



Full wwPDB EM Validation Report ⓘ

Dec 2, 2025 – 12:29 PM EST

PDB ID : 9BUT / pdb_00009but
EMDB ID : EMD-44919
Title : Single particle CryoEM structure of the Pf80S ribosome in the rotated-2 PRE state (rt state with P and E-site tRNA)
Authors : Anton, L.; Haile, M.; Ho, C.M.
Deposited on : 2024-05-17
Resolution : 2.80 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.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

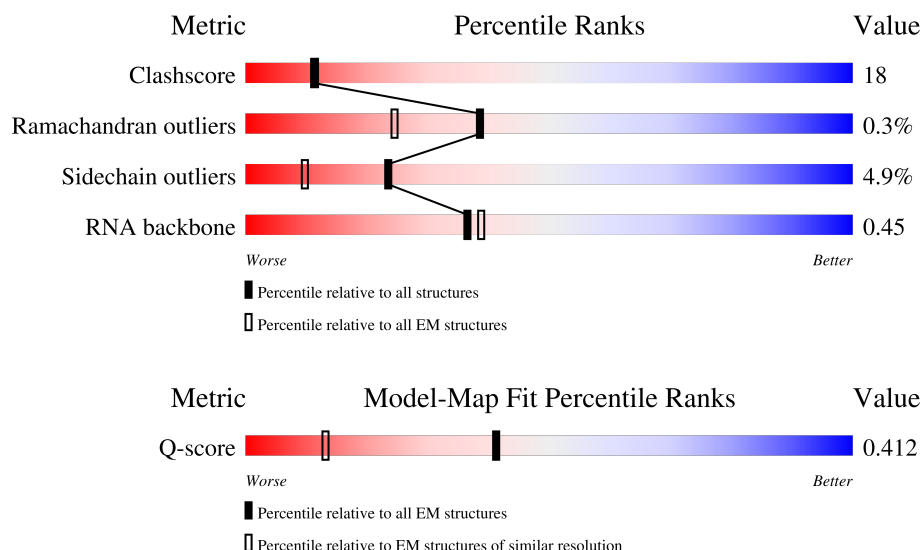
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.80 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	11806 (2.30 - 3.30)

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.

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1	S7	76	
1	S9	76	
2	AA	3788	

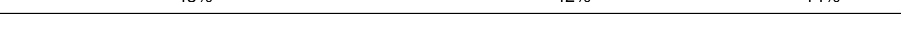
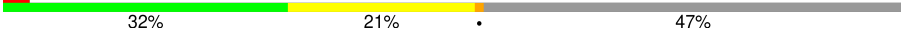
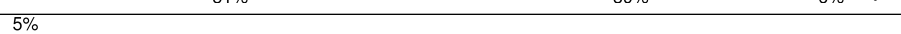
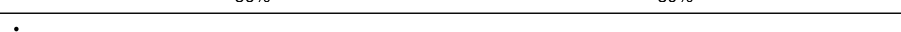
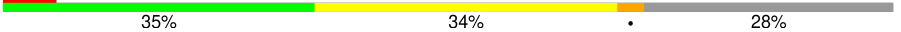
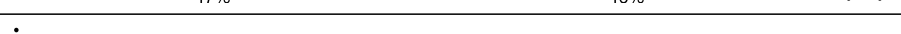
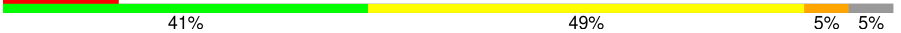
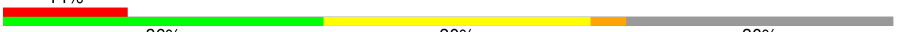
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Mol	Chain	Length	Quality of chain
3	AC	159	
4	AB	119	
5	AL	215	
6	A1	146	
7	A2	127	
8	A4	67	
9	A6	108	
10	A7	120	
11	AN	165	
12	A8	131	
13	A9	140	
14	Aa	150	
15	Ab	112	
16	Ad	87	
17	Ae	51	
18	Af	128	
19	AP	205	
20	Ah	96	
21	Ai	104	
22	AI	221	
23	AJ	283	
24	Ac	92	
25	AK	202	
26	AM	139	
27	AS	187	

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Mol	Chain	Length	Quality of chain
28	AO	148	
29	AQ	219	
30	AR	294	
31	AW	173	
32	AY	190	
33	AT	182	
34	AZ	126	
35	A3	124	
36	A5	257	
37	AD	260	
38	AE	386	
39	AF	411	
40	AG	173	
41	AU	184	
42	AH	190	
43	AV	161	
44	Ag	39	
45	AX	139	
46	A0	162	
47	S1	133	
48	S2	105	
49	S3	107	
50	S4	82	
51	S5	67	
52	S6	58	

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Mol	Chain	Length	Quality of chain
53	SA	2092	
54	SB	262	
55	SC	263	
56	SD	221	
57	SE	189	
58	SF	261	
59	SG	272	
60	SH	306	
61	SI	195	
62	SJ	194	
63	SK	130	
64	SL	218	
65	SM	144	
66	SN	118	
67	SO	137	
68	SP	151	
69	SQ	145	
70	SR	141	
71	SS	156	
72	ST	54	
73	SU	151	
74	SV	161	
75	SW	137	
76	SX	145	
77	SY	170	

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Mol	Chain	Length	Quality of chain
78	SZ	82	48% 35% 5% 12%
79	mR	9	22% 67% 11%

2 Entry composition [i](#)

There are 79 unique types of molecules in this entry. The entry contains 194842 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 tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	S7	76	Total	C	N	O	P	0	0
			1620	723	295	527	75		
1	S9	76	Total	C	N	O	P	0	0
			1620	723	295	527	75		

- Molecule 2 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	AA	3193	Total	C	N	O	P	0	0
			67884	30446	12053	22224	3161		

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AC	151	Total	C	N	O	P	0	0
			3215	1444	589	1034	148		

- Molecule 4 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AB	118	Total	C	N	O	P	0	0
			2517	1126	457	817	117		

- Molecule 5 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	AL	211	Total	C	N	O	S	0	0
			1761	1119	349	290	3		

- Molecule 6 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A1	140	Total	C	N	O	S	0	0
			1134	736	204	191	3		

- Molecule 7 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A2	105	Total	C	N	O	S	0	0
			837	534	152	148	3		

- Molecule 8 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A4	66	Total	C	N	O	S	0	0
			555	347	116	90	2		

- Molecule 9 is a protein called 60S ribosomal protein L30e.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	A6	98	Total	C	N	O	S	0	0
			740	462	132	139	7		

- Molecule 10 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	A7	96	Total	C	N	O	S	0	0
			793	508	151	129	5		

- Molecule 11 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AN	147	Total	C	N	O	S	0	0
			1210	787	212	205	6		

- Molecule 12 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	A8	125	Total	C	N	O	S	0	0
			1036	660	206	163	7		

- Molecule 13 is a protein called 60S ribosomal protein L35ae.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	A9	103	Total	C	N	O	S	0	0
			844	543	163	135	3		

- Molecule 14 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Aa	106	Total	C	N	O	S	0	0
			858	530	184	138	6		

- Molecule 15 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Ab	95	Total	C	N	O	S	0	0
			756	477	150	129			

- Molecule 16 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Ad	72	Total	C	N	O	S	0	0
			603	395	107	99	2		

- Molecule 17 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Ae	43	Total	C	N	O	S	0	0
			388	243	92	52	1		

- Molecule 18 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Af	51	Total	C	N	O	S	0	0
			413	255	87	66	5		

- Molecule 19 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AP	204	Total	C	N	O	S	0	0
			1697	1075	351	267	4		

- Molecule 20 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Ah	85	Total	C	N	O	S	0	0
			658	417	127	107	7		

- Molecule 21 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Ai	95	Total	C	N	O	S	0	0
			778	490	152	127	9		

- Molecule 22 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AI	207	Total	C	N	O	S	0	0
			1685	1096	298	286	5		

- Molecule 23 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AJ	222	Total	C	N	O	S	0	0
			1813	1174	323	309	7		

- Molecule 24 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Ac	89	Total	C	N	O	S	0	0
			709	441	150	113	5		

- Molecule 25 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AK	201	Total	C	N	O	S	0	0
			1659	1064	311	276	8		

- Molecule 26 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AM	132	Total	C	N	O	S	0	0
			996	631	179	178	8		

- Molecule 27 is a protein called 60S ribosomal protein L18-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AS	186	Total	C	N	O	S	0	0
			1503	958	299	241	5		

- Molecule 28 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AO	147	Total	C	N	O	S	0	0
			1172	747	232	189	4		

- Molecule 29 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AQ	189	Total	C	N	O	S	0	0
			1544	984	291	261	8		

- Molecule 30 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AR	252	Total	C	N	O	S	0	0
			2049	1301	385	357	6		

- Molecule 31 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	AW	170	Total	C	N	O	S	0	0
			1319	824	266	222	7		

- Molecule 32 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	AY	101	Total	C	N	O	S	0	0
			796	502	144	144	6		

- Molecule 33 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	AT	181	Total	C	N	O	S	0	0
			1509	952	309	244	4		

- Molecule 34 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	AZ	121	Total	C	N	O	S	0	0
			1000	626	206	165	3		

- Molecule 35 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	A3	119	Total	C	N	O	S	0	0
			994	635	194	163	2		

- Molecule 36 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	A5	223	Total	C	N	O	S	0	0
			1879	1211	357	306	5		

- Molecule 37 is a protein called 60S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	AD	247	Total	C	N	O	S	0	0
			1866	1166	374	317	9		

- Molecule 38 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	AE	380	Total	C	N	O	S	0	0
			3061	1948	575	521	17		

- Molecule 39 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	AF	390	Total	C	N	O	S	0	0
			3094	1962	594	527	11		

- Molecule 40 is a protein called 60S ribosomal protein L11a.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	AG	124	Total	C	N	O	S	0	0
			1010	636	197	171	6		

- Molecule 41 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	AU	180	Total	C	N	O	S	0	0
			1497	946	289	255	7		

- Molecule 42 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	AH	185	Total	C	N	O	S	0	0
			1475	950	264	255	6		

- Molecule 43 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AV	155	Total	C	N	O	S	0	0
			1275	814	241	214	6		

- Molecule 44 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ag	37	Total	C	N	O	S	0	0
			343	210	86	45	2		

- Molecule 45 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	AX	97	Total	C	N	O	S	0	0
			824	548	135	139	2		

- Molecule 46 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	A0	62	Total	C	N	O	S	0	0
			521	336	97	87	1		

- Molecule 47 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S1	120	Total	C	N	O	S	0	0
			985	632	189	162	2		

- Molecule 48 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	S2	41	Total	C	N	O	0	0
			320	208	56	56		

- Molecule 49 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	S3	95	Total	C	N	O	S	0	0
			781	478	169	128	6		

- Molecule 50 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	S4	76	Total	C	N	O	S	0	0
			586	368	102	107	9		

- Molecule 51 is a protein called 40S ribosomal protein S28e.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	S5	59	Total	C	N	O	S	0	0
			465	290	94	80	1		

- Molecule 52 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	S6	43	Total	C	N	O	0	0
			345	213	75	57		

- Molecule 53 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SA	1608	Total	C	N	O	P	0	0
			34208	15346	6106	11170	1586		

- Molecule 54 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SB	210	Total	C	N	O	S	0	0
			1713	1097	301	303	12		

- Molecule 55 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SC	195	Total	C	N	O	S	0	0
			1538	990	266	273	9		

- Molecule 56 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SD	157	Total	C	N	O	S	0	0
			1228	782	225	214	7		

- Molecule 57 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SE	185	Total	C	N	O	S	0	0
			1514	962	290	260	2		

- Molecule 58 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SF	257	Total	C	N	O	S	0	0
			2061	1320	377	356	8		

- Molecule 59 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SG	224	Total	C	N	O	S	0	0
			1757	1132	307	309	9		

- Molecule 60 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SH	204	Total	C	N	O	S	0	0
			1651	1046	316	283	6		

- Molecule 61 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SI	180	Total	C	N	O	S	0	0
			1424	893	263	258	10		

- Molecule 62 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SJ	188	Total	C	N	O	S	0	0
			1528	982	264	278	4		

- Molecule 63 is a protein called 40S ribosomal protein S15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SK	129	Total	C	N	O	S	0	0
			1037	665	189	178	5		

- Molecule 64 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SL	171	Total	C	N	O	S	0	0
			1383	872	264	243	4		

- Molecule 65 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SM	138	Total	C	N	O	S	0	0
			1098	704	200	193	1		

- Molecule 66 is a protein called 40S ribosomal protein S20e.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	SN	98	Total	C	N	O	S	0	0
			772	484	135	148	5		

- Molecule 67 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	SO	79	Total	C	N	O	S	0	0
			686	450	116	118	2		

- Molecule 68 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SP	127	Total	C	N	O	S	0	0
			954	591	184	176	3		

- Molecule 69 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SQ	144	Total	C	N	O	S	0	0
			1129	712	222	193	2		

- Molecule 70 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SR	98	Total	C	N	O	S	0	0
			746	474	123	145	4		

- Molecule 71 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SS	128	Total	C	N	O	S	0	0
			1046	657	205	180	4		

- Molecule 72 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	ST	48	Total	C	N	O	S	0	0
			405	252	85	64	4		

- Molecule 73 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	SU	149	Total	C	N	O	S	0	0
			1202	769	220	210	3		

- Molecule 74 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	SV	146	Total	C	N	O	S	0	0
			1206	772	227	200	7		

- Molecule 75 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	SW	95	Total	C	N	O	S	0	0
			785	498	149	135	3		

- Molecule 76 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	SX	96	Total	C	N	O	S	0	0
			776	497	137	138	4		

- Molecule 77 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	SY	154	Total	C	N	O	S	0	0
			1266	811	239	214	2		

- Molecule 78 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	SZ	72	Total	C	N	O	S	0	0
			557	346	102	105	4		

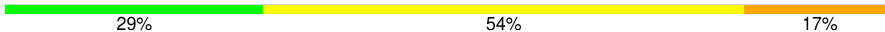
- Molecule 79 is a RNA chain called mRNA.

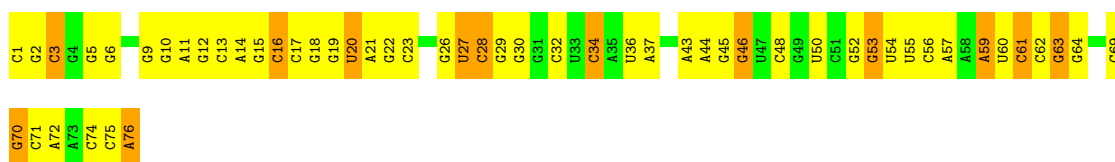
Mol	Chain	Residues	Atoms					AltConf	Trace
79	mR	9	Total	C	N	O	P	0	0
			180	81	18	72	9		

3 Residue-property plots

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.

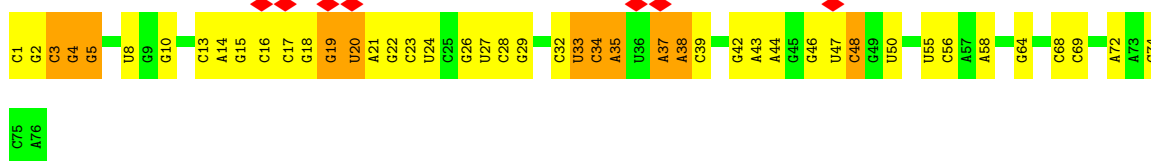
• Molecule 1: tRNA

Chain S7: 



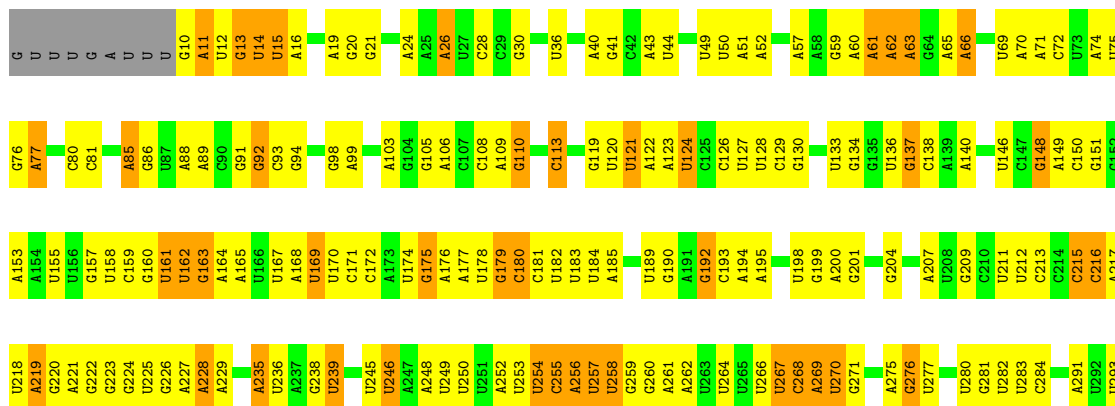
• Molecule 1: tRNA

Chain S9: 



• Molecule 2: 28S ribosomal RNA

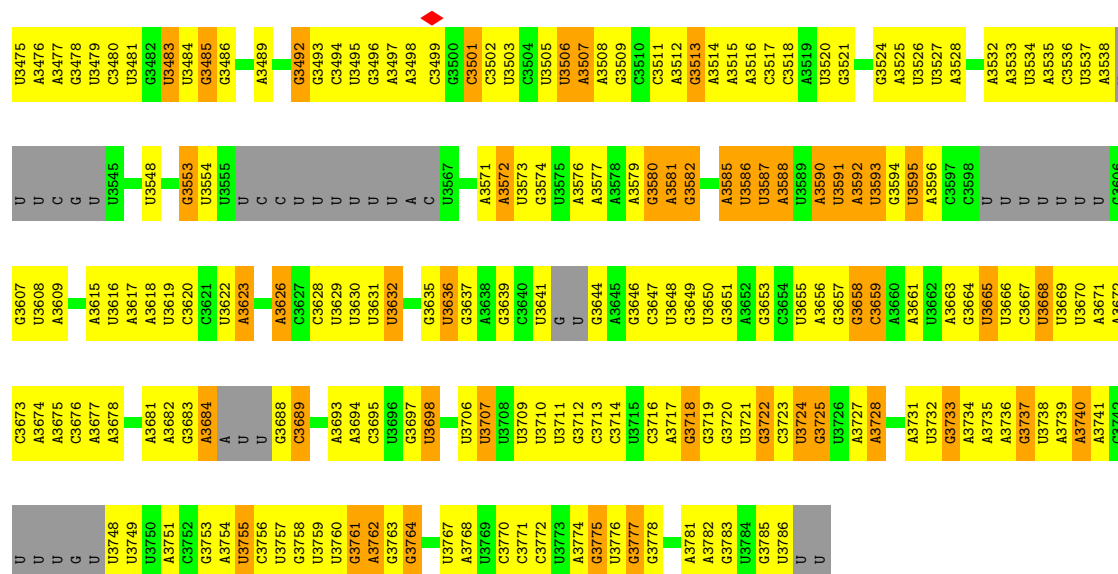
Chain AA: 





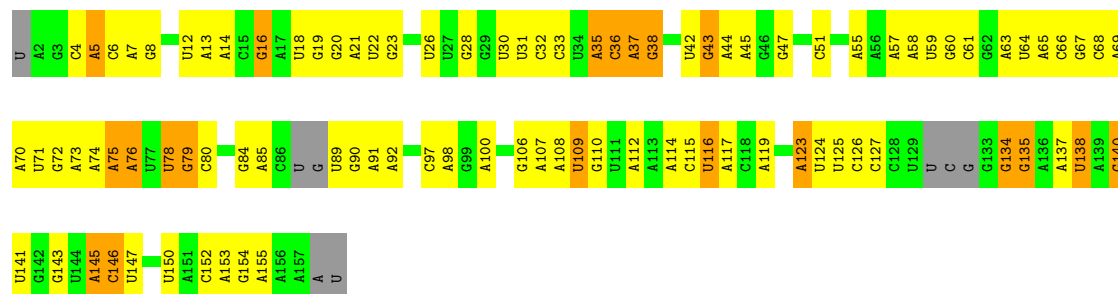






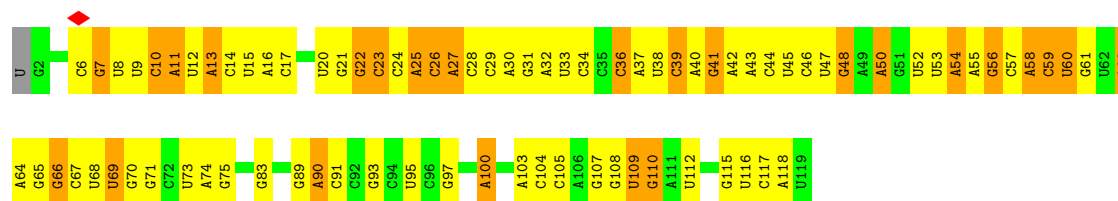
• Molecule 3: 5.8S ribosomal RNA

Chain AC: 36% 47% 13% 5%



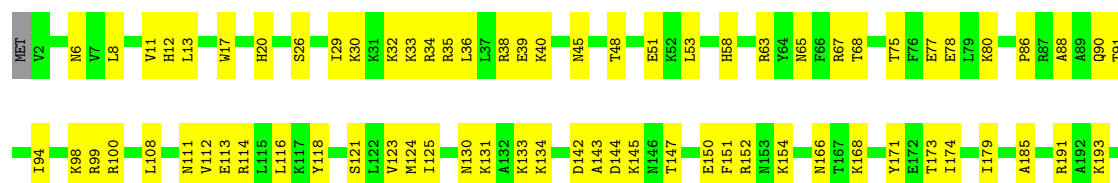
• Molecule 4: 5S ribosomal RNA

Chain AB: 29% 48% 22%



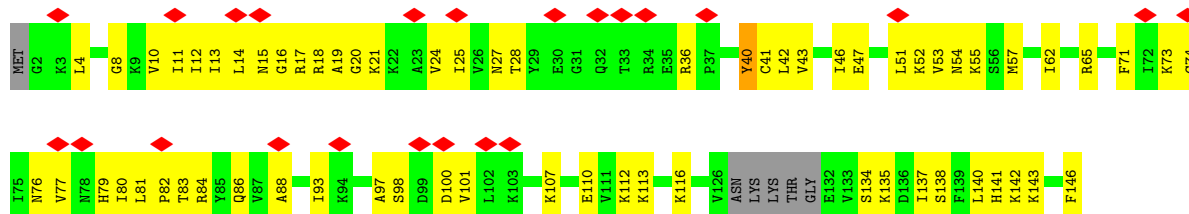
• Molecule 5: 60S ribosomal protein L13

Chain AL: 62% 36%

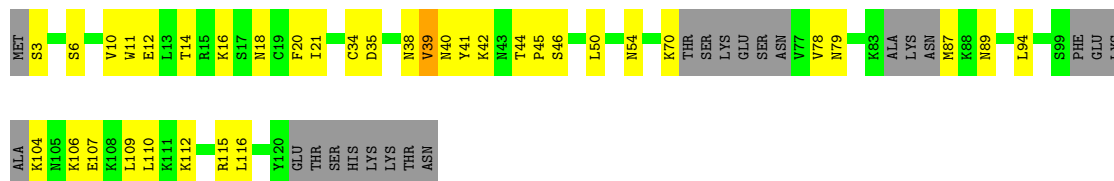




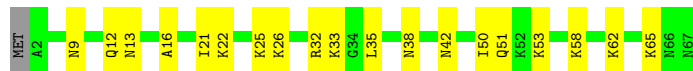
- Molecule 6: 60S ribosomal protein L27



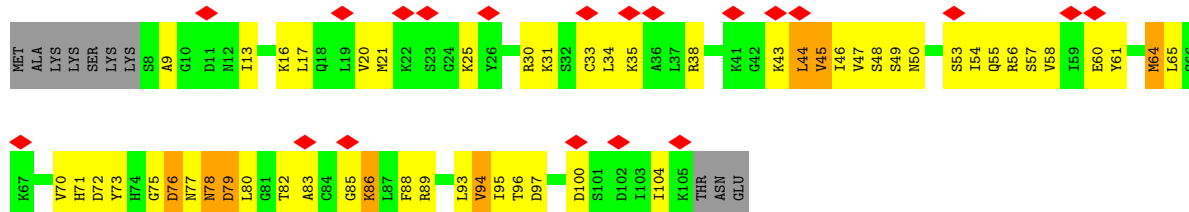
- Molecule 7: 60S ribosomal protein L28



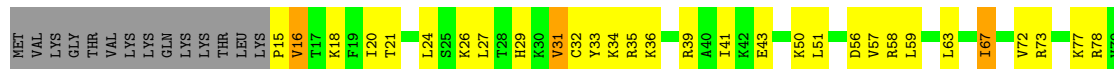
- Molecule 8: 60S ribosomal protein L29



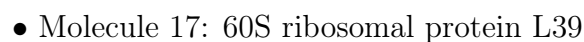
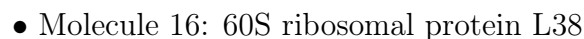
- Molecule 9: 60S ribosomal protein L30e



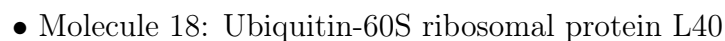
- Molecule 10: 60S ribosomal protein L31



Response	Percentage
Yes	52%
No	31%
Don't know	15%



Response	Percentage
Yes	49%
No	33%
Don't know	1%
No answer	16%



Category	Percentage
Very bad	8%
Bad	15%
Okay	23%
Good	60%



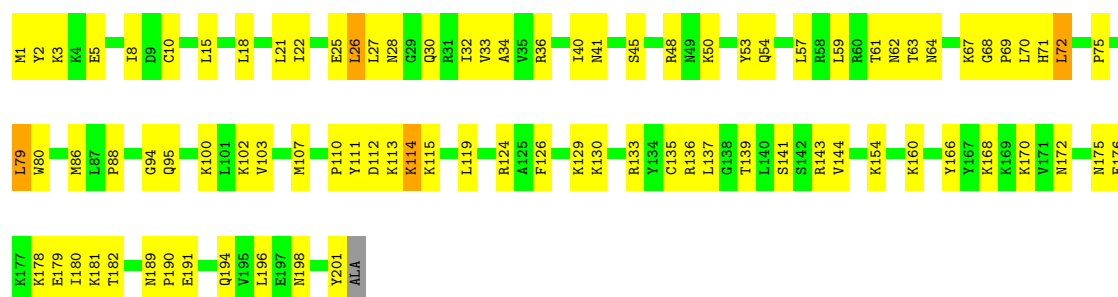
Response	Percentage
Yes, the U.S. should take action to protect the environment	58%
No, the U.S. should not take action to protect the environment	39%



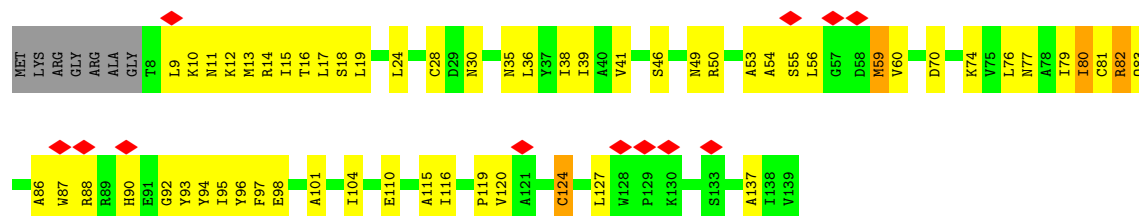
• Molecule 24: Ribosomal protein L37



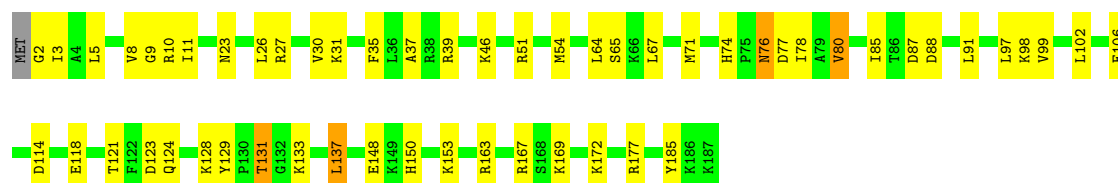
• Molecule 25: 60S ribosomal protein L13



• Molecule 26: 60S ribosomal protein L23



• Molecule 27: 60S ribosomal protein L18-2

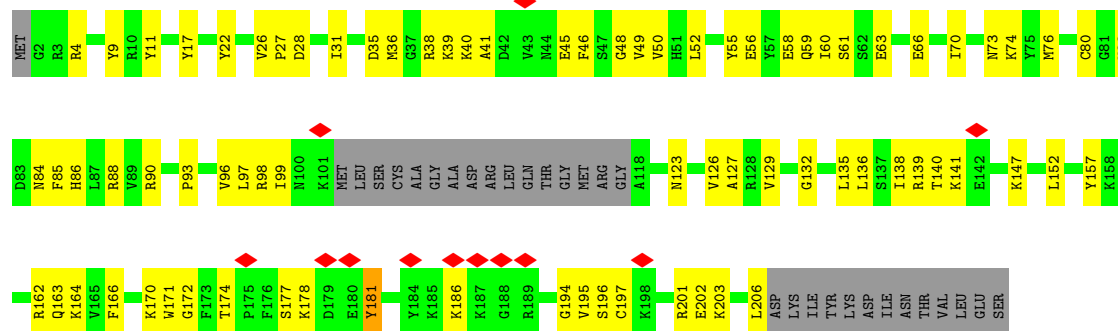


• Molecule 28: 60S ribosomal protein L27a

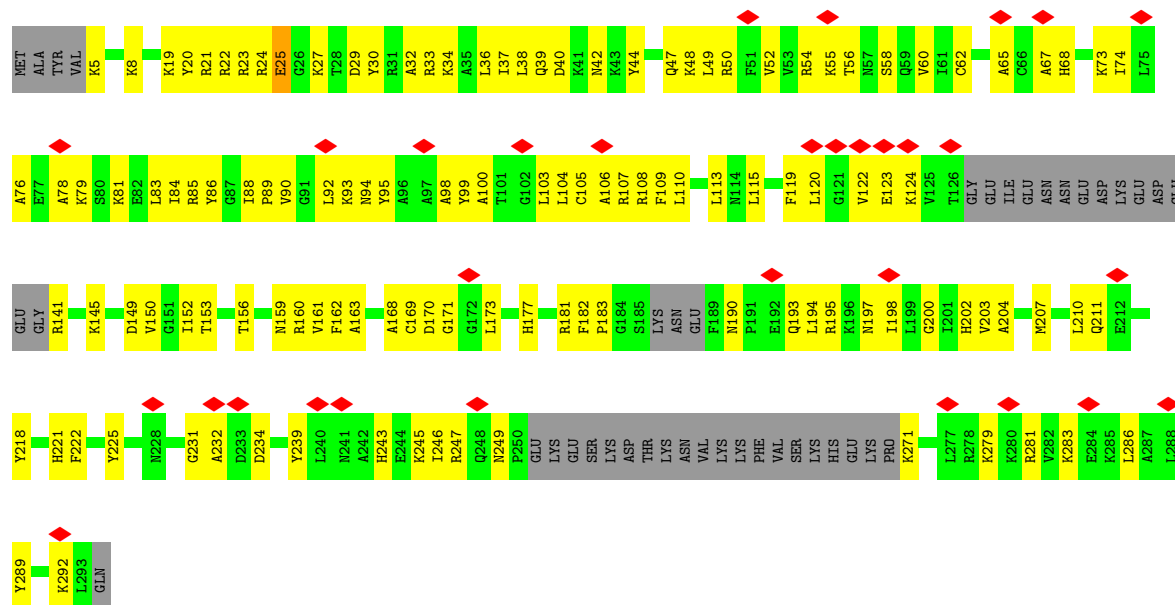
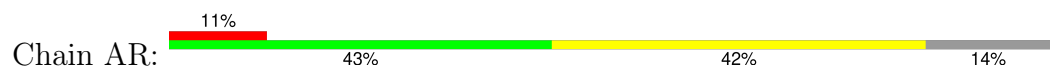




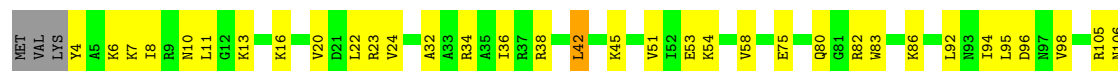
• Molecule 29: 60S ribosomal protein L10

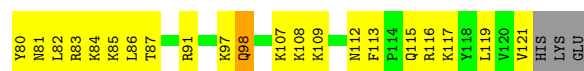


• Molecule 30: 60S ribosomal protein L5

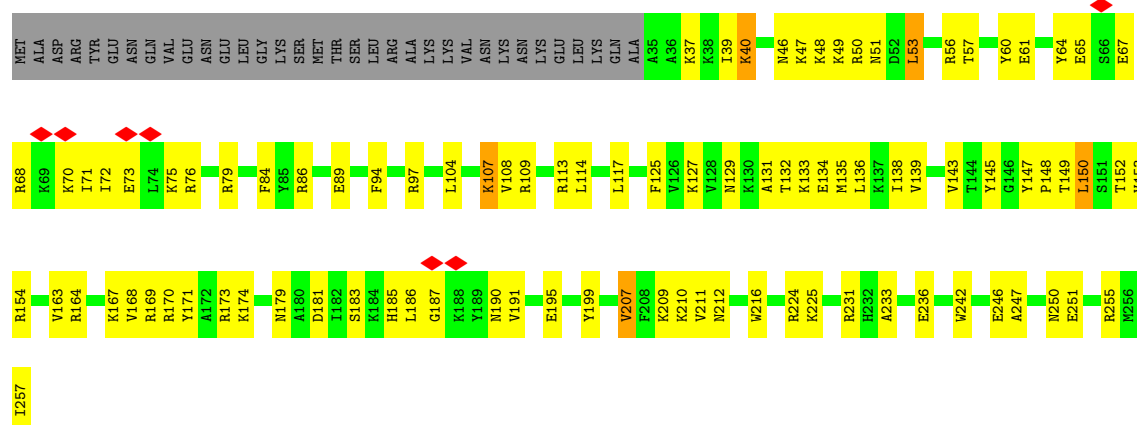


• Molecule 31: 60S ribosomal protein L17





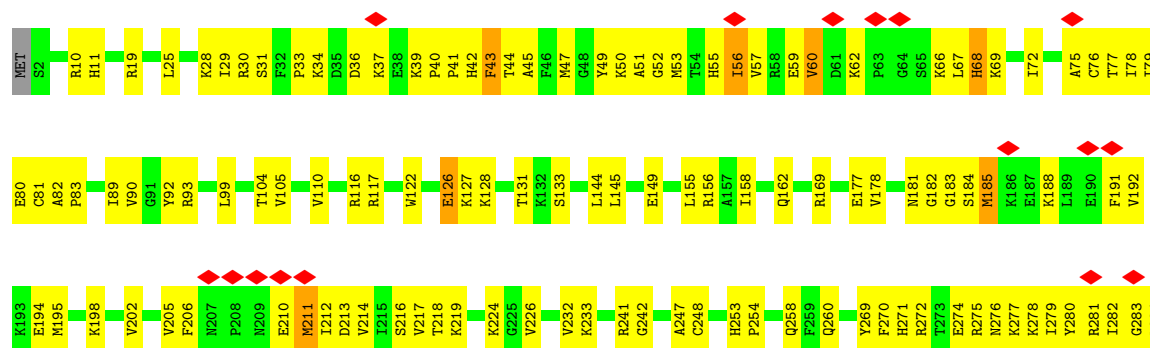
• Molecule 36: 60S ribosomal protein L7

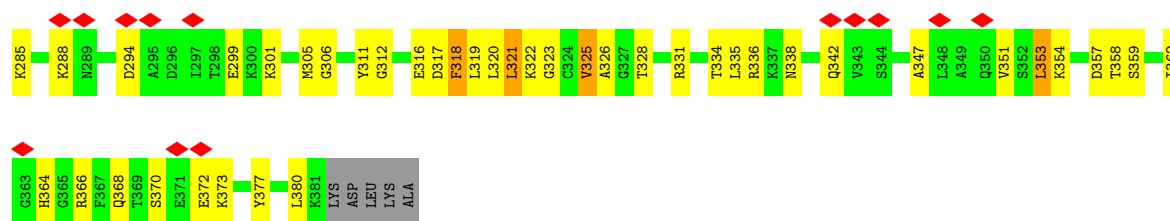


• Molecule 37: 60S ribosomal protein L2



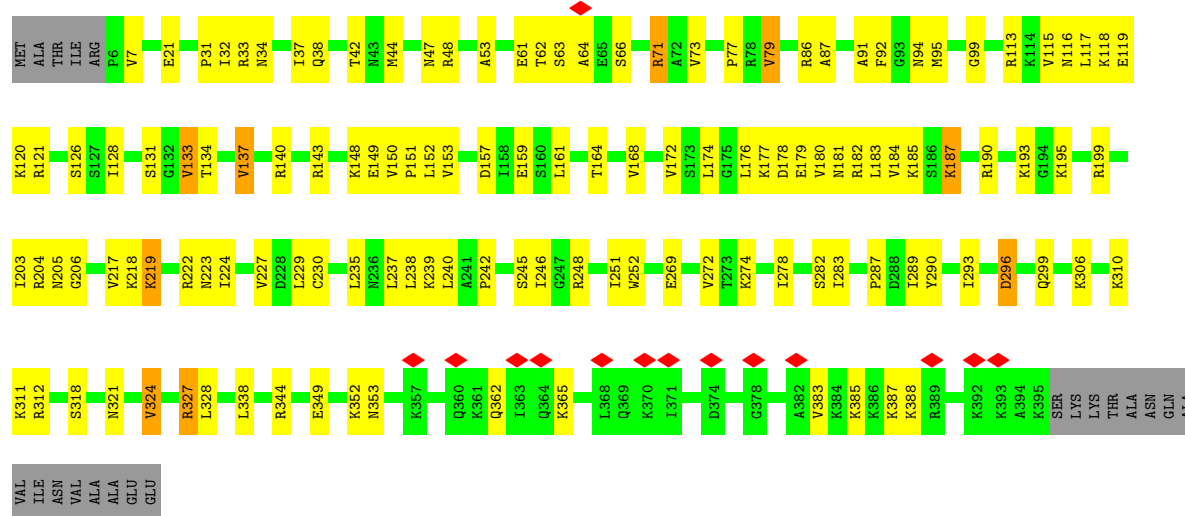
• Molecule 38: 60S ribosomal protein L3





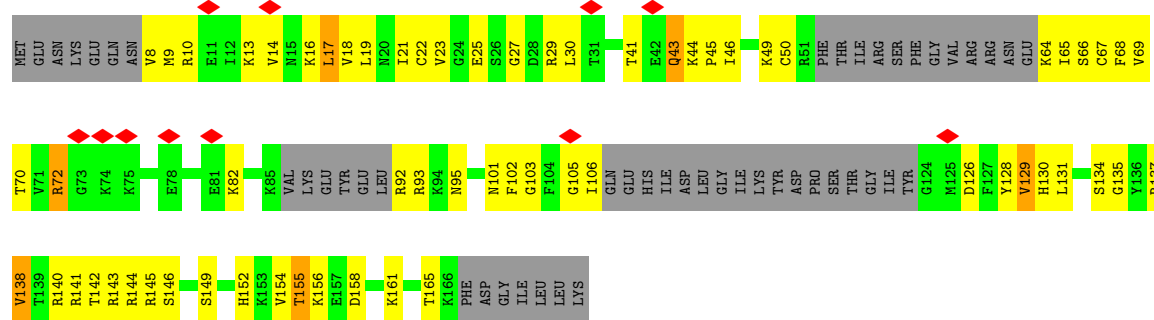
• Molecule 39: 60S ribosomal protein L4

Chain AF: 64% 29% 5%



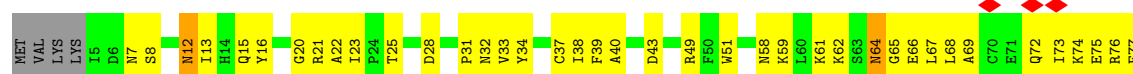
• Molecule 40: 60S ribosomal protein L11a

Chain AG: 35% 34% 6%



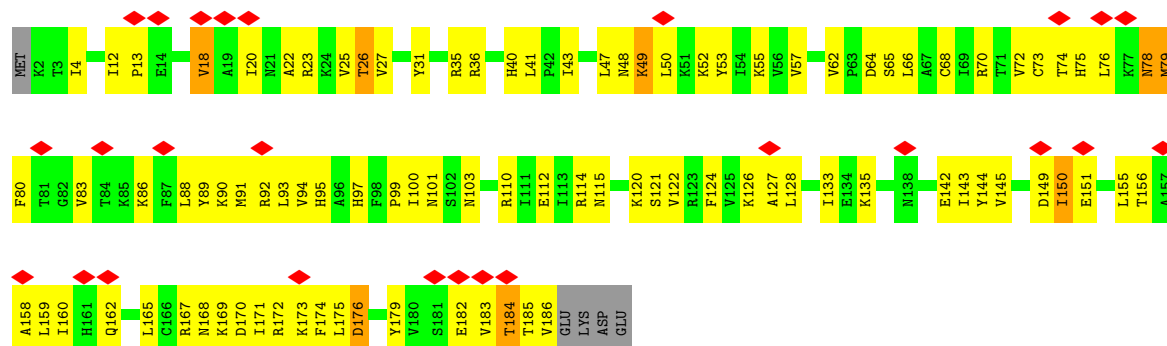
• Molecule 41: 60S ribosomal protein L18a

Chain AU: 55% 40% 6%

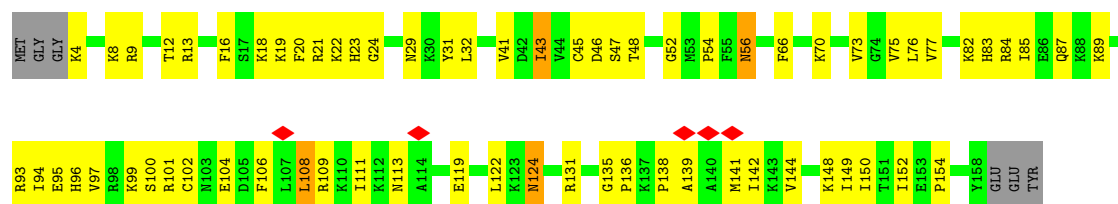




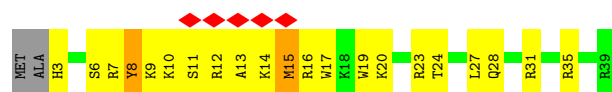
• Molecule 42: 60S ribosomal protein L6



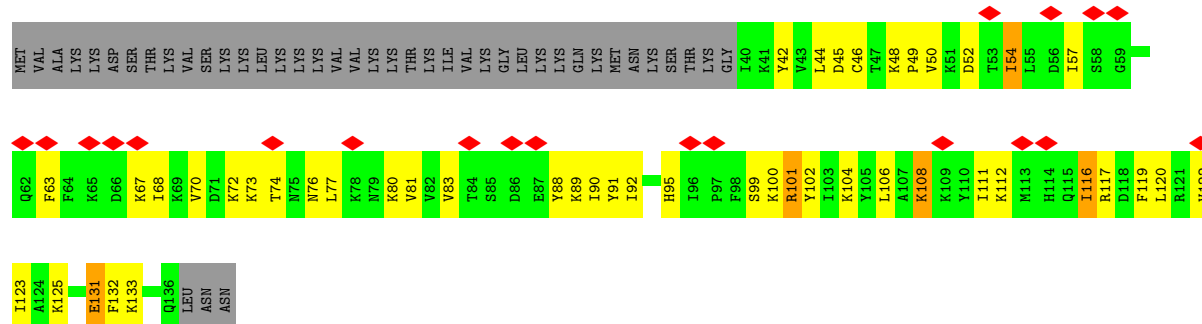
• Molecule 43: 60S ribosomal protein L21



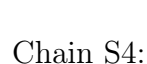
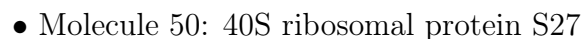
• Molecule 44: 60S ribosomal protein L41

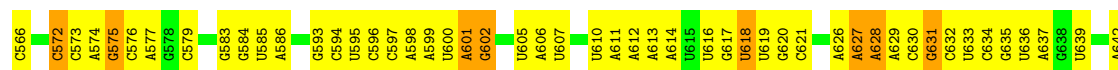


• Molecule 45: 60S ribosomal protein L22

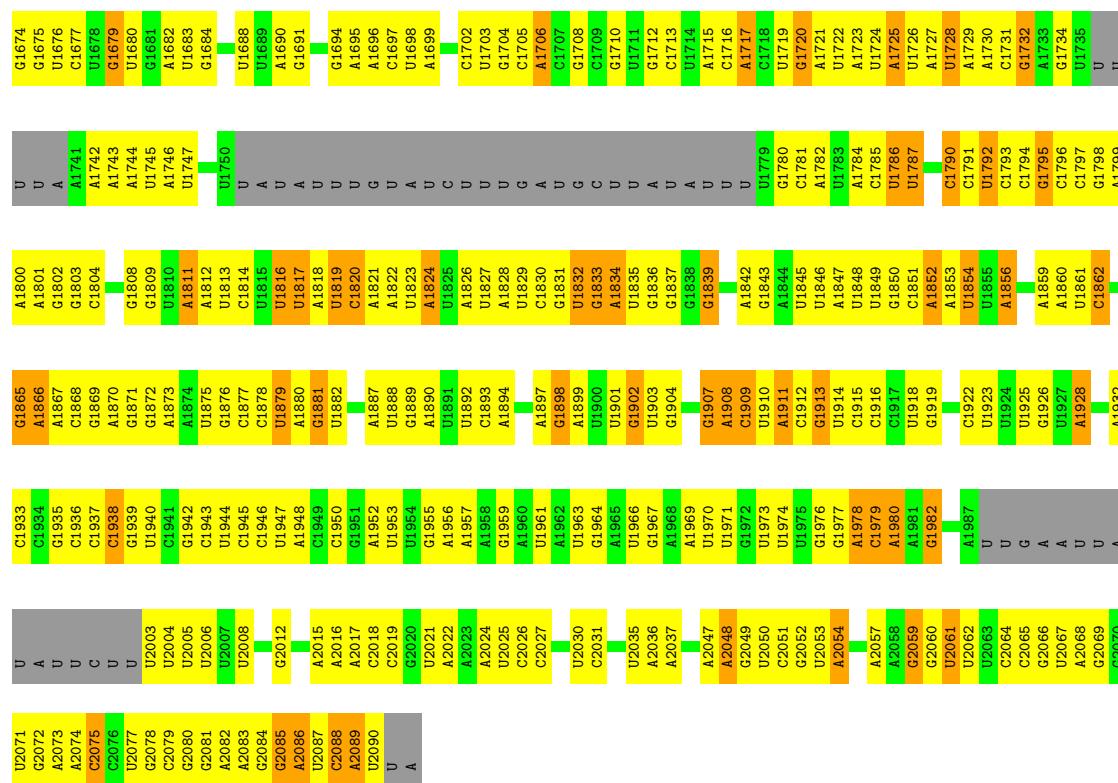


- Chain A0:

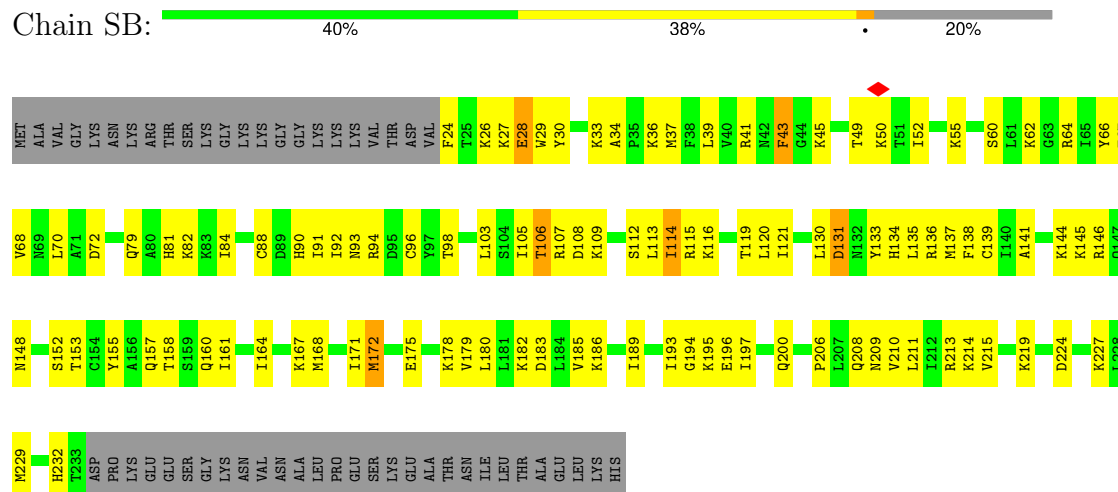




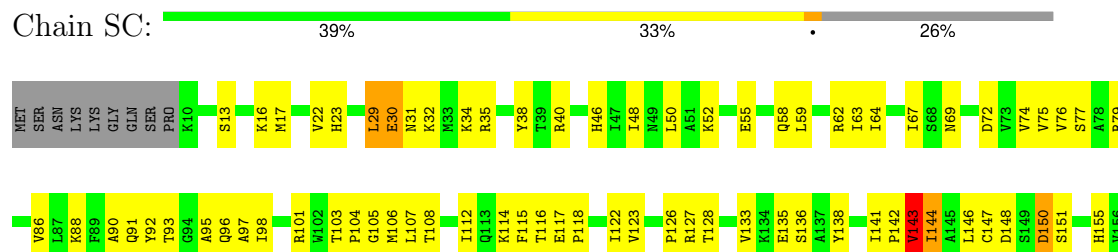


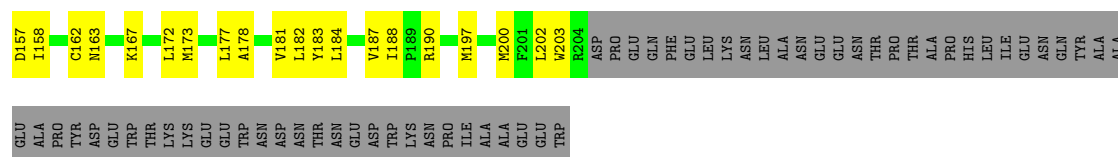


- Molecule 54: 40S ribosomal protein S3a

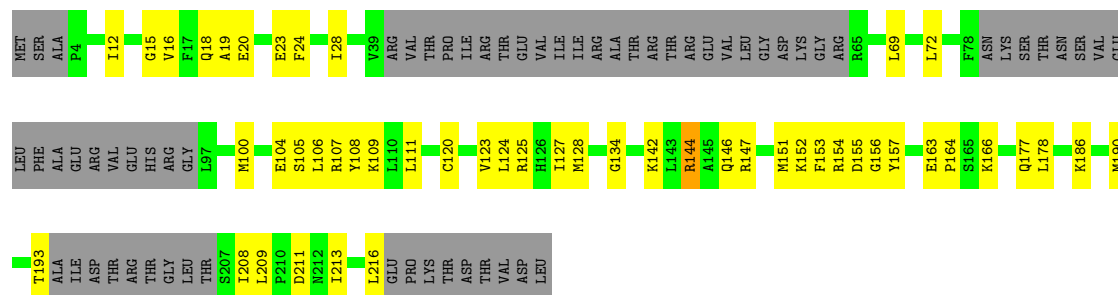


- Molecule 55: 40S ribosomal protein SA

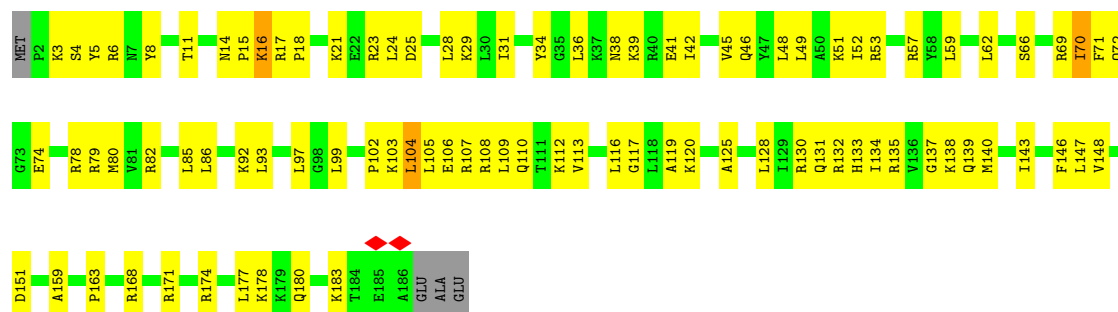




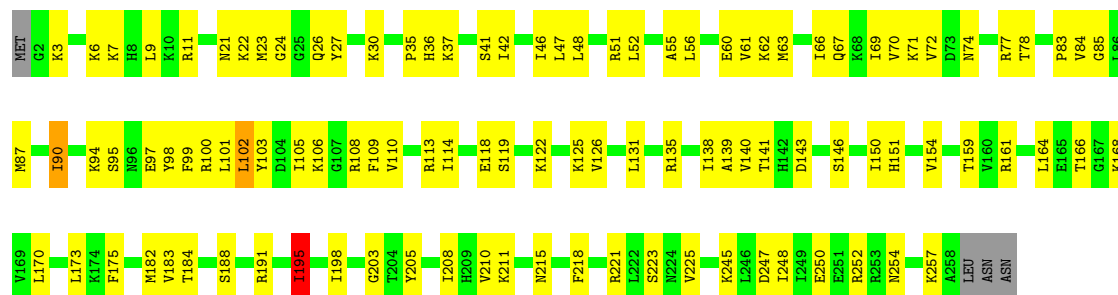
• Molecule 56: 40S ribosomal protein S3



• Molecule 57: 40S ribosomal protein S9

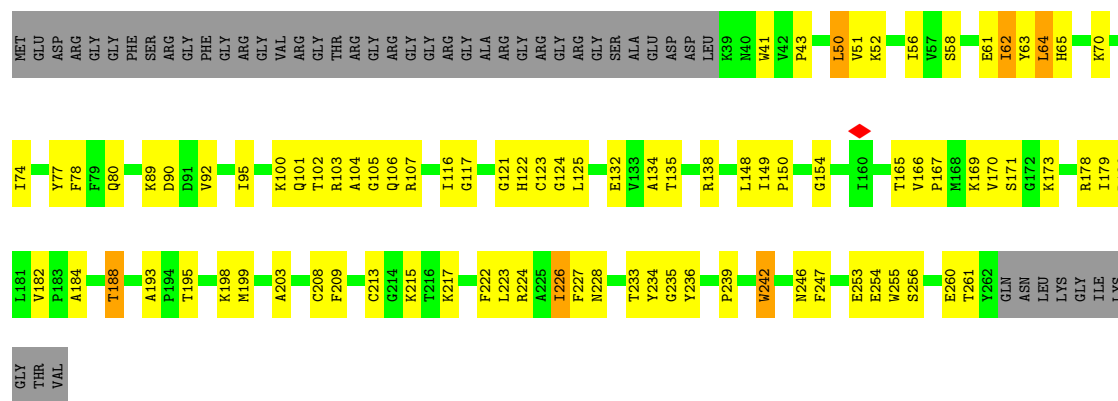


• Molecule 58: 40S ribosomal protein S4



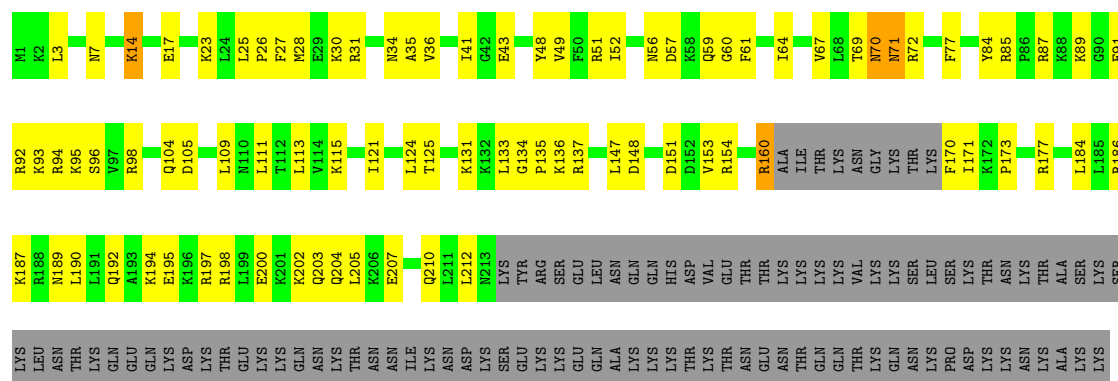
• Molecule 59: 40S ribosomal protein S5





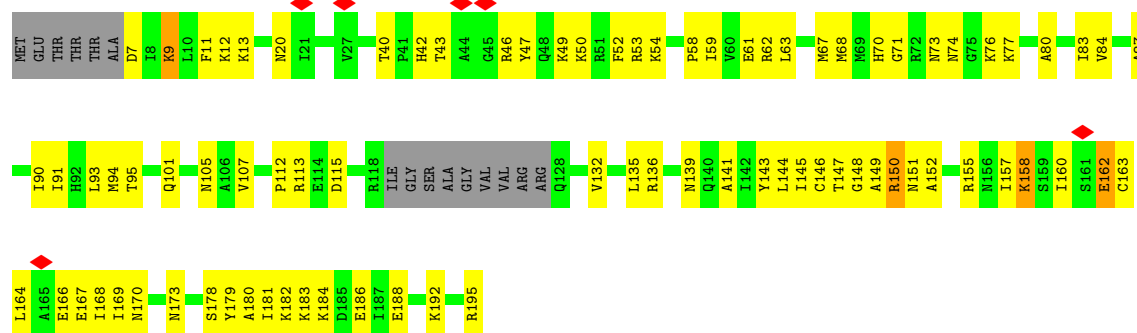
• Molecule 60: 40S ribosomal protein S6

Chain SH: 39% 27% • 33%



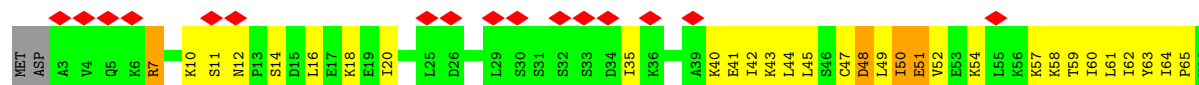
• Molecule 61: 40S ribosomal protein S5

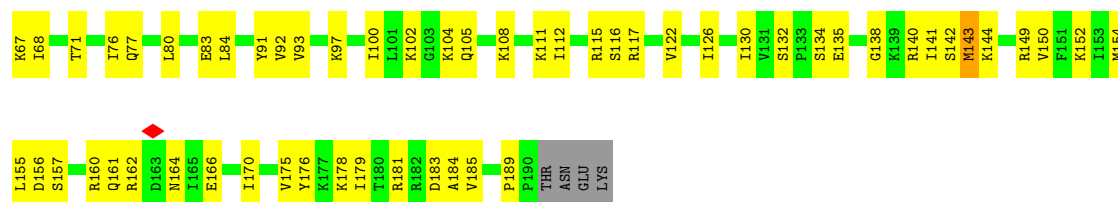
Chain SI: 50% 41% • 8%



• Molecule 62: 40S ribosomal protein S7

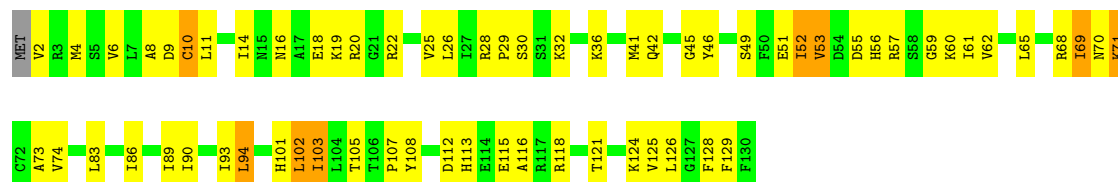
Chain SJ: 9% 52% 42% • •





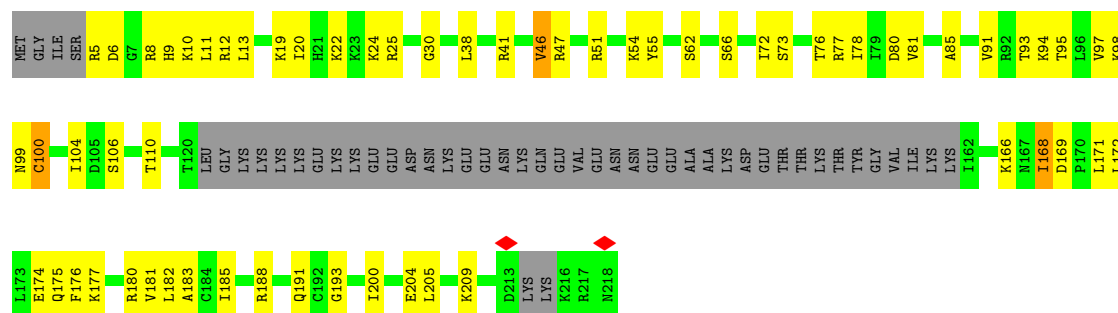
• Molecule 63: 40S ribosomal protein S15A

Chain SK: 49% 44% 6%



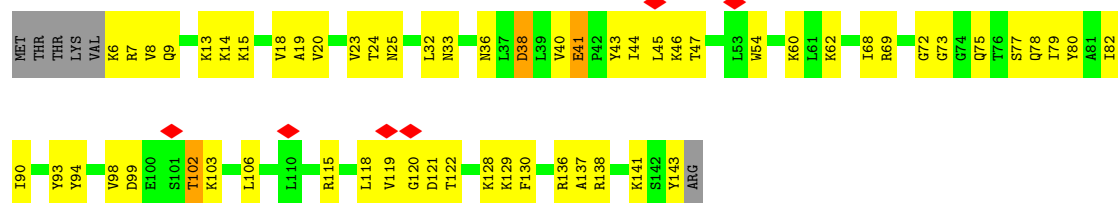
• Molecule 64: 40S ribosomal protein S8

Chain SL: 50% 28% 22%



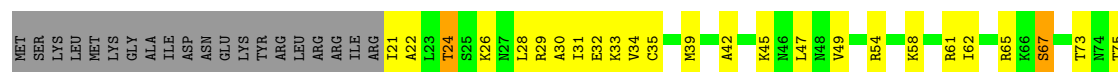
• Molecule 65: 40S ribosomal protein S16

Chain SM: 55% 39%



• Molecule 66: 40S ribosomal protein S20e

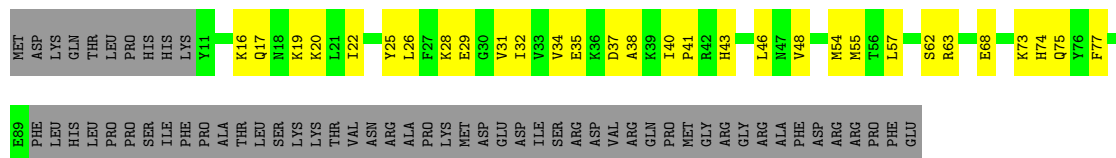
Chain SN: 49% 32% 17%





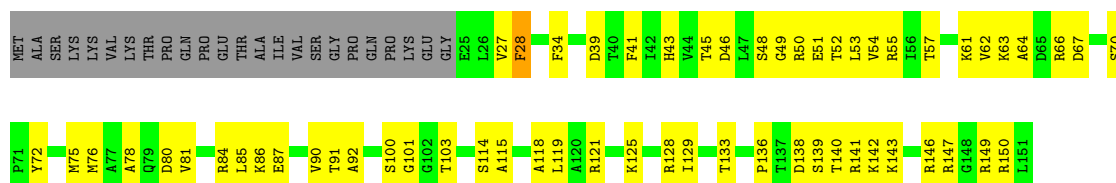
- Molecule 67: 40S ribosomal protein S10

Chain SO:



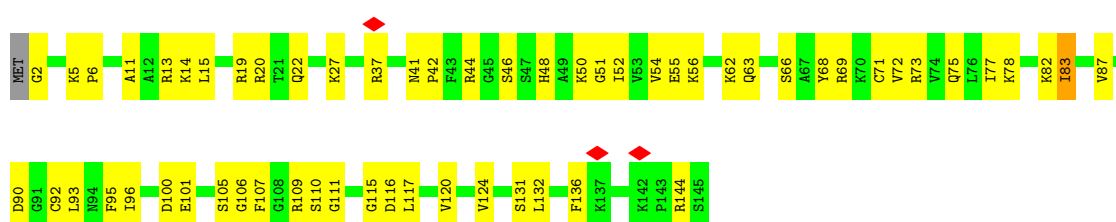
- Molecule 68: 40S ribosomal protein S11

Chain SP:



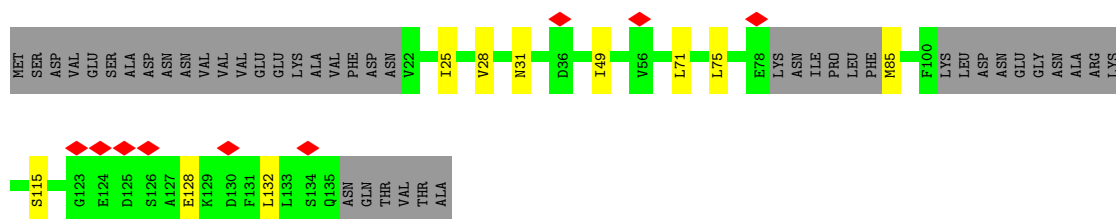
- Molecule 69: 40S ribosomal protein S23

Chain SQ:



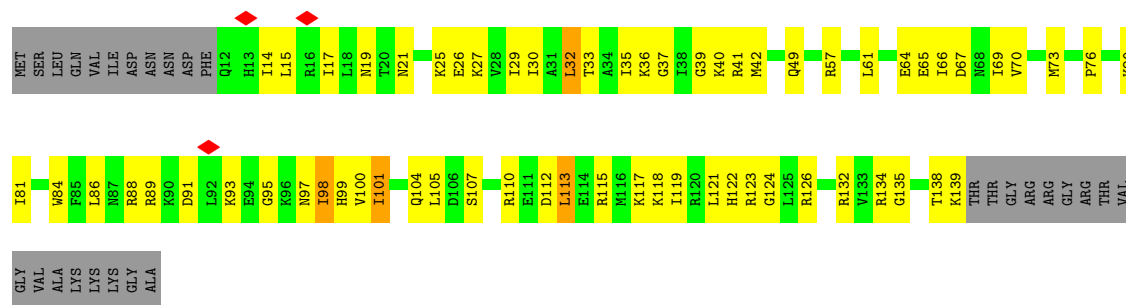
- Molecule 70: 40S ribosomal protein S12

Chain SR:



- Molecule 71: 40S ribosomal protein S18

Chain SS:



• Molecule 72: 40S ribosomal protein S29



• Molecule 73: 40S ribosomal protein S15

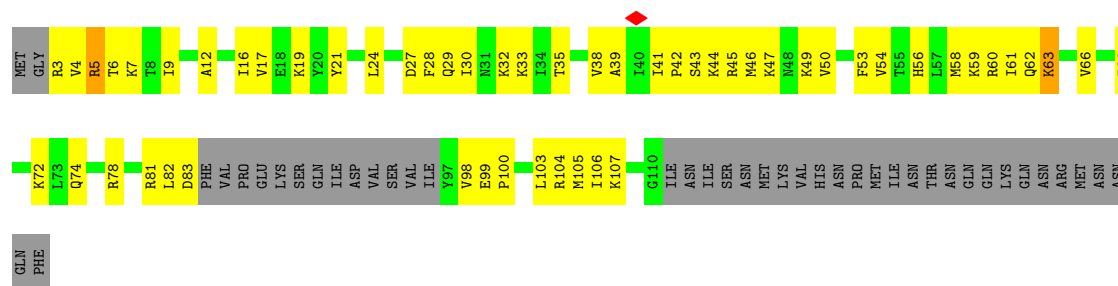


• Molecule 74: 40S ribosomal protein S11



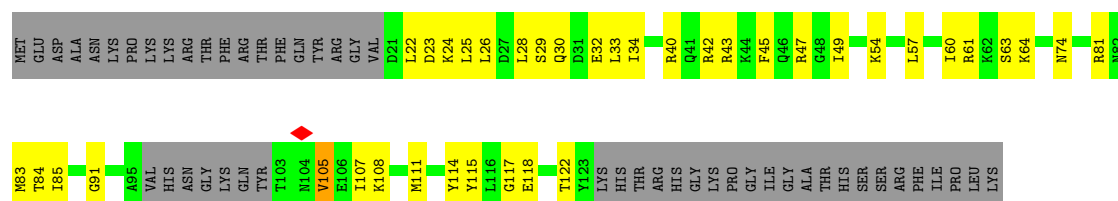
• Molecule 75: 40S ribosomal protein S17





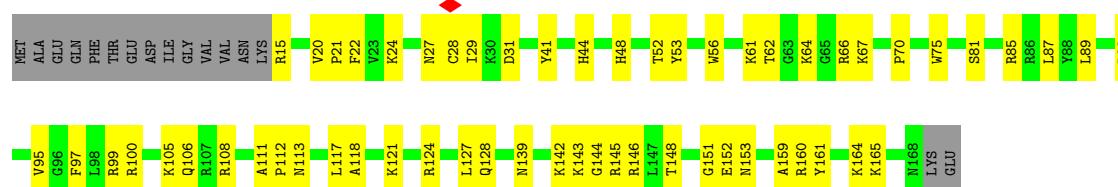
- Molecule 76: 40S ribosomal protein S19

Chain SX: 40% 26% 34%



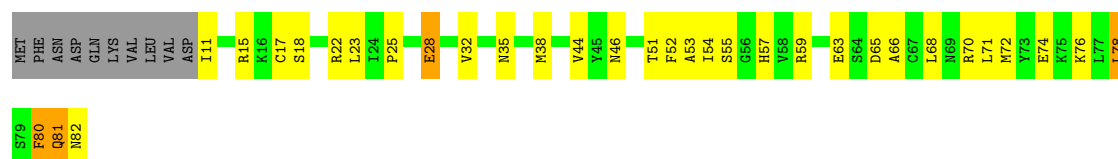
- Molecule 77: 40S ribosomal protein S19

Chain SY: 56% 34% 9%



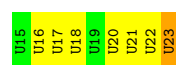
- Molecule 78: 40S ribosomal protein S21

Chain SZ: 48% 35% 5% 12%



- Molecule 79: mRNA

Chain mR: 22% 67% 11%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	69147	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.068	Depositor
Minimum map value	-0.027	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.00277	Depositor
Map size (Å)	415.0, 415.0, 415.0	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality

5.1 Standard geometry

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	S7	0.11	0/1810	0.28	0/2821
1	S9	0.09	0/1810	0.25	0/2821
2	AA	0.13	0/75947	0.30	0/118255
3	AC	0.12	0/3599	0.27	0/5603
4	AB	0.15	0/2816	0.34	0/4388
5	AL	0.14	0/1793	0.40	0/2387
6	A1	0.15	0/1151	0.44	0/1531
7	A2	0.14	0/846	0.39	0/1124
8	A4	0.16	0/564	0.38	0/737
9	A6	0.18	0/748	0.48	0/1001
10	A7	0.16	0/805	0.40	0/1073
11	AN	0.13	0/1226	0.38	0/1632
12	A8	0.16	0/1053	0.47	0/1399
13	A9	0.16	0/864	0.44	0/1160
14	Aa	0.18	0/871	0.52	0/1161
15	Ab	0.16	0/762	0.43	0/1008
16	Ad	0.15	0/611	0.45	0/812
17	Ae	0.12	0/396	0.30	0/521
18	Af	0.16	0/418	0.48	0/556
19	AP	0.14	0/1735	0.40	1/2320 (0.0%)
20	Ah	0.16	0/667	0.43	0/887
21	Ai	0.12	0/788	0.36	0/1032
22	AI	0.14	0/1708	0.37	0/2274
23	AJ	0.14	0/1840	0.37	0/2456
24	Ac	0.13	0/722	0.37	0/951
25	AK	0.14	0/1689	0.35	0/2260
26	AM	0.15	0/1012	0.43	0/1363
27	AS	0.13	0/1531	0.36	0/2040
28	AO	0.15	0/1199	0.38	0/1597
29	AQ	0.14	0/1579	0.41	0/2113
30	AR	0.18	0/2078	0.45	1/2776 (0.0%)
31	AW	0.14	0/1244	0.37	0/1663
32	AY	0.16	0/805	0.40	0/1074
33	AT	0.15	0/1525	0.42	0/2016

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
34	AZ	0.14	0/1012	0.41	0/1339
35	A3	0.21	0/1004	0.48	0/1329
36	A5	0.16	0/1917	0.45	0/2562
37	AD	0.14	0/1901	0.35	0/2544
38	AE	0.14	0/3129	0.38	0/4195
39	AF	0.14	0/3144	0.36	0/4205
40	AG	0.16	0/1020	0.45	1/1349 (0.1%)
41	AU	0.16	0/1527	0.41	0/2043
42	AH	0.18	0/1500	0.51	0/2025
43	AV	0.18	0/1300	0.44	0/1732
44	Ag	0.18	0/348	0.45	0/448
45	AX	0.12	0/841	0.38	0/1125
46	A0	0.13	0/533	0.36	0/711
47	S1	0.10	0/998	0.31	0/1321
48	S2	0.09	0/323	0.26	0/435
49	S3	0.16	0/793	0.45	0/1055
50	S4	0.24	0/597	0.50	0/801
51	S5	0.11	0/466	0.35	0/616
52	S6	0.16	0/348	0.54	0/458
53	SA	0.10	0/38276	0.25	0/59598
54	SB	0.15	0/1737	0.42	0/2321
55	SC	0.15	0/1569	0.41	0/2129
56	SD	0.15	0/1240	0.44	0/1652
57	SE	0.13	0/1538	0.38	0/2055
58	SF	0.12	0/2097	0.35	0/2819
59	SG	0.16	0/1799	0.40	0/2429
60	SH	0.12	0/1668	0.35	0/2214
61	SI	0.14	0/1443	0.42	0/1936
62	SJ	0.20	0/1544	0.46	1/2064 (0.0%)
63	SK	0.16	0/1054	0.43	0/1411
64	SL	0.12	0/1407	0.35	0/1879
65	SM	0.12	0/1113	0.36	0/1487
66	SN	0.15	0/780	0.38	0/1053
67	SO	0.14	0/705	0.39	0/950
68	SP	0.15	0/966	0.44	0/1295
69	SQ	0.14	0/1149	0.37	0/1532
70	SR	0.09	0/754	0.28	0/1013
71	SS	0.15	0/1062	0.46	0/1425
72	ST	0.16	0/412	0.42	0/544
73	SU	0.15	0/1223	0.43	0/1634
74	SV	0.17	0/1233	0.47	0/1645
75	SW	0.16	0/792	0.47	0/1053
76	SX	0.12	0/787	0.44	0/1050

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
77	SY	0.11	0/1294	0.32	0/1742
78	SZ	0.14	0/565	0.46	0/758
79	mR	0.10	0/197	0.29	0/302
All	All	0.13	0/209317	0.33	4/307095 (0.0%)

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
9	A6	0	1
50	S4	0	1
62	SJ	0	2
All	All	0	4

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	SJ	51	GLU	CA-CB-CG	7.04	128.17	114.10
19	AP	156	VAL	N-CA-C	-6.40	107.25	113.53
30	AR	48	LYS	CB-CA-C	-5.11	104.64	111.89
40	AG	155	THR	CB-CA-C	-5.08	109.75	115.79

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	A6	64	MET	Peptide
50	S4	78	ARG	Sidechain
62	SJ	50	ILE	Peptide
62	SJ	51	GLU	Peptide

5.2 Too-close contacts

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	S7	1620	0	827	29	0
1	S9	1620	0	827	38	0
2	AA	67884	0	34243	1768	0
3	AC	3215	0	1633	86	0
4	AB	2517	0	1275	108	0
5	AL	1761	0	1896	77	0
6	A1	1134	0	1245	58	0
7	A2	837	0	896	21	0
8	A4	555	0	599	20	0
9	A6	740	0	763	49	0
10	A7	793	0	869	51	0
11	AN	1210	0	1329	58	0
12	A8	1036	0	1139	36	0
13	A9	844	0	886	32	0
14	Aa	858	0	912	54	0
15	Ab	756	0	842	32	0
16	Ad	603	0	686	40	0
17	Ae	388	0	421	18	0
18	Af	413	0	452	35	0
19	AP	1697	0	1802	74	0
20	Ah	658	0	727	37	0
21	Ai	778	0	859	29	0
22	AI	1685	0	1849	70	0
23	AJ	1813	0	1985	73	0
24	Ac	709	0	761	30	0
25	AK	1659	0	1782	63	0
26	AM	996	0	1044	57	0
27	AS	1503	0	1636	40	0
28	AO	1172	0	1230	43	0
29	AQ	1544	0	1582	71	0
30	AR	2049	0	2145	119	0
31	AW	1319	0	1303	42	0
32	AY	796	0	850	36	0
33	AT	1509	0	1682	75	0
34	AZ	1000	0	1099	52	0
35	A3	994	0	1121	59	0
36	A5	1879	0	2005	91	0
37	AD	1866	0	1964	56	0
38	AE	3061	0	3205	135	0
39	AF	3094	0	3333	102	0
40	AG	1010	0	1073	66	0
41	AU	1497	0	1556	67	0
42	AH	1475	0	1574	94	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	AV	1275	0	1355	60	0
44	Ag	343	0	388	23	0
45	AX	824	0	882	34	0
46	A0	521	0	539	33	0
47	S1	985	0	1076	54	0
48	S2	320	0	338	10	0
49	S3	781	0	820	45	0
50	S4	586	0	604	18	0
51	S5	465	0	505	19	0
52	S6	345	0	381	21	0
53	SA	34208	0	17266	1074	0
54	SB	1713	0	1838	91	0
55	SC	1538	0	1600	66	0
56	SD	1228	0	1311	46	0
57	SE	1514	0	1605	89	0
58	SF	2061	0	2200	93	0
59	SG	1757	0	1811	76	0
60	SH	1651	0	1807	72	0
61	SI	1424	0	1471	80	0
62	SJ	1528	0	1680	70	0
63	SK	1037	0	1099	67	0
64	SL	1383	0	1434	57	0
65	SM	1098	0	1183	53	0
66	SN	772	0	813	37	0
67	SO	686	0	695	19	0
68	SP	954	0	997	52	0
69	SQ	1129	0	1196	52	0
70	SR	746	0	754	7	0
71	SS	1046	0	1101	54	0
72	ST	405	0	419	27	0
73	SU	1202	0	1299	77	0
74	SV	1206	0	1239	62	0
75	SW	785	0	858	50	0
76	SX	776	0	832	33	0
77	SY	1266	0	1316	55	0
78	SZ	557	0	558	29	0
79	mR	180	0	91	3	0
All	All	194842	0	145268	5896	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 18.

