C:O2	1.94	0.67
38:BA:1658:C:OP1	42:BE:132:HIS:ND1	2.27	0.67
38:BA:1773:A:C2'	38:BA:1774:C:H5'	2.24	0.67
39:BB:103:G:H1'	60:BZ:73:GLN:HE22	1.59	0.67
44:BG:173:LEU:HB3	44:BG:178:PHE:CG	2.29	0.67
47:BL:17:ALA:CB	47:BL:38:VAL:HG13	2.23	0.67
47:BL:72:PRO:HG2	47:BL:77:LEU:HD11	1.74	0.67
53:BS:90:GLY:O	53:BS:92:TYR:HD1	1.75	0.67
1:AA:67:C:O2'	1:AA:171:A:H1'	1.95	0.67
1:AA:386:C:H2'	1:AA:387:U:H5'	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1277:C:H2'	1:AA:1278:U:H5'	1.76	0.67
1:AA:1442(B):A:C2	54:BT:118:ARG:CZ	2.77	0.67
6:AH:112:LEU:HD11	6:AH:114:THR:HG22	1.75	0.67
37:B9:5:ALA:CB	38:BA:2466:C:C5'	2.60	0.67
38:BA:784:A:N7	41:BD:229:VAL:HG21	2.08	0.67
38:BA:1066:U:O2'	38:BA:1068:G:H3'	1.94	0.67
46:BI:79:ILE:HB	46:BI:142:VAL:CG1	2.24	0.67
48:BN:133:GLN:O	48:BN:135:PRO:HD3	1.94	0.67
53:BS:90:GLY:O	53:BS:92:TYR:CD1	2.47	0.67
56:BV:35:LEU:CD2	56:BV:61:VAL:HA	2.24	0.67
56:BV:69:LYS:HB3	56:BV:93:GLU:HB3	1.76	0.67
16:AI:48:GLU:N	16:AI:49:PRO:HD2	2.10	0.67
19:AN:36:PHE:O	19:AN:38:GLY:N	2.27	0.67
37:B9:14:CYS:CA	37:B9:27:CYS:HB3	2.25	0.67
38:BA:1078:U:O2	38:BA:1088:A:O2'	2.09	0.67
38:BA:1448:G:H5'	38:BA:1449:A:OP1	1.94	0.67
39:BB:15:A:H3'	39:BB:16:G:C5'	2.24	0.67
43:BF:178:PRO:HG2	43:BF:179:GLU:OE1	1.94	0.67
48:BN:13:TRP:O	48:BN:14:VAL:HG23	1.93	0.67
1:AA:55:A:C2	27:AZ:233:GLY:O	2.46	0.67
1:AA:266:G:H5''	1:AA:268:C:H41	1.57	0.67
5:AF:100:ASN:O	12:AR:28:GLU:HG2	1.95	0.67
6:AH:11:THR:HA	6:AH:14:ARG:HH12	1.59	0.67
13:AT:13:LEU:HD12	13:AT:13:LEU:N	2.04	0.67
14:AC:54:ARG:NH1	14:AC:56:ASP:HB2	2.10	0.67
18:AM:76:ALA:HA	18:AM:79:LYS:HD2	1.76	0.67
37:B9:9:ARG:HH22	37:B9:15:LYS:HG2	1.59	0.67
38:BA:945:A:H5''	38:BA:946:G:OP2	1.95	0.67
38:BA:1748:G:H5'	38:BA:1748:G:H8	1.59	0.67
38:BA:1821:A:C2'	38:BA:1822:G:H5''	2.24	0.67
38:BA:1997:G:O2'	38:BA:1998:G:H5'	1.95	0.67
38:BA:2312:U:C2'	38:BA:2313:C:H5''	2.24	0.67
41:BD:176:ARG:HG2	41:BD:176:ARG:NH1	2.08	0.67
42:BE:111:ARG:CG	52:BR:2:ARG:HG3	2.25	0.67
42:BE:203:LYS:HD2	42:BE:203:LYS:O	1.93	0.67
48:BN:58:ASP:O	48:BN:60:ILE:HG13	1.94	0.67
48:BN:134:ARG:HG3	48:BN:134:ARG:O	1.93	0.67
55:BU:88:ILE:C	55:BU:90:VAL:N	2.47	0.67
58:BX:64:LYS:CG	58:BX:65:ARG:H	2.07	0.67
1:AA:180:U:C2'	1:AA:181:G:H5''	2.24	0.67
7:AK:57:THR:CG2	15:AG:150:ALA:CA	2.67	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:271(P):C:H2'	38:BA:271(Q):G:H8	1.59	0.67
38:BA:2130:U:C5	38:BA:2131:G:C2	2.82	0.67
38:BA:2491:U:H4'	38:BA:2570:G:OP1	1.95	0.67
45:BH:41:MET:HA	45:BH:41:MET:HE3	1.76	0.67
45:BH:152:ARG:CB	45:BH:161:GLY:HA2	2.23	0.67
46:BI:88:ILE:CD1	46:BI:123:LEU:HG	2.24	0.67
48:BN:15:LEU:HB2	48:BN:134:ARG:HB2	1.75	0.67
48:BN:131:GLN:NE2	48:BN:134:ARG:HA	2.09	0.67
54:BT:92:GLY:HA2	54:BT:114:LEU:CA	2.25	0.67
57:BW:88:ARG:HB3	57:BW:92:ARG:HB3	1.76	0.67
1:AA:737:A:H2'	1:AA:738:C:H6	1.60	0.67
3:AD:13:ARG:O	3:AD:15:GLU:N	2.28	0.67
12:AR:79:LEU:HD23	12:AR:80:PRO:HD2	1.75	0.67
24:AW:40:C:H6	24:AW:40:C:H5'	1.58	0.67
29:B1:11:ARG:HB3	29:B1:12:PRO:HD2	1.75	0.67
35:B7:30:VAL:O	35:B7:31:LEU:C	2.33	0.67
38:BA:919:G:C5'	39:BB:81:G:H1'	2.24	0.67
38:BA:1079:C:C2'	38:BA:1080:C:H5'	2.24	0.67
38:BA:2208:A:H1'	38:BA:2219:G:N3	2.09	0.67
38:BA:2653:U:H5''	38:BA:2654:A:H2'	1.75	0.67
45:BH:153:LYS:H	45:BH:153:LYS:HD3	1.58	0.67
46:BI:83:ALA:HA	46:BI:89:TYR:CE1	2.30	0.67
51:BQ:20:ALA:CB	51:BQ:99:PRO:HG2	2.25	0.67
51:BQ:75:THR:HG21	51:BQ:85:LYS:CE	2.23	0.67
10:AP:75:ARG:O	10:AP:78:GLY:N	2.27	0.67
18:AM:125:ARG:O	25:AY:37:YG:C10	2.43	0.67
22:AV:50:U:H2'	22:AV:51:C:C6	2.29	0.67
29:B1:13:ILE:HG12	29:B1:14:VAL:N	2.10	0.67
32:B4:6:HIS:N	44:BG:67:LYS:HE2	2.09	0.67
36:B8:32:LEU:HD23	36:B8:35:GLN:O	1.94	0.67
36:B8:43:GLN:O	36:B8:44:LYS:HD2	1.95	0.67
38:BA:128:C:H2'	38:BA:129:C:H6	1.58	0.67
38:BA:2147:G:OP2	38:BA:2148:G:N7	2.27	0.67
39:BB:65:C:H41	39:BB:109:C:H2'	1.59	0.67
41:BD:45:ASN:CG	41:BD:46:GLN:H	1.98	0.67
47:BL:9:LYS:HG2	47:BL:56:GLU:HG3	1.76	0.67
47:BL:10:LEU:HD11	47:BL:41:PHE:HZ	1.59	0.67
47:BL:78:ILE:HG22	47:BL:79:ARG:N	2.08	0.67
48:BN:70:LYS:HG3	48:BN:72:TYR:HE1	1.60	0.67
50:BP:89:ALA:HB1	50:BP:121:LYS:HZ1	1.58	0.67
51:BQ:89:ASN:O	51:BQ:91:GLU:N	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AJ:39:PRO:HA	17:AJ:70:ARG:HH12	1.59	0.67
30:B2:32:LEU:CG	30:B2:33:MET:H	1.99	0.67
38:BA:78:A:H2'	38:BA:79:G:H8	1.59	0.67
38:BA:195:A:OP1	50:BP:46:LYS:HE2	1.95	0.67
38:BA:296:C:O2'	38:BA:297:C:H5'	1.93	0.67
47:BL:23:VAL:CG1	47:BL:34:ILE:HA	2.25	0.67
1:AA:1152:A:H5''	17:AJ:13:HIS:CD2	2.28	0.67
5:AF:33:TYR:CE1	5:AF:75:LEU:HA	2.29	0.67
6:AH:87:SER:HA	6:AH:93:VAL:HG23	1.75	0.67
8:AL:102:ARG:HG2	8:AL:102:ARG:HH11	1.60	0.67
25:AY:25:C:H42	25:AY:26:M2G:HM23	1.56	0.67
30:B2:47:ASN:C	30:B2:49:LYS:N	2.46	0.67
38:BA:92:A:H2'	38:BA:93:G:C8	2.20	0.67
38:BA:2286:A:H5''	38:BA:2287:A:O4'	1.94	0.67
38:BA:2864:G:H5'	38:BA:2864:G:C8	2.28	0.67
53:BS:74:ALA:HB1	53:BS:103:GLU:CG	2.21	0.67
56:BV:78:LYS:C	56:BV:78:LYS:HD3	2.16	0.67
59:BY:20:TYR:CE1	59:BY:42:VAL:HG22	2.29	0.67
1:AA:1356:G:H2'	1:AA:1357:A:C8	2.30	0.67
9:AO:11:VAL:HG21	9:AO:34:LEU:HD22	1.77	0.67
28:B0:38:VAL:HB	28:B0:59:LEU:HD12	1.76	0.67
29:B1:26:ARG:HG2	29:B1:34:THR:OG1	1.95	0.67
29:B1:71:TYR:O	29:B1:74:VAL:N	2.27	0.67
31:B3:6:VAL:HG13	31:B3:54:VAL:CG1	2.13	0.67
38:BA:2159:G:H3'	38:BA:2160:G:C5'	2.22	0.67
40:BC:191:ALA:O	40:BC:195:ALA:HB3	1.95	0.67
42:BE:111:ARG:HG2	52:BR:2:ARG:HG3	1.77	0.67
42:BE:168:MET:O	42:BE:170:LEU:HD12	1.94	0.67
47:BL:131:ALA:HB1	47:BL:136:VAL:HB	1.75	0.67
55:BU:56:ASP:O	55:BU:60:LEU:HG	1.95	0.67
59:BY:37:VAL:CG2	59:BY:38:ILE:H	2.05	0.67
3:AD:100:ARG:NH1	3:AD:137:SER:HA	2.10	0.66
14:AC:64:VAL:CG2	14:AC:99:VAL:HG12	2.25	0.66
30:B2:24:LEU:O	30:B2:27:GLU:HB3	1.95	0.66
30:B2:26:ARG:HA	30:B2:29:LYS:HE2	1.77	0.66
38:BA:626:U:C2	50:BP:105:LEU:HG	2.30	0.66
38:BA:1786:A:H2	38:BA:2606:C:H1'	1.60	0.66
38:BA:2444:G:OP2	43:BF:68:LYS:HE2	1.95	0.66
38:BA:2569:G:O2'	38:BA:2570:G:H5'	1.94	0.66
41:BD:158:ALA:HB3	41:BD:161:THR:HG21	1.78	0.66
43:BF:3:GLU:CG	43:BF:19:GLU:HB2	2.19	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:90:LYS:HB2	45:BH:159:GLU:O	1.95	0.66
50:BP:92:GLU:HG3	50:BP:123:LEU:HD22	1.77	0.66
51:BQ:66:ILE:HG22	51:BQ:104:PHE:CD2	2.29	0.66
53:BS:77:ALA:O	53:BS:80:LEU:HD12	1.95	0.66
54:BT:29:ARG:CB	54:BT:85:LYS:HA	2.23	0.66
60:BZ:18:LEU:O	60:BZ:20:ARG:N	2.28	0.66
7:AK:21:ILE:N	7:AK:21:ILE:HD12	2.11	0.66
12:AR:53:ARG:HG3	12:AR:63:GLN:NE2	2.09	0.66
14:AC:32:LEU:HD22	14:AC:59:ARG:NH1	2.10	0.66
15:AG:76:ARG:HG2	15:AG:76:ARG:HH11	1.60	0.66
15:AG:140:ASP:HA	15:AG:143:ARG:HH11	1.59	0.66
19:AN:41:ARG:HG3	19:AN:42:ILE:N	2.09	0.66
20:AS:50:ALA:HA	20:AS:58:VAL:O	1.96	0.66
38:BA:1170:G:H1	38:BA:1179:C:H42	1.43	0.66
38:BA:1665:A:H2'	38:BA:1666:G:H5'	1.77	0.66
38:BA:1986:A:C2'	38:BA:1987:G:H5''	2.24	0.66
38:BA:2334:G:H21	53:BS:18:ILE:HD11	1.60	0.66
42:BE:5:LEU:HB2	42:BE:51:PHE:HD2	1.59	0.66
45:BH:104:GLU:HA	45:BH:113:VAL:O	1.95	0.66
47:BL:90:LYS:HB2	47:BL:94:GLU:OE2	1.95	0.66
50:BP:17:LYS:O	50:BP:19:VAL:N	2.23	0.66
50:BP:105:LEU:N	50:BP:105:LEU:HD12	2.09	0.66
55:BU:69:CYS:SG	55:BU:79:PHE:HD1	2.18	0.66
58:BX:57:LEU:CD1	58:BX:77:LYS:HD2	2.25	0.66
60:BZ:52:SER:OG	60:BZ:53:ILE:N	2.28	0.66
1:AA:1104:G:O2'	1:AA:1105:A:H5'	1.95	0.66
1:AA:1502:A:H5'	1:AA:1504:G:N7	2.09	0.66
4:AE:126:ARG:HG3	4:AE:126:ARG:NH1	2.10	0.66
29:B1:37:ILE:HG21	38:BA:2080:G:O5'	1.95	0.66
38:BA:633:A:H2'	38:BA:634:C:H5'	1.77	0.66
38:BA:1092:C:C6	38:BA:1092:C:C3'	2.78	0.66
41:BD:25:THR:O	41:BD:25:THR:HG23	1.95	0.66
42:BE:108:SER:O	42:BE:162:ALA:HA	1.95	0.66
45:BH:127:GLU:HB3	45:BH:128:PRO:CD	2.24	0.66
46:BI:127:VAL:HG13	46:BI:139:GLN:HB2	1.76	0.66
47:BL:92:GLY:C	60:BZ:112:ARG:HH12	1.98	0.66
55:BU:102:GLU:HB2	55:BU:105:VAL:HG23	1.77	0.66
56:BV:19:LYS:HZ3	56:BV:20:LEU:N	1.94	0.66
58:BX:40:LYS:HG3	58:BX:41:ASN:H	1.60	0.66
1:AA:784:C:H4'	38:BA:1837:C:OP1	1.95	0.66
2:AB:135:GLN:O	2:AB:139:LYS:HB2	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AF:23:LYS:O	5:AF:27:GLN:HG2	1.94	0.66
16:AI:63:ILE:HG22	16:AI:64:THR:N	2.11	0.66
18:AM:9:ILE:N	18:AM:9:ILE:HD12	2.11	0.66
35:B7:37:LYS:HE2	38:BA:469:G:O6	1.96	0.66
38:BA:993:G:OP1	55:BU:50:ARG:NH2	2.28	0.66
38:BA:1076:C:H4'	47:BL:93:ARG:NH2	2.09	0.66
38:BA:1153:C:H2'	38:BA:1154:G:O4'	1.95	0.66
38:BA:2543:G:H2'	38:BA:2544:G:O4'	1.96	0.66
38:BA:2681:C:H5	38:BA:2725:A:N6	1.91	0.66
41:BD:25:THR:HG22	41:BD:82:ILE:O	1.96	0.66
41:BD:186:HIS:CD2	41:BD:188:GLU:H	2.06	0.66
44:BG:20:ILE:O	44:BG:24:GLY:HA2	1.96	0.66
47:BL:35:MET:CA	47:BL:38:VAL:HB	2.24	0.66
47:BL:77:LEU:HA	47:BL:80:LYS:HB2	1.77	0.66
53:BS:28:VAL:CG1	53:BS:29:PHE:H	1.95	0.66
55:BU:95:LEU:HD11	56:BV:11:GLN:O	1.95	0.66
57:BW:35:ILE:HG22	57:BW:36:LEU:N	2.09	0.66
57:BW:75:TYR:CE1	57:BW:104:THR:HB	2.31	0.66
1:AA:1054:C:N4	25:AY:34:OMG:N2	2.43	0.66
1:AA:1229:A:O3'	22:AV:30:G:H5''	1.96	0.66
1:AA:1458:G:H2'	1:AA:1459:C:C6	2.31	0.66
24:AW:27:G:H1	24:AW:43:C:N4	1.93	0.66
25:AY:64:A:H2'	27:AZ:391:GLY:CA	2.23	0.66
29:B1:87:PRO:O	29:B1:91:LYS:N	2.28	0.66
38:BA:1077:A:H2'	38:BA:1078:U:O4'	1.95	0.66
38:BA:2029:G:H2'	38:BA:2031:A:OP2	1.94	0.66
42:BE:117:MET:HA	42:BE:122:PHE:N	2.06	0.66
44:BG:171:ALA:O	44:BG:175:LEU:HD12	1.95	0.66
45:BH:137:ASP:O	45:BH:138:LYS:HG3	1.96	0.66
45:BH:153:LYS:HB2	45:BH:154:PRO:CD	2.26	0.66
48:BN:95:PRO:O	48:BN:97:ARG:N	2.28	0.66
51:BQ:75:THR:CA	51:BQ:88:GLY:HA2	2.26	0.66
54:BT:91:ARG:HB3	54:BT:116:ALA:CA	2.21	0.66
1:AA:373:A:O2'	1:AA:374:A:H5'	1.95	0.66
1:AA:963:G:N3	17:AJ:55:LYS:NZ	2.41	0.66
1:AA:1250:A:H4'	16:AI:68:GLY:H	1.59	0.66
5:AF:28:ARG:HH11	5:AF:28:ARG:HG3	1.61	0.66
12:AR:43:PHE:C	12:AR:44:LEU:HD12	2.15	0.66
18:AM:81:LEU:HB3	18:AM:89:GLY:HA2	1.77	0.66
33:B5:40:LYS:HD3	33:B5:46:CYS:HB3	1.78	0.66
38:BA:235:U:H2'	38:BA:236:C:H6	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:483:A:O4'	59:BY:47:LYS:HD3	1.95	0.66
38:BA:1678:G:N2	38:BA:1989:G:H22	1.93	0.66
38:BA:2580:U:H5'	42:BE:131:ALA:H	1.61	0.66
38:BA:2720:U:O2	38:BA:2720:U:H2'	1.96	0.66
38:BA:2796:U:O2'	38:BA:2799:C:H5'	1.95	0.66
41:BD:245:PRO:O	41:BD:246:PRO:C	2.33	0.66
43:BF:10:PRO:HG2	43:BF:11:VAL:H	1.61	0.66
48:BN:41:ASP:N	55:BU:64:ARG:NH2	2.43	0.66
54:BT:81:PRO:C	54:BT:82:LEU:HD12	2.15	0.66
1:AA:319:G:O2'	1:AA:320:C:H5'	1.95	0.66
1:AA:926:G:C5	1:AA:1505:G:C2	2.84	0.66
28:B0:80:HIS:N	28:B0:80:HIS:CD2	2.63	0.66
30:B2:33:MET:HG3	58:BX:10:ALA:HB1	1.76	0.66
38:BA:994:C:O2	56:BV:10:LYS:HE2	1.95	0.66
38:BA:2852:G:H2'	38:BA:2853:C:C6	2.31	0.66
43:BF:155:LEU:HD23	43:BF:186:ILE:HD13	1.76	0.66
55:BU:74:LEU:HD21	55:BU:110:VAL:HG13	1.78	0.66
1:AA:337:C:H2'	1:AA:338:A:C8	2.31	0.66
1:AA:659:U:O2'	1:AA:660:G:H5'	1.95	0.66
4:AE:131:ILE:O	4:AE:134:ALA:HB3	1.95	0.66
6:AH:11:THR:HG22	6:AH:15:ASN:ND2	2.11	0.66
10:AP:4:ILE:HB	10:AP:66:PRO:HB3	1.78	0.66
14:AC:7:PRO:O	14:AC:11:ARG:HG2	1.96	0.66
17:AJ:96:ILE:HD13	17:AJ:96:ILE:N	2.11	0.66
18:AM:23:TYR:CE1	18:AM:70:LEU:HD22	2.29	0.66
29:B1:49:VAL:HB	29:B1:64:ALA:HB2	1.76	0.66
29:B1:85:LEU:CB	29:B1:87:PRO:HD3	2.26	0.66
30:B2:14:ARG:NE	30:B2:57:ILE:HB	2.11	0.66
37:B9:24:TYR:HB2	37:B9:34:GLN:O	1.95	0.66
38:BA:271(E):U:H2'	38:BA:271(F):C:C6	2.31	0.66
38:BA:686:G:N2	38:BA:788:A:H61	1.94	0.66
38:BA:2131:G:H5'	38:BA:2132:U:C2	2.31	0.66
38:BA:2140:C:H2'	38:BA:2141:G:H8	1.61	0.66
38:BA:2415:G:H2'	38:BA:2416:C:C6	2.31	0.66
40:BC:82:LYS:NZ	40:BC:151:GLU:HA	2.10	0.66
43:BF:157:VAL:HG23	43:BF:194:MET:CB	2.26	0.66
43:BF:192:LEU:HD23	43:BF:193:VAL:N	2.11	0.66
45:BH:89:ILE:HD13	45:BH:89:ILE:N	2.11	0.66
51:BQ:10:ARG:HB2	51:BQ:10:ARG:NH1	2.11	0.66
52:BR:8:ARG:NE	52:BR:8:ARG:HA	2.11	0.66
58:BX:23:GLU:HG3	58:BX:24:GLY:N	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:55:ASN:ND2	58:BX:78:LYS:HE2	2.10	0.66
1:AA:340:U:O2'	1:AA:341:C:H5'	1.96	0.66
1:AA:1305:G:H5'	21:AU:4:GLY:HA3	1.77	0.66
2:AB:22:LYS:HZ3	2:AB:22:LYS:CA	1.95	0.66
3:AD:110:PHE:HD1	3:AD:110:PHE:H	1.44	0.66
5:AF:8:ILE:HD12	5:AF:26:ILE:HD13	1.77	0.66
11:AQ:10:VAL:HG23	11:AQ:55:ASP:O	1.96	0.66
13:AT:89:ARG:HB2	13:AT:104:LEU:HD11	1.78	0.66
22:AV:66:C:H2'	22:AV:67:C:C6	2.30	0.66
37:B9:11:CYS:O	37:B9:14:CYS:HB2	1.96	0.66
38:BA:2312:U:H2'	38:BA:2313:C:C5'	2.25	0.66
38:BA:2455:G:H2'	38:BA:2456:C:C6	2.30	0.66
38:BA:2636:U:C2'	38:BA:2637:U:H5''	2.25	0.66
38:BA:2840:C:H4'	52:BR:53:HIS:CD2	2.31	0.66
46:BI:48:GLU:O	46:BI:51:ILE:HB	1.95	0.66
50:BP:16:ARG:HG2	50:BP:17:LYS:N	2.10	0.66
50:BP:47:ASP:HB3	50:BP:48:PRO:C	2.16	0.66
52:BR:10:LEU:HB3	52:BR:17:ARG:CD	2.26	0.66
58:BX:57:LEU:HD11	58:BX:77:LYS:HD2	1.78	0.66
59:BY:28:LYS:CE	59:BY:30:VAL:HG22	2.25	0.66
59:BY:71:LYS:NZ	59:BY:71:LYS:HB2	2.11	0.66
60:BZ:28:MET:SD	60:BZ:33:LEU:HD21	2.36	0.66
1:AA:15:G:H4'	4:AE:24:ARG:NH2	2.10	0.66
1:AA:1460:A:H2'	1:AA:1461:G:O4'	1.95	0.66
8:AL:27:LEU:O	8:AL:29:GLY:N	2.29	0.66
13:AT:57:ARG:HH11	13:AT:57:ARG:CB	2.06	0.66
16:AI:116:LYS:O	16:AI:118:LYS:N	2.29	0.66
36:B8:32:LEU:O	36:B8:33:ASN:HB3	1.95	0.66
37:B9:16:VAL:CG1	37:B9:18:ARG:HE	2.09	0.66
38:BA:271(D):G:H1	38:BA:271(T):C:N4	1.91	0.66
38:BA:941:A:H4'	50:BP:35:HIS:CE1	2.31	0.66
38:BA:1131:G:OP1	48:BN:80:GLY:HA2	1.96	0.66
38:BA:1821:A:H2'	38:BA:1822:G:H5''	1.77	0.66
38:BA:2135:A:C6	38:BA:2156:G:O2'	2.49	0.66
38:BA:2732:G:O2'	38:BA:2733:A:H5'	1.95	0.66
49:BO:99:PHE:O	49:BO:100:GLY:O	2.13	0.66
50:BP:101:VAL:C	50:BP:103:ALA:H	1.99	0.66
51:BQ:26:TYR:O	51:BQ:26:TYR:HD1	1.78	0.66
58:BX:12:VAL:CG1	58:BX:27:THR:HG23	2.24	0.66
1:AA:1250:A:H2	1:AA:1370:G:H1'	1.61	0.65
2:AB:21:ARG:CB	2:AB:39:ILE:HA	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AJ:8:LEU:HD22	17:AJ:20:ALA:HB2	1.79	0.65
17:AJ:40:LEU:HD21	17:AJ:69:ASN:HB3	1.78	0.65
24:AW:38:A:C2'	24:AW:39:U:H5''	2.26	0.65
36:B8:6:THR:HG22	36:B8:63:PRO:HD3	1.78	0.65
38:BA:15:G:O2'	38:BA:16:G:H5'	1.96	0.65
38:BA:1635:G:H5'	38:BA:1635:G:C8	2.31	0.65
41:BD:223:GLY:O	41:BD:226:MET:HG3	1.96	0.65
48:BN:15:LEU:HG	48:BN:134:ARG:HD2	1.77	0.65
53:BS:14:VAL:HG12	53:BS:15:ARG:N	2.09	0.65
56:BV:80:GLN:C	56:BV:80:GLN:OE1	2.34	0.65
58:BX:40:LYS:C	58:BX:42:ALA:H	1.98	0.65
1:AA:55:A:N1	27:AZ:233:GLY:O	2.29	0.65
1:AA:367:U:H4'	27:AZ:291:ARG:HH11	1.57	0.65
1:AA:1321:C:H5''	1:AA:1322:C:H5''	1.77	0.65
5:AF:46:ARG:HH12	12:AR:37:VAL:HG21	1.60	0.65
11:AQ:67:LYS:CA	11:AQ:70:ARG:HH12	2.07	0.65
18:AM:3:ARG:NH2	44:BG:146:TYR:HE1	1.91	0.65
34:B6:20:ASN:ND2	34:B6:21:TYR:N	2.42	0.65
38:BA:143(A):C:O2	38:BA:143(A):C:H2'	1.94	0.65
38:BA:784:A:C5	41:BD:229:VAL:HG21	2.30	0.65
38:BA:1059:G:O2'	47:BL:74:ALA:HB2	1.96	0.65
38:BA:2036:C:H6	38:BA:2036:C:C5'	2.07	0.65
38:BA:2133:G:H1'	38:BA:2158:A:H61	1.61	0.65
41:BD:58:HIS:CD2	41:BD:59:LYS:N	2.64	0.65
44:BG:45:GLU:HB2	44:BG:47:LYS:HG3	1.77	0.65
45:BH:46:GLU:HG2	45:BH:51:ARG:HB2	1.77	0.65
48:BN:78:TYR:CD1	48:BN:79:PRO:N	2.65	0.65
51:BQ:85:LYS:HG3	51:BQ:86:GLY:H	1.61	0.65
53:BS:89:ARG:CB	53:BS:97:ARG:HH12	2.09	0.65
54:BT:53:ARG:HG2	54:BT:53:ARG:HH11	1.61	0.65
10:AP:27:LYS:HD2	10:AP:27:LYS:H	1.62	0.65
22:AV:12:G:O2'	38:BA:1923:U:O2	2.14	0.65
38:BA:322:A:H3'	43:BF:169:ASN:HD21	1.61	0.65
38:BA:1280:G:C3'	38:BA:1281:G:H5''	2.26	0.65
38:BA:1384:A:N3	38:BA:1405:U:H1'	2.11	0.65
38:BA:1419:A:O2'	38:BA:1420:U:H5''	1.97	0.65
38:BA:1639:U:H2'	38:BA:1640:C:H5''	1.77	0.65
44:BG:18:GLU:O	44:BG:22:ARG:HB2	1.96	0.65
47:BL:79:ARG:CD	47:BL:134:MET:HG3	2.19	0.65
47:BL:111:LYS:O	47:BL:113:PRO:HD2	1.96	0.65
1:AA:192:U:H2'	1:AA:193:C:H6	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:627:G:H2'	1:AA:628:G:H8	1.61	0.65
1:AA:736:C:H2'	1:AA:737:A:C8	2.31	0.65
1:AA:926:G:N1	1:AA:1505:G:C5	2.64	0.65
17:AJ:38:ILE:HG12	17:AJ:71:LEU:O	1.95	0.65
20:AS:63:THR:HG22	20:AS:66:MET:CE	2.27	0.65
34:B6:15:GLU:CD	34:B6:18:ARG:HG3	2.17	0.65
36:B8:54:GLU:O	36:B8:58:ILE:HG12	1.95	0.65
37:B9:17:ILE:H	37:B9:25:VAL:HA	1.61	0.65
38:BA:2161:C:O3'	38:BA:2162:G:P	2.54	0.65
38:BA:2454:G:O2'	38:BA:2455:G:H5'	1.97	0.65
38:BA:2580:U:C5'	42:BE:131:ALA:H	2.09	0.65
38:BA:2703:C:H2'	38:BA:2704:C:H6	1.61	0.65
38:BA:2884:U:C2'	38:BA:2885:C:H5'	2.27	0.65
40:BC:47:LEU:HD21	40:BC:172:HIS:CB	2.26	0.65
43:BF:123:LEU:HD12	43:BF:124:LEU:H	1.60	0.65
47:BL:10:LEU:N	47:BL:10:LEU:HD23	2.11	0.65
47:BL:79:ARG:NH1	47:BL:87:GLY:CA	2.60	0.65
47:BL:103:GLN:HA	47:BL:106:GLU:CD	2.17	0.65
55:BU:29:SER:OG	55:BU:30:LYS:HE3	1.96	0.65
56:BV:12:TYR:CD2	56:BV:12:TYR:N	2.64	0.65
1:AA:501:C:H2'	1:AA:502:G:H8	1.62	0.65
1:AA:779:C:O2'	1:AA:780:A:H5'	1.96	0.65
1:AA:782:A:C2'	1:AA:783:C:H5'	2.27	0.65
1:AA:939:G:H2'	1:AA:940:C:C6	2.31	0.65
1:AA:939:G:H5''	15:AG:102:ARG:NH2	2.10	0.65
1:AA:1105:A:H2'	1:AA:1106:G:H8	1.61	0.65
1:AA:1241:G:H2'	1:AA:1242:C:C6	2.31	0.65
1:AA:1293:G:O2'	1:AA:1294:G:H8	1.74	0.65
6:AH:35:ILE:O	6:AH:39:LEU:HB2	1.96	0.65
12:AR:64:ARG:O	12:AR:66:LEU:N	2.30	0.65
14:AC:27:LYS:HA	14:AC:27:LYS:NZ	2.10	0.65
25:AY:25:C:H2'	25:AY:26:M2G:H1'	0.68	0.65
31:B3:17:LYS:HG2	38:BA:969:U:OP1	1.95	0.65
33:B5:20:ARG:HB3	33:B5:23:HIS:HD2	1.61	0.65
38:BA:404:C:H4'	38:BA:405:U:H5'	1.79	0.65
38:BA:743:G:O2'	38:BA:744:G:H5'	1.95	0.65
38:BA:1068:G:C6	38:BA:1073:A:N1	2.65	0.65
38:BA:1925:C:C2'	38:BA:1926:U:H5'	2.26	0.65
38:BA:2133:G:H1'	38:BA:2158:A:N6	2.11	0.65
38:BA:2181:G:H2'	38:BA:2182:G:H8	1.61	0.65
44:BG:7:LEU:HB2	44:BG:104:GLU:OE2	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:66:THR:O	47:BL:67:PHE:CB	2.45	0.65
48:BN:16:ILE:O	48:BN:54:VAL:HA	1.97	0.65
52:BR:45:ARG:HG3	52:BR:46:GLY:N	2.11	0.65
54:BT:92:GLY:C	54:BT:94:ALA:H	2.00	0.65
56:BV:47:VAL:HG13	56:BV:48:GLY:N	2.12	0.65
59:BY:97:ARG:HH21	59:BY:98:VAL:CG2	2.10	0.65
60:BZ:69:THR:HG22	60:BZ:90:VAL:CA	2.24	0.65
1:AA:341:C:O2'	1:AA:342:C:H5'	1.96	0.65
1:AA:430:A:C2'	1:AA:431:A:H5'	2.26	0.65
1:AA:1060:C:H2'	1:AA:1061:G:H8	1.62	0.65
3:AD:96:LEU:HD12	3:AD:139:ARG:NH1	2.11	0.65
4:AE:110:LEU:HD21	4:AE:139:LEU:HD21	1.78	0.65
11:AQ:27:PHE:CZ	11:AQ:36:ILE:HD11	2.32	0.65
11:AQ:58:GLU:O	11:AQ:59:ILE:HD13	1.96	0.65
16:AI:21:PRO:HA	16:AI:58:ARG:O	1.97	0.65
16:AI:113:LYS:N	16:AI:113:LYS:HD2	2.12	0.65
22:AV:56:C:O2'	44:BG:78:SER:CA	2.45	0.65
25:AY:76:A:H2'	27:AZ:274:ARG:CG	2.24	0.65
30:B2:52:ASP:OD1	30:B2:53:LEU:N	2.29	0.65
37:B9:2:LYS:HD3	38:BA:2527:C:H1'	1.77	0.65
38:BA:621:A:H2'	38:BA:622:G:C5'	2.26	0.65
38:BA:1528(A):A:C3'	38:BA:1529:G:H5''	2.25	0.65
38:BA:1784:A:H4'	38:BA:1785:A:O5'	1.96	0.65
38:BA:2735:G:C2'	38:BA:2736:G:H5''	2.27	0.65
43:BF:198:ALA:O	43:BF:201:VAL:HG12	1.97	0.65
45:BH:41:MET:SD	45:BH:54:ARG:HA	2.37	0.65
45:BH:85:LYS:O	45:BH:132:ARG:HA	1.96	0.65
46:BI:58:LEU:HA	46:BI:61:ARG:HH11	1.61	0.65
46:BI:71:ILE:CG1	46:BI:72:LEU:HD22	2.25	0.65
46:BI:131:LYS:CG	46:BI:132:PRO:HA	2.26	0.65
48:BN:42:TRP:HB2	55:BU:64:ARG:NE	2.11	0.65
1:AA:867:G:O2'	1:AA:868:C:H5'	1.97	0.65
1:AA:1442(A):G:C3'	1:AA:1442(B):A:H5''	2.25	0.65
7:AK:17:GLY:HA3	7:AK:77:MET:SD	2.37	0.65
7:AK:57:THR:HG22	7:AK:59:TYR:H	1.62	0.65
10:AP:82:GLN:N	10:AP:82:GLN:HE21	1.93	0.65
14:AC:18:TRP:HE3	14:AC:18:TRP:H	1.45	0.65
15:AG:47:CYS:HA	15:AG:50:ILE:CG1	2.26	0.65
24:AW:16:U:C4	24:AW:18:G:H3'	2.32	0.65
38:BA:142:A:H8	38:BA:1408:C:H1'	1.60	0.65
38:BA:285:C:C3'	38:BA:286:C:H5''	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:322:A:OP2	43:BF:169:ASN:HB2	1.97	0.65
38:BA:2784:C:H2'	38:BA:2785:C:C6	2.32	0.65
38:BA:2863:C:C2'	38:BA:2864:G:H5''	2.27	0.65
41:BD:246:PRO:HB2	41:BD:255:LYS:CG	2.27	0.65
42:BE:7:VAL:HA	42:BE:194:GLY:O	1.96	0.65
46:BI:78:THR:H	46:BI:140:LEU:HD12	1.62	0.65
49:BO:23:ARG:HG2	49:BO:23:ARG:HH11	1.62	0.65
51:BQ:75:THR:CB	51:BQ:88:GLY:HA2	2.26	0.65
60:BZ:166:SER:HB2	60:BZ:168:GLU:N	2.11	0.65
1:AA:579:G:H2'	1:AA:580:U:C6	2.32	0.65
1:AA:957:U:H3	1:AA:960:U:H5''	1.61	0.65
1:AA:1106:G:H5''	14:AC:172:ARG:HG2	1.78	0.65
2:AB:23:ARG:HH11	2:AB:23:ARG:HG3	1.61	0.65
10:AP:50:LYS:HD3	10:AP:50:LYS:C	2.17	0.65
17:AJ:50:ILE:HA	17:AJ:60:ARG:HB3	1.79	0.65
20:AS:36:ARG:HH12	20:AS:75:ALA:CB	2.09	0.65
22:AV:13:C:C1'	38:BA:1924:C:H5'	2.20	0.65
25:AY:26:M2G:HM22	25:AY:44:A:C2	2.32	0.65
27:AZ:362:VAL:HG21	27:AZ:368:VAL:HG21	1.79	0.65
37:B9:3:VAL:HG11	37:B9:34:GLN:HB3	1.78	0.65
37:B9:26:ILE:HG12	37:B9:33:LYS:CA	2.27	0.65
38:BA:271(P):C:H5''	46:BI:45:LYS:HE3	1.78	0.65
38:BA:298:G:H5'	38:BA:299:A:OP1	1.95	0.65
38:BA:2308:G:H2'	38:BA:2309:A:C8	2.32	0.65
40:BC:51:PRO:HG3	40:BC:204:ALA:HB3	1.78	0.65
42:BE:182:LEU:C	42:BE:183:LEU:HD12	2.17	0.65
47:BL:23:VAL:HG13	47:BL:27:LEU:CD1	2.18	0.65
48:BN:89:LYS:O	48:BN:93:THR:HG22	1.97	0.65
49:BO:24:VAL:CG2	49:BO:33:ALA:HB2	2.26	0.65
1:AA:383:A:C2'	1:AA:384:G:H5'	2.27	0.65
1:AA:644:G:C2'	1:AA:645:C:H5'	2.27	0.65
11:AQ:81:ARG:NH1	11:AQ:84:LEU:HD11	2.11	0.65
17:AJ:63:PHE:C	19:AN:59:ALA:HB2	2.17	0.65
28:B0:43:THR:HG22	38:BA:2331:G:O2'	1.96	0.65
32:B4:29:PRO:C	32:B4:31:ILE:H	1.98	0.65
38:BA:2345:G:H5''	38:BA:2347:C:O4'	1.97	0.65
38:BA:2511:U:O3'	42:BE:123:ALA:HB3	1.97	0.65
45:BH:14:GLY:O	45:BH:29:PRO:HD3	1.97	0.65
54:BT:31:SER:C	54:BT:32:TYR:HD2	1.99	0.65
54:BT:65:LYS:CE	54:BT:66:VAL:H	2.10	0.65
54:BT:67:SER:O	54:BT:68:TYR:HB2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:12:LEU:O	4:AE:13:ILE:HD12	1.97	0.65
7:AK:22:HIS:O	7:AK:28:THR:HG23	1.96	0.65
8:AL:75:HIS:CD2	8:AL:77:LEU:H	2.15	0.65
12:AR:74:ARG:HG2	12:AR:81:PHE:CD1	2.32	0.65
29:B1:89:GLU:CD	29:B1:89:GLU:N	2.50	0.65
38:BA:2343:C:H2'	38:BA:2344:U:C6	2.32	0.65
41:BD:58:HIS:HD2	41:BD:59:LYS:N	1.94	0.65
42:BE:120:TRP:CE3	42:BE:155:LYS:HD3	2.31	0.65
42:BE:167:VAL:HG22	42:BE:170:LEU:HD11	1.79	0.65
44:BG:39:ILE:HD13	44:BG:155:MET:SD	2.37	0.65
46:BI:77:LEU:HD11	46:BI:101:LEU:HD22	1.79	0.65
50:BP:47:ASP:HB3	50:BP:48:PRO:O	1.97	0.65
53:BS:99:LYS:O	53:BS:101:LEU:N	2.30	0.65
56:BV:19:LYS:CG	56:BV:20:LEU:H	2.10	0.65
1:AA:389:A:H2'	1:AA:390:C:H5'	1.79	0.64
1:AA:1495:U:P	18:AM:125:ARG:NH2	2.70	0.64
12:AR:53:ARG:HH21	12:AR:60:ALA:N	1.95	0.64
15:AG:62:PHE:HA	15:AG:124:LEU:HD22	1.77	0.64
25:AY:46:7MG:C2'	25:AY:47:U:H4'	2.27	0.64
28:B0:41:ARG:H	28:B0:41:ARG:CD	2.10	0.64
38:BA:74:A:H4'	38:BA:75:G:O5'	1.97	0.64
38:BA:587:C:H5	50:BP:33:ARG:HH11	1.42	0.64
38:BA:1986:A:H2'	38:BA:1987:G:H5''	1.78	0.64
40:BC:85:GLU:HB3	40:BC:153:ILE:CB	2.27	0.64
41:BD:106:ILE:HD11	41:BD:196:VAL:CG1	2.26	0.64
42:BE:91:VAL:HG13	42:BE:95:ILE:CD1	2.27	0.64
42:BE:154:LYS:HE3	42:BE:154:LYS:CA	2.27	0.64
43:BF:117:ARG:NH2	43:BF:187:VAL:HA	2.12	0.64
50:BP:62:LEU:H	50:BP:62:LEU:HD22	1.61	0.64
56:BV:24:LYS:HA	56:BV:94:LEU:HD12	1.77	0.64
1:AA:414:A:H2'	1:AA:415:A:O4'	1.97	0.64
1:AA:728:A:H2'	1:AA:729:A:H8	1.62	0.64
1:AA:1054:C:O2'	1:AA:1055:A:H5''	1.97	0.64
1:AA:1190:G:H3'	14:AC:3:ASN:HD22	1.60	0.64
3:AD:73:ARG:HH11	3:AD:73:ARG:CA	2.09	0.64
5:AF:50:TYR:CE1	12:AR:77:GLY:HA2	2.32	0.64
12:AR:53:ARG:HH21	12:AR:60:ALA:H	1.44	0.64
17:AJ:92:THR:HG23	17:AJ:93:GLY:H	1.62	0.64
18:AM:11:ARG:O	18:AM:13:LYS:N	2.30	0.64
29:B1:73:LEU:HD22	29:B1:90:ILE:HG23	1.78	0.64
30:B2:50:ILE:O	30:B2:51:ARG:HB3	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:49:A:H4'	38:BA:50:U:C5'	2.22	0.64
38:BA:528:A:N1	38:BA:2042:A:H2'	2.13	0.64
38:BA:1280:G:H3'	38:BA:1281:G:H5''	1.79	0.64
41:BD:35:LYS:NZ	41:BD:64:ILE:O	2.27	0.64
43:BF:161:GLU:O	43:BF:165:ARG:HG2	1.95	0.64
47:BL:10:LEU:HD11	47:BL:57:ILE:CD1	2.24	0.64
47:BL:99:ILE:HG23	47:BL:103:GLN:NE2	2.12	0.64
47:BL:106:GLU:OE2	47:BL:107:ILE:HG13	1.97	0.64
48:BN:18:ALA:HB1	48:BN:21:LYS:HG2	1.79	0.64
58:BX:64:LYS:CG	58:BX:65:ARG:N	2.60	0.64
1:AA:392:G:H2'	1:AA:393:A:H8	1.63	0.64
1:AA:1473:A:H4'	38:BA:1702:G:H4'	1.79	0.64
2:AB:165:VAL:HG23	2:AB:166:ASP:H	1.62	0.64
5:AF:52:ILE:HG22	5:AF:52:ILE:O	1.95	0.64
14:AC:77:ILE:HA	14:AC:84:ILE:HG22	1.79	0.64
38:BA:270:A:O2'	38:BA:271:A:H5'	1.95	0.64
38:BA:451:C:H4'	43:BF:52:LYS:HZ2	1.62	0.64
38:BA:1065:U:C3'	38:BA:1066:U:H5''	2.27	0.64
38:BA:2175:C:C3'	38:BA:2176:A:H5''	2.27	0.64
38:BA:2208:A:H1'	38:BA:2219:G:C4	2.32	0.64
38:BA:2425:A:H5''	38:BA:2427:C:O4'	1.96	0.64
38:BA:2745:C:O2'	45:BH:142:GLY:HA3	1.97	0.64
38:BA:2757:A:N1	45:BH:67:LEU:HD22	2.12	0.64
42:BE:117:MET:CA	42:BE:122:PHE:H	2.08	0.64
45:BH:88:LEU:O	45:BH:89:ILE:HG23	1.96	0.64
45:BH:89:ILE:N	45:BH:89:ILE:CD1	2.61	0.64
46:BI:62:LYS:O	46:BI:62:LYS:HD3	1.97	0.64
46:BI:114:LEU:HD23	46:BI:130:TYR:CE1	2.32	0.64
47:BL:108:ALA:HB2	47:BL:127:ILE:CD1	2.27	0.64
48:BN:30:ILE:HG23	48:BN:52:VAL:HG11	1.77	0.64
50:BP:101:VAL:HG13	50:BP:102:ARG:N	2.11	0.64
1:AA:1277:C:HO2'	1:AA:1279:A:H8	1.46	0.64
3:AD:33:MET:CE	3:AD:37:PRO:HA	2.27	0.64
12:AR:32:ARG:HA	12:AR:69:THR:HG21	1.80	0.64
20:AS:39:THR:HG22	20:AS:40:ILE:N	2.12	0.64
25:AY:76:A:N6	27:AZ:234:ARG:HH21	1.91	0.64
30:B2:58:ALA:O	30:B2:60:LEU:N	2.31	0.64
38:BA:1095:A:C8	38:BA:1096:A:H8	2.15	0.64
38:BA:1098:A:H1'	47:BL:30:HIS:HE1	1.61	0.64
38:BA:2801(A):A:H4'	38:BA:2802:G:H5'	1.79	0.64
41:BD:48:ARG:HH11	41:BD:48:ARG:HG3	1.61	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BE:93:VAL:HG21	42:BE:180:ASN:OD1	1.98	0.64
44:BG:43:LEU:HD12	44:BG:153:ARG:HD2	1.78	0.64
48:BN:42:TRP:H	55:BU:64:ARG:HD2	1.61	0.64
54:BT:58:ASN:C	54:BT:58:ASN:HD22	2.01	0.64
55:BU:50:ARG:HG2	55:BU:53:ARG:NH2	2.13	0.64
56:BV:25:LEU:H	56:BV:94:LEU:HD12	1.62	0.64
1:AA:34:C:O2'	1:AA:35:G:H5'	1.97	0.64
2:AB:92:TYR:CE2	2:AB:151:GLY:HA3	2.33	0.64
15:AG:26:PHE:O	15:AG:30:ILE:HG12	1.97	0.64
18:AM:90:LEU:HA	18:AM:93:ARG:HB2	1.80	0.64
36:B8:62:LEU:N	36:B8:63:PRO:HD2	2.13	0.64
38:BA:549:G:H3'	38:BA:551:G:H5''	1.77	0.64
38:BA:1101:U:H2'	38:BA:1102:C:C6	2.32	0.64
38:BA:1803:A:H2	38:BA:1822:G:N3	1.95	0.64
38:BA:2116:G:H5'	38:BA:2117:A:OP2	1.98	0.64
41:BD:28:GLU:HB2	41:BD:29:PRO:CD	2.27	0.64
47:BL:121:GLU:HB3	47:BL:125:ARG:CZ	2.27	0.64
48:BN:58:ASP:C	48:BN:60:ILE:N	2.49	0.64
59:BY:47:LYS:O	59:BY:49:VAL:HG23	1.98	0.64
1:AA:1038:C:H2'	1:AA:1039:C:C6	2.33	0.64
3:AD:33:MET:HE2	3:AD:37:PRO:HA	1.79	0.64
7:AK:24:SER:HB3	7:AK:27:ASN:O	1.96	0.64
16:AI:126:SER:O	16:AI:127:LYS:HB3	1.97	0.64
17:AJ:7:LYS:C	17:AJ:8:LEU:HD12	2.18	0.64
33:B5:46:CYS:SG	33:B5:47:PRO:HD2	2.38	0.64
35:B7:12:ARG:HH11	35:B7:12:ARG:HG3	1.61	0.64
38:BA:247:G:H4'	38:BA:386:G:C5	2.33	0.64
38:BA:1085:A:O2'	38:BA:1086:A:P	2.54	0.64
41:BD:25:THR:HG21	41:BD:82:ILE:N	2.12	0.64
41:BD:138:VAL:HA	41:BD:165:ILE:CG2	2.28	0.64
42:BE:180:ASN:C	42:BE:181:LEU:HD22	2.16	0.64
45:BH:19:VAL:CG2	45:BH:44:VAL:HG13	2.26	0.64
47:BL:105:LEU:O	47:BL:109:LYS:HG3	1.98	0.64
53:BS:36:TYR:N	53:BS:36:TYR:HD1	1.95	0.64
56:BV:22:VAL:O	56:BV:23:GLU:CB	2.45	0.64
58:BX:26:TYR:OH	58:BX:89:ILE:HG21	1.96	0.64
2:AB:75:LYS:HG2	2:AB:78:GLN:NE2	2.12	0.64
9:AO:39:LEU:O	9:AO:42:HIS:HB3	1.98	0.64
36:B8:52:LYS:N	36:B8:53:PRO:HD2	2.10	0.64
38:BA:18:C:O3'	55:BU:23:GLY:HA2	1.97	0.64
38:BA:1173:G:H5'	38:BA:1174:A:OP2	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1464:C:HO2'	38:BA:1528:A:H8	1.45	0.64
38:BA:2323:G:H2'	38:BA:2324:C:O4'	1.98	0.64
41:BD:106:ILE:C	41:BD:106:ILE:HD13	2.18	0.64
42:BE:52:LEU:H	42:BE:76:ARG:HB3	1.63	0.64
42:BE:92:THR:O	42:BE:93:VAL:HG23	1.98	0.64
44:BG:60:LEU:HD13	44:BG:60:LEU:C	2.18	0.64
47:BL:12:LEU:HD22	47:BL:19:PRO:HG3	1.80	0.64
47:BL:12:LEU:CD2	47:BL:23:VAL:HG23	2.27	0.64
49:BO:76:ALA:HB3	54:BT:75:ILE:HB	1.78	0.64
50:BP:16:ARG:CG	50:BP:18:ARG:H	2.08	0.64
53:BS:36:TYR:N	53:BS:36:TYR:CD1	2.66	0.64
53:BS:48:LEU:HD12	53:BS:48:LEU:N	2.13	0.64
59:BY:48:ALA:O	59:BY:58:GLY:HA3	1.97	0.64
59:BY:75:ILE:CD1	59:BY:76:CYS:N	2.61	0.64
1:AA:26:A:N6	1:AA:558:G:H1'	2.12	0.64
1:AA:853:G:O2'	1:AA:854:G:H5'	1.98	0.64
8:AL:8:ASN:ND2	11:AQ:34:LYS:HE2	2.12	0.64
8:AL:47:LYS:HB3	8:AL:48:PRO:CD	2.25	0.64
18:AM:83:ASP:CG	18:AM:84:ILE:H	2.00	0.64
22:AV:72:A:C3'	22:AV:73:A:H5''	2.28	0.64
25:AY:76:A:C2'	27:AZ:274:ARG:HG2	2.23	0.64
35:B7:8:ASN:HD22	35:B7:8:ASN:C	2.01	0.64
36:B8:35:GLN:HA	38:BA:2420:C:P	2.37	0.64
38:BA:576:U:O2'	38:BA:577:G:H5'	1.98	0.64
38:BA:943:U:OP2	50:BP:38:GLN:CD	2.36	0.64
38:BA:1049:C:H2'	38:BA:1050:A:H8	1.62	0.64
38:BA:1658:C:OP1	42:BE:132:HIS:O	2.16	0.64
38:BA:2693:A:H2'	38:BA:2694:G:H8	1.62	0.64
38:BA:2712:U:H1'	38:BA:2712(A):A:H8	1.60	0.64
40:BC:49:ILE:H	40:BC:49:ILE:CD1	2.10	0.64
41:BD:92:ILE:HD12	41:BD:92:ILE:O	1.98	0.64
41:BD:246:PRO:HB2	41:BD:255:LYS:HG3	1.79	0.64
47:BL:20:ALA:HB3	47:BL:21:PRO:CD	2.28	0.64
52:BR:41:ALA:C	52:BR:43:GLU:H	2.00	0.64
1:AA:55:A:H2	27:AZ:234:ARG:HG2	1.56	0.64
6:AH:137:VAL:O	6:AH:138:TRP:HB3	1.98	0.64
22:AV:12:G:H4'	38:BA:1922:G:N2	2.12	0.64
25:AY:8:U:C4'	25:AY:48:C:C1'	2.75	0.64
29:B1:9:GLY:O	29:B1:10:LYS:HB3	1.98	0.64
29:B1:19:GLN:CD	29:B1:44:PRO:HB3	2.18	0.64
30:B2:14:ARG:CZ	30:B2:57:ILE:CG2	2.76	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1798:U:C5'	41:BD:259:THR:HG22	2.28	0.64
52:BR:4:LEU:O	52:BR:4:LEU:HD13	1.97	0.64
56:BV:71:LEU:O	56:BV:90:PRO:HA	1.98	0.64
1:AA:1064:G:H5'	1:AA:1066:C:H1'	1.81	0.64
1:AA:1348:U:H2'	1:AA:1349:A:H8	1.63	0.64
2:AB:97:TRP:HZ2	2:AB:102:LEU:HD13	1.63	0.64
3:AD:133:VAL:HG12	3:AD:135:LEU:H	1.63	0.64
4:AE:76:ILE:CG1	4:AE:77:PRO:HD2	2.26	0.64
6:AH:112:LEU:HD12	6:AH:112:LEU:C	2.17	0.64
8:AL:91:LYS:O	8:AL:92:ASP:HB2	1.97	0.64
28:B0:18:ALA:HB1	38:BA:2271:G:OP1	1.98	0.64
31:B3:7:LYS:C	31:B3:54:VAL:HG13	2.17	0.64
34:B6:36:LEU:HD13	34:B6:50:ARG:NH1	2.13	0.64
38:BA:136:G:H1	38:BA:143(A):C:H42	1.46	0.64
38:BA:149:A:H2'	38:BA:150:C:C6	2.32	0.64
38:BA:809:G:O4'	38:BA:1254:A:H1'	1.97	0.64
38:BA:1349:A:N6	38:BA:1598:C:N4	2.44	0.64
38:BA:1844:C:O2'	38:BA:1845:G:H5'	1.97	0.64
38:BA:2772:C:H2'	38:BA:2773:C:C6	2.33	0.64
40:BC:18:LYS:HB3	40:BC:22:ILE:HD11	1.80	0.64
40:BC:56:GLN:O	40:BC:57:ASN:HB2	1.97	0.64
40:BC:76:ALA:HB3	40:BC:94:VAL:CG1	2.28	0.64
44:BG:91:ARG:HD2	44:BG:91:ARG:C	2.19	0.64
46:BI:113:ARG:NH1	46:BI:132:PRO:HG3	2.13	0.64
49:BO:63:VAL:HG23	49:BO:64:ARG:H	1.61	0.64
51:BQ:63:LYS:HG2	51:BQ:65:PHE:CZ	2.33	0.64
53:BS:54:LEU:C	53:BS:56:LEU:N	2.49	0.64
55:BU:57:PHE:HA	55:BU:60:LEU:HB2	1.80	0.64
56:BV:5:VAL:HG21	56:BV:36:PRO:HB2	1.80	0.64
57:BW:79:GLY:HA3	57:BW:100:THR:HG23	1.78	0.64
58:BX:78:LYS:O	58:BX:78:LYS:HD3	1.98	0.64
1:AA:1054:C:O2	25:AY:34:OMG:HM21	1.97	0.63
1:AA:1353:G:O2'	1:AA:1354:C:H5'	1.97	0.63
1:AA:1483:A:N1	38:BA:1959:G:O2'	2.31	0.63
4:AE:50:GLU:OE2	4:AE:51:VAL:HG23	1.98	0.63
4:AE:112:LEU:HD23	4:AE:112:LEU:N	2.13	0.63
10:AP:74:LEU:O	10:AP:79:VAL:HG23	1.97	0.63
14:AC:118:GLN:O	14:AC:122:GLU:HG3	1.97	0.63
15:AG:27:ILE:H	15:AG:27:ILE:HD12	1.61	0.63
18:AM:70:LEU:HD23	18:AM:70:LEU:C	2.18	0.63
24:AW:68:C:O2'	24:AW:69:G:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:B3:7:LYS:O	31:B3:54:VAL:HG13	1.97	0.63
37:B9:10:ILE:HD11	38:BA:2476:A:N1	2.12	0.63
38:BA:1887:C:H2'	38:BA:1888:G:H5''	1.80	0.63
38:BA:2146:C:H2'	38:BA:2147:G:O4'	1.97	0.63
38:BA:2863:C:C3'	38:BA:2864:G:H5''	2.29	0.63
41:BD:25:THR:CG2	41:BD:82:ILE:H	2.10	0.63
43:BF:80:ALA:O	43:BF:83:PHE:HB2	1.99	0.63
47:BL:33:ASN:O	47:BL:37:PHE:HB2	1.98	0.63
48:BN:58:ASP:C	48:BN:60:ILE:HG13	2.18	0.63
51:BQ:52:VAL:CG1	51:BQ:53:ALA:H	2.10	0.63
51:BQ:55:VAL:HG23	60:BZ:178:GLU:HB3	1.80	0.63
53:BS:17:ARG:CZ	53:BS:89:ARG:NH2	2.61	0.63
1:AA:797:C:O2'	1:AA:798:G:H5'	1.97	0.63
1:AA:797:C:OP1	7:AK:124:LYS:HE2	1.97	0.63
1:AA:1400:C:C4'	23:AX:18:G:O6	2.46	0.63
9:AO:75:PRO:O	9:AO:78:TYR:HB3	1.99	0.63
17:AJ:6:ILE:HD12	17:AJ:6:ILE:O	1.99	0.63
29:B1:32:LYS:HG2	38:BA:2396:G:O2'	1.98	0.63
38:BA:64:A:O2'	38:BA:65:C:H5'	1.98	0.63
38:BA:152:G:H1	38:BA:174:C:H42	1.46	0.63
38:BA:1276:A:H1'	52:BR:16:HIS:HE1	1.63	0.63
38:BA:2230:G:H2'	38:BA:2231:C:H6	1.62	0.63
38:BA:2287:A:N6	38:BA:2344:U:H3	1.96	0.63
38:BA:2513:G:H2'	38:BA:2514:U:C6	2.33	0.63
40:BC:41:VAL:HB	40:BC:178:ALA:HB3	1.80	0.63
45:BH:19:VAL:HG11	45:BH:44:VAL:HG22	1.80	0.63
47:BL:79:ARG:O	47:BL:82:ALA:HB3	1.98	0.63
51:BQ:29:PHE:O	51:BQ:30:GLY:O	2.16	0.63
51:BQ:140:ALA:HB1	60:BZ:99:TYR:HB2	1.80	0.63
53:BS:88:ASP:CG	53:BS:89:ARG:N	2.51	0.63
54:BT:80:SER:CB	54:BT:81:PRO:CD	2.76	0.63
55:BU:95:LEU:HD12	56:BV:11:GLN:HE21	1.60	0.63
56:BV:63:GLY:O	56:BV:64:HIS:HB3	1.97	0.63
1:AA:939:G:H5''	15:AG:102:ARG:NH1	2.12	0.63
1:AA:1522:U:H2'	1:AA:1523:G:C8	2.32	0.63
3:AD:58:LEU:HD23	3:AD:206:PHE:CE1	2.34	0.63
8:AL:119:LYS:C	8:AL:120:TYR:HD1	2.02	0.63
11:AQ:45:HIS:HB2	11:AQ:69:LYS:HE2	1.80	0.63
36:B8:32:LEU:HG	36:B8:34:TRP:CE3	2.32	0.63
38:BA:1227:G:O2'	38:BA:1228:G:H5'	1.97	0.63
38:BA:2672:G:C2'	38:BA:2673:G:H5''	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:25:THR:HG21	41:BD:82:ILE:H	1.64	0.63
43:BF:3:GLU:O	43:BF:19:GLU:HA	1.98	0.63
47:BL:76:TYR:CD2	47:BL:80:LYS:HE2	2.24	0.63
47:BL:79:ARG:HD3	47:BL:134:MET:CG	2.20	0.63
51:BQ:42:ILE:HG22	51:BQ:47:ILE:CD1	2.29	0.63
53:BS:12:PHE:O	53:BS:12:PHE:HD1	1.81	0.63
55:BU:62:ILE:HA	55:BU:65:ILE:HD12	1.80	0.63
59:BY:95:LYS:HG2	59:BY:101:LYS:N	2.08	0.63
1:AA:630:G:C2'	1:AA:631:G:H5''	2.28	0.63
1:AA:662:G:H2'	1:AA:663:A:C8	2.34	0.63
1:AA:922:G:H2'	1:AA:923:A:C8	2.33	0.63
1:AA:936:C:H2'	1:AA:937:A:O4'	1.97	0.63
1:AA:1400:C:C5	22:AV:34:C:C5	2.87	0.63
28:B0:43:THR:H	38:BA:2331:G:H4'	1.63	0.63
29:B1:89:GLU:O	29:B1:93:GLU:N	2.30	0.63
38:BA:914:C:C2'	38:BA:915:C:H5'	2.26	0.63
38:BA:1710:C:O2'	38:BA:1711:C:H5'	1.99	0.63
38:BA:2295:C:O2'	38:BA:2296:U:H5'	1.99	0.63
38:BA:2742:C:O2'	38:BA:2743:C:H5'	1.99	0.63
39:BB:16:G:O2'	39:BB:17:C:H5'	1.98	0.63
44:BG:23:PHE:HZ	44:BG:171:ALA:CB	2.12	0.63
48:BN:120:LEU:CD1	48:BN:122:VAL:HG23	2.29	0.63
49:BO:13:ASN:HD21	49:BO:97:ARG:H	1.44	0.63
49:BO:89:ASN:O	49:BO:91:LEU:HD22	1.98	0.63
55:BU:88:ILE:O	55:BU:90:VAL:N	2.31	0.63
59:BY:97:ARG:HH21	59:BY:98:VAL:HG21	1.63	0.63
1:AA:579:G:H2'	1:AA:580:U:H6	1.62	0.63
1:AA:805:C:H2'	1:AA:806:C:H6	1.64	0.63
4:AE:122:GLU:O	4:AE:123:LEU:HD23	1.97	0.63
5:AF:82:ARG:HB3	5:AF:82:ARG:HH11	1.63	0.63
7:AK:57:THR:CG2	15:AG:150:ALA:HB1	2.27	0.63
8:AL:28:LYS:O	8:AL:29:GLY:C	2.35	0.63
13:AT:18:GLN:O	13:AT:22:ARG:HG3	1.98	0.63
25:AY:8:U:O2'	25:AY:48:C:C1'	2.46	0.63
28:B0:17:GLN:O	28:B0:19:LYS:HD3	1.98	0.63
31:B3:54:VAL:HG12	31:B3:55:ARG:N	2.12	0.63
38:BA:860:U:C5	38:BA:917:A:N7	2.60	0.63
38:BA:1107:G:O3'	38:BA:1108:U:O5'	2.16	0.63
38:BA:2131:G:H5'	38:BA:2132:U:C4	2.33	0.63
38:BA:2379:G:H2'	38:BA:2380:C:C6	2.33	0.63
47:BL:103:GLN:HA	47:BL:106:GLU:CG	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BQ:30:GLY:CA	51:BQ:107:ALA:HB2	2.24	0.63
58:BX:73:ARG:N	58:BX:74:PRO:CD	2.61	0.63
59:BY:10:GLY:HA2	59:BY:27:VAL:CG1	2.29	0.63
60:BZ:166:SER:HB2	60:BZ:167:PRO:C	2.19	0.63
1:AA:551:U:H2'	1:AA:552:U:C6	2.32	0.63
1:AA:1278:U:H5''	1:AA:1279:A:O4'	1.99	0.63
1:AA:1366:C:H2'	1:AA:1367:C:C6	2.32	0.63
5:AF:50:TYR:CZ	12:AR:77:GLY:HA2	2.34	0.63
6:AH:103:VAL:HG21	6:AH:109:ILE:C	2.18	0.63
7:AK:38:ASN:N	7:AK:38:ASN:HD22	1.96	0.63
8:AL:32:PHE:HB3	8:AL:84:LEU:CD2	2.27	0.63
16:AI:3:GLN:HG2	16:AI:20:ARG:NH2	2.14	0.63
22:AV:12:G:C4'	38:BA:1922:G:N2	2.61	0.63
36:B8:13:ARG:NH2	38:BA:250:G:OP2	2.32	0.63
37:B9:31:LYS:CG	38:BA:2528:U:H5''	2.15	0.63
38:BA:792:G:H5''	38:BA:793:A:H5'	1.80	0.63
38:BA:1220:A:O2'	38:BA:1221:C:H5''	1.98	0.63
41:BD:83:GLU:HB2	41:BD:92:ILE:HD11	1.81	0.63
41:BD:172:TYR:CD1	41:BD:186:HIS:HA	2.33	0.63
42:BE:11:MET:H	54:BT:8:LYS:HE3	1.63	0.63
44:BG:70:VAL:HA	44:BG:90:LEU:HD12	1.79	0.63
47:BL:78:ILE:HD13	47:BL:131:ALA:CB	2.27	0.63
47:BL:131:ALA:CA	47:BL:136:VAL:HB	2.28	0.63
48:BN:78:TYR:CD1	48:BN:79:PRO:HD3	2.33	0.63
52:BR:113:LEU:HD12	52:BR:114:VAL:H	1.64	0.63
54:BT:65:LYS:HZ2	54:BT:66:VAL:N	1.96	0.63
54:BT:108:ARG:CB	54:BT:108:ARG:HH11	2.11	0.63
1:AA:648:A:H2'	1:AA:649:G:H8	1.64	0.63
6:AH:33:GLU:O	6:AH:36:LEU:HB2	1.99	0.63
11:AQ:10:VAL:O	11:AQ:53:LEU:HD12	1.98	0.63
14:AC:64:VAL:HG21	14:AC:99:VAL:HG12	1.81	0.63
16:AI:18:PHE:HB2	16:AI:62:TYR:O	1.98	0.63
19:AN:6:LEU:HB3	19:AN:23:ARG:NH2	2.13	0.63
20:AS:41:VAL:HB	20:AS:44:MET:HG2	1.79	0.63
22:AV:24:U:O2	38:BA:1923:U:H5''	1.98	0.63
22:AV:57:A:H5'	44:BG:78:SER:HB2	1.74	0.63
35:B7:9:ARG:NH1	38:BA:1310:G:OP2	2.31	0.63
38:BA:510:C:H2'	38:BA:511:U:O4'	1.98	0.63
38:BA:604:G:O2'	38:BA:605:C:H5'	1.99	0.63
38:BA:608:A:OP1	43:BF:100:THR:HG21	1.99	0.63
38:BA:1899:G:O2'	38:BA:1900:A:H5''	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2283:C:H2'	38:BA:2284:C:C5'	2.29	0.63
47:BL:93:ARG:HD2	60:BZ:112:ARG:HG3	1.69	0.63
47:BL:101:TRP:HZ3	47:BL:105:LEU:HD11	1.62	0.63
48:BN:66:LYS:HB3	48:BN:70:LYS:HB2	1.79	0.63
49:BO:13:ASN:HD22	49:BO:97:ARG:HB2	1.63	0.63
50:BP:143:GLY:C	50:BP:145:PRO:HD3	2.19	0.63
52:BR:78:LYS:O	52:BR:83:ILE:HG12	1.98	0.63
56:BV:19:LYS:C	56:BV:20:LEU:HD12	2.19	0.63
56:BV:83:ARG:HG2	56:BV:83:ARG:NH1	2.09	0.63
1:AA:1049:U:H1'	1:AA:1201:A:N7	2.14	0.63
1:AA:1151:A:HO2'	1:AA:1152:A:H8	1.45	0.63
1:AA:1503:A:C6	23:AX:13:A:C8	2.86	0.63
2:AB:114:ARG:HA	2:AB:117:GLU:HG3	1.81	0.63
2:AB:169:LYS:HD2	2:AB:170:GLU:OE2	1.98	0.63
3:AD:67:ILE:HG22	3:AD:68:TYR:CD1	2.34	0.63
3:AD:110:PHE:CE2	3:AD:148:VAL:HG23	2.34	0.63
10:AP:53:VAL:HG23	10:AP:54:GLU:N	2.13	0.63
11:AQ:65:ILE:HD12	11:AQ:65:ILE:N	2.12	0.63
24:AW:6:G:O2'	24:AW:7:A:H5'	1.99	0.63
38:BA:27:G:O2'	38:BA:28:A:H8	1.75	0.63
38:BA:189:G:H2'	38:BA:205:G:N2	2.13	0.63
38:BA:359:A:H2'	38:BA:360:G:O4'	1.98	0.63
38:BA:1656:C:H2'	38:BA:1657:C:H6	1.63	0.63
38:BA:2051:A:H8	38:BA:2051:A:OP2	1.82	0.63
40:BC:18:LYS:O	40:BC:20:TYR:N	2.32	0.63
45:BH:92:ILE:N	45:BH:92:ILE:HD12	2.12	0.63
46:BI:109:ILE:HD12	46:BI:109:ILE:N	2.12	0.63
47:BL:39:LYS:HA	47:BL:42:ASN:ND2	2.14	0.63
54:BT:3:ARG:O	54:BT:7:ILE:HG12	1.99	0.63
56:BV:5:VAL:HG21	56:BV:36:PRO:CG	2.28	0.63
57:BW:25:ARG:HH11	57:BW:25:ARG:CB	2.07	0.63
1:AA:302:G:H21	1:AA:556:C:C4'	2.12	0.63
1:AA:358:U:H1'	27:AZ:233:GLY:HA2	1.81	0.63
1:AA:1346:A:H5''	16:AI:120:ARG:HH12	1.63	0.63
1:AA:1388:C:H2'	1:AA:1389:C:C6	2.34	0.63
3:AD:11:LEU:O	3:AD:13:ARG:O	2.17	0.63
3:AD:30:LYS:C	3:AD:32:ALA:H	2.03	0.63
17:AJ:9:ARG:HG2	17:AJ:69:ASN:OD1	1.98	0.63
17:AJ:32:ALA:H	17:AJ:78:ASN:HD21	1.46	0.63
17:AJ:40:LEU:H	17:AJ:40:LEU:CD2	2.12	0.63
18:AM:49:THR:HG22	18:AM:51:ALA:H	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B1:84:GLY:O	29:B1:85:LEU:HD23	1.98	0.63
33:B5:32:PRO:HD2	38:BA:2886:G:O2'	1.99	0.63
33:B5:55:ARG:CG	33:B5:56:LYS:H	2.08	0.63
38:BA:154(A):C:H5	38:BA:171:G:H1	1.47	0.63
38:BA:491:G:H2'	38:BA:492:A:C8	2.34	0.63
38:BA:492:A:H2'	38:BA:493:G:O4'	1.99	0.63
38:BA:1188:U:H2'	38:BA:1189:A:H5'	1.79	0.63
38:BA:1844:C:H5'	41:BD:256:GLY:O	1.99	0.63
38:BA:2631:G:N2	42:BE:61:ARG:HH12	1.97	0.63
41:BD:253:GLN:HB3	41:BD:255:LYS:HE2	1.81	0.63
45:BH:87:LEU:N	45:BH:131:VAL:O	2.32	0.63
46:BI:77:LEU:HD11	46:BI:101:LEU:HB2	1.79	0.63
50:BP:146:VAL:CG2	50:BP:147:LEU:H	1.93	0.63
56:BV:43:GLU:N	56:BV:48:GLY:HA2	2.12	0.63
59:BY:37:VAL:HG13	59:BY:69:ALA:HA	1.81	0.63
59:BY:75:ILE:HD12	59:BY:76:CYS:N	2.14	0.63
1:AA:1310:G:O2'	1:AA:1311:G:H5'	1.99	0.62
5:AF:60:PHE:CZ	12:AR:78:LEU:HD21	2.33	0.62
6:AH:6:ILE:HD12	6:AH:6:ILE:N	2.14	0.62
8:AL:88:GLY:H	8:AL:98:TYR:HA	1.64	0.62
10:AP:20:VAL:HG21	10:AP:32:TYR:CB	2.29	0.62
11:AQ:9:VAL:HG21	11:AQ:84:LEU:HD13	1.79	0.62
18:AM:79:LYS:O	18:AM:82:MET:HB3	1.99	0.62
24:AW:16:U:O4	24:AW:18:G:H3'	1.98	0.62
30:B2:52:ASP:O	30:B2:53:LEU:O	2.17	0.62
34:B6:10:LEU:HD22	34:B6:10:LEU:H	1.64	0.62
38:BA:1065:U:H3'	38:BA:1066:U:H5''	1.81	0.62
38:BA:2415:G:H2'	38:BA:2416:C:H6	1.64	0.62
41:BD:31:LYS:HA	41:BD:31:LYS:NZ	2.14	0.62
42:BE:30:PRO:HD3	42:BE:180:ASN:ND2	2.13	0.62
45:BH:89:ILE:HD11	45:BH:129:THR:HB	1.79	0.62
47:BL:12:LEU:CD2	47:BL:22:PRO:HB2	2.28	0.62
47:BL:101:TRP:CE3	47:BL:105:LEU:HD21	2.33	0.62
52:BR:54:LEU:HD21	52:BR:65:LEU:HB3	1.81	0.62
54:BT:57:PHE:C	54:BT:59:THR:H	2.00	0.62
55:BU:112:ARG:O	55:BU:115:ALA:HB3	1.99	0.62
60:BZ:85:HIS:ND1	60:BZ:86:VAL:N	2.47	0.62
1:AA:250:A:H4'	1:AA:251:G:O5'	1.99	0.62
1:AA:1474:G:C4'	38:BA:1701:A:C2	2.82	0.62
3:AD:19:LEU:H	3:AD:19:LEU:HD12	1.64	0.62
11:AQ:25:ARG:HG3	11:AQ:25:ARG:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AS:9:VAL:O	20:AS:9:VAL:HG12	1.99	0.62
25:AY:64:A:H4'	27:AZ:392:GLY:H	1.64	0.62
33:B5:43:HIS:HD2	38:BA:2815:C:O2'	1.82	0.62
38:BA:70:G:H2'	38:BA:113:G:O2'	1.98	0.62
38:BA:1063:G:N2	38:BA:1076:C:C4	2.67	0.62
38:BA:2317:C:O2'	38:BA:2318:G:H5'	1.97	0.62
38:BA:2722:G:H2'	38:BA:2723:C:C6	2.34	0.62
42:BE:116:VAL:O	42:BE:117:MET:HB3	1.99	0.62
43:BF:199:TRP:CZ3	43:BF:203:GLN:HG3	2.33	0.62
44:BG:127:GLY:HA2	44:BG:166:ASP:HB3	1.80	0.62
51:BQ:20:ALA:HB2	51:BQ:99:PRO:CG	2.29	0.62
53:BS:58:LEU:CD2	53:BS:68:GLN:HB2	2.29	0.62
58:BX:5:TYR:C	58:BX:7:VAL:H	2.03	0.62
58:BX:39:ILE:O	58:BX:42:ALA:HB3	2.00	0.62
1:AA:628:G:O2'	1:AA:629:G:H5'	1.99	0.62
2:AB:144:ARG:HG3	2:AB:145:LEU:N	2.15	0.62
3:AD:25:ARG:C	3:AD:27:TYR:H	2.02	0.62
6:AH:89:PRO:HA	6:AH:92:ARG:NH1	2.13	0.62
14:AC:107:GLN:H	14:AC:107:GLN:CD	2.02	0.62
17:AJ:30:SER:OG	17:AJ:81:THR:HG22	1.98	0.62
17:AJ:94:VAL:HG12	17:AJ:95:GLU:N	2.14	0.62
17:AJ:97:GLU:C	17:AJ:98:ILE:HD12	2.20	0.62
24:AW:48:C:H2'	24:AW:59:U:H4'	1.81	0.62
31:B3:23:LEU:HD11	31:B3:50:VAL:HG11	1.81	0.62
38:BA:286:C:C3'	38:BA:287:C:H5''	2.29	0.62
38:BA:892:G:C8	38:BA:893:C:C4	2.88	0.62
38:BA:1162:G:N3	56:BV:91:TYR:HE1	1.96	0.62
38:BA:1842:G:H2'	38:BA:1843:C:C6	2.34	0.62
38:BA:2134:A:C2	38:BA:2158:A:N3	2.67	0.62
38:BA:2864:G:O2'	38:BA:2865:U:H5'	1.99	0.62
42:BE:26:ILE:HG22	42:BE:27:LEU:N	2.13	0.62
42:BE:35:GLN:NE2	42:BE:37:ARG:HE	1.93	0.62
42:BE:109:LYS:HB3	52:BR:2:ARG:NH1	2.11	0.62
43:BF:51:THR:HG21	43:BF:92:PRO:HD2	1.80	0.62
44:BG:70:VAL:HA	44:BG:90:LEU:CD1	2.28	0.62
47:BL:77:LEU:HD12	47:BL:111:LYS:HD2	1.81	0.62
52:BR:5:LYS:HD2	52:BR:5:LYS:N	2.13	0.62
52:BR:10:LEU:HD22	52:BR:17:ARG:HD2	1.81	0.62
56:BV:50:PRO:O	56:BV:51:VAL:HB	1.99	0.62
59:BY:16:ALA:HA	59:BY:21:LYS:HD2	1.81	0.62
59:BY:38:ILE:HG22	59:BY:39:VAL:N	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:186:C:C5'	13:AT:78:ALA:HB1	2.28	0.62
1:AA:706:A:N7	1:AA:707:C:H5	1.96	0.62
1:AA:1064:G:N2	1:AA:1190:G:H2'	2.13	0.62
1:AA:1096:C:O2'	1:AA:1097:C:H5'	2.00	0.62
2:AB:42:ILE:HD11	2:AB:202:PRO:HB2	1.80	0.62
3:AD:49:ARG:HA	3:AD:49:ARG:HE	1.64	0.62
4:AE:129:ILE:O	4:AE:132:ALA:HB3	1.99	0.62
6:AH:1:MET:H3	6:AH:1:MET:HE2	1.65	0.62
6:AH:119:LEU:HD12	6:AH:124:ALA:HA	1.79	0.62
25:AY:65:G:C5'	27:AZ:391:GLY:N	2.47	0.62
27:AZ:74:LYS:HG2	27:AZ:75:ARG:HG3	1.81	0.62
38:BA:412:A:H2'	38:BA:413:C:H5'	1.80	0.62
38:BA:604:G:H2'	38:BA:605:C:H6	1.64	0.62
38:BA:893:C:H2'	38:BA:894:C:C5'	2.29	0.62
38:BA:896:A:H5''	60:BZ:146:ILE:HD12	1.80	0.62
38:BA:1048:A:N6	38:BA:1052:C:H42	1.98	0.62
38:BA:2162:G:H5'	38:BA:2171:A:H5''	1.81	0.62
38:BA:2426:A:H3'	38:BA:2427:C:C5'	2.29	0.62
39:BB:3:C:H42	39:BB:118:G:H1	1.46	0.62
40:BC:45:ALA:HB2	40:BC:210:ARG:HA	1.80	0.62
40:BC:47:LEU:N	40:BC:47:LEU:HD23	2.14	0.62
41:BD:77:ALA:HB2	41:BD:97:TYR:CD2	2.33	0.62
42:BE:4:ILE:O	42:BE:4:ILE:HG23	1.99	0.62
43:BF:57:VAL:CG1	43:BF:58:ALA:H	2.13	0.62
44:BG:60:LEU:O	44:BG:63:ILE:HG13	1.98	0.62
44:BG:131:TYR:CG	44:BG:132:ASN:N	2.68	0.62
45:BH:98:LEU:HB2	45:BH:125:VAL:CG2	2.29	0.62
49:BO:69:ILE:HD12	49:BO:69:ILE:N	2.15	0.62
1:AA:221:C:O2'	1:AA:222:U:H5'	1.99	0.62
1:AA:975:A:C4'	1:AA:976:G:H5''	2.26	0.62
1:AA:1442(A):G:H3'	1:AA:1442(B):A:C5'	2.29	0.62
2:AB:44:LEU:HA	2:AB:47:THR:OG1	1.99	0.62
2:AB:101:MET:HA	2:AB:108:ILE:HG13	1.81	0.62
4:AE:47:LYS:HD3	4:AE:47:LYS:N	2.14	0.62
20:AS:44:MET:N	20:AS:44:MET:SD	2.73	0.62
24:AW:17:C:H5	38:BA:2180:U:C3'	2.11	0.62
25:AY:38:A:C5'	38:BA:1913:A:C2	2.82	0.62
29:B1:32:LYS:HA	38:BA:2396:G:O2'	2.00	0.62
38:BA:27:G:H1'	38:BA:513:A:N6	2.14	0.62
38:BA:142:A:H5'	38:BA:142(A):C:OP2	1.99	0.62
38:BA:237:C:O2'	38:BA:238:C:H5'	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:742:G:O2'	38:BA:743:G:H5'	1.99	0.62
38:BA:1204:A:N1	38:BA:1241:A:H2	1.97	0.62
38:BA:1658:C:OP1	42:BE:132:HIS:CE1	2.52	0.62
47:BL:44:ALA:O	47:BL:46:ALA:N	2.32	0.62
47:BL:131:ALA:HB1	47:BL:136:VAL:CG1	2.29	0.62
53:BS:17:ARG:O	53:BS:18:ILE:HG22	2.00	0.62
55:BU:31:SER:O	55:BU:33:ARG:N	2.32	0.62
59:BY:17:SER:HA	59:BY:71:LYS:HD2	1.81	0.62
59:BY:37:VAL:O	59:BY:38:ILE:CB	2.47	0.62
2:AB:41:ILE:N	2:AB:41:ILE:HD12	2.14	0.62
6:AH:28:ALA:HA	6:AH:59:LEU:HD21	1.81	0.62
14:AC:11:ARG:HG2	14:AC:11:ARG:HH11	1.65	0.62
14:AC:188:LEU:HD22	14:AC:188:LEU:N	2.13	0.62
17:AJ:6:ILE:O	17:AJ:71:LEU:HD12	1.98	0.62
18:AM:46:LYS:HG3	18:AM:47:ASP:N	2.14	0.62
22:AV:17:C:H5'	22:AV:17(A):U:C6	2.35	0.62
22:AV:76:A:C6	28:B0:1:MET:CB	2.82	0.62
29:B1:11:ARG:HB3	29:B1:12:PRO:CD	2.30	0.62
33:B5:6:VAL:HG13	33:B5:7:PRO:HD2	1.81	0.62
38:BA:588:U:H2'	38:BA:589:C:C6	2.35	0.62
38:BA:717:G:H2'	38:BA:718:A:O4'	2.00	0.62
38:BA:833:U:H2'	38:BA:834:C:C6	2.33	0.62
38:BA:1497:U:H5'	38:BA:1498:C:H5	1.64	0.62
38:BA:2277:G:C2'	38:BA:2278:A:H5'	2.29	0.62
40:BC:34:THR:O	40:BC:35:ALA:CB	2.48	0.62
42:BE:55:ASN:HD21	42:BE:75:VAL:CG2	2.12	0.62
42:BE:57:LYS:C	42:BE:59:VAL:H	2.03	0.62
45:BH:30:LYS:NZ	45:BH:81:GLU:HG2	2.14	0.62
45:BH:118:PRO:HB2	45:BH:121:ILE:HD12	1.81	0.62
47:BL:24:GLY:HA2	47:BL:34:ILE:HG23	1.80	0.62
51:BQ:6:ARG:HG3	51:BQ:6:ARG:O	2.00	0.62
54:BT:82:LEU:O	54:BT:83:ILE:C	2.37	0.62
56:BV:25:LEU:N	56:BV:94:LEU:HD12	2.14	0.62
59:BY:31:LEU:HB2	59:BY:36:ALA:H	1.64	0.62
1:AA:625:G:O2'	1:AA:626:U:H5'	1.99	0.62
1:AA:1095:U:H2'	1:AA:1096:C:H6	1.65	0.62
15:AG:32:ARG:O	15:AG:33:ASP:HB2	1.99	0.62
16:AI:113:LYS:HD2	16:AI:113:LYS:H	1.64	0.62
20:AS:35:SER:C	20:AS:37:ARG:H	2.01	0.62
24:AW:76:A:N1	38:BA:2422:A:C4	2.68	0.62
38:BA:1324:G:H3'	38:BA:1325:G:C5'	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BE:173:VAL:HG12	42:BE:174:ASP:N	2.13	0.62
51:BQ:30:GLY:HA2	51:BQ:107:ALA:CB	2.26	0.62
53:BS:87:PHE:HB2	53:BS:106:ARG:HD3	1.81	0.62
60:BZ:40:ASP:HB3	60:BZ:43:GLU:HG3	1.80	0.62
1:AA:27:G:O2'	1:AA:28:G:H5'	1.99	0.62
1:AA:434:U:H2'	1:AA:435:C:H6	1.61	0.62
1:AA:539:A:H2'	1:AA:540:G:H8	1.64	0.62
1:AA:1118:C:N4	1:AA:1155:G:H1	1.98	0.62
1:AA:1370:G:O2'	1:AA:1371:G:H5'	1.99	0.62
1:AA:1475:G:OP1	38:BA:1700:A:N6	2.33	0.62
2:AB:167:PRO:HG2	2:AB:168:THR:H	1.64	0.62
3:AD:65:ARG:HG3	3:AD:75:PHE:CD1	2.34	0.62
15:AG:13:GLN:O	15:AG:24:THR:HG21	2.00	0.62
29:B1:20:ARG:HD3	29:B1:41:ARG:CD	2.20	0.62
33:B5:59:GLU:O	33:B5:60:VAL:HG23	1.99	0.62
38:BA:207:A:H2'	38:BA:208:C:O4'	1.99	0.62
38:BA:419:C:O2'	38:BA:420:C:H5'	2.00	0.62
38:BA:1065:U:C2'	38:BA:1066:U:H5''	2.30	0.62
38:BA:2728:U:O2'	38:BA:2729:G:H5'	2.00	0.62
38:BA:2730:C:O2'	38:BA:2731:G:H5'	1.99	0.62
40:BC:76:ALA:HB3	40:BC:94:VAL:HG13	1.82	0.62
42:BE:201:THR:HG22	42:BE:203:LYS:N	2.05	0.62
52:BR:45:ARG:CG	52:BR:46:GLY:H	2.09	0.62
53:BS:85:VAL:HG23	53:BS:106:ARG:CB	2.28	0.62
1:AA:277:C:O2'	1:AA:278:G:H5'	2.00	0.62
1:AA:644:G:H2'	1:AA:645:C:H5'	1.81	0.62
1:AA:707:C:O2'	1:AA:708:C:H5'	2.00	0.62
1:AA:1053:G:N7	1:AA:1200:C:H5''	2.14	0.62
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.35	0.62
2:AB:185:ILE:HG22	2:AB:199:TYR:CB	2.26	0.62
5:AF:18:GLN:O	5:AF:21:LEU:HB2	2.00	0.62
6:AH:30:ARG:HB3	6:AH:30:ARG:HH11	1.65	0.62
7:AK:59:TYR:CE1	15:AG:149:ARG:HD3	2.35	0.62
15:AG:93:PRO:HA	15:AG:96:GLN:HB2	1.81	0.62
38:BA:292:C:N4	38:BA:348:G:H1	1.96	0.62
38:BA:1317:A:H2'	38:BA:1318:C:H6	1.65	0.62
38:BA:2824:C:H2'	38:BA:2825:C:O4'	2.00	0.62
38:BA:2893:G:H5'	38:BA:2894:G:C5'	2.27	0.62
41:BD:35:LYS:HZ1	41:BD:65:ILE:HA	1.63	0.62
41:BD:92:ILE:HD13	41:BD:104:TYR:CD2	2.34	0.62
42:BE:101:ARG:HB3	42:BE:201:THR:OG1	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:103:LEU:HD23	45:BH:103:LEU:H	1.65	0.62
50:BP:97:PRO:O	50:BP:98:GLU:HB3	1.98	0.62
1:AA:253:U:H2'	1:AA:254:G:H8	1.65	0.62
1:AA:336:C:H2'	1:AA:337:C:C6	2.33	0.62
1:AA:386:C:O2'	1:AA:387:U:H5'	1.99	0.62
1:AA:1401:G:H2'	1:AA:1402:C:O4'	1.99	0.62
14:AC:77:ILE:HG22	14:AC:81:GLY:HA2	1.81	0.62
16:AI:5:TYR:OH	16:AI:7:THR:HA	1.99	0.62
24:AW:71:G:O3'	38:BA:1851:U:H4'	2.00	0.62
30:B2:49:LYS:HA	30:B2:53:LEU:HB3	1.80	0.62
37:B9:24:TYR:HB3	37:B9:35:ARG:CA	2.28	0.62
38:BA:870:A:H5''	51:BQ:7:MET:HB2	1.81	0.62
38:BA:1773:A:H2'	38:BA:1774:C:H5'	1.81	0.62
44:BG:25:TYR:CE2	44:BG:32:PRO:HD3	2.35	0.62
44:BG:133:LEU:C	44:BG:133:LEU:HD12	2.19	0.62
46:BI:14:ASP:O	46:BI:17:GLN:HB2	1.99	0.62
46:BI:75:LEU:HD21	46:BI:105:HIS:CE1	2.33	0.62
50:BP:24:GLY:HA3	50:BP:33:ARG:NH2	2.09	0.62
52:BR:4:LEU:O	52:BR:6:SER:N	2.32	0.62
53:BS:30:ARG:NH2	53:BS:62:LYS:HD2	2.15	0.62
53:BS:89:ARG:HB3	53:BS:97:ARG:HH12	1.65	0.62
56:BV:73:SER:HB2	56:BV:75:PHE:CZ	2.35	0.62
1:AA:403:C:O2'	1:AA:404:U:H5'	2.00	0.61
1:AA:585:G:H4'	8:AL:8:ASN:ND2	2.08	0.61
1:AA:926:G:C5	1:AA:1505:G:C6	2.87	0.61
4:AE:102:ALA:HB1	4:AE:106:PRO:HG2	1.82	0.61
17:AJ:45:ARG:HB2	17:AJ:65:LEU:HB3	1.81	0.61
28:B0:74:ARG:HH12	39:BB:13:A:H8	1.46	0.61
29:B1:11:ARG:HE	29:B1:61:ARG:H	1.48	0.61
29:B1:19:GLN:HE21	38:BA:379:G:N2	1.88	0.61
38:BA:1062:G:N7	38:BA:1077:A:C2	2.68	0.61
38:BA:1278:A:O2'	38:BA:1279:G:H5'	2.00	0.61
38:BA:1847:A:H3'	38:BA:1848:A:H5'	1.82	0.61
38:BA:2283:C:C2'	38:BA:2284:C:H5'	2.28	0.61
38:BA:2772:C:H2'	38:BA:2773:C:H6	1.64	0.61
40:BC:50:ASP:CG	40:BC:55:ASP:HA	2.19	0.61
41:BD:35:LYS:NZ	41:BD:65:ILE:HA	2.15	0.61
41:BD:255:LYS:HE3	41:BD:255:LYS:N	2.15	0.61
43:BF:117:ARG:HH21	43:BF:187:VAL:HA	1.64	0.61
44:BG:19:LEU:HD22	44:BG:23:PHE:HE1	1.64	0.61
45:BH:158:HIS:O	45:BH:159:GLU:HB2	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:70:LYS:HB3	47:BL:114:ASP:CG	2.21	0.61
53:BS:89:ARG:HB2	53:BS:97:ARG:HH22	1.64	0.61
54:BT:29:ARG:HG3	54:BT:30:VAL:HG13	1.80	0.61
59:BY:9:LYS:HG3	59:BY:11:ASP:OD2	2.00	0.61
59:BY:38:ILE:N	59:BY:66:PRO:O	2.33	0.61
1:AA:390:C:O3'	10:AP:28:ARG:NH2	2.32	0.61
1:AA:950:U:H2'	1:AA:951:G:H8	1.64	0.61
1:AA:1320:C:H5'	20:AS:70:LYS:HG3	1.83	0.61
11:AQ:66:SER:OG	11:AQ:69:LYS:HB3	2.00	0.61
12:AR:58:LEU:HD23	12:AR:62:GLU:HB3	1.81	0.61
29:B1:89:GLU:HG2	29:B1:90:ILE:H	1.64	0.61
33:B5:57:VAL:HB	33:B5:58:LEU:HD12	1.81	0.61
38:BA:491:G:O2'	38:BA:492:A:H5'	2.00	0.61
38:BA:621:A:C2'	38:BA:622:G:H5'	2.30	0.61
38:BA:1504:C:O2'	38:BA:1505:C:C5'	2.48	0.61
38:BA:1907:G:O2'	38:BA:1908:C:H5'	2.00	0.61
38:BA:2146:C:C6	38:BA:2146:C:C3'	2.83	0.61
38:BA:2758:A:C3'	38:BA:2759:G:H5''	2.29	0.61
40:BC:21:THR:O	40:BC:22:ILE:HD13	2.01	0.61
40:BC:191:ALA:O	40:BC:193:ILE:N	2.33	0.61
41:BD:126:GLN:O	41:BD:193:VAL:HG11	2.00	0.61
41:BD:267:SER:HA	41:BD:270:ILE:CG1	2.28	0.61
43:BF:24:LEU:CB	43:BF:25:PRO:HD2	2.25	0.61
44:BG:115:ARG:NH2	44:BG:136:ARG:HG3	2.14	0.61
47:BL:9:LYS:HG2	47:BL:56:GLU:OE2	2.00	0.61
47:BL:93:ARG:HG2	60:BZ:112:ARG:CD	1.50	0.61
48:BN:40:PRO:HA	55:BU:64:ARG:NH2	2.14	0.61
50:BP:80:TYR:CE2	50:BP:111:ARG:HG2	2.35	0.61
52:BR:79:LEU:HD23	52:BR:83:ILE:HB	1.82	0.61
53:BS:89:ARG:CB	53:BS:97:ARG:HH22	2.13	0.61
1:AA:17:U:H2'	1:AA:18:C:H6	1.65	0.61
8:AL:82:VAL:HB	8:AL:106:ASP:OD1	2.00	0.61
11:AQ:63:ARG:HG2	11:AQ:64:PRO:HD2	1.82	0.61
16:AI:5:TYR:HA	16:AI:17:VAL:O	2.00	0.61
17:AJ:16:LEU:HD23	17:AJ:94:VAL:HG13	1.82	0.61
17:AJ:40:LEU:HD23	17:AJ:40:LEU:N	2.16	0.61
25:AY:8:U:H4'	25:AY:48:C:C1'	2.30	0.61
25:AY:37:YG:H101	25:AY:37:YG:C21	2.30	0.61
29:B1:86:SER:N	29:B1:87:PRO:CD	2.64	0.61
37:B9:4:ARG:NH1	38:BA:2465:C:H5''	1.92	0.61
38:BA:2571:C:C5'	38:BA:2572:A:H5''	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2779:U:H1'	38:BA:2781:A:C5	2.35	0.61
38:BA:2849:U:O4	54:BT:23:ARG:NH2	2.29	0.61
41:BD:108:PRO:HG2	41:BD:111:LEU:HB2	1.82	0.61
45:BH:105:LEU:O	45:BH:105:LEU:HD22	2.00	0.61
45:BH:140:LYS:O	45:BH:144:VAL:HG23	2.00	0.61
55:BU:92:ARG:O	55:BU:95:LEU:N	2.33	0.61
56:BV:2:PHE:O	56:BV:3:ALA:HB2	2.00	0.61
1:AA:1431:C:H2'	1:AA:1432:G:H5'	1.81	0.61
1:AA:1456:G:H2'	1:AA:1457:G:O4'	2.01	0.61
4:AE:71:LEU:CD2	4:AE:115:VAL:HG13	2.29	0.61
4:AE:101:ILE:HD13	4:AE:101:ILE:N	2.13	0.61
12:AR:26:LEU:HD21	12:AR:42:ARG:HD2	1.81	0.61
16:AI:53:VAL:HB	16:AI:92:TYR:CE2	2.36	0.61
18:AM:68:GLY:O	18:AM:70:LEU:N	2.32	0.61
30:B2:26:ARG:NE	30:B2:29:LYS:HZ1	1.98	0.61
33:B5:50:GLY:HA3	33:B5:56:LYS:HG2	1.82	0.61
38:BA:1056:G:N2	38:BA:1102:C:OP2	2.27	0.61
38:BA:1087:G:N2	38:BA:1103:A:H2'	2.15	0.61
38:BA:1195:G:O2'	38:BA:1196:C:H5'	2.00	0.61
38:BA:1245:G:OP1	50:BP:16:ARG:HD2	1.99	0.61
38:BA:1441:G:O2'	38:BA:1442:G:H5'	1.99	0.61
38:BA:1642:G:O2'	38:BA:1643:G:H5'	2.01	0.61
38:BA:2040:C:H2'	38:BA:2041:U:H6	1.66	0.61
38:BA:2133:G:O2'	38:BA:2134:A:C8	2.51	0.61
38:BA:2145:C:H2'	38:BA:2146:C:C6	2.35	0.61
38:BA:2182:G:H2'	38:BA:2183:C:C6	2.35	0.61
38:BA:2345:G:N3	38:BA:2381:C:H2'	2.14	0.61
38:BA:2672:G:C3'	38:BA:2673:G:H5''	2.31	0.61
39:BB:74:U:H2'	39:BB:75:G:O4'	2.00	0.61
46:BI:37:VAL:HG12	46:BI:38:LEU:N	2.15	0.61
46:BI:71:ILE:HG13	46:BI:72:LEU:N	2.15	0.61
48:BN:15:LEU:HD21	48:BN:55:VAL:CG2	2.31	0.61
48:BN:16:ILE:HG23	48:BN:54:VAL:HG22	1.82	0.61
55:BU:90:VAL:HG12	55:BU:91:ASP:N	2.12	0.61
55:BU:91:ASP:OD2	55:BU:96:ALA:HB2	2.01	0.61
56:BV:72:VAL:HA	56:BV:88:ARG:NH2	2.15	0.61
1:AA:1148:U:H2'	1:AA:1149:C:O4'	2.00	0.61
1:AA:1435:G:H2'	1:AA:1436:U:H6	1.63	0.61
8:AL:46:LYS:HG2	8:AL:47:LYS:N	2.04	0.61
8:AL:89:ARG:HB2	8:AL:89:ARG:HH11	1.65	0.61
11:AQ:38:ARG:HA	11:AQ:38:ARG:HE	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:43:LEU:O	14:AC:47:LEU:HB3	1.99	0.61
16:AI:53:VAL:HG23	16:AI:55:ALA:HB3	1.82	0.61
17:AJ:98:ILE:HD12	17:AJ:98:ILE:N	2.15	0.61
22:AV:13:C:O2'	38:BA:1924:C:C3'	2.48	0.61
33:B5:25:LEU:HD12	57:BW:19:LEU:HB3	1.82	0.61
38:BA:1056:G:O4'	38:BA:1056:G:OP2	2.18	0.61
38:BA:2190:G:H2'	38:BA:2191:G:O4'	2.00	0.61
38:BA:2580:U:H5'	42:BE:131:ALA:HB2	1.83	0.61
39:BB:3:C:N4	39:BB:118:G:H1	1.99	0.61
40:BC:49:ILE:HD12	40:BC:49:ILE:N	2.12	0.61
47:BL:18:THR:HG23	47:BL:38:VAL:CG1	2.26	0.61
47:BL:37:PHE:CG	47:BL:57:ILE:HD12	2.35	0.61
52:BR:113:LEU:HD12	52:BR:114:VAL:N	2.15	0.61
54:BT:28:VAL:CG2	54:BT:46:GLU:HA	2.30	0.61
54:BT:63:VAL:O	54:BT:73:GLU:HA	2.01	0.61
59:BY:26:LYS:HG2	59:BY:27:VAL:H	1.65	0.61
1:AA:35:G:H2'	1:AA:36:C:C6	2.36	0.61
1:AA:271:C:H2'	1:AA:272:C:H6	1.66	0.61
1:AA:376:G:O2'	1:AA:377:G:H5'	1.99	0.61
1:AA:1431:C:C2'	1:AA:1432:G:H5'	2.31	0.61
18:AM:15:VAL:O	18:AM:19:LEU:HD23	1.99	0.61
36:B8:50:LEU:O	36:B8:52:LYS:N	2.28	0.61
38:BA:30:G:O2'	38:BA:31:C:H5'	2.00	0.61
38:BA:738:G:O2'	38:BA:739:G:H5'	2.01	0.61
38:BA:1001:A:H2'	38:BA:1002:G:O4'	2.00	0.61
38:BA:2697:G:O2'	38:BA:2698:U:H5'	2.00	0.61
41:BD:235:GLY:O	41:BD:236:GLY:C	2.38	0.61
43:BF:84:VAL:O	43:BF:86:GLY:N	2.34	0.61
46:BI:110:ASP:C	46:BI:112:LYS:H	2.03	0.61
48:BN:63:THR:O	48:BN:64:GLY:O	2.19	0.61
48:BN:96:GLU:HG2	48:BN:97:ARG:H	1.66	0.61
54:BT:50:ILE:N	54:BT:50:ILE:CD1	2.62	0.61
59:BY:17:SER:CA	59:BY:71:LYS:HD2	2.30	0.61
59:BY:95:LYS:HD3	59:BY:100:ALA:CB	2.31	0.61
1:AA:1258:G:H2'	1:AA:1259:C:C6	2.35	0.61
2:AB:115:LEU:HD23	2:AB:153:ARG:CZ	2.30	0.61
8:AL:45:PRO:HD3	8:AL:51:ALA:O	2.01	0.61
13:AT:71:THR:HG22	13:AT:72:LEU:H	1.64	0.61
14:AC:112:SER:HB3	14:AC:115:LEU:HD12	1.82	0.61
16:AI:103:THR:HG22	16:AI:105:ASP:N	2.15	0.61
18:AM:31:LYS:HA	18:AM:34:LEU:HD12	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B1:11:ARG:HH11	29:B1:60:PHE:HA	1.65	0.61
38:BA:661:C:H4'	50:BP:18:ARG:HG2	1.83	0.61
38:BA:1045:A:H3'	38:BA:1045:A:N3	2.15	0.61
38:BA:2051:A:H5'	38:BA:2578:G:O4'	2.00	0.61
38:BA:2129:C:H2'	38:BA:2130:U:O5'	2.01	0.61
38:BA:2464:C:O2'	38:BA:2465:C:H6	1.79	0.61
38:BA:2870:C:H2'	38:BA:2871:C:O4'	1.99	0.61
39:BB:73:A:H2	60:BZ:34:ASN:HD21	1.48	0.61
42:BE:30:PRO:O	42:BE:32:PRO:HD3	2.00	0.61
46:BI:127:VAL:HG22	46:BI:139:GLN:CG	2.31	0.61
48:BN:42:TRP:HA	48:BN:48:MET:HE1	1.82	0.61
51:BQ:109:VAL:HG12	51:BQ:110:THR:N	2.15	0.61
51:BQ:109:VAL:HG12	51:BQ:110:THR:H	1.65	0.61
54:BT:29:ARG:HG2	54:BT:86:ILE:H	1.66	0.61
56:BV:5:VAL:CG2	56:BV:36:PRO:HB2	2.31	0.61
1:AA:1194:U:H4'	4:AE:22:GLY:C	2.21	0.61
24:AW:45:U:O2'	24:AW:46:G:H5'	2.00	0.61
24:AW:51:U:H3	24:AW:63:G:H1	1.48	0.61
38:BA:1171:G:H3'	38:BA:1173:G:O4'	2.01	0.61
38:BA:1593:G:H2'	38:BA:1594:G:H5''	1.82	0.61
38:BA:1750:G:O2'	38:BA:1751:C:H5'	2.01	0.61
38:BA:2832:U:H4'	38:BA:2833:G:H5''	1.81	0.61
41:BD:48:ARG:HG3	41:BD:48:ARG:NH1	2.15	0.61
42:BE:11:MET:N	54:BT:8:LYS:HE3	2.16	0.61
47:BL:108:ALA:HB2	47:BL:127:ILE:HD11	1.82	0.61
58:BX:58:HIS:C	58:BX:59:VAL:HG22	2.21	0.61
59:BY:75:ILE:HG12	59:BY:80:GLY:N	2.16	0.61
60:BZ:40:ASP:HB3	60:BZ:43:GLU:CG	2.30	0.61
1:AA:1342:C:H1'	16:AI:124:GLN:HE22	1.64	0.61
1:AA:1442(B):A:N1	54:BT:118:ARG:CZ	2.64	0.61
6:AH:86:ILE:HG12	6:AH:135:CYS:HA	1.82	0.61
14:AC:95:THR:HG21	14:AC:99:VAL:CG1	2.29	0.61
16:AI:10:ARG:HD3	16:AI:75:ASP:HB3	1.83	0.61
16:AI:126:SER:O	16:AI:128:ARG:HD2	2.01	0.61
25:AY:76:A:N9	27:AZ:271:GLU:OE1	2.33	0.61
38:BA:1747:G:H2'	38:BA:1747(A):G:H8	1.66	0.61
38:BA:2186:G:H2'	38:BA:2187:G:H5''	1.82	0.61
38:BA:2287:A:C2	38:BA:2346:A:C2	2.88	0.61
38:BA:2892:A:C4	38:BA:2893:G:H1'	2.36	0.61
40:BC:22:ILE:CG2	40:BC:25:ALA:HB2	2.31	0.61
50:BP:131:SER:N	50:BP:134:ALA:HB3	2.11	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BS:34:HIS:CD2	53:BS:54:LEU:HB2	2.36	0.61
53:BS:89:ARG:O	53:BS:92:TYR:CG	2.54	0.61
54:BT:65:LYS:HZ2	54:BT:66:VAL:H	1.49	0.61
55:BU:95:LEU:HD12	56:BV:11:GLN:HG3	1.83	0.61
1:AA:954:G:H2'	1:AA:955:U:H6	1.66	0.61
6:AH:44:PHE:HD1	6:AH:79:VAL:HG12	1.66	0.61
8:AL:6:THR:N	8:AL:9:GLN:HE21	1.93	0.61
13:AT:56:MET:O	13:AT:59:ALA:HB3	2.00	0.61
22:AV:23:C:H2'	22:AV:24:U:C6	2.36	0.61
38:BA:1063:G:OP1	47:BL:79:ARG:NH1	2.33	0.61
38:BA:1259:G:O2'	38:BA:1260:G:H5'	2.01	0.61
38:BA:2030:A:H5''	38:BA:2031:A:OP1	2.01	0.61
38:BA:2863:C:H2'	38:BA:2864:G:H5''	1.83	0.61
38:BA:2887:U:H2'	38:BA:2888:C:H6	1.66	0.61
41:BD:235:GLY:O	41:BD:237:GLU:HG2	2.01	0.61
43:BF:122:LYS:HB3	43:BF:191:ARG:HG2	1.83	0.61
51:BQ:35:VAL:HG23	51:BQ:100:GLY:O	2.00	0.61
51:BQ:44:ALA:HA	51:BQ:47:ILE:HD13	1.81	0.61
54:BT:65:LYS:HA	54:BT:65:LYS:HZ2	1.64	0.61
55:BU:79:PHE:HD2	55:BU:79:PHE:C	2.04	0.61
1:AA:123:C:H42	1:AA:238:G:H1	1.48	0.60
1:AA:1003:G:C2	1:AA:1004:A:H1'	2.36	0.60
1:AA:1070:U:O2'	1:AA:1071:C:H5'	2.01	0.60
1:AA:1121:U:H2'	1:AA:1122:U:H6	1.65	0.60
1:AA:1430:C:H5'	38:BA:1704:G:H5''	1.82	0.60
1:AA:1520:G:O2'	1:AA:1521:G:H5'	2.01	0.60
4:AE:57:LYS:O	4:AE:61:TYR:HD2	1.84	0.60
20:AS:10:PHE:HZ	20:AS:70:LYS:HE2	1.66	0.60
21:AU:5:ASP:O	21:AU:11:GLY:HA3	2.01	0.60
31:B3:2:PRO:O	31:B3:39:ASP:HB3	2.01	0.60
38:BA:271(M):G:H2'	38:BA:271(N):U:C5'	2.30	0.60
38:BA:549:G:H2'	38:BA:551:G:H5''	1.83	0.60
38:BA:659:C:C5'	38:BA:659:C:H6	2.14	0.60
38:BA:1000:A:H5'	38:BA:1001:A:OP2	2.00	0.60
38:BA:1095:A:N7	38:BA:1097:U:O4	2.34	0.60
38:BA:1114:G:H2'	38:BA:1115:G:C5'	2.31	0.60
38:BA:1722:A:H2	38:BA:1740:G:H2'	1.64	0.60
38:BA:2377:A:H4'	53:BS:107:GLU:CB	2.28	0.60
38:BA:2555:U:C2'	38:BA:2556:C:H5'	2.31	0.60
38:BA:2701:C:C3'	38:BA:2702:U:H5''	2.15	0.60
43:BF:2:LYS:HG3	43:BF:25:PRO:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BG:76:SER:HB3	44:BG:84:LYS:N	2.09	0.60
45:BH:153:LYS:HD3	45:BH:153:LYS:N	2.13	0.60
47:BL:47:ASN:OD1	47:BL:47:ASN:O	2.19	0.60
49:BO:63:VAL:CG2	49:BO:64:ARG:N	2.63	0.60
54:BT:108:ARG:HH11	54:BT:108:ARG:HB3	1.65	0.60
56:BV:51:VAL:HG12	56:BV:52:VAL:N	2.17	0.60
56:BV:62:LEU:CD2	56:BV:98:GLU:HA	2.30	0.60
58:BX:36:LYS:HZ2	58:BX:39:ILE:CA	2.00	0.60
59:BY:45:VAL:HA	59:BY:62:GLU:CB	2.29	0.60
1:AA:178:C:O2'	1:AA:179:A:H5'	2.00	0.60
1:AA:417:C:O2'	1:AA:418:C:H5'	2.01	0.60
1:AA:710:G:OP1	5:AF:54:LYS:HE3	2.01	0.60
4:AE:36:ASP:OD2	4:AE:38:GLN:HB2	2.01	0.60
5:AF:9:VAL:HA	5:AF:59:TYR:O	2.00	0.60
25:AY:76:A:C8	27:AZ:271:GLU:OE1	2.54	0.60
31:B3:8:LEU:HB2	31:B3:28:LEU:HD13	1.83	0.60
34:B6:36:LEU:O	34:B6:37:ARG:HG3	2.01	0.60
38:BA:271(R):G:O2'	38:BA:271(S):G:H5'	2.02	0.60
38:BA:706:A:H2'	38:BA:707:G:O4'	2.00	0.60
38:BA:1654:A:C2	42:BE:113:PHE:CD1	2.88	0.60
38:BA:2330:G:O2'	38:BA:2331:G:H5'	2.00	0.60
38:BA:2852:G:H2'	38:BA:2853:C:H6	1.66	0.60
41:BD:94:LEU:HD13	41:BD:94:LEU:C	2.21	0.60
41:BD:268:ARG:NH1	41:BD:269:PHE:HE1	1.99	0.60
43:BF:183:VAL:O	43:BF:187:VAL:HG23	2.02	0.60
46:BI:98:ALA:CB	46:BI:109:ILE:HD13	2.30	0.60
47:BL:12:LEU:HD22	47:BL:19:PRO:CG	2.30	0.60
51:BQ:42:ILE:HG22	51:BQ:47:ILE:HD12	1.82	0.60
51:BQ:42:ILE:HD12	51:BQ:42:ILE:N	2.15	0.60
1:AA:368:U:OP1	27:AZ:291:ARG:NH2	2.30	0.60
1:AA:442:C:N4	1:AA:492:G:H1	1.91	0.60
1:AA:1003:G:N3	1:AA:1004:A:H1'	2.17	0.60
8:AL:32:PHE:CB	8:AL:84:LEU:HD21	2.29	0.60
10:AP:55:ARG:HA	10:AP:55:ARG:HE	1.67	0.60
15:AG:38:LEU:O	15:AG:42:ILE:HG13	2.01	0.60
16:AI:10:ARG:NH2	16:AI:11:LYS:HB2	2.15	0.60
17:AJ:49:VAL:HG13	19:AN:41:ARG:HB2	1.82	0.60
18:AM:69:GLU:HB2	18:AM:70:LEU:N	2.16	0.60
20:AS:29:ARG:HD2	20:AS:30:LEU:N	2.16	0.60
25:AY:40:5MC:H2'	25:AY:41:U:H5'	1.82	0.60
28:B0:32:ARG:N	28:B0:35:ASN:ND2	2.48	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B2:47:ASN:HD22	30:B2:47:ASN:N	1.99	0.60
31:B3:23:LEU:CD1	31:B3:50:VAL:HG11	2.30	0.60
38:BA:1227:G:OP1	55:BU:13:LYS:HD3	2.01	0.60
38:BA:1230:C:O2'	38:BA:1231:G:H5'	2.01	0.60
38:BA:1703:G:H2'	38:BA:1704:G:C8	2.35	0.60
38:BA:2779:U:H1'	38:BA:2781:A:N7	2.16	0.60
40:BC:74:VAL:HA	40:BC:119:VAL:CB	2.30	0.60
41:BD:34:VAL:HG13	41:BD:34:VAL:O	2.01	0.60
43:BF:53:THR:CG2	43:BF:56:GLU:HB2	2.21	0.60
47:BL:78:ILE:HG21	47:BL:131:ALA:HA	1.84	0.60
47:BL:103:GLN:C	47:BL:106:GLU:HG3	2.22	0.60
48:BN:78:TYR:CD1	48:BN:79:PRO:CD	2.84	0.60
51:BQ:23:GLY:C	51:BQ:100:GLY:HA3	2.20	0.60
53:BS:17:ARG:HG3	53:BS:18:ILE:N	2.17	0.60
57:BW:10:VAL:HG23	57:BW:101:SER:O	2.00	0.60
1:AA:15:G:H4'	4:AE:24:ARG:HH22	1.65	0.60
1:AA:255:G:O6	1:AA:266:G:O6	2.20	0.60
1:AA:358:U:H4'	27:AZ:235:GLY:N	2.16	0.60
1:AA:862:C:O2'	1:AA:863:U:H5'	2.02	0.60
1:AA:1374:A:H2'	1:AA:1375:A:H8	1.66	0.60
3:AD:103:ASN:O	3:AD:106:TYR:HB3	2.01	0.60
5:AF:82:ARG:HB3	5:AF:82:ARG:NH1	2.17	0.60
7:AK:43:SER:OG	7:AK:47:VAL:HG11	2.01	0.60
10:AP:34:GLU:OE2	10:AP:55:ARG:HD3	2.00	0.60
27:AZ:120:ILE:HD12	27:AZ:157[B]:LEU:HD22	1.83	0.60
34:B6:11:LEU:HG	34:B6:26:ASN:ND2	2.17	0.60
36:B8:12:LYS:O	50:BP:65:ARG:HB3	2.02	0.60
38:BA:1322:A:O3'	57:BW:84:ARG:NH2	2.33	0.60
38:BA:1679:U:C2'	38:BA:1680:U:H5'	2.32	0.60
38:BA:2774:C:H2'	38:BA:2775:A:O4'	2.01	0.60
38:BA:2807:G:H1	38:BA:2892:A:H62	1.48	0.60
38:BA:2845:G:OP1	54:BT:56:GLY:N	2.34	0.60
39:BB:87:G:H2'	39:BB:88:C:H5''	1.83	0.60
43:BF:9:ILE:HG23	43:BF:13:SER:O	2.00	0.60
47:BL:27:LEU:CD2	47:BL:57:ILE:HD11	2.31	0.60
48:BN:56:ASN:ND2	48:BN:126:PRO:HD3	2.17	0.60
49:BO:18:LYS:HB2	49:BO:45:GLU:HG2	1.83	0.60
49:BO:63:VAL:HB	49:BO:102:VAL:HG12	1.82	0.60
53:BS:42:ASP:C	53:BS:44:LYS:H	2.04	0.60
54:BT:108:ARG:HB3	54:BT:108:ARG:NH1	2.16	0.60
56:BV:72:VAL:HG12	56:BV:73:SER:N	2.13	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1135:U:H4'	1:AA:1136:U:H5	1.66	0.60
4:AE:51:VAL:O	4:AE:55:VAL:HG23	2.02	0.60
11:AQ:40:LYS:HD2	11:AQ:42:TYR:CZ	2.36	0.60
22:AV:76:A:N6	28:B0:1:MET:CB	2.63	0.60
28:B0:11:ARG:HB3	28:B0:11:ARG:NH1	2.17	0.60
29:B1:10:LYS:HD2	29:B1:15:ALA:H	1.65	0.60
29:B1:62:VAL:HG21	29:B1:67:ILE:HA	1.82	0.60
29:B1:66:HIS:C	29:B1:68:PRO:HD2	2.21	0.60
34:B6:42:TRP:CE3	34:B6:42:TRP:HA	2.35	0.60
37:B9:30:PRO:CD	38:BA:2528:U:OP1	2.49	0.60
38:BA:185:U:H4'	38:BA:218:A:H4'	1.84	0.60
38:BA:252:G:OP2	50:BP:50:ARG:NH1	2.34	0.60
38:BA:491:G:H2'	38:BA:492:A:H8	1.66	0.60
38:BA:1204:A:N1	38:BA:1241:A:C2	2.68	0.60
38:BA:1665:A:O2'	38:BA:1666:G:H5'	2.01	0.60
38:BA:1688:U:H1'	38:BA:1701:A:C6	2.36	0.60
41:BD:223:GLY:O	41:BD:224:ALA:C	2.39	0.60
42:BE:11:MET:H	54:BT:8:LYS:CE	2.14	0.60
42:BE:69:LYS:O	42:BE:70:ALA:C	2.39	0.60
42:BE:200:GLU:N	42:BE:200:GLU:OE2	2.34	0.60
46:BI:77:LEU:HB2	46:BI:140:LEU:HD13	1.84	0.60
47:BL:76:TYR:O	47:BL:80:LYS:CD	2.49	0.60
49:BO:65:THR:HA	49:BO:82:ASN:HA	1.82	0.60
53:BS:85:VAL:O	53:BS:106:ARG:HA	2.01	0.60
56:BV:19:LYS:HZ2	56:BV:20:LEU:N	1.95	0.60
59:BY:15:VAL:O	59:BY:16:ALA:HB2	2.01	0.60
59:BY:54:LYS:O	59:BY:55:TYR:O	2.20	0.60
1:AA:261:U:H2'	1:AA:263:A:OP2	2.02	0.60
1:AA:926:G:C5	1:AA:1505:G:N1	2.69	0.60
1:AA:939:G:H5''	15:AG:102:ARG:HH22	1.66	0.60
4:AE:10:MET:HB2	4:AE:32:VAL:HG22	1.83	0.60
6:AH:20:TYR:HD1	6:AH:65:TYR:CD2	2.20	0.60
8:AL:23:LYS:O	8:AL:24:VAL:HG23	2.01	0.60
13:AT:87:LYS:HG3	13:AT:91:LEU:HD11	1.84	0.60
25:AY:41:U:H5'	25:AY:41:U:C6	2.27	0.60
31:B3:15:TYR:O	31:B3:20:LYS:HE2	2.02	0.60
34:B6:36:LEU:HD13	34:B6:50:ARG:CZ	2.31	0.60
37:B9:3:VAL:HG13	37:B9:4:ARG:N	2.17	0.60
37:B9:8:LYS:O	37:B9:9:ARG:CB	2.49	0.60
38:BA:1098:A:H1'	47:BL:30:HIS:CE1	2.36	0.60
38:BA:1314:C:H6	38:BA:1314:C:H5'	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1497:U:C5'	38:BA:1498:C:H5	2.15	0.60
38:BA:2103:C:C3'	38:BA:2104:G:H5''	2.25	0.60
38:BA:2533:A:C3'	38:BA:2534:A:H5''	2.32	0.60
41:BD:27:THR:CG2	41:BD:28:GLU:N	2.52	0.60
42:BE:52:LEU:H	42:BE:76:ARG:CB	2.15	0.60
47:BL:106:GLU:HA	47:BL:109:LYS:CE	2.32	0.60
48:BN:82:LEU:HD12	48:BN:82:LEU:H	1.66	0.60
52:BR:11:ASN:O	52:BR:12:ARG:HB2	2.01	0.60
58:BX:57:LEU:HD22	58:BX:76:ARG:HD2	1.82	0.60
60:BZ:6:LYS:HB3	60:BZ:8:TYR:CE1	2.37	0.60
1:AA:603:U:O2'	1:AA:604:G:H5'	2.01	0.60
1:AA:763:G:O2'	1:AA:764:C:H5'	2.01	0.60
1:AA:1144:G:H21	1:AA:1146:A:H62	1.50	0.60
1:AA:1192:C:H2'	1:AA:1193:G:O4'	2.01	0.60
1:AA:1288:A:H2'	1:AA:1289:A:C8	2.37	0.60
2:AB:115:LEU:HD13	2:AB:145:LEU:HD12	1.82	0.60
8:AL:102:ARG:HH11	8:AL:102:ARG:CG	2.15	0.60
11:AQ:14:LYS:NZ	11:AQ:14:LYS:HB2	2.16	0.60
15:AG:15:ASP:HB3	15:AG:19:GLY:H	1.66	0.60
36:B8:13:ARG:HB3	50:BP:63:PRO:HA	1.82	0.60
37:B9:14:CYS:HA	37:B9:27:CYS:CA	2.31	0.60
37:B9:25:VAL:O	37:B9:26:ILE:HG13	2.02	0.60
38:BA:266:G:H2'	38:BA:267:C:H5''	1.83	0.60
38:BA:307:G:H21	38:BA:330:A:H62	1.48	0.60
38:BA:389:G:N2	50:BP:71:VAL:HG12	2.14	0.60
38:BA:957:A:H5'	51:BQ:76:LYS:HG3	1.83	0.60
38:BA:993:G:H5''	56:BV:75:PHE:CE2	2.37	0.60
38:BA:1065:U:H2'	38:BA:1066:U:H5''	1.82	0.60
38:BA:1104:C:C4	38:BA:1105:U:C4	2.89	0.60
38:BA:1107:G:HO3'	38:BA:1108:U:C5'	1.86	0.60
38:BA:2502:G:H5''	38:BA:2503:A:C5'	2.32	0.60
38:BA:2720:U:H5'	38:BA:2721:A:OP2	2.01	0.60
38:BA:2735:G:O2'	38:BA:2736:G:H5''	2.01	0.60
39:BB:15:A:H5'	39:BB:16:G:H8	1.64	0.60
39:BB:15:A:C3'	39:BB:16:G:H5'	2.28	0.60
39:BB:81:G:H5'	39:BB:82:G:OP2	2.02	0.60
42:BE:176:ILE:N	42:BE:176:ILE:HD12	2.15	0.60
45:BH:37:VAL:HG12	45:BH:38:SER:N	2.15	0.60
46:BI:110:ASP:O	46:BI:114:LEU:HG	2.02	0.60
47:BL:27:LEU:HD11	47:BL:57:ILE:HD11	1.83	0.60
47:BL:108:ALA:HB1	47:BL:123:ALA:HB1	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:4:PRO:O	49:BO:5:GLN:CB	2.49	0.60
49:BO:86:ILE:H	49:BO:86:ILE:HD12	1.66	0.60
51:BQ:22:LYS:HA	51:BQ:22:LYS:CE	2.31	0.60
51:BQ:52:VAL:CG1	51:BQ:53:ALA:N	2.65	0.60
52:BR:18:LEU:HD11	52:BR:22:ARG:CZ	2.32	0.60
1:AA:556:C:C2'	1:AA:557:G:H5'	2.32	0.60
1:AA:1343:G:H1'	16:AI:121:ARG:NH1	2.16	0.60
2:AB:103:THR:HA	2:AB:180:LEU:HD11	1.83	0.60
3:AD:52:SER:O	3:AD:54:TYR:N	2.35	0.60
3:AD:147:ALA:HB2	3:AD:182:LYS:CB	2.32	0.60
7:AK:105:VAL:O	7:AK:105:VAL:HG23	2.02	0.60
13:AT:82:SER:O	13:AT:86:ARG:HB2	2.01	0.60
14:AC:27:LYS:HA	14:AC:27:LYS:HZ3	1.65	0.60
38:BA:1079:C:H2'	38:BA:1080:C:H5'	1.82	0.60
38:BA:1107:G:C2'	38:BA:1108:U:O4'	2.50	0.60
38:BA:1301:A:H2'	38:BA:1302:A:H3'	1.84	0.60
38:BA:1654:A:H2	42:BE:113:PHE:CD1	2.19	0.60
38:BA:2892:A:H2'	38:BA:2893:G:O4'	2.01	0.60
40:BC:89:ALA:HB2	40:BC:153:ILE:HA	1.84	0.60
41:BD:43:ARG:HB3	41:BD:54:ARG:HB2	1.82	0.60
42:BE:23:VAL:HA	42:BE:184:VAL:O	2.02	0.60
42:BE:128:SER:OG	42:BE:129:HIS:N	2.34	0.60
44:BG:11:TYR:O	44:BG:15:VAL:HB	2.02	0.60
47:BL:54:PRO:HG3	47:BL:72:PRO:HA	1.82	0.60
47:BL:77:LEU:HD12	47:BL:111:LYS:CD	2.31	0.60
47:BL:104:VAL:HG13	47:BL:127:ILE:CG2	2.32	0.60
52:BR:97:VAL:HG22	52:BR:114:VAL:HG22	1.84	0.60
54:BT:98:LYS:HB3	54:BT:100:TYR:HE1	1.64	0.60
55:BU:26:GLY:C	55:BU:28:ARG:N	2.50	0.60
58:BX:55:ASN:HB2	58:BX:78:LYS:HD2	1.83	0.60
59:BY:31:LEU:HG	59:BY:34:LYS:HB2	1.83	0.60
1:AA:683:G:H2'	1:AA:684:A:C8	2.36	0.60
3:AD:117:ALA:O	3:AD:121:VAL:HG23	2.02	0.60
3:AD:196:LEU:H	3:AD:196:LEU:HD12	1.67	0.60
6:AH:58:TYR:C	6:AH:59:LEU:HD23	2.22	0.60
12:AR:31:LEU:HG	12:AR:65:ILE:CD1	2.31	0.60
14:AC:186:PHE:HA	14:AC:198:VAL:O	2.02	0.60
20:AS:58:VAL:O	20:AS:58:VAL:HG23	2.00	0.60
31:B3:28:LEU:HA	31:B3:33:GLN:OE1	2.02	0.60
37:B9:30:PRO:C	38:BA:2528:U:OP1	2.33	0.60
38:BA:482:A:H4'	59:BY:47:LYS:HZ1	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1215:G:O2'	38:BA:1216:G:H5'	2.02	0.60
41:BD:35:LYS:HZ3	41:BD:104:TYR:HD1	1.47	0.60
41:BD:63:ARG:HG3	41:BD:63:ARG:NH1	2.10	0.60
41:BD:148:GLU:HB2	41:BD:151:LYS:HD2	1.82	0.60
42:BE:52:LEU:CB	42:BE:76:ARG:HB2	2.18	0.60
43:BF:132:VAL:HG22	43:BF:133:ASN:N	2.16	0.60
44:BG:135:LEU:N	44:BG:135:LEU:HD12	2.17	0.60
46:BI:25:TYR:HE2	46:BI:29:TYR:CD2	2.19	0.60
46:BI:129:THR:CG2	46:BI:135:GLU:HB3	2.29	0.60
47:BL:61:ALA:O	47:BL:62:ASP:HB2	2.01	0.60
48:BN:55:VAL:CG1	48:BN:56:ASN:H	2.15	0.60
48:BN:77:GLY:O	48:BN:78:TYR:HB3	2.02	0.60
50:BP:121:LYS:HB3	50:BP:122:PRO:HD2	1.83	0.60
1:AA:685:G:O2'	1:AA:686:U:H5'	2.01	0.60
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.35	0.60
1:AA:1474:G:C2'	38:BA:1701:A:H2	2.15	0.60
6:AH:119:LEU:HB2	6:AH:124:ALA:HB2	1.83	0.60
15:AG:108:ALA:O	15:AG:111:ARG:HB2	2.02	0.60
29:B1:27:GLU:HB2	29:B1:33:LYS:O	2.02	0.60
35:B7:19:ARG:HG2	35:B7:19:ARG:NH1	2.15	0.60
38:BA:229:A:H3'	38:BA:230:U:C5'	2.32	0.60
38:BA:806:C:OP2	50:BP:39:LYS:HD2	2.02	0.60
38:BA:1785:A:OP2	38:BA:1982:C:H5'	2.02	0.60
38:BA:2145:C:H2'	38:BA:2146:C:N1	2.15	0.60
38:BA:2637:U:H5'	38:BA:2637:U:H6	1.65	0.60
43:BF:125:LEU:HD21	43:BF:199:TRP:CD1	2.36	0.60
49:BO:107:ARG:NH2	54:BT:35:LYS:HD2	2.16	0.60
54:BT:80:SER:HB3	54:BT:81:PRO:CD	2.32	0.60
3:AD:121:VAL:O	3:AD:134:ASP:HA	2.01	0.59
14:AC:70:VAL:HG12	14:AC:72:LYS:H	1.67	0.59
14:AC:120:VAL:O	14:AC:124:ILE:HD12	2.02	0.59
15:AG:92:SER:OG	15:AG:93:PRO:HD2	2.02	0.59
17:AJ:75:ILE:HG13	17:AJ:76:ASN:N	2.17	0.59
25:AY:46:7MG:O2'	25:AY:47:U:C5'	2.49	0.59
29:B1:11:ARG:CB	29:B1:12:PRO:HD2	2.32	0.59
36:B8:14:VAL:HG22	36:B8:24:ALA:HB2	1.83	0.59
37:B9:19:ARG:HD2	38:BA:2755:C:C2	2.37	0.59
38:BA:751:A:H5'	57:BW:90:ARG:HG2	1.84	0.59
38:BA:2290:G:H8	38:BA:2290:G:H5'	1.66	0.59
39:BB:40:U:H1'	39:BB:45:A:H61	1.67	0.59
40:BC:77:ILE:HG21	40:BC:122:ALA:C	2.23	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:11:PRO:C	41:BD:13:ARG:H	2.05	0.59
41:BD:13:ARG:NH1	41:BD:16:MET:SD	2.75	0.59
41:BD:266:SER:O	41:BD:267:SER:CB	2.50	0.59
43:BF:206:ILE:O	43:BF:206:ILE:CD1	2.50	0.59
46:BI:77:LEU:O	46:BI:78:THR:HB	2.01	0.59
47:BL:94:GLU:O	47:BL:96:VAL:HG13	2.01	0.59
50:BP:26:GLY:HA2	50:BP:30:THR:HG21	1.83	0.59
53:BS:106:ARG:O	53:BS:106:ARG:HD2	2.02	0.59
58:BX:37:THR:CG2	58:BX:54:VAL:HB	2.32	0.59
60:BZ:18:LEU:HB3	60:BZ:23:LYS:HB2	1.84	0.59
60:BZ:143:GLY:O	60:BZ:144:LEU:HD13	2.02	0.59
6:AH:120:THR:HG23	6:AH:123:GLU:OE1	2.02	0.59
7:AK:54:ARG:NH2	24:AW:39:U:O3'	2.34	0.59
9:AO:82:ILE:HD13	9:AO:87:ILE:H	1.67	0.59
12:AR:37:VAL:HG23	12:AR:38:GLU:N	2.18	0.59
15:AG:26:PHE:CE2	15:AG:30:ILE:HD11	2.37	0.59
20:AS:35:SER:C	20:AS:37:ARG:N	2.55	0.59
21:AU:6:ARG:NH2	21:AU:15:ARG:NH2	2.50	0.59
38:BA:30:G:H2'	38:BA:31:C:C6	2.37	0.59
38:BA:1899:G:N2	38:BA:1902:C:N4	2.47	0.59
39:BB:6:C:O2'	53:BS:29:PHE:HE1	1.85	0.59
41:BD:161:THR:O	41:BD:196:VAL:HG23	2.01	0.59
42:BE:11:MET:H	54:BT:8:LYS:NZ	2.00	0.59
42:BE:36:ARG:NH2	42:BE:88:GLY:CA	2.65	0.59
42:BE:55:ASN:CG	42:BE:75:VAL:HG13	2.21	0.59
44:BG:16:ARG:N	44:BG:17:PRO:HD2	2.17	0.59
44:BG:133:LEU:HD12	44:BG:133:LEU:O	2.02	0.59
52:BR:50:HIS:O	52:BR:54:LEU:HB2	2.02	0.59
54:BT:13:ARG:NE	54:BT:13:ARG:HA	2.18	0.59
58:BX:83:VAL:O	58:BX:84:ALA:HB3	2.02	0.59
58:BX:92:LEU:O	58:BX:93:GLU:HB3	2.02	0.59
1:AA:930:C:O2'	1:AA:931:C:H5'	2.03	0.59
1:AA:1190:G:H3'	14:AC:3:ASN:HD21	1.66	0.59
1:AA:1241:G:H2'	1:AA:1242:C:H6	1.67	0.59
2:AB:193:ASP:OD2	2:AB:196:LEU:HD11	2.02	0.59
7:AK:127:LYS:HA	7:AK:127:LYS:CE	2.24	0.59
14:AC:55:VAL:O	14:AC:55:VAL:HG12	2.02	0.59
14:AC:172:ARG:HB3	14:AC:172:ARG:HH11	1.67	0.59
16:AI:125:TYR:HD2	16:AI:126:SER:N	2.00	0.59
18:AM:90:LEU:O	18:AM:92:HIS:N	2.28	0.59
18:AM:117:VAL:O	18:AM:118:ALA:HB2	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AZ:171:ILE:HD12	27:AZ:171:ILE:N	2.17	0.59
29:B1:78:LYS:HZ2	29:B1:93:GLU:HB2	1.67	0.59
32:B4:13:ARG:CB	44:BG:2:PRO:HG3	2.32	0.59
38:BA:472:A:H2'	38:BA:473:G:H5'	1.84	0.59
38:BA:473:G:H5''	38:BA:508:G:N2	2.16	0.59
38:BA:2383:G:O2'	38:BA:2384:G:H5'	2.01	0.59
38:BA:2523:G:H5'	38:BA:2523:G:H8	1.66	0.59
41:BD:244:ARG:HG2	41:BD:245:PRO:HG3	1.83	0.59
42:BE:197:ILE:HD11	42:BE:199:ARG:HH22	1.66	0.59
47:BL:100:THR:O	47:BL:104:VAL:HG23	2.02	0.59
48:BN:14:VAL:HA	48:BN:135:PRO:CG	2.31	0.59
48:BN:99:LEU:O	48:BN:103:VAL:HG23	2.02	0.59
50:BP:108:LYS:C	50:BP:110:TYR:H	2.06	0.59
52:BR:63:ARG:HA	52:BR:80:PHE:CZ	2.35	0.59
55:BU:92:ARG:O	55:BU:93:LYS:C	2.40	0.59
57:BW:83:LYS:O	57:BW:84:ARG:HD3	2.01	0.59
60:BZ:108:PRO:CB	60:BZ:142:SER:HA	2.30	0.59
1:AA:350:G:O2'	1:AA:351:G:H5'	2.02	0.59
1:AA:708:C:H2'	1:AA:709:G:H8	1.68	0.59
1:AA:1191:A:P	14:AC:3:ASN:HD21	2.25	0.59
2:AB:219:VAL:HA	2:AB:222:ILE:HD12	1.84	0.59
5:AF:53:ALA:O	5:AF:54:LYS:HB2	2.03	0.59
6:AH:6:ILE:HD12	6:AH:6:ILE:H	1.67	0.59
12:AR:50:ILE:HD11	12:AR:74:ARG:NH1	2.17	0.59
29:B1:26:ARG:HB2	29:B1:34:THR:CA	2.28	0.59
38:BA:364:C:H2'	38:BA:365:C:H5''	1.85	0.59
38:BA:662:G:OP1	50:BP:18:ARG:HD2	2.02	0.59
38:BA:879:G:H1	38:BA:898:C:H42	1.49	0.59
38:BA:910:A:N7	51:BQ:13:GLN:HB2	2.17	0.59
38:BA:1065:U:C2	38:BA:1066:U:O4'	2.55	0.59
38:BA:1221(A):C:H2'	38:BA:1222:C:H6	1.68	0.59
38:BA:1449:A:H1'	38:BA:1529:G:H8	1.68	0.59
39:BB:74:U:H2'	39:BB:75:G:C5'	2.30	0.59
42:BE:6:GLY:HA2	42:BE:51:PHE:CE2	2.37	0.59
43:BF:78:ILE:HD13	43:BF:78:ILE:N	2.08	0.59
54:BT:82:LEU:O	54:BT:84:GLN:N	2.35	0.59
1:AA:103:C:OP2	13:AT:14:LYS:HD3	2.02	0.59
1:AA:782:A:H2'	1:AA:783:C:H5'	1.83	0.59
1:AA:1497:G:C2'	1:AA:1498:U:H5'	2.32	0.59
3:AD:17:VAL:HG11	3:AD:197:PRO:CB	2.31	0.59
8:AL:89:ARG:NE	8:AL:91:LYS:HE2	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:152:ILE:HB	14:AC:199:LYS:HB2	1.84	0.59
18:AM:82:MET:SD	18:AM:83:ASP:N	2.75	0.59
30:B2:16:LEU:H	30:B2:18:PRO:CD	2.01	0.59
38:BA:145:G:C3'	38:BA:146:G:H5''	2.32	0.59
38:BA:955:C:OP1	51:BQ:13:GLN:HG3	2.01	0.59
38:BA:1058:G:O2'	38:BA:1059:G:H5'	2.02	0.59
38:BA:1114:G:C2'	38:BA:1115:G:H5''	2.31	0.59
38:BA:1141:U:H5''	38:BA:1142(A):A:O4'	2.02	0.59
40:BC:46:LYS:HA	40:BC:46:LYS:CE	2.27	0.59
40:BC:77:ILE:O	40:BC:77:ILE:HD13	2.02	0.59
45:BH:66:GLY:HA2	45:BH:69:ARG:HB2	1.84	0.59
49:BO:32:TYR:N	49:BO:32:TYR:HD1	2.00	0.59
50:BP:83:VAL:CG1	50:BP:112:LEU:HD21	2.32	0.59
53:BS:58:LEU:HD11	53:BS:68:GLN:OE1	2.02	0.59
53:BS:71:ARG:O	53:BS:74:ALA:HB3	2.02	0.59
60:BZ:101:PRO:HA	60:BZ:123:ASP:HB3	1.83	0.59
60:BZ:163:LEU:HD23	60:BZ:163:LEU:H	1.67	0.59
1:AA:302:G:N3	1:AA:556:C:H4'	2.17	0.59
1:AA:560:U:H4'	1:AA:561:U:H5''	1.85	0.59
1:AA:683:G:H2'	1:AA:684:A:H8	1.68	0.59
1:AA:736:C:H2'	1:AA:737:A:H8	1.66	0.59
1:AA:1327:C:OP2	21:AU:12:LYS:NZ	2.36	0.59
1:AA:1403:C:N4	23:AX:18:G:OP1	2.35	0.59
2:AB:187:LEU:HA	2:AB:201:ILE:HB	1.84	0.59
11:AQ:19:VAL:CG2	11:AQ:44:ALA:HB3	2.32	0.59
16:AI:112:LYS:HG2	16:AI:119:ALA:H	1.67	0.59
28:B0:72:ARG:CB	28:B0:75:LEU:HB2	2.33	0.59
37:B9:13:LYS:HB2	37:B9:27:CYS:CB	2.30	0.59
38:BA:285:C:H3'	38:BA:286:C:H5''	1.84	0.59
38:BA:1141:U:O5'	48:BN:63:THR:HG21	2.02	0.59
38:BA:1947:C:C3'	38:BA:1948:G:H5''	2.31	0.59
38:BA:2134:A:C6	38:BA:2157:G:O2'	2.55	0.59
38:BA:2260:C:O2'	38:BA:2261:C:H5'	2.03	0.59
38:BA:2590:A:H2'	38:BA:2591:C:H6	1.67	0.59
40:BC:77:ILE:HD12	40:BC:123:VAL:N	2.18	0.59
42:BE:33:VAL:HG11	42:BE:88:GLY:HA2	1.84	0.59
47:BL:19:PRO:CG	47:BL:22:PRO:HG2	2.32	0.59
48:BN:46:VAL:CG1	48:BN:47:ALA:H	2.13	0.59
50:BP:101:VAL:CG2	50:BP:107:LYS:HA	2.30	0.59
52:BR:4:LEU:C	52:BR:6:SER:H	2.04	0.59
53:BS:88:ASP:OD2	53:BS:89:ARG:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:50:ILE:HD11	54:BT:64:ARG:CB	2.32	0.59
58:BX:36:LYS:O	58:BX:38:GLU:N	2.36	0.59
59:BY:8:LYS:H	59:BY:8:LYS:CD	1.98	0.59
1:AA:551:U:H2'	1:AA:552:U:H6	1.67	0.59
1:AA:939:G:H5''	15:AG:102:ARG:CZ	2.32	0.59
1:AA:1073:U:H2'	1:AA:1074:G:H8	1.67	0.59
2:AB:36:ARG:HB2	2:AB:41:ILE:CD1	2.31	0.59
5:AF:6:VAL:C	5:AF:7:ASN:HD22	2.05	0.59
7:AK:70:LYS:O	7:AK:73:MET:HB2	2.01	0.59
14:AC:66:VAL:HG11	14:AC:91:LEU:HD13	1.84	0.59
29:B1:13:ILE:HG23	29:B1:14:VAL:N	2.12	0.59
37:B9:26:ILE:CD1	37:B9:33:LYS:HB2	2.31	0.59
38:BA:1230:C:H2'	38:BA:1231:G:H8	1.67	0.59
38:BA:1254:A:H5'	38:BA:1255:U:H5'	1.84	0.59
38:BA:2562:U:C1'	49:BO:23:ARG:HH12	2.02	0.59
38:BA:2639:A:H2'	38:BA:2640:G:C5'	2.29	0.59
46:BI:52:ARG:HG3	46:BI:53:ALA:N	2.17	0.59
46:BI:120:ILE:HD13	46:BI:126:TYR:CD1	2.37	0.59
47:BL:51:ALA:HB1	47:BL:80:LYS:HG2	1.85	0.59
50:BP:46:LYS:HG2	50:BP:52:GLU:HG2	1.83	0.59
54:BT:66:VAL:HA	54:BT:71:GLY:HA2	1.84	0.59
1:AA:834:C:H2'	1:AA:835:U:C6	2.36	0.59
1:AA:973:G:H3'	1:AA:974:A:H5''	1.84	0.59
1:AA:1297:C:O2'	15:AG:114:ARG:NH2	2.36	0.59
1:AA:1320:C:H5'	20:AS:70:LYS:CG	2.33	0.59
2:AB:197:VAL:CG1	2:AB:200:ILE:HG12	2.32	0.59
3:AD:8:VAL:O	3:AD:10:ARG:N	2.32	0.59
10:AP:53:VAL:O	10:AP:57:ARG:N	2.29	0.59
14:AC:58:GLU:HB2	14:AC:65:ALA:HB2	1.85	0.59
25:AY:38:A:H5''	38:BA:1913:A:C2	2.37	0.59
37:B9:9:ARG:HG3	37:B9:14:CYS:O	2.03	0.59
38:BA:389:G:H22	50:BP:71:VAL:CG1	2.13	0.59
38:BA:1072:C:H42	38:BA:1100:C:H42	1.49	0.59
38:BA:1789:A:OP1	41:BD:222:ARG:HG3	2.03	0.59
38:BA:1840:G:H1	38:BA:1902:C:N4	1.97	0.59
38:BA:1887:C:C2'	38:BA:1888:G:H5''	2.33	0.59
38:BA:2640:G:H5'	38:BA:2640:G:C8	2.27	0.59
38:BA:2756:U:H4'	38:BA:2757:A:OP1	2.02	0.59
40:BC:191:ALA:C	40:BC:193:ILE:H	2.05	0.59
42:BE:27:LEU:HG	42:BE:27:LEU:O	2.01	0.59
42:BE:51:PHE:HD1	42:BE:52:LEU:HD12	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BE:61:ARG:CG	42:BE:62:PRO:HD3	2.33	0.59
47:BL:35:MET:C	47:BL:38:VAL:HB	2.21	0.59
50:BP:17:LYS:C	50:BP:19:VAL:N	2.55	0.59
50:BP:85:LEU:HA	50:BP:88:LEU:CB	2.32	0.59
55:BU:92:ARG:HH2	56:BV:10:LYS:HB3	1.67	0.59
56:BV:69:LYS:HB2	56:BV:93:GLU:OE2	2.03	0.59
57:BW:50:VAL:HG13	57:BW:51:LEU:N	2.16	0.59
1:AA:389:A:C2'	1:AA:390:C:H5'	2.33	0.59
1:AA:1019:C:O2'	1:AA:1020:U:H5'	2.02	0.59
1:AA:1442(B):A:C2	54:BT:118:ARG:NH2	2.71	0.59
2:AB:59:GLU:HB2	2:AB:221:LEU:HD11	1.85	0.59
2:AB:141:GLU:O	2:AB:145:LEU:HB2	2.02	0.59
6:AH:89:PRO:HA	6:AH:92:ARG:HH11	1.68	0.59
8:AL:120:TYR:HD1	8:AL:120:TYR:N	2.01	0.59
24:AW:2:C:H42	24:AW:71:G:H1	1.51	0.59
35:B7:24:THR:OG1	35:B7:25:PRO:HD2	2.03	0.59
38:BA:659:C:H6	38:BA:659:C:H5'	1.68	0.59
38:BA:2103:C:H3'	38:BA:2104:G:C5'	2.25	0.59
38:BA:2392:A:C8	50:BP:60:MET:HG3	2.38	0.59
38:BA:2677:G:H2'	38:BA:2678:C:H6	1.66	0.59
38:BA:2846:G:H2'	38:BA:2847:U:O4'	2.03	0.59
39:BB:29:A:H2'	39:BB:30:C:H6	1.68	0.59
41:BD:95:LEU:O	41:BD:95:LEU:HD12	2.02	0.59
41:BD:172:TYR:HD1	41:BD:186:HIS:HA	1.67	0.59
45:BH:19:VAL:HG21	45:BH:44:VAL:CG1	2.31	0.59
45:BH:153:LYS:H	45:BH:153:LYS:CD	2.15	0.59
46:BI:94:ALA:HB1	46:BI:114:LEU:HD12	1.85	0.59
48:BN:46:VAL:O	48:BN:47:ALA:CB	2.51	0.59
50:BP:16:ARG:NH1	50:BP:16:ARG:HG3	2.14	0.59
50:BP:30:THR:O	50:BP:32:THR:N	2.36	0.59
52:BR:28:LEU:O	52:BR:28:LEU:HD13	2.03	0.59
53:BS:89:ARG:CA	53:BS:89:ARG:NE	2.47	0.59
54:BT:100:TYR:HD2	54:BT:103:ARG:NH2	2.00	0.59
58:BX:29:TRP:CZ3	58:BX:76:ARG:HG2	2.37	0.59
58:BX:52:VAL:O	58:BX:52:VAL:HG12	2.03	0.59
60:BZ:40:ASP:OD1	60:BZ:42:VAL:HG12	2.03	0.59
60:BZ:101:PRO:O	60:BZ:102:LEU:HD23	2.03	0.59
1:AA:447:G:H2'	1:AA:485:G:N2	2.18	0.59
1:AA:1075:C:OP1	2:AB:179:LYS:HD3	2.02	0.59
14:AC:188:LEU:O	14:AC:189:ALA:HB2	2.03	0.59
29:B1:15:ALA:C	29:B1:46:LEU:HD23	2.22	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B2:46:GLN:HE21	30:B2:47:ASN:HA	1.67	0.59
37:B9:26:ILE:HG12	37:B9:34:GLN:N	2.15	0.59
38:BA:64:A:H2'	38:BA:65:C:H6	1.68	0.59
38:BA:83:G:N1	38:BA:102:G:H2'	2.17	0.59
38:BA:319:C:O2'	38:BA:320:A:H5'	2.03	0.59
38:BA:1093:G:N2	38:BA:1099:G:O6	2.36	0.59
38:BA:1986:A:C3'	38:BA:1987:G:H5''	2.31	0.59
38:BA:2472:G:H2'	38:BA:2529:G:H22	1.66	0.59
41:BD:125:ILE:O	41:BD:125:ILE:HG22	2.02	0.59
43:BF:181:LEU:CD1	43:BF:186:ILE:HD11	2.31	0.59
44:BG:6:ALA:O	44:BG:7:LEU:C	2.41	0.59
44:BG:138:GLN:OE1	44:BG:153:ARG:N	2.36	0.59
46:BI:46:ALA:O	46:BI:49:ALA:HB3	2.02	0.59
47:BL:18:THR:CA	47:BL:38:VAL:HG21	2.32	0.59
50:BP:34:GLY:O	50:BP:35:HIS:O	2.20	0.59
51:BQ:22:LYS:HA	51:BQ:22:LYS:HZ3	1.68	0.59
51:BQ:140:ALA:N	60:BZ:53:ILE:HD12	2.18	0.59
57:BW:10:VAL:O	57:BW:11:ARG:CB	2.51	0.59
59:BY:75:ILE:HD11	59:BY:79:CYS:N	2.18	0.59
59:BY:77:PRO:O	59:BY:78:ALA:HB2	2.03	0.59
59:BY:86:ARG:HB3	59:BY:88:LYS:HZ2	1.68	0.59
1:AA:33:A:H2'	1:AA:34:C:C6	2.37	0.58
1:AA:67:C:H2'	1:AA:68:G:H8	1.67	0.58
1:AA:197:A:C6	1:AA:221:C:H5'	2.37	0.58
1:AA:226:G:O2'	1:AA:227:G:H5'	2.01	0.58
1:AA:954:G:H2'	1:AA:955:U:C6	2.37	0.58
1:AA:1313:U:OP2	20:AS:6:LYS:HB3	2.02	0.58
2:AB:134:GLU:HA	2:AB:137:ARG:HB2	1.85	0.58
2:AB:194:PRO:HG2	2:AB:195:ASP:H	1.67	0.58
7:AK:18:ARG:HB3	7:AK:33:THR:OG1	2.02	0.58
8:AL:18:VAL:HG23	8:AL:19:ARG:N	2.15	0.58
12:AR:26:LEU:HD12	12:AR:29:PHE:CE2	2.38	0.58
22:AV:72:A:H2'	22:AV:73:A:H5''	1.84	0.58
28:B0:60:PHE:CZ	38:BA:2365:G:H4'	2.38	0.58
38:BA:646:A:H3'	38:BA:647:G:H8	1.68	0.58
38:BA:646:A:C8	38:BA:647:G:H1'	2.38	0.58
38:BA:752:A:O2'	38:BA:753:C:OP2	2.18	0.58
38:BA:1434:A:O2'	38:BA:1435:G:H5'	2.03	0.58
38:BA:1963:U:H4'	38:BA:1964:G:OP1	2.02	0.58
38:BA:2111:C:N3	38:BA:2144:U:O2'	2.35	0.58
38:BA:2159:G:N3	38:BA:2160:G:H1'	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BC:97:GLU:HA	40:BC:100:ILE:HG12	1.85	0.58
42:BE:57:LYS:HG3	42:BE:57:LYS:O	2.03	0.58
43:BF:64:ILE:HD11	43:BF:65:TRP:CZ2	2.38	0.58
46:BI:69:LYS:HA	46:BI:136:VAL:HG21	1.85	0.58
50:BP:115:LEU:HA	50:BP:134:ALA:CB	2.29	0.58
58:BX:57:LEU:HD13	58:BX:77:LYS:CG	2.33	0.58
1:AA:501:C:H2'	1:AA:502:G:C8	2.38	0.58
1:AA:664:G:H22	1:AA:741:G:H1	1.51	0.58
3:AD:108:LEU:HD21	3:AD:183:GLY:HA3	1.84	0.58
4:AE:10:MET:CB	4:AE:32:VAL:HG22	2.32	0.58
14:AC:22:TRP:CH2	14:AC:32:LEU:HB2	2.38	0.58
14:AC:76:VAL:HG23	14:AC:77:ILE:H	1.66	0.58
14:AC:155:GLY:O	14:AC:156:ARG:HB2	2.02	0.58
15:AG:113:GLU:HB2	15:AG:119:ARG:HG2	1.84	0.58
17:AJ:30:SER:HB2	17:AJ:80:LYS:HG3	1.84	0.58
25:AY:41:U:H2'	25:AY:42:G:O4'	2.03	0.58
38:BA:1264:G:H3'	38:BA:1265:A:H5''	1.84	0.58
38:BA:1590:U:C3'	38:BA:1591:G:H5''	2.32	0.58
38:BA:2707:G:H5''	52:BR:68:ARG:HH21	1.68	0.58
41:BD:18:VAL:HG13	41:BD:19:ALA:O	2.02	0.58
43:BF:140:LEU:HD13	43:BF:170:LEU:HD21	1.85	0.58
45:BH:30:LYS:HB2	45:BH:79:VAL:HA	1.85	0.58
46:BI:77:LEU:CD1	46:BI:101:LEU:HB2	2.33	0.58
51:BQ:37:LEU:O	51:BQ:99:PRO:HB3	2.02	0.58
54:BT:57:PHE:O	54:BT:59:THR:N	2.35	0.58
54:BT:65:LYS:HE3	54:BT:66:VAL:H	1.66	0.58
58:BX:53:LYS:HE3	58:BX:55:ASN:ND2	2.13	0.58
59:BY:28:LYS:O	59:BY:38:ILE:CB	2.45	0.58
1:AA:356:A:H2	1:AA:368:U:O2	1.86	0.58
1:AA:868:C:H2'	1:AA:869:G:O4'	2.03	0.58
1:AA:958:A:H2'	1:AA:959:A:C8	2.38	0.58
1:AA:966:G:H1'	22:AV:34:C:H4'	1.85	0.58
1:AA:1112:C:N3	14:AC:178:LEU:HD23	2.18	0.58
1:AA:1238:A:C8	1:AA:1303:C:H1'	2.39	0.58
1:AA:1249:C:H4'	16:AI:36:TYR:OH	2.03	0.58
3:AD:168:ARG:HH11	3:AD:168:ARG:HG3	1.68	0.58
5:AF:8:ILE:CD1	5:AF:26:ILE:HD13	2.32	0.58
10:AP:21:VAL:CG2	10:AP:21:VAL:O	2.50	0.58
14:AC:70:VAL:HG12	14:AC:71:ALA:H	1.67	0.58
15:AG:145:ALA:O	15:AG:147:ALA:N	2.31	0.58
24:AW:5:G:H2'	24:AW:6:G:O4'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B2:28:LYS:O	30:B2:31:GLU:HB3	2.03	0.58
37:B9:33:LYS:HE2	38:BA:2526:G:O2'	2.02	0.58
38:BA:908:C:O2'	38:BA:909:A:H5'	2.03	0.58
38:BA:1072:C:O5'	38:BA:1073:A:H5'	2.03	0.58
38:BA:1176:G:H1'	38:BA:1177:A:OP1	2.03	0.58
38:BA:1403:C:H5''	38:BA:1471:A:H1'	1.84	0.58
38:BA:1884:A:C3'	38:BA:1885:A:H5''	2.34	0.58
38:BA:2146:C:N3	38:BA:2147:G:C5	2.71	0.58
39:BB:54:G:O2'	39:BB:55:U:H5'	2.03	0.58
39:BB:105:A:H2'	39:BB:106:G:O4'	2.03	0.58
39:BB:106:G:O2'	39:BB:107:G:H5'	2.04	0.58
42:BE:117:MET:CE	42:BE:124:GLY:HA3	2.33	0.58
43:BF:20:LEU:O	43:BF:24:LEU:HD23	2.02	0.58
44:BG:110:ALA:C	44:BG:112:PRO:HD2	2.24	0.58
45:BH:86:GLU:OE1	45:BH:86:GLU:N	2.36	0.58
46:BI:38:LEU:O	46:BI:40:THR:N	2.37	0.58
51:BQ:141:GLN:HG3	60:BZ:72:ARG:NH1	2.17	0.58
55:BU:74:LEU:O	55:BU:74:LEU:HD12	2.02	0.58
59:BY:32:PRO:C	59:BY:34:LYS:H	2.07	0.58
59:BY:76:CYS:SG	59:BY:77:PRO:CD	2.91	0.58
1:AA:668:G:O2'	1:AA:669:U:H5'	2.04	0.58
1:AA:880:C:O2'	1:AA:881:G:H5'	2.03	0.58
1:AA:1227:A:H2'	1:AA:1228:C:O5'	2.04	0.58
2:AB:43:ASP:OD2	2:AB:46:LYS:HB2	2.03	0.58
2:AB:171:ALA:O	2:AB:174:VAL:HB	2.03	0.58
29:B1:48:LYS:HG3	29:B1:49:VAL:N	2.19	0.58
30:B2:46:GLN:NE2	30:B2:47:ASN:CA	2.66	0.58
38:BA:790:C:O2'	38:BA:791:C:OP1	2.18	0.58
38:BA:855:G:H2'	38:BA:856:C:C6	2.38	0.58
38:BA:1107:G:O3'	38:BA:1108:U:P	2.61	0.58
38:BA:1151:G:H5''	55:BU:81:HIS:CE1	2.38	0.58
38:BA:1796:U:H2'	38:BA:1797:C:C6	2.38	0.58
38:BA:2641:G:OP1	48:BN:75:TYR:HB3	2.04	0.58
39:BB:78:A:C2	39:BB:100:A:C4	2.91	0.58
41:BD:9:TYR:CD2	41:BD:10:THR:HG22	2.38	0.58
42:BE:186:GLY:O	42:BE:188:VAL:HG12	2.03	0.58
43:BF:3:GLU:CA	43:BF:24:LEU:HG	2.33	0.58
44:BG:130:ASN:OD1	44:BG:160:VAL:HG13	2.04	0.58
44:BG:172:LEU:O	44:BG:176:LEU:HG	2.03	0.58
45:BH:41:MET:HA	45:BH:41:MET:CE	2.33	0.58
45:BH:61:HIS:O	45:BH:65:HIS:N	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:92:ILE:CG2	45:BH:93:GLY:H	2.06	0.58
48:BN:67:LEU:O	48:BN:68:GLU:HB2	2.02	0.58
49:BO:32:TYR:N	49:BO:32:TYR:CD1	2.71	0.58
51:BQ:42:ILE:HA	51:BQ:46:GLN:OE1	2.04	0.58
60:BZ:39:VAL:HG21	60:BZ:44:PHE:HB2	1.85	0.58
1:AA:473:G:H2'	1:AA:474:G:H8	1.69	0.58
1:AA:1158:C:O2'	2:AB:132:LYS:HD3	2.03	0.58
1:AA:1343:G:C1'	16:AI:121:ARG:HH12	2.16	0.58
4:AE:147:ASP:HA	4:AE:150:ARG:HH11	1.68	0.58
5:AF:30:LEU:HD23	5:AF:75:LEU:HD11	1.84	0.58
5:AF:33:TYR:HD1	5:AF:75:LEU:HD12	1.69	0.58
7:AK:110:ASP:O	12:AR:84:LYS:HD2	2.03	0.58
29:B1:10:LYS:HD2	29:B1:15:ALA:N	2.18	0.58
30:B2:17:SER:O	30:B2:20:GLU:HB2	2.04	0.58
38:BA:485:C:O2'	38:BA:486:C:H5'	2.04	0.58
38:BA:500:G:N2	38:BA:502:A:H3'	2.18	0.58
38:BA:585:G:C5	38:BA:1251:C:C5	2.91	0.58
38:BA:674:G:P	43:BF:54:ARG:HH22	2.25	0.58
38:BA:729:G:C4	38:BA:1775:U:O2	2.56	0.58
38:BA:1150:C:O2'	38:BA:1151:G:H5'	2.03	0.58
38:BA:1301:A:O2'	38:BA:1302:A:C2'	2.48	0.58
38:BA:2571:C:H5'	38:BA:2572:A:H5''	1.85	0.58
38:BA:2696:U:H2'	38:BA:2697:G:H8	1.68	0.58
41:BD:8:PRO:CB	41:BD:14:ARG:HB2	2.32	0.58
41:BD:35:LYS:CG	41:BD:64:ILE:HG23	2.33	0.58
41:BD:45:ASN:CG	41:BD:46:GLN:N	2.56	0.58
42:BE:111:ARG:NE	42:BE:160:TYR:HE1	2.02	0.58
43:BF:157:VAL:CG2	43:BF:194:MET:HB3	2.33	0.58
44:BG:63:ILE:HD12	44:BG:63:ILE:O	2.04	0.58
44:BG:102:PHE:HA	44:BG:105:LYS:NZ	2.19	0.58
45:BH:102:ALA:HB2	45:BH:117:PRO:CB	2.34	0.58
47:BL:55:VAL:HG12	47:BL:57:ILE:HG23	1.85	0.58
50:BP:66:GLY:O	50:BP:68:GLN:HB3	2.01	0.58
52:BR:41:ALA:O	52:BR:43:GLU:N	2.37	0.58
55:BU:29:SER:O	55:BU:30:LYS:HD3	2.03	0.58
55:BU:110:VAL:O	55:BU:113:ALA:HB3	2.04	0.58
56:BV:51:VAL:CG1	56:BV:52:VAL:N	2.67	0.58
58:BX:50:LYS:O	58:BX:82:GLN:N	2.36	0.58
60:BZ:161:VAL:HG12	60:BZ:161:VAL:O	2.03	0.58
1:AA:458:C:H2'	1:AA:460:G:H8	1.68	0.58
1:AA:926:G:N7	1:AA:1505:G:C2	2.71	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1072:G:H2'	1:AA:1073:U:C6	2.38	0.58
1:AA:1097:C:H2'	1:AA:1098:C:C6	2.39	0.58
2:AB:91:PRO:HG3	2:AB:154:LEU:HD12	1.86	0.58
3:AD:126:ILE:HG22	3:AD:127:THR:N	2.18	0.58
5:AF:1:MET:HB3	5:AF:66:GLU:HG2	1.86	0.58
9:AO:3:ILE:O	9:AO:3:ILE:HG12	2.03	0.58
13:AT:81:LYS:O	13:AT:83:ARG:N	2.37	0.58
33:B5:4:HIS:CB	33:B5:5:PRO:HD3	2.27	0.58
38:BA:877:U:O2'	38:BA:878:A:H5''	2.04	0.58
38:BA:1301:A:H4'	38:BA:1302:A:OP1	2.04	0.58
38:BA:2175:C:H2'	38:BA:2176:A:C5'	2.20	0.58
38:BA:2350:C:H2'	38:BA:2351:G:O4'	2.04	0.58
38:BA:2619:C:O2'	38:BA:2620:C:H5'	2.03	0.58
40:BC:50:ASP:OD1	40:BC:55:ASP:HA	2.04	0.58
41:BD:127:VAL:HA	41:BD:193:VAL:HG13	1.85	0.58
45:BH:70:THR:HG22	45:BH:74:ASN:HD21	1.68	0.58
47:BL:16:LYS:O	47:BL:17:ALA:HB2	2.02	0.58
50:BP:5:ASP:O	50:BP:6:LEU:HB3	2.02	0.58
50:BP:101:VAL:C	50:BP:103:ALA:N	2.56	0.58
52:BR:100:LEU:HD23	52:BR:112:ALA:HA	1.85	0.58
57:BW:84:ARG:HB2	57:BW:96:ILE:CG2	2.34	0.58
59:BY:71:LYS:HB2	59:BY:71:LYS:HZ2	1.66	0.58
1:AA:190:U:H2'	1:AA:191:G:H8	1.68	0.58
1:AA:541:G:O2'	1:AA:542:G:H5'	2.03	0.58
1:AA:707:C:OP1	7:AK:85:ARG:NH1	2.35	0.58
1:AA:1104:G:O5'	2:AB:111:ARG:HD2	2.04	0.58
1:AA:1168:A:H2'	1:AA:1169:A:C8	2.39	0.58
1:AA:1513:A:H2'	1:AA:1514:C:H6	1.66	0.58
4:AE:35:GLY:HA2	4:AE:40:ARG:O	2.04	0.58
5:AF:19:LEU:HD11	5:AF:59:TYR:CE2	2.39	0.58
7:AK:32:ILE:HD12	7:AK:72:ALA:HB2	1.85	0.58
8:AL:45:PRO:HB3	8:AL:49:ASN:HB2	1.85	0.58
8:AL:60:LEU:HD22	8:AL:60:LEU:N	2.18	0.58
29:B1:26:ARG:HE	29:B1:34:THR:CB	2.17	0.58
33:B5:20:ARG:HH12	57:BW:15:ARG:NE	2.02	0.58
38:BA:71:A:H8	38:BA:71:A:H5'	1.67	0.58
38:BA:310:A:OP1	59:BY:18:GLY:HA2	2.03	0.58
38:BA:2059:A:H5'	38:BA:2060:A:OP2	2.04	0.58
41:BD:129:ASN:O	41:BD:193:VAL:HG12	2.03	0.58
42:BE:3:GLY:CA	42:BE:81:ILE:HG21	2.33	0.58
44:BG:55:LYS:C	44:BG:57:ALA:H	2.06	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:89:ILE:O	45:BH:90:LYS:HB2	2.02	0.58
46:BI:133:HIS:CB	46:BI:134:PRO:CD	2.79	0.58
47:BL:37:PHE:HE2	47:BL:66:THR:N	2.02	0.58
47:BL:76:TYR:C	47:BL:80:LYS:HD3	2.24	0.58
48:BN:40:PRO:HA	55:BU:64:ARG:CZ	2.34	0.58
50:BP:115:LEU:HB3	50:BP:131:SER:OG	2.04	0.58
53:BS:65:VAL:O	53:BS:67:ARG:N	2.36	0.58
56:BV:4:ILE:O	56:BV:39:LEU:HB2	2.03	0.58
57:BW:86:LEU:HD12	57:BW:87:PRO:HD2	1.86	0.58
59:BY:28:LYS:HD2	59:BY:37:VAL:CB	2.34	0.58
2:AB:32:ILE:HA	2:AB:42:ILE:HA	1.86	0.58
27:AZ:120:ILE:CD1	27:AZ:157[B]:LEU:HD22	2.34	0.58
28:B0:39:ARG:HH21	38:BA:2355:C:H1'	1.69	0.58
38:BA:21:A:O2'	38:BA:22:C:H5'	2.04	0.58
38:BA:673:C:H5'	43:BF:54:ARG:NH1	2.16	0.58
38:BA:1051:G:O3'	38:BA:1052:C:H5'	2.03	0.58
38:BA:1068:G:OP2	47:BL:21:PRO:HB2	2.03	0.58
38:BA:1169:G:H1	38:BA:1180:C:N4	2.01	0.58
38:BA:2068:U:N3	38:BA:2430:A:H2	1.95	0.58
38:BA:2092:U:H4'	38:BA:2093:G:O5'	2.04	0.58
38:BA:2202:C:H1'	41:BD:151:LYS:HZ1	1.68	0.58
38:BA:2334:G:H21	53:BS:18:ILE:CD1	2.17	0.58
38:BA:2491:U:O2'	38:BA:2492:U:H5'	2.04	0.58
38:BA:2543:G:H5'	38:BA:2543:G:H8	1.67	0.58
38:BA:2723:C:H5''	52:BR:2:ARG:NE	2.18	0.58
41:BD:77:ALA:CB	41:BD:97:TYR:HA	2.33	0.58
43:BF:205:ARG:C	43:BF:206:ILE:HG13	2.24	0.58
44:BG:106:LEU:HD12	44:BG:110:ALA:HB3	1.85	0.58
45:BH:87:LEU:C	45:BH:88:LEU:HD22	2.24	0.58
48:BN:4:TYR:N	48:BN:4:TYR:CD1	2.71	0.58
50:BP:85:LEU:HD23	50:BP:85:LEU:N	2.18	0.58
54:BT:118:ARG:O	54:BT:121:ILE:N	2.37	0.58
58:BX:35:THR:O	58:BX:36:LYS:C	2.41	0.58
1:AA:430:A:H2'	1:AA:431:A:H5'	1.86	0.58
4:AE:150:ARG:HH11	4:AE:150:ARG:HB2	1.68	0.58
5:AF:45:LEU:HD11	5:AF:57:GLN:HB3	1.84	0.58
13:AT:74:LYS:HD3	13:AT:74:LYS:H	1.69	0.58
31:B3:11:SER:OG	31:B3:13:ILE:HG12	2.04	0.58
33:B5:31:VAL:HB	33:B5:32:PRO:HD2	1.86	0.58
33:B5:40:LYS:HE2	33:B5:46:CYS:HB3	1.84	0.58
38:BA:1069:A:C2	38:BA:1073:A:OP2	2.56	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1717:G:C3'	38:BA:1718:G:H5''	2.34	0.58
38:BA:2392:A:H2	38:BA:2424:C:H42	1.49	0.58
38:BA:2463:C:O2'	38:BA:2464:C:H5'	2.03	0.58
41:BD:147:LEU:HD13	41:BD:155:LEU:CD1	2.27	0.58
42:BE:179:GLU:OE1	42:BE:179:GLU:HA	2.04	0.58
49:BO:63:VAL:CG2	49:BO:64:ARG:H	2.16	0.58
49:BO:86:ILE:HD12	49:BO:86:ILE:N	2.19	0.58
55:BU:83:LEU:C	55:BU:88:ILE:HD11	2.25	0.58
56:BV:89:GLN:NE2	56:BV:90:PRO:HD2	2.14	0.58
1:AA:163:C:H2'	1:AA:164:U:C6	2.39	0.58
1:AA:719:C:O2	12:AR:50:ILE:HG12	2.04	0.58
1:AA:1208:C:H2'	1:AA:1209:C:C6	2.37	0.58
1:AA:1437:C:O2'	1:AA:1438:G:H5'	2.03	0.58
2:AB:75:LYS:HA	2:AB:78:GLN:HG3	1.86	0.58
2:AB:113:HIS:O	2:AB:117:GLU:HG2	2.04	0.58
3:AD:209:ARG:HG3	3:AD:209:ARG:HH11	1.68	0.58
4:AE:101:ILE:HG12	4:AE:119:LEU:HA	1.86	0.58
6:AH:14:ARG:HB3	6:AH:14:ARG:HH11	1.69	0.58
6:AH:110:ALA:HB3	6:AH:121:ASP:HB3	1.86	0.58
14:AC:156:ARG:HH21	14:AC:160:ALA:C	2.07	0.58
14:AC:182:ILE:HG12	14:AC:203:PHE:HD1	1.68	0.58
20:AS:16:LEU:H	20:AS:16:LEU:CD1	2.16	0.58
20:AS:60:VAL:HG22	20:AS:61:TYR:O	2.03	0.58
22:AV:52:G:O2'	22:AV:53:G:H8	1.77	0.58
30:B2:53:LEU:O	30:B2:54:LYS:HB2	2.04	0.58
38:BA:58:G:OP1	58:BX:72:LYS:HA	2.03	0.58
38:BA:122:G:O2'	38:BA:123:G:H5'	2.03	0.58
38:BA:741:G:H2'	38:BA:742:G:H8	1.68	0.58
38:BA:833:U:H2'	38:BA:834:C:H6	1.67	0.58
38:BA:2308:G:H21	44:BG:79:ASN:ND2	2.02	0.58
39:BB:60:C:O2'	39:BB:61:G:H5'	2.04	0.58
40:BC:39:GLU:HG2	40:BC:180:PHE:CB	2.34	0.58
42:BE:11:MET:HB2	42:BE:23:VAL:O	2.04	0.58
42:BE:24:THR:CG2	42:BE:184:VAL:HG23	2.31	0.58
42:BE:77:ILE:CG2	42:BE:78:LEU:N	2.57	0.58
43:BF:22:ALA:C	43:BF:24:LEU:H	2.07	0.58
43:BF:115:ALA:O	43:BF:116:ASP:C	2.40	0.58
44:BG:76:SER:CB	44:BG:83:ARG:HB3	2.30	0.58
51:BQ:7:MET:O	51:BQ:10:ARG:NE	2.37	0.58
55:BU:66:ASN:C	55:BU:68:ALA:H	2.06	0.58
56:BV:12:TYR:N	56:BV:12:TYR:HD2	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BV:94:LEU:HD23	56:BV:94:LEU:C	2.25	0.58
59:BY:28:LYS:O	59:BY:29:GLU:HB2	2.04	0.58
1:AA:1474:G:C1'	38:BA:1701:A:H2	2.17	0.57
2:AB:47:THR:HG23	2:AB:202:PRO:HG2	1.85	0.57
4:AE:101:ILE:CD1	4:AE:119:LEU:HD23	2.34	0.57
7:AK:21:ILE:HA	7:AK:30:VAL:HG12	1.86	0.57
7:AK:30:VAL:HG23	7:AK:68:ALA:HB2	1.86	0.57
14:AC:5:ILE:O	14:AC:5:ILE:HD13	2.04	0.57
15:AG:115:ARG:HB2	15:AG:118:VAL:HG22	1.86	0.57
16:AI:28:VAL:HA	16:AI:63:ILE:O	2.03	0.57
27:AZ:149:LEU:O	27:AZ:153:GLU:HG3	2.04	0.57
36:B8:23:VAL:HG12	36:B8:46:ARG:NH1	2.19	0.57
38:BA:7:G:H1	38:BA:2896:C:H42	1.52	0.57
38:BA:607:U:OP1	43:BF:102:PRO:HA	2.03	0.57
38:BA:1058:G:C6	38:BA:1081:U:N3	2.72	0.57
38:BA:1247:A:OP1	43:BF:95:ARG:NH2	2.37	0.57
38:BA:1314:C:H5'	38:BA:1314:C:C6	2.38	0.57
38:BA:1411:C:H2'	38:BA:1412:A:C8	2.38	0.57
38:BA:2050:C:H1'	42:BE:156:MET:CE	2.33	0.57
38:BA:2534:A:H5'	38:BA:2534:A:H8	1.69	0.57
42:BE:120:TRP:CE2	42:BE:155:LYS:HB3	2.38	0.57
48:BN:74:ARG:NH1	48:BN:101:HIS:ND1	2.52	0.57
49:BO:13:ASN:HD21	49:BO:97:ARG:N	2.02	0.57
49:BO:69:ILE:HD12	49:BO:69:ILE:H	1.69	0.57
50:BP:91:PHE:CE2	50:BP:95:VAL:HG12	2.38	0.57
56:BV:75:PHE:HE1	56:BV:89:GLN:HB3	1.69	0.57
1:AA:1126:U:H2'	1:AA:1127:G:O4'	2.03	0.57
1:AA:1474:G:C4'	38:BA:1701:A:N3	2.59	0.57
7:AK:73:MET:O	7:AK:76:GLY:N	2.37	0.57
8:AL:120:TYR:N	8:AL:120:TYR:CD1	2.72	0.57
16:AI:56:LEU:HD23	16:AI:56:LEU:C	2.25	0.57
29:B1:19:GLN:HG3	29:B1:44:PRO:CG	2.34	0.57
32:B4:5:ILE:C	44:BG:67:LYS:HE2	2.25	0.57
37:B9:7:VAL:HG12	37:B9:9:ARG:H	1.69	0.57
37:B9:19:ARG:HG2	37:B9:20:HIS:N	2.18	0.57
38:BA:542:C:N4	38:BA:543:C:H41	2.02	0.57
38:BA:1376:C:O2'	38:BA:1377:G:H5'	2.04	0.57
38:BA:1582:C:H2'	38:BA:1583:A:H8	1.68	0.57
38:BA:1697:G:C5'	38:BA:1698:A:H5''	2.34	0.57
38:BA:2141:G:C6	38:BA:2142:C:C4	2.93	0.57
38:BA:2636:U:OP1	42:BE:80:GLU:N	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BB:7:G:H3'	39:BB:8:U:C5'	2.26	0.57
43:BF:3:GLU:HB2	43:BF:20:LEU:N	2.14	0.57
47:BL:14:ALA:CB	47:BL:48:MET:O	2.46	0.57
55:BU:55:ARG:HA	55:BU:58:ARG:HG3	1.86	0.57
56:BV:72:VAL:O	56:BV:73:SER:HB3	2.04	0.57
59:BY:13:VAL:HG12	59:BY:14:LEU:H	1.69	0.57
1:AA:254:G:O2'	1:AA:255:G:H5'	2.04	0.57
1:AA:959:A:C2	1:AA:1222:G:O4'	2.56	0.57
1:AA:1006:C:H42	1:AA:1024:G:H21	1.51	0.57
1:AA:1316:G:O3'	19:AN:18:VAL:HG22	2.03	0.57
1:AA:1346:A:N1	1:AA:1374:A:H5''	2.19	0.57
1:AA:1441:G:C5'	1:AA:1442:G:H5''	2.17	0.57
7:AK:29:ILE:CB	7:AK:44:SER:HB3	2.30	0.57
8:AL:39:VAL:HG12	8:AL:40:VAL:N	2.20	0.57
11:AQ:59:ILE:HG22	11:AQ:71:PHE:CD1	2.39	0.57
15:AG:20:ASP:HB3	15:AG:23:VAL:CG2	2.35	0.57
15:AG:43:PHE:O	15:AG:46:ALA:HB3	2.05	0.57
16:AI:8:GLY:O	16:AI:15:ALA:N	2.31	0.57
17:AJ:74:ILE:H	17:AJ:74:ILE:CD1	2.15	0.57
18:AM:91:ARG:NH1	20:AS:81:ARG:NH2	2.52	0.57
36:B8:34:TRP:O	36:B8:35:GLN:HB2	2.04	0.57
36:B8:62:LEU:CD1	38:BA:242:G:H5''	2.23	0.57
37:B9:16:VAL:HG13	37:B9:25:VAL:HB	1.86	0.57
38:BA:145:G:H2'	38:BA:146:G:C5'	2.21	0.57
38:BA:855:G:H1	38:BA:922:U:H3	1.51	0.57
38:BA:1061:U:O4'	38:BA:1070:A:H1'	2.03	0.57
38:BA:1072:C:P	38:BA:1073:A:H5'	2.44	0.57
38:BA:2801(A):A:C4'	38:BA:2802:G:H5'	2.34	0.57
40:BC:40:THR:HG21	40:BC:215:THR:CB	2.34	0.57
41:BD:132:PRO:HG3	41:BD:190:TYR:CE1	2.40	0.57
50:BP:127:ALA:HB3	50:BP:130:PHE:CZ	2.39	0.57
55:BU:79:PHE:C	55:BU:79:PHE:CD2	2.76	0.57
58:BX:55:ASN:HB2	58:BX:77:LYS:HD3	1.85	0.57
58:BX:59:VAL:CG2	58:BX:74:PRO:HG2	2.32	0.57
60:BZ:19:ARG:HH12	60:BZ:84:GLU:HA	1.69	0.57
1:AA:1238:A:N7	1:AA:1303:C:H1'	2.20	0.57
5:AF:11:ASN:HB3	5:AF:14:LEU:HD21	1.86	0.57
15:AG:62:PHE:HA	15:AG:124:LEU:CD2	2.33	0.57
24:AW:17:C:C5	38:BA:2180:U:C4'	2.87	0.57
24:AW:25:C:H2'	24:AW:26:A:C8	2.38	0.57
27:AZ:230:THR:N	27:AZ:295:ARG:HH21	2.01	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B0:53:MET:HB3	28:B0:59:LEU:HD23	1.86	0.57
30:B2:28:LYS:HG2	30:B2:43:GLN:O	2.04	0.57
38:BA:94(A):G:H2'	38:BA:95:G:O4'	2.04	0.57
38:BA:671:C:O2'	38:BA:672:C:H5'	2.04	0.57
38:BA:1166:C:H2'	38:BA:1167:U:H6	1.69	0.57
38:BA:1510:G:H2'	38:BA:1511:C:C6	2.39	0.57
38:BA:1603:A:H5'	38:BA:1603:A:H8	1.69	0.57
38:BA:2777:G:H4'	38:BA:2778:A:H5'	1.86	0.57
39:BB:79:C:C2'	39:BB:80:U:H5'	2.34	0.57
47:BL:19:PRO:HG2	47:BL:22:PRO:HG2	1.85	0.57
47:BL:115:LEU:HD13	47:BL:115:LEU:C	2.25	0.57
51:BQ:34:LEU:HD11	51:BQ:129:THR:CG2	2.34	0.57
51:BQ:140:ALA:H	60:BZ:53:ILE:CD1	2.17	0.57
54:BT:29:ARG:NE	54:BT:30:VAL:HG13	2.20	0.57
59:BY:27:VAL:HG12	59:BY:28:LYS:N	2.20	0.57
1:AA:146:G:N2	1:AA:147:G:H1'	2.20	0.57
1:AA:390:C:H2'	1:AA:391:G:C8	2.40	0.57
1:AA:491:G:H2'	1:AA:492:G:H8	1.69	0.57
1:AA:1484:C:H2'	1:AA:1485:U:H6	1.70	0.57
1:AA:1493:A:N3	26:A0:100:U:H1'	2.19	0.57
2:AB:32:ILE:HD13	2:AB:40:HIS:HB3	1.87	0.57
2:AB:100:GLY:O	2:AB:104:ASN:N	2.38	0.57
2:AB:144:ARG:HA	2:AB:147:LYS:HB3	1.87	0.57
8:AL:119:LYS:C	8:AL:120:TYR:CD1	2.77	0.57
9:AO:37:ASN:N	9:AO:37:ASN:ND2	2.53	0.57
14:AC:149:ALA:HA	14:AC:201:TYR:O	2.05	0.57
14:AC:182:ILE:HG12	14:AC:203:PHE:HA	1.85	0.57
25:AY:41:U:H6	25:AY:41:U:C5'	2.14	0.57
38:BA:128:C:H2'	38:BA:129:C:C6	2.38	0.57
38:BA:1828:G:O6	41:BD:222:ARG:HD3	2.05	0.57
38:BA:2181:G:H2'	38:BA:2182:G:C8	2.39	0.57
38:BA:2186:G:C2'	38:BA:2187:G:H5''	2.34	0.57
38:BA:2202:C:H1'	41:BD:151:LYS:NZ	2.19	0.57
38:BA:2531:A:N3	38:BA:2531:A:H2'	2.20	0.57
45:BH:89:ILE:HG12	45:BH:90:LYS:N	2.19	0.57
50:BP:50:ARG:HG2	50:BP:50:ARG:NH2	2.18	0.57
54:BT:33:LYS:HB2	54:BT:41:ARG:HB3	1.86	0.57
54:BT:121:ILE:HG22	54:BT:122:ASP:N	2.18	0.57
58:BX:70:LEU:HG	58:BX:71:GLY:N	2.19	0.57
10:AP:53:VAL:HG23	10:AP:54:GLU:H	1.69	0.57
16:AI:18:PHE:HD1	16:AI:62:TYR:HD2	1.50	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AJ:32:ALA:HB1	17:AJ:75:ILE:CG1	2.34	0.57
22:AV:37:A:H3'	22:AV:38:A:H8	1.70	0.57
24:AW:62:C:H2'	24:AW:63:G:C8	2.32	0.57
25:AY:25:C:H42	25:AY:26:M2G:CM2	2.17	0.57
25:AY:33:U:O2'	25:AY:35:A:N7	2.36	0.57
25:AY:64:A:H2'	25:AY:65:G:O4'	2.04	0.57
31:B3:8:LEU:HD12	31:B3:31:LEU:HA	1.87	0.57
33:B5:52:TYR:O	33:B5:53:ALA:HB3	2.05	0.57
34:B6:33:LYS:O	34:B6:34:LEU:HB2	2.05	0.57
38:BA:83:G:H1	38:BA:102:G:H2'	1.69	0.57
39:BB:57:A:H5'	44:BG:27:ASN:HD22	1.70	0.57
44:BG:121:ASN:OD1	44:BG:123:ASN:HB2	2.05	0.57
45:BH:87:LEU:CD1	45:BH:148:ILE:HG21	2.30	0.57
46:BI:72:LEU:O	46:BI:138:ILE:HA	2.04	0.57
46:BI:144:VAL:HG12	46:BI:145:VAL:N	2.14	0.57
47:BL:79:ARG:CG	47:BL:134:MET:HE3	2.32	0.57
55:BU:92:ARG:C	55:BU:94:ASN:N	2.55	0.57
58:BX:40:LYS:C	58:BX:42:ALA:N	2.58	0.57
59:BY:8:LYS:HE3	59:BY:72:VAL:HG23	1.85	0.57
60:BZ:150:LEU:CD2	60:BZ:171:ILE:HG13	2.34	0.57
1:AA:390:C:H2'	1:AA:391:G:H8	1.70	0.57
1:AA:575:G:OP1	1:AA:575:G:H4'	2.04	0.57
1:AA:900:A:H2'	1:AA:901:A:C8	2.39	0.57
1:AA:973:G:H1'	17:AJ:55:LYS:HE3	1.86	0.57
1:AA:1221:G:O2'	1:AA:1222:G:H5'	2.04	0.57
1:AA:1288:A:H2'	1:AA:1289:A:H8	1.69	0.57
1:AA:1346:A:H61	1:AA:1374:A:H3'	1.70	0.57
4:AE:146:ALA:C	4:AE:148:VAL:H	2.07	0.57
14:AC:189:ALA:CB	14:AC:196:LEU:HB2	2.35	0.57
20:AS:47:HIS:O	20:AS:49:ILE:HG13	2.05	0.57
29:B1:66:HIS:O	29:B1:67:ILE:C	2.43	0.57
30:B2:29:LYS:O	30:B2:33:MET:SD	2.62	0.57
38:BA:23:G:H1	38:BA:517:C:H42	1.53	0.57
38:BA:554:U:C2'	38:BA:555:U:H5'	2.35	0.57
38:BA:1080:C:O2'	47:BL:126:MET:HG2	2.04	0.57
38:BA:1100:C:C2'	38:BA:1101:U:OP1	2.53	0.57
38:BA:1438:U:O2'	38:BA:1439:A:H5'	2.04	0.57
38:BA:1786:A:C2	38:BA:2606:C:H1'	2.40	0.57
38:BA:2074:U:H2'	38:BA:2075:U:C6	2.40	0.57
38:BA:2347:C:H2'	38:BA:2348:U:H6	1.69	0.57
38:BA:2590:A:O2'	38:BA:2591:C:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:16:MET:HG3	41:BD:206:LEU:O	2.04	0.57
41:BD:94:LEU:HD22	41:BD:95:LEU:N	2.18	0.57
43:BF:65:TRP:HZ3	43:BF:75:HIS:CD2	2.18	0.57
43:BF:157:VAL:HA	43:BF:176:LEU:O	2.04	0.57
44:BG:59:GLU:O	44:BG:63:ILE:HG23	2.05	0.57
45:BH:85:LYS:HZ1	45:BH:145:ALA:HA	1.68	0.57
49:BO:104:ARG:NH1	54:BT:35:LYS:HD3	2.19	0.57
52:BR:87:TYR:HE1	52:BR:117:VAL:HG13	1.68	0.57
55:BU:31:SER:C	55:BU:33:ARG:H	2.07	0.57
55:BU:106:PHE:O	55:BU:109:LEU:HB2	2.05	0.57
56:BV:69:LYS:CG	56:BV:70:ILE:H	2.17	0.57
60:BZ:25:PRO:HG2	60:BZ:84:GLU:O	2.04	0.57
1:AA:237:C:H4'	11:AQ:25:ARG:NH1	2.20	0.57
1:AA:1250:A:C2	1:AA:1370:G:H1'	2.40	0.57
8:AL:18:VAL:O	8:AL:19:ARG:HB3	2.04	0.57
8:AL:84:LEU:HD23	8:AL:85:ILE:N	2.20	0.57
14:AC:199:LYS:HB3	14:AC:201:TYR:HE1	1.69	0.57
23:AX:17:U:H2'	23:AX:18:G:O4'	2.05	0.57
24:AW:5:G:O2'	24:AW:6:G:H5'	2.04	0.57
25:AY:8:U:H4'	25:AY:48:C:H1'	1.86	0.57
27:AZ:100:ASP:O	27:AZ:129:PRO:HG2	2.04	0.57
30:B2:41:ILE:HG22	30:B2:42:GLY:N	2.19	0.57
30:B2:54:LYS:H	30:B2:56:GLN:HG2	1.70	0.57
35:B7:12:ARG:HG3	38:BA:686:G:O6	2.03	0.57
36:B8:29:LYS:O	36:B8:30:ARG:C	2.43	0.57
38:BA:1072:C:N4	38:BA:1100:C:N4	2.52	0.57
38:BA:1106:G:N1	38:BA:1107:G:N1	2.52	0.57
38:BA:1275:A:C4	52:BR:16:HIS:CE1	2.92	0.57
38:BA:1324:G:H3'	38:BA:1325:G:H4'	1.87	0.57
38:BA:1424:G:H2'	38:BA:1425:G:O4'	2.04	0.57
38:BA:2392:A:H8	50:BP:60:MET:HG3	1.70	0.57
41:BD:133:LEU:HA	41:BD:136:ILE:HD13	1.87	0.57
41:BD:183:ARG:HD2	41:BD:270:ILE:HG22	1.86	0.57
42:BE:51:PHE:CD1	42:BE:52:LEU:HD12	2.40	0.57
51:BQ:8:LYS:HG3	51:BQ:9:TYR:N	2.19	0.57
51:BQ:69:PHE:CD1	51:BQ:70:PRO:HD2	2.40	0.57
58:BX:18:TYR:HA	58:BX:21:PHE:CD1	2.40	0.57
60:BZ:18:LEU:O	60:BZ:19:ARG:C	2.43	0.57
60:BZ:56:VAL:HA	60:BZ:70:LEU:HD21	1.86	0.57
1:AA:222:U:H2'	1:AA:223:U:H6	1.69	0.57
1:AA:295:C:H2'	1:AA:296:U:H6	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:671:G:O2'	1:AA:672:U:H5'	2.05	0.57
1:AA:1332:A:H2'	1:AA:1333:A:C8	2.40	0.57
2:AB:167:PRO:O	2:AB:171:ALA:N	2.37	0.57
4:AE:36:ASP:O	4:AE:37:ARG:HB2	2.05	0.57
16:AI:78:LYS:HB2	16:AI:78:LYS:NZ	2.19	0.57
21:AU:9:ARG:HH11	21:AU:22:ARG:HG3	1.70	0.57
30:B2:28:LYS:HE2	30:B2:43:GLN:CB	2.35	0.57
35:B7:9:ARG:HH11	35:B7:9:ARG:HG3	1.70	0.57
37:B9:19:ARG:HH22	38:BA:2743:C:N4	2.03	0.57
37:B9:26:ILE:HG22	37:B9:27:CYS:O	2.05	0.57
38:BA:285:C:H2'	38:BA:286:C:H5''	1.87	0.57
38:BA:373:U:H2'	38:BA:374:A:H8	1.70	0.57
38:BA:408:G:O2'	38:BA:409:C:H5'	2.04	0.57
38:BA:956:G:H5'	38:BA:957:A:OP2	2.05	0.57
38:BA:1065:U:H3	38:BA:1066:U:H6	1.50	0.57
38:BA:1722:A:O2'	38:BA:1739:U:H5''	2.05	0.57
38:BA:1815:A:OP2	41:BD:54:ARG:NH2	2.37	0.57
38:BA:2025:C:H2'	38:BA:2026:C:H6	1.70	0.57
38:BA:2277:G:H2'	38:BA:2278:A:H5'	1.86	0.57
38:BA:2735:G:H2'	38:BA:2736:G:C5'	2.35	0.57
43:BF:107:LYS:C	43:BF:109:GLY:N	2.58	0.57
46:BI:54:GLN:HA	46:BI:57:ARG:NH1	2.19	0.57
47:BL:78:ILE:CG2	47:BL:136:VAL:HG11	2.34	0.57
47:BL:120:LEU:N	47:BL:120:LEU:HD23	2.19	0.57
48:BN:28:THR:HG23	48:BN:29:LYS:N	2.18	0.57
49:BO:101:PRO:C	49:BO:102:VAL:HG22	2.24	0.57
53:BS:58:LEU:HD21	53:BS:68:GLN:OE1	2.05	0.57
1:AA:296:U:H2'	1:AA:297:G:C8	2.40	0.57
1:AA:542:G:H2'	1:AA:543:C:H6	1.69	0.57
1:AA:585:G:C4'	8:AL:8:ASN:HD21	2.11	0.57
4:AE:100:VAL:O	4:AE:107:ARG:NH2	2.37	0.57
25:AY:76:A:C5	27:AZ:271:GLU:CD	2.78	0.57
38:BA:27:G:N2	38:BA:512:G:C2'	2.68	0.57
38:BA:519:U:H4'	57:BW:25:ARG:HH21	1.69	0.57
38:BA:615:G:OP1	43:BF:40:GLN:NE2	2.37	0.57
38:BA:1083:U:H2'	38:BA:1083:U:O2	2.04	0.57
38:BA:2307:G:N2	38:BA:2308:G:H5''	2.19	0.57
38:BA:2387:U:H5'	38:BA:2388:A:OP2	2.05	0.57
39:BB:74:U:H3'	39:BB:75:G:H5''	1.85	0.57
41:BD:135:PHE:N	41:BD:135:PHE:CD1	2.73	0.57
41:BD:241:PRO:O	41:BD:243:GLY:N	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:267:SER:O	41:BD:268:ARG:HB2	2.04	0.57
44:BG:139:LEU:C	44:BG:139:LEU:HD12	2.25	0.57
48:BN:39:ARG:O	55:BU:64:ARG:NH2	2.34	0.57
51:BQ:74:TYR:HD2	51:BQ:91:GLU:CD	2.09	0.57
54:BT:33:LYS:HA	54:BT:33:LYS:HZ2	1.70	0.57
54:BT:83:ILE:HG13	54:BT:84:GLN:N	2.20	0.57
1:AA:15:G:H4'	4:AE:24:ARG:NH1	2.20	0.56
1:AA:620:C:H2'	1:AA:621:A:O4'	2.05	0.56
1:AA:706:A:C1'	7:AK:29:ILE:HD11	2.35	0.56
1:AA:939:G:H5''	15:AG:102:ARG:HH12	1.68	0.56
1:AA:947:G:H2'	1:AA:948:C:O4'	2.05	0.56
1:AA:1070:U:H2'	1:AA:1071:C:H6	1.70	0.56
1:AA:1202:G:C2	19:AN:42:ILE:HG21	2.40	0.56
1:AA:1340:A:HO2'	22:AV:31:G:HO2'	1.51	0.56
7:AK:84:VAL:CG1	7:AK:95:ILE:HD11	2.35	0.56
20:AS:43:GLU:O	20:AS:43:GLU:HG2	2.04	0.56
24:AW:76:A:N6	38:BA:2422:A:O4'	2.37	0.56
25:AY:25:C:N4	25:AY:26:M2G:CM2	2.66	0.56
29:B1:87:PRO:HB2	29:B1:91:LYS:HD2	1.87	0.56
29:B1:94:LEU:HD22	29:B1:95:LEU:N	2.20	0.56
30:B2:33:MET:HG2	58:BX:11:PRO:CD	2.33	0.56
35:B7:47:ARG:C	35:B7:48:LYS:HD3	2.25	0.56
37:B9:10:ILE:HD11	38:BA:2476:A:C2	2.40	0.56
38:BA:1203:G:H4'	50:BP:7:ARG:HG2	1.86	0.56
38:BA:1991:U:O2'	38:BA:1992:G:H5''	2.05	0.56
38:BA:2196:C:O2'	38:BA:2197:U:H5'	2.05	0.56
38:BA:2287:A:H2	38:BA:2346:A:C2	2.22	0.56
38:BA:2307:G:N2	38:BA:2308:G:C5'	2.68	0.56
46:BI:58:LEU:HA	46:BI:61:ARG:NH1	2.19	0.56
49:BO:65:THR:O	49:BO:79:PHE:HB2	2.05	0.56
52:BR:28:LEU:CD2	52:BR:114:VAL:HG12	2.34	0.56
53:BS:15:ARG:HH11	53:BS:15:ARG:HG3	1.69	0.56
54:BT:50:ILE:HA	54:BT:99:LEU:CD1	2.35	0.56
54:BT:55:ASN:HD22	54:BT:58:ASN:ND2	1.99	0.56
55:BU:28:ARG:NH1	55:BU:38:THR:OG1	2.38	0.56
55:BU:57:PHE:O	55:BU:58:ARG:C	2.43	0.56
1:AA:294:U:H2'	1:AA:295:C:C6	2.40	0.56
1:AA:777:A:H2'	1:AA:778:G:H8	1.70	0.56
1:AA:966:G:H2'	1:AA:967:C:C6	2.39	0.56
3:AD:142:PRO:HA	3:AD:185:PHE:HD2	1.70	0.56
3:AD:175:SER:OG	3:AD:184:LYS:HB2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AP:45:THR:HG23	10:AP:46:PRO:HD2	1.86	0.56
14:AC:23:TYR:CG	14:AC:24:ALA:N	2.72	0.56
14:AC:68:VAL:HG12	14:AC:70:VAL:HG23	1.87	0.56
14:AC:102:ASN:O	14:AC:103:VAL:HG23	2.05	0.56
28:B0:36:ILE:HA	28:B0:60:PHE:HB3	1.87	0.56
38:BA:612:C:H2'	38:BA:613:G:C5'	2.19	0.56
38:BA:646:A:H2'	38:BA:647:G:O4'	2.04	0.56
38:BA:2030:A:H4'	38:BA:2031:A:H8	1.69	0.56
38:BA:2135:A:N6	38:BA:2156:G:HO2'	2.00	0.56
38:BA:2481:G:HO2'	38:BA:2482:G:P	2.29	0.56
42:BE:55:ASN:HB2	42:BE:72:VAL:HG12	1.87	0.56
42:BE:201:THR:CG2	42:BE:202:LYS:N	2.68	0.56
46:BI:98:ALA:CA	46:BI:109:ILE:HD13	2.35	0.56
48:BN:2:LYS:N	48:BN:2:LYS:HD2	2.20	0.56
50:BP:34:GLY:O	50:BP:35:HIS:HD2	1.88	0.56
50:BP:74:GLU:HG3	50:BP:75:ILE:N	2.20	0.56
53:BS:61:ASN:C	53:BS:61:ASN:ND2	2.52	0.56
1:AA:175:C:O2'	1:AA:176:C:H5'	2.06	0.56
1:AA:294:U:H2'	1:AA:295:C:H6	1.69	0.56
1:AA:377:G:OP1	10:AP:3:LYS:HD2	2.06	0.56
1:AA:514:C:O2'	1:AA:515:G:H5'	2.06	0.56
1:AA:790:A:C6	1:AA:791:G:C6	2.94	0.56
1:AA:1307:U:H2'	1:AA:1308:U:C6	2.41	0.56
1:AA:1339:A:O2'	22:AV:40:C:O2'	2.22	0.56
2:AB:158:LEU:HD12	2:AB:158:LEU:N	2.20	0.56
3:AD:134:ASP:O	3:AD:136:PRO:HD3	2.05	0.56
4:AE:82:VAL:HG21	4:AE:138:ALA:HA	1.87	0.56
6:AH:14:ARG:NH1	6:AH:14:ARG:HB3	2.20	0.56
7:AK:52:GLY:H	7:AK:55:LYS:HG3	1.70	0.56
8:AL:53:ARG:HG2	8:AL:53:ARG:HH11	1.69	0.56
9:AO:23:GLY:O	9:AO:24:SER:CB	2.52	0.56
11:AQ:59:ILE:CG2	11:AQ:71:PHE:HB3	2.35	0.56
14:AC:62:ASP:O	14:AC:97:LYS:HB3	2.05	0.56
14:AC:173:VAL:HG12	14:AC:175:LEU:HG	1.87	0.56
17:AJ:50:ILE:HA	17:AJ:60:ARG:CB	2.35	0.56
19:AN:21:TYR:OH	19:AN:23:ARG:NH2	2.38	0.56
24:AW:17:C:C5	38:BA:2180:U:C3'	2.88	0.56
34:B6:42:TRP:HA	34:B6:42:TRP:HE3	1.69	0.56
38:BA:440:G:H22	43:BF:46:ARG:NH2	2.04	0.56
38:BA:543:C:N4	38:BA:551:G:H1	2.01	0.56
38:BA:751:A:H5'	57:BW:90:ARG:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:892:G:H3'	38:BA:892:G:N3	2.20	0.56
38:BA:1061:U:C4'	38:BA:1070:A:C1'	2.65	0.56
38:BA:1076:C:O2'	47:BL:90:LYS:HB3	2.05	0.56
38:BA:1336:A:O2'	38:BA:1337:G:H5'	2.04	0.56
38:BA:1484:G:N2	38:BA:1505:C:H41	2.00	0.56
38:BA:1756:G:H4'	38:BA:1758:G:O4'	2.05	0.56
38:BA:1988:C:H2'	38:BA:1989:G:H8	1.70	0.56
38:BA:2141:G:C6	38:BA:2151:G:N1	2.73	0.56
38:BA:2141:G:O6	38:BA:2151:G:C6	2.58	0.56
38:BA:2312:U:C4'	44:BG:71:THR:HG21	2.33	0.56
38:BA:2475:C:H42	38:BA:2529:G:H22	1.53	0.56
38:BA:2514:U:H2'	38:BA:2515:C:H6	1.70	0.56
40:BC:89:ALA:HB2	40:BC:153:ILE:CB	2.36	0.56
41:BD:25:THR:HG23	41:BD:27:THR:HB	1.86	0.56
41:BD:35:LYS:HG2	41:BD:64:ILE:CG2	2.35	0.56
43:BF:117:ARG:NH2	50:BP:5:ASP:N	2.53	0.56
44:BG:57:ALA:HA	44:BG:90:LEU:CD2	2.36	0.56
44:BG:114:ILE:CD1	44:BG:140:ILE:HD12	2.36	0.56
45:BH:85:LYS:HD2	45:BH:141:VAL:HG13	1.86	0.56
46:BI:91:SER:HB3	46:BI:121:LYS:HE3	1.85	0.56
46:BI:123:LEU:CD1	46:BI:144:VAL:HG22	2.35	0.56
47:BL:55:VAL:CG2	47:BL:69:THR:HG22	2.36	0.56
47:BL:117:THR:O	47:BL:118:THR:CG2	2.53	0.56
47:BL:131:ALA:C	47:BL:136:VAL:HB	2.26	0.56
50:BP:121:LYS:O	50:BP:123:LEU:HD23	2.06	0.56
51:BQ:86:GLY:C	51:BQ:88:GLY:N	2.58	0.56
53:BS:67:ARG:O	53:BS:70:GLY:N	2.36	0.56
54:BT:50:ILE:CD1	54:BT:50:ILE:H	2.17	0.56
56:BV:61:VAL:HG21	56:BV:100:ARG:HE	1.70	0.56
56:BV:72:VAL:CA	56:BV:88:ARG:HH22	2.19	0.56
58:BX:36:LYS:C	58:BX:38:GLU:N	2.57	0.56
58:BX:82:GLN:OE1	58:BX:83:VAL:HG22	2.06	0.56
59:BY:76:CYS:SG	59:BY:77:PRO:HD3	2.46	0.56
60:BZ:99:TYR:HE2	60:BZ:125:LEU:HD12	1.70	0.56
60:BZ:105:VAL:HG22	60:BZ:106:GLY:N	2.20	0.56
60:BZ:144:LEU:HD22	60:BZ:144:LEU:N	2.20	0.56
1:AA:1404:C:H2'	1:AA:1405:G:C8	2.40	0.56
2:AB:142:LEU:HD23	2:AB:142:LEU:C	2.26	0.56
19:AN:48:ALA:N	19:AN:53:LEU:HD12	2.20	0.56
29:B1:19:GLN:H	29:B1:44:PRO:CD	2.18	0.56
29:B1:54:ALA:O	29:B1:55:GLY:C	2.43	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:3:VAL:HG12	37:B9:35:ARG:N	2.20	0.56
38:BA:38:A:H1'	43:BF:48:THR:HB	1.86	0.56
38:BA:402:A:O2'	38:BA:403:U:H5'	2.05	0.56
38:BA:460:A:H2'	38:BA:461:C:O4'	2.06	0.56
38:BA:543:C:N3	38:BA:551:G:C2	2.73	0.56
38:BA:754:C:H2'	38:BA:755:C:C6	2.40	0.56
38:BA:1053:C:H2'	38:BA:1054:A:H8	1.68	0.56
38:BA:1348:G:H2'	38:BA:1349:A:C5'	2.34	0.56
39:BB:40:U:H1'	39:BB:45:A:N6	2.20	0.56
41:BD:75:ILE:HG21	41:BD:99:ASP:HB2	1.86	0.56
43:BF:163:VAL:O	43:BF:166:ALA:HB3	2.05	0.56
44:BG:57:ALA:O	44:BG:60:LEU:HB3	2.05	0.56
44:BG:112:PRO:CB	44:BG:113:ARG:HG2	2.34	0.56
45:BH:76:VAL:HG12	45:BH:77:LYS:N	2.20	0.56
47:BL:124:ALA:O	47:BL:127:ILE:HB	2.05	0.56
50:BP:85:LEU:HD21	50:BP:117:GLU:O	2.05	0.56
51:BQ:17:LEU:HD21	51:BQ:41:TRP:HE1	1.69	0.56
53:BS:25:ARG:HG2	53:BS:88:ASP:OD1	2.06	0.56
53:BS:31:SER:HB3	53:BS:34:HIS:O	2.06	0.56
53:BS:35:ILE:H	53:BS:53:SER:CB	2.16	0.56
56:BV:89:GLN:HE21	56:BV:90:PRO:CD	2.16	0.56
1:AA:328:C:O2	1:AA:328:C:H2'	2.05	0.56
1:AA:414:A:H5'	1:AA:414:A:H8	1.69	0.56
1:AA:783:C:O2'	1:AA:784:C:H5'	2.05	0.56
1:AA:975:A:H5'	1:AA:975:A:C8	2.39	0.56
4:AE:12:LEU:C	4:AE:12:LEU:HD22	2.26	0.56
4:AE:91:LEU:HD12	4:AE:120:THR:HG22	1.87	0.56
6:AH:1:MET:H3	6:AH:1:MET:CE	2.19	0.56
10:AP:28:ARG:HG2	10:AP:28:ARG:NH1	2.21	0.56
12:AR:35:ARG:O	12:AR:37:VAL:HG13	2.05	0.56
14:AC:172:ARG:HB3	14:AC:172:ARG:NH1	2.21	0.56
15:AG:15:ASP:OD2	15:AG:16:LEU:N	2.38	0.56
20:AS:67:VAL:C	20:AS:69:HIS:H	2.08	0.56
22:AV:17:C:H5''	22:AV:17(A):U:C5	2.39	0.56
24:AW:65:G:H2'	24:AW:66:U:C6	2.40	0.56
29:B1:90:ILE:O	29:B1:94:LEU:HB2	2.05	0.56
30:B2:51:ARG:O	30:B2:52:ASP:CB	2.53	0.56
32:B4:13:ARG:HA	44:BG:101:ILE:HD12	1.88	0.56
35:B7:4:THR:OG1	35:B7:5:TRP:N	2.37	0.56
38:BA:596:G:H2'	38:BA:597:U:O4'	2.05	0.56
38:BA:1847:A:H3'	38:BA:1848:A:C5'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2134:A:N3	38:BA:2158:A:N3	2.54	0.56
38:BA:2158:A:H2'	38:BA:2159:G:C5'	2.35	0.56
38:BA:2286:A:HO2'	38:BA:2286:A:H8	1.53	0.56
38:BA:2704:C:C2	38:BA:2705:A:C8	2.94	0.56
41:BD:224:ALA:O	41:BD:225:ALA:HB2	2.05	0.56
43:BF:33:LEU:HD13	43:BF:112:MET:HB3	1.88	0.56
44:BG:136:ARG:O	44:BG:154:GLY:HA3	2.05	0.56
45:BH:106:THR:HG22	45:BH:112:PRO:CB	2.35	0.56
45:BH:139:GLN:O	45:BH:143:GLN:HB2	2.06	0.56
45:BH:141:VAL:CG1	45:BH:142:GLY:N	2.68	0.56
47:BL:7:VAL:HG12	47:BL:58:THR:CG2	2.33	0.56
47:BL:78:ILE:HD11	47:BL:127:ILE:HA	1.86	0.56
50:BP:122:PRO:HB3	50:BP:141:ALA:CB	2.36	0.56
57:BW:1:MET:HE2	57:BW:2:GLU:H	1.70	0.56
1:AA:374:A:C6	1:AA:375:U:C4	2.93	0.56
1:AA:999:C:H2'	1:AA:1000:U:C6	2.41	0.56
1:AA:1432:G:OP2	54:BT:108:ARG:CZ	2.54	0.56
5:AF:61:LEU:HD12	5:AF:61:LEU:N	2.21	0.56
6:AH:60:ARG:HH11	6:AH:60:ARG:HG3	1.69	0.56
6:AH:88:LYS:HB3	6:AH:89:PRO:HD2	1.88	0.56
8:AL:34:ARG:HG2	8:AL:35:GLY:H	1.71	0.56
15:AG:137:LYS:O	15:AG:141:VAL:HG23	2.05	0.56
17:AJ:6:ILE:HG13	17:AJ:72:VAL:O	2.04	0.56
17:AJ:38:ILE:HD11	17:AJ:71:LEU:HB3	1.88	0.56
17:AJ:78:ASN:HB2	17:AJ:81:THR:HG23	1.87	0.56
17:AJ:92:THR:HG23	17:AJ:93:GLY:N	2.21	0.56
22:AV:76:A:H2	38:BA:2450:A:HO2'	1.49	0.56
24:AW:72:C:OP1	38:BA:1851:U:O2'	2.20	0.56
27:AZ:80[A]:VAL:HG11	64:AZ:503:BME:H22	1.87	0.56
29:B1:94:LEU:CD2	29:B1:95:LEU:N	2.69	0.56
30:B2:30:ARG:HH11	30:B2:30:ARG:CG	2.18	0.56
36:B8:59:LYS:CD	50:BP:50:ARG:HB3	2.29	0.56
36:B8:60:LEU:HB3	36:B8:63:PRO:HG2	1.88	0.56
38:BA:1081:U:H5''	47:BL:122:ALA:CA	2.35	0.56
38:BA:1531:C:H2'	38:BA:1532:C:H4'	1.88	0.56
38:BA:2011:U:C2'	38:BA:2012:G:H5'	2.35	0.56
38:BA:2591:C:P	41:BD:239:ARG:HG3	2.45	0.56
38:BA:2716:U:O2'	38:BA:2717:G:H5'	2.05	0.56
40:BC:75:LEU:HD23	40:BC:76:ALA:N	2.21	0.56
41:BD:30:GLU:CD	41:BD:63:ARG:HE	2.09	0.56
42:BE:109:LYS:HE2	52:BR:2:ARG:HH12	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:1:MET:HB2	46:BI:21:VAL:O	2.05	0.56
46:BI:92:VAL:O	46:BI:92:VAL:HG13	2.04	0.56
48:BN:128:HIS:O	48:BN:130:HIS:N	2.38	0.56
49:BO:11:ALA:O	49:BO:12:ASP:HB3	2.04	0.56
50:BP:83:VAL:HG11	50:BP:112:LEU:HD21	1.86	0.56
54:BT:53:ARG:O	54:BT:53:ARG:HD3	2.05	0.56
58:BX:24:GLY:O	58:BX:25:LYS:O	2.23	0.56
59:BY:33:LYS:O	59:BY:34:LYS:HG3	2.05	0.56
1:AA:194:C:C2'	1:AA:195:A:H5''	2.35	0.56
1:AA:807:A:H2'	1:AA:808:C:C6	2.41	0.56
1:AA:963:G:H21	17:AJ:55:LYS:HD3	1.71	0.56
2:AB:236:TYR:HA	2:AB:239:VAL:CG2	2.36	0.56
6:AH:69:ARG:HD3	6:AH:75:ARG:O	2.05	0.56
18:AM:2:ALA:C	18:AM:9:ILE:HG23	2.26	0.56
22:AV:13:C:O2'	38:BA:1924:C:O3'	2.23	0.56
22:AV:15:G:N2	22:AV:48:C:H42	1.99	0.56
22:AV:67:C:O2	22:AV:67:C:H2'	2.06	0.56
28:B0:74:ARG:HG2	39:BB:12:C:O2'	2.05	0.56
29:B1:53:VAL:HG12	29:B1:58:ILE:HB	1.87	0.56
36:B8:6:THR:HG21	38:BA:243:U:OP1	2.04	0.56
38:BA:440:G:H22	43:BF:46:ARG:HH21	1.54	0.56
38:BA:1086:A:H2'	38:BA:1086:A:N3	2.21	0.56
38:BA:1713:U:O2'	38:BA:1714:G:H5'	2.06	0.56
38:BA:2111:C:C2'	38:BA:2147:G:O6	2.52	0.56
38:BA:2296:U:H2'	53:BS:13:ARG:NH2	2.21	0.56
38:BA:2886:G:H2'	38:BA:2887:U:H6	1.70	0.56
41:BD:267:SER:O	41:BD:269:PHE:N	2.38	0.56
42:BE:63:LEU:O	42:BE:63:LEU:HD23	2.05	0.56
42:BE:93:VAL:C	42:BE:95:ILE:N	2.57	0.56
42:BE:109:LYS:HE2	52:BR:2:ARG:NH1	2.20	0.56
43:BF:84:VAL:HG12	43:BF:85:GLY:H	1.70	0.56
45:BH:26:VAL:O	45:BH:32:GLU:HA	2.05	0.56
48:BN:9:VAL:HG12	48:BN:10:GLU:N	2.14	0.56
49:BO:104:ARG:HH12	54:BT:35:LYS:HD3	1.69	0.56
49:BO:105:GLU:N	49:BO:105:GLU:OE1	2.37	0.56
50:BP:50:ARG:HG3	50:BP:51:PHE:N	2.20	0.56
50:BP:75:ILE:N	50:BP:75:ILE:CD1	2.56	0.56
51:BQ:62:GLY:O	60:BZ:178:GLU:HG2	2.05	0.56
52:BR:106:GLY:O	52:BR:107:ASP:HB3	2.06	0.56
56:BV:64:HIS:HB2	56:BV:95:LEU:O	2.06	0.56
57:BW:52:GLU:O	57:BW:55:ALA:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:25:LYS:HG3	58:BX:26:TYR:H	1.71	0.56
59:BY:38:ILE:HG12	59:BY:66:PRO:HA	1.87	0.56
60:BZ:152:ALA:HB2	60:BZ:168:GLU:N	2.21	0.56
1:AA:55:A:C4	27:AZ:233:GLY:O	2.59	0.56
1:AA:418:C:H2'	1:AA:419:C:H6	1.71	0.56
1:AA:538:G:OP2	8:AL:115:LYS:HG3	2.05	0.56
1:AA:782:A:O2'	1:AA:783:C:H5'	2.06	0.56
1:AA:1493:A:C6	25:AY:37:YG:C4'	2.85	0.56
2:AB:14:GLY:O	2:AB:15:VAL:HG13	2.04	0.56
2:AB:112:VAL:HG22	2:AB:149:LEU:HD13	1.88	0.56
3:AD:112:VAL:HG12	3:AD:116:GLN:OE1	2.05	0.56
9:AO:62:GLN:O	9:AO:66:LEU:HD13	2.06	0.56
11:AQ:7:THR:O	11:AQ:23:VAL:HG13	2.06	0.56
14:AC:107:GLN:CD	14:AC:107:GLN:N	2.59	0.56
22:AV:1:C:H42	22:AV:72:A:H61	1.52	0.56
24:AW:39:U:H5'	24:AW:39:U:O2	2.06	0.56
29:B1:58:ILE:HG22	29:B1:59:THR:N	2.21	0.56
29:B1:67:ILE:O	29:B1:70:VAL:HB	2.06	0.56
34:B6:10:LEU:CD1	36:B8:36:LYS:HD3	2.36	0.56
37:B9:19:ARG:HH22	38:BA:2743:C:H41	1.54	0.56
38:BA:1550:C:H2'	38:BA:1551:C:H6	1.71	0.56
38:BA:1582:C:H2'	38:BA:1583:A:C8	2.41	0.56
38:BA:1682:G:H2'	38:BA:1683:C:C6	2.41	0.56
38:BA:2410:G:H2'	38:BA:2411:A:O4'	2.05	0.56
41:BD:231:HIS:ND1	41:BD:232:PRO:CD	2.69	0.56
42:BE:16:ARG:O	42:BE:18:ASP:N	2.39	0.56
47:BL:17:ALA:O	47:BL:18:THR:HG23	2.05	0.56
47:BL:77:LEU:O	47:BL:80:LYS:HB2	2.05	0.56
48:BN:16:ILE:HG12	48:BN:17:ASP:N	2.21	0.56
48:BN:48:MET:O	48:BN:48:MET:SD	2.64	0.56
48:BN:72:TYR:N	48:BN:85:ILE:O	2.36	0.56
50:BP:101:VAL:O	50:BP:103:ALA:N	2.39	0.56
54:BT:65:LYS:HA	54:BT:65:LYS:HZ3	1.71	0.56
58:BX:55:ASN:HB2	58:BX:78:LYS:CD	2.36	0.56
1:AA:107:G:N7	13:AT:15:ARG:NH2	2.50	0.56
1:AA:186:C:H5'	13:AT:78:ALA:CB	2.34	0.56
1:AA:398:C:O2'	1:AA:399:G:H5'	2.06	0.56
1:AA:436:C:O2'	1:AA:437:U:P	2.63	0.56
1:AA:555:C:H2'	1:AA:556:C:H6	1.71	0.56
1:AA:645:C:O2'	1:AA:646:U:H5'	2.06	0.56
1:AA:748:C:H1'	1:AA:749:C:OP2	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:148:GLY:CA	14:AC:203:PHE:HB3	2.21	0.56
17:AJ:22:LYS:O	17:AJ:22:LYS:HD2	2.06	0.56
17:AJ:32:ALA:HB2	17:AJ:76:ASN:HB3	1.87	0.56
20:AS:6:LYS:H	20:AS:6:LYS:CD	2.18	0.56
25:AY:29:A:O2'	25:AY:30:G:H5'	2.06	0.56
25:AY:76:A:O2'	27:AZ:274:ARG:HA	2.05	0.56
27:AZ:231:ILE:HG21	27:AZ:234:ARG:HD3	1.87	0.56
35:B7:12:ARG:HG3	35:B7:12:ARG:NH1	2.20	0.56
36:B8:50:LEU:HD12	36:B8:51:ALA:H	1.71	0.56
38:BA:1069:A:H2	38:BA:1073:A:OP2	1.89	0.56
38:BA:1104:C:H2'	38:BA:1105:U:H6	1.69	0.56
38:BA:1292:U:H2'	38:BA:1293:C:C6	2.40	0.56
38:BA:1675:C:C2	42:BE:129:HIS:HD2	2.24	0.56
38:BA:2062:A:O2'	38:BA:2063:C:H5'	2.06	0.56
38:BA:2828:C:O2'	38:BA:2829:C:H5'	2.05	0.56
41:BD:39:LYS:HB2	41:BD:62:TYR:HB2	1.88	0.56
42:BE:9:VAL:HG13	42:BE:25:VAL:O	2.05	0.56
42:BE:64:LYS:O	42:BE:64:LYS:HG2	2.04	0.56
43:BF:143:ALA:CA	43:BF:146:ALA:HB3	2.34	0.56
44:BG:153:ARG:O	44:BG:153:ARG:HG2	2.06	0.56
47:BL:131:ALA:CB	47:BL:136:VAL:HB	2.36	0.56
49:BO:71:ARG:HH11	49:BO:71:ARG:HG3	1.70	0.56
51:BQ:75:THR:HA	51:BQ:89:ASN:N	2.21	0.56
59:BY:26:LYS:HG2	59:BY:27:VAL:N	2.20	0.56
59:BY:42:VAL:HB	59:BY:65:ALA:HB3	1.87	0.56
59:BY:75:ILE:HD11	59:BY:78:ALA:C	2.27	0.56
1:AA:78:G:H22	1:AA:91:C:N4	1.93	0.56
1:AA:1218:C:H2'	1:AA:1219:U:C6	2.41	0.56
2:AB:70:PHE:CE2	2:AB:163:PHE:HD1	2.24	0.56
2:AB:87:ARG:O	2:AB:87:ARG:HD2	2.06	0.56
3:AD:120:LEU:HD23	3:AD:125:HIS:HD2	1.71	0.56
8:AL:70:ILE:N	8:AL:70:ILE:HD12	2.21	0.56
13:AT:44:ALA:HB1	13:AT:91:LEU:HB2	1.88	0.56
17:AJ:78:ASN:O	17:AJ:82:ILE:HG12	2.06	0.56
28:B0:41:ARG:HD2	28:B0:41:ARG:N	2.18	0.56
38:BA:391:G:O2'	38:BA:392:C:H5'	2.06	0.56
38:BA:405:U:H3'	38:BA:406:G:H5'	1.88	0.56
38:BA:491:G:H2'	38:BA:492:A:O4'	2.06	0.56
38:BA:1298:C:O2	38:BA:1298:C:H2'	2.06	0.56
38:BA:1403:C:H2'	38:BA:1404:C:O5'	2.06	0.56
38:BA:1708:C:H2'	38:BA:1709:U:C6	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1771:C:H1'	38:BA:1786:A:C8	2.41	0.56
38:BA:2011:U:O2'	38:BA:2012:G:H5'	2.06	0.56
38:BA:2692:C:O2'	38:BA:2693:A:H5'	2.06	0.56
38:BA:2855:C:H2'	38:BA:2856:C:H6	1.71	0.56
39:BB:79:C:O2'	39:BB:80:U:H5'	2.06	0.56
41:BD:10:THR:HG23	41:BD:13:ARG:HB3	1.88	0.56
43:BF:185:ASP:OD1	43:BF:188:ARG:NH1	2.39	0.56
46:BI:28:ASN:HA	46:BI:32:PRO:HG2	1.88	0.56
46:BI:88:ILE:HD11	46:BI:123:LEU:N	2.21	0.56
50:BP:30:THR:CG2	50:BP:31:ALA:H	2.18	0.56
51:BQ:11:LYS:HE2	51:BQ:85:LYS:CG	2.26	0.56
53:BS:30:ARG:HH21	53:BS:62:LYS:HD2	1.71	0.56
57:BW:9:TYR:H	57:BW:102:HIS:HD2	1.54	0.56
58:BX:60:ARG:HE	58:BX:74:PRO:CG	2.12	0.56
1:AA:7:G:H5'	1:AA:298:A:O4'	2.06	0.55
1:AA:47:C:H5''	1:AA:365:U:C6	2.41	0.55
10:AP:55:ARG:HA	10:AP:55:ARG:NE	2.21	0.55
14:AC:106:VAL:HG12	14:AC:108:ASN:H	1.70	0.55
14:AC:173:VAL:HG12	14:AC:173:VAL:O	2.05	0.55
24:AW:11:C:H2'	24:AW:12:U:C6	2.41	0.55
25:AY:76:A:C4	27:AZ:231:ILE:HD11	2.40	0.55
34:B6:10:LEU:HD22	34:B6:10:LEU:N	2.20	0.55
35:B7:10:ARG:HG3	38:BA:125:G:C6	2.40	0.55
38:BA:39:C:O2	43:BF:46:ARG:NH2	2.39	0.55
38:BA:1081:U:O4	38:BA:1086:A:H2	1.88	0.55
38:BA:1175:U:O4'	38:BA:1176:G:H2'	2.06	0.55
38:BA:1683:C:H2'	38:BA:1684:C:H6	1.70	0.55
38:BA:1684:C:O2'	38:BA:1685:C:H5'	2.05	0.55
38:BA:1817:G:OP1	41:BD:88:ARG:NH2	2.38	0.55
38:BA:2111:C:H1'	38:BA:2118:U:H1'	1.88	0.55
38:BA:2496:C:OP1	51:BQ:81:VAL:HG13	2.06	0.55
38:BA:2579:C:H2'	38:BA:2580:U:O4'	2.06	0.55
43:BF:20:LEU:HD22	43:BF:23:ASP:OD2	2.06	0.55
46:BI:101:LEU:HD12	46:BI:101:LEU:O	2.06	0.55
50:BP:144:GLU:N	50:BP:145:PRO:CD	2.69	0.55
53:BS:28:VAL:O	53:BS:29:PHE:HB2	2.06	0.55
60:BZ:96:VAL:HG22	60:BZ:97:GLU:N	2.22	0.55
1:AA:186:C:H2'	1:AA:187:C:H6	1.71	0.55
1:AA:253:U:H2'	1:AA:254:G:C8	2.41	0.55
1:AA:266:G:H5'	1:AA:266:G:C8	2.41	0.55
1:AA:460:G:O6	1:AA:470:C:H5''	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:539:A:OP1	8:AL:114:LYS:HE2	2.06	0.55
1:AA:950:U:H4'	1:AA:971:G:C2	2.41	0.55
1:AA:1151:A:O2'	1:AA:1152:A:H8	1.88	0.55
1:AA:1230:C:OP1	22:AV:30:G:H4'	2.05	0.55
1:AA:1321:C:C3'	1:AA:1322:C:H5''	2.37	0.55
1:AA:1475:G:OP1	38:BA:1689:A:H1'	2.06	0.55
2:AB:69:LEU:HD13	2:AB:91:PRO:HB2	1.87	0.55
6:AH:122:ARG:HB2	6:AH:122:ARG:NH1	2.21	0.55
20:AS:49:ILE:HD12	20:AS:49:ILE:N	2.20	0.55
24:AW:39:U:C2'	24:AW:40:C:C5'	2.72	0.55
24:AW:53:G:O2'	24:AW:54:U:H5'	2.06	0.55
28:B0:36:ILE:HD13	28:B0:36:ILE:N	2.21	0.55
29:B1:47:GLN:OE1	29:B1:47:GLN:O	2.24	0.55
29:B1:87:PRO:HG2	29:B1:88:LYS:H	1.71	0.55
32:B4:29:PRO:C	32:B4:31:ILE:N	2.58	0.55
34:B6:32:ASN:ND2	34:B6:33:LYS:H	2.04	0.55
38:BA:271(M):G:H2'	38:BA:271(N):U:H5'	1.86	0.55
38:BA:314:A:O2'	38:BA:315:G:H5'	2.05	0.55
38:BA:1067:A:C6	38:BA:1068:G:O6	2.60	0.55
38:BA:1072:C:N4	38:BA:1100:C:H42	2.03	0.55
38:BA:1175:U:C4'	38:BA:1176:G:H2'	2.36	0.55
38:BA:1298:C:H3'	38:BA:1299:G:C8	2.41	0.55
38:BA:1987:G:O2'	38:BA:1988:C:H5'	2.07	0.55
42:BE:180:ASN:O	42:BE:181:LEU:HD22	2.06	0.55
43:BF:155:LEU:HD12	43:BF:174:VAL:O	2.06	0.55
47:BL:112:MET:O	47:BL:115:LEU:HB3	2.05	0.55
47:BL:131:ALA:HB1	47:BL:136:VAL:CB	2.36	0.55
49:BO:71:ARG:NH2	49:BO:122:LEU:OXT	2.38	0.55
55:BU:92:ARG:NH2	56:BV:10:LYS:HB3	2.20	0.55
55:BU:93:LYS:CD	55:BU:93:LYS:H	2.19	0.55
58:BX:23:GLU:HG3	58:BX:24:GLY:H	1.71	0.55
58:BX:36:LYS:NZ	58:BX:39:ILE:CA	2.59	0.55
1:AA:946:A:H2'	1:AA:947:G:C8	2.41	0.55
1:AA:1205:U:O2'	14:AC:195:VAL:HG23	2.06	0.55
1:AA:1256:A:H5'	1:AA:1257:U:OP1	2.07	0.55
7:AK:34:ASP:HB2	7:AK:35:PRO:CD	2.36	0.55
7:AK:61:ALA:CB	7:AK:90:GLY:HA3	2.36	0.55
8:AL:27:LEU:N	8:AL:27:LEU:HD22	2.21	0.55
8:AL:126:LYS:HE2	8:AL:128:ALA:H	1.71	0.55
13:AT:51:GLU:O	13:AT:55:ILE:HG12	2.06	0.55
13:AT:100:ILE:HD12	13:AT:100:ILE:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:76:VAL:CG2	14:AC:77:ILE:N	2.69	0.55
15:AG:88:PRO:HD2	15:AG:152:ALA:HA	1.88	0.55
16:AI:43:ALA:HA	16:AI:74:ILE:HD13	1.89	0.55
17:AJ:39:PRO:CA	17:AJ:70:ARG:HH12	2.19	0.55
27:AZ:231:ILE:CG2	27:AZ:234:ARG:HD3	2.35	0.55
30:B2:26:ARG:NE	30:B2:29:LYS:NZ	2.53	0.55
37:B9:19:ARG:CD	38:BA:2755:C:C2	2.87	0.55
38:BA:1085:A:C1'	38:BA:1086:A:H4'	2.22	0.55
38:BA:1181:C:O2'	38:BA:1182:A:H5'	2.07	0.55
38:BA:1242:A:H5'	38:BA:1243:G:OP2	2.05	0.55
38:BA:2134:A:C2	38:BA:2158:A:H1'	2.41	0.55
38:BA:2702:U:O4'	38:BA:2702:U:OP1	2.24	0.55
38:BA:2808:U:H2'	38:BA:2809:A:H5'	1.87	0.55
41:BD:136:ILE:N	41:BD:136:ILE:HD12	2.21	0.55
42:BE:3:GLY:O	42:BE:4:ILE:HB	2.07	0.55
46:BI:131:LYS:HG2	46:BI:132:PRO:HA	1.87	0.55
47:BL:35:MET:SD	47:BL:39:LYS:HG3	2.46	0.55
47:BL:128:ALA:HB1	47:BL:138:VAL:CG1	2.36	0.55
50:BP:47:ASP:OD1	50:BP:48:PRO:O	2.23	0.55
51:BQ:43:THR:HG1	51:BQ:46:GLN:HG3	1.71	0.55
51:BQ:48:GLU:O	51:BQ:52:VAL:HG12	2.06	0.55
52:BR:24:GLN:HB2	52:BR:44:LEU:HD23	1.88	0.55
53:BS:98:VAL:O	53:BS:99:LYS:HD3	2.07	0.55
58:BX:60:ARG:HG3	58:BX:72:LYS:N	2.20	0.55
58:BX:76:ARG:O	58:BX:77:LYS:CB	2.52	0.55
1:AA:184:G:H2'	1:AA:185:A:C8	2.33	0.55
1:AA:793:U:H5'	1:AA:794:A:O5'	2.07	0.55
1:AA:1327:C:P	21:AU:12:LYS:NZ	2.79	0.55
2:AB:97:TRP:HH2	2:AB:176:GLU:CD	2.10	0.55
3:AD:49:ARG:HA	3:AD:49:ARG:NE	2.21	0.55
6:AH:35:ILE:HG23	6:AH:111:ILE:HD13	1.88	0.55
12:AR:53:ARG:HB3	12:AR:53:ARG:HH11	1.71	0.55
25:AY:11:C:C2'	25:AY:12:U:H5'	2.35	0.55
34:B6:27:LYS:HD2	38:BA:2285:C:OP2	2.06	0.55
36:B8:51:ALA:O	36:B8:54:GLU:HG2	2.07	0.55
38:BA:271(U):G:C2'	38:BA:271(V):G:H5'	2.37	0.55
38:BA:343:C:O2	38:BA:343:C:H2'	2.06	0.55
38:BA:1339:G:N2	38:BA:1603:A:H1'	2.21	0.55
38:BA:1695:G:C2'	38:BA:1696:G:H5'	2.36	0.55
38:BA:1952:A:C6	38:BA:1953:A:N1	2.74	0.55
38:BA:2146:C:H3'	38:BA:2146:C:H6	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2262:U:H2'	38:BA:2263:C:C5'	2.33	0.55
38:BA:2321:G:N3	38:BA:2321:G:H2'	2.20	0.55
38:BA:2404:C:H2'	38:BA:2405:G:O4'	2.06	0.55
38:BA:2468:G:OP1	51:BQ:119:ARG:NH2	2.39	0.55
38:BA:2639:A:C3'	38:BA:2640:G:C5'	2.84	0.55
41:BD:108:PRO:CG	41:BD:111:LEU:HD23	2.37	0.55
41:BD:142:VAL:HG23	41:BD:193:VAL:N	2.21	0.55
42:BE:3:GLY:HA3	42:BE:81:ILE:HG21	1.88	0.55
42:BE:37:ARG:HB3	42:BE:42:ASP:HB2	1.88	0.55
43:BF:28:ILE:O	43:BF:28:ILE:HD12	2.06	0.55
43:BF:107:LYS:O	43:BF:109:GLY:N	2.39	0.55
44:BG:129:GLY:O	44:BG:130:ASN:HB2	2.06	0.55
46:BI:5:LEU:C	46:BI:6:LEU:HD23	2.27	0.55
50:BP:100:LEU:HB2	50:BP:106:LEU:HD22	1.87	0.55
60:BZ:120:ILE:HG22	60:BZ:120:ILE:O	2.07	0.55
1:AA:636:U:H2'	1:AA:637:G:H8	1.71	0.55
1:AA:973:G:O4'	17:AJ:55:LYS:HG2	2.07	0.55
7:AK:115:PRO:C	7:AK:117:ASN:H	2.09	0.55
13:AT:11:SER:HA	13:AT:13:LEU:CD1	2.37	0.55
13:AT:97:ALA:O	13:AT:99:LEU:N	2.37	0.55
14:AC:140:ARG:HH11	14:AC:140:ARG:HG3	1.72	0.55
14:AC:155:GLY:HA3	14:AC:163:ALA:HB1	1.89	0.55
25:AY:65:G:H5'	27:AZ:391:GLY:H	1.64	0.55
33:B5:20:ARG:HA	33:B5:23:HIS:CD2	2.41	0.55
37:B9:27:CYS:SG	37:B9:29:ASN:HB2	2.46	0.55
38:BA:687:C:H42	38:BA:787:U:H4'	1.72	0.55
38:BA:998:C:H2'	38:BA:999:U:O4'	2.07	0.55
38:BA:1568:G:H4'	41:BD:59:LYS:CG	2.36	0.55
38:BA:2305:A:N7	44:BG:155:MET:HA	2.21	0.55
38:BA:2320:A:N3	38:BA:2320:A:H2'	2.21	0.55
38:BA:2777:G:H5'	38:BA:2778:A:C5'	2.36	0.55
38:BA:2808:U:C2'	38:BA:2809:A:H5'	2.36	0.55
38:BA:2864:G:H2'	38:BA:2865:U:O4'	2.07	0.55
39:BB:78:A:H4'	51:BQ:21:THR:HG23	1.87	0.55
41:BD:223:GLY:O	41:BD:225:ALA:N	2.39	0.55
42:BE:119:ARG:HG2	42:BE:160:TYR:HB2	1.87	0.55
42:BE:201:THR:HG22	42:BE:202:LYS:N	2.21	0.55
45:BH:89:ILE:HD13	45:BH:89:ILE:H	1.71	0.55
45:BH:103:LEU:HD23	45:BH:115:VAL:HB	1.88	0.55
46:BI:66:GLU:O	46:BI:70:GLU:HG2	2.07	0.55
47:BL:108:ALA:HB1	47:BL:123:ALA:CB	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:18:ALA:C	48:BN:20:GLY:H	2.10	0.55
49:BO:18:LYS:HB2	49:BO:45:GLU:CG	2.36	0.55
49:BO:88:ASN:O	49:BO:91:LEU:N	2.38	0.55
50:BP:62:LEU:H	50:BP:62:LEU:CD2	2.19	0.55
54:BT:92:GLY:C	54:BT:94:ALA:N	2.59	0.55
55:BU:64:ARG:HE	55:BU:64:ARG:N	2.04	0.55
56:BV:37:VAL:HG12	56:BV:38:LEU:N	2.21	0.55
58:BX:36:LYS:HZ3	58:BX:38:GLU:C	2.10	0.55
58:BX:77:LYS:HD3	58:BX:78:LYS:CD	2.31	0.55
60:BZ:99:TYR:CE2	60:BZ:125:LEU:HD12	2.41	0.55
1:AA:47:C:C6	1:AA:365:U:H2'	2.42	0.55
1:AA:222:U:H2'	1:AA:223:U:C6	2.42	0.55
1:AA:477:A:O2'	1:AA:479:C:H5'	2.06	0.55
1:AA:1234:C:O2'	1:AA:1235:U:H5'	2.07	0.55
1:AA:1299:A:C8	1:AA:1301:U:H1'	2.41	0.55
1:AA:1493:A:N6	25:AY:37:YG:H5'	2.22	0.55
3:AD:25:ARG:O	3:AD:27:TYR:N	2.37	0.55
7:AK:34:ASP:HB2	7:AK:35:PRO:HD2	1.87	0.55
7:AK:44:SER:H	7:AK:47:VAL:CG2	2.19	0.55
8:AL:34:ARG:HG2	8:AL:35:GLY:N	2.22	0.55
8:AL:90:VAL:O	8:AL:90:VAL:HG12	2.06	0.55
12:AR:47:THR:HB	12:AR:49:LYS:HG2	1.88	0.55
13:AT:34:LYS:O	13:AT:37:SER:N	2.40	0.55
14:AC:22:TRP:NE1	14:AC:36:ASP:OD1	2.40	0.55
16:AI:114:TYR:HD1	17:AJ:60:ARG:HG3	1.70	0.55
16:AI:114:TYR:HE1	17:AJ:60:ARG:O	1.88	0.55
18:AM:97:PRO:O	18:AM:98:VAL:HG13	2.07	0.55
20:AS:13:ASP:C	20:AS:15:LEU:H	2.10	0.55
25:AY:65:G:C5'	27:AZ:391:GLY:H	2.18	0.55
27:AZ:19:HIS:ND1	27:AZ:115:GLN:HB2	2.22	0.55
29:B1:87:PRO:HB2	29:B1:91:LYS:CE	2.36	0.55
30:B2:46:GLN:NE2	30:B2:47:ASN:N	2.54	0.55
37:B9:22:ARG:NH1	38:BA:2741:A:OP1	2.36	0.55
38:BA:549:G:C2'	38:BA:551:G:H5''	2.35	0.55
38:BA:1344:G:H4'	38:BA:1384:A:C5	2.42	0.55
38:BA:2040:C:H2'	38:BA:2041:U:C6	2.41	0.55
38:BA:2102:U:C5	38:BA:2187:G:O6	2.59	0.55
38:BA:2141:G:H2'	38:BA:2142:C:H6	1.71	0.55
38:BA:2158:A:H2	38:BA:2159:G:H1'	1.61	0.55
38:BA:2334:G:H5'	53:BS:13:ARG:HB3	1.89	0.55
41:BD:131:LEU:HD12	41:BD:131:LEU:N	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BE:3:GLY:O	42:BE:4:ILE:CB	2.54	0.55
45:BH:98:LEU:HB2	45:BH:125:VAL:HG21	1.87	0.55
46:BI:60:GLU:C	46:BI:62:LYS:H	2.08	0.55
47:BL:16:LYS:O	47:BL:17:ALA:CB	2.54	0.55
47:BL:106:GLU:HA	47:BL:109:LYS:CD	2.36	0.55
53:BS:28:VAL:H	53:BS:89:ARG:HD2	1.69	0.55
54:BT:78:LEU:O	54:BT:79:HIS:ND1	2.40	0.55
58:BX:27:THR:OG1	58:BX:77:LYS:HA	2.05	0.55
60:BZ:158:PRO:CG	60:BZ:161:VAL:HG21	2.31	0.55
1:AA:72:C:H2'	1:AA:73:G:C8	2.41	0.55
1:AA:708:C:O2'	1:AA:709:G:H5'	2.07	0.55
1:AA:955:U:O2'	1:AA:956:U:H5'	2.07	0.55
1:AA:1054:C:C4	25:AY:34:OMG:HM23	2.41	0.55
2:AB:142:LEU:HD23	2:AB:142:LEU:O	2.07	0.55
2:AB:165:VAL:HG23	2:AB:166:ASP:N	2.21	0.55
4:AE:110:LEU:O	4:AE:115:VAL:HG23	2.06	0.55
5:AF:22:GLU:O	5:AF:26:ILE:HG13	2.07	0.55
10:AP:26:ARG:HG2	10:AP:26:ARG:HH11	1.70	0.55
10:AP:28:ARG:NH1	10:AP:29:ASP:OD2	2.39	0.55
13:AT:57:ARG:HB2	13:AT:57:ARG:NH1	2.09	0.55
17:AJ:45:ARG:HH11	17:AJ:45:ARG:HG3	1.72	0.55
28:B0:41:ARG:HD3	28:B0:44:ARG:CD	2.37	0.55
29:B1:23:LYS:HA	29:B1:23:LYS:HE3	1.87	0.55
29:B1:75:GLU:O	29:B1:76:ARG:HD3	2.07	0.55
29:B1:88:LYS:O	29:B1:89:GLU:C	2.42	0.55
36:B8:6:THR:HG21	36:B8:63:PRO:HD3	1.87	0.55
38:BA:559:G:H22	55:BU:49:HIS:CD2	2.24	0.55
38:BA:1257:C:H2'	38:BA:1258:C:C6	2.41	0.55
38:BA:1695:G:H2'	38:BA:1696:G:H5'	1.87	0.55
38:BA:2141:G:C2	38:BA:2142:C:C2	2.94	0.55
38:BA:2818:G:O2'	38:BA:2819:G:H5'	2.07	0.55
38:BA:2822:G:O6	52:BR:4:LEU:HD12	2.06	0.55
40:BC:82:LYS:HZ2	40:BC:151:GLU:HA	1.71	0.55
43:BF:2:LYS:O	43:BF:25:PRO:HG2	2.05	0.55
43:BF:161:GLU:HA	43:BF:164:ARG:HB2	1.89	0.55
45:BH:127:GLU:OE1	45:BH:127:GLU:HA	2.07	0.55
46:BI:120:ILE:O	46:BI:121:LYS:HB3	2.07	0.55
1:AA:458:C:H2'	1:AA:460:G:C8	2.42	0.55
1:AA:1410:G:H2'	1:AA:1411:C:H6	1.72	0.55
4:AE:6:PHE:HB2	4:AE:34:VAL:CG1	2.35	0.55
7:AK:23:ALA:HB1	7:AK:88:GLY:HA3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AK:52:GLY:N	7:AK:55:LYS:HG3	2.22	0.55
18:AM:3:ARG:NH1	18:AM:7:VAL:HG13	2.22	0.55
34:B6:25:LYS:HD3	36:B8:36:LYS:HD2	1.89	0.55
38:BA:45:C:H2'	38:BA:47:C:H6	1.72	0.55
38:BA:542:C:C4	38:BA:543:C:N4	2.75	0.55
38:BA:741:G:O2'	38:BA:742:G:H5'	2.07	0.55
38:BA:754:C:H2'	38:BA:755:C:H6	1.69	0.55
38:BA:2317:C:H2'	38:BA:2318:G:C5'	2.37	0.55
38:BA:2810:A:C2'	42:BE:61:ARG:NH2	2.70	0.55
41:BD:2:ALA:O	41:BD:3:VAL:HB	2.06	0.55
45:BH:89:ILE:O	45:BH:90:LYS:CB	2.54	0.55
47:BL:78:ILE:HD13	47:BL:131:ALA:CA	2.36	0.55
47:BL:138:VAL:O	47:BL:139:VAL:CG2	2.54	0.55
50:BP:14:LYS:O	50:BP:15:ARG:HG3	2.05	0.55
52:BR:2:ARG:HD3	52:BR:5:LYS:NZ	2.20	0.55
56:BV:90:PRO:CD	56:BV:91:TYR:H	2.19	0.55
58:BX:88:LYS:O	58:BX:89:ILE:HB	2.07	0.55
59:BY:28:LYS:HD2	59:BY:37:VAL:HB	1.88	0.55
59:BY:39:VAL:O	59:BY:40:GLU:CD	2.45	0.55
1:AA:375:U:H2'	1:AA:376:G:C8	2.39	0.55
1:AA:1101:A:N6	2:AB:176:GLU:HG2	2.21	0.55
1:AA:1321:C:H5'	1:AA:1322:C:H5'	1.88	0.55
1:AA:1410:G:H2'	1:AA:1411:C:C6	2.41	0.55
2:AB:102:LEU:CD1	2:AB:102:LEU:N	2.69	0.55
5:AF:8:ILE:HG22	5:AF:9:VAL:N	2.21	0.55
6:AH:137:VAL:HG12	6:AH:138:TRP:N	2.22	0.55
18:AM:125:ARG:C	25:AY:37:YG:C10	2.70	0.55
19:AN:47:LEU:HB2	19:AN:53:LEU:HD11	1.87	0.55
38:BA:580:C:O2'	38:BA:581:C:H5'	2.07	0.55
38:BA:661:C:H5'	43:BF:38:ARG:HH12	1.72	0.55
38:BA:796:C:H2'	38:BA:797:C:C6	2.42	0.55
38:BA:993:G:N2	56:BV:91:TYR:OH	2.39	0.55
38:BA:1427:A:C2	38:BA:1570:A:OP2	2.60	0.55
38:BA:1808:U:C5	38:BA:1809:A:N7	2.75	0.55
38:BA:2157:G:OP2	38:BA:2157:G:H8	1.90	0.55
38:BA:2563:U:H2'	38:BA:2565:A:OP2	2.07	0.55
38:BA:2836:U:C4	38:BA:2883:A:N6	2.75	0.55
39:BB:55:U:O2'	39:BB:56:G:H5'	2.07	0.55
41:BD:44:ASN:HB3	41:BD:49:ILE:HA	1.89	0.55
41:BD:65:ILE:HD11	41:BD:67:PHE:CE1	2.42	0.55
41:BD:76:PRO:O	41:BD:98:VAL:HG23	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BE:169:ASN:HA	42:BE:201:THR:OG1	2.07	0.55
43:BF:7:TYR:HB3	43:BF:16:GLY:C	2.28	0.55
44:BG:161:THR:CG2	44:BG:163:ALA:HB3	2.37	0.55
46:BI:114:LEU:HA	46:BI:130:TYR:CD1	2.42	0.55
46:BI:120:ILE:HG21	46:BI:126:TYR:CE1	2.42	0.55
47:BL:37:PHE:CD1	47:BL:57:ILE:HD12	2.41	0.55
48:BN:55:VAL:HG22	48:BN:128:HIS:HB3	1.88	0.55
49:BO:8:LEU:HD22	49:BO:8:LEU:N	2.21	0.55
51:BQ:38:GLU:HB2	51:BQ:127:ILE:HG23	1.87	0.55
53:BS:66:ALA:HA	53:BS:69:VAL:CG1	2.36	0.55
54:BT:27:THR:O	54:BT:28:VAL:CG2	2.45	0.55
54:BT:57:PHE:C	54:BT:59:THR:N	2.61	0.55
55:BU:74:LEU:HD23	55:BU:114:LYS:HE3	1.89	0.55
56:BV:47:VAL:HG13	56:BV:48:GLY:H	1.71	0.55
58:BX:21:PHE:O	58:BX:22:ALA:C	2.44	0.55
59:BY:13:VAL:HG11	59:BY:72:VAL:HB	1.88	0.55
59:BY:68:HIS:CE1	59:BY:70:SER:H	2.25	0.55
60:BZ:4:ARG:O	60:BZ:5:LEU:HG	2.06	0.55
1:AA:189(A):C:H2'	1:AA:189(B):C:C6	2.42	0.55
1:AA:264:U:O2'	11:AQ:64:PRO:HB2	2.07	0.55
1:AA:1003:G:C2'	1:AA:1004:A:H4'	2.35	0.55
1:AA:1237:C:H2'	1:AA:1336:C:C5	2.41	0.55
1:AA:1253:G:H1'	1:AA:1355:G:O2'	2.07	0.55
1:AA:1288:A:H1'	1:AA:1352:C:O2'	2.07	0.55
1:AA:1475:G:OP1	38:BA:1689:A:C1'	2.55	0.55
2:AB:236:TYR:HA	2:AB:239:VAL:HG23	1.88	0.55
3:AD:64:LEU:O	3:AD:67:ILE:HB	2.07	0.55
6:AH:85:ARG:HG2	6:AH:86:ILE:N	2.22	0.55
10:AP:74:LEU:HD22	10:AP:79:VAL:HG21	1.89	0.55
12:AR:73:ALA:O	12:AR:76:LEU:N	2.40	0.55
13:AT:33:ILE:HD12	13:AT:63:ILE:HG12	1.87	0.55
17:AJ:38:ILE:CG1	17:AJ:71:LEU:HB3	2.37	0.55
19:AN:41:ARG:HG3	19:AN:42:ILE:H	1.71	0.55
20:AS:5:LEU:HG	20:AS:10:PHE:HD1	1.70	0.55
25:AY:33:U:O2	25:AY:35:A:H3'	2.07	0.55
25:AY:35:A:N3	26:A0:102:U:C4	2.75	0.55
38:BA:94(A):G:H2'	38:BA:95:G:H5''	1.89	0.55
38:BA:110:G:O2'	38:BA:111:A:H5'	2.07	0.55
38:BA:612:C:C3'	38:BA:613:G:H5''	2.37	0.55
38:BA:1108:U:H2'	38:BA:1109:C:H5'	1.89	0.55
38:BA:1192:G:O2'	38:BA:1193:G:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1411:C:H2'	38:BA:1412:A:H8	1.72	0.55
38:BA:1747:G:H2'	38:BA:1747(A):G:C8	2.42	0.55
38:BA:2126:A:C8	38:BA:2127:G:H1'	2.42	0.55
38:BA:2469:A:H2	38:BA:2481:G:H21	1.55	0.55
38:BA:2514:U:H2'	38:BA:2515:C:C6	2.42	0.55
38:BA:2801(A):A:C3'	38:BA:2802:G:H5'	2.36	0.55
39:BB:28:C:O2'	39:BB:29:A:H5'	2.07	0.55
41:BD:28:GLU:HB2	41:BD:29:PRO:HD3	1.89	0.55
44:BG:54:GLU:HA	44:BG:57:ALA:HB2	1.89	0.55
47:BL:27:LEU:HD21	47:BL:57:ILE:CD1	2.34	0.55
47:BL:78:ILE:HG23	47:BL:136:VAL:HG11	1.87	0.55
48:BN:108:PRO:O	48:BN:113:GLY:HA3	2.07	0.55
49:BO:10:VAL:HG21	49:BO:16:ALA:O	2.06	0.55
50:BP:33:ARG:O	50:BP:35:HIS:N	2.39	0.55
50:BP:45:LEU:CD2	50:BP:46:LYS:N	2.57	0.55
51:BQ:12:GLN:HG2	51:BQ:73:PRO:HD2	1.89	0.55
51:BQ:68:ILE:C	51:BQ:68:ILE:HD12	2.26	0.55
51:BQ:75:THR:HB	51:BQ:88:GLY:CA	2.35	0.55
51:BQ:137:TYR:CD1	51:BQ:138:ASP:N	2.75	0.55
52:BR:8:ARG:HA	52:BR:8:ARG:HE	1.72	0.55
55:BU:92:ARG:HD2	56:BV:11:GLN:HG2	1.88	0.55
56:BV:5:VAL:HG21	56:BV:36:PRO:HG2	1.88	0.55
56:BV:32:THR:HB	56:BV:64:HIS:CE1	2.42	0.55
60:BZ:6:LYS:H	60:BZ:6:LYS:CD	2.06	0.55
1:AA:55:A:C2	27:AZ:234:ARG:HG3	2.42	0.54
1:AA:89:C:H3'	1:AA:90:U:H5'	1.89	0.54
1:AA:241:C:O2'	1:AA:242:C:H5'	2.07	0.54
1:AA:418:C:H2'	1:AA:419:C:C6	2.41	0.54
1:AA:818:G:C3'	1:AA:819:A:C5'	2.84	0.54
1:AA:1229:A:O3'	22:AV:30:G:C5'	2.55	0.54
1:AA:1483:A:H2	38:BA:1959:G:H1'	1.71	0.54
2:AB:19:HIS:CE1	2:AB:206:ASP:HB2	2.42	0.54
2:AB:74:LYS:HZ1	2:AB:76:GLN:HB2	1.71	0.54
5:AF:14:LEU:HB3	5:AF:18:GLN:HE21	1.73	0.54
12:AR:53:ARG:NH2	12:AR:59:SER:HA	2.22	0.54
17:AJ:64:GLU:HG2	19:AN:59:ALA:HA	1.87	0.54
20:AS:49:ILE:O	20:AS:60:VAL:HG12	2.07	0.54
24:AW:18:G:H22	24:AW:55:U:H6	1.54	0.54
25:AY:64:A:C4'	27:AZ:391:GLY:HA3	2.31	0.54
29:B1:46:LEU:O	29:B1:47:GLN:C	2.44	0.54
30:B2:30:ARG:HG3	30:B2:30:ARG:NH1	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:B8:2:PRO:O	36:B8:3:LYS:C	2.45	0.54
38:BA:143:G:H2'	38:BA:143(A):C:C6	2.38	0.54
38:BA:760:G:H2'	38:BA:761:A:O4'	2.07	0.54
38:BA:979:G:H3'	38:BA:980:A:H5''	1.89	0.54
38:BA:1086:A:N3	38:BA:1086:A:C2'	2.68	0.54
38:BA:1568:G:H21	41:BD:58:HIS:HE1	1.55	0.54
38:BA:1644:C:O2	38:BA:1644:C:H2'	2.06	0.54
38:BA:2144:U:O2'	38:BA:2146:C:N4	2.40	0.54
38:BA:2787:C:O2	42:BE:61:ARG:HD3	2.07	0.54
40:BC:89:ALA:HB2	40:BC:153:ILE:CA	2.37	0.54
43:BF:170:LEU:HD23	43:BF:172:TRP:CZ2	2.41	0.54
44:BG:170:ARG:HG2	44:BG:170:ARG:HH11	1.71	0.54
45:BH:43:VAL:HG11	45:BH:53:GLU:N	2.19	0.54
45:BH:155:SER:O	45:BH:157:TYR:N	2.35	0.54
47:BL:103:GLN:O	47:BL:106:GLU:OE2	2.25	0.54
49:BO:20:MET:O	49:BO:41:ALA:HB1	2.07	0.54
50:BP:71:VAL:CG1	50:BP:72:PRO:CD	2.84	0.54
51:BQ:132:VAL:HG12	51:BQ:133:ARG:N	2.22	0.54
53:BS:56:LEU:O	53:BS:57:LYS:HB2	2.07	0.54
54:BT:89:VAL:HG12	54:BT:91:ARG:HG2	1.89	0.54
56:BV:64:HIS:HB3	56:BV:96:ILE:HA	1.88	0.54
56:BV:64:HIS:CB	56:BV:96:ILE:HA	2.37	0.54
56:BV:72:VAL:C	56:BV:88:ARG:HH22	2.09	0.54
59:BY:20:TYR:CZ	59:BY:42:VAL:HA	2.42	0.54
60:BZ:85:HIS:HD1	60:BZ:86:VAL:N	2.05	0.54
1:AA:716:A:N3	7:AK:118:GLY:HA2	2.23	0.54
1:AA:1041:A:H2'	1:AA:1042:G:C8	2.42	0.54
1:AA:1458:G:O2'	1:AA:1459:C:H5'	2.08	0.54
2:AB:194:PRO:O	2:AB:196:LEU:N	2.40	0.54
6:AH:48:TYR:HB2	6:AH:60:ARG:O	2.07	0.54
8:AL:119:LYS:O	8:AL:120:TYR:HB2	2.07	0.54
10:AP:15:PRO:O	10:AP:16:HIS:ND1	2.41	0.54
14:AC:77:ILE:HA	14:AC:84:ILE:CG2	2.37	0.54
18:AM:27:LYS:O	18:AM:30:ALA:HB3	2.08	0.54
20:AS:16:LEU:HD12	20:AS:16:LEU:N	2.21	0.54
22:AV:8:U:H1'	22:AV:48:C:O2	2.07	0.54
30:B2:17:SER:N	30:B2:18:PRO:CD	2.71	0.54
33:B5:16:ARG:HH11	33:B5:16:ARG:HG2	1.72	0.54
38:BA:690:G:H2'	38:BA:691:C:C6	2.42	0.54
38:BA:703:U:H2'	38:BA:704:G:H5'	1.88	0.54
38:BA:1090:U:O4	38:BA:1103:A:N1	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1190:G:OP1	50:BP:35:HIS:HA	2.07	0.54
38:BA:2024:G:O2'	38:BA:2025:C:H5'	2.07	0.54
38:BA:2111:C:O2	38:BA:2146:C:N4	2.38	0.54
38:BA:2138:C:OP2	38:BA:2138:C:C6	2.58	0.54
38:BA:2146:C:H6	38:BA:2146:C:O5'	1.91	0.54
38:BA:2289:G:H2'	38:BA:2290:G:H5''	1.88	0.54
39:BB:65:C:N4	39:BB:109:C:H2'	2.20	0.54
39:BB:103:G:O2'	39:BB:104:U:H5'	2.08	0.54
41:BD:32:SER:O	41:BD:33:LEU:HB2	2.08	0.54
41:BD:210:GLY:O	41:BD:212:SER:N	2.39	0.54
41:BD:231:HIS:CE1	41:BD:232:PRO:HD2	2.42	0.54
43:BF:18:ARG:HG2	43:BF:19:GLU:N	2.17	0.54
45:BH:54:ARG:HB3	45:BH:65:HIS:CD2	2.42	0.54
47:BL:18:THR:HG23	47:BL:38:VAL:HG21	1.89	0.54
49:BO:87:ILE:HG21	49:BO:91:LEU:HD13	1.90	0.54
50:BP:71:VAL:HG13	50:BP:72:PRO:N	2.21	0.54
51:BQ:20:ALA:HB1	51:BQ:23:GLY:HA3	1.89	0.54
52:BR:51:LEU:HD23	52:BR:66:VAL:HG13	1.89	0.54
53:BS:87:PHE:CG	53:BS:88:ASP:N	2.73	0.54
60:BZ:48:PHE:CE1	60:BZ:52:SER:HA	2.42	0.54
60:BZ:151:HIS:CB	60:BZ:170:THR:HA	2.24	0.54
1:AA:310:G:H2'	1:AA:311:C:H6	1.71	0.54
1:AA:834:C:O2'	1:AA:835:U:H5'	2.07	0.54
1:AA:1060:C:O2'	1:AA:1061:G:H5'	2.07	0.54
1:AA:1105:A:O2'	1:AA:1106:G:H5'	2.06	0.54
1:AA:1228:C:H4'	18:AM:116:THR:O	2.07	0.54
1:AA:1308:U:H2'	1:AA:1309:G:H8	1.71	0.54
1:AA:1405:G:O2'	1:AA:1406:U:H5'	2.07	0.54
3:AD:102:ASP:HA	3:AD:121:VAL:HG21	1.88	0.54
4:AE:78:HIS:HE1	4:AE:143:ARG:N	1.96	0.54
8:AL:50:SER:O	8:AL:51:ALA:HB2	2.07	0.54
14:AC:70:VAL:CG1	14:AC:71:ALA:N	2.71	0.54
16:AI:13:ALA:HA	16:AI:67:GLY:O	2.07	0.54
30:B2:46:GLN:HG2	30:B2:50:ILE:CG1	2.35	0.54
38:BA:30:G:H2'	38:BA:31:C:H6	1.72	0.54
38:BA:1464:C:O2'	38:BA:1528:A:H8	1.91	0.54
38:BA:1656:C:H2'	38:BA:1657:C:C6	2.42	0.54
38:BA:1910:G:O2'	38:BA:1911:U:H5'	2.07	0.54
38:BA:2419:U:O2'	38:BA:2420:C:H5'	2.08	0.54
38:BA:2591:C:H2'	38:BA:2592:G:H8	1.70	0.54
38:BA:2811:G:C2'	38:BA:2812:G:H5'	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BB:20:C:H2'	39:BB:21:G:C5'	2.38	0.54
44:BG:55:LYS:C	44:BG:57:ALA:N	2.58	0.54
50:BP:46:LYS:HG2	50:BP:52:GLU:CG	2.36	0.54
50:BP:146:VAL:O	50:BP:147:LEU:O	2.25	0.54
50:BP:148:LEU:N	50:BP:148:LEU:HD13	2.23	0.54
54:BT:28:VAL:HG21	54:BT:88:ILE:HD11	1.90	0.54
54:BT:33:LYS:HD2	54:BT:43:GLN:OE1	2.07	0.54
57:BW:55:ALA:HA	57:BW:107:LEU:CD2	2.38	0.54
58:BX:82:GLN:OE1	58:BX:83:VAL:N	2.37	0.54
58:BX:89:ILE:N	58:BX:89:ILE:HD12	2.22	0.54
59:BY:99:CYS:O	59:BY:100:ALA:HB3	2.06	0.54
1:AA:15:G:H4'	4:AE:24:ARG:CZ	2.37	0.54
1:AA:503:C:H2'	1:AA:504:C:H6	1.72	0.54
6:AH:120:THR:H	6:AH:123:GLU:HB2	1.72	0.54
8:AL:21:LYS:N	8:AL:21:LYS:HD2	2.21	0.54
10:AP:45:THR:HG22	10:AP:47:ASP:N	2.06	0.54
16:AI:17:VAL:HA	16:AI:63:ILE:HG13	1.90	0.54
20:AS:39:THR:CG2	20:AS:40:ILE:N	2.71	0.54
29:B1:49:VAL:HG11	38:BA:2091:U:O2'	2.07	0.54
30:B2:49:LYS:CA	30:B2:53:LEU:HB3	2.36	0.54
37:B9:14:CYS:HG	37:B9:27:CYS:CB	2.18	0.54
38:BA:142(A):C:O2'	38:BA:143:G:H5'	2.07	0.54
38:BA:1410:G:H1	38:BA:1592:C:H42	1.56	0.54
38:BA:1680:U:O2	38:BA:1763:G:H3'	2.08	0.54
38:BA:1754:C:OP1	54:BT:96:ARG:NH1	2.41	0.54
41:BD:31:LYS:HA	41:BD:31:LYS:HZ1	1.73	0.54
41:BD:44:ASN:HB3	41:BD:49:ILE:HG22	1.89	0.54
41:BD:110:GLY:O	41:BD:112:GLN:HG3	2.07	0.54
42:BE:131:ALA:HB3	42:BE:134:ILE:CD1	2.38	0.54
43:BF:20:LEU:HB3	43:BF:23:ASP:HB2	1.89	0.54
44:BG:43:LEU:CD2	44:BG:88:ILE:HG22	2.36	0.54
44:BG:132:ASN:O	44:BG:133:LEU:HB3	2.07	0.54
46:BI:44:LEU:O	46:BI:47:LEU:HB3	2.07	0.54
47:BL:7:VAL:HG12	47:BL:58:THR:CB	2.37	0.54
50:BP:107:LYS:HG3	50:BP:107:LYS:O	2.06	0.54
51:BQ:34:LEU:HD12	51:BQ:35:VAL:N	2.21	0.54
51:BQ:68:ILE:CG2	51:BQ:103:MET:HA	2.36	0.54
54:BT:28:VAL:CG2	54:BT:88:ILE:HD11	2.36	0.54
56:BV:5:VAL:HG23	56:BV:37:VAL:O	2.07	0.54
56:BV:88:ARG:HH11	56:BV:88:ARG:HG3	1.73	0.54
60:BZ:40:ASP:O	60:BZ:43:GLU:HB2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:79:ARG:H	60:BZ:79:ARG:CD	2.08	0.54
60:BZ:158:PRO:HG2	60:BZ:161:VAL:CG2	2.31	0.54
1:AA:46:G:O2'	1:AA:365:U:H1'	2.07	0.54
1:AA:186:C:H2'	1:AA:187:C:C6	2.43	0.54
1:AA:235:C:H1'	11:AQ:61:GLU:OE1	2.07	0.54
1:AA:831:U:O2'	1:AA:832:C:H5'	2.07	0.54
1:AA:986:A:H1'	20:AS:54:GLY:O	2.06	0.54
1:AA:1169:A:H2'	1:AA:1170:A:H8	1.67	0.54
1:AA:1307:U:H2'	1:AA:1308:U:H6	1.73	0.54
1:AA:1493:A:C5	25:AY:37:YG:H4'	2.42	0.54
3:AD:52:SER:C	3:AD:54:TYR:H	2.10	0.54
8:AL:82:VAL:O	8:AL:106:ASP:HB2	2.08	0.54
13:AT:8:ARG:HH11	13:AT:8:ARG:HG3	1.72	0.54
22:AV:57:A:H5'	44:BG:78:SER:OG	2.05	0.54
22:AV:76:A:N7	28:B0:1:MET:CA	2.64	0.54
28:B0:36:ILE:CD1	38:BA:2355:C:H5'	2.34	0.54
29:B1:26:ARG:HE	29:B1:34:THR:HB	1.73	0.54
35:B7:8:ASN:C	35:B7:8:ASN:ND2	2.61	0.54
35:B7:25:PRO:HG2	35:B7:26:GLY:H	1.73	0.54
36:B8:62:LEU:H	36:B8:63:PRO:HD2	1.72	0.54
38:BA:482:A:H4'	59:BY:47:LYS:HZ2	1.68	0.54
38:BA:585:G:H2'	38:BA:1251:C:N4	2.22	0.54
38:BA:729:G:C5	41:BD:208:LYS:HB2	2.42	0.54
38:BA:1061:U:H4'	38:BA:1070:A:H4'	1.88	0.54
38:BA:1157:G:H2'	38:BA:1158:C:H5'	1.90	0.54
38:BA:1448:G:N3	38:BA:1528(A):A:H2	2.05	0.54
38:BA:1550:C:O2'	38:BA:1551:C:H5'	2.08	0.54
38:BA:2033:A:H4'	38:BA:2034:U:OP1	2.08	0.54
38:BA:2392:A:H2'	38:BA:2393:A:O4'	2.08	0.54
38:BA:2703:C:H2'	38:BA:2704:C:C6	2.41	0.54
42:BE:111:ARG:HD2	42:BE:160:TYR:HE1	1.73	0.54
42:BE:154:LYS:HA	42:BE:154:LYS:CE	2.34	0.54
44:BG:33:ARG:HD3	44:BG:162:THR:HG21	1.88	0.54
44:BG:136:ARG:O	44:BG:154:GLY:N	2.41	0.54
47:BL:18:THR:CG2	47:BL:35:MET:HG2	2.36	0.54
48:BN:112:LEU:O	48:BN:115:ARG:N	2.40	0.54
50:BP:48:PRO:O	50:BP:49:ARG:C	2.46	0.54
50:BP:85:LEU:HA	50:BP:88:LEU:HB2	1.90	0.54
54:BT:23:ARG:HG2	54:BT:120:ARG:HH12	1.73	0.54
54:BT:45:PHE:CE1	54:BT:74:ARG:HG3	2.42	0.54
58:BX:77:LYS:HE3	58:BX:78:LYS:CG	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:29:GLU:N	59:BY:29:GLU:OE1	2.41	0.54
1:AA:200:G:H1	1:AA:217:C:H42	1.55	0.54
1:AA:309:G:O2'	1:AA:607:A:N1	2.41	0.54
1:AA:353:A:H5'	1:AA:353:A:C8	2.35	0.54
1:AA:588:G:H2'	1:AA:589:C:C6	2.42	0.54
1:AA:973:G:C4	17:AJ:55:LYS:HE2	2.42	0.54
1:AA:1106:G:H2'	1:AA:1107:C:H6	1.72	0.54
1:AA:1505:G:H5''	1:AA:1506:U:H5''	1.88	0.54
2:AB:23:ARG:O	2:AB:23:ARG:HG2	2.07	0.54
2:AB:188:ALA:O	2:AB:202:PRO:HA	2.08	0.54
5:AF:52:ILE:HD11	5:AF:87:ARG:NH2	2.23	0.54
10:AP:22:THR:HG22	10:AP:32:TYR:CA	2.33	0.54
21:AU:5:ASP:HB3	21:AU:8:THR:CG2	2.38	0.54
29:B1:46:LEU:H	29:B1:46:LEU:CD1	2.14	0.54
34:B6:50:ARG:HB3	34:B6:51:GLU:OE1	2.08	0.54
38:BA:473:G:H5''	38:BA:508:G:H22	1.71	0.54
38:BA:740:U:H2'	38:BA:741:G:C8	2.43	0.54
38:BA:1081:U:O4	38:BA:1086:A:C2	2.61	0.54
38:BA:1344:G:H4'	38:BA:1384:A:N7	2.23	0.54
38:BA:1568:G:H4'	41:BD:59:LYS:HG2	1.89	0.54
38:BA:1947:C:H2'	38:BA:1948:G:C5'	2.37	0.54
38:BA:2059:A:C5'	38:BA:2060:A:OP2	2.55	0.54
38:BA:2208:A:H1'	38:BA:2219:G:C2	2.43	0.54
38:BA:2402:C:H2'	38:BA:2403:C:H5'	1.90	0.54
38:BA:2574:G:O2'	38:BA:2575:C:H5'	2.07	0.54
41:BD:32:SER:O	41:BD:33:LEU:CB	2.56	0.54
42:BE:114:ALA:HB3	42:BE:160:TYR:HB3	1.88	0.54
47:BL:35:MET:HA	47:BL:38:VAL:CB	2.34	0.54
47:BL:103:GLN:O	47:BL:107:ILE:HG13	2.07	0.54
47:BL:115:LEU:HD12	47:BL:118:THR:HA	1.90	0.54
48:BN:25:ARG:HG3	48:BN:25:ARG:HH11	1.73	0.54
50:BP:64:LYS:O	50:BP:65:ARG:C	2.46	0.54
51:BQ:8:LYS:HE3	51:BQ:9:TYR:CE1	2.43	0.54
51:BQ:106:VAL:HG13	51:BQ:118:LEU:HD21	1.90	0.54
51:BQ:134:ARG:C	51:BQ:136:ALA:H	2.11	0.54
52:BR:54:LEU:HD23	52:BR:66:VAL:HG22	1.88	0.54
56:BV:38:LEU:HD23	56:BV:39:LEU:N	2.22	0.54
58:BX:25:LYS:HG3	58:BX:26:TYR:CD1	2.43	0.54
58:BX:82:GLN:CD	58:BX:83:VAL:H	2.10	0.54
58:BX:83:VAL:O	58:BX:85:PRO:HD3	2.06	0.54
59:BY:20:TYR:CD1	59:BY:42:VAL:HG22	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:525:C:O2'	1:AA:526:C:H5'	2.07	0.54
1:AA:932:C:H4'	15:AG:4:ARG:CZ	2.38	0.54
1:AA:1006:C:H42	1:AA:1024:G:N2	2.06	0.54
1:AA:1320:C:OP1	20:AS:70:LYS:NZ	2.40	0.54
3:AD:173:TRP:CD2	3:AD:189:PRO:HB3	2.43	0.54
6:AH:103:VAL:HG11	6:AH:109:ILE:O	2.08	0.54
13:AT:16:HIS:O	13:AT:19:SER:HB3	2.07	0.54
15:AG:23:VAL:HG12	15:AG:27:ILE:CD1	2.37	0.54
18:AM:5:ALA:O	18:AM:6:GLY:C	2.46	0.54
19:AN:44:LEU:C	19:AN:44:LEU:HD12	2.27	0.54
21:AU:2:GLY:C	21:AU:4:GLY:H	2.11	0.54
22:AV:3:C:H2'	22:AV:4:G:H5'	1.90	0.54
29:B1:87:PRO:CG	29:B1:88:LYS:H	2.20	0.54
30:B2:30:ARG:C	30:B2:32:LEU:N	2.59	0.54
36:B8:22:VAL:HB	36:B8:53:PRO:HB3	1.90	0.54
37:B9:27:CYS:SG	37:B9:29:ASN:N	2.81	0.54
38:BA:587:C:C4	50:BP:33:ARG:HG2	2.43	0.54
38:BA:1010:A:H5'	55:BU:62:ILE:HG21	1.89	0.54
38:BA:1021:A:H3'	38:BA:1021:A:C8	2.43	0.54
38:BA:1430:C:H2'	38:BA:1431:U:H6	1.73	0.54
38:BA:1444:G:H2'	38:BA:1445(A):C:C5	2.42	0.54
38:BA:2022:U:O2'	38:BA:2617:C:H5'	2.07	0.54
38:BA:2193:G:H5'	38:BA:2193:G:H8	1.73	0.54
38:BA:2270:G:H3'	38:BA:2271:G:H8	1.72	0.54
38:BA:2746:U:O2'	38:BA:2747:G:H5'	2.08	0.54
41:BD:35:LYS:HA	41:BD:64:ILE:HG22	1.89	0.54
41:BD:44:ASN:CB	41:BD:49:ILE:HA	2.37	0.54
51:BQ:38:GLU:HB2	51:BQ:127:ILE:CG2	2.38	0.54
52:BR:9:LYS:O	52:BR:10:LEU:CG	2.56	0.54
52:BR:49:ASP:O	52:BR:52:ILE:N	2.40	0.54
55:BU:110:VAL:O	55:BU:114:LYS:HD2	2.07	0.54
56:BV:5:VAL:HG21	56:BV:36:PRO:CB	2.37	0.54
57:BW:18:ARG:HG2	57:BW:76:VAL:CG1	2.36	0.54
1:AA:191:G:H1'	13:AT:105:SER:HB3	1.90	0.54
1:AA:386:C:H2'	1:AA:387:U:C5'	2.38	0.54
1:AA:735:C:H2'	1:AA:736:C:C6	2.39	0.54
1:AA:1117:G:H4'	16:AI:104:ARG:NH2	2.22	0.54
1:AA:1338:G:H2'	1:AA:1339:A:C8	2.42	0.54
1:AA:1371:G:O3'	16:AI:69:GLY:HA3	2.08	0.54
1:AA:1400:C:C4'	23:AX:18:G:C6	2.90	0.54
3:AD:12:CYS:HA	3:AD:19:LEU:HD12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AK:84:VAL:HG11	7:AK:95:ILE:HD11	1.90	0.54
11:AQ:67:LYS:HG2	11:AQ:68:ARG:N	2.22	0.54
11:AQ:83:ASP:O	11:AQ:86:GLU:HB2	2.08	0.54
12:AR:50:ILE:CD1	12:AR:70:ILE:HG21	2.38	0.54
17:AJ:94:VAL:HG12	17:AJ:95:GLU:H	1.72	0.54
28:B0:41:ARG:HB3	38:BA:2330:G:H1'	1.90	0.54
34:B6:16:CYS:O	34:B6:17:LYS:HB2	2.06	0.54
36:B8:13:ARG:HD2	50:BP:61:ARG:HH11	1.71	0.54
37:B9:19:ARG:O	37:B9:21:GLY:N	2.41	0.54
37:B9:25:VAL:C	37:B9:26:ILE:HG13	2.29	0.54
38:BA:635:C:H2'	38:BA:636:G:H8	1.73	0.54
38:BA:2039:C:O2'	38:BA:2040:C:H5'	2.08	0.54
38:BA:2065:C:H2'	38:BA:2066:C:C6	2.43	0.54
38:BA:2101:G:C6	38:BA:2102:U:C5	2.96	0.54
38:BA:2134:A:C2	38:BA:2135:A:C8	2.95	0.54
38:BA:2437:U:H2'	38:BA:2438:U:C6	2.43	0.54
38:BA:2735:G:H2'	38:BA:2736:G:H5'	1.90	0.54
39:BB:32:C:C2	39:BB:51:G:N2	2.76	0.54
41:BD:150:LYS:HA	41:BD:150:LYS:HE3	1.89	0.54
43:BF:34:TRP:CD1	50:BP:11:GLY:HA2	2.43	0.54
43:BF:101:LEU:HB3	43:BF:106:ARG:HD3	1.88	0.54
44:BG:47:LYS:HE2	44:BG:81:LYS:HB2	1.89	0.54
47:BL:37:PHE:CZ	47:BL:57:ILE:HB	2.43	0.54
49:BO:107:ARG:CZ	54:BT:35:LYS:HD2	2.37	0.54
51:BQ:55:VAL:HG13	51:BQ:56:ARG:H	1.73	0.54
55:BU:62:ILE:HG13	55:BU:76:TYR:CE1	2.42	0.54
58:BX:21:PHE:CD1	58:BX:21:PHE:N	2.75	0.54
1:AA:163:C:H2'	1:AA:164:U:H6	1.72	0.54
1:AA:731:G:OP1	1:AA:766:A:H1'	2.08	0.54
1:AA:828:A:H5''	1:AA:859:A:C2	2.42	0.54
1:AA:912:C:O2'	1:AA:913:A:H5'	2.08	0.54
1:AA:1432:G:OP1	54:BT:108:ARG:HB3	2.07	0.54
2:AB:163:PHE:HA	2:AB:185:ILE:O	2.07	0.54
2:AB:213:LEU:HD23	2:AB:213:LEU:C	2.29	0.54
3:AD:104:VAL:HG12	3:AD:105:VAL:N	2.23	0.54
6:AH:112:LEU:CD1	6:AH:114:THR:HG22	2.38	0.54
8:AL:89:ARG:HE	8:AL:91:LYS:HE2	1.72	0.54
14:AC:178:LEU:HD22	14:AC:178:LEU:N	2.22	0.54
17:AJ:9:ARG:HH21	17:AJ:95:GLU:HG2	1.71	0.54
18:AM:53:VAL:O	18:AM:56:LEU:HB3	2.08	0.54
29:B1:21:ARG:HD3	29:B1:22:GLY:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B7:43:THR:HG23	35:B7:44:PRO:CD	2.36	0.54
37:B9:27:CYS:SG	37:B9:29:ASN:CB	2.96	0.54
38:BA:85:G:N3	38:BA:103:A:H2	2.06	0.54
38:BA:343:C:H2'	38:BA:344:G:H5''	1.89	0.54
38:BA:523:C:C2'	38:BA:524:U:H5'	2.38	0.54
38:BA:1054:A:C2	38:BA:1055:G:C6	2.95	0.54
38:BA:1074:G:C6	38:BA:1075:C:N4	2.76	0.54
38:BA:1720:U:H2'	38:BA:1721:G:O4'	2.08	0.54
38:BA:1831:G:H2'	38:BA:1832:C:H6	1.72	0.54
38:BA:2579:C:H5'	42:BE:134:ILE:HG21	1.90	0.54
40:BC:18:LYS:HD3	40:BC:19:VAL:H	1.72	0.54
40:BC:22:ILE:HG22	40:BC:25:ALA:HB2	1.90	0.54
42:BE:14:ILE:HG13	42:BE:21:VAL:CG2	2.38	0.54
42:BE:49:LEU:O	42:BE:78:LEU:HB3	2.08	0.54
42:BE:72:VAL:O	42:BE:73:GLU:C	2.45	0.54
43:BF:101:LEU:CD1	43:BF:102:PRO:HD2	2.33	0.54
44:BG:101:ILE:HG12	44:BG:102:PHE:N	2.23	0.54
45:BH:76:VAL:O	45:BH:79:VAL:HG22	2.07	0.54
46:BI:31:LEU:HB3	46:BI:32:PRO:HD3	1.90	0.54
46:BI:100:ALA:O	46:BI:104:GLN:HB2	2.08	0.54
48:BN:115:ARG:O	48:BN:118:LYS:HB2	2.07	0.54
51:BQ:39:PRO:N	51:BQ:99:PRO:HD3	2.22	0.54
54:BT:23:ARG:HG2	54:BT:120:ARG:NH1	2.23	0.54
56:BV:96:ILE:CG2	56:BV:97:LYS:N	2.71	0.54
57:BW:55:ALA:O	57:BW:56:ALA:C	2.47	0.54
59:BY:88:LYS:O	59:BY:90:LEU:HD23	2.08	0.54
1:AA:140:A:O2'	1:AA:141:A:H5'	2.08	0.54
1:AA:271:C:H2'	1:AA:272:C:C6	2.43	0.54
1:AA:335:C:H2'	1:AA:336:C:C6	2.43	0.54
1:AA:336:C:O2'	1:AA:337:C:H5'	2.08	0.54
1:AA:1014:A:H2'	1:AA:1015:A:C8	2.42	0.54
1:AA:1106:G:OP1	14:AC:172:ARG:HD3	2.08	0.54
1:AA:1356:G:H2'	1:AA:1357:A:H8	1.73	0.54
2:AB:102:LEU:N	2:AB:102:LEU:HD12	2.22	0.54
8:AL:71:PRO:HD2	8:AL:102:ARG:NH1	2.22	0.54
11:AQ:38:ARG:HG3	11:AQ:39:SER:H	1.73	0.54
17:AJ:34:VAL:HG12	17:AJ:35:SER:N	2.23	0.54
17:AJ:70:ARG:HG3	17:AJ:70:ARG:NH1	2.09	0.54
38:BA:912:C:O2'	38:BA:913:U:H5'	2.08	0.54
38:BA:962:G:O2'	38:BA:963:U:H5'	2.08	0.54
38:BA:1107:G:H3'	38:BA:1108:U:P	2.48	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1614:A:H62	57:BW:93:ALA:CB	2.16	0.54
38:BA:1980:G:O2'	38:BA:1982:C:OP2	2.26	0.54
38:BA:2155:G:O6	38:BA:2156:G:C2	2.61	0.54
40:BC:212:VAL:O	40:BC:213:TYR:CB	2.55	0.54
41:BD:154:LYS:O	41:BD:155:LEU:HD12	2.08	0.54
44:BG:121:ASN:OD1	44:BG:123:ASN:N	2.39	0.54
45:BH:85:LYS:HZ3	45:BH:145:ALA:HA	1.73	0.54
47:BL:89:HIS:C	47:BL:90:LYS:HG2	2.27	0.54
56:BV:32:THR:HB	56:BV:64:HIS:HE1	1.73	0.54
59:BY:8:LYS:HZ1	59:BY:74:PRO:CD	2.14	0.54
59:BY:61:ILE:O	59:BY:61:ILE:HG22	2.07	0.54
59:BY:81:LYS:HG2	59:BY:96:ILE:HB	1.89	0.54
1:AA:559:A:H4'	1:AA:560:U:H5''	1.90	0.53
1:AA:658:G:H2'	1:AA:659:U:C6	2.43	0.53
1:AA:926:G:C8	1:AA:1505:G:C2	2.96	0.53
1:AA:1053:G:C3'	1:AA:1054:C:H5'	2.38	0.53
1:AA:1152:A:H2'	1:AA:1153:C:H6	1.71	0.53
3:AD:31:CYS:C	3:AD:33:MET:H	2.10	0.53
4:AE:36:ASP:OD1	4:AE:40:ARG:HB2	2.08	0.53
4:AE:68:GLU:HG3	4:AE:68:GLU:O	2.08	0.53
8:AL:41:ARG:HG2	8:AL:42:THR:H	1.72	0.53
15:AG:148:ASN:N	15:AG:148:ASN:ND2	2.55	0.53
17:AJ:62:HIS:H	17:AJ:62:HIS:CD2	2.26	0.53
25:AY:75:C:O2	27:AZ:229:PHE:HB3	2.08	0.53
29:B1:8:SER:HA	38:BA:1365:A:OP2	2.08	0.53
29:B1:34:THR:CG2	38:BA:388:G:P	2.96	0.53
35:B7:30:VAL:HG12	35:B7:31:LEU:N	2.22	0.53
38:BA:271(K):U:H3'	38:BA:271(L):U:C5'	2.39	0.53
38:BA:558:G:P	48:BN:111:PRO:HD2	2.48	0.53
38:BA:604:G:H2'	38:BA:605:C:C6	2.43	0.53
38:BA:637:A:OP2	50:BP:115:LEU:HB2	2.08	0.53
38:BA:1052:C:O2'	38:BA:1053:C:H5'	2.08	0.53
38:BA:1417:C:H2'	38:BA:1418:G:O4'	2.08	0.53
38:BA:2158:A:C2'	38:BA:2159:G:O4'	2.53	0.53
38:BA:2807:G:H2'	38:BA:2808:U:C4'	2.38	0.53
41:BD:35:LYS:HB3	41:BD:63:ARG:HA	1.90	0.53
42:BE:91:VAL:O	42:BE:91:VAL:HG12	2.07	0.53
42:BE:197:ILE:O	42:BE:197:ILE:HG13	2.06	0.53
43:BF:2:LYS:HG3	43:BF:25:PRO:O	2.08	0.53
44:BG:136:ARG:O	44:BG:154:GLY:CA	2.56	0.53
46:BI:4:ILE:HG12	46:BI:18:VAL:HG22	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:106:GLU:HA	47:BL:109:LYS:HG3	1.89	0.53
53:BS:66:ALA:O	53:BS:67:ARG:HG3	2.09	0.53
56:BV:25:LEU:N	56:BV:94:LEU:CD1	2.71	0.53
58:BX:5:TYR:O	58:BX:7:VAL:N	2.40	0.53
58:BX:64:LYS:O	58:BX:65:ARG:HB2	2.08	0.53
58:BX:70:LEU:HD12	58:BX:71:GLY:H	1.74	0.53
58:BX:85:PRO:O	58:BX:86:GLY:C	2.46	0.53
60:BZ:6:LYS:CB	60:BZ:8:TYR:CE1	2.91	0.53
1:AA:425:G:O2'	1:AA:426:G:H5'	2.09	0.53
1:AA:648:A:H2'	1:AA:649:G:C8	2.43	0.53
1:AA:1366:C:H2'	1:AA:1367:C:H6	1.73	0.53
1:AA:1495:U:OP1	18:AM:125:ARG:CZ	2.52	0.53
4:AE:64:ARG:HG3	4:AE:64:ARG:HH11	1.73	0.53
10:AP:67:THR:HB	10:AP:70:ALA:HB2	1.90	0.53
16:AI:95:LYS:N	16:AI:98:PRO:HD2	2.23	0.53
24:AW:72:C:O2'	24:AW:73:A:H5'	2.09	0.53
36:B8:29:LYS:O	36:B8:31:HIS:N	2.41	0.53
36:B8:31:HIS:CG	38:BA:2419:U:O4	2.61	0.53
37:B9:9:ARG:O	37:B9:10:ILE:C	2.46	0.53
38:BA:188:G:N2	38:BA:209:C:C2	2.76	0.53
38:BA:198:C:H5'	38:BA:2244:U:OP1	2.08	0.53
38:BA:570:G:H2'	38:BA:2030:A:N7	2.24	0.53
38:BA:1744:C:C2'	38:BA:1745:C:H5'	2.38	0.53
38:BA:2184:G:H2'	38:BA:2185:C:C6	2.43	0.53
38:BA:2461:C:H2'	38:BA:2462:U:H6	1.69	0.53
38:BA:2485:G:O2'	38:BA:2486:G:H5'	2.08	0.53
38:BA:2694:G:O2'	38:BA:2695:C:H5'	2.08	0.53
44:BG:88:ILE:CG2	44:BG:89:GLY:N	2.71	0.53
44:BG:124:SER:HB2	44:BG:131:TYR:CE1	2.44	0.53
45:BH:102:ALA:HB2	45:BH:117:PRO:HD3	1.90	0.53
46:BI:33:ARG:HG2	46:BI:33:ARG:HH11	1.73	0.53
47:BL:28:GLY:HA2	47:BL:32:ALA:O	2.08	0.53
47:BL:60:TYR:CD2	47:BL:67:PHE:HE1	2.27	0.53
48:BN:46:VAL:O	48:BN:47:ALA:HB3	2.08	0.53
52:BR:107:ASP:OD2	52:BR:107:ASP:C	2.45	0.53
60:BZ:104:PHE:CD1	60:BZ:139:VAL:HG21	2.43	0.53
1:AA:20:U:H2'	1:AA:21:G:O4'	2.09	0.53
1:AA:644:G:O2'	1:AA:645:C:H5'	2.08	0.53
1:AA:1048:G:OP1	19:AN:4:LYS:HB2	2.09	0.53
1:AA:1121:U:H2'	1:AA:1122:U:C6	2.42	0.53
1:AA:1332:A:H2'	1:AA:1333:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:114:ARG:O	2:AB:117:GLU:HB2	2.07	0.53
14:AC:24:ALA:HB2	14:AC:32:LEU:HD12	1.89	0.53
14:AC:73:PRO:HA	14:AC:76:VAL:CG1	2.38	0.53
16:AI:114:TYR:N	16:AI:114:TYR:CD2	2.72	0.53
20:AS:16:LEU:O	20:AS:20:LEU:N	2.23	0.53
22:AV:11:A:H4'	38:BA:1909:C:O2'	2.09	0.53
22:AV:73:A:H5'	22:AV:73:A:C8	2.41	0.53
29:B1:26:ARG:CB	29:B1:34:THR:CA	2.84	0.53
30:B2:25:VAL:C	30:B2:27:GLU:N	2.61	0.53
33:B5:55:ARG:HH21	52:BR:33:ARG:HH22	1.57	0.53
36:B8:25:MET:SD	50:BP:64:LYS:HG3	2.48	0.53
38:BA:150:C:H2'	38:BA:151:C:H6	1.73	0.53
38:BA:280:C:H42	38:BA:360:G:H1	1.55	0.53
38:BA:451:C:N4	38:BA:453:C:H3'	2.23	0.53
38:BA:587:C:C5	50:BP:33:ARG:NH1	2.74	0.53
38:BA:729:G:H2'	38:BA:1775:U:O2	2.08	0.53
38:BA:744:G:O2'	38:BA:745:G:H5'	2.08	0.53
38:BA:848:G:N3	38:BA:933:A:H1'	2.23	0.53
38:BA:1021:A:H3'	38:BA:1021:A:H8	1.72	0.53
38:BA:1077:A:H3'	38:BA:1078:U:C6	2.43	0.53
38:BA:2023:G:H4'	38:BA:2617:C:O3'	2.08	0.53
38:BA:2141:G:H2'	38:BA:2142:C:C6	2.42	0.53
38:BA:2705:A:H2'	38:BA:2706:G:H8	1.73	0.53
39:BB:61:G:O2'	39:BB:62:C:H5'	2.09	0.53
41:BD:35:LYS:HA	41:BD:64:ILE:CG2	2.38	0.53
41:BD:134:ARG:HB2	41:BD:135:PHE:CD1	2.42	0.53
43:BF:41:LEU:HD11	43:BF:184:TYR:CE1	2.43	0.53
47:BL:11:GLN:C	47:BL:12:LEU:HG	2.28	0.53
48:BN:13:TRP:HD1	48:BN:13:TRP:H	1.57	0.53
48:BN:82:LEU:O	48:BN:82:LEU:HD13	2.08	0.53
50:BP:114:ILE:HG12	50:BP:130:PHE:CD1	2.43	0.53
50:BP:126:VAL:HG22	50:BP:145:PRO:HB3	1.89	0.53
51:BQ:81:VAL:HG12	51:BQ:82:ARG:N	2.24	0.53
55:BU:69:CYS:HB3	55:BU:106:PHE:HZ	1.73	0.53
56:BV:37:VAL:HG12	56:BV:38:LEU:H	1.72	0.53
60:BZ:102:LEU:HG	60:BZ:122:ARG:O	2.09	0.53
60:BZ:157:LEU:HB3	60:BZ:161:VAL:CG1	2.38	0.53
1:AA:376:G:H2'	1:AA:377:G:C8	2.38	0.53
1:AA:950:U:H2'	1:AA:951:G:C8	2.42	0.53
1:AA:966:G:C4	22:AV:34:C:H4'	2.43	0.53
5:AF:98:LEU:HB3	12:AR:30:ASP:HA	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AH:73:ASP:C	6:AH:75:ARG:H	2.12	0.53
7:AK:95:ILE:HG21	7:AK:108:ILE:HD13	1.89	0.53
16:AI:63:ILE:CG2	16:AI:64:THR:N	2.71	0.53
17:AJ:22:LYS:NZ	17:AJ:88:LEU:HD23	2.24	0.53
19:AN:3:ARG:HH11	19:AN:3:ARG:CB	2.14	0.53
22:AV:72:A:C2'	22:AV:73:A:H5''	2.38	0.53
24:AW:16:U:H3'	24:AW:17:C:C5'	2.35	0.53
25:AY:73:A:HO3'	25:AY:74:C:H6	1.57	0.53
61:AY:101:PHA:O	27:AZ:273:HIS:HA	2.08	0.53
27:AZ:268:THR:HG23	27:AZ:291:ARG:HB2	1.91	0.53
28:B0:29:GLN:O	28:B0:67:VAL:HG23	2.08	0.53
28:B0:42:GLY:HA3	38:BA:2331:G:O4'	2.08	0.53
32:B4:5:ILE:CB	44:BG:67:LYS:HE2	2.39	0.53
38:BA:440:G:H2'	38:BA:441:U:C6	2.43	0.53
38:BA:543:C:N4	38:BA:551:G:N1	2.50	0.53
38:BA:1625:C:H2'	38:BA:1626:G:H5'	1.90	0.53
38:BA:2118:U:H5	38:BA:2149:G:H4'	1.74	0.53
38:BA:2704:C:H2'	38:BA:2705:A:H8	1.74	0.53
40:BC:41:VAL:HB	40:BC:178:ALA:CB	2.38	0.53
42:BE:111:ARG:H	42:BE:161:GLY:HA3	1.73	0.53
43:BF:126:VAL:O	43:BF:196:LEU:HG	2.07	0.53
44:BG:139:LEU:HA	44:BG:144:ILE:HG21	1.89	0.53
46:BI:15:VAL:HG23	46:BI:16:GLY:N	2.23	0.53
46:BI:37:VAL:CG1	46:BI:38:LEU:N	2.70	0.53
47:BL:77:LEU:CA	47:BL:80:LYS:HB2	2.38	0.53
50:BP:38:GLN:HG3	50:BP:39:LYS:N	2.18	0.53
50:BP:85:LEU:HD12	50:BP:120:ALA:HB3	1.91	0.53
51:BQ:63:LYS:HB2	51:BQ:63:LYS:HZ3	1.74	0.53
53:BS:12:PHE:O	53:BS:12:PHE:CD1	2.61	0.53
53:BS:95:HIS:CG	53:BS:96:GLY:H	2.27	0.53
56:BV:38:LEU:HD23	56:BV:38:LEU:C	2.29	0.53
57:BW:1:MET:CE	57:BW:2:GLU:H	2.22	0.53
60:BZ:67:LEU:HD12	60:BZ:67:LEU:N	2.24	0.53
1:AA:659:U:C2'	1:AA:660:G:H5'	2.38	0.53
1:AA:939:G:C4	1:AA:940:C:C5	2.97	0.53
4:AE:18:ARG:HE	4:AE:25:ARG:HB3	1.73	0.53
13:AT:94:ALA:O	13:AT:95:ALA:HB3	2.07	0.53
24:AW:38:A:H2'	24:AW:39:U:C5'	2.35	0.53
25:AY:11:C:H2'	25:AY:12:U:C5'	2.37	0.53
36:B8:35:GLN:NE2	36:B8:36:LYS:NZ	2.50	0.53
38:BA:79:G:O2'	38:BA:80:G:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:363(E):U:O2'	38:BA:363(F):A:H4'	2.09	0.53
38:BA:1077:A:OP1	47:BL:93:ARG:N	2.42	0.53
38:BA:1532:C:O2	38:BA:1532:C:C2'	2.57	0.53
38:BA:2130:U:C4	38:BA:2159:G:C2	2.97	0.53
38:BA:2273:A:H2'	38:BA:2274:A:C8	2.43	0.53
38:BA:2298:A:H62	38:BA:2318:G:H8	1.56	0.53
38:BA:2360:A:O2'	38:BA:2361:A:P	2.67	0.53
44:BG:68:PRO:HB2	44:BG:90:LEU:HG	1.91	0.53
45:BH:85:LYS:HD3	45:BH:133:VAL:CB	2.38	0.53
51:BQ:29:PHE:N	51:BQ:29:PHE:CD1	2.76	0.53
51:BQ:39:PRO:HA	51:BQ:97:VAL:O	2.08	0.53
54:BT:65:LYS:NZ	54:BT:66:VAL:H	2.06	0.53
56:BV:50:PRO:O	56:BV:51:VAL:CB	2.56	0.53
56:BV:99:ILE:HG22	56:BV:100:ARG:N	2.21	0.53
59:BY:43:ASN:HA	59:BY:64:GLU:HA	1.91	0.53
60:BZ:151:HIS:HA	60:BZ:171:ILE:CG1	2.29	0.53
1:AA:254:G:OP1	11:AQ:67:LYS:O	2.26	0.53
1:AA:384:G:C2	1:AA:385:C:N3	2.77	0.53
1:AA:438:G:C4'	1:AA:439:A:OP1	2.54	0.53
1:AA:793:U:O2	1:AA:1516:G:H4'	2.09	0.53
1:AA:1300:G:H1'	1:AA:1301:U:H5	1.73	0.53
1:AA:1329:A:P	18:AM:28:ALA:HB3	2.49	0.53
2:AB:68:ILE:HD12	2:AB:68:ILE:N	2.24	0.53
2:AB:68:ILE:H	2:AB:90:MET:HE2	1.73	0.53
2:AB:162:ILE:O	2:AB:185:ILE:HG12	2.09	0.53
6:AH:10:LEU:N	6:AH:10:LEU:HD23	2.22	0.53
8:AL:86:ARG:HB2	8:AL:101:VAL:HG22	1.90	0.53
14:AC:112:SER:OG	14:AC:115:LEU:HG	2.09	0.53
14:AC:113:ALA:HA	14:AC:116:VAL:HG23	1.91	0.53
17:AJ:33:GLN:N	17:AJ:75:ILE:HD11	2.19	0.53
24:AW:72:C:H5'	38:BA:1851:U:O3'	2.07	0.53
29:B1:11:ARG:O	29:B1:12:PRO:C	2.46	0.53
37:B9:2:LYS:N	37:B9:35:ARG:CB	2.68	0.53
38:BA:977:G:O2'	38:BA:978:G:H5'	2.09	0.53
38:BA:1396:U:O2	38:BA:1396:U:C2'	2.56	0.53
38:BA:1430:C:H2'	38:BA:1431:U:C6	2.44	0.53
38:BA:1661:G:O2'	38:BA:1662:C:H5'	2.07	0.53
38:BA:2779:U:H4'	38:BA:2780:G:O5'	2.09	0.53
41:BD:92:ILE:HD12	41:BD:92:ILE:C	2.28	0.53
44:BG:115:ARG:HH22	44:BG:136:ARG:HG3	1.72	0.53
47:BL:55:VAL:HG22	47:BL:69:THR:CA	2.34	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:128:ALA:HB1	47:BL:132:ARG:HH21	1.69	0.53
51:BQ:38:GLU:OE2	51:BQ:128:LYS:HB2	2.09	0.53
53:BS:13:ARG:H	53:BS:13:ARG:HD2	1.72	0.53
53:BS:26:LEU:O	53:BS:88:ASP:HB3	2.07	0.53
58:BX:44:GLU:HB2	58:BX:49:VAL:O	2.08	0.53
1:AA:749:C:O2'	1:AA:750:G:H5'	2.08	0.53
1:AA:1108:G:H2'	1:AA:1109:C:H5'	1.90	0.53
1:AA:1288:A:O4'	1:AA:1353:G:H4'	2.09	0.53
2:AB:70:PHE:O	2:AB:92:TYR:HA	2.09	0.53
4:AE:51:VAL:HB	4:AE:52:PRO:CD	2.37	0.53
11:AQ:76:LEU:CG	11:AQ:77:VAL:N	2.72	0.53
15:AG:143:ARG:O	15:AG:145:ALA:O	2.26	0.53
16:AI:117:HIS:NE2	16:AI:123:PRO:HA	2.23	0.53
28:B0:1:MET:O	28:B0:2:ALA:HB3	2.08	0.53
30:B2:18:PRO:O	30:B2:19:VAL:C	2.46	0.53
31:B3:19:GLN:O	31:B3:22:ALA:HB3	2.09	0.53
31:B3:36:VAL:O	31:B3:37:LEU:HD23	2.09	0.53
33:B5:20:ARG:HH12	57:BW:15:ARG:NH1	2.07	0.53
37:B9:9:ARG:NH1	37:B9:15:LYS:HA	2.23	0.53
38:BA:703:U:C2'	38:BA:704:G:H5'	2.38	0.53
38:BA:1069:A:C8	38:BA:1074:G:O6	2.53	0.53
38:BA:1257:C:H2'	38:BA:1258:C:H6	1.74	0.53
38:BA:2290:G:H5'	38:BA:2290:G:C8	2.43	0.53
38:BA:2562:U:H2'	38:BA:2563:U:H5'	1.91	0.53
38:BA:2649:U:H2'	38:BA:2650:U:C6	2.43	0.53
38:BA:2831:G:H1'	38:BA:2883:A:H2'	1.90	0.53
40:BC:39:GLU:HA	40:BC:180:PHE:HA	1.90	0.53
43:BF:1:MET:O	43:BF:2:LYS:O	2.25	0.53
46:BI:88:ILE:HG12	46:BI:122:GLU:N	2.24	0.53
49:BO:121:VAL:HG12	49:BO:122:LEU:N	2.24	0.53
51:BQ:127:ILE:HG22	51:BQ:128:LYS:N	2.15	0.53
52:BR:28:LEU:HD21	52:BR:114:VAL:HG12	1.90	0.53
59:BY:39:VAL:HG12	59:BY:40:GLU:N	2.23	0.53
1:AA:409:G:H5'	3:AD:25:ARG:HB2	1.91	0.53
1:AA:690:G:H2'	1:AA:691:G:C8	2.44	0.53
1:AA:1126:U:O2'	1:AA:1127:G:H5'	2.08	0.53
1:AA:1154:G:H2'	1:AA:1155:G:C8	2.38	0.53
1:AA:1430:C:H5'	38:BA:1704:G:C5'	2.38	0.53
1:AA:1457:G:C2	1:AA:1458:G:C8	2.97	0.53
5:AF:40:VAL:HA	5:AF:62:TRP:O	2.09	0.53
10:AP:6:LEU:HB3	10:AP:17:TYR:HD2	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AQ:67:LYS:HA	11:AQ:70:ARG:NH1	2.17	0.53
13:AT:44:ALA:HB1	13:AT:91:LEU:CB	2.39	0.53
14:AC:11:ARG:O	14:AC:12:LEU:C	2.47	0.53
24:AW:67:C:O2'	24:AW:68:C:H5'	2.09	0.53
28:B0:25:ARG:HD2	28:B0:29:GLN:NE2	2.22	0.53
38:BA:154(A):C:H5	38:BA:171:G:N1	2.06	0.53
38:BA:171:G:H2'	38:BA:172:C:H4'	1.91	0.53
38:BA:680:G:H2'	38:BA:681:G:H8	1.73	0.53
38:BA:1069:A:N1	38:BA:1096:A:OP1	2.42	0.53
38:BA:1106:G:N2	38:BA:1107:G:C2	2.77	0.53
38:BA:1116:C:H2'	38:BA:1117:G:H5'	1.89	0.53
38:BA:1208:C:C4	38:BA:1209:G:N7	2.77	0.53
38:BA:1571:A:H2'	38:BA:1572:A:C8	2.44	0.53
38:BA:2562:U:C2'	38:BA:2563:U:H5'	2.38	0.53
38:BA:2691:C:H6	38:BA:2691:C:H5'	1.74	0.53
40:BC:89:ALA:CB	40:BC:153:ILE:HA	2.39	0.53
44:BG:16:ARG:HG3	44:BG:16:ARG:NH1	2.24	0.53
44:BG:95:ARG:O	44:BG:96:ARG:O	2.26	0.53
45:BH:103:LEU:CD2	45:BH:115:VAL:HB	2.38	0.53
46:BI:8:PRO:HA	46:BI:13:GLY:O	2.09	0.53
47:BL:35:MET:CE	47:BL:39:LYS:HE3	2.38	0.53
48:BN:42:TRP:H	55:BU:64:ARG:NH2	2.01	0.53
58:BX:53:LYS:N	58:BX:80:ILE:HG22	2.24	0.53
58:BX:82:GLN:HB3	58:BX:85:PRO:HG2	1.91	0.53
1:AA:573:A:O2'	1:AA:574:A:H5'	2.08	0.53
1:AA:687:A:N3	1:AA:688:G:H1'	2.24	0.53
2:AB:194:PRO:O	2:AB:195:ASP:C	2.47	0.53
5:AF:1:MET:O	5:AF:2:ARG:HG3	2.08	0.53
6:AH:86:ILE:CG2	6:AH:133:LEU:HD22	2.36	0.53
6:AH:103:VAL:HG12	6:AH:108:GLY:HA3	1.90	0.53
11:AQ:99:SER:O	11:AQ:100:LYS:HD3	2.09	0.53
12:AR:86:VAL:O	12:AR:87:ARG:O	2.27	0.53
14:AC:95:THR:C	14:AC:97:LYS:H	2.12	0.53
18:AM:23:TYR:HB3	18:AM:67:GLU:HB2	1.90	0.53
18:AM:68:GLY:O	18:AM:69:GLU:CB	2.57	0.53
30:B2:16:LEU:O	30:B2:20:GLU:HG3	2.08	0.53
30:B2:30:ARG:H	30:B2:30:ARG:CD	2.14	0.53
34:B6:27:LYS:HE3	38:BA:2285:C:C5	2.44	0.53
36:B8:32:LEU:CD2	36:B8:35:GLN:O	2.56	0.53
38:BA:585:G:H2'	38:BA:1251:C:H42	1.74	0.53
38:BA:951:C:O2'	38:BA:952:G:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1058:G:H21	47:BL:116:ASN:HD21	1.55	0.53
38:BA:1678:G:N2	38:BA:1989:G:N2	2.56	0.53
42:BE:44:TYR:O	42:BE:45:THR:CB	2.57	0.53
45:BH:55:PRO:HG2	45:BH:56:SER:N	2.21	0.53
45:BH:106:THR:O	45:BH:107:VAL:HG13	2.09	0.53
46:BI:129:THR:HG21	46:BI:135:GLU:HG2	1.91	0.53
47:BL:22:PRO:O	47:BL:26:ALA:HB3	2.08	0.53
52:BR:104:ARG:HH11	52:BR:104:ARG:CG	2.22	0.53
54:BT:61:PHE:CE2	54:BT:76:PHE:CB	2.92	0.53
56:BV:19:LYS:HG3	56:BV:20:LEU:O	2.08	0.53
59:BY:26:LYS:HG2	59:BY:27:VAL:HG23	1.91	0.53
1:AA:484:G:H4'	1:AA:485:G:O5'	2.09	0.53
1:AA:658:G:H2'	1:AA:659:U:H6	1.74	0.53
1:AA:974:A:OP1	19:AN:31:ARG:HD3	2.09	0.53
1:AA:977:A:C2'	1:AA:978:A:H5'	2.39	0.53
2:AB:178:ARG:HH22	2:AB:196:LEU:CA	2.22	0.53
7:AK:15:ALA:HA	7:AK:76:GLY:O	2.09	0.53
11:AQ:82:MET:O	11:AQ:85:VAL:HB	2.08	0.53
18:AM:3:ARG:NE	44:BG:146:TYR:CD1	2.77	0.53
19:AN:3:ARG:O	19:AN:7:ILE:HG23	2.09	0.53
19:AN:26:ARG:NH1	19:AN:47:LEU:HD21	2.24	0.53
27:AZ:124:ARG:HG2	27:AZ:163:PHE:CE2	2.44	0.53
28:B0:14:ARG:O	28:B0:15:ASP:HB2	2.08	0.53
29:B1:34:THR:HG21	38:BA:388:G:P	2.47	0.53
29:B1:37:ILE:HG21	38:BA:2080:G:P	2.49	0.53
36:B8:4:MET:SD	36:B8:61:LEU:HD12	2.49	0.53
38:BA:7:G:H1	38:BA:2896:C:N4	2.07	0.53
38:BA:141:A:C8	38:BA:1408:C:O2'	2.55	0.53
38:BA:542:C:N4	38:BA:543:C:N4	2.57	0.53
38:BA:645:C:O2	38:BA:645:C:H3'	2.09	0.53
38:BA:827:U:H4'	38:BA:828:U:O2	2.09	0.53
38:BA:1051:G:C5'	38:BA:1052:C:OP2	2.54	0.53
38:BA:1116:C:C2'	38:BA:1117:G:H5'	2.39	0.53
38:BA:1506:C:H2'	38:BA:1507:A:H5'	1.90	0.53
38:BA:1532:C:O2	38:BA:1532:C:H2'	2.08	0.53
38:BA:2050:C:H1'	42:BE:156:MET:HE1	1.91	0.53
38:BA:2134:A:C4	38:BA:2158:A:N3	2.77	0.53
41:BD:62:TYR:CE1	41:BD:64:ILE:HA	2.44	0.53
42:BE:111:ARG:NE	42:BE:160:TYR:CE1	2.74	0.53
44:BG:85:GLY:O	44:BG:87:PRO:HD2	2.08	0.53
45:BH:89:ILE:CD1	45:BH:129:THR:HB	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:129:GLY:O	47:BL:132:ARG:HB2	2.09	0.53
48:BN:97:ARG:HA	48:BN:100:GLU:HB2	1.91	0.53
49:BO:26:LYS:HB2	49:BO:30:ALA:HB2	1.90	0.53
49:BO:104:ARG:C	49:BO:106:LEU:N	2.62	0.53
52:BR:3:HIS:O	52:BR:4:LEU:CB	2.58	0.53
54:BT:78:LEU:C	54:BT:79:HIS:ND1	2.62	0.53
59:BY:26:LYS:O	59:BY:27:VAL:O	2.27	0.53
60:BZ:169:GLU:O	60:BZ:171:ILE:HG23	2.08	0.53
1:AA:224:C:H2'	1:AA:225:C:C6	2.44	0.52
1:AA:650:G:O2'	1:AA:651:C:H5'	2.09	0.52
1:AA:661:G:O2'	1:AA:662:G:H5'	2.10	0.52
2:AB:109:SER:O	2:AB:112:VAL:N	2.42	0.52
4:AE:139:LEU:O	4:AE:141:GLN:N	2.42	0.52
14:AC:79:ARG:O	14:AC:79:ARG:HG3	2.09	0.52
15:AG:49:ILE:HG22	15:AG:49:ILE:O	2.08	0.52
16:AI:44:VAL:HB	16:AI:51:ARG:HH22	1.75	0.52
29:B1:72:GLU:HA	29:B1:75:GLU:OE1	2.09	0.52
30:B2:60:LEU:O	30:B2:61:LEU:CB	2.57	0.52
33:B5:33:CYS:SG	33:B5:40:LYS:HE3	2.49	0.52
37:B9:9:ARG:NH2	37:B9:15:LYS:HA	2.24	0.52
38:BA:201:C:C2'	38:BA:202:U:H5'	2.39	0.52
38:BA:661:C:O2'	38:BA:662:G:H5'	2.09	0.52
38:BA:1037:G:H1	38:BA:1118:C:H42	1.56	0.52
38:BA:1056:G:H5'	38:BA:1057:A:OP1	2.09	0.52
38:BA:1821:A:H2'	38:BA:1822:G:C5'	2.39	0.52
38:BA:2063:C:O2	38:BA:2450:A:N1	2.43	0.52
38:BA:2443:C:O2'	38:BA:2444:G:H5'	2.09	0.52
38:BA:2673:G:O2'	38:BA:2674:G:H5'	2.08	0.52
39:BB:14:U:H4'	39:BB:70:C:O2	2.08	0.52
39:BB:87:G:C3'	39:BB:88:C:H5''	2.39	0.52
41:BD:218:ARG:HH11	41:BD:218:ARG:HG3	1.74	0.52
42:BE:117:MET:HB2	42:BE:122:PHE:HB2	1.91	0.52
43:BF:20:LEU:HD12	43:BF:199:TRP:HH2	1.73	0.52
46:BI:72:LEU:HD12	46:BI:138:ILE:CG2	2.38	0.52
47:BL:95:LYS:N	60:BZ:112:ARG:HH12	2.06	0.52
48:BN:121:LYS:HG3	48:BN:123:TYR:CE1	2.44	0.52
55:BU:18:LEU:O	55:BU:19:LYS:C	2.46	0.52
55:BU:55:ARG:HA	55:BU:58:ARG:CG	2.39	0.52
58:BX:82:GLN:CG	58:BX:83:VAL:H	2.22	0.52
59:BY:35:TYR:HD2	59:BY:68:HIS:CE1	2.27	0.52
60:BZ:5:LEU:HD22	60:BZ:6:LYS:HE2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:19:ARG:NH1	60:BZ:19:ARG:HG2	2.24	0.52
1:AA:33:A:H2'	1:AA:34:C:H6	1.74	0.52
1:AA:542:G:H2'	1:AA:543:C:C6	2.43	0.52
1:AA:977:A:H2'	1:AA:978:A:H5'	1.91	0.52
1:AA:1316:G:C2'	1:AA:1317:C:H5''	2.38	0.52
2:AB:98:LEU:O	2:AB:101:MET:HG3	2.09	0.52
4:AE:18:ARG:NE	4:AE:25:ARG:HB3	2.24	0.52
7:AK:20:TYR:O	7:AK:30:VAL:HA	2.09	0.52
11:AQ:81:ARG:CZ	11:AQ:84:LEU:HD11	2.39	0.52
12:AR:58:LEU:HB3	12:AR:62:GLU:HB2	1.91	0.52
14:AC:10:PHE:HD2	14:AC:11:ARG:NH1	2.06	0.52
15:AG:15:ASP:OD2	15:AG:44:TYR:OH	2.27	0.52
21:AU:6:ARG:CZ	21:AU:15:ARG:NH2	2.72	0.52
29:B1:26:ARG:HD3	29:B1:26:ARG:N	2.25	0.52
33:B5:57:VAL:HG23	33:B5:58:LEU:N	2.18	0.52
37:B9:14:CYS:SG	37:B9:27:CYS:SG	3.07	0.52
38:BA:45:C:O2'	38:BA:47:C:H5'	2.09	0.52
38:BA:271(A):A:N7	38:BA:271(W):G:N2	2.57	0.52
38:BA:795:C:H2'	38:BA:796:C:H6	1.75	0.52
38:BA:1061:U:OP2	38:BA:1062:G:O5'	2.26	0.52
38:BA:1742:G:N7	38:BA:1743:C:C2	2.77	0.52
38:BA:2189:U:C2'	38:BA:2190:G:H5''	2.38	0.52
38:BA:2723:C:H5''	52:BR:2:ARG:HD2	1.91	0.52
38:BA:2801(A):A:O2'	38:BA:2803:C:H5	1.93	0.52
39:BB:52:A:HO2'	39:BB:53:A:H8	1.57	0.52
41:BD:70:TRP:O	41:BD:73:VAL:HG22	2.08	0.52
42:BE:14:ILE:HG12	42:BE:21:VAL:HG23	1.91	0.52
42:BE:47:VAL:HG23	42:BE:84:PHE:O	2.10	0.52
42:BE:59:VAL:CG2	42:BE:63:LEU:HA	2.39	0.52
42:BE:60:ASN:OD1	42:BE:62:PRO:CD	2.56	0.52
42:BE:132:HIS:HA	42:BE:135:HIS:CE1	2.44	0.52
44:BG:165:THR:OG1	44:BG:168:GLU:HG3	2.08	0.52
46:BI:79:ILE:CG2	46:BI:81:VAL:HG23	2.40	0.52
47:BL:104:VAL:HG12	47:BL:105:LEU:N	2.23	0.52
49:BO:100:GLY:O	49:BO:101:PRO:O	2.26	0.52
53:BS:54:LEU:HD13	53:BS:57:LYS:O	2.09	0.52
54:BT:109:GLU:O	54:BT:113:LYS:HG3	2.09	0.52
55:BU:101:ARG:O	55:BU:102:GLU:HG2	2.09	0.52
56:BV:17:GLY:HA2	56:BV:98:GLU:O	2.10	0.52
59:BY:98:VAL:O	59:BY:98:VAL:HG12	2.09	0.52
60:BZ:143:GLY:C	60:BZ:144:LEU:HD22	2.29	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:93:G:H2'	1:AA:96:U:H5'	1.90	0.52
1:AA:450:G:H1	1:AA:483:C:H42	1.57	0.52
1:AA:774:G:P	41:BD:202:LYS:NZ	2.82	0.52
1:AA:940:C:H2'	1:AA:941:G:H8	1.74	0.52
1:AA:1248:A:H2'	1:AA:1249:C:H5'	1.92	0.52
2:AB:178:ARG:HG3	6:AH:72:PRO:N	2.24	0.52
6:AH:63:LEU:HD22	6:AH:63:LEU:N	2.24	0.52
9:AO:37:ASN:ND2	9:AO:37:ASN:H	2.07	0.52
14:AC:76:VAL:CG2	14:AC:77:ILE:H	2.21	0.52
14:AC:126:ARG:O	14:AC:128:PHE:HD1	1.92	0.52
20:AS:36:ARG:NH1	20:AS:75:ALA:HB3	2.21	0.52
24:AW:27:G:H2'	24:AW:28:G:H8	1.72	0.52
24:AW:76:A:N1	38:BA:2422:A:N3	2.58	0.52
29:B1:60:PHE:CD2	29:B1:91:LYS:HE2	2.44	0.52
31:B3:8:LEU:HD13	31:B3:31:LEU:HA	1.89	0.52
37:B9:26:ILE:CG1	37:B9:34:GLN:H	2.18	0.52
38:BA:86:C:OP1	59:BY:32:PRO:HD2	2.09	0.52
38:BA:815:C:H2'	38:BA:816:C:H6	1.74	0.52
38:BA:1075:C:O2	38:BA:1075:C:C2'	2.56	0.52
38:BA:1290:C:O2'	38:BA:1291:C:H5'	2.10	0.52
38:BA:1695:G:H2'	38:BA:1696:G:C5'	2.40	0.52
38:BA:2139:C:H6	38:BA:2139:C:O5'	1.92	0.52
39:BB:87:G:C2'	39:BB:88:C:H5''	2.38	0.52
42:BE:3:GLY:HA3	42:BE:81:ILE:HG13	1.92	0.52
42:BE:117:MET:O	42:BE:118:LYS:HB2	2.08	0.52
47:BL:23:VAL:O	47:BL:34:ILE:HG12	2.10	0.52
47:BL:101:TRP:CE3	47:BL:105:LEU:HD11	2.44	0.52
47:BL:112:MET:SD	47:BL:115:LEU:CG	2.98	0.52
48:BN:15:LEU:HD21	48:BN:55:VAL:HG23	1.91	0.52
50:BP:34:GLY:O	50:BP:35:HIS:CD2	2.62	0.52
51:BQ:51:ARG:O	51:BQ:54:MET:HB3	2.09	0.52
51:BQ:140:ALA:H	60:BZ:53:ILE:HD12	1.73	0.52
53:BS:84:GLN:O	53:BS:85:VAL:HG13	2.09	0.52
58:BX:56:THR:C	58:BX:57:LEU:CD1	2.78	0.52
60:BZ:48:PHE:O	60:BZ:50:GLN:N	2.43	0.52
1:AA:431:A:O2'	1:AA:432:A:H5'	2.09	0.52
1:AA:585:G:C6	1:AA:586:C:C4	2.98	0.52
1:AA:1017:G:H2'	1:AA:1018:C:C6	2.44	0.52
1:AA:1068:G:OP2	1:AA:1068:G:H8	1.92	0.52
1:AA:1431:C:H2'	1:AA:1432:G:C5'	2.39	0.52
1:AA:1442:G:C2'	1:AA:1442(A):G:H5''	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:108:LEU:HB3	3:AD:110:PHE:CE1	2.44	0.52
5:AF:98:LEU:H	5:AF:98:LEU:HD12	1.75	0.52
6:AH:29:SER:HB3	6:AH:32:LYS:HB2	1.90	0.52
7:AK:61:ALA:HB2	7:AK:90:GLY:HA3	1.91	0.52
7:AK:62:GLN:O	7:AK:65:ALA:N	2.43	0.52
12:AR:19:LYS:O	12:AR:20:ALA:HB2	2.09	0.52
14:AC:120:VAL:HG12	14:AC:121:ALA:N	2.22	0.52
18:AM:35:GLU:HG3	18:AM:36:LYS:HG2	1.92	0.52
19:AN:29:ARG:HD3	19:AN:40:CYS:HB2	1.90	0.52
20:AS:36:ARG:HB2	20:AS:72:GLY:HA2	1.92	0.52
28:B0:53:MET:HA	28:B0:58:THR:O	2.10	0.52
29:B1:18:ILE:HD13	38:BA:188:G:OP1	2.09	0.52
32:B4:5:ILE:O	32:B4:6:HIS:O	2.27	0.52
38:BA:285:C:H2'	38:BA:286:C:O4'	2.09	0.52
38:BA:409:C:O2'	38:BA:410:G:H5'	2.09	0.52
38:BA:445:C:O2'	38:BA:446:G:H5'	2.09	0.52
38:BA:878:A:H2'	38:BA:879:G:H5'	1.92	0.52
38:BA:1184:G:O2'	38:BA:1185:C:H5'	2.08	0.52
38:BA:1568:G:H21	41:BD:58:HIS:CE1	2.28	0.52
38:BA:1762:A:H8	38:BA:1762:A:O5'	1.92	0.52
38:BA:2292:C:H42	38:BA:2340:G:H1	1.57	0.52
38:BA:2645:G:H8	38:BA:2645:G:OP2	1.93	0.52
39:BB:5:C:H2'	39:BB:6:C:H6	1.74	0.52
40:BC:49:ILE:CG2	40:BC:50:ASP:H	2.16	0.52
41:BD:11:PRO:O	41:BD:13:ARG:N	2.41	0.52
41:BD:27:THR:O	41:BD:28:GLU:HB2	2.10	0.52
42:BE:201:THR:HG21	42:BE:203:LYS:HB3	1.91	0.52
48:BN:74:ARG:HH12	48:BN:101:HIS:CG	2.27	0.52
48:BN:93:THR:HG23	48:BN:93:THR:O	2.09	0.52
49:BO:76:ALA:HB3	54:BT:75:ILE:HD12	1.91	0.52
50:BP:71:VAL:HG13	50:BP:72:PRO:CD	2.40	0.52
50:BP:96:THR:O	50:BP:100:LEU:HD22	2.09	0.52
50:BP:131:SER:C	50:BP:133:SER:N	2.58	0.52
51:BQ:39:PRO:HB3	51:BQ:99:PRO:HD3	1.92	0.52
57:BW:9:TYR:H	57:BW:102:HIS:CD2	2.27	0.52
1:AA:41:G:H2'	1:AA:42:G:H8	1.74	0.52
1:AA:324:G:OP1	13:AT:70:SER:HB2	2.09	0.52
1:AA:766:A:H2'	1:AA:767:A:O4'	2.09	0.52
1:AA:1190:G:OP1	14:AC:5:ILE:HG23	2.10	0.52
2:AB:15:VAL:H	2:AB:16:HIS:CE1	2.28	0.52
2:AB:24:TRP:HD1	2:AB:24:TRP:H	1.55	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:150:GLU:HA	3:AD:153:ARG:HD2	1.92	0.52
4:AE:81:GLU:HG2	4:AE:90:VAL:HG13	1.92	0.52
8:AL:41:ARG:CG	8:AL:42:THR:N	2.73	0.52
10:AP:39:TYR:HA	10:AP:48:TRP:O	2.09	0.52
16:AI:96:LEU:HG	16:AI:102:LEU:HB2	1.92	0.52
16:AI:117:HIS:CD2	16:AI:123:PRO:HA	2.44	0.52
18:AM:3:ARG:HA	18:AM:9:ILE:HG13	1.91	0.52
29:B1:34:THR:HG21	38:BA:388:G:OP2	2.09	0.52
30:B2:28:LYS:HE2	30:B2:43:GLN:HB3	1.91	0.52
36:B8:62:LEU:HD13	38:BA:242:G:C5'	2.24	0.52
38:BA:285:C:C2'	38:BA:286:C:H5''	2.40	0.52
38:BA:633:A:C2'	38:BA:634:C:H5'	2.39	0.52
38:BA:797:C:H2'	38:BA:798:G:H8	1.75	0.52
38:BA:1055:G:N3	38:BA:1084:A:H2	2.06	0.52
38:BA:1104:C:H2'	38:BA:1105:U:O4'	2.10	0.52
38:BA:1106:G:N1	38:BA:1107:G:C6	2.78	0.52
38:BA:1140:C:H1'	38:BA:1143:A:N3	2.25	0.52
38:BA:1234:U:O2'	38:BA:1235:G:H5'	2.09	0.52
38:BA:2525:G:O2'	38:BA:2526:G:H5'	2.09	0.52
38:BA:2685:G:N3	38:BA:2725:A:C2	2.78	0.52
41:BD:174:ILE:HD12	41:BD:174:ILE:N	2.13	0.52
42:BE:3:GLY:O	42:BE:4:ILE:HG22	2.09	0.52
42:BE:26:ILE:CG2	42:BE:27:LEU:N	2.72	0.52
42:BE:144:ARG:O	42:BE:145:LYS:C	2.46	0.52
44:BG:40:ASN:O	44:BG:155:MET:HB2	2.09	0.52
47:BL:57:ILE:CA	47:BL:66:THR:O	2.34	0.52
54:BT:29:ARG:HE	54:BT:84:GLN:HG3	1.74	0.52
60:BZ:30:ASN:OD1	60:BZ:33:LEU:HB3	2.09	0.52
1:AA:101:A:O2'	1:AA:102:G:H5'	2.10	0.52
1:AA:358:U:H2'	1:AA:359:U:C6	2.45	0.52
1:AA:367:U:C5'	27:AZ:291:ARG:HH11	2.23	0.52
1:AA:530:G:O6	26:A0:101:U:O2	2.28	0.52
1:AA:1160:G:OP1	2:AB:132:LYS:CE	2.58	0.52
1:AA:1286:A:H2'	1:AA:1287:A:H4'	1.91	0.52
1:AA:1392:G:N2	1:AA:1502:A:C8	2.74	0.52
9:AO:17:ARG:HG3	9:AO:17:ARG:NH1	2.25	0.52
9:AO:21:ASP:OD2	9:AO:23:GLY:O	2.27	0.52
13:AT:26:ASN:HA	13:AT:29:LYS:HG2	1.92	0.52
13:AT:53:LEU:O	13:AT:57:ARG:N	2.35	0.52
16:AI:111:ARG:HG3	19:AN:61:TRP:HE1	1.74	0.52
16:AI:118:LYS:CB	16:AI:118:LYS:NZ	2.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AS:79:THR:O	20:AS:80:TYR:HB3	2.10	0.52
25:AY:25:C:N3	25:AY:26:M2G:CM1	2.73	0.52
25:AY:73:A:O3'	25:AY:74:C:C5'	2.57	0.52
33:B5:2:ALA:HA	38:BA:2015:A:O4'	2.09	0.52
33:B5:58:LEU:HD12	33:B5:58:LEU:N	2.24	0.52
34:B6:51:GLU:O	34:B6:52:VAL:HB	2.10	0.52
38:BA:389:G:H1	50:BP:71:VAL:CG1	2.21	0.52
38:BA:768:G:O2'	38:BA:769:G:H5'	2.10	0.52
38:BA:945:A:O3'	38:BA:946:G:H4'	2.10	0.52
38:BA:1093:G:N2	38:BA:1099:G:C6	2.78	0.52
38:BA:1563:G:O2'	38:BA:1564:C:H5'	2.09	0.52
38:BA:1573:G:H2'	38:BA:1574:C:H5'	1.91	0.52
38:BA:1591:G:O2'	38:BA:1592:C:H5'	2.09	0.52
38:BA:1988:C:H2'	38:BA:1989:G:C8	2.44	0.52
38:BA:2145:C:H2'	38:BA:2146:C:C4	2.45	0.52
39:BB:45:A:H2'	39:BB:45:A:N3	2.23	0.52
41:BD:67:PHE:CE1	41:BD:157:ARG:NH2	2.77	0.52
42:BE:7:VAL:HA	42:BE:196:VAL:HG22	1.92	0.52
44:BG:45:GLU:HG2	44:BG:47:LYS:H	1.74	0.52
46:BI:68:LEU:O	46:BI:71:ILE:HG12	2.10	0.52
46:BI:78:THR:HA	46:BI:141:LYS:C	2.30	0.52
48:BN:55:VAL:CG1	48:BN:56:ASN:N	2.71	0.52
51:BQ:39:PRO:HB3	51:BQ:99:PRO:CD	2.39	0.52
52:BR:12:ARG:HH11	52:BR:12:ARG:HG3	1.74	0.52
52:BR:107:ASP:OD2	52:BR:108:GLY:N	2.42	0.52
53:BS:45:GLY:O	53:BS:46:VAL:HG23	2.10	0.52
54:BT:33:LYS:HA	54:BT:33:LYS:NZ	2.25	0.52
54:BT:92:GLY:O	54:BT:93:ARG:HB3	2.09	0.52
58:BX:82:GLN:CG	58:BX:83:VAL:N	2.73	0.52
59:BY:83:THR:HG22	59:BY:84:ARG:N	2.24	0.52
1:AA:356:A:H2'	1:AA:357:G:H8	1.74	0.52
1:AA:439:A:C4	1:AA:496:A:C2	2.97	0.52
1:AA:474:G:H2'	1:AA:475:G:C8	2.41	0.52
1:AA:818:G:H3'	1:AA:819:A:C5'	2.39	0.52
1:AA:966:G:C4	22:AV:34:C:C4'	2.93	0.52
1:AA:1103:C:C4'	2:AB:98:LEU:HD13	2.39	0.52
2:AB:112:VAL:O	2:AB:115:LEU:HB3	2.10	0.52
2:AB:121:LEU:O	2:AB:127:ILE:HD11	2.08	0.52
3:AD:73:ARG:HD2	3:AD:77:ASN:HD21	1.74	0.52
3:AD:100:ARG:HB3	3:AD:102:ASP:OD1	2.08	0.52
4:AE:19:MET:SD	4:AE:24:ARG:HB3	2.50	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:32:VAL:O	4:AE:43:LEU:HD12	2.10	0.52
5:AF:22:GLU:OE2	5:AF:22:GLU:HA	2.10	0.52
7:AK:99:GLN:C	7:AK:101:SER:H	2.12	0.52
9:AO:50:HIS:O	9:AO:53:HIS:N	2.42	0.52
9:AO:58:MET:O	9:AO:59:MET:C	2.48	0.52
12:AR:59:SER:H	12:AR:62:GLU:CD	2.13	0.52
14:AC:61:ALA:O	14:AC:62:ASP:HB2	2.09	0.52
16:AI:16:ARG:O	16:AI:63:ILE:HG23	2.10	0.52
29:B1:8:SER:N	29:B1:46:LEU:HD11	2.25	0.52
29:B1:18:ILE:HD12	29:B1:18:ILE:N	2.23	0.52
38:BA:1230:C:H2'	38:BA:1231:G:C8	2.45	0.52
38:BA:2141:G:C6	38:BA:2151:G:C2	2.98	0.52
38:BA:2784:C:O2'	38:BA:2785:C:H5'	2.09	0.52
39:BB:57:A:C4	44:BG:29:TRP:HB3	2.45	0.52
42:BE:65:GLY:C	42:BE:67:PHE:H	2.12	0.52
45:BH:153:LYS:CB	45:BH:154:PRO:CD	2.87	0.52
47:BL:82:ALA:CB	47:BL:99:ILE:HD11	2.40	0.52
47:BL:93:ARG:CD	60:BZ:112:ARG:O	2.57	0.52
48:BN:66:LYS:HB3	48:BN:70:LYS:CB	2.40	0.52
49:BO:14:THR:HG21	49:BO:86:ILE:HG12	1.92	0.52
51:BQ:20:ALA:HA	51:BQ:98:LYS:HB3	1.92	0.52
51:BQ:63:LYS:HG3	51:BQ:64:ILE:N	2.24	0.52
52:BR:47:PHE:O	52:BR:51:LEU:HD12	2.09	0.52
54:BT:13:ARG:O	54:BT:13:ARG:HD3	2.09	0.52
54:BT:29:ARG:HG3	54:BT:30:VAL:N	2.25	0.52
55:BU:21:ALA:HB1	55:BU:24:TYR:CD1	2.45	0.52
55:BU:79:PHE:O	55:BU:83:LEU:HD13	2.09	0.52
56:BV:66:ARG:CD	56:BV:67:GLY:N	2.73	0.52
59:BY:31:LEU:HD23	59:BY:36:ALA:HB3	1.90	0.52
60:BZ:48:PHE:CD1	60:BZ:52:SER:HA	2.44	0.52
1:AA:818:G:H3'	1:AA:819:A:H5'	1.92	0.52
1:AA:966:G:N9	22:AV:34:C:H4'	2.25	0.52
1:AA:1502:A:H2	1:AA:1505:G:N1	2.07	0.52
4:AE:20:GLN:HE22	4:AE:25:ARG:NH2	2.07	0.52
10:AP:19:ILE:HG22	10:AP:36:ILE:HD11	1.92	0.52
15:AG:15:ASP:HB3	15:AG:19:GLY:CA	2.40	0.52
17:AJ:47:PHE:HE1	17:AJ:63:PHE:HD2	1.56	0.52
20:AS:40:ILE:HD13	20:AS:62:ILE:HD11	1.92	0.52
25:AY:76:A:N9	27:AZ:231:ILE:HD11	2.25	0.52
36:B8:36:LYS:O	36:B8:37:SER:O	2.27	0.52
37:B9:9:ARG:CZ	37:B9:15:LYS:HA	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:85:G:N3	38:BA:103:A:C2	2.78	0.52
38:BA:1072:C:C2	38:BA:1092:C:N4	2.77	0.52
38:BA:1107:G:H8	38:BA:1107:G:O5'	1.93	0.52
38:BA:1365:A:H2'	38:BA:1366:A:C8	2.37	0.52
38:BA:1456:G:H2'	38:BA:1457:A:H8	1.75	0.52
38:BA:1653:G:O2'	38:BA:1654:A:OP2	2.27	0.52
38:BA:2141:G:C4	38:BA:2142:C:C5	2.98	0.52
38:BA:2161:C:C2'	38:BA:2162:G:P	2.98	0.52
38:BA:2362:G:C2'	38:BA:2363:C:H5'	2.40	0.52
38:BA:2406:U:O4	50:BP:70:GLN:HB3	2.10	0.52
38:BA:2498:C:O2'	38:BA:2499:C:H5'	2.10	0.52
41:BD:231:HIS:ND1	41:BD:232:PRO:N	2.58	0.52
42:BE:47:VAL:O	42:BE:80:GLU:HA	2.10	0.52
42:BE:48:GLN:NE2	42:BE:78:LEU:HD12	2.25	0.52
44:BG:47:LYS:HD3	44:BG:81:LYS:HD2	1.92	0.52
44:BG:114:ILE:O	44:BG:116:ASP:N	2.43	0.52
46:BI:38:LEU:H	46:BI:38:LEU:CD1	2.14	0.52
46:BI:56:LYS:HA	46:BI:59:ALA:HB3	1.91	0.52
47:BL:23:VAL:O	47:BL:34:ILE:HA	2.10	0.52
48:BN:19:GLU:HB2	48:BN:59:LYS:HB2	1.92	0.52
50:BP:122:PRO:HA	50:BP:141:ALA:O	2.09	0.52
51:BQ:34:LEU:HD11	51:BQ:129:THR:HB	1.92	0.52
52:BR:101:ALA:O	52:BR:102:GLU:HB2	2.10	0.52
53:BS:17:ARG:O	53:BS:19:LYS:N	2.42	0.52
59:BY:49:VAL:CG1	59:BY:53:PRO:HG3	2.40	0.52
59:BY:95:LYS:CB	59:BY:100:ALA:HA	2.31	0.52
1:AA:877:C:H5''	6:AH:88:LYS:HD2	1.92	0.52
1:AA:973:G:H4'	17:AJ:54:PHE:O	2.10	0.52
1:AA:1090:U:O2'	1:AA:1091:U:H5'	2.10	0.52
1:AA:1337:G:H5''	1:AA:1338:G:OP1	2.09	0.52
2:AB:54:THR:HG23	2:AB:199:TYR:HB3	1.91	0.52
2:AB:178:ARG:HD2	6:AH:71:GLY:CA	2.40	0.52
5:AF:63:TYR:N	5:AF:63:TYR:CD2	2.78	0.52
8:AL:41:ARG:CB	8:AL:41:ARG:NH1	2.72	0.52
15:AG:26:PHE:CD2	15:AG:30:ILE:HD11	2.45	0.52
16:AI:112:LYS:HA	16:AI:119:ALA:HB2	1.91	0.52
18:AM:106:ASN:O	18:AM:107:ALA:HB3	2.10	0.52
22:AV:5:G:O2'	22:AV:6:G:H5'	2.10	0.52
29:B1:31:GLY:O	38:BA:2397:G:H5'	2.10	0.52
29:B1:65:SER:OG	29:B1:66:HIS:HD2	1.93	0.52
30:B2:41:ILE:O	30:B2:42:GLY:O	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:135:G:O2'	38:BA:136:G:H5'	2.10	0.52
38:BA:239:U:H2'	38:BA:240:G:O4'	2.09	0.52
38:BA:1065:U:O2	38:BA:1066:U:O4'	2.28	0.52
38:BA:1095:A:C2'	38:BA:1096:A:O4'	2.52	0.52
38:BA:1839:G:H8	38:BA:1839:G:H5'	1.75	0.52
38:BA:2159:G:C2	38:BA:2160:G:C1'	2.93	0.52
38:BA:2408:U:H2'	38:BA:2409:G:C8	2.45	0.52
38:BA:2467:C:H4'	51:BQ:123:HIS:CE1	2.45	0.52
38:BA:2636:U:C2'	38:BA:2637:U:C5'	2.88	0.52
39:BB:57:A:C4	44:BG:29:TRP:CB	2.93	0.52
40:BC:46:LYS:HB2	40:BC:209:LEU:CB	2.39	0.52
40:BC:75:LEU:HD23	40:BC:75:LEU:C	2.31	0.52
42:BE:142:GLY:C	42:BE:143:ASN:ND2	2.64	0.52
43:BF:89:VAL:HG12	43:BF:90:PHE:N	2.25	0.52
43:BF:164:ARG:HG2	43:BF:164:ARG:HH11	1.73	0.52
44:BG:33:ARG:HB2	44:BG:162:THR:OG1	2.10	0.52
45:BH:102:ALA:HB1	45:BH:115:VAL:O	2.09	0.52
46:BI:114:LEU:HA	46:BI:130:TYR:HD1	1.75	0.52
47:BL:8:VAL:HG12	47:BL:10:LEU:HD22	1.92	0.52
47:BL:77:LEU:HD23	47:BL:80:LYS:HG2	1.92	0.52
48:BN:55:VAL:HG11	48:BN:127:ASP:H	1.75	0.52
50:BP:17:LYS:C	50:BP:19:VAL:HG22	2.31	0.52
50:BP:30:THR:CG2	50:BP:31:ALA:N	2.73	0.52
52:BR:67:LEU:HD22	52:BR:67:LEU:H	1.74	0.52
52:BR:70:LEU:HD13	52:BR:75:LEU:CD1	2.39	0.52
54:BT:28:VAL:CG1	54:BT:46:GLU:HA	2.40	0.52
54:BT:65:LYS:HG3	54:BT:66:VAL:N	2.25	0.52
54:BT:128:GLU:O	54:BT:130:ALA:N	2.41	0.52
55:BU:87:GLY:C	55:BU:88:ILE:HG13	2.31	0.52
56:BV:69:LYS:CB	56:BV:93:GLU:OE2	2.58	0.52
60:BZ:69:THR:CG2	60:BZ:90:VAL:HA	2.28	0.52
1:AA:1347:G:H22	1:AA:1373:G:C2'	2.11	0.52
7:AK:41:THR:HG22	7:AK:42:TRP:N	2.24	0.52
15:AG:79:ARG:HH11	15:AG:79:ARG:HG3	1.74	0.52
15:AG:83:ALA:C	15:AG:84:ASN:HD22	2.12	0.52
15:AG:97:GLN:O	15:AG:101:LEU:HG	2.09	0.52
20:AS:6:LYS:CD	20:AS:6:LYS:N	2.73	0.52
30:B2:25:VAL:O	30:B2:27:GLU:N	2.41	0.52
30:B2:57:ILE:HG23	30:B2:57:ILE:O	2.09	0.52
35:B7:8:ASN:HD22	35:B7:9:ARG:N	2.07	0.52
36:B8:30:ARG:O	36:B8:31:HIS:C	2.47	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:33:LYS:CD	38:BA:2527:C:C5'	2.84	0.52
38:BA:295:G:H1	38:BA:343:C:H42	1.55	0.52
38:BA:925:C:H2'	38:BA:926:A:O4'	2.10	0.52
38:BA:1071:G:C2'	38:BA:1072:C:C5'	2.84	0.52
38:BA:1071:G:C3'	38:BA:1072:C:C5'	2.88	0.52
38:BA:1270:C:H5''	38:BA:1271:G:O5'	2.10	0.52
38:BA:1827:C:O2'	38:BA:1828:G:H5'	2.10	0.52
38:BA:2222:G:O2'	38:BA:2223:G:H5'	2.10	0.52
38:BA:2307:G:H3'	38:BA:2307:G:N3	2.25	0.52
41:BD:106:ILE:HD13	41:BD:107:ALA:N	2.25	0.52
47:BL:105:LEU:HD23	47:BL:105:LEU:H	1.75	0.52
50:BP:35:HIS:O	50:BP:36:LYS:CG	2.58	0.52
50:BP:100:LEU:O	50:BP:101:VAL:C	2.49	0.52
56:BV:19:LYS:HG2	56:BV:96:ILE:CB	2.38	0.52
1:AA:266:G:O2'	1:AA:267:C:OP2	2.26	0.51
1:AA:590:C:H2'	1:AA:591:U:C6	2.45	0.51
1:AA:1338:G:O2'	1:AA:1339:A:H5'	2.10	0.51
2:AB:215:LEU:O	2:AB:218:ALA:HB3	2.10	0.51
2:AB:216:SER:O	2:AB:218:ALA:N	2.43	0.51
3:AD:91:SER:O	3:AD:92:VAL:C	2.47	0.51
6:AH:6:ILE:CG2	6:AH:85:ARG:HH12	2.23	0.51
11:AQ:52:LYS:N	11:AQ:52:LYS:HD2	2.25	0.51
12:AR:53:ARG:CG	12:AR:63:GLN:HE21	2.14	0.51
16:AI:128:ARG:OXT	16:AI:128:ARG:HG2	2.11	0.51
18:AM:47:ASP:O	18:AM:48:LEU:HB3	2.09	0.51
20:AS:33:THR:OG1	20:AS:34:TRP:N	2.43	0.51
20:AS:66:MET:HB2	20:AS:74:PHE:CZ	2.45	0.51
34:B6:32:ASN:CG	34:B6:33:LYS:N	2.62	0.51
38:BA:84:A:H2'	38:BA:99:U:O4	2.10	0.51
38:BA:84:A:H5'	59:BY:9:LYS:HB3	1.91	0.51
38:BA:235:U:H2'	38:BA:236:C:C6	2.43	0.51
38:BA:547:A:C8	38:BA:549:G:C6	2.99	0.51
38:BA:1055:G:O5'	38:BA:1055:G:H8	1.92	0.51
38:BA:1195:G:C2'	38:BA:1196:C:H5'	2.40	0.51
38:BA:1238:G:O2'	38:BA:1239:G:H5'	2.10	0.51
38:BA:1625:C:H2'	38:BA:1626:G:C5'	2.40	0.51
38:BA:1865:G:H5'	38:BA:1866:C:OP2	2.10	0.51
38:BA:2202:C:H2'	38:BA:2203:U:H6	1.75	0.51
38:BA:2228:G:H2'	38:BA:2229:C:C6	2.45	0.51
38:BA:2512:C:H4'	42:BE:122:PHE:CE2	2.45	0.51
38:BA:2684:U:O2'	49:BO:68:GLU:HG3	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2687:U:C4	38:BA:2688:U:C5	2.99	0.51
38:BA:2736:G:H5'	38:BA:2736:G:C8	2.39	0.51
42:BE:63:LEU:O	42:BE:64:LYS:C	2.47	0.51
42:BE:75:VAL:C	42:BE:77:ILE:N	2.49	0.51
42:BE:176:ILE:HG22	42:BE:179:GLU:H	1.74	0.51
46:BI:81:VAL:CG1	46:BI:88:ILE:HD12	2.39	0.51
48:BN:42:TRP:H	55:BU:64:ARG:CD	2.23	0.51
49:BO:36:GLY:HA3	49:BO:109:LYS:HG3	1.92	0.51
49:BO:85:VAL:HG12	49:BO:86:ILE:O	2.10	0.51
49:BO:101:PRO:O	49:BO:102:VAL:CG1	2.52	0.51
53:BS:77:ALA:O	53:BS:79:ALA:N	2.43	0.51
54:BT:51:ARG:HB2	54:BT:98:LYS:HG3	1.91	0.51
60:BZ:27:VAL:HG12	60:BZ:87:ASP:HA	1.92	0.51
1:AA:452:A:O2'	1:AA:453:A:H8	1.93	0.51
1:AA:582:U:H2'	1:AA:583:A:C8	2.45	0.51
1:AA:1207:G:O2'	1:AA:1208:C:H5'	2.11	0.51
1:AA:1221:G:OP1	20:AS:36:ARG:HD3	2.10	0.51
1:AA:1422:G:H2'	1:AA:1423:G:C8	2.40	0.51
7:AK:124:LYS:HD2	7:AK:125:PHE:HE1	1.73	0.51
8:AL:83:VAL:HG13	8:AL:84:LEU:N	2.25	0.51
8:AL:113:ARG:HG2	8:AL:113:ARG:HH11	1.76	0.51
11:AQ:67:LYS:C	11:AQ:69:LYS:H	2.13	0.51
14:AC:179:ARG:HD2	14:AC:207:VAL:HG22	1.92	0.51
15:AG:85:TYR:HD1	15:AG:154:TYR:HE1	1.59	0.51
15:AG:97:GLN:HG2	15:AG:101:LEU:CD1	2.39	0.51
16:AI:48:GLU:N	16:AI:49:PRO:CD	2.73	0.51
20:AS:15:LEU:O	20:AS:19:VAL:HG23	2.10	0.51
28:B0:2:ALA:HB1	38:BA:2494:G:P	2.51	0.51
33:B5:4:HIS:O	38:BA:2056:G:N2	2.44	0.51
38:BA:74:A:O2'	38:BA:75:G:OP2	2.25	0.51
38:BA:150:C:H2'	38:BA:151:C:C6	2.45	0.51
38:BA:692:C:O2'	38:BA:693:C:H5'	2.09	0.51
38:BA:1061:U:O2'	38:BA:1070:A:N3	2.42	0.51
38:BA:1388:G:O2'	38:BA:1389:G:H5'	2.11	0.51
38:BA:2025:C:H2'	38:BA:2026:C:C6	2.46	0.51
38:BA:2305:A:H5''	44:BG:134:GLY:HA3	1.90	0.51
38:BA:2364:C:H2'	38:BA:2365:G:O4'	2.10	0.51
38:BA:2617:C:C2'	38:BA:2618:G:H5'	2.41	0.51
38:BA:2827:C:H5'	38:BA:2828:C:OP2	2.10	0.51
43:BF:115:ALA:O	43:BF:118:ALA:N	2.40	0.51
45:BH:155:SER:C	45:BH:157:TYR:N	2.63	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:41:GLU:O	46:BI:45:LYS:HG2	2.10	0.51
47:BL:138:VAL:O	47:BL:138:VAL:HG23	2.11	0.51
50:BP:23:PRO:HB3	50:BP:34:GLY:H	1.75	0.51
50:BP:48:PRO:HG2	50:BP:49:ARG:N	2.19	0.51
50:BP:125:VAL:O	50:BP:145:PRO:HD2	2.09	0.51
51:BQ:140:ALA:O	60:BZ:53:ILE:HB	2.10	0.51
52:BR:24:GLN:HB2	52:BR:44:LEU:CD2	2.40	0.51
54:BT:33:LYS:HZ3	54:BT:33:LYS:N	2.08	0.51
59:BY:89:PHE:C	59:BY:90:LEU:HD23	2.30	0.51
60:BZ:6:LYS:HB2	60:BZ:8:TYR:HE1	1.75	0.51
1:AA:411:A:O2'	1:AA:412:A:H5'	2.10	0.51
1:AA:445:G:H2'	1:AA:446:G:H8	1.75	0.51
1:AA:1067:A:H1'	1:AA:1068:G:C8	2.46	0.51
1:AA:1132:C:O2'	1:AA:1133:G:H5'	2.11	0.51
1:AA:1333:A:H2'	1:AA:1334:G:O4'	2.10	0.51
1:AA:1404:C:H6	1:AA:1404:C:O5'	1.94	0.51
4:AE:12:LEU:C	4:AE:13:ILE:HD12	2.30	0.51
5:AF:18:GLN:HA	5:AF:21:LEU:HD23	1.92	0.51
6:AH:87:SER:HA	6:AH:93:VAL:CG2	2.40	0.51
8:AL:22:SER:C	8:AL:24:VAL:H	2.14	0.51
25:AY:66:A:H4'	27:AZ:350:THR:OG1	2.09	0.51
29:B1:46:LEU:O	29:B1:48:LYS:N	2.43	0.51
29:B1:92:LYS:O	29:B1:94:LEU:N	2.42	0.51
38:BA:80:G:C2'	38:BA:81:G:H5'	2.39	0.51
38:BA:143:G:O4'	58:BX:38:GLU:HG3	2.10	0.51
38:BA:191:A:C2'	38:BA:192:C:H5'	2.41	0.51
38:BA:649:G:H2'	38:BA:650:C:C6	2.45	0.51
38:BA:2069:G:C2'	38:BA:2070:G:H5'	2.40	0.51
38:BA:2360:A:O2'	38:BA:2361:A:O5'	2.27	0.51
40:BC:64:LEU:HD13	40:BC:65:PRO:CD	2.36	0.51
42:BE:101:ARG:HH11	42:BE:169:ASN:HD22	1.58	0.51
43:BF:161:GLU:O	43:BF:164:ARG:HB3	2.11	0.51
44:BG:11:TYR:HA	44:BG:15:VAL:CG2	2.41	0.51
45:BH:154:PRO:CG	45:BH:155:SER:H	2.20	0.51
51:BQ:81:VAL:O	51:BQ:82:ARG:NH1	2.43	0.51
51:BQ:141:GLN:O	60:BZ:70:LEU:HD22	2.10	0.51
54:BT:13:ARG:HA	54:BT:13:ARG:HE	1.74	0.51
55:BU:10:ARG:O	55:BU:11:ARG:C	2.46	0.51
56:BV:36:PRO:HD2	56:BV:60:GLU:O	2.10	0.51
57:BW:79:GLY:CA	57:BW:100:THR:HG23	2.40	0.51
60:BZ:75:ASN:O	60:BZ:76:LEU:HD23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:52:G:O2'	1:AA:53:A:H5'	2.11	0.51
1:AA:93:G:C2'	1:AA:96:U:H5'	2.40	0.51
1:AA:367:U:H5'	27:AZ:291:ARG:HH11	1.76	0.51
1:AA:594:G:C2'	1:AA:595:G:H5'	2.41	0.51
1:AA:932:C:H5'	15:AG:4:ARG:HG2	1.92	0.51
1:AA:963:G:H2'	1:AA:964:A:H8	1.75	0.51
1:AA:1075:C:OP1	2:AB:179:LYS:CD	2.58	0.51
1:AA:1106:G:O2'	1:AA:1107:C:H5'	2.10	0.51
1:AA:1137:C:H4'	1:AA:1138:G:C2	2.45	0.51
8:AL:60:LEU:N	8:AL:64:TYR:O	2.36	0.51
8:AL:69:TYR:C	8:AL:70:ILE:HD12	2.31	0.51
13:AT:22:ARG:O	13:AT:25:ARG:HB3	2.10	0.51
16:AI:17:VAL:HG21	16:AI:80:GLY:HA3	1.92	0.51
16:AI:53:VAL:H	16:AI:54:ASP:N	2.08	0.51
22:AV:34:C:O2	22:AV:34:C:H2'	2.10	0.51
24:AW:18:G:H1	24:AW:55:U:H6	1.58	0.51
24:AW:23:A:H2'	24:AW:24:G:H8	1.75	0.51
28:B0:36:ILE:CD1	38:BA:2354:G:O2'	2.59	0.51
30:B2:52:ASP:O	30:B2:55:ARG:CB	2.57	0.51
37:B9:16:VAL:HA	37:B9:25:VAL:HA	1.92	0.51
38:BA:7:G:H4'	48:BN:13:TRP:HH2	1.74	0.51
38:BA:36:G:O2'	38:BA:37:C:H5'	2.11	0.51
38:BA:106:C:C1'	59:BY:2:ARG:HE	2.18	0.51
38:BA:422:A:H2'	38:BA:423:A:C8	2.45	0.51
38:BA:589:C:H2'	38:BA:590:A:H8	1.75	0.51
38:BA:870:A:H5''	51:BQ:7:MET:CB	2.41	0.51
38:BA:1524:G:O2'	38:BA:1525:G:H5'	2.10	0.51
38:BA:2111:C:H5'	38:BA:2112:G:OP1	2.10	0.51
38:BA:2186:G:C3'	38:BA:2187:G:H5''	2.40	0.51
38:BA:2813:A:C2'	38:BA:2814:C:H5'	2.41	0.51
41:BD:25:THR:HG22	41:BD:82:ILE:C	2.30	0.51
42:BE:52:LEU:O	42:BE:74:PRO:HA	2.10	0.51
44:BG:56:ALA:HB2	44:BG:153:ARG:NH2	2.26	0.51
46:BI:38:LEU:HB2	46:BI:40:THR:HG23	1.91	0.51
47:BL:95:LYS:H	60:BZ:112:ARG:NH1	1.99	0.51
47:BL:98:ARG:HH11	47:BL:139:VAL:HG11	1.74	0.51
47:BL:111:LYS:O	47:BL:113:PRO:CD	2.58	0.51
54:BT:89:VAL:HG21	54:BT:91:ARG:HH21	1.76	0.51
55:BU:90:VAL:CG1	55:BU:91:ASP:H	2.05	0.51
55:BU:95:LEU:CD1	56:BV:11:GLN:HG3	2.40	0.51
59:BY:28:LYS:HA	59:BY:39:VAL:N	2.18	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:163:LEU:HD23	60:BZ:163:LEU:N	2.26	0.51
1:AA:26:A:H61	1:AA:558:G:H1'	1.75	0.51
1:AA:1226:C:H2'	18:AM:103:THR:OG1	2.10	0.51
1:AA:1237:C:H3'	1:AA:1336:C:H41	1.76	0.51
1:AA:1240:U:OP2	15:AG:116:ALA:HB2	2.11	0.51
1:AA:1441:G:H5''	1:AA:1442:G:C5'	2.18	0.51
2:AB:30:ARG:HH21	2:AB:194:PRO:HG2	1.73	0.51
2:AB:144:ARG:O	2:AB:147:LYS:HB3	2.10	0.51
2:AB:184:VAL:O	2:AB:198:ASP:HB2	2.11	0.51
4:AE:42:GLY:HA3	4:AE:66:MET:HG2	1.91	0.51
4:AE:55:VAL:O	4:AE:58:ALA:HB3	2.10	0.51
7:AK:91:ARG:O	7:AK:94:ALA:HB3	2.10	0.51
11:AQ:5:VAL:HA	11:AQ:59:ILE:O	2.11	0.51
11:AQ:68:ARG:HG2	11:AQ:68:ARG:NH1	2.23	0.51
14:AC:52:LEU:H	14:AC:52:LEU:CD2	2.22	0.51
15:AG:70:LYS:HB3	15:AG:96:GLN:OE1	2.11	0.51
17:AJ:63:PHE:HA	19:AN:59:ALA:H	1.75	0.51
18:AM:13:LYS:HA	18:AM:44:ARG:NH1	2.22	0.51
22:AV:35:A:O2'	22:AV:36:U:H5'	2.09	0.51
24:AW:23:A:H2'	24:AW:24:G:C8	2.46	0.51
33:B5:20:ARG:CB	33:B5:23:HIS:HD2	2.24	0.51
34:B6:15:GLU:CG	34:B6:18:ARG:HG3	2.39	0.51
36:B8:32:LEU:HD11	36:B8:41:ILE:CG2	2.39	0.51
37:B9:11:CYS:SG	37:B9:27:CYS:HB3	2.51	0.51
38:BA:265:A:H4'	38:BA:266:G:O5'	2.10	0.51
38:BA:271(A):A:H5'	38:BA:271(B):C:OP2	2.11	0.51
38:BA:733:G:H8	38:BA:733:G:O5'	1.94	0.51
38:BA:955:C:H5''	51:BQ:14:ARG:HH21	1.75	0.51
38:BA:1141:U:C5'	38:BA:1142(A):A:O4'	2.58	0.51
38:BA:1431:U:O2'	38:BA:1432:C:H5'	2.10	0.51
38:BA:2115:G:H5'	38:BA:2116:G:OP2	2.10	0.51
38:BA:2306:C:C5	38:BA:2307:G:H1'	2.45	0.51
42:BE:120:TRP:CD1	42:BE:155:LYS:HB3	2.46	0.51
43:BF:51:THR:CG2	43:BF:92:PRO:HD2	2.39	0.51
45:BH:38:SER:C	45:BH:40:GLU:H	2.14	0.51
45:BH:148:ILE:O	45:BH:150:ALA:N	2.44	0.51
47:BL:23:VAL:C	47:BL:34:ILE:HG23	2.31	0.51
47:BL:98:ARG:CD	47:BL:139:VAL:HB	2.38	0.51
49:BO:13:ASN:ND2	49:BO:97:ARG:H	2.08	0.51
50:BP:61:ARG:HD2	50:BP:61:ARG:N	2.26	0.51
53:BS:17:ARG:C	53:BS:19:LYS:N	2.54	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:50:ILE:HD12	54:BT:50:ILE:H	1.71	0.51
54:BT:89:VAL:CB	54:BT:91:ARG:HE	2.24	0.51
57:BW:17:VAL:O	57:BW:18:ARG:C	2.49	0.51
59:BY:43:ASN:HD21	59:BY:64:GLU:HG3	1.75	0.51
1:AA:160:A:H2'	1:AA:161:A:O4'	2.11	0.51
1:AA:358:U:H5''	27:AZ:235:GLY:HA2	1.93	0.51
1:AA:858:G:O6	1:AA:869:G:H3'	2.10	0.51
1:AA:1068:G:N3	1:AA:1191:A:C2	2.79	0.51
1:AA:1230:C:H5''	22:AV:30:G:O3'	2.10	0.51
3:AD:170:VAL:HG22	3:AD:171:GLY:N	2.25	0.51
4:AE:103:GLY:O	4:AE:104:ALA:C	2.48	0.51
9:AO:38:ARG:HH11	9:AO:38:ARG:HG2	1.75	0.51
13:AT:25:ARG:HH11	13:AT:25:ARG:HG3	1.76	0.51
13:AT:33:ILE:HD12	13:AT:63:ILE:CG1	2.41	0.51
14:AC:167:TRP:O	14:AC:168:ALA:HB2	2.11	0.51
18:AM:19:LEU:H	18:AM:19:LEU:CD2	2.23	0.51
18:AM:91:ARG:CG	18:AM:98:VAL:HG11	2.37	0.51
22:AV:12:G:N3	38:BA:1923:U:O2'	2.33	0.51
29:B1:23:LYS:O	29:B1:37:ILE:HB	2.10	0.51
38:BA:1357:U:H2'	38:BA:1358:G:O4'	2.11	0.51
38:BA:2348:U:H2'	38:BA:2349:G:H5'	1.90	0.51
38:BA:2605:U:H2'	38:BA:2606:C:C6	2.46	0.51
41:BD:24:ILE:O	41:BD:24:ILE:CG2	2.55	0.51
41:BD:35:LYS:CG	41:BD:64:ILE:N	2.65	0.51
41:BD:109:ASP:HB2	41:BD:197:GLY:HA2	1.92	0.51
42:BE:51:PHE:HB3	42:BE:76:ARG:CB	2.38	0.51
42:BE:111:ARG:HE	42:BE:160:TYR:HE1	1.52	0.51
44:BG:16:ARG:HB2	44:BG:17:PRO:CD	2.41	0.51
44:BG:57:ALA:HA	44:BG:90:LEU:HD21	1.93	0.51
44:BG:129:GLY:O	44:BG:130:ASN:CB	2.59	0.51
48:BN:3:THR:C	48:BN:4:TYR:CG	2.83	0.51
48:BN:39:ARG:HE	48:BN:41:ASP:CG	2.13	0.51
49:BO:71:ARG:HB2	49:BO:75:SER:O	2.11	0.51
52:BR:41:ALA:C	52:BR:43:GLU:N	2.62	0.51
54:BT:28:VAL:O	54:BT:29:ARG:HB2	2.10	0.51
54:BT:132:LYS:C	54:BT:134:GLU:H	2.13	0.51
55:BU:26:GLY:C	55:BU:28:ARG:H	2.13	0.51
56:BV:5:VAL:HG22	56:BV:6:LYS:N	2.26	0.51
56:BV:8:GLY:O	56:BV:10:LYS:HG3	2.10	0.51
60:BZ:10:ARG:NH2	60:BZ:26:GLY:O	2.43	0.51
60:BZ:20:ARG:HH11	60:BZ:20:ARG:HG3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:152:A:N6	1:AA:170:U:C2	2.78	0.51
1:AA:243:A:C2	1:AA:246:A:C8	2.99	0.51
1:AA:348:G:O2'	1:AA:349:A:H5'	2.11	0.51
1:AA:392:G:H2'	1:AA:393:A:C8	2.44	0.51
1:AA:781:A:H2'	1:AA:782:A:H5'	1.93	0.51
1:AA:1287:A:H2'	1:AA:1288:A:C8	2.46	0.51
1:AA:1436:U:O2'	1:AA:1437:C:H5'	2.11	0.51
1:AA:1459:C:O2'	1:AA:1460:A:H5'	2.11	0.51
1:AA:1517:G:H2'	1:AA:1518:A:C8	2.46	0.51
3:AD:12:CYS:HA	3:AD:19:LEU:CD1	2.41	0.51
4:AE:122:GLU:OE1	4:AE:131:ILE:HG13	2.11	0.51
6:AH:119:LEU:CD1	6:AH:124:ALA:HA	2.40	0.51
7:AK:66:LEU:O	7:AK:67:ASP:C	2.49	0.51
15:AG:100:ALA:O	15:AG:104:LEU:HD23	2.10	0.51
17:AJ:34:VAL:HG13	17:AJ:73:ASP:O	2.11	0.51
20:AS:6:LYS:HG2	20:AS:7:LYS:CD	2.39	0.51
25:AY:12:U:H2'	25:AY:13:C:O5'	2.11	0.51
29:B1:11:ARG:CB	29:B1:12:PRO:CD	2.88	0.51
29:B1:62:VAL:C	29:B1:64:ALA:N	2.61	0.51
32:B4:29:PRO:O	32:B4:31:ILE:N	2.43	0.51
35:B7:16:HIS:ND1	38:BA:684:G:OP1	2.44	0.51
38:BA:92:A:O2'	38:BA:93:G:H5'	2.11	0.51
38:BA:271(M):G:H2'	38:BA:271(N):U:H5''	1.92	0.51
38:BA:271(Q):G:O2'	38:BA:271(R):G:H8	1.94	0.51
38:BA:542:C:H2'	38:BA:543:C:OP1	2.11	0.51
38:BA:622:G:C2'	38:BA:623:G:H5'	2.39	0.51
38:BA:721:C:H2'	38:BA:722:A:C8	2.46	0.51
38:BA:1065:U:N3	38:BA:1066:U:H6	2.08	0.51
38:BA:1257:C:C2	38:BA:1258:C:C5	2.99	0.51
38:BA:1510:G:H2'	38:BA:1511:C:O4'	2.11	0.51
38:BA:1866:C:H2'	38:BA:1876:A:O4'	2.09	0.51
38:BA:2064:C:H2'	38:BA:2065:C:C6	2.45	0.51
38:BA:2887:U:H2'	38:BA:2888:C:C6	2.46	0.51
41:BD:158:ALA:O	41:BD:159:ALA:HB3	2.10	0.51
43:BF:117:ARG:HH22	50:BP:5:ASP:N	2.09	0.51
44:BG:6:ALA:O	44:BG:9:ARG:N	2.43	0.51
53:BS:24:LEU:HB3	53:BS:85:VAL:HG12	1.91	0.51
54:BT:17:THR:HG23	54:BT:17:THR:O	2.09	0.51
54:BT:23:ARG:NH2	54:BT:120:ARG:HD3	2.26	0.51
54:BT:90:GLN:HE22	54:BT:124:ASP:CG	2.13	0.51
57:BW:95:ILE:O	57:BW:95:ILE:HG13	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:48:ALA:CB	59:BY:59:GLY:H	2.16	0.51
1:AA:105:G:H2'	1:AA:106:C:C6	2.45	0.51
1:AA:189(E):U:O2'	1:AA:189(F):U:H5'	2.10	0.51
1:AA:503:C:O2'	1:AA:504:C:H5'	2.11	0.51
1:AA:639:G:O2'	1:AA:640:A:H5'	2.10	0.51
1:AA:857:C:H2'	1:AA:858:G:O4'	2.11	0.51
1:AA:949:A:C2	1:AA:1233:G:N3	2.79	0.51
1:AA:954:G:C4'	18:AM:120:LYS:HG3	2.33	0.51
1:AA:1052:U:H2'	1:AA:1055:A:OP1	2.11	0.51
1:AA:1194:U:H4'	4:AE:22:GLY:HA2	1.93	0.51
1:AA:1517:G:H2'	1:AA:1518:A:H8	1.76	0.51
12:AR:65:ILE:HD12	12:AR:65:ILE:C	2.30	0.51
14:AC:127:ARG:HD2	14:AC:127:ARG:H	1.75	0.51
14:AC:175:LEU:HD21	14:AC:201:TYR:CD2	2.45	0.51
16:AI:85:LEU:C	16:AI:85:LEU:HD12	2.30	0.51
20:AS:79:THR:O	20:AS:80:TYR:CB	2.58	0.51
25:AY:40:5MC:H2'	25:AY:41:U:C5'	2.40	0.51
28:B0:11:ARG:CB	28:B0:11:ARG:HH11	2.24	0.51
28:B0:20:ARG:NH1	38:BA:2357:U:OP1	2.43	0.51
29:B1:53:VAL:CG2	29:B1:74:VAL:HG21	2.37	0.51
31:B3:13:ILE:HD12	38:BA:989:G:N7	2.25	0.51
36:B8:10:ALA:HB2	36:B8:59:LYS:NZ	2.24	0.51
38:BA:729:G:C4	38:BA:1775:U:C2	2.98	0.51
38:BA:812:C:O2'	38:BA:813:U:H5'	2.10	0.51
38:BA:994:C:H1'	56:BV:10:LYS:NZ	2.26	0.51
38:BA:1771:C:C1'	38:BA:1786:A:H8	2.24	0.51
41:BD:17:THR:HG23	41:BD:205:VAL:N	2.15	0.51
42:BE:8:LYS:HG2	42:BE:192:ASN:HD22	1.75	0.51
42:BE:70:ALA:O	42:BE:72:VAL:N	2.44	0.51
43:BF:3:GLU:CB	43:BF:24:LEU:HG	2.40	0.51
52:BR:60:LEU:HD23	52:BR:61:HIS:N	2.25	0.51
54:BT:29:ARG:HE	54:BT:84:GLN:CG	2.24	0.51
56:BV:45:THR:O	56:BV:45:THR:HG22	2.11	0.51
58:BX:36:LYS:C	58:BX:38:GLU:H	2.14	0.51
58:BX:55:ASN:HD22	58:BX:78:LYS:HE2	1.75	0.51
58:BX:56:THR:HA	58:BX:77:LYS:CB	2.40	0.51
60:BZ:71:VAL:HG13	60:BZ:86:VAL:HG12	1.93	0.51
1:AA:358:U:H5''	27:AZ:235:GLY:CA	2.41	0.51
1:AA:652:U:H1'	1:AA:653:A:H2	1.76	0.51
1:AA:802:A:H2'	1:AA:803:G:O4'	2.11	0.51
1:AA:1074:G:H2'	1:AA:1075:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1101:A:H62	2:AB:176:GLU:HG2	1.75	0.51
3:AD:150:GLU:HG2	3:AD:151:LYS:N	2.26	0.51
4:AE:28:PHE:O	4:AE:47:LYS:HA	2.10	0.51
4:AE:36:ASP:O	4:AE:37:ARG:CB	2.59	0.51
5:AF:52:ILE:O	5:AF:53:ALA:HB3	2.11	0.51
10:AP:43:LYS:N	10:AP:43:LYS:HD2	2.26	0.51
12:AR:35:ARG:C	12:AR:37:VAL:H	2.14	0.51
13:AT:24:LEU:C	13:AT:24:LEU:HD13	2.30	0.51
13:AT:81:LYS:C	13:AT:83:ARG:N	2.63	0.51
17:AJ:38:ILE:HG13	17:AJ:71:LEU:HB3	1.91	0.51
18:AM:15:VAL:HA	18:AM:18:ALA:HB3	1.93	0.51
18:AM:96:LEU:C	18:AM:110:ARG:HE	2.14	0.51
29:B1:87:PRO:CD	29:B1:88:LYS:H	2.24	0.51
34:B6:28:ARG:HG2	34:B6:28:ARG:NH1	2.23	0.51
38:BA:27:G:H22	38:BA:512:G:C2'	2.16	0.51
38:BA:256:A:H2'	38:BA:257:A:C8	2.46	0.51
38:BA:1049:C:H2'	38:BA:1050:A:C8	2.43	0.51
38:BA:1059:G:C8	38:BA:1059:G:H3'	2.46	0.51
38:BA:1354:A:H2'	38:BA:1355:G:O4'	2.11	0.51
38:BA:1523:U:H2'	38:BA:1524:G:C8	2.46	0.51
38:BA:1665:A:H2'	38:BA:1666:G:C5'	2.41	0.51
38:BA:1880:C:H6	38:BA:1880:C:H5'	1.75	0.51
38:BA:1924:C:O2'	38:BA:1925:C:H5'	2.11	0.51
38:BA:2687:U:C2'	38:BA:2688:U:H5'	2.41	0.51
38:BA:2884:U:H2'	38:BA:2885:C:C5'	2.38	0.51
40:BC:46:LYS:HB2	40:BC:208:PHE:O	2.11	0.51
45:BH:130:ARG:O	45:BH:131:VAL:HG23	2.11	0.51
55:BU:69:CYS:HB3	55:BU:106:PHE:CZ	2.45	0.51
56:BV:96:ILE:HG22	56:BV:97:LYS:N	2.25	0.51
59:BY:14:LEU:HD12	59:BY:15:VAL:N	2.25	0.51
1:AA:102:G:O2'	1:AA:103:C:H5'	2.11	0.51
1:AA:695:A:H2'	1:AA:696:A:C8	2.45	0.51
1:AA:777:A:H2'	1:AA:778:G:C8	2.46	0.51
1:AA:818:G:C3'	1:AA:819:A:H5''	2.39	0.51
1:AA:1078:U:H2'	1:AA:1079:G:O4'	2.10	0.51
1:AA:1508:G:H2'	1:AA:1509:C:C6	2.46	0.51
4:AE:150:ARG:HB2	4:AE:150:ARG:NH1	2.26	0.51
5:AF:10:LEU:N	5:AF:10:LEU:CD1	2.68	0.51
8:AL:41:ARG:HG2	8:AL:42:THR:N	2.26	0.51
12:AR:40:LEU:O	12:AR:43:PHE:HD1	1.93	0.51
18:AM:13:LYS:O	18:AM:44:ARG:HA	2.12	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AS:53:ASN:HD21	20:AS:55:LYS:HB3	1.76	0.51
30:B2:48:HIS:O	30:B2:49:LYS:HG2	2.11	0.51
31:B3:46:ASN:ND2	38:BA:851:U:H5'	2.26	0.51
38:BA:320:A:C5	43:BF:136:THR:HG21	2.46	0.51
38:BA:365:C:H2'	38:BA:366:C:O4'	2.10	0.51
38:BA:635:C:H2'	38:BA:636:G:C8	2.45	0.51
38:BA:1243:G:O2'	50:BP:9:ASN:HA	2.11	0.51
38:BA:1268:A:H2'	38:BA:1269:A:O4'	2.11	0.51
38:BA:1434:A:H61	38:BA:1558:A:N6	2.05	0.51
38:BA:2289:G:C2'	38:BA:2290:G:H5''	2.41	0.51
38:BA:2472:G:H2'	38:BA:2529:G:H21	1.75	0.51
38:BA:2599:G:C8	41:BD:236:GLY:CA	2.90	0.51
38:BA:2855:C:O2'	38:BA:2856:C:H5'	2.10	0.51
38:BA:2894:G:H2'	38:BA:2894:G:N3	2.26	0.51
43:BF:3:GLU:HA	43:BF:24:LEU:HG	1.93	0.51
46:BI:120:ILE:HG22	46:BI:121:LYS:N	2.26	0.51
47:BL:9:LYS:HG2	47:BL:56:GLU:CG	2.41	0.51
51:BQ:16:ARG:HB2	51:BQ:16:ARG:HH11	1.76	0.51
54:BT:46:GLU:O	54:BT:65:LYS:HB2	2.11	0.51
55:BU:31:SER:C	55:BU:33:ARG:N	2.62	0.51
56:BV:19:LYS:HE2	56:BV:19:LYS:HA	1.93	0.51
58:BX:76:ARG:O	58:BX:76:ARG:HD3	2.11	0.51
1:AA:227:G:H2'	1:AA:228:A:H8	1.76	0.50
1:AA:255:G:H2'	1:AA:256:U:C6	2.46	0.50
1:AA:291:C:O2'	1:AA:292:G:H5'	2.10	0.50
1:AA:390:C:H6	1:AA:390:C:O5'	1.93	0.50
1:AA:958:A:C8	20:AS:55:LYS:HD3	2.46	0.50
1:AA:1443:G:H22	1:AA:1460:A:H1'	1.76	0.50
1:AA:1501:C:OP2	1:AA:1504:G:H2'	2.11	0.50
3:AD:4:TYR:O	3:AD:5:ILE:CB	2.55	0.50
7:AK:15:ALA:HA	7:AK:77:MET:HA	1.92	0.50
9:AO:56:LEU:HG	9:AO:60:VAL:CG2	2.41	0.50
11:AQ:44:ALA:HB1	11:AQ:73:VAL:HG22	1.92	0.50
13:AT:75:ASN:O	13:AT:76:ALA:C	2.49	0.50
14:AC:35:GLU:O	14:AC:39:ILE:HG13	2.10	0.50
14:AC:113:ALA:O	14:AC:115:LEU:N	2.44	0.50
16:AI:41:VAL:O	16:AI:41:VAL:HG12	2.11	0.50
16:AI:88:TYR:O	16:AI:89:ASN:CG	2.50	0.50
16:AI:113:LYS:H	16:AI:113:LYS:CD	2.24	0.50
17:AJ:4:ILE:CB	17:AJ:74:ILE:HD11	2.25	0.50
25:AY:69:U:H2'	25:AY:70:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B1:9:GLY:O	29:B1:10:LYS:CB	2.59	0.50
33:B5:35:GLU:HB2	33:B5:49:CYS:SG	2.51	0.50
35:B7:31:LEU:O	35:B7:32:LYS:C	2.48	0.50
37:B9:16:VAL:HG11	37:B9:18:ARG:HE	1.76	0.50
38:BA:84:A:H5''	59:BY:9:LYS:NZ	2.25	0.50
38:BA:201:C:H2'	38:BA:202:U:H5'	1.94	0.50
38:BA:1051:G:C2'	38:BA:1052:C:H5'	2.40	0.50
38:BA:1225:G:OP1	56:BV:88:ARG:HB2	2.11	0.50
38:BA:1331:A:O2'	38:BA:1332:G:H5''	2.10	0.50
38:BA:1744:C:O2'	38:BA:1745:C:H5'	2.10	0.50
38:BA:1876:A:H2'	38:BA:1877:A:C8	2.46	0.50
38:BA:2107:C:H42	38:BA:2182:G:H1	1.59	0.50
38:BA:2127:G:H2'	38:BA:2127:G:N3	2.26	0.50
38:BA:2135:A:OP2	38:BA:2136:C:H5	1.94	0.50
38:BA:2201:C:H2'	38:BA:2202:C:C6	2.46	0.50
38:BA:2467:C:H2'	38:BA:2468:G:O4'	2.10	0.50
39:BB:106:G:C2	39:BB:107:G:C8	2.99	0.50
41:BD:43:ARG:NH1	41:BD:49:ILE:HG22	2.27	0.50
42:BE:56:PRO:O	42:BE:58:ARG:N	2.44	0.50
43:BF:68:LYS:O	43:BF:68:LYS:HG3	2.10	0.50
44:BG:21:ARG:HG2	44:BG:22:ARG:N	2.26	0.50
44:BG:115:ARG:CZ	44:BG:136:ARG:HG3	2.41	0.50
45:BH:18:GLU:HB2	45:BH:25:LYS:HB2	1.92	0.50
46:BI:110:ASP:HB2	46:BI:113:ARG:CB	2.31	0.50
46:BI:115:ALA:CB	46:BI:131:LYS:HE3	2.36	0.50
48:BN:26:LEU:HG	48:BN:30:ILE:HD11	1.93	0.50
48:BN:42:TRP:HE3	48:BN:48:MET:HE1	1.76	0.50
50:BP:65:ARG:HH11	50:BP:65:ARG:CB	2.24	0.50
51:BQ:140:ALA:O	60:BZ:53:ILE:HD12	2.11	0.50
53:BS:89:ARG:O	53:BS:92:TYR:CB	2.59	0.50
55:BU:8:VAL:HG12	55:BU:9:VAL:N	2.25	0.50
55:BU:15:LYS:HG3	55:BU:16:LYS:N	2.26	0.50
56:BV:26:ASP:C	56:BV:28:GLU:H	2.14	0.50
60:BZ:98:MET:O	60:BZ:125:LEU:HA	2.11	0.50
1:AA:389:A:H2'	1:AA:390:C:O4'	2.10	0.50
1:AA:430:A:O2'	1:AA:431:A:H5'	2.10	0.50
1:AA:791:G:C6	1:AA:792:A:N7	2.80	0.50
1:AA:1188:A:C2'	1:AA:1189:C:H5'	2.41	0.50
1:AA:1325:C:O2	1:AA:1325:C:H2'	2.11	0.50
1:AA:1436:U:H2'	1:AA:1437:C:H6	1.76	0.50
2:AB:168:THR:HG21	2:AB:192:SER:HA	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:28:SER:HB3	3:AD:29:PRO:HD2	1.94	0.50
6:AH:109:ILE:CG1	6:AH:110:ALA:N	2.74	0.50
6:AH:137:VAL:HG12	6:AH:138:TRP:H	1.76	0.50
9:AO:67:LEU:HD22	9:AO:78:TYR:HE1	1.76	0.50
9:AO:69:TYR:CE2	9:AO:73:GLU:HG3	2.46	0.50
15:AG:72:ARG:O	15:AG:73:MET:HG3	2.10	0.50
18:AM:19:LEU:HA	18:AM:22:ILE:CD1	2.40	0.50
18:AM:83:ASP:CG	18:AM:84:ILE:N	2.64	0.50
19:AN:36:PHE:HD1	19:AN:37:PHE:CD2	2.28	0.50
22:AV:13:C:H4'	38:BA:1924:C:C1'	2.41	0.50
22:AV:26:G:H1	22:AV:44:A:H61	1.58	0.50
30:B2:14:ARG:NE	30:B2:57:ILE:CB	2.74	0.50
38:BA:188:G:C6	38:BA:189:G:C4	3.00	0.50
38:BA:364:C:C2'	38:BA:365:C:H5''	2.40	0.50
38:BA:1102:C:O2	38:BA:1102:C:C2'	2.52	0.50
38:BA:1394:U:C4	38:BA:1395:A:C6	2.99	0.50
38:BA:2277:G:O2'	38:BA:2278:A:H5'	2.11	0.50
38:BA:2626:C:H2'	38:BA:2627:G:O4'	2.11	0.50
38:BA:2665:A:O2'	38:BA:2666:C:H5'	2.11	0.50
38:BA:2678:C:C2	38:BA:2679:A:C8	2.99	0.50
38:BA:2762:G:C3'	38:BA:2763:G:H5''	2.40	0.50
41:BD:94:LEU:HA	41:BD:104:TYR:HA	1.93	0.50
41:BD:147:LEU:HG	41:BD:183:ARG:HH12	1.76	0.50
42:BE:111:ARG:CD	42:BE:160:TYR:HE1	2.23	0.50
42:BE:176:ILE:HG22	42:BE:176:ILE:O	2.11	0.50
43:BF:200:GLU:O	43:BF:203:GLN:HB2	2.11	0.50
45:BH:13:LYS:HE2	45:BH:13:LYS:CA	2.31	0.50
45:BH:41:MET:HB3	45:BH:43:VAL:CG1	2.28	0.50
45:BH:85:LYS:HE3	45:BH:141:VAL:O	2.10	0.50
47:BL:58:THR:O	47:BL:65:PHE:HA	2.11	0.50
47:BL:119:ASP:HB3	47:BL:122:ALA:CB	2.41	0.50
53:BS:28:VAL:O	53:BS:89:ARG:HD2	2.11	0.50
54:BT:30:VAL:HG11	54:BT:84:GLN:HG2	1.94	0.50
57:BW:47:VAL:HA	57:BW:50:VAL:CG1	2.40	0.50
59:BY:81:LYS:CG	59:BY:96:ILE:HB	2.41	0.50
59:BY:81:LYS:HD2	59:BY:96:ILE:HB	1.92	0.50
60:BZ:8:TYR:N	60:BZ:8:TYR:CD1	2.79	0.50
1:AA:127:G:O2'	1:AA:128:G:H5'	2.11	0.50
1:AA:357:G:C2	1:AA:358:U:C5	2.99	0.50
1:AA:624:C:H2'	1:AA:625:G:H8	1.77	0.50
1:AA:940:C:H2'	1:AA:941:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1170:A:H2'	1:AA:1171:G:H5'	1.93	0.50
1:AA:1203:C:O2'	1:AA:1204:A:H5'	2.12	0.50
1:AA:1296:C:H5'	1:AA:1297:C:OP2	2.11	0.50
2:AB:24:TRP:CZ3	2:AB:26:PRO:HA	2.47	0.50
2:AB:61:LEU:HA	2:AB:64:ARG:HG2	1.94	0.50
2:AB:130:ARG:HA	2:AB:130:ARG:HE	1.76	0.50
6:AH:101:PRO:HG2	6:AH:133:LEU:HD11	1.93	0.50
12:AR:29:PHE:CD1	12:AR:29:PHE:O	2.65	0.50
12:AR:74:ARG:HE	12:AR:81:PHE:HA	1.76	0.50
13:AT:94:ALA:O	13:AT:95:ALA:CB	2.58	0.50
14:AC:66:VAL:HG11	14:AC:91:LEU:CD1	2.40	0.50
17:AJ:39:PRO:CA	17:AJ:70:ARG:NH1	2.74	0.50
21:AU:9:ARG:NH1	21:AU:22:ARG:HA	2.25	0.50
25:AY:8:U:H4'	25:AY:48:C:O4'	2.12	0.50
25:AY:33:U:O2'	25:AY:35:A:C8	2.62	0.50
25:AY:73:A:O3'	25:AY:74:C:H5'	2.11	0.50
30:B2:35:LEU:HD23	30:B2:35:LEU:N	2.26	0.50
31:B3:38:GLU:O	31:B3:40:THR:HG23	2.10	0.50
31:B3:54:VAL:CG1	31:B3:55:ARG:N	2.72	0.50
38:BA:686:G:H21	38:BA:788:A:H61	1.59	0.50
38:BA:954:G:H5'	51:BQ:13:GLN:HG2	1.93	0.50
38:BA:1005:C:H2'	38:BA:1006:C:C6	2.46	0.50
38:BA:1341:U:N1	58:BX:77:LYS:HE2	2.25	0.50
38:BA:1573:G:C2'	38:BA:1574:C:H5'	2.41	0.50
38:BA:1718:G:H5'	38:BA:1718:G:H8	1.76	0.50
38:BA:2133:G:OP2	38:BA:2133:G:O4'	2.29	0.50
38:BA:2230:G:H2'	38:BA:2231:C:C6	2.44	0.50
38:BA:2555:U:H2'	38:BA:2556:C:C5'	2.39	0.50
38:BA:2735:G:C2'	38:BA:2736:G:C5'	2.89	0.50
38:BA:2872:G:C2	38:BA:2873:A:N6	2.79	0.50
41:BD:35:LYS:CG	41:BD:64:ILE:H	2.15	0.50
42:BE:109:LYS:CB	52:BR:2:ARG:NH1	2.72	0.50
42:BE:117:MET:HE1	42:BE:124:GLY:HA3	1.93	0.50
43:BF:57:VAL:HG12	43:BF:58:ALA:H	1.73	0.50
43:BF:169:ASN:O	43:BF:169:ASN:OD1	2.30	0.50
44:BG:81:LYS:O	44:BG:82:LEU:O	2.29	0.50
44:BG:111:LEU:O	44:BG:114:ILE:HG12	2.11	0.50
47:BL:23:VAL:HG12	47:BL:34:ILE:CA	2.37	0.50
47:BL:106:GLU:CA	47:BL:109:LYS:HE3	2.37	0.50
49:BO:103:ALA:HB1	49:BO:105:GLU:CD	2.32	0.50
50:BP:61:ARG:HD2	50:BP:61:ARG:H	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BQ:82:ARG:O	51:BQ:83:MET:CB	2.58	0.50
52:BR:3:HIS:O	52:BR:4:LEU:HB3	2.12	0.50
53:BS:24:LEU:CB	53:BS:85:VAL:HG12	2.41	0.50
54:BT:72:VAL:HG12	54:BT:73:GLU:N	2.25	0.50
55:BU:83:LEU:CB	55:BU:88:ILE:HG12	2.41	0.50
55:BU:95:LEU:O	55:BU:98:LEU:HG	2.10	0.50
56:BV:44:LYS:C	56:BV:46:VAL:H	2.14	0.50
59:BY:96:ILE:HG13	59:BY:99:CYS:HB2	1.93	0.50
1:AA:166:G:O2'	1:AA:167:G:H5'	2.12	0.50
1:AA:310:G:O2'	1:AA:311:C:H5'	2.12	0.50
1:AA:714:G:H2'	1:AA:715:A:C8	2.47	0.50
1:AA:951:G:OP2	18:AM:102:ARG:CZ	2.60	0.50
1:AA:1072:G:H2'	1:AA:1073:U:H6	1.76	0.50
1:AA:1499:A:H1'	1:AA:1520:G:H5'	1.92	0.50
1:AA:1525:G:O2'	1:AA:1526:G:H5'	2.11	0.50
3:AD:60:GLU:O	3:AD:63:LYS:HB3	2.10	0.50
4:AE:50:GLU:HG2	14:AC:131:ARG:HD3	1.93	0.50
7:AK:72:ALA:O	7:AK:77:MET:HB2	2.11	0.50
8:AL:89:ARG:HA	8:AL:97:ARG:HA	1.92	0.50
9:AO:37:ASN:O	9:AO:40:SER:HB3	2.11	0.50
14:AC:172:ARG:HH12	14:AC:174:PRO:CG	2.24	0.50
15:AG:25:ALA:O	15:AG:28:ASN:HB2	2.10	0.50
15:AG:102:ARG:HG2	15:AG:106:GLN:NE2	2.23	0.50
18:AM:68:GLY:O	18:AM:69:GLU:HB2	2.11	0.50
18:AM:75:ALA:HB1	18:AM:79:LYS:HE3	1.91	0.50
19:AN:29:ARG:HH11	19:AN:29:ARG:HG3	1.76	0.50
20:AS:10:PHE:CZ	20:AS:70:LYS:HE2	2.45	0.50
20:AS:16:LEU:HA	20:AS:19:VAL:HB	1.93	0.50
28:B0:31:VAL:HB	28:B0:35:ASN:HD22	1.75	0.50
29:B1:30:VAL:O	29:B1:30:VAL:HG12	2.11	0.50
38:BA:554:U:O2'	38:BA:555:U:H5'	2.11	0.50
38:BA:1088:A:C2'	38:BA:1089:G:OP1	2.60	0.50
38:BA:1278:A:OP1	52:BR:36:THR:HG22	2.10	0.50
38:BA:1713:U:O2	38:BA:1747:G:C2	2.64	0.50
38:BA:2133:G:C2'	38:BA:2157:G:N2	2.72	0.50
38:BA:2144:U:H2'	38:BA:2145:C:O5'	2.11	0.50
42:BE:63:LEU:O	42:BE:65:GLY:N	2.44	0.50
43:BF:39:TRP:CD1	43:BF:101:LEU:HB2	2.47	0.50
43:BF:107:LYS:O	43:BF:110:LEU:N	2.45	0.50
43:BF:153:SER:OG	43:BF:190:GLU:N	2.42	0.50
47:BL:98:ARG:HD3	47:BL:139:VAL:CB	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:34:LEU:HD21	48:BN:120:LEU:HD23	1.94	0.50
49:BO:10:VAL:HG23	49:BO:10:VAL:O	2.11	0.50
53:BS:42:ASP:O	53:BS:43:GLU:HB2	2.11	0.50
54:BT:33:LYS:HZ3	54:BT:33:LYS:H	1.58	0.50
56:BV:2:PHE:HB3	56:BV:42:GLY:CA	2.39	0.50
59:BY:75:ILE:HD12	59:BY:76:CYS:O	2.11	0.50
60:BZ:127:LYS:HD3	60:BZ:162:GLU:OE1	2.11	0.50
60:BZ:166:SER:HB2	60:BZ:167:PRO:CA	2.42	0.50
1:AA:544:G:H2'	1:AA:545:C:C6	2.47	0.50
1:AA:625:G:C4	1:AA:626:U:C5	2.99	0.50
1:AA:881:G:OP2	8:AL:12:ARG:NH2	2.45	0.50
1:AA:1096:C:H2'	1:AA:1097:C:H6	1.77	0.50
1:AA:1168:A:H2'	1:AA:1169:A:H8	1.76	0.50
2:AB:97:TRP:CH2	2:AB:176:GLU:OE2	2.65	0.50
2:AB:178:ARG:NH2	2:AB:196:LEU:HA	2.26	0.50
4:AE:33:VAL:HG11	4:AE:109:ILE:HA	1.93	0.50
6:AH:6:ILE:HG12	6:AH:31:PHE:HE2	1.75	0.50
6:AH:29:SER:HB3	6:AH:32:LYS:CD	2.36	0.50
6:AH:36:LEU:O	6:AH:37:ARG:C	2.49	0.50
9:AO:25:THR:O	9:AO:26:GLU:C	2.49	0.50
9:AO:43:LEU:C	9:AO:45:VAL:H	2.15	0.50
9:AO:75:PRO:HG2	9:AO:76:GLU:H	1.76	0.50
9:AO:82:ILE:HD11	9:AO:87:ILE:C	2.31	0.50
10:AP:22:THR:CG2	10:AP:32:TYR:HA	2.38	0.50
12:AR:31:LEU:H	12:AR:31:LEU:CD2	2.25	0.50
16:AI:4:TYR:HA	16:AI:88:TYR:CE1	2.47	0.50
16:AI:114:TYR:N	16:AI:114:TYR:HD2	2.09	0.50
18:AM:75:ALA:O	18:AM:78:ILE:N	2.45	0.50
35:B7:27:GLY:O	35:B7:30:VAL:HB	2.11	0.50
38:BA:318:C:H2'	38:BA:319:C:H6	1.76	0.50
38:BA:493:G:N2	38:BA:494:G:H1'	2.26	0.50
38:BA:709:U:H2'	38:BA:710:G:H8	1.76	0.50
38:BA:1056:G:N2	38:BA:1102:C:C5	2.79	0.50
38:BA:1131:G:OP2	38:BA:2515:C:H4'	2.11	0.50
38:BA:1509:C:OP1	38:BA:1509:C:H4'	2.12	0.50
38:BA:1990:C:H2'	38:BA:1991:U:O4'	2.11	0.50
38:BA:2155:G:C6	38:BA:2156:G:C4	3.00	0.50
38:BA:2340:G:O2'	38:BA:2341:G:H5'	2.10	0.50
38:BA:2348:U:O2'	38:BA:2349:G:H5''	2.11	0.50
41:BD:12:SER:HB2	41:BD:208:LYS:HB3	1.93	0.50
42:BE:182:LEU:O	42:BE:183:LEU:HD12	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BF:4:VAL:HA	43:BF:18:ARG:O	2.12	0.50
43:BF:52:LYS:HB3	43:BF:56:GLU:HB3	1.94	0.50
44:BG:34:LEU:HD22	44:BG:35:GLU:N	2.27	0.50
46:BI:124:GLY:O	46:BI:142:VAL:HG23	2.12	0.50
47:BL:79:ARG:CD	47:BL:134:MET:HE3	2.42	0.50
50:BP:112:LEU:HD22	50:BP:113:LYS:N	2.27	0.50
51:BQ:47:ILE:HD12	51:BQ:47:ILE:N	2.25	0.50
52:BR:4:LEU:O	52:BR:4:LEU:HD22	2.11	0.50
53:BS:101:LEU:HD22	53:BS:102:ALA:N	2.21	0.50
55:BU:34:LYS:HA	55:BU:34:LYS:CE	2.32	0.50
58:BX:14:SER:O	58:BX:17:ALA:HB3	2.12	0.50
58:BX:83:VAL:O	58:BX:84:ALA:CB	2.59	0.50
1:AA:243:A:O2'	1:AA:244:U:OP2	2.28	0.50
1:AA:597:G:H2'	1:AA:598:U:H5'	1.93	0.50
1:AA:782:A:H2'	1:AA:783:C:C5'	2.42	0.50
1:AA:928:G:P	23:AX:13:A:H61	2.34	0.50
1:AA:1372:U:O2'	1:AA:1373:G:H5'	2.12	0.50
1:AA:1429:C:O3'	38:BA:1704:G:H4'	2.12	0.50
1:AA:1429:C:HO2'	38:BA:1704:G:H5'	1.73	0.50
1:AA:1493:A:H2	26:A0:100:U:C2	2.13	0.50
2:AB:84:GLU:HB3	2:AB:219:VAL:CG2	2.38	0.50
2:AB:124:SER:OG	2:AB:125:PRO:HD2	2.10	0.50
3:AD:11:LEU:O	3:AD:12:CYS:C	2.49	0.50
4:AE:32:VAL:HG12	4:AE:33:VAL:N	2.27	0.50
4:AE:147:ASP:HA	4:AE:150:ARG:CB	2.41	0.50
6:AH:86:ILE:CB	6:AH:133:LEU:HD22	2.41	0.50
7:AK:58:PRO:O	7:AK:61:ALA:HB3	2.12	0.50
9:AO:39:LEU:C	9:AO:39:LEU:HD13	2.32	0.50
10:AP:20:VAL:HG22	10:AP:21:VAL:H	1.76	0.50
13:AT:89:ARG:HB2	13:AT:104:LEU:CD1	2.40	0.50
17:AJ:72:VAL:O	17:AJ:73:ASP:OD1	2.30	0.50
29:B1:41:ARG:NH1	29:B1:41:ARG:HG3	2.27	0.50
29:B1:54:ALA:O	29:B1:56:GLN:N	2.44	0.50
30:B2:41:ILE:CG1	38:BA:94(A):G:H22	2.25	0.50
34:B6:13:CYS:HB3	34:B6:49:HIS:HB3	1.93	0.50
34:B6:20:ASN:HD22	34:B6:21:TYR:N	2.04	0.50
36:B8:2:PRO:O	36:B8:3:LYS:O	2.29	0.50
38:BA:670:A:H4'	38:BA:671:C:OP1	2.11	0.50
38:BA:1020:A:N1	38:BA:1141:U:H1'	2.27	0.50
38:BA:1112:G:C1'	38:BA:1113:U:OP1	2.57	0.50
38:BA:1158:C:O2'	38:BA:1159:U:H5''	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1603:A:H5'	38:BA:1603:A:C8	2.46	0.50
38:BA:1708:C:O2'	38:BA:1709:U:H5'	2.12	0.50
38:BA:2118:U:C5	38:BA:2149:G:H4'	2.47	0.50
38:BA:2155:G:N7	38:BA:2156:G:C5	2.80	0.50
38:BA:2545:G:N3	38:BA:2565:A:H2	2.09	0.50
38:BA:2696:U:H2'	38:BA:2697:G:C8	2.45	0.50
39:BB:4:C:H2'	39:BB:5:C:C6	2.47	0.50
41:BD:243:GLY:O	41:BD:244:ARG:HB3	2.12	0.50
41:BD:255:LYS:H	41:BD:255:LYS:CE	2.20	0.50
42:BE:69:LYS:HE2	42:BE:69:LYS:N	2.27	0.50
42:BE:142:GLY:C	42:BE:143:ASN:HD22	2.15	0.50
46:BI:25:TYR:CE2	46:BI:29:TYR:CD2	3.00	0.50
46:BI:123:LEU:CD2	46:BI:142:VAL:HB	2.41	0.50
48:BN:65:LYS:HA	48:BN:65:LYS:CE	2.13	0.50
48:BN:96:GLU:HG2	48:BN:97:ARG:N	2.25	0.50
54:BT:6:LEU:HD23	54:BT:6:LEU:C	2.32	0.50
59:BY:81:LYS:HE2	59:BY:97:ARG:CG	2.41	0.50
1:AA:89:C:H3'	1:AA:90:U:C5'	2.42	0.50
1:AA:1216:G:O2'	1:AA:1217:C:H5'	2.11	0.50
2:AB:187:LEU:HD13	2:AB:187:LEU:O	2.11	0.50
3:AD:57:ARG:NH2	4:AE:107:ARG:HH11	2.10	0.50
6:AH:86:ILE:HG22	6:AH:87:SER:N	2.27	0.50
6:AH:122:ARG:HH11	6:AH:122:ARG:CB	2.23	0.50
10:AP:43:LYS:HG3	10:AP:48:TRP:CD2	2.47	0.50
10:AP:43:LYS:HG3	10:AP:48:TRP:CG	2.46	0.50
15:AG:23:VAL:HG12	15:AG:27:ILE:HD11	1.93	0.50
22:AV:52:G:N3	22:AV:53:G:C8	2.80	0.50
30:B2:33:MET:CG	58:BX:11:PRO:HD2	2.38	0.50
36:B8:14:VAL:CG1	36:B8:22:VAL:HG13	2.36	0.50
38:BA:244:A:C2	38:BA:255:A:C4	2.99	0.50
38:BA:415:A:C2	38:BA:2409:G:C2	2.99	0.50
38:BA:468:G:H2'	38:BA:469:G:O4'	2.12	0.50
38:BA:583:G:OP2	55:BU:10:ARG:NH1	2.45	0.50
38:BA:587:C:O2'	38:BA:588:U:OP2	2.22	0.50
38:BA:614(A):U:H4'	38:BA:614(B):G:H5''	1.93	0.50
38:BA:756:C:C2'	38:BA:757:U:H5'	2.42	0.50
38:BA:1076:C:O2'	47:BL:90:LYS:CD	2.50	0.50
38:BA:1593:G:H2'	38:BA:1594:G:C5'	2.42	0.50
38:BA:2031:A:C6	38:BA:2498:C:H1'	2.46	0.50
38:BA:2078:C:O2'	38:BA:2079:U:H5'	2.11	0.50
38:BA:2086:U:H2'	38:BA:2087:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2134:A:N6	38:BA:2157:G:C2'	2.72	0.50
38:BA:2348:U:C2'	38:BA:2349:G:C5'	2.75	0.50
38:BA:2580:U:H4'	42:BE:130:GLY:CA	2.41	0.50
38:BA:2632:A:O2'	42:BE:61:ARG:CZ	2.60	0.50
38:BA:2645:G:C3'	38:BA:2646:C:H5'	2.39	0.50
38:BA:2713:A:H3'	38:BA:2714:G:H5'	1.94	0.50
38:BA:2747:G:O6	38:BA:2754:U:H2'	2.12	0.50
38:BA:2873:A:N3	52:BR:6:SER:HB2	2.27	0.50
41:BD:14:ARG:HH11	41:BD:14:ARG:CG	2.21	0.50
43:BF:66:PRO:O	43:BF:67:GLN:CB	2.49	0.50
44:BG:39:ILE:HG12	44:BG:60:LEU:HD21	1.94	0.50
45:BH:88:LEU:O	45:BH:89:ILE:CG2	2.59	0.50
46:BI:88:ILE:CG2	46:BI:89:TYR:N	2.71	0.50
47:BL:77:LEU:HD12	47:BL:111:LYS:HE3	1.93	0.50
47:BL:94:GLU:O	47:BL:96:VAL:HG22	2.11	0.50
49:BO:46:ALA:H	49:BO:54:GLU:CG	2.23	0.50
49:BO:103:ALA:HB1	49:BO:105:GLU:OE1	2.11	0.50
50:BP:88:LEU:C	50:BP:90:ARG:H	2.15	0.50
52:BR:54:LEU:HD23	52:BR:66:VAL:CG2	2.41	0.50
53:BS:13:ARG:O	53:BS:14:VAL:C	2.50	0.50
54:BT:83:ILE:HG13	54:BT:84:GLN:HG2	1.94	0.50
55:BU:92:ARG:HB2	56:BV:11:GLN:HE21	1.73	0.50
56:BV:63:GLY:O	56:BV:64:HIS:CB	2.60	0.50
57:BW:26:GLY:HA2	57:BW:71:VAL:O	2.12	0.50
59:BY:77:PRO:O	59:BY:78:ALA:CB	2.60	0.50
1:AA:42:G:H2'	1:AA:43:C:C6	2.46	0.50
1:AA:826:C:H2'	1:AA:827:U:C6	2.47	0.50
1:AA:961:U:O2'	1:AA:962:C:H5'	2.12	0.50
2:AB:166:ASP:HB2	2:AB:205:ASP:OD2	2.11	0.50
3:AD:8:VAL:O	3:AD:11:LEU:HG	2.11	0.50
6:AH:39:LEU:O	6:AH:44:PHE:HB2	2.12	0.50
9:AO:57:LEU:O	9:AO:60:VAL:HB	2.12	0.50
12:AR:62:GLU:O	12:AR:65:ILE:HG13	2.12	0.50
16:AI:16:ARG:O	16:AI:63:ILE:HA	2.11	0.50
20:AS:42:PRO:O	20:AS:43:GLU:CB	2.60	0.50
20:AS:66:MET:HB2	20:AS:74:PHE:HZ	1.76	0.50
28:B0:84:LEU:N	28:B0:84:LEU:HD12	2.27	0.50
34:B6:14:THR:HG22	34:B6:51:GLU:O	2.12	0.50
36:B8:25:MET:HB2	50:BP:62:LEU:HD21	1.90	0.50
37:B9:33:LYS:HD2	38:BA:2527:C:C4'	2.09	0.50
38:BA:350:U:H2'	38:BA:351:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:524:U:H4'	38:BA:555:U:H4'	1.94	0.50
38:BA:660:G:H5'	43:BF:99:TYR:CE2	2.47	0.50
38:BA:1203:G:H3'	38:BA:1204:A:H5''	1.94	0.50
38:BA:2098:U:C2	38:BA:2099:U:C5	3.00	0.50
42:BE:119:ARG:HG2	42:BE:160:TYR:CB	2.42	0.50
42:BE:120:TRP:CD2	42:BE:155:LYS:HD3	2.47	0.50
45:BH:89:ILE:HG13	45:BH:129:THR:HA	1.93	0.50
46:BI:123:LEU:HD23	46:BI:142:VAL:HB	1.94	0.50
48:BN:15:LEU:HD21	48:BN:55:VAL:HG21	1.93	0.50
50:BP:85:LEU:HA	50:BP:88:LEU:HB3	1.93	0.50
50:BP:90:ARG:O	50:BP:90:ARG:HD3	2.11	0.50
53:BS:31:SER:OG	53:BS:32:LEU:N	2.39	0.50
56:BV:4:ILE:HG12	56:BV:13:ARG:CB	2.42	0.50
56:BV:15:GLU:CB	56:BV:16:PRO:CD	2.82	0.50
58:BX:30:VAL:HG12	58:BX:31:HIS:N	2.18	0.50
58:BX:53:LYS:H	58:BX:80:ILE:HG22	1.77	0.50
60:BZ:131:ARG:HG2	60:BZ:131:ARG:HH11	1.77	0.50
60:BZ:145:GLU:CG	60:BZ:146:ILE:N	2.68	0.50
1:AA:15:G:H4'	4:AE:24:ARG:HH12	1.77	0.50
1:AA:256:U:O2'	1:AA:257:G:H5'	2.12	0.50
1:AA:861:G:O2'	1:AA:862:C:H5'	2.11	0.50
1:AA:1040:U:O2'	1:AA:1041:A:H5'	2.12	0.50
1:AA:1473:A:H2'	1:AA:1474:G:C8	2.47	0.50
2:AB:102:LEU:H	2:AB:102:LEU:HD13	1.76	0.50
2:AB:107:THR:HG23	2:AB:110:GLN:OE1	2.12	0.50
2:AB:208:ILE:HA	2:AB:211:ILE:HD12	1.93	0.50
3:AD:110:PHE:CD2	3:AD:148:VAL:HG23	2.47	0.50
4:AE:41:VAL:HG13	4:AE:113:ALA:HA	1.93	0.50
4:AE:103:GLY:O	4:AE:106:PRO:HD2	2.12	0.50
8:AL:61:THR:OG1	8:AL:62:SER:N	2.44	0.50
8:AL:90:VAL:O	8:AL:92:ASP:N	2.45	0.50
13:AT:38:LYS:O	13:AT:41:ILE:HG13	2.12	0.50
17:AJ:70:ARG:CG	17:AJ:70:ARG:NH1	2.65	0.50
20:AS:52:TYR:HB2	20:AS:57:HIS:CE1	2.47	0.50
20:AS:62:ILE:HD12	20:AS:66:MET:SD	2.51	0.50
25:AY:30:G:O2'	25:AY:31:A:H5'	2.12	0.50
32:B4:12:ALA:O	44:BG:101:ILE:HD11	2.11	0.50
36:B8:32:LEU:HD23	36:B8:35:GLN:C	2.32	0.50
37:B9:31:LYS:N	38:BA:2528:U:OP1	2.45	0.50
38:BA:1080:C:O2'	47:BL:126:MET:CG	2.59	0.50
38:BA:1109:C:H5	38:BA:1110:G:C5	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1131:G:C2	38:BA:1132:A:C5	3.00	0.50
38:BA:1602:U:H3'	38:BA:1603:A:C5'	2.42	0.50
38:BA:2881:C:C2	38:BA:2882:A:C8	3.00	0.50
41:BD:159:ALA:H	41:BD:196:VAL:HG11	1.77	0.50
41:BD:183:ARG:HH11	41:BD:183:ARG:HG2	1.77	0.50
41:BD:231:HIS:CG	41:BD:232:PRO:HD2	2.46	0.50
42:BE:101:ARG:HD3	42:BE:169:ASN:HD22	1.77	0.50
44:BG:162:THR:HG22	44:BG:162:THR:O	2.11	0.50
48:BN:40:PRO:C	55:BU:64:ARG:NH2	2.65	0.50
48:BN:56:ASN:CG	48:BN:126:PRO:HD3	2.32	0.50
58:BX:67:GLY:C	58:BX:68:ARG:HG2	2.32	0.50
60:BZ:44:PHE:CE2	60:BZ:86:VAL:HG11	2.47	0.50
60:BZ:105:VAL:HG22	60:BZ:106:GLY:H	1.77	0.50
1:AA:192:U:O4'	13:AT:103:GLY:HA2	2.12	0.49
1:AA:245:C:O2	1:AA:283:C:N3	2.44	0.49
1:AA:555:C:H2'	1:AA:556:C:C6	2.47	0.49
1:AA:764:C:H2'	1:AA:765:G:O4'	2.12	0.49
1:AA:784:C:H2'	1:AA:785:G:H8	1.77	0.49
1:AA:893:C:H2'	1:AA:894:G:H8	1.76	0.49
1:AA:966:G:C1'	22:AV:34:C:H4'	2.42	0.49
1:AA:1321:C:H3'	1:AA:1322:C:H6	1.78	0.49
2:AB:23:ARG:HG3	2:AB:23:ARG:NH1	2.27	0.49
4:AE:68:GLU:O	4:AE:70:PRO:HD3	2.12	0.49
4:AE:71:LEU:HD11	4:AE:114:GLY:CA	2.40	0.49
8:AL:71:PRO:HD2	8:AL:102:ARG:HH11	1.78	0.49
9:AO:56:LEU:HD23	38:BA:715:G:C2	2.47	0.49
10:AP:17:TYR:N	10:AP:17:TYR:CD1	2.79	0.49
10:AP:26:ARG:HG2	10:AP:26:ARG:NH1	2.27	0.49
16:AI:19:LEU:HB3	16:AI:59:PHE:HD2	1.77	0.49
17:AJ:51:ARG:HE	17:AJ:61:GLU:HB2	1.77	0.49
18:AM:93:ARG:HA	18:AM:93:ARG:HE	1.76	0.49
29:B1:78:LYS:HZ1	29:B1:90:ILE:HA	1.76	0.49
31:B3:8:LEU:HD22	31:B3:9:VAL:N	2.26	0.49
37:B9:30:PRO:HD2	38:BA:2528:U:OP1	2.11	0.49
38:BA:528:A:C2	38:BA:2043:C:C4'	2.94	0.49
38:BA:1022:G:O2'	38:BA:1023:U:P	2.70	0.49
38:BA:1072:C:H42	38:BA:1100:C:N4	2.10	0.49
38:BA:1077:A:N6	38:BA:1089:G:OP2	2.45	0.49
38:BA:1131:G:H4'	48:BN:82:LEU:HG	1.94	0.49
38:BA:2392:A:H1'	50:BP:60:MET:HG2	1.93	0.49
38:BA:2522:U:H2'	38:BA:2523:G:H5''	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2777:G:C4'	38:BA:2778:A:H5'	2.41	0.49
38:BA:2804:C:H2'	38:BA:2805:G:C8	2.47	0.49
41:BD:211:ARG:O	41:BD:212:SER:C	2.50	0.49
42:BE:61:ARG:HG2	42:BE:62:PRO:HD3	1.93	0.49
42:BE:61:ARG:HG3	42:BE:62:PRO:HD3	1.93	0.49
46:BI:114:LEU:O	46:BI:115:ALA:HB3	2.11	0.49
47:BL:82:ALA:HB2	47:BL:99:ILE:HD11	1.94	0.49
48:BN:97:ARG:O	48:BN:98:VAL:C	2.50	0.49
49:BO:1:MET:HB2	49:BO:32:TYR:HD2	1.76	0.49
52:BR:21:TYR:O	52:BR:22:ARG:C	2.50	0.49
52:BR:84:ALA:N	52:BR:85:PRO:CD	2.74	0.49
58:BX:67:GLY:O	58:BX:68:ARG:HG2	2.12	0.49
1:AA:374:A:O2'	1:AA:375:U:H5'	2.12	0.49
1:AA:411:A:C6	1:AA:429:U:C5	2.99	0.49
1:AA:693:G:H1'	15:AG:82:GLY:CA	2.36	0.49
1:AA:959:A:H2	1:AA:1222:G:O4'	1.94	0.49
1:AA:1254:C:H2'	1:AA:1255:G:C8	2.47	0.49
1:AA:1433:A:C6	1:AA:1468:A:C4	3.00	0.49
2:AB:19:HIS:HE1	2:AB:206:ASP:HB2	1.77	0.49
2:AB:28:PHE:O	2:AB:28:PHE:CD1	2.65	0.49
2:AB:158:LEU:H	2:AB:158:LEU:CD1	2.20	0.49
5:AF:55:ASP:HB2	5:AF:86:ARG:NH1	2.20	0.49
5:AF:73:ASN:O	5:AF:74:ASP:C	2.49	0.49
6:AH:40:ALA:C	6:AH:42:GLU:H	2.15	0.49
14:AC:12:LEU:O	14:AC:16:ARG:O	2.30	0.49
16:AI:23:ASN:HB2	16:AI:60:ASP:OD1	2.12	0.49
20:AS:6:LYS:HD2	20:AS:6:LYS:N	2.25	0.49
30:B2:50:ILE:HD13	30:B2:50:ILE:H	1.76	0.49
33:B5:7:PRO:HB2	38:BA:2016:U:O2	2.11	0.49
38:BA:360:G:H2'	38:BA:361:G:C8	2.47	0.49
38:BA:811:U:C3'	50:BP:25:SER:O	2.58	0.49
38:BA:813:U:H2'	38:BA:814:C:C6	2.47	0.49
38:BA:826:U:OP1	38:BA:2428:G:H3'	2.12	0.49
38:BA:839:U:H1'	38:BA:1191:G:H1'	1.94	0.49
38:BA:1005:C:C2	38:BA:1143:A:C5	2.99	0.49
38:BA:1062:G:O2'	47:BL:75:SER:HB3	2.11	0.49
38:BA:1065:U:H1'	38:BA:1074:G:H22	1.77	0.49
38:BA:1072:C:O2'	38:BA:1093:G:N7	2.29	0.49
38:BA:1079:C:H2'	38:BA:1080:C:C5'	2.42	0.49
38:BA:1083:U:O2'	38:BA:1084:A:H5''	2.12	0.49
38:BA:1155:A:O3'	55:BU:55:ARG:NH1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1187:G:H8	38:BA:1187:G:O5'	1.95	0.49
38:BA:1350:C:O2'	38:BA:1351:C:H5'	2.12	0.49
38:BA:1569:A:O2'	41:BD:38:LYS:HE2	2.13	0.49
38:BA:2815:C:H2'	38:BA:2816:C:H6	1.76	0.49
40:BC:168:THR:CA	40:BC:173:ALA:HB2	2.31	0.49
42:BE:201:THR:CG2	42:BE:203:LYS:HB3	2.42	0.49
43:BF:41:LEU:HD23	43:BF:44:ARG:HD3	1.94	0.49
44:BG:6:ALA:O	44:BG:10:LYS:N	2.44	0.49
47:BL:42:ASN:O	47:BL:43:ALA:C	2.50	0.49
50:BP:101:VAL:HG23	50:BP:107:LYS:CA	2.35	0.49
50:BP:108:LYS:C	50:BP:110:TYR:N	2.63	0.49
51:BQ:137:TYR:O	51:BQ:138:ASP:CG	2.50	0.49
52:BR:38:VAL:CB	52:BR:39:PRO:HD3	2.28	0.49
55:BU:108:GLU:O	55:BU:112:ARG:HB2	2.12	0.49
56:BV:18:LEU:O	56:BV:19:LYS:HB2	2.12	0.49
56:BV:25:LEU:C	56:BV:27:ALA:H	2.16	0.49
56:BV:61:VAL:O	56:BV:62:LEU:HD23	2.12	0.49
58:BX:31:HIS:O	58:BX:32:PRO:C	2.50	0.49
59:BY:28:LYS:CA	59:BY:39:VAL:H	2.16	0.49
1:AA:227:G:H2'	1:AA:228:A:C8	2.48	0.49
1:AA:560:U:H4'	1:AA:561:U:C5'	2.43	0.49
1:AA:662:G:H2'	1:AA:663:A:H8	1.75	0.49
3:AD:112:VAL:O	3:AD:112:VAL:HG22	2.13	0.49
13:AT:84:LEU:HD13	13:AT:84:LEU:C	2.33	0.49
14:AC:95:THR:HG22	14:AC:97:LYS:H	1.77	0.49
20:AS:10:PHE:HZ	20:AS:70:LYS:CE	2.26	0.49
20:AS:51:VAL:O	20:AS:57:HIS:HA	2.11	0.49
24:AW:14:A:H2'	24:AW:14:A:N3	2.26	0.49
29:B1:47:GLN:OE1	29:B1:47:GLN:C	2.50	0.49
38:BA:422:A:C6	38:BA:423:A:C6	3.00	0.49
38:BA:941:A:H2'	38:BA:942:G:C8	2.47	0.49
38:BA:1057:A:N3	38:BA:1058:G:C8	2.80	0.49
38:BA:1081:U:C4'	47:BL:122:ALA:HB1	2.39	0.49
38:BA:1766:U:O2'	38:BA:1767:C:H5'	2.12	0.49
38:BA:2270:G:H3'	38:BA:2271:G:C8	2.47	0.49
38:BA:2287:A:C2	38:BA:2346:A:H2	2.30	0.49
38:BA:2861:G:O2'	38:BA:2862:G:H5'	2.12	0.49
41:BD:108:PRO:HB3	41:BD:143:HIS:CE1	2.47	0.49
41:BD:132:PRO:O	41:BD:133:LEU:C	2.49	0.49
42:BE:14:ILE:CG1	42:BE:21:VAL:HG23	2.42	0.49
43:BF:103:LYS:O	43:BF:105:VAL:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BF:110:LEU:O	43:BF:113:ALA:HB3	2.12	0.49
44:BG:115:ARG:NH1	44:BG:136:ARG:HG3	2.27	0.49
45:BH:65:HIS:C	45:BH:67:LEU:H	2.16	0.49
47:BL:72:PRO:CG	47:BL:77:LEU:HG	2.39	0.49
47:BL:121:GLU:CD	47:BL:125:ARG:NH2	2.65	0.49
48:BN:27:ALA:HA	48:BN:30:ILE:HD12	1.94	0.49
50:BP:96:THR:HB	50:BP:126:VAL:HB	1.94	0.49
50:BP:126:VAL:HG12	50:BP:127:ALA:N	2.26	0.49
51:BQ:104:PHE:HE1	51:BQ:125:LEU:HD11	1.77	0.49
52:BR:85:PRO:O	52:BR:87:TYR:N	2.45	0.49
53:BS:15:ARG:O	53:BS:17:ARG:O	2.29	0.49
54:BT:28:VAL:CG2	54:BT:47:GLY:N	2.59	0.49
54:BT:42:ILE:O	54:BT:43:GLN:C	2.50	0.49
56:BV:72:VAL:HA	56:BV:88:ARG:HH22	1.76	0.49
1:AA:158:G:O2'	1:AA:159:G:H5'	2.12	0.49
1:AA:385:C:O2'	1:AA:386:C:H5'	2.12	0.49
1:AA:640:A:O2'	1:AA:641:U:H5'	2.13	0.49
1:AA:832:C:O2'	1:AA:833:U:O5'	2.27	0.49
1:AA:1073:U:H2'	1:AA:1074:G:C8	2.45	0.49
2:AB:19:HIS:HD2	2:AB:189:ASP:OD2	1.95	0.49
3:AD:80:GLU:O	3:AD:83:SER:N	2.45	0.49
3:AD:138:TYR:C	3:AD:138:TYR:CD2	2.84	0.49
4:AE:75:THR:HA	4:AE:115:VAL:HG12	1.93	0.49
4:AE:139:LEU:C	4:AE:141:GLN:H	2.16	0.49
6:AH:6:ILE:H	6:AH:6:ILE:CD1	2.25	0.49
13:AT:73:HIS:O	13:AT:74:LYS:C	2.51	0.49
14:AC:174:PRO:HB2	14:AC:177:THR:HB	1.95	0.49
15:AG:147:ALA:C	15:AG:148:ASN:HD22	2.16	0.49
25:AY:11:C:C2'	25:AY:12:U:C5'	2.90	0.49
33:B5:2:ALA:N	38:BA:747:U:C4	2.80	0.49
37:B9:14:CYS:N	37:B9:27:CYS:CB	2.70	0.49
37:B9:34:GLN:O	37:B9:35:ARG:HG3	2.12	0.49
38:BA:615:G:H5'	43:BF:40:GLN:NE2	2.27	0.49
38:BA:680:G:H2'	38:BA:681:G:C8	2.46	0.49
38:BA:1086:A:C2'	38:BA:1087:G:OP1	2.60	0.49
38:BA:1767:C:O2'	38:BA:1768:U:H5'	2.12	0.49
38:BA:2639:A:C3'	38:BA:2640:G:H5''	2.43	0.49
38:BA:2855:C:H2'	38:BA:2856:C:C6	2.48	0.49
41:BD:30:GLU:HG3	41:BD:63:ARG:NE	2.28	0.49
41:BD:33:LEU:O	41:BD:35:LYS:N	2.46	0.49
44:BG:114:ILE:O	44:BG:115:ARG:C	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:102:ALA:HB2	45:BH:117:PRO:CD	2.41	0.49
51:BQ:141:GLN:N	60:BZ:53:ILE:O	2.46	0.49
55:BU:50:ARG:CZ	56:BV:75:PHE:CE2	2.96	0.49
55:BU:95:LEU:C	55:BU:97:ASP:N	2.63	0.49
56:BV:66:ARG:HD2	56:BV:67:GLY:N	2.26	0.49
56:BV:85:LYS:O	56:BV:87:HIS:N	2.39	0.49
58:BX:82:GLN:CD	58:BX:83:VAL:HG22	2.33	0.49
1:AA:586:C:O2'	1:AA:587:G:H5'	2.12	0.49
1:AA:1400:C:C4	22:AV:34:C:C4	3.01	0.49
2:AB:84:GLU:OE1	2:AB:216:SER:HA	2.12	0.49
3:AD:38:TYR:CD2	3:AD:45:GLN:HB3	2.48	0.49