All (5896) 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)
2:AA:1132:G:H1	2:AA:1163:A:N6	1.42	1.17
2:AA:3410:A:H62	2:AA:3417:G:N2	1.48	1.09
2:AA:3410:A:N6	2:AA:3417:G:H21	1.50	1.08
2:AA:541:A:C2	2:AA:611:G:N1	2.24	1.05
53:SA:956:A:N6	53:SA:994:G:H1	1.54	1.04
4:AB:52:U:HO2'	40:AG:8:VAL:N	1.56	1.04
2:AA:163:G:C2	2:AA:269:A:N1	2.30	1.00
1:S9:50:U:H3	1:S9:64:G:H1	1.06	1.00
53:SA:1453:G:H1	53:SA:1610:U:H3	1.04	1.00
2:AA:773:A:HO2'	2:AA:774:A:H8	1.05	0.99
2:AA:965:A:H61	53:SA:1041:G:N2	1.61	0.98
2:AA:3637:G:H1	2:AA:3648:U:H3	1.02	0.98
2:AA:3641:U:H3	2:AA:3644:G:H1	1.04	0.98
1:S9:15:G:H22	1:S9:48:C:H42	1.00	0.98
2:AA:3635:G:H1	2:AA:3650:U:H3	0.98	0.97
1:S9:15:G:N2	1:S9:48:C:H42	1.63	0.97
2:AA:3636:U:H3	2:AA:3649:G:H1	1.01	0.96
2:AA:1141:G:H1	2:AA:1156:U:H3	1.06	0.95
53:SA:886:U:H3	53:SA:916:G:H1	1.07	0.95
53:SA:1982:G:H1	53:SA:2008:U:H3	1.08	0.94
2:AA:11:A:N6	3:AC:154:G:H1	1.65	0.93
2:AA:541:A:H2	2:AA:611:G:H1	1.12	0.93
2:AA:11:A:H61	3:AC:154:G:H1	0.99	0.92
2:AA:163:G:H1	2:AA:269:A:H61	1.14	0.91
1:S9:15:G:H22	1:S9:48:C:N4	1.68	0.91
53:SA:70:U:H3	53:SA:82:G:H1	0.92	0.91
53:SA:1045:G:H1	53:SA:1092:A:HO2'	1.19	0.90
2:AA:1803:A:H62	2:AA:2029:G:H21	1.12	0.90
4:AB:37:A:N6	4:AB:41:G:C6	2.40	0.90
53:SA:816:U:H3	53:SA:820:A:H62	1.21	0.90
66:SN:101:THR:O	66:SN:105:ILE:HB	1.71	0.89
2:AA:965:A:H61	53:SA:1041:G:H21	1.15	0.89
31:AW:118:MET:HB2	31:AW:147:GLN:O	1.74	0.88
2:AA:3717:A:OP1	10:A7:78:ARG:NH2	2.06	0.88
4:AB:37:A:N1	4:AB:41:G:C2	2.42	0.88
2:AA:163:G:H1	2:AA:269:A:N6	1.71	0.87
31:AW:117:VAL:HA	31:AW:148:ILE:HG22	1.54	0.87
53:SA:1030:C:H5''	73:SU:71:ILE:HG21	1.55	0.87
53:SA:877:U:H3	53:SA:926:G:H1	0.89	0.87
53:SA:955:U:H2'	53:SA:956:A:H8	1.39	0.87
58:SF:208:ILE:HD11	58:SF:225:VAL:HG11	1.56	0.87
53:SA:400:C:H42	53:SA:407:A:H62	1.23	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3725:G:H21	2:AA:3762:A:H62	1.21	0.86
30:AR:20:TYR:O	30:AR:24:ARG:HB2	1.75	0.86
53:SA:887:A:H2	53:SA:915:G:H1	1.20	0.86
2:AA:541:A:H2	2:AA:611:G:N1	1.64	0.85
14:Aa:44:CYS:HB3	14:Aa:49:THR:H	1.42	0.85
2:AA:1132:G:H1	2:AA:1163:A:H61	0.87	0.84
2:AA:3607:G:H5''	42:AH:26:THR:HG21	1.57	0.84
53:SA:1368:G:H1	53:SA:1688:U:H3	0.85	0.84
2:AA:2401:C:H1'	2:AA:3736:A:H8	1.42	0.84
1:S7:22:G:N7	1:S7:46:G:N2	2.25	0.84
39:AF:116:ASN:HB2	39:AF:119:GLU:HG2	1.60	0.84
61:SI:158:LYS:HE3	61:SI:162:GLU:HG3	1.57	0.84
47:S1:94:ARG:HH12	53:SA:532:A:H5''	1.44	0.83
53:SA:1268:G:H1	53:SA:1875:U:H3	1.27	0.83
61:SI:112:PRO:HA	61:SI:184:LYS:HD3	1.60	0.83
2:AA:163:G:N1	2:AA:269:A:N6	2.27	0.83
30:AR:183:PRO:HB3	30:AR:193:GLN:HB3	1.61	0.83
76:SX:91:GLY:H	76:SX:107:ILE:HD11	1.44	0.83
69:SQ:117:LEU:HD21	69:SQ:120:VAL:HB	1.61	0.82
2:AA:3197:A:H4'	29:AQ:74:LYS:HD3	1.62	0.82
53:SA:1386:U:H4'	53:SA:1387:U:H5'	1.61	0.82
9:A6:46:ILE:HB	9:A6:93:LEU:HB2	1.60	0.82
49:S3:13:HIS:O	49:S3:15:ARG:NH1	2.11	0.82
53:SA:1280:G:H21	53:SA:1706:A:N6	1.78	0.82
67:SO:40:ILE:HD12	67:SO:41:PRO:HD2	1.60	0.82
51:S5:42:ARG:HE	51:S5:56:LEU:HD11	1.45	0.81
2:AA:1825:C:H4'	2:AA:2126:A:H5'	1.62	0.81
32:AY:113:TYR:HB3	35:A3:32:ARG:HB3	1.61	0.81
52:S6:10:ARG:NH1	52:S6:10:ARG:O	2.12	0.81
53:SA:142:G:H1	53:SA:169:A:H61	1.27	0.81
53:SA:943:U:OP1	54:SB:157:GLN:NE2	2.13	0.81
53:SA:1308:C:H42	53:SA:1702:C:H41	1.27	0.81
2:AA:3725:G:N2	2:AA:3762:A:H62	1.79	0.81
53:SA:1448:U:H2'	53:SA:1449:U:H2'	1.62	0.81
2:AA:179:G:N1	2:AA:252:A:C6	2.50	0.80
53:SA:1729:A:H5'	65:SM:72:GLY:HA3	1.63	0.80
2:AA:1803:A:N6	2:AA:2029:G:H21	1.79	0.80
44:Ag:15:MET:HE3	44:Ag:16:ARG:H	1.46	0.80
11:AN:23:ARG:HE	11:AN:78:LYS:HD3	1.47	0.80
6:A1:25:ILE:HA	6:A1:43:VAL:HG12	1.63	0.80
2:AA:1531:G:H1	2:AA:1573:C:H5	1.28	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AH:93:LEU:HB2	42:AH:100:ILE:HD12	1.62	0.80
2:AA:2128:G:H1'	2:AA:3451:G:H5''	1.64	0.80
53:SA:887:A:N1	53:SA:915:G:O6	2.15	0.80
2:AA:10:G:O6	3:AC:155:A:N1	2.15	0.79
2:AA:1791:A:N6	2:AA:1799:A:OP2	2.15	0.79
2:AA:3507:A:H2'	2:AA:3508:A:H8	1.46	0.79
2:AA:3733:G:H2'	2:AA:3734:A:C8	2.16	0.79
64:SL:168:ILE:HG13	64:SL:169:ASP:H	1.47	0.79
59:SG:65:HIS:HA	78:SZ:15:ARG:HH12	1.47	0.79
2:AA:1889:A:H3'	2:AA:1890:G:H8	1.45	0.79
2:AA:2396:C:OP1	33:AT:80:ARG:NH1	2.15	0.79
57:SE:57:ARG:NH2	59:SG:188:THR:OG1	2.16	0.79
2:AA:439:U:H2'	2:AA:440:A:H8	1.47	0.79
53:SA:370:G:H21	53:SA:806:A:N6	1.80	0.79
20:Ah:47:THR:HA	20:Ah:57:CYS:HA	1.65	0.79
42:AH:90:LYS:HB2	42:AH:182:GLU:H	1.47	0.79
57:SE:132:ARG:HB2	57:SE:140:MET:HE1	1.63	0.79
2:AA:542:A:N6	2:AA:608:A:O2'	2.16	0.78
2:AA:965:A:N6	53:SA:1041:G:H21	1.81	0.78
2:AA:3446:A:H5''	2:AA:3763:G:H22	1.46	0.78
2:AA:3505:U:H3'	18:Af:35:ARG:HE	1.48	0.78
37:AD:116:LEU:HB3	37:AD:126:LEU:HB2	1.64	0.78
53:SA:1845:U:O2	53:SA:1860:A:N6	2.17	0.78
61:SI:178:SER:HB3	61:SI:181:ILE:HG12	1.66	0.78
44:Ag:13:ALA:HB1	53:SA:1937:C:H4'	1.66	0.78
2:AA:1803:A:H62	2:AA:2029:G:N2	1.81	0.77
53:SA:1379:G:N2	53:SA:1679:G:O6	2.17	0.77
4:AB:37:A:N6	4:AB:41:G:N1	2.32	0.77
57:SE:18:PRO:HA	57:SE:23:ARG:HH22	1.49	0.77
4:AB:29:C:O2	4:AB:50:A:N6	2.18	0.77
53:SA:99:C:H1'	53:SA:432:G:H5'	1.64	0.77
53:SA:932:U:H3'	63:SK:28:ARG:HH12	1.50	0.77
53:SA:969:A:H3'	53:SA:970:G:H21	1.50	0.77
4:AB:11:A:O2'	4:AB:13:A:OP2	2.02	0.77
37:AD:179:ILE:HG23	37:AD:184:VAL:HB	1.67	0.77
2:AA:3419:U:O2'	42:AH:168:ASN:ND2	2.18	0.77
39:AF:159:GLU:HA	39:AF:217:VAL:HG13	1.66	0.77
2:AA:733:C:H2'	2:AA:734:A:H8	1.50	0.77
9:A6:25:LYS:HB2	9:A6:97:ASP:HB2	1.67	0.77
14:Aa:11:ASN:O	14:Aa:18:ASN:ND2	2.17	0.77
53:SA:1247:G:O2'	59:SG:103:ARG:NH2	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3553:G:H21	2:AA:3572:A:H8	1.33	0.76
4:AB:30:A:OP1	40:AG:13:LYS:NZ	2.17	0.76
2:AA:1835:G:H1	2:AA:1843:U:H3	1.29	0.76
11:AN:6:LEU:HD21	11:AN:9:GLU:HB3	1.66	0.76
56:SD:142:LYS:HZ2	56:SD:146:GLN:HA	1.50	0.76
3:AC:89:U:O4	34:AZ:113:ASN:ND2	2.19	0.76
4:AB:7:G:N2	4:AB:112:U:O2	2.19	0.76
2:AA:1806:C:H5''	37:AD:71:LYS:HG3	1.67	0.76
2:AA:1821:U:H2'	2:AA:1822:A:C8	2.20	0.76
61:SI:141:ALA:HA	61:SI:144:LEU:HD12	1.66	0.76
2:AA:1536:U:O2'	12:A8:99:ASN:O	2.02	0.76
38:AE:41:PRO:HG3	38:AE:183:GLY:H	1.47	0.76
53:SA:1223:G:N2	53:SA:1226:A:OP2	2.18	0.76
59:SG:101:GLN:HA	59:SG:106:GLN:HA	1.67	0.76
78:SZ:72:MET:HE1	78:SZ:78:LEU:HD22	1.68	0.76
9:A6:43:LYS:N	9:A6:95:ILE:O	2.18	0.75
30:AR:150:VAL:HG13	30:AR:152:ILE:H	1.50	0.75
44:Ag:19:TRP:HE1	53:SA:2075:C:H5''	1.51	0.75
44:Ag:23:ARG:HH21	53:SA:2074:A:H5'	1.51	0.75
53:SA:370:G:N2	53:SA:806:A:H61	1.84	0.75
53:SA:939:A:H2'	53:SA:940:G:C8	2.22	0.75
2:AA:1850:U:O2'	2:AA:1969:A:N7	2.18	0.75
2:AA:2430:U:OP2	2:AA:2435:A:N6	2.19	0.75
53:SA:1061:A:O2'	53:SA:2077:U:O2	2.04	0.75
2:AA:3468:G:H21	2:AA:3724:U:H4'	1.51	0.75
4:AB:48:G:O2'	30:AR:221:HIS:O	2.04	0.75
23:AJ:74:TYR:O	23:AJ:76:ARG:N	2.18	0.75
53:SA:955:U:H2'	53:SA:956:A:C8	2.21	0.75
55:SC:93:THR:HG23	55:SC:95:ALA:H	1.50	0.75
2:AA:1859:A:H2'	2:AA:1860:A:C8	2.22	0.75
2:AA:3733:G:H2'	2:AA:3734:A:H8	1.50	0.75
53:SA:370:G:N2	53:SA:806:A:N6	2.34	0.75
53:SA:1937:C:O2	53:SA:2054:A:N6	2.18	0.75
2:AA:1132:G:N2	2:AA:1163:A:N1	2.34	0.74
38:AE:218:THR:HG22	38:AE:270:PHE:H	1.50	0.74
55:SC:77:SER:HB2	55:SC:86:VAL:HG21	1.68	0.74
2:AA:596:A:OP2	42:AH:55:LYS:NZ	2.19	0.74
6:A1:41:CYS:HB3	6:A1:43:VAL:HG13	1.67	0.74
23:AJ:156:ILE:HD12	23:AJ:216:CYS:HB3	1.69	0.74
64:SL:97:VAL:HG23	64:SL:99:ASN:H	1.52	0.74
2:AA:1266:U:OP1	8:A4:13:ASN:ND2	2.19	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:10:C:N4	30:AR:30:TYR:OH	2.20	0.74
54:SB:121:ILE:HB	54:SB:141:ALA:HB3	1.69	0.74
38:AE:57:VAL:HG23	38:AE:354:LYS:HB3	1.70	0.74
32:AY:136:LYS:HA	32:AY:168:LYS:HG3	1.70	0.74
32:AY:107:LYS:H	32:AY:107:LYS:HZ3	1.34	0.74
2:AA:506:A:H2'	2:AA:507:G:C8	2.23	0.74
2:AA:3776:U:O2'	10:A7:114:ASN:O	2.06	0.74
9:A6:54:ILE:HD12	14:Aa:91:ARG:HG3	1.70	0.74
26:AM:82:ARG:HH21	26:AM:119:PRO:HB2	1.53	0.74
28:AO:88:LYS:HE2	28:AO:88:LYS:HA	1.68	0.74
35:A3:79:PRO:HD2	35:A3:82:LEU:HB2	1.69	0.74
47:S1:7:ILE:HG13	47:S1:43:ARG:HG2	1.69	0.74
53:SA:956:A:H61	53:SA:994:G:H1	0.78	0.74
55:SC:144:ILE:HG13	55:SC:158:ILE:HB	1.68	0.73
58:SF:35:PRO:HD2	58:SF:83:PRO:HG2	1.69	0.73
2:AA:3122:A:O2'	5:AL:201:ARG:NH2	2.22	0.73
54:SB:114:ILE:HD11	54:SB:120:LEU:HD12	1.70	0.73
54:SB:79:GLN:NE2	54:SB:189:ILE:O	2.21	0.73
65:SM:13:LYS:HG2	65:SM:18:VAL:HG23	1.71	0.73
2:AA:1339:U:H2'	2:AA:1340:G:H8	1.54	0.73
2:AA:2082:C:H2'	2:AA:2083:U:H6	1.53	0.73
10:A7:83:LEU:HD21	10:A7:101:VAL:HA	1.69	0.73
36:A5:164:ARG:HB3	36:A5:171:TYR:HB3	1.70	0.73
64:SL:200:ILE:HD11	64:SL:204:GLU:HB3	1.70	0.73
2:AA:506:A:H2'	2:AA:507:G:H8	1.53	0.73
2:AA:970:C:H2'	2:AA:971:U:C6	2.24	0.73
59:SG:236:TYR:O	63:SK:70:ASN:ND2	2.21	0.73
75:SW:41:ILE:HB	75:SW:47:LYS:HD3	1.70	0.73
13:A9:95:VAL:HG12	13:A9:97:ILE:H	1.54	0.73
2:AA:3497:A:N7	2:AA:3503:U:O2	2.22	0.73
4:AB:31:G:H2'	4:AB:32:A:C8	2.24	0.73
29:AQ:36:MET:SD	29:AQ:82:LYS:NZ	2.61	0.73
10:A7:41:ILE:HG12	10:A7:67:ILE:HD11	1.70	0.73
53:SA:1412:U:H3	53:SA:1417:U:H3	1.36	0.73
62:SJ:35:ILE:HG13	62:SJ:76:ILE:HG12	1.71	0.73
2:AA:872:A:OP1	8:A4:32:ARG:NH1	2.22	0.73
2:AA:3443:A:N1	2:AA:3470:G:O2'	2.22	0.73
11:AN:25:VAL:HG22	41:AU:157:ARG:HG2	1.69	0.73
25:AK:135:CYS:SG	25:AK:136:ARG:N	2.62	0.73
25:AK:191:GLU:N	25:AK:191:GLU:OE2	2.21	0.73
53:SA:1850:G:N7	76:SX:43:ARG:NH2	2.36	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1852:A:OP1	76:SX:47:ARG:NH2	2.22	0.73
2:AA:794:C:H2'	2:AA:795:G:H8	1.54	0.72
13:A9:82:VAL:HG22	13:A9:133:ILE:HD12	1.68	0.72
42:AH:20:ILE:HG23	42:AH:47:LEU:HD22	1.70	0.72
53:SA:1672:C:H3'	53:SA:1673:A:H4'	1.70	0.72
53:SA:1059:U:OP1	68:SP:143:LYS:NZ	2.22	0.72
61:SI:164:LEU:HD23	61:SI:168:ILE:HD13	1.71	0.72
53:SA:519:A:HO2'	57:SE:133:HIS:HE2	1.37	0.72
53:SA:1796:C:OP1	77:SY:128:GLN:NE2	2.22	0.72
2:AA:158:U:OP2	19:AP:49:ARG:NH2	2.21	0.72
2:AA:529:U:OP1	36:A5:79:ARG:NH1	2.22	0.72
32:AY:116:THR:HA	32:AY:121:MET:HE2	1.71	0.72
53:SA:1246:U:O2	59:SG:101:GLN:NE2	2.22	0.72
2:AA:1785:U:H3	2:AA:1867:U:HO2'	0.74	0.72
2:AA:3035:A:N7	2:AA:3097:A:N6	2.37	0.72
38:AE:282:ILE:HA	38:AE:319:LEU:HD22	1.70	0.72
38:AE:288:LYS:HA	38:AE:301:LYS:HG2	1.72	0.72
38:AE:366:ARG:NH2	46:A0:18:TYR:OH	2.23	0.72
54:SB:50:LYS:O	54:SB:55:LYS:NZ	2.23	0.72
2:AA:258:U:H2'	2:AA:259:G:C8	2.24	0.72
2:AA:261:A:H4'	35:A3:108:LYS:HE2	1.72	0.72
2:AA:3121:G:N7	5:AL:201:ARG:NH2	2.35	0.72
29:AQ:61:SER:OG	29:AQ:63:GLU:OE1	2.06	0.72
4:AB:24:C:OP2	4:AB:25:A:N6	2.23	0.72
47:S1:37:LYS:NZ	53:SA:529:U:OP1	2.22	0.72
61:SI:62:ARG:NH1	61:SI:139:ASN:OD1	2.23	0.72
23:AJ:254:MET:HB2	23:AJ:259:MET:HE3	1.71	0.72
55:SC:88:LYS:HG3	55:SC:91:GLN:HE21	1.54	0.72
27:AS:121:THR:OG1	27:AS:123:ASP:OD1	2.08	0.72
38:AE:83:PRO:O	38:AE:162:GLN:NE2	2.20	0.72
28:AO:86:LYS:HE2	28:AO:90:PHE:HE2	1.54	0.71
60:SH:31:ARG:O	60:SH:34:ASN:ND2	2.23	0.71
62:SJ:49:LEU:HD21	62:SJ:58:LYS:HB3	1.72	0.71
2:AA:2210:U:O2'	2:AA:3737:G:N3	2.22	0.71
59:SG:41:TRP:HE1	59:SG:52:LYS:HG2	1.55	0.71
72:ST:20:ARG:HD2	72:ST:36:ILE:HG22	1.70	0.71
2:AA:283:U:O2	19:AP:93:LYS:NZ	2.23	0.71
26:AM:13:MET:SD	26:AM:14:ARG:N	2.64	0.71
36:A5:56:ARG:HH12	36:A5:190:ASN:HB2	1.56	0.71
63:SK:26:LEU:HD11	63:SK:60:LYS:HD3	1.71	0.71
2:AA:2021:A:H2'	2:AA:2022:A:H8	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AI:123:ASP:OD1	22:AI:123:ASP:N	2.18	0.71
38:AE:43:PHE:HB2	38:AE:205:VAL:HG21	1.72	0.71
31:AW:20:VAL:O	31:AW:145:HIS:ND1	2.21	0.71
33:AT:97:ARG:NH2	33:AT:126:CYS:SG	2.62	0.71
39:AF:149:GLU:HG3	39:AF:151:PRO:HD2	1.72	0.71
46:A0:49:GLN:HG3	46:A0:51:LYS:HG2	1.73	0.71
9:A6:73:TYR:OH	9:A6:79:ASP:OD2	2.08	0.71
19:AP:103:GLU:HG3	19:AP:116:VAL:HG11	1.73	0.71
19:AP:115:ARG:HG3	19:AP:138:PRO:HG3	1.72	0.71
58:SF:55:ALA:HB1	58:SF:60:GLU:HG3	1.72	0.71
55:SC:122:ILE:HD13	55:SC:144:ILE:HG23	1.73	0.71
35:A3:28:LEU:HD11	35:A3:49:VAL:HG11	1.73	0.70
2:AA:3139:C:OP1	5:AL:198:ARG:NH2	2.24	0.70
2:AA:3616:U:H3	41:AU:179:PRO:HB3	1.56	0.70
53:SA:1653:A:H2'	53:SA:1654:G:H8	1.55	0.70
53:SA:1729:A:H2'	53:SA:1730:A:C8	2.26	0.70
65:SM:14:LYS:HD3	65:SM:80:TYR:HB3	1.73	0.70
2:AA:3639:G:H22	2:AA:3646:G:H1	1.39	0.70
2:AA:3707:U:OP1	38:AE:117:ARG:NH1	2.18	0.70
26:AM:49:ASN:HD22	38:AE:233:LYS:HE3	1.56	0.70
38:AE:45:ALA:HB3	38:AE:178:VAL:HG13	1.74	0.70
53:SA:953:C:O3'	54:SB:136:ARG:NH1	2.25	0.70
2:AA:2084:U:H2'	2:AA:2085:A:C8	2.26	0.70
2:AA:3443:A:O2'	10:A7:29:HIS:NE2	2.24	0.70
26:AM:38:ILE:HG12	26:AM:60:VAL:HG11	1.74	0.70
42:AH:170:ASP:OD2	42:AH:172:ARG:NH1	2.24	0.70
53:SA:1247:G:H1'	59:SG:101:GLN:HE22	1.57	0.70
2:AA:3319:C:H2'	2:AA:3320:G:H8	1.55	0.70
2:AA:3725:G:H21	2:AA:3762:A:N6	1.87	0.70
2:AA:3778:G:H5'	10:A7:18:LYS:HD3	1.74	0.70
36:A5:86:ARG:NH2	43:AV:138:PRO:O	2.24	0.70
38:AE:359:SER:HB3	38:AE:368:GLN:HG2	1.71	0.70
44:Ag:9:LYS:NZ	53:SA:627:A:OP1	2.24	0.70
57:SE:31:ILE:HG13	57:SE:36:LEU:HB2	1.73	0.70
2:AA:1887:G:OP1	14:Aa:83:ARG:NH1	2.24	0.70
4:AB:7:G:OP1	30:AR:50:ARG:NH2	2.24	0.70
30:AR:93:LYS:O	30:AR:160:ARG:NH1	2.24	0.70
53:SA:485:C:H4'	57:SE:120:LYS:HE2	1.74	0.70
53:SA:1288:U:H2'	53:SA:1289:G:H8	1.56	0.70
2:AA:727:A:OP2	2:AA:3227:U:O2'	2.09	0.70
2:AA:969:U:H2'	2:AA:970:C:C6	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1821:U:H2'	2:AA:1822:A:H8	1.56	0.70
12:A8:14:THR:HG22	12:A8:15:LYS:H	1.55	0.70
23:AJ:113:LEU:HB3	23:AJ:206:LEU:HD11	1.74	0.70
53:SA:1861:U:O2	71:SS:89:ARG:NH2	2.23	0.70
61:SI:184:LYS:NZ	61:SI:188:GLU:OE2	2.24	0.70
63:SK:14:ILE:HG22	63:SK:25:VAL:HG11	1.73	0.70
68:SP:80:ASP:OD1	68:SP:81:VAL:N	2.24	0.70
73:SU:66:VAL:HG23	73:SU:67:THR:HG23	1.73	0.70
53:SA:152:G:N2	60:SH:60:GLY:O	2.20	0.70
53:SA:856:U:H5''	53:SA:857:A:H4'	1.73	0.70
2:AA:1758:C:H2'	2:AA:1759:A:H8	1.57	0.70
2:AA:2157:G:H5''	38:AE:242:GLY:HA3	1.74	0.70
35:A3:13:LYS:HE3	35:A3:15:LYS:H	1.56	0.70
64:SL:46:VAL:HG13	64:SL:54:LYS:HB2	1.72	0.70
74:SV:36:ARG:NH1	74:SV:56:TYR:O	2.25	0.70
2:AA:72:C:O2'	5:AL:65:ASN:OD1	2.08	0.70
22:AI:173:ASP:HB3	22:AI:176:VAL:HB	1.72	0.70
53:SA:15:U:O2'	53:SA:627:A:N6	2.24	0.70
2:AA:909:U:H2'	2:AA:910:A:H8	1.55	0.69
2:AA:3595:U:H2'	2:AA:3596:A:C8	2.27	0.69
5:AL:26:SER:HA	5:AL:29:ILE:HD13	1.74	0.69
16:Ad:5:ILE:HG21	16:Ad:10:LYS:HE2	1.73	0.69
34:AZ:69:VAL:HA	34:AZ:81:VAL:HA	1.74	0.69
59:SG:165:THR:HG21	59:SG:184:ALA:H	1.57	0.69
61:SI:49:LYS:H	61:SI:53:ARG:HD2	1.55	0.69
16:Ad:24:ILE:HG23	16:Ad:42:LYS:HB2	1.74	0.69
53:SA:148:U:O4	53:SA:149:A:N6	2.25	0.69
53:SA:251:U:OP1	74:SV:37:TYR:OH	2.10	0.69
53:SA:1455:C:O2'	53:SA:1456:G:O5'	2.09	0.69
2:AA:3106:U:O2'	21:AI:29:LYS:O	2.10	0.69
18:Af:20:CYS:H	18:Af:24:TYR:HA	1.55	0.69
38:AE:41:PRO:HA	38:AE:182:GLY:HA3	1.73	0.69
53:SA:250:A:H5''	74:SV:39:LYS:HE2	1.74	0.69
55:SC:38:TYR:OH	75:SW:104:ARG:NH1	2.24	0.69
62:SJ:143:MET:N	62:SJ:143:MET:SD	2.63	0.69
2:AA:92:G:H5'	2:AA:93:C:H5''	1.75	0.69
4:AB:38:U:O2'	4:AB:42:A:N6	2.24	0.69
4:AB:56:G:H2'	4:AB:57:C:O4'	1.93	0.69
6:A1:77:VAL:HA	6:A1:80:ILE:HG12	1.74	0.69
2:AA:961:G:H2'	2:AA:962:A:C8	2.26	0.69
2:AA:2125:A:H2	14:Aa:4:ARG:HH21	1.38	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3716:C:H2'	2:AA:3717:A:C8	2.28	0.69
4:AB:29:C:O2'	4:AB:50:A:N1	2.24	0.69
34:AZ:56:LEU:HD23	34:AZ:66:GLU:HG2	1.74	0.69
37:AD:210:PRO:HG2	37:AD:235:VAL:HG11	1.74	0.69
53:SA:1319:G:O2'	53:SA:1365:G:N2	2.24	0.69
2:AA:1339:U:H2'	2:AA:1340:G:C8	2.28	0.69
22:AI:107:THR:HG22	22:AI:109:THR:H	1.56	0.69
38:AE:77:THR:N	38:AE:321:LEU:O	2.23	0.69
39:AF:172:VAL:HG23	39:AF:177:LYS:HB2	1.73	0.69
41:AU:150:GLN:HA	41:AU:153:LYS:HG3	1.74	0.69
40:AG:137:ARG:HG3	40:AG:141:ARG:HG3	1.74	0.69
53:SA:1963:U:H3	53:SA:2027:C:H42	1.39	0.69
61:SI:146:CYS:SG	61:SI:150:ARG:NH2	2.64	0.69
68:SP:34:PHE:HB3	68:SP:41:PHE:HB2	1.73	0.69
2:AA:2823:U:OP2	23:AJ:87:ARG:NH1	2.25	0.69
2:AA:3066:A:OP2	2:AA:3067:G:N2	2.25	0.69
42:AH:76:LEU:HD23	42:AH:79:MET:HE1	1.73	0.69
46:A0:45:SER:HA	46:A0:48:LEU:HB2	1.75	0.69
53:SA:1418:C:O2'	75:SW:5:ARG:NH1	2.26	0.69
58:SF:191:ARG:HB2	58:SF:245:LYS:HE2	1.73	0.69
2:AA:3587:U:H2'	2:AA:3588:A:H8	1.58	0.69
2:AA:3641:U:O2	2:AA:3644:G:N2	2.23	0.69
23:AJ:74:TYR:HA	23:AJ:77:ILE:HG22	1.75	0.69
57:SE:78:ARG:HH22	57:SE:82:ARG:HD2	1.57	0.69
2:AA:179:G:N1	2:AA:252:A:N6	2.40	0.69
2:AA:3203:C:H42	2:AA:3257:G:H22	1.38	0.69
19:AP:67:ARG:O	19:AP:71:ARG:NH2	2.26	0.69
41:AU:77:PHE:HB2	41:AU:80:ARG:HG3	1.75	0.69
49:S3:52:ASP:HB3	68:SP:121:ARG:HH12	1.58	0.69
53:SA:349:C:H2'	53:SA:350:A:H8	1.57	0.69
38:AE:90:VAL:HG13	38:AE:104:THR:HG22	1.75	0.68
54:SB:36:LYS:HA	54:SB:41:ARG:HE	1.57	0.68
2:AA:1783:G:N7	6:A1:17:ARG:NH2	2.40	0.68
38:AE:60:VAL:HG13	38:AE:62:LYS:H	1.57	0.68
53:SA:851:A:H3'	58:SF:106:LYS:HZ1	1.59	0.68
58:SF:195:ILE:HA	58:SF:210:VAL:HA	1.74	0.68
2:AA:2550:C:H5''	2:AA:2551:U:H5''	1.75	0.68
22:AI:141:GLU:OE1	22:AI:141:GLU:N	2.26	0.68
42:AH:175:LEU:O	42:AH:179:TYR:OH	2.12	0.68
53:SA:1797:C:N4	53:SA:1798:G:O6	2.26	0.68
2:AA:1758:C:H2'	2:AA:1759:A:C8	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2082:C:H2'	2:AA:2083:U:C6	2.27	0.68
26:AM:11:ASN:HB3	38:AE:66:LYS:HE2	1.75	0.68
53:SA:756:A:C6	53:SA:757:A:N6	2.62	0.68
58:SF:182:MET:HE3	58:SF:183:VAL:N	2.08	0.68
2:AA:3420:U:H5'	42:AH:167:ARG:HH11	1.57	0.68
3:AC:26:U:OP1	34:AZ:11:ARG:NH2	2.26	0.68
4:AB:7:G:N1	4:AB:112:U:N3	2.41	0.68
2:AA:372:G:OP2	24:Ac:55:LYS:NZ	2.26	0.68
2:AA:1784:G:N2	2:AA:1787:A:OP2	2.21	0.68
4:AB:95:U:OP1	41:AU:49:ARG:NH1	2.25	0.68
43:AV:29:ASN:HA	43:AV:32:LEU:HD13	1.76	0.68
2:AA:872:A:H5''	8:A4:32:ARG:NH1	2.09	0.68
2:AA:1139:C:H2'	2:AA:1140:A:H8	1.58	0.68
2:AA:1247:C:H2'	2:AA:1248:A:H8	1.58	0.68
2:AA:3108:A:H5'	21:AI:79:LYS:HD2	1.75	0.68
53:SA:812:A:OP1	57:SE:79:ARG:NH1	2.25	0.68
53:SA:834:A:H2'	53:SA:835:G:H8	1.58	0.68
2:AA:163:G:N2	2:AA:269:A:N1	2.41	0.68
2:AA:742:U:H2'	2:AA:743:A:H8	1.59	0.68
8:A4:32:ARG:HB2	8:A4:35:LEU:HB2	1.74	0.68
53:SA:1198:U:H1'	59:SG:180:ARG:HD2	1.74	0.68
2:AA:1072:A:H5'	2:AA:1073:G:H5''	1.75	0.68
2:AA:3042:A:H62	30:AR:29:ASP:HA	1.59	0.68
25:AK:62:ASN:OD1	38:AE:258:GLN:NE2	2.27	0.68
53:SA:106:A:OP2	53:SA:314:A:N6	2.26	0.68
53:SA:1717:A:H62	53:SA:1835:U:H3	1.41	0.68
2:AA:366:G:N2	2:AA:369:A:OP2	2.25	0.68
2:AA:451:C:N4	2:AA:694:U:O2'	2.26	0.68
2:AA:3587:U:H2'	2:AA:3588:A:C8	2.29	0.68
18:Af:49:LYS:O	42:AH:172:ARG:NE	2.22	0.68
34:AZ:62:ASN:OD1	34:AZ:62:ASN:N	2.26	0.68
37:AD:67:GLU:OE2	37:AD:67:GLU:N	2.22	0.68
53:SA:1016:U:H2'	53:SA:1017:G:H8	1.58	0.68
59:SG:208:CYS:SG	59:SG:209:PHE:N	2.67	0.68
63:SK:16:ASN:HA	63:SK:19:LYS:HD3	1.75	0.68
73:SU:129:TYR:HD1	73:SU:134:LEU:HD11	1.58	0.68
2:AA:1015:A:H5''	37:AD:183:GLY:HA2	1.75	0.67
2:AA:3026:G:OP1	30:AR:8:LYS:NZ	2.28	0.67
29:AQ:55:TYR:HA	29:AQ:132:GLY:H	1.57	0.67
29:AQ:86:HIS:HB2	29:AQ:139:ARG:HG2	1.77	0.67
33:AT:109:ARG:NH2	33:AT:110:ASP:OD1	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SS:132:ARG:HH11	71:SS:134:ARG:H	1.40	0.67
1:S7:76:A:OP1	21:AI:57:PHE:N	2.26	0.67
2:AA:3653:G:H5''	11:AN:140:LYS:HD2	1.75	0.67
5:AL:11:VAL:HG12	5:AL:13:LEU:HB2	1.75	0.67
14:Aa:65:ALA:O	14:Aa:67:ARG:NH1	2.26	0.67
2:AA:66:A:OP2	5:AL:99:ARG:NH1	2.27	0.67
2:AA:1132:G:N1	2:AA:1163:A:N6	2.20	0.67
2:AA:2722:G:H2'	2:AA:2723:G:H8	1.60	0.67
5:AL:30:LYS:HA	5:AL:33:LYS:HG2	1.76	0.67
53:SA:1306:C:H3'	53:SA:1307:U:C6	2.30	0.67
53:SA:1417:U:OP1	53:SA:1430:G:N2	2.27	0.67
2:AA:763:U:OP1	5:AL:38:ARG:NH2	2.25	0.67
2:AA:3000:A:H2'	2:AA:3001:A:H8	1.59	0.67
2:AA:3668:U:OP2	13:A9:101:TRP:NE1	2.27	0.67
6:A1:113:LYS:HA	6:A1:116:LYS:HD2	1.74	0.67
53:SA:1435:C:O2	72:ST:53:TYR:OH	2.09	0.67
65:SM:43:TYR:HA	65:SM:46:LYS:HB2	1.76	0.67
2:AA:1739:C:H2'	2:AA:1740:A:C8	2.29	0.67
2:AA:1885:G:OP2	20:Ah:59:LYS:NZ	2.26	0.67
37:AD:119:ARG:HB3	37:AD:122:ASN:HD21	1.57	0.67
62:SJ:47:CYS:HB3	62:SJ:60:ILE:HD11	1.76	0.67
1:S9:14:A:H5''	1:S9:16:C:H41	1.59	0.67
2:AA:423:U:OP1	31:AW:34:ARG:NH1	2.28	0.67
2:AA:1058:U:OP2	28:AO:26:ARG:NH2	2.28	0.67
2:AA:2442:A:O2'	37:AD:179:ILE:O	2.06	0.67
33:AT:173:LYS:HD2	73:SU:35:ASP:HA	1.77	0.67
36:A5:84:PHE:HB3	41:AU:69:ALA:HB2	1.75	0.67
39:AF:128:ILE:HD11	39:AF:235:LEU:HD11	1.76	0.67
53:SA:1834:A:O2'	53:SA:1868:C:N4	2.27	0.67
2:AA:258:U:H2'	2:AA:259:G:H8	1.59	0.67
6:A1:54:ASN:HB3	6:A1:57:MET:HG2	1.76	0.67
30:AR:39:GLN:OE1	30:AR:39:GLN:N	2.28	0.67
39:AF:290:TYR:HA	39:AF:293:ILE:HG22	1.77	0.67
53:SA:424:G:O2'	60:SH:59:GLN:NE2	2.28	0.67
66:SN:47:LEU:HD13	66:SN:92:SER:HB3	1.77	0.67
2:AA:1474:A:H5''	39:AF:306:LYS:HB3	1.75	0.67
2:AA:1739:C:H2'	2:AA:1740:A:H8	1.60	0.67
2:AA:2491:A:N3	2:AA:2562:U:O2'	2.27	0.67
12:A8:96:ILE:HG21	12:A8:105:ARG:HG2	1.77	0.67
22:AI:130:ASP:OD1	22:AI:130:ASP:N	2.28	0.67
29:AQ:45:GLU:O	29:AQ:141:LYS:NZ	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:641:G:H21	2:AA:685:U:H5''	1.60	0.67
2:AA:2179:A:H2'	2:AA:2180:U:H5	1.60	0.67
2:AA:2598:G:OP2	2:AA:2598:G:N2	2.23	0.67
2:AA:3001:A:H2'	2:AA:3002:G:H8	1.60	0.67
2:AA:3637:G:O6	2:AA:3648:U:O4	2.13	0.67
16:Ad:62:ARG:NH2	16:Ad:65:ASN:OD1	2.28	0.67
33:AT:149:LEU:HA	33:AT:152:LYS:HZ2	1.59	0.67
42:AH:36:ARG:NH2	42:AH:151:GLU:OE1	2.27	0.67
43:AV:108:LEU:HA	43:AV:111:ILE:HD12	1.77	0.67
47:S1:61:PHE:O	53:SA:529:U:O2'	2.13	0.67
53:SA:1816:U:H4'	53:SA:1817:U:H5'	1.75	0.67
59:SG:102:THR:HG23	59:SG:105:GLY:H	1.60	0.67
62:SJ:48:ASP:OD2	62:SJ:178:LYS:NZ	2.28	0.67
2:AA:1462:C:H2'	2:AA:1463:A:H8	1.60	0.67
4:AB:46:C:H2'	4:AB:47:U:C6	2.30	0.67
53:SA:616:U:O2	69:SQ:19:ARG:NH1	2.27	0.67
53:SA:1860:A:H4'	77:SY:64:LYS:HG2	1.75	0.67
2:AA:628:U:H2'	2:AA:629:A:H8	1.60	0.66
2:AA:1334:G:H21	18:Af:40:GLY:HA3	1.59	0.66
2:AA:1868:U:H2'	2:AA:1869:G:C8	2.30	0.66
2:AA:2164:A:H61	2:AA:2632:C:H42	1.41	0.66
2:AA:3585:A:OP2	25:AK:170:LYS:NZ	2.28	0.66
53:SA:519:A:O2'	57:SE:133:HIS:NE2	2.23	0.66
58:SF:42:ILE:HB	58:SF:46:ILE:HD11	1.76	0.66
58:SF:126:VAL:HA	58:SF:141:THR:HA	1.77	0.66
22:AI:12:ASN:HA	22:AI:17:LYS:H	1.59	0.66
36:A5:64:TYR:OH	36:A5:195:GLU:OE2	2.12	0.66
47:S1:11:LYS:NZ	53:SA:826:A:N7	2.42	0.66
53:SA:1272:A:H2'	53:SA:1273:G:C8	2.30	0.66
53:SA:1447:A:O2'	53:SA:1450:A:N6	2.29	0.66
53:SA:1655:G:N2	53:SA:1658:G:OP2	2.29	0.66
54:SB:196:GLU:OE1	54:SB:196:GLU:N	2.25	0.66
2:AA:801:U:OP2	27:AS:169:LYS:NZ	2.27	0.66
2:AA:2650:A:H2'	2:AA:2651:A:H8	1.59	0.66
2:AA:3345:U:H2'	2:AA:3346:A:H8	1.60	0.66
26:AM:92:GLY:HA3	46:A0:23:GLY:H	1.60	0.66
53:SA:66:U:O2'	53:SA:68:U:OP2	2.13	0.66
2:AA:2666:A:N3	2:AA:3183:G:O2'	2.27	0.66
30:AR:110:LEU:HD11	30:AR:115:LEU:HD22	1.77	0.66
37:AD:95:PRO:O	37:AD:100:ASN:ND2	2.26	0.66
38:AE:274:GLU:OE2	38:AE:277:LYS:NZ	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S1:118:LYS:HE3	53:SA:88:A:H5'	1.78	0.66
53:SA:400:C:N4	53:SA:407:A:H62	1.92	0.66
53:SA:2081:G:OP2	68:SP:146:ARG:NH2	2.29	0.66
58:SF:87:MET:HE1	58:SF:100:ARG:HH11	1.59	0.66
2:AA:315:C:H2'	2:AA:316:A:H8	1.61	0.66
2:AA:595:U:O2	2:AA:599:G:N2	2.28	0.66
2:AA:1280:G:N2	2:AA:1280:G:OP2	2.29	0.66
2:AA:3012:A:OP1	40:AG:95:ASN:ND2	2.29	0.66
14:Aa:54:VAL:HG23	14:Aa:70:ARG:HA	1.78	0.66
30:AR:207:MET:O	30:AR:218:TYR:OH	2.12	0.66
53:SA:250:A:OP1	74:SV:39:LYS:NZ	2.28	0.66
59:SG:50:LEU:HB3	59:SG:56:ILE:HD11	1.78	0.66
77:SY:29:ILE:HG22	77:SY:159:ALA:HB2	1.78	0.66
2:AA:956:A:OP1	20:Ah:5:THR:OG1	2.14	0.66
2:AA:2105:A:H5''	2:AA:2106:A:H5'	1.78	0.66
2:AA:3203:C:O2	2:AA:3257:G:O6	2.14	0.66
7:A2:12:GLU:OE2	27:AS:31:LYS:NZ	2.28	0.66
34:AZ:54:GLU:HA	34:AZ:68:LYS:HA	1.76	0.66
42:AH:110:ARG:NH2	42:AH:126:LYS:HB2	2.10	0.66
49:S3:44:ILE:HG23	49:S3:67:LEU:HG	1.77	0.66
53:SA:617:G:H21	69:SQ:19:ARG:HH22	1.43	0.66
68:SP:100:SER:OG	68:SP:101:GLY:N	2.29	0.66
2:AA:1560:U:OP1	12:A8:105:ARG:NH2	2.28	0.66
2:AA:1576:U:OP2	28:AO:4:ARG:NH1	2.27	0.66
53:SA:1271:G:H1	53:SA:1715:A:H2	1.41	0.66
55:SC:103:THR:HG22	55:SC:105:GLY:H	1.59	0.66
2:AA:442:G:H5'	13:A9:90:LYS:HD2	1.78	0.66
2:AA:715:U:H2'	2:AA:716:C:C6	2.31	0.66
2:AA:1783:G:O6	6:A1:17:ARG:NH1	2.29	0.66
52:S6:43:ARG:HH22	57:SE:29:LYS:HD3	1.61	0.66
53:SA:803:G:O4'	58:SF:221:ARG:NH1	2.28	0.66
53:SA:1023:A:H2'	53:SA:1024:A:C8	2.30	0.66
63:SK:22:ARG:O	63:SK:22:ARG:NE	2.28	0.66
2:AA:248:A:O3'	5:AL:152:ARG:NH2	2.28	0.66
2:AA:631:U:OP1	36:A5:154:ARG:NH1	2.28	0.66
2:AA:961:G:H2'	2:AA:962:A:H8	1.60	0.66
2:AA:2027:A:H2'	2:AA:2028:G:H8	1.60	0.66
2:AA:2588:A:N3	2:AA:3288:C:O2'	2.24	0.66
66:SN:30:ALA:O	66:SN:34:VAL:HG22	1.96	0.66
68:SP:147:ARG:HH21	68:SP:150:ARG:HB2	1.60	0.66
2:AA:346:A:OP2	39:AF:48:ARG:NH2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1447:A:N7	53:SA:1623:U:C2	2.64	0.66
2:AA:1838:U:OP1	45:AX:112:LYS:NZ	2.26	0.65
2:AA:3109:U:O3'	21:AI:14:ASN:ND2	2.28	0.65
3:AC:76:A:O3'	34:AZ:74:ARG:NH2	2.28	0.65
7:A2:44:THR:HG22	7:A2:46:SER:H	1.60	0.65
39:AF:140:ARG:HH22	39:AF:205:ASN:HB2	1.60	0.65
53:SA:1849:U:O4	76:SX:40:ARG:NH1	2.28	0.65
62:SJ:54:LYS:O	62:SJ:58:LYS:NZ	2.29	0.65
65:SM:136:ARG:O	65:SM:138:ARG:NH2	2.28	0.65
2:AA:645:A:O2'	2:AA:649:U:OP1	2.12	0.65
2:AA:945:G:OP1	2:AA:2019:A:N6	2.29	0.65
2:AA:1964:G:OP1	16:Ad:28:LYS:NZ	2.29	0.65
2:AA:2128:G:O2'	2:AA:3451:G:OP1	2.14	0.65
2:AA:2574:A:H8	2:AA:3333:U:H1'	1.62	0.65
11:AN:26:GLU:OE2	11:AN:29:ARG:NH1	2.29	0.65
26:AM:70:ASP:O	26:AM:74:LYS:NZ	2.29	0.65
53:SA:598:A:H5''	57:SE:24:LEU:HD11	1.76	0.65
53:SA:647:C:O2'	62:SJ:149:ARG:NH2	2.29	0.65
53:SA:1445:U:H2'	53:SA:1446:A:C8	2.31	0.65
53:SA:1878:C:H5'	65:SM:138:ARG:HH21	1.62	0.65
68:SP:27:VAL:HG22	68:SP:90:VAL:HG23	1.79	0.65
69:SQ:37:ARG:O	69:SQ:41:ASN:ND2	2.28	0.65
2:AA:1099:U:H5''	36:A5:167:LYS:HZ1	1.62	0.65
2:AA:1161:C:H5''	30:AR:5:LYS:HE2	1.79	0.65
2:AA:1254:G:OP1	29:AQ:98:ARG:NH2	2.28	0.65
2:AA:1835:G:N2	2:AA:1843:U:O2	2.29	0.65
38:AE:277:LYS:HE3	38:AE:323:GLY:HA3	1.78	0.65
55:SC:32:LYS:O	55:SC:35:ARG:NH1	2.30	0.65
69:SQ:73:ARG:HD2	69:SQ:82:LYS:HB3	1.78	0.65
2:AA:813:G:O6	28:AO:115:LYS:NZ	2.29	0.65
2:AA:1577:A:OP2	28:AO:2:ALA:N	2.30	0.65
2:AA:2210:U:OP2	33:AT:73:ARG:NE	2.30	0.65
2:AA:3293:A:N6	26:AM:46:SER:OG	2.29	0.65
41:AU:37:CYS:O	41:AU:38:ILE:HD13	1.96	0.65
62:SJ:7:ARG:O	62:SJ:43:LYS:NZ	2.28	0.65
64:SL:175:GLN:HB3	64:SL:181:VAL:HG12	1.79	0.65
66:SN:22:ALA:HB2	66:SN:87:LEU:HD12	1.78	0.65
2:AA:1166:C:O3'	29:AQ:90:ARG:NH1	2.29	0.65
2:AA:1856:U:H2'	2:AA:1857:A:C8	2.31	0.65
2:AA:3694:A:O2'	10:A7:50:LYS:NZ	2.29	0.65
2:AA:3736:A:N7	2:AA:3754:A:N6	2.44	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AB:6:C:H1'	30:AR:74:ILE:HD11	1.78	0.65
4:AB:60:U:HO2'	30:AR:271:LYS:N	1.93	0.65
58:SF:60:GLU:HA	58:SF:63:MET:HG2	1.77	0.65
2:AA:1124:A:H2'	2:AA:1125:A:H8	1.62	0.65
2:AA:1965:U:OP1	16:Ad:40:LYS:NZ	2.30	0.65
31:AW:6:LYS:HD2	31:AW:116:HIS:HB2	1.79	0.65
53:SA:1265:G:H2'	53:SA:1266:G:H8	1.61	0.65
74:SV:136:LYS:HG3	74:SV:137:THR:HG23	1.78	0.65
2:AA:153:A:OP1	23:AJ:210:LYS:NZ	2.30	0.65
2:AA:944:U:H5''	2:AA:2019:A:C2	2.32	0.65
2:AA:3048:U:H2'	2:AA:3049:G:H8	1.62	0.65
2:AA:3506:U:OP1	18:Af:35:ARG:NH2	2.29	0.65
40:AG:29:ARG:HH12	40:AG:30:LEU:HD13	1.60	0.65
41:AU:164:PRO:HG3	41:AU:183:ARG:HD3	1.78	0.65
53:SA:1248:A:O2'	53:SA:1933:C:OP2	2.13	0.65
57:SE:34:TYR:OH	57:SE:105:LEU:O	2.12	0.65
2:AA:2211:C:OP2	33:AT:73:ARG:NH2	2.29	0.65
3:AC:126:C:OP1	35:A3:64:ARG:NH2	2.29	0.65
18:Af:24:TYR:O	18:Af:26:ARG:NH2	2.28	0.65
26:AM:95:ILE:HA	46:A0:27:LYS:HB3	1.77	0.65
53:SA:1799:A:H5''	77:SY:121:LYS:HD3	1.78	0.65
58:SF:254:ASN:HA	58:SF:257:LYS:HE3	1.77	0.65
77:SY:148:THR:HG23	77:SY:151:GLY:H	1.60	0.65
2:AA:1073:G:N2	2:AA:1243:G:O2'	2.30	0.65
4:AB:37:A:C6	4:AB:41:G:C2	2.84	0.65
53:SA:217:G:N2	53:SA:252:U:OP2	2.30	0.65
2:AA:3585:A:O2'	2:AA:3586:U:O4'	2.15	0.65
16:Ad:22:ALA:HB3	16:Ad:44:ARG:HB2	1.79	0.65
38:AE:359:SER:HA	38:AE:368:GLN:HA	1.79	0.65
53:SA:1679:G:N2	72:ST:39:GLN:O	2.30	0.65
76:SX:81:ARG:HE	76:SX:117:GLY:HA2	1.61	0.65
2:AA:119:G:H5'	2:AA:121:U:H4'	1.77	0.64
2:AA:3323:G:N2	2:AA:3326:A:OP2	2.23	0.64
34:AZ:10:SER:HB3	34:AZ:13:LYS:HB2	1.77	0.64
42:AH:99:PRO:O	42:AH:115:ASN:ND2	2.30	0.64
49:S3:39:PHE:HA	49:S3:70:LYS:HA	1.78	0.64
53:SA:886:U:O2	53:SA:916:G:N2	2.27	0.64
54:SB:139:CYS:HB2	54:SB:168:MET:HE1	1.79	0.64
2:AA:14:U:H3	3:AC:143:G:H21	1.45	0.64
2:AA:176:A:H2'	2:AA:177:A:C8	2.32	0.64
2:AA:505:A:H2'	2:AA:506:A:H8	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1642:G:OP2	2:AA:1642:G:N2	2.26	0.64
2:AA:3669:U:H1'	2:AA:3671:A:H62	1.62	0.64
53:SA:154:A:N1	53:SA:422:A:H2'	2.12	0.64
53:SA:400:C:H42	53:SA:407:A:N6	1.94	0.64
53:SA:1852:A:N6	72:ST:12:TYR:OH	2.29	0.64
61:SI:71:GLY:O	61:SI:74:ASN:ND2	2.30	0.64
73:SU:4:MET:SD	73:SU:121:LYS:NZ	2.70	0.64
74:SV:47:THR:OG1	74:SV:52:LYS:NZ	2.29	0.64
2:AA:159:C:H2'	2:AA:160:G:H8	1.60	0.64
2:AA:293:U:O2'	19:AP:181:LEU:O	2.14	0.64
4:AB:28:C:H1'	4:AB:54:A:H61	1.61	0.64
10:A7:31:VAL:HG11	10:A7:39:ARG:HG2	1.78	0.64
14:Aa:52:GLN:HG2	14:Aa:53:GLY:N	2.12	0.64
32:AY:97:VAL:O	35:A3:81:ASN:ND2	2.29	0.64
53:SA:179:U:O2'	60:SH:198:ARG:NH2	2.30	0.64
53:SA:1028:U:H5''	73:SU:14:SER:HB2	1.79	0.64
53:SA:1088:A:OP1	73:SU:106:LYS:NZ	2.27	0.64
53:SA:1982:G:O6	53:SA:2008:U:O4	2.15	0.64
2:AA:218:U:O2	39:AF:219:LYS:NZ	2.31	0.64
10:A7:15:PRO:HA	10:A7:85:ARG:H	1.62	0.64
47:S1:101:GLU:HG3	47:S1:102:THR:H	1.62	0.64
53:SA:457:A:OP2	53:SA:459:A:N6	2.30	0.64
53:SA:651:G:O6	53:SA:749:U:O4	2.16	0.64
62:SJ:48:ASP:OD1	62:SJ:48:ASP:N	2.26	0.64
74:SV:111:PRO:HB2	74:SV:138:VAL:HG22	1.79	0.64
2:AA:2478:G:O2'	2:AA:2607:U:OP2	2.15	0.64
6:A1:17:ARG:HA	14:Aa:74:ARG:HA	1.80	0.64
31:AW:94:ILE:HG21	31:AW:146:ILE:HD11	1.79	0.64
41:AU:21:ARG:HD2	41:AU:31:PRO:HG2	1.80	0.64
53:SA:310:U:O2	74:SV:72:ARG:NH1	2.30	0.64
59:SG:224:ARG:O	59:SG:228:ASN:ND2	2.25	0.64
73:SU:22:GLN:HB2	73:SU:26:LEU:HD23	1.79	0.64
73:SU:76:ARG:HH22	73:SU:79:GLY:HA2	1.63	0.64
77:SY:99:ARG:HB3	77:SY:117:LEU:HB3	1.80	0.64
2:AA:541:A:N1	2:AA:611:G:O6	2.30	0.64
11:AN:43:CYS:HA	11:AN:58:GLY:HA2	1.79	0.64
12:A8:83:GLU:H	12:A8:83:GLU:CD	2.05	0.64
51:S5:6:LEU:HD21	51:S5:53:ILE:HD12	1.78	0.64
53:SA:335:G:H2'	53:SA:336:G:H8	1.62	0.64
53:SA:953:C:H2'	53:SA:954:G:C8	2.33	0.64
55:SC:75:VAL:HG13	55:SC:86:VAL:HG13	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1277:G:OP2	13:A9:54:ARG:NH2	2.30	0.64
20:Ah:38:LEU:HB2	20:Ah:45:THR:HG22	1.79	0.64
30:AR:83:LEU:HA	30:AR:86:TYR:HD2	1.62	0.64
47:S1:38:LYS:HA	47:S1:41:LYS:HE3	1.79	0.64
51:S5:9:VAL:HG22	51:S5:25:VAL:HG21	1.80	0.64
53:SA:876:U:H1'	73:SU:76:ARG:HE	1.61	0.64
53:SA:1282:U:O4	53:SA:1704:G:N2	2.31	0.64
53:SA:1376:A:O2'	56:SD:142:LYS:NZ	2.27	0.64
54:SB:50:LYS:HB3	54:SB:52:ILE:HG13	1.79	0.64
54:SB:105:ILE:HD13	54:SB:109:LYS:HZ1	1.63	0.64
11:AN:125:ASP:OD2	22:AI:71:ARG:NH1	2.31	0.64
38:AE:10:ARG:HH12	38:AE:260:GLN:HB3	1.62	0.64
53:SA:2072:G:H2'	53:SA:2073:A:C8	2.33	0.64
55:SC:40:ARG:HA	55:SC:46:HIS:HA	1.78	0.64
73:SU:98:MET:HE1	73:SU:111:CYS:SG	2.38	0.64
2:AA:440:A:H2'	2:AA:441:A:C8	2.33	0.64
2:AA:1534:U:O2'	2:AA:1535:G:O5'	2.15	0.64
2:AA:3000:A:H2'	2:AA:3001:A:C8	2.33	0.64
3:AC:78:U:OP2	34:AZ:75:LYS:NZ	2.24	0.64
3:AC:143:G:H5''	32:AY:95:ARG:HD2	1.79	0.64
22:AI:76:LYS:HD2	22:AI:78:LEU:HD23	1.78	0.64
45:AX:80:LYS:O	45:AX:95:HIS:ND1	2.27	0.64
53:SA:478:G:H5''	57:SE:11:THR:HG23	1.78	0.64
53:SA:811:G:H21	53:SA:852:A:H62	1.46	0.64
53:SA:1646:U:OP2	75:SW:63:LYS:NZ	2.28	0.64
58:SF:103:TYR:HE2	58:SF:184:THR:HA	1.61	0.64
74:SV:151:PHE:O	74:SV:157:GLN:NE2	2.26	0.64
2:AA:733:C:H2'	2:AA:734:A:C8	2.32	0.64
2:AA:3201:C:OP1	2:AA:3257:G:N2	2.31	0.64
3:AC:106:G:OP2	3:AC:108:A:O2'	2.15	0.64
21:Ai:91:GLU:N	21:Ai:91:GLU:OE2	2.31	0.64
31:AW:116:HIS:HB3	31:AW:149:ILE:HG13	1.79	0.64
33:AT:169:ARG:HG2	73:SU:78:GLN:HG2	1.80	0.64
53:SA:813:G:OP2	57:SE:79:ARG:NH1	2.31	0.64
53:SA:896:U:H1'	53:SA:907:C:H42	1.63	0.64
53:SA:1381:C:H2'	53:SA:1382:G:C8	2.33	0.64
53:SA:1881:G:N2	53:SA:1907:G:O2'	2.31	0.64
60:SH:43:GLU:H	60:SH:43:GLU:CD	2.06	0.64
2:AA:529:U:H2'	41:AU:74:LYS:HE2	1.79	0.63
2:AA:918:G:O2'	5:AL:17:TRP:NE1	2.27	0.63
2:AA:1643:U:OP1	17:Ae:42:ARG:NH2	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2637:U:H2'	2:AA:2638:G:H8	1.62	0.63
2:AA:2824:A:N1	2:AA:2933:C:N4	2.43	0.63
2:AA:3554:U:O2'	2:AA:3572:A:O2'	2.15	0.63
27:AS:118:GLU:N	27:AS:118:GLU:OE1	2.32	0.63
44:Ag:20:LYS:O	44:Ag:24:THR:HG23	1.98	0.63
47:S1:101:GLU:HG3	47:S1:102:THR:N	2.13	0.63
49:S3:12:LYS:NZ	49:S3:15:ARG:O	2.31	0.63
53:SA:161:U:H2'	53:SA:162:A:H8	1.63	0.63
53:SA:1271:G:O6	53:SA:1715:A:N1	2.32	0.63
53:SA:1880:A:O2'	61:SI:46:ARG:NH1	2.29	0.63
77:SY:142:LYS:HB3	77:SY:146:ARG:HD3	1.80	0.63
2:AA:338:U:H2'	2:AA:339:G:H8	1.63	0.63
2:AA:3506:U:H3	18:Af:41:ARG:HH11	1.46	0.63
4:AB:37:A:C6	4:AB:41:G:N1	2.66	0.63
8:A4:26:LYS:O	8:A4:26:LYS:HD3	1.98	0.63
9:A6:79:ASP:O	9:A6:83:ALA:N	2.27	0.63
24:Ac:22:CYS:HB2	24:Ac:30:TYR:HB2	1.80	0.63
36:A5:167:LYS:HD2	36:A5:168:VAL:H	1.62	0.63
41:AU:88:LEU:HD12	41:AU:115:LEU:HD21	1.78	0.63
51:S5:29:PHE:HD1	51:S5:30:MET:H	1.45	0.63
53:SA:1797:C:OP2	77:SY:124:ARG:NH1	2.32	0.63
63:SK:11:LEU:HD13	63:SK:14:ILE:HD11	1.81	0.63
2:AA:2830:U:H3	2:AA:2832:A:H8	1.45	0.63
2:AA:3001:A:H2'	2:AA:3002:G:C8	2.33	0.63
31:AW:42:LEU:HD21	31:AW:109:VAL:HG23	1.80	0.63
48:S2:36:LEU:HD11	53:SA:1832:U:H5''	1.81	0.63
53:SA:1947:U:H2'	53:SA:1948:A:C8	2.34	0.63
73:SU:98:MET:HA	73:SU:98:MET:HE3	1.79	0.63
2:AA:440:A:H2'	2:AA:441:A:H8	1.62	0.63
2:AA:3437:U:OP1	38:AE:364:HIS:NE2	2.30	0.63
12:A8:104:LYS:O	12:A8:108:ILE:HG22	1.98	0.63
38:AE:219:LYS:O	38:AE:269:TYR:N	2.29	0.63
38:AE:275:ARG:NH2	38:AE:276:ASN:OD1	2.31	0.63
53:SA:1223:G:O2'	53:SA:1225:A:N6	2.24	0.63
54:SB:107:ARG:NH1	68:SP:133:THR:O	2.31	0.63
77:SY:44:HIS:O	77:SY:48:HIS:ND1	2.31	0.63
78:SZ:78:LEU:HD21	78:SZ:80:PHE:HD2	1.63	0.63
2:AA:511:C:O2'	22:AI:48:ARG:NH2	2.31	0.63
29:AQ:48:GLY:CA	29:AQ:140:THR:O	2.46	0.63
46:A0:11:GLU:HG3	46:A0:20:ILE:HD13	1.80	0.63
49:S3:15:ARG:NH2	53:SA:1005:G:N7	2.46	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:S3:54:LYS:NZ	49:S3:62:PHE:O	2.29	0.63
53:SA:573:C:OP2	69:SQ:66:SER:OG	2.17	0.63
2:AA:1969:A:OP2	16:Ad:42:LYS:NZ	2.31	0.63
6:A1:27:ASN:HB3	6:A1:42:LEU:HD13	1.80	0.63
11:AN:22:LYS:O	41:AU:157:ARG:NH2	2.31	0.63
16:Ad:40:LYS:HG2	16:Ad:53:VAL:HA	1.81	0.63
29:AQ:31:ILE:HB	29:AQ:66:GLU:HB3	1.81	0.63
53:SA:1381:C:H2'	53:SA:1382:G:H8	1.62	0.63
53:SA:1716:C:O2'	53:SA:1834:A:N6	2.31	0.63
53:SA:1892:U:H5''	72:ST:30:ARG:HD3	1.80	0.63
9:A6:80:LEU:HD23	9:A6:93:LEU:HG	1.81	0.63
28:AO:99:VAL:HG22	28:AO:123:VAL:HB	1.80	0.63
36:A5:72:ILE:O	36:A5:76:ARG:HG2	1.99	0.63
39:AF:33:ARG:O	39:AF:37:ILE:HD12	1.99	0.63
41:AU:110:GLY:O	41:AU:114:GLN:HG3	1.99	0.63
53:SA:812:A:P	57:SE:79:ARG:HH12	2.21	0.63
58:SF:151:HIS:HB2	58:SF:154:VAL:HG23	1.79	0.63
60:SH:17:GLU:OE1	60:SH:17:GLU:N	2.31	0.63
67:SO:68:GLU:OE2	67:SO:75:GLN:NE2	2.32	0.63
2:AA:1901:A:P	2:AA:1966:A:H62	2.22	0.63
2:AA:1993:A:H2'	2:AA:1994:U:H6	1.63	0.63
2:AA:2543:G:N1	2:AA:2544:G:N3	2.47	0.63
25:AK:115:LYS:NZ	41:AU:176:SER:O	2.29	0.63
30:AR:60:VAL:HG21	30:AR:98:ALA:HA	1.81	0.63
35:A3:72:TYR:OH	35:A3:77:PHE:O	2.15	0.63
49:S3:47:THR:HA	49:S3:50:GLN:HB3	1.81	0.63
53:SA:1280:G:H21	53:SA:1706:A:H61	1.45	0.63
2:AA:362:U:O2'	17:Ae:40:LYS:NZ	2.32	0.63
2:AA:1840:C:N4	2:AA:3455:A:N1	2.47	0.63
4:AB:68:U:O2	4:AB:107:G:O6	2.17	0.63
53:SA:441:U:H5''	69:SQ:50:LYS:HE2	1.79	0.63
53:SA:964:G:H2'	53:SA:965:U:C6	2.34	0.63
78:SZ:70:ARG:NH2	78:SZ:81:GLN:O	2.32	0.63
2:AA:1139:C:H2'	2:AA:1140:A:C8	2.34	0.62
2:AA:3483:U:O4'	38:AE:275:ARG:NH1	2.32	0.62
4:AB:7:G:H5''	30:AR:22:ARG:NE	2.14	0.62
53:SA:651:G:N2	53:SA:749:U:O2	2.24	0.62
53:SA:1199:U:OP2	59:SG:180:ARG:NH2	2.32	0.62
53:SA:1303:A:N6	53:SA:1703:U:O5'	2.31	0.62
53:SA:1656:A:H5''	65:SM:115:ARG:HH21	1.64	0.62
53:SA:1730:A:N3	53:SA:1903:U:O2'	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SC:127:ARG:NH2	55:SC:150:ASP:O	2.31	0.62
2:AA:179:G:C2	2:AA:252:A:C6	2.86	0.62
2:AA:1631:A:H5'	2:AA:2125:A:H62	1.64	0.62
2:AA:1827:C:H2'	2:AA:1828:G:C8	2.34	0.62
2:AA:3595:U:OP1	25:AK:168:LYS:NZ	2.32	0.62
19:AP:121:TRP:CH2	19:AP:124:GLN:HB2	2.34	0.62
53:SA:292:G:O6	60:SH:186:ARG:NH1	2.32	0.62
53:SA:1103:C:HO2'	63:SK:2:VAL:N	1.97	0.62
53:SA:1108:A:O2'	53:SA:1109:G:O5'	2.17	0.62
53:SA:1848:U:H3'	76:SX:43:ARG:HH12	1.63	0.62
61:SI:68:MET:HG2	61:SI:77:LYS:HE3	1.80	0.62
69:SQ:51:GLY:HA2	69:SQ:77:ILE:HG23	1.80	0.62
73:SU:29:LYS:HG3	73:SU:30:PRO:HD2	1.80	0.62
2:AA:11:A:N1	3:AC:154:G:N2	2.47	0.62
2:AA:21:G:OP2	2:AA:21:G:N2	2.22	0.62
2:AA:2884:G:H21	6:A1:146:PHE:HB3	1.63	0.62
2:AA:3134:U:OP1	5:AL:206:LYS:NZ	2.31	0.62
11:AN:29:ARG:NH2	11:AN:78:LYS:O	2.32	0.62
38:AE:372:GLU:OE2	46:A0:19:ARG:NH1	2.32	0.62
53:SA:142:G:H1	53:SA:169:A:N6	1.95	0.62
53:SA:404:G:OP2	64:SL:47:ARG:NH2	2.30	0.62
2:AA:113:C:O3'	19:AP:54:LYS:NZ	2.32	0.62
2:AA:268:C:N3	2:AA:269:A:N6	2.46	0.62
2:AA:2084:U:H2'	2:AA:2085:A:H8	1.64	0.62
2:AA:3717:A:H2'	2:AA:3718:G:C8	2.34	0.62
37:AD:141:GLU:OE1	53:SA:961:G:O2'	2.17	0.62
53:SA:995:A:OP1	53:SA:1085:C:O2'	2.14	0.62
53:SA:1798:G:O6	77:SY:124:ARG:NH2	2.33	0.62
73:SU:39:LYS:HA	73:SU:42:LYS:NZ	2.14	0.62
2:AA:2588:A:C6	26:AM:39:ILE:HB	2.34	0.62
2:AA:3347:C:OP1	25:AK:67:LYS:NZ	2.32	0.62
2:AA:3411:C:H2'	2:AA:3412:G:C8	2.33	0.62
2:AA:3511:C:H2'	2:AA:3512:A:H8	1.64	0.62
30:AR:93:LYS:HG2	30:AR:160:ARG:HH12	1.65	0.62
35:A3:86:LEU:O	35:A3:91:ARG:NH1	2.33	0.62
53:SA:251:U:N3	74:SV:17:GLU:OE1	2.33	0.62
53:SA:412:U:OP1	60:SH:93:LYS:NZ	2.32	0.62
53:SA:993:A:H2'	53:SA:994:G:C8	2.34	0.62
53:SA:1258:A:N7	53:SA:1915:C:N4	2.47	0.62
53:SA:1832:U:H3	61:SI:155:ARG:HA	1.64	0.62
53:SA:1908:A:C8	53:SA:1909:C:H5	2.18	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SM:129:LYS:NZ	65:SM:137:ALA:O	2.29	0.62
1:S9:22:G:N7	1:S9:46:G:O6	2.33	0.62
2:AA:3403:A:H4'	26:AM:10:LYS:HZ3	1.64	0.62
4:AB:47:U:OP2	30:AR:93:LYS:NZ	2.32	0.62
29:AQ:56:GLU:CD	29:AQ:162:ARG:HB2	2.24	0.62
54:SB:81:HIS:HB2	54:SB:109:LYS:HE2	1.81	0.62
57:SE:49:LEU:HB3	57:SE:104:LEU:HG	1.80	0.62
58:SF:126:VAL:HG21	58:SF:139:ALA:HB1	1.80	0.62
68:SP:75:MET:HG2	68:SP:118:ALA:HB2	1.82	0.62
2:AA:746:A:H2'	2:AA:747:A:H8	1.64	0.62
2:AA:2733:A:H61	2:AA:2816:U:H3	1.48	0.62
15:Ab:47:VAL:HG21	19:AP:6:TYR:HE1	1.65	0.62
20:Ah:33:GLN:HB2	20:Ah:49:ARG:HE	1.65	0.62
21:Ai:43:ASP:O	21:Ai:47:LYS:HG2	2.00	0.62
38:AE:194:GLU:O	38:AE:198:LYS:NZ	2.27	0.62
55:SC:136:SER:HB2	55:SC:141:ILE:HB	1.82	0.62
75:SW:50:VAL:O	75:SW:54:VAL:HG23	1.98	0.62
2:AA:1849:U:OP2	2:AA:1995:C:O2'	2.18	0.62
2:AA:3319:C:H2'	2:AA:3320:G:C8	2.35	0.62
9:A6:79:ASP:N	9:A6:82:THR:OG1	2.33	0.62
40:AG:18:VAL:HG12	40:AG:19:LEU:H	1.64	0.62
76:SX:24:LYS:O	76:SX:28:LEU:HB2	2.00	0.62
2:AA:382:A:N3	2:AA:385:G:H5''	2.15	0.62
2:AA:416:G:OP1	2:AA:1563:U:O2'	2.17	0.62
2:AA:2548:A:O2'	53:SA:2050:U:O4'	2.15	0.62
2:AA:3061:U:OP1	43:AV:89:LYS:NZ	2.32	0.62
6:A1:86:GLN:HG3	6:A1:88:ALA:H	1.65	0.62
10:A7:56:ASP:OD1	10:A7:58:ARG:NH2	2.33	0.62
29:AQ:49:VAL:HA	29:AQ:139:ARG:HA	1.81	0.62
51:S5:42:ARG:NH1	51:S5:61:ARG:O	2.29	0.62
53:SA:157:G:H1'	60:SH:87:ARG:HH22	1.64	0.62
56:SD:124:LEU:HG	56:SD:125:ARG:HH22	1.65	0.62
76:SX:57:LEU:O	76:SX:61:ARG:HG2	2.00	0.62
2:AA:280:U:H2'	2:AA:281:G:H8	1.65	0.62
2:AA:1787:A:OP1	6:A1:16:GLY:N	2.30	0.62
2:AA:3128:A:O2'	2:AA:3131:A:N6	2.33	0.62
42:AH:88:LEU:HD11	42:AH:186:VAL:HG23	1.81	0.62
53:SA:394:G:OP2	53:SA:429:G:O2'	2.16	0.62
60:SH:160:ARG:NH1	60:SH:171:ILE:O	2.32	0.62
2:AA:296:A:H2'	2:AA:297:G:H8	1.63	0.61
2:AA:2474:C:OP1	37:AD:193:ARG:NH2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3015:A:N3	2:AA:3016:G:N1	2.47	0.61
2:AA:3695:C:O2	38:AE:169:ARG:NH2	2.33	0.61
5:AL:173:THR:OG1	28:AO:97:ALA:O	2.15	0.61
42:AH:127:ALA:HB1	42:AH:156:THR:HG22	1.82	0.61
51:S5:15:ARG:HH21	51:S5:20:GLY:HA2	1.65	0.61
52:S6:41:ASN:HB2	53:SA:510:G:H4'	1.82	0.61
53:SA:1002:A:OP1	54:SB:116:LYS:NZ	2.33	0.61
53:SA:1822:A:H5''	77:SY:105:LYS:HD3	1.81	0.61
53:SA:1843:G:N3	71:SS:88:ARG:NH2	2.47	0.61
56:SD:127:ILE:HG23	56:SD:128:MET:HE3	1.82	0.61
64:SL:5:ARG:NH1	64:SL:30:GLY:O	2.33	0.61
73:SU:130:LYS:HB3	74:SV:151:PHE:CE2	2.35	0.61
2:AA:2726:U:H3'	2:AA:2727:U:H2'	1.81	0.61
2:AA:3096:U:H4'	43:AV:8:LYS:HB2	1.82	0.61
4:AB:9:U:H5'	43:AV:29:ASN:HD21	1.65	0.61
18:Af:9:LEU:HD13	42:AH:179:TYR:HD2	1.66	0.61
22:AI:62:ILE:HG12	22:AI:68:MET:HA	1.81	0.61
42:AH:110:ARG:HH11	42:AH:124:PHE:HB2	1.65	0.61
52:S6:35:LYS:NZ	53:SA:600:U:O4	2.27	0.61
53:SA:354:C:OP1	74:SV:109:ASN:ND2	2.33	0.61
53:SA:1976:G:H2'	53:SA:1977:G:C8	2.35	0.61
61:SI:91:ILE:HD13	61:SI:164:LEU:HD13	1.82	0.61
66:SN:80:GLU:OE1	66:SN:80:GLU:N	2.33	0.61
69:SQ:95:PHE:O	69:SQ:144:ARG:NH1	2.33	0.61
73:SU:88:LEU:O	73:SU:92:ILE:HG23	2.00	0.61
2:AA:14:U:O2'	32:AY:89:ARG:NE	2.33	0.61
2:AA:746:A:H2'	2:AA:747:A:C8	2.36	0.61
2:AA:1993:A:H2'	2:AA:1994:U:C6	2.36	0.61
3:AC:79:G:O5'	17:Ae:30:LYS:NZ	2.33	0.61
9:A6:44:LEU:O	9:A6:94:VAL:HA	2.01	0.61
22:AI:185:ASP:OD1	22:AI:186:ILE:N	2.34	0.61
53:SA:3:C:O2	57:SE:17:ARG:NH1	2.33	0.61
53:SA:1878:C:H5'	65:SM:138:ARG:NH2	2.15	0.61
55:SC:23:HIS:HB3	55:SC:50:LEU:HD11	1.81	0.61
55:SC:79:ARG:HD2	55:SC:128:THR:HG21	1.83	0.61
63:SK:93:ILE:HG23	63:SK:94:LEU:HD22	1.81	0.61
71:SS:86:LEU:HD13	71:SS:98:ILE:HD11	1.81	0.61
78:SZ:25:PRO:HD2	78:SZ:28:GLU:HB2	1.80	0.61
2:AA:1643:U:O2'	17:Ae:17:ARG:NH1	2.33	0.61
4:AB:59:C:H2'	4:AB:60:U:H6	1.66	0.61
19:AP:36:VAL:HG22	19:AP:64:VAL:HG12	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Ah:64:VAL:HG22	37:AD:83:PHE:HB3	1.83	0.61
26:AM:93:TYR:CE1	46:A0:27:LYS:HB2	2.35	0.61
34:AZ:59:ARG:HB3	34:AZ:102:ASN:HB3	1.80	0.61
42:AH:90:LYS:HZ2	42:AH:144:TYR:HE1	1.47	0.61
53:SA:884:G:H1	53:SA:918:U:H3	1.48	0.61
2:AA:544:C:O2	2:AA:581:C:N4	2.33	0.61
2:AA:745:C:H2'	2:AA:746:A:H8	1.66	0.61
2:AA:1764:U:O4	2:AA:1765:A:N6	2.33	0.61
2:AA:1771:A:H1'	2:AA:1798:A:H2'	1.81	0.61
4:AB:23:C:N3	4:AB:118:A:O2'	2.34	0.61
19:AP:6:TYR:O	19:AP:10:ILE:HG13	1.99	0.61
25:AK:53:TYR:OH	25:AK:72:LEU:O	2.18	0.61
53:SA:881:C:H2'	53:SA:882:A:H8	1.66	0.61
53:SA:2035:U:H2'	53:SA:2036:A:H8	1.65	0.61
61:SI:70:HIS:HB2	61:SI:150:ARG:HD2	1.82	0.61
1:S9:28:C:H42	1:S9:42:G:H1	1.46	0.61
2:AA:1240:A:O2'	2:AA:1519:G:O3'	2.18	0.61
2:AA:1784:G:H21	2:AA:1786:A:H8	1.48	0.61
2:AA:1836:U:N3	2:AA:3454:G:O6	2.29	0.61
2:AA:2730:G:H1	2:AA:2819:U:H3	1.48	0.61
2:AA:3512:A:H3'	2:AA:3513:G:H8	1.65	0.61
18:Af:42:THR:OG1	18:Af:44:GLN:NE2	2.34	0.61
30:AR:78:ALA:HB2	30:AR:105:CYS:HB3	1.81	0.61
34:AZ:26:ARG:HB3	34:AZ:74:ARG:HB3	1.81	0.61
53:SA:1392:C:H2'	53:SA:1393:G:H8	1.65	0.61
62:SJ:59:THR:OG1	62:SJ:91:TYR:O	2.18	0.61
71:SS:17:ILE:HG12	71:SS:21:ASN:HB2	1.81	0.61
11:AN:43:CYS:HB2	11:AN:56:VAL:HG12	1.82	0.61
43:AV:16:PHE:O	43:AV:47:SER:OG	2.14	0.61
47:S1:43:ARG:NH1	53:SA:831:U:O4	2.33	0.61
53:SA:954:G:P	54:SB:136:ARG:HH12	2.24	0.61
53:SA:1633:A:N7	75:SW:44:LYS:NZ	2.45	0.61
53:SA:1820:C:H5''	77:SY:100:ARG:HD2	1.83	0.61
53:SA:1848:U:O4	76:SX:40:ARG:NH1	2.33	0.61
2:AA:315:C:H2'	2:AA:316:A:C8	2.36	0.61
29:AQ:41:ALA:O	29:AQ:195:VAL:N	2.33	0.61
36:A5:225:LYS:H	36:A5:255:ARG:HD2	1.64	0.61
53:SA:975:A:OP2	68:SP:66:ARG:NH2	2.32	0.61
60:SH:77:PHE:HE2	60:SH:95:LYS:HB2	1.64	0.61
2:AA:538:A:H2'	2:AA:539:G:H8	1.66	0.61
2:AA:1197:U:H2'	2:AA:1198:A:C8	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3677:A:H2'	2:AA:3678:A:H8	1.66	0.61
4:AB:83:G:H4'	36:A5:231:ARG:HG2	1.83	0.61
23:AJ:102:PRO:HG2	23:AJ:105:GLN:HB3	1.83	0.61
34:AZ:92:GLU:OE1	34:AZ:92:GLU:N	2.34	0.61
53:SA:26:A:O2'	53:SA:27:U:O5'	2.18	0.61
54:SB:29:TRP:HB3	54:SB:45:LYS:HD3	1.81	0.61
54:SB:82:LYS:HA	54:SB:105:ILE:HA	1.82	0.61
2:AA:752:G:OP1	39:AF:33:ARG:NH1	2.34	0.61
6:A1:11:ILE:HD12	6:A1:80:ILE:HB	1.83	0.61
41:AU:12:ASN:OD1	41:AU:12:ASN:N	2.34	0.61
48:S2:72:LEU:HD21	53:SA:1831:G:C4	2.36	0.61
53:SA:401:U:O3'	60:SH:89:LYS:NZ	2.34	0.61
53:SA:1649:C:OP1	75:SW:3:ARG:N	2.34	0.61
53:SA:1734:G:H3'	53:SA:1811:A:H61	1.64	0.61
53:SA:1808:G:H2'	53:SA:1809:G:C8	2.34	0.61
54:SB:70:LEU:HD13	54:SB:82:LYS:HG3	1.81	0.61
61:SI:20:ASN:OD1	61:SI:101:GLN:NE2	2.34	0.61
62:SJ:80:LEU:HA	62:SJ:83:GLU:HG2	1.81	0.61
73:SU:3:ARG:NH2	73:SU:9:LYS:O	2.30	0.61
2:AA:703:U:H2'	2:AA:704:U:C6	2.36	0.60
2:AA:2041:U:O2	2:AA:2068:G:N2	2.33	0.60
4:AB:65:G:H3'	4:AB:66:G:H8	1.65	0.60
14:Aa:2:ALA:O	14:Aa:4:ARG:NH1	2.34	0.60
14:Aa:43:LYS:HA	14:Aa:50:ALA:HA	1.83	0.60
38:AE:211:MET:HA	38:AE:278:LYS:HA	1.83	0.60
53:SA:897:G:H1	53:SA:905:U:H2'	1.66	0.60
54:SB:144:LYS:HA	54:SB:208:GLN:HG3	1.82	0.60
59:SG:235:GLY:HA2	78:SZ:23:LEU:HD11	1.82	0.60
63:SK:25:VAL:HG12	63:SK:65:LEU:HD11	1.83	0.60
71:SS:117:LYS:NZ	71:SS:124:GLY:O	2.29	0.60
76:SX:63:SER:OG	76:SX:74:ASN:OD1	2.18	0.60
2:AA:1306:A:N3	2:AA:1456:C:O2'	2.32	0.60
2:AA:2883:U:H3'	14:Aa:91:ARG:HH12	1.66	0.60
13:A9:65:ILE:HD11	13:A9:114:ILE:HD13	1.81	0.60
20:Ah:78:ALA:O	20:Ah:82:THR:HG23	2.01	0.60
30:AR:55:LYS:NZ	30:AR:159:ASN:OD1	2.34	0.60
53:SA:337:G:N7	64:SL:188:ARG:NH2	2.49	0.60
53:SA:953:C:H2'	53:SA:954:G:H8	1.66	0.60
2:AA:268:C:C4	2:AA:269:A:N6	2.70	0.60
2:AA:1024:U:O2'	37:AD:12:ARG:NH2	2.34	0.60
31:AW:11:LEU:O	31:AW:105:ARG:NH2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:A5:39:ILE:HD12	36:A5:40:LYS:N	2.15	0.60
42:AH:93:LEU:HD13	42:AH:100:ILE:HB	1.82	0.60
53:SA:437:C:H2'	53:SA:438:G:H8	1.66	0.60
53:SA:850:G:O2'	53:SA:851:A:O5'	2.19	0.60
53:SA:1670:A:H4'	59:SG:107:ARG:NH1	2.16	0.60
58:SF:105:ILE:O	58:SF:245:LYS:NZ	2.34	0.60
65:SM:20:VAL:HG21	65:SM:69:ARG:HH21	1.66	0.60
2:AA:1245:G:O6	2:AA:1270:G:N2	2.34	0.60
2:AA:2479:U:OP2	37:AD:200:ARG:NH1	2.34	0.60
5:AL:185:ALA:N	28:AO:134:GLU:OE2	2.34	0.60
11:AN:31:CYS:HA	11:AN:76:LEU:HA	1.82	0.60
22:AI:76:LYS:NZ	22:AI:131:ILE:O	2.34	0.60
34:AZ:53:ASP:OD1	34:AZ:54:GLU:N	2.34	0.60
35:A3:29:SER:O	35:A3:33:ILE:HG12	2.01	0.60
53:SA:924:A:N6	62:SJ:116:SER:O	2.34	0.60
53:SA:1265:G:H2'	53:SA:1266:G:C8	2.36	0.60
55:SC:157:ASP:HB3	78:SZ:68:LEU:HD11	1.82	0.60
56:SD:107:ARG:HH22	56:SD:111:LEU:HD22	1.65	0.60
73:SU:142:GLN:HB3	73:SU:145:THR:HG22	1.83	0.60
2:AA:176:A:H2'	2:AA:177:A:H8	1.65	0.60
2:AA:2506:A:H2'	2:AA:2507:A:C8	2.37	0.60
2:AA:2816:U:H2'	2:AA:2817:U:C6	2.37	0.60
23:AJ:74:TYR:O	23:AJ:75:ILE:HG13	2.01	0.60
25:AK:22:ILE:O	25:AK:26:LEU:HD22	2.02	0.60
29:AQ:48:GLY:HA3	29:AQ:140:THR:O	2.00	0.60
32:AY:186:LYS:HG3	32:AY:187:ILE:HD13	1.82	0.60
33:AT:122:PHE:HA	33:AT:125:LYS:HG2	1.83	0.60
34:AZ:37:GLU:CD	34:AZ:37:GLU:H	2.09	0.60
35:A3:10:ARG:NH2	35:A3:11:THR:OG1	2.34	0.60
53:SA:946:G:H5'	53:SA:1006:C:H1'	1.84	0.60
53:SA:1368:G:O6	53:SA:1688:U:O4	2.19	0.60
53:SA:1821:A:H2'	53:SA:1822:A:C8	2.36	0.60
56:SD:208:ILE:HD11	75:SW:42:PRO:HD3	1.84	0.60
2:AA:255:C:H2'	2:AA:256:A:C8	2.37	0.60
2:AA:716:C:H2'	2:AA:717:G:H8	1.66	0.60
2:AA:1515:A:O2'	12:A8:45:ARG:NH2	2.35	0.60
9:A6:85:GLY:H	9:A6:86:LYS:HE2	1.67	0.60
17:Ae:12:ARG:HG2	17:Ae:51:LEU:HD21	1.83	0.60
23:AJ:207:VAL:O	23:AJ:209:LYS:NZ	2.33	0.60
53:SA:56:A:OP1	53:SA:409:A:N6	2.27	0.60
53:SA:452:A:N1	53:SA:467:G:O2'	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SH:57:ASP:OD1	60:SH:61:PHE:N	2.34	0.60
1:S7:50:U:H3	1:S7:64:G:H1	1.49	0.60
2:AA:926:G:OP2	2:AA:926:G:N2	2.20	0.60
3:AC:45:A:O2'	24:Ac:62:THR:OG1	2.20	0.60
15:Ab:64:LEU:O	15:Ab:72:SER:OG	2.20	0.60
19:AP:103:GLU:HA	19:AP:106:VAL:HG12	1.83	0.60
38:AE:51:ALA:HB2	38:AE:80:GLU:HB2	1.84	0.60
39:AF:152:LEU:HD23	39:AF:251:ILE:HD12	1.83	0.60
53:SA:154:A:N6	53:SA:424:G:N7	2.50	0.60
61:SI:160:ILE:HD12	61:SI:163:CYS:HB3	1.84	0.60
72:ST:17:ARG:HE	72:ST:28:ILE:HG21	1.66	0.60
2:AA:745:C:H2'	2:AA:746:A:C8	2.37	0.60
2:AA:1891:A:H2'	2:AA:1892:G:H8	1.66	0.60
4:AB:26:C:H3'	4:AB:27:A:H8	1.67	0.60
5:AL:63:ARG:HG3	28:AO:69:TYR:CD1	2.37	0.60
30:AR:22:ARG:HB3	30:AR:30:TYR:HE2	1.67	0.60
36:A5:191:VAL:HG21	36:A5:207:VAL:HG11	1.82	0.60
53:SA:651:G:H1	53:SA:749:U:H3	0.72	0.60
53:SA:1316:U:H3	53:SA:1694:G:H1	1.46	0.60
53:SA:1434:U:OP2	75:SW:45:ARG:NH1	2.34	0.60
53:SA:1603:U:O2	77:SY:27:ASN:ND2	2.33	0.60
2:AA:1203:A:H8	30:AR:145:LYS:HG3	1.67	0.60
2:AA:1511:U:H2'	2:AA:1512:A:C8	2.37	0.60
2:AA:1740:A:H2'	2:AA:1741:G:C8	2.37	0.60
2:AA:3499:C:O2'	2:AA:3501:C:N4	2.34	0.60
2:AA:3632:U:H3	2:AA:3653:G:H1	1.50	0.60
13:A9:71:LYS:HB2	13:A9:110:ASN:HA	1.84	0.60
56:SD:106:LEU:HD23	56:SD:123:VAL:HG21	1.84	0.60
66:SN:31:ILE:HD13	66:SN:84:TYR:HB3	1.84	0.60
2:AA:2486:U:H5''	2:AA:2487:G:H5'	1.84	0.60
41:AU:68:LEU:HD11	43:AV:142:ILE:HG12	1.84	0.60
45:AX:63:PHE:HB3	45:AX:106:LEU:HD22	1.84	0.60
60:SH:28:MET:SD	60:SH:104:GLN:NE2	2.75	0.60
2:AA:384:A:H1'	34:AZ:86:ARG:HH21	1.67	0.59
2:AA:1078:C:O2'	2:AA:2703:U:N3	2.35	0.59
9:A6:16:LYS:O	9:A6:20:VAL:HG12	2.02	0.59
32:AY:130:LEU:HB2	32:AY:172:VAL:HG12	1.84	0.59
35:A3:72:TYR:CE2	35:A3:79:PRO:HD3	2.37	0.59
39:AF:71:ARG:HB3	39:AF:73:VAL:HG22	1.83	0.59
53:SA:1728:U:H4'	65:SM:72:GLY:HA2	1.85	0.59
53:SA:1901:U:O3'	66:SN:78:ARG:NH1	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SM:32:LEU:HA	65:SM:68:ILE:HB	1.83	0.59
2:AA:911:U:H2'	2:AA:912:U:C6	2.37	0.59
2:AA:3304:G:O2'	2:AA:3307:C:OP2	2.18	0.59
2:AA:3509:G:OP1	25:AK:133:ARG:NH2	2.35	0.59
4:AB:29:C:H1'	4:AB:50:A:H61	1.66	0.59
20:Ah:44:LYS:HD3	20:Ah:59:LYS:HB2	1.85	0.59
49:S3:90:GLU:CD	49:S3:90:GLU:H	2.10	0.59
53:SA:1982:G:N2	53:SA:2008:U:O2	2.35	0.59
53:SA:2065:C:H2'	53:SA:2066:G:C8	2.37	0.59
66:SN:28:LEU:HD23	66:SN:28:LEU:H	1.67	0.59
69:SQ:110:SER:OG	69:SQ:111:GLY:N	2.31	0.59
77:SY:56:TRP:HH2	77:SY:121:LYS:HG2	1.66	0.59
49:S3:5:ARG:NH2	53:SA:2087:U:OP2	2.34	0.59
53:SA:597:C:H2'	53:SA:598:A:C8	2.37	0.59
53:SA:1035:A:OP2	73:SU:124:ARG:NH2	2.35	0.59
53:SA:1277:G:N3	53:SA:1296:C:O2'	2.36	0.59
71:SS:49:GLN:HG3	71:SS:81:ILE:HD11	1.84	0.59
2:AA:26:A:N3	2:AA:336:U:O2'	2.32	0.59
2:AA:119:G:H4'	2:AA:120:U:H5''	1.83	0.59
2:AA:291:A:OP2	21:AI:40:ARG:NH1	2.36	0.59
37:AD:33:ASP:OD1	37:AD:34:TYR:N	2.35	0.59
39:AF:32:ILE:HG22	39:AF:246:ILE:HD11	1.84	0.59
53:SA:1822:A:H2	53:SA:1904:G:H21	1.50	0.59
75:SW:74:GLN:O	75:SW:78:ARG:HG2	2.02	0.59
2:AA:215:C:O2'	2:AA:216:C:OP1	2.17	0.59
2:AA:686:U:H2'	2:AA:687:G:H8	1.66	0.59
2:AA:1121:G:H2'	2:AA:1122:A:C4	2.38	0.59
2:AA:1786:A:P	6:A1:73:LYS:HZ1	2.26	0.59
6:A1:20:GLY:H	14:Aa:89:ILE:HD12	1.68	0.59
35:A3:63:LYS:HA	35:A3:66:MET:SD	2.43	0.59
36:A5:97:ARG:HA	36:A5:143:VAL:HG12	1.85	0.59
53:SA:180:U:H2'	53:SA:181:A:C8	2.37	0.59
53:SA:527:A:H2'	53:SA:528:A:H8	1.66	0.59
53:SA:649:A:H1'	62:SJ:181:ARG:HH11	1.68	0.59
53:SA:952:U:H2'	53:SA:953:C:C6	2.38	0.59
53:SA:1702:C:H5''	53:SA:1703:U:H5''	1.84	0.59
56:SD:123:VAL:O	56:SD:127:ILE:HG22	2.02	0.59
67:SO:73:LYS:O	67:SO:74:HIS:ND1	2.35	0.59
2:AA:1331:A:H2'	2:AA:1332:A:H8	1.67	0.59
3:AC:13:A:H2'	3:AC:14:A:C8	2.37	0.59
4:AB:104:C:H4'	29:AQ:201:ARG:CZ	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AL:75:THR:HG22	5:AL:100:ARG:HB3	1.83	0.59
29:AQ:35:ASP:OD2	29:AQ:88:ARG:NH1	2.36	0.59
30:AR:55:LYS:O	40:AG:143:ARG:NH2	2.34	0.59
44:Ag:27:LEU:HD22	44:Ag:31:ARG:HH11	1.67	0.59
53:SA:29:U:H2'	53:SA:30:G:H8	1.67	0.59
53:SA:58:U:O2'	53:SA:457:A:N3	2.35	0.59
2:AA:305:A:H4'	2:AA:306:C:H5''	1.84	0.59
2:AA:1890:G:H2'	2:AA:1891:A:C8	2.37	0.59
33:AT:104:LEU:HD22	33:AT:134:LYS:HG3	1.83	0.59
39:AF:34:ASN:HB3	39:AF:246:ILE:HD12	1.84	0.59
53:SA:943:U:H2'	53:SA:944:G:C8	2.37	0.59
53:SA:1712:G:O2'	53:SA:1899:A:OP1	2.20	0.59
53:SA:1790:C:H2'	53:SA:1791:C:C6	2.37	0.59
54:SB:121:ILE:HG21	54:SB:164:ILE:HD11	1.84	0.59
71:SS:29:ILE:O	71:SS:33:THR:HG23	2.03	0.59
2:AA:179:G:C6	2:AA:252:A:N6	2.70	0.59
2:AA:1099:U:H5''	36:A5:167:LYS:NZ	2.17	0.59
2:AA:1333:A:OP2	29:AQ:162:ARG:NH2	2.34	0.59
2:AA:1333:A:P	29:AQ:162:ARG:HH22	2.25	0.59
2:AA:1480:G:N7	7:A2:104:LYS:NZ	2.51	0.59
2:AA:1629:G:N1	2:AA:2139:C:OP2	2.34	0.59
2:AA:1740:A:H2'	2:AA:1741:G:H8	1.67	0.59
3:AC:126:C:H5''	35:A3:64:ARG:HH12	1.68	0.59
23:AJ:157:THR:O	23:AJ:161:GLU:HG3	2.02	0.59
32:AY:173:ARG:NH1	32:AY:173:ARG:HB3	2.18	0.59
39:AF:321:ASN:HB3	39:AF:324:VAL:HG22	1.84	0.59
53:SA:46:A:O2'	53:SA:438:G:N2	2.36	0.59
53:SA:1798:G:O5'	77:SY:121:LYS:NZ	2.36	0.59
55:SC:88:LYS:HD3	55:SC:200:MET:SD	2.43	0.59
56:SD:24:PHE:O	56:SD:28:ILE:HG12	2.03	0.59
4:AB:116:U:H4'	30:AR:79:LYS:HD3	1.83	0.59
5:AL:154:LYS:HE3	35:A3:121:VAL:HG22	1.84	0.59
6:A1:10:VAL:HG22	6:A1:24:VAL:HG12	1.85	0.59
13:A9:81:ARG:HG2	13:A9:137:PRO:HD3	1.85	0.59
22:AI:139:THR:HB	22:AI:142:ILE:HG12	1.85	0.59
24:Ac:11:PHE:HA	24:Ac:14:ARG:HD2	1.85	0.59
29:AQ:38:ARG:HH21	29:AQ:86:HIS:CE1	2.21	0.59
75:SW:78:ARG:HD3	75:SW:81:ARG:HH21	1.67	0.59
2:AA:439:U:H2'	2:AA:440:A:C8	2.33	0.59
2:AA:520:U:OP1	36:A5:224:ARG:NH2	2.36	0.59
2:AA:872:A:H5''	8:A4:32:ARG:HH12	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:AR:200:GLY:O	30:AR:203:VAL:HG22	2.02	0.59
33:AT:40:ILE:HD12	33:AT:49:ILE:HD11	1.84	0.59
53:SA:935:G:OP2	73:SU:3:ARG:NH1	2.36	0.59
74:SV:120:VAL:HG12	74:SV:145:VAL:HG11	1.83	0.59
78:SZ:38:MET:HE3	78:SZ:38:MET:HA	1.85	0.59
2:AA:1527:U:H2'	2:AA:1528:G:H8	1.67	0.58
2:AA:1891:A:H2'	2:AA:1892:G:C8	2.38	0.58
18:Af:5:SER:O	18:Af:9:LEU:HG	2.03	0.58
30:AR:32:ALA:O	30:AR:36:LEU:HD13	2.03	0.58
30:AR:84:ILE:HG12	30:AR:89:PRO:HA	1.85	0.58
42:AH:73:CYS:SG	42:AH:74:THR:N	2.76	0.58
43:AV:52:GLY:HA3	43:AV:93:ARG:HG3	1.84	0.58
50:S4:53:LEU:HD21	50:S4:58:ASN:HA	1.83	0.58
53:SA:248:G:H21	74:SV:43:LEU:HD11	1.67	0.58
53:SA:576:C:H41	69:SQ:69:ARG:HH12	1.49	0.58
54:SB:131:ASP:HB2	54:SB:133:TYR:HD2	1.68	0.58
2:AA:909:U:H2'	2:AA:910:A:C8	2.37	0.58
2:AA:1636:A:C2	2:AA:1637:G:H1'	2.39	0.58
2:AA:1844:G:O2'	2:AA:3454:G:OP2	2.19	0.58
2:AA:2034:G:N1	2:AA:2075:U:N3	2.52	0.58
2:AA:3302:G:N2	38:AE:248:CYS:SG	2.76	0.58
2:AA:3577:A:H3'	2:AA:3581:A:H61	1.67	0.58
3:AC:64:U:O4	35:A3:61:ASN:ND2	2.36	0.58
25:AK:61:THR:HG23	25:AK:68:GLY:HA2	1.84	0.58
27:AS:102:LEU:HD13	39:AF:283:ILE:HD11	1.85	0.58
47:S1:5:PHE:HZ	47:S1:39:GLU:HB3	1.67	0.58
53:SA:1726:U:O4	53:SA:1824:A:N6	2.35	0.58
54:SB:90:HIS:CE1	54:SB:229:MET:HE1	2.38	0.58
2:AA:382:A:OP1	34:AZ:76:ARG:NH2	2.34	0.58
2:AA:1048:G:O2'	24:Ac:52:TRP:O	2.20	0.58
2:AA:1816:G:H2'	2:AA:1817:G:C8	2.38	0.58
12:A8:80:LYS:HD2	12:A8:80:LYS:O	2.02	0.58
12:A8:89:HIS:ND1	12:A8:116:ASN:OD1	2.36	0.58
19:AP:138:PRO:HB3	19:AP:153:CYS:HA	1.85	0.58
23:AJ:236:LYS:HD3	23:AJ:240:ASN:HB2	1.84	0.58
30:AR:107:ARG:NH1	30:AR:120:LEU:O	2.34	0.58
43:AV:93:ARG:NH2	43:AV:95:GLU:OE2	2.36	0.58
49:S3:5:ARG:NH1	53:SA:2088:C:OP2	2.36	0.58
49:S3:85:ARG:O	53:SA:2089:A:N6	2.34	0.58
53:SA:212:U:H2'	53:SA:213:G:H8	1.66	0.58
53:SA:1297:A:OP2	53:SA:1710:G:N2	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1922:C:H2'	53:SA:1923:U:H6	1.67	0.58