3:AD:114:ARG:O	3:AD:117:ALA:HB3	2.13	0.49
4:AE:8:GLU:HA	4:AE:34:VAL:HG22	1.93	0.49
4:AE:57:LYS:O	4:AE:61:TYR:CD2	2.63	0.49
7:AK:52:GLY:H	7:AK:55:LYS:NZ	2.10	0.49
8:AL:52:LEU:O	8:AL:54:LYS:HD2	2.12	0.49
13:AT:81:LYS:C	13:AT:83:ARG:H	2.16	0.49
15:AG:30:ILE:HD13	15:AG:105:VAL:HG22	1.94	0.49
15:AG:132:GLY:H	15:AG:135:VAL:HG21	1.73	0.49
20:AS:42:PRO:O	20:AS:44:MET:SD	2.70	0.49
28:B0:56:ASP:CG	28:B0:58:THR:HG1	2.16	0.49
30:B2:52:ASP:C	30:B2:56:GLN:NE2	2.66	0.49
36:B8:13:ARG:NE	50:BP:61:ARG:NH1	2.61	0.49
37:B9:19:ARG:O	37:B9:20:HIS:C	2.51	0.49
38:BA:365:C:H6	38:BA:365:C:C5'	2.20	0.49
38:BA:1108:U:C2'	38:BA:1109:C:H5'	2.43	0.49
38:BA:1141:U:H2'	48:BN:63:THR:HG21	1.93	0.49
38:BA:2138:C:H2'	38:BA:2139:C:C6	2.48	0.49
38:BA:2247:A:O2'	38:BA:2248:C:H5'	2.13	0.49
38:BA:2720:U:C2	38:BA:2721:A:C8	3.00	0.49
38:BA:2723:C:H5''	52:BR:2:ARG:HD3	1.91	0.49
41:BD:8:PRO:C	41:BD:10:THR:H	2.15	0.49
42:BE:34:VAL:O	42:BE:34:VAL:HG23	2.13	0.49
42:BE:119:ARG:HH11	42:BE:160:TYR:HB2	1.78	0.49
42:BE:120:TRP:NE1	42:BE:155:LYS:HB3	2.28	0.49
43:BF:83:PHE:O	43:BF:85:GLY:N	2.44	0.49
46:BI:29:TYR:C	46:BI:32:PRO:HD2	2.33	0.49
47:BL:98:ARG:HA	47:BL:137:GLU:O	2.12	0.49
55:BU:93:LYS:HD3	55:BU:93:LYS:H	1.76	0.49
56:BV:18:LEU:C	56:BV:18:LEU:HD22	2.32	0.49
1:AA:545:C:O2'	1:AA:546:G:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:619:U:C2	3:AD:135:LEU:HD21	2.47	0.49
1:AA:636:U:H2'	1:AA:637:G:C8	2.47	0.49
1:AA:1001(A):G:O2'	1:AA:1002:G:H5'	2.13	0.49
1:AA:1060:C:C5	14:AC:2:GLY:HA3	2.48	0.49
1:AA:1163:C:H2'	1:AA:1164:G:H8	1.76	0.49
1:AA:1271:G:H2'	1:AA:1272:G:H8	1.78	0.49
1:AA:1400:C:H4'	23:AX:18:G:N7	2.28	0.49
3:AD:2:GLY:O	3:AD:4:TYR:N	2.45	0.49
5:AF:71:ARG:HA	5:AF:74:ASP:OD2	2.12	0.49
6:AH:137:VAL:O	6:AH:138:TRP:CB	2.61	0.49
7:AK:90:GLY:O	7:AK:94:ALA:HB2	2.12	0.49
13:AT:26:ASN:ND2	13:AT:26:ASN:H	2.10	0.49
27:AZ:268:THR:CG2	27:AZ:291:ARG:HB2	2.42	0.49
31:B3:23:LEU:H	31:B3:23:LEU:HD12	1.77	0.49
38:BA:85:G:O5'	59:BY:30:VAL:HB	2.12	0.49
38:BA:608:A:H3'	38:BA:609:A:H8	1.77	0.49
38:BA:1035:U:H2'	38:BA:1036:G:C8	2.48	0.49
38:BA:1115:G:H5'	38:BA:1115:G:H8	1.77	0.49
38:BA:1803:A:C2	38:BA:1822:G:N3	2.79	0.49
38:BA:2141:G:C5	38:BA:2142:C:C4	3.00	0.49
38:BA:2159:G:N3	38:BA:2160:G:C1'	2.74	0.49
38:BA:2189:U:H2'	38:BA:2190:G:H5''	1.95	0.49
38:BA:2200:C:H42	38:BA:2223:G:H1	1.61	0.49
38:BA:2240:C:O2'	38:BA:2241:A:H5'	2.12	0.49
38:BA:2313:C:H2'	38:BA:2314:C:C6	2.41	0.49
38:BA:2584:U:O2	38:BA:2584:U:O5'	2.30	0.49
38:BA:2807:G:H3'	38:BA:2808:U:H5''	1.94	0.49
41:BD:145:VAL:HG12	41:BD:146:GLU:N	2.27	0.49
43:BF:63:LYS:HE3	43:BF:67:GLN:HB2	1.94	0.49
44:BG:95:ARG:O	44:BG:96:ARG:C	2.51	0.49
47:BL:95:LYS:N	60:BZ:112:ARG:NH1	2.54	0.49
47:BL:102:GLU:O	47:BL:103:GLN:C	2.51	0.49
50:BP:50:ARG:CG	50:BP:51:PHE:N	2.75	0.49
51:BQ:39:PRO:CB	51:BQ:99:PRO:HD3	2.43	0.49
52:BR:5:LYS:H	52:BR:5:LYS:CD	2.24	0.49
54:BT:72:VAL:CG1	54:BT:73:GLU:N	2.75	0.49
56:BV:3:ALA:O	56:BV:13:ARG:HA	2.12	0.49
56:BV:69:LYS:CG	56:BV:70:ILE:N	2.73	0.49
57:BW:13:SER:O	57:BW:16:LYS:HB2	2.12	0.49
57:BW:48:ALA:O	57:BW:49:LYS:C	2.50	0.49
60:BZ:24:LEU:HD11	60:BZ:83:PRO:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:29:TYR:CZ	60:BZ:87:ASP:HB2	2.47	0.49
60:BZ:118:GLN:O	60:BZ:120:ILE:N	2.45	0.49
1:AA:109:A:H2'	1:AA:326:G:N2	2.28	0.49
1:AA:138:G:H2'	1:AA:139:G:C8	2.47	0.49
1:AA:151:A:C2'	1:AA:152:A:H5'	2.43	0.49
1:AA:709:G:H2'	1:AA:710:G:H8	1.77	0.49
1:AA:814:A:H2'	1:AA:816:A:H5''	1.95	0.49
1:AA:927:G:C6	1:AA:1391:U:C2	3.00	0.49
1:AA:927:G:C2	1:AA:1391:U:H1'	2.48	0.49
1:AA:945:G:H2'	1:AA:945:G:N3	2.26	0.49
1:AA:1305:G:OP1	21:AU:2:GLY:HA3	2.13	0.49
3:AD:30:LYS:C	3:AD:32:ALA:N	2.66	0.49
3:AD:147:ALA:HB2	3:AD:182:LYS:HB2	1.94	0.49
4:AE:107:ARG:O	4:AE:110:LEU:N	2.45	0.49
10:AP:39:TYR:CZ	10:AP:41:PRO:HB3	2.46	0.49
15:AG:140:ASP:OD1	24:AW:41:C:O2'	2.21	0.49
17:AJ:45:ARG:HG3	17:AJ:45:ARG:NH1	2.28	0.49
18:AM:9:ILE:CD1	44:BG:146:TYR:CE1	2.93	0.49
25:AY:64:A:C4'	27:AZ:392:GLY:H	2.25	0.49
38:BA:118:A:H5'	38:BA:119:A:H8	1.77	0.49
38:BA:624:C:O2	38:BA:657:U:H4'	2.12	0.49
38:BA:863:A:OP1	51:BQ:21:THR:HB	2.12	0.49
38:BA:1024:G:H8	38:BA:1024:G:O5'	1.96	0.49
38:BA:1055:G:N3	38:BA:1084:A:C2	2.80	0.49
38:BA:2066:C:O2'	38:BA:2067:G:H5'	2.12	0.49
38:BA:2164:C:H5''	38:BA:2165:G:N7	2.28	0.49
38:BA:2184:G:H2'	38:BA:2185:C:H6	1.77	0.49
38:BA:2347:C:H2'	38:BA:2348:U:C6	2.48	0.49
38:BA:2759:G:O2'	38:BA:2760:C:H5'	2.13	0.49
39:BB:7:G:H4'	53:BS:29:PHE:CD1	2.48	0.49
43:BF:7:TYR:HE1	43:BF:196:LEU:HD11	1.78	0.49
46:BI:79:ILE:HG13	46:BI:140:LEU:HD21	1.94	0.49
46:BI:88:ILE:CG2	46:BI:89:TYR:H	2.19	0.49
46:BI:94:ALA:O	46:BI:98:ALA:N	2.46	0.49
47:BL:52:ILE:HG13	47:BL:80:LYS:HZ1	1.78	0.49
51:BQ:39:PRO:CD	51:BQ:99:PRO:HD3	2.43	0.49
52:BR:96:ARG:HE	52:BR:117:VAL:HG23	1.77	0.49
53:BS:78:LEU:HD23	53:BS:82:ILE:O	2.13	0.49
53:BS:92:TYR:CG	53:BS:93:LYS:N	2.81	0.49
57:BW:1:MET:HG3	57:BW:2:GLU:N	2.28	0.49
58:BX:35:THR:O	58:BX:36:LYS:O	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:60:A:O3'	13:AT:10:LEU:HD21	2.12	0.49
1:AA:333:G:H4'	13:AT:16:HIS:CE1	2.48	0.49
1:AA:522:C:H2'	1:AA:523:A:C8	2.47	0.49
1:AA:600:C:O2'	1:AA:601:C:H5'	2.13	0.49
1:AA:692:U:H2'	1:AA:694:A:OP2	2.12	0.49
1:AA:759:A:H61	11:AQ:94:ASN:HD22	1.61	0.49
1:AA:1159:U:O4'	1:AA:1182:G:N2	2.45	0.49
2:AB:197:VAL:HG12	2:AB:200:ILE:HG12	1.94	0.49
3:AD:52:SER:C	3:AD:54:TYR:N	2.65	0.49
6:AH:40:ALA:C	6:AH:42:GLU:N	2.65	0.49
8:AL:55:VAL:HG12	8:AL:56:ALA:N	2.27	0.49
8:AL:102:ARG:CG	8:AL:102:ARG:NH1	2.73	0.49
9:AO:74:ASP:OD2	9:AO:77:ARG:HG2	2.12	0.49
16:AI:5:TYR:HB2	16:AI:18:PHE:CE2	2.48	0.49
16:AI:79:LEU:O	16:AI:79:LEU:HD13	2.13	0.49
18:AM:91:ARG:O	18:AM:95:GLY:N	2.45	0.49
29:B1:54:ALA:C	29:B1:56:GLN:N	2.63	0.49
30:B2:30:ARG:CG	30:B2:30:ARG:NH1	2.74	0.49
33:B5:43:HIS:CD2	38:BA:2815:C:O2'	2.63	0.49
38:BA:364:C:H2'	38:BA:365:C:C5'	2.42	0.49
38:BA:912:C:H2'	38:BA:913:U:H6	1.78	0.49
38:BA:1140:C:C1'	38:BA:1143:A:C2	2.96	0.49
38:BA:1403:C:C2'	38:BA:1404:C:O5'	2.61	0.49
38:BA:1697:G:H5''	38:BA:1698:A:H5''	1.95	0.49
38:BA:1993:U:H4'	42:BE:128:SER:HB3	1.95	0.49
38:BA:2133:G:H3'	38:BA:2157:G:H22	1.76	0.49
38:BA:2349:G:H5'	38:BA:2349:G:H8	1.78	0.49
38:BA:2529:G:OP2	38:BA:2530:A:H5''	2.12	0.49
38:BA:2693:A:H2'	38:BA:2694:G:C8	2.47	0.49
41:BD:210:GLY:O	41:BD:211:ARG:HB3	2.13	0.49
43:BF:176:LEU:HD21	43:BF:180:GLY:O	2.12	0.49
44:BG:13:GLU:O	44:BG:14:GLU:HB2	2.12	0.49
45:BH:158:HIS:NE2	45:BH:169:VAL:O	2.46	0.49
48:BN:33:LEU:HD23	48:BN:52:VAL:HG21	1.95	0.49
50:BP:14:LYS:O	50:BP:15:ARG:CB	2.60	0.49
50:BP:140:ALA:O	50:BP:141:ALA:HB2	2.12	0.49
52:BR:79:LEU:HA	52:BR:83:ILE:HB	1.95	0.49
52:BR:97:VAL:HA	52:BR:113:LEU:O	2.13	0.49
52:BR:97:VAL:CG2	52:BR:114:VAL:HG22	2.42	0.49
56:BV:2:PHE:CZ	56:BV:13:ARG:HD2	2.47	0.49
56:BV:79:VAL:O	56:BV:80:GLN:CB	2.59	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:99:TYR:HD2	60:BZ:99:TYR:N	2.10	0.49
1:AA:237:C:O2'	1:AA:238:G:H5'	2.12	0.49
1:AA:299:G:H2'	1:AA:300:A:C8	2.47	0.49
1:AA:501:C:O2'	1:AA:502:G:H5'	2.13	0.49
1:AA:664:G:P	12:AR:64:ARG:HH21	2.36	0.49
1:AA:925:G:H2'	1:AA:926:G:OP2	2.11	0.49
1:AA:1004:A:H2'	1:AA:1038:C:O2	2.12	0.49
1:AA:1181:G:O2'	1:AA:1182:G:H5'	2.13	0.49
1:AA:1267:C:O2	21:AU:20:LYS:HD2	2.12	0.49
1:AA:1442:G:H5'	1:AA:1442:G:N9	2.27	0.49
7:AK:33:THR:HB	7:AK:38:ASN:O	2.12	0.49
17:AJ:39:PRO:CB	17:AJ:70:ARG:HH12	2.26	0.49
18:AM:3:ARG:CZ	44:BG:146:TYR:CD1	2.94	0.49
20:AS:9:VAL:C	20:AS:11:VAL:H	2.16	0.49
27:AZ:220:PRO:O	27:AZ:244:ARG:HG3	2.13	0.49
35:B7:34:ARG:O	35:B7:35:ARG:C	2.52	0.49
38:BA:8:A:H2	38:BA:2896:C:N3	2.10	0.49
38:BA:493:G:O2'	57:BW:7:ALA:HA	2.12	0.49
38:BA:719:C:O2'	38:BA:720:C:H5'	2.13	0.49
38:BA:1071:G:H3'	38:BA:1072:C:H5'	1.95	0.49
38:BA:1107:G:H3'	38:BA:1107:G:C8	2.47	0.49
38:BA:2019:A:H2'	38:BA:2020:A:O5'	2.13	0.49
38:BA:2041:U:C2	38:BA:2042:A:C8	3.01	0.49
38:BA:2087:G:C2'	38:BA:2088:G:H5'	2.43	0.49
38:BA:2162:G:OP2	38:BA:2162:G:H3'	2.13	0.49
38:BA:2329:G:H2'	38:BA:2330:G:C8	2.48	0.49
38:BA:2408:U:H2'	38:BA:2409:G:H8	1.77	0.49
38:BA:2511:U:H5''	42:BE:123:ALA:CB	2.42	0.49
38:BA:2842:G:O2'	38:BA:2843:G:H5'	2.12	0.49
38:BA:2847:U:C2'	38:BA:2848:G:H5'	2.43	0.49
42:BE:54:GLN:O	42:BE:55:ASN:CG	2.50	0.49
45:BH:138:LYS:C	45:BH:140:LYS:N	2.65	0.49
45:BH:153:LYS:HG2	45:BH:154:PRO:N	2.28	0.49
45:BH:155:SER:C	45:BH:157:TYR:H	2.15	0.49
47:BL:65:PHE:O	47:BL:66:THR:HG23	2.12	0.49
47:BL:132:ARG:NH2	47:BL:138:VAL:HG11	2.16	0.49
47:BL:132:ARG:O	47:BL:133:SER:C	2.50	0.49
48:BN:112:LEU:O	48:BN:116:LEU:N	2.38	0.49
51:BQ:43:THR:HG23	51:BQ:46:GLN:CD	2.33	0.49
53:BS:14:VAL:HG12	53:BS:16:ASN:H	1.78	0.49
1:AA:378:G:O2'	1:AA:379:C:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:439:A:C5	1:AA:441:A:H1'	2.48	0.49
1:AA:594:G:O2'	1:AA:595:G:H5'	2.12	0.49
1:AA:770:C:O2'	1:AA:771:G:H5'	2.11	0.49
1:AA:785:G:N2	1:AA:798:G:C4	2.81	0.49
1:AA:832:C:O2'	1:AA:833:U:P	2.71	0.49
1:AA:1060:C:H4'	17:AJ:52:GLY:N	2.28	0.49
1:AA:1074:G:H4'	2:AB:103:THR:O	2.13	0.49
1:AA:1198:G:H2'	1:AA:1199:U:C6	2.48	0.49
1:AA:1470:G:O2'	1:AA:1471:G:H5'	2.12	0.49
4:AE:102:ALA:HB1	4:AE:106:PRO:CG	2.42	0.49
10:AP:82:GLN:N	10:AP:82:GLN:NE2	2.61	0.49
14:AC:32:LEU:HD22	14:AC:59:ARG:HH11	1.76	0.49
15:AG:101:LEU:O	15:AG:104:LEU:HB2	2.13	0.49
17:AJ:54:PHE:CZ	17:AJ:55:LYS:NZ	2.79	0.49
28:B0:68:GLU:O	28:B0:80:HIS:HD2	1.96	0.49
29:B1:48:LYS:CG	29:B1:49:VAL:N	2.75	0.49
29:B1:85:LEU:HB2	29:B1:87:PRO:HD3	1.94	0.49
29:B1:87:PRO:CG	29:B1:88:LYS:N	2.76	0.49
29:B1:94:LEU:O	29:B1:95:LEU:HG	2.13	0.49
36:B8:52:LYS:NZ	38:BA:834:C:H4'	2.28	0.49
38:BA:271(H):G:C6	38:BA:271(Q):G:N1	2.81	0.49
38:BA:361:G:C2'	38:BA:362:U:H5''	2.39	0.49
38:BA:765:G:H2'	38:BA:766:C:C6	2.46	0.49
38:BA:814:C:H5''	56:BV:86:GLY:CA	2.37	0.49
38:BA:1820:U:O2	41:BD:202:LYS:HB3	2.11	0.49
40:BC:82:LYS:HZ1	40:BC:151:GLU:HA	1.77	0.49
42:BE:25:VAL:O	42:BE:25:VAL:HG12	2.11	0.49
42:BE:201:THR:CG2	42:BE:203:LYS:H	2.08	0.49
43:BF:21:ALA:C	43:BF:23:ASP:H	2.14	0.49
46:BI:9:LEU:N	46:BI:13:GLY:HA2	2.08	0.49
49:BO:91:LEU:N	49:BO:91:LEU:CD2	2.74	0.49
50:BP:148:LEU:O	50:BP:148:LEU:HD22	2.12	0.49
53:BS:52:SER:CB	53:BS:55:ALA:HB3	2.43	0.49
54:BT:36:GLU:HG2	54:BT:36:GLU:O	2.13	0.49
56:BV:40:LEU:O	56:BV:41:GLY:C	2.50	0.49
56:BV:52:VAL:O	56:BV:53:GLU:HB3	2.12	0.49
57:BW:56:ALA:O	57:BW:57:ASN:C	2.50	0.49
1:AA:190:U:O2'	1:AA:191:G:H5'	2.13	0.48
1:AA:1484:C:H2'	1:AA:1485:U:C6	2.47	0.48
2:AB:80:ILE:HG13	2:AB:81:VAL:H	1.78	0.48
2:AB:216:SER:C	2:AB:218:ALA:H	2.17	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AK:57:THR:OG1	15:AG:150:ALA:HB1	2.13	0.48
7:AK:127:LYS:HE2	7:AK:127:LYS:CA	2.27	0.48
9:AO:87:ILE:HG22	9:AO:88:ARG:N	2.23	0.48
11:AQ:38:ARG:HE	11:AQ:38:ARG:CA	2.24	0.48
12:AR:55:ARG:HH11	12:AR:55:ARG:HG3	1.78	0.48
16:AI:45:ALA:O	16:AI:78:LYS:HE3	2.13	0.48
18:AM:39:ILE:O	18:AM:41:PRO:HD3	2.13	0.48
21:AU:5:ASP:HB3	21:AU:8:THR:HG23	1.95	0.48
22:AV:66:C:H2'	22:AV:67:C:H6	1.74	0.48
28:B0:2:ALA:HB1	38:BA:2494:G:OP2	2.14	0.48
30:B2:12:GLU:C	30:B2:14:ARG:N	2.64	0.48
30:B2:40:SER:OG	30:B2:41:ILE:N	2.45	0.48
34:B6:10:LEU:HD12	36:B8:36:LYS:HD3	1.94	0.48
38:BA:1011:G:OP1	55:BU:75:ASN:HB3	2.13	0.48
38:BA:2019:A:C2'	38:BA:2020:A:O5'	2.61	0.48
38:BA:2141:G:C4	38:BA:2142:C:C6	3.00	0.48
38:BA:2776:A:C6	38:BA:2782:G:H1'	2.47	0.48
40:BC:20:TYR:CG	40:BC:21:THR:N	2.81	0.48
41:BD:257:LEU:HD23	41:BD:257:LEU:C	2.33	0.48
42:BE:134:ILE:HG12	42:BE:134:ILE:O	2.11	0.48
46:BI:72:LEU:HD12	46:BI:138:ILE:HG23	1.95	0.48
47:BL:88:ALA:O	47:BL:94:GLU:OE1	2.30	0.48
48:BN:38:HIS:O	55:BU:67:ALA:O	2.31	0.48
50:BP:48:PRO:CG	50:BP:49:ARG:H	2.21	0.48
51:BQ:65:PHE:HB2	51:BQ:105:GLU:HG3	1.95	0.48
56:BV:32:THR:HG22	56:BV:33:VAL:N	2.27	0.48
60:BZ:16:SER:O	60:BZ:17:ALA:C	2.51	0.48
1:AA:36:C:O2'	1:AA:37:U:H5'	2.12	0.48
1:AA:107:G:H2'	1:AA:108:G:C5'	2.40	0.48
1:AA:119:A:O2'	1:AA:120:A:OP2	2.20	0.48
1:AA:522:C:H2'	1:AA:523:A:O4'	2.13	0.48
1:AA:946:A:C2	1:AA:1236:A:C2	3.01	0.48
1:AA:1162:C:H2'	1:AA:1163:C:C6	2.49	0.48
1:AA:1227:A:C2'	1:AA:1228:C:O5'	2.61	0.48
1:AA:1387:G:C6	1:AA:1388:C:N4	2.81	0.48
2:AB:88:ALA:HB2	2:AB:219:VAL:CG1	2.39	0.48
2:AB:164:VAL:CG1	2:AB:165:VAL:N	2.76	0.48
4:AE:105:VAL:HB	4:AE:106:PRO:CD	2.43	0.48
5:AF:7:ASN:O	5:AF:88:VAL:HA	2.13	0.48
7:AK:17:GLY:O	7:AK:80:VAL:HA	2.12	0.48
7:AK:34:ASP:C	7:AK:34:ASP:OD2	2.51	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:52:LEU:HD23	14:AC:52:LEU:N	2.25	0.48
16:AI:20:ARG:O	16:AI:60:ASP:N	2.42	0.48
18:AM:38:GLY:C	18:AM:39:ILE:HG13	2.33	0.48
18:AM:91:ARG:CB	18:AM:98:VAL:HG21	2.41	0.48
20:AS:11:VAL:HG22	20:AS:16:LEU:HD11	1.93	0.48
20:AS:53:ASN:OD1	20:AS:56:GLN:O	2.31	0.48
25:AY:65:G:C4'	27:AZ:391:GLY:H	2.26	0.48
30:B2:60:LEU:O	30:B2:61:LEU:HB2	2.12	0.48
34:B6:11:LEU:O	34:B6:24:GLU:N	2.45	0.48
36:B8:58:ILE:HG22	36:B8:58:ILE:O	2.12	0.48
38:BA:71:A:O2'	38:BA:72:U:OP2	2.26	0.48
38:BA:360:G:H2'	38:BA:361:G:H8	1.78	0.48
38:BA:667:U:H2'	38:BA:668:G:O4'	2.13	0.48
38:BA:1057:A:C2	38:BA:1058:G:N7	2.81	0.48
38:BA:1175:U:H4'	38:BA:1176:G:H2'	1.93	0.48
38:BA:1625:C:C2'	38:BA:1626:G:H5'	2.43	0.48
38:BA:2363:C:O2'	38:BA:2364:C:H5'	2.13	0.48
38:BA:2469:A:H3'	38:BA:2470:G:O4'	2.12	0.48
39:BB:76:G:C4'	60:BZ:85:HIS:HD2	2.25	0.48
41:BD:108:PRO:HG3	41:BD:111:LEU:HD23	1.95	0.48
41:BD:266:SER:O	41:BD:267:SER:OG	2.31	0.48
42:BE:4:ILE:CG1	42:BE:28:ALA:HB1	2.43	0.48
42:BE:14:ILE:CD1	42:BE:173:VAL:HG11	2.33	0.48
42:BE:35:GLN:NE2	42:BE:37:ARG:HH21	2.11	0.48
42:BE:197:ILE:HD11	42:BE:199:ARG:HH12	1.78	0.48
43:BF:40:GLN:O	43:BF:44:ARG:HG2	2.13	0.48
47:BL:8:VAL:CG1	47:BL:27:LEU:HD23	2.41	0.48
47:BL:20:ALA:HB3	47:BL:21:PRO:HD3	1.95	0.48
48:BN:19:GLU:HB2	48:BN:59:LYS:CB	2.43	0.48
50:BP:29:LYS:N	50:BP:29:LYS:HD2	2.28	0.48
52:BR:75:LEU:C	52:BR:75:LEU:HD13	2.33	0.48
54:BT:101:PHE:HE2	54:BT:113:LYS:HD3	1.76	0.48
54:BT:117:ASP:OD1	54:BT:119:LYS:HB3	2.13	0.48
54:BT:129:ARG:NH1	54:BT:131:ALA:H	2.11	0.48
58:BX:60:ARG:NE	58:BX:74:PRO:CG	2.74	0.48
59:BY:9:LYS:HA	59:BY:30:VAL:HG21	1.95	0.48
1:AA:123:C:OP1	1:AA:312:C:H5'	2.12	0.48
1:AA:505:G:C6	1:AA:535:A:C2	3.01	0.48
1:AA:636:U:H5'	11:AQ:2:PRO:HG3	1.95	0.48
1:AA:830:G:O2'	1:AA:831:U:H5'	2.13	0.48
1:AA:860:A:H2'	1:AA:861:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1070:U:H2'	1:AA:1071:C:C6	2.48	0.48
2:AB:8:LYS:O	2:AB:9:GLU:C	2.51	0.48
2:AB:67:THR:HA	2:AB:90:MET:HE1	1.95	0.48
2:AB:213:LEU:HD22	2:AB:214:ILE:HD13	1.94	0.48
3:AD:88:VAL:O	3:AD:92:VAL:HG23	2.13	0.48
3:AD:157:LEU:O	3:AD:159:ARG:N	2.46	0.48
7:AK:25:TYR:H	7:AK:25:TYR:HD1	1.52	0.48
8:AL:45:PRO:HG2	8:AL:51:ALA:N	2.28	0.48
9:AO:70:LEU:O	9:AO:71:GLN:C	2.52	0.48
10:AP:15:PRO:HB3	10:AP:17:TYR:HE1	1.76	0.48
10:AP:20:VAL:HG22	10:AP:21:VAL:N	2.28	0.48
19:AN:4:LYS:O	19:AN:7:ILE:HG12	2.14	0.48
25:AY:46:7MG:C3'	25:AY:47:U:H4'	2.44	0.48
28:B0:20:ARG:N	28:B0:20:ARG:CD	2.61	0.48
30:B2:33:MET:N	30:B2:33:MET:SD	2.86	0.48
37:B9:13:LYS:C	37:B9:27:CYS:CB	2.81	0.48
38:BA:310:A:OP1	59:BY:17:SER:O	2.31	0.48
38:BA:335:C:H2'	38:BA:336:C:C6	2.48	0.48
38:BA:440:G:H2'	38:BA:441:U:H6	1.77	0.48
38:BA:523:C:O2'	38:BA:524:U:H5'	2.13	0.48
38:BA:1040:C:H42	38:BA:1116:C:H42	1.61	0.48
38:BA:1040:C:H42	38:BA:1116:C:N4	2.11	0.48
38:BA:1385:G:C4	38:BA:1386:C:C5	3.00	0.48
38:BA:1510:G:O2'	38:BA:1511:C:H5'	2.13	0.48
38:BA:2145:C:H2'	38:BA:2146:C:N3	2.28	0.48
38:BA:2263:C:C2'	38:BA:2264:C:H5'	2.44	0.48
42:BE:36:ARG:NH2	42:BE:88:GLY:H	2.11	0.48
42:BE:197:ILE:HG13	42:BE:199:ARG:NH1	2.28	0.48
47:BL:54:PRO:HG2	47:BL:70:LYS:O	2.13	0.48
48:BN:38:HIS:CE1	48:BN:50:ASP:OD2	2.67	0.48
50:BP:13:ASN:HD22	50:BP:13:ASN:N	2.02	0.48
52:BR:104:ARG:O	52:BR:108:GLY:HA2	2.13	0.48
53:BS:27:SER:HA	53:BS:88:ASP:OD1	2.11	0.48
53:BS:90:GLY:C	53:BS:92:TYR:N	2.65	0.48
55:BU:40:PHE:CD1	56:BV:78:LYS:NZ	2.81	0.48
57:BW:27:LYS:H	57:BW:71:VAL:HB	1.77	0.48
1:AA:250:A:HO2'	1:AA:251:G:P	2.36	0.48
1:AA:1152:A:H2'	1:AA:1153:C:C6	2.47	0.48
1:AA:1251:A:H2'	1:AA:1252:A:H8	1.72	0.48
1:AA:1277:C:O2'	1:AA:1279:A:H8	1.95	0.48
1:AA:1285:A:H8	1:AA:1285:A:OP1	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1526:G:C6	1:AA:1527:C:N4	2.82	0.48
2:AB:73:THR:HG22	2:AB:95:GLN:O	2.14	0.48
2:AB:75:LYS:C	2:AB:77:ALA:H	2.16	0.48
2:AB:83:MET:O	2:AB:85:ALA:N	2.46	0.48
2:AB:149:LEU:O	2:AB:153:ARG:HG3	2.14	0.48
3:AD:14:ARG:C	3:AD:16:GLY:N	2.67	0.48
4:AE:101:ILE:CG1	4:AE:119:LEU:HA	2.43	0.48
6:AH:23:SER:HB3	6:AH:62:TYR:CD1	2.48	0.48
7:AK:92:GLU:C	7:AK:94:ALA:H	2.17	0.48
8:AL:20:LYS:HD3	8:AL:20:LYS:H	1.77	0.48
8:AL:58:VAL:O	8:AL:60:LEU:HD22	2.13	0.48
9:AO:9:GLN:O	9:AO:10:LYS:C	2.51	0.48
13:AT:23:ARG:O	13:AT:24:LEU:C	2.51	0.48
13:AT:63:ILE:O	13:AT:66:ALA:N	2.46	0.48
17:AJ:63:PHE:HZ	19:AN:45:ARG:HG3	1.79	0.48
18:AM:97:PRO:HA	18:AM:110:ARG:HD3	1.95	0.48
22:AV:15:G:H22	22:AV:48:C:N4	2.03	0.48
24:AW:24:G:O2'	24:AW:25:C:H5'	2.13	0.48
32:B4:6:HIS:HA	44:BG:67:LYS:CE	2.39	0.48
38:BA:661:C:C4'	50:BP:18:ARG:HG2	2.43	0.48
38:BA:699:A:O2'	38:BA:700:G:H5'	2.13	0.48
38:BA:1262:A:OP1	57:BW:99:ARG:NH1	2.46	0.48
38:BA:1335:U:O2'	38:BA:1336:A:H5'	2.12	0.48
38:BA:2030:A:H4'	38:BA:2031:A:C8	2.47	0.48
38:BA:2128:C:O2'	38:BA:2172:U:O2	2.28	0.48
38:BA:2130:U:C4	38:BA:2159:G:C4	3.02	0.48
38:BA:2197:U:H1'	38:BA:2198:A:C8	2.48	0.48
38:BA:2377:A:H4'	53:BS:107:GLU:CG	2.43	0.48
41:BD:235:GLY:O	41:BD:237:GLU:N	2.47	0.48
42:BE:117:MET:HG3	42:BE:122:PHE:O	2.13	0.48
44:BG:145:THR:OG1	44:BG:146:TYR:N	2.45	0.48
47:BL:44:ALA:C	47:BL:46:ALA:N	2.67	0.48
48:BN:42:TRP:HB2	55:BU:64:ARG:NH2	2.26	0.48
48:BN:120:LEU:HD13	48:BN:121:LYS:N	2.28	0.48
50:BP:70:GLN:HG3	50:BP:71:VAL:H	1.79	0.48
50:BP:138:LEU:HD12	50:BP:138:LEU:C	2.33	0.48
54:BT:89:VAL:HG12	54:BT:91:ARG:CG	2.43	0.48
55:BU:64:ARG:NH1	55:BU:67:ALA:HB3	2.29	0.48
55:BU:109:LEU:O	55:BU:113:ALA:N	2.42	0.48
56:BV:19:LYS:HD3	56:BV:22:VAL:CG2	2.43	0.48
58:BX:18:TYR:O	58:BX:19:ALA:C	2.50	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:28:LYS:O	59:BY:37:VAL:O	2.32	0.48
60:BZ:75:ASN:C	60:BZ:76:LEU:HD23	2.34	0.48
1:AA:125:U:H2'	1:AA:126:G:C8	2.48	0.48
1:AA:582:U:H2'	1:AA:583:A:H8	1.78	0.48
1:AA:738:C:H5'	5:AF:72:VAL:HG11	1.96	0.48
1:AA:814:A:N7	1:AA:816:A:C4	2.82	0.48
1:AA:1209:C:O2'	1:AA:1210:C:H5'	2.13	0.48
1:AA:1308:U:H2'	1:AA:1309:G:C8	2.48	0.48
1:AA:1402:C:H2'	1:AA:1403:C:H6	1.78	0.48
2:AB:194:PRO:O	2:AB:197:VAL:N	2.46	0.48
5:AF:28:ARG:HG3	5:AF:28:ARG:NH1	2.27	0.48
8:AL:62:SER:O	8:AL:64:TYR:HD1	1.95	0.48
12:AR:37:VAL:HG23	12:AR:38:GLU:H	1.78	0.48
14:AC:70:VAL:CG1	14:AC:71:ALA:H	2.26	0.48
15:AG:71:PRO:HD3	15:AG:103:TRP:CZ3	2.49	0.48
25:AY:36:A:C4	26:A0:101:U:C4	3.02	0.48
28:B0:36:ILE:HD13	28:B0:36:ILE:H	1.78	0.48
28:B0:53:MET:CE	28:B0:57:PHE:HD1	2.26	0.48
29:B1:73:LEU:HG	29:B1:94:LEU:HG	1.95	0.48
31:B3:59:VAL:CG1	31:B3:60:GLU:N	2.77	0.48
34:B6:45:LYS:HZ1	38:BA:2370:G:N2	2.07	0.48
37:B9:19:ARG:CG	37:B9:20:HIS:H	2.26	0.48
38:BA:266:G:H2'	38:BA:267:C:C5'	2.44	0.48
38:BA:614:U:H4'	38:BA:614(C):A:H62	1.79	0.48
38:BA:869:G:O2'	38:BA:870:A:H5'	2.13	0.48
38:BA:1385:G:H1'	38:BA:1386:C:C6	2.49	0.48
38:BA:1449:A:N3	38:BA:1529:G:H1'	2.29	0.48
38:BA:1467:C:H42	38:BA:1525:G:H1	1.61	0.48
38:BA:1983:C:O2'	38:BA:1984:G:H5'	2.13	0.48
38:BA:2521:C:H1'	38:BA:2545:G:N2	2.28	0.48
38:BA:2574:G:H2'	38:BA:2575:C:C6	2.47	0.48
38:BA:2638:G:P	42:BE:82:ARG:HH21	2.36	0.48
38:BA:2663:G:H2'	38:BA:2664:G:H8	1.78	0.48
38:BA:2838:G:O2'	38:BA:2839:G:H5'	2.13	0.48
41:BD:247:ALA:HA	41:BD:254:THR:HG22	1.96	0.48
44:BG:7:LEU:HB2	44:BG:104:GLU:CD	2.33	0.48
44:BG:86:MET:HG3	44:BG:87:PRO:CD	2.38	0.48
47:BL:12:LEU:HD23	47:BL:22:PRO:HB2	1.94	0.48
47:BL:24:GLY:HA2	47:BL:34:ILE:HG21	1.94	0.48
47:BL:24:GLY:CA	47:BL:34:ILE:HG23	2.43	0.48
47:BL:71:THR:CG2	47:BL:113:PRO:HB2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:111:LYS:C	47:BL:113:PRO:CD	2.78	0.48
50:BP:91:PHE:N	50:BP:91:PHE:CD1	2.82	0.48
51:BQ:111:GLU:HG3	51:BQ:112:GLU:N	2.27	0.48
51:BQ:121:ALA:O	51:BQ:124:LYS:N	2.43	0.48
52:BR:48:VAL:O	52:BR:51:LEU:HB2	2.12	0.48
53:BS:15:ARG:HG3	53:BS:15:ARG:NH1	2.28	0.48
53:BS:15:ARG:C	53:BS:17:ARG:N	2.64	0.48
54:BT:121:ILE:CG2	54:BT:122:ASP:N	2.76	0.48
55:BU:90:VAL:CG1	55:BU:91:ASP:N	2.75	0.48
58:BX:73:ARG:O	58:BX:74:PRO:C	2.51	0.48
59:BY:15:VAL:CG1	59:BY:16:ALA:N	2.59	0.48
1:AA:817:C:H1'	1:AA:819:A:H5'	1.94	0.48
1:AA:1298:C:H4'	1:AA:1299:A:O4'	2.13	0.48
2:AB:204:ASN:ND2	2:AB:204:ASN:C	2.67	0.48
2:AB:238:LEU:N	2:AB:238:LEU:HD23	2.29	0.48
3:AD:4:TYR:HE2	3:AD:6:GLY:O	1.95	0.48
22:AV:64:G:H2'	22:AV:65:C:C6	2.49	0.48
30:B2:45:SER:O	30:B2:48:HIS:HB2	2.13	0.48
37:B9:33:LYS:NZ	38:BA:2526:G:O3'	2.46	0.48
38:BA:814:C:H5	50:BP:27:HIS:CD2	2.31	0.48
38:BA:900:A:H3'	38:BA:901:A:H8	1.78	0.48
38:BA:1058:G:N3	47:BL:116:ASN:ND2	2.61	0.48
38:BA:1266:G:C8	57:BW:15:ARG:NH2	2.82	0.48
38:BA:1718:G:H5'	38:BA:1718:G:C8	2.48	0.48
38:BA:1952:A:C5	49:BO:22:ILE:HD12	2.49	0.48
38:BA:2683:C:P	54:BT:53:ARG:HH22	2.36	0.48
38:BA:2702:U:HO2'	38:BA:2703:C:H6	1.58	0.48
38:BA:2708:G:O2'	38:BA:2709:G:H5'	2.13	0.48
41:BD:130:ALA:HA	41:BD:191:ALA:O	2.13	0.48
42:BE:104:VAL:HG11	42:BE:188:VAL:HG23	1.94	0.48
47:BL:35:MET:O	47:BL:38:VAL:HB	2.13	0.48
47:BL:60:TYR:O	47:BL:61:ALA:O	2.32	0.48
48:BN:38:HIS:NE2	48:BN:50:ASP:OD2	2.46	0.48
52:BR:18:LEU:HD11	52:BR:22:ARG:NE	2.29	0.48
53:BS:35:ILE:N	53:BS:53:SER:HB2	2.22	0.48
54:BT:50:ILE:HD11	54:BT:64:ARG:HB3	1.94	0.48
54:BT:50:ILE:O	54:BT:99:LEU:HD12	2.14	0.48
58:BX:8:ILE:HG12	58:BX:43:VAL:HG23	1.95	0.48
58:BX:40:LYS:HG3	58:BX:41:ASN:N	2.27	0.48
58:BX:44:GLU:HB3	58:BX:51:VAL:HG23	1.94	0.48
59:BY:7:VAL:HB	59:BY:8:LYS:HZ2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:237:C:H4'	11:AQ:25:ARG:HH12	1.78	0.48
1:AA:397:A:H5'	1:AA:398:C:OP1	2.14	0.48
1:AA:472:A:H4'	10:AP:82:GLN:HE22	1.78	0.48
1:AA:908:A:H2'	1:AA:909:A:H8	1.78	0.48
1:AA:995:C:O2'	1:AA:996:A:H5'	2.14	0.48
1:AA:1514:C:O2'	1:AA:1515:C:H5'	2.13	0.48
2:AB:55:PHE:HE1	2:AB:218:ALA:HA	1.79	0.48
2:AB:144:ARG:HG3	2:AB:145:LEU:H	1.78	0.48
3:AD:60:GLU:OE2	3:AD:198:VAL:HA	2.13	0.48
5:AF:26:ILE:O	5:AF:30:LEU:HG	2.13	0.48
7:AK:61:ALA:O	7:AK:65:ALA:HB2	2.14	0.48
13:AT:37:SER:O	13:AT:40:ALA:HB3	2.13	0.48
17:AJ:38:ILE:CD1	17:AJ:71:LEU:HB3	2.43	0.48
22:AV:13:C:H4'	38:BA:1924:C:O4'	2.14	0.48
28:B0:27:GLU:HG3	28:B0:67:VAL:O	2.14	0.48
38:BA:8:A:C2	38:BA:2896:C:N3	2.81	0.48
38:BA:723:G:H2'	38:BA:724:U:O4'	2.14	0.48
38:BA:740:U:H2'	38:BA:741:G:H8	1.77	0.48
38:BA:910:A:C8	51:BQ:13:GLN:HB2	2.47	0.48
38:BA:1059:G:C2'	47:BL:74:ALA:HB2	2.44	0.48
38:BA:1317:A:H2'	38:BA:1318:C:C6	2.46	0.48
38:BA:1331:A:C2'	38:BA:1332:G:H5''	2.43	0.48
38:BA:1341:U:P	38:BA:1397:U:H3	2.37	0.48
38:BA:1345:C:H2'	38:BA:1346:G:H8	1.77	0.48
38:BA:2114:A:H2'	38:BA:2114:A:N3	2.29	0.48
38:BA:2134:A:C2	38:BA:2135:A:N9	2.81	0.48
38:BA:2141:G:C5	38:BA:2142:C:C5	3.01	0.48
38:BA:2199:A:H5'	38:BA:2200:C:OP2	2.14	0.48
41:BD:25:THR:O	41:BD:25:THR:CG2	2.61	0.48
41:BD:70:TRP:O	41:BD:71:ASP:C	2.51	0.48
42:BE:75:VAL:O	42:BE:77:ILE:HG12	2.13	0.48
43:BF:20:LEU:HD12	43:BF:199:TRP:CH2	2.49	0.48
43:BF:60:SER:OG	43:BF:61:GLY:N	2.46	0.48
43:BF:103:LYS:C	43:BF:105:VAL:N	2.67	0.48
44:BG:112:PRO:C	44:BG:113:ARG:HG2	2.34	0.48
44:BG:127:GLY:CA	44:BG:166:ASP:HB3	2.43	0.48
45:BH:159:GLU:OE1	45:BH:159:GLU:HA	2.13	0.48
46:BI:81:VAL:CG1	46:BI:88:ILE:HG23	2.44	0.48
46:BI:92:VAL:HG22	46:BI:97:ILE:CG1	2.44	0.48
47:BL:9:LYS:HA	47:BL:56:GLU:HG3	1.94	0.48
47:BL:108:ALA:O	47:BL:109:LYS:C	2.51	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:43:THR:CG2	48:BN:46:VAL:HB	2.44	0.48
49:BO:16:ALA:HB1	49:BO:43:VAL:HG13	1.95	0.48
50:BP:8:PRO:C	50:BP:10:PRO:HD3	2.33	0.48
50:BP:38:GLN:CG	50:BP:39:LYS:H	2.13	0.48
51:BQ:8:LYS:HE3	51:BQ:9:TYR:CD1	2.49	0.48
51:BQ:22:LYS:HA	51:BQ:22:LYS:HE2	1.96	0.48
52:BR:14:SER:O	52:BR:15:SER:C	2.52	0.48
54:BT:29:ARG:CG	54:BT:30:VAL:H	2.27	0.48
55:BU:37:GLU:O	55:BU:40:PHE:HB2	2.13	0.48
56:BV:70:ILE:O	56:BV:71:LEU:HB2	2.14	0.48
58:BX:82:GLN:HG3	58:BX:83:VAL:N	2.28	0.48
59:BY:3:VAL:O	59:BY:3:VAL:HG12	2.14	0.48
59:BY:83:THR:HG22	59:BY:84:ARG:H	1.79	0.48
60:BZ:150:LEU:O	60:BZ:150:LEU:HD22	2.13	0.48
1:AA:177:C:H2'	1:AA:178:C:H6	1.79	0.48
1:AA:296:U:H2'	1:AA:297:G:H8	1.76	0.48
1:AA:1106:G:H2'	1:AA:1107:C:C6	2.49	0.48
1:AA:1478:C:O2'	1:AA:1479:C:H5'	2.13	0.48
2:AB:12:GLU:C	2:AB:14:GLY:N	2.66	0.48
2:AB:162:ILE:O	2:AB:162:ILE:HG13	2.14	0.48
6:AH:35:ILE:HG23	6:AH:111:ILE:CD1	2.43	0.48
7:AK:34:ASP:HB3	7:AK:40:ILE:HD11	1.96	0.48
9:AO:54:ARG:HG2	9:AO:58:MET:HE1	1.95	0.48
11:AQ:74:LEU:HD13	11:AQ:74:LEU:C	2.34	0.48
12:AR:25:THR:C	12:AR:26:LEU:HD23	2.34	0.48
14:AC:120:VAL:HG13	14:AC:124:ILE:HD11	1.96	0.48
18:AM:38:GLY:O	18:AM:39:ILE:HG13	2.14	0.48
20:AS:6:LYS:N	20:AS:6:LYS:HE3	2.28	0.48
22:AV:14:A:C6	22:AV:22:G:C5	3.02	0.48
22:AV:47:U:H3'	22:AV:48:C:C5'	2.44	0.48
22:AV:53:G:C8	22:AV:54:5MU:H72	2.49	0.48
36:B8:13:ARG:HB3	50:BP:63:PRO:CA	2.44	0.48
36:B8:51:ALA:CA	36:B8:53:PRO:HD2	2.43	0.48
37:B9:16:VAL:HA	37:B9:25:VAL:CA	2.43	0.48
38:BA:64:A:H2'	38:BA:65:C:C6	2.47	0.48
38:BA:139:G:H1	38:BA:142(A):C:H42	1.60	0.48
38:BA:271(Q):G:HO2'	38:BA:271(R):G:H8	1.59	0.48
38:BA:901:A:H2'	38:BA:901:A:N3	2.28	0.48
38:BA:927:G:H3'	38:BA:928:G:H8	1.79	0.48
38:BA:1019:U:N3	38:BA:1142(A):A:N6	2.57	0.48
38:BA:1272:A:H3'	38:BA:1273:U:C5'	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1607:C:H4'	38:BA:1608:A:O5'	2.13	0.48
38:BA:1614:A:H2'	38:BA:1615:C:H5'	1.96	0.48
38:BA:1668:A:H4'	38:BA:1669:A:O5'	2.13	0.48
38:BA:1747(A):G:H2'	38:BA:1748:G:C5'	2.38	0.48
38:BA:1899:G:N2	38:BA:1902:C:C5	2.81	0.48
38:BA:2687:U:O2'	38:BA:2688:U:H5'	2.13	0.48
38:BA:2777:G:H5''	38:BA:2778:A:H5''	1.96	0.48
40:BC:208:PHE:O	40:BC:209:LEU:CB	2.61	0.48
42:BE:169:ASN:OD1	42:BE:201:THR:HG23	2.14	0.48
42:BE:197:ILE:CG1	42:BE:199:ARG:HH12	2.27	0.48
44:BG:111:LEU:C	44:BG:114:ILE:HG12	2.33	0.48
45:BH:30:LYS:HZ3	45:BH:81:GLU:HG2	1.78	0.48
45:BH:152:ARG:HB3	45:BH:161:GLY:CA	2.32	0.48
48:BN:97:ARG:O	48:BN:100:GLU:N	2.47	0.48
49:BO:113:LYS:HA	49:BO:116:SER:OG	2.14	0.48
51:BQ:6:ARG:O	51:BQ:7:MET:HG2	2.13	0.48
52:BR:13:HIS:O	52:BR:14:SER:C	2.51	0.48
53:BS:67:ARG:N	53:BS:69:VAL:HG12	2.23	0.48
53:BS:93:LYS:HA	53:BS:93:LYS:HE3	1.96	0.48
54:BT:57:PHE:O	54:BT:58:ASN:ND2	2.47	0.48
1:AA:22:G:H2'	1:AA:23:C:C6	2.49	0.48
1:AA:78:G:N2	1:AA:91:C:H42	1.96	0.48
1:AA:146:G:C2	1:AA:147:G:H1'	2.49	0.48
1:AA:482:A:H2'	1:AA:483:C:O4'	2.14	0.48
1:AA:635:G:C6	1:AA:636:U:C4	3.02	0.48
1:AA:853:G:H2'	1:AA:854:G:H8	1.79	0.48
1:AA:1220:G:O3'	20:AS:36:ARG:HD3	2.13	0.48
5:AF:21:LEU:O	5:AF:24:GLU:HB3	2.13	0.48
6:AH:63:LEU:HD22	6:AH:63:LEU:H	1.79	0.48
8:AL:53:ARG:HG2	8:AL:53:ARG:NH1	2.29	0.48
11:AQ:59:ILE:HG23	11:AQ:71:PHE:HB3	1.96	0.48
14:AC:121:ALA:O	14:AC:125:GLU:HG3	2.14	0.48
14:AC:188:LEU:N	14:AC:188:LEU:CD2	2.76	0.48
17:AJ:28:ARG:HG2	17:AJ:28:ARG:HH11	1.79	0.48
17:AJ:48:THR:CB	17:AJ:62:HIS:HB3	2.43	0.48
25:AY:25:C:C3'	25:AY:26:M2G:C1'	2.88	0.48
27:AZ:69:GLU:HB3	27:AZ:273:HIS:CD2	2.49	0.48
38:BA:142:A:N6	38:BA:1596:A:H5'	2.29	0.48
38:BA:322:A:H3'	43:BF:169:ASN:ND2	2.28	0.48
38:BA:418:G:O2'	38:BA:419:C:H5'	2.14	0.48
38:BA:558:G:OP1	48:BN:111:PRO:HD2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:608:A:C2	38:BA:609:A:C4	3.02	0.48
38:BA:614(C):A:O2'	38:BA:615:G:O4'	2.32	0.48
38:BA:1057:A:C8	38:BA:1085:A:C2	3.02	0.48
38:BA:1069:A:N7	38:BA:1073:A:C8	2.82	0.48
38:BA:1190:G:H5'	50:BP:35:HIS:CB	2.41	0.48
38:BA:1439:A:H2'	38:BA:1440:G:O4'	2.14	0.48
38:BA:1657:C:H2'	38:BA:1658:C:C6	2.49	0.48
38:BA:2065:C:H2'	38:BA:2066:C:H6	1.79	0.48
38:BA:2192:G:C2	38:BA:2193:G:C8	3.02	0.48
38:BA:2636:U:H2'	38:BA:2637:U:C5'	2.44	0.48
38:BA:2648:C:O2'	38:BA:2649:U:H5'	2.13	0.48
41:BD:25:THR:CG2	41:BD:82:ILE:N	2.75	0.48
43:BF:83:PHE:O	43:BF:84:VAL:HB	2.13	0.48
44:BG:120:LEU:HB2	44:BG:179:PRO:O	2.14	0.48
44:BG:131:TYR:HB3	44:BG:159:VAL:HG13	1.95	0.48
45:BH:87:LEU:HA	45:BH:163:TYR:O	2.13	0.48
46:BI:78:THR:OG1	46:BI:141:LYS:HB2	2.13	0.48
46:BI:101:LEU:HD12	46:BI:101:LEU:C	2.35	0.48
48:BN:33:LEU:O	48:BN:34:LEU:C	2.52	0.48
48:BN:39:ARG:HD3	48:BN:41:ASP:H	1.79	0.48
50:BP:123:LEU:O	50:BP:124:LYS:C	2.50	0.48
51:BQ:134:ARG:HG2	51:BQ:135:ASP:N	2.26	0.48
55:BU:25:TRP:CD1	55:BU:26:GLY:N	2.82	0.48
55:BU:92:ARG:NH1	56:BV:11:GLN:H	2.12	0.48
59:BY:11:ASP:N	59:BY:27:VAL:HG22	2.29	0.48
59:BY:15:VAL:O	59:BY:16:ALA:CB	2.62	0.48
59:BY:27:VAL:HG12	59:BY:29:GLU:N	2.25	0.48
1:AA:106:C:O2'	1:AA:107:G:H5'	2.14	0.48
1:AA:524:G:H2'	1:AA:525:C:C5	2.48	0.48
1:AA:926:G:C8	1:AA:1505:G:N2	2.82	0.48
2:AB:49:GLU:O	2:AB:52:GLU:HB3	2.14	0.48
2:AB:178:ARG:HH11	2:AB:178:ARG:CB	2.24	0.48
3:AD:150:GLU:HG2	3:AD:151:LYS:H	1.78	0.48
4:AE:59:GLY:O	4:AE:62:ALA:HB3	2.13	0.48
4:AE:87:SER:HB3	4:AE:131:ILE:CD1	2.40	0.48
5:AF:69:GLU:O	5:AF:72:VAL:HG12	2.14	0.48
6:AH:134:ILE:HG22	6:AH:135:CYS:SG	2.54	0.48
8:AL:75:HIS:CG	8:AL:76:ASN:N	2.80	0.48
9:AO:67:LEU:HD22	9:AO:78:TYR:CE1	2.48	0.48
11:AQ:68:ARG:O	11:AQ:68:ARG:HG3	2.13	0.48
13:AT:34:LYS:O	13:AT:35:THR:C	2.52	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AS:29:ARG:O	20:AS:30:LEU:C	2.52	0.48
24:AW:10:G:N2	24:AW:26:A:H1'	2.29	0.48
25:AY:76:A:C2	27:AZ:271:GLU:HG3	2.48	0.48
30:B2:53:LEU:HD12	38:BA:76:C:O3'	2.13	0.48
31:B3:26:LEU:HD21	31:B3:46:ASN:HB2	1.96	0.48
38:BA:934:G:H2'	38:BA:934:G:N3	2.28	0.48
38:BA:1112:G:O2'	38:BA:1113:U:H5''	2.14	0.48
38:BA:1227:G:C2'	38:BA:1228:G:H5'	2.44	0.48
38:BA:1312:U:H4'	38:BA:1313:U:O5'	2.13	0.48
38:BA:1496:A:H8	38:BA:1577:C:HO2'	1.62	0.48
38:BA:1526:G:H1	38:BA:1546:C:H42	1.62	0.48
38:BA:1572:A:O2'	38:BA:1573:G:H5'	2.14	0.48
38:BA:1680:U:H2'	38:BA:1681:G:O4'	2.13	0.48
38:BA:1773:A:H2'	38:BA:1774:C:C5'	2.43	0.48
38:BA:1848:A:C4	38:BA:1849:G:C8	3.01	0.48
38:BA:1970:A:H5''	38:BA:1971:A:OP1	2.14	0.48
38:BA:1991:U:H2'	38:BA:1992:G:H5'	1.96	0.48
38:BA:2713:A:H3'	38:BA:2714:G:C5'	2.44	0.48
39:BB:84:C:H2'	39:BB:85:G:H8	1.77	0.48
40:BC:77:ILE:HG21	40:BC:122:ALA:CA	2.44	0.48
41:BD:209:ALA:C	41:BD:210:GLY:O	2.47	0.48
42:BE:8:LYS:HA	42:BE:26:ILE:HD13	1.96	0.48
43:BF:157:VAL:HG12	43:BF:176:LEU:HB3	1.95	0.48
43:BF:192:LEU:HD23	43:BF:192:LEU:C	2.34	0.48
45:BH:19:VAL:CB	45:BH:44:VAL:HG13	2.44	0.48
47:BL:18:THR:HA	47:BL:38:VAL:CG2	2.42	0.48
48:BN:90:MET:O	48:BN:93:THR:O	2.32	0.48
51:BQ:39:PRO:O	51:BQ:40:ALA:HB2	2.13	0.48
53:BS:88:ASP:OD1	53:BS:89:ARG:NH2	2.47	0.48
55:BU:83:LEU:HD12	55:BU:83:LEU:N	2.28	0.48
55:BU:102:GLU:HB2	55:BU:105:VAL:CG2	2.42	0.48
56:BV:4:ILE:HD12	56:BV:40:LEU:HD21	1.95	0.48
56:BV:47:VAL:CG2	56:BV:48:GLY:H	2.13	0.48
58:BX:80:ILE:HG23	58:BX:81:VAL:N	2.28	0.48
60:BZ:7:ALA:HB3	60:BZ:61:LEU:HD23	1.95	0.48
60:BZ:145:GLU:C	60:BZ:147:GLY:H	2.17	0.48
1:AA:37:U:O2'	1:AA:38:G:H5'	2.14	0.47
1:AA:138:G:H2'	1:AA:139:G:H8	1.78	0.47
1:AA:218:C:O2'	1:AA:219:C:H5'	2.14	0.47
1:AA:448:A:P	1:AA:485:G:H22	2.37	0.47
1:AA:740:U:O2'	1:AA:741:G:H5'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:951:G:OP2	18:AM:102:ARG:NH1	2.47	0.47
1:AA:951:G:OP2	18:AM:102:ARG:NH2	2.46	0.47
1:AA:1462:G:O2'	54:BT:115:ARG:NH2	2.47	0.47
1:AA:1493:A:C1'	26:A0:100:U:H1'	2.34	0.47
1:AA:1511:G:O2'	1:AA:1512:U:H5'	2.14	0.47
2:AB:22:LYS:H	2:AB:40:HIS:CE1	2.32	0.47
2:AB:185:ILE:HG22	2:AB:199:TYR:CD1	2.49	0.47
2:AB:187:LEU:HA	2:AB:201:ILE:O	2.14	0.47
3:AD:119:GLN:NE2	3:AD:123:HIS:NE2	2.57	0.47
11:AQ:94:ASN:O	11:AQ:95:TYR:C	2.51	0.47
14:AC:33:LEU:HD21	19:AN:39:LEU:HD11	1.95	0.47
14:AC:53:ALA:O	14:AC:54:ARG:CB	2.53	0.47
14:AC:105:GLU:CG	14:AC:106:VAL:H	2.17	0.47
14:AC:111:LEU:HD21	14:AC:145:GLY:O	2.14	0.47
15:AG:113:GLU:HB2	15:AG:119:ARG:CG	2.44	0.47
18:AM:58:GLU:OE1	18:AM:58:GLU:HA	2.14	0.47
22:AV:4:G:O2'	22:AV:5:G:OP2	2.32	0.47
25:AY:8:U:O2'	25:AY:48:C:C2	2.32	0.47
25:AY:24:G:H2'	25:AY:25:C:C6	2.49	0.47
31:B3:35:ARG:NE	31:B3:37:LEU:HD21	2.29	0.47
37:B9:30:PRO:O	37:B9:33:LYS:HG2	2.14	0.47
38:BA:132:G:H5'	38:BA:132:G:C8	2.41	0.47
38:BA:295:G:OP1	59:BY:2:ARG:HD3	2.14	0.47
38:BA:1019:U:HO2'	38:BA:1021:A:H2	1.59	0.47
38:BA:1054:A:C2	38:BA:1055:G:N1	2.82	0.47
38:BA:1272:A:H3'	38:BA:1273:U:H5'	1.96	0.47
38:BA:2312:U:O2'	38:BA:2313:C:H5''	2.14	0.47
39:BB:97:G:C2	39:BB:98:G:C8	3.02	0.47
45:BH:148:ILE:HG22	45:BH:149:ARG:N	2.28	0.47
49:BO:104:ARG:C	49:BO:106:LEU:H	2.17	0.47
51:BQ:73:PRO:HG3	51:BQ:93:TYR:CE2	2.48	0.47
55:BU:8:VAL:O	55:BU:9:VAL:C	2.53	0.47
58:BX:92:LEU:O	58:BX:93:GLU:CB	2.62	0.47
59:BY:2:ARG:HG2	59:BY:2:ARG:HH11	1.79	0.47
59:BY:88:LYS:HZ1	59:BY:93:GLY:C	2.18	0.47
1:AA:16:A:C2'	1:AA:17:U:H5'	2.44	0.47
1:AA:274:A:H4'	1:AA:275:G:OP1	2.12	0.47
1:AA:487:A:H2'	1:AA:488:C:O4'	2.14	0.47
1:AA:544:G:H2'	1:AA:545:C:H6	1.79	0.47
1:AA:564:C:C5	11:AQ:31:LEU:HD11	2.49	0.47
1:AA:719:C:C2	12:AR:50:ILE:HG12	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:195:ASP:O	6:AH:68:ARG:NH2	2.44	0.47
4:AE:95:ALA:O	4:AE:98:THR:OG1	2.25	0.47
12:AR:56:THR:O	12:AR:58:LEU:HD12	2.15	0.47
14:AC:70:VAL:C	14:AC:106:VAL:HG23	2.34	0.47
15:AG:40:ALA:O	15:AG:41:ARG:C	2.52	0.47
16:AI:50:LEU:C	16:AI:52:ALA:H	2.16	0.47
17:AJ:22:LYS:HD2	17:AJ:22:LYS:C	2.34	0.47
18:AM:13:LYS:CA	18:AM:44:ARG:HH11	2.25	0.47
19:AN:43:CYS:O	19:AN:46:GLU:HB2	2.15	0.47
24:AW:29:G:O2'	24:AW:30:G:H5'	2.13	0.47
25:AY:38:A:C5'	38:BA:1913:A:N6	2.68	0.47
28:B0:36:ILE:HD13	38:BA:2354:G:O2'	2.14	0.47
29:B1:62:VAL:HG13	29:B1:64:ALA:N	2.27	0.47
30:B2:31:GLU:OE1	30:B2:31:GLU:HA	2.14	0.47
33:B5:57:VAL:C	33:B5:58:LEU:HD12	2.34	0.47
34:B6:15:GLU:HG2	34:B6:18:ARG:HG3	1.96	0.47
36:B8:31:HIS:O	36:B8:33:ASN:N	2.47	0.47
38:BA:203:C:C3'	38:BA:204:A:H5''	2.43	0.47
38:BA:310:A:P	59:BY:18:GLY:HA2	2.54	0.47
38:BA:614:U:O2	38:BA:614:U:O4'	2.31	0.47
38:BA:1084:A:N7	38:BA:1085:A:C2	2.82	0.47
38:BA:1300:U:O2'	38:BA:1626:G:C2	2.66	0.47
38:BA:2159:G:C2'	38:BA:2160:G:O4'	2.53	0.47
41:BD:166:GLN:CA	41:BD:166:GLN:HE21	2.25	0.47
46:BI:110:ASP:O	46:BI:112:LYS:N	2.44	0.47
46:BI:120:ILE:HD13	46:BI:126:TYR:CE1	2.49	0.47
49:BO:1:MET:CB	49:BO:32:TYR:HD2	2.27	0.47
49:BO:120:GLU:HG2	54:BT:67:SER:OG	2.13	0.47
50:BP:81:GLN:HE21	50:BP:81:GLN:HA	1.78	0.47
51:BQ:82:ARG:NH1	51:BQ:82:ARG:CG	2.65	0.47
52:BR:60:LEU:O	52:BR:61:HIS:C	2.52	0.47
57:BW:1:MET:HG3	57:BW:2:GLU:H	1.79	0.47
59:BY:17:SER:OG	59:BY:18:GLY:N	2.39	0.47
60:BZ:99:TYR:N	60:BZ:99:TYR:CD2	2.81	0.47
1:AA:522:C:H41	8:AL:53:ARG:NH2	2.12	0.47
1:AA:651:C:H2'	1:AA:652:U:C6	2.49	0.47
1:AA:673:G:H2'	1:AA:674:G:H8	1.74	0.47
1:AA:1068:G:N7	1:AA:1094:G:C8	2.82	0.47
1:AA:1232:U:O3'	16:AI:124:GLN:HB2	2.15	0.47
1:AA:1400:C:N3	22:AV:34:C:C2	2.83	0.47
1:AA:1501:C:H5''	1:AA:1502:A:OP2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:41:ILE:CD1	2:AB:41:ILE:N	2.77	0.47
3:AD:61:LYS:HE3	3:AD:207:TYR:OH	2.14	0.47
9:AO:33:THR:O	9:AO:34:LEU:C	2.51	0.47
9:AO:82:ILE:HD13	9:AO:82:ILE:C	2.35	0.47
13:AT:8:ARG:HG3	13:AT:8:ARG:NH1	2.28	0.47
13:AT:92:LEU:C	13:AT:94:ALA:H	2.17	0.47
14:AC:77:ILE:C	14:AC:83:ARG:HB3	2.35	0.47
15:AG:41:ARG:O	15:AG:42:ILE:C	2.53	0.47
18:AM:7:VAL:O	18:AM:7:VAL:HG12	2.14	0.47
18:AM:98:VAL:C	18:AM:99:ARG:HG3	2.35	0.47
20:AS:15:LEU:HD22	20:AS:15:LEU:N	2.29	0.47
21:AU:2:GLY:O	21:AU:4:GLY:N	2.47	0.47
25:AY:73:A:O3'	25:AY:74:C:H6	1.97	0.47
37:B9:10:ILE:CD1	38:BA:2476:A:N1	2.76	0.47
38:BA:578:A:OP1	38:BA:1255:U:O2'	2.26	0.47
38:BA:626:U:O2	50:BP:105:LEU:HG	2.13	0.47
38:BA:836:G:H2'	38:BA:837:C:C6	2.50	0.47
38:BA:996:A:H2'	38:BA:997:G:H8	1.78	0.47
38:BA:1484:G:H8	38:BA:1484:G:O5'	1.97	0.47
38:BA:1902:C:H4'	41:BD:244:ARG:HA	1.95	0.47
38:BA:2011:U:H2'	38:BA:2012:G:H5'	1.96	0.47
38:BA:2631:G:N3	38:BA:2810:A:H2	2.12	0.47
38:BA:2681:C:O2	38:BA:2681:C:O4'	2.32	0.47
38:BA:2886:G:H2'	38:BA:2887:U:C6	2.49	0.47
39:BB:61:G:C6	39:BB:62:C:C4	3.02	0.47
40:BC:99:ILE:O	40:BC:99:ILE:HG22	2.13	0.47
41:BD:80:ALA:HB3	41:BD:94:LEU:CD1	2.44	0.47
41:BD:160:GLY:H	41:BD:196:VAL:HB	1.78	0.47
42:BE:132:HIS:CD2	42:BE:135:HIS:NE2	2.82	0.47
43:BF:32:LEU:O	43:BF:36:VAL:HG23	2.14	0.47
43:BF:107:LYS:C	43:BF:109:GLY:H	2.16	0.47
44:BG:8:LYS:O	44:BG:11:TYR:HB3	2.14	0.47
44:BG:173:LEU:HB3	44:BG:178:PHE:CD1	2.49	0.47
47:BL:87:GLY:C	47:BL:89:HIS:H	2.18	0.47
48:BN:67:LEU:O	48:BN:68:GLU:CB	2.62	0.47
51:BQ:134:ARG:CG	51:BQ:135:ASP:H	2.22	0.47
52:BR:116:LEU:HD23	52:BR:116:LEU:HA	1.72	0.47
54:BT:62:THR:HG22	54:BT:75:ILE:HG12	1.96	0.47
55:BU:55:ARG:HA	55:BU:58:ARG:CD	2.44	0.47
56:BV:13:ARG:HG3	56:BV:13:ARG:HH11	1.78	0.47
58:BX:76:ARG:O	58:BX:76:ARG:CD	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:7:ALA:O	60:BZ:8:TYR:O	2.32	0.47
1:AA:601:C:H2'	1:AA:602:A:C8	2.50	0.47
1:AA:674:G:H2'	1:AA:675:A:C8	2.45	0.47
1:AA:1285:A:H1'	1:AA:1286:A:OP2	2.14	0.47
1:AA:1436:U:H2'	1:AA:1437:C:C6	2.48	0.47
1:AA:1507:A:C2	1:AA:1508:G:C4	3.03	0.47
3:AD:160:GLN:O	3:AD:163:GLU:HB3	2.14	0.47
6:AH:30:ARG:HH11	6:AH:30:ARG:CB	2.26	0.47
6:AH:60:ARG:HG3	6:AH:60:ARG:NH1	2.29	0.47
11:AQ:67:LYS:HG2	11:AQ:68:ARG:H	1.79	0.47
15:AG:146:GLU:O	15:AG:149:ARG:HB2	2.14	0.47
25:AY:12:U:C2'	25:AY:13:C:O5'	2.62	0.47
29:B1:37:ILE:O	29:B1:38:SER:HB2	2.15	0.47
29:B1:74:VAL:C	29:B1:76:ARG:H	2.17	0.47
37:B9:24:TYR:CA	37:B9:35:ARG:HA	2.44	0.47
38:BA:323:G:H2'	43:BF:169:ASN:OD1	2.14	0.47
38:BA:860:U:O2	38:BA:860:U:O4'	2.30	0.47
38:BA:994:C:H1'	56:BV:10:LYS:HZ1	1.79	0.47
38:BA:1093:G:N2	38:BA:1098:A:H62	2.11	0.47
38:BA:1948:G:O2'	38:BA:1949:G:H5'	2.14	0.47
38:BA:2162:G:H5'	38:BA:2171:A:C5'	2.43	0.47
38:BA:2707:G:H2'	38:BA:2708:G:H8	1.79	0.47
41:BD:242:ARG:HD2	41:BD:242:ARG:N	2.29	0.47
41:BD:267:SER:O	41:BD:269:PHE:HD1	1.97	0.47
41:BD:268:ARG:HH12	41:BD:269:PHE:HE1	1.63	0.47
42:BE:55:ASN:ND2	42:BE:75:VAL:HG13	2.30	0.47
44:BG:130:ASN:OD1	44:BG:161:THR:N	2.41	0.47
47:BL:18:THR:N	47:BL:38:VAL:HG22	2.29	0.47
50:BP:136:GLU:O	50:BP:139:LYS:HB3	2.14	0.47
50:BP:149:GLU:HG3	50:BP:149:GLU:O	2.15	0.47
51:BQ:118:LEU:O	51:BQ:119:ARG:C	2.53	0.47
51:BQ:141:GLN:NE2	60:BZ:72:ARG:HG2	2.28	0.47
52:BR:104:ARG:NH1	52:BR:104:ARG:HG2	2.28	0.47
58:BX:77:LYS:CE	58:BX:78:LYS:HD2	2.44	0.47
1:AA:679:C:O2'	1:AA:680:C:H5'	2.14	0.47
1:AA:802:A:H2'	1:AA:803:G:C5'	2.44	0.47
1:AA:1155:G:O2'	1:AA:1156:G:H5'	2.15	0.47
3:AD:56:VAL:O	3:AD:58:LEU:N	2.47	0.47
3:AD:92:VAL:HG12	3:AD:96:LEU:CD2	2.45	0.47
3:AD:152:SER:O	3:AD:154:ASN:N	2.47	0.47
7:AK:44:SER:N	7:AK:47:VAL:HG21	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AK:95:ILE:O	7:AK:98:LEU:N	2.48	0.47
14:AC:95:THR:HG21	14:AC:99:VAL:HG11	1.96	0.47
14:AC:174:PRO:HB3	14:AC:177:THR:OG1	2.14	0.47
16:AI:112:LYS:HE3	16:AI:116:LYS:O	2.15	0.47
18:AM:82:MET:O	18:AM:83:ASP:C	2.52	0.47
36:B8:12:LYS:HA	50:BP:65:ARG:HD2	1.96	0.47
37:B9:15:LYS:C	37:B9:25:VAL:HG23	2.34	0.47
38:BA:235:U:O2'	38:BA:236:C:H5'	2.14	0.47
38:BA:601:C:O2'	38:BA:605:C:H5''	2.14	0.47
38:BA:1084:A:H3'	38:BA:1085:A:H5'	1.97	0.47
38:BA:1132:A:C2	38:BA:1133:U:C2	3.02	0.47
38:BA:1164:G:H2'	38:BA:1165:U:H6	1.80	0.47
38:BA:1428:C:O2'	38:BA:1429:G:H5'	2.15	0.47
38:BA:1445:A:C5'	38:BA:1445(A):C:H5	2.27	0.47
38:BA:1562:A:O2'	38:BA:1563:G:H5'	2.15	0.47
38:BA:1697:G:H5'	38:BA:1698:A:H5''	1.95	0.47
38:BA:2111:C:C1'	38:BA:2147:G:O6	2.62	0.47
38:BA:2416:C:OP1	50:BP:64:LYS:O	2.33	0.47
38:BA:2646:C:OP2	38:BA:2732:G:O2'	2.31	0.47
38:BA:2651:C:O2'	38:BA:2652:C:H5'	2.14	0.47
39:BB:11:C:OP2	39:BB:12:C:H5	1.97	0.47
41:BD:133:LEU:CA	41:BD:136:ILE:HD13	2.44	0.47
41:BD:271:ILE:N	41:BD:271:ILE:HD12	2.30	0.47
42:BE:4:ILE:HD11	42:BE:28:ALA:HB1	1.95	0.47
42:BE:97:LYS:N	42:BE:100:GLU:OE1	2.47	0.47
43:BF:37:VAL:O	43:BF:38:ARG:C	2.51	0.47
46:BI:140:LEU:HD12	46:BI:141:LYS:N	2.29	0.47
47:BL:41:PHE:CZ	47:BL:57:ILE:CD1	2.96	0.47
48:BN:13:TRP:O	48:BN:135:PRO:HG3	2.14	0.47
50:BP:14:LYS:O	50:BP:15:ARG:CG	2.63	0.47
50:BP:16:ARG:HG2	50:BP:18:ARG:N	2.14	0.47
53:BS:72:ALA:O	53:BS:76:LYS:HB2	2.15	0.47
53:BS:89:ARG:HE	53:BS:89:ARG:N	2.10	0.47
54:BT:65:LYS:HZ2	54:BT:65:LYS:CA	2.28	0.47
55:BU:18:LEU:O	55:BU:21:ALA:N	2.47	0.47
56:BV:63:GLY:O	56:BV:96:ILE:HG23	2.13	0.47
57:BW:66:GLU:O	57:BW:69:LEU:HG	2.14	0.47
58:BX:76:ARG:C	58:BX:76:ARG:CD	2.82	0.47
60:BZ:104:PHE:HA	60:BZ:139:VAL:HB	1.96	0.47
60:BZ:141:VAL:CG2	60:BZ:144:LEU:HD23	2.42	0.47
1:AA:61:G:OP1	13:AT:10:LEU:HD11	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:735:C:O2'	1:AA:736:C:C5'	2.59	0.47
1:AA:865:A:H5'	1:AA:1078:U:C4	2.48	0.47
1:AA:1041:A:H2'	1:AA:1042:G:H8	1.78	0.47
1:AA:1300:G:O2'	1:AA:1301:U:P	2.72	0.47
1:AA:1423:G:O2'	1:AA:1424:C:H5'	2.14	0.47
1:AA:1495:U:H2'	1:AA:1496:C:H6	1.79	0.47
3:AD:25:ARG:C	3:AD:27:TYR:N	2.68	0.47
4:AE:31:LEU:CD2	4:AE:43:LEU:HD11	2.45	0.47
5:AF:62:TRP:CH2	5:AF:64:GLN:HB2	2.49	0.47
9:AO:56:LEU:C	9:AO:60:VAL:HG23	2.35	0.47
20:AS:31:ILE:HG23	20:AS:31:ILE:O	2.14	0.47
20:AS:61:TYR:HE2	20:AS:63:THR:HB	1.80	0.47
27:AZ:138:VAL:HG22	27:AZ:173:GLY:O	2.15	0.47
27:AZ:291:ARG:HH11	27:AZ:291:ARG:HG3	1.79	0.47
30:B2:30:ARG:HB3	30:B2:30:ARG:CZ	2.44	0.47
33:B5:50:GLY:HA3	33:B5:56:LYS:CG	2.45	0.47
37:B9:24:TYR:CB	37:B9:35:ARG:HG2	2.44	0.47
37:B9:29:ASN:HB3	37:B9:32:HIS:ND1	2.29	0.47
38:BA:39:C:H2'	38:BA:40:C:C6	2.50	0.47
38:BA:143(A):C:O2	38:BA:143(A):C:C2'	2.62	0.47
38:BA:657:U:C2	38:BA:658:C:C5	3.02	0.47
38:BA:1069:A:H5''	38:BA:1070:A:OP1	2.15	0.47
38:BA:1146:C:O2'	38:BA:1147:C:H5'	2.14	0.47
38:BA:1337:G:H2'	38:BA:1338:G:O4'	2.14	0.47
38:BA:1475:G:H2'	38:BA:1475:G:N3	2.30	0.47
38:BA:1951:U:H2'	38:BA:1953:A:OP2	2.15	0.47
38:BA:2296:U:H2'	53:BS:13:ARG:HH22	1.80	0.47
38:BA:2306:C:OP2	38:BA:2307:G:C8	2.67	0.47
38:BA:2306:C:H5	38:BA:2307:G:H1'	1.80	0.47
38:BA:2346:A:H5'	38:BA:2383:G:O4'	2.15	0.47
38:BA:2639:A:H3'	38:BA:2640:G:H5'	1.97	0.47
38:BA:2762:G:C3'	38:BA:2763:G:C5'	2.92	0.47
39:BB:78:A:H2'	39:BB:79:C:O4'	2.14	0.47
40:BC:68:LEU:CD2	40:BC:179:SER:HA	2.45	0.47
41:BD:76:PRO:HG2	41:BD:98:VAL:HG23	1.94	0.47
41:BD:117:VAL:HG22	41:BD:118:VAL:N	2.29	0.47
42:BE:49:LEU:HD22	42:BE:49:LEU:N	2.29	0.47
42:BE:68:ALA:O	42:BE:70:ALA:N	2.48	0.47
43:BF:63:LYS:HE2	43:BF:67:GLN:HB2	1.95	0.47
45:BH:30:LYS:HZ1	45:BH:81:GLU:HG2	1.78	0.47
45:BH:130:ARG:NH1	45:BH:130:ARG:HB3	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:12:LEU:N	46:BI:12:LEU:HD23	2.30	0.47
46:BI:131:LYS:HG3	46:BI:132:PRO:HA	1.95	0.47
46:BI:145:VAL:CG1	46:BI:146:VAL:N	2.76	0.47
47:BL:13:PRO:O	47:BL:16:LYS:HB2	2.15	0.47
47:BL:18:THR:HG22	47:BL:38:VAL:HG21	1.94	0.47
47:BL:55:VAL:HG22	47:BL:69:THR:HG22	1.95	0.47
47:BL:77:LEU:C	47:BL:80:LYS:HB2	2.35	0.47
47:BL:134:MET:C	47:BL:134:MET:SD	2.93	0.47
51:BQ:51:ARG:O	51:BQ:54:MET:CB	2.63	0.47
51:BQ:78:PRO:O	51:BQ:79:LEU:CG	2.62	0.47
55:BU:92:ARG:NH1	56:BV:11:GLN:O	2.42	0.47
58:BX:70:LEU:CG	58:BX:71:GLY:N	2.77	0.47
59:BY:61:ILE:HD12	59:BY:61:ILE:N	2.28	0.47
1:AA:10:A:OP2	4:AE:126:ARG:HD3	2.14	0.47
1:AA:59:A:H3'	1:AA:331:G:H22	1.80	0.47
1:AA:81:U:H2'	1:AA:82:U:C6	2.50	0.47
1:AA:375:U:C4'	10:AP:17:TYR:CE2	2.97	0.47
1:AA:573:A:C2	1:AA:574:A:C2	3.02	0.47
1:AA:579:G:C5'	1:AA:728:A:H1'	2.37	0.47
1:AA:878:G:H5''	6:AH:89:PRO:HG2	1.96	0.47
1:AA:922:G:N3	1:AA:1398:A:C2	2.78	0.47
1:AA:953:G:H5'	1:AA:965:A:H61	1.80	0.47
1:AA:963:G:N2	17:AJ:55:LYS:HZ3	2.13	0.47
1:AA:973:G:OP1	17:AJ:57:LYS:NZ	2.48	0.47
1:AA:976:G:N2	1:AA:1362:C:H2'	2.29	0.47
1:AA:1065:U:H5''	1:AA:1190:G:N2	2.29	0.47
1:AA:1088:G:N1	1:AA:1089:G:C5	2.83	0.47
1:AA:1287:A:N6	1:AA:1288:A:N6	2.63	0.47
1:AA:1308:U:OP1	18:AM:98:VAL:N	2.48	0.47
1:AA:1323:G:H4'	1:AA:1363:C:N3	2.29	0.47
1:AA:1350:A:C6	1:AA:1351:U:C4	3.03	0.47
1:AA:1391:U:H2'	1:AA:1392:G:H8	1.75	0.47
1:AA:1430:C:O2'	1:AA:1431:C:H5'	2.15	0.47
2:AB:19:HIS:CD2	2:AB:205:ASP:OD1	2.68	0.47
2:AB:92:TYR:CE2	2:AB:151:GLY:CA	2.97	0.47
3:AD:92:VAL:CG1	3:AD:96:LEU:HD21	2.44	0.47
4:AE:40:ARG:HG2	4:AE:40:ARG:HH11	1.79	0.47
4:AE:77:PRO:HG2	4:AE:142:LEU:HD22	1.96	0.47
4:AE:146:ALA:C	4:AE:148:VAL:N	2.68	0.47
5:AF:100:ASN:HD21	12:AR:23:LYS:HE3	1.78	0.47
8:AL:47:LYS:CB	8:AL:48:PRO:CD	2.88	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AL:60:LEU:HD22	8:AL:60:LEU:H	1.80	0.47
10:AP:49:LEU:HD12	10:AP:50:LYS:H	1.80	0.47
11:AQ:4:LYS:HG3	11:AQ:5:VAL:N	2.29	0.47
11:AQ:67:LYS:CA	11:AQ:70:ARG:NH1	2.76	0.47
13:AT:85:MET:HA	13:AT:88:VAL:HG23	1.95	0.47
16:AI:47:LEU:N	16:AI:47:LEU:HD12	2.29	0.47
17:AJ:22:LYS:HZ1	17:AJ:88:LEU:HD23	1.79	0.47
18:AM:108:ARG:HG3	18:AM:108:ARG:NH1	2.29	0.47
18:AM:112:GLY:C	18:AM:113:PRO:HG2	2.34	0.47
19:AN:26:ARG:HH11	19:AN:47:LEU:HD21	1.79	0.47
19:AN:48:ALA:CA	19:AN:53:LEU:HD12	2.45	0.47
22:AV:49:G:H1	22:AV:65:C:H42	1.63	0.47
22:AV:75:C:H2'	22:AV:76:A:O4'	2.15	0.47
22:AV:75:C:OP2	38:BA:2602:A:H8	1.97	0.47
23:AX:14:A:OP2	23:AX:14:A:H8	1.96	0.47
29:B1:60:PHE:CD1	29:B1:70:VAL:HG22	2.43	0.47
30:B2:52:ASP:C	30:B2:56:GLN:HE22	2.18	0.47
32:B4:6:HIS:N	44:BG:67:LYS:CE	2.76	0.47
34:B6:27:LYS:HE3	38:BA:2285:C:H5	1.78	0.47
37:B9:24:TYR:HB3	37:B9:35:ARG:CB	2.44	0.47
38:BA:27:G:O2'	38:BA:28:A:P	2.72	0.47
38:BA:221:A:H4'	38:BA:222:A:O5'	2.15	0.47
38:BA:242:G:N2	38:BA:254:G:H2'	2.30	0.47
38:BA:256:A:H2'	38:BA:257:A:H8	1.79	0.47
38:BA:292:C:C2	38:BA:349:G:C2	3.03	0.47
38:BA:389:G:H1	50:BP:71:VAL:HG12	1.80	0.47
38:BA:593:G:O2'	38:BA:594:U:H5'	2.15	0.47
38:BA:613:G:C6	38:BA:614:U:C5	3.02	0.47
38:BA:737:C:O2'	38:BA:738:G:H5'	2.15	0.47
38:BA:949:C:H2'	38:BA:950:G:H8	1.80	0.47
38:BA:979:G:H3'	38:BA:980:A:C5'	2.44	0.47
38:BA:1060:U:OP1	47:BL:74:ALA:N	2.48	0.47
38:BA:1087:G:H2'	38:BA:1089:G:O4'	2.14	0.47
38:BA:1097:U:H2'	38:BA:1098:A:O5'	2.15	0.47
38:BA:1131:G:N3	38:BA:1132:A:C8	2.83	0.47
38:BA:1188:U:H2'	38:BA:1189:A:C5'	2.42	0.47
38:BA:1652:A:C2	38:BA:2006:C:N3	2.82	0.47
38:BA:1662:C:O2'	38:BA:1663:C:H5'	2.14	0.47
38:BA:1675:C:C2	42:BE:129:HIS:CD2	3.03	0.47
38:BA:1678:G:H22	38:BA:1989:G:H22	1.63	0.47
38:BA:1783:A:C2	38:BA:2587:A:C4	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1992:G:O2'	38:BA:1993:U:P	2.73	0.47
38:BA:2298:A:N6	38:BA:2318:G:H8	2.12	0.47
38:BA:2571:C:H5''	38:BA:2572:A:H5''	1.96	0.47
38:BA:2580:U:H5'	42:BE:131:ALA:CB	2.44	0.47
38:BA:2748:A:H2'	38:BA:2749:A:O4'	2.14	0.47
39:BB:48:A:H2'	39:BB:49:C:C6	2.49	0.47
40:BC:40:THR:HG23	40:BC:40:THR:O	2.15	0.47
41:BD:4:LYS:HZ2	41:BD:20:ASP:HA	1.78	0.47
42:BE:17:ASP:O	42:BE:18:ASP:CG	2.53	0.47
42:BE:36:ARG:NH2	42:BE:88:GLY:N	2.63	0.47
42:BE:134:ILE:H	42:BE:134:ILE:CD1	2.26	0.47
44:BG:71:THR:HB	44:BG:89:GLY:C	2.35	0.47
44:BG:124:SER:HB2	44:BG:131:TYR:HE1	1.78	0.47
45:BH:35:VAL:O	45:BH:37:VAL:HG23	2.14	0.47
45:BH:37:VAL:HG11	45:BH:68:THR:HG21	1.95	0.47
45:BH:58:GLU:C	45:BH:60:ARG:N	2.67	0.47
46:BI:60:GLU:C	46:BI:62:LYS:N	2.68	0.47
46:BI:86:THR:HG22	46:BI:122:GLU:HG2	1.96	0.47
46:BI:91:SER:HB2	46:BI:119:PRO:O	2.14	0.47
46:BI:127:VAL:HA	46:BI:139:GLN:HA	1.96	0.47
47:BL:17:ALA:O	47:BL:38:VAL:CG1	2.63	0.47
47:BL:27:LEU:HD11	47:BL:57:ILE:CD1	2.45	0.47
47:BL:38:VAL:HG12	47:BL:39:LYS:N	2.28	0.47
47:BL:77:LEU:HD12	47:BL:111:LYS:CE	2.45	0.47
48:BN:18:ALA:C	48:BN:20:GLY:N	2.68	0.47
48:BN:18:ALA:CB	48:BN:21:LYS:HG2	2.43	0.47
50:BP:88:LEU:C	50:BP:90:ARG:N	2.68	0.47
50:BP:105:LEU:O	50:BP:106:LEU:CB	2.59	0.47
51:BQ:26:TYR:O	51:BQ:26:TYR:CD1	2.63	0.47
54:BT:29:ARG:HD3	54:BT:86:ILE:CG2	2.29	0.47
54:BT:50:ILE:HA	54:BT:99:LEU:HD11	1.97	0.47
54:BT:55:ASN:H	54:BT:59:THR:HB	1.80	0.47
54:BT:101:PHE:CE2	54:BT:113:LYS:HD3	2.49	0.47
55:BU:15:LYS:CG	55:BU:16:LYS:N	2.77	0.47
56:BV:5:VAL:CG2	56:BV:6:LYS:N	2.77	0.47
56:BV:70:ILE:HG12	56:BV:71:LEU:H	1.75	0.47
56:BV:78:LYS:C	56:BV:78:LYS:CD	2.83	0.47
59:BY:7:VAL:HB	59:BY:8:LYS:NZ	2.30	0.47
59:BY:75:ILE:HD11	59:BY:79:CYS:HA	1.95	0.47
60:BZ:14:LYS:O	60:BZ:17:ALA:HB3	2.15	0.47
60:BZ:29:TYR:OH	60:BZ:87:ASP:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:48:PHE:O	60:BZ:52:SER:N	2.43	0.47
60:BZ:56:VAL:HA	60:BZ:70:LEU:CD2	2.44	0.47
60:BZ:102:LEU:HG	60:BZ:123:ASP:HA	1.97	0.47
1:AA:197:A:N6	1:AA:221:C:H5'	2.30	0.47
1:AA:368:U:OP2	27:AZ:268:THR:CG2	2.63	0.47
1:AA:537:G:OP1	8:AL:113:ARG:NH2	2.48	0.47
1:AA:723:U:O2	1:AA:723:U:H2'	2.14	0.47
1:AA:796:C:O2'	1:AA:797:C:H5'	2.15	0.47
1:AA:993:G:N3	1:AA:993:G:H2'	2.30	0.47
1:AA:1057:G:O2'	1:AA:1058:G:H5'	2.15	0.47
1:AA:1128:C:H5'	16:AI:16:ARG:NH1	2.29	0.47
1:AA:1363(A):A:C4'	1:AA:1364:U:H5''	2.26	0.47
2:AB:198:ASP:N	2:AB:198:ASP:OD2	2.48	0.47
3:AD:76:ARG:HG2	3:AD:76:ARG:HH11	1.79	0.47
3:AD:177:ASP:O	3:AD:179:GLU:N	2.48	0.47
3:AD:187:ARG:HG2	3:AD:187:ARG:HH11	1.80	0.47
5:AF:5:GLU:HG2	5:AF:62:TRP:CZ2	2.49	0.47
10:AP:82:GLN:O	10:AP:84:ALA:N	2.48	0.47
13:AT:71:THR:HG22	13:AT:72:LEU:HG	1.97	0.47
14:AC:16:ARG:HH11	14:AC:16:ARG:CB	2.21	0.47
14:AC:79:ARG:C	14:AC:81:GLY:H	2.17	0.47
15:AG:155:ARG:O	15:AG:156:TRP:HD1	1.98	0.47
18:AM:70:LEU:C	18:AM:70:LEU:CD2	2.83	0.47
20:AS:41:VAL:O	20:AS:44:MET:HB2	2.15	0.47
22:AV:12:G:O4'	38:BA:1922:G:N2	2.48	0.47
22:AV:25:C:H2'	22:AV:26:G:C8	2.50	0.47
28:B0:42:GLY:HA2	28:B0:57:PHE:CE2	2.48	0.47
30:B2:40:SER:HB2	38:BA:61:G:H1'	1.96	0.47
34:B6:14:THR:HG23	34:B6:14:THR:O	2.15	0.47
34:B6:30:THR:O	34:B6:31:PRO:C	2.53	0.47
38:BA:7:G:H4'	48:BN:13:TRP:CH2	2.49	0.47
38:BA:149:A:H2'	38:BA:150:C:O4'	2.15	0.47
38:BA:224:G:N2	38:BA:225:A:H1'	2.30	0.47
38:BA:521:G:H2'	38:BA:522:G:H8	1.79	0.47
38:BA:708:C:H5'	38:BA:709:U:OP2	2.15	0.47
38:BA:849:A:C8	38:BA:850:C:C5	3.03	0.47
38:BA:922:U:H2'	38:BA:923:C:C6	2.50	0.47
38:BA:925:C:H2'	38:BA:926:A:C5'	2.37	0.47
38:BA:991:C:H2'	38:BA:992:C:H6	1.79	0.47
38:BA:1071:G:N2	38:BA:1090:U:O4	2.48	0.47
38:BA:1077:A:H2'	38:BA:1078:U:C1'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1476:C:H2'	38:BA:1477:A:H8	1.79	0.47
38:BA:1712:C:O2'	38:BA:1713:U:H5'	2.14	0.47
38:BA:1854:A:H3'	38:BA:1855:G:H8	1.80	0.47
38:BA:2011:U:H2'	38:BA:2012:G:C5'	2.44	0.47
38:BA:2158:A:C2	38:BA:2159:G:C1'	2.85	0.47
41:BD:35:LYS:HD3	41:BD:63:ARG:CA	2.45	0.47
41:BD:224:ALA:O	41:BD:225:ALA:CB	2.62	0.47
41:BD:246:PRO:HB2	41:BD:255:LYS:HG2	1.96	0.47
41:BD:255:LYS:HE3	41:BD:255:LYS:C	2.35	0.47
42:BE:169:ASN:HD21	42:BE:203:LYS:HB3	1.80	0.47
44:BG:25:TYR:O	44:BG:26:GLN:HG2	2.15	0.47
45:BH:41:MET:HE1	45:BH:55:PRO:HD3	1.96	0.47
45:BH:137:ASP:HB3	45:BH:140:LYS:HB2	1.96	0.47
51:BQ:42:ILE:HG23	51:BQ:46:GLN:OE1	2.15	0.47
51:BQ:47:ILE:HG13	51:BQ:68:ILE:HD11	1.95	0.47
51:BQ:81:VAL:HG12	51:BQ:82:ARG:HG2	1.96	0.47
52:BR:13:HIS:HE1	52:BR:15:SER:OG	1.98	0.47
52:BR:100:LEU:HD23	52:BR:112:ALA:CA	2.45	0.47
53:BS:58:LEU:HD22	53:BS:68:GLN:HB2	1.97	0.47
56:BV:66:ARG:HH11	56:BV:66:ARG:HG3	1.79	0.47
59:BY:86:ARG:NH2	59:BY:95:LYS:HZ3	2.12	0.47
60:BZ:19:ARG:HG2	60:BZ:19:ARG:HH11	1.80	0.47
1:AA:359:U:H5'	27:AZ:230:THR:HG21	1.97	0.47
1:AA:1104:G:P	2:AB:111:ARG:HD2	2.55	0.47
1:AA:1385:G:O2'	1:AA:1386:G:H5'	2.15	0.47
2:AB:204:ASN:C	2:AB:204:ASN:HD22	2.19	0.47
4:AE:107:ARG:HG2	4:AE:108:ALA:N	2.30	0.47
4:AE:110:LEU:O	4:AE:113:ALA:HB3	2.15	0.47
6:AH:36:LEU:O	6:AH:39:LEU:N	2.47	0.47
10:AP:39:TYR:CD2	10:AP:73:LEU:HD11	2.50	0.47
14:AC:71:ALA:HA	14:AC:106:VAL:HB	1.96	0.47
14:AC:137:ALA:O	14:AC:141:VAL:HG23	2.15	0.47
14:AC:195:VAL:C	14:AC:196:LEU:HD22	2.36	0.47
15:AG:99:LEU:O	15:AG:100:ALA:C	2.52	0.47
18:AM:19:LEU:CA	18:AM:22:ILE:HD12	2.44	0.47
18:AM:110:ARG:HG2	18:AM:110:ARG:HH11	1.80	0.47
20:AS:40:ILE:HG21	20:AS:62:ILE:HD11	1.96	0.47
29:B1:17:SER:OG	29:B1:44:PRO:HG3	2.15	0.47
29:B1:20:ARG:CD	29:B1:41:ARG:HD3	2.23	0.47
31:B3:32:GLN:HB2	38:BA:1158:C:H4'	1.96	0.47
36:B8:53:PRO:HG2	36:B8:54:GLU:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:271(G):C:O2'	38:BA:271(H):G:H5'	2.15	0.47
38:BA:481:G:C2'	38:BA:482:A:OP2	2.63	0.47
38:BA:744:G:OP1	42:BE:132:HIS:HB3	2.15	0.47
38:BA:848:G:H2'	38:BA:849:A:C8	2.49	0.47
38:BA:1024:G:C3'	38:BA:1025:G:H5''	2.35	0.47
38:BA:1287:A:N7	52:BR:106:GLY:O	2.48	0.47
38:BA:1719:G:O2'	38:BA:1720:U:H5'	2.14	0.47
38:BA:2533:A:H2'	38:BA:2534:A:C5'	2.28	0.47
38:BA:2783:G:H2'	38:BA:2784:C:H6	1.79	0.47
38:BA:2876:G:H4'	54:BT:3:ARG:CD	2.40	0.47
39:BB:20:C:O2'	39:BB:21:G:H5''	2.15	0.47
44:BG:5:VAL:O	44:BG:8:LYS:HB3	2.14	0.47
44:BG:149:VAL:O	44:BG:149:VAL:HG23	2.15	0.47
46:BI:121:LYS:O	46:BI:122:GLU:HB2	2.15	0.47
48:BN:9:VAL:CG1	48:BN:39:ARG:HH22	2.28	0.47
48:BN:43:THR:HG21	48:BN:46:VAL:HB	1.97	0.47
49:BO:21:CYS:SG	49:BO:22:ILE:N	2.88	0.47
51:BQ:20:ALA:HB2	51:BQ:99:PRO:CD	2.45	0.47
51:BQ:63:LYS:HA	60:BZ:178:GLU:OE1	2.15	0.47
53:BS:39:ILE:O	53:BS:47:THR:HG23	2.15	0.47
53:BS:77:ALA:O	53:BS:78:LEU:C	2.52	0.47
53:BS:98:VAL:HG13	53:BS:100:ALA:N	2.18	0.47
58:BX:65:ARG:NE	58:BX:66:LEU:N	2.63	0.47
60:BZ:29:TYR:HA	60:BZ:33:LEU:O	2.15	0.47
1:AA:92:C:H2'	1:AA:93:G:C8	2.49	0.47
1:AA:148:G:O2'	1:AA:149:A:H5'	2.15	0.47
1:AA:328:C:H4'	1:AA:329:A:O5'	2.15	0.47
1:AA:588:G:O6	1:AA:753:A:H2'	2.14	0.47
1:AA:601:C:H2'	1:AA:602:A:H8	1.80	0.47
1:AA:1057:G:H5''	14:AC:154:SER:OG	2.15	0.47
1:AA:1431:C:H42	1:AA:1469:G:H1	1.61	0.47
3:AD:150:GLU:H	3:AD:150:GLU:CD	2.18	0.47
9:AO:36:ILE:HG23	9:AO:56:LEU:HD11	1.96	0.47
14:AC:18:TRP:NE1	19:AN:55:GLY:N	2.62	0.47
14:AC:86:VAL:O	14:AC:89:GLU:HB3	2.15	0.47
15:AG:155:ARG:O	15:AG:156:TRP:CD1	2.68	0.47
16:AI:118:LYS:HZ2	16:AI:118:LYS:HB2	1.80	0.47
17:AJ:15:THR:OG1	17:AJ:16:LEU:N	2.48	0.47
17:AJ:23:ILE:HG22	17:AJ:23:ILE:O	2.14	0.47
17:AJ:79:ARG:HG2	17:AJ:79:ARG:HH11	1.80	0.47
18:AM:34:LEU:HA	18:AM:37:THR:OG1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B1:47:GLN:CB	38:BA:397:G:H5''	2.37	0.47
31:B3:17:LYS:O	31:B3:20:LYS:HB2	2.15	0.47
36:B8:53:PRO:HA	36:B8:56:GLU:HB2	1.96	0.47
37:B9:25:VAL:O	37:B9:26:ILE:CG1	2.62	0.47
38:BA:84:A:H5''	59:BY:9:LYS:HZ2	1.79	0.47
38:BA:184:C:H2'	38:BA:185:U:C6	2.50	0.47
38:BA:303:U:H2'	38:BA:304:G:C8	2.50	0.47
38:BA:1078:U:C5'	38:BA:1079:C:OP1	2.60	0.47
38:BA:1284:A:H2'	38:BA:1285:G:O4'	2.15	0.47
38:BA:1703:G:H2'	38:BA:1704:G:H8	1.78	0.47
38:BA:1811:G:H2'	38:BA:1812:A:H8	1.79	0.47
38:BA:1878:G:H2'	38:BA:1879:C:C6	2.49	0.47
38:BA:2516:G:H2'	38:BA:2517:C:C6	2.50	0.47
38:BA:2545:G:H2'	38:BA:2546:U:O4'	2.15	0.47
38:BA:2735:G:H2'	38:BA:2736:G:H5''	1.97	0.47
41:BD:35:LYS:HE3	41:BD:65:ILE:N	2.29	0.47
43:BF:25:PRO:HB3	43:BF:119:ARG:HD3	1.96	0.47
48:BN:58:ASP:O	48:BN:59:LYS:HB2	2.15	0.47
53:BS:65:VAL:O	53:BS:69:VAL:HG12	2.15	0.47
54:BT:28:VAL:HG22	54:BT:46:GLU:HA	1.97	0.47
56:BV:62:LEU:HD22	56:BV:98:GLU:CA	2.39	0.47
57:BW:70:TYR:CD2	57:BW:70:TYR:N	2.83	0.47
58:BX:37:THR:C	58:BX:39:ILE:H	2.18	0.47
59:BY:62:GLU:HB3	59:BY:63:LYS:H	1.43	0.47
1:AA:66:G:N2	1:AA:172:A:C2	2.83	0.46
1:AA:107:G:O2'	1:AA:108:G:H5'	2.15	0.46
1:AA:198:G:H2'	1:AA:199:G:C8	2.50	0.46
1:AA:878:G:C5'	6:AH:89:PRO:HG2	2.45	0.46
1:AA:947:G:O3'	18:AM:109:THR:OG1	2.32	0.46
1:AA:1251:A:O2'	1:AA:1252:A:H5'	2.15	0.46
1:AA:1349:A:P	16:AI:118:LYS:HZ3	2.38	0.46
2:AB:211:ILE:O	2:AB:215:LEU:HB2	2.15	0.46
3:AD:67:ILE:HG22	3:AD:68:TYR:N	2.30	0.46
6:AH:64:LYS:HD2	6:AH:79:VAL:HG21	1.96	0.46
8:AL:7:ILE:O	8:AL:10:LEU:N	2.48	0.46
10:AP:80:PHE:O	10:AP:82:GLN:NE2	2.48	0.46
13:AT:84:LEU:O	13:AT:88:VAL:HG23	2.15	0.46
14:AC:19:GLU:O	14:AC:56:ASP:HA	2.14	0.46
14:AC:91:LEU:O	14:AC:95:THR:HB	2.14	0.46
18:AM:65:LYS:HA	18:AM:66:LEU:CD1	2.43	0.46
25:AY:25:C:O2'	25:AY:26:M2G:C1'	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AZ:236:THR:HG21	27:AZ:294:SER:C	2.36	0.46
30:B2:51:ARG:C	30:B2:51:ARG:HD3	2.36	0.46
38:BA:407:G:O2'	38:BA:408:G:H5'	2.16	0.46
38:BA:692:C:H2'	38:BA:693:C:H6	1.78	0.46
38:BA:825:C:H42	38:BA:832:G:H1	1.63	0.46
38:BA:1361:G:O2'	38:BA:1362:C:H5'	2.15	0.46
38:BA:1596:A:O2'	38:BA:1597:A:H5'	2.15	0.46
38:BA:1602:U:H3'	38:BA:1603:A:H5''	1.96	0.46
38:BA:2282:G:C4	38:BA:2425:A:N6	2.83	0.46
38:BA:2370:G:H2'	38:BA:2371:G:C8	2.50	0.46
38:BA:2712:U:O2'	38:BA:2713:A:H5'	2.15	0.46
38:BA:2771:C:O2	38:BA:2771:C:C2'	2.62	0.46
43:BF:173:VAL:HG12	43:BF:174:VAL:N	2.31	0.46
45:BH:136:ILE:HD12	45:BH:136:ILE:N	2.28	0.46
47:BL:88:ALA:O	47:BL:90:LYS:N	2.39	0.46
51:BQ:52:VAL:O	51:BQ:55:VAL:HG13	2.15	0.46
51:BQ:55:VAL:CG2	60:BZ:178:GLU:HB3	2.45	0.46
53:BS:33:LYS:HA	53:BS:62:LYS:NZ	2.30	0.46
55:BU:66:ASN:O	55:BU:68:ALA:N	2.48	0.46
58:BX:36:LYS:HZ3	58:BX:39:ILE:HA	1.74	0.46
60:BZ:178:GLU:HA	60:BZ:178:GLU:OE2	2.15	0.46
1:AA:270:A:C5	1:AA:271:C:C4	3.04	0.46
1:AA:619:U:N3	3:AD:134:ASP:OD2	2.47	0.46
1:AA:758:G:H5''	1:AA:880:C:H1'	1.98	0.46
1:AA:959:A:C2	1:AA:1222:G:C4'	2.98	0.46
1:AA:1327:C:P	21:AU:12:LYS:HZ3	2.38	0.46
2:AB:43:ASP:OD1	2:AB:45:GLN:HB3	2.15	0.46
2:AB:102:LEU:H	2:AB:102:LEU:HD12	1.80	0.46
2:AB:216:SER:C	2:AB:218:ALA:N	2.68	0.46
3:AD:10:ARG:C	3:AD:11:LEU:HD23	2.35	0.46
5:AF:21:LEU:O	5:AF:24:GLU:N	2.48	0.46
5:AF:75:LEU:O	5:AF:76:ALA:C	2.53	0.46
11:AQ:79:SER:O	11:AQ:81:ARG:HG3	2.16	0.46
13:AT:73:HIS:O	13:AT:74:LYS:O	2.33	0.46
18:AM:83:ASP:OD2	18:AM:84:ILE:N	2.48	0.46
18:AM:91:ARG:CB	18:AM:98:VAL:HG11	2.45	0.46
24:AW:28:G:H2'	24:AW:29:G:H8	1.80	0.46
37:B9:13:LYS:C	37:B9:27:CYS:HA	2.36	0.46
38:BA:42:G:H2'	38:BA:43:A:O4'	2.16	0.46
38:BA:272:G:H1'	38:BA:272(B):G:O5'	2.14	0.46
38:BA:580:C:H2'	38:BA:581:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:589:C:H2'	38:BA:590:A:C8	2.50	0.46
38:BA:813:U:C2	38:BA:814:C:C5	3.02	0.46
38:BA:1021:A:C8	38:BA:1021:A:C3'	2.99	0.46
38:BA:1036:G:O2'	38:BA:1037:G:H5'	2.15	0.46
38:BA:1301:A:O2'	38:BA:1302:A:O5'	2.34	0.46
38:BA:1925:C:HO2'	38:BA:1926:U:H5'	1.80	0.46
38:BA:2004:G:H2'	38:BA:2005:A:O4'	2.15	0.46
38:BA:2061:G:H5''	38:BA:2503:A:C2	2.50	0.46
38:BA:2639:A:C2'	38:BA:2640:G:C5'	2.91	0.46
38:BA:2677:G:H2'	38:BA:2678:C:C6	2.49	0.46
38:BA:2705:A:H2'	38:BA:2706:G:C8	2.50	0.46
40:BC:62:VAL:O	40:BC:63:SER:C	2.53	0.46
41:BD:84:TYR:C	41:BD:84:TYR:CD2	2.88	0.46
42:BE:55:ASN:ND2	42:BE:75:VAL:CG1	2.78	0.46
44:BG:14:GLU:O	44:BG:17:PRO:HG2	2.15	0.46
44:BG:63:ILE:HD12	44:BG:63:ILE:C	2.35	0.46
44:BG:112:PRO:HB2	44:BG:113:ARG:HG2	1.96	0.46
45:BH:106:THR:CG2	45:BH:112:PRO:HB3	2.41	0.46
46:BI:101:LEU:HD23	46:BI:109:ILE:HG12	1.95	0.46
47:BL:131:ALA:HB1	47:BL:136:VAL:HG12	1.97	0.46
52:BR:75:LEU:HD13	52:BR:75:LEU:O	2.16	0.46
53:BS:78:LEU:HD11	53:BS:103:GLU:CB	2.42	0.46
54:BT:32:TYR:O	54:BT:41:ARG:O	2.33	0.46
59:BY:87:LYS:HG3	59:BY:88:LYS:N	2.31	0.46
1:AA:300:A:H1'	1:AA:565:U:O2	2.15	0.46
1:AA:426:G:H2'	1:AA:427:U:C6	2.50	0.46
1:AA:530:G:N2	25:AY:36:A:O2'	2.43	0.46
1:AA:926:G:C2	1:AA:1505:G:C8	3.04	0.46
1:AA:1064:G:OP2	1:AA:1386:G:H4'	2.15	0.46
1:AA:1488:G:O2'	1:AA:1489:G:H5'	2.16	0.46
1:AA:1495:U:O2'	38:BA:1919:A:H2	1.92	0.46
2:AB:153:ARG:O	2:AB:154:LEU:C	2.54	0.46
3:AD:14:ARG:O	3:AD:16:GLY:N	2.48	0.46
17:AJ:36:GLY:O	17:AJ:38:ILE:HG23	2.16	0.46
17:AJ:90:LEU:N	17:AJ:91:PRO:HD3	2.30	0.46
18:AM:125:ARG:O	25:AY:37:YG:C11	2.69	0.46
24:AW:24:G:H2'	24:AW:25:C:H6	1.80	0.46
27:AZ:291:ARG:O	27:AZ:293:VAL:HG13	2.16	0.46
29:B1:26:ARG:NE	29:B1:34:THR:OG1	2.48	0.46
36:B8:30:ARG:HH21	50:BP:62:LEU:CB	2.20	0.46
37:B9:3:VAL:CB	37:B9:34:GLN:HB3	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:528:A:C5'	48:BN:114:ARG:HH12	2.21	0.46
38:BA:629:G:H4'	38:BA:650:C:O2	2.16	0.46
38:BA:1062:G:H2'	38:BA:1062:G:N3	2.31	0.46
38:BA:1225:G:OP1	56:BV:88:ARG:HD2	2.15	0.46
38:BA:1386:C:OP2	38:BA:1396:U:H5	1.97	0.46
38:BA:1668:A:N3	38:BA:1670:C:C4	2.83	0.46
38:BA:1848:A:C5	38:BA:1849:G:C8	3.03	0.46
38:BA:2140:C:H2'	38:BA:2141:G:N7	2.28	0.46
38:BA:2603:G:C6	38:BA:2604:U:C5	3.04	0.46
41:BD:30:GLU:CD	41:BD:63:ARG:NE	2.68	0.46
42:BE:96:PHE:HA	42:BE:100:GLU:OE1	2.14	0.46
45:BH:87:LEU:HD12	45:BH:131:VAL:HG12	1.95	0.46
47:BL:112:MET:O	47:BL:113:PRO:O	2.33	0.46
48:BN:47:ALA:HB2	48:BN:112:LEU:HD11	1.96	0.46
49:BO:64:ARG:HD3	49:BO:101:PRO:CB	2.31	0.46
50:BP:85:LEU:HD12	50:BP:120:ALA:CB	2.45	0.46
50:BP:126:VAL:HG22	50:BP:145:PRO:CB	2.44	0.46
51:BQ:42:ILE:HG22	51:BQ:47:ILE:HD11	1.98	0.46
57:BW:28:SER:OG	57:BW:31:GLU:HB2	2.15	0.46
1:AA:66:G:N2	1:AA:172:A:H2	2.13	0.46
1:AA:235:C:H2'	1:AA:236:G:H8	1.81	0.46
1:AA:285:G:O2'	1:AA:286:G:H5'	2.14	0.46
1:AA:887:G:H2'	1:AA:888:G:H5'	1.97	0.46
1:AA:1030(A):G:O2'	1:AA:1030(C):G:N7	2.48	0.46
1:AA:1157:A:H4'	1:AA:1158:C:O5'	2.14	0.46
1:AA:1321:C:H3'	1:AA:1322:C:H5''	1.96	0.46
3:AD:8:VAL:C	3:AD:10:ARG:N	2.68	0.46
3:AD:134:ASP:OD2	3:AD:135:LEU:HD22	2.16	0.46
4:AE:142:LEU:O	4:AE:143:ARG:NE	2.48	0.46
9:AO:53:HIS:CE1	38:BA:715:G:C6	3.04	0.46
12:AR:68:LYS:O	12:AR:69:THR:C	2.53	0.46
15:AG:134:ALA:O	15:AG:135:VAL:C	2.53	0.46
16:AI:63:ILE:HD12	16:AI:63:ILE:N	2.31	0.46
17:AJ:40:LEU:HD21	17:AJ:69:ASN:C	2.35	0.46
17:AJ:55:LYS:O	17:AJ:56:HIS:CG	2.69	0.46
22:AV:4:G:O2'	22:AV:5:G:P	2.74	0.46
22:AV:24:U:O2	38:BA:1923:U:H5'	2.14	0.46
22:AV:25:C:H2'	22:AV:26:G:O4'	2.15	0.46
27:AZ:69:GLU:HB3	27:AZ:273:HIS:NE2	2.31	0.46
28:B0:1:MET:H3	38:BA:2602:A:H61	1.63	0.46
30:B2:17:SER:HB3	30:B2:18:PRO:HD3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B2:39:ALA:O	30:B2:40:SER:C	2.53	0.46
35:B7:5:TRP:NE1	35:B7:7:PRO:HG3	2.31	0.46
38:BA:570:G:H2'	38:BA:2030:A:C5	2.50	0.46
38:BA:941:A:H4'	50:BP:35:HIS:HE1	1.77	0.46
38:BA:1038:C:N4	38:BA:1117:G:H1	2.08	0.46
38:BA:1121:C:H2'	38:BA:1122:G:O4'	2.16	0.46
38:BA:1231:G:O2'	38:BA:1232:G:H5'	2.15	0.46
38:BA:1622:G:C2	38:BA:1623:G:C8	3.04	0.46
38:BA:2777:G:H5''	38:BA:2778:A:H5'	1.98	0.46
40:BC:64:LEU:HD12	40:BC:66:HIS:HB2	1.96	0.46
41:BD:69:ARG:HD2	41:BD:119:ALA:HB2	1.98	0.46
41:BD:144:ALA:HB3	41:BD:192:THR:CG2	2.45	0.46
42:BE:48:GLN:HE21	42:BE:78:LEU:CD1	2.28	0.46
42:BE:52:LEU:N	42:BE:76:ARG:HB3	2.28	0.46
44:BG:153:ARG:HB3	44:BG:153:ARG:CZ	2.45	0.46
46:BI:79:ILE:CG1	46:BI:140:LEU:HD21	2.46	0.46
46:BI:94:ALA:CB	46:BI:114:LEU:HD12	2.45	0.46
47:BL:12:LEU:HD21	47:BL:22:PRO:HB2	1.95	0.46
47:BL:131:ALA:C	47:BL:136:VAL:O	2.53	0.46
48:BN:39:ARG:O	48:BN:39:ARG:HD3	2.16	0.46
52:BR:48:VAL:HA	52:BR:51:LEU:HD12	1.97	0.46
54:BT:29:ARG:HG2	54:BT:86:ILE:N	2.29	0.46
58:BX:14:SER:H	58:BX:17:ALA:CB	2.25	0.46
58:BX:14:SER:O	58:BX:17:ALA:N	2.48	0.46
1:AA:192:U:C1'	13:AT:103:GLY:HA2	2.45	0.46
1:AA:588:G:H2'	1:AA:589:C:H6	1.81	0.46
1:AA:627:G:O2'	1:AA:628:G:H5'	2.15	0.46
1:AA:630:G:C3'	1:AA:631:G:H5''	2.45	0.46
1:AA:1227:A:OP2	18:AM:111:LYS:HE2	2.16	0.46
1:AA:1354:C:O2'	1:AA:1355:G:H5'	2.15	0.46
1:AA:1466:C:H2'	1:AA:1467:G:H5'	1.97	0.46
2:AB:19:HIS:CG	2:AB:20:GLU:H	2.32	0.46
2:AB:100:GLY:O	2:AB:104:ASN:HB3	2.15	0.46
2:AB:124:SER:O	2:AB:127:ILE:HG12	2.14	0.46
3:AD:92:VAL:O	3:AD:93:PHE:C	2.54	0.46
15:AG:140:ASP:HA	15:AG:143:ARG:NH1	2.28	0.46
16:AI:50:LEU:O	16:AI:54:ASP:N	2.48	0.46
19:AN:36:PHE:CG	19:AN:37:PHE:N	2.84	0.46
22:AV:74:C:H5''	38:BA:2602:A:H5''	1.96	0.46
25:AY:36:A:C2	26:A0:101:U:C5	3.03	0.46
27:AZ:289:LEU:N	27:AZ:289:LEU:HD12	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B1:48:LYS:O	29:B1:49:VAL:HB	2.15	0.46
29:B1:87:PRO:HB2	29:B1:91:LYS:CD	2.45	0.46
31:B3:52:HIS:ND1	31:B3:53:LEU:HG	2.31	0.46
38:BA:27:G:C2'	38:BA:28:A:OP2	2.63	0.46
38:BA:741:G:H2'	38:BA:742:G:C8	2.50	0.46
38:BA:810:U:O2'	50:BP:33:ARG:CZ	2.63	0.46
38:BA:974:G:C5	38:BA:989:G:C2	3.03	0.46
38:BA:1053:C:C6	38:BA:1054:A:N7	2.83	0.46
38:BA:1096:A:C8	38:BA:1097:U:C6	3.04	0.46
38:BA:1165:U:O2'	38:BA:1166:C:H5'	2.15	0.46
38:BA:1428:C:C5	38:BA:1569:A:H5''	2.50	0.46
38:BA:1577:C:H2'	38:BA:1578:U:H6	1.78	0.46
38:BA:1748:G:H2'	38:BA:1749:A:O4'	2.15	0.46
38:BA:2130:U:C5	38:BA:2159:G:N1	2.84	0.46
38:BA:2287:A:C2	38:BA:2346:A:N1	2.84	0.46
38:BA:2663:G:H2'	38:BA:2664:G:C8	2.50	0.46
41:BD:118:VAL:CG2	41:BD:119:ALA:N	2.78	0.46
41:BD:232:PRO:HG2	41:BD:248:SER:O	2.16	0.46
42:BE:79:ARG:HG2	42:BE:79:ARG:NH1	2.25	0.46
44:BG:154:GLY:O	44:BG:155:MET:HB3	2.16	0.46
45:BH:46:GLU:O	45:BH:47:GLU:CB	2.62	0.46
47:BL:23:VAL:HG21	47:BL:41:PHE:HE1	1.80	0.46
47:BL:24:GLY:HA2	47:BL:34:ILE:HD13	1.98	0.46
47:BL:54:PRO:HG3	47:BL:73:PRO:HD2	1.96	0.46
52:BR:11:ASN:CG	52:BR:12:ARG:H	2.19	0.46
53:BS:46:VAL:HG12	53:BS:47:THR:N	2.31	0.46
54:BT:58:ASN:C	54:BT:58:ASN:ND2	2.67	0.46
55:BU:61:TRP:O	55:BU:62:ILE:C	2.52	0.46
56:BV:13:ARG:HG3	56:BV:13:ARG:NH1	2.30	0.46
56:BV:20:LEU:HB3	56:BV:21:ARG:HD3	1.97	0.46
59:BY:11:ASP:O	59:BY:27:VAL:HA	2.16	0.46
1:AA:321:A:C2	1:AA:333:G:C2	3.03	0.46
1:AA:792:A:O2'	1:AA:794:A:N7	2.38	0.46
1:AA:966:G:C5	22:AV:34:C:O4'	2.69	0.46
1:AA:993:G:O6	1:AA:1045:C:N4	2.44	0.46
1:AA:1030(A):G:H1'	1:AA:1031:G:H22	1.81	0.46
1:AA:1030(D):A:H2'	1:AA:1031:G:H5'	1.97	0.46
1:AA:1057:G:C5	1:AA:1204:A:C2	3.04	0.46
1:AA:1074:G:H2'	1:AA:1075:C:H6	1.80	0.46
1:AA:1089:G:O2'	1:AA:1090:U:H5'	2.16	0.46
1:AA:1178:G:N2	1:AA:1180:A:H3'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1202:G:C4	19:AN:42:ILE:HG21	2.51	0.46
1:AA:1469:G:H2'	1:AA:1470:G:H8	1.80	0.46
2:AB:78:GLN:HB3	2:AB:94:ASN:HD21	1.81	0.46
2:AB:189:ASP:OD1	2:AB:205:ASP:HB3	2.16	0.46
3:AD:68:TYR:CD2	3:AD:97:LEU:HD22	2.51	0.46
3:AD:92:VAL:O	3:AD:95:GLY:N	2.49	0.46
3:AD:106:TYR:CE1	3:AD:113:SER:HA	2.50	0.46
3:AD:127:THR:OG1	3:AD:128:VAL:N	2.49	0.46
3:AD:157:LEU:C	3:AD:159:ARG:N	2.66	0.46
3:AD:159:ARG:O	3:AD:161:ASN:N	2.49	0.46
6:AH:20:TYR:HA	6:AH:65:TYR:CZ	2.49	0.46
9:AO:3:ILE:H	9:AO:3:ILE:HD13	1.80	0.46
12:AR:59:SER:HB3	12:AR:62:GLU:OE2	2.15	0.46
13:AT:14:LYS:O	13:AT:18:GLN:HG3	2.16	0.46
15:AG:36:LYS:HA	15:AG:39:ALA:HB3	1.97	0.46
16:AI:18:PHE:O	16:AI:61:ALA:HA	2.16	0.46
18:AM:3:ARG:HG2	18:AM:9:ILE:HG13	1.96	0.46
27:AZ:222:LEU:HD22	27:AZ:305:ALA:HB2	1.98	0.46
29:B1:33:LYS:C	29:B1:34:THR:HG22	2.34	0.46
30:B2:34:GLU:O	30:B2:34:GLU:HG2	2.15	0.46
31:B3:12:PRO:O	31:B3:14:GLY:N	2.49	0.46
31:B3:49:LYS:NZ	38:BA:851:U:OP1	2.39	0.46
36:B8:39:LYS:O	36:B8:39:LYS:HE3	2.15	0.46
36:B8:40:GLU:OE1	36:B8:44:LYS:HE3	2.15	0.46
38:BA:49:A:O2'	38:BA:50:U:OP2	2.29	0.46
38:BA:627:A:N7	50:BP:84:ASN:ND2	2.64	0.46
38:BA:1091:G:N1	38:BA:1101:U:N3	2.64	0.46
38:BA:1204:A:C2	38:BA:1241:A:N1	2.84	0.46
38:BA:2312:U:C2'	38:BA:2313:C:C5'	2.89	0.46
38:BA:2711:A:H5''	38:BA:2712:U:H5'	1.97	0.46
38:BA:2883:A:C5'	38:BA:2884:U:H5'	2.45	0.46
41:BD:77:ALA:HB2	41:BD:97:TYR:HA	1.96	0.46
41:BD:106:ILE:C	41:BD:106:ILE:CD1	2.83	0.46
44:BG:10:LYS:HD3	44:BG:14:GLU:OE1	2.15	0.46
44:BG:58:GLN:O	44:BG:62:LEU:HD12	2.15	0.46
45:BH:41:MET:CE	45:BH:55:PRO:HD3	2.45	0.46
46:BI:75:LEU:HD11	46:BI:105:HIS:HE1	1.79	0.46
47:BL:24:GLY:HA2	47:BL:34:ILE:CG1	2.45	0.46
50:BP:23:PRO:O	50:BP:33:ARG:NE	2.48	0.46
50:BP:24:GLY:CA	50:BP:33:ARG:NH2	2.74	0.46
51:BQ:7:MET:O	51:BQ:10:ARG:NH2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BR:16:HIS:O	52:BR:17:ARG:C	2.54	0.46
53:BS:53:SER:O	53:BS:56:LEU:HB3	2.16	0.46
57:BW:55:ALA:O	57:BW:58:ALA:HB3	2.15	0.46
57:BW:62:HIS:O	57:BW:63:ASP:C	2.54	0.46
60:BZ:121:HIS:O	60:BZ:122:ARG:C	2.54	0.46
1:AA:1000:U:H2'	1:AA:1001:A:H8	1.79	0.46
1:AA:1466:C:C2'	1:AA:1467:G:H5'	2.46	0.46
2:AB:239:VAL:O	2:AB:241:GLU:N	2.49	0.46
4:AE:106:PRO:O	4:AE:110:LEU:HG	2.16	0.46
6:AH:38:ILE:HG21	6:AH:111:ILE:HG12	1.98	0.46
8:AL:42:THR:HG23	8:AL:42:THR:O	2.15	0.46
8:AL:86:ARG:HB2	8:AL:101:VAL:CG2	2.45	0.46
15:AG:84:ASN:HD22	15:AG:84:ASN:N	2.13	0.46
18:AM:108:ARG:HG3	18:AM:108:ARG:HH11	1.79	0.46
18:AM:116:THR:O	18:AM:117:VAL:HB	2.16	0.46
20:AS:62:ILE:HD12	20:AS:66:MET:HG3	1.98	0.46
31:B3:5:LYS:HE2	31:B3:34:GLU:OE1	2.16	0.46
31:B3:44:ARG:O	31:B3:48:GLU:HG2	2.15	0.46
34:B6:19:ARG:O	34:B6:20:ASN:HB3	2.16	0.46
38:BA:307:G:H21	38:BA:330:A:N6	2.13	0.46
38:BA:564:C:O2'	38:BA:565:C:H5'	2.15	0.46
38:BA:917:A:H2'	38:BA:918:A:O4'	2.15	0.46
38:BA:1081:U:H5''	47:BL:122:ALA:CB	2.45	0.46
38:BA:1158:C:O2'	38:BA:1159:U:P	2.73	0.46
38:BA:1215:G:C2'	38:BA:1216:G:H5'	2.45	0.46
38:BA:1484:G:H2'	38:BA:1485:G:C4'	2.46	0.46
38:BA:1570:A:H2'	38:BA:1571:A:C8	2.51	0.46
38:BA:1742:G:N7	38:BA:1743:C:N3	2.63	0.46
38:BA:1767:C:H2'	38:BA:1768:U:O4'	2.15	0.46
38:BA:2228:G:H2'	38:BA:2229:C:H6	1.81	0.46
38:BA:2707:G:O2'	38:BA:2708:G:H5'	2.16	0.46
38:BA:2859:G:O2'	38:BA:2860:A:C5'	2.63	0.46
39:BB:32:C:C2	39:BB:51:G:C2	3.04	0.46
40:BC:183:GLU:CB	40:BC:186:ALA:HB3	2.45	0.46
42:BE:89:ASP:O	42:BE:90:THR:HB	2.15	0.46
42:BE:107:THR:O	42:BE:190:GLY:HA2	2.16	0.46
42:BE:186:GLY:O	42:BE:188:VAL:N	2.48	0.46
44:BG:56:ALA:HA	44:BG:59:GLU:HB3	1.97	0.46
45:BH:55:PRO:CG	45:BH:56:SER:N	2.78	0.46
47:BL:103:GLN:CA	47:BL:106:GLU:CG	2.93	0.46
48:BN:13:TRP:CD1	48:BN:13:TRP:N	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BP:131:SER:C	50:BP:133:SER:H	2.18	0.46
52:BR:38:VAL:O	52:BR:41:ALA:N	2.48	0.46
52:BR:99:LYS:HE3	52:BR:99:LYS:HB3	1.83	0.46
54:BT:3:ARG:C	54:BT:5:ALA:N	2.68	0.46
59:BY:7:VAL:HB	59:BY:8:LYS:HD2	1.97	0.46
59:BY:81:LYS:CE	59:BY:97:ARG:HG3	2.45	0.46
59:BY:88:LYS:NZ	59:BY:93:GLY:O	2.49	0.46
59:BY:95:LYS:CG	59:BY:101:LYS:H	2.18	0.46
1:AA:189(J):G:O2'	1:AA:189(K):U:H5'	2.15	0.46
1:AA:302:G:H21	1:AA:556:C:H4'	1.81	0.46
1:AA:360:A:O2'	1:AA:361:G:H5'	2.15	0.46
1:AA:1225:A:H2'	1:AA:1225:A:N3	2.31	0.46
1:AA:1271:G:H2'	1:AA:1272:G:C8	2.50	0.46
1:AA:1411:C:O2'	1:AA:1412:C:H5'	2.14	0.46
1:AA:1430:C:C5'	38:BA:1704:G:H5''	2.46	0.46
3:AD:146:ILE:N	3:AD:146:ILE:CD1	2.78	0.46
4:AE:10:MET:HA	4:AE:32:VAL:HA	1.98	0.46
14:AC:48:TYR:C	14:AC:50:ALA:H	2.19	0.46
14:AC:50:ALA:HB1	14:AC:70:VAL:HG11	1.98	0.46
16:AI:9:ARG:HA	16:AI:13:ALA:O	2.16	0.46
30:B2:44:LEU:HD13	30:B2:44:LEU:HA	1.71	0.46
30:B2:56:GLN:NE2	30:B2:56:GLN:N	2.64	0.46
31:B3:59:VAL:HG12	31:B3:60:GLU:N	2.31	0.46
38:BA:129:C:O2'	38:BA:130:C:H5'	2.16	0.46
38:BA:271(A):A:H62	38:BA:271(W):G:H21	1.64	0.46
38:BA:523:C:H2'	38:BA:524:U:H5'	1.96	0.46
38:BA:575:A:O2'	38:BA:576:U:H5'	2.15	0.46
38:BA:686:G:N2	38:BA:788:A:N6	2.62	0.46
38:BA:709:U:H2'	38:BA:710:G:C8	2.50	0.46
38:BA:756:C:O2'	38:BA:757:U:H5'	2.16	0.46
38:BA:827:U:H5'	38:BA:828:U:O5'	2.15	0.46
38:BA:827:U:N3	38:BA:2430:A:C6	2.84	0.46
38:BA:863:A:O2'	38:BA:864:G:H5'	2.14	0.46
38:BA:1102:C:O2'	38:BA:1103:A:H8	1.99	0.46
38:BA:1341:U:C1'	58:BX:77:LYS:HE2	2.46	0.46
38:BA:2146:C:N3	38:BA:2147:G:N7	2.64	0.46
38:BA:2175:C:H1'	40:BC:215:THR:HA	1.97	0.46
38:BA:2637:U:H5'	38:BA:2637:U:C6	2.50	0.46
38:BA:2713:A:C3'	38:BA:2714:G:C5'	2.94	0.46
38:BA:2747:G:P	45:BH:138:LYS:HZ3	2.39	0.46
40:BC:191:ALA:C	40:BC:193:ILE:N	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:174:ILE:H	41:BD:174:ILE:CD1	2.07	0.46
42:BE:51:PHE:C	42:BE:74:PRO:HB2	2.36	0.46
42:BE:84:PHE:HE1	42:BE:91:VAL:HG21	1.79	0.46
42:BE:129:HIS:O	42:BE:130:GLY:O	2.34	0.46
43:BF:25:PRO:HB3	43:BF:119:ARG:CB	2.43	0.46
46:BI:99:GLU:C	46:BI:101:LEU:H	2.19	0.46
47:BL:26:ALA:O	47:BL:30:HIS:CB	2.62	0.46
47:BL:103:GLN:O	47:BL:106:GLU:CG	2.57	0.46
48:BN:15:LEU:CB	48:BN:134:ARG:HB2	2.44	0.46
51:BQ:17:LEU:HD21	51:BQ:41:TRP:NE1	2.29	0.46
52:BR:18:LEU:C	52:BR:18:LEU:CD1	2.84	0.46
53:BS:75:GLU:O	53:BS:76:LYS:C	2.53	0.46
54:BT:28:VAL:O	54:BT:28:VAL:HG12	2.15	0.46
56:BV:70:ILE:CG1	56:BV:71:LEU:N	2.70	0.46
57:BW:17:VAL:C	57:BW:19:LEU:N	2.68	0.46
59:BY:54:LYS:O	59:BY:55:TYR:CD1	2.69	0.46
59:BY:91:GLU:HB3	59:BY:92:ASN:H	1.46	0.46
1:AA:243:A:H4'	1:AA:244:U:O5'	2.15	0.46
1:AA:429:U:H1'	1:AA:430:A:H5''	1.97	0.46
1:AA:617:G:H1	1:AA:623:C:H42	1.63	0.46
1:AA:619:U:C2	3:AD:135:LEU:CD2	2.99	0.46
1:AA:908:A:H2'	1:AA:909:A:C8	2.51	0.46
1:AA:1194:U:C4'	4:AE:22:GLY:O	2.61	0.46
1:AA:1221:G:P	20:AS:36:ARG:HD3	2.56	0.46
1:AA:1239:A:H2'	1:AA:1298:C:H42	1.79	0.46
2:AB:80:ILE:HG13	2:AB:81:VAL:N	2.30	0.46
3:AD:70:ILE:HD11	3:AD:74:GLN:HB3	1.98	0.46
5:AF:91:VAL:HG12	5:AF:92:LYS:O	2.16	0.46
9:AO:66:LEU:O	9:AO:67:LEU:C	2.53	0.46
10:AP:3:LYS:O	10:AP:21:VAL:HA	2.16	0.46
13:AT:13:LEU:O	13:AT:16:HIS:N	2.48	0.46
14:AC:180:ALA:HB1	14:AC:182:ILE:HG13	1.98	0.46
16:AI:77:ILE:O	16:AI:81:ILE:HG12	2.16	0.46
18:AM:29:ARG:HA	18:AM:32:GLU:HB3	1.98	0.46
22:AV:11:A:O2'	22:AV:12:G:H5'	2.16	0.46
22:AV:35:A:C2	23:AX:18:G:C2	3.04	0.46
24:AW:59:U:H3'	24:AW:60:U:C6	2.50	0.46
27:AZ:230:THR:H	27:AZ:295:ARG:HH21	1.64	0.46
29:B1:42:GLN:HG2	29:B1:43:TYR:H	1.81	0.46
29:B1:71:TYR:O	29:B1:72:GLU:C	2.54	0.46
37:B9:34:GLN:C	37:B9:35:ARG:HG3	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:270:A:C2'	38:BA:271:A:H5'	2.45	0.46
38:BA:329:G:OP2	59:BY:71:LYS:HE3	2.16	0.46
38:BA:343:C:C2'	38:BA:344:G:H5''	2.45	0.46
38:BA:442:G:O4'	43:BF:46:ARG:HD3	2.15	0.46
38:BA:646:A:H3'	38:BA:647:G:C8	2.50	0.46
38:BA:859:G:O4'	38:BA:2268:A:H1'	2.16	0.46
38:BA:996:A:C4'	55:BU:92:ARG:HH21	2.28	0.46
38:BA:1028:A:N6	38:BA:1125:G:H2'	2.31	0.46
38:BA:1073:A:C8	38:BA:1074:G:C5	3.04	0.46
38:BA:1289:C:H2'	38:BA:1290:C:C6	2.50	0.46
38:BA:1783:A:C2	38:BA:2587:A:C5	3.04	0.46
38:BA:2050:C:H1'	42:BE:156:MET:HE2	1.97	0.46
38:BA:2124:G:C2'	38:BA:2125:G:H5'	2.46	0.46
38:BA:2291:U:H2'	38:BA:2292:C:C6	2.51	0.46
38:BA:2588:G:O6	38:BA:2607:G:C6	2.69	0.46
38:BA:2869:G:O3'	52:BR:61:HIS:HE1	1.98	0.46
39:BB:21:G:O6	39:BB:62:C:N3	2.48	0.46
40:BC:77:ILE:HD12	40:BC:123:VAL:H	1.80	0.46
41:BD:35:LYS:HG2	41:BD:64:ILE:CA	2.45	0.46
42:BE:37:ARG:HD3	42:BE:44:TYR:CE2	2.51	0.46
42:BE:57:LYS:C	42:BE:59:VAL:N	2.69	0.46
42:BE:179:GLU:HB3	42:BE:181:LEU:CD2	2.46	0.46
43:BF:62:ARG:HH21	43:BF:64:ILE:HA	1.80	0.46
46:BI:92:VAL:HG22	46:BI:97:ILE:HG13	1.98	0.46
47:BL:37:PHE:CE2	47:BL:66:THR:N	2.83	0.46
50:BP:93:GLY:O	50:BP:123:LEU:HB2	2.16	0.46
51:BQ:37:LEU:HB2	51:BQ:128:LYS:O	2.15	0.46
52:BR:17:ARG:O	52:BR:20:LEU:HB3	2.16	0.46
53:BS:67:ARG:C	53:BS:69:VAL:N	2.69	0.46
57:BW:59:VAL:HG12	57:BW:60:ASN:H	1.74	0.46
57:BW:88:ARG:HD2	57:BW:88:ARG:HA	1.46	0.46
59:BY:28:LYS:CB	59:BY:37:VAL:HB	2.46	0.46
60:BZ:6:LYS:CB	60:BZ:8:TYR:HE1	2.29	0.46
60:BZ:7:ALA:HB2	60:BZ:59:LEU:HB3	1.98	0.46
60:BZ:53:ILE:HG22	60:BZ:71:VAL:CB	2.42	0.46
1:AA:197:A:N6	1:AA:221:C:C5'	2.79	0.46
1:AA:393:A:C2	1:AA:394:G:C8	3.04	0.46
1:AA:893:C:H2'	1:AA:894:G:C8	2.51	0.46
1:AA:918:A:N6	1:AA:919:A:C6	2.84	0.46
1:AA:977:A:O2'	1:AA:978:A:H5'	2.16	0.46
1:AA:1228:C:P	18:AM:108:ARG:HH22	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1305:G:C2	1:AA:1331:G:N3	2.84	0.46
8:AL:46:LYS:CG	8:AL:47:LYS:N	2.71	0.46
11:AQ:83:ASP:CG	11:AQ:84:LEU:H	2.20	0.46
14:AC:22:TRP:CZ2	19:AN:54:PRO:HG2	2.50	0.46
14:AC:40:ARG:O	14:AC:44:GLU:HG3	2.15	0.46
16:AI:47:LEU:N	16:AI:47:LEU:CD1	2.79	0.46
16:AI:118:LYS:NZ	16:AI:118:LYS:HB3	2.31	0.46
22:AV:56:C:N3	44:BG:83:ARG:NH1	2.59	0.46
24:AW:26:A:H61	24:AW:44:G:H1	1.62	0.46
25:AY:74:C:C2'	25:AY:75:C:H5'	2.45	0.46
33:B5:17:ASP:O	33:B5:20:ARG:N	2.42	0.46
38:BA:534:U:O2'	55:BU:49:HIS:CD2	2.68	0.46
38:BA:795:C:H2'	38:BA:796:C:C6	2.51	0.46
38:BA:1056:G:O6	38:BA:1101:U:O5'	2.34	0.46
38:BA:1341:U:O4'	58:BX:57:LEU:HD11	2.17	0.46
38:BA:1352:U:O2'	38:BA:1353:A:H5'	2.15	0.46
38:BA:1365:A:C4	38:BA:1366:A:C8	3.04	0.46
38:BA:1629:U:O2	38:BA:2698:U:H5''	2.16	0.46
38:BA:1799:G:H2'	41:BD:181:GLU:OE2	2.15	0.46
38:BA:1982:C:H3'	38:BA:1982:C:OP1	2.15	0.46
38:BA:2256:G:O2'	38:BA:2257:U:H5'	2.16	0.46
38:BA:2637:U:C2'	38:BA:2638:G:H5'	2.46	0.46
38:BA:2678:C:O2'	38:BA:2679:A:H5'	2.15	0.46
38:BA:2881:C:H2'	38:BA:2882:A:H8	1.80	0.46
39:BB:21:G:H2'	39:BB:21:G:N3	2.30	0.46
41:BD:24:ILE:HD11	41:BD:84:TYR:N	2.31	0.46
41:BD:106:ILE:CD1	41:BD:196:VAL:HG13	2.39	0.46
42:BE:5:LEU:HB2	42:BE:51:PHE:CD2	2.46	0.46
42:BE:59:VAL:HG21	42:BE:63:LEU:HA	1.98	0.46
45:BH:146:ALA:C	45:BH:148:ILE:N	2.69	0.46
49:BO:77:ILE:HD12	54:BT:74:ARG:HG2	1.98	0.46
51:BQ:47:ILE:H	51:BQ:47:ILE:CD1	2.28	0.46
54:BT:106:SER:O	54:BT:107:ASP:HB3	2.16	0.46
57:BW:28:SER:OG	57:BW:31:GLU:CB	2.64	0.46
59:BY:8:LYS:HG2	59:BY:13:VAL:HG13	1.97	0.46
1:AA:423:G:H2'	1:AA:424:G:O4'	2.16	0.45
1:AA:710:G:O2'	1:AA:711:G:H5'	2.16	0.45
1:AA:867:G:N2	1:AA:868:C:C2	2.84	0.45
1:AA:1080:A:H5'	4:AE:14:ARG:NH2	2.31	0.45
2:AB:46:LYS:O	2:AB:47:THR:C	2.55	0.45
3:AD:105:VAL:O	3:AD:105:VAL:HG12	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:157:LEU:O	3:AD:158:ILE:C	2.54	0.45
4:AE:71:LEU:HD22	4:AE:115:VAL:HG13	1.98	0.45
7:AK:44:SER:OG	7:AK:47:VAL:HG23	2.15	0.45
13:AT:87:LYS:HG3	13:AT:91:LEU:CD1	2.45	0.45
13:AT:89:ARG:HG3	13:AT:89:ARG:HH21	1.81	0.45
14:AC:12:LEU:O	14:AC:13:GLY:C	2.53	0.45
14:AC:70:VAL:O	14:AC:105:GLU:HA	2.16	0.45
15:AG:71:PRO:HG3	15:AG:103:TRP:CH2	2.51	0.45
16:AI:48:GLU:HA	16:AI:51:ARG:HD2	1.97	0.45
18:AM:19:LEU:H	18:AM:19:LEU:HD22	1.79	0.45
18:AM:118:ALA:O	18:AM:119:GLY:N	2.48	0.45
20:AS:36:ARG:NH1	20:AS:52:TYR:O	2.49	0.45
29:B1:37:ILE:HG22	29:B1:38:SER:N	2.30	0.45
29:B1:73:LEU:HD21	29:B1:90:ILE:O	2.16	0.45
29:B1:88:LYS:O	29:B1:92:LYS:CB	2.63	0.45
33:B5:20:ARG:NH1	57:BW:15:ARG:NE	2.64	0.45
37:B9:3:VAL:HB	37:B9:34:GLN:HB3	1.96	0.45
38:BA:661:C:O3'	50:BP:18:ARG:HG2	2.17	0.45
38:BA:751:A:C5'	57:BW:90:ARG:HA	2.45	0.45
38:BA:826:U:H2'	38:BA:828:U:O4'	2.16	0.45
38:BA:1446:C:O2'	38:BA:1447:G:H5'	2.17	0.45
38:BA:1803:A:H4'	41:BD:259:THR:HG21	1.97	0.45
38:BA:1843:C:O2'	38:BA:1844:C:H5'	2.16	0.45
38:BA:1948:G:H8	38:BA:1948:G:C5'	2.17	0.45
38:BA:2134:A:C4	38:BA:2135:A:C8	3.04	0.45
38:BA:2732:G:C2'	38:BA:2733:A:H5'	2.45	0.45
38:BA:2808:U:H2'	38:BA:2809:A:C5'	2.46	0.45
38:BA:2808:U:O2'	38:BA:2809:A:H5'	2.16	0.45
41:BD:142:VAL:HG23	41:BD:192:THR:O	2.15	0.45
41:BD:238:GLY:O	41:BD:239:ARG:O	2.34	0.45
44:BG:60:LEU:O	44:BG:60:LEU:HD22	2.15	0.45
44:BG:112:PRO:C	44:BG:113:ARG:CA	2.83	0.45
45:BH:72:ILE:O	45:BH:75:ALA:N	2.50	0.45
46:BI:9:LEU:H	46:BI:13:GLY:CA	2.11	0.45
46:BI:61:ARG:H	46:BI:61:ARG:HD2	1.80	0.45
47:BL:9:LYS:HA	47:BL:56:GLU:CG	2.46	0.45
47:BL:58:THR:HG23	47:BL:67:PHE:CD1	2.51	0.45
48:BN:18:ALA:HB1	48:BN:21:LYS:CG	2.46	0.45
49:BO:87:ILE:HD12	49:BO:91:LEU:O	2.15	0.45
49:BO:121:VAL:O	49:BO:122:LEU:HD23	2.15	0.45
50:BP:58:THR:O	50:BP:58:THR:HG22	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BP:108:LYS:O	50:BP:110:TYR:N	2.50	0.45
54:BT:92:GLY:O	54:BT:94:ALA:N	2.36	0.45
56:BV:21:ARG:H	56:BV:21:ARG:CD	2.10	0.45
57:BW:73:ALA:HB3	57:BW:106:ILE:HD11	1.97	0.45
60:BZ:120:ILE:O	60:BZ:121:HIS:HB2	2.14	0.45
1:AA:101:A:C2	1:AA:102:G:C8	3.04	0.45
1:AA:124:G:C6	1:AA:125:U:C4	3.05	0.45
1:AA:171:A:C2	1:AA:172:A:C2	3.04	0.45
1:AA:318:G:O2'	1:AA:319:G:H5'	2.15	0.45
1:AA:453:A:H2'	1:AA:454:C:C6	2.51	0.45
1:AA:540:G:O2'	1:AA:541:G:H5'	2.16	0.45
1:AA:832:C:HO2'	1:AA:833:U:P	2.39	0.45
1:AA:974:A:P	19:AN:41:ARG:HH12	2.39	0.45
2:AB:97:TRP:CZ3	2:AB:173:ALA:HA	2.51	0.45
2:AB:178:ARG:HD2	6:AH:71:GLY:HA2	1.97	0.45
2:AB:220:ASP:O	2:AB:223:ILE:N	2.49	0.45
5:AF:33:TYR:CD1	5:AF:75:LEU:HB2	2.51	0.45
5:AF:91:VAL:CG1	5:AF:92:LYS:N	2.78	0.45
6:AH:63:LEU:HB2	6:AH:65:TYR:CE1	2.50	0.45
11:AQ:18:THR:HG22	11:AQ:19:VAL:N	2.31	0.45
12:AR:40:LEU:O	12:AR:42:ARG:N	2.50	0.45
14:AC:58:GLU:N	14:AC:65:ALA:HB3	2.22	0.45
15:AG:26:PHE:O	15:AG:27:ILE:C	2.54	0.45
20:AS:50:ALA:HB1	20:AS:57:HIS:HB3	1.98	0.45
25:AY:36:A:N3	26:A0:101:U:C4	2.84	0.45
30:B2:26:ARG:HE	30:B2:29:LYS:HZ1	1.65	0.45
33:B5:2:ALA:HB3	38:BA:747:U:N1	2.31	0.45
33:B5:44:THR:HG21	52:BR:101:ALA:CA	2.46	0.45
37:B9:16:VAL:CA	37:B9:25:VAL:HB	2.43	0.45
38:BA:116:C:O2'	38:BA:117:G:H5'	2.16	0.45
38:BA:1449:A:H8	38:BA:1449:A:OP2	1.99	0.45
38:BA:1798:U:H5'	41:BD:259:THR:CG2	2.42	0.45
38:BA:2135:A:H61	38:BA:2156:G:C1'	2.29	0.45
38:BA:2201:C:H2'	38:BA:2202:C:H6	1.80	0.45
38:BA:2393:A:O5'	50:BP:62:LEU:HD12	2.17	0.45
38:BA:2464:C:O2'	38:BA:2465:C:P	2.75	0.45
38:BA:2574:G:H2'	38:BA:2575:C:H6	1.81	0.45
38:BA:2779:U:H4'	38:BA:2780:G:C5'	2.46	0.45
43:BF:11:VAL:HG12	43:BF:12:LEU:HG	1.97	0.45
43:BF:22:ALA:HA	43:BF:26:ALA:CB	2.33	0.45
43:BF:118:ALA:HA	43:BF:123:LEU:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BG:99:MET:O	44:BG:100:TRP:C	2.53	0.45
45:BH:44:VAL:O	45:BH:46:GLU:OE2	2.35	0.45
45:BH:89:ILE:HG12	45:BH:90:LYS:H	1.80	0.45
48:BN:17:ASP:OD1	48:BN:19:GLU:HG3	2.16	0.45
48:BN:126:PRO:O	48:BN:127:ASP:CB	2.55	0.45
49:BO:87:ILE:HD13	49:BO:93:PRO:HA	1.99	0.45
51:BQ:42:ILE:HD11	51:BQ:127:ILE:HD11	1.97	0.45
51:BQ:43:THR:O	51:BQ:44:ALA:C	2.55	0.45
53:BS:57:LYS:O	53:BS:58:LEU:O	2.34	0.45
53:BS:69:VAL:O	53:BS:72:ALA:HB3	2.16	0.45
54:BT:43:GLN:NE2	54:BT:74:ARG:HH21	2.14	0.45
55:BU:92:ARG:C	55:BU:94:ASN:H	2.19	0.45
55:BU:106:PHE:HA	55:BU:109:LEU:HD12	1.98	0.45
57:BW:35:ILE:CG2	57:BW:36:LEU:N	2.79	0.45
58:BX:5:TYR:C	58:BX:7:VAL:N	2.69	0.45
59:BY:40:GLU:HA	59:BY:40:GLU:OE2	2.16	0.45
59:BY:64:GLU:H	59:BY:64:GLU:CD	2.20	0.45
1:AA:9:G:OP1	4:AE:122:GLU:HG3	2.16	0.45
1:AA:55:A:H2	27:AZ:234:ARG:CG	2.18	0.45
1:AA:197:A:C5	1:AA:221:C:H4'	2.50	0.45
1:AA:829:G:O2'	1:AA:830:G:H5'	2.16	0.45
1:AA:992:U:H4'	1:AA:993:G:O5'	2.15	0.45
1:AA:1084:G:H5'	1:AA:1102:A:OP2	2.16	0.45
1:AA:1096:C:O3'	2:AB:137:ARG:NH2	2.49	0.45
1:AA:1104:G:OP1	2:AB:111:ARG:HD2	2.15	0.45
1:AA:1226:C:OP2	18:AM:103:THR:HG21	2.16	0.45
1:AA:1346:A:C4	15:AG:10:ARG:NH1	2.83	0.45
1:AA:1502:A:H2	1:AA:1505:G:H1	1.62	0.45
2:AB:59:GLU:C	2:AB:61:LEU:H	2.19	0.45
6:AH:109:ILE:HG12	6:AH:110:ALA:H	1.80	0.45
8:AL:88:GLY:O	8:AL:99:HIS:ND1	2.48	0.45
10:AP:67:THR:HG22	10:AP:68:ASP:N	2.30	0.45
12:AR:31:LEU:HD23	12:AR:31:LEU:H	1.82	0.45
14:AC:23:TYR:CD2	14:AC:24:ALA:N	2.85	0.45
14:AC:179:ARG:HG3	14:AC:179:ARG:O	2.16	0.45
15:AG:32:ARG:HG2	15:AG:32:ARG:HH11	1.80	0.45
15:AG:45:ASP:O	15:AG:49:ILE:HG12	2.16	0.45
18:AM:16:ASP:OD2	18:AM:16:ASP:N	2.49	0.45
22:AV:27:U:H2'	22:AV:28:C:H6	1.81	0.45
25:AY:37:YG:H31	25:AY:37:YG:O2'	2.15	0.45
32:B4:30:GLU:O	32:B4:31:ILE:CB	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:B5:40:LYS:HD3	33:B5:46:CYS:CB	2.45	0.45
38:BA:271(C):C:H2'	38:BA:271(D):G:H8	1.82	0.45
38:BA:290:G:O2'	38:BA:291:C:H5'	2.16	0.45
38:BA:945:A:C4	38:BA:2448:A:C2	3.03	0.45
38:BA:1478:G:O2'	38:BA:1558:A:H2	1.99	0.45
38:BA:1763:G:H4'	38:BA:1763:G:OP1	2.16	0.45
38:BA:2014:A:C2	38:BA:2015:A:N1	2.84	0.45
38:BA:2158:A:H2'	38:BA:2159:G:C4'	2.46	0.45
38:BA:2298:A:N6	38:BA:2318:G:C8	2.81	0.45
38:BA:2779:U:O2	38:BA:2779:U:O4'	2.33	0.45
38:BA:2839:G:H2'	38:BA:2840:C:C6	2.51	0.45
39:BB:5:C:H2'	39:BB:6:C:C6	2.51	0.45
39:BB:37:C:H2'	39:BB:38:C:O4'	2.16	0.45
40:BC:18:LYS:CD	40:BC:19:VAL:HG23	2.41	0.45
41:BD:77:ALA:HB2	41:BD:97:TYR:CG	2.52	0.45
43:BF:24:LEU:HD12	43:BF:25:PRO:HD2	1.98	0.45
43:BF:33:LEU:O	43:BF:37:VAL:HG23	2.16	0.45
47:BL:79:ARG:HA	47:BL:82:ALA:HB3	1.99	0.45
47:BL:100:THR:O	47:BL:104:VAL:CG2	2.64	0.45
48:BN:42:TRP:HA	48:BN:42:TRP:CE3	2.52	0.45
51:BQ:114:ALA:O	51:BQ:117:ALA:HB3	2.16	0.45
52:BR:87:TYR:O	52:BR:89:ASP:N	2.43	0.45
53:BS:28:VAL:C	53:BS:89:ARG:HD2	2.37	0.45
54:BT:26:ASP:HB3	54:BT:89:VAL:O	2.15	0.45
54:BT:48:ILE:HD12	54:BT:48:ILE:N	2.30	0.45
55:BU:50:ARG:CZ	56:BV:75:PHE:HE2	2.29	0.45
55:BU:74:LEU:HD12	55:BU:74:LEU:C	2.37	0.45
55:BU:110:VAL:O	55:BU:113:ALA:N	2.49	0.45
57:BW:14:PRO:O	57:BW:15:ARG:C	2.54	0.45
59:BY:87:LYS:O	59:BY:88:LYS:CB	2.62	0.45
1:AA:552:U:C2'	1:AA:553:A:H5'	2.47	0.45
1:AA:948:C:P	18:AM:109:THR:HG1	2.39	0.45
1:AA:1229:A:H2'	1:AA:1230:C:C6	2.52	0.45
1:AA:1416:G:H2'	1:AA:1417:G:O4'	2.16	0.45
1:AA:1437:C:H2'	1:AA:1438:G:H8	1.80	0.45
1:AA:1488:G:H2'	1:AA:1489:G:H8	1.82	0.45
2:AB:155:LEU:HD22	2:AB:155:LEU:N	2.31	0.45
6:AH:4:ASP:OD2	6:AH:7:ALA:HB2	2.16	0.45
7:AK:18:ARG:HG2	7:AK:20:TYR:CE1	2.52	0.45
7:AK:27:ASN:HB2	7:AK:55:LYS:HB3	1.99	0.45
10:AP:19:ILE:HG22	10:AP:36:ILE:HG13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AT:27:LYS:O	13:AT:27:LYS:HD3	2.16	0.45
18:AM:48:LEU:N	18:AM:48:LEU:HD23	2.32	0.45
18:AM:125:ARG:O	25:AY:37:YG:N2	2.49	0.45
19:AN:22:THR:O	19:AN:23:ARG:HB2	2.17	0.45
31:B3:26:LEU:HD21	31:B3:46:ASN:CB	2.46	0.45
36:B8:34:TRP:O	36:B8:35:GLN:CB	2.64	0.45
37:B9:24:TYR:CB	37:B9:35:ARG:CA	2.86	0.45
38:BA:271(P):C:O2'	38:BA:271(Q):G:H5'	2.17	0.45
38:BA:494:G:OP1	57:BW:8:ARG:NH1	2.48	0.45
38:BA:1328:G:O2'	38:BA:1329:U:H5''	2.17	0.45
38:BA:2176:A:H2'	38:BA:2177:C:C6	2.52	0.45
38:BA:2522:U:O2'	38:BA:2647:U:H5''	2.16	0.45
38:BA:2610:C:O2'	38:BA:2611:U:P	2.74	0.45
38:BA:2637:U:O2'	38:BA:2638:G:H5'	2.16	0.45
41:BD:94:LEU:HD13	41:BD:94:LEU:O	2.16	0.45
44:BG:35:GLU:N	44:BG:35:GLU:OE2	2.49	0.45
44:BG:106:LEU:HD12	44:BG:110:ALA:CB	2.46	0.45
44:BG:138:GLN:OE1	44:BG:152:LEU:HA	2.16	0.45
47:BL:10:LEU:HD23	47:BL:10:LEU:H	1.79	0.45
50:BP:70:GLN:OE1	50:BP:70:GLN:HA	2.17	0.45
50:BP:95:VAL:HG23	50:BP:95:VAL:O	2.15	0.45
51:BQ:36:ALA:O	51:BQ:100:GLY:N	2.50	0.45
51:BQ:39:PRO:CA	51:BQ:99:PRO:HD3	2.47	0.45
53:BS:52:SER:O	53:BS:69:VAL:HG23	2.16	0.45
54:BT:6:LEU:HA	54:BT:9:LEU:HD12	1.98	0.45
54:BT:57:PHE:CG	54:BT:58:ASN:N	2.84	0.45
55:BU:57:PHE:HB3	55:BU:61:TRP:CZ2	2.52	0.45
58:BX:14:SER:O	58:BX:15:GLU:C	2.55	0.45
58:BX:29:TRP:CE3	58:BX:76:ARG:HB3	2.52	0.45
59:BY:37:VAL:HG11	59:BY:72:VAL:HG21	1.98	0.45
59:BY:81:LYS:HG2	59:BY:96:ILE:CB	2.46	0.45
1:AA:135:C:O5'	1:AA:135:C:H6	1.99	0.45
1:AA:621:A:O2'	1:AA:622:A:H5'	2.16	0.45
1:AA:702:A:N6	38:BA:1848:A:C6	2.84	0.45
1:AA:1218:C:OP1	19:AN:9:LYS:HE3	2.16	0.45
1:AA:1374:A:O2'	1:AA:1375:A:H5'	2.16	0.45
2:AB:74:LYS:HG3	2:AB:77:ALA:HB3	1.99	0.45
2:AB:114:ARG:HA	2:AB:117:GLU:CG	2.46	0.45
2:AB:172:ILE:N	2:AB:172:ILE:HD12	2.31	0.45
10:AP:19:ILE:HG22	10:AP:36:ILE:CG1	2.45	0.45
11:AQ:63:ARG:HG2	11:AQ:64:PRO:CD	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AM:67:GLU:CG	18:AM:68:GLY:N	2.79	0.45
25:AY:23:A:H2'	25:AY:24:G:C8	2.52	0.45
36:B8:13:ARG:HD2	50:BP:61:ARG:NH1	2.30	0.45
37:B9:33:LYS:HD2	38:BA:2527:C:C5'	2.46	0.45
38:BA:528:A:C2	38:BA:2043:C:C5'	3.00	0.45
38:BA:686:G:H21	38:BA:788:A:N6	2.15	0.45
38:BA:893:C:C2'	38:BA:894:C:H5'	2.46	0.45
38:BA:1066:U:O2'	38:BA:1068:G:H8	1.99	0.45
38:BA:1087:G:H2'	38:BA:1089:G:C4'	2.47	0.45
38:BA:1232:G:H2'	38:BA:1233:C:C6	2.52	0.45
38:BA:1301:A:O2'	38:BA:1302:A:P	2.74	0.45
38:BA:1362:C:O2'	38:BA:1363:C:H5'	2.17	0.45
38:BA:1435:G:H2'	38:BA:1436:G:O4'	2.16	0.45
38:BA:1771:C:C1'	38:BA:1786:A:C8	2.99	0.45
38:BA:1815:A:H8	38:BA:1815:A:OP1	1.99	0.45
38:BA:2308:G:C8	38:BA:2309:A:H3'	2.52	0.45
38:BA:2475:C:H42	38:BA:2529:G:N2	2.14	0.45
38:BA:2532:G:H2'	38:BA:2533:A:C8	2.51	0.45
38:BA:2689:U:H4'	38:BA:2690:C:C6	2.47	0.45
38:BA:2697:G:C2	38:BA:2711:A:C2	3.05	0.45
41:BD:238:GLY:C	41:BD:239:ARG:O	2.53	0.45
43:BF:77:ASP:C	43:BF:79:GLY:H	2.18	0.45
44:BG:86:MET:CG	44:BG:87:PRO:HD2	2.35	0.45
44:BG:144:ILE:HD12	44:BG:144:ILE:HA	1.89	0.45
44:BG:173:LEU:O	44:BG:178:PHE:HB2	2.16	0.45
45:BH:61:HIS:O	45:BH:62:LYS:C	2.54	0.45
46:BI:132:PRO:O	46:BI:133:HIS:O	2.35	0.45
47:BL:27:LEU:CA	47:BL:32:ALA:HB3	2.46	0.45
47:BL:35:MET:SD	47:BL:35:MET:O	2.75	0.45
47:BL:55:VAL:HG21	47:BL:69:THR:HG22	1.99	0.45
50:BP:7:ARG:HA	50:BP:7:ARG:HD2	1.71	0.45
51:BQ:77:LYS:HA	51:BQ:78:PRO:HD3	1.68	0.45
53:BS:64:GLU:N	53:BS:64:GLU:OE2	2.49	0.45
53:BS:97:ARG:HG3	53:BS:97:ARG:O	2.14	0.45
54:BT:15:VAL:O	54:BT:16:ARG:HG2	2.17	0.45
54:BT:29:ARG:HG3	54:BT:30:VAL:H	1.79	0.45
55:BU:64:ARG:O	55:BU:65:ILE:C	2.55	0.45
57:BW:1:MET:O	57:BW:2:GLU:HB3	2.16	0.45
57:BW:4:LYS:HE3	57:BW:6:ILE:HD11	1.97	0.45
57:BW:12:ILE:HD13	57:BW:17:VAL:CG1	2.47	0.45
57:BW:54:ALA:C	57:BW:107:LEU:HD22	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:49:VAL:O	59:BY:50:ARG:HB2	2.17	0.45
59:BY:76:CYS:SG	59:BY:77:PRO:HD2	2.57	0.45
1:AA:35:G:H21	8:AL:118:SER:HB2	1.82	0.45
1:AA:154:C:O2'	1:AA:155:C:H5'	2.17	0.45
1:AA:192:U:H2'	1:AA:193:C:C6	2.47	0.45
1:AA:773:G:O2'	1:AA:774:G:H5'	2.17	0.45
1:AA:926:G:N7	1:AA:1505:G:N1	2.65	0.45
1:AA:938:A:C6	1:AA:939:G:C5	3.04	0.45
2:AB:219:VAL:O	2:AB:222:ILE:HB	2.16	0.45
3:AD:80:GLU:O	3:AD:81:GLU:C	2.54	0.45
3:AD:135:LEU:O	3:AD:136:PRO:C	2.54	0.45
5:AF:15:ASP:OD1	5:AF:17:SER:HB2	2.16	0.45
5:AF:82:ARG:HH11	5:AF:82:ARG:CB	2.27	0.45
6:AH:6:ILE:HB	6:AH:85:ARG:HH12	1.82	0.45
8:AL:119:LYS:O	8:AL:120:TYR:CB	2.65	0.45
9:AO:43:LEU:C	9:AO:45:VAL:N	2.70	0.45
9:AO:66:LEU:N	9:AO:66:LEU:CD1	2.79	0.45
10:AP:21:VAL:O	10:AP:21:VAL:HG23	2.16	0.45
11:AQ:91:ARG:O	11:AQ:94:ASN:HB2	2.16	0.45
14:AC:21:ARG:HG3	14:AC:58:GLU:HG2	1.98	0.45
15:AG:27:ILE:HD12	15:AG:27:ILE:N	2.31	0.45
17:AJ:47:PHE:HE1	17:AJ:63:PHE:CD2	2.32	0.45
18:AM:40:ASN:O	18:AM:43:THR:HG23	2.16	0.45
24:AW:18:G:N1	24:AW:55:U:H1'	2.29	0.45
25:AY:9:A:H2'	25:AY:11:C:H41	1.82	0.45
61:AY:101:PHA:N	27:AZ:273:HIS:N	2.20	0.45
30:B2:55:ARG:CZ	38:BA:72:U:H5'	2.43	0.45
36:B8:31:HIS:O	36:B8:32:LEU:C	2.55	0.45
38:BA:206:U:O2	38:BA:206:U:H2'	2.16	0.45
38:BA:378:C:C2'	38:BA:379:G:H5'	2.47	0.45
38:BA:1060:U:H5''	38:BA:1061:U:C4	2.52	0.45
38:BA:1092:C:H6	38:BA:1092:C:C3'	2.23	0.45
38:BA:1159:U:O2'	38:BA:1160:G:H5'	2.16	0.45
38:BA:1270:C:H5''	38:BA:1271:G:C5'	2.46	0.45
38:BA:1939:U:OP1	38:BA:2604:U:O2'	2.31	0.45
38:BA:2133:G:H3'	38:BA:2157:G:N2	2.32	0.45
38:BA:2736:G:O2'	38:BA:2737:G:H5'	2.17	0.45
39:BB:38:C:O2	39:BB:48:A:H1'	2.17	0.45
40:BC:47:LEU:HD21	40:BC:172:HIS:CA	2.47	0.45
40:BC:51:PRO:HB2	40:BC:202:GLU:CB	2.47	0.45
40:BC:97:GLU:CA	40:BC:100:ILE:HG12	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BH:54:ARG:HB3	45:BH:65:HIS:HD2	1.80	0.45
45:BH:158:HIS:NE2	45:BH:169:VAL:C	2.70	0.45
46:BI:11:ASN:C	46:BI:12:LEU:HD23	2.36	0.45
46:BI:53:ALA:O	46:BI:57:ARG:HB2	2.16	0.45
47:BL:134:MET:SD	47:BL:135:GLY:N	2.90	0.45
49:BO:86:ILE:H	49:BO:86:ILE:CD1	2.29	0.45
51:BQ:141:GLN:OXT	60:BZ:98:MET:HB2	2.16	0.45
52:BR:70:LEU:HD13	52:BR:75:LEU:HD11	1.98	0.45
54:BT:6:LEU:HD23	54:BT:6:LEU:O	2.17	0.45
54:BT:10:VAL:O	54:BT:11:GLU:C	2.54	0.45
55:BU:62:ILE:HG13	55:BU:76:TYR:CZ	2.52	0.45
55:BU:79:PHE:HE1	55:BU:106:PHE:CZ	2.34	0.45
58:BX:27:THR:CB	58:BX:77:LYS:HA	2.47	0.45
58:BX:88:LYS:HD2	58:BX:88:LYS:N	2.32	0.45
59:BY:8:LYS:HZ2	59:BY:74:PRO:HD3	1.79	0.45
1:AA:360:A:H2'	1:AA:361:G:O4'	2.17	0.45
1:AA:389:A:O2'	1:AA:390:C:H5'	2.17	0.45
1:AA:617:G:H4'	10:AP:44:THR:HB	1.98	0.45
1:AA:713:G:H2'	1:AA:714:G:C8	2.52	0.45
1:AA:1242:C:O2'	1:AA:1243:C:H5'	2.17	0.45
1:AA:1471:G:O2'	1:AA:1472:U:H5'	2.17	0.45
1:AA:1496:C:H2'	1:AA:1497:G:C8	2.51	0.45
2:AB:178:ARG:HH22	2:AB:196:LEU:HA	1.82	0.45
3:AD:57:ARG:CZ	4:AE:107:ARG:NH1	2.80	0.45
6:AH:29:SER:O	6:AH:32:LYS:HB2	2.16	0.45
6:AH:45:ILE:HB	6:AH:62:TYR:O	2.16	0.45
6:AH:97:VAL:CB	6:AH:129:VAL:O	2.65	0.45
12:AR:62:GLU:O	12:AR:63:GLN:C	2.55	0.45
15:AG:36:LYS:O	15:AG:39:ALA:N	2.50	0.45
20:AS:67:VAL:C	20:AS:69:HIS:N	2.70	0.45
22:AV:57:A:C4'	44:BG:78:SER:OG	2.65	0.45
24:AW:15:G:H8	24:AW:15:G:O5'	1.99	0.45
29:B1:27:GLU:OE2	29:B1:33:LYS:N	2.50	0.45
29:B1:47:GLN:NE2	38:BA:2090:G:N3	2.65	0.45
36:B8:8:LYS:HE3	38:BA:245:G:O6	2.16	0.45
38:BA:440:G:N2	43:BF:46:ARG:NH2	2.64	0.45
38:BA:784:A:N6	38:BA:2072:G:O2'	2.49	0.45
38:BA:832:G:OP1	50:BP:40:SER:HB3	2.16	0.45
38:BA:2259:G:H1'	38:BA:2427:C:C2	2.51	0.45
38:BA:2382:G:H8	38:BA:2382:G:O5'	2.00	0.45
38:BA:2580:U:C5'	42:BE:131:ALA:N	2.76	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2737:G:O2'	38:BA:2738:A:H5'	2.17	0.45
38:BA:2821:A:O2'	38:BA:2822:G:H5'	2.16	0.45
38:BA:2870:C:C2'	38:BA:2871:C:H5'	2.47	0.45
42:BE:28:ALA:O	42:BE:180:ASN:OD1	2.35	0.45
42:BE:52:LEU:HD22	42:BE:76:ARG:HD2	1.98	0.45
43:BF:185:ASP:HA	43:BF:188:ARG:HB3	1.97	0.45
44:BG:15:VAL:HG12	44:BG:19:LEU:CD1	2.46	0.45
45:BH:144:VAL:HG22	45:BH:147:ASN:OD1	2.17	0.45
46:BI:3:VAL:HG12	46:BI:38:LEU:HA	1.99	0.45
47:BL:93:ARG:CD	60:BZ:112:ARG:HD2	2.29	0.45
53:BS:89:ARG:HB3	53:BS:92:TYR:HB3	1.99	0.45
54:BT:16:ARG:HA	54:BT:16:ARG:HD3	1.81	0.45
54:BT:65:LYS:NZ	54:BT:66:VAL:HG23	2.31	0.45
55:BU:61:TRP:O	55:BU:64:ARG:N	2.50	0.45
56:BV:32:THR:O	56:BV:63:GLY:HA2	2.16	0.45
57:BW:89:ALA:O	57:BW:90:ARG:HB2	2.17	0.45
59:BY:86:ARG:NH1	59:BY:95:LYS:HZ2	2.14	0.45
60:BZ:23:LYS:HD2	60:BZ:38:TYR:CD1	2.52	0.45
60:BZ:145:GLU:C	60:BZ:147:GLY:N	2.70	0.45
1:AA:359:U:C5'	27:AZ:230:THR:HG21	2.47	0.45
1:AA:404:U:H2'	1:AA:405:U:C6	2.52	0.45
1:AA:612:C:O2'	1:AA:613:C:H5'	2.17	0.45
1:AA:715:A:H2'	1:AA:716:A:C8	2.52	0.45
1:AA:763:G:H2'	1:AA:764:C:H6	1.82	0.45
1:AA:950:U:H3'	18:AM:102:ARG:CZ	2.45	0.45
2:AB:77:ALA:HB2	2:AB:211:ILE:CD1	2.44	0.45
4:AE:30:ALA:O	4:AE:46:GLY:N	2.42	0.45
12:AR:61:LYS:O	12:AR:65:ILE:HG13	2.17	0.45
14:AC:11:ARG:HG2	14:AC:11:ARG:NH1	2.31	0.45
18:AM:67:GLU:HG3	18:AM:68:GLY:N	2.31	0.45
19:AN:51:GLY:C	19:AN:53:LEU:H	2.19	0.45
25:AY:50:U:O2'	25:AY:51:G:H5'	2.17	0.45
30:B2:21:LEU:O	30:B2:24:LEU:HB3	2.16	0.45
36:B8:18:ALA:C	36:B8:20:GLY:H	2.20	0.45
37:B9:11:CYS:SG	37:B9:27:CYS:CB	3.05	0.45
38:BA:643:A:O2'	38:BA:644:A:H5'	2.17	0.45
38:BA:814:C:C5	50:BP:27:HIS:CD2	3.05	0.45
38:BA:977:G:O6	38:BA:987:G:C6	2.70	0.45
38:BA:978:G:C2	38:BA:986:C:C2	3.05	0.45
38:BA:1062:G:C6	38:BA:1077:A:C4	3.05	0.45
38:BA:1067:A:C8	38:BA:1068:G:N7	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1201:C:O2'	38:BA:1202:C:H5'	2.17	0.45
38:BA:1339:G:H21	38:BA:1603:A:H1'	1.79	0.45
38:BA:1353:A:H4'	41:BD:38:LYS:HZ3	1.79	0.45
38:BA:1509(B):A:H2'	38:BA:1510:G:O4'	2.17	0.45
38:BA:1722:A:H2'	38:BA:1739:U:C5'	2.41	0.45
38:BA:1803:A:O2'	41:BD:259:THR:HG21	2.16	0.45
38:BA:1860:G:H2'	38:BA:1861:G:H8	1.82	0.45
38:BA:1952:A:C2	38:BA:1953:A:C2	3.05	0.45
38:BA:2368:C:O2'	38:BA:2369:A:H5'	2.16	0.45
38:BA:2418:A:H2'	38:BA:2419:U:C6	2.52	0.45
38:BA:2766:G:N3	38:BA:2766:G:H2'	2.32	0.45
40:BC:41:VAL:O	40:BC:178:ALA:HB3	2.17	0.45
42:BE:197:ILE:O	42:BE:197:ILE:CG1	2.65	0.45
44:BG:145:THR:HG23	44:BG:148:MET:CB	2.38	0.45
46:BI:15:VAL:O	46:BI:17:GLN:N	2.49	0.45
46:BI:144:VAL:CG1	46:BI:145:VAL:H	2.17	0.45
47:BL:72:PRO:O	47:BL:111:LYS:NZ	2.34	0.45
48:BN:18:ALA:O	48:BN:21:LYS:HG2	2.17	0.45
48:BN:42:TRP:HA	48:BN:42:TRP:HE3	1.81	0.45
48:BN:46:VAL:CG1	48:BN:47:ALA:N	2.69	0.45
48:BN:57:ALA:O	48:BN:58:ASP:C	2.55	0.45
49:BO:1:MET:HB2	49:BO:32:TYR:CD2	2.52	0.45
53:BS:52:SER:OG	53:BS:55:ALA:HB3	2.17	0.45
53:BS:76:LYS:O	53:BS:79:ALA:HB3	2.16	0.45
60:BZ:163:LEU:CD1	60:BZ:167:PRO:HB3	2.47	0.45
1:AA:192:U:C4'	13:AT:103:GLY:HA2	2.47	0.45
1:AA:308:C:H2'	1:AA:309:G:H8	1.82	0.45
1:AA:824:C:H4'	6:AH:1:MET:H1	1.82	0.45
1:AA:980:C:H3'	1:AA:981:U:H6	1.81	0.45
1:AA:984:C:H2'	1:AA:985:C:H6	1.81	0.45
1:AA:1277:C:HO2'	1:AA:1279:A:H1'	1.81	0.45
1:AA:1331:G:OP2	18:AM:23:TYR:CD2	2.70	0.45
1:AA:1503:A:C6	23:AX:13:A:H8	2.31	0.45
5:AF:61:LEU:HB3	5:AF:63:TYR:HE2	1.81	0.45
6:AH:1:MET:O	6:AH:2:LEU:HB2	2.17	0.45
6:AH:125:ARG:HG3	6:AH:125:ARG:HH11	1.82	0.45
8:AL:89:ARG:HB2	8:AL:89:ARG:CZ	2.47	0.45
9:AO:78:TYR:O	9:AO:79:ARG:C	2.56	0.45
15:AG:109:ASN:HA	15:AG:119:ARG:HE	1.81	0.45
15:AG:153:HIS:O	15:AG:154:TYR:HD2	2.00	0.45
16:AI:36:TYR:CD2	16:AI:37:PHE:CE2	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AI:43:ALA:C	16:AI:45:ALA:H	2.19	0.45
18:AM:8:GLU:C	18:AM:9:ILE:HD12	2.37	0.45
22:AV:39:C:H2'	22:AV:40:C:H6	1.82	0.45
22:AV:56:C:C1'	44:BG:83:ARG:HD3	2.39	0.45
27:AZ:294:SER:C	27:AZ:296:GLU:H	2.21	0.45
37:B9:10:ILE:HB	37:B9:14:CYS:SG	2.57	0.45
38:BA:874:G:O2'	38:BA:875:G:H5'	2.17	0.45
38:BA:1401:G:H2'	38:BA:1402:C:C6	2.52	0.45
38:BA:1992:G:O2'	38:BA:1993:U:OP2	2.32	0.45
38:BA:2134:A:OP2	38:BA:2156:G:C2	2.70	0.45
38:BA:2464:C:O2'	38:BA:2465:C:O5'	2.35	0.45
39:BB:17:C:O2'	39:BB:18:G:H5'	2.17	0.45
41:BD:11:PRO:C	41:BD:13:ARG:N	2.70	0.45
41:BD:186:HIS:HD2	41:BD:188:GLU:N	1.99	0.45
42:BE:24:THR:HG21	42:BE:188:VAL:CG1	2.47	0.45
44:BG:131:TYR:CE2	44:BG:133:LEU:HD23	2.52	0.45
47:BL:131:ALA:O	47:BL:136:VAL:HB	2.16	0.45
50:BP:97:PRO:O	50:BP:99:LEU:N	2.40	0.45
54:BT:22:PHE:CD2	54:BT:22:PHE:N	2.85	0.45
54:BT:100:TYR:H	54:BT:100:TYR:HD1	1.63	0.45
55:BU:26:GLY:O	55:BU:30:LYS:HG2	2.17	0.45
56:BV:73:SER:CB	56:BV:75:PHE:CE1	2.97	0.45
57:BW:29:LEU:CD2	57:BW:33:ARG:HH21	2.27	0.45
58:BX:40:LYS:O	58:BX:44:GLU:HG2	2.17	0.45
59:BY:2:ARG:HG2	59:BY:2:ARG:NH1	2.31	0.45
59:BY:31:LEU:HD11	59:BY:34:LYS:HD3	1.99	0.45
1:AA:15:G:C4'	4:AE:24:ARG:NH2	2.77	0.45
1:AA:57:G:O2'	1:AA:58:C:H5'	2.17	0.45
1:AA:511:C:C2	1:AA:512:U:C5	3.05	0.45
1:AA:706:A:C5	1:AA:707:C:H5	2.34	0.45
1:AA:743:U:O2'	1:AA:744:C:H5'	2.17	0.45
1:AA:848:C:H2'	1:AA:849:C:C6	2.52	0.45
1:AA:891:U:O2'	1:AA:892:A:H5'	2.17	0.45
1:AA:918:A:H2'	1:AA:919:A:O4'	2.17	0.45
1:AA:967:C:H2'	1:AA:968:A:N7	2.31	0.45
1:AA:1079:G:H2'	1:AA:1080:A:C8	2.52	0.45
1:AA:1104:G:OP1	2:AB:111:ARG:CD	2.65	0.45
1:AA:1319:A:OP2	20:AS:5:LEU:HD21	2.17	0.45
3:AD:110:PHE:CD1	3:AD:110:PHE:N	2.84	0.45
5:AF:2:ARG:O	5:AF:66:GLU:HA	2.17	0.45
5:AF:13:ASN:ND2	5:AF:55:ASP:OD1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AR:73:ALA:O	12:AR:74:ARG:C	2.56	0.45
14:AC:35:GLU:O	14:AC:37:GLN:N	2.50	0.45
15:AG:155:ARG:O	15:AG:156:TRP:O	2.34	0.45
22:AV:39:C:O2'	22:AV:40:C:H5'	2.16	0.45
24:AW:15:G:N2	24:AW:59:U:C2	2.85	0.45
25:AY:8:U:C2'	25:AY:48:C:H1'	2.46	0.45
29:B1:46:LEU:HD13	29:B1:48:LYS:HE3	1.99	0.45
30:B2:40:SER:O	30:B2:41:ILE:O	2.35	0.45
31:B3:12:PRO:O	31:B3:15:TYR:HD1	2.00	0.45
33:B5:25:LEU:HB3	57:BW:23:LEU:HD13	1.99	0.45
38:BA:314:A:C2'	38:BA:315:G:H5'	2.47	0.45
38:BA:440:G:N2	43:BF:46:ARG:HH21	2.15	0.45
38:BA:1254:A:H5'	38:BA:1255:U:C5'	2.46	0.45
38:BA:1474:C:H3'	38:BA:1475:G:H8	1.82	0.45
38:BA:2145:C:H2'	38:BA:2146:C:C5	2.51	0.45
38:BA:2150:U:N3	38:BA:2151:G:N7	2.65	0.45
38:BA:2192:G:H2'	38:BA:2193:G:H5''	1.99	0.45
38:BA:2516:G:C5	38:BA:2517:C:C4	3.04	0.45
38:BA:2599:G:OP2	41:BD:236:GLY:N	2.50	0.45
38:BA:2705:A:C4	38:BA:2706:G:C8	3.05	0.45
38:BA:2732:G:C3'	38:BA:2733:A:H5'	2.46	0.45
38:BA:2807:G:C3'	38:BA:2808:U:H5''	2.46	0.45
39:BB:21:G:O2'	39:BB:22:U:P	2.75	0.45
41:BD:34:VAL:O	41:BD:35:LYS:CB	2.64	0.45
41:BD:35:LYS:CD	41:BD:104:TYR:CD1	3.00	0.45
41:BD:210:GLY:O	41:BD:211:ARG:CB	2.62	0.45
42:BE:34:VAL:O	42:BE:35:GLN:HB2	2.16	0.45
42:BE:51:PHE:HD1	42:BE:52:LEU:N	2.15	0.45
43:BF:3:GLU:HB2	43:BF:24:LEU:HG	1.99	0.45
45:BH:12:PRO:O	45:BH:14:GLY:N	2.50	0.45
46:BI:2:LYS:HB2	46:BI:39:ALA:HB3	1.99	0.45
46:BI:5:LEU:HD11	46:BI:12:LEU:HB2	1.98	0.45
47:BL:10:LEU:CD1	47:BL:41:PHE:HZ	2.27	0.45
49:BO:79:PHE:CD2	54:BT:72:VAL:HG22	2.51	0.45
49:BO:101:PRO:O	49:BO:102:VAL:HG22	2.17	0.45
52:BR:78:LYS:O	52:BR:83:ILE:N	2.50	0.45
53:BS:56:LEU:HD23	53:BS:56:LEU:C	2.38	0.45
53:BS:95:HIS:CD2	53:BS:96:GLY:H	2.35	0.45
54:BT:38:ASN:ND2	54:BT:40:THR:OG1	2.46	0.45
55:BU:66:ASN:C	55:BU:68:ALA:N	2.70	0.45
55:BU:95:LEU:HD12	56:BV:11:GLN:NE2	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BZ:120:ILE:HG21	60:BZ:170:THR:OG1	2.17	0.45
1:AA:585:G:O3'	11:AQ:34:LYS:NZ	2.44	0.44
1:AA:1432:G:OP2	54:BT:108:ARG:NH2	2.50	0.44
1:AA:1446:U:H4'	1:AA:1447:A:N7	2.32	0.44
2:AB:68:ILE:H	2:AB:90:MET:CE	2.29	0.44
3:AD:133:VAL:HG12	3:AD:134:ASP:N	2.33	0.44
4:AE:26:PHE:N	4:AE:26:PHE:CD1	2.85	0.44
5:AF:59:TYR:HD2	5:AF:61:LEU:HD11	1.82	0.44
11:AQ:9:VAL:HG12	11:AQ:10:VAL:N	2.31	0.44
13:AT:26:ASN:ND2	13:AT:26:ASN:N	2.64	0.44
15:AG:21:VAL:HG23	15:AG:22:LEU:N	2.32	0.44
16:AI:96:LEU:HG	16:AI:102:LEU:HD12	1.99	0.44
29:B1:87:PRO:HG2	29:B1:88:LYS:N	2.31	0.44
36:B8:4:MET:O	36:B8:62:LEU:HD12	2.17	0.44
36:B8:8:LYS:O	36:B8:12:LYS:HG3	2.16	0.44
38:BA:280:C:N4	38:BA:360:G:H1	2.15	0.44
38:BA:503:A:H4'	38:BA:505:A:H5''	1.99	0.44
38:BA:511:U:O4	38:BA:512:G:C2	2.70	0.44
38:BA:751:A:H8	38:BA:751:A:O5'	2.00	0.44
38:BA:1496:A:H5'	38:BA:1497:U:OP2	2.16	0.44
38:BA:1708:C:C2	38:BA:1709:U:C5	3.05	0.44
38:BA:1947:C:C3'	38:BA:1948:G:C5'	2.95	0.44
38:BA:1967:C:H2'	38:BA:1968:G:H5'	1.98	0.44
38:BA:2308:G:N7	38:BA:2310:A:H5'	2.32	0.44
38:BA:2364:C:O2'	38:BA:2365:G:H5'	2.17	0.44
38:BA:2680:C:OP1	42:BE:109:LYS:HG3	2.17	0.44
40:BC:18:LYS:HD3	40:BC:19:VAL:N	2.31	0.44
41:BD:109:ASP:HB2	41:BD:197:GLY:CA	2.47	0.44
42:BE:45:THR:O	42:BE:45:THR:HG22	2.17	0.44
42:BE:55:ASN:HD21	42:BE:75:VAL:HG21	1.82	0.44
42:BE:110:GLY:HA2	42:BE:162:ALA:N	2.32	0.44
42:BE:134:ILE:HD13	42:BE:134:ILE:N	2.30	0.44
42:BE:173:VAL:HG12	42:BE:174:ASP:H	1.80	0.44
43:BF:25:PRO:CB	43:BF:119:ARG:HD3	2.47	0.44
44:BG:16:ARG:HG3	44:BG:16:ARG:HH11	1.82	0.44
46:BI:47:LEU:HD12	46:BI:50:ARG:HH21	1.81	0.44
46:BI:94:ALA:HB1	46:BI:114:LEU:CD1	2.46	0.44
46:BI:133:HIS:O	46:BI:134:PRO:C	2.52	0.44
47:BL:21:PRO:HG2	47:BL:22:PRO:HD2	1.99	0.44
48:BN:19:GLU:O	48:BN:59:LYS:O	2.35	0.44
50:BP:112:LEU:HD13	50:BP:112:LEU:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:27:THR:HG23	54:BT:28:VAL:N	2.32	0.44
55:BU:63:VAL:O	55:BU:67:ALA:N	2.43	0.44
56:BV:1:MET:HE3	56:BV:46:VAL:HB	1.99	0.44
56:BV:25:LEU:H	56:BV:94:LEU:CD1	2.25	0.44
58:BX:89:ILE:O	58:BX:89:ILE:HG22	2.17	0.44
1:AA:200:G:H1	1:AA:217:C:N4	2.14	0.44
1:AA:453:A:H4'	10:AP:72:ARG:HG3	1.99	0.44
1:AA:967:C:H2'	1:AA:968:A:C8	2.52	0.44
1:AA:1080:A:H5'	4:AE:14:ARG:HH21	1.81	0.44
1:AA:1121:U:O2'	1:AA:1122:U:H5'	2.17	0.44
1:AA:1229:A:H2'	1:AA:1230:C:H6	1.83	0.44
1:AA:1328:C:O2'	1:AA:1329:A:H5'	2.17	0.44
1:AA:1412:C:H2'	1:AA:1413:A:H8	1.78	0.44
2:AB:97:TRP:CH2	2:AB:176:GLU:CD	2.90	0.44
4:AE:145:LYS:O	4:AE:149:GLU:HG2	2.17	0.44
6:AH:86:ILE:HG13	6:AH:133:LEU:CD2	2.47	0.44
7:AK:82:VAL:HG12	7:AK:108:ILE:HG23	2.00	0.44
7:AK:114:VAL:O	7:AK:114:VAL:HG13	2.17	0.44
8:AL:60:LEU:HD23	8:AL:64:TYR:HB3	1.99	0.44
14:AC:185:GLY:O	14:AC:200:ALA:N	2.48	0.44
16:AI:5:TYR:CG	16:AI:6:GLY:N	2.85	0.44
16:AI:117:HIS:HE2	16:AI:123:PRO:HA	1.82	0.44
18:AM:23:TYR:CZ	18:AM:71:ARG:HD3	2.53	0.44
19:AN:33:VAL:HG12	19:AN:34:TYR:H	1.82	0.44
24:AW:5:G:C2'	24:AW:6:G:H5'	2.47	0.44
27:AZ:137:LYS:HG2	62:AZ:501:GDP:C6	2.53	0.44
38:BA:303:U:H2'	38:BA:304:G:H8	1.82	0.44
38:BA:335:C:H2'	38:BA:336:C:H6	1.82	0.44
38:BA:631:A:O2'	50:BP:67:MET:HB3	2.17	0.44
38:BA:818:G:N1	38:BA:1188:U:OP2	2.36	0.44
38:BA:1051:G:O2'	38:BA:1052:C:C5'	2.63	0.44
38:BA:1122:G:C2	38:BA:1123:C:C6	3.05	0.44
38:BA:1142(A):A:C4	38:BA:1144:G:N7	2.85	0.44
38:BA:1159:U:C2'	38:BA:1160:G:H5'	2.47	0.44
38:BA:1260:G:C6	38:BA:1261:C:C4	3.05	0.44
38:BA:1899:G:H21	38:BA:1902:C:H5	1.63	0.44
38:BA:1925:C:H2'	38:BA:1926:U:H5'	1.96	0.44
38:BA:1952:A:N3	38:BA:2560:C:O2'	2.37	0.44
38:BA:2084:C:O2'	38:BA:2085:C:H5'	2.17	0.44
38:BA:2140:C:C2'	38:BA:2141:G:H8	2.30	0.44
38:BA:2313:C:C6	38:BA:2314:C:H5	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2472:G:H2'	38:BA:2475:C:H42	1.82	0.44
41:BD:25:THR:CB	41:BD:82:ILE:H	2.30	0.44
45:BH:44:VAL:CG1	45:BH:45:VAL:H	2.05	0.44
45:BH:94:TYR:CG	45:BH:107:VAL:HG12	2.52	0.44
45:BH:144:VAL:O	45:BH:144:VAL:CG1	2.61	0.44
47:BL:18:THR:H	47:BL:19:PRO:HD2	1.79	0.44
47:BL:105:LEU:N	47:BL:105:LEU:HD23	2.31	0.44
48:BN:78:TYR:H	48:BN:79:PRO:HD2	1.81	0.44
48:BN:128:HIS:O	48:BN:128:HIS:CG	2.70	0.44
50:BP:96:THR:HG22	50:BP:126:VAL:HG23	1.99	0.44
52:BR:104:ARG:HB3	52:BR:107:ASP:OD2	2.16	0.44
57:BW:92:ARG:HG2	57:BW:92:ARG:HH11	1.81	0.44
58:BX:89:ILE:N	58:BX:89:ILE:CD1	2.80	0.44
59:BY:81:LYS:HD3	59:BY:97:ARG:N	2.32	0.44
60:BZ:4:ARG:CG	60:BZ:58:VAL:HB	2.34	0.44
60:BZ:30:ASN:HD21	60:BZ:32:HIS:HB2	1.80	0.44
1:AA:192:U:O3'	13:AT:57:ARG:HD2	2.17	0.44
1:AA:625:G:OP1	10:AP:9:PHE:HB3	2.18	0.44
1:AA:741:G:H2'	1:AA:742:G:O4'	2.17	0.44
1:AA:824:C:O2'	1:AA:825:G:H5'	2.17	0.44
1:AA:973:G:H5''	17:AJ:57:LYS:NZ	2.33	0.44
1:AA:979:C:C2'	1:AA:980:C:H5''	2.47	0.44
1:AA:980:C:H6	1:AA:980:C:H5'	1.83	0.44
1:AA:1103:C:H4'	2:AB:98:LEU:HD13	1.99	0.44
1:AA:1347:G:H8	16:AI:107:ARG:HB3	1.77	0.44
1:AA:1358:U:H3'	1:AA:1359:C:C6	2.53	0.44
1:AA:1388:C:O2'	1:AA:1389:C:H5'	2.18	0.44
1:AA:1484:C:H4'	38:BA:1960:A:O2'	2.18	0.44
2:AB:27:LYS:C	2:AB:29:ALA:H	2.19	0.44
2:AB:239:VAL:O	2:AB:239:VAL:HG12	2.17	0.44
3:AD:92:VAL:HG12	3:AD:96:LEU:HD21	1.97	0.44
4:AE:41:VAL:CG1	4:AE:113:ALA:HA	2.47	0.44
4:AE:132:ALA:O	4:AE:134:ALA:N	2.51	0.44
9:AO:18:PHE:HD1	9:AO:19:PRO:O	2.00	0.44
14:AC:95:THR:HG21	14:AC:99:VAL:HG13	2.00	0.44
14:AC:206:GLU:HG2	14:AC:207:VAL:CG2	2.43	0.44
15:AG:93:PRO:O	15:AG:94:ARG:C	2.55	0.44
17:AJ:30:SER:CB	17:AJ:80:LYS:HG3	2.48	0.44
18:AM:75:ALA:CB	18:AM:79:LYS:HE3	2.46	0.44
25:AY:25:C:O2'	25:AY:26:M2G:O4'	2.35	0.44
25:AY:76:A:C5	27:AZ:231:ILE:HD12	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:A0:100:U:H2'	26:A0:101:U:C6	2.53	0.44
37:B9:10:ILE:CD1	38:BA:2476:A:H2	2.28	0.44
38:BA:71:A:H5'	38:BA:71:A:C8	2.52	0.44
38:BA:71:A:H2	58:BX:31:HIS:HE1	1.66	0.44
38:BA:94:C:O2	38:BA:94:C:H2'	2.15	0.44
38:BA:139:G:H2'	38:BA:139(A):G:H5''	1.99	0.44
38:BA:319:C:C2'	38:BA:320:A:H5'	2.47	0.44
38:BA:461:C:O2'	38:BA:462:C:H5'	2.17	0.44
38:BA:675:A:O2'	38:BA:676:A:H5'	2.17	0.44
38:BA:861:A:C2	38:BA:917:A:C4	3.06	0.44
38:BA:935:C:H2'	38:BA:936:C:H6	1.83	0.44
38:BA:1047:G:H2'	38:BA:1110:G:N1	2.32	0.44
38:BA:1071:G:C4	38:BA:1089:G:C4	3.06	0.44
38:BA:1080:C:C4	38:BA:1081:U:C5	3.06	0.44
38:BA:1326:U:O2'	38:BA:1327:C:H5'	2.16	0.44
38:BA:1494:A:OP1	38:BA:1494:A:H4'	2.17	0.44
38:BA:1946:U:H2'	38:BA:1947:C:H6	1.82	0.44
38:BA:2023:G:C2	38:BA:2024:G:C8	3.05	0.44
38:BA:2159:G:C3'	38:BA:2160:G:C5'	2.94	0.44
38:BA:2189:U:H3'	38:BA:2190:G:C5'	2.40	0.44
38:BA:2190:G:C4	38:BA:2191:G:C8	3.05	0.44
38:BA:2625:G:H2'	38:BA:2626:C:O4'	2.18	0.44
38:BA:2734:A:H5'	38:BA:2735:G:OP2	2.17	0.44
41:BD:35:LYS:CE	41:BD:104:TYR:HB2	2.48	0.44
41:BD:193:VAL:HG13	41:BD:193:VAL:O	2.17	0.44
41:BD:239:ARG:HG3	41:BD:239:ARG:HH21	1.82	0.44
42:BE:3:GLY:O	42:BE:4:ILE:CG2	2.66	0.44
42:BE:116:VAL:HG22	42:BE:122:PHE:CG	2.53	0.44
43:BF:21:ALA:C	43:BF:23:ASP:N	2.71	0.44
43:BF:103:LYS:C	43:BF:105:VAL:H	2.19	0.44
44:BG:111:LEU:HD22	44:BG:117:PHE:HE1	1.82	0.44
46:BI:84:GLY:O	46:BI:85:GLU:HB2	2.17	0.44
46:BI:139:GLN:HG2	46:BI:140:LEU:N	2.31	0.44
47:BL:7:VAL:HB	47:BL:56:GLU:OE1	2.18	0.44
47:BL:27:LEU:O	47:BL:32:ALA:N	2.50	0.44
49:BO:17:ARG:O	49:BO:18:LYS:HG3	2.16	0.44
49:BO:86:ILE:HG22	49:BO:87:ILE:N	2.32	0.44
55:BU:6:THR:O	55:BU:9:VAL:HG23	2.17	0.44
55:BU:92:ARG:HB2	56:BV:11:GLN:CD	2.37	0.44
55:BU:112:ARG:HG2	55:BU:112:ARG:NH1	2.21	0.44
56:BV:61:VAL:O	56:BV:99:ILE:HB	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BW:86:LEU:HD12	57:BW:87:PRO:CD	2.46	0.44
58:BX:63:LYS:HE3	58:BX:70:LEU:CD2	2.37	0.44
60:BZ:7:ALA:O	60:BZ:8:TYR:C	2.55	0.44
60:BZ:28:MET:CE	60:BZ:37:VAL:HG11	2.48	0.44
1:AA:198:G:H2'	1:AA:199:G:H8	1.81	0.44
1:AA:533:A:O2'	1:AA:534:U:H5''	2.17	0.44
1:AA:538:G:OP2	8:AL:115:LYS:CG	2.65	0.44
1:AA:785:G:C2'	1:AA:786:G:H5'	2.48	0.44
1:AA:881:G:P	8:AL:12:ARG:HH22	2.40	0.44
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.52	0.44
3:AD:179:GLU:C	3:AD:181:MET:H	2.19	0.44
4:AE:101:ILE:HG13	4:AE:119:LEU:CD2	2.34	0.44
5:AF:61:LEU:HB3	5:AF:63:TYR:CE2	2.52	0.44
10:AP:28:ARG:HG2	10:AP:29:ASP:OD2	2.17	0.44
11:AQ:36:ILE:HG13	11:AQ:36:ILE:O	2.18	0.44
14:AC:127:ARG:HG2	14:AC:127:ARG:HH11	1.81	0.44
17:AJ:50:ILE:HD13	17:AJ:50:ILE:N	2.31	0.44
18:AM:96:LEU:HB3	18:AM:97:PRO:HD2	1.99	0.44
25:AY:43:G:H2'	25:AY:44:A:C8	2.52	0.44
27:AZ:389:ARG:HG2	27:AZ:394:THR:HA	1.99	0.44
29:B1:20:ARG:HB3	29:B1:21:ARG:H	1.63	0.44
30:B2:36:ARG:O	30:B2:36:ARG:HD3	2.17	0.44
31:B3:15:TYR:HB3	31:B3:19:GLN:NE2	2.32	0.44
35:B7:9:ARG:HH11	35:B7:9:ARG:CG	2.30	0.44
36:B8:6:THR:CG2	38:BA:243:U:OP1	2.65	0.44
38:BA:49:A:C4'	38:BA:50:U:H5'	2.26	0.44
38:BA:320:A:C4	43:BF:136:THR:HG21	2.53	0.44
38:BA:438:G:O2'	38:BA:440:G:H5'	2.17	0.44
38:BA:483:A:H8	59:BY:47:LYS:NZ	2.07	0.44
38:BA:627:A:C6	38:BA:637:A:C8	3.06	0.44
38:BA:1052:C:O2'	38:BA:1053:C:C5'	2.65	0.44
38:BA:1069:A:H4'	38:BA:1070:A:O5'	2.14	0.44
38:BA:1088:A:H2'	38:BA:1089:G:OP1	2.17	0.44
38:BA:1239:G:H2'	38:BA:1240:U:O4'	2.17	0.44
38:BA:1683:C:H2'	38:BA:1684:C:C6	2.52	0.44
38:BA:1722:A:C6	38:BA:1741:A:N1	2.86	0.44
38:BA:1775:U:C2'	38:BA:1776:G:O5'	2.65	0.44
38:BA:2193:G:C4	38:BA:2194:G:C8	3.05	0.44
38:BA:2339:G:O2'	38:BA:2340:G:H5'	2.17	0.44
39:BB:52:A:O2'	39:BB:53:A:H8	2.00	0.44
41:BD:35:LYS:CE	41:BD:64:ILE:C	2.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:69:ARG:NH2	41:BD:105:ILE:CD1	2.81	0.44
41:BD:142:VAL:CG2	41:BD:192:THR:C	2.83	0.44
42:BE:36:ARG:O	42:BE:37:ARG:HG3	2.18	0.44
42:BE:113:PHE:CE2	42:BE:158:GLY:HA2	2.53	0.44
43:BF:65:TRP:CZ3	43:BF:75:HIS:CD2	2.93	0.44
45:BH:47:GLU:C	45:BH:49:VAL:H	2.20	0.44
50:BP:107:LYS:C	50:BP:109:GLY:H	2.20	0.44
52:BR:69:ASP:C	52:BR:70:LEU:O	2.56	0.44
53:BS:14:VAL:HG11	53:BS:90:GLY:C	2.37	0.44
53:BS:49:VAL:HG12	53:BS:73:LEU:CD2	2.47	0.44
55:BU:38:THR:C	55:BU:40:PHE:N	2.70	0.44
58:BX:36:LYS:O	58:BX:37:THR:C	2.56	0.44
60:BZ:100:VAL:HG21	60:BZ:134:PRO:HG2	2.00	0.44
1:AA:36:C:C2'	1:AA:37:U:H5'	2.48	0.44
1:AA:59:A:H2'	1:AA:59:A:N3	2.33	0.44
1:AA:81:U:H2'	1:AA:82:U:C5	2.52	0.44
1:AA:136:C:H42	1:AA:227:G:H1	1.66	0.44
1:AA:519:C:O2'	1:AA:520:A:H5'	2.18	0.44
1:AA:676:A:O2'	1:AA:677:U:H5'	2.17	0.44
1:AA:689:C:C2'	1:AA:690:G:H5'	2.47	0.44
1:AA:689:C:P	7:AK:46:GLY:HA3	2.57	0.44
1:AA:758:G:C5'	1:AA:880:C:H1'	2.47	0.44
1:AA:1236:A:O2'	1:AA:1304:G:H4'	2.18	0.44
1:AA:1431:C:O2'	1:AA:1432:G:H5'	2.17	0.44
1:AA:1484:C:O2'	1:AA:1485:U:H5'	2.18	0.44
2:AB:16:HIS:HB3	2:AB:210:SER:CB	2.47	0.44
4:AE:16:THR:OG1	4:AE:17:ALA:N	2.49	0.44
6:AH:5:PRO:O	6:AH:8:ASP:HB3	2.18	0.44
7:AK:44:SER:N	7:AK:47:VAL:CG2	2.80	0.44
7:AK:117:ASN:HD22	7:AK:117:ASN:HA	1.61	0.44
11:AQ:81:ARG:NH2	11:AQ:83:ASP:OD2	2.47	0.44
12:AR:64:ARG:O	12:AR:65:ILE:C	2.56	0.44
12:AR:82:THR:HG23	12:AR:83:GLU:N	2.31	0.44
17:AJ:38:ILE:HG13	17:AJ:38:ILE:O	2.16	0.44
18:AM:8:GLU:OE1	18:AM:22:ILE:HA	2.17	0.44
21:AU:22:ARG:N	21:AU:23:PRO:HD3	2.33	0.44
22:AV:29:G:O2'	22:AV:30:G:H5'	2.17	0.44
31:B3:43:ILE:HG22	31:B3:47:VAL:CG2	2.47	0.44
38:BA:209:C:O2'	38:BA:210:C:H5'	2.18	0.44
38:BA:910:A:H62	51:BQ:12:GLN:HA	1.83	0.44
38:BA:1018:C:O2'	38:BA:1019:U:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1508:A:H2'	38:BA:1509:C:OP1	2.18	0.44
38:BA:1822:G:H5'	38:BA:1822:G:C8	2.40	0.44
38:BA:1851:U:C2'	38:BA:1852:C:H5'	2.48	0.44
38:BA:2092:U:H4'	38:BA:2093:G:C5'	2.48	0.44
38:BA:2103:C:H5'	38:BA:2104:G:OP2	2.18	0.44
38:BA:2138:C:H3'	38:BA:2139:C:C5	2.53	0.44
38:BA:2476:A:H3'	38:BA:2476:A:N3	2.32	0.44
38:BA:2508:G:H2'	38:BA:2509:G:H8	1.81	0.44
38:BA:2517:C:N3	38:BA:2542:A:N6	2.66	0.44
38:BA:2691:C:H2'	38:BA:2692:C:H6	1.83	0.44
38:BA:2849:U:N3	38:BA:2867:G:N3	2.65	0.44
39:BB:38:C:H42	39:BB:44:G:H1	1.66	0.44
41:BD:53:PHE:CE1	41:BD:220:HIS:HA	2.53	0.44
41:BD:85:ASP:OD1	41:BD:87:ASN:ND2	2.49	0.44
42:BE:69:LYS:O	42:BE:71:GLY:N	2.51	0.44
44:BG:48:GLU:O	44:BG:51:ARG:HG2	2.18	0.44
45:BH:85:LYS:HE3	45:BH:144:VAL:C	2.38	0.44
46:BI:89:TYR:N	46:BI:89:TYR:CD1	2.86	0.44
47:BL:98:ARG:HB3	47:BL:139:VAL:HB	2.00	0.44
51:BQ:8:LYS:HG3	51:BQ:9:TYR:H	1.81	0.44
52:BR:49:ASP:O	52:BR:51:LEU:N	2.51	0.44
52:BR:104:ARG:HD3	52:BR:111:LEU:HD11	1.98	0.44
54:BT:53:ARG:HH11	54:BT:53:ARG:CG	2.28	0.44
54:BT:120:ARG:HA	54:BT:123:GLN:CD	2.38	0.44
56:BV:88:ARG:HG3	56:BV:88:ARG:NH1	2.32	0.44
57:BW:34:ASN:O	57:BW:35:ILE:C	2.54	0.44
57:BW:72:LYS:HB3	57:BW:106:ILE:O	2.18	0.44
60:BZ:108:PRO:O	60:BZ:109:ALA:C	2.54	0.44
60:BZ:121:HIS:CE1	60:BZ:124:ILE:HG22	2.52	0.44
1:AA:119:A:C5	1:AA:288:A:C2	3.05	0.44
1:AA:284:G:H2'	1:AA:285:G:H8	1.83	0.44
1:AA:445:G:H2'	1:AA:446:G:C8	2.53	0.44
1:AA:502:G:O2'	1:AA:503:C:H5'	2.18	0.44
1:AA:644:G:H2'	1:AA:645:C:C5'	2.48	0.44
1:AA:1423:G:H2'	1:AA:1424:C:H6	1.82	0.44
2:AB:129:GLU:O	2:AB:130:ARG:HB2	2.16	0.44
3:AD:60:GLU:HG2	3:AD:202:LEU:HD12	1.99	0.44
3:AD:173:TRP:CE3	3:AD:189:PRO:HB3	2.53	0.44
4:AE:128:PRO:O	4:AE:129:ILE:C	2.55	0.44
5:AF:14:LEU:HA	5:AF:18:GLN:NE2	2.33	0.44
8:AL:5:PRO:HA	8:AL:9:GLN:NE2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AQ:33:GLY:O	11:AQ:34:LYS:C	2.56	0.44
12:AR:50:ILE:HG22	12:AR:51:LEU:N	2.32	0.44
16:AI:78:LYS:HB2	16:AI:78:LYS:HZ2	1.82	0.44
17:AJ:39:PRO:HB3	17:AJ:70:ARG:NH1	2.33	0.44
29:B1:78:LYS:NZ	29:B1:89:GLU:O	2.50	0.44
34:B6:39:TYR:HB3	34:B6:49:HIS:CE1	2.53	0.44
35:B7:30:VAL:O	35:B7:33:ARG:N	2.51	0.44
38:BA:907:U:O2'	51:BQ:101:ARG:NH2	2.50	0.44
38:BA:1210:A:H4'	38:BA:1211:U:O5'	2.18	0.44
38:BA:2134:A:N3	38:BA:2158:A:C2	2.85	0.44
38:BA:2580:U:H4'	42:BE:130:GLY:HA2	2.00	0.44
38:BA:2847:U:OP1	54:BT:98:LYS:HD3	2.17	0.44
42:BE:197:ILE:HG13	42:BE:199:ARG:HH12	1.82	0.44
44:BG:33:ARG:HB2	44:BG:162:THR:CB	2.47	0.44
45:BH:12:PRO:HB2	45:BH:15:VAL:CG2	2.48	0.44
45:BH:32:GLU:O	45:BH:33:LEU:HD23	2.17	0.44
46:BI:91:SER:H	46:BI:121:LYS:CE	2.26	0.44
46:BI:120:ILE:HG21	46:BI:126:TYR:HE1	1.81	0.44
47:BL:37:PHE:HE2	47:BL:65:PHE:C	2.21	0.44
47:BL:97:GLY:O	47:BL:135:GLY:O	2.36	0.44
47:BL:132:ARG:N	47:BL:136:VAL:O	2.50	0.44
48:BN:104:LYS:C	48:BN:106:MET:H	2.21	0.44
50:BP:79:ARG:C	50:BP:80:TYR:HD2	2.21	0.44
51:BQ:55:VAL:HG13	51:BQ:56:ARG:N	2.31	0.44
52:BR:55:ALA:HA	52:BR:80:PHE:CE1	2.52	0.44
52:BR:56:LYS:HE2	52:BR:88:ARG:H	1.82	0.44
55:BU:112:ARG:HH11	55:BU:112:ARG:CG	2.19	0.44
58:BX:40:LYS:CG	58:BX:41:ASN:N	2.81	0.44
60:BZ:97:GLU:CB	60:BZ:125:LEU:HD21	2.47	0.44
1:AA:1160:G:N3	1:AA:1160:G:H2'	2.33	0.44
1:AA:1313:U:P	20:AS:6:LYS:HG3	2.58	0.44
2:AB:19:HIS:CD2	2:AB:20:GLU:HG2	2.52	0.44
3:AD:138:TYR:CD2	3:AD:139:ARG:N	2.79	0.44
4:AE:31:LEU:HD22	4:AE:43:LEU:HD11	1.99	0.44
4:AE:50:GLU:HG3	4:AE:52:PRO:CD	2.41	0.44
4:AE:102:ALA:HB2	4:AE:120:THR:OG1	2.18	0.44
6:AH:53:VAL:O	6:AH:54:ASP:HB2	2.18	0.44
6:AH:134:ILE:O	6:AH:135:CYS:HB3	2.18	0.44
9:AO:27:VAL:O	9:AO:28:GLN:C	2.54	0.44
9:AO:60:VAL:HG13	38:BA:715:G:O4'	2.17	0.44
11:AQ:83:ASP:CG	11:AQ:84:LEU:N	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AR:72:ARG:O	12:AR:75:ILE:HB	2.18	0.44
12:AR:79:LEU:HD23	12:AR:80:PRO:CD	2.46	0.44
16:AI:118:LYS:CB	16:AI:118:LYS:HZ2	2.30	0.44
18:AM:27:LYS:HD2	18:AM:27:LYS:HA	1.79	0.44
18:AM:56:LEU:HD13	18:AM:56:LEU:C	2.38	0.44
24:AW:38:A:H2'	24:AW:39:U:O4'	2.17	0.44
27:AZ:39:ASN:ND2	27:AZ:71:GLU:HG3	2.33	0.44
27:AZ:176:LEU:O	27:AZ:180:GLU:HG3	2.18	0.44
30:B2:30:ARG:O	30:B2:32:LEU:O	2.36	0.44
30:B2:37:PHE:CD2	30:B2:37:PHE:O	2.71	0.44
33:B5:56:LYS:CD	33:B5:57:VAL:N	2.81	0.44
38:BA:231:C:H2'	38:BA:232:G:O4'	2.18	0.44
38:BA:250:G:H2'	38:BA:251:A:C8	2.52	0.44
38:BA:614:U:H4'	38:BA:614(C):A:N6	2.32	0.44
38:BA:616:G:H2'	38:BA:618:C:O4'	2.18	0.44
38:BA:688:U:H5'	38:BA:1780:A:C2	2.53	0.44
38:BA:949:C:O2'	38:BA:950:G:H5'	2.17	0.44
38:BA:1076:C:O2	47:BL:91:PRO:HD2	2.18	0.44
38:BA:1120:G:C6	38:BA:1121:C:C4	3.05	0.44
38:BA:1210:A:H5'	38:BA:1211:U:H2'	2.00	0.44
38:BA:1863:G:H2'	38:BA:1864:U:O4'	2.18	0.44
38:BA:1914:C:O2	38:BA:1914:C:O4'	2.34	0.44
38:BA:1935:G:H1'	38:BA:1964:G:N2	2.32	0.44
38:BA:1987:G:H8	38:BA:1987:G:C5'	2.25	0.44
38:BA:2635:C:H2'	38:BA:2636:U:O5'	2.18	0.44
38:BA:2684:U:O2'	38:BA:2685:G:H5'	2.18	0.44
39:BB:76:G:O4'	60:BZ:85:HIS:CD2	2.71	0.44
41:BD:30:GLU:HG3	41:BD:63:ARG:NH2	2.33	0.44
42:BE:3:GLY:C	42:BE:4:ILE:HG22	2.37	0.44
42:BE:203:LYS:HD2	42:BE:203:LYS:C	2.38	0.44
43:BF:83:PHE:O	43:BF:84:VAL:C	2.52	0.44
44:BG:23:PHE:CZ	44:BG:168:GLU:HA	2.53	0.44
46:BI:22:LYS:O	46:BI:23:PRO:C	2.56	0.44
48:BN:93:THR:O	48:BN:94:HIS:HD2	2.00	0.44
51:BQ:34:LEU:CD1	51:BQ:129:THR:HB	2.48	0.44
53:BS:101:LEU:HD13	53:BS:102:ALA:O	2.17	0.44
54:BT:96:ARG:HH11	54:BT:96:ARG:HG2	1.83	0.44
56:BV:67:GLY:O	56:BV:68:LYS:C	2.56	0.44
57:BW:24:ILE:O	57:BW:25:ARG:C	2.56	0.44
57:BW:51:LEU:C	57:BW:51:LEU:HD13	2.38	0.44
58:BX:25:LYS:HA	58:BX:25:LYS:HD2	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:88:LYS:HB3	58:BX:89:ILE:HD13	1.98	0.44
59:BY:75:ILE:HD12	59:BY:76:CYS:H	1.72	0.44
1:AA:13:U:O2	1:AA:914:A:H3'	2.18	0.44
1:AA:974:A:OP2	19:AN:41:ARG:NH1	2.51	0.44
1:AA:1312:G:C2	1:AA:1326:C:C2	3.06	0.44
1:AA:1348:U:H4'	16:AI:120:ARG:HH11	1.82	0.44
2:AB:116:GLU:HA	2:AB:119:GLU:CB	2.48	0.44
2:AB:175:ARG:O	2:AB:176:GLU:C	2.55	0.44
3:AD:118:ARG:HG3	3:AD:118:ARG:HH21	1.82	0.44
8:AL:22:SER:C	8:AL:24:VAL:N	2.71	0.44
11:AQ:45:HIS:CB	11:AQ:69:LYS:HE2	2.46	0.44
14:AC:120:VAL:HG13	14:AC:124:ILE:CD1	2.47	0.44
18:AM:115:LYS:H	18:AM:115:LYS:HG3	1.61	0.44
29:B1:26:ARG:HG2	29:B1:34:THR:C	2.38	0.44
33:B5:2:ALA:CA	38:BA:2015:A:H1'	2.43	0.44
33:B5:12:SER:C	33:B5:14:ALA:N	2.70	0.44
33:B5:34:PRO:O	33:B5:35:GLU:C	2.56	0.44
37:B9:24:TYR:HB2	37:B9:35:ARG:HG2	2.00	0.44
38:BA:189:G:H2'	38:BA:205:G:H22	1.82	0.44
38:BA:611:C:O2'	38:BA:612:C:H5'	2.18	0.44
38:BA:1109:C:C5	38:BA:1110:G:C5	3.05	0.44
38:BA:1298:C:H3'	38:BA:1299:G:H8	1.83	0.44
38:BA:1464:C:O2'	38:BA:1465:G:H5'	2.18	0.44
38:BA:1643:G:H2'	38:BA:1644:C:H6	1.83	0.44
38:BA:1948:G:C8	38:BA:1948:G:C5'	2.95	0.44
38:BA:2060:A:OP1	43:BF:68:LYS:O	2.35	0.44
38:BA:2312:U:H2'	38:BA:2313:C:H5'	1.97	0.44
38:BA:2377:A:H2'	38:BA:2378:A:C8	2.52	0.44
38:BA:2745:C:O2'	38:BA:2746:U:H5'	2.17	0.44
38:BA:2756:U:H1'	38:BA:2757:A:H5''	1.99	0.44
38:BA:2853:C:O2'	38:BA:2854:G:H5'	2.17	0.44
42:BE:87:GLU:HG3	42:BE:87:GLU:O	2.17	0.44
43:BF:57:VAL:HG11	43:BF:59:TYR:CD1	2.53	0.44
44:BG:39:ILE:CD1	44:BG:155:MET:SD	3.06	0.44
47:BL:70:LYS:O	47:BL:71:THR:O	2.36	0.44
47:BL:139:VAL:O	47:BL:139:VAL:HG12	2.17	0.44
48:BN:40:PRO:CA	55:BU:64:ARG:NH2	2.79	0.44
48:BN:74:ARG:HH22	48:BN:101:HIS:HB3	1.82	0.44
50:BP:95:VAL:HA	50:BP:99:LEU:CD2	2.33	0.44
50:BP:105:LEU:N	50:BP:105:LEU:CD1	2.80	0.44
51:BQ:51:ARG:O	51:BQ:52:VAL:C	2.55	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BQ:140:ALA:HA	60:BZ:99:TYR:CG	2.53	0.44
53:BS:35:ILE:C	53:BS:36:TYR:HD1	2.21	0.44
54:BT:25:GLY:O	54:BT:48:ILE:HG23	2.18	0.44
57:BW:21:VAL:C	57:BW:23:LEU:N	2.71	0.44
59:BY:31:LEU:CB	59:BY:32:PRO:HA	2.42	0.44
1:AA:528:C:H5'	1:AA:535:A:C6	2.53	0.44
1:AA:544:G:C4	1:AA:545:C:C5	3.06	0.44
1:AA:627:G:H2'	1:AA:628:G:C8	2.48	0.44
1:AA:958:A:C6	1:AA:959:A:C6	3.06	0.44
1:AA:1103:C:H5''	2:AB:98:LEU:CD1	2.23	0.44
2:AB:17:PHE:N	2:AB:17:PHE:CD2	2.86	0.44
2:AB:39:ILE:CG2	2:AB:40:HIS:N	2.80	0.44
3:AD:194:LEU:HD22	3:AD:194:LEU:N	2.33	0.44
4:AE:147:ASP:O	4:AE:151:LEU:HG	2.17	0.44
7:AK:44:SER:H	7:AK:47:VAL:HG21	1.83	0.44
12:AR:53:ARG:C	12:AR:55:ARG:H	2.21	0.44
13:AT:57:ARG:CB	13:AT:57:ARG:NH1	2.77	0.44
14:AC:124:ILE:HD12	14:AC:124:ILE:H	1.83	0.44
14:AC:124:ILE:C	14:AC:126:ARG:N	2.71	0.44
14:AC:148:GLY:O	14:AC:203:PHE:N	2.51	0.44
18:AM:20:THR:C	18:AM:22:ILE:H	2.21	0.44
28:B0:11:ARG:NH1	28:B0:11:ARG:CB	2.81	0.44
28:B0:36:ILE:HD11	38:BA:2355:C:O4'	2.18	0.44
28:B0:43:THR:HG23	28:B0:43:THR:O	2.18	0.44
33:B5:15:ARG:HA	33:B5:18:ALA:HB3	1.99	0.44
36:B8:32:LEU:HB3	36:B8:35:GLN:N	2.18	0.44
36:B8:32:LEU:O	36:B8:34:TRP:N	2.50	0.44
38:BA:221:A:O2'	38:BA:222:A:OP2	2.35	0.44
38:BA:271(C):C:H2'	38:BA:271(D):G:C8	2.52	0.44
38:BA:271(J):C:C3'	38:BA:271(K):U:H5''	2.48	0.44
38:BA:332:A:H4'	38:BA:333:G:OP1	2.17	0.44
38:BA:372:G:N2	38:BA:400:G:H2'	2.33	0.44
38:BA:954:G:O2'	38:BA:2274:A:N1	2.40	0.44
38:BA:977:G:C6	38:BA:987:G:C6	3.06	0.44
38:BA:1065:U:H2'	38:BA:1066:U:C5'	2.48	0.44
38:BA:1286:A:C6	38:BA:1289:C:C2	3.06	0.44
38:BA:1341:U:OP1	38:BA:1397:U:N3	2.45	0.44
38:BA:1502:C:O2	38:BA:1502:C:C2'	2.60	0.44
38:BA:1797:C:O2'	41:BD:259:THR:HB	2.17	0.44
38:BA:2133:G:P	38:BA:2133:G:C8	2.92	0.44
38:BA:2190:G:C6	38:BA:2191:G:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2468:G:H5'	51:BQ:120:ILE:HD12	1.98	0.44
38:BA:2617:C:H2'	38:BA:2618:G:H5'	1.99	0.44
38:BA:2802:G:O2'	38:BA:2803:C:H5''	2.18	0.44
38:BA:2869:G:H2'	38:BA:2870:C:O4'	2.18	0.44
38:BA:2870:C:O2'	38:BA:2871:C:H5'	2.18	0.44
41:BD:17:THR:HG21	41:BD:205:VAL:HB	1.94	0.44
41:BD:35:LYS:NZ	41:BD:104:TYR:CB	2.74	0.44
41:BD:70:TRP:CD2	41:BD:150:LYS:HE2	2.53	0.44
42:BE:108:SER:OG	42:BE:163:GLU:HG2	2.18	0.44
42:BE:153:GLY:O	42:BE:154:LYS:C	2.56	0.44
43:BF:10:PRO:HG2	43:BF:11:VAL:N	2.28	0.44
43:BF:84:VAL:CG1	43:BF:85:GLY:N	2.69	0.44
44:BG:155:MET:SD	44:BG:156:ASP:N	2.91	0.44
45:BH:57:ASP:O	45:BH:62:LYS:HE3	2.17	0.44
45:BH:70:THR:O	45:BH:73:ALA:HB3	2.18	0.44
45:BH:118:PRO:CG	45:BH:121:ILE:HB	2.38	0.44
47:BL:19:PRO:O	47:BL:20:ALA:C	2.56	0.44
48:BN:13:TRP:HZ3	48:BN:130:HIS:HE1	1.66	0.44
48:BN:46:VAL:HG13	48:BN:48:MET:HG3	2.00	0.44
50:BP:47:ASP:CB	50:BP:48:PRO:CA	2.89	0.44
51:BQ:10:ARG:CB	51:BQ:10:ARG:HH11	2.31	0.44
53:BS:28:VAL:CG1	53:BS:29:PHE:N	2.65	0.44
54:BT:29:ARG:CG	54:BT:30:VAL:N	2.80	0.44
54:BT:100:TYR:CD2	54:BT:103:ARG:NH2	2.84	0.44
56:BV:25:LEU:HG	56:BV:94:LEU:HD13	2.00	0.44
56:BV:46:VAL:O	56:BV:47:VAL:HB	2.17	0.44
57:BW:40:ASN:C	57:BW:41:LYS:HG2	2.38	0.44
60:BZ:48:PHE:O	60:BZ:49:ARG:C	2.56	0.44
1:AA:66:G:H4'	1:AA:173:U:C5	2.52	0.43
1:AA:519:C:H2'	1:AA:520:A:O4'	2.18	0.43
1:AA:586:C:H1'	1:AA:878:G:O2'	2.18	0.43
1:AA:784:C:H2'	1:AA:785:G:C8	2.52	0.43
1:AA:864:A:H2	1:AA:917:G:N3	2.15	0.43
1:AA:939:G:C6	1:AA:940:C:N4	2.86	0.43
1:AA:1331:G:OP2	18:AM:23:TYR:HD2	2.01	0.43
1:AA:1452:C:H4'	1:AA:1456:G:C5'	2.48	0.43
1:AA:1495:U:H2'	1:AA:1496:C:C6	2.53	0.43
2:AB:91:PRO:CG	2:AB:154:LEU:HD12	2.47	0.43
3:AD:58:LEU:HA	3:AD:206:PHE:CE1	2.52	0.43
5:AF:19:LEU:HD23	5:AF:19:LEU:C	2.39	0.43
6:AH:6:ILE:N	6:AH:6:ILE:CD1	2.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AT:85:MET:HA	13:AT:88:VAL:CG2	2.48	0.43
14:AC:178:LEU:O	14:AC:180:ALA:N	2.47	0.43
16:AI:33:PHE:HD2	16:AI:34:ASN:OD1	2.01	0.43
17:AJ:51:ARG:HG3	17:AJ:60:ARG:HA	2.00	0.43
20:AS:64:GLU:O	20:AS:67:VAL:HG23	2.17	0.43
26:A0:101:U:H2'	26:A0:102:U:C6	2.52	0.43
29:B1:47:GLN:NE2	38:BA:2090:G:H21	2.16	0.43
34:B6:40:CYS:HB2	34:B6:46:HIS:CE1	2.53	0.43
36:B8:35:GLN:CB	38:BA:2420:C:OP1	2.66	0.43
37:B9:14:CYS:HA	37:B9:26:ILE:C	2.39	0.43
38:BA:483:A:C4'	59:BY:47:LYS:HD3	2.47	0.43
38:BA:896:A:C2	38:BA:898:C:H5''	2.52	0.43
38:BA:1072:C:O2	38:BA:1092:C:C5	2.70	0.43
38:BA:1091:G:N1	38:BA:1101:U:C4	2.82	0.43
38:BA:1107:G:C8	38:BA:1107:G:C3'	3.01	0.43
38:BA:1290:C:H2'	38:BA:1291:C:H6	1.83	0.43
38:BA:1771:C:O2'	38:BA:1786:A:H8	2.00	0.43
38:BA:1798:U:C4	38:BA:1819:A:C2	3.06	0.43
38:BA:1844:C:C2'	38:BA:1845:G:H5'	2.47	0.43
38:BA:2291:U:H2'	38:BA:2292:C:H6	1.82	0.43
38:BA:2811:G:O2'	38:BA:2812:G:H5'	2.17	0.43
40:BC:34:THR:O	40:BC:35:ALA:HB2	2.17	0.43
40:BC:51:PRO:HB3	40:BC:203:GLY:C	2.38	0.43
41:BD:270:ILE:HD12	41:BD:270:ILE:C	2.39	0.43
42:BE:14:ILE:CG1	42:BE:21:VAL:CG2	2.96	0.43
42:BE:149:ARG:HH11	42:BE:149:ARG:HG3	1.83	0.43
43:BF:8:GLN:HB3	43:BF:126:VAL:CA	2.43	0.43
43:BF:36:VAL:HA	43:BF:101:LEU:CD2	2.48	0.43
44:BG:31:VAL:CG2	44:BG:32:PRO:CD	2.88	0.43
44:BG:143:GLU:H	44:BG:143:GLU:HG2	1.31	0.43
45:BH:116:GLU:HG2	45:BH:117:PRO:N	2.33	0.43
47:BL:27:LEU:HD22	47:BL:32:ALA:CB	2.48	0.43
53:BS:37:ALA:HB1	53:BS:73:LEU:HD11	2.00	0.43
54:BT:23:ARG:O	54:BT:25:GLY:N	2.51	0.43
54:BT:89:VAL:HB	54:BT:91:ARG:HE	1.83	0.43
60:BZ:30:ASN:OD1	60:BZ:33:LEU:N	2.50	0.43
60:BZ:141:VAL:O	60:BZ:141:VAL:HG13	2.17	0.43
1:AA:176:C:H2'	1:AA:177:C:C6	2.53	0.43
1:AA:189(D):C:H1'	1:AA:189(H):G:N2	2.34	0.43
1:AA:223:U:H2'	1:AA:224:C:H6	1.82	0.43
1:AA:283:C:C2	1:AA:284:G:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:437:U:C5	1:AA:438:G:N7	2.87	0.43
1:AA:556:C:H2'	1:AA:557:G:H5'	1.99	0.43
1:AA:773:G:O3'	41:BD:202:LYS:NZ	2.45	0.43
1:AA:887:G:C2'	1:AA:888:G:H5'	2.48	0.43
1:AA:1105:A:N3	1:AA:1106:G:C8	2.87	0.43
1:AA:1323:G:H2'	1:AA:1324:A:C8	2.53	0.43
1:AA:1349:A:C4	1:AA:1350:A:C8	3.06	0.43
1:AA:1493:A:N1	25:AY:37:YG:C4'	2.82	0.43
2:AB:12:GLU:O	2:AB:14:GLY:N	2.50	0.43
2:AB:221:LEU:HD13	2:AB:221:LEU:O	2.18	0.43
3:AD:2:GLY:O	3:AD:3:ARG:C	2.56	0.43
4:AE:18:ARG:HH21	4:AE:25:ARG:HG2	1.83	0.43
4:AE:94:ALA:CB	4:AE:98:THR:HG21	2.48	0.43
4:AE:146:ALA:O	4:AE:148:VAL:N	2.51	0.43
5:AF:50:TYR:HE2	5:AF:52:ILE:HD11	1.83	0.43
6:AH:86:ILE:HG13	6:AH:133:LEU:HD22	2.00	0.43
8:AL:89:ARG:NH2	8:AL:91:LYS:HD3	2.33	0.43
12:AR:24:ALA:O	12:AR:26:LEU:N	2.50	0.43
13:AT:12:ALA:O	13:AT:15:ARG:HB2	2.18	0.43
13:AT:20:LEU:O	13:AT:23:ARG:HB3	2.19	0.43
13:AT:57:ARG:CZ	13:AT:102:GLY:HA2	2.48	0.43
14:AC:34:LEU:HD23	14:AC:34:LEU:C	2.38	0.43
15:AG:22:LEU:HG	15:AG:22:LEU:O	2.18	0.43
17:AJ:96:ILE:N	17:AJ:96:ILE:CD1	2.79	0.43
18:AM:46:LYS:CG	18:AM:47:ASP:N	2.81	0.43
20:AS:13:ASP:C	20:AS:15:LEU:N	2.71	0.43
20:AS:62:ILE:HG23	20:AS:62:ILE:O	2.17	0.43
28:B0:51:VAL:HG23	28:B0:80:HIS:HA	1.98	0.43
37:B9:30:PRO:HA	37:B9:33:LYS:HD2	2.00	0.43
38:BA:7:G:O2'	38:BA:8:A:H5'	2.19	0.43
38:BA:154:G:H2'	38:BA:154(A):C:O2	2.18	0.43
38:BA:613:G:C2	38:BA:615:G:C5	3.06	0.43
38:BA:743:G:C2'	38:BA:744:G:H5'	2.48	0.43
38:BA:896:A:H5''	60:BZ:146:ILE:CD1	2.45	0.43
38:BA:1107:G:O5'	38:BA:1107:G:C8	2.71	0.43
38:BA:1614:A:N1	57:BW:91:GLY:HA2	2.33	0.43
38:BA:1707:G:N2	38:BA:1708:C:C2	2.86	0.43
38:BA:1744:C:H2'	38:BA:1745:C:H5'	2.00	0.43
38:BA:1748:G:H5'	38:BA:1748:G:C8	2.47	0.43
38:BA:2087:G:O2'	38:BA:2088:G:H5'	2.17	0.43
38:BA:2319:G:OP2	38:BA:2319:G:H4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2642:G:H5'	48:BN:79:PRO:HG3	2.00	0.43
38:BA:2684:U:OP2	54:BT:53:ARG:NH2	2.43	0.43
38:BA:2721:A:C4	38:BA:2722:G:C8	3.06	0.43
38:BA:2837:G:H2'	38:BA:2838:G:H8	1.82	0.43
38:BA:2861:G:C2'	38:BA:2862:G:H5'	2.48	0.43
40:BC:180:PHE:O	40:BC:182:PRO:N	2.51	0.43
42:BE:69:LYS:HE2	42:BE:69:LYS:CA	2.48	0.43
43:BF:18:ARG:O	43:BF:19:GLU:HB3	2.18	0.43
43:BF:38:ARG:NH1	50:BP:16:ARG:HH22	2.16	0.43
43:BF:116:ASP:OD2	50:BP:5:ASP:HA	2.18	0.43
44:BG:71:THR:HG22	44:BG:72:ARG:N	2.33	0.43
44:BG:139:LEU:C	44:BG:139:LEU:CD1	2.87	0.43
44:BG:170:ARG:HG2	44:BG:170:ARG:NH1	2.33	0.43
45:BH:30:LYS:HG2	45:BH:79:VAL:O	2.18	0.43
46:BI:79:ILE:HA	46:BI:80:PRO:HD3	1.76	0.43
46:BI:94:ALA:HA	46:BI:97:ILE:HB	1.98	0.43
47:BL:94:GLU:O	47:BL:95:LYS:C	2.54	0.43
48:BN:18:ALA:O	48:BN:20:GLY:N	2.51	0.43
48:BN:65:LYS:C	48:BN:66:LYS:HD3	2.38	0.43
49:BO:23:ARG:NH1	49:BO:23:ARG:HG2	2.31	0.43
51:BQ:52:VAL:O	51:BQ:55:VAL:CG1	2.67	0.43
51:BQ:93:TYR:N	51:BQ:93:TYR:CD1	2.85	0.43
52:BR:85:PRO:C	52:BR:87:TYR:N	2.72	0.43
53:BS:54:LEU:HD22	53:BS:57:LYS:O	2.19	0.43
53:BS:66:ALA:HA	53:BS:69:VAL:HG11	1.99	0.43
56:BV:2:PHE:O	56:BV:3:ALA:CB	2.65	0.43
56:BV:61:VAL:C	56:BV:62:LEU:HD23	2.37	0.43
56:BV:72:VAL:CG1	56:BV:73:SER:H	2.23	0.43
56:BV:82:ARG:C	56:BV:82:ARG:CD	2.86	0.43
58:BX:57:LEU:HB2	58:BX:76:ARG:HD2	2.00	0.43
59:BY:65:ALA:O	59:BY:67:LEU:N	2.51	0.43
59:BY:76:CYS:CB	59:BY:77:PRO:CD	2.96	0.43
1:AA:22:G:H2'	1:AA:23:C:H6	1.82	0.43
1:AA:263:A:OP2	13:AT:79:ARG:NH1	2.50	0.43
1:AA:316:G:H2'	1:AA:317:G:H8	1.83	0.43
1:AA:503:C:O2	1:AA:510:A:H2	2.01	0.43
1:AA:927:G:N2	1:AA:1391:U:O4'	2.51	0.43
1:AA:1119:C:O2'	1:AA:1120:G:H5'	2.18	0.43
1:AA:1133:G:H2'	1:AA:1134:G:C8	2.53	0.43
1:AA:1342:C:H2'	1:AA:1343:G:C8	2.53	0.43
1:AA:1365:G:O2'	1:AA:1366:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:36:ASP:OD2	4:AE:38:GLN:CB	2.66	0.43
9:AO:27:VAL:O	9:AO:29:VAL:N	2.51	0.43
12:AR:59:SER:O	12:AR:60:ALA:C	2.56	0.43
13:AT:99:LEU:HB2	13:AT:100:ILE:HD12	2.00	0.43
16:AI:10:ARG:HG2	16:AI:104:ARG:O	2.17	0.43
17:AJ:56:HIS:O	17:AJ:58:ASP:N	2.52	0.43
20:AS:16:LEU:C	20:AS:20:LEU:HG	2.39	0.43
22:AV:41:C:C2	22:AV:42:G:C8	3.06	0.43
28:B0:1:MET:N	38:BA:2602:A:N6	2.67	0.43
36:B8:35:GLN:HB3	36:B8:36:LYS:H	1.56	0.43
36:B8:39:LYS:O	36:B8:39:LYS:HG2	2.17	0.43
38:BA:322:A:P	43:BF:169:ASN:HD22	2.40	0.43
38:BA:332:A:O2'	38:BA:333:G:P	2.76	0.43
38:BA:935:C:H2'	38:BA:936:C:C6	2.53	0.43
38:BA:1057:A:C4	38:BA:1085:A:N1	2.86	0.43
38:BA:1059:G:H2'	47:BL:74:ALA:HB2	1.99	0.43
38:BA:1063:G:C5	38:BA:1064:C:N4	2.85	0.43
38:BA:1084:A:N6	38:BA:1085:A:H2	2.16	0.43
38:BA:1190:G:C5'	50:BP:35:HIS:HB3	2.44	0.43
38:BA:1381:G:O2'	38:BA:1382:G:H5'	2.18	0.43
38:BA:2033:A:H2'	38:BA:2035:G:OP2	2.18	0.43
38:BA:2086:U:O2	38:BA:2234:G:C2	2.72	0.43
38:BA:2312:U:C3'	44:BG:71:THR:HG21	2.48	0.43
38:BA:2758:A:C3'	38:BA:2759:G:C5'	2.97	0.43
41:BD:45:ASN:OD1	41:BD:46:GLN:N	2.50	0.43
42:BE:1:MET:O	42:BE:2:LYS:C	2.57	0.43
43:BF:68:LYS:O	43:BF:69:HIS:CD2	2.71	0.43
45:BH:65:HIS:ND1	45:BH:66:GLY:N	2.67	0.43
45:BH:130:ARG:HB3	45:BH:130:ARG:HH11	1.83	0.43
46:BI:29:TYR:HE1	46:BI:33:ARG:HE	1.55	0.43
46:BI:79:ILE:HG22	46:BI:81:VAL:HG23	2.00	0.43
47:BL:60:TYR:C	47:BL:61:ALA:O	2.55	0.43
47:BL:79:ARG:NH1	47:BL:86:LYS:O	2.51	0.43
47:BL:106:GLU:HA	47:BL:109:LYS:CG	2.48	0.43
49:BO:40:VAL:HG12	49:BO:41:ALA:N	2.33	0.43
50:BP:55:ARG:HG2	50:BP:56:SER:N	2.34	0.43
50:BP:102:ARG:HG3	50:BP:102:ARG:HH21	1.82	0.43
51:BQ:17:LEU:CD2	51:BQ:41:TRP:HE1	2.29	0.43
51:BQ:58:PHE:O	51:BQ:59:ARG:C	2.55	0.43
55:BU:9:VAL:O	55:BU:13:LYS:HG2	2.17	0.43
60:BZ:10:ARG:HB3	60:BZ:36:LYS:C	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:712:A:O2'	1:AA:713:G:H5'	2.18	0.43
1:AA:926:G:C5	1:AA:1505:G:C5	3.07	0.43
1:AA:1500:A:OP2	1:AA:1505:G:OP1	2.37	0.43
3:AD:148:VAL:HG12	3:AD:149:ALA:N	2.33	0.43
4:AE:73:ASN:ND2	4:AE:73:ASN:O	2.51	0.43
4:AE:139:LEU:HA	4:AE:142:LEU:HD12	2.01	0.43
5:AF:42:GLU:C	5:AF:44:GLY:H	2.20	0.43
6:AH:109:ILE:CG2	6:AH:137:VAL:HB	2.48	0.43
7:AK:54:ARG:NH1	24:AW:39:U:O2'	2.52	0.43
16:AI:5:TYR:HB2	16:AI:18:PHE:CD2	2.53	0.43
16:AI:17:VAL:CG2	16:AI:80:GLY:HA3	2.48	0.43
22:AV:53:G:C5	22:AV:54:5MU:H72	2.53	0.43
22:AV:72:A:H3'	22:AV:73:A:H5''	1.99	0.43
30:B2:15:LYS:HG3	30:B2:15:LYS:O	2.19	0.43
38:BA:285:C:H2'	38:BA:286:C:C4'	2.48	0.43
38:BA:344:G:H5'	38:BA:344:G:C8	2.43	0.43
38:BA:855:G:C6	38:BA:856:C:N4	2.86	0.43
38:BA:910:A:C6	38:BA:911:A:C6	3.06	0.43
38:BA:927:G:H3'	38:BA:928:G:C8	2.53	0.43
38:BA:994:C:H3'	55:BU:54:LYS:HE2	2.00	0.43
38:BA:1156:A:H4'	38:BA:1157:G:OP2	2.18	0.43
38:BA:1754:C:H4'	54:BT:101:PHE:CD2	2.53	0.43
38:BA:1819:A:H5''	41:BD:158:ALA:HB3	2.00	0.43
38:BA:1904:G:O2'	38:BA:1928:A:N1	2.46	0.43
38:BA:2159:G:H2'	38:BA:2160:G:C4'	2.45	0.43
38:BA:2313:C:C5	38:BA:2314:C:H5	2.36	0.43
38:BA:2334:G:C4	53:BS:15:ARG:NH1	2.84	0.43
38:BA:2572:A:C8	42:BE:144:ARG:NE	2.87	0.43
40:BC:19:VAL:HB	40:BC:20:TYR:HD1	1.84	0.43
41:BD:61:LEU:HD12	41:BD:61:LEU:HA	1.90	0.43
41:BD:105:ILE:O	41:BD:106:ILE:C	2.55	0.43
42:BE:116:VAL:HG21	42:BE:122:PHE:CD2	2.53	0.43
44:BG:7:LEU:H	44:BG:104:GLU:CD	2.22	0.43
46:BI:128:LEU:HB3	46:BI:129:THR:H	1.51	0.43
47:BL:5:VAL:O	47:BL:6:ALA:HB2	2.18	0.43
48:BN:13:TRP:HZ3	48:BN:130:HIS:CE1	2.36	0.43
48:BN:58:ASP:O	48:BN:60:ILE:N	2.51	0.43
50:BP:10:PRO:CD	50:BP:11:GLY:N	2.78	0.43
50:BP:46:LYS:CG	50:BP:52:GLU:HG2	2.46	0.43
50:BP:66:GLY:O	50:BP:68:GLN:N	2.49	0.43
54:BT:31:SER:CA	54:BT:32:TYR:HD2	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BU:44:ASN:O	55:BU:45:TYR:C	2.56	0.43
55:BU:90:VAL:C	55:BU:92:ARG:H	2.22	0.43
55:BU:101:ARG:HB3	55:BU:102:GLU:OE2	2.18	0.43
56:BV:47:VAL:CG2	56:BV:48:GLY:N	2.73	0.43
60:BZ:118:GLN:HG2	60:BZ:120:ILE:HD13	2.01	0.43
1:AA:41:G:H2'	1:AA:42:G:C8	2.53	0.43
1:AA:62:U:O2'	1:AA:379:C:H1'	2.18	0.43
1:AA:596:C:O2'	1:AA:597:G:H5'	2.19	0.43
1:AA:790:A:H2'	1:AA:791:G:C8	2.53	0.43
1:AA:957:U:H2'	1:AA:959:A:OP2	2.18	0.43
1:AA:983:A:HO2'	1:AA:1049:U:HO2'	1.67	0.43
1:AA:1073:U:O2'	1:AA:1074:G:H5'	2.19	0.43
1:AA:1288:A:O2'	1:AA:1289:A:H5'	2.18	0.43
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.53	0.43
3:AD:50:ARG:NH1	3:AD:52:SER:HA	2.33	0.43
3:AD:173:TRP:CZ3	3:AD:193:ASP:HB3	2.54	0.43
4:AE:144:THR:O	4:AE:147:ASP:OD2	2.36	0.43
12:AR:64:ARG:C	12:AR:66:LEU:N	2.72	0.43
14:AC:64:VAL:HB	14:AC:99:VAL:HG12	2.00	0.43
14:AC:199:LYS:HB3	14:AC:201:TYR:CE1	2.51	0.43
16:AI:72:GLY:O	16:AI:75:ASP:HB2	2.17	0.43
24:AW:21:A:C6	24:AW:46:G:C2	3.06	0.43
24:AW:58:A:O2'	24:AW:60:U:OP2	2.35	0.43
25:AY:32:OMC:O5'	25:AY:32:OMC:H6	2.01	0.43
28:B0:40:GLN:NE2	28:B0:43:THR:HA	2.33	0.43
28:B0:60:PHE:CE2	38:BA:2365:G:H4'	2.54	0.43
29:B1:17:SER:O	29:B1:44:PRO:HD2	2.18	0.43
33:B5:20:ARG:HB3	33:B5:23:HIS:CD2	2.48	0.43
36:B8:48:PHE:CD1	36:B8:48:PHE:N	2.78	0.43
37:B9:11:CYS:CB	37:B9:13:LYS:HZ3	2.32	0.43
38:BA:223:A:C2	38:BA:422:A:C8	3.06	0.43
38:BA:613:G:H5'	38:BA:613:G:C8	2.45	0.43
38:BA:955:C:C5'	51:BQ:14:ARG:HH21	2.31	0.43
38:BA:993:G:H21	56:BV:91:TYR:HH	1.67	0.43
38:BA:1177:A:H5''	38:BA:1178:C:O5'	2.19	0.43
38:BA:1775:U:H2'	38:BA:1776:G:O5'	2.19	0.43
38:BA:2124:G:O2'	38:BA:2125:G:H5'	2.18	0.43
38:BA:2155:G:C5	38:BA:2156:G:C4	3.06	0.43
38:BA:2158:A:N3	38:BA:2159:G:O4'	2.51	0.43
39:BB:66:A:HO2'	39:BB:67:G:P	2.41	0.43
40:BC:168:THR:HA	40:BC:173:ALA:CB	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:252:TRP:O	41:BD:253:GLN:C	2.57	0.43
42:BE:200:GLU:O	42:BE:201:THR:O	2.37	0.43
43:BF:127:GLU:OE1	43:BF:127:GLU:HA	2.19	0.43
43:BF:170:LEU:HD23	43:BF:172:TRP:CE2	2.54	0.43
44:BG:94:LEU:N	44:BG:94:LEU:CD2	2.75	0.43
46:BI:127:VAL:C	46:BI:128:LEU:HD12	2.39	0.43
48:BN:31:ALA:O	48:BN:34:LEU:HB2	2.18	0.43
49:BO:103:ALA:C	49:BO:105:GLU:N	2.70	0.43
49:BO:119:PRO:O	49:BO:120:GLU:CB	2.66	0.43
50:BP:23:PRO:HB3	50:BP:33:ARG:HG3	1.98	0.43
50:BP:46:LYS:HB3	50:BP:52:GLU:HG2	2.00	0.43
52:BR:44:LEU:O	52:BR:44:LEU:HD13	2.18	0.43
53:BS:97:ARG:O	53:BS:97:ARG:CG	2.66	0.43
54:BT:13:ARG:NH2	54:BT:15:VAL:HG22	2.33	0.43
54:BT:29:ARG:CG	54:BT:30:VAL:HG13	2.48	0.43
56:BV:76:LYS:HG2	56:BV:85:LYS:HG2	2.01	0.43
59:BY:14:LEU:HD11	59:BY:22:GLY:HA2	2.01	0.43
59:BY:85:VAL:HG13	59:BY:92:ASN:OD1	2.18	0.43
60:BZ:108:PRO:CA	60:BZ:142:SER:HA	2.48	0.43
60:BZ:130:PRO:O	60:BZ:133:ILE:HG13	2.18	0.43
1:AA:123:C:N4	1:AA:238:G:H1	2.15	0.43
1:AA:702:A:N6	38:BA:1848:A:N1	2.65	0.43
1:AA:805:C:O2'	1:AA:806:C:H5'	2.19	0.43
1:AA:1169:A:C2	1:AA:1170:A:C4	3.06	0.43
1:AA:1190:G:OP2	14:AC:5:ILE:HG23	2.18	0.43
1:AA:1368:G:O2'	1:AA:1369:C:H5'	2.18	0.43
2:AB:17:PHE:N	2:AB:17:PHE:HD2	2.17	0.43
2:AB:101:MET:O	2:AB:105:PHE:N	2.51	0.43
2:AB:168:THR:HG23	2:AB:192:SER:OG	2.19	0.43
6:AH:119:LEU:HB3	6:AH:123:GLU:HB2	2.00	0.43
10:AP:41:PRO:O	10:AP:42:ARG:HG2	2.19	0.43
11:AQ:21:VAL:O	11:AQ:41:LYS:HA	2.19	0.43
11:AQ:73:VAL:O	11:AQ:74:LEU:C	2.56	0.43
14:AC:75:VAL:O	14:AC:83:ARG:HG2	2.17	0.43
18:AM:63:THR:HG22	18:AM:64:TRP:N	2.33	0.43
20:AS:67:VAL:O	20:AS:69:HIS:N	2.51	0.43
27:AZ:80[A]:VAL:CG1	64:AZ:503:BME:H22	2.48	0.43
31:B3:20:LYS:C	31:B3:22:ALA:N	2.72	0.43
34:B6:10:LEU:H	34:B6:10:LEU:CD2	2.32	0.43
34:B6:32:ASN:O	34:B6:33:LYS:HB2	2.17	0.43
36:B8:41:ILE:HG13	36:B8:42:ARG:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:B9:2:LYS:N	37:B9:35:ARG:CD	2.75	0.43
38:BA:507:A:O4'	38:BA:509:C:C2	2.70	0.43
38:BA:535:C:O2'	38:BA:536:A:H5'	2.19	0.43
38:BA:606:U:H4'	38:BA:658:C:H4'	1.99	0.43
38:BA:607:U:H5	38:BA:619:G:C5	2.37	0.43
38:BA:708:C:H42	38:BA:723:G:H1	1.66	0.43
38:BA:859:G:O3'	38:BA:860:U:O2	2.36	0.43
38:BA:912:C:H2'	38:BA:913:U:C6	2.54	0.43
38:BA:1043:C:O5'	38:BA:1043:C:H6	2.02	0.43
38:BA:1157:G:C2'	38:BA:1158:C:H5'	2.47	0.43
38:BA:1491:G:O4'	41:BD:99:ASP:OD2	2.37	0.43
38:BA:1822:G:O2'	38:BA:1823:G:H5'	2.18	0.43
38:BA:2013:A:O2'	38:BA:2014:A:H5'	2.18	0.43
38:BA:2020:A:C2	38:BA:2035:G:N1	2.87	0.43
38:BA:2170:A:O2'	38:BA:2171:A:C8	2.67	0.43
38:BA:2287:A:N6	38:BA:2344:U:N3	2.63	0.43
38:BA:2723:C:O2'	38:BA:2724:C:H5'	2.18	0.43
38:BA:2841:C:C2	38:BA:2877:G:C2	3.07	0.43
38:BA:2850:A:H2'	38:BA:2851:A:C8	2.53	0.43
39:BB:85:G:H1	39:BB:92:C:H42	1.66	0.43
40:BC:76:ALA:HB3	40:BC:94:VAL:HG11	2.00	0.43
40:BC:169:GLY:O	40:BC:170:ALA:HB3	2.18	0.43
41:BD:80:ALA:O	41:BD:81:ALA:HB2	2.18	0.43
42:BE:55:ASN:HD21	42:BE:75:VAL:HG22	1.83	0.43
42:BE:77:ILE:C	42:BE:78:LEU:HD23	2.38	0.43
42:BE:144:ARG:HB3	42:BE:145:LYS:H	1.68	0.43
43:BF:160:ASN:HD22	43:BF:160:ASN:C	2.22	0.43
44:BG:23:PHE:CZ	44:BG:171:ALA:CB	2.97	0.43
46:BI:102:SER:HA	46:BI:107:VAL:O	2.19	0.43
47:BL:3:LYS:HE3	47:BL:3:LYS:HB2	1.71	0.43
47:BL:37:PHE:HD2	47:BL:37:PHE:HA	1.71	0.43
48:BN:30:ILE:O	48:BN:33:LEU:HB3	2.18	0.43
49:BO:23:ARG:HA	49:BO:23:ARG:HD2	1.88	0.43
49:BO:27:GLY:C	49:BO:29:ASN:H	2.22	0.43
50:BP:110:TYR:CD2	50:BP:111:ARG:HD3	2.53	0.43
50:BP:113:LYS:HA	50:BP:129:ALA:O	2.18	0.43
53:BS:57:LYS:HG2	53:BS:58:LEU:N	2.33	0.43
60:BZ:116:VAL:HG12	60:BZ:117:LEU:O	2.18	0.43
1:AA:177:C:H2'	1:AA:178:C:C6	2.54	0.43
1:AA:328:C:O2	1:AA:328:C:C2'	2.66	0.43
1:AA:642:A:C5	6:AH:115:SER:HA	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:674:G:O2'	1:AA:675:A:H5'	2.17	0.43
1:AA:757:U:H2'	1:AA:758:G:O4'	2.19	0.43
1:AA:926:G:C4	1:AA:1505:G:C4	3.06	0.43
1:AA:1191:A:H2'	1:AA:1192:C:C6	2.54	0.43
1:AA:1474:G:C1'	38:BA:1701:A:C2	3.00	0.43
3:AD:65:ARG:NH1	3:AD:70:ILE:O	2.49	0.43
4:AE:11:ILE:N	4:AE:31:LEU:O	2.52	0.43
5:AF:98:LEU:HB3	12:AR:30:ASP:CA	2.48	0.43
5:AF:99:ALA:O	12:AR:28:GLU:HA	2.18	0.43
5:AF:100:ASN:N	5:AF:100:ASN:HD22	2.15	0.43
6:AH:6:ILE:HB	6:AH:85:ARG:NH1	2.34	0.43
6:AH:97:VAL:HB	6:AH:129:VAL:O	2.18	0.43
9:AO:26:GLU:HA	9:AO:81:LEU:HD22	2.01	0.43
10:AP:19:ILE:HG22	10:AP:36:ILE:CD1	2.49	0.43
10:AP:53:VAL:O	10:AP:54:GLU:C	2.56	0.43
13:AT:83:ARG:O	13:AT:86:ARG:HB3	2.19	0.43
14:AC:77:ILE:O	14:AC:84:ILE:HG22	2.18	0.43
14:AC:132:ARG:O	14:AC:134:ILE:N	2.52	0.43
16:AI:89:ASN:HB3	16:AI:92:TYR:CD1	2.54	0.43
18:AM:75:ALA:O	18:AM:76:ALA:C	2.56	0.43
21:AU:2:GLY:C	21:AU:4:GLY:N	2.71	0.43
25:AY:50:U:C2'	25:AY:51:G:H5'	2.48	0.43
33:B5:26:THR:HG23	33:B5:26:THR:O	2.17	0.43
34:B6:47:THR:HG22	34:B6:48:VAL:N	2.33	0.43
38:BA:66:C:O2'	38:BA:67:U:H5'	2.18	0.43
38:BA:226:G:C2	38:BA:227:A:C6	3.06	0.43
38:BA:560:C:H4'	55:BU:52:ARG:CZ	2.49	0.43
38:BA:649:G:C5	38:BA:650:C:C4	3.06	0.43
38:BA:1029:A:H2'	38:BA:1030:G:O4'	2.19	0.43
38:BA:1053:C:C5	38:BA:1054:A:N7	2.87	0.43
38:BA:1144:G:C4	38:BA:1145:C:C5	3.06	0.43
38:BA:1496:A:H8	38:BA:1577:C:O2'	2.02	0.43
38:BA:1885:A:H5'	38:BA:1885:A:C8	2.54	0.43
38:BA:2159:G:N2	38:BA:2160:G:H1'	2.32	0.43
38:BA:2691:C:C6	38:BA:2872:G:N1	2.87	0.43
39:BB:35:U:O2'	39:BB:36:C:H5'	2.18	0.43
40:BC:38:ASP:O	40:BC:180:PHE:HA	2.19	0.43
40:BC:67:GLY:O	40:BC:68:LEU:HB2	2.18	0.43
41:BD:9:TYR:C	41:BD:10:THR:HG22	2.38	0.43
41:BD:68:LYS:HB2	41:BD:70:TRP:CH2	2.54	0.43
41:BD:149:PRO:O	41:BD:150:LYS:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:222:ARG:O	41:BD:223:GLY:O	2.37	0.43
41:BD:247:ALA:CA	41:BD:254:THR:HG22	2.48	0.43
44:BG:31:VAL:HG13	44:BG:32:PRO:N	2.33	0.43
44:BG:39:ILE:C	44:BG:39:ILE:HD12	2.39	0.43
44:BG:103:LEU:O	44:BG:106:LEU:HB3	2.18	0.43
44:BG:139:LEU:HA	44:BG:144:ILE:CG2	2.48	0.43
44:BG:161:THR:HG21	44:BG:163:ALA:HB3	2.00	0.43
46:BI:15:VAL:C	46:BI:17:GLN:H	2.22	0.43
46:BI:33:ARG:HG2	46:BI:33:ARG:NH1	2.33	0.43
46:BI:77:LEU:O	46:BI:78:THR:CB	2.65	0.43
49:BO:31:LYS:C	49:BO:32:TYR:HD1	2.22	0.43
51:BQ:17:LEU:N	51:BQ:17:LEU:HD23	2.33	0.43
51:BQ:23:GLY:O	60:BZ:78:LYS:HB3	2.18	0.43
51:BQ:104:PHE:CD1	51:BQ:104:PHE:N	2.86	0.43
52:BR:11:ASN:CG	52:BR:12:ARG:N	2.72	0.43
52:BR:76:VAL:CG1	52:BR:77:ARG:N	2.80	0.43
54:BT:3:ARG:HB2	54:BT:6:LEU:HB3	1.99	0.43
54:BT:134:GLU:O	54:BT:135:ALA:HB3	2.19	0.43
55:BU:35:ALA:O	55:BU:36:ARG:C	2.57	0.43
58:BX:39:ILE:C	58:BX:42:ALA:HB3	2.39	0.43
59:BY:49:VAL:HG12	59:BY:53:PRO:HG3	1.99	0.43
59:BY:84:ARG:NH1	59:BY:97:ARG:HB2	2.34	0.43
60:BZ:11:GLU:H	60:BZ:11:GLU:CD	2.21	0.43
1:AA:34:C:H2'	1:AA:35:G:H8	1.84	0.43
1:AA:237:C:H2'	1:AA:238:G:H8	1.84	0.43
1:AA:515:G:N2	1:AA:537:G:C4	2.87	0.43
1:AA:963:G:H21	17:AJ:55:LYS:CD	2.31	0.43
1:AA:963:G:H2'	1:AA:964:A:C8	2.53	0.43
1:AA:1038:C:H2'	1:AA:1039:C:H6	1.81	0.43
1:AA:1232:U:H2'	1:AA:1233:G:O4'	2.18	0.43
1:AA:1321:C:O2	20:AS:77:THR:HG21	2.19	0.43
1:AA:1472:U:O2'	1:AA:1473:A:H5'	2.18	0.43
2:AB:52:GLU:O	2:AB:54:THR:N	2.52	0.43
2:AB:143:GLU:O	2:AB:147:LYS:HB2	2.19	0.43
3:AD:98:GLU:HG3	3:AD:103:ASN:HD21	1.84	0.43
3:AD:126:ILE:CG2	3:AD:127:THR:N	2.82	0.43
4:AE:107:ARG:O	4:AE:108:ALA:C	2.57	0.43
5:AF:53:ALA:O	5:AF:54:LYS:CB	2.65	0.43
7:AK:87:THR:HG22	7:AK:88:GLY:N	2.34	0.43
7:AK:115:PRO:C	7:AK:117:ASN:N	2.72	0.43
11:AQ:11:VAL:HB	11:AQ:88:TYR:CD2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AQ:12:SER:HB3	11:AQ:20:THR:CB	2.49	0.43
12:AR:76:LEU:N	12:AR:76:LEU:HD22	2.34	0.43
15:AG:20:ASP:O	15:AG:23:VAL:HB	2.18	0.43
15:AG:71:PRO:HD3	15:AG:103:TRP:HZ3	1.83	0.43
15:AG:149:ARG:O	15:AG:152:ALA:HB3	2.19	0.43
17:AJ:90:LEU:N	17:AJ:91:PRO:CD	2.82	0.43
22:AV:13:C:P	38:BA:1907:G:H21	2.41	0.43
29:B1:48:LYS:CG	29:B1:49:VAL:H	2.17	0.43
36:B8:4:MET:HE2	38:BA:592:G:N3	2.34	0.43
36:B8:9:GLY:O	36:B8:13:ARG:HG2	2.18	0.43
38:BA:402:A:C2'	38:BA:403:U:H5'	2.49	0.43
38:BA:537:C:C2	38:BA:538:G:C8	3.07	0.43
38:BA:557:U:H2'	38:BA:558:G:H8	1.84	0.43
38:BA:817:C:H2'	38:BA:818:G:O4'	2.18	0.43
38:BA:869:G:H2'	38:BA:870:A:O4'	2.19	0.43
38:BA:987:G:H2'	38:BA:988:A:O4'	2.19	0.43
38:BA:1013:C:O2'	38:BA:1014:U:H5'	2.18	0.43
38:BA:2073:C:H42	38:BA:2436:G:H1	1.67	0.43
38:BA:2236:C:C2'	38:BA:2237:G:H5'	2.49	0.43
38:BA:2408:U:O5'	38:BA:2408:U:H6	2.02	0.43
38:BA:2642:G:O2'	38:BA:2643:G:H5'	2.19	0.43
38:BA:2699:C:O2'	38:BA:2700:C:H5'	2.18	0.43
38:BA:2863:C:C3'	38:BA:2864:G:C5'	2.96	0.43
39:BB:75:G:H2'	39:BB:76:G:H5'	2.00	0.43
39:BB:79:C:H2'	39:BB:80:U:H5'	1.99	0.43
40:BC:49:ILE:O	40:BC:51:PRO:HD3	2.19	0.43
41:BD:218:ARG:HB3	41:BD:219:PRO:HD2	2.00	0.43
42:BE:24:THR:HB	42:BE:186:GLY:HA2	2.01	0.43
43:BF:16:GLY:O	43:BF:17:ARG:CG	2.67	0.43
44:BG:21:ARG:O	44:BG:22:ARG:C	2.57	0.43
45:BH:12:PRO:HB2	45:BH:15:VAL:CG1	2.49	0.43
45:BH:55:PRO:CG	45:BH:56:SER:H	2.15	0.43
47:BL:94:GLU:HG2	47:BL:96:VAL:CG2	2.48	0.43
48:BN:130:HIS:O	48:BN:130:HIS:CG	2.71	0.43
50:BP:32:THR:O	50:BP:33:ARG:HB2	2.19	0.43
50:BP:95:VAL:HG23	50:BP:125:VAL:CG2	2.42	0.43
51:BQ:141:GLN:HE22	60:BZ:89:PHE:HB2	1.83	0.43
52:BR:38:VAL:CB	52:BR:39:PRO:CD	2.92	0.43
53:BS:37:ALA:CB	53:BS:73:LEU:HD11	2.49	0.43
54:BT:100:TYR:CD1	54:BT:100:TYR:N	2.84	0.43
56:BV:43:GLU:CA	56:BV:48:GLY:HA2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BV:82:ARG:HD2	56:BV:82:ARG:O	2.19	0.43
60:BZ:68:PRO:O	60:BZ:91:LEU:N	2.49	0.43
1:AA:379:C:O2'	1:AA:380:G:H5'	2.18	0.43
1:AA:509:A:H2'	1:AA:510:A:C8	2.54	0.43
1:AA:865:A:C2	1:AA:918:A:H4'	2.54	0.43
1:AA:1134:G:N2	1:AA:1141:C:C2	2.87	0.43
1:AA:1342:C:H1'	16:AI:124:GLN:NE2	2.33	0.43
1:AA:1349:A:P	16:AI:118:LYS:NZ	2.92	0.43
1:AA:1401:G:C2	1:AA:1402:C:H1'	2.54	0.43
1:AA:1446:U:O2'	1:AA:1447:A:H3'	2.19	0.43
2:AB:46:LYS:HA	2:AB:49:GLU:OE1	2.17	0.43
2:AB:68:ILE:N	2:AB:68:ILE:CD1	2.82	0.43
3:AD:94:LEU:O	3:AD:95:GLY:C	2.57	0.43
3:AD:138:TYR:HD2	3:AD:138:TYR:C	2.21	0.43
4:AE:76:ILE:HB	4:AE:118:ILE:HD13	2.00	0.43
5:AF:61:LEU:HD23	5:AF:63:TYR:OH	2.19	0.43
8:AL:21:LYS:HD2	8:AL:21:LYS:H	1.83	0.43
9:AO:53:HIS:HE1	9:AO:57:LEU:HD21	1.84	0.43
11:AQ:23:VAL:N	11:AQ:40:LYS:O	2.48	0.43
12:AR:62:GLU:O	12:AR:64:ARG:N	2.52	0.43
17:AJ:44:VAL:HG12	17:AJ:45:ARG:N	2.33	0.43
17:AJ:94:VAL:CG1	17:AJ:95:GLU:N	2.81	0.43
19:AN:42:ILE:O	19:AN:46:GLU:HG3	2.19	0.43
27:AZ:194:GLU:O	27:AZ:198:LYS:HG2	2.19	0.43
38:BA:188:G:H2'	38:BA:189:G:H5'	2.00	0.43
38:BA:280:C:H2'	38:BA:281:G:O5'	2.19	0.43
38:BA:309:G:N3	38:BA:329:G:O2'	2.52	0.43
38:BA:470:A:OP1	43:BF:59:TYR:HE2	2.02	0.43
38:BA:703:U:H2'	38:BA:704:G:C5'	2.48	0.43
38:BA:813:U:H2'	38:BA:814:C:H6	1.83	0.43
38:BA:1076:C:C4'	47:BL:93:ARG:NH2	2.80	0.43
38:BA:1079:C:O2'	47:BL:132:ARG:NH1	2.52	0.43
38:BA:1086:A:H3'	38:BA:1087:G:C5'	2.47	0.43
38:BA:1091:G:N2	38:BA:1101:U:C2	2.86	0.43
38:BA:1102:C:H1'	38:BA:1103:A:N7	2.34	0.43
38:BA:1149:G:O2'	38:BA:1150:C:H5'	2.19	0.43
38:BA:1350:C:H2'	38:BA:1351:C:H6	1.84	0.43
38:BA:1657:C:H2'	38:BA:1658:C:H6	1.83	0.43
38:BA:2287:A:H2	38:BA:2346:A:N1	2.15	0.43
38:BA:2308:G:N7	38:BA:2310:A:O5'	2.51	0.43
38:BA:2385:C:H2'	38:BA:2386:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2567:G:H2'	38:BA:2568:C:C6	2.54	0.43
38:BA:2671:A:H2'	38:BA:2672:G:H8	1.84	0.43
38:BA:2887:U:O2'	38:BA:2888:C:H5'	2.18	0.43
42:BE:131:ALA:HB3	42:BE:134:ILE:HD12	1.99	0.43
42:BE:197:ILE:CD1	42:BE:199:ARG:HH12	2.32	0.43
43:BF:64:ILE:HG22	43:BF:76:GLY:O	2.18	0.43
43:BF:77:ASP:C	43:BF:79:GLY:N	2.73	0.43
43:BF:139:PHE:CD2	43:BF:139:PHE:C	2.91	0.43
45:BH:94:TYR:CD1	45:BH:94:TYR:N	2.87	0.43
46:BI:47:LEU:O	46:BI:51:ILE:HG12	2.19	0.43
48:BN:89:LYS:C	48:BN:93:THR:HG22	2.39	0.43
48:BN:119:ARG:HH11	48:BN:119:ARG:HG3	1.84	0.43
54:BT:10:VAL:O	54:BT:12:SER:N	2.52	0.43
56:BV:66:ARG:NE	56:BV:94:LEU:HG	2.33	0.43
58:BX:21:PHE:CE1	58:BX:26:TYR:HB3	2.54	0.43
59:BY:71:LYS:NZ	59:BY:71:LYS:CB	2.80	0.43
59:BY:84:ARG:HH11	59:BY:97:ARG:HA	1.84	0.43
60:BZ:48:PHE:CD1	60:BZ:48:PHE:C	2.92	0.43
60:BZ:64:GLY:O	60:BZ:65:GLN:O	2.36	0.43
1:AA:10:A:H2'	1:AA:11:G:H8	1.84	0.43
1:AA:174:C:H2'	1:AA:175:C:C6	2.53	0.43
1:AA:358:U:H2'	1:AA:359:U:H6	1.82	0.43
1:AA:599:C:O2'	1:AA:600:C:H5'	2.19	0.43
1:AA:737:A:O2'	5:AF:72:VAL:HG11	2.19	0.43
1:AA:764:C:C2	1:AA:765:G:C8	3.07	0.43
1:AA:1030(A):G:H2'	1:AA:1030(C):G:OP2	2.18	0.43
1:AA:1166:G:H2'	1:AA:1169:A:OP2	2.19	0.43
1:AA:1204:A:H2'	1:AA:1205:U:O4'	2.18	0.43
2:AB:71:VAL:HG13	2:AB:93:VAL:HB	2.00	0.43
3:AD:50:ARG:HD2	3:AD:50:ARG:C	2.39	0.43
8:AL:58:VAL:N	8:AL:66:VAL:O	2.48	0.43
9:AO:53:HIS:CE1	9:AO:57:LEU:HD21	2.54	0.43
11:AQ:12:SER:HB3	11:AQ:20:THR:OG1	2.19	0.43
12:AR:30:ASP:C	12:AR:32:ARG:H	2.22	0.43
14:AC:175:LEU:HD21	14:AC:201:TYR:CE2	2.53	0.43
15:AG:131:LYS:N	15:AG:135:VAL:HG21	2.33	0.43
17:AJ:40:LEU:HD21	17:AJ:70:ARG:N	2.34	0.43
27:AZ:92:MET:SD	27:AZ:122[A]:LEU:HD23	2.59	0.43
30:B2:30:ARG:HB3	58:BX:11:PRO:HD3	2.00	0.43
30:B2:55:ARG:HB3	30:B2:56:GLN:NE2	2.34	0.43
38:BA:157:U:H5''	38:BA:171:G:H22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:396:G:O2'	38:BA:397:G:H5'	2.19	0.43
38:BA:614(C):A:H4'	38:BA:615:G:OP1	2.17	0.43
38:BA:631:A:OP1	50:BP:64:LYS:CE	2.67	0.43
38:BA:747:U:O2'	57:BW:88:ARG:HG3	2.19	0.43
38:BA:1093:G:C2	38:BA:1098:A:N6	2.86	0.43
38:BA:1100:C:H2'	38:BA:1101:U:OP1	2.19	0.43
38:BA:1355:G:C4	38:BA:1356:G:C8	3.07	0.43
38:BA:1380:G:C2	38:BA:1381:G:C8	3.07	0.43
38:BA:1414:G:H1	38:BA:1588:C:H42	1.65	0.43
38:BA:2552:U:H3'	38:BA:2554:U:OP2	2.19	0.43
38:BA:2732:G:H3'	38:BA:2733:A:C5'	2.47	0.43
40:BC:196:LEU:C	40:BC:198:ALA:N	2.72	0.43
41:BD:237:GLU:OE2	41:BD:239:ARG:N	2.51	0.43
41:BD:248:SER:HB2	41:BD:249:PRO:CD	2.49	0.43
43:BF:84:VAL:CG1	43:BF:85:GLY:H	2.29	0.43
43:BF:110:LEU:HD23	43:BF:110:LEU:HA	1.83	0.43
44:BG:10:LYS:O	44:BG:11:TYR:C	2.58	0.43
44:BG:85:GLY:O	44:BG:87:PRO:CD	2.66	0.43
44:BG:90:LEU:HD12	44:BG:90:LEU:HA	1.77	0.43
46:BI:45:LYS:HG3	46:BI:46:ALA:N	2.34	0.43
47:BL:8:VAL:O	47:BL:10:LEU:CD2	2.67	0.43
47:BL:37:PHE:HB3	47:BL:57:ILE:HD12	2.00	0.43
50:BP:131:SER:H	50:BP:134:ALA:CB	2.19	0.43
51:BQ:32:TYR:N	51:BQ:32:TYR:CD1	2.85	0.43
51:BQ:71:ASP:O	51:BQ:73:PRO:HD3	2.18	0.43
52:BR:27:SER:O	52:BR:29:LEU:N	2.52	0.43
53:BS:14:VAL:O	53:BS:15:ARG:C	2.55	0.43
55:BU:92:ARG:NH1	56:BV:11:GLN:N	2.67	0.43
57:BW:82:LEU:N	57:BW:82:LEU:CD1	2.80	0.43
60:BZ:97:GLU:HB3	60:BZ:125:LEU:HD21	2.01	0.43
1:AA:189(L):G:H2'	1:AA:190:U:C6	2.54	0.42
1:AA:370:C:O2'	1:AA:371:G:H5'	2.19	0.42
1:AA:375:U:H4'	10:AP:17:TYR:HE2	1.81	0.42
1:AA:677:U:H3	1:AA:713:G:H22	1.67	0.42
1:AA:1100:C:OP2	2:AB:96:ARG:HG2	2.19	0.42
1:AA:1293:G:O2'	1:AA:1294:G:P	2.77	0.42
1:AA:1415:G:H2'	1:AA:1416:G:H8	1.84	0.42
1:AA:1432:G:OP1	54:BT:108:ARG:N	2.52	0.42
1:AA:1495:U:C2	1:AA:1496:C:C5	3.07	0.42
2:AB:42:ILE:CD1	2:AB:202:PRO:HB2	2.47	0.42
3:AD:100:ARG:O	3:AD:103:ASN:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:62:ALA:O	4:AE:65:ASN:N	2.34	0.42
4:AE:78:HIS:CE1	4:AE:142:LEU:HD23	2.54	0.42
7:AK:97:ALA:C	7:AK:99:GLN:H	2.23	0.42
7:AK:120:ARG:HA	7:AK:121:PRO:HD3	1.78	0.42
10:AP:59:TRP:HA	10:AP:59:TRP:CE3	2.54	0.42
12:AR:36:ASN:HD22	12:AR:39:VAL:CG2	2.25	0.42
12:AR:53:ARG:HH11	12:AR:53:ARG:CB	2.31	0.42
16:AI:46:ALA:HA	16:AI:78:LYS:HZ2	1.84	0.42
18:AM:50:GLU:O	18:AM:54:VAL:HG23	2.19	0.42
19:AN:33:VAL:C	19:AN:34:TYR:CD1	2.92	0.42
28:B0:36:ILE:HA	28:B0:60:PHE:CB	2.48	0.42
29:B1:33:LYS:HB3	38:BA:2395:C:O2'	2.19	0.42
29:B1:62:VAL:O	29:B1:64:ALA:N	2.52	0.42
38:BA:90:U:H1'	38:BA:92:A:H8	1.83	0.42
38:BA:521:G:H2'	38:BA:522:G:C8	2.53	0.42
38:BA:528:A:H2	38:BA:2043:C:C4'	2.31	0.42
38:BA:1061:U:C4'	38:BA:1070:A:H4'	2.49	0.42
38:BA:1162:G:N3	56:BV:91:TYR:CE1	2.83	0.42
38:BA:1243:G:H4'	50:BP:9:ASN:HD22	1.83	0.42
38:BA:1932:A:H2'	38:BA:1933:G:O4'	2.19	0.42
38:BA:2129:C:C2'	38:BA:2130:U:O5'	2.62	0.42
38:BA:2190:G:C2	38:BA:2191:G:C4	3.06	0.42
38:BA:2256:G:H2'	38:BA:2257:U:O4'	2.19	0.42
38:BA:2496:C:P	51:BQ:81:VAL:HG13	2.58	0.42
38:BA:2550:G:O2'	38:BA:2551:C:H5'	2.19	0.42
38:BA:2785:C:H1'	42:BE:64:LYS:HZ1	1.84	0.42
39:BB:21:G:O2'	39:BB:22:U:C5'	2.67	0.42
39:BB:56:G:H5''	44:BG:27:ASN:ND2	2.34	0.42
40:BC:68:LEU:HD22	40:BC:179:SER:HA	2.00	0.42
40:BC:79:LYS:O	40:BC:96:GLY:HA3	2.19	0.42
41:BD:205:VAL:O	41:BD:205:VAL:HG12	2.18	0.42
44:BG:51:ARG:HA	44:BG:51:ARG:HE	1.83	0.42
44:BG:51:ARG:HA	44:BG:51:ARG:NE	2.34	0.42
44:BG:139:LEU:HB3	44:BG:149:VAL:HG11	1.99	0.42
44:BG:172:LEU:O	44:BG:172:LEU:HD12	2.19	0.42
45:BH:102:ALA:CB	45:BH:117:PRO:HD3	2.49	0.42
46:BI:136:VAL:O	46:BI:136:VAL:HG22	2.19	0.42
47:BL:13:PRO:HD2	47:BL:19:PRO:HG3	2.00	0.42
47:BL:49:GLY:O	47:BL:50:ASP:CG	2.57	0.42
49:BO:119:PRO:O	54:BT:68:TYR:HE1	2.01	0.42
53:BS:58:LEU:HD12	53:BS:59:LYS:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BW:21:VAL:C	57:BW:23:LEU:H	2.22	0.42
59:BY:31:LEU:CD2	59:BY:36:ALA:HB3	2.49	0.42
60:BZ:14:LYS:HB2	60:BZ:17:ALA:CB	2.49	0.42
1:AA:6:G:C4	4:AE:119:LEU:HD11	2.54	0.42
1:AA:44:G:H2'	1:AA:45:U:O4'	2.20	0.42
1:AA:444:C:H2'	1:AA:445:G:H8	1.84	0.42
1:AA:560:U:O2'	1:AA:561:U:OP2	2.24	0.42
1:AA:926:G:N1	1:AA:1505:G:N7	2.66	0.42
1:AA:937:A:C5	1:AA:938:A:N7	2.87	0.42
1:AA:1057:G:C4	1:AA:1204:A:C2	3.07	0.42
1:AA:1338:G:H21	22:AV:41:C:H1'	1.84	0.42
1:AA:1505:G:H4'	1:AA:1506:U:H5'	2.01	0.42
2:AB:98:LEU:HB2	2:AB:101:MET:HE2	2.00	0.42
3:AD:12:CYS:HG	3:AD:26:CYS:HG	1.67	0.42
3:AD:20:TYR:N	3:AD:20:TYR:CD1	2.87	0.42
4:AE:59:GLY:O	4:AE:63:ARG:HG3	2.19	0.42
4:AE:80:ILE:HG13	4:AE:91:LEU:HB2	2.01	0.42
9:AO:56:LEU:CD2	38:BA:715:G:C2	3.03	0.42
11:AQ:19:VAL:HG22	11:AQ:44:ALA:HB3	2.01	0.42
15:AG:4:ARG:HG2	15:AG:4:ARG:HH11	1.84	0.42
16:AI:19:LEU:HB3	16:AI:59:PHE:CD2	2.55	0.42
17:AJ:8:LEU:HG	17:AJ:96:ILE:HG22	2.01	0.42
18:AM:124:PRO:HA	25:AY:37:YG:H241	0.87	0.42
33:B5:50:GLY:HA3	33:B5:56:LYS:HB3	2.01	0.42
38:BA:251:A:H2'	38:BA:252:G:O4'	2.19	0.42
38:BA:271(K):U:H3'	38:BA:271(L):U:H5'	2.00	0.42
38:BA:389:G:H8	38:BA:389:G:O5'	2.02	0.42
38:BA:709:U:O2'	38:BA:710:G:H5'	2.19	0.42
38:BA:848:G:C2	38:BA:933:A:H1'	2.54	0.42
38:BA:858:U:C2	38:BA:2268:A:C2	3.07	0.42
38:BA:911:A:C2'	51:BQ:9:TYR:OH	2.63	0.42
38:BA:1014:U:C2	38:BA:1149:G:N2	2.88	0.42
38:BA:1022:G:O2'	38:BA:1023:U:OP2	2.37	0.42
38:BA:1141:U:OP1	48:BN:25:ARG:NH1	2.52	0.42
38:BA:1158:C:O2'	38:BA:1159:U:C5'	2.66	0.42
38:BA:1288:U:C2	38:BA:1327:C:O2	2.72	0.42
38:BA:1578:U:H6	38:BA:1578:U:OP2	2.01	0.42
38:BA:1594:G:H2'	38:BA:1595:G:O4'	2.20	0.42
38:BA:1813:G:H1'	41:BD:50:THR:OG1	2.19	0.42
38:BA:2851:A:C4	38:BA:2852:G:C8	3.06	0.42
41:BD:34:VAL:O	41:BD:35:LYS:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:36:PRO:HG3	41:BD:61:LEU:HD23	2.00	0.42
45:BH:53:GLU:CD	45:BH:54:ARG:H	2.22	0.42
45:BH:103:LEU:HD23	45:BH:103:LEU:N	2.32	0.42
46:BI:51:ILE:O	46:BI:55:ALA:HB2	2.20	0.42
47:BL:77:LEU:HB2	47:BL:111:LYS:HZ1	1.82	0.42
47:BL:79:ARG:NH1	47:BL:86:LYS:C	2.72	0.42
47:BL:101:TRP:O	47:BL:104:VAL:HB	2.19	0.42
50:BP:61:ARG:H	50:BP:61:ARG:CD	2.30	0.42
51:BQ:43:THR:N	51:BQ:46:GLN:OE1	2.51	0.42
52:BR:18:LEU:HD13	52:BR:18:LEU:O	2.19	0.42
52:BR:27:SER:O	52:BR:30:THR:N	2.52	0.42
52:BR:104:ARG:CG	52:BR:104:ARG:NH1	2.80	0.42
56:BV:43:GLU:CA	56:BV:48:GLY:CA	2.91	0.42
57:BW:17:VAL:HG23	57:BW:18:ARG:N	2.34	0.42
59:BY:87:LYS:HG3	59:BY:88:LYS:H	1.84	0.42
60:BZ:44:PHE:CZ	60:BZ:86:VAL:HG11	2.54	0.42
60:BZ:65:GLN:HB3	60:BZ:67:LEU:HD11	2.01	0.42
1:AA:55:A:C6	1:AA:56:U:C2	3.06	0.42
1:AA:156:G:N1	1:AA:166:G:C6	2.87	0.42
1:AA:277:C:H5''	11:AQ:68:ARG:NH2	2.34	0.42
1:AA:346:G:H5'	54:BT:41:ARG:NE	2.34	0.42
1:AA:775:G:O2'	1:AA:776:G:H5'	2.18	0.42
1:AA:777:A:O2'	1:AA:778:G:H5'	2.19	0.42
1:AA:963:G:H21	17:AJ:55:LYS:CE	2.32	0.42
1:AA:973:G:C4	17:AJ:55:LYS:CE	3.02	0.42
1:AA:1341:U:H3'	1:AA:1341:U:H6	1.84	0.42
1:AA:1360:A:C2'	1:AA:1361:G:H5'	2.49	0.42
2:AB:189:ASP:OD1	2:AB:189:ASP:N	2.50	0.42
3:AD:110:PHE:HE2	3:AD:148:VAL:HG23	1.81	0.42
7:AK:69:ALA:O	7:AK:73:MET:HG2	2.19	0.42
9:AO:39:LEU:O	9:AO:39:LEU:HD13	2.19	0.42
10:AP:12:LYS:HG2	10:AP:13:HIS:N	2.33	0.42
12:AR:25:THR:O	12:AR:25:THR:HG22	2.18	0.42
15:AG:85:TYR:CD1	15:AG:154:TYR:HE1	2.36	0.42
17:AJ:62:HIS:CD2	17:AJ:62:HIS:N	2.88	0.42
17:AJ:80:LYS:NZ	17:AJ:80:LYS:CB	2.83	0.42
18:AM:47:ASP:C	18:AM:48:LEU:HD23	2.39	0.42
18:AM:114:ARG:O	18:AM:116:THR:N	2.51	0.42
19:AN:6:LEU:HB3	19:AN:23:ARG:HH22	1.81	0.42
22:AV:71:C:H2'	22:AV:72:A:H8	1.84	0.42
24:AW:38:A:H2'	24:AW:39:U:C4'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AZ:385:ARG:HG2	27:AZ:399[B]:VAL:HG22	2.01	0.42
32:B4:42:PHE:C	32:B4:44:THR:N	2.73	0.42
34:B6:46:HIS:HB3	34:B6:47:THR:N	2.34	0.42
37:B9:19:ARG:NH2	38:BA:2743:C:H41	2.16	0.42
38:BA:134:C:O2'	38:BA:135:G:H5'	2.19	0.42
38:BA:214:G:H1'	38:BA:216:A:O2'	2.18	0.42
38:BA:571:A:O2'	38:BA:573:G:O5'	2.36	0.42
38:BA:583:G:H5''	55:BU:10:ARG:HH12	1.84	0.42
38:BA:635:C:O2'	38:BA:639:U:OP1	2.37	0.42
38:BA:759:G:O2'	38:BA:760:G:H5'	2.20	0.42
38:BA:947:G:N3	38:BA:984:A:H2	2.17	0.42
38:BA:1054:A:N1	38:BA:1055:G:C6	2.87	0.42
38:BA:1076:C:C6	38:BA:1076:C:OP2	2.72	0.42
38:BA:1204:A:H2	38:BA:1241:A:N1	2.17	0.42
38:BA:1261:C:C2'	38:BA:1262:A:O5'	2.68	0.42
38:BA:1809:A:H2'	38:BA:1810:A:C8	2.54	0.42
38:BA:2124:G:H2'	38:BA:2125:G:O4'	2.18	0.42
38:BA:2150:U:N3	38:BA:2151:G:C5	2.87	0.42
38:BA:2157:G:O2'	38:BA:2158:A:C8	2.59	0.42
38:BA:2577:A:C5'	38:BA:2578:G:H5'	2.43	0.42
38:BA:2632:A:C1'	42:BE:61:ARG:NH1	2.78	0.42
42:BE:71:GLY:O	42:BE:72:VAL:HB	2.19	0.42
44:BG:98:ARG:O	44:BG:101:ILE:HG23	2.19	0.42
44:BG:103:LEU:O	44:BG:106:LEU:N	2.52	0.42
45:BH:70:THR:O	45:BH:71:LEU:C	2.56	0.42
46:BI:29:TYR:CE1	46:BI:33:ARG:NE	2.79	0.42
46:BI:126:TYR:O	46:BI:139:GLN:HG3	2.19	0.42
47:BL:27:LEU:HA	47:BL:32:ALA:HB3	2.01	0.42
47:BL:37:PHE:CE1	47:BL:57:ILE:HB	2.54	0.42
50:BP:57:THR:HB	50:BP:58:THR:H	1.32	0.42
51:BQ:41:TRP:C	51:BQ:42:ILE:HD12	2.39	0.42
52:BR:85:PRO:C	52:BR:87:TYR:H	2.23	0.42
54:BT:61:PHE:CZ	54:BT:85:LYS:HE2	2.55	0.42
58:BX:77:LYS:HE3	58:BX:78:LYS:HG3	2.01	0.42
59:BY:61:ILE:O	59:BY:62:GLU:O	2.37	0.42
60:BZ:72:ARG:HA	60:BZ:72:ARG:HD3	1.83	0.42
60:BZ:99:TYR:HA	60:BZ:125:LEU:HA	2.02	0.42
1:AA:96:U:HO2'	1:AA:97:G:P	2.42	0.42
1:AA:97:G:O2'	1:AA:98:G:P	2.77	0.42
1:AA:568:G:N2	1:AA:883:C:C2	2.87	0.42
1:AA:972:C:H4'	17:AJ:57:LYS:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1060:C:O4'	17:AJ:52:GLY:HA2	2.19	0.42
1:AA:1261:A:H2'	1:AA:1262:C:H5'	2.02	0.42
1:AA:1305:G:N2	1:AA:1331:G:O2'	2.44	0.42
1:AA:1321:C:C5'	1:AA:1322:C:C5'	2.77	0.42
1:AA:1343:G:C1'	16:AI:121:ARG:NH1	2.80	0.42
1:AA:1376:U:O2'	1:AA:1377:A:H5'	2.19	0.42
2:AB:144:ARG:O	2:AB:147:LYS:N	2.53	0.42
3:AD:94:LEU:O	3:AD:98:GLU:N	2.51	0.42
3:AD:107:ARG:C	3:AD:109:GLY:H	2.22	0.42
5:AF:44:GLY:HA2	5:AF:59:TYR:CE1	2.55	0.42
5:AF:78:GLU:O	5:AF:81:ILE:HG13	2.19	0.42
7:AK:21:ILE:N	7:AK:21:ILE:CD1	2.82	0.42
7:AK:34:ASP:CB	7:AK:35:PRO:CD	2.97	0.42
7:AK:38:ASN:HA	7:AK:39:PRO:HD3	1.87	0.42
10:AP:58:TYR:O	10:AP:61:SER:N	2.52	0.42
15:AG:64:GLN:O	15:AG:65:ALA:C	2.58	0.42
15:AG:139:GLU:O	15:AG:142:GLU:HB2	2.19	0.42
16:AI:99:LEU:O	16:AI:100:GLY:C	2.58	0.42
24:AW:39:U:C3'	24:AW:40:C:C5'	2.98	0.42
29:B1:18:ILE:CA	29:B1:44:PRO:HD2	2.44	0.42
36:B8:13:ARG:HD2	50:BP:61:ARG:HD3	2.01	0.42
36:B8:13:ARG:CD	50:BP:61:ARG:NH1	2.82	0.42
37:B9:33:LYS:NZ	38:BA:2526:G:C3'	2.82	0.42
38:BA:66:C:C2'	38:BA:67:U:H5'	2.49	0.42
38:BA:373:U:H2'	38:BA:374:A:C8	2.52	0.42
38:BA:527:C:H4'	38:BA:528:A:O4'	2.19	0.42
38:BA:902:C:H2'	38:BA:903:C:H6	1.84	0.42
38:BA:1084:A:C3'	38:BA:1085:A:H5'	2.49	0.42
38:BA:1245:G:H5'	50:BP:16:ARG:HH21	1.84	0.42
38:BA:1544:A:O2'	38:BA:1545:A:P	2.78	0.42
38:BA:1697:G:OP2	38:BA:1698:A:H2'	2.19	0.42
38:BA:2292:C:N4	38:BA:2340:G:H1	2.15	0.42
38:BA:2406:U:C2	50:BP:72:PRO:HB2	2.55	0.42
38:BA:2528:U:O2'	38:BA:2529:G:H3'	2.19	0.42
38:BA:2704:C:H2'	38:BA:2705:A:C8	2.54	0.42
38:BA:2883:A:H3'	38:BA:2884:U:H5'	2.00	0.42
41:BD:27:THR:O	41:BD:28:GLU:CB	2.66	0.42
41:BD:142:VAL:HG22	41:BD:143:HIS:N	2.34	0.42
41:BD:263:ARG:O	41:BD:264:LYS:C	2.57	0.42
42:BE:35:GLN:HE22	42:BE:37:ARG:HH21	1.67	0.42
42:BE:51:PHE:CD1	42:BE:52:LEU:N	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BF:201:VAL:HG13	43:BF:202:PHE:N	2.34	0.42
43:BF:203:GLN:O	43:BF:206:ILE:C	2.57	0.42
46:BI:96:ASP:C	46:BI:98:ALA:H	2.23	0.42
48:BN:28:THR:O	48:BN:31:ALA:N	2.52	0.42
48:BN:87:LEU:O	48:BN:88:GLU:C	2.57	0.42
49:BO:87:ILE:HD13	49:BO:93:PRO:N	2.35	0.42
50:BP:16:ARG:HH11	50:BP:18:ARG:CB	2.17	0.42
52:BR:4:LEU:C	52:BR:6:SER:N	2.73	0.42
52:BR:28:LEU:HD13	52:BR:29:LEU:HD12	2.02	0.42
52:BR:116:LEU:O	52:BR:117:VAL:CB	2.60	0.42
53:BS:28:VAL:HB	53:BS:97:ARG:NH1	2.34	0.42
55:BU:74:LEU:HD23	55:BU:114:LYS:CE	2.49	0.42
56:BV:72:VAL:O	56:BV:73:SER:CB	2.67	0.42
59:BY:44:ILE:HG22	59:BY:45:VAL:N	2.34	0.42
59:BY:81:LYS:HE2	59:BY:97:ARG:HG3	2.01	0.42
59:BY:95:LYS:HD3	59:BY:100:ALA:HB1	2.01	0.42
60:BZ:61:LEU:O	60:BZ:63:ASP:N	2.52	0.42
1:AA:60:A:H8	1:AA:60:A:O5'	2.02	0.42
1:AA:186:C:C2	1:AA:187:C:C5	3.08	0.42
1:AA:273:A:N6	1:AA:274:A:C6	2.87	0.42
1:AA:539:A:OP2	8:AL:115:LYS:HE3	2.19	0.42
1:AA:616:G:N3	1:AA:616:G:H2'	2.35	0.42
1:AA:985:C:H2'	1:AA:986:A:C8	2.55	0.42
1:AA:1060:C:H5''	17:AJ:51:ARG:HB3	2.02	0.42
1:AA:1270:C:O2'	1:AA:1271:G:H5'	2.19	0.42
1:AA:1277:C:C2'	1:AA:1278:U:H5'	2.45	0.42
1:AA:1320:C:C2	20:AS:72:GLY:HA3	2.55	0.42
1:AA:1499:A:C4	1:AA:1500:A:C8	3.08	0.42
2:AB:111:ARG:HH11	2:AB:111:ARG:HG2	1.84	0.42
4:AE:32:VAL:CG1	4:AE:33:VAL:N	2.83	0.42
7:AK:21:ILE:HG13	7:AK:30:VAL:HG12	2.00	0.42
9:AO:33:THR:O	9:AO:36:ILE:N	2.53	0.42
9:AO:53:HIS:NE2	38:BA:715:G:O6	2.52	0.42
13:AT:16:HIS:O	13:AT:17:ARG:C	2.57	0.42
13:AT:57:ARG:HD3	13:AT:103:GLY:N	2.34	0.42
13:AT:60:GLU:O	13:AT:63:ILE:HB	2.19	0.42
14:AC:115:LEU:O	14:AC:116:VAL:C	2.57	0.42
14:AC:188:LEU:O	14:AC:189:ALA:CB	2.67	0.42
18:AM:18:ALA:O	18:AM:20:THR:N	2.52	0.42
18:AM:52:GLU:O	18:AM:56:LEU:HB2	2.20	0.42
18:AM:90:LEU:C	18:AM:92:HIS:N	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AW:6:G:C2'	24:AW:7:A:H5'	2.48	0.42
24:AW:19:G:H4'	24:AW:20:U:OP2	2.18	0.42
24:AW:39:U:O2	24:AW:39:U:C5'	2.68	0.42
24:AW:42:C:H2'	24:AW:43:C:C1'	2.50	0.42
30:B2:52:ASP:O	30:B2:55:ARG:HB2	2.19	0.42
33:B5:20:ARG:O	33:B5:21:SER:C	2.57	0.42
33:B5:50:GLY:HA3	33:B5:56:LYS:CB	2.49	0.42
35:B7:2:LYS:HG2	38:BA:1620:G:O2'	2.19	0.42
35:B7:19:ARG:NH1	35:B7:19:ARG:CG	2.81	0.42
38:BA:146:G:H5'	38:BA:146:G:H8	1.84	0.42
38:BA:878:A:H2'	38:BA:879:G:C5'	2.50	0.42
38:BA:1039:G:O2'	38:BA:1040:C:H5'	2.19	0.42
38:BA:1755:A:H2'	38:BA:1756:G:H5'	2.01	0.42
38:BA:1854:A:H3'	38:BA:1855:G:C8	2.54	0.42
38:BA:2038:G:H2'	38:BA:2039:C:O4'	2.19	0.42
38:BA:2243:U:H2'	38:BA:2244:U:C6	2.54	0.42
38:BA:2313:C:O2'	38:BA:2314:C:H5'	2.19	0.42
40:BC:92:ASP:CG	40:BC:93:TYR:N	2.73	0.42
42:BE:188:VAL:HA	42:BE:189:PRO:HD2	1.84	0.42
43:BF:165:ARG:HG2	43:BF:165:ARG:H	1.59	0.42
44:BG:64:THR:HG23	44:BG:65:GLY:N	2.27	0.42
46:BI:99:GLU:C	46:BI:101:LEU:N	2.72	0.42
48:BN:18:ALA:O	48:BN:21:LYS:N	2.45	0.42
48:BN:43:THR:HB	48:BN:46:VAL:CG1	2.48	0.42
48:BN:56:ASN:HA	48:BN:125:GLY:C	2.39	0.42
49:BO:44:LYS:O	49:BO:45:GLU:HB3	2.20	0.42
49:BO:104:ARG:HB3	49:BO:104:ARG:CZ	2.50	0.42
50:BP:107:LYS:C	50:BP:109:GLY:N	2.72	0.42
50:BP:115:LEU:C	50:BP:115:LEU:HD12	2.39	0.42
53:BS:34:HIS:CE1	53:BS:54:LEU:HB2	2.54	0.42
54:BT:106:SER:O	54:BT:107:ASP:CB	2.67	0.42
55:BU:26:GLY:O	55:BU:27:LEU:C	2.57	0.42
57:BW:57:ASN:O	57:BW:58:ALA:C	2.58	0.42
57:BW:59:VAL:CG1	57:BW:60:ASN:H	2.31	0.42
58:BX:36:LYS:HD3	58:BX:38:GLU:CB	2.45	0.42
58:BX:70:LEU:O	58:BX:71:GLY:C	2.56	0.42
59:BY:10:GLY:C	59:BY:27:VAL:HG22	2.39	0.42
59:BY:37:VAL:HG21	59:BY:72:VAL:HG11	2.00	0.42
60:BZ:5:LEU:HA	60:BZ:5:LEU:HD23	1.82	0.42
1:AA:67:C:HO2'	1:AA:171:A:H1'	1.85	0.42
1:AA:556:C:H2'	1:AA:557:G:C5'	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:709:G:H2'	1:AA:710:G:C8	2.54	0.42
1:AA:946:A:H2'	1:AA:947:G:H8	1.83	0.42
1:AA:1100:C:OP2	2:AB:96:ARG:CG	2.67	0.42
1:AA:1332:A:C2	1:AA:1333:A:C5	3.07	0.42
1:AA:1366:C:O2'	1:AA:1367:C:H5'	2.19	0.42
2:AB:75:LYS:HA	2:AB:78:GLN:HE21	1.85	0.42
2:AB:163:PHE:O	2:AB:164:VAL:HG23	2.19	0.42
3:AD:31:CYS:O	3:AD:31:CYS:SG	2.78	0.42
3:AD:38:TYR:O	3:AD:38:TYR:HD1	2.03	0.42
7:AK:38:ASN:N	7:AK:38:ASN:ND2	2.64	0.42
10:AP:39:TYR:OH	10:AP:41:PRO:HB3	2.19	0.42
11:AQ:66:SER:OG	11:AQ:69:LYS:CB	2.64	0.42
12:AR:43:PHE:HA	12:AR:51:LEU:HD12	2.01	0.42
12:AR:74:ARG:HG2	12:AR:81:PHE:CE1	2.54	0.42
13:AT:78:ALA:O	13:AT:79:ARG:C	2.58	0.42
16:AI:3:GLN:C	16:AI:4:TYR:CD1	2.85	0.42
16:AI:78:LYS:O	16:AI:78:LYS:HG2	2.19	0.42
17:AJ:74:ILE:HD13	17:AJ:74:ILE:N	2.21	0.42
17:AJ:80:LYS:HZ2	17:AJ:80:LYS:HA	1.83	0.42
18:AM:54:VAL:C	18:AM:56:LEU:N	2.73	0.42
19:AN:44:LEU:HD12	19:AN:44:LEU:O	2.19	0.42
19:AN:47:LEU:HB2	19:AN:53:LEU:CD1	2.49	0.42
22:AV:19:G:C2	22:AV:57:A:N3	2.88	0.42
23:AX:13:A:O2'	23:AX:14:A:OP1	2.35	0.42
27:AZ:254:GLU:HG3	27:AZ:307:PRO:HA	2.00	0.42
28:B0:49:LYS:O	28:B0:80:HIS:HB3	2.19	0.42
29:B1:73:LEU:HD13	29:B1:90:ILE:HG22	2.02	0.42
33:B5:41:PRO:HG2	33:B5:44:THR:OG1	2.19	0.42
38:BA:131:G:H2'	38:BA:132:G:H5'	2.02	0.42
38:BA:322:A:H5'	38:BA:340:A:H1'	2.00	0.42
38:BA:344:G:O2'	38:BA:345:A:H5'	2.19	0.42
38:BA:464:U:H2'	38:BA:465:G:O4'	2.20	0.42
38:BA:1076:C:OP2	38:BA:1076:C:H6	2.03	0.42
38:BA:1086:A:H2'	38:BA:1087:G:OP1	2.20	0.42
38:BA:1332:G:H22	38:BA:1609:A:C1'	2.32	0.42
38:BA:1399:C:O2'	38:BA:1400:G:H5'	2.20	0.42
38:BA:1831:G:H2'	38:BA:1832:C:C6	2.51	0.42
38:BA:2023:G:C5'	38:BA:2617:C:H4'	2.46	0.42
38:BA:2097:C:H2'	38:BA:2098:U:O4'	2.20	0.42
38:BA:2141:G:C2	38:BA:2142:C:N1	2.88	0.42
38:BA:2399:G:O6	38:BA:2417:C:N3	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2462:U:O2'	38:BA:2463:C:H5'	2.20	0.42
38:BA:2511:U:H5''	42:BE:123:ALA:HB1	2.01	0.42
38:BA:2713:A:C3'	38:BA:2714:G:H5'	2.50	0.42
38:BA:2722:G:H2'	38:BA:2723:C:H6	1.81	0.42
38:BA:2783:G:H2'	38:BA:2784:C:C6	2.54	0.42
39:BB:94:C:O2'	39:BB:95:C:H5'	2.20	0.42
41:BD:35:LYS:NZ	41:BD:104:TYR:CD1	2.79	0.42
41:BD:117:VAL:HG22	41:BD:118:VAL:H	1.84	0.42
41:BD:206:LEU:HD23	41:BD:206:LEU:HA	1.76	0.42
42:BE:35:GLN:HB3	42:BE:48:GLN:HB3	2.01	0.42
42:BE:141:ILE:HG13	42:BE:150:VAL:HG22	2.00	0.42
44:BG:86:MET:CB	44:BG:87:PRO:CD	2.96	0.42
44:BG:133:LEU:HD11	44:BG:157:ILE:HG12	2.02	0.42
44:BG:169:ALA:O	44:BG:173:LEU:HG	2.20	0.42
45:BH:121:ILE:HD11	45:BH:140:LYS:HB3	2.00	0.42
45:BH:147:ASN:N	45:BH:147:ASN:HD22	2.18	0.42
45:BH:153:LYS:HB2	45:BH:154:PRO:HD3	2.00	0.42
47:BL:58:THR:OG1	47:BL:59:ILE:N	2.52	0.42
48:BN:125:GLY:HA3	48:BN:126:PRO:C	2.39	0.42
49:BO:16:ALA:HA	49:BO:46:ALA:CA	2.46	0.42
50:BP:61:ARG:N	50:BP:61:ARG:CD	2.83	0.42
51:BQ:6:ARG:O	51:BQ:6:ARG:CG	2.66	0.42
53:BS:83:LYS:HB3	53:BS:84:GLN:H	1.69	0.42
53:BS:90:GLY:O	53:BS:91:PRO:C	2.57	0.42
55:BU:112:ARG:NH1	55:BU:112:ARG:CG	2.77	0.42
56:BV:82:ARG:HH11	56:BV:82:ARG:CG	2.33	0.42
58:BX:89:ILE:O	58:BX:89:ILE:CG2	2.67	0.42
59:BY:13:VAL:CG1	59:BY:72:VAL:HB	2.50	0.42
1:AA:114:U:O2'	1:AA:115:G:H5'	2.18	0.42
1:AA:137:C:O2	1:AA:137:C:H2'	2.20	0.42
1:AA:377:G:P	10:AP:5:ARG:HH11	2.42	0.42
1:AA:718:G:H5'	7:AK:117:ASN:HB2	2.02	0.42
1:AA:1065:U:OP2	1:AA:1190:G:N2	2.40	0.42
1:AA:1095:U:H5''	1:AA:1109:C:O2	2.19	0.42
1:AA:1308:U:C5'	18:AM:98:VAL:N	2.79	0.42
1:AA:1375:A:H2'	1:AA:1376:U:H6	1.85	0.42
2:AB:79:ASP:O	2:AB:82:ARG:HB3	2.20	0.42
3:AD:56:VAL:C	3:AD:58:LEU:N	2.73	0.42
3:AD:112:VAL:HG12	3:AD:116:GLN:CD	2.40	0.42
6:AH:29:SER:O	6:AH:32:LYS:N	2.52	0.42
7:AK:92:GLU:C	7:AK:94:ALA:N	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AL:113:ARG:NH1	8:AL:120:TYR:CD2	2.88	0.42
12:AR:44:LEU:O	12:AR:45:SER:C	2.58	0.42
13:AT:23:ARG:O	13:AT:26:ASN:ND2	2.53	0.42
13:AT:78:ALA:O	13:AT:81:LYS:N	2.51	0.42
14:AC:34:LEU:O	14:AC:38:ARG:HG2	2.20	0.42
18:AM:66:LEU:O	18:AM:67:GLU:O	2.38	0.42
20:AS:15:LEU:N	20:AS:15:LEU:CD2	2.83	0.42
24:AW:19:G:H22	24:AW:56:C:N4	2.11	0.42
28:B0:1:MET:N	38:BA:2602:A:H61	2.17	0.42
37:B9:33:LYS:NZ	38:BA:2526:G:H2'	2.28	0.42
38:BA:9:U:HO2'	38:BA:10:G:P	2.42	0.42
38:BA:311:A:O4'	38:BA:332:A:C4	2.72	0.42
38:BA:354:G:H2'	38:BA:355:G:O4'	2.20	0.42
38:BA:474:G:H4'	38:BA:475:U:OP1	2.20	0.42
38:BA:687:C:O2	38:BA:687:C:H2'	2.19	0.42
38:BA:766:C:H2'	38:BA:767:U:C6	2.55	0.42
38:BA:1019:U:O2'	38:BA:1021:A:H2	2.01	0.42
38:BA:1048:A:H2'	38:BA:1048:A:N3	2.35	0.42
38:BA:1221(A):C:C2	38:BA:1229:G:C2	3.07	0.42
38:BA:1256:G:C4	38:BA:1257:C:C5	3.08	0.42
38:BA:1274:A:H2	38:BA:1644:C:O2	2.03	0.42
38:BA:1379:A:O2'	38:BA:1380:G:OP1	2.38	0.42
38:BA:1473:G:C6	38:BA:1474:C:C4	3.07	0.42
38:BA:1495:A:H2'	38:BA:1495:A:N3	2.35	0.42
38:BA:1510:G:H2'	38:BA:1511:C:H6	1.81	0.42
38:BA:1657:C:H5''	42:BE:133:LYS:O	2.19	0.42
38:BA:2558:C:H2'	38:BA:2559:C:O4'	2.19	0.42
38:BA:2702:U:O2'	38:BA:2703:C:H6	2.02	0.42
39:BB:9:G:P	53:BS:17:ARG:NH1	2.93	0.42
39:BB:57:A:N9	44:BG:29:TRP:HB2	2.34	0.42
40:BC:20:TYR:N	40:BC:20:TYR:CD1	2.88	0.42
41:BD:224:ALA:HB2	41:BD:233:HIS:HB3	2.01	0.42
41:BD:255:LYS:HE3	41:BD:255:LYS:CA	2.50	0.42
41:BD:268:ARG:HB3	41:BD:268:ARG:CZ	2.50	0.42
42:BE:12:THR:O	42:BE:23:VAL:HG22	2.19	0.42
42:BE:125:GLY:O	42:BE:126:PRO:C	2.57	0.42
43:BF:68:LYS:O	43:BF:69:HIS:HD2	2.02	0.42
44:BG:43:LEU:HD13	44:BG:43:LEU:N	2.35	0.42
45:BH:27:LYS:HG2	45:BH:32:GLU:OE1	2.20	0.42
45:BH:146:ALA:O	45:BH:148:ILE:N	2.53	0.42
46:BI:13:GLY:O	46:BI:14:ASP:C	2.58	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:12:LEU:HD13	47:BL:23:VAL:HG21	2.02	0.42
47:BL:14:ALA:O	47:BL:49:GLY:HA3	2.19	0.42
47:BL:18:THR:N	47:BL:19:PRO:CD	2.76	0.42
47:BL:112:MET:HE1	47:BL:118:THR:HA	2.02	0.42
48:BN:78:TYR:H	48:BN:79:PRO:CD	2.33	0.42
50:BP:48:PRO:CG	50:BP:49:ARG:N	2.81	0.42
50:BP:105:LEU:HD12	50:BP:105:LEU:H	1.83	0.42
55:BU:57:PHE:CD2	55:BU:60:LEU:HD12	2.55	0.42
58:BX:12:VAL:O	58:BX:13:LEU:HD23	2.20	0.42
58:BX:63:LYS:CD	58:BX:70:LEU:HD13	2.43	0.42
59:BY:27:VAL:HG12	59:BY:29:GLU:OE1	2.19	0.42
59:BY:68:HIS:ND1	59:BY:69:ALA:N	2.67	0.42
1:AA:149:A:O2'	1:AA:150:C:P	2.78	0.42
1:AA:375:U:OP1	10:AP:69:THR:HG21	2.20	0.42
1:AA:405:U:H3'	1:AA:406:G:H5'	2.02	0.42
1:AA:436:C:O2'	1:AA:437:U:O5'	2.38	0.42
1:AA:451:A:N6	1:AA:480:U:H2'	2.35	0.42
1:AA:756:C:H2'	1:AA:757:U:O4'	2.20	0.42
1:AA:963:G:H1	1:AA:972:C:N4	2.10	0.42
1:AA:1026:G:H2'	1:AA:1027:C:H5'	2.01	0.42
1:AA:1422:G:C2	1:AA:1423:G:C5	3.08	0.42
2:AB:52:GLU:O	2:AB:53:ARG:C	2.57	0.42
2:AB:58:ILE:HD11	2:AB:185:ILE:HD12	2.01	0.42
6:AH:39:LEU:HD13	6:AH:111:ILE:HD11	2.01	0.42
7:AK:122:LYS:O	7:AK:126:ARG:HB2	2.20	0.42
9:AO:54:ARG:HG2	9:AO:58:MET:CE	2.49	0.42
9:AO:82:ILE:HG23	9:AO:83:GLU:N	2.35	0.42
11:AQ:80:GLY:O	11:AQ:81:ARG:HG2	2.19	0.42
12:AR:35:ARG:O	12:AR:37:VAL:N	2.41	0.42
13:AT:74:LYS:HB2	13:AT:75:ASN:H	1.49	0.42
16:AI:128:ARG:HH21	22:AV:31:G:H5'	1.85	0.42
17:AJ:45:ARG:CB	17:AJ:65:LEU:HB3	2.48	0.42
18:AM:9:ILE:HD13	44:BG:146:TYR:HH	1.82	0.42
18:AM:124:PRO:HG2	18:AM:125:ARG:H	1.85	0.42
19:AN:57:ARG:O	19:AN:59:ALA:N	2.53	0.42
21:AU:9:ARG:O	21:AU:13:ILE:HG13	2.19	0.42
27:AZ:92:MET:HA	64:AZ:503:BME:S2	2.59	0.42
29:B1:62:VAL:HG11	29:B1:67:ILE:HA	2.02	0.42
30:B2:15:LYS:O	30:B2:16:LEU:HB2	2.19	0.42
33:B5:36:CYS:C	33:B5:38:ALA:H	2.23	0.42
34:B6:51:GLU:HG2	34:B6:52:VAL:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:B7:9:ARG:HD2	38:BA:1309:G:OP2	2.20	0.42
37:B9:14:CYS:SG	37:B9:27:CYS:CB	3.02	0.42
37:B9:31:LYS:NZ	38:BA:2529:G:O6	2.49	0.42
38:BA:194:G:H2'	38:BA:195:A:O4'	2.19	0.42
38:BA:220:G:H2'	38:BA:427:U:O4	2.19	0.42
38:BA:485:C:N3	38:BA:496:G:C2	2.87	0.42
38:BA:528:A:H2	38:BA:2043:C:H4'	1.75	0.42
38:BA:590:A:H2'	38:BA:591:C:C6	2.55	0.42
38:BA:608:A:H3'	38:BA:609:A:C8	2.54	0.42
38:BA:676:A:C8	38:BA:2443:C:H1'	2.54	0.42
38:BA:774:A:O2'	38:BA:775:G:P	2.78	0.42
38:BA:800:A:H4'	38:BA:801:G:O5'	2.19	0.42
38:BA:1406:U:H2'	38:BA:1407:C:C6	2.55	0.42
38:BA:1969:A:O2'	38:BA:1972:A:N3	2.45	0.42
38:BA:2133:G:H8	38:BA:2133:G:OP1	2.03	0.42
38:BA:2543:G:C2	38:BA:2544:G:C4	3.07	0.42
40:BC:124:GLY:O	40:BC:125:SER:CB	2.68	0.42
41:BD:134:ARG:HB2	41:BD:135:PHE:HD1	1.83	0.42
43:BF:39:TRP:CB	43:BF:101:LEU:HD22	2.49	0.42
43:BF:67:GLN:O	43:BF:67:GLN:HG3	2.15	0.42
43:BF:164:ARG:HG2	43:BF:164:ARG:NH1	2.35	0.42
44:BG:66:GLN:OE1	44:BG:94:LEU:HD22	2.20	0.42
45:BH:88:LEU:HB3	45:BH:89:ILE:H	1.68	0.42
45:BH:154:PRO:CG	45:BH:155:SER:N	2.83	0.42
46:BI:88:ILE:HD13	46:BI:123:LEU:HG	1.98	0.42
46:BI:140:LEU:HD12	46:BI:141:LYS:H	1.84	0.42
47:BL:12:LEU:HD13	47:BL:41:PHE:CE1	2.55	0.42
47:BL:132:ARG:O	47:BL:134:MET:N	2.52	0.42
48:BN:13:TRP:O	48:BN:14:VAL:CG2	2.67	0.42
48:BN:40:PRO:C	55:BU:64:ARG:HH21	2.21	0.42
49:BO:53:LYS:O	49:BO:56:ASP:CG	2.58	0.42
49:BO:73:ASP:C	49:BO:73:ASP:OD1	2.58	0.42
49:BO:119:PRO:O	49:BO:120:GLU:HB2	2.19	0.42
50:BP:10:PRO:CD	50:BP:11:GLY:H	2.29	0.42
52:BR:8:ARG:NE	52:BR:8:ARG:CA	2.80	0.42
52:BR:54:LEU:C	52:BR:56:LYS:N	2.73	0.42
53:BS:18:ILE:HD12	53:BS:18:ILE:HA	1.80	0.42
59:BY:54:LYS:HG2	59:BY:55:TYR:N	2.35	0.42
1:AA:93:G:O2'	1:AA:96:U:H5'	2.19	0.42
1:AA:181:G:O6	1:AA:194:C:H2'	2.20	0.42
1:AA:285:G:H2'	1:AA:286:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:404:U:H2'	1:AA:405:U:H6	1.83	0.42
1:AA:424:G:H2'	1:AA:425:G:H8	1.85	0.42
1:AA:520:A:N1	1:AA:536:C:H1'	2.35	0.42
1:AA:734:G:O2'	1:AA:735:C:H5'	2.20	0.42
1:AA:1013:G:HO2'	1:AA:1014:A:H8	1.68	0.42
1:AA:1068:G:N2	1:AA:1191:A:N3	2.62	0.42
1:AA:1131:G:H5'	16:AI:3:GLN:NE2	2.35	0.42
1:AA:1306:A:O2'	1:AA:1307:U:H5'	2.19	0.42
1:AA:1346:A:C5	15:AG:10:ARG:CZ	3.02	0.42
2:AB:165:VAL:O	2:AB:187:LEU:O	2.38	0.42
5:AF:91:VAL:HG12	5:AF:92:LYS:N	2.33	0.42
9:AO:11:VAL:O	9:AO:14:GLU:N	2.51	0.42
9:AO:24:SER:O	9:AO:28:GLN:HG3	2.19	0.42
9:AO:65:ARG:O	9:AO:68:ARG:HB3	2.20	0.42
12:AR:62:GLU:O	12:AR:65:ILE:CD1	2.68	0.42
13:AT:71:THR:CG2	13:AT:72:LEU:H	2.26	0.42
14:AC:9:GLY:N	19:AN:49:HIS:O	2.53	0.42
14:AC:95:THR:HG22	14:AC:97:LYS:HB2	2.01	0.42
14:AC:134:ILE:CG2	14:AC:168:ALA:HB3	2.50	0.42
14:AC:156:ARG:H	14:AC:163:ALA:HA	1.85	0.42
17:AJ:34:VAL:CG1	17:AJ:35:SER:N	2.83	0.42
19:AN:53:LEU:HD23	19:AN:53:LEU:HA	1.90	0.42
28:B0:74:ARG:NH1	39:BB:13:A:H8	2.16	0.42
31:B3:46:ASN:HD21	38:BA:851:U:H5'	1.85	0.42
33:B5:44:THR:HG21	52:BR:101:ALA:HB2	2.02	0.42
38:BA:16:G:O2'	38:BA:17:G:H5'	2.19	0.42
38:BA:512:G:C2'	38:BA:513:A:OP2	2.67	0.42
38:BA:535:C:O3'	55:BU:53:ARG:NH1	2.49	0.42
38:BA:892:G:H2'	38:BA:893:C:O4'	2.20	0.42
38:BA:1006:C:O2'	38:BA:1007:C:H5'	2.20	0.42
38:BA:1059:G:C8	38:BA:1059:G:C3'	3.03	0.42
38:BA:1062:G:N7	38:BA:1077:A:N1	2.67	0.42
38:BA:1077:A:C2'	38:BA:1078:U:O4'	2.66	0.42
38:BA:1140:C:OP1	48:BN:23:LEU:HD23	2.19	0.42
38:BA:1368:G:O2'	38:BA:1369:G:H5'	2.19	0.42
38:BA:1482:G:H2'	38:BA:1484:G:C8	2.55	0.42
38:BA:1654:A:C2	42:BE:113:PHE:HD1	2.38	0.42
38:BA:2133:G:C3'	38:BA:2157:G:N2	2.83	0.42
38:BA:2222:G:C4	38:BA:2223:G:C8	3.08	0.42
38:BA:2286:A:C8	38:BA:2286:A:O2'	2.72	0.42
38:BA:2495:G:H5''	51:BQ:81:VAL:HG22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2639:A:H3'	38:BA:2640:G:C5'	2.49	0.42
38:BA:2842:G:C6	38:BA:2876:G:C6	3.08	0.42
41:BD:222:ARG:HG3	41:BD:222:ARG:H	1.59	0.42
42:BE:66:HIS:O	42:BE:66:HIS:CG	2.72	0.42
42:BE:117:MET:HE3	42:BE:124:GLY:HA3	2.02	0.42
42:BE:143:ASN:ND2	42:BE:143:ASN:N	2.67	0.42
42:BE:176:ILE:N	42:BE:176:ILE:CD1	2.81	0.42
43:BF:93:LYS:HD3	43:BF:93:LYS:HA	1.87	0.42
43:BF:163:VAL:O	43:BF:164:ARG:C	2.57	0.42
44:BG:23:PHE:CZ	44:BG:171:ALA:HB3	2.41	0.42
44:BG:120:LEU:H	44:BG:181:ARG:H	1.67	0.42
45:BH:82:GLY:O	45:BH:135:GLY:O	2.37	0.42
49:BO:3:GLN:HG3	49:BO:4:PRO:HD2	2.01	0.42
49:BO:45:GLU:HG3	49:BO:45:GLU:O	2.19	0.42
49:BO:87:ILE:HD12	49:BO:91:LEU:C	2.40	0.42
50:BP:95:VAL:HG22	50:BP:123:LEU:HD12	2.01	0.42
51:BQ:42:ILE:HD13	51:BQ:97:VAL:CG2	2.50	0.42
52:BR:2:ARG:HG2	52:BR:5:LYS:HZ1	1.84	0.42
52:BR:39:PRO:O	52:BR:40:LYS:C	2.56	0.42
52:BR:87:TYR:O	52:BR:88:ARG:HB3	2.20	0.42
54:BT:24:PRO:HA	54:BT:49:VAL:HG13	2.02	0.42
54:BT:76:PHE:HA	54:BT:77:PRO:HD3	1.68	0.42
54:BT:89:VAL:HB	54:BT:91:ARG:NE	2.35	0.42
55:BU:111:GLU:HA	55:BU:114:LYS:HD3	2.01	0.42
56:BV:82:ARG:HH11	56:BV:82:ARG:HG2	1.85	0.42
58:BX:8:ILE:HD12	58:BX:8:ILE:N	2.35	0.42
60:BZ:97:GLU:O	60:BZ:98:MET:HB3	2.19	0.42
60:BZ:102:LEU:HD11	60:BZ:124:ILE:HG23	2.02	0.42
1:AA:149:A:HO2'	1:AA:150:C:H6	1.60	0.42
1:AA:530:G:C6	26:A0:101:U:O2	2.73	0.42
1:AA:568:G:O6	8:AL:5:PRO:HD3	2.20	0.42
1:AA:634:C:O2'	1:AA:635:G:H5'	2.20	0.42
1:AA:725:G:O2'	1:AA:726:C:H5'	2.20	0.42
1:AA:728:A:C2	1:AA:729:A:C5	3.08	0.42
1:AA:959:A:H2'	1:AA:960:U:O4'	2.20	0.42
1:AA:1229:A:O2'	1:AA:1230:C:H5'	2.20	0.42
1:AA:1320:C:H5'	20:AS:70:LYS:HG2	2.02	0.42
1:AA:1324:A:C5	1:AA:1325:C:C5	3.08	0.42
1:AA:1347:G:C8	16:AI:107:ARG:CB	2.99	0.42
1:AA:1349:A:H2'	1:AA:1350:A:H8	1.85	0.42
1:AA:1419:G:C2	1:AA:1420:C:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:104:VAL:O	3:AD:106:TYR:N	2.53	0.42
3:AD:168:ARG:HG3	3:AD:168:ARG:NH1	2.34	0.42
4:AE:6:PHE:HB3	4:AE:35:GLY:O	2.20	0.42
4:AE:15:ARG:CZ	4:AE:26:PHE:CE2	3.03	0.42
8:AL:7:ILE:HD13	8:AL:7:ILE:HA	1.83	0.42
9:AO:64:ARG:O	9:AO:65:ARG:C	2.58	0.42
15:AG:36:LYS:HB2	15:AG:36:LYS:NZ	2.34	0.42
16:AI:37:PHE:CE1	16:AI:74:ILE:HG12	2.55	0.42
16:AI:94:ALA:O	16:AI:95:LYS:HB3	2.20	0.42
17:AJ:15:THR:O	17:AJ:18:ALA:N	2.52	0.42
18:AM:49:THR:HG22	18:AM:51:ALA:N	2.29	0.42
18:AM:78:ILE:HA	18:AM:81:LEU:HD12	2.02	0.42
19:AN:29:ARG:HG3	19:AN:29:ARG:NH1	2.34	0.42
22:AV:13:C:C4'	38:BA:1924:C:O4'	2.67	0.42
24:AW:20:U:H2'	24:AW:21:A:C4'	2.39	0.42
25:AY:52:U:O2'	25:AY:53:G:H5'	2.20	0.42
32:B4:11:PRO:C	32:B4:13:ARG:N	2.65	0.42
34:B6:10:LEU:HD13	36:B8:36:LYS:HD3	2.01	0.42
38:BA:271(Q):G:O2'	38:BA:271(R):G:P	2.77	0.42
38:BA:285:C:H2'	38:BA:286:C:C5'	2.50	0.42
38:BA:480:A:H3'	38:BA:481:G:H5''	2.01	0.42
38:BA:955:C:H5'	38:BA:956:G:P	2.59	0.42
38:BA:978:G:C2	38:BA:986:C:N3	2.88	0.42
38:BA:1050:A:C2	38:BA:2751:G:C4	3.07	0.42
38:BA:1064:C:H3'	38:BA:1065:U:H6	1.78	0.42
38:BA:1085:A:H3'	38:BA:1085:A:OP2	2.20	0.42
38:BA:1245:G:O3'	50:BP:16:ARG:NH2	2.53	0.42
38:BA:1324:G:H3'	38:BA:1325:G:C4'	2.49	0.42
38:BA:1445:A:H5''	38:BA:1445(A):C:H5	1.85	0.42
38:BA:2135:A:OP2	38:BA:2136:C:C5	2.72	0.42
38:BA:2137:C:O2	38:BA:2137:C:H2'	2.20	0.42
38:BA:2359:C:H2'	38:BA:2360:A:C8	2.55	0.42
38:BA:2523:G:H5'	38:BA:2523:G:C8	2.51	0.42
38:BA:2640:G:C2'	38:BA:2641:G:O5'	2.68	0.42
38:BA:2791:C:H4'	38:BA:2792:G:O5'	2.20	0.42
38:BA:2880:C:O2	52:BR:93:GLY:N	2.53	0.42
41:BD:17:THR:CG2	41:BD:205:VAL:H	2.19	0.42
42:BE:55:ASN:OD1	42:BE:75:VAL:HG13	2.20	0.42
46:BI:38:LEU:HD12	46:BI:38:LEU:N	2.18	0.42
47:BL:54:PRO:CG	47:BL:72:PRO:HA	2.50	0.42
47:BL:79:ARG:HE	47:BL:79:ARG:HB2	1.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:106:GLU:O	47:BL:107:ILE:C	2.58	0.42
49:BO:19:ILE:HD12	49:BO:41:ALA:HB3	2.01	0.42
51:BQ:8:LYS:CG	51:BQ:9:TYR:N	2.82	0.42
52:BR:11:ASN:O	52:BR:12:ARG:CB	2.64	0.42
53:BS:28:VAL:O	53:BS:89:ARG:CD	2.67	0.42
54:BT:28:VAL:HG21	54:BT:46:GLU:HA	2.01	0.42
54:BT:53:ARG:HG2	54:BT:53:ARG:NH1	2.32	0.42
56:BV:19:LYS:CE	56:BV:20:LEU:H	2.30	0.42
57:BW:88:ARG:HB3	57:BW:92:ARG:CB	2.47	0.42
57:BW:88:ARG:HG2	57:BW:88:ARG:HH11	1.84	0.42
58:BX:26:TYR:H	58:BX:26:TYR:HD1	1.67	0.42
58:BX:57:LEU:HD22	58:BX:76:ARG:CD	2.49	0.42
59:BY:31:LEU:HD22	59:BY:31:LEU:HA	1.64	0.42
60:BZ:45:ASP:OD2	60:BZ:49:ARG:HG2	2.20	0.42
60:BZ:58:VAL:HA	60:BZ:67:LEU:O	2.19	0.42
60:BZ:100:VAL:HA	60:BZ:101:PRO:HD3	1.85	0.42
60:BZ:130:PRO:HA	60:BZ:133:ILE:HD11	2.01	0.42
60:BZ:131:ARG:HG2	60:BZ:131:ARG:NH1	2.35	0.42
1:AA:9:G:OP1	4:AE:122:GLU:N	2.37	0.41
1:AA:149:A:O2'	1:AA:150:C:H6	2.04	0.41
1:AA:449:C:C5	1:AA:450:G:C4	3.08	0.41
1:AA:802:A:C2'	1:AA:803:G:H5'	2.50	0.41
1:AA:836:G:C6	1:AA:851:G:C6	3.08	0.41
1:AA:1217:C:H2'	1:AA:1218:C:O4'	2.19	0.41
1:AA:1469:G:H2'	1:AA:1470:G:C8	2.55	0.41
4:AE:127:ASN:O	4:AE:131:ILE:HG12	2.19	0.41
7:AK:69:ALA:O	7:AK:70:LYS:C	2.58	0.41
14:AC:64:VAL:CB	14:AC:99:VAL:HG12	2.50	0.41
16:AI:47:LEU:C	16:AI:49:PRO:CD	2.80	0.41
16:AI:66:ARG:HG2	16:AI:66:ARG:HH11	1.85	0.41
16:AI:69:GLY:O	16:AI:72:GLY:N	2.53	0.41
16:AI:115:GLY:C	16:AI:116:LYS:HG2	2.39	0.41
17:AJ:4:ILE:HG12	17:AJ:100:THR:HG22	2.02	0.41
17:AJ:8:LEU:HD22	17:AJ:20:ALA:CB	2.49	0.41
18:AM:91:ARG:HB2	18:AM:98:VAL:CG2	2.45	0.41
22:AV:72:A:H3'	22:AV:73:A:C5'	2.49	0.41
28:B0:72:ARG:HB2	28:B0:76:GLY:O	2.20	0.41
31:B3:43:ILE:O	31:B3:47:VAL:HG23	2.20	0.41
38:BA:64:A:H5'	58:BX:63:LYS:HB2	2.02	0.41
38:BA:261:G:C2	38:BA:262:A:C8	3.08	0.41
38:BA:287:C:N4	38:BA:354:G:N1	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:306:U:O2'	38:BA:307:G:H5'	2.20	0.41
38:BA:952:G:C6	38:BA:953:A:N7	2.88	0.41
38:BA:971:C:H2'	38:BA:972:G:O4'	2.20	0.41
38:BA:1050:A:O2'	38:BA:2752:C:H1'	2.20	0.41
38:BA:1057:A:O4'	38:BA:1084:A:N6	2.53	0.41
38:BA:1085:A:C8	38:BA:1086:A:H1'	2.55	0.41
38:BA:1119:C:O2'	38:BA:1120:G:H5'	2.20	0.41
38:BA:1225:G:OP1	56:BV:88:ARG:CB	2.68	0.41
38:BA:1225:G:P	56:BV:88:ARG:HB3	2.59	0.41
38:BA:1259:G:HO2'	38:BA:1260:G:H5'	1.84	0.41
38:BA:1317:A:H2'	38:BA:1318:C:O4'	2.20	0.41
38:BA:1362:C:C2'	38:BA:1363:C:H5'	2.48	0.41
38:BA:1464:C:O2'	38:BA:1528:A:C8	2.62	0.41
38:BA:1517:G:C2'	38:BA:1518:U:H5'	2.50	0.41
38:BA:2141:G:N2	38:BA:2142:C:H1'	2.35	0.41
38:BA:2282:G:O2'	38:BA:2283:C:OP2	2.33	0.41
38:BA:2723:C:OP1	52:BR:2:ARG:NH1	2.53	0.41
38:BA:2729:G:C4	38:BA:2730:C:C5	3.08	0.41
42:BE:74:PRO:O	42:BE:76:ARG:N	2.52	0.41
42:BE:114:ALA:CB	42:BE:160:TYR:HB3	2.50	0.41
44:BG:16:ARG:HH11	44:BG:16:ARG:CG	2.32	0.41
46:BI:91:SER:N	46:BI:121:LYS:HE3	2.31	0.41
46:BI:115:ALA:HB3	46:BI:129:THR:O	2.20	0.41
47:BL:93:ARG:HD2	60:BZ:112:ARG:CD	2.48	0.41
48:BN:35:ARG:O	48:BN:37:LYS:N	2.53	0.41
50:BP:71:VAL:C	50:BP:73:GLY:N	2.73	0.41
51:BQ:42:ILE:N	51:BQ:42:ILE:CD1	2.82	0.41
51:BQ:55:VAL:HG23	60:BZ:178:GLU:CB	2.49	0.41
51:BQ:109:VAL:CG1	51:BQ:110:THR:N	2.83	0.41
54:BT:32:TYR:HB3	54:BT:81:PRO:HB3	2.01	0.41
54:BT:91:ARG:HB3	54:BT:115:ARG:O	2.20	0.41
54:BT:109:GLU:O	54:BT:112:ARG:CG	2.61	0.41
55:BU:17:ILE:HG23	55:BU:39:LEU:CD1	2.46	0.41
55:BU:49:HIS:O	55:BU:52:ARG:N	2.53	0.41
57:BW:106:ILE:O	57:BW:106:ILE:HG13	2.20	0.41
58:BX:57:LEU:HD21	58:BX:77:LYS:NZ	2.35	0.41
59:BY:28:LYS:HB2	59:BY:37:VAL:HB	2.02	0.41
59:BY:32:PRO:C	59:BY:34:LYS:N	2.73	0.41
1:AA:667:G:H2'	1:AA:668:G:C8	2.55	0.41
1:AA:707:C:O2'	1:AA:708:C:C5'	2.67	0.41
1:AA:720:C:O5'	1:AA:720:C:H6	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:864:A:C2	1:AA:917:G:N3	2.88	0.41
1:AA:1065:U:O2'	1:AA:1066:C:OP2	2.32	0.41
2:AB:109:SER:HA	2:AB:112:VAL:HG23	2.02	0.41
2:AB:142:LEU:CD2	2:AB:146:GLN:NE2	2.83	0.41
6:AH:81:HIS:ND1	6:AH:81:HIS:N	2.69	0.41
7:AK:24:SER:O	7:AK:26:ASN:N	2.53	0.41
7:AK:60:ALA:C	7:AK:62:GLN:N	2.74	0.41
10:AP:33:ILE:O	10:AP:34:GLU:HB2	2.18	0.41
22:AV:12:G:H1'	38:BA:1923:U:C1'	2.43	0.41
22:AV:57:A:C5'	44:BG:78:SER:CB	2.71	0.41
25:AY:56:C:H6	38:BA:1067:A:C2	2.31	0.41
30:B2:18:PRO:C	30:B2:20:GLU:N	2.68	0.41
31:B3:4:LEU:HB2	31:B3:39:ASP:HB2	2.01	0.41
33:B5:47:PRO:C	33:B5:48:GLU:HG3	2.40	0.41
37:B9:2:LYS:HA	37:B9:2:LYS:CE	2.45	0.41
38:BA:271(A):A:H1'	38:BA:365:C:O4'	2.20	0.41
38:BA:363(E):U:C2'	38:BA:363(F):A:H4'	2.51	0.41
38:BA:432:A:H2'	38:BA:433:C:C6	2.55	0.41
38:BA:484:C:O2'	38:BA:485:C:H5'	2.21	0.41
38:BA:536:A:H5'	55:BU:53:ARG:HD3	2.01	0.41
38:BA:537:C:O2	38:BA:537:C:H2'	2.19	0.41
38:BA:1079:C:O2'	38:BA:1080:C:H5'	2.19	0.41
38:BA:1080:C:N3	38:BA:1081:U:C5	2.89	0.41
38:BA:1252:G:C2	38:BA:1253:A:C2	3.08	0.41
38:BA:1691:C:O2'	38:BA:1692:U:H5'	2.20	0.41
38:BA:1902:C:H5'	41:BD:246:PRO:HD3	2.02	0.41
38:BA:2141:G:N1	38:BA:2142:C:C2	2.88	0.41
38:BA:2463:C:C2'	38:BA:2464:C:H5'	2.50	0.41
38:BA:2739:U:O2'	38:BA:2740:A:H5'	2.20	0.41
38:BA:2754:U:H2'	38:BA:2755:C:H5''	2.02	0.41
41:BD:92:ILE:C	41:BD:92:ILE:CD1	2.88	0.41
42:BE:167:VAL:CG2	42:BE:170:LEU:HD11	2.48	0.41
45:BH:94:TYR:N	45:BH:94:TYR:HD1	2.18	0.41
45:BH:105:LEU:H	45:BH:105:LEU:CD1	2.23	0.41
46:BI:15:VAL:C	46:BI:17:GLN:N	2.73	0.41
46:BI:88:ILE:HD11	46:BI:123:LEU:HG	2.00	0.41
47:BL:13:PRO:O	47:BL:16:LYS:HD3	2.20	0.41
47:BL:18:THR:N	47:BL:38:VAL:CG2	2.83	0.41
47:BL:51:ALA:HB1	47:BL:80:LYS:CG	2.48	0.41
47:BL:103:GLN:HA	47:BL:106:GLU:HG2	2.02	0.41
48:BN:16:ILE:N	48:BN:53:VAL:O	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:2:ILE:HG13	49:BO:8:LEU:HD11	2.01	0.41
49:BO:119:PRO:O	54:BT:68:TYR:CE1	2.73	0.41
51:BQ:34:LEU:HD11	51:BQ:129:THR:CB	2.50	0.41
53:BS:66:ALA:O	53:BS:67:ARG:CB	2.68	0.41
53:BS:98:VAL:HG13	53:BS:99:LYS:N	2.35	0.41
56:BV:18:LEU:O	56:BV:98:GLU:HB3	2.19	0.41
56:BV:44:LYS:HG2	56:BV:45:THR:H	1.85	0.41
60:BZ:17:ALA:O	60:BZ:18:LEU:O	2.38	0.41
60:BZ:165:VAL:HG12	60:BZ:166:SER:N	2.35	0.41
1:AA:97:G:HO2'	1:AA:98:G:P	2.43	0.41
1:AA:116:A:H8	1:AA:116:A:O5'	2.03	0.41
1:AA:287:U:O2'	1:AA:288:A:H5'	2.20	0.41
1:AA:368:U:OP2	27:AZ:268:THR:HG22	2.20	0.41
1:AA:938:A:O2'	1:AA:939:G:H5'	2.20	0.41
1:AA:943:U:O2'	1:AA:944:G:H5'	2.20	0.41
1:AA:1300:G:HO2'	1:AA:1301:U:P	2.42	0.41
1:AA:1313:U:H2'	1:AA:1314:C:C6	2.55	0.41
2:AB:10:LEU:H	2:AB:10:LEU:CD2	2.21	0.41
2:AB:39:ILE:HG22	2:AB:40:HIS:N	2.35	0.41
2:AB:80:ILE:HD13	2:AB:208:ILE:HG23	2.01	0.41
2:AB:116:GLU:HA	2:AB:119:GLU:HB2	2.02	0.41
3:AD:58:LEU:HD23	3:AD:206:PHE:CZ	2.55	0.41
3:AD:78:LEU:O	3:AD:79:PHE:C	2.59	0.41
4:AE:80:ILE:HG13	4:AE:80:ILE:O	2.19	0.41
5:AF:16:GLN:CD	5:AF:16:GLN:H	2.22	0.41
6:AH:38:ILE:HD11	6:AH:118:VAL:O	2.20	0.41
6:AH:100:ILE:HA	6:AH:101:PRO:HD3	1.78	0.41
7:AK:77:MET:O	7:AK:78:GLN:HG2	2.20	0.41
12:AR:84:LYS:HD3	12:AR:84:LYS:HA	1.93	0.41
13:AT:43:LEU:HB3	13:AT:48:LYS:HG3	2.03	0.41
14:AC:134:ILE:HG22	14:AC:168:ALA:HB3	2.01	0.41
15:AG:78:ARG:NH1	15:AG:156:TRP:CE3	2.88	0.41
16:AI:4:TYR:HD1	16:AI:4:TYR:N	2.18	0.41
17:AJ:67:THR:O	17:AJ:67:THR:HG22	2.20	0.41
20:AS:24:ALA:C	20:AS:26:GLY:H	2.24	0.41
25:AY:38:A:H5'	38:BA:1913:A:N6	2.29	0.41
34:B6:48:VAL:HG23	34:B6:49:HIS:N	2.35	0.41
38:BA:154:G:N1	38:BA:154(A):C:N4	2.67	0.41
38:BA:271(C):C:O2'	38:BA:271(D):G:H5'	2.20	0.41
38:BA:528:A:H5'	48:BN:111:PRO:HG3	2.01	0.41
38:BA:603:A:C4'	38:BA:604:G:O5'	2.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:776:G:H4'	38:BA:777:A:O5'	2.20	0.41
38:BA:819:A:C4	38:BA:1189:A:C2	3.07	0.41
38:BA:901:A:H5'	38:BA:902:C:OP2	2.20	0.41
38:BA:1037:G:H1	38:BA:1118:C:N4	2.18	0.41
38:BA:1096:A:N6	47:BL:30:HIS:CD2	2.88	0.41
38:BA:1100:C:C2	38:BA:1101:U:C5	3.09	0.41
38:BA:1114:G:C2'	38:BA:1115:G:C5'	2.96	0.41
38:BA:1378:A:C8	38:BA:1380:G:C6	3.08	0.41
38:BA:1639:U:H2'	38:BA:1640:C:C5'	2.46	0.41
38:BA:1709:U:H2'	38:BA:1710:C:C6	2.55	0.41
38:BA:1885:A:H5'	38:BA:1885:A:H8	1.86	0.41
38:BA:1904:G:O2'	38:BA:1905:C:H5'	2.20	0.41
38:BA:2040:C:C2	38:BA:2041:U:C6	3.08	0.41
38:BA:2133:G:C8	38:BA:2133:G:OP1	2.73	0.41
38:BA:2277:G:H2'	38:BA:2278:A:C5'	2.51	0.41
38:BA:2335:A:C8	38:BA:2337:G:C5	3.09	0.41
38:BA:2859:G:O2'	38:BA:2860:A:O5'	2.37	0.41
40:BC:50:ASP:HA	40:BC:51:PRO:HD3	1.88	0.41
40:BC:64:LEU:HD22	40:BC:193:ILE:CB	2.51	0.41
41:BD:257:LEU:C	41:BD:257:LEU:CD2	2.89	0.41
42:BE:59:VAL:HG22	42:BE:63:LEU:HA	2.02	0.41
42:BE:103:ASP:OD2	42:BE:201:THR:HA	2.21	0.41
43:BF:84:VAL:O	43:BF:85:GLY:C	2.59	0.41
44:BG:5:VAL:O	44:BG:6:ALA:C	2.59	0.41
45:BH:141:VAL:O	45:BH:144:VAL:N	2.51	0.41
46:BI:72:LEU:HD12	46:BI:138:ILE:HG21	2.02	0.41
46:BI:86:THR:HA	46:BI:122:GLU:OE2	2.20	0.41
48:BN:61:ARG:HH11	48:BN:61:ARG:HG3	1.85	0.41
50:BP:47:ASP:HB2	50:BP:51:PHE:HB2	2.02	0.41
51:BQ:42:ILE:HD13	51:BQ:97:VAL:HG23	2.02	0.41
51:BQ:66:ILE:O	51:BQ:66:ILE:HG13	2.21	0.41
52:BR:13:HIS:ND1	52:BR:13:HIS:C	2.74	0.41
52:BR:106:GLY:O	52:BR:107:ASP:CB	2.68	0.41
52:BR:117:VAL:HG22	52:BR:118:GLU:N	2.36	0.41
53:BS:14:VAL:HG11	53:BS:90:GLY:HA3	2.02	0.41
53:BS:16:ASN:HB2	53:BS:90:GLY:HA2	2.02	0.41
55:BU:26:GLY:O	55:BU:28:ARG:N	2.53	0.41
55:BU:65:ILE:O	55:BU:68:ALA:HB3	2.20	0.41
55:BU:79:PHE:HE2	55:BU:83:LEU:HD21	1.86	0.41
56:BV:22:VAL:O	56:BV:22:VAL:HG12	2.19	0.41
57:BW:21:VAL:HG23	57:BW:47:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:57:LEU:CD1	58:BX:57:LEU:N	2.83	0.41
59:BY:98:VAL:O	59:BY:99:CYS:SG	2.75	0.41
60:BZ:155:LEU:HB2	60:BZ:157:LEU:HD21	2.01	0.41
60:BZ:157:LEU:HA	60:BZ:158:PRO:HD2	1.89	0.41
1:AA:149:A:C2	1:AA:150:C:C2	3.09	0.41
1:AA:433:C:O2'	1:AA:434:U:H5'	2.19	0.41
1:AA:786:G:C2	1:AA:787:A:C4	3.08	0.41
1:AA:918:A:C6	1:AA:919:A:C5	3.08	0.41
1:AA:1226:C:N4	18:AM:104:ARG:HD2	2.35	0.41
1:AA:1302:U:C5	18:AM:17:VAL:CG2	3.00	0.41
2:AB:77:ALA:CB	2:AB:211:ILE:HD13	2.46	0.41
2:AB:223:ILE:C	2:AB:225:ALA:N	2.70	0.41
3:AD:101:LEU:HD12	3:AD:105:VAL:HG23	2.01	0.41
3:AD:201:GLN:O	3:AD:204:ILE:HB	2.19	0.41
4:AE:150:ARG:HH11	4:AE:150:ARG:CB	2.30	0.41
6:AH:34:GLU:OE1	6:AH:34:GLU:HA	2.20	0.41
7:AK:95:ILE:HG21	7:AK:108:ILE:CD1	2.51	0.41
7:AK:105:VAL:O	7:AK:106:LYS:C	2.59	0.41
7:AK:111:ASP:HA	12:AR:84:LYS:HE2	2.02	0.41
9:AO:61:GLY:O	9:AO:64:ARG:HB3	2.20	0.41
14:AC:194:GLY:O	14:AC:195:VAL:HG23	2.20	0.41
15:AG:121:ALA:O	15:AG:122:HIS:C	2.59	0.41
29:B1:10:LYS:O	29:B1:13:ILE:HG22	2.20	0.41
33:B5:40:LYS:HE2	33:B5:48:GLU:OE2	2.20	0.41
36:B8:35:GLN:HB3	38:BA:2420:C:OP1	2.20	0.41
38:BA:45:C:H2'	38:BA:47:C:C6	2.54	0.41
38:BA:152:G:H1	38:BA:174:C:N4	2.14	0.41
38:BA:412:A:C2'	38:BA:413:C:H5'	2.49	0.41
38:BA:548:A:O2'	38:BA:549:G:OP1	2.31	0.41
38:BA:659:C:H5'	38:BA:659:C:C6	2.52	0.41
38:BA:675:A:N6	38:BA:676:A:N6	2.69	0.41
38:BA:868:U:C4	38:BA:869:G:N7	2.88	0.41
38:BA:894:C:H2'	38:BA:895:U:C6	2.55	0.41
38:BA:923:C:H2'	38:BA:924:C:H6	1.86	0.41
38:BA:997:G:H2'	38:BA:997:G:N3	2.36	0.41
38:BA:1216:G:N2	38:BA:1234:U:H1'	2.35	0.41
38:BA:1231:G:H2'	38:BA:1232:G:C8	2.46	0.41
38:BA:1355:G:H2'	38:BA:1356:G:H8	1.84	0.41
38:BA:1485:G:H1'	38:BA:1505:C:H41	1.79	0.41
38:BA:1496:A:C8	38:BA:1577:C:O2'	2.74	0.41
38:BA:1753:G:N2	38:BA:1755:A:H3'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2097:C:O2'	38:BA:2098:U:H5'	2.19	0.41
38:BA:2286:A:C5'	38:BA:2287:A:O4'	2.67	0.41
38:BA:2687:U:H2'	38:BA:2688:U:H5'	2.02	0.41
41:BD:98:VAL:C	41:BD:100:GLY:N	2.73	0.41
42:BE:36:ARG:C	42:BE:37:ARG:HG3	2.40	0.41
42:BE:120:TRP:HB2	42:BE:122:PHE:CD1	2.55	0.41
42:BE:199:ARG:HH11	42:BE:199:ARG:HG3	1.84	0.41
46:BI:12:LEU:O	46:BI:12:LEU:HG	2.21	0.41
47:BL:75:SER:HA	47:BL:78:ILE:HD12	2.02	0.41
47:BL:117:THR:O	47:BL:118:THR:CB	2.68	0.41
49:BO:2:ILE:HD11	49:BO:82:ASN:CG	2.40	0.41
50:BP:98:GLU:HA	50:BP:101:VAL:CG1	2.50	0.41
52:BR:84:ALA:HB3	52:BR:85:PRO:HD3	2.01	0.41
55:BU:69:CYS:HB2	55:BU:74:LEU:HD11	2.02	0.41
56:BV:68:LYS:HG3	56:BV:68:LYS:O	2.20	0.41
57:BW:110:LYS:HA	57:BW:110:LYS:HD2	1.90	0.41
58:BX:58:HIS:O	58:BX:59:VAL:CG1	2.62	0.41
1:AA:322:C:H41	1:AA:328:C:H6	1.68	0.41
1:AA:373:A:C2	1:AA:374:A:C8	3.09	0.41
1:AA:522:C:H41	8:AL:53:ARG:HH21	1.68	0.41
1:AA:622:A:C8	1:AA:623:C:C6	3.09	0.41
1:AA:666:G:H5'	1:AA:726:C:H1'	2.01	0.41
1:AA:941:G:C2'	1:AA:942:G:O5'	2.69	0.41
1:AA:1061:G:O4'	17:AJ:56:HIS:CE1	2.74	0.41
1:AA:1071:C:H2'	1:AA:1072:G:H8	1.85	0.41
1:AA:1125:U:H2'	1:AA:1126:U:OP2	2.20	0.41
2:AB:54:THR:O	2:AB:57:PHE:HB3	2.20	0.41
3:AD:118:ARG:O	3:AD:119:GLN:C	2.58	0.41
3:AD:132:ARG:NH1	3:AD:132:ARG:HG2	2.35	0.41
4:AE:79:GLU:OE1	4:AE:79:GLU:N	2.54	0.41
5:AF:6:VAL:HA	5:AF:90:VAL:HA	2.01	0.41
5:AF:13:ASN:O	5:AF:14:LEU:HD23	2.20	0.41
7:AK:41:THR:HG22	7:AK:42:TRP:H	1.86	0.41
15:AG:115:ARG:HB2	15:AG:118:VAL:CG2	2.50	0.41
18:AM:25:ILE:HD12	18:AM:25:ILE:N	2.36	0.41
18:AM:67:GLU:CD	18:AM:68:GLY:H	2.23	0.41
20:AS:9:VAL:C	20:AS:10:PHE:CD1	2.93	0.41
29:B1:23:LYS:O	29:B1:37:ILE:N	2.53	0.41
30:B2:35:LEU:HD23	30:B2:35:LEU:H	1.85	0.41
38:BA:237:C:H2'	38:BA:238:C:H6	1.85	0.41
38:BA:425:G:O2'	38:BA:426:C:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:615:G:P	43:BF:40:GLN:NE2	2.93	0.41
38:BA:626:U:N3	50:BP:105:LEU:HG	2.35	0.41
38:BA:852:G:H2'	38:BA:853:G:H8	1.86	0.41
38:BA:980:A:C6	38:BA:981:A:N1	2.89	0.41
38:BA:1059:G:O6	38:BA:1060:U:H1'	2.20	0.41
38:BA:1068:G:H4'	38:BA:1096:A:HO2'	1.75	0.41
38:BA:1353:A:H2'	38:BA:1354:A:C8	2.55	0.41
38:BA:1817:G:H2'	38:BA:1818:U:H5'	2.02	0.41
38:BA:2263:C:H2'	38:BA:2264:C:H5'	2.01	0.41
38:BA:2385:C:H2'	38:BA:2386:C:H6	1.84	0.41
38:BA:2635:C:C2'	38:BA:2636:U:O5'	2.68	0.41
38:BA:2684:U:C2'	38:BA:2685:G:H5'	2.50	0.41
38:BA:2740:A:C6	38:BA:2764:A:C8	3.07	0.41
38:BA:2807:G:N2	38:BA:2808:U:H1'	2.35	0.41
43:BF:9:ILE:HG12	43:BF:14:PRO:O	2.21	0.41
43:BF:108:LYS:HA	43:BF:108:LYS:HD3	1.82	0.41
43:BF:108:LYS:O	43:BF:111:ALA:HB3	2.20	0.41
43:BF:165:ARG:O	43:BF:166:ALA:C	2.58	0.41
43:BF:173:VAL:CG1	43:BF:174:VAL:N	2.84	0.41
44:BG:72:ARG:HD3	44:BG:86:MET:HA	2.01	0.41
46:BI:14:ASP:O	46:BI:17:GLN:CB	2.66	0.41
46:BI:40:THR:O	46:BI:41:GLU:C	2.59	0.41
46:BI:133:HIS:CD2	46:BI:133:HIS:N	2.87	0.41
47:BL:9:LYS:HE2	47:BL:56:GLU:OE2	2.20	0.41
47:BL:132:ARG:HE	47:BL:138:VAL:HG13	1.85	0.41
49:BO:8:LEU:N	49:BO:8:LEU:CD2	2.83	0.41
49:BO:20:MET:O	49:BO:41:ALA:CB	2.68	0.41
51:BQ:11:LYS:CE	51:BQ:86:GLY:O	2.68	0.41
51:BQ:26:TYR:O	51:BQ:67:ARG:NH1	2.53	0.41
51:BQ:35:VAL:HG13	51:BQ:130:LYS:HB3	2.02	0.41
51:BQ:63:LYS:HB2	51:BQ:63:LYS:NZ	2.36	0.41
53:BS:84:GLN:O	53:BS:85:VAL:CG1	2.68	0.41
55:BU:36:ARG:HG2	55:BU:40:PHE:CZ	2.55	0.41
55:BU:38:THR:O	55:BU:40:PHE:N	2.54	0.41
55:BU:101:ARG:C	55:BU:102:GLU:HG2	2.40	0.41
56:BV:62:LEU:HB3	56:BV:96:ILE:CG2	2.51	0.41
57:BW:24:ILE:C	57:BW:24:ILE:HD12	2.41	0.41
58:BX:27:THR:HA	58:BX:78:LYS:HA	2.02	0.41
60:BZ:8:TYR:HA	60:BZ:62:PRO:HG2	2.03	0.41
1:AA:135:C:C2'	1:AA:136:C:H5'	2.46	0.41
1:AA:383:A:H2'	1:AA:384:G:C5'	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:414:A:H5'	1:AA:414:A:C8	2.52	0.41
1:AA:689:C:OP2	7:AK:46:GLY:HA3	2.20	0.41
1:AA:782:A:N7	1:AA:783:C:C2	2.89	0.41
1:AA:1003:G:H2'	1:AA:1004:A:O4'	2.20	0.41
1:AA:1275:A:O2'	1:AA:1276:G:H5'	2.21	0.41
1:AA:1320:C:H2'	1:AA:1321:C:O4'	2.21	0.41
2:AB:21:ARG:HB2	2:AB:39:ILE:HA	1.99	0.41
2:AB:109:SER:O	2:AB:111:ARG:N	2.54	0.41
3:AD:75:PHE:CE2	3:AD:93:PHE:HZ	2.39	0.41
3:AD:199:ASN:O	3:AD:201:GLN:N	2.54	0.41
4:AE:102:ALA:CB	4:AE:120:THR:OG1	2.69	0.41
6:AH:73:ASP:O	6:AH:75:ARG:N	2.50	0.41
7:AK:29:ILE:HG22	7:AK:44:SER:HB2	2.03	0.41
14:AC:11:ARG:O	14:AC:14:ILE:O	2.38	0.41
14:AC:18:TRP:CD1	19:AN:54:PRO:HA	2.56	0.41
14:AC:155:GLY:O	14:AC:156:ARG:CB	2.68	0.41
17:AJ:50:ILE:O	17:AJ:51:ARG:C	2.58	0.41
18:AM:124:PRO:O	18:AM:126:LYS:N	2.53	0.41
21:AU:6:ARG:HG2	21:AU:15:ARG:NH1	2.36	0.41
21:AU:24:ARG:HG2	21:AU:24:ARG:HH11	1.84	0.41
22:AV:4:G:O2'	22:AV:5:G:C8	2.69	0.41
22:AV:5:G:N2	22:AV:68:C:O2	2.53	0.41
22:AV:75:C:H5'	22:AV:75:C:H6	1.86	0.41
27:AZ:74:LYS:HG2	27:AZ:75:ARG:CG	2.48	0.41
29:B1:9:GLY:O	29:B1:10:LYS:HD3	2.20	0.41
30:B2:49:LYS:HD3	38:BA:76:C:H5''	2.03	0.41
36:B8:58:ILE:O	36:B8:61:LEU:HG	2.19	0.41
38:BA:158:U:O3'	38:BA:171:G:O4'	2.38	0.41
38:BA:790:C:HO2'	38:BA:791:C:P	2.39	0.41
38:BA:1069:A:N7	38:BA:1073:A:N7	2.68	0.41
38:BA:1087:G:C2	38:BA:1103:A:N3	2.89	0.41
38:BA:1142(A):A:C5	38:BA:1144:G:C5	3.08	0.41
38:BA:1497:U:H5'	38:BA:1498:C:C5	2.51	0.41
38:BA:1588:C:O2	38:BA:1588:C:H2'	2.19	0.41
38:BA:1778:U:H2'	38:BA:1784:A:N6	2.35	0.41
38:BA:2034:U:H2'	38:BA:2035:G:H5'	2.03	0.41
38:BA:2439:A:H1'	38:BA:2587:A:OP1	2.21	0.41
38:BA:2530:A:C2'	38:BA:2531:A:H5'	2.42	0.41
38:BA:2565:A:H5''	38:BA:2566:A:OP2	2.20	0.41
38:BA:2711:A:OP1	38:BA:2712(A):A:P	2.78	0.41
38:BA:2748:A:H2'	38:BA:2749:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2762:G:H2'	38:BA:2763:G:C5'	2.27	0.41
38:BA:2783:G:O2'	38:BA:2784:C:H5'	2.21	0.41
38:BA:2850:A:C8	38:BA:2869:G:O4'	2.74	0.41
38:BA:2867:G:OP2	54:BT:119:LYS:NZ	2.52	0.41
39:BB:7:G:C2'	39:BB:8:U:H5''	2.50	0.41
39:BB:95:C:H2'	39:BB:96:U:H6	1.84	0.41
41:BD:36:PRO:O	41:BD:37:LEU:HD23	2.21	0.41
42:BE:48:GLN:HE21	42:BE:78:LEU:HD12	1.85	0.41
42:BE:101:ARG:HH11	42:BE:169:ASN:ND2	2.19	0.41
43:BF:143:ALA:HA	43:BF:146:ALA:CB	2.41	0.41
44:BG:115:ARG:NH2	44:BG:136:ARG:CG	2.80	0.41
44:BG:123:ASN:O	44:BG:126:ASP:HB2	2.21	0.41
47:BL:7:VAL:O	47:BL:7:VAL:HG23	2.21	0.41
47:BL:17:ALA:O	47:BL:18:THR:OG1	2.35	0.41
47:BL:37:PHE:CE2	47:BL:57:ILE:HB	2.54	0.41
48:BN:5:VAL:HG13	48:BN:6:PRO:HD2	2.02	0.41
49:BO:119:PRO:HB2	54:BT:68:TYR:HE1	1.85	0.41
50:BP:100:LEU:O	50:BP:103:ALA:N	2.52	0.41
52:BR:92:GLY:HA2	52:BR:94:TYR:CE1	2.56	0.41
53:BS:34:HIS:NE2	53:BS:54:LEU:HB2	2.35	0.41
53:BS:74:ALA:O	53:BS:75:GLU:C	2.59	0.41
54:BT:34:VAL:O	54:BT:35:LYS:HB3	2.20	0.41
57:BW:47:VAL:HA	57:BW:50:VAL:HG12	2.02	0.41
58:BX:83:VAL:C	58:BX:85:PRO:HD3	2.40	0.41
1:AA:25:C:C5	1:AA:558:G:N2	2.89	0.41
1:AA:35:G:H21	8:AL:118:SER:CB	2.34	0.41
1:AA:42:G:H2'	1:AA:43:C:H6	1.85	0.41
1:AA:261:U:OP2	13:AT:79:ARG:NH2	2.53	0.41
1:AA:746:A:H2'	1:AA:747:C:C6	2.55	0.41
1:AA:781:A:C2'	1:AA:782:A:H5'	2.51	0.41
1:AA:1054:C:C2	25:AY:34:OMG:HM23	2.45	0.41
1:AA:1400:C:C5	22:AV:34:C:C4	3.08	0.41
2:AB:44:LEU:H	2:AB:44:LEU:CD1	2.21	0.41
2:AB:80:ILE:O	2:AB:83:MET:HB2	2.21	0.41
3:AD:104:VAL:C	3:AD:106:TYR:N	2.74	0.41
3:AD:170:VAL:O	3:AD:171:GLY:C	2.58	0.41
4:AE:54:ALA:O	4:AE:55:VAL:C	2.58	0.41
5:AF:17:SER:O	5:AF:20:ALA:HB3	2.21	0.41
7:AK:124:LYS:HD2	7:AK:125:PHE:CD1	2.55	0.41
8:AL:7:ILE:O	8:AL:10:LEU:HB2	2.20	0.41
11:AQ:66:SER:O	11:AQ:70:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AC:14:ILE:O	14:AC:16:ARG:N	2.54	0.41
15:AG:6:ARG:HG2	15:AG:6:ARG:O	2.20	0.41
15:AG:20:ASP:OD1	15:AG:22:LEU:HB3	2.20	0.41
15:AG:24:THR:O	15:AG:25:ALA:C	2.58	0.41
18:AM:81:LEU:HD21	18:AM:88:ARG:HH12	1.84	0.41
24:AW:66:U:H2'	24:AW:67:C:H6	1.81	0.41
25:AY:76:A:P	27:AZ:274:ARG:NE	2.87	0.41
27:AZ:236:THR:HG21	27:AZ:295:ARG:N	2.36	0.41
29:B1:64:ALA:C	29:B1:67:ILE:HD11	2.41	0.41
29:B1:87:PRO:CD	29:B1:88:LYS:N	2.84	0.41
32:B4:6:HIS:CA	44:BG:67:LYS:HE3	2.41	0.41
33:B5:6:VAL:HG13	33:B5:7:PRO:CD	2.47	0.41
35:B7:7:PRO:CB	38:BA:1309:G:H4'	2.47	0.41
38:BA:61:G:H1	38:BA:94:C:N4	2.10	0.41
38:BA:65:C:O2'	38:BA:66:C:H5'	2.20	0.41
38:BA:554:U:H2'	38:BA:555:U:H5'	2.01	0.41
38:BA:648:G:O2'	38:BA:649:G:H5'	2.21	0.41
38:BA:993:G:C4	38:BA:994:C:C5	3.08	0.41
38:BA:1002:G:H2'	38:BA:1003:G:O4'	2.19	0.41
38:BA:1175:U:H5''	38:BA:1176:G:C8	2.56	0.41
38:BA:1229:G:C6	38:BA:1230:C:C4	3.08	0.41
38:BA:1278:A:H2'	38:BA:1279:G:C8	2.56	0.41
38:BA:1657:C:O2'	38:BA:1658:C:H5'	2.21	0.41
38:BA:1707:G:H2'	38:BA:1708:C:C6	2.56	0.41
38:BA:2013:A:C2'	38:BA:2014:A:H5'	2.50	0.41
38:BA:2206:G:C2	38:BA:2207:G:H5'	2.55	0.41
38:BA:2591:C:OP2	41:BD:239:ARG:HB2	2.21	0.41
38:BA:2726:U:H6	49:BO:67:LYS:NZ	2.19	0.41
38:BA:2777:G:C5'	38:BA:2778:A:H5'	2.50	0.41
40:BC:51:PRO:HB3	40:BC:204:ALA:HB2	2.02	0.41
41:BD:25:THR:HB	41:BD:82:ILE:H	1.86	0.41
41:BD:133:LEU:HG	41:BD:189:CYS:O	2.20	0.41
41:BD:197:GLY:O	41:BD:198:ASN:HB3	2.21	0.41
41:BD:241:PRO:C	41:BD:242:ARG:HD2	2.41	0.41
43:BF:16:GLY:O	43:BF:17:ARG:HG3	2.20	0.41
43:BF:31:HIS:O	43:BF:32:LEU:C	2.59	0.41
44:BG:154:GLY:O	44:BG:155:MET:CB	2.68	0.41
46:BI:98:ALA:HA	46:BI:109:ILE:HD13	2.00	0.41
46:BI:123:LEU:HD11	46:BI:144:VAL:HG22	2.03	0.41
47:BL:79:ARG:CD	47:BL:134:MET:CE	2.98	0.41
47:BL:112:MET:SD	47:BL:123:ALA:HB2	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:24:GLY:C	48:BN:26:LEU:N	2.73	0.41
48:BN:66:LYS:HB2	48:BN:87:LEU:HD12	2.03	0.41
48:BN:78:TYR:N	48:BN:79:PRO:CD	2.84	0.41
49:BO:87:ILE:HD13	49:BO:93:PRO:CA	2.51	0.41
50:BP:29:LYS:HD2	50:BP:29:LYS:H	1.85	0.41
50:BP:68:GLN:O	50:BP:68:GLN:CG	2.68	0.41
50:BP:135:LEU:HD22	50:BP:135:LEU:HA	1.70	0.41
51:BQ:89:ASN:N	51:BQ:89:ASN:ND2	2.66	0.41
56:BV:56:SER:O	56:BV:57:VAL:HB	2.20	0.41
58:BX:62:LYS:O	58:BX:63:LYS:HG3	2.21	0.41
59:BY:81:LYS:HE2	59:BY:97:ARG:HG2	2.01	0.41
1:AA:15:G:C4'	4:AE:24:ARG:HH22	2.30	0.41
1:AA:328:C:O2'	1:AA:329:A:OP2	2.36	0.41
1:AA:339:C:H2'	1:AA:340:U:C6	2.55	0.41
1:AA:377:G:C2	1:AA:387:U:O2	2.74	0.41
1:AA:562:C:H4'	1:AA:563:A:O5'	2.20	0.41
1:AA:1279:A:H2	17:AJ:43:ARG:HH12	1.64	0.41
1:AA:1530:G:OP1	1:AA:1530:G:H4'	2.21	0.41
2:AB:191:ASP:OD1	2:AB:191:ASP:O	2.39	0.41
4:AE:139:LEU:C	4:AE:141:GLN:N	2.74	0.41
5:AF:7:ASN:HD22	5:AF:7:ASN:N	2.19	0.41
6:AH:120:THR:O	6:AH:122:ARG:N	2.54	0.41
7:AK:24:SER:C	7:AK:26:ASN:N	2.74	0.41
7:AK:111:ASP:HA	12:AR:84:LYS:HG3	2.02	0.41
8:AL:48:PRO:C	8:AL:49:ASN:HD22	2.24	0.41
10:AP:23:ASP:O	10:AP:24:ALA:C	2.58	0.41
10:AP:53:VAL:CG2	10:AP:54:GLU:N	2.81	0.41
14:AC:40:ARG:CZ	19:AN:52:GLN:HG2	2.50	0.41
14:AC:113:ALA:C	14:AC:115:LEU:N	2.74	0.41
16:AI:40:LEU:HD11	16:AI:70:LYS:HG2	2.02	0.41
17:AJ:4:ILE:O	17:AJ:74:ILE:HD13	2.20	0.41
21:AU:10:ARG:O	21:AU:11:GLY:C	2.59	0.41
22:AV:13:C:O4'	38:BA:1924:C:C4'	2.69	0.41
24:AW:7:A:C2	24:AW:67:C:N3	2.89	0.41
36:B8:25:MET:HG3	50:BP:64:LYS:CB	2.42	0.41
36:B8:62:LEU:N	36:B8:63:PRO:CD	2.82	0.41
37:B9:24:TYR:HA	37:B9:35:ARG:HA	2.03	0.41
38:BA:312:G:C2	38:BA:313:C:C2	3.09	0.41
38:BA:752:A:HO2'	38:BA:753:C:P	2.41	0.41
38:BA:986:C:O2'	38:BA:987:G:H5'	2.20	0.41
38:BA:1188:U:C2'	38:BA:1189:A:C5'	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1260:G:O2'	38:BA:1261:C:H5'	2.21	0.41
38:BA:1366:A:C2	38:BA:1367:A:H1'	2.56	0.41
38:BA:1719:G:C6	38:BA:1720:U:C4	3.09	0.41
38:BA:1721:G:C2	38:BA:1739:U:OP2	2.74	0.41
38:BA:1862:G:O2'	38:BA:1863:G:H5'	2.19	0.41
38:BA:1886:C:H2'	38:BA:1887:C:H6	1.86	0.41
38:BA:2144:U:O2'	38:BA:2145:C:C6	2.72	0.41
38:BA:2230:G:C4	38:BA:2231:C:C5	3.08	0.41
38:BA:2276:G:O2'	38:BA:2277:G:H5'	2.21	0.41
38:BA:2292:C:C2'	38:BA:2293:C:H5'	2.50	0.41
38:BA:2305:A:C5	44:BG:155:MET:HA	2.56	0.41
38:BA:2376:A:H2'	38:BA:2377:A:O4'	2.21	0.41
38:BA:2534:A:H2'	38:BA:2535:G:O4'	2.21	0.41
38:BA:2691:C:H2'	38:BA:2692:C:C6	2.56	0.41
38:BA:2754:U:H1'	38:BA:2756:U:OP1	2.21	0.41
38:BA:2767:C:H2'	38:BA:2768:C:H6	1.85	0.41
38:BA:2838:G:H2'	38:BA:2839:G:H8	1.85	0.41
41:BD:135:PHE:N	41:BD:135:PHE:HD1	2.16	0.41
41:BD:169:GLU:HB2	41:BD:172:TYR:HB2	2.02	0.41
42:BE:197:ILE:HD11	42:BE:199:ARG:NH2	2.35	0.41
45:BH:35:VAL:O	45:BH:35:VAL:HG12	2.21	0.41
45:BH:41:MET:HE1	45:BH:55:PRO:CD	2.51	0.41
46:BI:47:LEU:O	46:BI:48:GLU:C	2.58	0.41
47:BL:44:ALA:O	47:BL:45:THR:C	2.57	0.41
47:BL:55:VAL:HG22	47:BL:69:THR:CB	2.50	0.41
50:BP:74:GLU:HG3	50:BP:75:ILE:H	1.83	0.41
50:BP:112:LEU:HD22	50:BP:112:LEU:C	2.41	0.41
51:BQ:23:GLY:HA3	51:BQ:99:PRO:O	2.21	0.41
51:BQ:141:GLN:HE21	60:BZ:71:VAL:C	2.24	0.41
52:BR:14:SER:OG	52:BR:15:SER:N	2.53	0.41
53:BS:89:ARG:HB3	53:BS:97:ARG:NH1	2.32	0.41
56:BV:43:GLU:H	56:BV:48:GLY:CA	2.28	0.41
57:BW:70:TYR:N	57:BW:70:TYR:HD2	2.18	0.41
58:BX:58:HIS:O	58:BX:59:VAL:HG22	2.20	0.41
1:AA:283:C:H2'	1:AA:284:G:H8	1.86	0.41
1:AA:386:C:C2'	1:AA:387:U:C5'	2.93	0.41
1:AA:583:A:H2'	1:AA:584:G:O4'	2.21	0.41
1:AA:624:C:H4'	10:AP:10:GLY:C	2.42	0.41
1:AA:711:G:O2'	1:AA:712:A:H5'	2.20	0.41
1:AA:799:G:C6	1:AA:800:G:C4	3.08	0.41
1:AA:911:U:H2'	1:AA:912:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:975:A:H5''	1:AA:1363(A):A:N6	2.36	0.41
1:AA:1060:C:H5	14:AC:2:GLY:HA3	1.84	0.41
1:AA:1240:U:H3'	1:AA:1241:G:H5'	2.03	0.41
1:AA:1503:A:O2'	1:AA:1504:G:O5'	2.28	0.41
1:AA:1521:G:O2'	1:AA:1522:U:H5'	2.20	0.41
2:AB:75:LYS:HG2	2:AB:78:GLN:HE21	1.82	0.41
2:AB:97:TRP:CZ2	2:AB:102:LEU:HD13	2.50	0.41
2:AB:163:PHE:CD2	2:AB:186:ALA:HA	2.55	0.41
3:AD:133:VAL:HG13	3:AD:135:LEU:HD23	2.03	0.41
3:AD:135:LEU:HD22	3:AD:135:LEU:N	2.36	0.41
3:AD:141:ARG:N	3:AD:144:ASP:OD2	2.54	0.41
5:AF:52:ILE:HD13	5:AF:52:ILE:HA	1.91	0.41
7:AK:59:TYR:HB3	15:AG:150:ALA:HA	2.03	0.41
7:AK:63:LEU:HD23	7:AK:63:LEU:HA	1.94	0.41
9:AO:56:LEU:HA	9:AO:56:LEU:HD12	1.73	0.41
11:AQ:74:LEU:HD22	11:AQ:74:LEU:HA	1.83	0.41
11:AQ:76:LEU:HD12	11:AQ:77:VAL:H	1.86	0.41
12:AR:56:THR:C	12:AR:58:LEU:HD12	2.40	0.41
13:AT:38:LYS:O	13:AT:39:LYS:C	2.58	0.41
14:AC:178:LEU:N	14:AC:178:LEU:CD2	2.83	0.41
15:AG:100:ALA:O	15:AG:104:LEU:CD2	2.69	0.41
16:AI:23:ASN:HD22	16:AI:23:ASN:N	2.18	0.41
16:AI:49:PRO:HA	16:AI:101:PHE:HE1	1.85	0.41
16:AI:92:TYR:O	16:AI:95:LYS:HG3	2.21	0.41
17:AJ:28:ARG:HG2	17:AJ:28:ARG:NH1	2.35	0.41
18:AM:18:ALA:O	18:AM:19:LEU:C	2.59	0.41
18:AM:86:CYS:O	18:AM:89:GLY:N	2.54	0.41
20:AS:58:VAL:O	20:AS:60:VAL:N	2.54	0.41
22:AV:52:G:C2	22:AV:53:G:C8	3.09	0.41
29:B1:46:LEU:HD13	29:B1:48:LYS:CE	2.51	0.41
29:B1:48:LYS:O	29:B1:49:VAL:CB	2.68	0.41
29:B1:58:ILE:CG2	29:B1:59:THR:N	2.84	0.41
29:B1:84:GLY:C	29:B1:85:LEU:HD23	2.40	0.41
29:B1:87:PRO:N	29:B1:89:GLU:OE2	2.53	0.41
31:B3:44:ARG:O	31:B3:45:GLY:C	2.59	0.41
33:B5:57:VAL:CG2	33:B5:58:LEU:H	2.18	0.41
34:B6:28:ARG:NH1	34:B6:28:ARG:CG	2.84	0.41
34:B6:45:LYS:HG3	38:BA:2371:G:C4'	2.50	0.41
36:B8:5:LYS:HG2	38:BA:242:G:C8	2.56	0.41
38:BA:247:G:H4'	38:BA:386:G:C6	2.54	0.41
38:BA:266:G:C2'	38:BA:267:C:H5''	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:340:A:H2'	38:BA:341:G:O4'	2.21	0.41
38:BA:581:C:OP1	55:BU:33:ARG:HG2	2.20	0.41
38:BA:639:U:H2'	38:BA:640:C:H6	1.74	0.41
38:BA:692:C:H2'	38:BA:693:C:C6	2.54	0.41
38:BA:725:G:C6	38:BA:726:G:N1	2.89	0.41
38:BA:803:U:O2'	38:BA:804:A:H5'	2.21	0.41
38:BA:809:G:O2'	38:BA:810:U:H5'	2.21	0.41
38:BA:851:U:O2'	38:BA:852:G:H5'	2.20	0.41
38:BA:925:C:H3'	38:BA:926:A:H5''	2.00	0.41
38:BA:962:G:C2'	38:BA:963:U:H5'	2.50	0.41
38:BA:975:C:OP2	38:BA:975:C:H4'	2.21	0.41
38:BA:981:A:H2	38:BA:2027:G:N3	2.18	0.41
38:BA:1080:C:H1'	47:BL:126:MET:HA	2.03	0.41
38:BA:1093:G:N2	38:BA:1098:A:C6	2.85	0.41
38:BA:1104:C:C2	38:BA:1105:U:C2	3.08	0.41
38:BA:1106:G:C2	38:BA:1107:G:C2	3.09	0.41
38:BA:1164:G:H2'	38:BA:1165:U:C6	2.56	0.41
38:BA:1268:A:C5	38:BA:1269:A:C8	3.09	0.41
38:BA:1275:A:C4	52:BR:16:HIS:ND1	2.89	0.41
38:BA:1345:C:H2'	38:BA:1346:G:C8	2.54	0.41
38:BA:1405:U:H2'	38:BA:1406:U:H6	1.86	0.41
38:BA:1410:G:N1	38:BA:1593:G:C6	2.88	0.41
38:BA:1478:G:O2'	38:BA:1558:A:C2	2.74	0.41
38:BA:1493:C:O2	38:BA:1493:C:C2'	2.62	0.41
38:BA:1528:A:O2'	38:BA:1528(A):A:P	2.78	0.41
38:BA:1558:A:H1'	38:BA:1559:G:OP2	2.21	0.41
38:BA:1824:G:O2'	38:BA:1825:A:H5'	2.20	0.41
38:BA:2162:G:C5'	38:BA:2171:A:H5''	2.50	0.41
38:BA:2203:U:O2	38:BA:2203:U:H2'	2.21	0.41
38:BA:2222:G:H2'	38:BA:2223:G:H8	1.85	0.41
38:BA:2328:A:H2'	38:BA:2329:G:C8	2.55	0.41
38:BA:2677:G:C4	38:BA:2678:C:C5	3.09	0.41
38:BA:2723:C:OP1	52:BR:2:ARG:CZ	2.68	0.41
38:BA:2726:U:H6	49:BO:67:LYS:HZ3	1.68	0.41
38:BA:2785:C:H1'	42:BE:64:LYS:NZ	2.36	0.41
38:BA:2807:G:C2	38:BA:2808:U:H1'	2.56	0.41
39:BB:25:A:C2	39:BB:26:A:H1'	2.56	0.41
39:BB:66:A:O2'	39:BB:67:G:O5'	2.37	0.41
39:BB:75:G:N1	39:BB:103:G:N2	2.69	0.41
41:BD:53:PHE:CD1	41:BD:220:HIS:HA	2.55	0.41
41:BD:62:TYR:HE1	41:BD:64:ILE:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BD:71:ASP:CB	41:BD:103:ARG:HH22	2.29	0.41
41:BD:182:LEU:HD23	41:BD:182:LEU:HA	1.88	0.41
42:BE:55:ASN:OD1	42:BE:75:VAL:HG22	2.21	0.41
42:BE:93:VAL:O	42:BE:95:ILE:N	2.53	0.41
43:BF:9:ILE:O	43:BF:128:ALA:HB2	2.20	0.41
43:BF:53:THR:HG23	43:BF:56:GLU:H	1.85	0.41
43:BF:179:GLU:OE1	43:BF:179:GLU:N	2.31	0.41
44:BG:20:ILE:O	44:BG:24:GLY:CA	2.67	0.41
44:BG:55:LYS:O	44:BG:57:ALA:N	2.54	0.41
44:BG:97:ASP:O	44:BG:98:ARG:C	2.59	0.41
44:BG:101:ILE:HG12	44:BG:105:LYS:NZ	2.36	0.41
44:BG:103:LEU:HD23	44:BG:103:LEU:HA	1.93	0.41
45:BH:60:ARG:O	45:BH:64:LEU:HG	2.20	0.41
46:BI:66:GLU:OE1	46:BI:66:GLU:HA	2.20	0.41
46:BI:69:LYS:HB2	46:BI:136:VAL:HB	2.03	0.41
47:BL:10:LEU:CD1	47:BL:27:LEU:HD21	2.51	0.41
47:BL:21:PRO:CG	47:BL:22:PRO:CD	2.96	0.41
47:BL:77:LEU:CD2	47:BL:80:LYS:HG2	2.51	0.41
47:BL:115:LEU:HD13	47:BL:115:LEU:O	2.19	0.41
47:BL:116:ASN:HD21	47:BL:126:MET:HE1	1.86	0.41
47:BL:130:SER:HA	47:BL:133:SER:HB2	2.03	0.41
48:BN:23:LEU:HD23	48:BN:23:LEU:O	2.21	0.41
49:BO:89:ASN:C	49:BO:91:LEU:H	2.22	0.41
49:BO:116:SER:HG	49:BO:117:LEU:H	1.68	0.41
50:BP:112:LEU:HD13	50:BP:112:LEU:C	2.41	0.41
50:BP:127:ALA:HB3	50:BP:130:PHE:CE2	2.55	0.41
51:BQ:120:ILE:O	51:BQ:121:ALA:C	2.58	0.41
53:BS:77:ALA:C	53:BS:79:ALA:N	2.74	0.41
53:BS:84:GLN:HE21	53:BS:105:ALA:HB1	1.84	0.41
54:BT:35:LYS:O	54:BT:37:GLY:N	2.54	0.41
55:BU:31:SER:HB3	55:BU:34:LYS:CB	2.37	0.41
56:BV:4:ILE:HG13	56:BV:40:LEU:HD11	2.03	0.41
56:BV:15:GLU:O	56:BV:98:GLU:CD	2.60	0.41
56:BV:17:GLY:O	56:BV:18:LEU:HB3	2.21	0.41
56:BV:39:LEU:HD13	56:BV:39:LEU:HA	1.87	0.41
57:BW:6:ILE:HA	57:BW:103:ILE:O	2.21	0.41
57:BW:60:ASN:OD1	57:BW:61:ASN:ND2	2.54	0.41
58:BX:7:VAL:HG11	58:BX:39:ILE:HG22	2.03	0.41
58:BX:93:GLU:HG3	58:BX:93:GLU:O	2.21	0.41
60:BZ:70:LEU:HD23	60:BZ:70:LEU:HA	1.91	0.41
1:AA:409:G:C5'	3:AD:25:ARG:HB2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:477:A:H2'	1:AA:479:C:H6	1.86	0.41
1:AA:819:A:H4'	1:AA:820:U:OP2	2.20	0.41
1:AA:1034:G:N2	1:AA:1035:A:N6	2.70	0.41
1:AA:1104:G:C5'	2:AB:111:ARG:HD2	2.51	0.41
1:AA:1269:A:C2	1:AA:1313:U:O4'	2.74	0.41
1:AA:1311:G:H2'	1:AA:1312:G:O5'	2.21	0.41
1:AA:1330:U:H5'	1:AA:1331:G:OP2	2.19	0.41
1:AA:1499:A:C2	1:AA:1500:A:C8	3.09	0.41
2:AB:204:ASN:ND2	2:AB:206:ASP:H	2.19	0.41
3:AD:30:LYS:HB3	3:AD:35:ARG:HD2	2.03	0.41
3:AD:98:GLU:O	3:AD:103:ASN:ND2	2.50	0.41
3:AD:173:TRP:CD1	3:AD:174:LEU:HG	2.56	0.41
4:AE:78:HIS:CE1	4:AE:143:ARG:N	2.77	0.41
6:AH:6:ILE:HG21	6:AH:85:ARG:HH12	1.86	0.41
7:AK:44:SER:H	7:AK:47:VAL:HB	1.86	0.41
7:AK:69:ALA:O	7:AK:72:ALA:N	2.54	0.41
8:AL:46:LYS:HB2	8:AL:92:ASP:O	2.21	0.41
8:AL:89:ARG:NH1	8:AL:91:LYS:N	2.69	0.41
9:AO:11:VAL:O	9:AO:14:GLU:HB3	2.20	0.41
9:AO:32:LEU:O	9:AO:36:ILE:HG13	2.21	0.41
11:AQ:67:LYS:C	11:AQ:70:ARG:NH1	2.74	0.41
14:AC:9:GLY:O	14:AC:12:LEU:HB2	2.21	0.41
14:AC:58:GLU:H	14:AC:65:ALA:CB	2.25	0.41
18:AM:70:LEU:O	18:AM:72:ALA:N	2.54	0.41
18:AM:94:ARG:HD3	20:AS:82:GLY:N	2.36	0.41
20:AS:36:ARG:HB2	20:AS:72:GLY:CA	2.51	0.41
24:AW:17:C:H6	38:BA:2180:U:HO2'	1.66	0.41
25:AY:37:YG:H32	25:AY:38:A:O4'	2.20	0.41
27:AZ:89:ILE:HG23	27:AZ:90:LYS:N	2.35	0.41
30:B2:12:GLU:C	30:B2:14:ARG:H	2.23	0.41
30:B2:18:PRO:O	30:B2:20:GLU:N	2.54	0.41
34:B6:26:ASN:O	34:B6:27:LYS:HD3	2.21	0.41
38:BA:108:U:C2	38:BA:109:G:C8	3.09	0.41
38:BA:118:A:H1'	38:BA:178:G:O4'	2.21	0.41
38:BA:343:C:O2	38:BA:343:C:C2'	2.69	0.41
38:BA:1031:G:N2	38:BA:1124:C:C2	2.88	0.41
38:BA:1058:G:H21	47:BL:116:ASN:ND2	2.18	0.41
38:BA:1094:U:O2	38:BA:1095:A:N7	2.54	0.41
38:BA:1103:A:C2'	38:BA:1104:C:OP1	2.69	0.41
38:BA:1313:U:O2	38:BA:1313:U:C2'	2.68	0.41
38:BA:1360:A:N7	38:BA:1361:G:N7	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1405:U:H2'	38:BA:1406:U:C6	2.56	0.41
38:BA:1675:C:C2'	38:BA:1676:A:H5'	2.51	0.41
38:BA:2146:C:C4	38:BA:2147:G:N7	2.89	0.41
38:BA:2241:A:O2'	38:BA:2242:G:H5'	2.21	0.41
38:BA:2343:C:H2'	38:BA:2344:U:H6	1.82	0.41
38:BA:2360:A:O2'	38:BA:2361:A:C5'	2.68	0.41
38:BA:2438:U:O2'	38:BA:2440:C:OP1	2.31	0.41
38:BA:2521:C:C4	38:BA:2522:U:C4	3.09	0.41
38:BA:2580:U:H5'	42:BE:131:ALA:N	2.34	0.41
39:BB:9:G:P	53:BS:17:ARG:HH11	2.42	0.41
44:BG:5:VAL:HG12	44:BG:104:GLU:OE2	2.21	0.41
45:BH:38:SER:HA	45:BH:39:PRO:HD3	1.89	0.41
45:BH:58:GLU:O	45:BH:60:ARG:N	2.54	0.41
45:BH:83:TYR:O	45:BH:84:SER:O	2.38	0.41
47:BL:23:VAL:CG1	47:BL:27:LEU:HD12	2.23	0.41
47:BL:71:THR:HA	47:BL:72:PRO:HD2	1.95	0.41
49:BO:3:GLN:CG	49:BO:4:PRO:HD2	2.51	0.41
51:BQ:22:LYS:NZ	51:BQ:22:LYS:CA	2.81	0.41
51:BQ:24:GLY:HA2	51:BQ:100:GLY:O	2.21	0.41
51:BQ:28:ALA:HB3	51:BQ:29:PHE:CD1	2.56	0.41
51:BQ:80:GLU:HB3	51:BQ:81:VAL:H	1.61	0.41
52:BR:77:ARG:O	52:BR:78:LYS:C	2.59	0.41
53:BS:46:VAL:CG1	53:BS:47:THR:N	2.84	0.41
53:BS:51:ALA:HB3	53:BS:73:LEU:HG	2.02	0.41
53:BS:54:LEU:O	53:BS:56:LEU:N	2.53	0.41
54:BT:28:VAL:HB	54:BT:88:ILE:HD11	2.02	0.41
56:BV:13:ARG:HG3	56:BV:13:ARG:O	2.21	0.41
58:BX:80:ILE:CG2	58:BX:81:VAL:N	2.84	0.41
59:BY:6:HIS:HE1	59:BY:30:VAL:HG11	1.85	0.41
59:BY:8:LYS:HE3	59:BY:73:ARG:HA	2.03	0.41
59:BY:90:LEU:CG	59:BY:91:GLU:N	2.72	0.41
60:BZ:9:TYR:HD2	60:BZ:9:TYR:HA	1.74	0.41
1:AA:288:A:H2'	1:AA:289:G:H4'	2.04	0.40
1:AA:430:A:H2'	1:AA:431:A:C5'	2.50	0.40
1:AA:577:G:C8	1:AA:816:A:C6	3.09	0.40
1:AA:782:A:N6	1:AA:801:U:C5	2.89	0.40
1:AA:932:C:H4'	15:AG:4:ARG:NH2	2.36	0.40
1:AA:937:A:C2	1:AA:1379:G:O6	2.74	0.40
1:AA:1109:C:O2'	1:AA:1110:A:H5'	2.21	0.40
1:AA:1188:A:H2'	1:AA:1189:C:O4'	2.20	0.40
1:AA:1202:G:C2	19:AN:42:ILE:CG2	3.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1290:G:N3	1:AA:1290:G:H2'	2.36	0.40
1:AA:1300:G:O2'	1:AA:1301:U:O5'	2.38	0.40
2:AB:69:LEU:HD12	2:AB:92:TYR:HA	2.03	0.40
3:AD:73:ARG:CD	3:AD:77:ASN:HD21	2.34	0.40
3:AD:158:ILE:HD13	3:AD:158:ILE:HA	1.91	0.40
4:AE:64:ARG:HG3	4:AE:64:ARG:NH1	2.35	0.40
6:AH:87:SER:HB2	6:AH:93:VAL:HB	2.01	0.40
7:AK:115:PRO:O	7:AK:117:ASN:N	2.48	0.40
10:AP:76:GLN:HE21	10:AP:76:GLN:HB2	1.64	0.40
13:AT:27:LYS:HD3	13:AT:27:LYS:C	2.41	0.40
14:AC:75:VAL:O	14:AC:75:VAL:HG12	2.21	0.40
15:AG:76:ARG:HG2	15:AG:76:ARG:NH1	2.31	0.40
15:AG:107:ALA:O	15:AG:110:GLN:HB2	2.22	0.40
17:AJ:54:PHE:C	17:AJ:55:LYS:HG3	2.41	0.40
18:AM:65:LYS:HA	18:AM:66:LEU:HB2	2.02	0.40
20:AS:35:SER:O	20:AS:37:ARG:N	2.53	0.40
22:AV:13:C:C4'	38:BA:1924:C:H4'	2.51	0.40
28:B0:36:ILE:CD1	28:B0:36:ILE:H	2.34	0.40
28:B0:53:MET:HE3	28:B0:57:PHE:HD1	1.84	0.40
29:B1:66:HIS:C	29:B1:68:PRO:CD	2.87	0.40
30:B2:47:ASN:HB2	30:B2:51:ARG:HD2	2.02	0.40
31:B3:23:LEU:HD12	31:B3:50:VAL:HG11	2.02	0.40
33:B5:8:LYS:O	33:B5:8:LYS:HG3	2.21	0.40
38:BA:150:C:O2'	38:BA:151:C:H5'	2.21	0.40
38:BA:197:A:H62	38:BA:2430:A:H2'	1.86	0.40
38:BA:271(A):A:H62	38:BA:271(W):G:N2	2.20	0.40
38:BA:572:A:H5''	38:BA:573:G:OP2	2.20	0.40
38:BA:605:C:O2'	38:BA:606:U:H5'	2.21	0.40
38:BA:742:G:H2'	38:BA:743:G:C8	2.56	0.40
38:BA:879:G:N1	38:BA:898:C:N4	2.63	0.40
38:BA:945:A:H5''	38:BA:946:G:P	2.61	0.40
38:BA:1042:G:H3'	38:BA:1043:C:O4'	2.22	0.40
38:BA:1057:A:N6	38:BA:1086:A:C2	2.87	0.40
38:BA:1064:C:O5'	47:BL:89:HIS:CD2	2.75	0.40
38:BA:1097:U:C2'	38:BA:1098:A:O5'	2.68	0.40
38:BA:1569:A:H2'	38:BA:1570:A:C8	2.56	0.40
38:BA:1888:G:H5'	38:BA:1888:G:N3	2.36	0.40
38:BA:2131:G:O3'	38:BA:2132:U:C6	2.74	0.40
38:BA:2259:G:C8	38:BA:2427:C:C4	3.09	0.40
38:BA:2684:U:P	54:BT:53:ARG:HE	2.44	0.40
38:BA:2737:G:H2'	38:BA:2738:A:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:2807:G:H2'	38:BA:2808:U:C5'	2.50	0.40
38:BA:2813:A:H2'	38:BA:2814:C:H5'	2.02	0.40
40:BC:86:ALA:HB1	40:BC:94:VAL:HG11	2.02	0.40
44:BG:67:LYS:N	44:BG:67:LYS:CD	2.75	0.40
45:BH:14:GLY:O	45:BH:28:GLY:HA2	2.21	0.40
45:BH:88:LEU:C	45:BH:89:ILE:HG23	2.41	0.40
45:BH:146:ALA:O	45:BH:150:ALA:HB3	2.21	0.40
46:BI:47:LEU:CD1	46:BI:50:ARG:HH21	2.34	0.40
46:BI:110:ASP:C	46:BI:112:LYS:N	2.71	0.40
48:BN:46:VAL:HG11	48:BN:48:MET:CG	2.40	0.40
50:BP:13:ASN:H	50:BP:13:ASN:ND2	2.13	0.40
50:BP:62:LEU:H	50:BP:62:LEU:CD1	2.02	0.40
51:BQ:134:ARG:O	51:BQ:136:ALA:N	2.53	0.40
52:BR:45:ARG:CG	52:BR:46:GLY:N	2.78	0.40
52:BR:67:LEU:HD22	52:BR:67:LEU:N	2.37	0.40
55:BU:74:LEU:HD13	55:BU:79:PHE:HB2	2.03	0.40
55:BU:109:LEU:HA	55:BU:112:ARG:HB2	2.03	0.40
60:BZ:119:GLU:HG3	60:BZ:119:GLU:O	2.21	0.40
60:BZ:163:LEU:HD11	60:BZ:167:PRO:HB3	2.03	0.40
1:AA:9:G:O2'	1:AA:10:A:H5'	2.20	0.40
1:AA:151:A:H2'	1:AA:152:A:H5'	2.03	0.40
1:AA:157:G:C2	1:AA:165:C:N3	2.90	0.40
1:AA:538:G:O2'	1:AA:539:A:H5'	2.20	0.40
1:AA:781:A:C3'	1:AA:782:A:H5'	2.51	0.40
1:AA:808:C:OP2	9:AO:48:LYS:HE3	2.21	0.40
1:AA:854:G:H3'	1:AA:871:U:O4	2.21	0.40
1:AA:1053:G:N7	1:AA:1199:U:H2'	2.36	0.40
1:AA:1072:G:C6	1:AA:1073:U:C4	3.10	0.40
1:AA:1117:G:O2'	16:AI:104:ARG:NH2	2.54	0.40
1:AA:1372:U:H2'	1:AA:1373:G:O4'	2.22	0.40
1:AA:1379:G:O2'	1:AA:1380:U:H5'	2.21	0.40
1:AA:1432:G:OP1	54:BT:107:ASP:HB2	2.21	0.40
3:AD:13:ARG:HD2	3:AD:38:TYR:O	2.22	0.40
4:AE:101:ILE:CD1	4:AE:118:ILE:O	2.68	0.40
4:AE:132:ALA:O	4:AE:133:TYR:C	2.59	0.40
5:AF:59:TYR:CD2	5:AF:61:LEU:HD11	2.56	0.40
6:AH:39:LEU:HD12	6:AH:39:LEU:HA	1.91	0.40
8:AL:32:PHE:HD1	8:AL:86:ARG:HA	1.85	0.40
8:AL:117:ARG:O	8:AL:118:SER:C	2.59	0.40
11:AQ:12:SER:HB3	11:AQ:20:THR:HB	2.03	0.40
11:AQ:40:LYS:HD2	11:AQ:42:TYR:CE1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AR:53:ARG:NH2	12:AR:60:ALA:N	2.68	0.40
13:AT:44:ALA:HB3	13:AT:91:LEU:HD13	2.03	0.40
14:AC:42:LEU:O	14:AC:45:LYS:HB2	2.21	0.40
14:AC:101:LEU:C	14:AC:101:LEU:HD23	2.41	0.40
15:AG:50:ILE:O	15:AG:54:THR:CG2	2.69	0.40
16:AI:4:TYR:CD1	16:AI:4:TYR:N	2.88	0.40
17:AJ:8:LEU:CD2	17:AJ:20:ALA:HB2	2.49	0.40
18:AM:17:VAL:O	18:AM:20:THR:HB	2.21	0.40
22:AV:13:C:C4'	38:BA:1924:C:C4'	3.00	0.40
22:AV:41:C:O2'	22:AV:42:G:H5'	2.21	0.40
30:B2:50:ILE:H	30:B2:50:ILE:CD1	2.33	0.40
33:B5:2:ALA:O	33:B5:3:LYS:HD2	2.22	0.40
33:B5:4:HIS:CB	33:B5:5:PRO:CD	2.90	0.40
38:BA:88:G:H2'	38:BA:88:G:N3	2.36	0.40
38:BA:271(M):G:C2'	38:BA:271(N):U:C5'	2.98	0.40
38:BA:271(V):G:H2'	38:BA:271(W):G:O4'	2.22	0.40
38:BA:330:A:HO2'	38:BA:331:A:H8	1.64	0.40
38:BA:606:U:H2'	38:BA:607:U:O4'	2.22	0.40
38:BA:956:G:C5'	38:BA:957:A:OP2	2.68	0.40
38:BA:1497:U:H3	38:BA:1578:U:P	2.44	0.40
38:BA:1817:G:C2'	38:BA:1818:U:H5'	2.50	0.40
38:BA:2455:G:H2'	38:BA:2456:C:H6	1.82	0.40
39:BB:43:C:O2	44:BG:95:ARG:NE	2.54	0.40
39:BB:82:G:H2'	39:BB:83:G:H8	1.86	0.40
41:BD:161:THR:OG1	41:BD:196:VAL:HG21	2.21	0.40
42:BE:70:ALA:C	42:BE:72:VAL:N	2.73	0.40
43:BF:183:VAL:HG23	43:BF:184:TYR:N	2.36	0.40
44:BG:164:GLU:O	44:BG:165:THR:C	2.59	0.40
44:BG:177:GLY:O	44:BG:179:PRO:HD3	2.21	0.40
45:BH:72:ILE:O	45:BH:74:ASN:N	2.54	0.40
45:BH:92:ILE:N	45:BH:92:ILE:CD1	2.78	0.40
47:BL:108:ALA:CB	47:BL:127:ILE:HD11	2.50	0.40
48:BN:70:LYS:HG3	48:BN:72:TYR:CE1	2.47	0.40
48:BN:135:PRO:O	48:BN:136:GLU:C	2.60	0.40
49:BO:112:MET:O	49:BO:113:LYS:C	2.60	0.40
50:BP:126:VAL:CA	50:BP:145:PRO:HB2	2.18	0.40
51:BQ:16:ARG:HH11	51:BQ:16:ARG:CB	2.34	0.40
51:BQ:103:MET:HE1	51:BQ:125:LEU:HD13	2.03	0.40
53:BS:34:HIS:CG	53:BS:54:LEU:HB2	2.56	0.40
54:BT:22:PHE:CZ	54:BT:85:LYS:NZ	2.87	0.40
54:BT:56:GLY:C	54:BT:59:THR:HG22	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:123:GLN:HE21	54:BT:123:GLN:HB3	1.66	0.40
55:BU:83:LEU:N	55:BU:83:LEU:CD1	2.85	0.40
56:BV:38:LEU:HD21	56:BV:41:GLY:H	1.86	0.40
57:BW:50:VAL:O	57:BW:53:SER:N	2.54	0.40
58:BX:28:PHE:CD1	58:BX:28:PHE:N	2.89	0.40
59:BY:28:LYS:C	59:BY:29:GLU:OE1	2.60	0.40
59:BY:29:GLU:O	59:BY:30:VAL:O	2.40	0.40
60:BZ:155:LEU:O	60:BZ:157:LEU:HG	2.21	0.40
1:AA:29:G:O2'	1:AA:30:U:H5'	2.21	0.40
1:AA:375:U:C4'	10:AP:17:TYR:HE2	2.34	0.40
1:AA:411:A:C5	1:AA:429:U:C5	3.09	0.40
1:AA:503:C:H2'	1:AA:504:C:C6	2.54	0.40
1:AA:998:G:O2'	1:AA:999:C:H5'	2.21	0.40
1:AA:1030(D):A:C2'	1:AA:1031:G:H5'	2.51	0.40
1:AA:1064:G:H21	1:AA:1190:G:H2'	1.80	0.40
1:AA:1067:A:O5'	1:AA:1067:A:H8	2.04	0.40
1:AA:1360:A:O2'	1:AA:1361:G:H5'	2.22	0.40
2:AB:98:LEU:H	2:AB:101:MET:HE3	1.85	0.40
2:AB:136:VAL:O	2:AB:140:HIS:HB2	2.21	0.40
2:AB:174:VAL:O	2:AB:177:ALA:HB3	2.20	0.40
3:AD:143:GLY:N	3:AD:185:PHE:O	2.53	0.40
12:AR:51:LEU:CB	12:AR:56:THR:HG23	2.52	0.40
12:AR:74:ARG:O	12:AR:81:PHE:HE1	2.03	0.40
13:AT:50:GLU:CG	13:AT:51:GLU:N	2.80	0.40
13:AT:87:LYS:O	13:AT:88:VAL:C	2.60	0.40
14:AC:113:ALA:HB2	14:AC:202:ILE:CG1	2.51	0.40
14:AC:172:ARG:HH12	14:AC:174:PRO:HG2	1.86	0.40
16:AI:111:ARG:O	16:AI:113:LYS:HD2	2.21	0.40
16:AI:116:LYS:O	16:AI:117:HIS:C	2.59	0.40
19:AN:15:LYS:O	19:AN:16:PHE:C	2.59	0.40
22:AV:61:C:O2'	22:AV:62:C:H5'	2.20	0.40
24:AW:39:U:OP1	24:AW:39:U:H4'	2.21	0.40
25:AY:39:PSU:N1	25:AY:40:5MC:HM52	2.36	0.40
29:B1:26:ARG:HB3	29:B1:34:THR:HA	1.96	0.40
30:B2:29:LYS:O	30:B2:32:LEU:HB3	2.22	0.40
32:B4:20:ASN:C	32:B4:22:ILE:N	2.73	0.40
33:B5:3:LYS:HD2	33:B5:3:LYS:HA	1.88	0.40
38:BA:271(L):U:H4'	38:BA:271(M):G:C6	2.56	0.40
38:BA:687:C:O2	38:BA:687:C:C2'	2.68	0.40
38:BA:810:U:O2'	50:BP:33:ARG:NE	2.54	0.40
38:BA:917:A:N1	39:BB:80:U:H4'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BA:1093:G:C2	38:BA:1099:G:O6	2.74	0.40
38:BA:1272:A:C3'	38:BA:1273:U:C5'	2.99	0.40
38:BA:1316:U:O2'	38:BA:1317:A:H5'	2.21	0.40
38:BA:1351:C:H4'	38:BA:1572:A:O4'	2.21	0.40
38:BA:2126:A:C8	38:BA:2127:G:C1'	3.03	0.40
38:BA:2150:U:C4	38:BA:2151:G:N7	2.89	0.40
38:BA:2192:G:C2'	38:BA:2193:G:H5''	2.51	0.40
38:BA:2705:A:H2'	38:BA:2706:G:O4'	2.21	0.40
38:BA:2850:A:H2'	38:BA:2851:A:H8	1.86	0.40
41:BD:144:ALA:HB3	41:BD:192:THR:HG22	2.04	0.40
41:BD:166:GLN:HE21	41:BD:166:GLN:HA	1.85	0.40
41:BD:175:LEU:O	41:BD:182:LEU:HA	2.20	0.40
41:BD:211:ARG:O	41:BD:214:TRP:N	2.55	0.40
42:BE:37:ARG:NH1	42:BE:80:GLU:OE2	2.55	0.40
42:BE:68:ALA:C	42:BE:70:ALA:N	2.74	0.40
43:BF:158:THR:HG23	43:BF:160:ASN:H	1.86	0.40
45:BH:92:ILE:C	45:BH:94:TYR:H	2.25	0.40
45:BH:118:PRO:CB	45:BH:121:ILE:HD12	2.51	0.40
45:BH:141:VAL:HG12	45:BH:142:GLY:H	1.84	0.40
45:BH:153:LYS:N	45:BH:153:LYS:CD	2.79	0.40
48:BN:41:ASP:N	48:BN:41:ASP:OD1	2.54	0.40
49:BO:103:ALA:C	49:BO:105:GLU:H	2.24	0.40
49:BO:112:MET:O	49:BO:115:VAL:N	2.54	0.40
50:BP:46:LYS:HG2	50:BP:52:GLU:OE2	2.21	0.40
52:BR:10:LEU:CB	52:BR:17:ARG:HD2	2.39	0.40
52:BR:21:TYR:N	52:BR:21:TYR:CD2	2.89	0.40
53:BS:89:ARG:C	53:BS:92:TYR:HB3	2.40	0.40
57:BW:3:ALA:O	57:BW:106:ILE:HA	2.21	0.40
58:BX:38:GLU:C	58:BX:40:LYS:H	2.25	0.40
58:BX:83:VAL:O	58:BX:83:VAL:HG23	2.21	0.40
60:BZ:3:TYR:CD1	60:BZ:3:TYR:N	2.89	0.40
60:BZ:24:LEU:HB3	60:BZ:39:VAL:HG22	2.04	0.40
60:BZ:52:SER:OG	60:BZ:53:ILE:HG12	2.21	0.40
1:AA:60:A:H1'	1:AA:61:G:OP2	2.22	0.40
1:AA:373:A:N3	1:AA:374:A:C8	2.90	0.40
1:AA:443:C:H2'	1:AA:444:C:C6	2.56	0.40
1:AA:683:G:C6	1:AA:684:A:C5	3.10	0.40
1:AA:735:C:HO2'	1:AA:736:C:H5'	1.85	0.40
1:AA:908:A:C2	1:AA:909:A:C5	3.10	0.40
1:AA:954:G:H21	1:AA:1227:A:H62	1.70	0.40
1:AA:991:U:O2	1:AA:991:U:H2'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1029:C:H2'	1:AA:1030:C:C5	2.56	0.40
1:AA:1079:G:C6	1:AA:1080:A:N6	2.89	0.40
1:AA:1229:A:H4'	22:AV:30:G:P	2.61	0.40
1:AA:1518:A:C2	1:AA:1519:A:C2	3.09	0.40
3:AD:108:LEU:HD12	3:AD:174:LEU:HD13	2.04	0.40
5:AF:99:ALA:HB1	12:AR:23:LYS:HZ2	1.86	0.40
6:AH:85:ARG:HD3	6:AH:88:LYS:HG2	2.03	0.40
7:AK:91:ARG:C	7:AK:91:ARG:HD2	2.41	0.40
13:AT:14:LYS:HA	13:AT:17:ARG:NE	2.37	0.40
13:AT:97:ALA:HA	13:AT:98:PRO:HD3	1.93	0.40
14:AC:124:ILE:O	14:AC:126:ARG:N	2.55	0.40
15:AG:16:LEU:CD1	16:AI:42:ARG:HA	2.51	0.40
17:AJ:5:ARG:HG3	17:AJ:73:ASP:OD2	2.20	0.40
24:AW:16:U:C4	24:AW:18:G:H5'	2.54	0.40
61:AY:101:PHA:H	27:AZ:273:HIS:CA	2.28	0.40
29:B1:8:SER:HB2	29:B1:48:LYS:NZ	2.36	0.40
31:B3:5:LYS:HA	31:B3:36:VAL:HG12	2.02	0.40
35:B7:17:GLY:O	35:B7:20:ALA:HB3	2.22	0.40
36:B8:13:ARG:CD	50:BP:61:ARG:HH11	2.35	0.40
37:B9:32:HIS:C	37:B9:34:GLN:NE2	2.75	0.40
38:BA:188:G:C2'	38:BA:189:G:H5'	2.51	0.40
38:BA:207:A:C8	38:BA:208:C:C5	3.09	0.40
38:BA:480:A:P	59:BY:46:LYS:HE2	2.61	0.40
38:BA:657:U:H2'	38:BA:658:C:C6	2.56	0.40
38:BA:740:U:C4	38:BA:758:C:O2	2.75	0.40
38:BA:1268:A:C8	38:BA:1269:A:C8	3.10	0.40
38:BA:1653:G:H4'	38:BA:1654:A:O5'	2.21	0.40
38:BA:1766:U:H2'	38:BA:1767:C:H6	1.87	0.40
38:BA:1843:C:H2'	38:BA:1844:C:C6	2.57	0.40
38:BA:1948:G:C2'	38:BA:1949:G:H5'	2.52	0.40
38:BA:2138:C:H3'	38:BA:2139:C:H5	1.85	0.40
38:BA:2146:C:C6	38:BA:2146:C:O5'	2.72	0.40
38:BA:2496:C:OP1	51:BQ:81:VAL:CG1	2.70	0.40
38:BA:2807:G:H2'	38:BA:2808:U:H5''	2.03	0.40
39:BB:31:C:C2'	39:BB:53:A:H61	2.35	0.40
39:BB:45:A:C2	39:BB:46:A:C1'	3.04	0.40
39:BB:51:G:H2'	39:BB:52:A:O4'	2.22	0.40
41:BD:14:ARG:CG	41:BD:14:ARG:NH1	2.83	0.40
42:BE:9:VAL:HG22	42:BE:25:VAL:HB	2.04	0.40
44:BG:96:ARG:O	44:BG:97:ASP:C	2.60	0.40
45:BH:47:GLU:HB3	45:BH:48:GLY:H	1.71	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BI:52:ARG:O	46:BI:55:ALA:N	2.54	0.40
47:BL:17:ALA:O	47:BL:18:THR:CB	2.69	0.40
47:BL:111:LYS:O	47:BL:113:PRO:N	2.54	0.40
51:BQ:39:PRO:HB3	51:BQ:99:PRO:HD2	2.04	0.40
52:BR:45:ARG:O	52:BR:46:GLY:C	2.59	0.40
53:BS:63:THR:O	53:BS:64:GLU:C	2.60	0.40
53:BS:63:THR:O	53:BS:66:ALA:O	2.39	0.40
54:BT:33:LYS:CB	54:BT:41:ARG:HB3	2.49	0.40
56:BV:1:MET:HE3	56:BV:44:LYS:HB3	2.02	0.40
56:BV:83:ARG:NH1	56:BV:83:ARG:CG	2.77	0.40
57:BW:61:ASN:N	57:BW:61:ASN:HD22	2.19	0.40
57:BW:82:LEU:HD12	57:BW:82:LEU:H	1.83	0.40
60:BZ:8:TYR:HA	60:BZ:62:PRO:CG	2.51	0.40
60:BZ:77:ASP:O	60:BZ:78:LYS:C	2.60	0.40
60:BZ:120:ILE:HG22	60:BZ:170:THR:O	2.22	0.40
60:BZ:128:VAL:HG23	60:BZ:160:GLY:O	2.21	0.40
1:AA:6:G:H4'	1:AA:298:A:H4'	2.04	0.40
1:AA:236:G:H2'	1:AA:237:C:C6	2.57	0.40
1:AA:277:C:H5''	11:AQ:68:ARG:HH22	1.86	0.40
1:AA:423:G:H2'	1:AA:424:G:C4'	2.52	0.40
1:AA:724:G:C2	1:AA:725:G:C8	3.10	0.40
1:AA:830:G:N2	1:AA:857:C:C2	2.90	0.40
1:AA:922:G:H4'	4:AE:20:GLN:HA	2.04	0.40
1:AA:986:A:H2'	1:AA:987:G:O4'	2.21	0.40
1:AA:1234:C:H4'	1:AA:1364:U:H1'	2.03	0.40
1:AA:1246:C:H2'	1:AA:1247:U:C6	2.57	0.40
2:AB:10:LEU:HD23	2:AB:10:LEU:N	2.31	0.40
2:AB:17:PHE:CD1	2:AB:44:LEU:HD21	2.56	0.40
2:AB:20:GLU:H	2:AB:20:GLU:HG2	1.65	0.40
2:AB:203:GLY:O	2:AB:204:ASN:C	2.59	0.40
2:AB:213:LEU:CD2	2:AB:214:ILE:HD13	2.51	0.40
3:AD:12:CYS:O	3:AD:33:MET:SD	2.80	0.40
3:AD:209:ARG:HG3	3:AD:209:ARG:NH1	2.35	0.40
4:AE:94:ALA:HB1	4:AE:98:THR:HG21	2.04	0.40
4:AE:99:GLY:O	4:AE:117:ASP:HA	2.20	0.40
8:AL:27:LEU:N	8:AL:27:LEU:CD2	2.84	0.40
9:AO:16:ALA:HB1	9:AO:21:ASP:HB3	2.02	0.40
10:AP:74:LEU:HD23	10:AP:74:LEU:HA	1.96	0.40
11:AQ:14:LYS:HB2	11:AQ:14:LYS:HZ2	1.86	0.40
14:AC:36:ASP:OD2	14:AC:59:ARG:NH2	2.54	0.40
14:AC:126:ARG:O	14:AC:128:PHE:CD1	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AG:122:HIS:O	15:AG:123:GLU:C	2.60	0.40
18:AM:117:VAL:O	18:AM:118:ALA:CB	2.68	0.40
21:AU:24:ARG:N	21:AU:24:ARG:HD2	2.37	0.40
24:AW:41:C:C4	24:AW:42:C:N4	2.90	0.40
33:B5:16:ARG:HG2	33:B5:16:ARG:NH1	2.36	0.40
33:B5:52:TYR:O	33:B5:53:ALA:CB	2.69	0.40
37:B9:11:CYS:SG	37:B9:13:LYS:HE2	2.61	0.40
38:BA:14:A:H8	38:BA:14:A:O5'	2.05	0.40
38:BA:26:G:N1	38:BA:27:G:N2	2.70	0.40
38:BA:135:G:H2'	38:BA:136:G:H8	1.87	0.40
38:BA:272(C):G:H2'	38:BA:272(D):G:H8	1.85	0.40
38:BA:429:A:H2'	38:BA:430:G:C8	2.57	0.40
38:BA:510:C:O2'	38:BA:511:U:H5'	2.21	0.40
38:BA:1254:A:C5'	38:BA:1255:U:H5'	2.51	0.40
38:BA:1292:U:H2'	38:BA:1293:C:H6	1.87	0.40
38:BA:1315:C:H2'	38:BA:1316:U:H6	1.86	0.40
38:BA:1593:G:C3'	38:BA:1594:G:H5''	2.51	0.40
38:BA:1847:A:N3	38:BA:1847:A:H2'	2.36	0.40
38:BA:2098:U:C3'	38:BA:2099:U:H6	2.35	0.40
38:BA:2359:C:C4	38:BA:2360:A:C5	3.09	0.40
38:BA:2396:G:HO2'	38:BA:2397:G:H5'	1.86	0.40
38:BA:2402:C:C2'	38:BA:2403:C:H5'	2.51	0.40
38:BA:2436:G:C6	38:BA:2437:U:C4	3.09	0.40
38:BA:2470:G:O6	38:BA:2480:C:N3	2.54	0.40
38:BA:2564:A:OP1	38:BA:2648:C:H4'	2.21	0.40
38:BA:2636:U:H2'	38:BA:2637:U:H5'	2.03	0.40
38:BA:2697:G:C6	38:BA:2711:A:N1	2.90	0.40
38:BA:2731:G:C6	38:BA:2732:G:O6	2.75	0.40
38:BA:2740:A:N6	38:BA:2764:A:C8	2.90	0.40
38:BA:2776:A:H4'	38:BA:2777:G:H5''	2.03	0.40
38:BA:2859:G:O2'	38:BA:2860:A:H5'	2.22	0.40
38:BA:2881:C:O2'	38:BA:2882:A:H5'	2.21	0.40
42:BE:31:CYS:HB3	42:BE:49:LEU:HD12	2.03	0.40
42:BE:149:ARG:HG3	42:BE:149:ARG:NH1	2.36	0.40
43:BF:107:LYS:O	43:BF:108:LYS:C	2.58	0.40
43:BF:201:VAL:CG1	43:BF:202:PHE:N	2.84	0.40
44:BG:45:GLU:HG2	44:BG:46:ALA:N	2.36	0.40
47:BL:12:LEU:HD13	47:BL:23:VAL:CG2	2.52	0.40
47:BL:24:GLY:O	47:BL:34:ILE:CG1	2.67	0.40
47:BL:127:ILE:O	47:BL:131:ALA:HB2	2.22	0.40
48:BN:28:THR:O	48:BN:29:LYS:C	2.60	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:89:ASN:O	49:BO:91:LEU:CD2	2.66	0.40
49:BO:103:ALA:HA	49:BO:122:LEU:O	2.21	0.40
50:BP:71:VAL:CG1	50:BP:72:PRO:N	2.84	0.40
51:BQ:27:VAL:HG12	51:BQ:29:PHE:O	2.20	0.40
52:BR:60:LEU:O	52:BR:63:ARG:HB3	2.21	0.40
53:BS:59:LYS:HB3	53:BS:60:GLY:H	1.55	0.40
58:BX:83:VAL:C	58:BX:85:PRO:CD	2.90	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AB	233/235 (99%)	148 (64%)	53 (23%)	32 (14%)	0	4
3	AD	206/208 (99%)	130 (63%)	51 (25%)	25 (12%)	0	6
4	AE	149/151 (99%)	108 (72%)	28 (19%)	13 (9%)	1	11
5	AF	99/101 (98%)	72 (73%)	21 (21%)	6 (6%)	1	16
6	AH	136/138 (99%)	103 (76%)	27 (20%)	6 (4%)	2	22
7	AK	117/119 (98%)	87 (74%)	25 (21%)	5 (4%)	2	22
8	AL	123/125 (98%)	83 (68%)	22 (18%)	18 (15%)	0	4
9	AO	86/88 (98%)	48 (56%)	34 (40%)	4 (5%)	2	21
10	AP	82/84 (98%)	53 (65%)	24 (29%)	5 (6%)	1	16
11	AQ	98/100 (98%)	74 (76%)	15 (15%)	9 (9%)	1	10
12	AR	68/70 (97%)	38 (56%)	21 (31%)	9 (13%)	0	4
13	AT	97/99 (98%)	54 (56%)	29 (30%)	14 (14%)	0	4
14	AC	205/207 (99%)	130 (63%)	55 (27%)	20 (10%)	0	9
15	AG	153/155 (99%)	99 (65%)	42 (28%)	12 (8%)	1	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	AI	121/127 (95%)	80 (66%)	30 (25%)	11 (9%)	1	11
17	AJ	97/99 (98%)	70 (72%)	18 (19%)	9 (9%)	0	10
18	AM	113/125 (90%)	68 (60%)	26 (23%)	19 (17%)	0	3
19	AN	58/60 (97%)	35 (60%)	17 (29%)	6 (10%)	0	8
20	AS	77/79 (98%)	52 (68%)	15 (20%)	10 (13%)	0	5
21	AU	23/25 (92%)	18 (78%)	4 (17%)	1 (4%)	2	22
27	AZ	382/405 (94%)	373 (98%)	8 (2%)	1 (0%)	41	76
28	B0	83/85 (98%)	62 (75%)	16 (19%)	5 (6%)	1	17
29	B1	87/89 (98%)	43 (49%)	25 (29%)	19 (22%)	0	2
30	B2	49/51 (96%)	16 (33%)	16 (33%)	17 (35%)	0	0
31	B3	58/60 (97%)	42 (72%)	12 (21%)	4 (7%)	1	14
32	B4	48/50 (96%)	14 (29%)	11 (23%)	23 (48%)	0	0
33	B5	57/59 (97%)	37 (65%)	13 (23%)	7 (12%)	0	5
34	B6	41/45 (91%)	18 (44%)	16 (39%)	7 (17%)	0	3
35	B7	47/49 (96%)	36 (77%)	10 (21%)	1 (2%)	7	36
36	B8	62/64 (97%)	38 (61%)	13 (21%)	11 (18%)	0	2
37	B9	33/35 (94%)	22 (67%)	5 (15%)	6 (18%)	0	2
40	BC	183/191 (96%)	87 (48%)	53 (29%)	43 (24%)	0	1
41	BD	270/272 (99%)	193 (72%)	51 (19%)	26 (10%)	0	9
42	BE	203/205 (99%)	116 (57%)	49 (24%)	38 (19%)	0	2
43	BF	206/208 (99%)	142 (69%)	40 (19%)	24 (12%)	0	6
44	BG	177/181 (98%)	93 (52%)	56 (32%)	28 (16%)	0	3
45	BH	158/160 (99%)	100 (63%)	31 (20%)	27 (17%)	0	3
46	BI	144/146 (99%)	98 (68%)	36 (25%)	10 (7%)	1	14
47	BL	136/138 (99%)	66 (48%)	32 (24%)	38 (28%)	0	0
48	BN	137/139 (99%)	75 (55%)	35 (26%)	27 (20%)	0	2
49	BO	120/122 (98%)	92 (77%)	17 (14%)	11 (9%)	1	10
50	BP	144/146 (99%)	72 (50%)	37 (26%)	35 (24%)	0	1
51	BQ	134/136 (98%)	82 (61%)	33 (25%)	19 (14%)	0	4
52	BR	115/117 (98%)	74 (64%)	20 (17%)	21 (18%)	0	2
53	BS	97/99 (98%)	49 (50%)	19 (20%)	29 (30%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	BT	136/138 (99%)	77 (57%)	34 (25%)	25 (18%)	0	2
55	BU	115/117 (98%)	61 (53%)	42 (36%)	12 (10%)	0	8
56	BV	97/101 (96%)	47 (48%)	23 (24%)	27 (28%)	0	0
57	BW	111/113 (98%)	74 (67%)	23 (21%)	14 (13%)	0	5
58	BX	91/93 (98%)	45 (50%)	23 (25%)	23 (25%)	0	1
59	BY	99/101 (98%)	41 (41%)	24 (24%)	34 (34%)	0	0
60	BZ	175/177 (99%)	99 (57%)	48 (27%)	28 (16%)	0	3
All	All	6336/6487 (98%)	4034 (64%)	1428 (22%)	874 (14%)	1	4