53:SA:1938:C:H2'	53:SA:1939:G:C8	2.37	0.58
58:SF:42:ILE:HD11	58:SF:47:LEU:HD12	1.86	0.58
66:SN:21:ILE:HG13	66:SN:113:VAL:HA	1.84	0.58
71:SS:36:LYS:HG2	71:SS:101:ILE:HG13	1.83	0.58
2:AA:169:U:O2'	5:AL:134:LYS:NZ	2.33	0.58
2:AA:1875:A:H5''	33:AT:116:ARG:HD2	1.85	0.58
14:Aa:62:ASN:O	14:Aa:70:ARG:NH2	2.37	0.58
14:Aa:88:ARG:O	14:Aa:88:ARG:HD2	2.02	0.58
22:AI:98:ARG:HH22	22:AI:137:ILE:HD13	1.67	0.58
29:AQ:28:ASP:N	29:AQ:28:ASP:OD1	2.36	0.58
36:A5:71:ILE:O	36:A5:75:LYS:HG3	2.04	0.58
39:AF:218:LYS:HA	39:AF:229:LEU:HG	1.84	0.58
46:A0:63:ARG:NH2	46:A0:68:LYS:O	2.35	0.58
53:SA:1107:U:O3'	63:SK:20:ARG:NH1	2.36	0.58
53:SA:1902:G:P	66:SN:78:ARG:HH12	2.26	0.58
72:ST:18:GLN:HA	72:ST:25:LYS:HB3	1.85	0.58
1:S9:3:C:O2'	1:S9:4:G:OP1	2.19	0.58
1:S7:27:U:H3	1:S7:43:A:H61	1.51	0.58
2:AA:2124:C:H2'	2:AA:2125:A:C8	2.39	0.58
2:AA:2126:A:H2'	2:AA:2127:G:C8	2.38	0.58
2:AA:2137:C:O2	2:AA:3451:G:O2'	2.21	0.58
2:AA:2544:G:N2	2:AA:2559:U:O2	2.36	0.58
5:AL:113:GLU:OE1	5:AL:113:GLU:N	2.36	0.58
5:AL:174:ILE:HG23	28:AO:99:VAL:HG21	1.86	0.58
11:AN:136:ARG:O	11:AN:140:LYS:HG2	2.03	0.58
20:Ah:42:CYS:SG	20:Ah:43:GLY:N	2.76	0.58
23:AJ:279:ILE:HG21	54:SB:94:ARG:HB2	1.86	0.58
29:AQ:46:PHE:HZ	29:AQ:84:ASN:HA	1.68	0.58
30:AR:62:CYS:HB2	30:AR:78:ALA:HB3	1.85	0.58
34:AZ:110:VAL:HA	34:AZ:114:ARG:HB3	1.86	0.58
36:A5:125:PHE:O	36:A5:212:ASN:ND2	2.35	0.58
53:SA:509:U:H2'	53:SA:510:G:C8	2.38	0.58
53:SA:956:A:N1	53:SA:994:G:N2	2.44	0.58
58:SF:56:LEU:N	58:SF:60:GLU:OE2	2.30	0.58
62:SJ:10:LYS:HE2	62:SJ:43:LYS:HE3	1.84	0.58
63:SK:103:ILE:HD11	63:SK:126:LEU:HD12	1.85	0.58
1:S7:69:C:HO2'	1:S7:70:G:H8	1.50	0.58
2:AA:653:A:H2'	2:AA:654:A:H8	1.68	0.58
2:AA:973:A:O2'	33:AT:127:LYS:O	2.21	0.58
2:AA:1030:C:OP1	37:AD:14:SER:OG	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1083:G:H2'	2:AA:1084:A:C8	2.37	0.58
2:AA:1186:A:N6	43:AV:113:ASN:OD1	2.36	0.58
13:A9:129:ASP:OD1	13:A9:130:ARG:N	2.37	0.58
20:Ah:47:THR:HG22	20:Ah:57:CYS:HB2	1.85	0.58
53:SA:974:A:N1	53:SA:1067:A:O2'	2.36	0.58
53:SA:1658:G:OP1	61:SI:49:LYS:NZ	2.36	0.58
53:SA:1720:G:H2'	53:SA:1721:A:H8	1.68	0.58
53:SA:1925:U:H2'	53:SA:1926:G:C8	2.39	0.58
63:SK:46:TYR:HD1	63:SK:69:ILE:HG22	1.68	0.58
70:SR:85:MET:SD	70:SR:85:MET:N	2.76	0.58
74:SV:94:LEU:HD12	74:SV:103:PHE:HB3	1.85	0.58
2:AA:3657:G:H2'	2:AA:3658:G:C8	2.39	0.58
2:AA:3756:C:H2'	2:AA:3757:U:C6	2.38	0.58
11:AN:49:VAL:HG13	11:AN:50:THR:HG22	1.85	0.58
37:AD:2:GLY:HA2	37:AD:207:VAL:HG23	1.85	0.58
53:SA:70:U:O2	53:SA:82:G:N2	2.27	0.58
53:SA:1842:A:H2'	53:SA:1843:G:H8	1.67	0.58
53:SA:1902:G:OP2	65:SM:128:LYS:NZ	2.33	0.58
56:SD:15:GLY:O	56:SD:18:GLN:HG3	2.04	0.58
2:AA:535:U:O4	2:AA:536:A:N6	2.36	0.58
2:AA:1198:A:O2'	8:A4:42:ASN:OD1	2.18	0.58
2:AA:2075:U:HO2'	2:AA:2079:A:HO2'	1.50	0.58
2:AA:3498:A:OP2	2:AA:3501:C:N4	2.35	0.58
9:A6:76:ASP:OD1	9:A6:76:ASP:N	2.34	0.58
22:AI:122:ASP:OD2	22:AI:122:ASP:N	2.35	0.58
27:AS:150:HIS:ND1	27:AS:163:ARG:O	2.36	0.58
29:AQ:52:LEU:HB2	29:AQ:152:LEU:HD13	1.86	0.58
36:A5:86:ARG:NH1	36:A5:86:ARG:O	2.36	0.58
43:AV:148:LYS:O	43:AV:148:LYS:HD3	2.03	0.58
53:SA:453:U:O2'	58:SF:27:TYR:O	2.22	0.58
53:SA:930:A:O2'	53:SA:1032:A:N1	2.36	0.58
53:SA:1118:U:H2'	53:SA:1119:G:C8	2.38	0.58
53:SA:1453:G:H2'	53:SA:1454:G:C8	2.38	0.58
57:SE:113:VAL:HG23	57:SE:125:ALA:HB1	1.86	0.58
58:SF:188:SER:HB2	58:SF:191:ARG:HH12	1.69	0.58
62:SJ:160:ARG:NH2	62:SJ:189:PRO:O	2.37	0.58
63:SK:101:HIS:HA	63:SK:113:HIS:HE1	1.68	0.58
68:SP:41:PHE:HA	68:SP:57:THR:HA	1.85	0.58
2:AA:541:A:N1	2:AA:611:G:C6	2.72	0.58
2:AA:1630:A:N6	2:AA:2139:C:C2	2.72	0.58
2:AA:1890:G:H2'	2:AA:1891:A:H8	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:AQ:4:ARG:NH1	29:AQ:9:TYR:OH	2.37	0.58
37:AD:18:SER:OG	37:AD:20:ASN:ND2	2.34	0.58
40:AG:50:CYS:HA	40:AG:64:LYS:HD3	1.86	0.58
54:SB:175:GLU:HA	54:SB:178:LYS:HE3	1.85	0.58
59:SG:64:LEU:O	78:SZ:15:ARG:NH1	2.37	0.58
2:AA:221:A:N6	2:AA:235:A:O2'	2.37	0.58
2:AA:710:C:O2	13:A9:56:GLN:NE2	2.32	0.58
2:AA:1064:U:H2'	2:AA:1065:U:C6	2.39	0.58
2:AA:1841:U:O2'	2:AA:1843:U:O4'	2.19	0.58
6:A1:57:MET:HE3	6:A1:57:MET:HA	1.86	0.58
50:S4:35:CYS:HB2	50:S4:40:GLN:HE22	1.67	0.58
53:SA:635:G:N1	53:SA:1039:A:OP2	2.34	0.58
53:SA:1049:G:H4'	53:SA:2068:A:H4'	1.86	0.58
54:SB:29:TRP:CD1	54:SB:45:LYS:HZ3	2.22	0.58
58:SF:125:LYS:NZ	58:SF:126:VAL:O	2.37	0.58
58:SF:195:ILE:H	58:SF:210:VAL:HG13	1.69	0.58
71:SS:36:LYS:HD3	71:SS:37:GLY:H	1.68	0.58
2:AA:1071:A:H4'	2:AA:1087:G:N2	2.19	0.57
2:AA:2450:G:N7	37:AD:152:SER:OG	2.35	0.57
2:AA:3048:U:H2'	2:AA:3049:G:C8	2.39	0.57
2:AA:3593:U:H2'	2:AA:3594:G:H8	1.69	0.57
6:A1:18:ARG:HA	6:A1:21:LYS:HE2	1.86	0.57
42:AH:79:MET:O	42:AH:83:VAL:HG12	2.04	0.57
47:S1:12:TYR:HE1	47:S1:21:LYS:HD3	1.67	0.57
53:SA:454:U:H2'	53:SA:455:C:H6	1.69	0.57
58:SF:138:ILE:HD11	58:SF:146:SER:HB2	1.86	0.57
67:SO:43:HIS:HB3	67:SO:46:LEU:HB2	1.86	0.57
74:SV:90:ARG:HA	74:SV:109:ASN:HA	1.84	0.57
1:S9:37:A:H3'	1:S9:38:A:H5''	1.86	0.57
2:AA:1161:C:H2'	2:AA:1162:U:C6	2.39	0.57
2:AA:3307:C:OP1	38:AE:241:ARG:NH2	2.36	0.57
26:AM:97:PHE:CE2	46:A0:29:ILE:HD13	2.39	0.57
33:AT:75:MET:HA	33:AT:75:MET:HE2	1.85	0.57
41:AU:34:TYR:HB3	43:AV:152:ILE:HG12	1.85	0.57
43:AV:43:ILE:HD11	43:AV:54:PRO:HB3	1.86	0.57
53:SA:754:A:H1'	62:SJ:100:ILE:HB	1.85	0.57
53:SA:876:U:H1'	73:SU:76:ARG:NE	2.19	0.57
58:SF:21:ASN:OD1	58:SF:24:GLY:N	2.37	0.57
59:SG:169:LYS:HG2	59:SG:182:VAL:HG22	1.86	0.57
63:SK:115:GLU:HB2	63:SK:118:ARG:HE	1.69	0.57
66:SN:28:LEU:HG	66:SN:29:ARG:HD2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SO:29:GLU:HG3	67:SO:31:VAL:H	1.69	0.57
2:AA:276:G:OP1	19:AP:47:LYS:NZ	2.36	0.57
2:AA:1530:G:H2'	2:AA:1531:G:H8	1.69	0.57
2:AA:2460:A:H2'	2:AA:2461:A:C8	2.39	0.57
2:AA:2950:U:H2'	2:AA:2951:U:C6	2.40	0.57
2:AA:3736:A:N1	2:AA:3753:G:O2'	2.37	0.57
12:A8:86:ILE:HG23	12:A8:87:MET:SD	2.44	0.57
20:Ah:57:CYS:SG	20:Ah:58:LYS:N	2.76	0.57
24:Ac:58:ARG:NH2	39:AF:61:GLU:OE1	2.37	0.57
26:AM:10:LYS:HA	26:AM:12:LYS:HE2	1.85	0.57
41:AU:20:GLY:HA3	41:AU:67:LEU:HA	1.86	0.57
53:SA:823:C:OP1	58:SF:21:ASN:ND2	2.37	0.57
53:SA:1187:A:OP2	59:SG:178:ARG:NH2	2.36	0.57
53:SA:1418:C:H5'	75:SW:7:LYS:HG2	1.85	0.57
53:SA:1670:A:H2'	53:SA:1671:A:C8	2.39	0.57
53:SA:1798:G:N2	53:SA:1801:A:OP2	2.29	0.57
53:SA:2050:U:H2'	53:SA:2051:C:C6	2.39	0.57
56:SD:18:GLN:NE2	72:ST:47:ILE:O	2.36	0.57
62:SJ:93:VAL:HG21	62:SJ:175:VAL:HG21	1.86	0.57
2:AA:86:G:O2'	2:AA:98:G:O6	2.17	0.57
2:AA:269:A:O2'	2:AA:270:U:O4'	2.19	0.57
2:AA:626:A:H2'	2:AA:627:U:C6	2.39	0.57
2:AA:1302:G:N2	25:AK:86:MET:SD	2.78	0.57
2:AA:1331:A:H2'	2:AA:1332:A:C8	2.40	0.57
2:AA:1655:U:OP2	31:AW:127:ARG:NH1	2.35	0.57
2:AA:2408:G:O2'	33:AT:81:LYS:NZ	2.38	0.57
9:A6:48:SER:O	9:A6:56:ARG:NH1	2.37	0.57
16:Ad:40:LYS:HE3	16:Ad:53:VAL:HG22	1.86	0.57
28:AO:85:GLU:OE1	28:AO:85:GLU:N	2.32	0.57
36:A5:37:LYS:HG3	36:A5:40:LYS:HE3	1.85	0.57
39:AF:140:ARG:HH21	39:AF:242:PRO:HG2	1.69	0.57
41:AU:82:LYS:HD3	41:AU:84:TYR:CG	2.40	0.57
53:SA:1369:G:O2'	53:SA:1371:G:OP1	2.21	0.57
53:SA:1786:U:O2'	53:SA:1787:U:OP1	2.21	0.57
64:SL:81:VAL:HG12	64:SL:94:LYS:HD2	1.87	0.57
2:AA:89:A:OP2	27:AS:172:LYS:NZ	2.31	0.57
2:AA:911:U:H2'	2:AA:912:U:H6	1.68	0.57
2:AA:993:U:N3	2:AA:3337:U:OP1	2.32	0.57
2:AA:3410:A:H2'	2:AA:3411:C:O4'	2.05	0.57
9:A6:89:ARG:NH2	20:Ah:44:LYS:HB3	2.19	0.57
27:AS:35:PHE:CE1	39:AF:293:ILE:HD11	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:AY:140:LYS:HD3	32:AY:160:VAL:HB	1.87	0.57
53:SA:180:U:H2'	53:SA:181:A:H8	1.69	0.57
53:SA:466:A:H3'	53:SA:467:G:H8	1.70	0.57
53:SA:1722:U:H2'	53:SA:1723:A:H8	1.69	0.57
53:SA:1723:A:H4'	77:SY:70:PRO:HA	1.86	0.57
64:SL:13:LEU:HD23	64:SL:13:LEU:H	1.69	0.57
2:AA:2635:C:OP1	2:AA:3474:C:O2'	2.22	0.57
2:AA:3388:U:O2'	38:AE:177:GLU:OE1	2.23	0.57
4:AB:54:A:H2	40:AG:135:GLY:HA3	1.70	0.57
11:AN:52:THR:O	11:AN:71:LEU:N	2.37	0.57
40:AG:49:LYS:O	40:AG:64:LYS:N	2.37	0.57
42:AH:35:ARG:O	42:AH:35:ARG:NH1	2.32	0.57
45:AX:70:VAL:O	45:AX:76:ASN:ND2	2.37	0.57
53:SA:12:U:H2'	53:SA:13:C:C6	2.40	0.57
53:SA:426:A:OP1	60:SH:96:SER:OG	2.21	0.57
53:SA:877:U:O4	53:SA:926:G:O6	2.23	0.57
53:SA:886:U:O4	53:SA:916:G:O6	2.23	0.57
53:SA:1395:G:O2'	53:SA:1423:A:N1	2.36	0.57
61:SI:158:LYS:CE	61:SI:162:GLU:HG3	2.33	0.57
61:SI:195:ARG:HH11	68:SP:72:TYR:HA	1.68	0.57
65:SM:141:LYS:NZ	65:SM:143:TYR:OH	2.36	0.57
76:SX:84:THR:HA	76:SX:115:TYR:HA	1.86	0.57
2:AA:320:C:H2'	2:AA:321:A:H8	1.70	0.57
2:AA:1784:G:N2	2:AA:1786:A:H8	2.02	0.57
2:AA:2442:A:C2	2:AA:2481:A:H4'	2.39	0.57
2:AA:3731:A:O2'	2:AA:3733:G:H5''	2.04	0.57
5:AL:20:HIS:HB3	19:AP:198:LEU:HA	1.87	0.57
22:AI:71:ARG:O	22:AI:92:ASN:ND2	2.38	0.57
23:AJ:202:THR:HA	23:AJ:205:LYS:HE3	1.85	0.57
32:AY:135:ASP:OD1	32:AY:136:LYS:N	2.37	0.57
36:A5:233:ALA:HB3	36:A5:236:GLU:HG3	1.87	0.57
47:S1:4:GLN:OE1	47:S1:43:ARG:NH2	2.38	0.57
53:SA:258:A:O2'	64:SL:73:SER:N	2.30	0.57
53:SA:1321:C:H5'	67:SO:62:SER:HB3	1.86	0.57
53:SA:1854:U:OP2	53:SA:1856:A:O2'	2.23	0.57
63:SK:45:GLY:O	63:SK:68:ARG:NH1	2.38	0.57
2:AA:1209:U:H2'	2:AA:1210:A:C8	2.40	0.57
2:AA:2101:U:H3'	2:AA:2102:A:H5'	1.87	0.57
2:AA:2162:U:O2'	2:AA:3440:U:OP1	2.23	0.57
2:AA:2831:U:O2'	2:AA:2833:U:OP2	2.22	0.57
2:AA:3256:C:OP1	42:AH:172:ARG:NH2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A1:14:LEU:HD12	6:A1:79:HIS:HA	1.86	0.57
14:Aa:23:VAL:H	14:Aa:33:HIS:CE1	2.23	0.57
30:AR:153:THR:HG22	40:AG:142:THR:HG21	1.86	0.57
38:AE:158:ILE:HD13	38:AE:177:GLU:HB3	1.86	0.57
39:AF:37:ILE:HD12	39:AF:37:ILE:H	1.70	0.57
39:AF:269:GLU:OE1	39:AF:269:GLU:N	2.37	0.57
56:SD:190:MET:SD	56:SD:190:MET:N	2.78	0.57
79:mR:23:U:H3	1:S9:33:U:H3	1.53	0.57
2:AA:179:G:O2'	2:AA:180:C:OP1	2.22	0.57
2:AA:621:C:O2	11:AN:93:ARG:NH1	2.22	0.57
2:AA:689:U:H2'	2:AA:690:U:C6	2.39	0.57
2:AA:1342:U:H2'	2:AA:1343:U:C6	2.40	0.57
2:AA:1472:A:H2'	2:AA:1473:A:H8	1.69	0.57
2:AA:3230:G:H5''	2:AA:3231:A:H5'	1.87	0.57
13:A9:66:LYS:HG3	13:A9:67:ASN:OD1	2.04	0.57
16:Ad:68:LEU:HD22	16:Ad:69:PRO:HD2	1.87	0.57
30:AR:193:GLN:OE1	30:AR:197:ASN:ND2	2.38	0.57
38:AE:59:GLU:OE1	38:AE:69:LYS:NZ	2.35	0.57
53:SA:73:A:N6	53:SA:80:A:N1	2.52	0.57
53:SA:398:G:OP1	53:SA:2021:U:O2'	2.23	0.57
53:SA:1703:U:O2	71:SS:134:ARG:NH2	2.38	0.57
53:SA:2077:U:H2'	53:SA:2078:G:H8	1.70	0.57
59:SG:253:GLU:HA	59:SG:256:SER:HB2	1.85	0.57
2:AA:1265:C:OP1	8:A4:9:ASN:ND2	2.32	0.57
2:AA:1530:G:OP1	39:AF:199:ARG:NH1	2.35	0.57
2:AA:1671:U:OP1	32:AY:119:LYS:NZ	2.38	0.57
2:AA:1805:U:O2'	2:AA:1806:C:OP1	2.20	0.57
2:AA:3717:A:N3	2:AA:3775:G:N2	2.52	0.57
3:AC:5:A:H61	31:AW:38:ARG:HD3	1.69	0.57
8:A4:62:LYS:HA	8:A4:65:LYS:HE3	1.87	0.57
11:AN:50:THR:OG1	11:AN:51:ILE:N	2.38	0.57
30:AR:19:LYS:O	30:AR:24:ARG:NH1	2.38	0.57
31:AW:51:VAL:HG21	31:AW:58:VAL:HG13	1.86	0.57
36:A5:104:LEU:O	36:A5:109:ARG:NH1	2.38	0.57
41:AU:83:ASN:ND2	41:AU:102:GLU:OE2	2.38	0.57
42:AH:165:LEU:HD23	42:AH:165:LEU:H	1.70	0.57
53:SA:207:G:N1	53:SA:262:A:OP2	2.35	0.57
53:SA:1381:C:O2'	66:SN:67:SER:OG	2.23	0.57
53:SA:1447:A:N6	53:SA:1623:U:O2'	2.29	0.57
53:SA:1723:A:H2'	53:SA:1724:U:C6	2.39	0.57
66:SN:45:LYS:HB3	66:SN:47:LEU:HD21	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SX:61:ARG:HH12	76:SX:64:LYS:HE3	1.69	0.57
1:S9:28:C:H2'	1:S9:29:G:H8	1.69	0.57
2:AA:688:U:H2'	2:AA:689:U:C6	2.40	0.56
2:AA:1860:A:H2'	2:AA:1861:C:C6	2.39	0.56
2:AA:3485:G:H2'	2:AA:3486:G:C8	2.40	0.56
18:Af:6:LEU:HD11	42:AH:94:VAL:HG13	1.86	0.56
27:AS:124:GLN:O	27:AS:128:LYS:HG2	2.05	0.56
28:AO:98:PRO:HG2	28:AO:122:ILE:HG23	1.86	0.56
30:AR:76:ALA:HB3	30:AR:109:PHE:HE1	1.69	0.56
35:A3:97:LYS:HG3	35:A3:98:GLN:N	2.19	0.56
35:A3:109:LYS:NZ	35:A3:113:PHE:O	2.38	0.56
43:AV:109:ARG:NH1	43:AV:131:ARG:HD3	2.19	0.56
53:SA:410:G:O2'	60:SH:91:GLU:OE1	2.22	0.56
53:SA:452:A:H62	53:SA:467:G:H21	1.51	0.56
53:SA:809:U:O4	53:SA:810:A:N6	2.38	0.56
2:AA:62:A:H2'	2:AA:63:A:H8	1.70	0.56
2:AA:293:U:H2'	2:AA:294:G:C8	2.40	0.56
2:AA:962:A:H2'	2:AA:963:C:C6	2.40	0.56
2:AA:1630:A:N3	2:AA:2125:A:H1'	2.19	0.56
2:AA:3635:G:O6	2:AA:3650:U:O4	2.22	0.56
7:A2:20:PHE:HB3	7:A2:34:CYS:H	1.70	0.56
33:AT:43:LEU:HD23	33:AT:49:ILE:HG12	1.87	0.56
42:AH:128:LEU:HD11	42:AH:155:LEU:HB2	1.86	0.56
47:S1:18:LEU:HD12	47:S1:20:ARG:HE	1.69	0.56
53:SA:440:G:O3'	69:SQ:78:LYS:NZ	2.37	0.56
53:SA:811:G:N2	53:SA:852:A:H62	2.04	0.56
53:SA:1670:A:H4'	59:SG:107:ARG:HH12	1.70	0.56
53:SA:1879:U:H5''	65:SM:136:ARG:HH11	1.70	0.56
77:SY:161:TYR:CZ	77:SY:165:LYS:HD2	2.39	0.56
2:AA:536:A:N1	2:AA:617:A:N6	2.54	0.56
2:AA:1695:A:OP2	19:AP:71:ARG:NH1	2.38	0.56
2:AA:1843:U:O4	45:AX:104:LYS:NZ	2.38	0.56
2:AA:3120:U:OP2	5:AL:197:ARG:NH2	2.37	0.56
2:AA:3452:U:H2'	2:AA:3453:U:H5'	1.88	0.56
2:AA:3474:C:H2'	2:AA:3475:U:O4'	2.05	0.56
2:AA:3495:U:H2'	2:AA:3496:G:O4'	2.06	0.56
2:AA:3718:G:P	10:A7:111:GLY:H	2.28	0.56
6:A1:71:PHE:HE2	6:A1:73:LYS:HB3	1.68	0.56
23:AJ:105:GLN:OE1	23:AJ:234:VAL:HG11	2.04	0.56
25:AK:33:VAL:HG22	25:AK:102:LYS:HB2	1.87	0.56
25:AK:112:ASP:OD1	25:AK:113:LYS:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:A5:132:THR:HA	36:A5:135:MET:HE3	1.87	0.56
38:AE:11:HIS:CE1	38:AE:232:VAL:HA	2.40	0.56
38:AE:76:CYS:HA	38:AE:323:GLY:H	1.70	0.56
43:AV:41:VAL:HG23	43:AV:99:LYS:HA	1.87	0.56
53:SA:924:A:H4'	62:SJ:67:LYS:HE3	1.88	0.56
53:SA:948:A:O2'	73:SU:105:ASN:OD1	2.23	0.56
53:SA:1247:G:H2'	53:SA:1248:A:C8	2.41	0.56
53:SA:1453:G:O6	53:SA:1610:U:O4	2.23	0.56
53:SA:1670:A:H2'	53:SA:1671:A:H8	1.71	0.56
55:SC:69:ASN:ND2	59:SG:260:GLU:OE2	2.38	0.56
57:SE:112:LYS:HZ2	57:SE:116:LEU:HD11	1.70	0.56
58:SF:182:MET:HE3	58:SF:183:VAL:H	1.70	0.56
59:SG:173:LYS:HB3	59:SG:178:ARG:HG2	1.88	0.56
1:S9:13:C:H42	1:S9:46:G:H21	1.54	0.56
2:AA:1575:C:H5'	39:AF:42:THR:HG21	1.87	0.56
2:AA:2002:G:OP2	2:AA:2002:G:N2	2.20	0.56
2:AA:2404:A:N6	2:AA:3725:G:OP2	2.34	0.56
2:AA:2936:A:H2'	2:AA:2937:G:H8	1.70	0.56
9:A6:45:VAL:O	9:A6:70:VAL:HA	2.06	0.56
15:Ab:96:GLU:O	15:Ab:100:VAL:HG13	2.05	0.56
16:Ad:44:ARG:NH2	16:Ad:45:THR:O	2.33	0.56
19:AP:187:PRO:O	19:AP:188:SER:HB3	2.05	0.56
29:AQ:76:MET:HE3	29:AQ:80:CYS:HB3	1.88	0.56
35:A3:35:LYS:HD2	35:A3:43:ASN:HD22	1.71	0.56
36:A5:57:THR:HA	36:A5:60:TYR:CD2	2.40	0.56
38:AE:318:PHE:O	38:AE:319:LEU:HD23	2.04	0.56
41:AU:33:VAL:HG21	43:AV:149:ILE:HG22	1.87	0.56
51:S5:10:GLU:OE2	51:S5:28:GLN:NE2	2.39	0.56
53:SA:109:C:OP1	53:SA:389:G:O2'	2.22	0.56
53:SA:850:G:H2'	53:SA:851:A:C8	2.40	0.56
53:SA:1029:U:H5'	73:SU:55:ARG:HG2	1.88	0.56
53:SA:1206:C:OP2	69:SQ:14:LYS:NZ	2.23	0.56
2:AA:163:G:N1	2:AA:269:A:C6	2.74	0.56
2:AA:349:G:C8	39:AF:193:LYS:HD3	2.41	0.56
2:AA:614:U:H2'	2:AA:615:U:C6	2.41	0.56
2:AA:3639:G:H22	2:AA:3646:G:H22	1.54	0.56
11:AN:142:MET:HE1	25:AK:181:LYS:HB2	1.88	0.56
21:Ai:74:THR:O	21:Ai:77:LYS:NZ	2.26	0.56
33:AT:24:ASP:OD1	33:AT:25:PRO:HD2	2.05	0.56
42:AH:151:GLU:O	42:AH:155:LEU:HG	2.04	0.56
43:AV:18:LYS:NZ	43:AV:46:ASP:OD1	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:454:U:H2'	53:SA:455:C:C6	2.41	0.56
53:SA:1076:C:O3'	68:SP:149:ARG:NH1	2.39	0.56
53:SA:1722:U:H2'	53:SA:1723:A:C8	2.41	0.56
53:SA:1746:A:H2'	53:SA:1747:U:C6	2.41	0.56
53:SA:1808:G:N3	53:SA:1814:C:H1'	2.19	0.56
57:SE:45:VAL:O	57:SE:49:LEU:HD23	2.05	0.56
2:AA:653:A:H2'	2:AA:654:A:C8	2.40	0.56
2:AA:971:U:H2'	2:AA:972:G:C8	2.41	0.56
2:AA:1968:C:OP2	2:AA:1969:A:O2'	2.23	0.56
2:AA:2442:A:N1	2:AA:2481:A:H4'	2.20	0.56
2:AA:2524:C:H42	2:AA:2816:U:HO2'	1.53	0.56
2:AA:3713:C:H2'	2:AA:3714:C:C6	2.41	0.56
4:AB:46:C:H5''	30:AR:160:ARG:HE	1.71	0.56
11:AN:75:LYS:HA	41:AU:184:MET:HE1	1.87	0.56
34:AZ:109:LYS:HE3	34:AZ:114:ARG:HH11	1.71	0.56
38:AE:60:VAL:HG12	38:AE:68:HIS:HA	1.86	0.56
53:SA:867:A:N3	63:SK:105:THR:HG22	2.20	0.56
54:SB:34:ALA:HB3	54:SB:41:ARG:HA	1.88	0.56
75:SW:105:MET:HG2	75:SW:106:ILE:HD13	1.87	0.56
77:SY:139:ASN:HB2	77:SY:146:ARG:HH12	1.70	0.56
2:AA:296:A:H5''	19:AP:97:ASN:HB3	1.87	0.56
2:AA:2706:A:H2'	2:AA:2707:G:H8	1.71	0.56
2:AA:3100:G:N7	21:AI:62:LYS:NZ	2.44	0.56
2:AA:3492:G:N3	42:AH:162:GLN:NE2	2.50	0.56
16:AD:24:ILE:HG12	16:AD:42:LYS:HE2	1.87	0.56
30:AR:103:LEU:HD11	30:AR:247:ARG:HD3	1.87	0.56
32:AY:108:TYR:HB3	35:A3:25:LYS:HB3	1.88	0.56
41:AU:64:ASN:N	41:AU:64:ASN:OD1	2.37	0.56
41:AU:166:LEU:O	41:AU:171:ARG:NH2	2.32	0.56
53:SA:598:A:H2'	53:SA:599:A:C8	2.40	0.56
53:SA:996:C:HO2'	68:SP:139:SER:HG	1.54	0.56
53:SA:1008:A:H2'	53:SA:1009:A:C8	2.40	0.56
53:SA:1016:U:H2'	53:SA:1017:G:C8	2.40	0.56
75:SW:9:ILE:HG23	75:SW:50:VAL:HG23	1.88	0.56
1:S7:34:C:H42	79:mR:20:U:H3	1.51	0.56
2:AA:50:U:H2'	2:AA:51:A:H8	1.71	0.56
2:AA:1047:A:H2'	2:AA:1048:G:C8	2.41	0.56
2:AA:1483:A:H2'	2:AA:1484:A:H8	1.69	0.56
2:AA:1531:G:OP2	39:AF:190:ARG:NH2	2.38	0.56
2:AA:1856:U:H5	2:AA:1900:G:H1'	1.71	0.56
2:AA:2152:A:H2'	2:AA:2153:A:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2451:A:OP2	37:AD:156:LYS:NZ	2.34	0.56
4:AB:9:U:OP2	4:AB:10:C:N4	2.39	0.56
12:A8:19:ARG:O	12:A8:22:SER:OG	2.23	0.56
14:Aa:52:GLN:HG2	14:Aa:53:GLY:H	1.69	0.56
15:Ab:48:VAL:HG21	19:AP:9:GLU:HB3	1.86	0.56
18:Af:10:ALA:HB1	42:AH:175:LEU:HB3	1.88	0.56
35:A3:60:TYR:HA	35:A3:63:LYS:HD3	1.88	0.56
53:SA:432:G:N2	53:SA:465:G:O2'	2.25	0.56
53:SA:1445:U:O2'	66:SN:54:ARG:NH2	2.38	0.56
53:SA:1879:U:O2'	53:SA:1911:A:N6	2.38	0.56
58:SF:51:ARG:NH2	58:SF:109:PHE:O	2.38	0.56
2:AA:137:G:H8	2:AA:140:A:H62	1.54	0.56
2:AA:736:G:H21	39:AF:95:MET:HB2	1.70	0.56
2:AA:876:C:H2'	2:AA:877:G:H8	1.69	0.56
2:AA:1467:C:H2'	2:AA:1468:A:C8	2.41	0.56
2:AA:3166:U:O2'	2:AA:3168:C:OP1	2.21	0.56
5:AL:123:VAL:HB	35:A3:119:LEU:HB3	1.87	0.56
7:A2:107:GLU:HA	7:A2:110:LEU:HG	1.88	0.56
40:AG:22:CYS:HG	40:AG:66:SER:HG	1.54	0.56
53:SA:99:C:H2'	53:SA:100:U:C6	2.41	0.56
53:SA:142:G:HO2'	53:SA:143:A:H8	1.52	0.56
53:SA:433:C:H1'	53:SA:465:G:H1'	1.88	0.56
53:SA:877:U:H2'	53:SA:878:G:C8	2.41	0.56
2:AA:266:U:H2'	2:AA:267:U:C6	2.41	0.56
2:AA:1630:A:H1'	2:AA:2125:A:C4	2.41	0.56
2:AA:1786:A:O2'	2:AA:1787:A:O4'	2.17	0.56
5:AL:51:GLU:OE2	5:AL:51:GLU:N	2.35	0.56
16:Ad:11:PHE:HE1	16:Ad:52:MET:HE2	1.71	0.56
30:AR:86:TYR:HD1	30:AR:245:LYS:HG3	1.70	0.56
31:AW:128:ARG:HD3	31:AW:136:ILE:HD13	1.86	0.56
32:AY:123:LYS:HZ2	32:AY:123:LYS:HB3	1.71	0.56
42:AH:103:ASN:HB3	42:AH:112:GLU:HB2	1.88	0.56
53:SA:369:G:H2'	53:SA:370:G:C8	2.41	0.56
53:SA:1453:G:N2	53:SA:1610:U:O2	2.30	0.56
53:SA:1832:U:N3	61:SI:155:ARG:HA	2.21	0.56
55:SC:17:MET:HB3	55:SC:172:LEU:HD11	1.87	0.56
70:SR:71:LEU:O	70:SR:75:LEU:HG	2.06	0.56
78:SZ:65:ASP:OD1	78:SZ:66:ALA:N	2.39	0.56
2:AA:419:A:H5''	12:A8:26:MET:CE	2.36	0.55
2:AA:1332:A:H5''	29:AQ:162:ARG:HH21	1.71	0.55
2:AA:3241:U:H2'	2:AA:3242:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3636:U:O2	2:AA:3649:G:N2	2.27	0.55
2:AA:3735:A:H3'	2:AA:3753:G:H21	1.71	0.55
5:AL:113:GLU:HA	5:AL:116:LEU:HD12	1.87	0.55
41:AU:82:LYS:NZ	41:AU:103:PHE:O	2.39	0.55
53:SA:756:A:H2'	53:SA:757:A:C8	2.40	0.55
1:S9:16:C:H5''	1:S9:17:C:H5''	1.88	0.55
2:AA:1964:G:N2	16:Ad:4:GLN:OE1	2.36	0.55
2:AA:2212:U:H2'	2:AA:2213:G:C8	2.41	0.55
2:AA:2473:A:H2'	2:AA:2474:C:C6	2.41	0.55
27:AS:67:LEU:HD11	27:AS:99:VAL:HG21	1.89	0.55
50:S4:23:ILE:HD12	50:S4:24:PRO:HD2	1.89	0.55
53:SA:1278:C:N4	71:SS:139:LYS:O	2.39	0.55
53:SA:2065:C:H2'	53:SA:2066:G:H8	1.70	0.55
53:SA:2068:A:H2'	53:SA:2069:G:C8	2.41	0.55
62:SJ:16:LEU:HD23	62:SJ:16:LEU:H	1.72	0.55
1:S7:26:G:O6	1:S7:44:A:N1	2.39	0.55
2:AA:128:U:H2'	2:AA:129:C:C6	2.41	0.55
2:AA:400:C:N4	31:AW:106:ASN:OD1	2.39	0.55
2:AA:507:G:H2'	2:AA:508:A:C8	2.41	0.55
2:AA:906:G:H2'	2:AA:907:C:C6	2.42	0.55
2:AA:1083:G:H2'	2:AA:1084:A:H8	1.71	0.55
2:AA:2094:A:H4'	2:AA:2095:U:H5'	1.88	0.55
2:AA:3386:A:H2'	2:AA:3387:U:C6	2.41	0.55
2:AA:3493:G:OP1	18:Af:17:LYS:NZ	2.38	0.55
4:AB:59:C:H2'	4:AB:60:U:C6	2.40	0.55
22:AI:80:SER:OG	22:AI:133:ASP:OD2	2.21	0.55
22:AI:131:ILE:HG23	22:AI:182:ILE:HD13	1.88	0.55
31:AW:116:HIS:HB3	31:AW:149:ILE:CG1	2.35	0.55
34:AZ:88:LYS:HE2	34:AZ:94:THR:HB	1.87	0.55
36:A5:76:ARG:HD3	36:A5:79:ARG:NE	2.20	0.55
42:AH:90:LYS:NZ	42:AH:144:TYR:HE1	2.03	0.55
53:SA:1888:U:H2'	53:SA:1889:G:H8	1.71	0.55
71:SS:17:ILE:HD11	71:SS:35:ILE:HG21	1.88	0.55
2:AA:591:G:H1	2:AA:600:U:H3	1.55	0.55
2:AA:801:U:H1'	2:AA:877:G:H1'	1.88	0.55
2:AA:1064:U:H2'	2:AA:1065:U:H6	1.71	0.55
2:AA:3137:U:O2'	2:AA:3138:A:OP1	2.23	0.55
2:AA:3256:C:H2'	2:AA:3258:C:H5'	1.88	0.55
2:AA:3294:U:H5	26:AM:46:SER:HB3	1.71	0.55
2:AA:3383:A:H2'	2:AA:3384:G:H8	1.71	0.55
2:AA:3437:U:N3	2:AA:3478:G:H1'	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3451:G:OP2	33:AT:61:ARG:NH1	2.39	0.55
2:AA:3623:A:OP2	11:AN:139:LYS:NZ	2.39	0.55
5:AL:124:MET:HB3	5:AL:142:ASP:HA	1.87	0.55
13:A9:63:ILE:HD12	13:A9:131:VAL:HG21	1.87	0.55
37:AD:207:VAL:HG13	37:AD:208:GLU:HG3	1.89	0.55
41:AU:15:GLN:HG2	41:AU:73:ILE:O	2.07	0.55
52:S6:10:ARG:HH12	52:S6:13:LYS:H	1.55	0.55
53:SA:520:U:OP2	57:SE:171:ARG:NH2	2.39	0.55
53:SA:1637:U:H2'	53:SA:1638:U:C6	2.41	0.55
54:SB:144:LYS:HB3	54:SB:206:PRO:HB2	1.87	0.55
61:SI:147:THR:O	61:SI:151:ASN:ND2	2.39	0.55
2:AA:716:C:N4	2:AA:717:G:O6	2.39	0.55
2:AA:734:A:H2'	2:AA:735:A:H8	1.72	0.55
2:AA:1603:C:N4	2:AA:2146:A:O2'	2.40	0.55
2:AA:3501:C:H2'	2:AA:3502:C:C6	2.41	0.55
2:AA:3716:C:O2	10:A7:114:ASN:ND2	2.32	0.55
3:AC:125:U:H2'	3:AC:126:C:H6	1.72	0.55
5:AL:166:ASN:HB3	5:AL:168:LYS:NZ	2.21	0.55
14:Aa:80:ILE:HD12	14:Aa:81:CYS:H	1.72	0.55
31:AW:8:ILE:O	31:AW:10:ASN:N	2.39	0.55
31:AW:118:MET:HB2	31:AW:147:GLN:HG2	1.89	0.55
36:A5:127:LYS:O	36:A5:132:THR:HG21	2.07	0.55
53:SA:1829:U:O2'	71:SS:27:LYS:NZ	2.26	0.55
68:SP:50:ARG:NE	68:SP:51:GLU:H	2.04	0.55
74:SV:36:ARG:NH1	74:SV:54:GLY:O	2.39	0.55
2:AA:236:U:O3'	34:AZ:2:LYS:N	2.39	0.55
2:AA:888:A:H5'	2:AA:890:G:H4'	1.89	0.55
2:AA:2177:A:H2'	2:AA:2178:A:C8	2.42	0.55
18:Af:2:ILE:HD11	18:Af:7:ALA:HB2	1.88	0.55
19:AP:169:GLY:HA2	19:AP:172:TYR:CE2	2.42	0.55
26:AM:15:ILE:HG21	26:AM:55:SER:HB3	1.89	0.55
35:A3:69:ARG:O	35:A3:73:LYS:HG2	2.07	0.55
39:AF:296:ASP:N	39:AF:296:ASP:OD1	2.40	0.55
42:AH:70:ARG:O	42:AH:74:THR:HG23	2.06	0.55
53:SA:346:U:H2'	53:SA:347:A:C8	2.41	0.55
53:SA:1717:A:OP2	61:SI:155:ARG:NH1	2.39	0.55
53:SA:1728:U:O2	65:SM:75:GLN:NE2	2.40	0.55
57:SE:117:GLY:O	57:SE:119:ALA:N	2.38	0.55
62:SJ:157:SER:HA	62:SJ:160:ARG:HD2	1.88	0.55
64:SL:168:ILE:CG1	64:SL:169:ASP:H	2.17	0.55
69:SQ:100:ASP:OD1	69:SQ:100:ASP:N	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S9:43:A:H2'	1:S9:44:A:C8	2.42	0.55
2:AA:3062:U:H2'	2:AA:3063:U:C6	2.42	0.55
2:AA:3267:C:H2'	2:AA:3268:A:H8	1.72	0.55
2:AA:3393:C:H2'	2:AA:3394:A:H8	1.71	0.55
38:AE:29:ILE:HD11	38:AE:334:THR:HG21	1.89	0.55
40:AG:25:GLU:OE2	40:AG:29:ARG:NE	2.40	0.55
47:S1:107:ARG:NH2	53:SA:449:C:OP2	2.40	0.55
53:SA:66:U:O4	60:SH:134:GLY:N	2.31	0.55
53:SA:865:G:H21	63:SK:107:PRO:HG3	1.71	0.55
53:SA:929:U:H4'	63:SK:56:HIS:HE1	1.71	0.55
53:SA:1091:C:H4'	53:SA:1226:A:H61	1.72	0.55
53:SA:1817:U:H5''	53:SA:1819:U:H5'	1.88	0.55
62:SJ:7:ARG:O	62:SJ:7:ARG:NH1	2.40	0.55
76:SX:57:LEU:O	76:SX:60:ILE:HG13	2.06	0.55
2:AA:743:A:H2'	2:AA:744:G:C8	2.42	0.55
2:AA:1162:U:H2'	2:AA:1163:A:C8	2.41	0.55
2:AA:1177:A:H5''	2:AA:2976:A:H61	1.72	0.55
2:AA:2188:U:O2'	2:AA:2200:A:N7	2.37	0.55
2:AA:2585:U:HO2'	53:SA:1953:U:HO2'	1.55	0.55
2:AA:3089:C:OP2	43:AV:70:LYS:NZ	2.40	0.55
2:AA:3362:A:OP1	38:AE:93:ARG:NH1	2.33	0.55
22:AI:73:ILE:HG12	22:AI:111:ILE:HD12	1.87	0.55
22:AI:139:THR:HG22	22:AI:141:GLU:OE1	2.07	0.55
31:AW:114:LEU:HD23	31:AW:150:ALA:HB2	1.89	0.55
33:AT:125:LYS:HA	33:AT:125:LYS:HE3	1.89	0.55
49:S3:88:SER:OG	49:S3:90:GLU:OE1	2.24	0.55
53:SA:402:G:O5'	64:SL:51:ARG:NH2	2.38	0.55
53:SA:1608:G:H2'	53:SA:1609:C:C6	2.42	0.55
54:SB:88:CYS:HA	54:SB:98:THR:HA	1.89	0.55
59:SG:132:GLU:OE2	59:SG:134:ALA:N	2.27	0.55
69:SQ:52:ILE:HG22	69:SQ:75:GLN:HB3	1.88	0.55
71:SS:15:LEU:HD12	71:SS:61:LEU:HD12	1.89	0.55
1:S9:55:U:N3	1:S9:58:A:OP2	2.35	0.55
2:AA:217:A:N3	39:AF:223:ASN:ND2	2.55	0.55
2:AA:1858:U:H3'	2:AA:1859:A:H8	1.72	0.55
2:AA:2450:G:H4'	2:AA:2451:A:H5'	1.87	0.55
2:AA:2940:A:H2'	2:AA:2941:G:C8	2.42	0.55
2:AA:3706:U:H4'	38:AE:25:LEU:HD22	1.89	0.55
20:Ah:51:CYS:SG	20:Ah:52:VAL:N	2.78	0.55
23:AJ:163:LYS:HE3	23:AJ:190:LYS:HD2	1.89	0.55
27:AS:51:ARG:HA	27:AS:54:MET:HG3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SB:72:ASP:OD1	68:SP:128:ARG:NH1	2.38	0.55
59:SG:123:CYS:HB3	59:SG:203:ALA:HA	1.89	0.55
64:SL:11:LEU:HD23	64:SL:11:LEU:H	1.72	0.55
65:SM:14:LYS:HG2	65:SM:120:GLY:HA3	1.88	0.55
2:AA:741:C:H2'	2:AA:742:U:C6	2.42	0.55
2:AA:1619:U:OP1	2:AA:1658:G:N2	2.36	0.55
2:AA:1885:G:H2'	9:A6:88:PHE:CD1	2.42	0.55
11:AN:55:ILE:HD12	11:AN:68:VAL:HG22	1.88	0.55
28:AO:85:GLU:H	28:AO:85:GLU:CD	2.15	0.55
29:AQ:48:GLY:C	29:AQ:140:THR:O	2.50	0.55
29:AQ:159:PHE:HB2	29:AQ:163:GLN:HE21	1.71	0.55
43:AV:46:ASP:H	43:AV:96:HIS:HD2	1.52	0.55
53:SA:138:U:H5'	60:SH:184:LEU:HD11	1.89	0.55
53:SA:575:G:N7	69:SQ:69:ARG:NH2	2.55	0.55
53:SA:1705:C:H2'	71:SS:138:THR:HG21	1.88	0.55
71:SS:36:LYS:HE2	71:SS:36:LYS:HA	1.89	0.55
73:SU:45:GLN:NE2	73:SU:49:GLN:OE1	2.40	0.55
2:AA:224:G:OP1	34:AZ:15:ARG:NH1	2.39	0.54
2:AA:668:U:H4'	2:AA:669:C:H5''	1.89	0.54
2:AA:965:A:H2'	2:AA:966:A:C8	2.42	0.54
2:AA:2886:A:H8	23:AJ:59:VAL:HG21	1.72	0.54
3:AC:97:C:H3'	24:Ac:75:ARG:HH12	1.71	0.54
30:AR:183:PRO:O	30:AR:190:ASN:N	2.40	0.54
39:AF:44:MET:HG2	39:AF:238:LEU:HD21	1.88	0.54
57:SE:135:ARG:HG3	57:SE:137:GLY:H	1.69	0.54
63:SK:42:GLN:NE2	63:SK:49:SER:HA	2.22	0.54
2:AA:1970:A:H1'	2:AA:1971:U:H2'	1.89	0.54
2:AA:2075:U:O2'	2:AA:2079:A:O2'	2.23	0.54
2:AA:3174:G:N2	2:AA:3177:U:O2	2.35	0.54
2:AA:3735:A:H3'	2:AA:3753:G:N2	2.22	0.54
25:AK:61:THR:OG1	25:AK:64:ASN:O	2.24	0.54
53:SA:41:A:OP1	57:SE:3:LYS:NZ	2.40	0.54
53:SA:99:C:O2	53:SA:431:A:O2'	2.25	0.54
53:SA:887:A:N1	53:SA:915:G:C6	2.75	0.54
53:SA:1889:G:H1	53:SA:1901:U:H3	1.55	0.54
55:SC:58:GLN:O	55:SC:62:ARG:HG3	2.07	0.54
58:SF:98:TYR:O	58:SF:113:ARG:NH1	2.41	0.54
60:SH:23:LYS:HE3	60:SH:41:ILE:HA	1.89	0.54
65:SM:44:ILE:O	65:SM:47:THR:OG1	2.24	0.54
65:SM:130:PHE:HE2	66:SN:75:THR:HA	1.71	0.54
69:SQ:92:CYS:HA	69:SQ:95:PHE:CD2	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:507:G:H2'	2:AA:508:A:H8	1.70	0.54
2:AA:1501:A:O3'	7:A2:42:LYS:NZ	2.40	0.54
2:AA:1889:A:H3'	2:AA:1890:G:C8	2.35	0.54
2:AA:3197:A:N6	2:AA:3209:G:O2'	2.36	0.54
2:AA:3358:U:H2'	2:AA:3359:A:C8	2.42	0.54
4:AB:63:A:C8	29:AQ:202:GLU:HB3	2.42	0.54
23:AJ:203:LEU:HD21	23:AJ:215:VAL:HG13	1.88	0.54
23:AJ:217:LEU:HD11	23:AJ:220:VAL:HG13	1.90	0.54
26:AM:81:CYS:SG	26:AM:82:ARG:N	2.80	0.54
38:AE:33:PRO:HG2	38:AE:44:THR:HG22	1.89	0.54
43:AV:104:GLU:OE1	43:AV:104:GLU:N	2.40	0.54
53:SA:104:U:H5''	64:SL:19:LYS:HD2	1.88	0.54
53:SA:520:U:H2'	53:SA:521:G:C8	2.42	0.54
53:SA:1061:A:OP2	53:SA:1080:G:N1	2.31	0.54
54:SB:194:GLY:HA2	54:SB:197:ILE:HD11	1.89	0.54
62:SJ:142:SER:HB3	63:SK:51:GLU:OE1	2.08	0.54
73:SU:33:ILE:HG21	73:SU:66:VAL:HG21	1.89	0.54
74:SV:40:LYS:HA	74:SV:47:THR:HG23	1.89	0.54
1:S7:60:U:OP1	1:S7:61:C:N4	2.31	0.54
2:AA:597:A:N6	41:AU:155:ARG:HB3	2.22	0.54
2:AA:1483:A:H2'	2:AA:1484:A:C8	2.42	0.54
3:AC:51:C:H1'	3:AC:65:A:H2'	1.90	0.54
7:A2:87:MET:N	7:A2:89:ASN:OD1	2.40	0.54
38:AE:212:ILE:HB	38:AE:336:ARG:O	2.07	0.54
40:AG:105:GLY:HA2	40:AG:126:ASP:HA	1.90	0.54
47:S1:77:TYR:OH	47:S1:87:GLU:OE1	2.20	0.54
53:SA:303:U:OP1	58:SF:37:LYS:NZ	2.36	0.54
53:SA:460:G:C6	58:SF:66:ILE:HD12	2.43	0.54
53:SA:914:U:H2'	53:SA:915:G:C8	2.42	0.54
53:SA:1022:A:H2'	53:SA:1023:A:C8	2.42	0.54
53:SA:1638:U:H2'	53:SA:1639:G:C8	2.43	0.54
58:SF:198:ILE:HG22	58:SF:208:ILE:HG22	1.88	0.54
64:SL:183:ALA:HA	64:SL:200:ILE:HG22	1.88	0.54
2:AA:1646:C:H2'	2:AA:1647:U:C6	2.43	0.54
2:AA:2948:A:H2'	2:AA:2949:G:C8	2.42	0.54
2:AA:3683:G:H2'	2:AA:3684:A:H4'	1.89	0.54
19:AP:127:VAL:HG23	19:AP:128:TYR:CD1	2.43	0.54
25:AK:1:MET:HE1	25:AK:28:ASN:HB3	1.89	0.54
30:AR:123:GLU:HG3	30:AR:124:LYS:HG2	1.89	0.54
36:A5:53:LEU:O	36:A5:57:THR:HG23	2.07	0.54
38:AE:277:LYS:HB3	38:AE:321:LEU:HD11	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:S3:65:PRO:HD2	68:SP:129:ILE:HD11	1.90	0.54
53:SA:486:A:H2'	53:SA:487:A:C8	2.42	0.54
53:SA:888:A:H2'	53:SA:889:A:C8	2.43	0.54
60:SH:121:ILE:HB	60:SH:124:LEU:HB3	1.90	0.54
64:SL:85:ALA:O	74:SV:11:ARG:NH2	2.40	0.54
68:SP:46:ASP:OD1	68:SP:48:SER:OG	2.20	0.54
71:SS:66:ILE:O	71:SS:70:VAL:HG22	2.06	0.54
2:AA:2524:C:N4	2:AA:2817:U:OP1	2.40	0.54
2:AA:3259:A:N1	2:AA:3416:G:N2	2.51	0.54
5:AL:88:ALA:HA	35:A3:113:PHE:CZ	2.43	0.54
6:A1:53:VAL:HG11	6:A1:62:ILE:HG12	1.90	0.54
6:A1:134:SER:HB2	6:A1:137:ILE:HG22	1.90	0.54
14:Aa:80:ILE:HG21	14:Aa:85:ILE:HD13	1.89	0.54
32:AY:114:PRO:HA	32:AY:132:PHE:HA	1.88	0.54
53:SA:632:C:H2'	53:SA:633:U:C6	2.42	0.54
54:SB:105:ILE:HG12	54:SB:213:ARG:HA	1.89	0.54
68:SP:66:ARG:HD3	68:SP:67:ASP:H	1.72	0.54
2:AA:159:C:H2'	2:AA:160:G:C8	2.40	0.54
2:AA:307:G:O2'	2:AA:308:U:H5'	2.07	0.54
2:AA:538:A:H2'	2:AA:539:G:C8	2.42	0.54
2:AA:913:U:H2'	2:AA:914:G:C8	2.43	0.54
2:AA:962:A:H2'	2:AA:963:C:H6	1.73	0.54
2:AA:1704:U:O2	23:AJ:76:ARG:NH1	2.41	0.54
2:AA:3579:A:OP1	13:A9:43:LYS:NZ	2.38	0.54
19:AP:35:VAL:HG12	19:AP:36:VAL:HG23	1.90	0.54
19:AP:60:VAL:HG22	19:AP:135:LEU:HB2	1.90	0.54
39:AF:143:ARG:HB2	39:AF:178:ASP:OD2	2.07	0.54
40:AG:144:ARG:NH2	40:AG:145:ARG:O	2.40	0.54
41:AU:75:GLU:HB2	41:AU:80:ARG:NH2	2.23	0.54
47:S1:122:THR:O	53:SA:86:A:O2'	2.23	0.54
51:S5:26:ARG:NH2	51:S5:28:GLN:OE1	2.41	0.54
53:SA:520:U:H5'	57:SE:133:HIS:CE1	2.42	0.54
53:SA:1272:A:H2'	53:SA:1273:G:H8	1.68	0.54
53:SA:1288:U:H2'	53:SA:1289:G:C8	2.41	0.54
53:SA:2025:U:H2'	53:SA:2026:C:H6	1.72	0.54
54:SB:93:ASN:OD1	54:SB:94:ARG:N	2.40	0.54
54:SB:105:ILE:HG21	54:SB:211:LEU:HD13	1.89	0.54
66:SN:35:CYS:O	66:SN:39:MET:HG2	2.08	0.54
1:S7:2:G:HO2'	1:S7:3:C:H6	1.53	0.54
2:AA:622:U:H4'	11:AN:60:PHE:HB3	1.90	0.54
2:AA:1247:C:H2'	2:AA:1248:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1801:G:N2	2:AA:2030:G:O2'	2.41	0.54
2:AA:2021:A:H2'	2:AA:2022:A:C8	2.42	0.54
2:AA:2647:C:OP1	31:AW:86:LYS:NZ	2.41	0.54
2:AA:3131:A:O2'	2:AA:3133:U:OP2	2.26	0.54
19:AP:161:GLU:N	19:AP:161:GLU:OE1	2.38	0.54
33:AT:104:LEU:O	33:AT:108:LEU:HD23	2.07	0.54
38:AE:279:ILE:HG22	38:AE:321:LEU:HB2	1.90	0.54
49:S3:57:SER:OG	49:S3:58:VAL:N	2.40	0.54
53:SA:112:U:H5''	53:SA:803:G:H21	1.73	0.54
53:SA:1179:C:H2'	53:SA:1180:U:C6	2.42	0.54
53:SA:1270:G:N1	53:SA:1872:G:OP2	2.39	0.54
59:SG:102:THR:HG21	59:SG:107:ARG:NE	2.22	0.54
59:SG:199:MET:SD	59:SG:226:ILE:HD11	2.48	0.54
60:SH:85:ARG:O	60:SH:85:ARG:NH1	2.35	0.54
74:SV:123:GLY:HA3	74:SV:150:ILE:HD13	1.88	0.54
2:AA:338:U:H2'	2:AA:339:G:C8	2.42	0.54
2:AA:501:U:O2'	2:AA:502:U:OP1	2.25	0.54
2:AA:734:A:H2'	2:AA:735:A:C8	2.43	0.54
2:AA:1534:U:OP2	39:AF:204:ARG:NH1	2.41	0.54
2:AA:2510:U:H2'	2:AA:2511:G:H8	1.73	0.54
2:AA:2549:A:N6	53:SA:2048:A:O2'	2.41	0.54
3:AC:61:C:OP2	24:Ac:71:LYS:NZ	2.29	0.54
4:AB:61:G:O2'	30:AR:281:ARG:NH1	2.40	0.54
21:AI:13:SER:OG	21:AI:14:ASN:OD1	2.20	0.54
25:AK:175:ASN:HA	25:AK:178:LYS:HG2	1.89	0.54
31:AW:45:LYS:HD3	31:AW:95:LEU:HB3	1.90	0.54
33:AT:43:LEU:HG	33:AT:48:LEU:HB2	1.90	0.54
34:AZ:68:LYS:N	34:AZ:82:GLU:OE2	2.38	0.54
36:A5:86:ARG:HD2	41:AU:68:LEU:HD12	1.89	0.54
52:S6:37:ARG:O	52:S6:41:ASN:ND2	2.41	0.54
53:SA:30:G:H4'	69:SQ:131:SER:HB2	1.90	0.54
53:SA:392:G:OP1	64:SL:25:ARG:NH2	2.41	0.54
53:SA:467:G:H2'	53:SA:468:G:H8	1.73	0.54
53:SA:1834:A:N6	53:SA:1869:G:O4'	2.41	0.54
57:SE:130:ARG:HH22	57:SE:143:ILE:HD13	1.73	0.54
75:SW:61:ILE:HD13	75:SW:66:VAL:HG11	1.89	0.54
1:S9:4:G:O2'	1:S9:5:G:O5'	2.26	0.54
1:S9:50:U:O2	1:S9:64:G:N2	2.36	0.54
2:AA:1470:A:O2'	27:AS:11:ILE:O	2.25	0.54
2:AA:2002:G:H1'	2:AA:2003:G:N7	2.23	0.54
38:AE:210:GLU:O	38:AE:279:ILE:HG12	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AH:74:THR:O	42:AH:78:ASN:HB3	2.08	0.54
42:AH:167:ARG:HG3	42:AH:168:ASN:ND2	2.23	0.54
47:S1:88:LYS:HE2	47:S1:90:TYR:HE1	1.72	0.54
53:SA:151:G:N2	60:SH:56:ASN:OD1	2.39	0.54
60:SH:147:LEU:HD11	60:SH:153:VAL:HG12	1.90	0.54
2:AA:514:C:OP1	22:AI:18:LYS:NZ	2.37	0.53
2:AA:736:G:N2	39:AF:95:MET:HB2	2.23	0.53
2:AA:998:U:H4'	31:AW:132:ALA:HB2	1.89	0.53
2:AA:2112:G:H5'	2:AA:2113:C:H5''	1.89	0.53
2:AA:2441:U:O2'	37:AD:182:ALA:HB2	2.07	0.53
11:AN:30:LEU:HB2	11:AN:77:LEU:HB2	1.90	0.53
14:Aa:44:CYS:N	14:Aa:49:THR:O	2.42	0.53
16:Ad:62:ARG:O	16:Ad:62:ARG:NE	2.39	0.53
37:AD:88:ILE:HD11	37:AD:99:GLY:C	2.33	0.53
37:AD:118:HIS:HB3	37:AD:126:LEU:HG	1.91	0.53
52:S6:16:ASN:OD1	52:S6:16:ASN:N	2.35	0.53
53:SA:1946:C:H2'	53:SA:1947:U:C6	2.43	0.53
55:SC:183:TYR:HB3	55:SC:190:ARG:HH11	1.73	0.53
70:SR:115:SER:O	70:SR:115:SER:OG	2.22	0.53
74:SV:159:VAL:HG12	74:SV:161:PHE:H	1.72	0.53
2:AA:1969:A:H5'	2:AA:1970:A:C4	2.43	0.53
2:AA:2126:A:N1	2:AA:2127:G:C6	2.77	0.53
2:AA:3051:U:O2'	2:AA:3082:G:O2'	2.24	0.53
3:AC:31:U:H2'	3:AC:32:C:C6	2.44	0.53
26:AM:88:ARG:HA	26:AM:94:TYR:HD1	1.72	0.53
33:AT:23:MET:HE3	33:AT:31:ILE:HG13	1.90	0.53
35:A3:66:MET:HA	35:A3:69:ARG:HG2	1.90	0.53
38:AE:305:MET:SD	38:AE:306:GLY:N	2.81	0.53
51:S5:22:VAL:HG13	51:S5:43:ASN:HB3	1.90	0.53
53:SA:818:C:C4	57:SE:143:ILE:HG13	2.43	0.53
53:SA:1271:G:N2	53:SA:1868:C:O2'	2.41	0.53
53:SA:1673:A:N3	56:SD:147:ARG:NH2	2.55	0.53
53:SA:1730:A:H2'	53:SA:1731:C:C6	2.43	0.53
58:SF:211:LYS:HD2	58:SF:215:ASN:HA	1.91	0.53
64:SL:174:GLU:HG2	64:SL:177:LYS:HE3	1.90	0.53
65:SM:60:LYS:HE2	65:SM:98:VAL:HG11	1.91	0.53
76:SX:23:ASP:OD2	76:SX:23:ASP:N	2.41	0.53
2:AA:947:U:H2'	2:AA:948:G:C8	2.43	0.53
2:AA:3506:U:H3	18:Af:41:ARG:NH1	2.05	0.53
3:AC:12:U:H2'	3:AC:13:A:H8	1.72	0.53
6:A1:135:LYS:O	6:A1:138:SER:OG	2.20	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:AT:24:ASP:HB2	33:AT:48:LEU:HD22	1.91	0.53
38:AE:105:VAL:HG21	38:AE:144:LEU:HD11	1.88	0.53
53:SA:1698:U:H2'	53:SA:1699:A:C8	2.43	0.53
53:SA:1811:A:O2'	53:SA:1814:C:N4	2.41	0.53
53:SA:1846:U:O4	53:SA:1847:A:N6	2.39	0.53
67:SO:22:ILE:O	67:SO:26:LEU:HG	2.07	0.53
72:ST:38:ARG:O	72:ST:42:ARG:HG3	2.08	0.53
75:SW:33:LYS:O	75:SW:33:LYS:NZ	2.36	0.53
77:SY:161:TYR:O	77:SY:165:LYS:HG3	2.08	0.53
2:AA:684:G:H1	39:AF:311:LYS:HZ2	1.55	0.53
2:AA:1255:G:N2	2:AA:1258:A:OP2	2.33	0.53
2:AA:1858:U:H3'	2:AA:1859:A:C8	2.44	0.53
2:AA:2511:G:H2'	2:AA:2512:A:H8	1.73	0.53
2:AA:3162:A:OP1	21:AI:59:LYS:NZ	2.42	0.53
6:A1:51:LEU:O	6:A1:65:ARG:NH1	2.41	0.53
25:AK:141:SER:HA	25:AK:144:VAL:HG22	1.89	0.53
42:AH:182:GLU:HG2	42:AH:183:VAL:H	1.74	0.53
53:SA:1280:G:N2	53:SA:1706:A:H61	2.06	0.53
53:SA:1281:C:H2'	53:SA:1282:U:H5	1.73	0.53
53:SA:1428:A:O2'	56:SD:154:ARG:NH2	2.41	0.53
60:SH:160:ARG:HH22	60:SH:173:PRO:HD3	1.74	0.53
62:SJ:65:PRO:HA	62:SJ:97:LYS:HG2	1.91	0.53
65:SM:72:GLY:O	65:SM:78:GLN:NE2	2.34	0.53
2:AA:163:G:H2'	2:AA:164:A:C8	2.44	0.53
2:AA:628:U:H2'	2:AA:629:A:C8	2.42	0.53
2:AA:1331:A:N3	2:AA:3214:A:O2'	2.39	0.53
2:AA:3524:G:OP2	38:AE:30:ARG:NH2	2.41	0.53
6:A1:41:CYS:SG	6:A1:80:ILE:HD13	2.48	0.53
13:A9:74:ALA:HB2	13:A9:112:GLY:HA2	1.90	0.53
14:Aa:39:ALA:HB2	14:Aa:58:ARG:HG2	1.90	0.53
15:Ab:69:THR:H	15:Ab:72:SER:HB3	1.74	0.53
19:AP:127:VAL:HG23	19:AP:128:TYR:HD1	1.72	0.53
20:Ah:10:LEU:HD22	20:Ah:30:GLU:HG3	1.89	0.53
26:AM:56:LEU:HD11	26:AM:83:GLN:HB2	1.91	0.53
27:AS:26:LEU:O	27:AS:30:VAL:HG12	2.09	0.53
39:AF:181:ASN:O	39:AF:185:LYS:HG2	2.09	0.53
43:AV:18:LYS:HG2	43:AV:23:HIS:HA	1.91	0.53
47:S1:18:LEU:HB3	47:S1:20:ARG:HG3	1.91	0.53
47:S1:43:ARG:NH1	53:SA:830:U:O2	2.41	0.53
53:SA:406:A:OP2	58:SF:3:LYS:NZ	2.37	0.53
53:SA:888:A:H2'	53:SA:889:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SJ:60:ILE:HG23	62:SJ:92:VAL:HA	1.89	0.53
63:SK:46:TYR:CD1	63:SK:69:ILE:HG22	2.44	0.53
73:SU:139:TRP:CH2	73:SU:141:TYR:HB2	2.44	0.53
74:SV:126:VAL:HG22	74:SV:128:VAL:HG23	1.91	0.53
2:AA:508:A:H2'	2:AA:509:A:H8	1.74	0.53
2:AA:1434:G:OP1	25:AK:62:ASN:ND2	2.38	0.53
2:AA:1548:A:H3'	2:AA:1549:U:H5''	1.91	0.53
2:AA:1907:A:N1	2:AA:1963:U:C4	2.77	0.53
2:AA:1999:A:O2'	2:AA:2000:G:OP1	2.20	0.53
2:AA:2827:C:H2'	2:AA:2828:A:H8	1.74	0.53
2:AA:3020:U:H5'	40:AG:65:ILE:HD11	1.91	0.53
2:AA:3443:A:C6	2:AA:3471:A:C8	2.96	0.53
14:Aa:9:ARG:NH2	14:Aa:34:VAL:O	2.41	0.53
15:Ab:94:ARG:O	15:Ab:98:GLN:HG2	2.09	0.53
34:AZ:18:HIS:O	34:AZ:77:TYR:OH	2.22	0.53
35:A3:66:MET:HB3	35:A3:69:ARG:NH2	2.24	0.53
52:S6:14:VAL:HA	52:S6:17:GLN:HG2	1.90	0.53
53:SA:23:G:OP1	57:SE:14:ASN:ND2	2.41	0.53
53:SA:1233:A:H2'	53:SA:1234:A:H8	1.74	0.53
54:SB:82:LYS:HB3	54:SB:105:ILE:HG22	1.90	0.53
56:SD:16:VAL:O	56:SD:20:GLU:HG2	2.08	0.53
56:SD:155:ASP:OD1	56:SD:155:ASP:N	2.41	0.53
71:SS:91:ASP:HB2	71:SS:97:ASN:HD21	1.72	0.53
73:SU:19:LYS:HD2	73:SU:21:LYS:HG3	1.89	0.53
75:SW:27:ASP:HB3	75:SW:30:ILE:HG12	1.91	0.53
1:S9:50:U:O4	1:S9:64:G:O6	2.26	0.53
2:AA:697:A:H4'	2:AA:698:G:O5'	2.08	0.53
2:AA:965:A:O2'	2:AA:966:A:OP1	2.24	0.53
4:AB:55:A:H2'	4:AB:56:G:C8	2.44	0.53
4:AB:107:G:H2'	4:AB:108:G:C4	2.44	0.53
15:Ab:54:PHE:HB3	15:Ab:58:GLU:HB2	1.89	0.53
32:AY:123:LYS:HD2	32:AY:131:VAL:HG23	1.90	0.53
37:AD:105:GLY:HA3	37:AD:160:ALA:HB1	1.89	0.53
45:AX:83:VAL:HG12	45:AX:92:ILE:HD12	1.90	0.53
53:SA:756:A:H4'	62:SJ:108:LYS:HE3	1.91	0.53
53:SA:851:A:OP2	58:SF:108:ARG:NH2	2.42	0.53
53:SA:1909:C:H2'	53:SA:1910:U:C2	2.43	0.53
61:SI:90:ILE:O	61:SI:94:MET:HG3	2.09	0.53
62:SJ:144:LYS:O	63:SK:42:GLN:NE2	2.42	0.53
75:SW:39:ALA:HB1	75:SW:41:ILE:HD12	1.91	0.53
75:SW:58:MET:HE2	75:SW:58:MET:HA	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:799:A:N6	2:AA:809:A:OP2	2.29	0.53
16:Ad:52:MET:N	16:Ad:52:MET:SD	2.81	0.53
25:AK:178:LYS:O	25:AK:182:THR:HG23	2.07	0.53
31:AW:94:ILE:HD13	31:AW:146:ILE:CD1	2.39	0.53
53:SA:207:G:N2	53:SA:208:U:O4	2.25	0.53
53:SA:1308:C:O2'	53:SA:1309:A:OP2	2.26	0.53
60:SH:49:VAL:HG21	60:SH:115:LYS:HD2	1.90	0.53
61:SI:115:ASP:OD1	61:SI:115:ASP:N	2.42	0.53
62:SJ:141:ILE:HB	63:SK:52:ILE:HG23	1.91	0.53
2:AA:298:C:H2'	2:AA:299:A:H8	1.73	0.53
2:AA:979:G:C5	37:AD:181:LYS:HB2	2.44	0.53
2:AA:1288:C:OP1	27:AS:2:GLY:N	2.42	0.53
2:AA:1976:A:H2'	2:AA:1977:U:C6	2.44	0.53
2:AA:2560:C:H2'	2:AA:2561:U:C6	2.44	0.53
2:AA:3495:U:OP1	42:AH:89:TYR:OH	2.25	0.53
4:AB:65:G:H5''	29:AQ:203:LYS:HE2	1.90	0.53
30:AR:22:ARG:HD2	30:AR:25:GLU:OE2	2.09	0.53
53:SA:4:C:H4'	59:SG:193:ALA:HB2	1.91	0.53
53:SA:1832:U:O2'	53:SA:1833:G:N2	2.42	0.53
58:SF:9:LEU:HD12	58:SF:30:LYS:HA	1.91	0.53
2:AA:454:G:O6	2:AA:501:U:O2	2.27	0.53
2:AA:918:G:OP1	28:AO:32:ARG:NH1	2.42	0.53
2:AA:3768:A:OP1	10:A7:26:LYS:NZ	2.32	0.53
9:A6:9:ALA:N	53:SA:1018:U:OP1	2.34	0.53
19:AP:103:GLU:OE1	19:AP:103:GLU:N	2.38	0.53
27:AS:67:LEU:HD12	27:AS:85:ILE:HD12	1.90	0.53
33:AT:116:ARG:HA	33:AT:119:TYR:HB3	1.90	0.53
35:A3:65:LYS:HG2	35:A3:69:ARG:HE	1.74	0.53
41:AU:108:LYS:HA	41:AU:111:ALA:HB3	1.91	0.53
47:S1:64:LEU:O	53:SA:538:U:O2'	2.26	0.53
53:SA:333:U:H2'	53:SA:334:A:C8	2.44	0.53
53:SA:1263:C:N4	53:SA:1879:U:O4	2.42	0.53
53:SA:1839:G:N2	53:SA:1866:A:OP2	2.41	0.53
53:SA:1889:G:H2'	53:SA:1890:A:H8	1.74	0.53
60:SH:30:LYS:HB3	60:SH:34:ASN:HD21	1.72	0.53
61:SI:58:PRO:HB2	61:SI:61:GLU:HG2	1.90	0.53
65:SM:60:LYS:O	65:SM:60:LYS:NZ	2.34	0.53
1:S7:1:C:H42	1:S7:72:A:H61	1.57	0.52
2:AA:1462:C:H2'	2:AA:1463:A:C8	2.42	0.52
2:AA:3420:U:H3'	2:AA:3421:A:H8	1.73	0.52
2:AA:3457:A:H4'	2:AA:3728:A:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AL:91:THR:HG23	35:A3:115:GLN:HA	1.91	0.52
24:Ac:74:ARG:HG2	24:Ac:75:ARG:N	2.24	0.52
27:AS:37:ALA:HB1	27:AS:46:LYS:HG2	1.90	0.52
37:AD:3:ARG:HG2	37:AD:207:VAL:HG22	1.91	0.52
39:AF:385:LYS:HG2	39:AF:388:LYS:HE3	1.91	0.52
53:SA:468:G:OP1	58:SF:26:GLN:NE2	2.41	0.52
53:SA:868:U:C2	53:SA:869:A:C8	2.96	0.52
53:SA:954:G:H2'	53:SA:955:U:C6	2.44	0.52
53:SA:1304:A:H61	53:SA:1850:G:H1'	1.74	0.52
53:SA:1677:C:H1'	53:SA:1683:U:H3	1.74	0.52
56:SD:193:THR:HG21	56:SD:209:LEU:HB2	1.91	0.52
59:SG:51:VAL:HG11	59:SG:74:ILE:HG22	1.90	0.52
61:SI:9:LYS:HG3	61:SI:12:LYS:HA	1.90	0.52
2:AA:1073:G:H1'	8:A4:12:GLN:CD	2.33	0.52
2:AA:1089:U:H2'	2:AA:1090:G:C8	2.44	0.52
2:AA:1108:U:O2'	36:A5:131:ALA:O	2.27	0.52
2:AA:2081:U:H2'	2:AA:2082:C:C6	2.45	0.52
2:AA:2422:C:H2'	2:AA:2423:G:C8	2.45	0.52
2:AA:3698:U:O3'	38:AE:331:ARG:NH2	2.43	0.52
4:AB:44:C:H2'	4:AB:45:U:C6	2.44	0.52
7:A2:10:VAL:O	7:A2:14:THR:OG1	2.23	0.52
25:AK:21:LEU:O	25:AK:25:GLU:HG2	2.10	0.52
43:AV:9:ARG:O	43:AV:12:THR:OG1	2.26	0.52
50:S4:36:PRO:HD3	50:S4:75:CYS:HA	1.91	0.52
53:SA:1451:G:O3'	65:SM:69:ARG:NH1	2.42	0.52
53:SA:1865:G:H4'	53:SA:1866:A:O5'	2.09	0.52
58:SF:72:VAL:HG22	58:SF:90:ILE:HG22	1.91	0.52
63:SK:10:CYS:O	63:SK:14:ILE:HG13	2.09	0.52
63:SK:89:ILE:O	63:SK:93:ILE:HG22	2.09	0.52
74:SV:95:HIS:O	74:SV:104:GLU:HB3	2.09	0.52
1:S9:26:G:O6	1:S9:44:A:N1	2.42	0.52
1:S9:43:A:H2'	1:S9:44:A:H8	1.74	0.52
2:AA:1510:U:H2'	2:AA:1511:U:C6	2.44	0.52
2:AA:1862:A:H2'	2:AA:1863:A:H8	1.74	0.52
2:AA:2128:G:H4'	33:AT:62:VAL:HG21	1.90	0.52
2:AA:2587:U:H2'	2:AA:2588:A:H2'	1.92	0.52
2:AA:3758:G:H2'	2:AA:3759:U:C6	2.45	0.52
4:AB:28:C:H2'	4:AB:29:C:H5'	1.92	0.52
5:AL:86:PRO:O	5:AL:90:GLN:HG2	2.10	0.52
23:AJ:87:ARG:NE	23:AJ:253:LYS:O	2.41	0.52
27:AS:80:VAL:O	27:AS:137:LEU:HA	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:AE:195:MET:HG3	38:AE:195:MET:O	2.09	0.52
44:Ag:12:ARG:N	53:SA:1241:A:OP1	2.42	0.52
47:S1:66:GLY:HA3	57:SE:140:MET:HG2	1.92	0.52
47:S1:107:ARG:HD3	47:S1:110:LYS:HE2	1.91	0.52
49:S3:7:ASN:ND2	49:S3:10:ARG:O	2.40	0.52
53:SA:105:A:H5'	53:SA:107:A:C4	2.44	0.52
53:SA:440:G:N2	53:SA:443:A:OP2	2.34	0.52
53:SA:644:U:OP1	63:SK:32:LYS:N	2.36	0.52
53:SA:1308:C:N4	53:SA:1702:C:H41	2.02	0.52
53:SA:1963:U:H2'	53:SA:1964:G:C8	2.45	0.52
63:SK:6:VAL:HG13	63:SK:29:PRO:HB2	1.90	0.52
63:SK:57:ARG:HH22	73:SU:15:THR:HG23	1.74	0.52
64:SL:168:ILE:HD11	64:SL:172:LEU:HD23	1.90	0.52
71:SS:66:ILE:O	71:SS:69:ILE:HG12	2.10	0.52
71:SS:104:GLN:HA	71:SS:107:SER:HB3	1.90	0.52
1:S9:23:C:H2'	1:S9:24:U:H6	1.73	0.52
2:AA:669:C:H5	39:AF:344:ARG:HH22	1.58	0.52
2:AA:676:U:H2'	2:AA:677:A:C8	2.45	0.52
2:AA:808:A:O2'	2:AA:876:C:O2'	2.25	0.52
2:AA:1262:G:O2'	2:AA:2981:A:N3	2.34	0.52
2:AA:1338:U:H2'	2:AA:1339:U:C6	2.44	0.52
2:AA:3580:G:O2'	2:AA:3582:G:OP2	2.27	0.52
5:AL:168:LYS:HE2	28:AO:104:ARG:NH1	2.24	0.52
6:A1:11:ILE:HA	6:A1:82:PRO:HA	1.92	0.52
13:A9:48:GLY:HA2	13:A9:127:PHE:CE2	2.44	0.52
13:A9:84:TYR:HD1	13:A9:100:ILE:HD11	1.75	0.52
14:Aa:81:CYS:SG	14:Aa:84:CYS:HB2	2.50	0.52
23:AJ:74:TYR:HD1	23:AJ:75:ILE:HG23	1.75	0.52
26:AM:86:ALA:HA	26:AM:96:TYR:HB3	1.90	0.52
29:AQ:171:TRP:H	29:AQ:177:SER:HA	1.74	0.52
44:Ag:6:SER:OG	53:SA:628:A:OP1	2.26	0.52
46:A0:27:LYS:HG2	46:A0:29:ILE:HD11	1.92	0.52
49:S3:41:ILE:HD11	49:S3:68:TYR:CE2	2.45	0.52
52:S6:23:LYS:O	52:S6:24:LEU:HD12	2.10	0.52
53:SA:124:U:H5''	58:SF:77:ARG:HH12	1.74	0.52
53:SA:390:G:H2'	53:SA:391:A:H8	1.74	0.52
53:SA:605:U:H2'	53:SA:606:A:H8	1.75	0.52
53:SA:1432:G:N2	56:SD:211:ASP:OD1	2.42	0.52
54:SB:60:SER:O	54:SB:64:ARG:NH2	2.36	0.52
59:SG:102:THR:OG1	59:SG:103:ARG:N	2.42	0.52
60:SH:195:GLU:OE2	60:SH:198:ARG:NH1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SK:18:GLU:OE1	63:SK:69:ILE:HG13	2.09	0.52
74:SV:40:LYS:O	74:SV:42:GLY:N	2.41	0.52
2:AA:686:U:H4'	22:AI:40:SER:HB2	1.92	0.52
2:AA:709:A:N3	13:A9:124:PRO:HG2	2.24	0.52
2:AA:2110:C:OP1	17:Ae:48:LYS:NZ	2.42	0.52
2:AA:3446:A:N6	2:AA:3468:G:O6	2.43	0.52
2:AA:3713:C:H2'	2:AA:3714:C:H6	1.74	0.52
4:AB:69:U:H2'	4:AB:70:G:C8	2.44	0.52
22:AI:48:ARG:NH1	22:AI:81:GLY:HA3	2.24	0.52
39:AF:115:VAL:HB	39:AF:120:LYS:HD2	1.92	0.52
41:AU:39:PHE:HD2	41:AU:112:ILE:HG13	1.73	0.52
44:Ag:3:HIS:NE2	53:SA:1212:C:OP2	2.42	0.52
44:Ag:10:LYS:HD2	44:Ag:14:LYS:H	1.73	0.52
51:S5:16:THR:OG1	51:S5:17:GLY:N	2.43	0.52
59:SG:179:ILE:HG21	59:SG:226:ILE:HG22	1.91	0.52
74:SV:45:PHE:CE2	74:SV:144:HIS:HB2	2.45	0.52
74:SV:153:SER:N	74:SV:157:GLN:HE22	2.08	0.52
76:SX:105:VAL:HG11	76:SX:118:GLU:HG3	1.90	0.52
2:AA:417:A:C2	3:AC:21:A:H1'	2.44	0.52
2:AA:703:U:H2'	2:AA:704:U:H6	1.75	0.52
2:AA:1006:G:H2'	2:AA:1007:U:C6	2.45	0.52
2:AA:1630:A:N6	2:AA:2139:C:O2	2.43	0.52
2:AA:1820:U:H2'	2:AA:1821:U:C6	2.45	0.52
2:AA:3320:G:H2'	2:AA:3321:U:C6	2.44	0.52
2:AA:3709:U:H5''	2:AA:3710:U:H5'	1.92	0.52
9:A6:17:LEU:HG	9:A6:80:LEU:HD21	1.90	0.52
10:A7:15:PRO:HD2	10:A7:87:ARG:HH21	1.74	0.52
22:AI:30:ASN:HA	22:AI:36:ARG:HG2	1.90	0.52
26:AM:82:ARG:HD2	26:AM:97:PHE:CE1	2.45	0.52
30:AR:33:ARG:O	30:AR:37:ILE:HG13	2.10	0.52
43:AV:46:ASP:H	43:AV:96:HIS:CD2	2.27	0.52
48:S2:38:HIS:HB2	48:S2:70:VAL:HA	1.91	0.52
49:S3:4:LYS:HG2	49:S3:5:ARG:HG3	1.91	0.52
53:SA:205:A:H2'	53:SA:206:A:C8	2.44	0.52
53:SA:253:A:O2'	58:SF:131:LEU:O	2.23	0.52
53:SA:798:U:O2	53:SA:864:G:O6	2.27	0.52
53:SA:1025:U:H2'	53:SA:1026:A:H8	1.75	0.52
54:SB:66:TYR:CE1	68:SP:48:SER:HB3	2.45	0.52
54:SB:107:ARG:HH22	68:SP:133:THR:N	2.07	0.52
58:SF:63:MET:O	58:SF:67:GLN:NE2	2.42	0.52
71:SS:26:GLU:CD	71:SS:26:GLU:H	2.18	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76: SX:24: LYS: HG3	76: SX:25: LEU: HD12	1.91	0.52
2: AA:61: A: H2'	2: AA:62: A: H8	1.74	0.52
2: AA:62: A: H2'	2: AA:63: A: C8	2.45	0.52
2: AA:716: C: H2'	2: AA:717: G: C8	2.45	0.52
2: AA:3098: U: H5''	2: AA:3099: C: H5'	1.92	0.52
2: AA:3386: A: H2'	2: AA:3387: U: H6	1.73	0.52
2: AA:3535: A: OP1	38: AE:133: SER: OG	2.27	0.52
4: AB:60: U: C2	4: AB:61: G: C8	2.98	0.52
36: A5:89: GLU: HG2	43: AV:136: PRO: HB3	1.91	0.52
38: AE:41: PRO: O	38: AE:42: HIS: ND1	2.42	0.52
38: AE:370: SER: HA	38: AE:373: LYS: HE3	1.91	0.52
41: AU:101: LYS: HG3	41: AU:115: LEU: HD22	1.91	0.52
50: S4:32: ASP: HB2	50: S4:78: ARG: HH12	1.73	0.52
53: SA:325: U: H4'	53: SA:329: A: C8	2.44	0.52
53: SA:959: C: H2'	53: SA:960: A: H8	1.73	0.52
53: SA:1095: A: N7	53: SA:2064: C: O2'	2.40	0.52
53: SA:1108: A: H5''	63: SK:20: ARG: NH1	2.24	0.52
53: SA:1647: A: O3'	75: SW:5: ARG: NH2	2.42	0.52
68: SP:39: ASP: OD1	68: SP:39: ASP: N	2.42	0.52
71: SS:119: ILE: HG22	71: SS:121: LEU: HG	1.91	0.52
2: AA:925: A: N3	2: AA:3171: C: O2'	2.38	0.52
2: AA:2662: G: H2'	2: AA:2663: G: C8	2.45	0.52
2: AA:3431: G: OP1	38: AE:19: ARG: NH2	2.42	0.52
4: AB:90: A: H2'	4: AB:91: C: O4'	2.09	0.52
9: A6:53: SER: HA	9: A6:56: ARG: HG2	1.92	0.52
11: AN:60: PHE: HB2	11: AN:93: ARG: HG3	1.92	0.52
11: AN:141: LYS: O	11: AN:145: ILE: HG23	2.10	0.52
14: Aa:5: VAL: HG22	14: Aa:6: HIS: H	1.73	0.52
32: AY:107: LYS: H	32: AY:107: LYS: NZ	2.06	0.52
45: AX:57: ILE: HG23	45: AX:90: ILE: HD11	1.91	0.52
53: SA:370: G: N2	53: SA:806: A: C6	2.77	0.52
53: SA:597: C: H2'	53: SA:598: A: H8	1.74	0.52
53: SA:2024: A: H2'	53: SA:2025: U: H6	1.75	0.52
54: SB:121: ILE: HD13	54: SB:164: ILE: HD11	1.92	0.52
1: S7:69: C: O2'	1: S7:70: G: H8	1.92	0.52
2: AA:179: G: C6	2: AA:180: C: N3	2.78	0.52
2: AA:189: U: H2'	2: AA:190: G: C8	2.44	0.52
2: AA:2008: G: H2'	2: AA:2009: A: C8	2.45	0.52
2: AA:3748: U: H2'	2: AA:3749: U: C6	2.45	0.52
12: A8:82: MET: HE3	12: A8:94: VAL: HG21	1.92	0.52
14: Aa:16: LYS: HA	14: Aa:19: LYS: HD3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:AF:224:ILE:HG13	39:AF:227:VAL:HB	1.92	0.52
40:AG:141:ARG:O	40:AG:145:ARG:HG2	2.09	0.52
48:S2:72:LEU:HD21	53:SA:1831:G:C5	2.44	0.52
53:SA:1188:A:H2'	53:SA:1189:A:C8	2.45	0.52
53:SA:1901:U:H4'	66:SN:78:ARG:NH2	2.25	0.52
53:SA:2068:A:H2'	53:SA:2069:G:H8	1.75	0.52
54:SB:103:LEU:HD22	54:SB:215:VAL:HG23	1.91	0.52
57:SE:174:ARG:O	57:SE:178:LYS:HG3	2.09	0.52
64:SL:106:SER:HB3	64:SL:176:PHE:CD1	2.44	0.52
71:SS:73:MET:HE2	71:SS:101:ILE:HB	1.91	0.52
1:S7:15:G:H2'	1:S7:59:A:H61	1.75	0.52
2:AA:1539:U:N3	12:A8:103:LYS:HD2	2.24	0.52
6:A1:137:ILE:HG23	23:AJ:44:LEU:HD22	1.92	0.52
9:A6:13:ILE:HA	9:A6:16:LYS:HE3	1.92	0.52
27:AS:106:GLU:HG3	39:AF:278:ILE:HD13	1.92	0.52
32:AY:118:GLU:OE1	32:AY:118:GLU:N	2.28	0.52
35:A3:58:THR:HA	35:A3:61:ASN:HD22	1.75	0.52
36:A5:224:ARG:HB3	36:A5:255:ARG:HG3	1.92	0.52
39:AF:242:PRO:O	39:AF:245:SER:OG	2.25	0.52
53:SA:66:U:OP1	60:SH:136:LYS:NZ	2.41	0.52
54:SB:229:MET:SD	54:SB:229:MET:N	2.83	0.52
57:SE:36:LEU:HD13	57:SE:41:GLU:HB2	1.92	0.52
57:SE:66:SER:O	57:SE:70:ILE:HG13	2.10	0.52
64:SL:9:HIS:H	64:SL:20:ILE:HD11	1.75	0.52
72:ST:39:GLN:HA	72:ST:42:ARG:HE	1.74	0.52
2:AA:456:A:H2'	2:AA:457:A:H8	1.75	0.51
2:AA:514:C:H2'	2:AA:515:A:C8	2.45	0.51
2:AA:733:C:OP1	12:A8:27:ARG:N	2.43	0.51
2:AA:1464:A:OP1	39:AF:312:ARG:NH2	2.43	0.51
2:AA:1622:G:O3'	33:AT:22:TRP:NE1	2.43	0.51
2:AA:1725:U:H2'	2:AA:1726:C:H6	1.74	0.51
2:AA:1786:A:H4'	6:A1:79:HIS:CE1	2.45	0.51
2:AA:1884:G:H4'	2:AA:1887:G:H4'	1.92	0.51
2:AA:1991:U:H2'	2:AA:1992:U:C6	2.45	0.51
2:AA:2127:G:C5	2:AA:2128:G:N7	2.78	0.51
2:AA:2129:U:H2'	2:AA:2130:U:O4'	2.10	0.51
2:AA:2164:A:H61	2:AA:2632:C:N4	2.07	0.51
4:AB:47:U:H4'	30:AR:203:VAL:HG12	1.91	0.51
14:Aa:23:VAL:HG22	14:Aa:33:HIS:CE1	2.45	0.51
20:Ah:26:ILE:HA	20:Ah:29:ILE:HG22	1.91	0.51
20:Ah:30:GLU:HA	20:Ah:33:GLN:CD	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:A5:247:ALA:O	36:A5:250:ASN:ND2	2.43	0.51
41:AU:133:ILE:HG23	43:AV:154:PRO:HG2	1.91	0.51
53:SA:541:C:H2'	53:SA:542:C:C6	2.44	0.51
53:SA:883:A:H2'	53:SA:884:G:C8	2.46	0.51
53:SA:2073:A:H2'	53:SA:2074:A:C8	2.45	0.51
54:SB:45:LYS:HE3	68:SP:27:VAL:HG21	1.91	0.51
55:SC:114:LYS:NZ	55:SC:116:THR:OG1	2.43	0.51
71:SS:93:LYS:HG3	71:SS:95:GLY:H	1.75	0.51
2:AA:679:U:H2'	2:AA:680:U:C6	2.44	0.51
2:AA:868:U:H2'	2:AA:869:A:C8	2.45	0.51
2:AA:2142:G:OP2	33:AT:19:ASN:ND2	2.41	0.51
2:AA:3005:C:OP2	2:AA:3026:G:N1	2.35	0.51
2:AA:3132:C:H1'	5:AL:206:LYS:HE3	1.93	0.51
2:AA:3727:A:N6	2:AA:3762:A:O2'	2.44	0.51
6:A1:13:ILE:HG22	6:A1:14:LEU:H	1.75	0.51
6:A1:137:ILE:O	6:A1:141:HIS:HB3	2.10	0.51
11:AN:9:GLU:HG2	42:AH:50:LEU:HD22	1.92	0.51
53:SA:574:A:O2'	69:SQ:90:ASP:OD1	2.19	0.51
53:SA:1653:A:H2'	53:SA:1654:G:C8	2.42	0.51
54:SB:26:LYS:HG2	54:SB:50:LYS:HG2	1.91	0.51
63:SK:2:VAL:HG21	63:SK:4:MET:HE2	1.91	0.51
1:S7:50:U:H3	1:S7:64:G:H22	1.58	0.51
2:AA:2183:A:H2'	2:AA:2184:U:C6	2.45	0.51
2:AA:2644:U:H2'	2:AA:2645:A:H8	1.75	0.51
3:AC:12:U:H2'	3:AC:13:A:C8	2.44	0.51
4:AB:7:G:N1	4:AB:112:U:C2	2.79	0.51
10:A7:20:ILE:HD13	10:A7:114:ASN:HB2	1.93	0.51
25:AK:190:PRO:O	25:AK:194:GLN:HG2	2.10	0.51
36:A5:108:VAL:HG13	36:A5:139:VAL:HG23	1.92	0.51
38:AE:184:SER:OG	38:AE:185:MET:N	2.43	0.51
39:AF:239:LYS:O	39:AF:248:ARG:NH1	2.43	0.51
39:AF:349:GLU:OE2	39:AF:353:ASN:ND2	2.44	0.51
42:AH:184:THR:HG22	42:AH:185:THR:H	1.76	0.51
47:S1:5:PHE:CZ	47:S1:39:GLU:HB3	2.45	0.51
49:S3:82:ARG:NH1	53:SA:1253:A:O3'	2.44	0.51
53:SA:1104:G:H2'	53:SA:1105:A:H8	1.76	0.51
53:SA:1392:C:H2'	53:SA:1393:G:C8	2.44	0.51
56:SD:166:LYS:O	56:SD:166:LYS:NZ	2.37	0.51
69:SQ:6:PRO:HG3	69:SQ:14:LYS:HG2	1.93	0.51
73:SU:90:PHE:HA	73:SU:93:LYS:HG2	1.92	0.51
2:AA:238:G:H2'	2:AA:239:U:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1185:A:H4'	43:AV:106:PHE:HE1	1.75	0.51
2:AA:2167:G:O2'	2:AA:2627:U:O4	2.19	0.51
2:AA:2816:U:O2'	2:AA:2817:U:OP1	2.27	0.51
2:AA:3497:A:N7	2:AA:3503:U:C2	2.78	0.51
3:AC:30:U:H2'	3:AC:31:U:C6	2.45	0.51
5:AL:45:ASN:ND2	5:AL:48:THR:O	2.23	0.51
9:A6:17:LEU:O	9:A6:21:MET:HG2	2.10	0.51
16:Ad:61:GLU:HA	16:Ad:64:GLU:HG2	1.91	0.51
21:Ai:77:LYS:O	21:Ai:78:LYS:HD3	2.11	0.51
31:AW:126:ARG:HB2	31:AW:126:ARG:NH1	2.25	0.51
47:S1:10:LYS:HD3	53:SA:827:C:H41	1.76	0.51
49:S3:34:LYS:NZ	53:SA:2087:U:O4	2.43	0.51
53:SA:62:A:O2'	53:SA:269:A:O2'	2.24	0.51
53:SA:248:G:C2	58:SF:203:GLY:HA3	2.46	0.51
53:SA:410:G:H2'	53:SA:411:C:C6	2.45	0.51
53:SA:964:G:H1'	68:SP:52:THR:HG22	1.92	0.51
53:SA:1623:U:O2	53:SA:1625:C:N4	2.43	0.51
61:SI:141:ALA:O	61:SI:145:ILE:HG23	2.10	0.51
2:AA:283:U:H2'	2:AA:284:C:C6	2.46	0.51
2:AA:459:G:H2'	2:AA:460:A:C8	2.44	0.51
2:AA:916:U:H2'	2:AA:917:A:C8	2.46	0.51
2:AA:2027:A:H2'	2:AA:2028:G:C8	2.44	0.51
2:AA:2211:C:H4'	2:AA:3738:U:H4'	1.92	0.51
2:AA:2628:G:N2	2:AA:2632:C:O2'	2.43	0.51
2:AA:2990:G:H5''	2:AA:2991:U:O4'	2.10	0.51
23:AJ:66:SER:O	23:AJ:66:SER:OG	2.29	0.51
25:AK:113:LYS:HZ1	25:AK:166:TYR:HD2	1.58	0.51
26:AM:94:TYR:H	46:A0:26:GLN:HA	1.75	0.51
29:AQ:63:GLU:OE1	29:AQ:63:GLU:N	2.27	0.51
29:AQ:196:SER:OG	29:AQ:197:CYS:N	2.44	0.51
42:AH:101:ASN:HB3	42:AH:114:ARG:HB2	1.93	0.51
53:SA:468:G:P	58:SF:26:GLN:HE22	2.34	0.51
58:SF:6:LYS:O	58:SF:30:LYS:NZ	2.39	0.51
65:SM:121:ASP:OD1	65:SM:122:THR:N	2.44	0.51
74:SV:109:ASN:OD1	74:SV:109:ASN:N	2.37	0.51
2:AA:295:G:OP1	19:AP:171:LYS:NZ	2.41	0.51
2:AA:718:U:H2'	2:AA:719:C:C6	2.46	0.51
2:AA:1090:G:H2'	2:AA:1091:G:H8	1.76	0.51
2:AA:3585:A:O2'	2:AA:3586:U:O5'	2.29	0.51
2:AA:3591:U:OP1	42:AH:23:ARG:NH1	2.44	0.51
16:Ad:30:SER:HB3	16:Ad:38:ILE:HG12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:A3:27:GLU:O	35:A3:31:LEU:HG	2.11	0.51
39:AF:77:PRO:HB2	39:AF:91:ALA:HB3	1.93	0.51
47:S1:61:PHE:HA	47:S1:71:LYS:O	2.11	0.51
50:S4:40:GLN:NE2	50:S4:54:CYS:SG	2.65	0.51
53:SA:337:G:H2'	53:SA:338:U:C6	2.46	0.51
53:SA:600:U:H4'	53:SA:602:G:H4'	1.92	0.51
53:SA:606:A:H2'	53:SA:607:U:C6	2.45	0.51
53:SA:1300:G:H1	72:ST:29:ILE:HG22	1.76	0.51
68:SP:45:THR:HG23	68:SP:46:ASP:O	2.11	0.51
2:AA:942:C:H2'	2:AA:943:G:H8	1.75	0.51
2:AA:979:G:O2'	2:AA:1014:C:H4'	2.10	0.51
2:AA:1172:C:H2'	2:AA:1173:U:C6	2.45	0.51
2:AA:1216:C:C2'	2:AA:1217:U:H5'	2.40	0.51
2:AA:1472:A:H2'	2:AA:1473:A:C8	2.45	0.51
2:AA:1785:U:O2'	6:A1:76:ASN:N	2.44	0.51
2:AA:1815:A:H2'	2:AA:1816:G:H8	1.74	0.51
2:AA:1881:C:O2'	2:AA:1882:U:O5'	2.21	0.51
2:AA:2447:U:H2'	2:AA:2448:G:H8	1.76	0.51
2:AA:2835:G:N1	2:AA:2919:A:N7	2.59	0.51
2:AA:3241:U:H2'	2:AA:3242:U:H6	1.74	0.51
2:AA:3459:A:H2'	2:AA:3460:C:C6	2.46	0.51
4:AB:52:U:O2'	4:AB:54:A:N7	2.43	0.51
5:AL:121:SER:HB3	35:A3:121:VAL:H	1.74	0.51
10:A7:27:LEU:HD13	10:A7:43:GLU:HB3	1.92	0.51
11:AN:31:CYS:HB2	11:AN:45:ILE:HD11	1.93	0.51
20:Ah:38:LEU:HA	20:Ah:45:THR:HA	1.93	0.51
21:Ai:2:VAL:N	21:Ai:89:THR:O	2.44	0.51
22:AI:90:GLU:CD	22:AI:90:GLU:H	2.18	0.51
26:AM:24:LEU:HA	26:AM:36:LEU:O	2.11	0.51
36:A5:64:TYR:O	36:A5:68:ARG:HG2	2.10	0.51
36:A5:86:ARG:HH22	43:AV:139:ALA:HA	1.75	0.51
38:AE:33:PRO:O	38:AE:181:ASN:ND2	2.40	0.51
38:AE:216:SER:OG	38:AE:217:VAL:N	2.44	0.51
53:SA:618:U:H5'	69:SQ:15:LEU:HD22	1.92	0.51
53:SA:1031:C:H5'	73:SU:72:LEU:HD13	1.93	0.51
53:SA:1925:U:H2'	53:SA:1926:G:H8	1.73	0.51
57:SE:168:ARG:HH22	57:SE:171:ARG:NH2	2.09	0.51
59:SG:198:LYS:HG3	59:SG:199:MET:N	2.25	0.51
60:SH:207:GLU:O	60:SH:210:GLN:NE2	2.41	0.51