All (874) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	15	VAL
2	AB	52	GLU
2	AB	77	ALA
2	AB	84	GLU
2	AB	154	LEU
2	AB	165	VAL
2	AB	195	ASP
2	AB	226	ARG
3	AD	3	ARG
3	AD	14	ARG
3	AD	44	GLY
3	AD	92	VAL
3	AD	178	VAL
4	AE	37	ARG
5	AF	40	VAL
8	AL	28	LYS
8	AL	47	LYS
8	AL	91	LYS
8	AL	92	ASP
9	AO	24	SER
11	AQ	68	ARG
11	AQ	99	SER
12	AR	20	ALA
12	AR	87	ARG
13	AT	11	SER
13	AT	28	ALA
13	AT	74	LYS
13	AT	95	ALA

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Mol	Chain	Res	Type
14	AC	12	LEU
14	AC	47	LEU
14	AC	54	ARG
14	AC	189	ALA
15	AG	4	ARG
15	AG	121	ALA
16	AI	23	ASN
16	AI	95	LYS
16	AI	100	GLY
16	AI	117	HIS
16	AI	124	GLN
18	AM	12	ASN
18	AM	67	GLU
18	AM	83	ASP
18	AM	106	ASN
18	AM	116	THR
19	AN	37	PHE
20	AS	10	PHE
20	AS	80	TYR
29	B1	10	LYS
29	B1	12	PRO
29	B1	13	ILE
29	B1	14	VAL
29	B1	15	ALA
29	B1	33	LYS
29	B1	47	GLN
29	B1	48	LYS
29	B1	49	VAL
29	B1	90	ILE
29	B1	94	LEU
30	B2	16	LEU
30	B2	35	LEU
30	B2	40	SER
30	B2	41	ILE
30	B2	43	GLN
30	B2	48	HIS
30	B2	52	ASP
30	B2	61	LEU
31	B3	13	ILE
32	B4	3	GLU
32	B4	6	HIS
32	B4	7	PRO

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Mol	Chain	Res	Type
32	B4	10	VAL
32	B4	11	PRO
32	B4	16	CYS
32	B4	29	PRO
32	B4	31	ILE
32	B4	37	SER
33	B5	4	HIS
33	B5	34	PRO
33	B5	56	LYS
34	B6	31	PRO
36	B8	17	THR
36	B8	32	LEU
36	B8	37	SER
36	B8	51	ALA
37	B9	3	VAL
37	B9	10	ILE
40	BC	19	VAL
40	BC	35	ALA
40	BC	46	LYS
40	BC	57	ASN
40	BC	63	SER
40	BC	160	ARG
40	BC	161	ILE
40	BC	166	ASP
40	BC	172	HIS
40	BC	173	ALA
40	BC	174	PRO
40	BC	179	SER
40	BC	182	PRO
40	BC	191	ALA
40	BC	192	PHE
40	BC	201	PRO
40	BC	205	LYS
40	BC	209	LEU
40	BC	213	TYR
40	BC	216	THR
40	BC	220	PRO
41	BD	25	THR
41	BD	26	LYS
41	BD	28	GLU
41	BD	45	ASN
41	BD	225	ALA

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Mol	Chain	Res	Type
41	BD	267	SER
42	BE	2	LYS
42	BE	4	ILE
42	BE	45	THR
42	BE	53	PRO
42	BE	54	GLN
42	BE	57	LYS
42	BE	77	ILE
42	BE	82	ARG
42	BE	92	THR
42	BE	93	VAL
42	BE	118	LYS
42	BE	131	ALA
42	BE	173	VAL
42	BE	187	ALA
42	BE	201	THR
43	BF	2	LYS
43	BF	14	PRO
43	BF	21	ALA
43	BF	115	ALA
43	BF	133	ASN
43	BF	206	ILE
44	BG	47	LYS
44	BG	81	LYS
44	BG	82	LEU
44	BG	86	MET
44	BG	87	PRO
44	BG	96	ARG
44	BG	97	ASP
44	BG	115	ARG
44	BG	153	ARG
45	BH	13	LYS
45	BH	47	GLU
45	BH	55	PRO
45	BH	84	SER
45	BH	85	LYS
45	BH	89	ILE
45	BH	90	LYS
45	BH	92	ILE
45	BH	137	ASP
45	BH	138	LYS
45	BH	153	LYS