74:SV:40:LYS:C	74:SV:42:GLY:H	2.17	0.51
2:AA:275:A:N1	2:AA:302:A:H5'	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:513:U:H3	2:AA:685:U:H5	1.59	0.51
2:AA:1232:U:O2	36:A5:169:ARG:NH2	2.43	0.51
2:AA:1236:U:H2'	2:AA:1237:C:H6	1.76	0.51
2:AA:1240:A:N3	2:AA:1519:G:O2'	2.44	0.51
2:AA:2650:A:H2'	2:AA:2651:A:C8	2.44	0.51
2:AA:3480:C:H2'	2:AA:3481:U:C6	2.45	0.51
5:AL:8:LEU:HB3	28:AO:34:LYS:HD3	1.91	0.51
6:A1:52:LYS:O	6:A1:65:ARG:NH1	2.44	0.51
9:A6:38:ARG:CZ	9:A6:38:ARG:HA	2.41	0.51
17:Ae:18:ARG:O	17:Ae:21:ARG:HG2	2.11	0.51
19:AP:182:SER:O	19:AP:184:LYS:N	2.44	0.51
22:AI:149:LEU:HD11	22:AI:166:ILE:HD11	1.93	0.51
24:Ac:37:CYS:HB3	24:Ac:42:TYR:H	1.75	0.51
30:AR:98:ALA:HB3	30:AR:163:ALA:HB3	1.93	0.51
38:AE:76:CYS:HA	38:AE:322:LYS:HA	1.92	0.51
41:AU:111:ALA:O	41:AU:114:GLN:NE2	2.44	0.51
53:SA:151:G:H2'	53:SA:152:G:C8	2.45	0.51
53:SA:881:C:H2'	53:SA:882:A:C8	2.45	0.51
53:SA:1659:U:OP2	61:SI:50:LYS:NZ	2.44	0.51
62:SJ:154:MET:HE3	62:SJ:155:LEU:N	2.25	0.51
69:SQ:46:SER:OG	69:SQ:48:HIS:O	2.25	0.51
75:SW:98:VAL:HB	75:SW:103:LEU:HD23	1.92	0.51
76:SX:83:MET:HE3	76:SX:84:THR:N	2.26	0.51
2:AA:1047:A:H2'	2:AA:1048:G:H8	1.75	0.51
2:AA:1089:U:H2'	2:AA:1090:G:H8	1.76	0.51
2:AA:1862:A:H2'	2:AA:1863:A:C8	2.45	0.51
2:AA:2734:C:H2'	2:AA:2735:G:H8	1.75	0.51
4:AB:38:U:H1'	4:AB:43:A:N6	2.26	0.51
9:A6:31:LYS:HA	9:A6:34:LEU:HG	1.92	0.51
9:A6:77:ASN:OD1	9:A6:77:ASN:N	2.42	0.51
30:AR:47:GLN:HB3	30:AR:49:LEU:HD12	1.92	0.51
35:A3:12:LEU:O	35:A3:14:LYS:NZ	2.43	0.51
35:A3:69:ARG:HB2	35:A3:73:LYS:HE3	1.93	0.51
36:A5:56:ARG:NH2	36:A5:190:ASN:O	2.43	0.51
45:AX:68:ILE:HD11	45:AX:77:LEU:HB3	1.92	0.51
53:SA:335:G:H2'	53:SA:336:G:C8	2.44	0.51
53:SA:851:A:OP2	58:SF:106:LYS:NZ	2.36	0.51
53:SA:1671:A:H2'	53:SA:1672:C:C6	2.46	0.51
71:SS:29:ILE:HG13	71:SS:30:ILE:HD12	1.93	0.51
2:AA:455:U:H2'	2:AA:456:A:C8	2.46	0.51
2:AA:643:G:H1'	2:AA:684:G:N2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:910:A:H2'	2:AA:911:U:C6	2.46	0.51
2:AA:2681:U:O2'	31:AW:80:GLN:OE1	2.29	0.51
2:AA:2705:G:H2'	2:AA:2706:A:C8	2.46	0.51
2:AA:3407:G:N1	2:AA:3418:A:H5''	2.26	0.51
4:AB:68:U:H2'	4:AB:69:U:C6	2.46	0.51
5:AL:26:SER:O	5:AL:26:SER:OG	2.29	0.51
18:Af:20:CYS:SG	18:Af:21:ARG:N	2.84	0.51
30:AR:47:GLN:NE2	30:AR:67:ALA:O	2.44	0.51
36:A5:136:LEU:HD21	36:A5:145:TYR:CE1	2.46	0.51
38:AE:277:LYS:HG2	38:AE:322:LYS:O	2.11	0.51
43:AV:100:SER:OG	43:AV:102:CYS:SG	2.67	0.51
53:SA:109:C:H2'	53:SA:110:A:H8	1.76	0.51
53:SA:1698:U:H2'	53:SA:1699:A:H8	1.76	0.51
53:SA:1970:U:OP1	60:SH:94:ARG:NH2	2.44	0.51
57:SE:66:SER:HB3	57:SE:69:ARG:HB3	1.92	0.51
59:SG:41:TRP:CD1	59:SG:52:LYS:HE2	2.46	0.51
59:SG:247:PHE:HD2	78:SZ:52:PHE:HA	1.74	0.51
61:SI:101:GLN:O	61:SI:105:ASN:ND2	2.44	0.51
2:AA:459:G:H2'	2:AA:460:A:H8	1.75	0.50
2:AA:529:U:O2'	41:AU:72:GLN:O	2.21	0.50
2:AA:1237:C:H2'	2:AA:1238:C:C6	2.45	0.50
2:AA:1435:G:C4	25:AK:59:LEU:HD11	2.45	0.50
2:AA:3003:C:OP1	40:AG:145:ARG:NH2	2.44	0.50
2:AA:3505:U:H4'	2:AA:3507:A:H5'	1.92	0.50
2:AA:3717:A:H2'	2:AA:3718:G:H8	1.73	0.50
3:AC:33:C:H5''	5:AL:26:SER:HB3	1.92	0.50
8:A4:32:ARG:HA	8:A4:35:LEU:HD23	1.93	0.50
11:AN:18:ASN:O	11:AN:18:ASN:ND2	2.44	0.50
26:AM:82:ARG:HE	26:AM:119:PRO:HB2	1.77	0.50
35:A3:13:LYS:HZ2	35:A3:14:LYS:HG2	1.76	0.50
42:AH:95:HIS:CG	42:AH:99:PRO:HA	2.45	0.50
46:A0:63:ARG:HH21	46:A0:68:LYS:HB3	1.76	0.50
53:SA:593:G:H2'	53:SA:594:C:C6	2.45	0.50
53:SA:618:U:O2'	74:SV:102:ARG:NH2	2.44	0.50
53:SA:639:U:O2'	53:SA:1204:U:OP1	2.28	0.50
53:SA:988:U:H2'	53:SA:989:C:H6	1.75	0.50
53:SA:1035:A:H2'	53:SA:1036:A:H8	1.77	0.50
53:SA:1401:G:O2'	53:SA:1402:A:O4'	2.24	0.50
53:SA:1876:G:H2'	53:SA:1877:C:C6	2.46	0.50
53:SA:1956:A:H2'	53:SA:1957:A:H8	1.76	0.50
53:SA:1978:A:O3'	60:SH:31:ARG:NH2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S7:14:A:H3'	1:S7:15:G:H8	1.76	0.50
2:AA:219:A:OP1	39:AF:222:ARG:NE	2.35	0.50
2:AA:1747:U:H4'	2:AA:2102:A:H4'	1.93	0.50
2:AA:2884:G:N1	14:Aa:92:ALA:HA	2.27	0.50
2:AA:3442:C:H41	10:A7:34:LYS:NZ	2.09	0.50
2:AA:3456:C:H3'	2:AA:3457:A:H8	1.76	0.50
4:AB:54:A:C6	40:AG:9:MET:HE2	2.46	0.50
4:AB:55:A:H2	40:AG:138:VAL:HG11	1.76	0.50
5:AL:29:ILE:HD12	5:AL:29:ILE:H	1.76	0.50
12:A8:106:LYS:O	12:A8:109:ILE:HG22	2.10	0.50
13:A9:80:LYS:HA	13:A9:137:PRO:HD2	1.93	0.50
35:A3:4:VAL:HG11	35:A3:9:LEU:HD12	1.93	0.50
36:A5:39:ILE:HD12	36:A5:40:LYS:H	1.75	0.50
53:SA:572:C:N4	53:SA:583:G:H3'	2.27	0.50
58:SF:122:LYS:N	58:SF:161:ARG:HH22	2.10	0.50
73:SU:101:HIS:HD2	73:SU:102:LEU:HD22	1.75	0.50
74:SV:90:ARG:NH1	74:SV:155:ARG:O	2.44	0.50
2:AA:28:C:O2'	2:AA:61:A:N3	2.43	0.50
2:AA:506:A:OP2	22:AI:27:LYS:NZ	2.39	0.50
2:AA:689:U:H2'	2:AA:690:U:H6	1.76	0.50
2:AA:800:A:H2'	2:AA:801:U:C6	2.47	0.50
2:AA:1304:C:O3'	25:AK:88:PRO:HG3	2.10	0.50
2:AA:1541:A:H2'	2:AA:1542:A:H8	1.77	0.50
2:AA:3036:A:H2'	2:AA:3037:G:C8	2.46	0.50
2:AA:3449:U:H2'	2:AA:3450:G:C8	2.46	0.50
2:AA:3577:A:N6	13:A9:127:PHE:O	2.38	0.50
5:AL:32:LYS:O	5:AL:36:LEU:HD23	2.11	0.50
6:A1:71:PHE:CE2	6:A1:73:LYS:HB3	2.46	0.50
26:AM:93:TYR:HE1	46:A0:27:LYS:HB2	1.76	0.50
38:AE:211:MET:HE1	38:AE:342:GLN:HB2	1.93	0.50
39:AF:37:ILE:HG23	39:AF:237:LEU:HD11	1.93	0.50
40:AG:92:ARG:NE	40:AG:93:ARG:H	2.08	0.50
44:Ag:10:LYS:NZ	44:Ag:15:MET:O	2.42	0.50
53:SA:80:A:OP1	60:SH:154:ARG:NH2	2.44	0.50
56:SD:213:ILE:HG12	75:SW:41:ILE:HG12	1.94	0.50
58:SF:22:LYS:HG3	58:SF:23:MET:HG2	1.93	0.50
78:SZ:18:SER:OG	78:SZ:53:ALA:O	2.25	0.50
2:AA:62:A:O2'	2:AA:63:A:OP1	2.26	0.50
2:AA:308:U:O2'	2:AA:309:G:H8	1.94	0.50
2:AA:359:A:N1	17:Ae:38:ASN:HB2	2.26	0.50
2:AA:594:C:O2	2:AA:594:C:H2'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:925:A:H3'	2:AA:926:G:N2	2.26	0.50
2:AA:1727:U:H2'	2:AA:1728:C:C6	2.47	0.50
2:AA:1966:A:O2'	16:Ad:4:GLN:OE1	2.30	0.50
7:A2:6:SER:HB3	39:AF:287:PRO:HG2	1.93	0.50
23:AJ:95:ASN:ND2	23:AJ:249:TRP:HA	2.26	0.50
30:AR:5:LYS:HE2	30:AR:5:LYS:HA	1.92	0.50
33:AT:38:PHE:O	33:AT:42:LYS:HG3	2.12	0.50
42:AH:48:ASN:OD1	42:AH:52:LYS:N	2.45	0.50
42:AH:176:ASP:OD1	42:AH:176:ASP:N	2.44	0.50
52:S6:30:LEU:HD12	52:S6:34:ALA:HB1	1.93	0.50
53:SA:164:C:H4'	60:SH:131:LYS:HE3	1.92	0.50
53:SA:397:A:H4'	53:SA:2022:A:H4'	1.93	0.50
53:SA:423:A:H4'	53:SA:424:G:O5'	2.11	0.50
53:SA:1936:C:H2'	53:SA:1937:C:O4'	2.12	0.50
57:SE:135:ARG:HB2	57:SE:159:ALA:HA	1.92	0.50
58:SF:87:MET:HE1	58:SF:100:ARG:NH1	2.26	0.50
65:SM:36:ASN:HB3	77:SY:22:PHE:HZ	1.75	0.50
78:SZ:38:MET:HB2	78:SZ:46:ASN:HD21	1.76	0.50
2:AA:157:G:OP2	19:AP:4:TYR:OH	2.21	0.50
2:AA:423:U:H2'	2:AA:424:U:C6	2.46	0.50
2:AA:464:G:H2'	2:AA:465:A:C8	2.47	0.50
2:AA:582:U:H2'	2:AA:583:U:C6	2.46	0.50
2:AA:1468:A:H2'	2:AA:1469:U:C6	2.46	0.50
2:AA:1534:U:OP1	39:AF:143:ARG:NH2	2.36	0.50
2:AA:1819:U:H2'	2:AA:1820:U:C6	2.45	0.50
2:AA:2885:A:H4'	2:AA:2886:A:OP1	2.12	0.50
3:AC:31:U:H2'	3:AC:32:C:H6	1.77	0.50
4:AB:37:A:N1	4:AB:41:G:N3	2.59	0.50
10:A7:78:ARG:HH21	10:A7:109:TYR:HD2	1.59	0.50
31:AW:116:HIS:CE1	31:AW:118:MET:HE3	2.46	0.50
36:A5:183:SER:O	36:A5:187:GLY:N	2.41	0.50
36:A5:186:LEU:HD21	36:A5:210:LYS:HB3	1.92	0.50
37:AD:117:GLU:OE1	37:AD:123:ARG:N	2.44	0.50
41:AU:21:ARG:HG2	41:AU:22:ALA:N	2.27	0.50
41:AU:180:SER:OG	41:AU:181:THR:N	2.44	0.50
43:AV:141:MET:HE3	43:AV:142:ILE:O	2.11	0.50
46:A0:28:TYR:HD2	46:A0:38:TYR:HE2	1.59	0.50
51:S5:19:ARG:HB3	53:SA:1913:G:H21	1.75	0.50
53:SA:117:G:H5'	74:SV:132:ARG:HD3	1.94	0.50
53:SA:248:G:O2'	53:SA:249:A:O5'	2.27	0.50
53:SA:347:A:H2'	53:SA:348:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:390:G:H2'	53:SA:391:A:C8	2.47	0.50
53:SA:520:U:H1'	57:SE:131:GLN:HG2	1.93	0.50
53:SA:1218:U:H2'	53:SA:1219:U:C6	2.47	0.50
53:SA:1728:U:O2'	65:SM:73:GLY:O	2.28	0.50
53:SA:1909:C:H4'	61:SI:143:TYR:HE1	1.75	0.50
57:SE:5:TYR:HB3	58:SF:22:LYS:HD3	1.93	0.50
1:S9:1:C:H2'	1:S9:2:G:H8	1.77	0.50
2:AA:298:C:H2'	2:AA:299:A:C8	2.47	0.50
2:AA:1302:G:H2'	2:AA:1303:C:C6	2.47	0.50
2:AA:2401:C:H1'	2:AA:3736:A:C8	2.33	0.50
2:AA:2700:C:H2'	2:AA:2701:U:H6	1.76	0.50
2:AA:3286:C:H2'	2:AA:3287:C:C6	2.47	0.50
3:AC:126:C:H2'	3:AC:127:C:H6	1.76	0.50
10:A7:33:TYR:HB3	10:A7:73:ARG:HD2	1.94	0.50
14:Aa:62:ASN:HA	14:Aa:65:ALA:HB2	1.92	0.50
25:AK:176:GLU:HA	25:AK:179:GLU:HG3	1.93	0.50
29:AQ:46:PHE:HE2	29:AQ:140:THR:HA	1.77	0.50
30:AR:103:LEU:HD21	30:AR:247:ARG:HB2	1.94	0.50
34:AZ:112:LYS:HA	34:AZ:115:LYS:HD3	1.93	0.50
35:A3:81:ASN:OD1	35:A3:81:ASN:N	2.45	0.50
46:A0:24:ARG:HE	46:A0:40:SER:HB3	1.76	0.50
53:SA:877:U:O2	53:SA:926:G:N2	2.32	0.50
53:SA:1045:G:N1	53:SA:1092:A:O2'	2.33	0.50
53:SA:1220:C:H2'	53:SA:1221:G:C8	2.47	0.50
53:SA:1300:G:N1	72:ST:29:ILE:HG22	2.27	0.50
53:SA:1437:U:H2'	53:SA:1438:A:C8	2.47	0.50
53:SA:2085:G:H1'	53:SA:2086:A:H2'	1.93	0.50
57:SE:99:LEU:HB3	57:SE:103:LYS:HZ2	1.77	0.50
63:SK:86:ILE:HA	63:SK:89:ILE:HG22	1.92	0.50
71:SS:122:HIS:HB3	71:SS:126:ARG:CZ	2.41	0.50
2:AA:537:A:H2'	2:AA:538:A:C8	2.46	0.50
2:AA:618:U:OP1	39:AF:352:LYS:NZ	2.43	0.50
2:AA:1322:G:H2'	2:AA:1323:A:C8	2.47	0.50
2:AA:1520:A:OP2	28:AO:11:LYS:NZ	2.39	0.50
2:AA:2100:G:O2'	17:Ae:4:ILE:HA	2.12	0.50
2:AA:2884:G:H1	14:Aa:92:ALA:HA	1.77	0.50
2:AA:3426:G:H3'	26:AM:14:ARG:HH21	1.77	0.50
2:AA:3658:G:O2'	2:AA:3659:C:O5'	2.27	0.50
4:AB:56:G:OP1	40:AG:152:HIS:NE2	2.45	0.50
9:A6:34:LEU:HD12	9:A6:35:LYS:N	2.27	0.50
23:AJ:269:ARG:O	23:AJ:272:GLU:HG3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Ac:74:ARG:HG2	24:Ac:75:ARG:H	1.76	0.50
29:AQ:86:HIS:O	29:AQ:138:ILE:HA	2.10	0.50
35:A3:5:LYS:N	35:A3:8:GLU:OE2	2.43	0.50
38:AE:219:LYS:HG2	38:AE:328:THR:HB	1.94	0.50
42:AH:64:ASP:OD1	42:AH:65:SER:N	2.45	0.50
53:SA:212:U:H2'	53:SA:213:G:C8	2.46	0.50
53:SA:1061:A:H2	53:SA:1081:U:H3	1.57	0.50
53:SA:1732:G:O5'	66:SN:58:LYS:NZ	2.44	0.50
62:SJ:40:LYS:HE3	62:SJ:41:GLU:HG3	1.94	0.50
77:SY:29:ILE:HD12	77:SY:85:ARG:HD2	1.94	0.50
2:AA:63:A:OP1	19:AP:173:ARG:NH1	2.36	0.50
2:AA:676:U:H2'	2:AA:677:A:H8	1.76	0.50
2:AA:769:U:H5''	2:AA:770:U:H5	1.76	0.50
2:AA:2151:A:H2'	2:AA:2152:A:C8	2.47	0.50
2:AA:2479:U:H2'	2:AA:2480:G:O4'	2.12	0.50
2:AA:2516:A:H2'	2:AA:2517:A:C8	2.46	0.50
2:AA:2699:C:H2'	2:AA:2700:C:C6	2.46	0.50
2:AA:3036:A:H2'	2:AA:3037:G:H8	1.77	0.50
30:AR:20:TYR:HD2	30:AR:30:TYR:HE1	1.58	0.50
49:S3:32:LYS:NZ	53:SA:999:A:OP2	2.33	0.50
53:SA:517:G:H2'	53:SA:518:A:H8	1.75	0.50
53:SA:925:C:H2'	53:SA:926:G:H8	1.76	0.50
53:SA:1395:G:O2'	55:SC:108:THR:OG1	2.25	0.50
53:SA:1745:U:H2'	53:SA:1746:A:C8	2.47	0.50
53:SA:1832:U:OP2	61:SI:157:ILE:HG23	2.12	0.50
55:SC:150:ASP:OD1	55:SC:150:ASP:N	2.44	0.50
58:SF:100:ARG:HH21	58:SF:118:GLU:HG3	1.76	0.50
67:SO:46:LEU:HB3	67:SO:48:VAL:HG12	1.93	0.50
1:S9:27:U:H2'	1:S9:28:C:C6	2.47	0.50
2:AA:742:U:H2'	2:AA:743:A:C8	2.43	0.50
2:AA:1641:G:N7	17:Ae:2:GLY:N	2.60	0.50
2:AA:1842:U:H5''	2:AA:1843:U:H5'	1.93	0.50
2:AA:1980:G:H2'	2:AA:1981:U:H5'	1.94	0.50
2:AA:2948:A:H2'	2:AA:2949:G:H8	1.75	0.50
2:AA:3693:A:H2'	2:AA:3694:A:C8	2.47	0.50
4:AB:9:U:O4	30:AR:21:ARG:HD2	2.11	0.50
11:AN:51:ILE:HD11	42:AH:4:ILE:HG21	1.94	0.50
29:AQ:177:SER:O	29:AQ:181:TYR:HB3	2.11	0.50
39:AF:38:GLN:O	39:AF:42:THR:HG23	2.12	0.50
41:AU:102:GLU:OE1	41:AU:103:PHE:N	2.45	0.50
45:AX:46:CYS:O	45:AX:50:VAL:HG22	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1697:C:H5''	72:ST:8:HIS:CE1	2.47	0.50
60:SH:52:ILE:HA	60:SH:111:LEU:HG	1.94	0.50
75:SW:60:ARG:HA	75:SW:63:LYS:HE3	1.93	0.50
2:AA:170:U:H4'	5:AL:134:LYS:HG2	1.94	0.49
2:AA:280:U:H2'	2:AA:281:G:C8	2.45	0.49
2:AA:1086:C:C2	2:AA:1087:G:C8	3.00	0.49
2:AA:1568:C:OP2	39:AF:195:LYS:NZ	2.31	0.49
2:AA:1734:G:H5''	14:Aa:37:LYS:NZ	2.27	0.49
2:AA:2403:G:H5''	2:AA:3755:U:H4'	1.93	0.49
2:AA:2551:U:H2'	2:AA:2552:A:C8	2.47	0.49
2:AA:3673:C:H2'	2:AA:3674:A:C8	2.48	0.49
3:AC:124:U:H2'	3:AC:125:U:C6	2.47	0.49
4:AB:28:C:H5'	40:AG:138:VAL:HG12	1.93	0.49
5:AL:53:LEU:HD11	5:AL:114:ARG:HE	1.77	0.49
11:AN:107:ASN:N	11:AN:107:ASN:OD1	2.44	0.49
15:Ab:47:VAL:HG21	19:AP:6:TYR:CE1	2.46	0.49
26:AM:94:TYR:N	46:A0:26:GLN:HA	2.26	0.49
29:AQ:66:GLU:O	29:AQ:70:ILE:HG23	2.12	0.49
33:AT:180:VAL:HG21	73:SU:32:GLU:HB3	1.93	0.49
34:AZ:26:ARG:NH1	34:AZ:74:ARG:O	2.38	0.49
36:A5:233:ALA:HB2	36:A5:242:TRP:CZ2	2.46	0.49
42:AH:115:ASN:OD1	42:AH:120:LYS:NZ	2.43	0.49
49:S3:65:PRO:HB2	54:SB:108:ASP:OD2	2.12	0.49
53:SA:1245:U:H2'	53:SA:1246:U:C6	2.47	0.49
53:SA:1625:C:O2	65:SM:9:GLN:NE2	2.37	0.49
53:SA:1861:U:H2'	53:SA:1862:C:C6	2.46	0.49
53:SA:2016:A:H2'	53:SA:2017:A:C8	2.47	0.49
53:SA:2077:U:H2'	53:SA:2078:G:C8	2.47	0.49
55:SC:29:LEU:HD23	55:SC:46:HIS:CD2	2.47	0.49
55:SC:31:ASN:HA	55:SC:34:LYS:HE3	1.94	0.49
55:SC:62:ARG:HG2	55:SC:184:LEU:HD11	1.93	0.49
57:SE:71:PHE:CE2	58:SF:248:ILE:HG12	2.47	0.49
65:SM:25:ASN:OD1	65:SM:93:TYR:OH	2.26	0.49
68:SP:45:THR:HA	68:SP:53:LEU:HG	1.94	0.49
70:SR:49:ILE:HD12	70:SR:49:ILE:H	1.77	0.49
1:S9:21:A:H61	1:S9:46:G:H2'	1.77	0.49
2:AA:148:G:H2'	2:AA:149:A:C8	2.46	0.49
2:AA:192:G:H4'	34:AZ:120:ARG:NH2	2.27	0.49
2:AA:1109:U:H2'	2:AA:1110:U:C6	2.48	0.49
2:AA:1539:U:C2	12:A8:103:LYS:HD2	2.46	0.49
2:AA:1646:C:H2'	2:AA:1647:U:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1787:A:OP1	6:A1:15:ASN:HB3	2.12	0.49
2:AA:2127:G:H2'	2:AA:2128:G:H8	1.78	0.49
2:AA:3453:U:P	33:AT:58:SER:H	2.34	0.49
26:AM:24:LEU:HD12	26:AM:35:ASN:HD22	1.76	0.49
36:A5:56:ARG:HH22	36:A5:190:ASN:CG	2.20	0.49
47:S1:107:ARG:O	47:S1:111:GLU:HG2	2.12	0.49
49:S3:68:TYR:CE2	54:SB:112:SER:HA	2.47	0.49
53:SA:14:U:H2'	53:SA:15:U:C6	2.47	0.49
53:SA:1178:C:H2'	53:SA:1179:C:H6	1.77	0.49
53:SA:1321:C:OP1	67:SO:63:ARG:NH1	2.45	0.49
53:SA:1654:G:H3'	53:SA:1655:G:H8	1.77	0.49
53:SA:1725:A:H2'	53:SA:1726:U:C6	2.46	0.49
53:SA:1781:C:H2'	53:SA:1782:A:C8	2.46	0.49
64:SL:66:SER:OG	64:SL:72:ILE:O	2.30	0.49
2:AA:1336:U:H5'	18:Af:41:ARG:HH12	1.77	0.49
2:AA:1545:G:H2'	2:AA:1546:A:C8	2.47	0.49
2:AA:2211:C:H2'	2:AA:2212:U:C6	2.48	0.49
2:AA:2709:U:H2'	2:AA:2710:U:C6	2.47	0.49
2:AA:2835:G:OP2	23:AJ:68:TYR:OH	2.30	0.49
2:AA:3106:U:H2'	2:AA:3107:U:C6	2.47	0.49
6:A1:54:ASN:OD1	6:A1:55:LYS:N	2.45	0.49
18:Af:33:ASN:HA	18:Af:45:LEU:HD21	1.94	0.49
27:AS:35:PHE:CD1	39:AF:293:ILE:HD11	2.47	0.49
28:AO:86:LYS:HE2	28:AO:90:PHE:CE2	2.42	0.49
39:AF:47:ASN:OD1	39:AF:113:ARG:N	2.32	0.49
44:Ag:35:ARG:NH2	53:SA:1950:C:H4'	2.28	0.49
52:S6:27:LYS:HD2	52:S6:27:LYS:C	2.37	0.49
53:SA:635:G:H21	53:SA:1040:A:H62	1.60	0.49
53:SA:1118:U:H3	53:SA:1170:C:H42	1.60	0.49
54:SB:183:ASP:HA	54:SB:186:LYS:HG2	1.94	0.49
64:SL:76:THR:OG1	64:SL:77:ARG:N	2.44	0.49
69:SQ:75:GLN:HB2	69:SQ:82:LYS:HZ2	1.78	0.49
74:SV:45:PHE:HE2	74:SV:144:HIS:HB2	1.77	0.49
77:SY:105:LYS:HB3	77:SY:113:ASN:HD21	1.76	0.49
2:AA:541:A:C2	2:AA:611:G:C6	3.01	0.49
2:AA:743:A:OP1	19:AP:205:ARG:NH1	2.39	0.49
2:AA:1857:A:H2	2:AA:1903:C:C5	2.31	0.49
2:AA:1999:A:H2'	2:AA:2000:G:H8	1.76	0.49
2:AA:2817:U:H2'	2:AA:2818:U:C6	2.47	0.49
2:AA:2959:G:O2'	2:AA:2960:G:OP1	2.29	0.49
2:AA:3359:A:H2'	2:AA:3360:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3650:U:H2'	2:AA:3651:G:H8	1.77	0.49
15:Ab:105:ARG:HG2	15:Ab:105:ARG:O	2.12	0.49
22:AI:139:THR:O	22:AI:142:ILE:HG13	2.12	0.49
24:Ac:24:ARG:HD3	24:Ac:42:TYR:HD1	1.77	0.49
25:AK:8:ILE:HD11	25:AK:32:ILE:HD12	1.93	0.49
30:AR:159:ASN:HB3	30:AR:161:VAL:HG22	1.94	0.49
38:AE:36:ASP:HB2	38:AE:39:LYS:HD3	1.93	0.49
46:A0:62:TRP:HE3	46:A0:63:ARG:HD2	1.77	0.49
52:S6:39:LEU:HD11	57:SE:28:LEU:HD11	1.93	0.49
53:SA:5:U:H2'	53:SA:6:G:H8	1.78	0.49
53:SA:80:A:H5'	60:SH:154:ARG:HH21	1.77	0.49
53:SA:403:A:OP2	64:SL:51:ARG:NH2	2.45	0.49
53:SA:527:A:H2'	53:SA:528:A:C8	2.47	0.49
53:SA:1283:U:O2'	53:SA:1286:U:O2	2.17	0.49
58:SF:131:LEU:HD21	58:SF:135:ARG:HD2	1.93	0.49
61:SI:195:ARG:NH1	68:SP:72:TYR:HD2	2.10	0.49
73:SU:28:GLN:CD	73:SU:28:GLN:H	2.20	0.49
73:SU:62:GLN:HB2	73:SU:65:SER:HB2	1.93	0.49
2:AA:1559:U:H5''	12:A8:98:HIS:HB3	1.92	0.49
2:AA:1996:C:O2'	2:AA:1997:G:H5''	2.11	0.49
2:AA:2721:U:H2'	2:AA:2722:G:C8	2.47	0.49
2:AA:2959:G:H2'	2:AA:2960:G:H8	1.78	0.49
2:AA:3025:U:H2'	2:AA:3026:G:O4'	2.12	0.49
2:AA:3107:U:H2'	2:AA:3108:A:H8	1.77	0.49
4:AB:48:G:OP1	30:AR:203:VAL:HG11	2.12	0.49
6:A1:8:GLY:HA3	6:A1:93:ILE:HG13	1.94	0.49
11:AN:19:LEU:O	11:AN:22:LYS:HE3	2.12	0.49
12:A8:38:ILE:O	12:A8:43:ARG:NH2	2.39	0.49
30:AR:99:TYR:OH	30:AR:170:ASP:OD2	2.20	0.49
33:AT:98:GLN:O	33:AT:102:ARG:HB2	2.13	0.49
33:AT:143:ARG:O	33:AT:146:ASN:ND2	2.45	0.49
47:S1:45:ALA:HA	47:S1:50:LEU:HD12	1.94	0.49
49:S3:58:VAL:HG13	68:SP:125:LYS:HD2	1.93	0.49
53:SA:110:A:H2'	53:SA:111:G:C8	2.47	0.49
53:SA:2071:U:H2'	53:SA:2073:A:OP2	2.13	0.49
55:SC:29:LEU:HD11	55:SC:34:LYS:HE2	1.93	0.49
56:SD:154:ARG:NH1	56:SD:156:GLY:O	2.46	0.49
61:SI:83:ILE:O	61:SI:160:ILE:HG12	2.13	0.49
62:SJ:134:SER:OG	62:SJ:135:GLU:N	2.45	0.49
68:SP:78:ALA:HA	68:SP:81:VAL:HG12	1.93	0.49
69:SQ:92:CYS:HA	69:SQ:95:PHE:HD2	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SU:76:ARG:NH2	73:SU:79:GLY:HA2	2.27	0.49
2:AA:622:U:H2'	2:AA:623:U:C6	2.47	0.49
2:AA:660:U:H2'	2:AA:661:G:C8	2.47	0.49
2:AA:2739:U:H2'	2:AA:2740:A:C8	2.47	0.49
2:AA:3110:A:OP1	21:AI:78:LYS:HE3	2.12	0.49
2:AA:3405:U:H2'	2:AA:3406:U:O4'	2.11	0.49
2:AA:3663:A:OP2	22:AI:67:HIS:NE2	2.41	0.49
2:AA:3757:U:H2'	2:AA:3758:G:C8	2.48	0.49
6:A1:55:LYS:NZ	23:AJ:46:PHE:O	2.35	0.49
6:A1:84:ARG:NH1	9:A6:65:LEU:HG	2.28	0.49
13:A9:66:LYS:HD3	25:AK:2:TYR:CG	2.48	0.49
19:AP:192:ASN:OD1	19:AP:196:ARG:NE	2.42	0.49
30:AR:47:GLN:HE22	30:AR:68:HIS:CD2	2.30	0.49
45:AX:44:LEU:HB3	45:AX:90:ILE:HB	1.95	0.49
53:SA:819:A:H2'	53:SA:820:A:C8	2.47	0.49
53:SA:1794:C:H2'	53:SA:1795:G:C8	2.47	0.49
53:SA:1922:C:H2'	53:SA:1923:U:C6	2.48	0.49
54:SB:135:LEU:HD12	54:SB:215:VAL:HG12	1.94	0.49
59:SG:41:TRP:CH2	59:SG:43:PRO:HA	2.48	0.49
60:SH:70:ASN:O	60:SH:98:ARG:NH2	2.45	0.49
69:SQ:105:SER:OG	69:SQ:106:GLY:N	2.43	0.49
71:SS:119:ILE:HA	76:SX:111:MET:HE1	1.95	0.49
2:AA:124:U:H1'	2:AA:158:U:O2	2.12	0.49
2:AA:607:A:O2'	2:AA:608:A:H2'	2.13	0.49
2:AA:1308:A:C4	2:AA:1310:A:C8	3.01	0.49
2:AA:1433:U:C2	38:AE:254:PRO:HB3	2.47	0.49
2:AA:1650:U:H3	2:AA:1664:A:H61	1.60	0.49
2:AA:2411:C:H2'	2:AA:2412:A:O4'	2.13	0.49
2:AA:2510:U:H2'	2:AA:2511:G:C8	2.48	0.49
2:AA:3445:C:O2'	2:AA:3764:G:N2	2.46	0.49
2:AA:3661:A:O5'	22:AI:89:TYR:OH	2.30	0.49
2:AA:3716:C:H2'	2:AA:3717:A:H8	1.73	0.49
11:AN:7:THR:O	11:AN:11:LYS:HG2	2.13	0.49
16:Ad:31:LYS:O	16:Ad:36:THR:N	2.45	0.49
29:AQ:163:GLN:OE1	29:AQ:163:GLN:N	2.46	0.49
32:AY:145:LYS:C	32:AY:145:LYS:HD3	2.38	0.49
39:AF:153:VAL:HG12	39:AF:252:TRP:HB2	1.95	0.49
40:AG:18:VAL:HG22	40:AG:70:THR:HG22	1.95	0.49
42:AH:13:PRO:HD2	42:AH:80:PHE:HD2	1.78	0.49
50:S4:19:LEU:HD11	50:S4:26:PRO:HA	1.95	0.49
53:SA:422:A:H5'	53:SA:423:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:644:U:O2	62:SJ:115:ARG:NH2	2.30	0.49
53:SA:988:U:H2'	53:SA:989:C:C6	2.47	0.49
57:SE:42:ILE:O	57:SE:46:GLN:NE2	2.43	0.49
67:SO:34:VAL:HG21	67:SO:57:LEU:HG	1.94	0.49
71:SS:107:SER:HA	71:SS:110:ARG:NE	2.27	0.49
74:SV:8:GLN:NE2	74:SV:14:GLN:O	2.45	0.49
2:AA:282:U:H2'	2:AA:283:U:C6	2.48	0.49
2:AA:659:U:H2'	2:AA:660:U:C6	2.47	0.49
2:AA:888:A:H61	2:AA:3111:U:H5	1.60	0.49
2:AA:1019:A:H2'	2:AA:1020:C:C6	2.48	0.49
2:AA:1727:U:H2'	2:AA:1728:C:H6	1.78	0.49
2:AA:1815:A:H2'	2:AA:1816:G:C8	2.48	0.49
2:AA:2029:G:H2'	2:AA:2030:G:C8	2.48	0.49
2:AA:3676:C:H2'	2:AA:3677:A:H8	1.77	0.49
2:AA:3720:G:H2'	2:AA:3721:U:C6	2.48	0.49
10:A7:21:THR:HG21	10:A7:78:ARG:NH2	2.28	0.49
12:A8:63:THR:HB	12:A8:66:LEU:HD11	1.93	0.49
19:AP:125:ASP:OD1	19:AP:126:ALA:N	2.42	0.49
31:AW:152:GLU:O	31:AW:153:ILE:HD13	2.13	0.49
32:AY:118:GLU:H	32:AY:118:GLU:CD	2.16	0.49
36:A5:191:VAL:O	36:A5:191:VAL:HG12	2.12	0.49
39:AF:187:LYS:HD3	39:AF:203:ILE:HD11	1.95	0.49
47:S1:17:LEU:N	58:SF:94:LYS:HZ3	2.10	0.49
53:SA:882:A:H61	53:SA:920:A:H61	1.61	0.49
53:SA:883:A:H2'	53:SA:884:G:H8	1.77	0.49
53:SA:1307:U:O3'	72:ST:25:LYS:NZ	2.39	0.49
53:SA:1720:G:H2'	53:SA:1721:A:C8	2.48	0.49
53:SA:1803:G:H2'	53:SA:1804:C:C6	2.48	0.49
55:SC:146:LEU:HD11	55:SC:162:CYS:SG	2.52	0.49
55:SC:187:VAL:HG12	55:SC:188:ILE:HG23	1.94	0.49
62:SJ:140:ARG:HB3	63:SK:51:GLU:OE2	2.12	0.49
63:SK:8:ALA:HA	63:SK:74:VAL:HG11	1.95	0.49
68:SP:147:ARG:NE	68:SP:150:ARG:HD3	2.27	0.49
72:ST:38:ARG:HA	72:ST:41:PHE:HB3	1.95	0.49
72:ST:40:CYS:O	72:ST:44:ARG:HG2	2.13	0.49
75:SW:28:PHE:CZ	75:SW:32:LYS:HE3	2.48	0.49
77:SY:87:LEU:HD11	77:SY:145:ARG:HB3	1.95	0.49
1:S7:30:G:OP1	53:SA:1708:G:O2'	2.31	0.49
2:AA:321:A:H2'	2:AA:322:C:C6	2.48	0.49
2:AA:432:A:O2'	2:AA:433:A:OP1	2.30	0.49
2:AA:683:A:O2'	22:AI:41:LYS:NZ	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:774:A:OP1	39:AF:44:MET:HG3	2.12	0.49
2:AA:1706:A:OP1	23:AJ:73:ARG:NH1	2.46	0.49
2:AA:2441:U:H2'	2:AA:2442:A:C8	2.47	0.49
2:AA:2551:U:H2'	2:AA:2552:A:H8	1.78	0.49
2:AA:3035:A:N6	2:AA:3097:A:N7	2.61	0.49
9:A6:45:VAL:O	9:A6:46:ILE:HD13	2.13	0.49
25:AK:15:LEU:HD12	25:AK:79:LEU:HD23	1.93	0.49
25:AK:176:GLU:O	25:AK:180:ILE:HG22	2.12	0.49
28:AO:73:ILE:HB	28:AO:107:TYR:CD1	2.48	0.49
32:AY:154:GLU:OE2	32:AY:175:SER:N	2.38	0.49
40:AG:13:LYS:HE3	40:AG:134:SER:HB2	1.95	0.49
46:A0:26:GLN:HE22	46:A0:40:SER:C	2.20	0.49
53:SA:312:U:H2'	53:SA:313:G:C8	2.48	0.49
53:SA:1713:C:H4'	77:SY:112:PRO:HG3	1.95	0.49
53:SA:1780:G:H2'	53:SA:1781:C:C6	2.47	0.49
55:SC:35:ARG:HH21	78:SZ:66:ALA:HB2	1.78	0.49
2:AA:259:G:H2'	2:AA:260:G:C8	2.48	0.49
2:AA:512:A:H4'	22:AI:48:ARG:HB2	1.94	0.49
2:AA:541:A:H2	2:AA:611:G:C2	2.29	0.49
2:AA:954:G:O2'	2:AA:976:G:N2	2.40	0.49
2:AA:1901:A:H2'	2:AA:1966:A:C8	2.48	0.49
2:AA:2092:G:O4'	3:AC:123:A:N6	2.46	0.49
2:AA:2819:U:H2'	2:AA:2820:A:H8	1.78	0.49
2:AA:3128:A:H2'	2:AA:3129:U:C6	2.48	0.49
2:AA:3433:C:H5'	38:AE:326:ALA:HA	1.95	0.49
2:AA:3492:G:OP1	18:Af:26:ARG:NH2	2.40	0.49
11:AN:54:VAL:HG21	11:AN:74:LEU:HD11	1.94	0.49
29:AQ:93:PRO:HA	29:AQ:127:ALA:HA	1.95	0.49
34:AZ:84:VAL:O	34:AZ:96:ILE:HG13	2.13	0.49
43:AV:66:PHE:CZ	43:AV:89:LYS:HB3	2.48	0.49
47:S1:56:ILE:HD12	47:S1:58:LEU:HD21	1.94	0.49
53:SA:12:U:H2'	53:SA:13:C:H6	1.77	0.49
53:SA:810:A:N6	53:SA:854:A:H61	2.10	0.49
57:SE:51:LYS:O	57:SE:51:LYS:NZ	2.40	0.49
65:SM:94:TYR:HB3	65:SM:103:LYS:HB2	1.95	0.49
73:SU:71:ILE:O	73:SU:75:LEU:HD12	2.13	0.49
77:SY:20:VAL:HG11	77:SY:24:LYS:HE3	1.95	0.49
2:AA:108:C:H4'	2:AA:332:A:C2	2.49	0.48
2:AA:216:C:H2'	2:AA:217:A:C8	2.48	0.48
2:AA:513:U:H4'	22:AI:46:VAL:HG13	1.95	0.48
2:AA:686:U:H2'	2:AA:687:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2669:G:H2'	2:AA:2670:G:C8	2.48	0.48
2:AA:3249:A:O2'	2:AA:3292:A:N3	2.36	0.48
2:AA:3437:U:H3	2:AA:3478:G:H1'	1.77	0.48
2:AA:3468:G:H2'	2:AA:3469:C:C6	2.48	0.48
4:AB:28:C:H1'	4:AB:54:A:N6	2.28	0.48
10:A7:20:ILE:HG22	10:A7:21:THR:N	2.28	0.48
18:Af:9:LEU:HD13	42:AH:179:TYR:CD2	2.48	0.48
30:AR:194:LEU:O	30:AR:198:ILE:HG23	2.13	0.48
32:AY:150:LEU:HB3	32:AY:151:PHE:CE1	2.48	0.48
44:Ag:7:ARG:HG3	44:Ag:8:TYR:CE1	2.48	0.48
53:SA:352:G:H5'	74:SV:82:LYS:HE2	1.95	0.48
53:SA:519:A:H2'	53:SA:520:U:C6	2.48	0.48
53:SA:572:C:H2'	53:SA:584:G:H21	1.78	0.48
53:SA:1085:C:H2'	53:SA:1086:U:H6	1.76	0.48
53:SA:1246:U:H2'	53:SA:1247:G:O4'	2.13	0.48
62:SJ:52:VAL:HG22	62:SJ:58:LYS:HD3	1.94	0.48
62:SJ:104:LYS:O	62:SJ:104:LYS:HG3	2.12	0.48
64:SL:106:SER:HB3	64:SL:176:PHE:HD1	1.78	0.48
2:AA:719:C:OP1	28:AO:21:ARG:HG2	2.13	0.48
2:AA:1094:U:H2'	2:AA:1095:U:C6	2.48	0.48
2:AA:1177:A:H5''	2:AA:2976:A:N6	2.27	0.48
2:AA:1971:U:H1'	16:Ad:76:TYR:CD2	2.47	0.48
2:AA:3776:U:O2	10:A7:114:ASN:ND2	2.44	0.48
3:AC:42:U:N3	35:A3:83:ARG:HG3	2.28	0.48
4:AB:89:G:H2'	4:AB:90:A:C8	2.48	0.48
6:A1:81:LEU:HD11	9:A6:58:VAL:HG11	1.95	0.48
34:AZ:57:ILE:HB	34:AZ:103:VAL:HG12	1.95	0.48
47:S1:12:TYR:HA	47:S1:23:PHE:HB3	1.95	0.48
53:SA:17:C:H2'	53:SA:18:C:C6	2.49	0.48
53:SA:346:U:H2'	53:SA:347:A:H8	1.77	0.48
53:SA:478:G:H2'	53:SA:479:A:H8	1.78	0.48
53:SA:1306:C:OP2	53:SA:1307:U:N3	2.46	0.48
53:SA:2004:U:H2'	53:SA:2005:U:C6	2.48	0.48
60:SH:71:ASN:N	60:SH:71:ASN:OD1	2.45	0.48
77:SY:52:THR:OG1	77:SY:53:TYR:N	2.47	0.48
2:AA:593:A:H5'	2:AA:594:C:C5	2.48	0.48
2:AA:888:A:H4'	2:AA:889:U:O5'	2.11	0.48
2:AA:1851:A:OP2	2:AA:1969:A:N6	2.45	0.48
2:AA:2660:A:H2'	2:AA:2661:A:C8	2.48	0.48
2:AA:2832:A:C2	23:AJ:70:LYS:HA	2.48	0.48
2:AA:3203:C:N3	2:AA:3257:G:N1	2.54	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3258:C:O2'	2:AA:3259:A:O5'	2.28	0.48
2:AA:3727:A:N6	2:AA:3762:A:HO2'	2.11	0.48
3:AC:145:A:HO2'	3:AC:146:C:P	2.35	0.48
15:Ab:4:LYS:HD2	15:Ab:18:ASN:HA	1.95	0.48
15:Ab:94:ARG:O	15:Ab:97:ILE:HG13	2.13	0.48
20:Ah:29:ILE:HD11	20:Ah:69:TRP:CD2	2.49	0.48
23:AJ:254:MET:N	23:AJ:254:MET:SD	2.87	0.48
28:AO:101:ASP:OD1	28:AO:103:THR:OG1	2.22	0.48
30:AR:25:GLU:HA	40:AG:144:ARG:HD3	1.94	0.48
31:AW:32:ALA:O	31:AW:36:ILE:HG23	2.12	0.48
36:A5:64:TYR:HE1	36:A5:199:TYR:CD1	2.32	0.48
38:AE:214:VAL:HG11	38:AE:325:VAL:HG23	1.94	0.48
42:AH:167:ARG:CZ	42:AH:168:ASN:HD22	2.26	0.48
44:Ag:23:ARG:NH1	53:SA:1939:G:O3'	2.43	0.48
53:SA:161:U:H2'	53:SA:162:A:C8	2.46	0.48
53:SA:1178:C:H2'	53:SA:1179:C:C6	2.48	0.48
53:SA:1319:G:OP1	53:SA:1690:A:N6	2.43	0.48
53:SA:1822:A:H2'	53:SA:1823:U:C6	2.49	0.48
53:SA:1842:A:H2'	53:SA:1843:G:C8	2.47	0.48
54:SB:185:VAL:O	54:SB:189:ILE:HG12	2.13	0.48
55:SC:55:GLU:O	55:SC:59:LEU:HG	2.13	0.48
55:SC:90:ALA:HB2	55:SC:97:ALA:HB2	1.95	0.48
56:SD:134:GLY:HA3	56:SD:156:GLY:HA3	1.95	0.48
56:SD:151:MET:N	56:SD:151:MET:SD	2.85	0.48
56:SD:177:GLN:C	56:SD:178:LEU:HD12	2.38	0.48
57:SE:99:LEU:HD22	57:SE:103:LYS:HZ1	1.79	0.48
58:SF:103:TYR:CE2	58:SF:184:THR:HA	2.44	0.48
61:SI:162:GLU:O	61:SI:166:GLU:HG2	2.14	0.48
66:SN:24:THR:HG22	66:SN:85:LYS:HB3	1.95	0.48
66:SN:47:LEU:HB2	66:SN:49:VAL:HG23	1.95	0.48
73:SU:76:ARG:HH11	73:SU:81:ALA:HB3	1.78	0.48
74:SV:39:LYS:N	74:SV:63:PHE:O	2.46	0.48
2:AA:642:A:N6	2:AA:684:G:O2'	2.37	0.48
2:AA:912:U:H2'	2:AA:913:U:C6	2.48	0.48
2:AA:1656:G:H2'	2:AA:2147:A:H1'	1.95	0.48
2:AA:1999:A:H2'	2:AA:2000:G:C8	2.48	0.48
2:AA:2028:G:C6	2:AA:2029:G:C6	3.01	0.48
2:AA:2445:A:H2'	2:AA:2446:U:H6	1.78	0.48
4:AB:69:U:H2'	4:AB:70:G:H8	1.79	0.48
5:AL:6:ASN:O	28:AO:49:HIS:NE2	2.42	0.48
5:AL:131:LYS:HD3	5:AL:131:LYS:HA	1.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A2:54:ASN:ND2	7:A2:70:LYS:O	2.44	0.48
9:A6:60:GLU:HG3	9:A6:70:VAL:HG11	1.95	0.48
37:AD:79:SER:O	37:AD:82:MET:HG2	2.14	0.48
51:S5:22:VAL:C	51:S5:23:ILE:HD13	2.39	0.48
53:SA:329:A:OP2	64:SL:10:LYS:HG3	2.14	0.48
53:SA:868:U:N3	53:SA:869:A:N7	2.61	0.48
53:SA:958:U:H2'	53:SA:959:C:C6	2.48	0.48
55:SC:107:LEU:HB2	55:SC:135:GLU:OE1	2.13	0.48
59:SG:77:TYR:O	59:SG:80:GLN:NE2	2.46	0.48
73:SU:63:VAL:HA	73:SU:66:VAL:HG22	1.95	0.48
2:AA:1090:G:H2'	2:AA:1091:G:C8	2.48	0.48
2:AA:1285:U:H2'	2:AA:1286:A:O4'	2.14	0.48
2:AA:1856:U:O4	2:AA:1901:A:H8	1.96	0.48
2:AA:3281:G:N3	2:AA:3311:G:H1'	2.28	0.48
16:Ad:26:MET:HE1	16:Ad:40:LYS:HD3	1.96	0.48
23:AJ:107:GLN:HA	23:AJ:110:LEU:HG	1.95	0.48
29:AQ:170:LYS:HG3	29:AQ:172:GLY:H	1.79	0.48
30:AR:115:LEU:O	30:AR:115:LEU:HD23	2.12	0.48
38:AE:271:HIS:O	38:AE:272:ARG:NE	2.46	0.48
53:SA:123:U:H2'	53:SA:124:U:C6	2.48	0.48
53:SA:410:G:H2'	53:SA:411:C:H6	1.78	0.48
53:SA:579:C:OP1	69:SQ:109:ARG:NH1	2.46	0.48
53:SA:754:A:H62	62:SJ:105:GLN:HE21	1.60	0.48
53:SA:1860:A:OP1	77:SY:106:GLN:NE2	2.45	0.48
58:SF:100:ARG:NH2	58:SF:118:GLU:HG3	2.29	0.48
61:SI:12:LYS:HE2	65:SM:47:THR:HG22	1.95	0.48
67:SO:25:TYR:HA	67:SO:28:LYS:HE3	1.96	0.48
73:SU:76:ARG:NE	73:SU:76:ARG:O	2.46	0.48
2:AA:968:G:H2'	2:AA:969:U:C6	2.48	0.48
2:AA:1991:U:H2'	2:AA:1992:U:H6	1.78	0.48
2:AA:2183:A:H2'	2:AA:2184:U:H6	1.79	0.48
2:AA:2994:A:O2'	21:AI:96:LYS:NZ	2.43	0.48
2:AA:3309:G:OP2	2:AA:3309:G:N2	2.39	0.48
3:AC:146:C:H2'	3:AC:147:U:C6	2.49	0.48
16:Ad:2:PRO:N	16:Ad:48:TYR:HB3	2.28	0.48
20:Ah:42:CYS:HB3	20:Ah:60:CYS:SG	2.53	0.48
56:SD:186:LYS:C	56:SD:186:LYS:HD3	2.39	0.48
65:SM:6:LYS:HG2	65:SM:7:ARG:HG2	1.96	0.48
75:SW:17:VAL:O	75:SW:21:TYR:HB2	2.13	0.48
78:SZ:35:ASN:OD1	78:SZ:51:THR:OG1	2.29	0.48
2:AA:11:A:H2'	2:AA:12:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:322:C:H2'	2:AA:323:A:C8	2.48	0.48
2:AA:1167:U:P	29:AQ:90:ARG:HH12	2.36	0.48
2:AA:1210:A:H2'	2:AA:1211:U:C6	2.49	0.48
2:AA:1663:A:H62	2:AA:2108:A:H2'	1.78	0.48
2:AA:2722:G:H2'	2:AA:2723:G:C8	2.47	0.48
2:AA:2821:C:H2'	2:AA:2822:U:C6	2.48	0.48
15:Ab:22:VAL:O	15:Ab:22:VAL:HG12	2.14	0.48
20:Ah:69:TRP:HZ3	37:AD:176:ASP:HB2	1.79	0.48
28:AO:135:LYS:HB2	28:AO:135:LYS:HE3	1.61	0.48
30:AR:100:ALA:HB2	30:AR:243:HIS:NE2	2.29	0.48
30:AR:204:ALA:HB1	30:AR:232:ALA:HB1	1.94	0.48
37:AD:135:THR:HG23	37:AD:149:ARG:HB3	1.96	0.48
38:AE:79:ILE:HD11	38:AE:319:LEU:HB2	1.94	0.48
39:AF:168:VAL:O	39:AF:172:VAL:HG12	2.14	0.48
41:AU:37:CYS:C	41:AU:38:ILE:HD13	2.39	0.48
53:SA:413:A:H2'	53:SA:414:C:C6	2.49	0.48
53:SA:434:A:H2	53:SA:446:U:O2	1.95	0.48
53:SA:456:U:H2'	53:SA:457:A:C8	2.48	0.48
53:SA:811:G:H21	53:SA:852:A:N6	2.11	0.48
53:SA:887:A:C2	53:SA:915:G:N1	2.68	0.48
53:SA:1219:U:H2'	53:SA:1220:C:C6	2.48	0.48
53:SA:1679:G:N3	72:ST:39:GLN:HB3	2.28	0.48
54:SB:131:ASP:OD1	54:SB:131:ASP:N	2.45	0.48
56:SD:124:LEU:HB3	56:SD:125:ARG:HH12	1.78	0.48
57:SE:46:GLN:HA	57:SE:49:LEU:HD23	1.96	0.48
59:SG:154:GLY:HA3	59:SG:167:PRO:HB3	1.96	0.48
63:SK:94:LEU:HD21	63:SK:102:LEU:HB3	1.96	0.48
75:SW:6:THR:H	75:SW:9:ILE:HD12	1.78	0.48
76:SX:34:ILE:HG22	76:SX:45:PHE:HD2	1.78	0.48
2:AA:514:C:H2'	2:AA:515:A:H8	1.78	0.48
2:AA:906:G:H2'	2:AA:907:C:H6	1.78	0.48
2:AA:1787:A:N3	2:AA:1893:G:N2	2.61	0.48
2:AA:1793:A:C5	2:AA:1797:A:N6	2.82	0.48
2:AA:2721:U:H2'	2:AA:2722:G:H8	1.79	0.48
2:AA:3069:A:H4'	27:AS:185:TYR:CG	2.49	0.48
2:AA:3408:G:H4'	2:AA:3409:U:H5'	1.95	0.48
2:AA:3471:A:C4	2:AA:3472:A:C8	3.02	0.48
4:AB:54:A:H4'	40:AG:10:ARG:NE	2.28	0.48
9:A6:46:ILE:HD12	9:A6:71:HIS:HB3	1.95	0.48
9:A6:50:ASN:HB3	9:A6:76:ASP:HA	1.96	0.48
10:A7:20:ILE:O	10:A7:80:ARG:HG3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AS:177:ARG:O	28:AO:51:GLY:HA2	2.14	0.48
31:AW:54:LYS:HB3	31:AW:54:LYS:HE2	1.56	0.48
33:AT:149:LEU:HD22	33:AT:152:LYS:NZ	2.29	0.48
38:AE:294:ASP:OD1	38:AE:294:ASP:N	2.45	0.48
40:AG:103:GLY:HA3	40:AG:128:TYR:CE1	2.49	0.48
42:AH:78:ASN:OD1	42:AH:150:ILE:HG12	2.14	0.48
42:AH:101:ASN:HB2	42:AH:115:ASN:HB2	1.96	0.48
53:SA:99:C:H2'	53:SA:100:U:H6	1.77	0.48
53:SA:303:U:H5''	58:SF:37:LYS:HG2	1.96	0.48
53:SA:391:A:H5''	64:SL:22:LYS:HG3	1.96	0.48
53:SA:959:C:H2'	53:SA:960:A:C8	2.47	0.48
53:SA:1374:G:N2	53:SA:1379:G:O6	2.47	0.48
53:SA:1424:A:H2'	53:SA:1425:C:C6	2.49	0.48
53:SA:1966:U:H2'	53:SA:1967:G:O4'	2.13	0.48
54:SB:182:LYS:O	54:SB:186:LYS:HG2	2.14	0.48
57:SE:71:PHE:O	57:SE:74:GLU:HG3	2.14	0.48
69:SQ:75:GLN:HB2	69:SQ:82:LYS:NZ	2.29	0.48
2:AA:661:G:H2'	2:AA:662:A:H8	1.79	0.48
2:AA:1065:U:H2'	2:AA:1066:U:H6	1.78	0.48
2:AA:2659:C:H2'	2:AA:2660:A:H8	1.79	0.48
2:AA:2726:U:OP2	2:AA:2727:U:O2'	2.32	0.48
2:AA:3062:U:H2'	2:AA:3063:U:H6	1.78	0.48
2:AA:3718:G:OP1	10:A7:111:GLY:N	2.47	0.48
2:AA:3731:A:H2'	2:AA:3733:G:C8	2.48	0.48
3:AC:13:A:H2'	3:AC:14:A:H8	1.79	0.48
4:AB:89:G:N3	29:AQ:11:TYR:OH	2.46	0.48
5:AL:142:ASP:OD1	5:AL:143:ALA:N	2.45	0.48
10:A7:32:CYS:HG	10:A7:35:ARG:HE	1.61	0.48
14:Aa:100:CYS:O	14:Aa:103:GLN:HG2	2.14	0.48
15:Ab:63:GLU:O	15:Ab:67:ILE:HG23	2.14	0.48
18:Af:3:GLU:CD	18:Af:6:LEU:HB2	2.38	0.48
18:Af:27:LEU:HG	18:Af:28:HIS:O	2.14	0.48
19:AP:34:PRO:HG2	19:AP:37:HIS:HB3	1.96	0.48
19:AP:194:LYS:HB2	19:AP:194:LYS:HE3	1.65	0.48
22:AI:30:ASN:OD1	22:AI:30:ASN:N	2.45	0.48
22:AI:133:ASP:O	22:AI:137:ILE:HG12	2.13	0.48
37:AD:5:ILE:HG12	37:AD:8:GLN:HG3	1.96	0.48
39:AF:66:SER:O	39:AF:66:SER:OG	2.29	0.48
45:AX:42:TYR:HB2	45:AX:92:ILE:HB	1.96	0.48
47:S1:10:LYS:NZ	53:SA:827:C:OP2	2.46	0.48
53:SA:821:A:H3'	53:SA:822:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1203:G:O6	69:SQ:2:GLY:N	2.46	0.48
53:SA:1679:G:H2'	53:SA:1680:U:C6	2.49	0.48
53:SA:1830:C:H2'	53:SA:1831:G:O4'	2.14	0.48
53:SA:1846:U:H3	53:SA:1859:A:H2	1.62	0.48
53:SA:1888:U:H2'	53:SA:1889:G:C8	2.47	0.48
59:SG:125:LEU:HD22	59:SG:227:PHE:CD2	2.49	0.48
1:S9:1:C:H42	1:S9:72:A:H61	1.62	0.48
2:AA:80:C:H2'	2:AA:81:C:H6	1.79	0.48
2:AA:92:G:H5''	2:AA:94:G:N7	2.29	0.48
2:AA:439:U:O2'	2:AA:440:A:OP1	2.28	0.48
2:AA:1805:U:H2'	2:AA:1806:C:C6	2.49	0.48
2:AA:1885:G:H1'	2:AA:1887:G:C2	2.49	0.48
2:AA:3579:A:OP2	13:A9:130:ARG:NH1	2.47	0.48
2:AA:3757:U:OP1	46:A0:57:ARG:NH2	2.44	0.48
23:AJ:87:ARG:HD3	23:AJ:254:MET:HE3	1.96	0.48
23:AJ:283:LEU:HD22	54:SB:94:ARG:HD3	1.95	0.48
26:AM:83:GLN:O	26:AM:97:PHE:HB2	2.13	0.48
30:AR:289:TYR:HA	30:AR:292:LYS:HB3	1.95	0.48
32:AY:138:ALA:O	32:AY:168:LYS:NZ	2.30	0.48
36:A5:97:ARG:HB2	36:A5:117:LEU:HG	1.96	0.48
40:AG:101:ASN:HD22	40:AG:130:HIS:HA	1.79	0.48
53:SA:29:U:H2'	53:SA:30:G:C8	2.48	0.48
53:SA:333:U:H2'	53:SA:334:A:H8	1.77	0.48
53:SA:349:C:H2'	53:SA:350:A:C8	2.45	0.48
53:SA:627:A:H2'	53:SA:628:A:C4	2.48	0.48
53:SA:1063:G:H2'	53:SA:1064:A:H8	1.78	0.48
53:SA:1455:C:H1'	53:SA:1456:G:OP1	2.13	0.48
54:SB:134:HIS:HB2	54:SB:219:LYS:H	1.79	0.48
61:SI:42:HIS:N	61:SI:61:GLU:OE1	2.47	0.48
63:SK:90:ILE:HD12	63:SK:94:LEU:HD23	1.96	0.48
2:AA:24:A:OP1	24:Ac:49:ARG:NH1	2.47	0.47
2:AA:76:G:C4	5:AL:99:ARG:HB3	2.49	0.47
2:AA:252:A:H2'	2:AA:253:U:C6	2.49	0.47
2:AA:3008:A:H2'	2:AA:3009:G:H8	1.78	0.47
4:AB:7:G:C2	4:AB:112:U:O2	2.67	0.47
4:AB:34:C:OP2	4:AB:36:C:N4	2.47	0.47
14:Aa:80:ILE:HG23	14:Aa:85:ILE:HB	1.96	0.47
30:AR:29:ASP:OD1	30:AR:29:ASP:N	2.47	0.47
30:AR:106:ALA:HB2	30:AR:168:ALA:HA	1.96	0.47
34:AZ:31:SER:HA	34:AZ:48:PRO:HA	1.95	0.47
36:A5:89:GLU:HA	36:A5:147:TYR:OH	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:AE:89:ILE:HG23	38:AE:155:LEU:HD11	1.95	0.47
39:AF:32:ILE:CG2	39:AF:246:ILE:HD11	2.44	0.47
47:S1:5:PHE:O	53:SA:830:U:N3	2.46	0.47
53:SA:248:G:H4'	53:SA:249:A:OP1	2.13	0.47
53:SA:399:C:H4'	53:SA:1971:U:H5'	1.96	0.47
53:SA:467:G:H2'	53:SA:468:G:C8	2.49	0.47
53:SA:1109:G:H5'	55:SC:31:ASN:ND2	2.29	0.47
53:SA:1637:U:H2'	53:SA:1638:U:H6	1.78	0.47
62:SJ:44:LEU:HD13	62:SJ:47:CYS:SG	2.54	0.47
63:SK:55:ASP:HB3	63:SK:59:GLY:HA2	1.96	0.47
2:AA:709:A:H2'	2:AA:710:C:C6	2.48	0.47
2:AA:1232:U:OP1	36:A5:169:ARG:NE	2.41	0.47
2:AA:1653:A:OP1	31:AW:23:ARG:NH1	2.48	0.47
2:AA:1789:A:H2'	2:AA:1790:U:O4'	2.14	0.47
2:AA:2716:U:H2'	2:AA:2717:A:C8	2.49	0.47
2:AA:3306:G:N3	38:AE:247:ALA:HB1	2.29	0.47
2:AA:3537:U:H2'	2:AA:3538:A:C8	2.49	0.47
4:AB:30:A:H2'	4:AB:31:G:C8	2.49	0.47
5:AL:151:PHE:HB3	5:AL:154:LYS:HE2	1.96	0.47
10:A7:16:VAL:HG13	10:A7:18:LYS:HE2	1.96	0.47
12:A8:39:ASP:HA	12:A8:44:ARG:HH11	1.79	0.47
14:Aa:57:LEU:HB3	14:Aa:61:ASP:HB2	1.95	0.47
27:AS:128:LYS:HG3	27:AS:129:TYR:CE2	2.50	0.47
38:AE:68:HIS:HB3	38:AE:69:LYS:H	1.54	0.47
38:AE:69:LYS:NZ	38:AE:69:LYS:O	2.39	0.47
53:SA:1422:U:H3'	55:SC:101:ARG:NH2	2.30	0.47
53:SA:1939:G:H2'	53:SA:1940:U:H6	1.80	0.47
59:SG:179:ILE:HG12	59:SG:226:ILE:HG22	1.95	0.47
61:SI:43:THR:N	61:SI:61:GLU:OE1	2.45	0.47
69:SQ:48:HIS:CD2	69:SQ:105:SER:HB2	2.49	0.47
2:AA:952:U:OP1	33:AT:85:ASN:HB3	2.14	0.47
2:AA:1294:G:H2'	2:AA:1295:A:C8	2.48	0.47
2:AA:1977:U:H2'	2:AA:1978:U:C6	2.49	0.47
2:AA:2829:U:H2'	2:AA:2830:U:C6	2.49	0.47
2:AA:3197:A:H2'	2:AA:3198:G:O4'	2.14	0.47
2:AA:3577:A:H3'	2:AA:3581:A:N6	2.28	0.47
2:AA:3626:A:H2'	2:AA:3626:A:N3	2.29	0.47
3:AC:125:U:H2'	3:AC:126:C:C6	2.50	0.47
4:AB:60:U:H2'	4:AB:61:G:C8	2.49	0.47
15:Ab:105:ARG:NH2	15:Ab:106:ARG:HE	2.12	0.47
19:AP:42:PRO:HG3	19:AP:61:ILE:HG13	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AK:172:ASN:HA	25:AK:175:ASN:ND2	2.28	0.47
31:AW:98:VAL:HG21	31:AW:148:ILE:CD1	2.45	0.47
36:A5:113:ARG:HG2	36:A5:113:ARG:HH11	1.78	0.47
38:AE:210:GLU:O	38:AE:279:ILE:N	2.40	0.47
40:AG:92:ARG:HE	40:AG:93:ARG:H	1.62	0.47
42:AH:110:ARG:HH22	42:AH:126:LYS:HB2	1.77	0.47
53:SA:414:C:H2'	53:SA:415:C:C6	2.50	0.47
53:SA:455:C:H2'	53:SA:456:U:C6	2.49	0.47
53:SA:1168:U:H4'	54:SB:148:ASN:O	2.15	0.47
53:SA:1832:U:H4'	53:SA:1833:G:C2	2.49	0.47
53:SA:2079:C:OP1	68:SP:141:ARG:NH2	2.48	0.47
54:SB:138:PHE:HD2	54:SB:214:LYS:HB3	1.78	0.47
62:SJ:166:GLU:OE2	62:SJ:166:GLU:N	2.37	0.47
2:AA:690:U:H2'	2:AA:691:C:C6	2.49	0.47
2:AA:1469:U:H2'	2:AA:1470:A:C8	2.49	0.47
2:AA:1474:A:H2'	2:AA:1475:G:H8	1.78	0.47
2:AA:1736:A:H2'	2:AA:1737:A:C8	2.49	0.47
2:AA:3113:U:H2'	2:AA:3114:G:H8	1.78	0.47
11:AN:84:ASN:HB2	11:AN:87:CYS:SG	2.54	0.47
20:Ah:3:ARG:NE	20:Ah:3:ARG:HA	2.28	0.47
30:AR:68:HIS:CE1	30:AR:73:LYS:HG2	2.49	0.47
30:AR:107:ARG:NH1	30:AR:171:GLY:O	2.48	0.47
36:A5:179:ASN:HD21	39:AF:328:LEU:HA	1.78	0.47
40:AG:140:ARG:C	40:AG:145:ARG:HD3	2.39	0.47
44:Ag:19:TRP:NE1	53:SA:2075:C:H5''	2.24	0.47
45:AX:52:ASP:HB2	45:AX:54:ILE:HD11	1.96	0.47
53:SA:123:U:H2'	53:SA:124:U:H6	1.78	0.47
53:SA:1882:U:O2	53:SA:1882:U:H2'	2.14	0.47
57:SE:80:MET:SD	57:SE:85:LEU:HB2	2.55	0.47
57:SE:177:LEU:O	57:SE:180:GLN:HG3	2.14	0.47
58:SF:247:ASP:HB3	58:SF:250:GLU:HG3	1.96	0.47
68:SP:28:PHE:HA	68:SP:92:ALA:O	2.13	0.47
69:SQ:50:LYS:HB2	69:SQ:101:GLU:OE1	2.14	0.47
69:SQ:71:CYS:SG	69:SQ:120:VAL:HG21	2.54	0.47
73:SU:74:ILE:C	73:SU:78:GLN:HE22	2.23	0.47
2:AA:458:A:HO2'	2:AA:459:G:H8	1.61	0.47
2:AA:1248:A:H2'	2:AA:1249:U:H6	1.79	0.47
2:AA:1580:G:OP2	28:AO:9:ARG:NH2	2.40	0.47
2:AA:1840:C:H2'	2:AA:1841:U:C6	2.50	0.47
2:AA:1869:G:N2	2:AA:1889:A:C8	2.76	0.47
2:AA:3022:U:H2'	2:AA:3023:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3506:U:H5''	18:Af:35:ARG:NE	2.29	0.47
5:AL:130:ASN:CG	5:AL:145:LYS:HE2	2.39	0.47
13:A9:65:ILE:HB	13:A9:68:VAL:HG22	1.97	0.47
15:Ab:43:LEU:HD21	23:AJ:186:LEU:HD11	1.95	0.47
30:AR:95:TYR:CZ	30:AR:197:ASN:HB3	2.49	0.47
38:AE:281:ARG:HG3	38:AE:282:ILE:N	2.30	0.47
41:AU:61:LYS:O	41:AU:65:GLY:N	2.47	0.47
42:AH:41:LEU:HB2	42:AH:43:ILE:HD11	1.96	0.47
47:S1:44:LEU:HD11	47:S1:56:ILE:HG21	1.97	0.47
47:S1:113:LYS:O	47:S1:116:ARG:NH2	2.47	0.47
48:S2:39:ALA:HA	71:SS:25:LYS:HE3	1.97	0.47
52:S6:39:LEU:HB2	52:S6:42:ARG:HH21	1.79	0.47
53:SA:88:A:H2'	53:SA:89:C:H6	1.79	0.47
53:SA:889:A:H2'	53:SA:890:A:H8	1.78	0.47
53:SA:1292:U:H2'	53:SA:1293:C:C6	2.49	0.47
53:SA:1847:A:OP2	76:SX:42:ARG:NH2	2.38	0.47
56:SD:124:LEU:O	56:SD:128:MET:HG2	2.15	0.47
59:SG:171:SER:HA	59:SG:179:ILE:O	2.15	0.47
61:SI:46:ARG:HB3	61:SI:53:ARG:HH12	1.79	0.47
64:SL:93:THR:HG23	64:SL:95:THR:HG23	1.97	0.47
65:SM:45:LEU:HB2	65:SM:79:ILE:HD13	1.96	0.47
71:SS:64:GLU:OE2	71:SS:65:GLU:HG2	2.14	0.47
2:AA:1434:G:C5	25:AK:61:THR:HA	2.50	0.47
2:AA:1844:G:O6	45:AX:101:ARG:NH2	2.45	0.47
2:AA:1965:U:O4	2:AA:1995:C:H2'	2.15	0.47
2:AA:2101:U:OP1	17:Ae:5:LYS:NZ	2.35	0.47
6:A1:28:THR:HA	6:A1:41:CYS:HA	1.97	0.47
6:A1:76:ASN:N	6:A1:76:ASN:OD1	2.46	0.47
9:A6:55:GLN:OE1	14:Aa:90:MET:HE1	2.14	0.47
11:AN:51:ILE:HD11	42:AH:4:ILE:CG2	2.44	0.47
15:Ab:95:GLU:OE1	15:Ab:95:GLU:N	2.48	0.47
23:AJ:82:LYS:HE2	23:AJ:86:GLN:HE22	1.80	0.47
24:Ac:56:ALA:HA	24:Ac:59:ARG:HG2	1.97	0.47
28:AO:86:LYS:O	28:AO:89:GLU:HG3	2.15	0.47
32:AY:128:ASN:HB3	32:AY:180:ALA:HB3	1.97	0.47
33:AT:122:PHE:HD1	33:AT:125:LYS:HG2	1.79	0.47
34:AZ:10:SER:O	34:AZ:14:MET:HG2	2.14	0.47
34:AZ:113:ASN:O	34:AZ:117:ILE:HG23	2.14	0.47
40:AG:144:ARG:O	40:AG:146:SER:OG	2.21	0.47
49:S3:82:ARG:HA	49:S3:82:ARG:HD2	1.56	0.47
50:S4:21:ARG:NH1	50:S4:25:THR:OG1	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:S6:10:ARG:NH1	52:S6:13:LYS:HG3	2.29	0.47
53:SA:163:G:H2'	53:SA:164:C:C6	2.49	0.47
53:SA:754:A:H62	62:SJ:105:GLN:NE2	2.11	0.47
53:SA:1656:A:H5'	65:SM:119:VAL:HG11	1.97	0.47
53:SA:1675:G:H2'	53:SA:1676:U:C6	2.50	0.47
53:SA:1832:U:H3'	61:SI:157:ILE:HD11	1.97	0.47
53:SA:1935:G:H2'	53:SA:1936:C:O4'	2.15	0.47
54:SB:157:GLN:O	54:SB:160:GLN:HG2	2.14	0.47
58:SF:71:LYS:HE3	58:SF:74:ASN:HA	1.97	0.47
59:SG:253:GLU:OE2	59:SG:253:GLU:N	2.37	0.47
60:SH:48:TYR:HE2	60:SH:121:ILE:HD11	1.80	0.47
66:SN:62:ILE:HG13	66:SN:79:PHE:HB2	1.96	0.47
69:SQ:42:PRO:HG2	69:SQ:83:ILE:HD11	1.95	0.47
71:SS:27:LYS:HG3	71:SS:57:ARG:HE	1.79	0.47
73:SU:37:ILE:HG13	73:SU:50:ILE:HG21	1.97	0.47
78:SZ:70:ARG:O	78:SZ:74:GLU:HG2	2.15	0.47
2:AA:127:U:H2'	2:AA:128:U:C6	2.50	0.47
2:AA:179:G:H1	2:AA:252:A:N6	2.10	0.47
2:AA:245:U:O2'	2:AA:246:U:H5'	2.13	0.47
2:AA:505:A:O2'	2:AA:506:A:OP1	2.27	0.47
2:AA:542:A:O2'	2:AA:543:U:OP2	2.29	0.47
2:AA:687:G:H5''	22:AI:26:LYS:HZ3	1.79	0.47
2:AA:721:U:O2'	2:AA:722:G:OP1	2.30	0.47
2:AA:859:C:O2'	2:AA:860:A:OP1	2.31	0.47
2:AA:1093:G:H2'	2:AA:1094:U:C6	2.50	0.47
2:AA:1141:G:N2	2:AA:1156:U:O2	2.33	0.47
2:AA:1706:A:O2'	2:AA:1707:A:H5'	2.15	0.47
2:AA:1712:G:H2'	2:AA:1713:G:C8	2.50	0.47
2:AA:1797:A:N3	2:AA:2083:U:O2	2.47	0.47
2:AA:1869:G:N1	2:AA:1888:A:C5	2.82	0.47
2:AA:2093:U:O2'	2:AA:2094:A:O5'	2.29	0.47
2:AA:2163:A:O2'	2:AA:3439:G:H4'	2.15	0.47
2:AA:2209:C:C6	33:AT:73:ARG:HB3	2.50	0.47
2:AA:2473:A:H2'	2:AA:2474:C:H6	1.77	0.47
2:AA:2585:U:H2'	2:AA:2586:C:C6	2.49	0.47
2:AA:2697:A:N7	2:AA:3231:A:N6	2.63	0.47
2:AA:2716:U:H2'	2:AA:2717:A:H8	1.80	0.47
2:AA:2734:C:H2'	2:AA:2735:G:C8	2.49	0.47
2:AA:2825:U:O2'	2:AA:2934:A:N6	2.42	0.47
2:AA:2954:A:H2'	2:AA:2955:C:H6	1.78	0.47
2:AA:3236:G:HO2'	2:AA:3282:U:HO2'	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3393:C:H2'	2:AA:3394:A:C8	2.49	0.47
2:AA:3399:U:H2'	2:AA:3400:C:C6	2.50	0.47
3:AC:137:A:H2'	3:AC:138:U:H1'	1.96	0.47
4:AB:44:C:H2'	4:AB:45:U:H6	1.79	0.47
5:AL:77:GLU:OE2	15:Ab:26:ARG:NH2	2.48	0.47
8:A4:22:LYS:HB2	43:AV:84:ARG:HB2	1.96	0.47
9:A6:100:ASP:OD1	9:A6:100:ASP:N	2.45	0.47
10:A7:16:VAL:N	10:A7:84:GLU:OE1	2.48	0.47
11:AN:72:LYS:HA	41:AU:162:HIS:CD2	2.48	0.47
19:AP:156:VAL:O	19:AP:163:ARG:NH2	2.44	0.47
23:AJ:108:ASP:O	23:AJ:111:ASN:ND2	2.45	0.47
23:AJ:245:LEU:HA	23:AJ:248:LYS:HE3	1.96	0.47
28:AO:114:GLY:O	28:AO:136:LYS:NZ	2.48	0.47
29:AQ:58:GLU:N	29:AQ:58:GLU:OE1	2.47	0.47
30:AR:195:ARG:O	30:AR:195:ARG:NH1	2.39	0.47
33:AT:51:LYS:HB3	33:AT:51:LYS:HE3	1.56	0.47
34:AZ:120:ARG:HD2	34:AZ:120:ARG:C	2.40	0.47
35:A3:54:ALA:O	35:A3:58:THR:HG22	2.14	0.47
36:A5:68:ARG:O	36:A5:71:ILE:HG13	2.14	0.47
36:A5:75:LYS:HB2	36:A5:76:ARG:HH21	1.79	0.47
40:AG:22:CYS:HA	40:AG:66:SER:HA	1.96	0.47
40:AG:29:ARG:NH1	40:AG:30:LEU:HD13	2.28	0.47
42:AH:68:CYS:O	42:AH:72:VAL:HG23	2.15	0.47
52:S6:23:LYS:NZ	53:SA:594:C:OP2	2.38	0.47
53:SA:963:U:H2'	68:SP:50:ARG:CZ	2.44	0.47
53:SA:1670:A:OP1	56:SD:152:LYS:HD3	2.15	0.47
53:SA:1743:A:H2'	53:SA:1744:A:C8	2.49	0.47
53:SA:1826:A:H2'	53:SA:1827:U:C6	2.49	0.47
53:SA:1845:U:H2'	53:SA:1846:U:C6	2.50	0.47
55:SC:74:VAL:HG13	55:SC:118:PRO:HB3	1.97	0.47
57:SE:6:ARG:HB2	58:SF:23:MET:HE1	1.97	0.47
57:SE:85:LEU:HD11	57:SE:104:LEU:HD13	1.96	0.47
60:SH:197:ARG:O	60:SH:200:GLU:HG3	2.14	0.47
63:SK:115:GLU:HB2	63:SK:118:ARG:NE	2.29	0.47
67:SO:54:MET:SD	67:SO:54:MET:N	2.87	0.47
69:SQ:132:LEU:O	69:SQ:136:PHE:HB2	2.15	0.47
71:SS:115:ARG:HA	71:SS:118:LYS:HG2	1.95	0.47
72:ST:39:GLN:HA	72:ST:42:ARG:NE	2.29	0.47
74:SV:15:LYS:HE2	74:SV:21:PHE:HZ	1.80	0.47
75:SW:78:ARG:HD3	75:SW:81:ARG:NH2	2.30	0.47
75:SW:82:LEU:HD12	75:SW:83:ASP:HB2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:19:A:H2'	2:AA:20:G:H8	1.80	0.47
2:AA:1244:G:N2	2:AA:3176:A:O4'	2.48	0.47
2:AA:1899:U:O4	2:AA:1900:G:N2	2.48	0.47
2:AA:1971:U:HO2'	2:AA:1972:A:H8	1.62	0.47
2:AA:2447:U:H2'	2:AA:2448:G:C8	2.49	0.47
2:AA:2737:C:H2'	2:AA:2738:U:H6	1.79	0.47
2:AA:2950:U:H2'	2:AA:2951:U:H6	1.78	0.47
2:AA:3035:A:H2'	2:AA:3036:A:C8	2.50	0.47
3:AC:42:U:H3'	3:AC:43:G:H5'	1.97	0.47
19:AP:17:ASP:N	19:AP:17:ASP:OD1	2.48	0.47
22:AI:117:ILE:HD13	22:AI:193:GLU:HG3	1.96	0.47
26:AM:19:LEU:HD12	26:AM:80:ILE:HD12	1.96	0.47
33:AT:104:LEU:HD21	33:AT:138:ILE:HD11	1.96	0.47
38:AE:53:MET:HG2	38:AE:325:VAL:H	1.78	0.47
53:SA:341:U:O2'	74:SV:133:PRO:O	2.29	0.47
53:SA:829:G:H1'	53:SA:832:A:H62	1.80	0.47
53:SA:942:U:O2'	53:SA:1116:G:OP1	2.33	0.47
54:SB:28:GLU:HG3	54:SB:30:TYR:HE2	1.79	0.47
55:SC:181:VAL:HG23	55:SC:182:LEU:HD22	1.97	0.47
62:SJ:7:ARG:HH12	62:SJ:43:LYS:HG2	1.80	0.47
65:SM:62:LYS:NZ	77:SY:21:PRO:O	2.35	0.47
77:SY:66:ARG:O	77:SY:67:LYS:HG2	2.15	0.47
2:AA:245:U:HO2'	2:AA:246:U:H6	1.63	0.47
2:AA:320:C:H2'	2:AA:321:A:C8	2.48	0.47
2:AA:719:C:H2'	2:AA:720:U:O4'	2.14	0.47
2:AA:760:A:O3'	19:AP:202:ARG:NH1	2.48	0.47
2:AA:905:A:O3'	2:AA:906:G:H8	1.97	0.47
2:AA:914:G:H2'	2:AA:915:G:C8	2.50	0.47
2:AA:1193:G:H2'	2:AA:1194:A:H8	1.80	0.47
2:AA:1537:G:H4'	2:AA:1537:G:OP1	2.15	0.47
2:AA:1630:A:N7	2:AA:2126:A:N6	2.62	0.47
2:AA:1909:U:H2'	2:AA:1910:C:O4'	2.14	0.47
2:AA:2499:G:O2'	2:AA:2501:A:N1	2.40	0.47
2:AA:2709:U:H2'	2:AA:2710:U:H6	1.79	0.47
2:AA:3260:G:H21	2:AA:3417:G:H4'	1.80	0.47
2:AA:3483:U:H2'	2:AA:3484:U:C6	2.50	0.47
38:AE:53:MET:N	38:AE:53:MET:SD	2.88	0.47
39:AF:178:ASP:OD2	39:AF:179:GLU:N	2.48	0.47
46:A0:16:SER:OG	46:A0:17:GLU:N	2.48	0.47
47:S1:20:ARG:HD3	47:S1:77:TYR:CZ	2.50	0.47
51:S5:65:ARG:NH2	51:S5:66:LEU:O	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:207:G:N2	53:SA:261:G:H2'	2.29	0.47
53:SA:317:U:OP2	69:SQ:20:ARG:NH1	2.48	0.47
53:SA:339:A:H2'	53:SA:340:U:C6	2.49	0.47
53:SA:633:U:H2'	53:SA:634:C:H6	1.80	0.47
53:SA:969:A:H3'	53:SA:970:G:N2	2.25	0.47
53:SA:970:G:H2'	53:SA:971:G:O4'	2.15	0.47
53:SA:1268:G:N2	53:SA:1875:U:O2	2.34	0.47
53:SA:1432:G:H3'	53:SA:1433:A:H8	1.79	0.47
55:SC:167:LYS:HZ2	55:SC:203:TRP:CD1	2.32	0.47
58:SF:105:ILE:HD12	58:SF:245:LYS:HA	1.96	0.47
61:SI:150:ARG:HD3	61:SI:150:ARG:HA	1.74	0.47
62:SJ:130:ILE:HD13	62:SJ:175:VAL:HG13	1.96	0.47
66:SN:42:ALA:HB1	66:SN:49:VAL:HG21	1.96	0.47
77:SY:28:CYS:SG	77:SY:29:ILE:N	2.87	0.47
2:AA:11:A:H2'	2:AA:12:U:H6	1.79	0.47
2:AA:769:U:H5''	2:AA:770:U:C5	2.49	0.47
2:AA:1161:C:H2'	2:AA:1162:U:C5	2.50	0.47
2:AA:1628:U:H3	2:AA:2141:G:H1	1.63	0.47
2:AA:1725:U:H2'	2:AA:1726:C:C6	2.49	0.47
2:AA:1831:G:H1'	2:AA:1994:U:O2'	2.15	0.47
2:AA:2514:G:O6	15:Ab:78:LYS:NZ	2.34	0.47
2:AA:3472:A:C4	2:AA:3473:G:C8	3.03	0.47
3:AC:100:A:O2'	35:A3:61:ASN:ND2	2.45	0.47
6:A1:18:ARG:H	6:A1:18:ARG:HD2	1.80	0.47
8:A4:35:LEU:HD11	43:AV:66:PHE:CE2	2.50	0.47
35:A3:59:VAL:HG12	35:A3:63:LYS:HD2	1.96	0.47
36:A5:67:GLU:HB3	36:A5:68:ARG:HH11	1.80	0.47
37:AD:60:LYS:HG2	37:AD:73:GLU:HG3	1.97	0.47
40:AG:29:ARG:O	40:AG:29:ARG:HG2	2.13	0.47
53:SA:1022:A:H2'	53:SA:1023:A:H8	1.80	0.47
53:SA:1712:G:N2	53:SA:1898:G:H21	2.13	0.47
53:SA:1854:U:H4'	71:SS:123:ARG:HH22	1.80	0.47
53:SA:1866:A:H2'	53:SA:1867:A:C8	2.49	0.47
54:SB:109:LYS:HE3	54:SB:109:LYS:HB3	1.56	0.47
58:SF:60:GLU:HA	58:SF:63:MET:CG	2.42	0.47
64:SL:200:ILE:HG23	64:SL:205:LEU:HD13	1.97	0.47
2:AA:65:A:H61	2:AA:331:A:N6	2.12	0.46
2:AA:316:A:H1'	2:AA:2515:A:N3	2.30	0.46
2:AA:661:G:H2'	2:AA:662:A:C8	2.50	0.46
2:AA:1521:A:H2'	2:AA:1522:A:C8	2.50	0.46
2:AA:1787:A:H2'	2:AA:1788:C:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1849:U:H4'	14:Aa:24:ARG:HH22	1.80	0.46
2:AA:3267:C:H2'	2:AA:3268:A:C8	2.50	0.46
4:AB:61:G:O3'	30:AR:281:ARG:NH1	2.48	0.46
5:AL:124:MET:HE3	35:A3:116:ARG:HD2	1.96	0.46
11:AN:9:GLU:HG2	42:AH:50:LEU:HD13	1.97	0.46
12:A8:100:VAL:O	12:A8:105:ARG:NH1	2.46	0.46
22:AI:195:LEU:HD23	22:AI:195:LEU:HA	1.78	0.46
33:AT:122:PHE:CD2	33:AT:141:ILE:HG12	2.50	0.46
38:AE:198:LYS:HB2	38:AE:198:LYS:HE2	1.65	0.46
39:AF:274:LYS:HB2	39:AF:274:LYS:HE3	1.58	0.46
40:AG:21:ILE:O	40:AG:67:CYS:N	2.48	0.46
40:AG:134:SER:OG	40:AG:135:GLY:N	2.46	0.46
42:AH:76:LEU:HA	42:AH:79:MET:SD	2.55	0.46
43:AV:56:ASN:OD1	43:AV:56:ASN:N	2.31	0.46
49:S3:49:ALA:HA	49:S3:52:ASP:OD2	2.15	0.46
53:SA:343:G:O2'	64:SL:10:LYS:NZ	2.45	0.46
53:SA:394:G:O6	53:SA:416:A:N6	2.47	0.46
53:SA:751:U:H2'	53:SA:752:U:C6	2.50	0.46
53:SA:889:A:H2'	53:SA:890:A:C8	2.50	0.46
53:SA:1894:A:OP2	72:ST:30:ARG:NH1	2.46	0.46
57:SE:34:TYR:HE2	57:SE:108:ARG:HE	1.63	0.46
69:SQ:132:LEU:H	69:SQ:132:LEU:HD12	1.80	0.46
71:SS:113:LEU:O	71:SS:117:LYS:HG2	2.16	0.46
2:AA:527:A:H2'	2:AA:528:A:C8	2.49	0.46
2:AA:1203:A:H1'	30:AR:141:ARG:HH22	1.80	0.46
2:AA:1733:G:C2	2:AA:1734:G:C8	3.03	0.46
2:AA:2699:C:H2'	2:AA:2700:C:H6	1.80	0.46
2:AA:2969:C:H41	43:AV:4:LYS:HD2	1.81	0.46
2:AA:3775:G:P	2:AA:3775:G:H8	2.38	0.46
9:A6:33:CYS:HA	9:A6:94:VAL:HG11	1.97	0.46
10:A7:21:THR:HA	10:A7:80:ARG:HA	1.96	0.46
26:AM:82:ARG:NH2	26:AM:119:PRO:HB2	2.27	0.46
26:AM:97:PHE:CD2	46:A0:29:ILE:HB	2.49	0.46
37:AD:89:SER:HB3	37:AD:94:ALA:HB1	1.97	0.46
40:AG:19:LEU:HD23	40:AG:69:VAL:HG12	1.97	0.46
49:S3:40:ASN:HB3	49:S3:69:ILE:HB	1.97	0.46
51:S5:26:ARG:NH2	51:S5:38:ARG:O	2.49	0.46
52:S6:10:ARG:CZ	52:S6:13:LYS:HE3	2.45	0.46
53:SA:15:U:H2'	53:SA:16:G:O4'	2.15	0.46
53:SA:41:A:O2'	53:SA:443:A:O2'	2.18	0.46
53:SA:611:A:H2'	53:SA:612:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1264:A:H4'	61:SI:136:ARG:HH12	1.80	0.46
60:SH:137:ARG:HD3	60:SH:177:ARG:HH11	1.79	0.46
64:SL:38:LEU:HD13	64:SL:78:ILE:HD11	1.97	0.46
69:SQ:52:ILE:HD12	69:SQ:52:ILE:HA	1.83	0.46
73:SU:37:ILE:HD13	73:SU:74:ILE:HG13	1.96	0.46
1:S7:16:C:OP1	1:S7:59:A:N6	2.46	0.46
2:AA:1484:A:H2'	2:AA:1485:A:H8	1.81	0.46
2:AA:2034:G:N2	2:AA:2075:U:O2	2.49	0.46
2:AA:3449:U:H2'	2:AA:3450:G:H8	1.81	0.46
2:AA:3636:U:H2'	2:AA:3637:G:C8	2.51	0.46
2:AA:3677:A:H2'	2:AA:3678:A:C8	2.46	0.46
9:A6:57:SER:OG	14:Aa:94:LEU:HD21	2.16	0.46
18:Af:38:LYS:HE3	18:Af:38:LYS:HB3	1.69	0.46
19:AP:125:ASP:HB2	19:AP:130:TYR:HE1	1.80	0.46
20:Ah:39:CYS:SG	20:Ah:40:THR:N	2.88	0.46
33:AT:153:ALA:O	33:AT:157:GLN:NE2	2.42	0.46
38:AE:278:LYS:NZ	38:AE:347:ALA:O	2.48	0.46
39:AF:117:LEU:O	39:AF:121:ARG:HG2	2.16	0.46
53:SA:391:A:H2'	53:SA:392:G:C8	2.50	0.46
53:SA:929:U:H4'	63:SK:56:HIS:CE1	2.50	0.46
53:SA:964:G:O2'	53:SA:965:U:O4'	2.24	0.46
53:SA:1271:G:H21	53:SA:1868:C:H4'	1.80	0.46
54:SB:41:ARG:NH2	54:SB:232:HIS:O	2.48	0.46
58:SF:42:ILE:O	58:SF:84:VAL:HG22	2.16	0.46
58:SF:48:LEU:HD11	58:SF:61:VAL:HG22	1.97	0.46
62:SJ:102:LYS:HB3	62:SJ:105:GLN:HG2	1.97	0.46
2:AA:223:G:H5''	34:AZ:11:ARG:HG3	1.98	0.46
2:AA:1710:G:H2'	2:AA:1711:G:H8	1.80	0.46
2:AA:2184:U:H2'	2:AA:2185:C:C6	2.51	0.46
2:AA:3087:A:O2'	30:AR:36:LEU:HA	2.14	0.46
2:AA:3333:U:H2'	2:AA:3334:U:C6	2.50	0.46
2:AA:3497:A:H3'	2:AA:3498:A:H8	1.80	0.46
29:AQ:46:PHE:CE2	29:AQ:140:THR:HA	2.51	0.46
45:AX:63:PHE:O	45:AX:67:LYS:HB2	2.15	0.46
49:S3:76:SER:HB2	53:SA:2085:G:H22	1.80	0.46
49:S3:92:ARG:HD2	53:SA:2088:C:OP2	2.16	0.46
53:SA:250:A:P	74:SV:39:LYS:HZ1	2.39	0.46
53:SA:367:C:H2'	53:SA:368:G:C8	2.51	0.46
53:SA:614:A:H5'	53:SA:620:G:N2	2.31	0.46
53:SA:914:U:H2'	53:SA:915:G:H8	1.80	0.46
53:SA:1410:G:H2'	53:SA:1411:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1696:A:H2'	53:SA:1697:C:H6	1.81	0.46
53:SA:1875:U:H2'	53:SA:1876:G:H8	1.80	0.46
54:SB:179:VAL:HB	54:SB:183:ASP:OD1	2.16	0.46
58:SF:94:LYS:HD2	58:SF:95:SER:N	2.30	0.46
62:SJ:140:ARG:HG2	63:SK:53:VAL:HA	1.97	0.46
64:SL:8:ARG:HH21	64:SL:24:LYS:HA	1.81	0.46
71:SS:39:GLY:O	71:SS:40:LYS:HG2	2.15	0.46
71:SS:84:TRP:O	71:SS:89:ARG:NH2	2.47	0.46
77:SY:99:ARG:NE	77:SY:118:ALA:O	2.48	0.46
2:AA:398:A:OP1	31:AW:4:TYR:OH	2.28	0.46
2:AA:425:A:H2'	2:AA:426:A:H8	1.81	0.46
2:AA:687:G:H2'	2:AA:688:U:C6	2.50	0.46
2:AA:953:U:H2'	2:AA:954:G:O4'	2.16	0.46
2:AA:1103:A:H62	2:AA:1230:A:H8	1.64	0.46
2:AA:1720:C:H2'	2:AA:1721:C:C6	2.50	0.46
2:AA:1788:C:H2'	2:AA:1789:A:O4'	2.15	0.46
2:AA:2730:G:H2'	2:AA:2731:A:C8	2.50	0.46
2:AA:3358:U:H2'	2:AA:3359:A:H8	1.79	0.46
2:AA:3495:U:N3	2:AA:3505:U:O4	2.48	0.46
2:AA:3639:G:N2	2:AA:3646:G:H22	2.13	0.46
3:AC:42:U:O2'	35:A3:85:LYS:NZ	2.41	0.46
4:AB:43:A:H4'	40:AG:137:ARG:HD2	1.96	0.46
4:AB:44:C:P	40:AG:141:ARG:HG2	2.56	0.46
30:AR:30:TYR:HA	30:AR:33:ARG:HB3	1.96	0.46
33:AT:14:LEU:O	33:AT:14:LEU:HD23	2.15	0.46
38:AE:82:ALA:HA	38:AE:316:GLU:HG2	1.97	0.46
53:SA:5:U:H2'	53:SA:6:G:C8	2.50	0.46
53:SA:639:U:H4'	69:SQ:11:ALA:HB2	1.97	0.46
53:SA:1262:C:H2'	53:SA:1263:C:H6	1.81	0.46
53:SA:1798:G:HO2'	53:SA:1800:A:H62	1.60	0.46
54:SB:224:ASP:HB3	54:SB:227:LYS:HD3	1.97	0.46
71:SS:41:ARG:NH1	77:SY:61:LYS:HB3	2.30	0.46
2:AA:505:A:HO2'	2:AA:506:A:P	2.39	0.46
2:AA:776:A:OP1	39:AF:121:ARG:NH2	2.42	0.46
2:AA:863:U:H2'	2:AA:864:U:C6	2.50	0.46
2:AA:1203:A:C8	30:AR:145:LYS:HG3	2.48	0.46
2:AA:2548:A:O4'	2:AA:2554:G:N2	2.48	0.46
2:AA:3085:A:O2'	30:AR:177:HIS:ND1	2.47	0.46
2:AA:3235:C:H2'	2:AA:3236:G:O4'	2.15	0.46
2:AA:3379:A:H2'	2:AA:3380:U:O4'	2.15	0.46
2:AA:3469:C:H3'	2:AA:3470:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AN:24:PHE:HA	41:AU:157:ARG:NE	2.30	0.46
13:A9:130:ARG:HG2	13:A9:130:ARG:HH11	1.81	0.46
21:AI:11:TYR:O	21:AI:80:ARG:NH2	2.49	0.46
23:AJ:60:ARG:HH11	23:AJ:62:LYS:HA	1.80	0.46
23:AJ:152:GLY:O	23:AJ:156:ILE:HG12	2.15	0.46
23:AJ:203:LEU:O	23:AJ:207:VAL:HG22	2.15	0.46
30:AR:149:ASP:OD1	30:AR:150:VAL:N	2.48	0.46
33:AT:14:LEU:HD22	33:AT:16:CYS:HB3	1.98	0.46
33:AT:143:ARG:HA	33:AT:146:ASN:HD22	1.79	0.46
36:A5:48:LYS:HA	36:A5:51:ASN:HD21	1.80	0.46
39:AF:387:LYS:HE3	41:AU:134:ARG:HE	1.79	0.46
41:AU:43:ASP:N	41:AU:43:ASP:OD1	2.48	0.46
50:S4:19:LEU:HG	50:S4:20:LYS:H	1.80	0.46
53:SA:142:G:O2'	53:SA:143:A:H5'	2.15	0.46
53:SA:159:U:OP1	60:SH:85:ARG:N	2.33	0.46
53:SA:246:A:O2'	53:SA:247:G:OP1	2.23	0.46
53:SA:311:C:O3'	74:SV:91:ARG:NH2	2.48	0.46
53:SA:1602:G:H2'	53:SA:1603:U:C6	2.51	0.46
55:SC:13:SER:HA	55:SC:16:LYS:HG2	1.97	0.46
62:SJ:61:LEU:HD13	62:SJ:93:VAL:HG23	1.97	0.46
68:SP:61:LYS:HE3	68:SP:76:MET:O	2.16	0.46
2:AA:276:G:H5'	19:AP:121:TRP:CG	2.51	0.46
2:AA:727:A:H2'	2:AA:728:C:C6	2.50	0.46
2:AA:1073:G:H1	2:AA:1243:G:H1'	1.81	0.46
2:AA:1895:U:H2'	2:AA:1896:C:C6	2.51	0.46
2:AA:1905:C:H2'	2:AA:1906:A:C8	2.51	0.46
2:AA:2634:A:H4'	2:AA:3475:U:H4'	1.98	0.46
4:AB:9:U:H2'	4:AB:13:A:N6	2.31	0.46
21:AI:72:GLU:HG2	21:AI:79:LYS:HG2	1.98	0.46
22:AI:20:LEU:HD12	22:AI:44:TYR:HB3	1.98	0.46
23:AJ:260:LEU:HG	23:AJ:264:MET:HE2	1.98	0.46
33:AT:66:LYS:HD3	33:AT:66:LYS:HA	1.72	0.46
35:A3:7:TYR:HA	35:A3:10:ARG:HB2	1.98	0.46
36:A5:129:ASN:HA	43:AV:135:GLY:HA3	1.97	0.46
41:AU:149:LYS:HD3	41:AU:149:LYS:HA	1.72	0.46
42:AH:91:MET:SD	42:AH:143:ILE:HB	2.56	0.46
42:AH:133:ILE:HG22	42:AH:145:VAL:HG12	1.98	0.46
49:S3:6:ARG:NH2	53:SA:1178:C:OP2	2.46	0.46
53:SA:938:U:O4	53:SA:939:A:N6	2.49	0.46
53:SA:1286:U:O2'	53:SA:1702:C:H5'	2.16	0.46
53:SA:1695:A:H2'	53:SA:1696:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1889:G:H2'	53:SA:1890:A:C8	2.51	0.46
57:SE:52:ILE:HD12	57:SE:53:ARG:N	2.31	0.46
61:SI:180:ALA:O	61:SI:183:LYS:HG2	2.16	0.46
65:SM:19:ALA:HB1	65:SM:82:ILE:HD13	1.96	0.46
73:SU:61:PRO:HB2	73:SU:62:GLN:NE2	2.31	0.46