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Mol	Chain	Res	Type
45	BH	154	PRO
45	BH	158	HIS
45	BH	159	GLU
46	BI	133	HIS
46	BI	145	VAL
47	BL	17	ALA
47	BL	18	THR
47	BL	34	ILE
47	BL	50	ASP
47	BL	61	ALA
47	BL	66	THR
47	BL	67	PHE
47	BL	71	THR
47	BL	73	PRO
47	BL	74	ALA
47	BL	85	GLU
47	BL	89	HIS
47	BL	112	MET
47	BL	113	PRO
47	BL	114	ASP
47	BL	118	THR
48	BN	13	TRP
48	BN	47	ALA
48	BN	57	ALA
48	BN	62	VAL
48	BN	63	THR
48	BN	74	ARG
48	BN	78	TYR
48	BN	96	GLU
49	BO	5	GLN
49	BO	12	ASP
49	BO	26	LYS
49	BO	29	ASN
49	BO	100	GLY
49	BO	101	PRO
49	BO	102	VAL
49	BO	120	GLU
50	BP	12	ALA
50	BP	15	ARG
50	BP	34	GLY
50	BP	35	HIS
50	BP	36	LYS

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Mol	Chain	Res	Type
50	BP	47	ASP
50	BP	58	THR
50	BP	101	VAL
50	BP	106	LEU
50	BP	123	LEU
50	BP	146	VAL
50	BP	147	LEU
51	BQ	11	LYS
51	BQ	30	GLY
51	BQ	79	LEU
51	BQ	83	MET
51	BQ	134	ARG
52	BR	5	LYS
52	BR	8	ARG
52	BR	9	LYS
52	BR	14	SER
52	BR	45	ARG
52	BR	107	ASP
52	BR	116	LEU
52	BR	117	VAL
53	BS	14	VAL
53	BS	29	PHE
53	BS	57	LYS
53	BS	58	LEU
53	BS	59	LYS
53	BS	67	ARG
53	BS	74	ALA
53	BS	87	PHE
53	BS	89	ARG
53	BS	100	ALA
53	BS	102	ALA
54	BT	24	PRO
54	BT	28	VAL
54	BT	30	VAL
54	BT	41	ARG
54	BT	58	ASN
54	BT	80	SER
54	BT	97	ALA
54	BT	103	ARG
54	BT	107	ASP
54	BT	115	ARG
55	BU	9	VAL