75:SW:56:HIS:O	75:SW:60:ARG:HG2	2.16	0.46
2:AA:76:G:N7	5:AL:100:ARG:HG3	2.30	0.46
2:AA:1203:A:OP1	30:AR:145:LYS:HG2	2.15	0.46
2:AA:1545:G:H2'	2:AA:1546:A:H8	1.81	0.46
2:AA:1642:G:H2'	17:Ae:13:LEU:HD22	1.97	0.46
2:AA:1826:U:H2'	2:AA:1827:C:C6	2.51	0.46
2:AA:3291:U:H2'	2:AA:3292:A:H2'	1.97	0.46
2:AA:3403:A:O2'	26:AM:9:LEU:HA	2.15	0.46
2:AA:3444:G:N2	2:AA:3723:C:O2'	2.48	0.46
4:AB:116:U:H2'	4:AB:117:C:C6	2.50	0.46
8:A4:21:ILE:HG22	43:AV:85:ILE:HG13	1.97	0.46
14:Aa:54:VAL:HA	14:Aa:69:ASN:O	2.15	0.46
22:AI:215:VAL:HG12	22:AI:218:LYS:HG2	1.98	0.46
25:AK:88:PRO:O	25:AK:94:GLY:HA3	2.16	0.46
27:AS:76:ASN:OD1	27:AS:76:ASN:N	2.49	0.46
34:AZ:44:THR:OG1	34:AZ:45:ARG:N	2.48	0.46
45:AX:111:ILE:HA	45:AX:116:ILE:HG13	1.98	0.46
47:S1:8:ARG:HB3	47:S1:26:GLU:HB2	1.97	0.46
53:SA:70:U:O4	53:SA:82:G:O6	2.34	0.46
53:SA:104:U:H3	53:SA:367:C:H4'	1.81	0.46
53:SA:295:U:C2	53:SA:296:G:C8	3.03	0.46
53:SA:399:C:H2'	53:SA:400:C:C6	2.51	0.46
53:SA:520:U:H2'	53:SA:521:G:H8	1.81	0.46
53:SA:833:A:H2'	53:SA:834:A:C8	2.51	0.46
53:SA:1220:C:H2'	53:SA:1221:G:H8	1.80	0.46
57:SE:16:LYS:HE3	57:SE:16:LYS:HB3	1.65	0.46
57:SE:25:ASP:O	57:SE:29:LYS:HG2	2.15	0.46
60:SH:64:ILE:HG23	60:SH:67:VAL:HB	1.98	0.46
62:SJ:77:GLN:OE1	62:SJ:132:SER:OG	2.30	0.46
73:SU:39:LYS:HA	73:SU:42:LYS:HZ1	1.81	0.46
2:AA:62:A:HO2'	2:AA:63:A:P	2.38	0.46
2:AA:293:U:H2'	2:AA:294:G:H8	1.80	0.46
2:AA:665:U:H3	2:AA:670:U:H1'	1.80	0.46
2:AA:1235:C:H2'	2:AA:1236:U:H6	1.81	0.46
2:AA:1789:A:H5'	2:AA:1895:U:H4'	1.98	0.46
2:AA:1886:A:H5''	9:A6:30:ARG:HD3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3709:U:P	38:AE:116:ARG:HH12	2.38	0.46
2:AA:3777:G:H5'	10:A7:116:CYS:HB3	1.98	0.46
3:AC:61:C:N4	24:Ac:66:ARG:HH21	2.14	0.46
5:AL:193:LYS:HA	5:AL:193:LYS:HD2	1.73	0.46
15:Ab:84:LEU:HD11	15:Ab:93:LYS:HG3	1.98	0.46
26:AM:56:LEU:HD22	26:AM:56:LEU:H	1.81	0.46
26:AM:98:GLU:OE1	46:A0:48:LEU:HD11	2.16	0.46
28:AO:24:LYS:HD3	28:AO:26:ARG:NH1	2.30	0.46
30:AR:94:ASN:OD1	30:AR:239:TYR:OH	2.29	0.46
38:AE:122:TRP:CE2	38:AE:127:LYS:HD2	2.51	0.46
38:AE:155:LEU:HD12	38:AE:156:ARG:N	2.31	0.46
42:AH:110:ARG:NH1	42:AH:124:PHE:HD2	2.14	0.46
48:S2:59:ILE:HG22	48:S2:79:ILE:HG12	1.98	0.46
50:S4:15:LYS:HE2	50:S4:15:LYS:HB2	1.67	0.46
53:SA:866:A:C6	63:SK:108:TYR:HB3	2.51	0.46
53:SA:1261:A:H2'	53:SA:1262:C:C6	2.51	0.46
53:SA:1382:G:H2'	53:SA:1383:U:H6	1.81	0.46
55:SC:96:GLN:H	55:SC:96:GLN:HG3	1.66	0.46
69:SQ:92:CYS:O	69:SQ:96:ILE:HG22	2.15	0.46
70:SR:28:VAL:HA	70:SR:31:ASN:HD21	1.80	0.46
77:SY:41:TYR:HB3	77:SY:81:SER:OG	2.16	0.46
2:AA:138:C:H41	24:Ac:88:LYS:HZ2	1.64	0.46
2:AA:252:A:H2'	2:AA:253:U:H6	1.81	0.46
2:AA:1297:A:H2'	2:AA:1298:A:C8	2.51	0.46
2:AA:1554:G:O2'	2:AA:1555:A:O4'	2.31	0.46
2:AA:3383:A:H2'	2:AA:3384:G:C8	2.51	0.46
2:AA:3418:A:H2'	2:AA:3419:U:H6	1.80	0.46
2:AA:3444:G:H2'	2:AA:3445:C:O4'	2.17	0.46
2:AA:3592:A:OP1	42:AH:23:ARG:NH2	2.34	0.46
3:AC:109:U:H4'	3:AC:110:G:H5''	1.98	0.46
4:AB:39:C:H2'	4:AB:40:A:C5	2.51	0.46
4:AB:57:C:H2'	4:AB:58:A:C8	2.51	0.46
10:A7:59:LEU:HA	10:A7:101:VAL:HG22	1.98	0.46
14:Aa:10:HIS:ND1	14:Aa:10:HIS:O	2.49	0.46
16:Ad:47:LYS:HA	16:Ad:47:LYS:HD3	1.78	0.46
25:AK:18:LEU:O	25:AK:22:ILE:HG13	2.16	0.46
27:AS:78:ILE:HG13	27:AS:98:LYS:HD2	1.98	0.46
28:AO:76:ASP:N	28:AO:76:ASP:OD1	2.49	0.46
29:AQ:17:TYR:O	29:AQ:96:VAL:HG12	2.16	0.46
29:AQ:38:ARG:HH22	29:AQ:45:GLU:CD	2.24	0.46
30:AR:245:LYS:NZ	30:AR:249:ASN:O	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:AF:269:GLU:HB2	39:AF:272:VAL:HB	1.97	0.46
53:SA:152:G:O6	53:SA:159:U:O2	2.34	0.46
53:SA:574:A:OP1	69:SQ:68:TYR:HB2	2.17	0.46
53:SA:634:C:H2'	53:SA:635:G:C8	2.50	0.46
53:SA:750:U:H2'	53:SA:751:U:C6	2.51	0.46
53:SA:948:A:H2'	53:SA:949:C:C6	2.50	0.46
53:SA:1035:A:H2'	53:SA:1036:A:C8	2.51	0.46
53:SA:1052:A:H2'	53:SA:1053:A:H8	1.81	0.46
53:SA:1209:G:N1	69:SQ:22:GLN:OE1	2.43	0.46
53:SA:1655:G:N2	53:SA:1658:G:N7	2.64	0.46
53:SA:1717:A:N3	53:SA:1720:G:O2'	2.41	0.46
53:SA:2082:A:H2'	53:SA:2083:A:C8	2.51	0.46
57:SE:70:ILE:HD12	57:SE:71:PHE:N	2.30	0.46
63:SK:10:CYS:SG	63:SK:11:LEU:N	2.88	0.46
63:SK:121:THR:O	63:SK:121:THR:OG1	2.33	0.46
70:SR:28:VAL:HA	70:SR:31:ASN:ND2	2.31	0.46
2:AA:41:G:N2	2:AA:3162:A:H62	2.14	0.45
2:AA:1474:A:H2'	2:AA:1475:G:C8	2.51	0.45
2:AA:1910:C:H2'	2:AA:1911:A:C8	2.51	0.45
2:AA:2401:C:H2'	2:AA:2402:U:O4'	2.15	0.45
2:AA:2828:A:H2'	2:AA:2829:U:C6	2.51	0.45
2:AA:3535:A:H2'	2:AA:3536:C:C6	2.51	0.45
8:A4:58:LYS:HA	8:A4:58:LYS:HD3	1.73	0.45
23:AJ:274:ALA:HA	23:AJ:277:LYS:HG2	1.98	0.45
29:AQ:39:LYS:HE2	29:AQ:39:LYS:HB3	1.71	0.45
30:AR:81:LYS:HA	30:AR:92:LEU:HD13	1.97	0.45
30:AR:182:PHE:CD1	30:AR:183:PRO:HD2	2.52	0.45
39:AF:64:ALA:HB2	39:AF:92:PHE:HZ	1.81	0.45
49:S3:71:GLN:NE2	49:S3:73:TYR:CG	2.84	0.45
49:S3:79:ILE:HG13	49:S3:80:HIS:N	2.31	0.45
49:S3:93:ARG:NH1	53:SA:1179:C:OP1	2.48	0.45
53:SA:247:G:N1	53:SA:250:A:OP2	2.45	0.45
53:SA:321:A:C2	53:SA:359:A:C5	3.04	0.45
53:SA:330:U:OP1	74:SV:136:LYS:NZ	2.47	0.45
53:SA:1056:G:N2	53:SA:1082:A:OP2	2.49	0.45
53:SA:2016:A:H2'	53:SA:2017:A:H8	1.81	0.45
54:SB:178:LYS:HD2	54:SB:179:VAL:HG13	1.97	0.45
62:SJ:45:LEU:HB2	62:SJ:63:TYR:HB3	1.97	0.45
63:SK:101:HIS:HA	63:SK:113:HIS:CE1	2.49	0.45
64:SL:171:LEU:HD21	64:SL:209:LYS:HE3	1.98	0.45
70:SR:25:ILE:HG22	70:SR:132:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SS:29:ILE:HA	71:SS:32:LEU:HD23	1.98	0.45
2:AA:419:A:H5''	12:A8:26:MET:HE2	1.98	0.45
2:AA:536:A:O2'	2:AA:537:A:H5''	2.17	0.45
2:AA:718:U:OP2	12:A8:38:ILE:HD12	2.16	0.45
2:AA:718:U:OP1	28:AO:21:ARG:NH1	2.47	0.45
2:AA:897:U:OP1	8:A4:33:LYS:NZ	2.46	0.45
2:AA:1501:A:H3'	2:AA:1502:G:N2	2.30	0.45
2:AA:1788:C:H5''	14:Aa:52:GLN:OE1	2.16	0.45
2:AA:1881:C:O2'	2:AA:1882:U:H6	2.00	0.45
2:AA:2037:U:H2'	2:AA:2038:U:C6	2.51	0.45
2:AA:3008:A:H2'	2:AA:3009:G:C8	2.51	0.45
2:AA:3127:A:N6	2:AA:3134:U:O4	2.49	0.45
2:AA:3183:G:H2'	2:AA:3184:C:C6	2.52	0.45
2:AA:3286:C:H2'	2:AA:3287:C:H6	1.81	0.45
2:AA:3590:A:H4'	2:AA:3591:U:O5'	2.15	0.45
4:AB:59:C:C2	4:AB:60:U:C5	3.03	0.45
20:Ah:27:LYS:HA	20:Ah:30:GLU:OE1	2.16	0.45
30:AR:279:LYS:O	30:AR:283:LYS:HG2	2.16	0.45
34:AZ:46:SER:O	34:AZ:47:LEU:HD23	2.17	0.45
40:AG:18:VAL:HG12	40:AG:19:LEU:N	2.30	0.45
42:AH:22:ALA:O	42:AH:23:ARG:HG2	2.16	0.45
44:Ag:31:ARG:NH2	53:SA:1216:U:O3'	2.49	0.45
47:S1:21:LYS:HG3	47:S1:76:ILE:HD11	1.98	0.45
53:SA:28:A:H5''	53:SA:442:A:H1'	1.98	0.45
53:SA:815:G:N1	57:SE:147:LEU:O	2.43	0.45
53:SA:1956:A:C4	53:SA:1957:A:C8	3.04	0.45
55:SC:142:PRO:O	78:SZ:59:ARG:NH2	2.50	0.45
56:SD:104:GLU:HG3	56:SD:108:TYR:CE2	2.51	0.45
56:SD:128:MET:N	56:SD:128:MET:HE2	2.30	0.45
59:SG:65:HIS:HA	78:SZ:15:ARG:NH1	2.25	0.45
60:SH:189:ASN:O	60:SH:192:GLN:HG3	2.16	0.45
62:SJ:138:GLY:HA2	73:SU:18:TYR:HE1	1.81	0.45
71:SS:121:LEU:HD13	76:SX:114:TYR:CD1	2.52	0.45
74:SV:89:ILE:O	74:SV:110:ILE:N	2.40	0.45
76:SX:28:LEU:HG	76:SX:32:GLU:HB2	1.97	0.45
1:S9:13:C:H42	1:S9:46:G:N2	2.13	0.45
2:AA:98:G:N7	5:AL:12:HIS:NE2	2.64	0.45
2:AA:103:A:O3'	5:AL:67:ARG:NH2	2.48	0.45
2:AA:424:U:H2'	2:AA:425:A:H8	1.81	0.45
2:AA:437:A:OP2	12:A8:15:LYS:NZ	2.31	0.45
2:AA:497:U:H2'	2:AA:498:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:962:A:H2'	2:AA:963:C:O4'	2.17	0.45
2:AA:1236:U:H2'	2:AA:1237:C:C6	2.51	0.45
2:AA:1316:U:H5''	2:AA:1337:G:N2	2.31	0.45
2:AA:1587:U:H2'	2:AA:1588:U:C6	2.52	0.45
2:AA:2506:A:H2'	2:AA:2507:A:H8	1.80	0.45
2:AA:3281:G:C2	2:AA:3311:G:H1'	2.51	0.45
2:AA:3494:C:H5'	42:AH:158:ALA:HB2	1.97	0.45
2:AA:3619:U:H2'	2:AA:3620:C:C6	2.51	0.45
2:AA:3775:G:H21	10:A7:113:VAL:HG23	1.81	0.45
5:AL:174:ILE:HD11	5:AL:179:ILE:HG22	1.98	0.45
8:A4:50:ILE:O	8:A4:53:LYS:HG3	2.16	0.45
22:AI:11:TYR:CD2	22:AI:20:LEU:HD21	2.51	0.45
30:AR:104:LEU:HD12	30:AR:246:ILE:HD11	1.98	0.45
32:AY:164:LEU:HD23	32:AY:164:LEU:HA	1.85	0.45
34:AZ:120:ARG:HD2	34:AZ:120:ARG:O	2.17	0.45
42:AH:121:SER:OG	42:AH:122:VAL:N	2.45	0.45
42:AH:135:LYS:HE3	42:AH:135:LYS:HB3	1.57	0.45
47:S1:48:TYR:O	47:S1:49:LYS:HG2	2.17	0.45
53:SA:455:C:H2'	53:SA:456:U:H6	1.82	0.45
53:SA:565:U:H3	56:SD:144:ARG:HD3	1.81	0.45
53:SA:1458:G:H2'	53:SA:1459:U:C6	2.51	0.45
53:SA:1636:A:N6	53:SA:1650:A:OP2	2.36	0.45
54:SB:67:GLU:HA	54:SB:67:GLU:OE2	2.16	0.45
59:SG:222:PHE:O	59:SG:226:ILE:HG23	2.17	0.45
59:SG:242:TRP:CD1	63:SK:68:ARG:HH21	2.34	0.45
65:SM:33:ASN:N	65:SM:68:ILE:O	2.47	0.45
69:SQ:55:GLU:OE1	69:SQ:73:ARG:HB3	2.16	0.45
74:SV:75:LYS:HE2	74:SV:75:LYS:HB3	1.76	0.45
2:AA:195:A:H8	2:AA:216:C:O2'	1.98	0.45
2:AA:254:U:H2'	2:AA:255:C:C6	2.52	0.45
2:AA:444:G:H3'	2:AA:445:A:H8	1.81	0.45
2:AA:770:U:C6	2:AA:771:U:H5	2.35	0.45
2:AA:965:A:N6	53:SA:1041:G:N2	2.42	0.45
2:AA:973:A:H4'	33:AT:129:ASN:HB2	1.98	0.45
2:AA:1467:C:H2'	2:AA:1468:A:H8	1.79	0.45
2:AA:1553:U:OP1	12:A8:59:SER:N	2.38	0.45
2:AA:2208:G:H2'	2:AA:2209:C:C6	2.51	0.45
2:AA:2440:A:H2'	2:AA:2441:U:O4'	2.17	0.45
2:AA:2726:U:H1'	19:AP:126:ALA:HB2	1.99	0.45
2:AA:3400:C:H2'	2:AA:3401:C:H6	1.82	0.45
2:AA:3438:G:H2'	2:AA:3439:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3534:U:H2'	2:AA:3535:A:H8	1.81	0.45
3:AC:44:A:OP2	3:AC:106:G:N1	2.33	0.45
3:AC:73:A:H2'	3:AC:74:A:O4'	2.15	0.45
10:A7:59:LEU:HD22	10:A7:101:VAL:HG21	1.97	0.45
11:AN:5:GLU:OE1	11:AN:7:THR:N	2.50	0.45
11:AN:42:LEU:HB2	11:AN:62:THR:HG21	1.98	0.45
13:A9:53:GLN:O	13:A9:54:ARG:HG2	2.17	0.45
22:AI:48:ARG:HD2	22:AI:81:GLY:HA2	1.98	0.45
22:AI:122:ASP:O	22:AI:126:ASN:ND2	2.49	0.45
29:AQ:9:TYR:CG	29:AQ:97:LEU:HD13	2.51	0.45
30:AR:207:MET:O	30:AR:211:GLN:HG2	2.16	0.45
33:AT:3:LEU:HD21	33:AT:32:SER:HA	1.98	0.45
37:AD:139:GLN:HE21	37:AD:139:GLN:HB3	1.59	0.45
39:AF:79:VAL:HG22	39:AF:87:ALA:HA	1.99	0.45
53:SA:113:U:OP1	58:SF:205:TYR:OH	2.30	0.45
53:SA:992:G:H2'	53:SA:993:A:C8	2.51	0.45
53:SA:1025:U:H2'	53:SA:1026:A:C8	2.51	0.45
53:SA:1227:G:H2'	53:SA:1228:C:H6	1.82	0.45
53:SA:1270:G:N2	53:SA:1872:G:N7	2.65	0.45
53:SA:1397:A:OP1	55:SC:138:TYR:OH	2.20	0.45
53:SA:1419:C:O2'	53:SA:1646:U:O2	2.34	0.45
53:SA:1419:C:OP2	75:SW:7:LYS:NZ	2.49	0.45
53:SA:1446:A:H2'	53:SA:1447:A:C8	2.50	0.45
53:SA:1451:G:N2	53:SA:1625:C:H42	2.13	0.45
54:SB:70:LEU:HD11	54:SB:84:ILE:HG12	1.98	0.45
55:SC:162:CYS:SG	55:SC:163:ASN:N	2.89	0.45
58:SF:41:SER:OG	58:SF:85:GLY:N	2.49	0.45
59:SG:90:ASP:HA	59:SG:116:ILE:HG22	1.98	0.45
59:SG:101:GLN:N	59:SG:106:GLN:O	2.49	0.45
60:SH:69:THR:HG23	60:SH:71:ASN:H	1.81	0.45
61:SI:59:ILE:O	61:SI:63:LEU:HG	2.17	0.45
61:SI:80:ALA:O	61:SI:84:VAL:HG22	2.16	0.45
61:SI:113:ARG:HH22	61:SI:132:VAL:HB	1.80	0.45
61:SI:178:SER:O	61:SI:182:LYS:HG2	2.17	0.45
65:SM:130:PHE:CE2	66:SN:75:THR:HA	2.50	0.45
66:SN:26:LYS:HD3	66:SN:83:ILE:HD12	1.97	0.45
68:SP:115:ALA:O	68:SP:119:LEU:HG	2.17	0.45
71:SS:91:ASP:HB2	71:SS:97:ASN:ND2	2.31	0.45
1:S7:19:G:H4'	1:S7:20:U:H5''	1.99	0.45
2:AA:262:A:O4'	35:A3:112:ASN:ND2	2.49	0.45
2:AA:393:G:H8	2:AA:393:G:OP1	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:505:A:H2'	2:AA:506:A:C8	2.47	0.45
2:AA:659:U:H2'	2:AA:660:U:H6	1.81	0.45
2:AA:674:U:O2'	2:AA:675:A:OP1	2.33	0.45
2:AA:916:U:H2'	2:AA:917:A:H8	1.81	0.45
2:AA:963:C:C2	2:AA:964:G:C8	3.05	0.45
2:AA:1094:U:H2'	2:AA:1095:U:H6	1.80	0.45
2:AA:1212:U:H2'	2:AA:1213:U:C6	2.52	0.45
2:AA:1423:G:H5'	41:AU:93:ARG:NH2	2.31	0.45
2:AA:1772:G:H2'	2:AA:1773:U:O4'	2.16	0.45
2:AA:2562:U:H2'	2:AA:2563:A:C8	2.52	0.45
2:AA:2640:U:H2'	2:AA:2641:A:O4'	2.16	0.45
3:AC:75:A:H4'	34:AZ:50:ARG:NH2	2.32	0.45
5:AL:35:ARG:O	5:AL:39:GLU:HG2	2.17	0.45
5:AL:58:HIS:HA	5:AL:68:THR:HG22	1.99	0.45
19:AP:159:HIS:HB3	19:AP:162:LEU:HD23	1.98	0.45
26:AM:124:CYS:HA	26:AM:127:LEU:HB3	1.99	0.45
28:AO:83:PRO:HG2	28:AO:86:LYS:HB2	1.98	0.45
33:AT:27:GLU:O	33:AT:30:GLU:HB2	2.17	0.45
38:AE:357:ASP:OD1	38:AE:358:THR:N	2.48	0.45
45:AX:72:LYS:HA	45:AX:72:LYS:HD3	1.77	0.45
53:SA:402:G:P	64:SL:51:ARG:HH22	2.40	0.45
53:SA:816:U:O4	53:SA:820:A:N7	2.49	0.45
53:SA:846:G:H2'	53:SA:847:U:C6	2.50	0.45
53:SA:1381:C:O2'	53:SA:1382:G:OP1	2.32	0.45
53:SA:1792:U:H2'	53:SA:1793:C:C5	2.52	0.45
61:SI:54:LYS:HB3	61:SI:135:LEU:HD21	1.98	0.45
62:SJ:68:ILE:HA	62:SJ:71:THR:HG22	1.99	0.45
2:AA:99:A:OP1	19:AP:196:ARG:HD2	2.15	0.45
2:AA:105:G:H2'	2:AA:106:A:H8	1.81	0.45
2:AA:368:G:N2	2:AA:934:G:H1'	2.31	0.45
2:AA:378:U:H2'	2:AA:379:G:O4'	2.16	0.45
2:AA:1248:A:H2'	2:AA:1249:U:C6	2.52	0.45
2:AA:1965:U:H5'	2:AA:1967:G:OP1	2.16	0.45
2:AA:2574:A:C8	2:AA:3333:U:H1'	2.47	0.45
2:AA:3171:C:H2'	2:AA:3172:A:H8	1.81	0.45
2:AA:3771:C:O3'	38:AE:312:GLY:HA2	2.17	0.45
3:AC:68:C:C2	3:AC:69:A:C8	3.05	0.45
9:A6:45:VAL:C	9:A6:46:ILE:HD13	2.41	0.45
19:AP:148:LYS:O	19:AP:149:ILE:HG13	2.16	0.45
26:AM:93:TYR:HA	46:A0:25:GLY:O	2.16	0.45
30:AR:210:LEU:HB3	30:AR:218:TYR:CZ	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:AE:212:ILE:HD11	38:AE:321:LEU:HD21	1.99	0.45
43:AV:73:VAL:HG23	43:AV:94:ILE:HG22	1.98	0.45
53:SA:93:G:OP1	53:SA:403:A:N6	2.41	0.45
53:SA:109:C:H2'	53:SA:110:A:C8	2.51	0.45
53:SA:613:A:H4'	53:SA:614:A:H3'	1.97	0.45
53:SA:635:G:OP1	73:SU:120:SER:OG	2.34	0.45
53:SA:867:A:C5	63:SK:107:PRO:HA	2.52	0.45
53:SA:1843:G:H21	71:SS:88:ARG:HH21	1.63	0.45
53:SA:2024:A:H2'	53:SA:2025:U:C6	2.50	0.45
53:SA:2059:G:OP1	53:SA:2062:U:H4'	2.15	0.45
53:SA:2072:G:H2'	53:SA:2073:A:H8	1.78	0.45
55:SC:29:LEU:HD13	55:SC:30:GLU:O	2.17	0.45
55:SC:142:PRO:HA	78:SZ:32:VAL:HG11	1.99	0.45
56:SD:127:ILE:HG23	56:SD:128:MET:CE	2.46	0.45
62:SJ:61:LEU:HD12	62:SJ:62:ILE:N	2.31	0.45
63:SK:9:ASP:N	63:SK:9:ASP:OD1	2.48	0.45
68:SP:62:VAL:HG12	68:SP:64:ALA:H	1.81	0.45
71:SS:132:ARG:HD2	71:SS:135:GLY:H	1.82	0.45
2:AA:439:U:HO2'	2:AA:440:A:P	2.40	0.45
2:AA:693:A:H4'	2:AA:694:U:H4'	1.98	0.45
2:AA:769:U:H3'	2:AA:770:U:H6	1.82	0.45
2:AA:1015:A:H5''	37:AD:183:GLY:CA	2.44	0.45
2:AA:1112:C:O2'	43:AV:101:ARG:HB2	2.17	0.45
2:AA:1209:U:H2'	2:AA:1210:A:H8	1.81	0.45
2:AA:1210:A:H2'	2:AA:1211:U:H6	1.81	0.45
2:AA:1216:C:O2'	2:AA:1217:U:H5'	2.17	0.45
2:AA:1572:U:O2'	7:A2:16:LYS:O	2.35	0.45
2:AA:1790:U:H5''	14:Aa:68:LYS:HZ3	1.82	0.45
2:AA:2138:U:H2'	2:AA:2139:C:C6	2.51	0.45
2:AA:2422:C:H2'	2:AA:2423:G:H8	1.81	0.45
2:AA:2524:C:N4	2:AA:2816:U:HO2'	2.15	0.45
2:AA:2737:C:H2'	2:AA:2738:U:C6	2.52	0.45
2:AA:3153:G:O2'	2:AA:3154:U:OP2	2.31	0.45
2:AA:3521:G:OP1	38:AE:31:SER:OG	2.28	0.45
10:A7:27:LEU:HB3	10:A7:43:GLU:HG3	1.98	0.45
10:A7:78:ARG:HE	10:A7:109:TYR:HD2	1.65	0.45
28:AO:137:ILE:O	28:AO:140:VAL:HG12	2.17	0.45
30:AR:40:ASP:OD1	30:AR:42:ASN:N	2.37	0.45
30:AR:104:LEU:HG	30:AR:108:ARG:HD2	1.98	0.45
30:AR:271:LYS:HA	30:AR:271:LYS:HD3	1.76	0.45
38:AE:285:LYS:HB2	38:AE:316:GLU:C	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:AE:285:LYS:HD2	38:AE:316:GLU:HA	1.99	0.45
53:SA:95:A:H61	53:SA:402:G:H1'	1.82	0.45
53:SA:854:A:H2'	53:SA:855:C:C6	2.52	0.45
53:SA:1723:A:H2'	53:SA:1724:U:H6	1.79	0.45
53:SA:1909:C:H4'	61:SI:143:TYR:CE1	2.51	0.45
55:SC:126:PRO:HG2	55:SC:151:SER:HB3	1.99	0.45
57:SE:16:LYS:HG2	57:SE:17:ARG:N	2.32	0.45
61:SI:167:GLU:HB3	61:SI:168:ILE:HD12	1.97	0.45
2:AA:436:G:H2'	2:AA:437:A:C8	2.51	0.45
2:AA:658:U:C4	2:AA:659:U:C4	3.05	0.45
2:AA:996:C:HO2'	2:AA:999:G:HO2'	1.62	0.45
2:AA:1031:G:N2	37:AD:208:GLU:OE2	2.33	0.45
2:AA:1511:U:H4'	36:A5:173:ARG:O	2.17	0.45
2:AA:3066:A:OP2	43:AV:82:LYS:NZ	2.50	0.45
3:AC:126:C:H2'	3:AC:127:C:C6	2.52	0.45
7:A2:94:LEU:HD11	7:A2:106:LYS:HG3	1.99	0.45
9:A6:35:LYS:HE3	9:A6:35:LYS:HB3	1.76	0.45
9:A6:78:ASN:OD1	9:A6:78:ASN:N	2.50	0.45
16:Ad:30:SER:HG	16:Ad:36:THR:HG1	1.62	0.45
23:AJ:279:ILE:HG23	23:AJ:283:LEU:HD23	1.98	0.45
28:AO:117:LYS:HG3	28:AO:120:GLN:OE1	2.16	0.45
33:AT:122:PHE:HE2	33:AT:141:ILE:HA	1.82	0.45
33:AT:162:ARG:NH2	53:SA:876:U:O2	2.49	0.45
36:A5:147:TYR:N	36:A5:246:GLU:O	2.45	0.45
36:A5:149:THR:O	36:A5:153:VAL:HG13	2.16	0.45
37:AD:80:GLU:N	37:AD:168:VAL:O	2.33	0.45
41:AU:145:ARG:HD3	41:AU:148:ILE:HG13	1.97	0.45
42:AH:78:ASN:HD21	42:AH:150:ILE:HD13	1.82	0.45
47:S1:43:ARG:HA	47:S1:46:LYS:HE2	1.98	0.45
47:S1:113:LYS:HD3	47:S1:116:ARG:NH2	2.31	0.45
53:SA:25:C:N4	57:SE:8:TYR:O	2.50	0.45
53:SA:392:G:P	64:SL:25:ARG:HH22	2.40	0.45
53:SA:1362:U:H3'	53:SA:1363:U:C6	2.52	0.45
53:SA:1444:C:O2	53:SA:1444:C:H2'	2.17	0.45
53:SA:1799:A:H2'	53:SA:1800:A:O4'	2.17	0.45
53:SA:1897:A:O2'	53:SA:1899:A:N7	2.40	0.45
54:SB:49:THR:OG1	54:SB:50:LYS:N	2.49	0.45
54:SB:137:MET:HG3	54:SB:172:MET:SD	2.57	0.45
54:SB:164:ILE:HA	54:SB:167:LYS:HE3	1.98	0.45
59:SG:239:PRO:HA	59:SG:242:TRP:CE2	2.52	0.45
60:SH:14:LYS:HE2	60:SH:14:LYS:HB3	1.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SK:20:ARG:HE	63:SK:20:ARG:HB3	1.46	0.45
73:SU:54:LEU:HA	73:SU:58:TYR:HD1	1.82	0.45
73:SU:88:LEU:HD12	73:SU:88:LEU:HA	1.84	0.45
74:SV:113:HIS:HB3	74:SV:141:ASN:ND2	2.32	0.45
2:AA:193:C:H2'	2:AA:194:A:O4'	2.16	0.45
2:AA:1005:C:OP2	24:Ac:3:LYS:HE3	2.16	0.45
2:AA:1274:A:H2'	2:AA:1275:G:H8	1.82	0.45
2:AA:2725:U:H2'	2:AA:2726:U:C6	2.52	0.45
2:AA:2999:C:H2'	2:AA:3000:A:C8	2.52	0.45
2:AA:3148:U:H2'	2:AA:3149:A:H8	1.82	0.45
2:AA:3320:G:H2'	2:AA:3321:U:H6	1.82	0.45
4:AB:30:A:H2'	4:AB:31:G:H8	1.81	0.45
22:AI:123:ASP:O	22:AI:127:TYR:HB2	2.16	0.45
30:AR:27:LYS:HD2	30:AR:54:ARG:HH22	1.82	0.45
30:AR:107:ARG:HA	30:AR:107:ARG:HD2	1.74	0.45
32:AY:89:ARG:HD2	32:AY:91:PRO:HD3	1.99	0.45
32:AY:99:SER:HA	35:A3:68:LEU:HD12	1.99	0.45
35:A3:117:LYS:HB3	35:A3:117:LYS:HE2	1.78	0.45
37:AD:83:PHE:CZ	37:AD:86:GLN:HB3	2.51	0.45
38:AE:283:GLY:HA3	38:AE:318:PHE:CE1	2.51	0.45
42:AH:169:LYS:HD3	42:AH:174:PHE:CD2	2.51	0.45
43:AV:119:GLU:HA	43:AV:122:LEU:HG	1.99	0.45
53:SA:636:U:C2	53:SA:637:A:C8	3.05	0.45
53:SA:1179:C:H2'	53:SA:1180:U:H6	1.82	0.45
53:SA:1952:A:N6	53:SA:2037:A:O2'	2.50	0.45
53:SA:2052:G:H1'	53:SA:2073:A:C2	2.52	0.45
54:SB:197:ILE:HA	54:SB:200:GLN:HE21	1.81	0.45
61:SI:43:THR:O	61:SI:47:TYR:OH	2.31	0.45
63:SK:105:THR:N	63:SK:124:LYS:O	2.33	0.45
64:SL:62:SER:HA	64:SL:77:ARG:HA	1.99	0.45
75:SW:99:GLU:HG2	75:SW:100:PRO:HD2	1.98	0.45
2:AA:649:U:H4'	2:AA:650:U:C5	2.51	0.45
2:AA:682:A:O3'	39:AF:327:ARG:NH2	2.50	0.45
2:AA:1066:U:H2'	2:AA:1067:U:H6	1.82	0.45
2:AA:2209:C:C5	33:AT:73:ARG:HB3	2.52	0.45
2:AA:2454:A:H2'	2:AA:2455:G:H8	1.82	0.45
2:AA:2461:A:H2'	2:AA:2462:C:C6	2.52	0.45
2:AA:2561:U:H2'	2:AA:2562:U:C5	2.52	0.45
2:AA:2739:U:H2'	2:AA:2740:A:H8	1.82	0.45
2:AA:3410:A:H62	2:AA:3417:G:H21	0.68	0.45
15:Ab:87:HIS:CD2	15:Ab:91:LYS:HG3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AJ:206:LEU:HD23	23:AJ:207:VAL:HG13	1.99	0.45
25:AK:33:VAL:HG11	25:AK:111:TYR:CZ	2.51	0.45
26:AM:119:PRO:HA	26:AM:137:ALA:O	2.17	0.45
36:A5:46:ASN:O	36:A5:49:LYS:HG2	2.17	0.45
36:A5:84:PHE:CE2	43:AV:144:VAL:HG21	2.51	0.45
38:AE:49:TYR:HB2	38:AE:80:GLU:HG2	1.99	0.45
42:AH:75:HIS:O	42:AH:79:MET:SD	2.75	0.45
45:AX:44:LEU:HD22	45:AX:90:ILE:HD12	1.99	0.45
46:A0:32:ASP:OD1	46:A0:32:ASP:N	2.49	0.45
48:S2:35:LYS:N	53:SA:1833:G:O5'	2.50	0.45
53:SA:127:C:H2'	60:SH:197:ARG:HH12	1.82	0.45
53:SA:336:G:OP2	64:SL:98:LYS:NZ	2.50	0.45
53:SA:1111:U:H2'	53:SA:1112:G:O4'	2.17	0.45
53:SA:1295:A:O2'	53:SA:1296:C:OP1	2.31	0.45
53:SA:1847:A:H2'	53:SA:1848:U:C6	2.52	0.45
57:SE:21:LYS:HA	57:SE:21:LYS:HD3	1.66	0.45
58:SF:161:ARG:HB2	58:SF:170:LEU:HB2	1.99	0.45
58:SF:191:ARG:HE	58:SF:245:LYS:HB3	1.80	0.45
69:SQ:62:LYS:HG2	69:SQ:116:ASP:O	2.16	0.45
73:SU:46:THR:O	73:SU:50:ILE:HG13	2.17	0.45
2:AA:534:A:H2'	2:AA:535:U:C6	2.52	0.44
2:AA:656:U:P	22:AI:12:ASN:HD21	2.40	0.44
2:AA:695:A:H2'	2:AA:696:C:C6	2.51	0.44
2:AA:1215:A:C6	2:AA:1216:C:C4	3.05	0.44
2:AA:1739:C:O2'	2:AA:1851:A:N3	2.44	0.44
2:AA:1869:G:C2	2:AA:1890:G:C6	3.05	0.44
2:AA:2126:A:H2'	2:AA:2127:G:H8	1.82	0.44
2:AA:2164:A:N6	2:AA:2632:C:H42	2.12	0.44
2:AA:2730:G:H2'	2:AA:2731:A:H8	1.82	0.44
2:AA:3049:G:H2'	2:AA:3050:U:C6	2.51	0.44
6:A1:76:ASN:OD1	6:A1:79:HIS:HB2	2.17	0.44
10:A7:36:LYS:HD2	10:A7:73:ARG:O	2.17	0.44
21:AI:14:ASN:C	21:AI:16:CYS:H	2.24	0.44
22:AI:124:PHE:CE1	22:AI:186:ILE:HD11	2.52	0.44
29:AQ:194:GLY:C	29:AQ:196:SER:H	2.24	0.44
36:A5:136:LEU:HD21	36:A5:145:TYR:CZ	2.52	0.44
39:AF:134:THR:HA	39:AF:150:VAL:HG21	1.99	0.44
53:SA:531:U:N3	53:SA:534:A:OP2	2.50	0.44
53:SA:928:U:O4'	62:SJ:115:ARG:HG3	2.17	0.44
53:SA:1609:C:H2'	53:SA:1610:U:C6	2.52	0.44
56:SD:19:ALA:HA	72:ST:47:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SD:105:SER:O	56:SD:109:LYS:HG3	2.17	0.44
61:SI:149:ALA:HA	61:SI:163:CYS:SG	2.57	0.44
2:AA:217:A:H4'	2:AA:219:A:N7	2.32	0.44
2:AA:703:U:H1'	2:AA:1549:U:H4'	1.99	0.44
2:AA:1681:C:H2'	2:AA:1682:U:C6	2.52	0.44
2:AA:1822:A:H5'	2:AA:1899:U:O2'	2.17	0.44
2:AA:2547:U:H2'	2:AA:2554:G:N2	2.33	0.44
2:AA:2660:A:H2'	2:AA:2661:A:H8	1.82	0.44
2:AA:3718:G:H8	2:AA:3718:G:O5'	2.00	0.44
3:AC:126:C:H5''	35:A3:64:ARG:HH22	1.82	0.44
5:AL:78:GLU:OE2	5:AL:111:ASN:ND2	2.33	0.44
14:Aa:42:PRO:HG2	14:Aa:51:ILE:HG12	1.97	0.44
22:AI:117:ILE:HD12	22:AI:194:ILE:HG22	1.98	0.44
26:AM:18:SER:OG	26:AM:19:LEU:N	2.50	0.44
26:AM:93:TYR:HE1	46:A0:27:LYS:HD2	1.82	0.44
33:AT:10:ALA:O	33:AT:13:VAL:HG12	2.17	0.44
39:AF:182:ARG:NH2	39:AF:205:ASN:O	2.50	0.44
42:AH:126:LYS:HG2	42:AH:127:ALA:H	1.82	0.44
53:SA:517:G:H2'	53:SA:518:A:C8	2.51	0.44
53:SA:563:A:O2'	53:SA:596:C:O2	2.26	0.44
53:SA:920:A:H2'	53:SA:921:G:H8	1.81	0.44
53:SA:1800:A:H4'	77:SY:64:LYS:HD2	1.98	0.44
55:SC:88:LYS:O	55:SC:91:GLN:HG3	2.16	0.44
57:SE:14:ASN:OD1	57:SE:15:PRO:HD2	2.16	0.44
59:SG:195:THR:HG22	59:SG:223:LEU:HD21	2.00	0.44
60:SH:7:ASN:HB2	60:SH:113:LEU:HD21	1.99	0.44
61:SI:87:ALA:HB1	61:SI:164:LEU:HD11	1.99	0.44
61:SI:179:TYR:HA	61:SI:182:LYS:HZ2	1.83	0.44
68:SP:66:ARG:HA	68:SP:66:ARG:NE	2.32	0.44
69:SQ:54:VAL:HG23	69:SQ:55:GLU:OE1	2.17	0.44
74:SV:49:LYS:O	74:SV:53:GLU:HG3	2.17	0.44
78:SZ:80:PHE:CZ	78:SZ:82:ASN:HA	2.52	0.44
2:AA:88:A:O2'	28:AO:60:HIS:O	2.32	0.44
2:AA:530:U:H3'	41:AU:74:LYS:HE3	2.00	0.44
2:AA:648:U:H1'	2:AA:650:U:C2	2.52	0.44
2:AA:762:A:H2'	2:AA:763:U:H6	1.81	0.44
2:AA:1211:U:H2'	2:AA:1212:U:C6	2.53	0.44
2:AA:2015:C:H5	37:AD:177:LYS:HG2	1.83	0.44
2:AA:2128:G:H5''	33:AT:62:VAL:HG21	2.00	0.44
2:AA:2470:A:C6	37:AD:125:THR:HG23	2.52	0.44
2:AA:2515:A:H2'	2:AA:2516:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2731:A:H2'	2:AA:2732:A:C8	2.52	0.44
2:AA:3144:C:OP1	21:AI:33:ARG:NH1	2.50	0.44
2:AA:3314:U:OP2	2:AA:3336:G:N1	2.42	0.44
2:AA:3693:A:H2'	2:AA:3694:A:H8	1.83	0.44
4:AB:21:G:O2'	4:AB:22:G:H5''	2.17	0.44
15:Ab:64:LEU:HD22	15:Ab:76:SER:HB3	2.00	0.44
16:Ad:11:PHE:CE1	16:Ad:52:MET:HE2	2.50	0.44
22:AI:87:GLY:O	22:AI:92:ASN:HB3	2.17	0.44
24:Ac:66:ARG:CD	24:Ac:68:ARG:HG2	2.47	0.44
35:A3:75:LYS:HD3	35:A3:75:LYS:HA	1.71	0.44
38:AE:284:LEU:O	38:AE:318:PHE:HD1	2.01	0.44
39:AF:203:ILE:HD13	39:AF:203:ILE:HA	1.91	0.44
40:AG:161:LYS:O	40:AG:165:THR:OG1	2.32	0.44
46:A0:28:TYR:CD1	46:A0:48:LEU:HD21	2.53	0.44
51:S5:40:LEU:HD12	51:S5:40:LEU:HA	1.78	0.44
53:SA:45:U:H3	53:SA:440:G:H1'	1.81	0.44
53:SA:412:U:H2'	53:SA:413:A:C8	2.53	0.44
53:SA:851:A:H3'	58:SF:106:LYS:NZ	2.31	0.44
53:SA:851:A:H8	58:SF:106:LYS:NZ	2.16	0.44
53:SA:1245:U:H2'	53:SA:1246:U:H6	1.82	0.44
53:SA:1888:U:H3	53:SA:1902:G:H1	1.65	0.44
55:SC:103:THR:HB	55:SC:106:MET:HE3	2.00	0.44
55:SC:112:ILE:C	55:SC:112:ILE:HD12	2.43	0.44
57:SE:147:LEU:HD12	57:SE:147:LEU:HA	1.86	0.44
60:SH:204:GLN:O	60:SH:207:GLU:HG2	2.17	0.44
65:SM:38:ASP:HA	65:SM:46:LYS:HD3	1.99	0.44
66:SN:65:ARG:HG3	72:ST:38:ARG:HH12	1.83	0.44
73:SU:38:ILE:O	73:SU:42:LYS:HE3	2.18	0.44
74:SV:62:PRO:HB3	74:SV:69:ILE:HD11	1.99	0.44
74:SV:153:SER:O	74:SV:156:LYS:N	2.42	0.44
76:SX:91:GLY:N	76:SX:107:ILE:HD11	2.23	0.44
2:AA:302:A:H2'	2:AA:303:A:H8	1.83	0.44
2:AA:450:A:H5''	2:AA:451:C:H5'	1.99	0.44
2:AA:501:U:O2'	2:AA:502:U:O4'	2.26	0.44
2:AA:1762:A:HO2'	2:AA:1763:G:H8	1.64	0.44
2:AA:1826:U:H2'	2:AA:1827:C:H6	1.83	0.44
2:AA:2189:A:H2'	2:AA:2190:A:H8	1.83	0.44
2:AA:3042:A:O4'	30:AR:23:ARG:NH2	2.51	0.44
2:AA:3259:A:C2	2:AA:3416:G:N2	2.84	0.44
2:AA:3387:U:H2'	2:AA:3388:U:C6	2.52	0.44
7:A2:39:VAL:HG13	7:A2:40:ASN:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AN:23:ARG:HB3	11:AN:76:LEU:HD21	1.99	0.44
23:AJ:166:ASN:ND2	23:AJ:218:GLU:O	2.50	0.44
25:AK:110:PRO:O	25:AK:114:LYS:HD2	2.17	0.44
26:AM:12:LYS:HA	26:AM:12:LYS:HD3	1.65	0.44
33:AT:39:SER:HA	33:AT:42:LYS:HZ2	1.82	0.44
39:AF:164:THR:O	39:AF:168:VAL:HG12	2.17	0.44
41:AU:68:LEU:HD21	43:AV:142:ILE:HD13	1.98	0.44
42:AH:79:MET:HB3	42:AH:149:ASP:OD1	2.18	0.44
42:AH:170:ASP:CG	42:AH:172:ARG:HG2	2.42	0.44
50:S4:52:VAL:HG22	50:S4:62:CYS:HB3	2.00	0.44
53:SA:399:C:H2'	53:SA:400:C:H6	1.82	0.44
53:SA:558:G:H2'	53:SA:559:G:H8	1.83	0.44
53:SA:1946:C:H2'	53:SA:1947:U:H6	1.81	0.44
55:SC:106:MET:HG3	55:SC:114:LYS:HZ2	1.82	0.44
60:SH:84:TYR:OH	60:SH:91:GLU:HG3	2.17	0.44
63:SK:30:SER:HB2	63:SK:61:ILE:HD11	1.99	0.44
68:SP:63:LYS:HA	68:SP:63:LYS:HD3	1.82	0.44
76:SX:22:LEU:O	76:SX:26:LEU:HD23	2.18	0.44
1:S7:34:C:N4	79:mR:20:U:H3	2.16	0.44
2:AA:1109:U:H2'	2:AA:1110:U:H6	1.83	0.44
2:AA:1784:G:H2'	2:AA:1786:A:N7	2.32	0.44
2:AA:2570:C:H5'	2:AA:2610:A:H4'	2.00	0.44
2:AA:2634:A:H2'	2:AA:2635:C:C6	2.53	0.44
2:AA:3263:G:H2'	2:AA:3264:U:C6	2.51	0.44
2:AA:3591:U:H5''	11:AN:20:LEU:HD11	1.99	0.44
3:AC:145:A:H2'	3:AC:146:C:H6	1.83	0.44
4:AB:75:G:N7	41:AU:59:LYS:HG3	2.32	0.44
7:A2:78:VAL:HG23	7:A2:79:ASN:H	1.83	0.44
10:A7:107:ASP:OD1	10:A7:107:ASP:N	2.50	0.44
11:AN:6:LEU:C	11:AN:7:THR:HG1	2.18	0.44
12:A8:14:THR:HG22	12:A8:15:LYS:N	2.26	0.44
14:Aa:39:ALA:HB3	14:Aa:56:ALA:O	2.18	0.44
18:Af:21:ARG:HD3	18:Af:46:ARG:HB2	1.99	0.44
19:AP:160:ARG:HB3	19:AP:165:LEU:HB2	2.00	0.44
23:AJ:195:CYS:SG	23:AJ:235:CYS:HB2	2.57	0.44
24:Ac:4:ALA:HA	24:Ac:9:GLY:HA3	1.99	0.44
24:Ac:78:LYS:O	24:Ac:80:LYS:NZ	2.51	0.44
30:AR:74:ILE:HD12	30:AR:74:ILE:H	1.81	0.44
38:AE:188:LYS:O	38:AE:192:VAL:HG22	2.17	0.44
53:SA:886:U:H2'	53:SA:887:A:C8	2.52	0.44
53:SA:1908:A:H8	53:SA:1909:C:H5	1.63	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1945:C:H2'	53:SA:1946:C:C6	2.52	0.44
53:SA:1947:U:H2'	53:SA:1948:A:H8	1.77	0.44
54:SB:37:MET:HE1	54:SB:189:ILE:HG13	1.99	0.44
54:SB:55:LYS:O	54:SB:55:LYS:HG3	2.16	0.44
58:SF:98:TYR:HB2	58:SF:114:ILE:O	2.17	0.44
61:SI:173:ASN:OD1	61:SI:173:ASN:C	2.61	0.44
71:SS:100:VAL:HG23	71:SS:105:LEU:HA	1.99	0.44
2:AA:62:A:OP1	19:AP:163:ARG:NH1	2.51	0.44
2:AA:225:U:H4'	34:AZ:99:HIS:CG	2.52	0.44
2:AA:257:U:O2'	2:AA:258:U:H5''	2.16	0.44
2:AA:1085:U:H2'	2:AA:1086:C:H6	1.83	0.44
2:AA:1100:A:N6	36:A5:164:ARG:O	2.51	0.44
2:AA:1302:G:H2'	2:AA:1303:C:H6	1.83	0.44
2:AA:1572:U:H2'	2:AA:1573:C:O2	2.17	0.44
2:AA:1710:G:H2'	2:AA:1711:G:C8	2.53	0.44
2:AA:1741:G:OP1	14:Aa:29:LYS:NZ	2.51	0.44
2:AA:1967:G:H21	16:Ad:2:PRO:HD2	1.83	0.44
2:AA:2493:U:C2	2:AA:2494:G:C8	3.05	0.44
2:AA:3533:A:O2'	38:AE:104:THR:HG23	2.18	0.44
2:AA:3595:U:H2'	2:AA:3596:A:H8	1.77	0.44
3:AC:32:C:H2'	3:AC:33:C:H6	1.83	0.44
4:AB:9:U:O2	4:AB:110:G:O6	2.36	0.44
4:AB:42:A:O2'	40:AG:137:ARG:NH2	2.51	0.44
4:AB:70:G:H2'	4:AB:71:G:C8	2.52	0.44
5:AL:191:ARG:HA	5:AL:191:ARG:HD2	1.78	0.44
9:A6:49:SER:OG	9:A6:75:GLY:N	2.29	0.44
11:AN:44:PHE:CZ	11:AN:96:VAL:HG12	2.52	0.44
20:Ah:22:LEU:O	20:Ah:26:ILE:HG22	2.18	0.44
32:AY:124:ILE:HG12	32:AY:129:THR:O	2.18	0.44
37:AD:88:ILE:HD12	37:AD:88:ILE:HA	1.74	0.44
38:AE:75:ALA:O	38:AE:322:LYS:NZ	2.51	0.44
40:AG:45:PRO:HG3	40:AG:69:VAL:HB	1.99	0.44
41:AU:7:ASN:OD1	41:AU:8:SER:N	2.50	0.44
41:AU:84:TYR:HA	41:AU:137:GLU:HA	1.98	0.44
42:AH:76:LEU:CD2	42:AH:79:MET:HE1	2.46	0.44
42:AH:92:ARG:HD2	42:AH:142:GLU:HB2	1.99	0.44
53:SA:552:A:O4'	53:SA:601:A:N6	2.50	0.44
53:SA:1727:A:N6	53:SA:1824:A:H62	2.16	0.44
53:SA:1826:A:H5''	77:SY:15:ARG:HH22	1.83	0.44
53:SA:2021:U:H2'	53:SA:2022:A:O4'	2.18	0.44
54:SB:158:THR:HA	54:SB:161:ILE:HD12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SD:16:VAL:HG21	72:ST:20:ARG:NH1	2.33	0.44
59:SG:124:GLY:HA2	59:SG:227:PHE:HE2	1.83	0.44
64:SL:66:SER:HA	64:SL:73:SER:HA	1.98	0.44
65:SM:94:TYR:HE2	65:SM:102:THR:HB	1.82	0.44
68:SP:43:HIS:CD2	68:SP:55:ARG:HB2	2.52	0.44
71:SS:42:MET:SD	71:SS:99:HIS:ND1	2.90	0.44
74:SV:39:LYS:HA	74:SV:39:LYS:HD2	1.75	0.44
2:AA:425:A:H2'	2:AA:426:A:C8	2.52	0.44
2:AA:508:A:H2'	2:AA:509:A:C8	2.51	0.44
2:AA:752:G:H2'	2:AA:753:C:C6	2.53	0.44
2:AA:1285:U:O2'	2:AA:1297:A:N3	2.44	0.44
2:AA:1630:A:C6	2:AA:2126:A:C5	3.05	0.44
2:AA:1721:C:H2'	2:AA:1722:C:C6	2.52	0.44
2:AA:1789:A:H62	14:Aa:73:ALA:CB	2.30	0.44
2:AA:3469:C:H2'	2:AA:3470:G:O4'	2.18	0.44
2:AA:3532:A:H2'	2:AA:3533:A:C8	2.52	0.44
2:AA:3681:A:H2'	2:AA:3682:A:C8	2.51	0.44
4:AB:36:C:H2'	4:AB:37:A:C8	2.53	0.44
5:AL:166:ASN:HB3	5:AL:168:LYS:HZ2	1.83	0.44
6:A1:28:THR:O	6:A1:28:THR:OG1	2.34	0.44
15:Ab:3:ARG:HB3	15:Ab:3:ARG:HH11	1.82	0.44
15:Ab:106:ARG:HA	15:Ab:106:ARG:HD3	1.89	0.44
20:Ah:61:LYS:HA	20:Ah:61:LYS:HD3	1.82	0.44
21:Ai:40:ARG:O	21:Ai:44:MET:HG3	2.17	0.44
23:AJ:86:GLN:O	23:AJ:252:GLN:N	2.51	0.44
23:AJ:112:PHE:CD2	23:AJ:113:LEU:HD22	2.53	0.44
27:AS:5:LEU:HD13	27:AS:9:GLY:HA3	1.98	0.44
30:AR:283:LYS:HD3	30:AR:286:LEU:HD21	2.00	0.44
33:AT:133:ASN:OD1	33:AT:133:ASN:N	2.51	0.44
33:AT:161:LYS:HD3	33:AT:161:LYS:HA	1.73	0.44
38:AE:122:TRP:CZ2	38:AE:127:LYS:HD2	2.53	0.44
39:AF:150:VAL:HG12	39:AF:151:PRO:HD3	1.99	0.44
41:AU:101:LYS:HD3	41:AU:101:LYS:HA	1.67	0.44
47:S1:84:LYS:HZ1	47:S1:98:ILE:HG23	1.83	0.44
53:SA:337:G:OP2	64:SL:191:GLN:NE2	2.50	0.44
53:SA:964:G:N2	53:SA:987:U:C2	2.86	0.44
53:SA:1460:A:H2'	53:SA:1461:C:C6	2.52	0.44
53:SA:1717:A:H2	53:SA:1720:G:N3	2.15	0.44
53:SA:1911:A:H5''	53:SA:1912:C:C5	2.53	0.44
53:SA:1944:U:H2'	53:SA:1945:C:C6	2.53	0.44
55:SC:143:VAL:HB	78:SZ:59:ARG:HH21	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SE:109:LEU:HD12	57:SE:146:PHE:HB3	1.99	0.44
59:SG:58:SER:OG	59:SG:61:GLU:OE1	2.28	0.44
62:SJ:50:ILE:O	62:SJ:52:VAL:HG13	2.18	0.44
68:SP:103:THR:HG23	68:SP:142:LYS:HB3	2.00	0.44
73:SU:23:PRO:HG2	73:SU:26:LEU:HB2	2.00	0.44
76:SX:61:ARG:HH22	76:SX:64:LYS:HD2	1.81	0.44
1:S9:33:U:O4	1:S9:34:C:N4	2.50	0.44
2:AA:438:U:H2'	2:AA:439:U:C6	2.52	0.44
2:AA:1532:U:H2'	2:AA:1533:U:C6	2.52	0.44
2:AA:1791:A:OP2	2:AA:1799:A:N6	2.50	0.44
2:AA:2104:C:H2'	2:AA:2105:A:O4'	2.18	0.44
2:AA:2155:A:H4'	38:AE:224:LYS:HA	1.99	0.44
2:AA:2402:U:O2'	2:AA:2403:G:H5'	2.18	0.44
2:AA:3022:U:H2'	2:AA:3023:C:C6	2.53	0.44
2:AA:3149:A:H2'	2:AA:3150:G:H8	1.83	0.44
2:AA:3240:C:H2'	2:AA:3241:U:C6	2.52	0.44
2:AA:3665:U:OP2	22:AI:98:ARG:HB3	2.18	0.44
2:AA:3722:G:H2'	2:AA:3723:C:C6	2.52	0.44
2:AA:3736:A:H3'	2:AA:3737:G:O4'	2.18	0.44
3:AC:37:A:H4'	3:AC:38:G:OP1	2.18	0.44
8:A4:16:ALA:HB1	43:AV:83:HIS:HA	2.00	0.44
10:A7:82:LYS:HE3	10:A7:82:LYS:HB3	1.59	0.44
25:AK:126:PHE:HA	41:AU:163:LEU:HD21	2.00	0.44
25:AK:196:LEU:HD22	25:AK:201:TYR:HB2	2.00	0.44
27:AS:128:LYS:HG3	27:AS:129:TYR:CD2	2.52	0.44
30:AR:50:ARG:HG2	30:AR:65:ALA:HB3	1.99	0.44
31:AW:4:TYR:CE2	31:AW:16:LYS:HB3	2.53	0.44
32:AY:106:ASP:OD2	32:AY:106:ASP:C	2.61	0.44
33:AT:29:SER:O	33:AT:33:LEU:HG	2.17	0.44
37:AD:92:THR:HG23	37:AD:103:PRO:HG2	1.99	0.44
38:AE:81:CYS:SG	38:AE:202:VAL:HG11	2.57	0.44
38:AE:283:GLY:O	38:AE:284:LEU:HD13	2.18	0.44
42:AH:78:ASN:OD1	42:AH:150:ILE:HG21	2.18	0.44
46:A0:42:LYS:HA	46:A0:42:LYS:HD2	1.65	0.44
47:S1:106:ARG:HH22	53:SA:465:G:P	2.40	0.44
53:SA:371:G:OP1	53:SA:807:A:N6	2.51	0.44
53:SA:600:U:H3'	57:SE:38:ASN:ND2	2.33	0.44
53:SA:1293:C:OP2	53:SA:1294:A:O2'	2.29	0.44
53:SA:1417:U:H2'	53:SA:1418:C:C6	2.53	0.44
55:SC:76:VAL:HA	55:SC:98:ILE:HG23	2.00	0.44
56:SD:151:MET:HG2	56:SD:153:PHE:CE1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SD:163:GLU:CG	56:SD:164:PRO:HD3	2.47	0.44
57:SE:57:ARG:NH1	57:SE:97:LEU:HD11	2.33	0.44
58:SF:114:ILE:HG23	58:SF:118:GLU:HB3	2.00	0.44
65:SM:99:ASP:N	65:SM:99:ASP:OD1	2.50	0.44
2:AA:212:U:H2'	2:AA:213:C:H6	1.82	0.44
2:AA:222:G:O2'	34:AZ:14:MET:SD	2.62	0.44
2:AA:435:G:H2'	2:AA:436:G:H8	1.83	0.44
2:AA:616:U:H2'	2:AA:617:A:N7	2.32	0.44
2:AA:1096:G:H21	2:AA:1231:A:H1'	1.83	0.44
2:AA:1132:G:P	29:AQ:39:LYS:HD3	2.57	0.44
2:AA:1269:C:O2'	2:AA:1281:C:O2	2.36	0.44
2:AA:1546:A:H2'	2:AA:1547:A:O4'	2.17	0.44
2:AA:1791:A:OP1	14:Aa:68:LYS:NZ	2.50	0.44
2:AA:2087:U:H2'	2:AA:2088:A:C8	2.52	0.44
2:AA:3199:C:H2'	2:AA:3200:G:O4'	2.18	0.44
2:AA:3242:U:H2'	2:AA:3243:C:C6	2.53	0.44
2:AA:3345:U:H2'	2:AA:3346:A:C8	2.47	0.44
2:AA:3471:A:C5	2:AA:3472:A:C8	3.05	0.44
2:AA:3636:U:H2'	2:AA:3637:G:H8	1.83	0.44
2:AA:3672:A:H2'	2:AA:3673:C:C6	2.53	0.44
7:A2:35:ASP:HB2	7:A2:38:ASN:HB2	2.00	0.44
25:AK:45:SER:HA	25:AK:133:ARG:HG2	1.99	0.44
29:AQ:152:LEU:HD23	29:AQ:152:LEU:HA	1.76	0.44
30:AR:197:ASN:HA	30:AR:202:HIS:CE1	2.52	0.44
31:AW:13:LYS:HE3	31:AW:13:LYS:HB3	1.82	0.44
33:AT:71:LYS:HD2	33:AT:73:ARG:NH2	2.32	0.44
38:AE:90:VAL:HG21	38:AE:158:ILE:HD11	2.00	0.44
38:AE:92:TYR:CD2	38:AE:99:LEU:HD12	2.52	0.44
42:AH:20:ILE:HG22	42:AH:25:VAL:HG13	2.00	0.44
49:S3:38:ARG:HB2	49:S3:71:GLN:OE1	2.17	0.44
53:SA:156:A:H3'	53:SA:157:G:H3'	1.98	0.44
53:SA:478:G:O2'	53:SA:819:A:N3	2.47	0.44
53:SA:976:A:H2'	53:SA:977:U:H6	1.82	0.44
53:SA:1935:G:O6	53:SA:2059:G:N2	2.51	0.44
57:SE:45:VAL:HA	57:SE:48:LEU:HG	2.00	0.44
59:SG:89:LYS:NZ	59:SG:117:GLY:O	2.51	0.44
62:SJ:11:SER:OG	62:SJ:12:ASN:N	2.51	0.44
64:SL:78:ILE:HG22	64:SL:104:ILE:HD11	2.00	0.44
64:SL:80:ASP:HA	64:SL:94:LYS:HE2	1.99	0.44
78:SZ:81:GLN:HG3	78:SZ:82:ASN:N	2.33	0.44
1:S9:34:C:H2'	1:S9:35:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:122:A:C8	2:AA:155:U:C4	3.06	0.43
2:AA:701:C:H2'	2:AA:702:U:O2	2.18	0.43
2:AA:1469:U:H2'	2:AA:1470:A:H8	1.82	0.43
2:AA:1501:A:H3'	2:AA:1502:G:H21	1.83	0.43
2:AA:1801:G:N1	2:AA:2030:G:C5	2.86	0.43
2:AA:2127:G:H2'	2:AA:2128:G:C8	2.53	0.43
2:AA:2130:U:O2'	2:AA:2132:A:N7	2.47	0.43
2:AA:3145:A:H5''	21:AI:37:LEU:HB2	2.00	0.43
2:AA:3240:C:H2'	2:AA:3241:U:H6	1.83	0.43
2:AA:3268:A:H4'	2:AA:3489:A:O2'	2.18	0.43
2:AA:3285:A:H2'	2:AA:3286:C:C6	2.53	0.43
2:AA:3484:U:O2'	2:AA:3485:G:H8	2.01	0.43
3:AC:32:C:H2'	3:AC:33:C:C6	2.53	0.43
3:AC:42:U:N3	35:A3:84:LYS:O	2.43	0.43
4:AB:67:C:H2'	4:AB:68:U:O4'	2.18	0.43
26:AM:54:ALA:HB1	26:AM:80:ILE:HG21	2.00	0.43
28:AO:104:ARG:HE	28:AO:104:ARG:HB3	1.48	0.43
36:A5:47:LYS:O	36:A5:51:ASN:ND2	2.51	0.43
36:A5:61:GLU:HA	36:A5:64:TYR:CD2	2.53	0.43
37:AD:36:GLU:HG3	37:AD:91:GLY:HA2	2.00	0.43
38:AE:184:SER:O	38:AE:188:LYS:HB2	2.17	0.43
42:AH:79:MET:HE2	42:AH:79:MET:HB2	1.81	0.43
44:Ag:27:LEU:HD22	44:Ag:31:ARG:NH1	2.32	0.43
53:SA:22:A:H4'	57:SE:16:LYS:HA	2.00	0.43
53:SA:102:A:H61	53:SA:391:A:H1'	1.82	0.43
53:SA:478:G:H2'	53:SA:479:A:C8	2.54	0.43
53:SA:748:C:H2'	53:SA:749:U:H6	1.83	0.43
53:SA:1059:U:H2'	53:SA:1060:G:O4'	2.17	0.43
53:SA:1182:A:H2'	53:SA:1184:G:C8	2.53	0.43
53:SA:1204:U:H2'	53:SA:1205:U:H6	1.82	0.43
53:SA:1661:U:O4	53:SA:1662:A:N6	2.51	0.43
54:SB:175:GLU:OE2	54:SB:193:ILE:HD13	2.18	0.43
58:SF:159:THR:HG22	58:SF:173:LEU:HB2	1.99	0.43
61:SI:90:ILE:HD11	61:SI:164:LEU:HD12	1.99	0.43
62:SJ:14:SER:O	62:SJ:18:LYS:HG2	2.18	0.43
64:SL:175:GLN:HG2	64:SL:180:ARG:O	2.18	0.43
67:SO:16:LYS:NZ	67:SO:19:LYS:HE3	2.33	0.43
75:SW:72:LYS:HA	75:SW:72:LYS:HE3	1.99	0.43
2:AA:13:G:C2	3:AC:153:A:C2	3.06	0.43
2:AA:66:A:H8	2:AA:323:A:H4'	1.82	0.43
2:AA:249:U:P	5:AL:152:ARG:HH22	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:387:A:N1	2:AA:401:A:O2'	2.46	0.43
2:AA:404:U:H5'	34:AZ:86:ARG:HH22	1.83	0.43
2:AA:513:U:H2'	2:AA:514:C:C6	2.53	0.43
2:AA:533:A:H2'	2:AA:534:A:O4'	2.18	0.43
2:AA:735:A:H2'	2:AA:736:G:H8	1.84	0.43
2:AA:942:C:H2'	2:AA:943:G:C8	2.53	0.43
2:AA:1837:U:H3'	45:AX:112:LYS:NZ	2.33	0.43
2:AA:2827:C:H2'	2:AA:2828:A:C8	2.53	0.43
2:AA:2999:C:H2'	2:AA:3000:A:H8	1.83	0.43
2:AA:3486:G:N2	2:AA:3518:C:C2	2.86	0.43
3:AC:124:U:H2'	3:AC:125:U:H6	1.83	0.43
4:AB:60:U:O2'	30:AR:271:LYS:N	2.48	0.43
6:A1:142:LYS:HA	6:A1:142:LYS:HD2	1.65	0.43
7:A2:11:TRP:CZ2	7:A2:45:PRO:HD3	2.53	0.43
16:Ad:41:LEU:HB2	16:Ad:54:PHE:HE1	1.82	0.43
20:Ah:56:LYS:HE3	20:Ah:57:CYS:O	2.19	0.43
22:AI:128:ALA:O	22:AI:131:ILE:HG12	2.18	0.43
23:AJ:243:VAL:HG12	23:AJ:247:ARG:HG2	2.00	0.43
24:Ac:88:LYS:HD3	24:Ac:88:LYS:HA	1.73	0.43
30:AR:210:LEU:HD12	30:AR:210:LEU:HA	1.88	0.43
38:AE:40:PRO:HA	38:AE:41:PRO:HD3	1.85	0.43
45:AX:125:LYS:HZ1	45:AX:133:LYS:HB2	1.83	0.43
53:SA:40:A:OP1	57:SE:4:SER:N	2.35	0.43
53:SA:165:U:H1'	60:SH:133:LEU:HD11	2.01	0.43
53:SA:882:A:H2'	53:SA:883:A:H8	1.82	0.43
53:SA:1043:A:O3'	73:SU:112:LYS:NZ	2.40	0.43
53:SA:2015:A:H2'	53:SA:2016:A:H8	1.82	0.43
53:SA:2025:U:H2'	53:SA:2026:C:C6	2.51	0.43
54:SB:34:ALA:HB2	54:SB:43:PHE:HE2	1.82	0.43
54:SB:145:LYS:O	54:SB:146:ARG:HG2	2.17	0.43
57:SE:34:TYR:O	57:SE:110:GLN:NE2	2.51	0.43
57:SE:180:GLN:O	57:SE:183:LYS:HG3	2.18	0.43
58:SF:188:SER:HB2	58:SF:191:ARG:NH1	2.33	0.43
60:SH:3:LEU:HG	60:SH:109:LEU:HB2	2.00	0.43
64:SL:55:TYR:HD2	64:SL:193:GLY:HA3	1.83	0.43
65:SM:36:ASN:ND2	77:SY:31:ASP:OD1	2.40	0.43
2:AA:30:G:H5''	19:AP:190:ARG:NH2	2.32	0.43
2:AA:69:U:H2'	2:AA:70:A:O4'	2.18	0.43
2:AA:449:A:H5''	12:A8:69:ASN:OD1	2.17	0.43
2:AA:515:A:H2'	2:AA:516:G:H8	1.83	0.43
2:AA:1340:G:C4	2:AA:1341:G:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1828:G:H2'	2:AA:1829:G:C8	2.54	0.43
2:AA:1830:G:C2	2:AA:1831:G:C8	3.06	0.43
2:AA:1879:U:H5'	33:AT:99:ARG:HH21	1.83	0.43
2:AA:3007:A:H2'	2:AA:3008:A:H8	1.84	0.43
2:AA:3446:A:H2'	2:AA:3447:A:O4'	2.19	0.43
2:AA:3586:U:H4'	25:AK:160:LYS:HD2	2.00	0.43
4:AB:27:A:OP1	40:AG:143:ARG:NH1	2.50	0.43
16:Ad:30:SER:OG	16:Ad:36:THR:OG1	2.34	0.43
17:Ae:46:ARG:HA	17:Ae:46:ARG:HE	1.83	0.43
18:Af:36:ASN:OD1	18:Af:37:LYS:N	2.52	0.43
23:AJ:45:ILE:HG13	23:AJ:46:PHE:CD1	2.53	0.43
23:AJ:117:LYS:NZ	23:AJ:206:LEU:O	2.47	0.43
25:AK:3:LYS:HE2	25:AK:3:LYS:HB2	1.71	0.43
38:AE:51:ALA:HB3	38:AE:78:ILE:O	2.19	0.43
42:AH:49:LYS:HG3	42:AH:52:LYS:HZ2	1.82	0.43
45:AX:73:LYS:HD2	45:AX:73:LYS:HA	1.80	0.43
53:SA:618:U:OP2	69:SQ:5:LYS:HE2	2.19	0.43
53:SA:747:U:H2'	53:SA:748:C:H6	1.82	0.43
53:SA:1419:C:H2'	53:SA:1420:G:O4'	2.18	0.43
53:SA:1851:C:H5''	76:SX:47:ARG:HH21	1.83	0.43
54:SB:62:LYS:HZ1	54:SB:91:ILE:HB	1.83	0.43
58:SF:11:ARG:HH21	58:SF:21:ASN:N	2.15	0.43
61:SI:152:ALA:HB1	61:SI:163:CYS:HA	2.00	0.43
68:SP:86:LYS:HD3	68:SP:86:LYS:HA	1.79	0.43
71:SS:76:PRO:HD2	71:SS:98:ILE:HG12	2.00	0.43
76:SX:30:GLN:O	76:SX:33:LEU:HD12	2.17	0.43
1:S7:63:G:H2'	1:S7:64:G:H8	1.84	0.43
2:AA:85:A:OP1	28:AO:65:LYS:NZ	2.39	0.43
2:AA:305:A:N3	2:AA:307:G:N1	2.66	0.43
2:AA:624:C:H5''	2:AA:625:A:O4'	2.17	0.43
2:AA:763:U:OP1	5:AL:34:ARG:HD2	2.18	0.43
2:AA:1771:A:H3'	2:AA:1772:G:H8	1.84	0.43
2:AA:1968:C:H4'	16:Ad:49:LEU:HD22	2.00	0.43
2:AA:2082:C:C2	2:AA:2083:U:C5	3.06	0.43
2:AA:3438:G:OP1	46:A0:41:SER:HB2	2.18	0.43
2:AA:3639:G:N2	2:AA:3646:G:H1	2.11	0.43
3:AC:145:A:H2'	3:AC:146:C:C6	2.53	0.43
9:A6:58:VAL:O	9:A6:61:TYR:HB3	2.18	0.43
18:Af:14:ASN:HD21	42:AH:171:ILE:HD13	1.84	0.43
18:Af:19:ILE:O	18:Af:46:ARG:N	2.46	0.43
20:Ah:10:LEU:HB3	20:Ah:30:GLU:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AI:52:LYS:HE2	22:AI:52:LYS:HB2	1.87	0.43
25:AK:189:ASN:OD1	25:AK:189:ASN:N	2.51	0.43
26:AM:16:THR:HB	26:AM:87:TRP:HA	2.00	0.43
27:AS:71:MET:HE3	27:AS:71:MET:HB3	1.87	0.43
29:AQ:27:PRO:HA	1:S9:64:G:H4'	1.99	0.43
29:AQ:80:CYS:HA	29:AQ:147:LYS:NZ	2.34	0.43
33:AT:51:LYS:HD2	33:AT:52:LYS:O	2.18	0.43
33:AT:173:LYS:HZ3	73:SU:39:LYS:H	1.65	0.43
36:A5:148:PRO:O	36:A5:152:THR:HB	2.18	0.43
36:A5:251:GLU:OE2	36:A5:255:ARG:NH2	2.47	0.43
39:AF:181:ASN:HA	39:AF:184:VAL:HG22	2.00	0.43
40:AG:149:SER:HB2	40:AG:152:HIS:CD2	2.53	0.43
41:AU:25:THR:HG1	41:AU:28:ASP:H	1.63	0.43
44:Ag:27:LEU:CD2	44:Ag:31:ARG:HH11	2.31	0.43
45:AX:48:LYS:N	45:AX:49:PRO:HD2	2.34	0.43
49:S3:5:ARG:HH22	53:SA:2087:U:P	2.40	0.43
50:S4:30:PHE:HB3	50:S4:80:LYS:HE3	1.99	0.43
53:SA:331:G:O6	53:SA:350:A:N6	2.52	0.43
53:SA:619:U:OP2	53:SA:620:G:O2'	2.35	0.43
53:SA:957:U:H2'	53:SA:958:U:C6	2.53	0.43
53:SA:1079:C:H2'	53:SA:1080:G:O4'	2.17	0.43
53:SA:1108:A:O2'	53:SA:1109:G:H8	2.01	0.43
53:SA:1247:G:H1'	59:SG:101:GLN:NE2	2.28	0.43
53:SA:1403:U:H5'	59:SG:100:LYS:HZ3	1.82	0.43
53:SA:1933:C:O2	53:SA:2057:A:N6	2.51	0.43
58:SF:48:LEU:HA	58:SF:52:LEU:HB2	1.99	0.43
60:SH:202:LYS:O	60:SH:205:LEU:HG	2.19	0.43
63:SK:73:ALA:HB3	63:SK:128:PHE:CZ	2.53	0.43
66:SN:47:LEU:HD12	66:SN:90:LEU:HD23	2.00	0.43
71:SS:19:ASN:HB2	71:SS:35:ILE:HG22	2.00	0.43
73:SU:34:GLU:HG2	73:SU:67:THR:HG21	2.00	0.43
74:SV:146:GLU:OE2	74:SV:146:GLU:N	2.52	0.43
2:AA:158:U:H2'	2:AA:159:C:C6	2.53	0.43
2:AA:388:C:H2'	2:AA:389:U:H6	1.83	0.43
2:AA:424:U:H2'	2:AA:425:A:C8	2.54	0.43
2:AA:939:A:H2'	2:AA:940:A:C8	2.53	0.43
2:AA:1255:G:P	29:AQ:98:ARG:HE	2.42	0.43
2:AA:1484:A:H2'	2:AA:1485:A:C8	2.53	0.43
2:AA:1901:A:N1	2:AA:1905:C:H1'	2.32	0.43
2:AA:1905:C:H2'	2:AA:1906:A:H8	1.84	0.43
2:AA:2126:A:C2	2:AA:2127:G:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3688:G:H2'	2:AA:3689:C:O4'	2.18	0.43
2:AA:3727:A:H1'	2:AA:3763:G:H1'	1.99	0.43
2:AA:3760:U:H4'	2:AA:3761:G:H5'	2.00	0.43
10:A7:20:ILE:HB	10:A7:81:VAL:HG13	2.00	0.43
13:A9:97:ILE:N	13:A9:97:ILE:HD12	2.34	0.43
29:AQ:55:TYR:N	29:AQ:56:GLU:OE1	2.49	0.43
29:AQ:171:TRP:HA	29:AQ:178:LYS:HD3	2.00	0.43
30:AR:83:LEU:HB3	30:AR:88:ILE:HD12	2.00	0.43
39:AF:230:CYS:SG	39:AF:235:LEU:HA	2.59	0.43
40:AG:18:VAL:HG12	40:AG:68:PHE:HB2	1.99	0.43
40:AG:43:GLN:O	40:AG:69:VAL:HG21	2.18	0.43
45:AX:116:ILE:O	45:AX:120:LEU:HD13	2.19	0.43
46:A0:29:ILE:HG23	46:A0:34:LYS:O	2.18	0.43
53:SA:573:C:H2'	53:SA:574:A:O4'	2.19	0.43
53:SA:1080:G:H2'	53:SA:1081:U:H5	1.83	0.43
53:SA:1743:A:H2'	53:SA:1744:A:O4'	2.19	0.43
54:SB:130:LEU:HD23	54:SB:180:LEU:HD12	1.99	0.43
55:SC:64:ILE:O	55:SC:67:ILE:HG13	2.19	0.43
59:SG:63:TYR:OH	59:SG:149:ILE:HA	2.19	0.43
59:SG:122:HIS:ND1	59:SG:150:PRO:HB3	2.33	0.43
62:SJ:122:VAL:O	62:SJ:126:ILE:HD13	2.18	0.43
2:AA:14:U:H3	3:AC:143:G:N2	2.14	0.43
2:AA:71:A:OP2	28:AO:67:ARG:NE	2.44	0.43
2:AA:161:U:H2'	2:AA:162:U:C2	2.54	0.43
2:AA:211:U:C4	2:AA:212:U:C4	3.07	0.43
2:AA:343:G:O5'	34:AZ:8:SER:HB2	2.18	0.43
2:AA:1065:U:H2'	2:AA:1066:U:C6	2.53	0.43
2:AA:1101:A:OP1	36:A5:210:LYS:NZ	2.26	0.43
2:AA:2590:U:O2	2:AA:2590:U:H2'	2.18	0.43
2:AA:3067:G:H5''	43:AV:84:ARG:HH22	1.83	0.43
2:AA:3380:U:O4	2:AA:3381:A:N6	2.52	0.43
2:AA:3428:U:OP1	26:AM:50:ARG:NH1	2.52	0.43
2:AA:3503:U:H5''	18:Af:28:HIS:ND1	2.34	0.43
6:A1:143:LYS:HB2	6:A1:143:LYS:HE2	1.84	0.43
9:A6:72:ASP:OD1	9:A6:72:ASP:N	2.51	0.43
11:AN:30:LEU:O	11:AN:77:LEU:N	2.34	0.43
19:AP:13:LYS:HD3	19:AP:13:LYS:HA	1.74	0.43
19:AP:33:LEU:O	19:AP:65:ARG:NH1	2.51	0.43
19:AP:97:ASN:OD1	19:AP:100:SER:N	2.42	0.43
23:AJ:178:GLU:HA	23:AJ:181:LEU:HB3	2.01	0.43
34:AZ:109:LYS:HE3	34:AZ:114:ARG:NH1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:AG:27:GLY:HA2	40:AG:30:LEU:CD2	2.48	0.43
43:AV:20:PHE:HD1	43:AV:21:ARG:N	2.16	0.43
47:S1:94:ARG:NH2	53:SA:533:A:OP2	2.51	0.43
53:SA:51:A:H2'	53:SA:52:U:O4'	2.19	0.43
53:SA:94:A:P	53:SA:404:G:H22	2.41	0.43
53:SA:121:A:H1'	53:SA:403:A:C6	2.53	0.43
53:SA:606:A:H2'	53:SA:607:U:H6	1.81	0.43
53:SA:631:G:H2'	53:SA:632:C:C6	2.54	0.43
53:SA:755:A:C2	62:SJ:105:GLN:HB3	2.53	0.43
53:SA:1017:G:H2'	53:SA:1018:U:C6	2.54	0.43
53:SA:1208:G:O2'	53:SA:1209:G:H5'	2.18	0.43
53:SA:1798:G:N2	53:SA:1800:A:H3'	2.33	0.43
56:SD:20:GLU:O	56:SD:23:GLU:HG3	2.19	0.43
59:SG:132:GLU:OE1	59:SG:135:THR:HG22	2.18	0.43
61:SI:7:ASP:OD1	65:SM:54:TRP:NE1	2.51	0.43
62:SJ:42:ILE:HD11	62:SJ:64:ILE:HD12	2.01	0.43
66:SN:65:ARG:HB3	66:SN:76:TRP:CE2	2.54	0.43
73:SU:29:LYS:CG	73:SU:30:PRO:HD2	2.49	0.43
73:SU:122:ILE:O	73:SU:126:SER:OG	2.26	0.43
73:SU:128:TYR:HA	73:SU:131:ARG:NH1	2.33	0.43
74:SV:83:MET:HE3	74:SV:84:LYS:O	2.18	0.43
76:SX:114:TYR:O	76:SX:115:TYR:HB2	2.18	0.43
1:S9:3:C:O2'	1:S9:4:G:H5'	2.18	0.43
2:AA:14:U:H1'	32:AY:89:ARG:HH21	1.83	0.43
2:AA:162:U:H1'	2:AA:163:G:O5'	2.19	0.43
2:AA:544:C:P	2:AA:581:C:H41	2.41	0.43
2:AA:732:C:H2'	2:AA:733:C:C6	2.54	0.43
2:AA:803:A:H8	28:AO:58:MET:CE	2.31	0.43
2:AA:1051:U:O4'	2:AA:1053:U:H5'	2.17	0.43
2:AA:1336:U:H3	2:AA:3499:C:H41	1.67	0.43
2:AA:1974:U:H2'	2:AA:1975:A:C8	2.53	0.43
3:AC:69:A:C4	3:AC:70:A:C8	3.06	0.43
12:A8:32:TRP:CZ2	12:A8:53:PRO:HD2	2.54	0.43
13:A9:75:GLN:OE1	13:A9:78:VAL:HG21	2.18	0.43
25:AK:139:THR:O	25:AK:143:ARG:HG2	2.18	0.43
34:AZ:118:LEU:HD12	34:AZ:119:ASP:N	2.34	0.43
36:A5:67:GLU:HB3	36:A5:68:ARG:NH1	2.34	0.43
38:AE:211:MET:HB2	38:AE:338:ASN:HB3	1.99	0.43
38:AE:213:ASP:OD2	38:AE:336:ARG:NH2	2.52	0.43
38:AE:373:LYS:HE3	38:AE:373:LYS:HB3	1.84	0.43
41:AU:32:ASN:HB3	41:AU:34:TYR:CZ	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S5:8:LYS:HE2	51:S5:8:LYS:HB2	1.85	0.43
53:SA:1956:A:H2'	53:SA:1957:A:C8	2.53	0.43
57:SE:102:PRO:O	57:SE:106:GLU:HG2	2.18	0.43
59:SG:58:SER:HA	59:SG:78:PHE:HE1	1.84	0.43
59:SG:90:ASP:N	59:SG:90:ASP:OD1	2.44	0.43
61:SI:67:MET:HE1	61:SI:146:CYS:HA	2.01	0.43
61:SI:67:MET:O	61:SI:150:ARG:NH2	2.49	0.43
64:SL:104:ILE:HD13	64:SL:104:ILE:HA	1.87	0.43
71:SS:41:ARG:HH12	77:SY:61:LYS:HB3	1.83	0.43
77:SY:62:THR:HG22	77:SY:75:TRP:CE3	2.53	0.43
1:S7:18:G:N2	1:S7:57:A:H2'	2.34	0.43
2:AA:19:A:H4'	19:AP:139:ASN:ND2	2.33	0.43
2:AA:109:A:H4'	2:AA:110:G:OP1	2.19	0.43
2:AA:510:A:H2'	2:AA:511:C:C6	2.54	0.43
2:AA:1264:A:OP1	8:A4:9:ASN:N	2.49	0.43
2:AA:1321:A:OP2	25:AK:48:ARG:NH1	2.37	0.43
2:AA:1335:G:H4'	18:Af:41:ARG:HG3	1.99	0.43
2:AA:1472:A:H5'	36:A5:170:ARG:HG2	2.01	0.43
2:AA:1643:U:H1'	2:AA:1645:U:C5	2.54	0.43
2:AA:1736:A:O2'	2:AA:1737:A:OP1	2.34	0.43
2:AA:1805:U:O2'	2:AA:1806:C:H5'	2.18	0.43
2:AA:2163:A:H5'	2:AA:2164:A:OP1	2.18	0.43
2:AA:3412:G:N2	2:AA:3414:G:C8	2.87	0.43
2:AA:3534:U:H2'	2:AA:3535:A:C8	2.54	0.43
2:AA:3785:G:H2'	2:AA:3786:U:C6	2.54	0.43
3:AC:22:U:H2'	3:AC:23:G:C8	2.54	0.43
3:AC:134:G:HO2'	3:AC:135:G:P	2.40	0.43
5:AL:147:THR:O	5:AL:150:GLU:HG2	2.18	0.43
10:A7:43:GLU:HA	10:A7:43:GLU:OE2	2.19	0.43
15:Ab:60:ARG:O	15:Ab:63:GLU:HG3	2.18	0.43
17:Ae:46:ARG:HA	17:Ae:46:ARG:NE	2.34	0.43
18:Af:51:LEU:HD12	42:AH:173:LYS:HD3	1.99	0.43
19:AP:71:ARG:HA	19:AP:71:ARG:HD3	1.77	0.43
19:AP:148:LYS:O	19:AP:150:ASN:N	2.51	0.43
19:AP:148:LYS:C	19:AP:149:ILE:HG13	2.43	0.43
20:Ah:58:LYS:HD2	20:Ah:58:LYS:HA	1.73	0.43
21:Ai:32:GLU:OE2	21:Ai:39:ARG:NE	2.38	0.43
23:AJ:72:PRO:HD2	23:AJ:75:ILE:HD11	2.01	0.43
29:AQ:84:ASN:O	29:AQ:84:ASN:ND2	2.50	0.43
32:AY:120:ALA:O	32:AY:124:ILE:HG13	2.19	0.43
34:AZ:34:LEU:HD21	34:AZ:44:THR:HG23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:A5:181:ASP:N	36:A5:181:ASP:OD1	2.48	0.43
38:AE:126:GLU:HB3	38:AE:128:LYS:HG3	2.00	0.43
40:AG:101:ASN:HA	40:AG:129:VAL:O	2.19	0.43
49:S3:67:LEU:HD23	49:S3:67:LEU:HA	1.70	0.43
53:SA:248:G:N1	58:SF:203:GLY:O	2.52	0.43
53:SA:1015:U:H2'	53:SA:1016:U:C6	2.53	0.43
53:SA:1080:G:H2'	53:SA:1081:U:C5	2.53	0.43
53:SA:1943:C:H2'	53:SA:1944:U:C6	2.54	0.43
53:SA:1973:U:H2'	53:SA:1974:U:H6	1.84	0.43
54:SB:64:ARG:HG2	54:SB:88:CYS:SG	2.58	0.43
56:SD:120:CYS:HA	56:SD:123:VAL:HG12	1.99	0.43
57:SE:59:LEU:HD11	57:SE:72:GLN:HB2	2.00	0.43
62:SJ:116:SER:OG	62:SJ:117:ARG:NH1	2.52	0.43
63:SK:112:ASP:O	63:SK:116:ALA:HB2	2.19	0.43
64:SL:97:VAL:HG22	64:SL:100:CYS:SG	2.58	0.43
65:SM:90:ILE:HD12	65:SM:106:LEU:HD21	1.99	0.43
68:SP:147:ARG:HE	68:SP:150:ARG:HD3	1.84	0.43
2:AA:316:A:H1'	2:AA:2515:A:C2	2.54	0.43
2:AA:515:A:H2'	2:AA:516:G:C8	2.53	0.43
2:AA:996:C:O2'	2:AA:999:G:O2'	2.31	0.43
2:AA:1064:U:H1'	2:AA:1555:A:N3	2.34	0.43
2:AA:1102:U:C4	2:AA:1231:A:H2	2.37	0.43
2:AA:1994:U:H2'	2:AA:1995:C:O4'	2.18	0.43
2:AA:2106:A:H5''	2:AA:2107:C:C5	2.53	0.43
2:AA:2203:G:H2'	2:AA:2204:A:C8	2.54	0.43
2:AA:3472:A:C6	2:AA:3473:G:C5	3.05	0.43
3:AC:138:U:O5'	32:AY:145:LYS:HG3	2.18	0.43
3:AC:152:C:H2'	3:AC:153:A:C8	2.54	0.43
4:AB:65:G:H2'	4:AB:66:G:O4'	2.19	0.43
6:A1:112:LYS:HB3	6:A1:116:LYS:HZ1	1.83	0.43
10:A7:83:LEU:HA	10:A7:83:LEU:HD23	1.74	0.43
11:AN:71:LEU:HD22	11:AN:74:LEU:HD12	2.01	0.43
18:Af:23:CYS:HB2	18:Af:38:LYS:NZ	2.34	0.43
19:AP:161:GLU:CD	19:AP:162:LEU:HD22	2.44	0.43
22:AI:175:LYS:HA	22:AI:178:LYS:HG2	2.01	0.43
23:AJ:74:TYR:C	23:AJ:76:ARG:N	2.75	0.43
23:AJ:233:LYS:HD2	23:AJ:233:LYS:HA	1.62	0.43
25:AK:95:GLN:HA	25:AK:95:GLN:HE21	1.83	0.43
36:A5:173:ARG:HB2	36:A5:216:TRP:CE3	2.54	0.43
37:AD:145:LYS:HD3	37:AD:145:LYS:HA	1.83	0.43
39:AF:7:VAL:HB	39:AF:21:GLU:OE2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AH:155:LEU:O	42:AH:159:LEU:HG	2.19	0.43
43:AV:148:LYS:O	43:AV:150:ILE:HG12	2.18	0.43
45:AX:104:LYS:HE3	45:AX:104:LYS:HB3	1.55	0.43
46:A0:62:TRP:CE3	46:A0:63:ARG:HD2	2.53	0.43
50:S4:21:ARG:H	50:S4:21:ARG:HG2	1.57	0.43
53:SA:124:U:H5''	58:SF:77:ARG:NH1	2.32	0.43
53:SA:1216:U:H2'	53:SA:1217:A:H8	1.83	0.43
53:SA:1907:G:O5'	61:SI:42:HIS:NE2	2.50	0.43
53:SA:2067:U:H2'	53:SA:2068:A:C8	2.53	0.43
56:SD:216:LEU:O	75:SW:19:LYS:NZ	2.47	0.43
60:SH:61:PHE:CD2	60:SH:72:ARG:HD3	2.54	0.43
67:SO:40:ILE:HD12	67:SO:41:PRO:CD	2.41	0.43
72:ST:52:LYS:HE2	72:ST:52:LYS:HB2	1.76	0.43
77:SY:127:LEU:HD11	77:SY:145:ARG:HG2	2.00	0.43
2:AA:61:A:O2'	2:AA:62:A:OP1	2.33	0.43
2:AA:355:A:H2'	2:AA:356:A:C8	2.54	0.43
2:AA:493:C:H2'	2:AA:494:U:O4'	2.18	0.43
2:AA:519:A:H2'	2:AA:520:U:O4'	2.18	0.43
2:AA:1869:G:O2'	2:AA:1889:A:N6	2.52	0.43
2:AA:1907:A:O4'	16:Ad:6:THR:HG21	2.18	0.43
2:AA:2189:A:H2'	2:AA:2190:A:C8	2.54	0.43
2:AA:2459:C:OP1	19:AP:77:LYS:NZ	2.51	0.43
2:AA:2817:U:H2'	2:AA:2818:U:H6	1.83	0.43
2:AA:3171:C:H2'	2:AA:3172:A:C8	2.54	0.43
2:AA:3681:A:H2'	2:AA:3682:A:H8	1.83	0.43
3:AC:30:U:O2'	39:AF:53:ALA:O	2.33	0.43
4:AB:11:A:N1	4:AB:66:G:O2'	2.51	0.43
5:AL:204:GLN:O	5:AL:208:ILE:HG13	2.19	0.43
6:A1:112:LYS:HE2	6:A1:116:LYS:NZ	2.34	0.43
9:A6:30:ARG:NH1	9:A6:34:LEU:HD23	2.33	0.43
13:A9:137:PRO:HB3	22:AI:102:ARG:HG2	2.01	0.43
16:Ad:27:LYS:HD3	16:Ad:27:LYS:HA	1.68	0.43
29:AQ:164:LYS:HB2	29:AQ:166:PHE:HE2	1.84	0.43
32:AY:123:LYS:HG3	32:AY:129:THR:O	2.19	0.43
32:AY:150:LEU:HB3	32:AY:151:PHE:CD1	2.54	0.43
33:AT:80:ARG:HG2	33:AT:87:ARG:HH12	1.84	0.43
36:A5:50:ARG:O	36:A5:50:ARG:NE	2.52	0.43
38:AE:81:CYS:HB2	38:AE:317:ASP:HB2	2.01	0.43
39:AF:383:VAL:O	39:AF:387:LYS:HG2	2.19	0.43
41:AU:77:PHE:H	41:AU:80:ARG:CZ	2.32	0.43
53:SA:478:G:H1'	53:SA:820:A:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1295:A:HO2'	53:SA:1296:C:P	2.42	0.43
53:SA:1297:A:H4'	53:SA:1298:C:H5''	2.00	0.43
53:SA:1850:G:N2	53:SA:1853:A:O5'	2.48	0.43
54:SB:178:LYS:H	54:SB:178:LYS:HG3	1.72	0.43
55:SC:133:VAL:HG12	55:SC:155:HIS:HB2	2.01	0.43
59:SG:170:VAL:HG11	59:SG:233:THR:HB	2.01	0.43
59:SG:242:TRP:CE3	59:SG:242:TRP:HA	2.54	0.43
61:SI:148:GLY:HA2	61:SI:151:ASN:HD21	1.84	0.43
61:SI:195:ARG:HH12	68:SP:76:MET:CG	2.32	0.43
64:SL:166:LYS:HA	64:SL:166:LYS:HD3	1.81	0.43
65:SM:8:VAL:HG12	65:SM:23:VAL:HB	2.01	0.43
77:SY:160:ARG:O	77:SY:164:LYS:HG2	2.18	0.43
2:AA:10:G:H2'	2:AA:10:G:N3	2.34	0.42
2:AA:15:U:H2'	2:AA:16:A:H8	1.82	0.42
2:AA:357:A:C4	3:AC:28:G:H1'	2.54	0.42
2:AA:860:A:H2'	2:AA:861:C:C6	2.54	0.42
2:AA:868:U:H2'	2:AA:869:A:H8	1.84	0.42
2:AA:1020:C:H2'	2:AA:1021:G:H8	1.84	0.42
2:AA:1889:A:H2'	2:AA:1890:G:H5'	2.01	0.42
2:AA:2919:A:H3'	2:AA:2920:A:H8	1.84	0.42
2:AA:3017:A:H2	1:S9:56:C:C4	2.37	0.42
2:AA:3446:A:H5''	2:AA:3763:G:N2	2.22	0.42
2:AA:3479:U:H2'	2:AA:3480:C:C6	2.54	0.42
2:AA:3718:G:H5'	10:A7:111:GLY:HA2	2.01	0.42
4:AB:6:C:OP2	30:AR:27:LYS:NZ	2.33	0.42
10:A7:63:LEU:HD23	10:A7:103:HIS:HD2	1.84	0.42
11:AN:119:LYS:HD3	25:AK:198:ASN:O	2.19	0.42
15:Ab:43:LEU:O	15:Ab:47:VAL:HG22	2.19	0.42
19:AP:75:VAL:HG21	19:AP:80:VAL:HG12	2.01	0.42
31:AW:94:ILE:O	31:AW:98:VAL:HG23	2.19	0.42
31:AW:94:ILE:HG13	31:AW:95:LEU:N	2.31	0.42
33:AT:23:MET:HG2	33:AT:31:ILE:HG13	2.00	0.42
38:AE:56:ILE:HD11	38:AE:353:LEU:HD22	2.01	0.42
38:AE:276:ASN:HD22	38:AE:276:ASN:HA	1.63	0.42
41:AU:84:TYR:HE2	41:AU:108:LYS:HG2	1.84	0.42
51:S5:4:SER:HB3	51:S5:55:ALA:HB1	2.00	0.42
51:S5:27:ALA:HB3	51:S5:40:LEU:HB3	2.01	0.42
53:SA:246:A:H2'	53:SA:247:G:C8	2.54	0.42
53:SA:1438:A:H2'	53:SA:1439:A:C8	2.54	0.42
53:SA:1796:C:H2'	53:SA:1797:C:C6	2.54	0.42
53:SA:1943:C:H2'	53:SA:1944:U:H6	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SB:66:TYR:CD1	68:SP:48:SER:HB3	2.54	0.42
54:SB:113:LEU:HD11	54:SB:209:ASN:OD1	2.18	0.42
57:SE:53:ARG:HG2	57:SE:57:ARG:NH1	2.34	0.42
58:SF:9:LEU:HD23	58:SF:9:LEU:HA	1.90	0.42
58:SF:94:LYS:HD2	58:SF:95:SER:H	1.83	0.42
58:SF:97:GLU:HG3	58:SF:99:PHE:CZ	2.54	0.42
60:SH:70:ASN:OD1	60:SH:70:ASN:N	2.52	0.42
60:SH:187:LYS:O	60:SH:190:LEU:HG	2.18	0.42
67:SO:16:LYS:HA	67:SO:16:LYS:HD3	1.93	0.42
69:SQ:82:LYS:O	69:SQ:83:ILE:HD13	2.19	0.42
71:SS:112:ASP:O	71:SS:115:ARG:HG2	2.19	0.42
75:SW:29:GLN:OE1	75:SW:29:GLN:N	2.51	0.42
2:AA:61:A:HO2'	2:AA:62:A:P	2.42	0.42
2:AA:61:A:C4	2:AA:62:A:C8	3.07	0.42
2:AA:548:U:H4'	41:AU:137:GLU:CD	2.44	0.42
2:AA:642:A:H1'	2:AA:1465:G:H5''	2.01	0.42
2:AA:721:U:HO2'	2:AA:722:G:P	2.41	0.42
2:AA:907:C:H2'	2:AA:908:A:C8	2.54	0.42
2:AA:1160:C:H2'	2:AA:1161:C:H6	1.84	0.42
2:AA:1237:C:H2'	2:AA:1238:C:H6	1.83	0.42
2:AA:1444:A:H5'	25:AK:129:LYS:HG2	2.00	0.42
2:AA:1770:G:H1'	2:AA:1798:A:N7	2.35	0.42
2:AA:3113:U:H2'	2:AA:3114:G:C8	2.54	0.42
2:AA:3248:C:H2'	2:AA:3249:A:H8	1.83	0.42
2:AA:3435:A:C2	38:AE:55:HIS:HD2	2.37	0.42
3:AC:137:A:H2'	3:AC:138:U:C1'	2.49	0.42
4:AB:40:A:N3	40:AG:72:ARG:NH1	2.67	0.42
4:AB:115:G:H2'	4:AB:116:U:C6	2.54	0.42
7:A2:18:ASN:HB2	7:A2:21:ILE:HD12	2.01	0.42
25:AK:57:LEU:HA	25:AK:71:HIS:CD2	2.54	0.42
27:AS:3:ILE:HD12	27:AS:3:ILE:HA	1.91	0.42
34:AZ:105:LEU:H	34:AZ:105:LEU:HD12	1.84	0.42
38:AE:52:GLY:O	38:AE:77:THR:OG1	2.24	0.42
38:AE:253:HIS:HA	38:AE:254:PRO:C	2.43	0.42
39:AF:32:ILE:O	39:AF:126:SER:HB3	2.18	0.42
53:SA:181:A:H2'	53:SA:182:U:C6	2.54	0.42
53:SA:430:C:H4'	53:SA:432:G:OP1	2.19	0.42
53:SA:938:U:H4'	73:SU:49:GLN:HE21	1.83	0.42
53:SA:1168:U:H2'	53:SA:1169:C:C6	2.54	0.42
53:SA:1204:U:H2'	53:SA:1205:U:C6	2.55	0.42
53:SA:1226:A:C8	53:SA:1227:G:H1'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1283:U:O2	53:SA:1286:U:N3	2.52	0.42
53:SA:1662:A:C6	53:SA:1663:A:N6	2.85	0.42
53:SA:1945:C:H2'	53:SA:1946:C:H6	1.83	0.42
54:SB:195:LYS:HA	54:SB:195:LYS:HD3	1.80	0.42
58:SF:119:SER:O	58:SF:164:LEU:HD11	2.18	0.42
59:SG:246:ASN:C	59:SG:246:ASN:OD1	2.63	0.42
61:SI:70:HIS:HD2	61:SI:73:ASN:HD21	1.67	0.42
65:SM:36:ASN:HB3	77:SY:22:PHE:CZ	2.51	0.42
68:SP:84:ARG:HA	68:SP:87:GLU:OE2	2.19	0.42
75:SW:17:VAL:HG13	75:SW:21:TYR:HD1	1.84	0.42
77:SY:20:VAL:HG21	77:SY:24:LYS:NZ	2.34	0.42
2:AA:299:A:OP2	19:AP:68:ARG:NH2	2.42	0.42
2:AA:733:C:OP2	12:A8:27:ARG:HD3	2.18	0.42
2:AA:745:C:O2	2:AA:915:G:N2	2.50	0.42
2:AA:762:A:H2'	2:AA:763:U:C6	2.55	0.42
2:AA:1067:U:H2'	2:AA:1068:C:H6	1.83	0.42
2:AA:1270:G:C8	2:AA:1271:A:H2'	2.53	0.42
2:AA:1647:U:H2'	2:AA:1648:U:C6	2.54	0.42
2:AA:1706:A:H62	23:AJ:74:TYR:HE2	1.67	0.42
2:AA:1706:A:N6	23:AJ:74:TYR:OH	2.52	0.42
2:AA:1722:C:H2'	2:AA:1723:C:C6	2.54	0.42
2:AA:1769:U:H2'	2:AA:1770:G:C8	2.55	0.42
2:AA:1779:A:C6	2:AA:2033:C:H2'	2.54	0.42
2:AA:1783:G:H2'	2:AA:1784:G:O4'	2.19	0.42
2:AA:2137:C:H2'	2:AA:2138:U:H6	1.84	0.42
2:AA:2692:A:N6	2:AA:2693:G:O6	2.52	0.42
2:AA:2884:G:C6	14:Aa:92:ALA:HA	2.54	0.42
2:AA:3086:A:OP2	2:AA:3086:A:H8	2.01	0.42
2:AA:3409:U:H2'	2:AA:3410:A:C8	2.54	0.42
2:AA:3416:G:H3'	2:AA:3417:G:C8	2.54	0.42
2:AA:3424:U:OP1	38:AE:62:LYS:HE3	2.19	0.42
2:AA:3768:A:N3	10:A7:26:LYS:HA	2.34	0.42
4:AB:12:U:H1'	4:AB:109:U:H1'	2.01	0.42
4:AB:75:G:N2	4:AB:100:A:OP2	2.40	0.42
5:AL:147:THR:HB	5:AL:151:PHE:CE2	2.54	0.42
11:AN:59:ALA:O	11:AN:63:GLY:N	2.37	0.42
21:Ai:88:LYS:H	21:Ai:88:LYS:HG2	1.56	0.42
23:AJ:177:ILE:HD12	23:AJ:177:ILE:HA	1.92	0.42
25:AK:36:ARG:HD3	25:AK:107:MET:HE3	2.00	0.42
29:AQ:80:CYS:SG	29:AQ:85:PHE:HB3	2.60	0.42
30:AR:76:ALA:HB3	30:AR:109:PHE:CE1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:AT:63:ARG:HH11	33:AT:63:ARG:N	2.18	0.42
35:A3:112:ASN:OD1	35:A3:113:PHE:N	2.52	0.42
38:AE:280:TYR:CE2	38:AE:322:LYS:HB2	2.54	0.42
47:S1:13:MET:SD	47:S1:22:GLN:HB2	2.59	0.42
53:SA:28:A:H2'	53:SA:29:U:C6	2.55	0.42
53:SA:547:U:N3	53:SA:549:A:N7	2.66	0.42
53:SA:825:A:H2'	53:SA:826:A:C8	2.54	0.42
53:SA:1048:A:C4	53:SA:1049:G:C8	3.07	0.42
53:SA:1093:U:H5''	53:SA:1096:A:N6	2.33	0.42
53:SA:1702:C:P	53:SA:1703:U:H2'	2.59	0.42
57:SE:109:LEU:O	57:SE:113:VAL:HG22	2.20	0.42
57:SE:139:GLN:OE1	57:SE:140:MET:N	2.47	0.42
58:SF:7:LYS:HD3	58:SF:7:LYS:HA	1.83	0.42
60:SH:194:LYS:HG3	60:SH:195:GLU:N	2.34	0.42
63:SK:71:LYS:HE3	63:SK:71:LYS:HB2	1.92	0.42
66:SN:30:ALA:HA	66:SN:33:LYS:HE3	2.01	0.42
73:SU:55:ARG:NH1	73:SU:56:ASP:OD2	2.52	0.42
73:SU:72:LEU:O	73:SU:76:ARG:HB2	2.20	0.42
2:AA:162:U:O2'	2:AA:163:G:OP2	2.30	0.42
2:AA:216:C:H2'	2:AA:217:A:H8	1.85	0.42
2:AA:257:U:C2	2:AA:258:U:C6	3.07	0.42
2:AA:599:G:H2'	2:AA:600:U:C6	2.54	0.42
2:AA:739:G:H4'	2:AA:740:U:C6	2.54	0.42
2:AA:1171:A:H2'	29:AQ:22:TYR:CZ	2.55	0.42
2:AA:1773:U:H5'	2:AA:1780:G:H5'	2.01	0.42
2:AA:1897:G:OP2	14:Aa:55:LYS:NZ	2.51	0.42
2:AA:2185:C:P	33:AT:84:LYS:HZ1	2.43	0.42
2:AA:2522:A:H2'	2:AA:2523:U:C6	2.55	0.42
2:AA:3262:A:H2'	2:AA:3263:G:O4'	2.19	0.42
2:AA:3576:A:O2'	25:AK:100:LYS:NZ	2.51	0.42
3:AC:97:C:H3'	24:Ac:75:ARG:NH1	2.34	0.42
3:AC:150:U:OP1	19:AP:38:ARG:NH2	2.44	0.42
15:Ab:61:ILE:HG23	15:Ab:97:ILE:HD13	2.01	0.42
20:Ah:4:ARG:H	20:Ah:4:ARG:HG2	1.53	0.42
26:AM:82:ARG:HD2	26:AM:82:ARG:HA	1.75	0.42
36:A5:70:LYS:O	36:A5:73:GLU:HG3	2.19	0.42
40:AG:13:LYS:O	40:AG:131:LEU:HB3	2.19	0.42
41:AU:38:ILE:HG22	41:AU:39:PHE:N	2.34	0.42
44:Ag:11:SER:HA	53:SA:1928:A:O4'	2.20	0.42
53:SA:66:U:H1'	60:SH:160:ARG:HE	1.85	0.42
53:SA:312:U:OP1	74:SV:108:LYS:NZ	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:827:C:H2'	53:SA:828:A:N7	2.34	0.42
53:SA:1105:A:H2'	53:SA:1106:C:C6	2.54	0.42
53:SA:1237:U:H5''	69:SQ:62:LYS:NZ	2.34	0.42
53:SA:1311:U:H2'	53:SA:1312:A:C8	2.55	0.42
53:SA:1626:U:H3'	53:SA:1626:U:OP2	2.20	0.42
58:SF:36:HIS:NE2	58:SF:143:ASP:HA	2.34	0.42
73:SU:97:SER:HA	73:SU:100:LYS:HE3	2.01	0.42
74:SV:72:ARG:C	74:SV:73:ILE:HD13	2.45	0.42
1:S9:68:C:H2'	1:S9:69:C:C6	2.54	0.42
2:AA:393:G:H2'	2:AA:394:A:O4'	2.20	0.42
2:AA:428:A:O2'	2:AA:708:A:OP1	2.22	0.42
2:AA:954:G:H1'	2:AA:977:A:N6	2.35	0.42
2:AA:2182:G:N2	33:AT:80:ARG:O	2.50	0.42
2:AA:2959:G:HO2'	2:AA:2960:G:P	2.41	0.42
2:AA:3343:C:H2'	2:AA:3344:C:C6	2.55	0.42
3:AC:116:U:O2	17:Ae:8:ARG:NH2	2.52	0.42
4:AB:54:A:H4'	40:AG:10:ARG:CZ	2.49	0.42
4:AB:68:U:O2	4:AB:107:G:C6	2.72	0.42
6:A1:20:GLY:N	14:Aa:89:ILE:HD12	2.32	0.42
9:A6:43:LYS:HZ1	9:A6:104:ILE:HA	1.85	0.42
15:Ab:58:GLU:O	15:Ab:61:ILE:HG22	2.19	0.42
16:Ad:2:PRO:HD3	16:Ad:49:LEU:H	1.84	0.42
16:Ad:62:ARG:HE	16:Ad:62:ARG:C	2.26	0.42
22:AI:146:GLN:HA	22:AI:169:ILE:HD11	2.01	0.42
26:AM:30:ASN:HD21	26:AM:115:ALA:N	2.17	0.42
26:AM:59:MET:HG2	26:AM:77:ASN:HB3	2.02	0.42
36:A5:86:ARG:HH12	43:AV:139:ALA:HA	1.84	0.42
36:A5:107:LYS:HB2	36:A5:107:LYS:HE3	1.71	0.42
37:AD:48:ILE:HD12	37:AD:84:THR:HG22	2.02	0.42
38:AE:37:LYS:HD2	38:AE:184:SER:HB2	2.01	0.42
39:AF:176:LEU:O	39:AF:180:VAL:HG13	2.19	0.42
42:AH:18:VAL:HB	42:AH:27:VAL:HG22	2.01	0.42
43:AV:76:LEU:HD12	43:AV:76:LEU:HA	1.87	0.42
45:AX:91:TYR:C	45:AX:92:ILE:HD13	2.45	0.42
49:S3:59:TYR:O	49:S3:61:THR:HG22	2.20	0.42
53:SA:394:G:O3'	53:SA:431:A:N6	2.52	0.42
53:SA:925:C:H2'	53:SA:926:G:C8	2.55	0.42
53:SA:1199:U:O2	63:SK:71:LYS:HB3	2.19	0.42
53:SA:1453:G:N1	53:SA:1610:U:N3	2.38	0.42
53:SA:1979:C:O2'	53:SA:1980:A:H5'	2.20	0.42
57:SE:42:ILE:HA	57:SE:45:VAL:HG22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SE:113:VAL:HG11	57:SE:134:ILE:HG12	2.01	0.42
61:SI:107:VAL:HG13	61:SI:141:ALA:HB1	2.01	0.42
62:SJ:91:TYR:OH	62:SJ:164:ASN:OD1	2.35	0.42
63:SK:115:GLU:OE2	63:SK:115:GLU:N	2.52	0.42
68:SP:138:ASP:OD2	68:SP:140:THR:N	2.50	0.42
71:SS:98:ILE:O	71:SS:100:VAL:HG13	2.20	0.42
75:SW:56:HIS:HA	75:SW:59:LYS:HG2	2.01	0.42
2:AA:86:G:O2'	27:AS:167:ARG:NH1	2.53	0.42
2:AA:464:G:H2'	2:AA:465:A:H8	1.83	0.42
2:AA:583:U:H5''	11:AN:85:LYS:HE3	2.01	0.42
2:AA:1035:G:H2'	2:AA:1043:G:N7	2.34	0.42
2:AA:1115:G:N3	2:AA:2976:A:H2'	2.35	0.42
2:AA:1193:G:H2'	2:AA:1194:A:C8	2.55	0.42
2:AA:2942:G:H2'	2:AA:2943:U:C6	2.54	0.42
2:AA:3675:A:H2'	2:AA:3676:C:H6	1.85	0.42
2:AA:3716:C:H4'	10:A7:21:THR:HG22	2.01	0.42
3:AC:134:G:O2'	3:AC:135:G:OP1	2.29	0.42
11:AN:41:LYS:HB3	11:AN:64:VAL:HG21	2.00	0.42
11:AN:43:CYS:SG	11:AN:64:VAL:HG11	2.58	0.42
16:Ad:16:ARG:HD2	16:Ad:16:ARG:HA	1.91	0.42
25:AK:75:PRO:HB3	25:AK:137:LEU:HG	2.02	0.42
28:AO:86:LYS:HG2	28:AO:90:PHE:CE2	2.54	0.42
30:AR:222:PHE:HB3	30:AR:225:TYR:CD2	2.55	0.42
39:AF:183:LEU:HD11	39:AF:206:GLY:HA3	2.00	0.42
39:AF:362:GLN:CD	39:AF:365:LYS:HZ3	2.25	0.42
41:AU:13:ILE:HG23	41:AU:40:ALA:O	2.19	0.42
43:AV:93:ARG:HE	43:AV:93:ARG:HB3	1.73	0.42
47:S1:84:LYS:HD2	47:S1:84:LYS:HA	1.83	0.42
50:S4:44:LEU:HD12	50:S4:45:PHE:N	2.34	0.42
53:SA:78:A:H3'	60:SH:170:PHE:N	2.34	0.42
53:SA:88:A:H2'	53:SA:89:C:C6	2.54	0.42
53:SA:142:G:H8	53:SA:142:G:OP2	2.03	0.42
53:SA:477:A:H2'	53:SA:478:G:H8	1.83	0.42
53:SA:877:U:H2'	53:SA:878:G:H8	1.81	0.42
53:SA:1008:A:H2'	53:SA:1009:A:H8	1.81	0.42
53:SA:1793:C:O2	77:SY:143:LYS:NZ	2.35	0.42
57:SE:119:ALA:HB2	57:SE:128:LEU:HD12	2.01	0.42
58:SF:62:LYS:O	58:SF:66:ILE:HG23	2.19	0.42
59:SG:61:GLU:HG2	59:SG:62:ILE:H	1.84	0.42
59:SG:100:LYS:C	59:SG:101:GLN:HG3	2.44	0.42
60:SH:35:ALA:HB2	60:SH:51:ARG:HH21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SJ:43:LYS:HE3	62:SJ:43:LYS:HB3	1.75	0.42
62:SJ:183:ASP:OD1	62:SJ:184:ALA:N	2.53	0.42
68:SP:50:ARG:HA	68:SP:50:ARG:HD2	1.73	0.42
71:SS:88:ARG:HB3	71:SS:97:ASN:HD22	1.84	0.42
75:SW:12:ALA:O	75:SW:16:ILE:HG13	2.19	0.42
75:SW:53:PHE:O	75:SW:56:HIS:ND1	2.52	0.42
76:SX:49:ILE:HG12	76:SX:54:LYS:HE3	2.01	0.42
77:SY:85:ARG:HH22	77:SY:89:LEU:HD11	1.83	0.42
2:AA:163:G:C2	2:AA:269:A:C6	3.05	0.42
2:AA:436:G:H2'	2:AA:437:A:H8	1.83	0.42
2:AA:1031:G:OP2	37:AD:9:ARG:NH2	2.53	0.42
2:AA:1046:A:H2'	2:AA:1047:A:H8	1.85	0.42
2:AA:1538:U:H4'	2:AA:1539:U:O5'	2.18	0.42
2:AA:1553:U:O2'	2:AA:1554:G:C8	2.71	0.42
2:AA:1707:A:C8	2:AA:1724:G:C2	3.08	0.42
2:AA:1770:G:H2'	2:AA:1771:A:C8	2.54	0.42
2:AA:1887:G:N7	9:A6:31:LYS:HG2	2.35	0.42
2:AA:2193:U:O2'	2:AA:2195:G:N7	2.52	0.42
2:AA:3149:A:H2'	2:AA:3150:G:C8	2.55	0.42
2:AA:3222:G:C4	2:AA:3223:A:C8	3.08	0.42
2:AA:3403:A:O2'	26:AM:9:LEU:HD12	2.20	0.42
2:AA:3507:A:H2'	2:AA:3508:A:C8	2.38	0.42
3:AC:35:A:H2'	3:AC:36:C:C6	2.54	0.42
4:AB:7:G:C6	4:AB:112:U:N3	2.87	0.42
15:Ab:93:LYS:HD2	15:Ab:93:LYS:HA	1.78	0.42
20:Ah:29:ILE:HD11	20:Ah:69:TRP:CE3	2.55	0.42
23:AJ:109:LEU:HD23	23:AJ:113:LEU:HD23	2.00	0.42
27:AS:35:PHE:CE1	27:AS:39:ARG:HG3	2.55	0.42
27:AS:87:ASP:OD2	27:AS:88:ASP:N	2.53	0.42
27:AS:148:GLU:CD	27:AS:148:GLU:H	2.26	0.42
29:AQ:170:LYS:HD2	29:AQ:174:THR:O	2.19	0.42
34:AZ:81:VAL:HG22	34:AZ:84:VAL:HG22	2.02	0.42
35:A3:32:ARG:HD3	35:A3:32:ARG:HA	1.79	0.42
38:AE:41:PRO:HB2	38:AE:191:PHE:CD2	2.54	0.42
38:AE:377:TYR:HD2	38:AE:380:LEU:HD11	1.85	0.42
39:AF:118:LYS:HB2	39:AF:118:LYS:HE3	1.67	0.42
40:AG:155:THR:OG1	40:AG:156:LYS:N	2.48	0.42
41:AU:102:GLU:O	41:AU:145:ARG:NH1	2.52	0.42
42:AH:90:LYS:CG	42:AH:182:GLU:HB3	2.50	0.42
45:AX:125:LYS:NZ	45:AX:133:LYS:HE3	2.34	0.42
47:S1:27:ILE:HG21	47:S1:40:VAL:HG11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:S4:19:LEU:C	50:S4:20:LYS:HG2	2.45	0.42
53:SA:380:U:H2'	53:SA:381:U:C6	2.55	0.42
53:SA:565:U:O2	56:SD:144:ARG:NH1	2.52	0.42
53:SA:621:C:OP2	69:SQ:5:LYS:NZ	2.52	0.42
53:SA:755:A:H2'	53:SA:756:A:H8	1.85	0.42
53:SA:799:U:H5''	63:SK:83:LEU:HD23	2.02	0.42
53:SA:1017:G:H2'	53:SA:1018:U:H6	1.85	0.42
53:SA:1061:A:H2'	53:SA:1062:A:H5'	2.02	0.42
53:SA:1387:U:OP2	53:SA:1387:U:H6	2.03	0.42
53:SA:1651:C:H5''	61:SI:52:PHE:CE1	2.55	0.42
53:SA:1861:U:H2'	53:SA:1862:C:H6	1.84	0.42
56:SD:208:ILE:HD12	56:SD:208:ILE:C	2.45	0.42
57:SE:86:LEU:HD11	57:SE:99:LEU:HD22	2.01	0.42
61:SI:169:ILE:HD12	61:SI:170:ASN:N	2.35	0.42
62:SJ:100:ILE:HD12	62:SJ:122:VAL:HG21	2.01	0.42
63:SK:94:LEU:HD13	63:SK:94:LEU:HA	1.90	0.42
73:SU:5:TYR:HE2	73:SU:121:LYS:HG3	1.85	0.42
75:SW:59:LYS:HB3	75:SW:59:LYS:HE3	1.88	0.42
76:SX:34:ILE:HG22	76:SX:45:PHE:CD2	2.55	0.42
2:AA:66:A:N1	2:AA:77:A:H5''	2.35	0.42
2:AA:408:U:H3	3:AC:16:G:H5'	1.85	0.42
2:AA:715:U:O2'	2:AA:716:C:P	2.78	0.42
2:AA:772:A:O4'	5:AL:29:ILE:HD11	2.20	0.42
2:AA:965:A:P	2:AA:965:A:H8	2.42	0.42
2:AA:1329:U:O4	2:AA:3216:C:H5''	2.20	0.42
2:AA:2512:A:H2'	2:AA:2513:U:C6	2.54	0.42
2:AA:2989:U:O4'	2:AA:3097:A:H2	2.03	0.42
2:AA:3028:A:N3	2:AA:3028:A:H2'	2.35	0.42
2:AA:3484:U:HO2'	2:AA:3485:G:H8	1.68	0.42
3:AC:150:U:P	19:AP:38:ARG:HH12	2.43	0.42
4:AB:55:A:H5''	40:AG:152:HIS:CE1	2.55	0.42
6:A1:13:ILE:HB	6:A1:19:ALA:O	2.20	0.42
10:A7:24:LEU:N	10:A7:77:LYS:O	2.49	0.42
24:Ac:49:ARG:HH21	24:Ac:57:LYS:HG2	1.85	0.42
24:Ac:74:ARG:C	24:Ac:75:ARG:HG3	2.45	0.42
31:AW:54:LYS:HA	31:AW:83:TRP:CD1	2.54	0.42
38:AE:41:PRO:HG3	38:AE:183:GLY:N	2.26	0.42
40:AG:154:VAL:O	40:AG:158:ASP:HB3	2.19	0.42
47:S1:106:ARG:NH2	53:SA:465:G:OP1	2.48	0.42
53:SA:79:U:OP2	60:SH:170:PHE:N	2.53	0.42
53:SA:105:A:H4'	53:SA:106:A:O5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:610:U:H2'	53:SA:611:A:C8	2.54	0.42
53:SA:746:U:H2'	53:SA:747:U:C6	2.54	0.42
53:SA:1025:U:OP1	53:SA:1173:C:O2'	2.35	0.42
53:SA:1813:U:H2'	53:SA:1814:C:H5	1.84	0.42
54:SB:168:MET:O	54:SB:171:ILE:HG13	2.20	0.42
57:SE:85:LEU:HB3	57:SE:103:LYS:NZ	2.35	0.42
57:SE:107:ARG:HE	57:SE:148:VAL:HG23	1.84	0.42
58:SF:122:LYS:C	58:SF:161:ARG:HH12	2.27	0.42
60:SH:27:PHE:HD1	60:SH:36:VAL:HG21	1.85	0.42
60:SH:151:ASP:OD1	60:SH:151:ASP:N	2.51	0.42
65:SM:7:ARG:HB3	65:SM:24:THR:HG22	2.01	0.42
67:SO:26:LEU:HD22	67:SO:32:ILE:HD13	2.02	0.42
71:SS:30:ILE:HD12	71:SS:30:ILE:H	1.84	0.42
73:SU:43:LYS:HB3	73:SU:43:LYS:HE3	1.79	0.42
73:SU:120:SER:O	73:SU:124:ARG:HG2	2.20	0.42
2:AA:155:U:C5	23:AJ:151:TYR:HE1	2.38	0.42
2:AA:257:U:O2'	2:AA:258:U:H6	2.02	0.42
2:AA:319:U:H1'	5:AL:204:GLN:OE1	2.20	0.42
2:AA:442:G:H2'	2:AA:443:A:C8	2.55	0.42
2:AA:721:U:H2'	2:AA:722:G:O4'	2.20	0.42
2:AA:1191:G:C2	2:AA:1217:U:O2	2.72	0.42
2:AA:2029:G:H2'	2:AA:2030:G:N9	2.35	0.42
2:AA:2705:G:H2'	2:AA:2706:A:H8	1.81	0.42
2:AA:2818:U:H2'	2:AA:2819:U:C6	2.55	0.42
2:AA:2958:G:C8	2:AA:3178:A:H4'	2.55	0.42
2:AA:3422:G:H2'	2:AA:3423:U:C6	2.54	0.42
2:AA:3467:U:H2'	2:AA:3468:G:C8	2.55	0.42
2:AA:3497:A:H8	2:AA:3503:U:H3	1.57	0.42
4:AB:55:A:H5''	40:AG:152:HIS:CD2	2.55	0.42
9:A6:34:LEU:O	9:A6:38:ARG:HG2	2.20	0.42
10:A7:32:CYS:SG	10:A7:35:ARG:NE	2.89	0.42
12:A8:40:CYS:O	12:A8:41:ARG:HB3	2.19	0.42
14:Aa:42:PRO:C	14:Aa:51:ILE:HG23	2.45	0.42
16:Ad:10:LYS:O	16:Ad:14:ILE:HG23	2.19	0.42
18:Af:50:LYS:HA	42:AH:172:ARG:HD3	2.01	0.42
22:AI:90:GLU:O	22:AI:191:LYS:NZ	2.53	0.42
23:AJ:279:ILE:HD12	54:SB:93:ASN:OD1	2.19	0.42
27:AS:65:SER:HA	27:AS:91:LEU:HD22	2.02	0.42
27:AS:114:ASP:N	27:AS:114:ASP:OD1	2.49	0.42
29:AQ:186:LYS:HE3	29:AQ:186:LYS:HB2	1.94	0.42
30:AR:99:TYR:HA	30:AR:163:ALA:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:AR:109:PHE:O	30:AR:113:LEU:HG	2.20	0.42
30:AR:119:PHE:HE2	30:AR:141:ARG:HG3	1.85	0.42
44:Ag:12:ARG:HE	44:Ag:14:LYS:HD2	1.84	0.42
48:S2:64:ILE:HG13	48:S2:65:ALA:N	2.34	0.42
50:S4:35:CYS:HB3	50:S4:38:CYS:HB2	2.01	0.42
53:SA:124:U:H2'	53:SA:125:G:C8	2.55	0.42
53:SA:1081:U:C2	53:SA:1082:A:C8	3.07	0.42
53:SA:1450:A:H1'	53:SA:1626:U:O2	2.19	0.42
53:SA:1724:U:P	77:SY:66:ARG:HE	2.42	0.42
55:SC:52:LYS:HG2	78:SZ:80:PHE:CD1	2.54	0.42
56:SD:69:LEU:O	56:SD:72:LEU:HG	2.20	0.42
61:SI:13:LYS:HB2	61:SI:13:LYS:HE3	1.62	0.42
61:SI:90:ILE:HD11	61:SI:164:LEU:HB2	2.02	0.42
67:SO:17:GLN:HA	67:SO:20:LYS:HG2	2.02	0.42
1:S9:8:U:H3	1:S9:14:A:H62	1.68	0.42
1:S7:63:G:H2'	1:S7:64:G:C8	2.55	0.42
2:AA:19:A:H2'	2:AA:20:G:C8	2.54	0.42
2:AA:92:G:H4'	21:Ai:54:LYS:HE2	2.00	0.42
2:AA:150:C:H2'	2:AA:151:G:C8	2.54	0.42
2:AA:321:A:H2'	2:AA:322:C:H6	1.84	0.42
2:AA:359:A:H61	17:Ae:38:ASN:HA	1.85	0.42
2:AA:549:G:N2	2:AA:580:A:O4'	2.53	0.42
2:AA:801:U:OP1	2:AA:899:A:O2'	2.26	0.42
2:AA:1223:U:O4	36:A5:209:LYS:HD3	2.20	0.42
2:AA:1530:G:C2	2:AA:1575:C:C2	3.08	0.42
2:AA:1672:U:OP1	2:AA:1750:U:N3	2.44	0.42
2:AA:1996:C:O2'	2:AA:1997:G:N2	2.42	0.42
2:AA:2034:G:N1	2:AA:2075:U:C2	2.88	0.42
2:AA:2656:A:C2	2:AA:2669:G:C6	3.08	0.42
2:AA:3014:C:OP2	2:AA:3015:A:O2'	2.37	0.42
2:AA:3023:C:H2'	2:AA:3024:U:C6	2.55	0.42
2:AA:3042:A:N6	30:AR:152:ILE:HG23	2.35	0.42
2:AA:3260:G:H2'	2:AA:3261:A:O4'	2.20	0.42
2:AA:3630:U:H2'	2:AA:3631:U:C6	2.55	0.42
2:AA:3648:U:H2'	2:AA:3649:G:H8	1.84	0.42
2:AA:3655:U:H2'	2:AA:3656:A:C8	2.54	0.42
2:AA:3734:A:C8	2:AA:3735:A:C8	3.07	0.42
3:AC:57:A:C4	3:AC:58:A:C8	3.08	0.42
6:A1:42:LEU:HG	6:A1:74:CYS:SG	2.60	0.42
9:A6:49:SER:HA	9:A6:56:ARG:HH12	1.84	0.42
10:A7:87:ARG:HA	10:A7:97:MET:SD	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Ah:73:THR:O	20:Ah:77:VAL:HG22	2.20	0.42
22:AI:159:MET:SD	22:AI:159:MET:N	2.93	0.42
23:AJ:110:LEU:O	23:AJ:114:LYS:HG2	2.20	0.42
27:AS:77:ASP:OD1	27:AS:77:ASP:N	2.51	0.42
30:AR:169:CYS:HA	30:AR:173:LEU:O	2.19	0.42
33:AT:97:ARG:HA	33:AT:100:VAL:HG22	2.02	0.42
35:A3:4:VAL:O	35:A3:5:LYS:HE2	2.20	0.42
35:A3:9:LEU:HD23	35:A3:12:LEU:HD12	2.02	0.42
36:A5:129:ASN:OD1	36:A5:132:THR:HG22	2.18	0.42
38:AE:212:ILE:HG13	38:AE:277:LYS:O	2.20	0.42
42:AH:62:VAL:HB	42:AH:64:ASP:OD1	2.20	0.42
42:AH:62:VAL:O	42:AH:66:LEU:HB2	2.20	0.42
43:AV:75:VAL:HG12	43:AV:77:VAL:HG23	2.02	0.42
45:AX:45:ASP:HB2	45:AX:131:GLU:OE2	2.20	0.42
45:AX:99:SER:OG	45:AX:102:TYR:HB2	2.20	0.42
49:S3:23:CYS:HB2	49:S3:74:CYS:HB3	2.01	0.42
52:S6:10:ARG:HH12	52:S6:13:LYS:N	2.18	0.42
53:SA:10:G:H1'	59:SG:101:GLN:HG2	2.01	0.42
53:SA:52:U:H2'	53:SA:53:G:C8	2.55	0.42
53:SA:110:A:H2'	53:SA:111:G:H8	1.84	0.42
53:SA:401:U:O2'	60:SH:89:LYS:HD3	2.20	0.42
53:SA:749:U:C2	53:SA:750:U:C5	3.08	0.42
53:SA:879:A:O3'	62:SJ:111:LYS:NZ	2.52	0.42
53:SA:1023:A:H2'	53:SA:1024:A:H8	1.80	0.42
53:SA:1029:U:H4'	73:SU:51:GLY:C	2.45	0.42
53:SA:1046:A:C2	53:SA:1047:A:H1'	2.55	0.42
53:SA:1244:A:H2'	53:SA:1245:U:H6	1.84	0.42
53:SA:2079:C:H2'	53:SA:2080:G:C8	2.55	0.42
54:SB:37:MET:CB	54:SB:186:LYS:HE2	2.49	0.42
54:SB:115:ARG:HA	54:SB:115:ARG:HD3	1.74	0.42
56:SD:124:LEU:HD12	56:SD:128:MET:HE3	2.01	0.42
60:SH:85:ARG:NH2	60:SH:87:ARG:HB2	2.35	0.42
63:SK:55:ASP:OD1	63:SK:56:HIS:N	2.53	0.42
64:SL:20:ILE:HD13	64:SL:20:ILE:HA	1.85	0.42
66:SN:79:PHE:CE1	72:ST:52:LYS:HB3	2.55	0.42
74:SV:49:LYS:HD3	74:SV:50:GLU:N	2.35	0.42
74:SV:157:GLN:H	74:SV:157:GLN:CD	2.27	0.42
75:SW:46:MET:HA	75:SW:49:LYS:HB3	2.02	0.42
2:AA:581:C:O2'	2:AA:582:U:H5'	2.20	0.41
2:AA:702:U:H2'	2:AA:703:U:C6	2.55	0.41
2:AA:1158:G:H2'	2:AA:1159:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1257:A:H2'	2:AA:1258:A:C8	2.55	0.41
2:AA:1444:A:H62	25:AK:130:LYS:NZ	2.18	0.41
2:AA:1628:U:O4	2:AA:1629:G:N1	2.53	0.41
2:AA:1811:A:OP2	14:Aa:37:LYS:NZ	2.49	0.41
2:AA:3013:A:H2'	2:AA:3014:C:O4'	2.20	0.41
2:AA:3120:U:OP1	5:AL:201:ARG:NE	2.53	0.41
2:AA:3348:U:H2'	2:AA:3349:G:O4'	2.19	0.41
2:AA:3359:A:H2'	2:AA:3360:U:H6	1.85	0.41
2:AA:3771:C:H2'	2:AA:3772:C:H6	1.84	0.41
4:AB:22:G:O2'	4:AB:24:C:OP2	2.29	0.41
5:AL:33:LYS:HG3	5:AL:34:ARG:N	2.34	0.41
5:AL:124:MET:O	5:AL:125:ILE:HD13	2.19	0.41
7:A2:41:TYR:CD1	12:A8:84:PRO:HA	2.55	0.41
14:Aa:74:ARG:NH2	14:Aa:80:ILE:O	2.46	0.41
22:AI:26:LYS:HE3	22:AI:26:LYS:HB3	1.64	0.41
23:AJ:279:ILE:HG13	23:AJ:282:LYS:HB3	2.02	0.41
26:AM:11:ASN:CG	38:AE:66:LYS:HB2	2.45	0.41
29:AQ:38:ARG:HH21	29:AQ:86:HIS:HE1	1.68	0.41
29:AQ:39:LYS:HG3	29:AQ:40:LYS:HD3	2.01	0.41
29:AQ:129:VAL:HG21	29:AQ:135:LEU:HD11	2.01	0.41
29:AQ:135:LEU:O	29:AQ:136:LEU:HD23	2.20	0.41
30:AR:231:GLY:H	30:AR:234:ASP:HB3	1.84	0.41
39:AF:218:LYS:HD2	39:AF:229:LEU:HB2	2.02	0.41
45:AX:68:ILE:O	45:AX:74:THR:HA	2.20	0.41
47:S1:15:ASN:OD1	47:S1:17:LEU:HB2	2.19	0.41
49:S3:28:ARG:HD3	49:S3:29:CYS:N	2.34	0.41
49:S3:49:ALA:O	49:S3:53:ILE:HG22	2.20	0.41
49:S3:82:ARG:HH12	49:S3:85:ARG:HH22	1.67	0.41
50:S4:18:LYS:HG3	50:S4:19:LEU:O	2.20	0.41
53:SA:367:C:H2'	53:SA:368:G:H8	1.84	0.41
53:SA:1021:A:H5''	73:SU:94:LYS:HE2	2.01	0.41
53:SA:1066:G:C6	53:SA:1077:G:C6	3.08	0.41
53:SA:1382:G:H4'	66:SN:73:THR:H	1.85	0.41
53:SA:1446:A:C2	66:SN:54:ARG:HG3	2.55	0.41
53:SA:2003:U:H2'	53:SA:2004:U:C6	2.54	0.41
55:SC:59:LEU:O	55:SC:63:ILE:HG12	2.20	0.41
55:SC:178:ALA:HA	55:SC:181:VAL:HG22	2.02	0.41
59:SG:134:ALA:O	59:SG:138:ARG:HG3	2.20	0.41
59:SG:179:ILE:HG21	59:SG:226:ILE:HA	2.02	0.41
62:SJ:142:SER:OG	62:SJ:152:LYS:NZ	2.53	0.41
62:SJ:161:GLN:HE21	62:SJ:162:ARG:HH22	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SN:80:GLU:OE2	72:ST:53:TYR:HB3	2.20	0.41
68:SP:45:THR:HG21	68:SP:49:GLY:HA2	2.02	0.41
72:ST:14:GLN:H	72:ST:14:GLN:HG2	1.68	0.41
73:SU:50:ILE:O	73:SU:54:LEU:HG	2.20	0.41
73:SU:82:THR:OG1	73:SU:84:ILE:O	2.37	0.41
76:SX:29:SER:OG	76:SX:32:GLU:HG2	2.20	0.41
77:SY:92:ASP:HB2	77:SY:144:GLY:HA3	2.02	0.41
2:AA:126:C:H5'	19:AP:142:ALA:HA	2.02	0.41
2:AA:163:G:H2'	2:AA:164:A:H8	1.82	0.41
2:AA:171:C:H4'	5:AL:133:LYS:NZ	2.35	0.41
2:AA:458:A:O2'	2:AA:459:G:H8	2.02	0.41
2:AA:581:C:O2'	2:AA:582:U:OP1	2.28	0.41
2:AA:597:A:O2'	2:AA:598:U:H5''	2.21	0.41
2:AA:737:G:H2'	2:AA:1581:C:H42	1.85	0.41
2:AA:963:C:H2'	2:AA:964:G:C8	2.55	0.41
2:AA:1463:A:H2'	2:AA:1464:A:H8	1.85	0.41
2:AA:1819:U:H2'	2:AA:1820:U:H6	1.85	0.41
2:AA:1968:C:H2'	2:AA:1969:A:C2	2.55	0.41
2:AA:2210:U:C2	2:AA:2400:A:C2	3.08	0.41
2:AA:2498:U:H2'	2:AA:2499:G:C8	2.55	0.41
2:AA:2534:U:O2'	37:AD:243:THR:N	2.46	0.41
2:AA:2700:C:H2'	2:AA:2701:U:C6	2.54	0.41
2:AA:2814:U:H2'	2:AA:2815:G:H8	1.84	0.41
2:AA:2834:A:N6	23:AJ:60:ARG:HG2	2.34	0.41
2:AA:3037:G:O2'	43:AV:13:ARG:HG3	2.20	0.41
2:AA:3445:C:OP1	10:A7:77:LYS:NZ	2.54	0.41
6:A1:12:ILE:HG12	6:A1:81:LEU:O	2.19	0.41
6:A1:98:SER:OG	6:A1:100:ASP:OD1	2.32	0.41
10:A7:87:ARG:HA	10:A7:87:ARG:HD3	1.94	0.41
25:AK:33:VAL:HG11	25:AK:111:TYR:CE1	2.55	0.41
26:AM:81:CYS:C	26:AM:82:ARG:HD3	2.45	0.41
27:AS:64:LEU:HD23	27:AS:64:LEU:HA	1.86	0.41
30:AR:34:LYS:HD2	43:AV:31:TYR:HE2	1.86	0.41
35:A3:58:THR:O	35:A3:62:GLN:HG3	2.20	0.41
37:AD:88:ILE:HD11	37:AD:100:ASN:N	2.36	0.41
40:AG:103:GLY:HA3	40:AG:128:TYR:CD1	2.55	0.41
53:SA:490:C:H2'	53:SA:491:A:H8	1.85	0.41
53:SA:519:A:H5''	57:SE:163:PRO:HG2	2.02	0.41
53:SA:861:C:H2'	53:SA:862:A:C8	2.56	0.41
53:SA:1212:C:H2'	53:SA:1213:G:O4'	2.20	0.41
53:SA:1224:C:H2'	53:SA:1225:A:N3	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1303:A:H3'	53:SA:1303:A:N3	2.35	0.41
58:SF:175:PHE:CD1	58:SF:175:PHE:C	2.98	0.41
60:SH:25:LEU:N	60:SH:26:PRO:HD2	2.35	0.41
60:SH:105:ASP:OD1	60:SH:105:ASP:N	2.52	0.41
62:SJ:57:LYS:HB2	62:SJ:57:LYS:HE2	1.78	0.41
63:SK:26:LEU:HD23	63:SK:62:VAL:HG22	2.02	0.41
65:SM:40:VAL:O	65:SM:41:GLU:HB2	2.20	0.41
65:SM:45:LEU:HD13	65:SM:79:ILE:HG21	2.02	0.41
77:SY:152:GLU:OE1	77:SY:153:ASN:ND2	2.53	0.41
1:S9:22:G:H2'	1:S9:23:C:C6	2.55	0.41
2:AA:215:C:H2'	2:AA:216:C:C6	2.55	0.41
2:AA:356:A:N3	2:AA:360:A:O2'	2.53	0.41
2:AA:432:A:H2'	2:AA:433:A:C8	2.55	0.41
2:AA:600:U:H2'	2:AA:601:G:H8	1.85	0.41
2:AA:761:U:H2'	2:AA:762:A:O4'	2.20	0.41
2:AA:769:U:H1'	34:AZ:2:LYS:O	2.20	0.41
2:AA:1805:U:HO2'	2:AA:1806:C:P	2.39	0.41
2:AA:1860:A:H2'	2:AA:1861:C:O4'	2.19	0.41
2:AA:1967:G:H2'	16:Ad:2:PRO:HB2	2.01	0.41
2:AA:2019:A:C2	2:AA:2020:A:N1	2.88	0.41
2:AA:2137:C:H2'	2:AA:2138:U:C6	2.56	0.41
2:AA:2156:A:H2'	2:AA:2157:G:H8	1.85	0.41
2:AA:2732:A:H2'	2:AA:2733:A:C8	2.55	0.41
2:AA:3471:A:C6	2:AA:3472:A:C4	3.09	0.41
3:AC:4:C:H2'	3:AC:5:A:C8	2.55	0.41
3:AC:71:U:H2'	3:AC:72:G:H8	1.86	0.41
16:Ad:28:LYS:NZ	16:Ad:30:SER:HA	2.36	0.41
20:Ah:56:LYS:HZ3	20:Ah:61:LYS:H	1.67	0.41
25:AK:41:ASN:HD22	25:AK:124:ARG:NE	2.18	0.41
27:AS:23:ASN:O	27:AS:27:ARG:HG3	2.20	0.41
30:AR:110:LEU:HD12	30:AR:110:LEU:HA	1.85	0.41
31:AW:126:ARG:HA	31:AW:140:MET:SD	2.60	0.41
36:A5:164:ARG:HG2	36:A5:216:TRP:HE3	1.85	0.41
38:AE:188:LYS:HD2	38:AE:192:VAL:HG13	2.01	0.41
40:AG:82:LYS:O	40:AG:82:LYS:NZ	2.35	0.41
49:S3:45:VAL:HG23	49:S3:49:ALA:HB3	2.01	0.41
53:SA:558:G:H2'	53:SA:559:G:C8	2.56	0.41
53:SA:595:U:H2'	53:SA:596:C:C6	2.56	0.41
53:SA:810:A:N6	53:SA:854:A:N6	2.67	0.41
53:SA:987:U:H2'	53:SA:988:U:C6	2.55	0.41
53:SA:1047:A:C4	53:SA:1048:A:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1243:A:H2'	53:SA:1244:A:C8	2.56	0.41
53:SA:1824:A:OP1	61:SI:76:LYS:NZ	2.50	0.41
53:SA:2017:A:H2'	53:SA:2018:C:C6	2.55	0.41
55:SC:114:LYS:HG3	55:SC:115:PHE:N	2.36	0.41
58:SF:191:ARG:HD2	58:SF:218:PHE:CE1	2.55	0.41
61:SI:91:ILE:O	61:SI:95:THR:OG1	2.38	0.41
71:SS:81:ILE:HG22	71:SS:86:LEU:HG	2.02	0.41
74:SV:36:ARG:HD2	74:SV:36:ARG:HA	1.78	0.41
75:SW:81:ARG:NH1	75:SW:82:LEU:HB3	2.36	0.41
78:SZ:76:LYS:HD3	78:SZ:76:LYS:HA	1.66	0.41
2:AA:743:A:H2'	2:AA:744:G:H8	1.84	0.41
2:AA:1099:U:H6	2:AA:1099:U:O5'	2.04	0.41
2:AA:1533:U:OP1	39:AF:140:ARG:NH1	2.51	0.41
2:AA:1611:A:H2'	2:AA:1612:U:C6	2.56	0.41
2:AA:1652:A:H2'	2:AA:1653:A:H8	1.85	0.41
2:AA:1830:G:O6	2:AA:1996:C:N4	2.54	0.41
2:AA:1854:U:O4	2:AA:1900:G:O2'	2.24	0.41
2:AA:1879:U:O4'	33:AT:95:ILE:HG12	2.21	0.41
2:AA:1977:U:H2'	2:AA:1978:U:H6	1.85	0.41
2:AA:2128:G:H2'	2:AA:2129:U:C6	2.55	0.41
2:AA:2940:A:H2'	2:AA:2941:G:H8	1.85	0.41
2:AA:3165:U:H2'	2:AA:3166:U:C6	2.55	0.41
2:AA:3524:G:H2'	2:AA:3525:A:O4'	2.21	0.41
2:AA:3628:C:H2'	2:AA:3629:U:H6	1.86	0.41
5:AL:88:ALA:HA	35:A3:113:PHE:HZ	1.84	0.41
5:AL:168:LYS:HE2	5:AL:168:LYS:HB2	1.87	0.41
6:A1:98:SER:H	6:A1:101:VAL:CG2	2.33	0.41
20:Ah:36:LYS:HB2	20:Ah:46:ALA:HA	2.00	0.41
25:AK:10:CYS:HB3	25:AK:40:ILE:HG13	2.02	0.41
27:AS:131:THR:HG23	27:AS:133:LYS:HD3	2.03	0.41
30:AR:99:TYR:HB2	30:AR:163:ALA:HB1	2.03	0.41
30:AR:119:PHE:CE2	30:AR:141:ARG:HG3	2.55	0.41
33:AT:77:ILE:HA	33:AT:80:ARG:NE	2.35	0.41
37:AD:28:LYS:HD3	37:AD:123:ARG:HG3	2.02	0.41
38:AE:280:TYR:CG	38:AE:351:VAL:HG21	2.56	0.41
39:AF:32:ILE:O	39:AF:37:ILE:HD11	2.20	0.41
40:AG:17:LEU:HB3	40:AG:129:VAL:HG22	2.01	0.41
41:AU:76:ARG:HG2	41:AU:77:PHE:CE2	2.55	0.41
50:S4:17:HIS:HE1	50:S4:21:ARG:HA	1.85	0.41
51:S5:18:SER:O	53:SA:1914:U:H1'	2.20	0.41
53:SA:162:A:H2'	53:SA:163:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:345:C:H2'	53:SA:346:U:C6	2.56	0.41
53:SA:401:U:H2'	53:SA:402:G:O4'	2.20	0.41
53:SA:749:U:H2'	53:SA:750:U:H6	1.86	0.41
53:SA:1056:G:H22	53:SA:1082:A:P	2.44	0.41
53:SA:1786:U:H2'	53:SA:1787:U:N1	2.36	0.41
53:SA:2060:G:H5''	53:SA:2061:U:H2'	2.01	0.41
55:SC:22:VAL:HG11	55:SC:173:MET:HE3	2.02	0.41
55:SC:72:ASP:OD1	55:SC:72:ASP:C	2.62	0.41
57:SE:39:LYS:HA	57:SE:42:ILE:HG12	2.01	0.41
59:SG:242:TRP:HA	59:SG:242:TRP:HE3	1.85	0.41
61:SI:179:TYR:HA	61:SI:182:LYS:NZ	2.34	0.41
61:SI:182:LYS:O	61:SI:186:GLU:HG2	2.20	0.41
62:SJ:83:GLU:HG3	62:SJ:84:LEU:N	2.36	0.41
1:S7:5:G:O6	1:S7:69:C:N4	2.53	0.41
2:AA:28:C:C2	2:AA:57:A:N1	2.88	0.41
2:AA:283:U:H2'	2:AA:284:C:H6	1.85	0.41
2:AA:388:C:H2'	2:AA:389:U:C6	2.55	0.41
2:AA:627:U:H2'	2:AA:628:U:C6	2.55	0.41
2:AA:674:U:C4	2:AA:675:A:N7	2.88	0.41
2:AA:952:U:H2'	2:AA:953:U:H6	1.85	0.41
2:AA:1030:C:H5''	37:AD:15:ILE:HD13	2.02	0.41
2:AA:1107:U:H1'	36:A5:114:LEU:HD21	2.01	0.41
2:AA:1308:A:OP1	13:A9:111:SER:OG	2.34	0.41
2:AA:1553:U:O2'	2:AA:1554:G:O5'	2.39	0.41
2:AA:1585:U:O5'	2:AA:1586:C:H5''	2.20	0.41
2:AA:1604:U:OP1	2:AA:2146:A:N6	2.47	0.41
2:AA:1605:A:C6	10:A7:72:VAL:HG21	2.55	0.41
2:AA:1639:A:H3'	2:AA:1640:G:H8	1.86	0.41
2:AA:1786:A:C5	2:AA:1787:A:C6	3.09	0.41
2:AA:1879:U:OP1	33:AT:99:ARG:NH2	2.54	0.41
2:AA:2445:A:H2'	2:AA:2446:U:C6	2.56	0.41
2:AA:2474:C:C2	2:AA:2475:A:C8	3.08	0.41
2:AA:3446:A:H5''	2:AA:3763:G:H1	1.85	0.41
2:AA:3446:A:C4	2:AA:3447:A:C8	3.08	0.41
2:AA:3524:G:OP1	38:AE:271:HIS:HB2	2.21	0.41
2:AA:3650:U:H2'	2:AA:3651:G:C8	2.54	0.41
2:AA:3739:A:O2'	2:AA:3740:A:H5'	2.20	0.41
3:AC:7:A:C4	3:AC:8:G:C8	3.09	0.41
19:AP:47:LYS:HA	19:AP:47:LYS:HD2	1.79	0.41
19:AP:124:GLN:HG3	19:AP:125:ASP:N	2.34	0.41
21:AI:12:CYS:SG	21:AI:13:SER:N	2.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AI:146:GLN:HE21	22:AI:166:ILE:HG23	1.86	0.41
26:AM:59:MET:SD	26:AM:79:ILE:HD11	2.61	0.41
33:AT:3:LEU:HD23	33:AT:3:LEU:HA	1.79	0.41
36:A5:76:ARG:HA	36:A5:79:ARG:HG3	2.01	0.41
36:A5:147:TYR:HA	36:A5:148:PRO:HD3	1.93	0.41
38:AE:66:LYS:HA	38:AE:66:LYS:HD3	1.89	0.41
39:AF:31:PRO:HG3	39:AF:282:SER:HA	2.03	0.41
41:AU:23:ILE:HD13	41:AU:66:GLU:OE1	2.20	0.41
53:SA:107:A:H62	53:SA:314:A:H2	1.68	0.41
53:SA:857:A:H5''	53:SA:859:A:H62	1.85	0.41
53:SA:995:A:H2'	53:SA:996:C:C6	2.56	0.41
53:SA:1030:C:H2'	53:SA:1031:C:H6	1.85	0.41
53:SA:1453:G:O3'	65:SM:7:ARG:NH1	2.53	0.41
53:SA:1671:A:O4'	59:SG:104:ALA:HB1	2.20	0.41
53:SA:2050:U:H2'	53:SA:2051:C:H6	1.85	0.41
54:SB:90:HIS:CD2	54:SB:92:ILE:HG23	2.55	0.41
57:SE:28:LEU:HA	57:SE:31:ILE:HG22	2.03	0.41
58:SF:122:LYS:HB3	58:SF:164:LEU:HD21	2.03	0.41
61:SI:160:ILE:HA	61:SI:163:CYS:HB3	2.03	0.41
62:SJ:156:ASP:OD1	62:SJ:156:ASP:N	2.38	0.41
2:AA:36:U:H4'	2:AA:927:A:C2	2.55	0.41
2:AA:63:A:H4'	19:AP:186:ARG:O	2.21	0.41
2:AA:91:G:OP2	2:AA:93:C:N4	2.47	0.41
2:AA:215:C:H2'	2:AA:216:C:H6	1.85	0.41
2:AA:412:A:H1'	31:AW:123:ARG:HH22	1.85	0.41
2:AA:642:A:H62	2:AA:684:G:HO2'	1.61	0.41
2:AA:773:A:C4	2:AA:774:A:C8	3.09	0.41
2:AA:1456:C:H2'	2:AA:1457:G:O4'	2.20	0.41
2:AA:1621:U:H2'	2:AA:1622:G:C8	2.56	0.41
2:AA:1874:C:H2'	2:AA:1875:A:C8	2.56	0.41
2:AA:2205:U:O2'	2:AA:2206:U:H5'	2.20	0.41
2:AA:2667:C:N4	2:AA:3300:A:O4'	2.54	0.41
2:AA:3203:C:N4	2:AA:3257:G:H22	2.12	0.41
2:AA:3430:A:H2'	2:AA:3431:G:C8	2.56	0.41
3:AC:61:C:O2	3:AC:65:A:O2'	2.34	0.41
4:AB:66:G:N1	4:AB:109:U:O4	2.37	0.41
5:AL:144:ASP:N	5:AL:147:THR:OG1	2.53	0.41
6:A1:36:ARG:HB3	6:A1:40:TYR:HE2	1.86	0.41
11:AN:148:LYS:HB3	11:AN:148:LYS:HE2	1.82	0.41
22:AI:86:VAL:HG22	22:AI:88:PRO:HA	2.01	0.41
22:AI:86:VAL:HB	22:AI:96:LEU:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AI:100:ASP:OD1	22:AI:101:SER:N	2.53	0.41
23:AJ:73:ARG:H	23:AJ:73:ARG:HD2	1.85	0.41
25:AK:50:LYS:NZ	25:AK:54:GLN:OE1	2.29	0.41
27:AS:153:LYS:HB2	27:AS:153:LYS:NZ	2.35	0.41
29:AQ:97:LEU:HD21	29:AQ:126:VAL:HG21	2.02	0.41
33:AT:145:LYS:HA	33:AT:145:LYS:HD3	1.84	0.41
34:AZ:62:ASN:HB3	34:AZ:65:ARG:HE	1.85	0.41
35:A3:80:TYR:HA	35:A3:83:ARG:NE	2.36	0.41
38:AE:44:THR:OG1	38:AE:181:ASN:N	2.53	0.41
38:AE:210:GLU:HB3	38:AE:279:ILE:HD11	2.02	0.41
39:AF:92:PHE:HA	39:AF:99:GLY:HA2	2.02	0.41
39:AF:148:LYS:HB2	39:AF:148:LYS:HE2	1.74	0.41
40:AG:46:ILE:C	40:AG:46:ILE:HD12	2.46	0.41
41:AU:82:LYS:HD2	41:AU:82:LYS:C	2.46	0.41
42:AH:31:TYR:CE2	42:AH:86:LYS:HD2	2.55	0.41
47:S1:116:ARG:HA	47:S1:116:ARG:CZ	2.51	0.41
49:S3:85:ARG:NH1	49:S3:85:ARG:HA	2.35	0.41
53:SA:61:A:N6	53:SA:293:U:O2'	2.53	0.41
53:SA:107:A:OP1	64:SL:12:ARG:NH1	2.50	0.41
53:SA:181:A:H2'	53:SA:182:U:H6	1.86	0.41
53:SA:301:A:H2'	53:SA:302:A:C8	2.55	0.41
53:SA:453:U:H2'	53:SA:454:U:C6	2.55	0.41
53:SA:880:A:H2'	53:SA:881:C:H6	1.85	0.41
53:SA:960:A:H2'	53:SA:961:G:H8	1.84	0.41
53:SA:1401:G:H2'	53:SA:1402:A:C8	2.55	0.41
53:SA:1663:A:H2'	53:SA:1664:G:C8	2.55	0.41
53:SA:2005:U:H2'	53:SA:2006:U:C6	2.55	0.41
57:SE:92:LYS:HD2	57:SE:92:LYS:HA	1.85	0.41
58:SF:101:LEU:HD12	58:SF:101:LEU:HA	1.80	0.41
59:SG:247:PHE:CD2	78:SZ:52:PHE:HA	2.54	0.41
63:SK:41:MET:HE3	63:SK:129:PHE:CD2	2.55	0.41
66:SN:21:ILE:HA	66:SN:112:GLU:O	2.21	0.41
72:ST:19:CYS:SG	72:ST:22:CYS:N	2.93	0.41
73:SU:91:LEU:HD12	73:SU:91:LEU:HA	1.88	0.41
74:SV:126:VAL:HA	74:SV:144:HIS:O	2.20	0.41
75:SW:104:ARG:HA	75:SW:107:LYS:HG2	2.03	0.41
77:SY:108:ARG:HB2	77:SY:111:ALA:HB3	2.01	0.41
1:S7:28:C:H2'	1:S7:29:G:H8	1.86	0.41
2:AA:700:A:H5'	13:A9:92:HIS:O	2.20	0.41
2:AA:1066:U:H2'	2:AA:1067:U:C6	2.55	0.41
2:AA:1067:U:H2'	2:AA:1068:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1510:U:O3'	36:A5:174:LYS:NZ	2.54	0.41
2:AA:1592:G:H2'	2:AA:1593:G:C8	2.55	0.41
2:AA:2184:U:O3'	33:AT:84:LYS:NZ	2.54	0.41
2:AA:2918:C:C2	2:AA:2919:A:H8	2.39	0.41
2:AA:3067:G:H5''	43:AV:84:ARG:NH2	2.36	0.41
2:AA:3258:C:HO2'	2:AA:3259:A:P	2.43	0.41
2:AA:3411:C:H2'	2:AA:3412:G:H8	1.81	0.41
2:AA:3472:A:H2'	2:AA:3473:G:O4'	2.20	0.41
2:AA:3517:C:H2'	2:AA:3518:C:C6	2.55	0.41
2:AA:3580:G:N2	2:AA:3622:U:H1'	2.35	0.41
2:AA:3650:U:C2	2:AA:3651:G:C8	3.08	0.41
4:AB:107:G:OP1	30:AR:279:LYS:NZ	2.48	0.41
19:AP:7:ILE:HD11	23:AJ:178:GLU:O	2.21	0.41
20:Ah:56:LYS:HA	20:Ah:56:LYS:HD2	1.66	0.41
21:Ai:18:LYS:HB3	21:Ai:18:LYS:HE3	1.87	0.41
22:AI:159:MET:O	22:AI:162:VAL:HG22	2.21	0.41
25:AK:10:CYS:SG	25:AK:34:ALA:HB1	2.59	0.41
26:AM:17:LEU:HD11	26:AM:53:ALA:HB3	2.02	0.41
30:AR:38:LEU:HD23	30:AR:38:LEU:HA	1.85	0.41
34:AZ:35:SER:OG	34:AZ:37:GLU:OE1	2.31	0.41
35:A3:33:ILE:HG12	35:A3:33:ILE:H	1.73	0.41
36:A5:207:VAL:HG22	36:A5:211:VAL:HG23	2.02	0.41
47:S1:43:ARG:HD3	47:S1:46:LYS:HE3	2.02	0.41
49:S3:6:ARG:HH12	53:SA:1192:A:P	2.44	0.41
53:SA:749:U:H2'	53:SA:750:U:C6	2.56	0.41
53:SA:801:G:C6	53:SA:862:A:C6	3.08	0.41
53:SA:876:U:H5''	53:SA:877:U:O4'	2.21	0.41
53:SA:964:G:H4'	54:SB:27:LYS:NZ	2.35	0.41
53:SA:1091:C:H4'	53:SA:1226:A:N6	2.35	0.41
53:SA:1207:U:H2'	53:SA:1208:G:H8	1.85	0.41
53:SA:1800:A:P	77:SY:121:LYS:HB2	2.61	0.41
57:SE:112:LYS:NZ	57:SE:116:LEU:HD11	2.34	0.41
59:SG:116:ILE:H	59:SG:116:ILE:HG13	1.74	0.41
60:SH:121:ILE:H	60:SH:125:THR:HG22	1.86	0.41
61:SI:42:HIS:ND1	61:SI:42:HIS:O	2.53	0.41
74:SV:125:ILE:HD12	74:SV:125:ILE:H	1.86	0.41
77:SY:97:PHE:HA	77:SY:100:ARG:HE	1.86	0.41
1:S7:28:C:H2'	1:S7:29:G:C8	2.56	0.41
2:AA:1612:U:H2'	2:AA:1613:G:O4'	2.21	0.41
2:AA:1822:A:N1	2:AA:2004:U:H5	2.18	0.41
2:AA:1900:G:O3'	2:AA:1966:A:N6	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2013:U:H2'	2:AA:2014:C:C6	2.55	0.41
2:AA:2208:G:N2	2:AA:2402:U:H1'	2.36	0.41
2:AA:2405:A:N3	2:AA:2406:A:N6	2.69	0.41
2:AA:2576:G:H1'	2:AA:2578:C:N4	2.35	0.41
2:AA:2661:A:H2'	2:AA:2662:G:H8	1.85	0.41
2:AA:3242:U:H2'	2:AA:3243:C:H6	1.85	0.41
2:AA:3471:A:N3	2:AA:3471:A:H2'	2.35	0.41
2:AA:3585:A:H2'	2:AA:3586:U:C6	2.55	0.41
11:AN:83:ILE:HG22	11:AN:91:PHE:HE2	1.85	0.41
15:Ab:67:ILE:HD11	15:Ab:72:SER:HB2	2.03	0.41
17:Ae:5:LYS:HE3	17:Ae:5:LYS:HB3	1.91	0.41
17:Ae:49:LEU:HD13	17:Ae:51:LEU:HD22	2.03	0.41
19:AP:3:ALA:N	23:AJ:157:THR:HG21	2.36	0.41
29:AQ:59:GLN:HB3	29:AQ:126:VAL:HG11	2.02	0.41
36:A5:75:LYS:O	36:A5:79:ARG:HG3	2.20	0.41
53:SA:30:G:H2'	53:SA:31:C:C6	2.55	0.41
53:SA:114:A:C2	53:SA:309:U:H1'	2.56	0.41
53:SA:152:G:H2'	53:SA:153:A:C4	2.55	0.41
53:SA:312:U:O2'	53:SA:857:A:N6	2.53	0.41
53:SA:521:G:C2	53:SA:522:G:C8	3.09	0.41
53:SA:929:U:H5''	73:SU:64:LYS:HZ3	1.85	0.41
53:SA:1187:A:H2'	53:SA:1188:A:C8	2.56	0.41
53:SA:1696:A:H2'	53:SA:1697:C:C6	2.56	0.41
53:SA:1918:U:C2	53:SA:1919:G:C8	3.08	0.41
53:SA:1973:U:H2'	53:SA:1974:U:C6	2.56	0.41
54:SB:106:THR:HG23	54:SB:109:LYS:HB3	2.03	0.41
55:SC:38:TYR:CE2	75:SW:105:MET:HB2	2.55	0.41
57:SE:134:ILE:HD12	57:SE:134:ILE:HA	1.83	0.41
61:SI:62:ARG:HH12	61:SI:139:ASN:HA	1.85	0.41
63:SK:86:ILE:O	63:SK:90:ILE:HG12	2.21	0.41
65:SM:15:LYS:HA	65:SM:15:LYS:HD3	1.90	0.41
66:SN:31:ILE:HG13	66:SN:32:GLU:N	2.35	0.41
71:SS:132:ARG:NH1	71:SS:134:ARG:H	2.13	0.41
74:SV:153:SER:O	74:SV:156:LYS:HB3	2.21	0.41
77:SY:161:TYR:CE1	77:SY:165:LYS:HD2	2.56	0.41
78:SZ:54:ILE:HD12	78:SZ:54:ILE:HA	1.94	0.41
2:AA:162:U:H4'	2:AA:163:G:H5'	2.02	0.41
2:AA:175:G:O6	2:AA:176:A:N6	2.54	0.41
2:AA:212:U:H2'	2:AA:213:C:C6	2.56	0.41
2:AA:385:G:OP1	34:AZ:88:LYS:HD2	2.21	0.41
2:AA:389:U:H2'	2:AA:390:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:812:U:O2'	28:AO:118:HIS:CE1	2.73	0.41
2:AA:824:U:C2	2:AA:825:G:C8	3.08	0.41
2:AA:1074:A:H2'	2:AA:1075:U:C6	2.56	0.41
2:AA:1079:U:H4'	2:AA:1082:G:N1	2.35	0.41
2:AA:1238:C:H2'	2:AA:1239:A:O4'	2.21	0.41
2:AA:1334:G:OP1	29:AQ:157:TYR:OH	2.39	0.41
2:AA:1521:A:H2'	2:AA:1522:A:H8	1.85	0.41
2:AA:1629:G:O4'	2:AA:1632:G:N2	2.53	0.41
2:AA:1632:G:O2'	2:AA:1633:U:H5''	2.21	0.41
2:AA:1772:G:O3'	2:AA:1780:G:H4'	2.21	0.41
2:AA:1783:G:H3'	2:AA:1784:G:H8	1.86	0.41
2:AA:1814:U:H2'	2:AA:1815:A:H8	1.86	0.41
2:AA:2026:G:H2'	2:AA:2027:A:O4'	2.21	0.41
2:AA:2135:G:N2	2:AA:2411:C:O2	2.54	0.41
2:AA:2507:A:H2	2:AA:2723:G:O4'	2.04	0.41
2:AA:2645:A:OP1	31:AW:82:ARG:HG2	2.21	0.41
2:AA:3046:C:H2'	2:AA:3047:U:C6	2.56	0.41
2:AA:3104:C:O3'	21:AI:38:GLY:HA3	2.21	0.41
2:AA:3217:U:H2'	2:AA:3218:U:C6	2.56	0.41
2:AA:3387:U:H2'	2:AA:3388:U:H6	1.86	0.41
2:AA:3630:U:H3	2:AA:3655:U:H3	1.69	0.41
3:AC:43:G:OP2	3:AC:43:G:H8	2.03	0.41
3:AC:138:U:H2'	3:AC:140:G:C8	2.56	0.41
4:AB:45:U:H2'	4:AB:46:C:O4'	2.21	0.41
5:AL:94:ILE:HD11	5:AL:118:TYR:CD1	2.56	0.41
6:A1:140:LEU:HD12	6:A1:140:LEU:HA	1.94	0.41
7:A2:115:ARG:HD3	12:A8:86:ILE:HG13	2.01	0.41
11:AN:59:ALA:HB2	11:AN:96:VAL:HG11	2.02	0.41
12:A8:82:MET:HA	12:A8:85:LEU:HD12	2.03	0.41
13:A9:38:VAL:HG23	22:AI:209:THR:OG1	2.19	0.41
15:Ab:67:ILE:HD12	15:Ab:69:THR:HG23	2.03	0.41
19:AP:187:PRO:HG2	19:AP:192:ASN:HB2	2.03	0.41
22:AI:141:GLU:HA	22:AI:144:LYS:HB2	2.03	0.41
23:AJ:124:LYS:O	23:AJ:128:LEU:HG	2.21	0.41
23:AJ:166:ASN:O	23:AJ:193:PRO:HD2	2.21	0.41
24:Ac:37:CYS:SG	24:Ac:40:CYS:N	2.84	0.41
37:AD:47:ASP:C	37:AD:47:ASP:OD2	2.64	0.41
38:AE:354:LYS:HB2	38:AE:354:LYS:HE2	1.87	0.41
39:AF:161:LEU:HD12	39:AF:161:LEU:HA	1.88	0.41
41:AU:51:TRP:CD1	41:AU:62:LYS:HD3	2.56	0.41
42:AH:156:THR:O	42:AH:160:ILE:HD13	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AH:170:ASP:OD1	42:AH:172:ARG:HG2	2.21	0.41
43:AV:24:GLY:O	43:AV:48:THR:HG21	2.21	0.41
44:Ag:19:TRP:NE1	53:SA:2075:C:OP2	2.53	0.41
45:AX:122:VAL:HG22	45:AX:132:PHE:HD1	1.85	0.41
52:S6:24:LEU:HB2	52:S6:25:ASP:H	1.74	0.41
52:S6:33:ARG:NH2	53:SA:481:A:OP1	2.29	0.41
53:SA:90:U:H4'	53:SA:169:A:O4'	2.20	0.41
53:SA:183:C:H2'	53:SA:184:C:C6	2.55	0.41
53:SA:394:G:C6	53:SA:416:A:C6	3.09	0.41
53:SA:411:C:O2'	60:SH:92:ARG:O	2.38	0.41
53:SA:423:A:H5'	53:SA:424:G:C4	2.56	0.41
53:SA:577:A:N1	69:SQ:115:GLY:HA3	2.35	0.41
53:SA:810:A:H2'	53:SA:811:G:O4'	2.21	0.41
53:SA:836:C:O2'	53:SA:837:A:H5'	2.21	0.41
53:SA:893:U:H2'	53:SA:894:U:O4'	2.21	0.41
53:SA:1108:A:H5''	63:SK:20:ARG:HH12	1.85	0.41
53:SA:1440:C:H2'	53:SA:1441:C:C6	2.56	0.41
53:SA:1734:G:H3'	53:SA:1811:A:N6	2.33	0.41
53:SA:1939:G:H2'	53:SA:1940:U:C6	2.54	0.41
54:SB:33:LYS:HB3	54:SB:232:HIS:CE1	2.56	0.41
55:SC:147:CYS:HB2	55:SC:151:SER:HB2	2.02	0.41
57:SE:69:ARG:HE	57:SE:93:LEU:HD11	1.86	0.41
58:SF:166:THR:HG23	58:SF:168:LYS:HB2	2.02	0.41
59:SG:178:ARG:HB2	59:SG:213:CYS:SG	2.60	0.41
60:SH:3:LEU:HD23	60:SH:111:LEU:HD13	2.03	0.41
63:SK:93:ILE:HD11	63:SK:128:PHE:CZ	2.56	0.41
65:SM:20:VAL:HG22	65:SM:69:ARG:HB3	2.02	0.41
65:SM:79:ILE:HG13	65:SM:80:TYR:N	2.36	0.41
67:SO:37:ASP:OD1	67:SO:38:ALA:N	2.54	0.41
73:SU:130:LYS:HB3	74:SV:151:PHE:HE2	1.80	0.41
75:SW:35:THR:HA	75:SW:38:VAL:HB	2.03	0.41
75:SW:43:SER:OG	75:SW:46:MET:HG3	2.21	0.41
75:SW:61:ILE:O	75:SW:62:GLN:HG3	2.21	0.41
77:SY:164:LYS:HA	77:SY:164:LYS:HD3	1.89	0.41
78:SZ:17:CYS:HB2	78:SZ:55:SER:HB2	2.03	0.41
78:SZ:68:LEU:HA	78:SZ:71:LEU:HG	2.03	0.41
1:S9:19:G:H3'	1:S9:20:U:C6	2.56	0.41
1:S9:26:G:C6	1:S9:27:U:C4	3.09	0.41
1:S9:38:A:H3'	1:S9:39:C:H6	1.86	0.41
1:S7:53:G:N2	1:S7:62:C:O2	2.54	0.41
2:AA:51:A:C4	2:AA:52:A:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:394:A:H2'	2:AA:395:A:C8	2.56	0.41
2:AA:514:C:O3'	2:AA:681:U:H5'	2.21	0.41
2:AA:769:U:C2	34:AZ:2:LYS:HG2	2.56	0.41
2:AA:796:C:C2	2:AA:797:A:C8	3.09	0.41
2:AA:1026:G:H2'	2:AA:1045:A:H62	1.86	0.41
2:AA:1793:A:C4	2:AA:1797:A:N6	2.88	0.41
2:AA:1849:U:O2'	14:Aa:24:ARG:NH2	2.54	0.41
2:AA:1871:A:C4	2:AA:1888:A:C2	3.09	0.41
2:AA:1875:A:O2'	2:AA:1889:A:O4'	2.37	0.41
2:AA:2001:U:H2'	2:AA:2002:G:O4'	2.20	0.41
2:AA:2403:G:O2'	2:AA:2404:A:H3'	2.21	0.41
2:AA:2637:U:H2'	2:AA:2638:G:C8	2.48	0.41
2:AA:3347:C:H2'	2:AA:3348:U:H6	1.86	0.41
2:AA:3410:A:H4'	42:AH:97:HIS:CD2	2.56	0.41
2:AA:3520:U:C2	2:AA:3521:G:C8	3.09	0.41
2:AA:3647:C:H2'	2:AA:3648:U:C6	2.55	0.41
3:AC:112:A:C2	3:AC:117:A:C6	3.08	0.41
6:A1:97:ALA:HB1	6:A1:101:VAL:HG21	2.03	0.41
9:A6:58:VAL:HG22	14:Aa:94:LEU:HD13	2.01	0.41
11:AN:27:PRO:HB3	11:AN:46:VAL:O	2.20	0.41
11:AN:46:VAL:HB	11:AN:55:ILE:HG22	2.03	0.41
16:Ad:3:LYS:HB2	16:Ad:3:LYS:HE2	1.86	0.41
19:AP:41:LYS:HB2	19:AP:41:LYS:HE2	1.80	0.41
22:AI:139:THR:OG1	22:AI:175:LYS:HD3	2.21	0.41
24:Ac:40:CYS:HA	24:Ac:48:ARG:HB3	2.03	0.41
24:Ac:67:CYS:HB3	24:Ac:70:ILE:HG12	2.02	0.41
25:AK:27:LEU:HD23	25:AK:27:LEU:HA	1.86	0.41
26:AM:104:ILE:HD13	26:AM:104:ILE:N	2.35	0.41
29:AQ:136:LEU:HB2	29:AQ:152:LEU:HD21	2.03	0.41
36:A5:39:ILE:H	36:A5:39:ILE:HG13	1.77	0.41
36:A5:150:LEU:O	36:A5:153:VAL:HG22	2.21	0.41
37:AD:104:ILE:N	37:AD:162:ALA:O	2.45	0.41
39:AF:128:ILE:HG13	39:AF:240:LEU:HD21	2.02	0.41
39:AF:128:ILE:O	39:AF:131:SER:OG	2.31	0.41
40:AG:43:GLN:HG3	40:AG:44:LYS:N	2.36	0.41
43:AV:109:ARG:HH12	43:AV:131:ARG:HH11	1.68	0.41
45:AX:100:LYS:HB2	45:AX:100:LYS:HE2	1.71	0.41
48:S2:72:LEU:HA	48:S2:75:ALA:HB3	2.03	0.41
49:S3:71:GLN:CD	49:S3:71:GLN:C	2.89	0.41
53:SA:332:U:H2'	53:SA:333:U:H6	1.86	0.41
53:SA:812:A:H4'	58:SF:252:ARG:HH12	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:929:U:O3'	63:SK:56:HIS:NE2	2.49	0.41
53:SA:948:A:H2'	53:SA:949:C:H6	1.86	0.41
53:SA:1227:G:H2'	53:SA:1228:C:C6	2.55	0.41
53:SA:1259:C:O2'	53:SA:1878:C:OP2	2.36	0.41
53:SA:1455:C:HO2'	53:SA:1456:G:P	2.41	0.41
53:SA:1629:G:O4'	66:SN:86:ARG:NH2	2.54	0.41
53:SA:1654:G:H2'	53:SA:1655:G:O4'	2.21	0.41
53:SA:1785:C:H2'	53:SA:1786:U:C5	2.56	0.41
55:SC:48:ILE:O	75:SW:105:MET:HE1	2.21	0.41
56:SD:12:ILE:O	56:SD:16:VAL:HG12	2.21	0.41
74:SV:40:LYS:O	74:SV:41:VAL:HG12	2.21	0.41
74:SV:88:ILE:HD13	74:SV:88:ILE:HA	1.85	0.41
1:S9:34:C:H2'	1:S9:35:A:N7	2.36	0.41
1:S7:14:A:C2	1:S7:15:G:H1'	2.56	0.40
2:AA:14:U:O2	32:AY:89:ARG:NH2	2.54	0.40
2:AA:44:U:O2'	21:AI:45:LYS:HE3	2.20	0.40
2:AA:179:G:C6	2:AA:252:A:C6	3.09	0.40
2:AA:323:A:H2'	2:AA:324:U:C6	2.56	0.40
2:AA:576:U:H2'	2:AA:577:U:H6	1.85	0.40
2:AA:1191:G:N1	2:AA:1217:U:N3	2.68	0.40
2:AA:1455:C:H2'	2:AA:1456:C:C6	2.57	0.40
2:AA:2016:U:O2'	2:AA:2018:G:N2	2.54	0.40
2:AA:2034:G:H2'	2:AA:2035:G:C8	2.56	0.40
2:AA:2210:U:P	33:AT:73:ARG:HE	2.43	0.40
2:AA:2832:A:O2'	2:AA:2926:A:H1'	2.21	0.40
2:AA:3414:G:HO2'	2:AA:3415:A:P	2.45	0.40
2:AA:3441:A:H1'	2:AA:3443:A:OP1	2.21	0.40
2:AA:3590:A:OP1	25:AK:130:LYS:HG3	2.21	0.40
2:AA:3664:G:O6	22:AI:170:ARG:HG3	2.20	0.40
8:A4:25:LYS:HD2	8:A4:25:LYS:HA	1.88	0.40
9:A6:30:ARG:HE	9:A6:55:GLN:NE2	2.19	0.40
15:Ab:44:ILE:HD13	19:AP:6:TYR:CE1	2.56	0.40
20:Ah:44:LYS:HG3	20:Ah:46:ALA:HB3	2.02	0.40
23:AJ:203:LEU:HD22	23:AJ:212:ALA:HB3	2.02	0.40
23:AJ:260:LEU:O	23:AJ:263:LYS:HG2	2.20	0.40
23:AJ:265:LYS:HE3	23:AJ:265:LYS:HB3	1.83	0.40
24:Ac:31:HIS:HE1	24:Ac:33:GLN:HB2	1.86	0.40
25:AK:1:MET:N	25:AK:30:GLN:HE21	2.18	0.40
27:AS:8:VAL:HG23	27:AS:10:ARG:HG3	2.03	0.40
28:AO:14:HIS:O	28:AO:16:SER:N	2.48	0.40
30:AR:52:VAL:HG13	30:AR:149:ASP:OD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:AR:74:ILE:HD12	30:AR:74:ILE:N	2.35	0.40
31:AW:92:LEU:O	31:AW:96:ASP:OD1	2.39	0.40
31:AW:115:ILE:HG13	31:AW:116:HIS:N	2.36	0.40
38:AE:67:LEU:HD12	38:AE:72:ILE:HG22	2.04	0.40
39:AF:62:THR:OG1	39:AF:63:SER:N	2.54	0.40
39:AF:157:ASP:N	39:AF:157:ASP:OD1	2.54	0.40
44:Ag:28:GLN:HA	44:Ag:31:ARG:HG3	2.03	0.40
53:SA:40:A:H2'	53:SA:41:A:O4'	2.20	0.40
53:SA:83:U:H2'	53:SA:84:A:O4'	2.21	0.40
53:SA:247:G:H2'	53:SA:248:G:H3'	2.02	0.40
53:SA:861:C:H2'	53:SA:862:A:H8	1.86	0.40
53:SA:955:U:O2'	68:SP:136:PRO:HA	2.20	0.40
53:SA:1262:C:H2'	53:SA:1263:C:C6	2.56	0.40
53:SA:1269:U:H2'	53:SA:1270:G:C8	2.56	0.40
53:SA:1410:G:H2'	53:SA:1411:G:C8	2.55	0.40
53:SA:1424:A:O2'	55:SC:104:PRO:HG2	2.21	0.40
53:SA:1786:U:O2'	53:SA:1787:U:P	2.79	0.40
53:SA:1944:U:H2'	53:SA:1945:C:H6	1.85	0.40
53:SA:1963:U:H2'	53:SA:1964:G:H8	1.86	0.40
54:SB:145:LYS:O	54:SB:145:LYS:HG3	2.22	0.40
57:SE:151:ASP:N	57:SE:151:ASP:OD1	2.54	0.40
62:SJ:170:ILE:HD13	62:SJ:170:ILE:HA	1.93	0.40
64:SL:6:ASP:O	64:SL:8:ARG:NH1	2.48	0.40
66:SN:62:ILE:HD11	66:SN:79:PHE:CD2	2.57	0.40
68:SP:34:PHE:CB	68:SP:41:PHE:HB2	2.48	0.40
73:SU:67:THR:O	73:SU:69:ASN:N	2.50	0.40
77:SY:56:TRP:CH2	77:SY:121:LYS:HG2	2.53	0.40
77:SY:127:LEU:HD12	77:SY:127:LEU:HA	1.94	0.40
78:SZ:78:LEU:HD21	78:SZ:80:PHE:CD2	2.49	0.40
2:AA:177:A:H2'	2:AA:178:U:C6	2.57	0.40
2:AA:456:A:H2'	2:AA:457:A:C8	2.54	0.40
2:AA:943:G:O2'	2:AA:944:U:H5'	2.21	0.40
2:AA:1193:G:C5	2:AA:1215:A:N6	2.90	0.40
2:AA:1596:G:O2'	2:AA:2648:G:O6	2.26	0.40
2:AA:1799:A:O2'	2:AA:1800:U:OP1	2.34	0.40
2:AA:1817:G:H22	2:AA:2009:A:H2	1.69	0.40
2:AA:2000:G:H2'	2:AA:2001:U:H6	1.86	0.40
2:AA:2119:G:H5''	24:Ac:3:LYS:HG3	2.02	0.40
2:AA:2412:A:N6	2:AA:2413:A:H2	2.19	0.40
2:AA:3182:G:C6	2:AA:3183:G:N7	2.89	0.40
2:AA:3236:G:O2'	2:AA:3282:U:O2'	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:3377:A:C5	2:AA:3379:A:C2	3.09	0.40
2:AA:3473:G:C5	2:AA:3474:C:C4	3.09	0.40
3:AC:47:G:H4'	24:Ac:25:CYS:O	2.21	0.40
4:AB:55:A:C2	40:AG:138:VAL:HG11	2.56	0.40
5:AL:80:LYS:HE3	5:AL:80:LYS:HB3	1.94	0.40
7:A2:112:LYS:O	7:A2:116:LEU:HD12	2.21	0.40
15:Ab:8:LYS:HA	15:Ab:8:LYS:HD2	1.92	0.40
18:Af:35:ARG:O	18:Af:35:ARG:HG3	2.21	0.40
20:Ah:36:LYS:HB3	20:Ah:48:LYS:NZ	2.36	0.40
20:Ah:56:LYS:HE2	20:Ah:61:LYS:HA	2.03	0.40
21:Ai:25:SER:OG	21:Ai:26:GLN:N	2.53	0.40
22:AI:126:ASN:HA	22:AI:129:GLN:HG3	2.04	0.40
25:AK:80:TRP:HB2	25:AK:103:VAL:HG21	2.03	0.40
28:AO:116:LEU:HD23	28:AO:116:LEU:HA	1.93	0.40
29:AQ:50:VAL:HG23	29:AQ:166:PHE:O	2.21	0.40
30:AR:40:ASP:OD1	43:AV:70:LYS:HA	2.21	0.40
30:AR:190:ASN:ND2	30:AR:193:GLN:HB2	2.35	0.40
31:AW:118:MET:O	31:AW:146:ILE:HA	2.21	0.40
33:AT:79:LYS:HE2	33:AT:79:LYS:HB2	1.89	0.40
39:AF:318:SER:HB2	39:AF:328:LEU:HD12	2.03	0.40
40:AG:30:LEU:H	40:AG:30:LEU:HD22	1.86	0.40
42:AH:12:ILE:HB	42:AH:52:LYS:HB3	2.04	0.40
47:S1:15:ASN:HD22	47:S1:22:GLN:HE22	1.68	0.40
48:S2:64:ILE:HD11	48:S2:75:ALA:HB1	2.03	0.40
53:SA:147:C:H2'	53:SA:148:U:C6	2.57	0.40
53:SA:519:A:N1	53:SA:548:A:H2	2.19	0.40
53:SA:972:U:O2	53:SA:974:A:H5''	2.22	0.40
53:SA:1001:A:OP2	54:SB:155:TYR:OH	2.37	0.40
53:SA:1271:G:C6	53:SA:1715:A:N1	2.89	0.40
53:SA:1662:A:H2'	53:SA:1663:A:H8	1.87	0.40
53:SA:1875:U:H2'	53:SA:1876:G:C8	2.55	0.40
54:SB:200:GLN:OE1	54:SB:200:GLN:C	2.64	0.40
55:SC:55:GLU:HA	55:SC:58:GLN:HG2	2.03	0.40
59:SG:121:GLY:O	59:SG:150:PRO:HA	2.21	0.40
59:SG:254:GLU:OE1	59:SG:255:TRP:NE1	2.54	0.40
61:SI:9:LYS:HE2	61:SI:12:LYS:HA	2.03	0.40
68:SP:67:ASP:HB3	68:SP:70:SER:HB3	2.03	0.40
73:SU:133:LYS:HD2	73:SU:133:LYS:HA	1.87	0.40
75:SW:81:ARG:HH11	75:SW:82:LEU:HB3	1.86	0.40
1:S7:22:G:H2'	1:S7:23:C:H6	1.86	0.40
1:S7:36:U:H2'	1:S7:37:A:O4'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S7:53:G:N2	1:S7:62:C:C2	2.89	0.40
2:AA:1235:C:H2'	2:AA:1236:U:C6	2.56	0.40
2:AA:1561:C:H2'	2:AA:1562:G:C8	2.56	0.40
2:AA:1693:U:O2'	2:AA:2461:A:N3	2.43	0.40
2:AA:1808:U:H2'	2:AA:1809:U:C6	2.55	0.40
2:AA:1849:U:H4'	14:Aa:24:ARG:NH2	2.36	0.40
2:AA:2919:A:H2'	2:AA:2919:A:N3	2.37	0.40
2:AA:3007:A:H2'	2:AA:3008:A:C8	2.56	0.40
2:AA:3020:U:H2'	2:AA:3021:C:H6	1.86	0.40
2:AA:3208:C:H2'	2:AA:3209:G:O4'	2.21	0.40
2:AA:3473:G:H2'	2:AA:3474:C:C6	2.56	0.40
2:AA:3554:U:H1'	2:AA:3572:A:H1'	2.04	0.40
2:AA:3608:U:H2'	2:AA:3609:A:C8	2.56	0.40
2:AA:3673:C:H2'	2:AA:3674:A:H8	1.85	0.40
3:AC:59:U:C2	3:AC:60:G:C8	3.09	0.40
3:AC:71:U:H2'	3:AC:72:G:C8	2.56	0.40
3:AC:79:G:H2'	3:AC:80:C:C6	2.56	0.40
5:AL:108:LEU:O	5:AL:112:VAL:HG23	2.21	0.40
7:A2:104:LYS:O	7:A2:107:GLU:HG2	2.21	0.40
11:AN:74:LEU:HD23	11:AN:74:LEU:HA	1.89	0.40
13:A9:63:ILE:HB	13:A9:114:ILE:HG12	2.03	0.40
16:Ad:11:PHE:HE2	16:Ad:63:ILE:HG13	1.86	0.40
19:AP:7:ILE:HD13	19:AP:7:ILE:HA	1.77	0.40
22:AI:87:GLY:O	22:AI:88:PRO:C	2.64	0.40
22:AI:210:LEU:HD12	22:AI:210:LEU:HA	1.88	0.40
25:AK:59:LEU:HD23	25:AK:69:PRO:HG3	2.03	0.40
26:AM:90:HIS:ND1	38:AE:67:LEU:HG	2.37	0.40
30:AR:100:ALA:HB2	30:AR:243:HIS:CD2	2.57	0.40
30:AR:195:ARG:HH11	30:AR:195:ARG:C	2.25	0.40
34:AZ:82:GLU:H	34:AZ:82:GLU:HG2	1.72	0.40
36:A5:86:ARG:HB3	41:AU:69:ALA:HA	2.03	0.40
37:AD:104:ILE:HD13	37:AD:104:ILE:HA	1.97	0.40
37:AD:104:ILE:HG22	37:AD:146:THR:HG21	2.03	0.40
40:AG:16:LYS:HB2	40:AG:130:HIS:HB2	2.02	0.40
43:AV:19:LYS:HB3	43:AV:22:LYS:HG2	2.02	0.40
47:S1:27:ILE:HG13	47:S1:70:THR:HB	2.03	0.40
53:SA:165:U:H4'	60:SH:135:PRO:HA	2.03	0.40
53:SA:441:U:OP1	69:SQ:78:LYS:NZ	2.52	0.40
53:SA:938:U:H5'	73:SU:49:GLN:NE2	2.36	0.40
53:SA:951:U:H2'	53:SA:952:U:C6	2.56	0.40
53:SA:1382:G:H2'	53:SA:1383:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SA:1723:A:C6	53:SA:1828:A:N1	2.89	0.40
53:SA:1846:U:H5''	76:SX:42:ARG:HH22	1.86	0.40
53:SA:2030:U:H2'	53:SA:2031:C:C6	2.56	0.40
55:SC:117:GLU:H	55:SC:117:GLU:HG3	1.69	0.40
58:SF:100:ARG:HD2	58:SF:102:LEU:HD21	2.03	0.40
59:SG:70:LYS:HD2	59:SG:70:LYS:HA	1.73	0.40
59:SG:215:LYS:HD2	59:SG:217:LYS:HB2	2.02	0.40
61:SI:67:MET:HG3	61:SI:80:ALA:HB1	2.04	0.40
61:SI:192:LYS:HD3	61:SI:192:LYS:HA	1.76	0.40
62:SJ:58:LYS:HD3	62:SJ:58:LYS:HA	1.91	0.40
63:SK:32:LYS:O	63:SK:36:LYS:HG2	2.22	0.40
64:SL:106:SER:O	64:SL:110:THR:OG1	2.23	0.40
64:SL:168:ILE:CG1	64:SL:169:ASP:N	2.83	0.40
64:SL:182:LEU:HA	64:SL:182:LEU:HD23	1.84	0.40
67:SO:68:GLU:HB2	67:SO:77:PHE:CE1	2.56	0.40
69:SQ:13:ARG:HB2	74:SV:104:GLU:OE2	2.21	0.40
73:SU:100:LYS:HD2	73:SU:101:HIS:N	2.36	0.40
77:SY:165:LYS:HB3	77:SY:165:LYS:HZ2	1.86	0.40
2:AA:606:A:H2'	2:AA:607:A:C8	2.57	0.40
2:AA:872:A:H2'	2:AA:873:U:O4'	2.21	0.40
2:AA:1066:U:H5''	12:A8:55:ILE:HB	2.02	0.40
2:AA:1201:U:H2'	2:AA:1202:C:C6	2.56	0.40
2:AA:1245:G:H2'	2:AA:1246:C:C6	2.56	0.40
2:AA:1699:G:H2'	2:AA:1700:U:C6	2.56	0.40
2:AA:1911:A:H2'	2:AA:1912:A:C8	2.56	0.40
2:AA:2712:A:H2'	2:AA:2713:C:C6	2.56	0.40
2:AA:2816:U:HO2'	2:AA:2817:U:P	2.41	0.40
2:AA:2959:G:H2'	2:AA:2960:G:C8	2.56	0.40
2:AA:3134:U:H2'	2:AA:3135:A:C8	2.56	0.40
2:AA:3260:G:C4	2:AA:3261:A:C8	3.09	0.40
4:AB:52:U:O2'	40:AG:8:VAL:N	2.35	0.40
6:A1:107:LYS:HA	6:A1:110:GLU:OE2	2.21	0.40
10:A7:20:ILE:HG22	10:A7:21:THR:O	2.21	0.40
11:AN:92:LEU:O	11:AN:96:VAL:HG13	2.22	0.40
11:AN:106:ASN:OD1	11:AN:115:ILE:HD11	2.22	0.40
13:A9:40:LEU:O	13:A9:135:MET:HG3	2.22	0.40
18:Af:36:ASN:HB3	18:Af:39:CYS:HB2	2.04	0.40
19:AP:65:ARG:HD2	19:AP:130:TYR:HE2	1.86	0.40
22:AI:220:LYS:H	22:AI:220:LYS:HG2	1.72	0.40
26:AM:28:CYS:SG	26:AM:101:ALA:HB1	2.62	0.40
26:AM:82:ARG:NH2	26:AM:120:VAL:O	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AM:93:TYR:CE1	46:A0:37:PHE:HE1	2.39	0.40
29:AQ:82:LYS:HA	29:AQ:85:PHE:HE1	1.86	0.40
36:A5:185:HIS:O	36:A5:186:LEU:HD23	2.22	0.40
37:AD:39:GLY:O	37:AD:91:GLY:HA3	2.22	0.40
38:AE:50:LYS:HB3	38:AE:311:TYR:CE2	2.57	0.40
39:AF:133:VAL:O	39:AF:137:VAL:HG12	2.22	0.40
42:AH:171:ILE:HA	42:AH:174:PHE:O	2.21	0.40
43:AV:45:CYS:HB2	43:AV:54:PRO:HG2	2.02	0.40
45:AX:89:LYS:HB2	45:AX:91:TYR:CE1	2.56	0.40
45:AX:104:LYS:HG2	45:AX:108:LYS:NZ	2.37	0.40
45:AX:119:PHE:C	45:AX:120:LEU:HD12	2.47	0.40
46:A0:41:SER:O	46:A0:45:SER:HB3	2.22	0.40
52:S6:10:ARG:HH21	53:SA:574:A:H1'	1.86	0.40
53:SA:142:G:N2	53:SA:169:A:N1	2.57	0.40
53:SA:144:U:H2'	53:SA:145:A:H8	1.86	0.40
53:SA:152:G:C6	53:SA:159:U:O2	2.75	0.40
53:SA:262:A:H3'	53:SA:263:A:C8	2.57	0.40
53:SA:406:A:H5''	64:SL:25:ARG:HA	2.03	0.40
53:SA:1058:G:H2'	53:SA:1059:U:C6	2.57	0.40
53:SA:1210:G:OP2	69:SQ:27:LYS:HE2	2.21	0.40
53:SA:1283:U:O2'	53:SA:1285:A:H8	2.04	0.40
53:SA:1901:U:H4'	66:SN:78:ARG:HH22	1.86	0.40
54:SB:24:PHE:N	54:SB:27:LYS:HG3	2.37	0.40
60:SH:98:ARG:NE	60:SH:105:ASP:OD2	2.39	0.40
61:SI:11:PHE:HB3	61:SI:13:LYS:HE2	2.02	0.40
62:SJ:47:CYS:HA	62:SJ:61:LEU:O	2.21	0.40
62:SJ:176:TYR:HA	62:SJ:179:ILE:HG22	2.03	0.40
63:SK:55:ASP:HB3	63:SK:59:GLY:CA	2.51	0.40
69:SQ:56:LYS:NZ	69:SQ:93:LEU:O	2.39	0.40
74:SV:56:TYR:CD2	74:SV:116:PRO:HG2	2.56	0.40
75:SW:6:THR:OG1	75:SW:7:LYS:N	2.54	0.40
76:SX:108:LYS:H	76:SX:111:MET:HG2	1.87	0.40
2:AA:209:G:H4'	2:AA:228:A:N7	2.36	0.40
2:AA:543:U:H4'	2:AA:544:C:C2	2.56	0.40
2:AA:680:U:H1'	2:AA:681:U:C5	2.57	0.40
2:AA:738:A:O4'	39:AF:94:ASN:ND2	2.53	0.40
2:AA:965:A:HO2'	2:AA:966:A:P	2.42	0.40
2:AA:1068:C:O2'	2:AA:1090:G:OP1	2.31	0.40
2:AA:1533:U:O2'	2:AA:1534:U:H5'	2.22	0.40
2:AA:1597:U:H2'	2:AA:1598:A:H8	1.87	0.40
2:AA:1888:A:C2	2:AA:1889:A:C8	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2028:G:H2'	2:AA:2029:G:C8	2.56	0.40
2:AA:3151:A:H2'	2:AA:3152:G:C8	2.57	0.40
2:AA:3421:A:H3'	2:AA:3422:G:H8	1.87	0.40
3:AC:18:U:C4	3:AC:19:G:C6	3.09	0.40
5:AL:125:ILE:O	35:A3:116:ARG:NH1	2.50	0.40
12:A8:116:ASN:OD1	12:A8:116:ASN:C	2.64	0.40
19:AP:101:VAL:O	19:AP:105:LYS:HG3	2.21	0.40
30:AR:156:THR:C	30:AR:181:ARG:HG3	2.46	0.40
30:AR:222:PHE:HB3	30:AR:225:TYR:HD2	1.86	0.40
33:AT:173:LYS:HZ3	73:SU:38:ILE:HG23	1.86	0.40
36:A5:94:PHE:O	36:A5:145:TYR:HA	2.21	0.40
36:A5:129:ASN:O	36:A5:133:LYS:HB3	2.21	0.40
39:AF:296:ASP:HA	39:AF:299:GLN:HB2	2.03	0.40
42:AH:47:LEU:HD11	42:AH:49:LYS:HZ1	1.86	0.40
42:AH:135:LYS:HA	42:AH:143:ILE:HG12	2.04	0.40
43:AV:124:ASN:HD22	43:AV:124:ASN:C	2.24	0.40
45:AX:108:LYS:HB3	45:AX:117:ARG:HH21	1.85	0.40
47:S1:56:ILE:HG22	47:S1:76:ILE:HG22	2.04	0.40
52:S6:36:LYS:HD3	57:SE:31:ILE:HD13	2.03	0.40
53:SA:811:G:OP1	57:SE:51:LYS:HE3	2.22	0.40
53:SA:824:A:C2	53:SA:850:G:N1	2.89	0.40
53:SA:828:A:H2'	53:SA:829:G:O4'	2.22	0.40
53:SA:857:A:H5''	53:SA:859:A:N6	2.37	0.40
53:SA:989:C:H2'	53:SA:990:U:H6	1.86	0.40
53:SA:1170:C:H2'	53:SA:1171:U:C6	2.57	0.40
53:SA:1248:A:H2'	53:SA:1249:C:C6	2.55	0.40
56:SD:213:ILE:HG23	75:SW:41:ILE:HD11	2.02	0.40
60:SH:200:GLU:O	60:SH:203:GLN:HG3	2.21	0.40
64:SL:12:ARG:H	64:SL:12:ARG:HG3	1.65	0.40
64:SL:62:SER:OG	64:SL:76:THR:O	2.28	0.40
64:SL:81:VAL:HG13	64:SL:91:VAL:HG23	2.03	0.40
65:SM:15:LYS:HB2	65:SM:77:SER:HB2	2.03	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	
5	AL	209/215 (97%)	197 (94%)	12 (6%)	0	100	100
6	A1	136/146 (93%)	122 (90%)	14 (10%)	0	100	100
7	A2	97/127 (76%)	93 (96%)	4 (4%)	0	100	100
8	A4	64/67 (96%)	60 (94%)	4 (6%)	0	100	100
9	A6	96/108 (89%)	88 (92%)	7 (7%)	1 (1%)	13	39
10	A7	92/120 (77%)	91 (99%)	1 (1%)	0	100	100
11	AN	145/165 (88%)	132 (91%)	13 (9%)	0	100	100
12	A8	123/131 (94%)	109 (89%)	14 (11%)	0	100	100
13	A9	101/140 (72%)	95 (94%)	6 (6%)	0	100	100
14	Aa	104/150 (69%)	94 (90%)	10 (10%)	0	100	100
15	Ab	91/112 (81%)	85 (93%)	6 (7%)	0	100	100
16	Ad	68/87 (78%)	61 (90%)	7 (10%)	0	100	100
17	Ae	39/51 (76%)	38 (97%)	1 (3%)	0	100	100
18	Af	49/128 (38%)	42 (86%)	7 (14%)	0	100	100
19	AP	202/205 (98%)	185 (92%)	16 (8%)	1 (0%)	25	56
20	Ah	83/96 (86%)	77 (93%)	6 (7%)	0	100	100
21	Ai	93/104 (89%)	85 (91%)	8 (9%)	0	100	100
22	AI	203/221 (92%)	190 (94%)	11 (5%)	2 (1%)	13	39
23	AJ	216/283 (76%)	204 (94%)	11 (5%)	1 (0%)	25	56
24	Ac	87/92 (95%)	76 (87%)	11 (13%)	0	100	100
25	AK	199/202 (98%)	191 (96%)	7 (4%)	1 (0%)	25	56
26	AM	130/139 (94%)	124 (95%)	6 (5%)	0	100	100
27	AS	184/187 (98%)	173 (94%)	11 (6%)	0	100	100
28	AO	145/148 (98%)	137 (94%)	8 (6%)	0	100	100
29	AQ	185/219 (84%)	163 (88%)	21 (11%)	1 (0%)	25	56
30	AR	244/294 (83%)	227 (93%)	17 (7%)	0	100	100
31	AW	149/173 (86%)	143 (96%)	6 (4%)	0	100	100
32	AY	99/190 (52%)	95 (96%)	4 (4%)	0	100	100
33	AT	179/182 (98%)	170 (95%)	9 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	AZ	119/126 (94%)	112 (94%)	7 (6%)	0	100	100
35	A3	117/124 (94%)	110 (94%)	7 (6%)	0	100	100
36	A5	221/257 (86%)	203 (92%)	18 (8%)	0	100	100
37	AD	245/260 (94%)	229 (94%)	14 (6%)	2 (1%)	16	44
38	AE	378/386 (98%)	356 (94%)	22 (6%)	0	100	100
39	AF	388/411 (94%)	369 (95%)	19 (5%)	0	100	100
40	AG	116/173 (67%)	97 (84%)	19 (16%)	0	100	100
41	AU	178/184 (97%)	169 (95%)	9 (5%)	0	100	100
42	AH	183/190 (96%)	168 (92%)	14 (8%)	1 (0%)	25	56
43	AV	153/161 (95%)	147 (96%)	6 (4%)	0	100	100
44	Ag	35/39 (90%)	27 (77%)	8 (23%)	0	100	100
45	AX	95/139 (68%)	92 (97%)	3 (3%)	0	100	100
46	A0	60/162 (37%)	54 (90%)	6 (10%)	0	100	100
47	S1	118/133 (89%)	116 (98%)	2 (2%)	0	100	100
48	S2	35/105 (33%)	35 (100%)	0	0	100	100
49	S3	93/107 (87%)	84 (90%)	9 (10%)	0	100	100
50	S4	74/82 (90%)	61 (82%)	13 (18%)	0	100	100
51	S5	55/67 (82%)	53 (96%)	2 (4%)	0	100	100
52	S6	41/58 (71%)	35 (85%)	5 (12%)	1 (2%)	5	18
54	SB	208/262 (79%)	191 (92%)	17 (8%)	0	100	100
55	SC	193/263 (73%)	176 (91%)	15 (8%)	2 (1%)	13	39
56	SD	149/221 (67%)	144 (97%)	5 (3%)	0	100	100
57	SE	183/189 (97%)	170 (93%)	13 (7%)	0	100	100
58	SF	255/261 (98%)	244 (96%)	10 (4%)	1 (0%)	30	61
59	SG	222/272 (82%)	208 (94%)	14 (6%)	0	100	100
60	SH	200/306 (65%)	192 (96%)	7 (4%)	1 (0%)	25	56
61	SI	176/195 (90%)	160 (91%)	16 (9%)	0	100	100
62	SJ	186/194 (96%)	170 (91%)	15 (8%)	1 (0%)	25	56
63	SK	127/130 (98%)	114 (90%)	13 (10%)	0	100	100
64	SL	165/218 (76%)	151 (92%)	13 (8%)	1 (1%)	22	51
65	SM	136/144 (94%)	128 (94%)	7 (5%)	1 (1%)	19	48