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Mol	Chain	Res	Type
55	BU	88	ILE
55	BU	92	ARG
55	BU	93	LYS
56	BV	15	GLU
56	BV	28	GLU
56	BV	47	VAL
56	BV	51	VAL
56	BV	52	VAL
56	BV	73	SER
57	BW	11	ARG
57	BW	48	ALA
58	BX	25	LYS
58	BX	59	VAL
58	BX	60	ARG
58	BX	69	TYR
58	BX	81	VAL
58	BX	84	ALA
58	BX	88	LYS
58	BX	89	ILE
59	BY	7	VAL
59	BY	16	ALA
59	BY	17	SER
59	BY	27	VAL
59	BY	30	VAL
59	BY	38	ILE
59	BY	55	TYR
59	BY	56	PRO
59	BY	62	GLU
59	BY	66	PRO
59	BY	77	PRO
59	BY	78	ALA
59	BY	90	LEU
60	BZ	8	TYR
60	BZ	18	LEU
60	BZ	19	ARG
60	BZ	65	GLN
60	BZ	78	LYS
60	BZ	119	GLU
60	BZ	142	SER
60	BZ	148	ASP
60	BZ	168	GLU
2	AB	8	LYS

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Mol	Chain	Res	Type
2	AB	9	GLU
2	AB	32	ILE
2	AB	78	GLN
2	AB	88	ALA
2	AB	101	MET
2	AB	110	GLN
2	AB	194	PRO
2	AB	204	ASN
2	AB	238	LEU
3	AD	5	ILE
3	AD	53	ASP
3	AD	153	ARG
3	AD	160	GLN
3	AD	171	GLY
3	AD	179	GLU
3	AD	200	GLU
4	AE	55	VAL
4	AE	128	PRO
4	AE	129	ILE
4	AE	140	ARG
5	AF	69	GLU
6	AH	121	ASP
8	AL	12	ARG
8	AL	29	GLY
8	AL	62	SER
8	AL	72	GLY
9	AO	76	GLU
10	AP	72	ARG
11	AQ	34	LYS
11	AQ	80	GLY
11	AQ	95	TYR
12	AR	25	THR
12	AR	41	LYS
12	AR	65	ILE
13	AT	49	ALA
13	AT	82	SER
14	AC	60	ALA
14	AC	127	ARG
14	AC	145	GLY
14	AC	168	ALA
15	AG	36	LYS
15	AG	77	SER

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Mol	Chain	Res	Type
15	AG	90	GLU
15	AG	155	ARG
17	AJ	57	LYS
17	AJ	60	ARG
17	AJ	84	GLN
18	AM	6	GLY
18	AM	18	ALA
18	AM	48	LEU
18	AM	60	VAL
18	AM	63	THR
18	AM	100	GLY
18	AM	117	VAL
19	AN	13	THR
19	AN	16	PHE
19	AN	23	ARG
20	AS	26	GLY
20	AS	28	LYS
21	AU	3	LYS
28	B0	5	LYS
28	B0	20	ARG
29	B1	11	ARG
29	B1	81	LYS
29	B1	87	PRO
30	B2	14	ARG
30	B2	42	GLY
30	B2	53	LEU
30	B2	59	ARG
31	B3	39	ASP
32	B4	23	GLU
32	B4	24	THR
33	B5	35	GLU
36	B8	3	LYS
36	B8	30	ARG
36	B8	35	GLN
36	B8	36	LYS
36	B8	43	GLN
37	B9	4	ARG
37	B9	9	ARG
37	B9	20	HIS
40	BC	62	VAL
40	BC	125	SER
40	BC	133	PRO

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Mol	Chain	Res	Type
40	BC	148	ASN
40	BC	211	SER
40	BC	214	VAL
41	BD	3	VAL
41	BD	32	SER
41	BD	33	LEU
41	BD	223	GLY
41	BD	236	GLY
42	BE	64	LYS
42	BE	69	LYS
42	BE	70	ALA
42	BE	71	GLY
42	BE	76	ARG
42	BE	88	GLY
42	BE	89	ASP
42	BE	130	GLY
42	BE	135	HIS
42	BE	184	VAL
42	BE	186	GLY
43	BF	64	ILE
43	BF	85	GLY
43	BF	86	GLY
43	BF	113	ALA
43	BF	134	GLY
44	BG	14	GLU
44	BG	84	LYS
44	BG	107	LEU
44	BG	110	ALA
44	BG	155	MET
45	BH	41	MET
45	BH	73	ALA
45	BH	76	VAL
45	BH	149	ARG
45	BH	160	LYS
46	BI	120	ILE
46	BI	121	LYS
46	BI	122	GLU
47	BL	26	ALA
47	BL	31	GLY
47	BL	45	THR
47	BL	52	ILE
47	BL	86	LYS

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Mol	Chain	Res	Type
47	BL	95	LYS
48	BN	19	GLU
48	BN	34	LEU
48	BN	52	VAL
48	BN	58	ASP
48	BN	64	GLY
48	BN	94	HIS
48	BN	95	PRO
48	BN	127	ASP
48	BN	130	HIS
50	BP	6	LEU
50	BP	10	PRO
50	BP	18	ARG
50	BP	31	ALA
50	BP	39	LYS
50	BP	52	GLU
50	BP	65	ARG
50	BP	67	MET
50	BP	69	GLY
50	BP	102	ARG
50	BP	115	LEU
50	BP	141	ALA
51	BQ	24	GLY
51	BQ	59	ARG
51	BQ	71	ASP
51	BQ	90	VAL
51	BQ	136	ALA
52	BR	4	LEU
52	BR	7	GLY
52	BR	12	ARG
52	BR	42	LYS
52	BR	86	ARG
53	BS	18	ILE
53	BS	23	ARG
53	BS	24	LEU
53	BS	45	GLY
53	BS	62	LYS
53	BS	66	ALA
53	BS	88	ASP
53	BS	92	TYR
54	BT	18	ASP
54	BT	83	ILE

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Mol	Chain	Res	Type
54	BT	85	LYS
55	BU	7	GLY
55	BU	25	TRP
55	BU	32	PHE
55	BU	67	ALA
56	BV	3	ALA
56	BV	23	GLU
56	BV	44	LYS
56	BV	50	PRO
56	BV	64	HIS
56	BV	68	LYS
56	BV	72	VAL
56	BV	91	TYR
57	BW	6	ILE
57	BW	35	ILE
57	BW	93	ALA
58	BX	6	ASP
58	BX	34	ALA
58	BX	36	LYS
58	BX	65	ARG
58	BX	77	LYS
58	BX	86	GLY
58	BX	90	GLU
59	BY	15	VAL
59	BY	80	GLY
60	BZ	49	ARG
60	BZ	110	GLY
60	BZ	121	HIS
60	BZ	122	ARG
60	BZ	147	GLY
60	BZ	158	PRO
60	BZ	165	VAL
2	AB	20	GLU
2	AB	28	PHE
2	AB	79	ASP
2	AB	83	MET
2	AB	150	SER
2	AB	217	ARG
2	AB	237	ALA
3	AD	15	GLU
3	AD	26	CYS
3	AD	57	ARG

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Mol	Chain	Res	Type
3	AD	63	LYS
4	AE	11	ILE
4	AE	104	ALA
4	AE	132	ALA
4	AE	147	ASP
5	AF	54	LYS
6	AH	135	CYS
8	AL	45	PRO
8	AL	96	VAL
8	AL	115	LYS
13	AT	96	GLY
14	AC	15	THR
14	AC	45	LYS
14	AC	46	GLU
14	AC	133	ALA
15	AG	7	ALA
15	AG	131	LYS
16	AI	29	ASN
16	AI	51	ARG
16	AI	120	ARG
17	AJ	23	ILE
17	AJ	32	ALA
17	AJ	36	GLY
18	AM	19	LEU
18	AM	71	ARG
18	AM	90	LEU
19	AN	58	LYS
20	AS	12	ASP
20	AS	29	ARG
20	AS	64	GLU
29	B1	27	GLU
29	B1	75	GLU
29	B1	83	GLU
30	B2	33	MET
30	B2	37	PHE
30	B2	49	LYS
32	B4	8	LYS
32	B4	9	LEU
32	B4	30	GLU
32	B4	36	CYS
40	BC	49	ILE
40	BC	140	PRO

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Mol	Chain	Res	Type
40	BC	198	ALA
40	BC	204	ALA
40	BC	210	ARG
40	BC	217	THR
41	BD	133	LEU
41	BD	242	ARG
41	BD	246	PRO
42	BE	169	ASN
43	BF	5	ALA
43	BF	84	VAL
43	BF	89	VAL
43	BF	116	ASP
43	BF	127	GLU
43	BF	184	TYR
45	BH	21	PRO
45	BH	71	LEU
46	BI	39	ALA
47	BL	25	PRO
47	BL	101	TRP
48	BN	80	GLY
48	BN	136	GLU
49	BO	48	PRO
50	BP	41	ARG
50	BP	43	GLY
50	BP	110	TYR
51	BQ	8	LYS
51	BQ	49	ALA
52	BR	80	PHE
52	BR	82	GLU
53	BS	17	ARG
53	BS	78	LEU
53	BS	83	LYS
53	BS	94	TYR
53	BS	103	GLU
54	BT	33	LYS
54	BT	35	LYS
54	BT	68	TYR
54	BT	94	ALA
55	BU	89	GLU
56	BV	19	LYS
56	BV	26	ASP
56	BV	45	THR

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Mol	Chain	Res	Type
56	BV	90	PRO
57	BW	44	ALA
57	BW	60	ASN
58	BX	37	THR
58	BX	48	LYS
58	BX	68	ARG
58	BX	71	GLY
59	BY	31	LEU
59	BY	39	VAL
59	BY	41	GLY
59	BY	48	ALA
59	BY	49	VAL
59	BY	81	LYS
60	BZ	46	LYS
60	BZ	111	VAL
60	BZ	117	LEU
2	AB	18	GLY
2	AB	53	ARG
2	AB	97	TRP
2	AB	130	ARG
2	AB	216	SER
3	AD	4	TYR
3	AD	12	CYS
3	AD	56	VAL
5	AF	96	PRO
7	AK	25	TYR
8	AL	51	ALA
8	AL	79	GLU
10	AP	28	ARG
10	AP	34	GLU
10	AP	59	TRP
10	AP	64	ALA
11	AQ	31	LEU
11	AQ	74	LEU
12	AR	39	VAL
12	AR	54	ARG
13	AT	34	LYS
13	AT	60	GLU
13	AT	77	ALA
13	AT	97	ALA
14	AC	4	LYS
14	AC	36	ASP

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Mol	Chain	Res	Type
15	AG	33	ASP
16	AI	24	GLY
18	AM	21	TYR
18	AM	75	ALA
18	AM	115	LYS
19	AN	14	PRO
27	AZ	292	GLY
28	B0	15	ASP
28	B0	55	ARG
28	B0	83	PRO
29	B1	56	GLN
29	B1	63	ALA
32	B4	2	LYS
32	B4	40	HIS
32	B4	47	GLN
34	B6	24	GLU
34	B6	28	ARG
34	B6	33	LYS
34	B6	52	VAL
36	B8	64	TYR
40	BC	55	ASP
40	BC	64	LEU
40	BC	77	ILE
40	BC	183	GLU
40	BC	202	GLU
41	BD	12	SER
41	BD	127	VAL
41	BD	156	ALA
41	BD	193	VAL
41	BD	224	ALA
41	BD	245	PRO
41	BD	264	LYS
42	BE	80	GLU
42	BE	94	GLU
42	BE	178	GLU
43	BF	10	PRO
43	BF	11	VAL
43	BF	104	LYS
43	BF	108	LYS
43	BF	168	ARG
44	BG	9	ARG
44	BG	49	ASP

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Mol	Chain	Res	Type
44	BG	90	LEU
44	BG	130	ASN
45	BH	44	VAL
45	BH	56	SER
45	BH	107	VAL
45	BH	155	SER
46	BI	15	VAL
46	BI	91	SER
47	BL	6	ALA
47	BL	20	ALA
47	BL	82	ALA
47	BL	88	ALA
47	BL	102	GLU
48	BN	98	VAL
48	BN	129	PRO
49	BO	35	VAL
49	BO	45	GLU
50	BP	26	GLY
50	BP	48	PRO
50	BP	49	ARG
50	BP	71	VAL
50	BP	100	LEU
51	BQ	89	ASN
51	BQ	135	ASP
52	BR	28	LEU
52	BR	50	HIS
53	BS	33	LYS
54	BT	11	GLU
54	BT	26	ASP
54	BT	81	PRO
54	BT	82	LEU
54	BT	129	ARG
55	BU	113	ALA
56	BV	42	GLY
56	BV	79	VAL
56	BV	86	GLY
57	BW	2	GLU
57	BW	49	LYS
57	BW	59	VAL
58	BX	74	PRO
59	BY	33	LYS
59	BY	34	LYS

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Mol	Chain	Res	Type
59	BY	40	GLU
59	BY	57	GLN
59	BY	67	LEU
60	BZ	43	GLU
60	BZ	166	SER
2	AB	239	VAL
3	AD	93	PHE
3	AD	159	ARG
3	AD	163	GLU
4	AE	108	ALA
4	AE	136	MET
7	AK	27	ASN
7	AK	49	GLY
7	AK	105	VAL
8	AL	13	LYS
8	AL	18	VAL
9	AO	28	GLN
9	AO	88	ARG
11	AQ	4	LYS
11	AQ	30	PRO
12	AR	64	ARG
13	AT	29	LYS
13	AT	101	GLY
14	AC	61	ALA
14	AC	188	LEU
15	AG	100	ALA
16	AI	44	VAL
17	AJ	24	VAL
17	AJ	91	PRO
18	AM	28	ALA
20	AS	9	VAL
30	B2	15	LYS
30	B2	26	ARG
32	B4	12	ALA
32	B4	27	THR
33	B5	33	CYS
34	B6	38	LYS
34	B6	49	HIS
36	B8	19	SER
37	B9	6	SER
40	BC	159	GLY
42	BE	58	ARG

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Mol	Chain	Res	Type
42	BE	72	VAL
42	BE	73	GLU
42	BE	90	THR
42	BE	180	ASN
43	BF	6	VAL
43	BF	25	PRO
44	BG	3	LEU
44	BG	6	ALA
44	BG	17	PRO
44	BG	22	ARG
44	BG	43	LEU
44	BG	181	ARG
45	BH	129	THR
46	BI	85	GLU
47	BL	27	LEU
47	BL	46	ALA
47	BL	54	PRO
47	BL	75	SER
48	BN	9	VAL
48	BN	40	PRO
48	BN	77	GLY
48	BN	88	GLU
50	BP	135	LEU
51	BQ	54	MET
52	BR	17	ARG
53	BS	95	HIS
54	BT	88	ILE
54	BT	119	LYS
56	BV	37	VAL
56	BV	41	GLY
57	BW	45	TYR
57	BW	56	ALA
58	BX	38	GLU
59	BY	50	ARG
59	BY	76	CYS
59	BY	99	CYS
60	BZ	41	LEU
60	BZ	45	ASP
60	BZ	62	PRO
60	BZ	177	PRO
2	AB	181	PHE
3	AD	91	SER

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Mol	Chain	Res	Type
4	AE	121	LYS
6	AH	2	LEU
6	AH	18	ARG
7	AK	126	ARG
12	AR	37	VAL
13	AT	98	PRO
14	AC	49	SER
15	AG	130	GLY
20	AS	67	VAL
20	AS	68	GLY
41	BD	211	ARG
41	BD	239	ARG
41	BD	244	ARG
42	BE	56	PRO
44	BG	109	VAL
47	BL	72	PRO
47	BL	135	GLY
50	BP	38	GLN
52	BR	10	LEU
52	BR	102	GLU
57	BW	63	ASP
59	BY	3	VAL
60	BZ	39	VAL
4	AE	49	PRO
6	AH	129	VAL
15	AG	42	ILE
31	B3	41	PRO
33	B5	57	VAL
40	BC	175	VAL
42	BE	75	VAL
47	BL	49	GLY
47	BL	104	VAL
50	BP	97	PRO
52	BR	38	VAL
53	BS	28	VAL
53	BS	96	GLY
55	BU	65	ILE
56	BV	70	ILE
59	BY	18	GLY
59	BY	22	GLY
60	BZ	22	GLY
3	AD	105	VAL

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Mol	Chain	Res	Type
16	AI	123	PRO
17	AJ	37	PRO
32	B4	19	GLY
40	BC	130	ILE
40	BC	149	ILE
41	BD	35	LYS
46	BI	111	PRO
48	BN	11	PRO
51	BQ	99	PRO
56	BV	22	VAL
57	BW	112	GLY
59	BY	96	ILE
8	AL	43	VAL
8	AL	48	PRO
14	AC	13	GLY
14	AC	114	PRO
31	B3	50	VAL
32	B4	15	ILE
33	B5	47	PRO
35	B7	30	VAL
40	BC	103	ILE
42	BE	81	ILE
47	BL	83	GLY
48	BN	135	PRO
51	BQ	47	ILE
51	BQ	81	VAL
51	BQ	88	GLY
53	BS	85	VAL
56	BV	17	GLY
58	BX	49	VAL
59	BY	24	VAL
3	AD	158	ILE
5	AF	25	ILE
5	AF	72	VAL
14	AC	66	VAL
32	B4	14	ILE
44	BG	28	VAL
44	BG	129	GLY
44	BG	140	ILE
54	BT	7	ILE
55	BU	90	VAL
58	BX	32	PRO

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Mol	Chain	Res	Type
6	AH	51	VAL
8	AL	74	GLY
41	BD	8	PRO
45	BH	49	VAL
56	BV	54	GLY
60	BZ	12	GLY

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	AB	202/203 (100%)	182 (90%)	20 (10%)	8 26
3	AD	180/180 (100%)	159 (88%)	21 (12%)	5 21
4	AE	115/116 (99%)	102 (89%)	13 (11%)	6 21
5	AF	90/90 (100%)	84 (93%)	6 (7%)	16 41
6	AH	119/119 (100%)	114 (96%)	5 (4%)	30 54
7	AK	90/90 (100%)	85 (94%)	5 (6%)	21 46
8	AL	104/104 (100%)	95 (91%)	9 (9%)	10 31
9	AO	79/79 (100%)	74 (94%)	5 (6%)	18 43
10	AP	72/72 (100%)	65 (90%)	7 (10%)	8 27
11	AQ	94/95 (99%)	92 (98%)	2 (2%)	53 72
12	AR	61/61 (100%)	55 (90%)	6 (10%)	8 27
13	AT	76/76 (100%)	65 (86%)	11 (14%)	3 16
14	AC	160/161 (99%)	151 (94%)	9 (6%)	21 46
15	AG	126/126 (100%)	122 (97%)	4 (3%)	39 61
16	AI	98/98 (100%)	88 (90%)	10 (10%)	7 25
17	AJ	88/89 (99%)	82 (93%)	6 (7%)	16 41
18	AM	99/100 (99%)	93 (94%)	6 (6%)	18 44
19	AN	49/49 (100%)	47 (96%)	2 (4%)	30 55
20	AS	69/69 (100%)	62 (90%)	7 (10%)	7 25

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	AU	19/20 (95%)	17 (90%)	2 (10%)	7	24
27	AZ	325/339 (96%)	323 (99%)	2 (1%)	86	92
28	B0	61/67 (91%)	54 (88%)	7 (12%)	5	21
29	B1	73/74 (99%)	62 (85%)	11 (15%)	3	15
30	B2	46/47 (98%)	35 (76%)	11 (24%)	0	4
31	B3	51/52 (98%)	49 (96%)	2 (4%)	32	56
33	B5	51/51 (100%)	41 (80%)	10 (20%)	1	8
34	B6	43/44 (98%)	35 (81%)	8 (19%)	1	9
35	B7	41/42 (98%)	37 (90%)	4 (10%)	8	27
36	B8	53/54 (98%)	45 (85%)	8 (15%)	3	15
37	B9	33/33 (100%)	30 (91%)	3 (9%)	9	30
40	BC	61/148 (41%)	54 (88%)	7 (12%)	5	21
41	BD	213/214 (100%)	180 (84%)	33 (16%)	2	14
42	BE	165/165 (100%)	145 (88%)	20 (12%)	5	20
43	BF	165/165 (100%)	153 (93%)	12 (7%)	14	39
44	BG	155/155 (100%)	135 (87%)	20 (13%)	4	18
45	BH	132/133 (99%)	117 (89%)	15 (11%)	5	21
46	BI	122/123 (99%)	113 (93%)	9 (7%)	13	38
47	BL	105/105 (100%)	85 (81%)	20 (19%)	1	9
48	BN	117/118 (99%)	98 (84%)	19 (16%)	2	13
49	BO	100/100 (100%)	92 (92%)	8 (8%)	12	35
50	BP	112/112 (100%)	92 (82%)	20 (18%)	2	10
51	BQ	106/106 (100%)	93 (88%)	13 (12%)	4	20
52	BR	100/100 (100%)	91 (91%)	9 (9%)	9	30
53	BS	77/77 (100%)	65 (84%)	12 (16%)	2	14
54	BT	120/120 (100%)	99 (82%)	21 (18%)	2	11
55	BU	92/93 (99%)	85 (92%)	7 (8%)	13	37
56	BV	82/82 (100%)	64 (78%)	18 (22%)	1	6
57	BW	91/92 (99%)	85 (93%)	6 (7%)	16	41
58	BX	74/75 (99%)	59 (80%)	15 (20%)	1	7
59	BY	84/85 (99%)	67 (80%)	17 (20%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
60	BZ	155/156 (99%)	144 (93%)	11 (7%)	14	39
All	All	5195/5324 (98%)	4661 (90%)	534 (10%)	11	25

All (534) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	10	LEU
2	AB	15	VAL
2	AB	16	HIS
2	AB	17	PHE
2	AB	22	LYS
2	AB	24	TRP
2	AB	36	ARG
2	AB	44	LEU
2	AB	59	GLU
2	AB	79	ASP
2	AB	102	LEU
2	AB	130	ARG
2	AB	137	ARG
2	AB	145	LEU
2	AB	178	ARG
2	AB	187	LEU
2	AB	196	LEU
2	AB	204	ASN
2	AB	215	LEU
2	AB	221	LEU
3	AD	3	ARG
3	AD	8	VAL
3	AD	9	CYS
3	AD	11	LEU
3	AD	12	CYS
3	AD	19	LEU
3	AD	36	ARG
3	AD	38	TYR
3	AD	53	ASP
3	AD	73	ARG
3	AD	96	LEU
3	AD	97	LEU
3	AD	110	PHE
3	AD	119	GLN
3	AD	122	ARG
3	AD	127	THR

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Mol	Chain	Res	Type
3	AD	131	ARG
3	AD	132	ARG
3	AD	138	TYR
3	AD	158	ILE
3	AD	196	LEU
4	AE	10	MET
4	AE	12	LEU
4	AE	16	THR
4	AE	20	GLN
4	AE	31	LEU
4	AE	47	LYS
4	AE	73	ASN
4	AE	79	GLU
4	AE	90	VAL
4	AE	91	LEU
4	AE	101	ILE
4	AE	112	LEU
4	AE	115	VAL
5	AF	46	ARG
5	AF	63	TYR
5	AF	69	GLU
5	AF	82	ARG
5	AF	87	ARG
5	AF	98	LEU
6	AH	1	MET
6	AH	24	THR
6	AH	81	HIS
6	AH	102	ARG
6	AH	105	ARG
7	AK	25	TYR
7	AK	29	ILE
7	AK	38	ASN
7	AK	116	HIS
7	AK	117	ASN
8	AL	20	LYS
8	AL	41	ARG
8	AL	53	ARG
8	AL	62	SER
8	AL	83	VAL
8	AL	84	LEU
8	AL	89	ARG
8	AL	102	ARG

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Mol	Chain	Res	Type
8	AL	120	TYR
9	AO	3	ILE
9	AO	37	ASN
9	AO	38	ARG
9	AO	65	ARG
9	AO	82	ILE
10	AP	1	MET
10	AP	21	VAL
10	AP	27	LYS
10	AP	39	TYR
10	AP	65	GLN
10	AP	69	THR
10	AP	82	GLN
11	AQ	38	ARG
11	AQ	52	LYS
12	AR	26	LEU
12	AR	31	LEU
12	AR	32	ARG
12	AR	53	ARG
12	AR	79	LEU
12	AR	82	THR
13	AT	13	LEU
13	AT	24	LEU
13	AT	26	ASN
13	AT	27	LYS
13	AT	36	LEU
13	AT	41	ILE
13	AT	56	MET
13	AT	57	ARG
13	AT	62	LEU
13	AT	73	HIS
13	AT	93	GLU
14	AC	5	ILE
14	AC	12	LEU
14	AC	16	ARG
14	AC	27	LYS
14	AC	84	ILE
14	AC	104	GLN
14	AC	120	VAL
14	AC	127	ARG
14	AC	156	ARG
15	AG	79	ARG

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Mol	Chain	Res	Type
15	AG	137	LYS
15	AG	148	ASN
15	AG	156	TRP
16	AI	10	ARG
16	AI	95	LYS
16	AI	99	LEU
16	AI	102	LEU
16	AI	104	ARG
16	AI	113	LYS
16	AI	114	TYR
16	AI	121	ARG
16	AI	125	TYR
16	AI	128	ARG
17	AJ	22	LYS
17	AJ	50	ILE
17	AJ	62	HIS
17	AJ	74	ILE
17	AJ	80	LYS
17	AJ	96	ILE
18	AM	47	ASP
18	AM	64	TRP
18	AM	82	MET
18	AM	93	ARG
18	AM	108	ARG
18	AM	120	LYS
19	AN	41	ARG
19	AN	44	LEU
20	AS	6	LYS
20	AS	7	LYS
20	AS	22	LEU
20	AS	27	GLU
20	AS	37	ARG
20	AS	44	MET
20	AS	49	ILE
21	AU	15	ARG
21	AU	24	ARG
27	AZ	21	ASP
27	AZ	384	LEU
28	B0	20	ARG
28	B0	25	ARG
28	B0	31	VAL
28	B0	36	ILE

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Mol	Chain	Res	Type
28	B0	64	ASP
28	B0	80	HIS
28	B0	84	LEU
29	B1	12	PRO
29	B1	20	ARG
29	B1	21	ARG
29	B1	26	ARG
29	B1	34	THR
29	B1	46	LEU
29	B1	47	GLN
29	B1	48	LYS
29	B1	53	VAL
29	B1	73	LEU
29	B1	94	LEU
30	B2	23	LYS
30	B2	30	ARG
30	B2	33	MET
30	B2	44	LEU
30	B2	46	GLN
30	B2	47	ASN
30	B2	50	ILE
30	B2	51	ARG
30	B2	53	LEU
30	B2	56	GLN
30	B2	57	ILE
31	B3	4	LEU
31	B3	8	LEU
33	B5	3	LYS
33	B5	4	HIS
33	B5	25	LEU
33	B5	32	PRO
33	B5	33	CYS
33	B5	37	LYS
33	B5	44	THR
33	B5	51	TYR
33	B5	56	LYS
33	B5	58	LEU
34	B6	10	LEU
34	B6	11	LEU
34	B6	18	ARG
34	B6	19	ARG
34	B6	30	THR

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Mol	Chain	Res	Type
34	B6	31	PRO
34	B6	42	TRP
34	B6	44	ARG
35	B7	8	ASN
35	B7	10	ARG
35	B7	43	THR
35	B7	48	LYS
36	B8	6	THR
36	B8	13	ARG
36	B8	16	ILE
36	B8	34	TRP
36	B8	40	GLU
36	B8	44	LYS
36	B8	47	LYS
36	B8	48	PHE
37	B9	2	LYS
37	B9	25	VAL
37	B9	29	ASN
40	BC	20	TYR
40	BC	36	LYS
40	BC	41	VAL
40	BC	58	VAL
40	BC	64	LEU
40	BC	77	ILE
40	BC	101	GLN
41	BD	10	THR
41	BD	14	ARG
41	BD	17	THR
41	BD	18	VAL
41	BD	20	ASP
41	BD	24	ILE
41	BD	26	LYS
41	BD	31	LYS
41	BD	36	PRO
41	BD	54	ARG
41	BD	64	ILE
41	BD	65	ILE
41	BD	73	VAL
41	BD	84	TYR
41	BD	91	ARG
41	BD	94	LEU
41	BD	95	LEU

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Mol	Chain	Res	Type
41	BD	106	ILE
41	BD	111	LEU
41	BD	131	LEU
41	BD	135	PHE
41	BD	138	VAL
41	BD	150	LYS
41	BD	166	GLN
41	BD	183	ARG
41	BD	211	ARG
41	BD	212	SER
41	BD	221	VAL
41	BD	242	ARG
41	BD	253	GLN
41	BD	255	LYS
41	BD	259	THR
41	BD	260	ARG
42	BE	9	VAL
42	BE	21	VAL
42	BE	33	VAL
42	BE	44	TYR
42	BE	66	HIS
42	BE	67	PHE
42	BE	73	GLU
42	BE	78	LEU
42	BE	79	ARG
42	BE	89	ASP
42	BE	113	PHE
42	BE	117	MET
42	BE	118	LYS
42	BE	119	ARG
42	BE	134	ILE
42	BE	154	LYS
42	BE	160	TYR
42	BE	184	VAL
42	BE	202	LYS
42	BE	203	LYS
43	BF	15	SER
43	BF	64	ILE
43	BF	66	PRO
43	BF	74	ARG
43	BF	78	ILE
43	BF	100	THR

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Mol	Chain	Res	Type
43	BF	110	LEU
43	BF	112	MET
43	BF	160	ASN
43	BF	165	ARG
43	BF	191	ARG
43	BF	202	PHE
44	BG	7	LEU
44	BG	22	ARG
44	BG	31	VAL
44	BG	34	LEU
44	BG	39	ILE
44	BG	40	ASN
44	BG	43	LEU
44	BG	45	GLU
44	BG	63	ILE
44	BG	67	LYS
44	BG	87	PRO
44	BG	90	LEU
44	BG	94	LEU
44	BG	101	ILE
44	BG	112	PRO
44	BG	125	PHE
44	BG	143	GLU
44	BG	145	THR
44	BG	155	MET
44	BG	166	ASP
45	BH	41	MET
45	BH	53	GLU
45	BH	86	GLU
45	BH	89	ILE
45	BH	105	LEU
45	BH	123	PHE
45	BH	136	ILE
45	BH	143	GLN
45	BH	149	ARG
45	BH	152	ARG
45	BH	153	LYS
45	BH	157	TYR
45	BH	159	GLU
45	BH	163	TYR
45	BH	170	ARG
46	BI	12	LEU

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Mol	Chain	Res	Type
46	BI	15	VAL
46	BI	38	LEU
46	BI	109	ILE
46	BI	129	THR
46	BI	130	TYR
46	BI	133	HIS
46	BI	134	PRO
46	BI	142	VAL
47	BL	4	VAL
47	BL	10	LEU
47	BL	29	GLN
47	BL	37	PHE
47	BL	54	PRO
47	BL	58	THR
47	BL	64	SER
47	BL	66	THR
47	BL	73	PRO
47	BL	77	LEU
47	BL	91	PRO
47	BL	101	TRP
47	BL	103	GLN
47	BL	105	LEU
47	BL	106	GLU
47	BL	113	PRO
47	BL	119	ASP
47	BL	120	LEU
47	BL	133	SER
47	BL	134	MET
48	BN	4	TYR
48	BN	19	GLU
48	BN	22	THR
48	BN	28	THR
48	BN	39	ARG
48	BN	41	ASP
48	BN	42	TRP
48	BN	48	MET
48	BN	51	PHE
48	BN	56	ASN
48	BN	63	THR
48	BN	65	LYS
48	BN	78	TYR
48	BN	79	PRO

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Mol	Chain	Res	Type
48	BN	82	LEU
48	BN	94	HIS
48	BN	120	LEU
48	BN	127	ASP
48	BN	130	HIS
49	BO	17	ARG
49	BO	32	TYR
49	BO	48	PRO
49	BO	52	VAL
49	BO	101	PRO
49	BO	102	VAL
49	BO	115	VAL
49	BO	119	PRO
50	BP	10	PRO
50	BP	13	ASN
50	BP	16	ARG
50	BP	18	ARG
50	BP	21	ARG
50	BP	33	ARG
50	BP	35	HIS
50	BP	40	SER
50	BP	59	LEU
50	BP	61	ARG
50	BP	62	LEU
50	BP	64	LYS
50	BP	75	ILE
50	BP	81	GLN
50	BP	85	LEU
50	BP	105	LEU
50	BP	123	LEU
50	BP	135	LEU
50	BP	144	GLU
50	BP	148	LEU
51	BQ	13	GLN
51	BQ	17	LEU
51	BQ	22	LYS
51	BQ	26	TYR
51	BQ	29	PHE
51	BQ	34	LEU
51	BQ	58	PHE
51	BQ	63	LYS
51	BQ	75	THR

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Mol	Chain	Res	Type
51	BQ	80	GLU
51	BQ	82	ARG
51	BQ	91	GLU
51	BQ	111	GLU
52	BR	2	ARG
52	BR	5	LYS
52	BR	17	ARG
52	BR	40	LYS
52	BR	49	ASP
52	BR	60	LEU
52	BR	76	VAL
52	BR	79	LEU
52	BR	104	ARG
53	BS	13	ARG
53	BS	16	ASN
53	BS	26	LEU
53	BS	36	TYR
53	BS	54	LEU
53	BS	61	ASN
53	BS	68	GLN
53	BS	80	LEU
53	BS	89	ARG
53	BS	92	TYR
53	BS	93	LYS
53	BS	98	VAL
54	BT	13	ARG
54	BT	24	PRO
54	BT	32	TYR
54	BT	33	LYS
54	BT	41	ARG
54	BT	51	ARG
54	BT	53	ARG
54	BT	58	ASN
54	BT	59	THR
54	BT	65	LYS
54	BT	78	LEU
54	BT	82	LEU
54	BT	87	ASP
54	BT	96	ARG
54	BT	99	LEU
54	BT	100	TYR
54	BT	108	ARG

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Mol	Chain	Res	Type
54	BT	112	ARG
54	BT	115	ARG
54	BT	121	ILE
54	BT	128	GLU
55	BU	64	ARG
55	BU	76	TYR
55	BU	79	PHE
55	BU	88	ILE
55	BU	89	GLU
55	BU	112	ARG
55	BU	114	LYS
56	BV	1	MET
56	BV	2	PHE
56	BV	12	TYR
56	BV	14	VAL
56	BV	18	LEU
56	BV	19	LYS
56	BV	21	ARG
56	BV	39	LEU
56	BV	40	LEU
56	BV	66	ARG
56	BV	70	ILE
56	BV	78	LYS
56	BV	80	GLN
56	BV	82	ARG
56	BV	88	ARG
56	BV	90	PRO
56	BV	92	THR
56	BV	93	GLU
57	BW	11	ARG
57	BW	25	ARG
57	BW	70	TYR
57	BW	75	TYR
57	BW	88	ARG
57	BW	107	LEU
58	BX	21	PHE
58	BX	27	THR
58	BX	28	PHE
58	BX	33	LYS
58	BX	35	THR
58	BX	36	LYS
58	BX	40	LYS

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Mol	Chain	Res	Type
58	BX	43	VAL
58	BX	49	VAL
58	BX	59	VAL
58	BX	65	ARG
58	BX	68	ARG
58	BX	76	ARG
58	BX	78	LYS
58	BX	81	VAL
59	BY	6	HIS
59	BY	7	VAL
59	BY	9	LYS
59	BY	14	LEU
59	BY	29	GLU
59	BY	31	LEU
59	BY	32	PRO
59	BY	35	TYR
59	BY	38	ILE
59	BY	56	PRO
59	BY	62	GLU
59	BY	66	PRO
59	BY	75	ILE
59	BY	76	CYS
59	BY	77	PRO
59	BY	90	LEU
59	BY	97	ARG
60	BZ	6	LYS
60	BZ	9	TYR
60	BZ	79	ARG
60	BZ	86	VAL
60	BZ	87	ASP
60	BZ	89	PHE
60	BZ	97	GLU
60	BZ	99	TYR
60	BZ	144	LEU
60	BZ	150	LEU
60	BZ	163	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (147) such sidechains are listed below:

Mol	Chain	Res	Type
2	AB	37	ASN
2	AB	40	HIS

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Mol	Chain	Res	Type
2	AB	78	GLN
2	AB	146	GLN
2	AB	204	ASN
3	AD	62	GLN
3	AD	77	ASN
4	AE	20	GLN
4	AE	56	GLN
4	AE	72	GLN
4	AE	73	ASN
4	AE	78	HIS
5	AF	7	ASN
5	AF	13	ASN
5	AF	18	GLN
5	AF	27	GLN
5	AF	32	ASN
5	AF	64	GLN
5	AF	100	ASN
6	AH	82	HIS
7	AK	38	ASN
7	AK	117	ASN
8	AL	8	ASN
8	AL	9	GLN
8	AL	49	ASN
8	AL	75	HIS
9	AO	37	ASN
10	AP	76	GLN
10	AP	82	GLN
11	AQ	16	GLN
11	AQ	94	ASN
12	AR	63	GLN
13	AT	16	HIS
13	AT	26	ASN
14	AC	3	ASN
14	AC	28	GLN
14	AC	170	GLN
14	AC	181	ASN
15	AG	13	GLN
15	AG	64	GLN
15	AG	68	ASN
15	AG	84	ASN
15	AG	106	GLN
15	AG	148	ASN

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Mol	Chain	Res	Type
16	AI	23	ASN
16	AI	124	GLN
17	AJ	13	HIS
17	AJ	56	HIS
17	AJ	78	ASN
18	AM	40	ASN
20	AS	57	HIS
27	AZ	39	ASN
27	AZ	278	GLN
28	B0	29	GLN
28	B0	35	ASN
29	B1	19	GLN
29	B1	66	HIS
30	B2	46	GLN
30	B2	47	ASN
30	B2	56	GLN
31	B3	19	GLN
31	B3	46	ASN
33	B5	4	HIS
33	B5	23	HIS
33	B5	43	HIS
34	B6	20	ASN
34	B6	26	ASN
35	B7	8	ASN
36	B8	35	GLN
37	B9	20	HIS
37	B9	36	GLN
40	BC	44	HIS
41	BD	58	HIS
41	BD	126	GLN
41	BD	164	GLN
41	BD	166	GLN
41	BD	186	HIS
41	BD	198	ASN
42	BE	48	GLN
42	BE	54	GLN
42	BE	66	HIS
42	BE	132	HIS
42	BE	143	ASN
42	BE	169	ASN
42	BE	192	ASN
43	BF	69	HIS

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Mol	Chain	Res	Type
43	BF	75	HIS
43	BF	160	ASN
43	BF	169	ASN
44	BG	27	ASN
44	BG	40	ASN
44	BG	79	ASN
45	BH	74	ASN
45	BH	147	ASN
46	BI	28	ASN
46	BI	43	ASN
46	BI	105	HIS
46	BI	133	HIS
47	BL	30	HIS
47	BL	42	ASN
47	BL	47	ASN
47	BL	89	HIS
48	BN	56	ASN
48	BN	94	HIS
48	BN	128	HIS
49	BO	3	GLN
49	BO	13	ASN
50	BP	9	ASN
50	BP	13	ASN
50	BP	38	GLN
50	BP	81	GLN
50	BP	128	HIS
51	BQ	12	GLN
51	BQ	13	GLN
51	BQ	89	ASN
51	BQ	141	GLN
52	BR	13	HIS
52	BR	16	HIS
52	BR	23	ASN
52	BR	61	HIS
52	BR	91	GLN
53	BS	16	ASN
53	BS	34	HIS
53	BS	61	ASN
53	BS	84	GLN
54	BT	58	ASN
54	BT	84	GLN
54	BT	90	GLN

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Mol	Chain	Res	Type
54	BT	123	GLN
55	BU	14	HIS
55	BU	49	HIS
55	BU	75	ASN
55	BU	81	HIS
56	BV	11	GLN
56	BV	89	GLN
57	BW	57	ASN
57	BW	60	ASN
57	BW	61	ASN
57	BW	62	HIS
58	BX	41	ASN
58	BX	55	ASN
58	BX	87	GLN
59	BY	6	HIS
60	BZ	73	GLN
60	BZ	75	ASN
60	BZ	118	GLN
60	BZ	151	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1503/1504 (99%)	200 (13%)	36 (2%)
22	AV	76/77 (98%)	18 (23%)	0
23	AX	4/6 (66%)	2 (50%)	0
24	AW	75/76 (98%)	15 (20%)	3 (4%)
25	AY	65/72 (90%)	11 (16%)	3 (4%)
26	A0	2/3 (66%)	0	0
38	BA	2849/2852 (99%)	589 (20%)	78 (2%)
39	BB	118/119 (99%)	14 (11%)	1 (0%)
All	All	4692/4709 (99%)	849 (18%)	121 (2%)

All (849) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	9	G
1	AA	31	G
1	AA	32	A
1	AA	39	G
1	AA	47	C

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Mol	Chain	Res	Type
1	AA	48	C
1	AA	51	A
1	AA	60	A
1	AA	61	G
1	AA	80	G
1	AA	81	U
1	AA	90	U
1	AA	97	G
1	AA	98	G
1	AA	101	A
1	AA	116	A
1	AA	120	A
1	AA	121	C
1	AA	131	C
1	AA	144	G
1	AA	150	C
1	AA	172	A
1	AA	189(H)	G
1	AA	195	A
1	AA	197	A
1	AA	220	G
1	AA	244	U
1	AA	247	G
1	AA	251	G
1	AA	266	G
1	AA	267	C
1	AA	289	G
1	AA	301	G
1	AA	321	A
1	AA	328	C
1	AA	329	A
1	AA	332	G
1	AA	345	C
1	AA	352	C
1	AA	353	A
1	AA	354	G
1	AA	367	U
1	AA	372	C
1	AA	397	A
1	AA	406	G
1	AA	410	G
1	AA	411	A

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Mol	Chain	Res	Type
1	AA	412	A
1	AA	414	A
1	AA	422	C
1	AA	423	G
1	AA	428	G
1	AA	429	U
1	AA	430	A
1	AA	437	U
1	AA	439	A
1	AA	442	C
1	AA	452	A
1	AA	470	C
1	AA	484	G
1	AA	485	G
1	AA	496	A
1	AA	498	U
1	AA	509	A
1	AA	510	A
1	AA	511	C
1	AA	518	C
1	AA	524	G
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	534	U
1	AA	547	A
1	AA	561	U
1	AA	562	C
1	AA	566	G
1	AA	572	A
1	AA	573	A
1	AA	575	G
1	AA	576	G
1	AA	577	G
1	AA	588	G
1	AA	616	G
1	AA	631	G
1	AA	632	A
1	AA	653	A
1	AA	665	A
1	AA	687	A

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Mol	Chain	Res	Type
1	AA	688	G
1	AA	723	U
1	AA	731	G
1	AA	749	C
1	AA	755	G
1	AA	794	A
1	AA	816	A
1	AA	817	C
1	AA	819	A
1	AA	821	G
1	AA	828	A
1	AA	833	U
1	AA	839	U
1	AA	840	C
1	AA	841	U
1	AA	848	C
1	AA	859	A
1	AA	885	G
1	AA	902	G
1	AA	913	A
1	AA	914	A
1	AA	926	G
1	AA	927	G
1	AA	934	C
1	AA	935	A
1	AA	960	U
1	AA	961	U
1	AA	966	G
1	AA	968	A
1	AA	969	A
1	AA	971	G
1	AA	974	A
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	978	A
1	AA	980	C
1	AA	991	U
1	AA	992	U
1	AA	993	G
1	AA	1026	G
1	AA	1050	G

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Mol	Chain	Res	Type
1	AA	1054	C
1	AA	1065	U
1	AA	1066	C
1	AA	1068	G
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1117	G
1	AA	1118	C
1	AA	1124	G
1	AA	1126	U
1	AA	1129	C
1	AA	1136	U
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1146	A
1	AA	1152	A
1	AA	1159	U
1	AA	1196	U
1	AA	1197	G
1	AA	1201	A
1	AA	1202	G
1	AA	1212	U
1	AA	1213	A
1	AA	1214	C
1	AA	1225	A
1	AA	1238	A
1	AA	1249	C
1	AA	1255	G
1	AA	1256	A
1	AA	1257	U
1	AA	1280	A
1	AA	1281	U
1	AA	1282	C
1	AA	1286	A
1	AA	1287	A
1	AA	1294	G
1	AA	1300	G
1	AA	1301	U
1	AA	1302	U
1	AA	1317	C

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Mol	Chain	Res	Type
1	AA	1322	C
1	AA	1323	G
1	AA	1331	G
1	AA	1335	C
1	AA	1338	G
1	AA	1347	G
1	AA	1364	U
1	AA	1365	G
1	AA	1419	G
1	AA	1442	G
1	AA	1442(A)	G
1	AA	1442(B)	A
1	AA	1443	G
1	AA	1447	A
1	AA	1452	C
1	AA	1487	G
1	AA	1492	A
1	AA	1498	U
1	AA	1499	A
1	AA	1504	G
1	AA	1505	G
1	AA	1506	U
1	AA	1507	A
1	AA	1517	G
1	AA	1520	G
1	AA	1529	G
1	AA	1530	G
22	AV	4	G
22	AV	5	G
22	AV	8	U
22	AV	17	C
22	AV	17(A)	U
22	AV	18	G
22	AV	19	G
22	AV	20	U
22	AV	21	A
22	AV	47	U
22	AV	48	C
22	AV	49	G
22	AV	53	G
22	AV	67	C
22	AV	71	C

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Mol	Chain	Res	Type
22	AV	73	A
22	AV	75	C
22	AV	76	A
23	AX	13	A
23	AX	14	A
24	AW	15	G
24	AW	16	U
24	AW	17	C
24	AW	18	G
24	AW	19	G
24	AW	21	A
24	AW	39	U
24	AW	40	C
24	AW	43	C
24	AW	48	C
24	AW	52	G
24	AW	59	U
24	AW	61	C
24	AW	70	G
24	AW	71	G
25	AY	2	C
25	AY	3	G
25	AY	9	A
25	AY	12	U
25	AY	19	G
25	AY	35	A
25	AY	36	A
25	AY	37	YG
25	AY	41	U
25	AY	47	U
25	AY	48	C
38	BA	10	G
38	BA	28	A
38	BA	35	G
38	BA	45	C
38	BA	49	A
38	BA	50	U
38	BA	51	G
38	BA	64	A
38	BA	69	C
38	BA	71	A
38	BA	72	U

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Mol	Chain	Res	Type
38	BA	73	A
38	BA	75	G
38	BA	84	A
38	BA	88	G
38	BA	90	U
38	BA	92	A
38	BA	94	C
38	BA	95	G
38	BA	99	U
38	BA	100	G
38	BA	102	G
38	BA	118	A
38	BA	119	A
38	BA	120	U
38	BA	129	C
38	BA	132	G
38	BA	139	G
38	BA	139(A)	G
38	BA	141	A
38	BA	142(A)	C
38	BA	143(A)	C
38	BA	146	G
38	BA	149	A
38	BA	154	G
38	BA	154(A)	C
38	BA	157	U
38	BA	158	U
38	BA	171	G
38	BA	196	A
38	BA	197	A
38	BA	199	A
38	BA	204	A
38	BA	205	G
38	BA	216	A
38	BA	221	A
38	BA	222	A
38	BA	228	A
38	BA	229	A
38	BA	230	U
38	BA	248	G
38	BA	261	G
38	BA	267	C

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Mol	Chain	Res	Type
38	BA	271(I)	G
38	BA	271(K)	U
38	BA	271(L)	U
38	BA	271(M)	G
38	BA	271(N)	U
38	BA	271(O)	C
38	BA	271(P)	C
38	BA	271(R)	G
38	BA	271(Y)	U
38	BA	272	G
38	BA	272(B)	G
38	BA	272(H)	C
38	BA	274	G
38	BA	275	G
38	BA	279	C
38	BA	283	A
38	BA	284	U
38	BA	286	C
38	BA	287	C
38	BA	329	G
38	BA	330	A
38	BA	332	A
38	BA	333	G
38	BA	344	G
38	BA	352	G
38	BA	362	U
38	BA	363(F)	A
38	BA	364	C
38	BA	365	C
38	BA	372	G
38	BA	386	G
38	BA	388	G
38	BA	396	G
38	BA	405	U
38	BA	411	G
38	BA	412	A
38	BA	428	A
38	BA	444	C
38	BA	448	U
38	BA	456	C
38	BA	457	A
38	BA	470	A

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Mol	Chain	Res	Type
38	BA	472	A
38	BA	473	G
38	BA	475	U
38	BA	481	G
38	BA	505	A
38	BA	508	G
38	BA	509	C
38	BA	513	A
38	BA	531	C
38	BA	532	A
38	BA	533	G
38	BA	537	C
38	BA	542	C
38	BA	543	C
38	BA	547	A
38	BA	548	A
38	BA	549	G
38	BA	551	G
38	BA	563	G
38	BA	572	A
38	BA	573	G
38	BA	575	A
38	BA	586	A
38	BA	588	U
38	BA	604	G
38	BA	607	U
38	BA	613	G
38	BA	614(A)	U
38	BA	614(B)	G
38	BA	614(C)	A
38	BA	615	G
38	BA	621	A
38	BA	622	G
38	BA	627	A
38	BA	637	A
38	BA	645	C
38	BA	646	A
38	BA	652	C
38	BA	656	G
38	BA	659	C
38	BA	669	G
38	BA	670	A

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Mol	Chain	Res	Type
38	BA	671	C
38	BA	686	G
38	BA	687	C
38	BA	708	C
38	BA	722	A
38	BA	730	C
38	BA	753	C
38	BA	775	G
38	BA	776	G
38	BA	782	A
38	BA	784	A
38	BA	790	C
38	BA	791	C
38	BA	792	G
38	BA	805	G
38	BA	812	C
38	BA	819	A
38	BA	827	U
38	BA	828	U
38	BA	830	G
38	BA	848	G
38	BA	856	C
38	BA	857	C
38	BA	859	G
38	BA	866	A
38	BA	878	A
38	BA	883	G
38	BA	892	G
38	BA	894	C
38	BA	897	C
38	BA	898	C
38	BA	901	A
38	BA	910	A
38	BA	914	C
38	BA	917	A
38	BA	926	A
38	BA	932	G
38	BA	941	A
38	BA	946	G
38	BA	955	C
38	BA	956	G
38	BA	957	A

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Mol	Chain	Res	Type
38	BA	958	U
38	BA	959	A
38	BA	961	C
38	BA	965	C
38	BA	974	G
38	BA	975	C
38	BA	983	A
38	BA	991	C
38	BA	996	A
38	BA	1005	C
38	BA	1011	G
38	BA	1012	U
38	BA	1013	C
38	BA	1022	G
38	BA	1023	U
38	BA	1025	G
38	BA	1026	U
38	BA	1034	G
38	BA	1041	C
38	BA	1044	G
38	BA	1045	A
38	BA	1047	G
38	BA	1049	C
38	BA	1056	G
38	BA	1059	G
38	BA	1060	U
38	BA	1061	U
38	BA	1062	G
38	BA	1064	C
38	BA	1065	U
38	BA	1066	U
38	BA	1067	A
38	BA	1068	G
38	BA	1069	A
38	BA	1070	A
38	BA	1071	G
38	BA	1072	C
38	BA	1073	A
38	BA	1074	G
38	BA	1075	C
38	BA	1079	C
38	BA	1084	A

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Mol	Chain	Res	Type
38	BA	1085	A
38	BA	1086	A
38	BA	1087	G
38	BA	1088	A
38	BA	1090	U
38	BA	1094	U
38	BA	1099	G
38	BA	1101	U
38	BA	1103	A
38	BA	1104	C
38	BA	1106	G
38	BA	1110	G
38	BA	1112	G
38	BA	1113	U
38	BA	1115	G
38	BA	1129	A
38	BA	1130	U
38	BA	1135	C
38	BA	1136	G
38	BA	1142	U
38	BA	1143	A
38	BA	1155	A
38	BA	1156	A
38	BA	1159	U
38	BA	1175	U
38	BA	1176	G
38	BA	1177	A
38	BA	1178	C
38	BA	1195	G
38	BA	1205	U
38	BA	1206	G
38	BA	1210	A
38	BA	1211	U
38	BA	1220	A
38	BA	1221	C
38	BA	1241	A
38	BA	1247	A
38	BA	1248	G
38	BA	1251	C
38	BA	1253	A
38	BA	1254	A
38	BA	1255	U

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Mol	Chain	Res	Type
38	BA	1256	G
38	BA	1265	A
38	BA	1271	G
38	BA	1272	A
38	BA	1276	A
38	BA	1281	G
38	BA	1300	U
38	BA	1301	A
38	BA	1302	A
38	BA	1314	C
38	BA	1319	G
38	BA	1329	U
38	BA	1332	G
38	BA	1345	C
38	BA	1349	A
38	BA	1352	U
38	BA	1359	A
38	BA	1368	G
38	BA	1379	A
38	BA	1380	G
38	BA	1384	A
38	BA	1385	G
38	BA	1398	C
38	BA	1407	C
38	BA	1416	G
38	BA	1417	C
38	BA	1419	A
38	BA	1420	U
38	BA	1421	G
38	BA	1427	A
38	BA	1428	C
38	BA	1437	C
38	BA	1445	A
38	BA	1449	A
38	BA	1450	G
38	BA	1455	G
38	BA	1458	C
38	BA	1459	G
38	BA	1461	G
38	BA	1467	C
38	BA	1471	A
38	BA	1475	G

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Mol	Chain	Res	Type
38	BA	1478	G
38	BA	1481	U
38	BA	1482	G
38	BA	1484	G
38	BA	1485	G
38	BA	1490	A
38	BA	1493	C
38	BA	1494	A
38	BA	1495	A
38	BA	1497	U
38	BA	1498	C
38	BA	1501	C
38	BA	1502	C
38	BA	1505	C
38	BA	1509	C
38	BA	1509(A)	A
38	BA	1520	G
38	BA	1528(A)	A
38	BA	1529	G
38	BA	1530	C
38	BA	1531	C
38	BA	1532	C
38	BA	1533	G
38	BA	1543	C
38	BA	1545	A
38	BA	1554	A
38	BA	1558	A
38	BA	1559	G
38	BA	1569	A
38	BA	1578	U
38	BA	1579	A
38	BA	1584	C
38	BA	1586	A
38	BA	1588	C
38	BA	1591	G
38	BA	1594	G
38	BA	1603	A
38	BA	1608	A
38	BA	1610	A
38	BA	1616	A
38	BA	1617	C
38	BA	1618	A

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Mol	Chain	Res	Type
38	BA	1635	G
38	BA	1636	C
38	BA	1640	C
38	BA	1648	C
38	BA	1652	A
38	BA	1653	G
38	BA	1654	A
38	BA	1674	G
38	BA	1694	C
38	BA	1695	G
38	BA	1697	G
38	BA	1698	A
38	BA	1699	G
38	BA	1718	G
38	BA	1722	A
38	BA	1739	U
38	BA	1742	G
38	BA	1744	C
38	BA	1746	G
38	BA	1748	G
38	BA	1763	G
38	BA	1764	G
38	BA	1773	A
38	BA	1780	A
38	BA	1791	A
38	BA	1799	G
38	BA	1800	C
38	BA	1816	G
38	BA	1820	U
38	BA	1821	A
38	BA	1822	G
38	BA	1829	A
38	BA	1835	G
38	BA	1847	A
38	BA	1858	G
38	BA	1865	G
38	BA	1866	C
38	BA	1877	A
38	BA	1878	G
38	BA	1880	C
38	BA	1882	C
38	BA	1885	A

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Mol	Chain	Res	Type
38	BA	1886	C
38	BA	1888	G
38	BA	1889	A
38	BA	1900	A
38	BA	1903	G
38	BA	1906	G
38	BA	1929	G
38	BA	1934	C
38	BA	1935	G
38	BA	1936	A
38	BA	1938	A
38	BA	1948	G
38	BA	1955	U
38	BA	1962	C
38	BA	1963	U
38	BA	1967	C
38	BA	1969	A
38	BA	1970	A
38	BA	1971	A
38	BA	1972	A
38	BA	1987	G
38	BA	1991	U
38	BA	1993	U
38	BA	2020	A
38	BA	2023	G
38	BA	2027	G
38	BA	2031	A
38	BA	2033	A
38	BA	2034	U
38	BA	2036	C
38	BA	2043	C
38	BA	2051	A
38	BA	2055	C
38	BA	2056	G
38	BA	2060	A
38	BA	2061	G
38	BA	2062	A
38	BA	2069	G
38	BA	2093	G
38	BA	2099	U
38	BA	2103	C
38	BA	2104	G

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Mol	Chain	Res	Type
38	BA	2110	G
38	BA	2111	C
38	BA	2112	G
38	BA	2116	G
38	BA	2118	U
38	BA	2119	A
38	BA	2120	G
38	BA	2122	U
38	BA	2128	C
38	BA	2130	U
38	BA	2131	G
38	BA	2132	U
38	BA	2133	G
38	BA	2138	C
38	BA	2145	C
38	BA	2148	G
38	BA	2153	G
38	BA	2157	G
38	BA	2158	A
38	BA	2160	G
38	BA	2164	C
38	BA	2165	G
38	BA	2170	A
38	BA	2171	A
38	BA	2172	U
38	BA	2176	A
38	BA	2187	G
38	BA	2190	G
38	BA	2191	G
38	BA	2192	G
38	BA	2193	G
38	BA	2198	A
38	BA	2199	A
38	BA	2200	C
38	BA	2207	G
38	BA	2208	A
38	BA	2218	U
38	BA	2219	G
38	BA	2225	A
38	BA	2226	C
38	BA	2238	G
38	BA	2239	G

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Mol	Chain	Res	Type
38	BA	2263	C
38	BA	2275	C
38	BA	2276	G
38	BA	2283	C
38	BA	2286	A
38	BA	2287	A
38	BA	2288	A
38	BA	2290	G
38	BA	2305	A
38	BA	2307	G
38	BA	2308	G
38	BA	2309	A
38	BA	2311	A
38	BA	2313	C
38	BA	2319	G
38	BA	2320	A
38	BA	2325	G
38	BA	2334	G
38	BA	2336	A
38	BA	2345	G
38	BA	2347	C
38	BA	2349	G
38	BA	2360	A
38	BA	2361	A
38	BA	2383	G
38	BA	2385	C
38	BA	2388	A
38	BA	2399	G
38	BA	2402	C
38	BA	2422	A
38	BA	2423	U
38	BA	2425	A
38	BA	2427	C
38	BA	2429	G
38	BA	2430	A
38	BA	2435	A
38	BA	2439	A
38	BA	2441	C
38	BA	2448	A
38	BA	2465	C
38	BA	2469	A
38	BA	2470	G

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Mol	Chain	Res	Type
38	BA	2476	A
38	BA	2477	C
38	BA	2478	A
38	BA	2482	G
38	BA	2484	G
38	BA	2502	G
38	BA	2505	G
38	BA	2518	A
38	BA	2520	C
38	BA	2523	G
38	BA	2529	G
38	BA	2531	A
38	BA	2534	A
38	BA	2543	G
38	BA	2554	U
38	BA	2566	A
38	BA	2567	G
38	BA	2573	C
38	BA	2582	G
38	BA	2585	U
38	BA	2586	C
38	BA	2602	A
38	BA	2611	U
38	BA	2612	C
38	BA	2615	U
38	BA	2630	G
38	BA	2637	U
38	BA	2640	G
38	BA	2646	C
38	BA	2673	G
38	BA	2682	U
38	BA	2690	C
38	BA	2691	C
38	BA	2702	U
38	BA	2703	C
38	BA	2712	U
38	BA	2712(A)	A
38	BA	2713	A
38	BA	2720	U
38	BA	2733	A
38	BA	2736	G
38	BA	2751	G

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Mol	Chain	Res	Type
38	BA	2752	C
38	BA	2754	U
38	BA	2755	C
38	BA	2757	A
38	BA	2759	G
38	BA	2762	G
38	BA	2763	G
38	BA	2765	A
38	BA	2778	A
38	BA	2779	U
38	BA	2780	G
38	BA	2781	A
38	BA	2789	C
38	BA	2790	A
38	BA	2791	C
38	BA	2794	C
38	BA	2795	G
38	BA	2801(A)	A
38	BA	2802	G
38	BA	2803	C
38	BA	2808	U
38	BA	2820	A
38	BA	2821	A
38	BA	2827	C
38	BA	2833	G
38	BA	2834	G
38	BA	2835	A
38	BA	2849	U
38	BA	2860	A
38	BA	2864	G
38	BA	2872	G
38	BA	2880	C
39	BB	8	U
39	BB	15	A
39	BB	16	G
39	BB	22	U
39	BB	27	C
39	BB	40	U
39	BB	42	C
39	BB	45	A
39	BB	53	A
39	BB	67	G

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Mol	Chain	Res	Type
39	BB	73	A
39	BB	75	G
39	BB	88	C
39	BB	110	G

All (121) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	30	U
1	AA	60	A
1	AA	79	G
1	AA	115	G
1	AA	119	A
1	AA	243	A
1	AA	250	A
1	AA	266	G
1	AA	328	C
1	AA	366	C
1	AA	410	G
1	AA	412	A
1	AA	428	G
1	AA	429	U
1	AA	438	G
1	AA	484	G
1	AA	509	A
1	AA	533	A
1	AA	560	U
1	AA	575	G
1	AA	687	A
1	AA	748	C
1	AA	793	U
1	AA	913	A
1	AA	992	U
1	AA	1049	U
1	AA	1064	G
1	AA	1065	U
1	AA	1067	A
1	AA	1201	A
1	AA	1281	U
1	AA	1285	A
1	AA	1300	G
1	AA	1442	G

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Mol	Chain	Res	Type
1	AA	1498	U
1	AA	1504	G
24	AW	15	G
24	AW	47	U
24	AW	70	G
25	AY	18	G
25	AY	35	A
25	AY	47	U
38	BA	27	G
38	BA	49	A
38	BA	71	A
38	BA	74	A
38	BA	128	C
38	BA	196	A
38	BA	197	A
38	BA	221	A
38	BA	272	G
38	BA	283	A
38	BA	331	A
38	BA	332	A
38	BA	387	U
38	BA	472	A
38	BA	474	G
38	BA	512	G
38	BA	587	C
38	BA	603	A
38	BA	614(C)	A
38	BA	669	G
38	BA	670	A
38	BA	752	A
38	BA	790	C
38	BA	856	C
38	BA	1022	G
38	BA	1051	G
38	BA	1085	A
38	BA	1100	C
38	BA	1112	G
38	BA	1176	G
38	BA	1210	A
38	BA	1250	G
38	BA	1275	A
38	BA	1300	U

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Mol	Chain	Res	Type
38	BA	1301	A
38	BA	1378	A
38	BA	1397	U
38	BA	1427	A
38	BA	1458	C
38	BA	1484	G
38	BA	1494	A
38	BA	1544	A
38	BA	1558	A
38	BA	1608	A
38	BA	1635	G
38	BA	1652	A
38	BA	1653	G
38	BA	1694	C
38	BA	1697	G
38	BA	1722	A
38	BA	1799	G
38	BA	1819	A
38	BA	1820	U
38	BA	1885	A
38	BA	1912	A
38	BA	1934	C
38	BA	1937	A
38	BA	1962	C
38	BA	1970	A
38	BA	1987	G
38	BA	1992	G
38	BA	2031	A
38	BA	2033	A
38	BA	2127	G
38	BA	2191	G
38	BA	2225	A
38	BA	2282	G
38	BA	2290	G
38	BA	2422	A
38	BA	2481	G
38	BA	2610	C
38	BA	2637	U
38	BA	2689	U
38	BA	2756	U
38	BA	2779	U
38	BA	2796	U

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Mol	Chain	Res	Type
38	BA	2859	G
38	BA	2864	G
39	BB	66	A

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

13 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	OMC	AY	32	25	19,22,23	0.48	0	26,31,34	0.58	0
25	PSU	AY	55	25	18,21,22	0.72	0	22,30,33	0.87	0
25	7MG	AY	46	25	22,26,27	3.08	2 (9%)	29,39,42	1.44	2 (6%)
25	2MG	AY	10	25	18,26,27	1.16	3 (16%)	16,38,41	0.89	1 (6%)
25	5MC	AY	49	25	18,22,23	0.75	0	26,32,35	0.74	1 (3%)
25	5MC	AY	40	25	18,22,23	0.46	0	26,32,35	0.69	1 (3%)
25	5MU	AY	54	25	19,22,23	0.54	0	28,32,35	0.64	0
25	1MA	AY	58	25	16,25,26	2.84	4 (25%)	18,37,40	2.20	5 (27%)
25	PSU	AY	39	25	18,21,22	0.70	0	22,30,33	0.66	0
25	YG	AY	37	25	31,42,43	0.94	1 (3%)	33,62,65	2.58	10 (30%)
25	M2G	AY	26	25	20,27,28	1.22	2 (10%)	22,40,43	0.79	0
25	OMG	AY	34	26	18,26,27	1.02	2 (11%)	19,38,41	0.85	1 (5%)
22	5MU	AV	54	22	19,22,23	0.25	0	28,32,35	0.37	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	OMC	AY	32	25	-	0/9/27/28	0/2/2/2
25	PSU	AY	55	25	-	0/7/25/26	0/2/2/2
25	7MG	AY	46	25	-	0/7/37/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	2MG	AY	10	25	-	0/5/27/28	0/3/3/3
25	5MC	AY	49	25	-	0/7/25/26	0/2/2/2
25	5MC	AY	40	25	-	1/7/25/26	0/2/2/2
25	5MU	AY	54	25	-	0/7/25/26	0/2/2/2
25	1MA	AY	58	25	-	0/3/25/26	0/3/3/3
25	PSU	AY	39	25	-	0/7/25/26	0/2/2/2
25	YG	AY	37	25	-	8/20/42/43	0/3/4/4
25	M2G	AY	26	25	-	0/7/29/30	0/3/3/3
25	OMG	AY	34	26	-	1/5/27/28	0/3/3/3
22	5MU	AV	54	22	-	0/7/25/26	0/2/2/2

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	AY	46	7MG	C8-N9	-14.18	1.38	1.46
25	AY	58	1MA	C6-N6	8.04	1.48	1.27
25	AY	58	1MA	C2-N3	6.96	1.37	1.29
25	AY	26	M2G	C5-C6	-3.17	1.41	1.47
25	AY	10	2MG	C5-C6	-2.93	1.41	1.47
25	AY	26	M2G	C8-N7	-2.54	1.30	1.35
25	AY	10	2MG	C8-N7	-2.49	1.30	1.35
25	AY	58	1MA	C8-N7	-2.33	1.31	1.35
25	AY	46	7MG	C5-N7	2.27	1.38	1.35
25	AY	58	1MA	C5-C4	-2.25	1.37	1.43
25	AY	34	OMG	C8-N7	-2.24	1.31	1.35
25	AY	37	YG	C8-N7	-2.18	1.31	1.35
25	AY	10	2MG	C5-C4	-2.17	1.37	1.43
25	AY	34	OMG	C5-C6	-2.03	1.43	1.47

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	AY	37	YG	C11-C12-N1	8.48	111.32	106.53
25	AY	37	YG	C24-O23-C21	6.24	123.03	115.66
25	AY	46	7MG	N9-C8-N7	6.23	112.28	103.38
25	AY	58	1MA	CM1-N1-C6	-5.15	112.47	120.27
25	AY	37	YG	C3-N3-C4	4.94	125.48	116.71
25	AY	58	1MA	CM1-N1-C2	4.55	130.12	120.55
25	AY	37	YG	O23-C21-N20	4.38	118.49	110.80
25	AY	58	1MA	N1-C2-N3	4.23	130.96	126.02
25	AY	46	7MG	C4-C5-N7	3.47	110.35	105.53
25	AY	37	YG	C4-N3-C2	-3.39	111.88	122.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	AY	37	YG	O23-C21-O22	-3.29	119.75	124.58
25	AY	37	YG	C19-O18-C16	2.86	122.40	115.94
25	AY	49	5MC	C5-C6-N1	-2.71	120.55	123.34
25	AY	37	YG	C3-N3-C2	2.68	122.64	120.13
25	AY	58	1MA	N1-C6-N6	2.62	126.42	119.77
25	AY	40	5MC	C5-C6-N1	-2.50	120.77	123.34
25	AY	37	YG	O6-C6-C5	2.47	128.54	124.17
25	AY	37	YG	O18-C16-C15	2.33	117.48	111.52
25	AY	58	1MA	O4'-C1'-C2'	-2.24	103.65	106.93
25	AY	34	OMG	O6-C6-C5	2.21	128.69	124.37
25	AY	10	2MG	O6-C6-C5	2.13	128.54	124.37

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
25	AY	37	YG	C12-C13-C14-C15
25	AY	37	YG	C15-C16-O18-C19
25	AY	37	YG	O17-C16-O18-C19
25	AY	37	YG	C13-C14-C15-C16
25	AY	34	OMG	C4'-C5'-O5'-P
25	AY	37	YG	C3'-C4'-C5'-O5'
25	AY	40	5MC	O4'-C4'-C5'-O5'
25	AY	37	YG	C14-C15-C16-O18
25	AY	37	YG	C13-C14-C15-N20
25	AY	37	YG	C14-C15-C16-O17

There are no ring outliers.

9 monomers are involved in 65 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	AY	32	OMC	1	0
25	AY	46	7MG	8	0
25	AY	10	2MG	3	0
25	AY	40	5MC	3	0
25	AY	39	PSU	1	0
25	AY	37	YG	20	0
25	AY	26	M2G	18	0
25	AY	34	OMG	12	0
22	AV	54	5MU	2	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

4 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
64	BME	AZ	503	-	3,3,3	0.35	0	1,2,2	0.11	0
61	PHA	AY	101	-	10,11,11	0.42	0	10,13,13	0.35	0
63	MAU	AZ	502	-	57,60,60	3.13	12 (21%)	65,86,86	1.49	11 (16%)
62	GDP	AZ	501	-	24,30,30	1.02	1 (4%)	30,47,47	0.73	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
64	BME	AZ	503	-	-	0/1/1/1	-
61	PHA	AY	101	-	-	0/5/6/6	0/1/1/1
63	MAU	AZ	502	-	-	2/54/98/98	0/3/3/3
62	GDP	AZ	501	-	-	3/12/32/32	0/3/3/3

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
63	AZ	502	MAU	O18-C17	-15.83	1.20	1.44
63	AZ	502	MAU	O30-C30	-13.45	1.15	1.42
63	AZ	502	MAU	C27-N26	4.04	1.42	1.33
63	AZ	502	MAU	C22-C21	3.73	1.37	1.33
63	AZ	502	MAU	C45-C28	3.19	1.59	1.53
63	AZ	502	MAU	O29-C29	3.16	1.46	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
63	AZ	502	MAU	C29-C28	3.11	1.60	1.54
62	AZ	501	GDP	C8-N7	-2.49	1.30	1.35
63	AZ	502	MAU	C42-C19	2.45	1.58	1.53
63	AZ	502	MAU	C16-C17	2.22	1.57	1.52
63	AZ	502	MAU	C19-C17	2.18	1.59	1.54
63	AZ	502	MAU	C32-C33	-2.09	1.52	1.55
63	AZ	502	MAU	C6-C5	2.06	1.42	1.38

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
63	AZ	502	MAU	C29-C30-C31	-4.46	104.76	110.66
63	AZ	502	MAU	O18-C17-C16	3.71	111.24	104.27
63	AZ	502	MAU	C11-C10-C9	-2.94	117.46	123.47
63	AZ	502	MAU	C23-C22-C21	-2.88	123.09	127.32
63	AZ	502	MAU	C3-C2-N1	2.85	120.12	116.66
63	AZ	502	MAU	O29-C29-O34	-2.79	105.54	110.21
63	AZ	502	MAU	C44-C21-C20	2.71	120.36	115.68
63	AZ	502	MAU	C45-C28-C27	2.56	112.47	108.86
63	AZ	502	MAU	C14-C13-C12	-2.26	121.18	125.61
63	AZ	502	MAU	C16-C15-C14	-2.07	99.40	101.87
63	AZ	502	MAU	C17-C19-C20	-2.01	106.56	111.97

There are no chirality outliers.

All (5) torsion outliers are listed below:

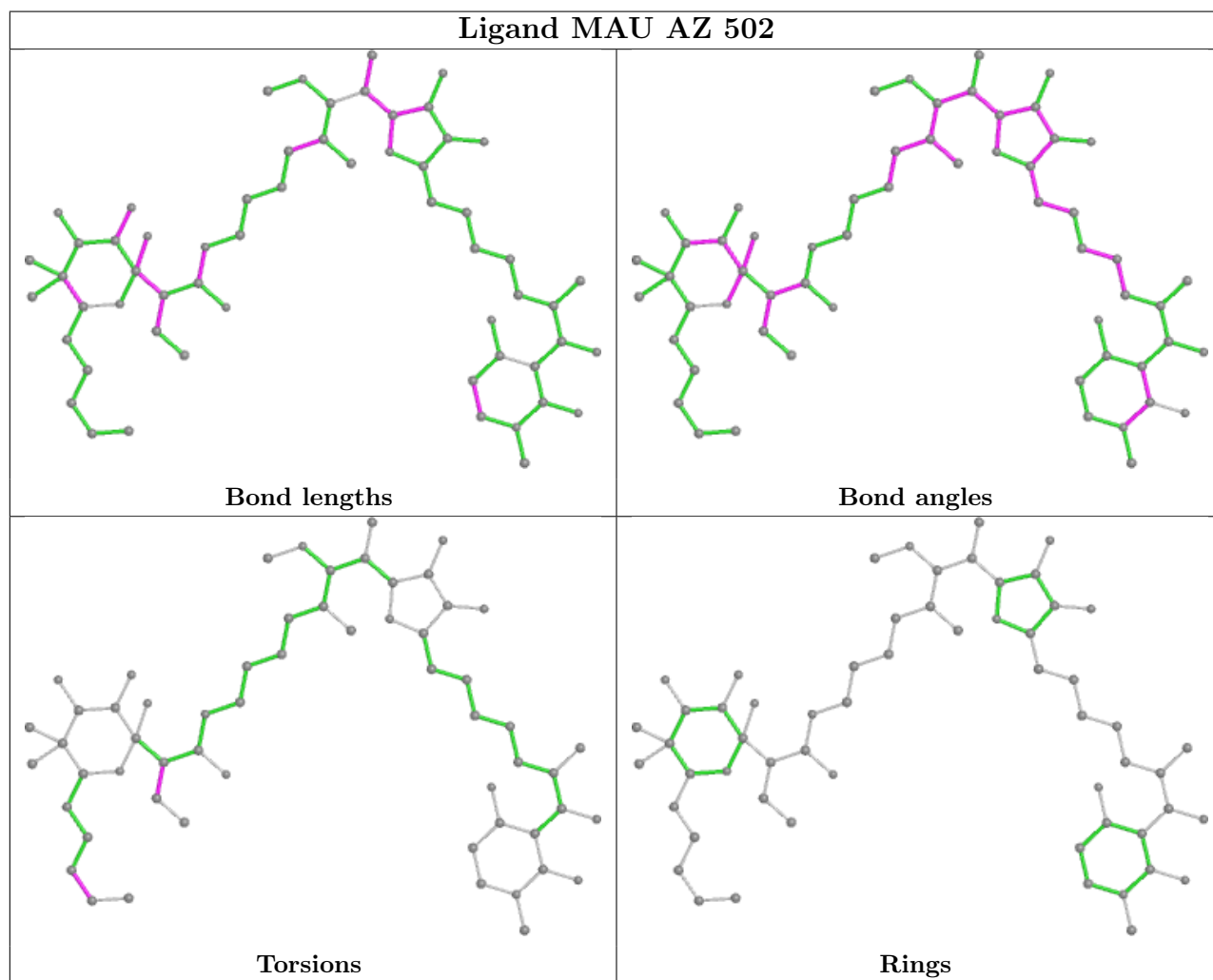
Mol	Chain	Res	Type	Atoms
62	AZ	501	GDP	PA-O3A-PB-O2B
62	AZ	501	GDP	PA-O3A-PB-O3B
63	AZ	502	MAU	C36-C37-C38-C39
62	AZ	501	GDP	PA-O3A-PB-O1B
63	AZ	502	MAU	C27-C28-C45-C46

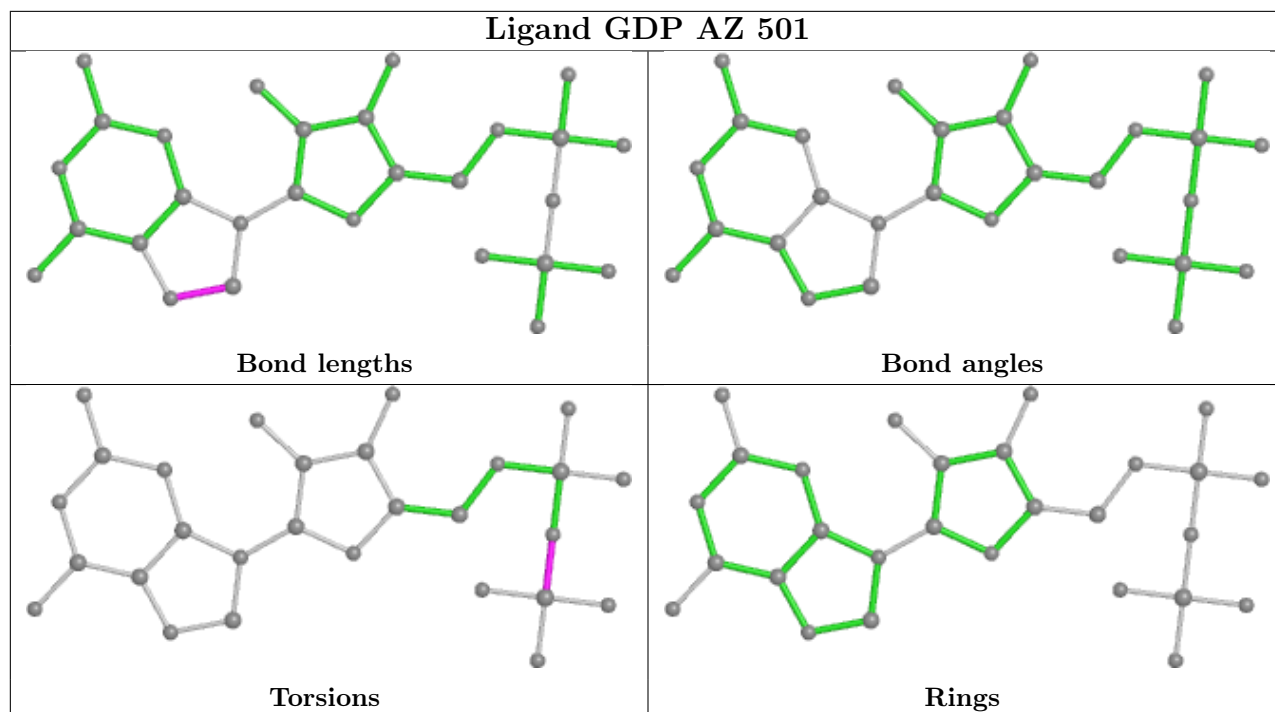
There are no ring outliers.

3 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
64	AZ	503	BME	3	0
61	AY	101	PHA	5	0
62	AZ	501	GDP	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
25	AY	10
38	BA	6
18	AM	5
40	BC	3
16	AI	2
23	AX	1
34	B6	1
44	BG	1
56	BV	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	BC	110:PHE	C	119:VAL	N	11.81
1	AY	14:A	O3'	18:G	P	11.44
1	AX	14:A	O3'	16:A	P	8.56

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AY	19:G	O3'	21:A	P	5.14
1	BC	27:ARG	C	34:THR	N	5.01
1	BC	136:LEU	C	139:ASN	N	4.99
1	B6	46:HIS	C	47:THR	N	4.89
1	BA	2126:A	O3'	2127:G	P	4.82
1	AM	69:GLU	C	70:LEU	N	4.66
1	AY	25:C	O3'	26:M2G	P	4.35
1	AI	53:VAL	C	54:ASP	N	4.01
1	BG	112:PRO	C	113:ARG	N	4.01
1	AM	97:PRO	C	98:VAL	N	3.73
1	AY	7:U	O3'	8:U	P	3.59
1	AY	44:A	O3'	45:G	P	3.08
1	AM	112:GLY	C	113:PRO	N	3.07
1	AY	73:A	O3'	74:C	P	3.04
1	BV	80:GLN	C	81:TYR	N	3.01
1	AI	104:ARG	C	105:ASP	N	2.94
1	AM	118:ALA	C	119:GLY	N	2.93
1	AM	65:LYS	C	66:LEU	N	2.77
1	BA	1107:G	O3'	1108:U	P	2.61
1	BA	2161:C	O3'	2162:G	P	2.54
1	BA	1051:G	O3'	1052:C	P	2.05
1	AY	34:OMG	O3'	35:A	P	1.84
1	AY	47:U	O3'	48:C	P	1.77
1	AY	46:7MG	O3'	47:U	P	1.37
1	AY	33:U	O3'	34:OMG	P	1.32
1	BA	2653:U	O3'	2654:A	P	1.28
1	BA	2190:G	O3'	2191:G	P	1.25

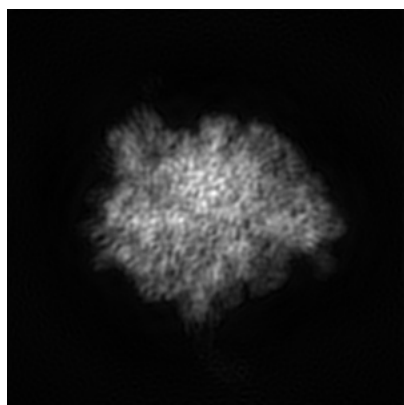
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-5030. These allow visual inspection of the internal detail of the map and identification of artifacts.

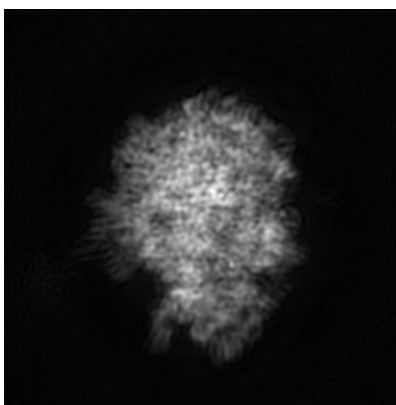
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

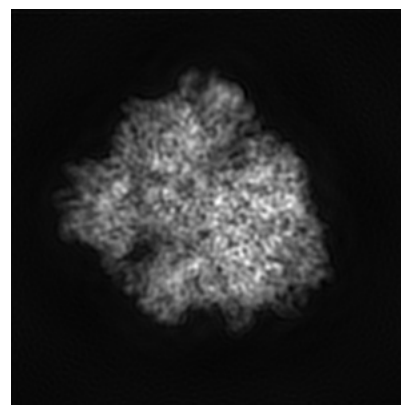
6.1.1 Primary map



X



Y

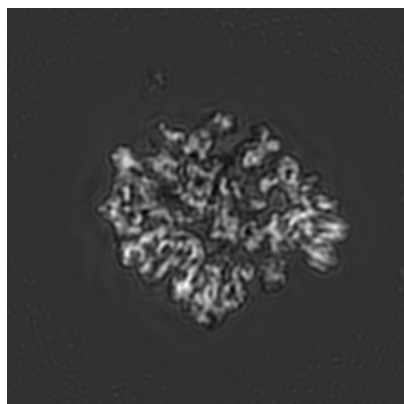


Z

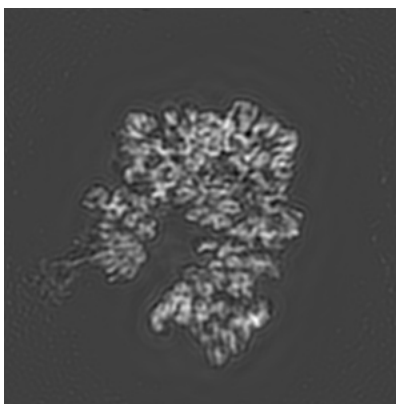
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

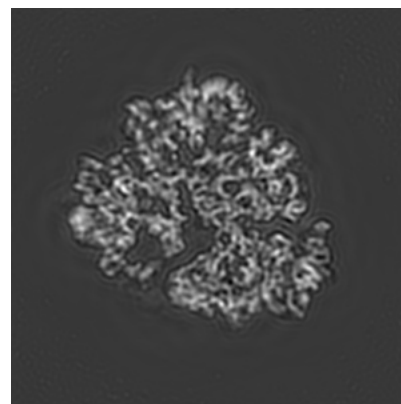
6.2.1 Primary map



X Index: 150



Y Index: 150

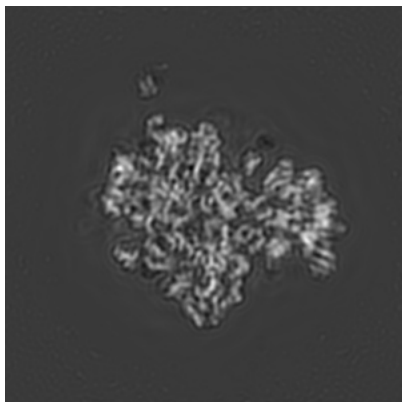


Z Index: 150

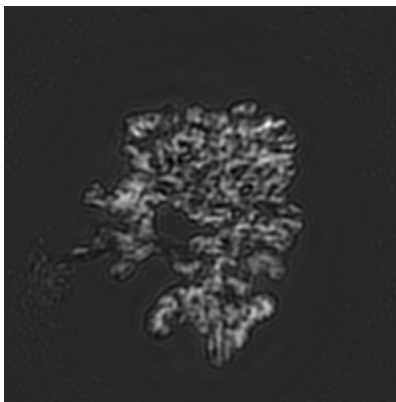
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

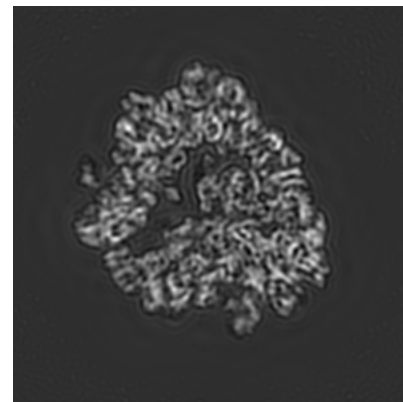
6.3.1 Primary map



X Index: 156



Y Index: 155



Z Index: 140

The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 3.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

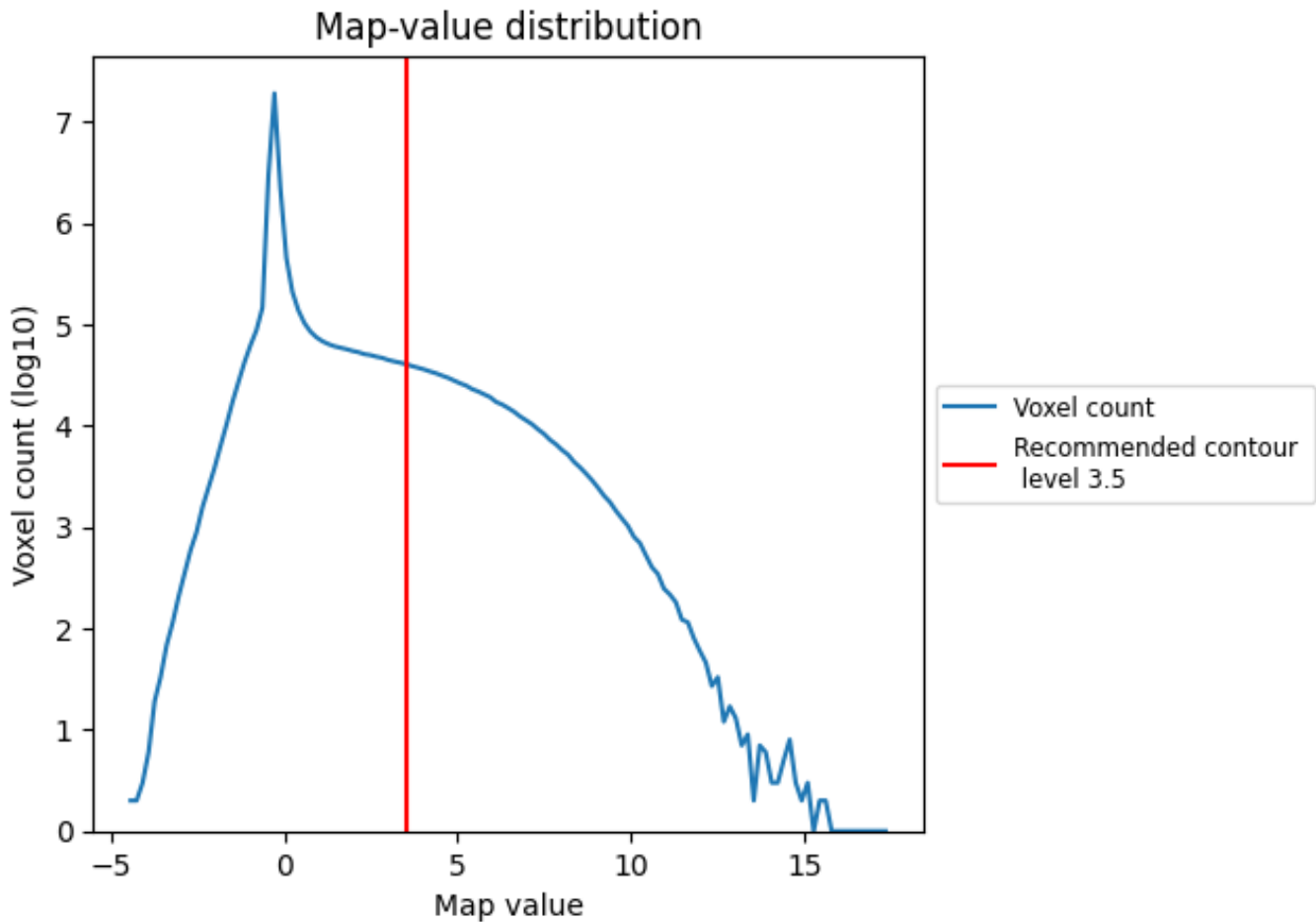
6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

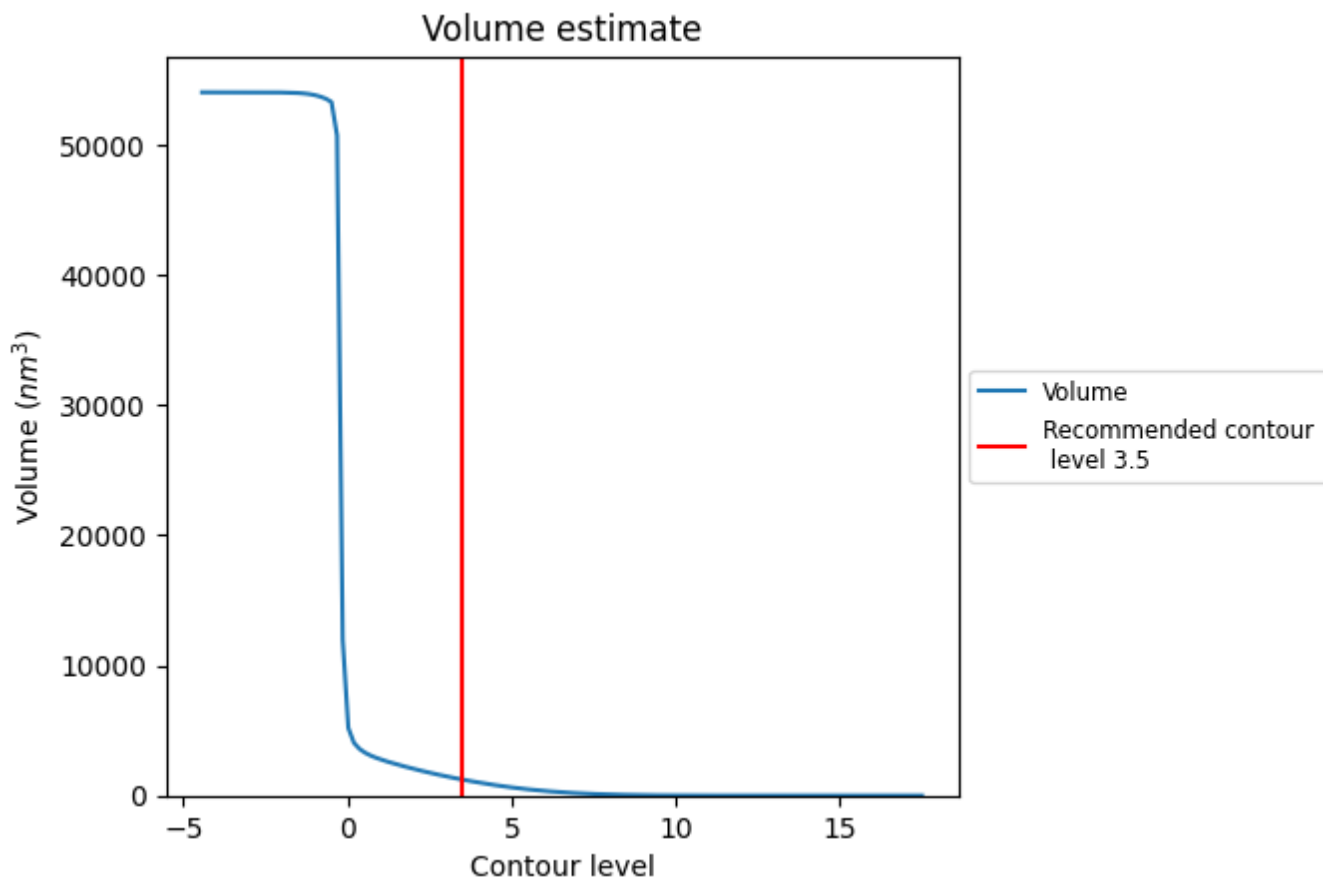
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

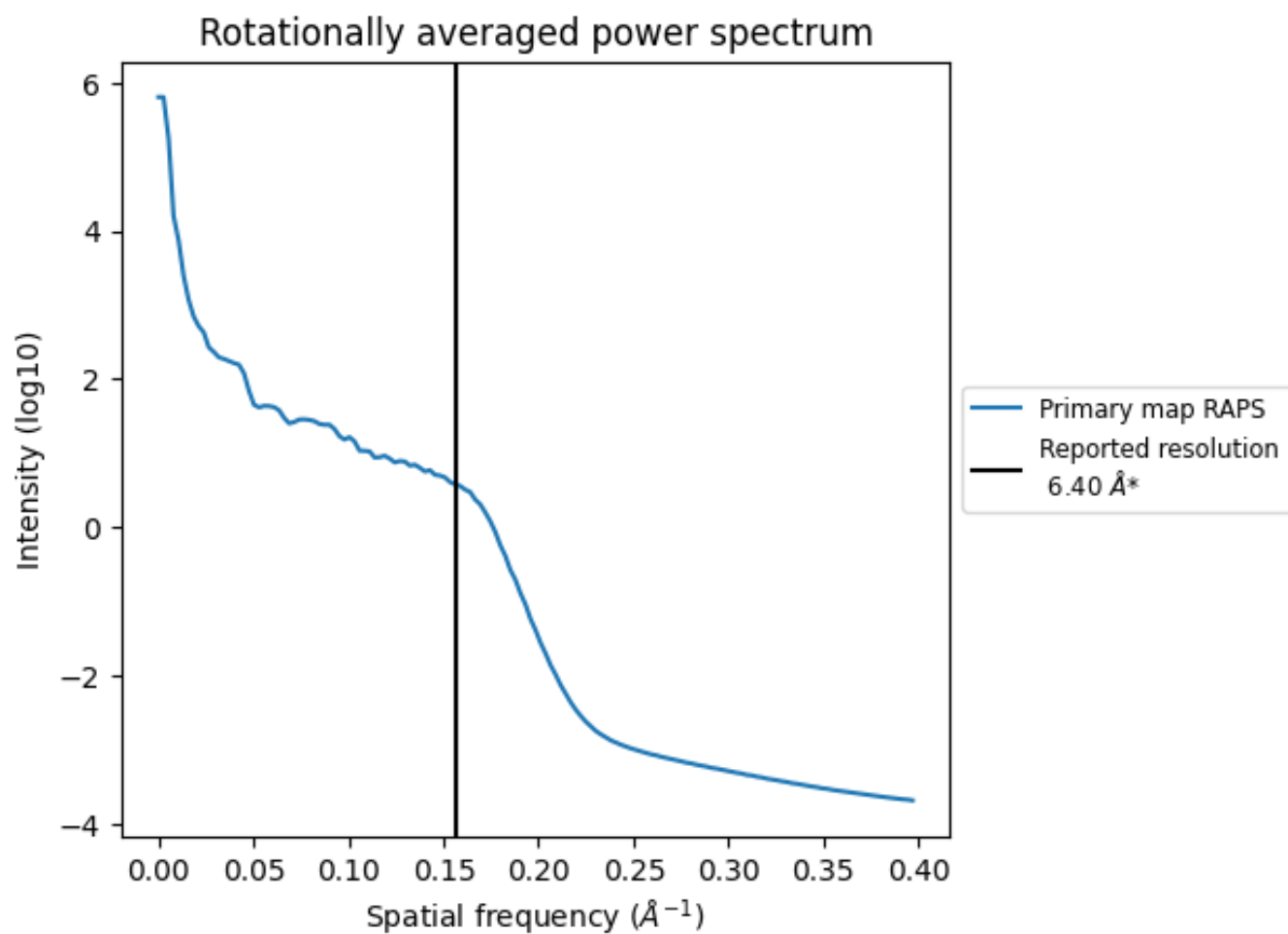
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1230 nm³; this corresponds to an approximate mass of 1111 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.156 Å⁻¹

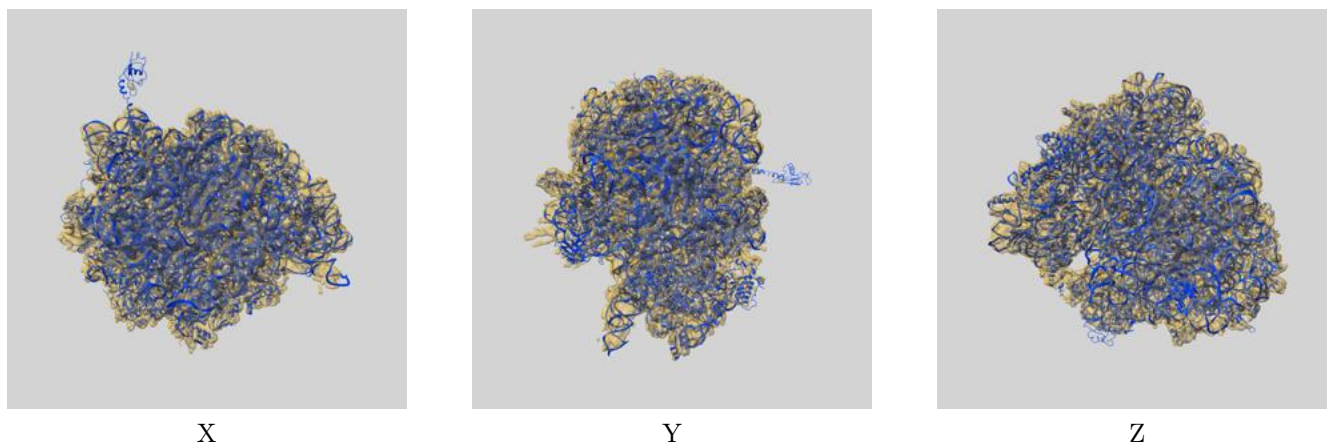
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

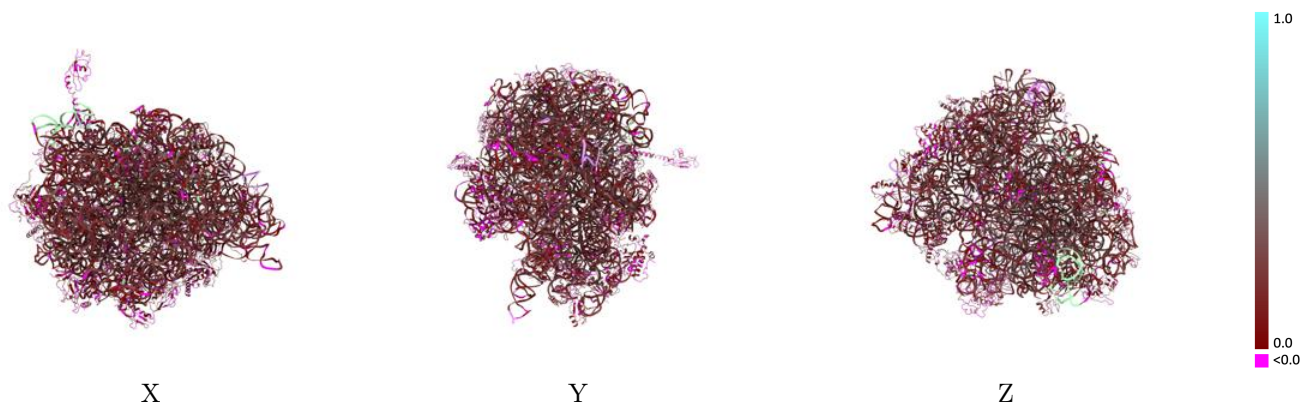
This section contains information regarding the fit between EMDB map EMD-5030 and PDB model 4V68. Per-residue inclusion information can be found in section 3 on page 18.

9.1 Map-model overlay [i](#)



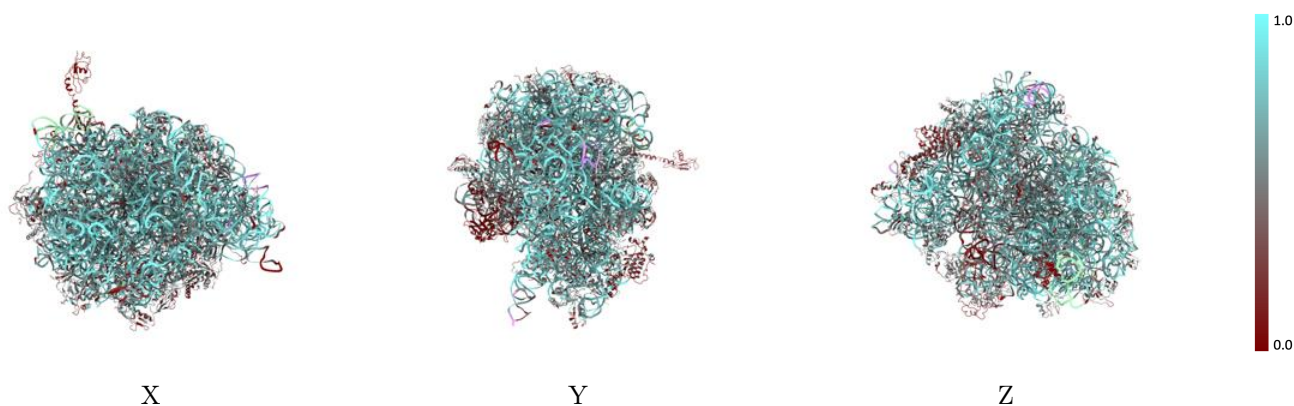
The images above show the 3D surface view of the map at the recommended contour level 3.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



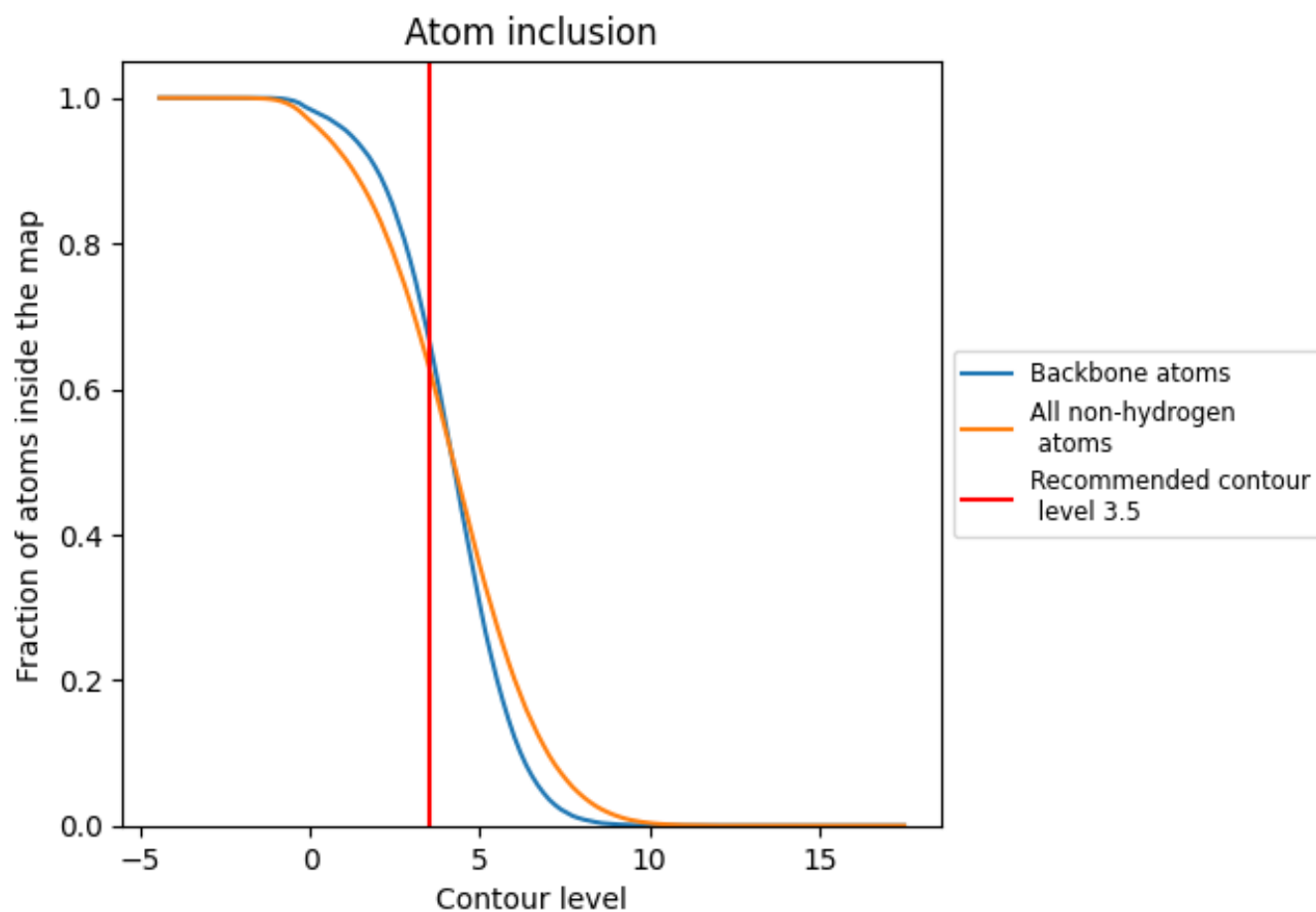
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (3.5).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 67% of all backbone atoms, 63% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (3.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6319	 0.1870
A0	 0.6000	 0.0570
AA	 0.7896	 0.2170
AB	 0.2445	 0.1130
AC	 0.4891	 0.1540
AD	 0.5046	 0.1550
AE	 0.4712	 0.1660
AF	 0.3850	 0.1220
AG	 0.4685	 0.1650
AH	 0.4883	 0.1610
AI	 0.4912	 0.1460
AJ	 0.4215	 0.1330
AK	 0.4786	 0.1730
AL	 0.3380	 0.1780
AM	 0.4899	 0.1470
AN	 0.5503	 0.1730
AO	 0.5226	 0.1560
AP	 0.5599	 0.1570
AQ	 0.4869	 0.1700
AR	 0.4195	 0.1660
AS	 0.5584	 0.1580
AT	 0.5535	 0.1380
AU	 0.6510	 0.1820
AV	 0.6334	 0.2130
AW	 0.1762	 0.1480
AX	 0.5909	 0.1740
AY	 0.6005	 0.1870
AZ	 0.3291	 0.1310
B0	 0.4277	 0.1290
B1	 0.4411	 0.1490
B2	 0.4324	 0.1310
B3	 0.4440	 0.1350
B4	 0.1322	 0.1370
B5	 0.4698	 0.1510
B6	 0.5164	 0.0910



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Chain	Atom inclusion	Q-score
B7	█ 0.4679	█ 0.1760
B8	█ 0.3972	█ 0.1610
B9	█ 0.4520	█ 0.1430
BA	█ 0.7348	█ 0.2130
BB	█ 0.7746	█ 0.1810
BC	█ 0.0726	█ 0.0470
BD	█ 0.4352	█ 0.1710
BE	█ 0.4560	█ 0.1690
BF	█ 0.4120	█ 0.1380
BG	█ 0.4289	█ 0.1190
BH	█ 0.3729	█ 0.1140
BI	█ 0.0967	█ 0.0270
BL	█ 0.0772	█ 0.0500
BN	█ 0.4349	█ 0.1340
BO	█ 0.3085	█ 0.1670
BP	█ 0.4212	█ 0.1630
BQ	█ 0.3636	█ 0.1340
BR	█ 0.5245	█ 0.1580
BS	█ 0.5282	█ 0.1470
BT	█ 0.4421	█ 0.1600
BU	█ 0.5055	█ 0.1460
BV	█ 0.4383	█ 0.1220
BW	█ 0.4971	█ 0.1520
BX	█ 0.4501	█ 0.1240
BY	█ 0.3650	█ 0.1060
BZ	█ 0.2782	█ 0.0840