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
66	SN	96/118 (81%)	90 (94%)	6 (6%)	0	100	100
67	SO	77/137 (56%)	72 (94%)	4 (5%)	1 (1%)	10	32
68	SP	125/151 (83%)	115 (92%)	10 (8%)	0	100	100
69	SQ	142/145 (98%)	132 (93%)	9 (6%)	1 (1%)	19	48
70	SR	92/141 (65%)	86 (94%)	6 (6%)	0	100	100
71	SS	126/156 (81%)	111 (88%)	13 (10%)	2 (2%)	8	27
72	ST	46/54 (85%)	46 (100%)	0	0	100	100
73	SU	147/151 (97%)	136 (92%)	11 (8%)	0	100	100
74	SV	142/161 (88%)	133 (94%)	8 (6%)	1 (1%)	19	48
75	SW	91/137 (66%)	86 (94%)	3 (3%)	2 (2%)	5	20
76	SX	92/145 (63%)	81 (88%)	11 (12%)	0	100	100
77	SY	152/170 (89%)	147 (97%)	5 (3%)	0	100	100
78	SZ	70/82 (85%)	65 (93%)	4 (6%)	1 (1%)	9	30
All	All	10114/12049 (84%)	9412 (93%)	676 (7%)	26 (0%)	38	67

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
23	AJ	75	ILE
42	AH	53	TYR
62	SJ	112	ILE
65	SM	41	GLU
71	SS	101	ILE
74	SV	41	VAL
22	AI	49	LYS
55	SC	143	VAL
58	SF	195	ILE
64	SL	168	ILE
75	SW	4	VAL
25	AK	72	LEU
60	SH	148	ASP
78	SZ	81	GLN
22	AI	19	VAL
37	AD	199	VAL
69	SQ	63	GLN
9	A6	79	ASP
29	AQ	60	ILE

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Mol	Chain	Res	Type
55	SC	30	GLU
52	S6	24	LEU
67	SO	35	GLU
75	SW	69	ILE
19	AP	149	ILE
71	SS	14	ILE
37	AD	127	VAL

5.3.2 Protein sidechains ⓘ

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	
5	AL	190/194 (98%)	187 (98%)	3 (2%)	58	85
6	A1	127/132 (96%)	122 (96%)	5 (4%)	27	61
7	A2	98/118 (83%)	94 (96%)	4 (4%)	26	59
8	A4	60/61 (98%)	58 (97%)	2 (3%)	33	67
9	A6	83/92 (90%)	74 (89%)	9 (11%)	5	17
10	A7	90/112 (80%)	81 (90%)	9 (10%)	6	20
11	AN	136/152 (90%)	130 (96%)	6 (4%)	24	56
12	A8	114/120 (95%)	106 (93%)	8 (7%)	12	36
13	A9	90/127 (71%)	85 (94%)	5 (6%)	17	47
14	Aa	89/128 (70%)	86 (97%)	3 (3%)	32	66
15	Ab	82/97 (84%)	76 (93%)	6 (7%)	11	34
16	Ad	69/83 (83%)	64 (93%)	5 (7%)	12	34
17	Ae	40/48 (83%)	38 (95%)	2 (5%)	20	51
18	Af	45/114 (40%)	42 (93%)	3 (7%)	13	38
19	AP	179/180 (99%)	168 (94%)	11 (6%)	15	43
20	Ah	70/80 (88%)	65 (93%)	5 (7%)	12	35
21	Ai	87/93 (94%)	85 (98%)	2 (2%)	45	78
22	AI	189/203 (93%)	175 (93%)	14 (7%)	11	33

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	AJ	204/260 (78%)	198 (97%)	6 (3%)	37	71
24	Ac	74/77 (96%)	73 (99%)	1 (1%)	62	87
25	AK	181/182 (100%)	173 (96%)	8 (4%)	24	56
26	AM	106/110 (96%)	98 (92%)	8 (8%)	11	33
27	AS	158/159 (99%)	152 (96%)	6 (4%)	28	62
28	AO	121/122 (99%)	116 (96%)	5 (4%)	26	59
29	AQ	165/190 (87%)	159 (96%)	6 (4%)	30	64
30	AR	215/254 (85%)	207 (96%)	8 (4%)	29	63
31	AW	128/131 (98%)	121 (94%)	7 (6%)	18	47
32	AY	90/177 (51%)	86 (96%)	4 (4%)	24	56
33	AT	162/163 (99%)	157 (97%)	5 (3%)	35	69
34	AZ	111/115 (96%)	101 (91%)	10 (9%)	8	25
35	A3	110/115 (96%)	101 (92%)	9 (8%)	9	29
36	A5	201/231 (87%)	191 (95%)	10 (5%)	20	51
37	AD	191/202 (95%)	182 (95%)	9 (5%)	22	54
38	AE	335/340 (98%)	311 (93%)	24 (7%)	12	34
39	AF	336/352 (96%)	322 (96%)	14 (4%)	25	58
40	AG	110/155 (71%)	100 (91%)	10 (9%)	7	24
41	AU	162/166 (98%)	153 (94%)	9 (6%)	17	47
42	AH	168/173 (97%)	158 (94%)	10 (6%)	16	44
43	AV	140/144 (97%)	134 (96%)	6 (4%)	25	57
44	Ag	34/35 (97%)	31 (91%)	3 (9%)	8	26
45	AX	92/131 (70%)	84 (91%)	8 (9%)	8	26
46	A0	53/146 (36%)	50 (94%)	3 (6%)	17	46
47	S1	104/115 (90%)	103 (99%)	1 (1%)	73	91
48	S2	35/88 (40%)	33 (94%)	2 (6%)	17	46
49	S3	87/98 (89%)	79 (91%)	8 (9%)	7	24
50	S4	70/76 (92%)	68 (97%)	2 (3%)	37	71
51	S5	48/54 (89%)	47 (98%)	1 (2%)	48	80
52	S6	36/47 (77%)	34 (94%)	2 (6%)	17	47
54	SB	195/238 (82%)	182 (93%)	13 (7%)	13	38

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
55	SC	167/227 (74%)	157 (94%)	10 (6%)	16	44
56	SD	132/188 (70%)	129 (98%)	3 (2%)	45	78
57	SE	161/167 (96%)	156 (97%)	5 (3%)	35	69
58	SF	233/237 (98%)	223 (96%)	10 (4%)	25	57
59	SG	191/222 (86%)	179 (94%)	12 (6%)	15	42
60	SH	182/279 (65%)	177 (97%)	5 (3%)	40	74
61	SI	154/165 (93%)	148 (96%)	6 (4%)	27	61
62	SJ	177/183 (97%)	171 (97%)	6 (3%)	32	66
63	SK	115/116 (99%)	106 (92%)	9 (8%)	10	31
64	SL	151/193 (78%)	147 (97%)	4 (3%)	41	75
65	SM	116/122 (95%)	113 (97%)	3 (3%)	41	75
66	SN	91/109 (84%)	88 (97%)	3 (3%)	33	67
67	SO	76/129 (59%)	75 (99%)	1 (1%)	65	88
68	SP	99/119 (83%)	94 (95%)	5 (5%)	20	51
69	SQ	120/121 (99%)	114 (95%)	6 (5%)	20	51
70	SR	83/121 (69%)	82 (99%)	1 (1%)	67	89
71	SS	114/136 (84%)	109 (96%)	5 (4%)	24	56
72	ST	43/48 (90%)	38 (88%)	5 (12%)	4	15
73	SU	132/133 (99%)	125 (95%)	7 (5%)	19	49
74	SV	131/144 (91%)	126 (96%)	5 (4%)	28	62
75	SW	86/127 (68%)	83 (96%)	3 (4%)	31	65
76	SX	88/130 (68%)	85 (97%)	3 (3%)	32	66
77	SY	137/151 (91%)	136 (99%)	1 (1%)	81	94
78	SZ	60/70 (86%)	52 (87%)	8 (13%)	3	10
All	All	9099/10617 (86%)	8653 (95%)	446 (5%)	23	52

All (446) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	AL	40	LYS
5	AL	98	LYS
5	AL	171	TYR
6	A1	4	LEU
6	A1	40	TYR

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Mol	Chain	Res	Type
6	A1	46	ILE
6	A1	47	GLU
6	A1	83	THR
7	A2	3	SER
7	A2	39	VAL
7	A2	50	LEU
7	A2	109	LEU
8	A4	38	ASN
8	A4	51	GLN
9	A6	44	LEU
9	A6	45	VAL
9	A6	47	VAL
9	A6	64	MET
9	A6	76	ASP
9	A6	78	ASN
9	A6	86	LYS
9	A6	94	VAL
9	A6	96	THR
10	A7	16	VAL
10	A7	31	VAL
10	A7	51	LEU
10	A7	57	VAL
10	A7	67	ILE
10	A7	81	VAL
10	A7	84	GLU
10	A7	103	HIS
10	A7	105	MET
11	AN	13	TYR
11	AN	16	LYS
11	AN	89	SER
11	AN	104	GLU
11	AN	107	ASN
11	AN	145	ILE
12	A8	6	VAL
12	A8	10	ILE
12	A8	39	ASP
12	A8	41	ARG
12	A8	51	LEU
12	A8	66	LEU
12	A8	91	LYS
12	A8	94	VAL
13	A9	43	LYS

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Mol	Chain	Res	Type
13	A9	89	THR
13	A9	104	VAL
13	A9	106	ARG
13	A9	110	ASN
14	Aa	49	THR
14	Aa	61	ASP
14	Aa	71	THR
15	Ab	11	THR
15	Ab	21	HIS
15	Ab	51	ILE
15	Ab	65	ILE
15	Ab	67	ILE
15	Ab	95	GLU
16	Ad	3	LYS
16	Ad	24	ILE
16	Ad	25	ILE
16	Ad	50	TYR
16	Ad	63	ILE
17	Ae	25	HIS
17	Ae	49	LEU
18	Af	9	LEU
18	Af	38	LYS
18	Af	45	LEU
19	AP	27	THR
19	AP	46	ASP
19	AP	60	VAL
19	AP	66	VAL
19	AP	76	LYS
19	AP	80	VAL
19	AP	89	VAL
19	AP	90	HIS
19	AP	143	VAL
19	AP	177	VAL
19	AP	181	LEU
20	Ah	8	VAL
20	Ah	16	THR
20	Ah	22	LEU
20	Ah	29	ILE
20	Ah	56	LYS
21	Ai	19	HIS
21	Ai	25	SER
22	AI	26	LYS

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Mol	Chain	Res	Type
22	AI	52	LYS
22	AI	58	LYS
22	AI	62	ILE
22	AI	83	LEU
22	AI	85	VAL
22	AI	105	VAL
22	AI	117	ILE
22	AI	122	ASP
22	AI	123	ASP
22	AI	130	ASP
22	AI	140	LEU
22	AI	142	ILE
22	AI	180	GLU
23	AJ	108	ASP
23	AJ	111	ASN
23	AJ	168	VAL
23	AJ	216	CYS
23	AJ	217	LEU
23	AJ	243	VAL
24	Ac	10	SER
25	AK	5	GLU
25	AK	26	LEU
25	AK	63	THR
25	AK	70	LEU
25	AK	79	LEU
25	AK	114	LYS
25	AK	119	LEU
25	AK	154	LYS
26	AM	41	VAL
26	AM	59	MET
26	AM	76	LEU
26	AM	80	ILE
26	AM	82	ARG
26	AM	110	GLU
26	AM	116	ILE
26	AM	124	CYS
27	AS	74	HIS
27	AS	76	ASN
27	AS	80	VAL
27	AS	97	LEU
27	AS	131	THR
27	AS	137	LEU

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Mol	Chain	Res	Type
28	AO	22	VAL
28	AO	68	THR
28	AO	82	LEU
28	AO	122	ILE
28	AO	140	VAL
29	AQ	26	VAL
29	AQ	73	ASN
29	AQ	99	ILE
29	AQ	123	ASN
29	AQ	181	TYR
29	AQ	206	LEU
30	AR	25	GLU
30	AR	44	TYR
30	AR	56	THR
30	AR	58	SER
30	AR	85	ARG
30	AR	90	VAL
30	AR	122	VAL
30	AR	162	PHE
31	AW	7	LYS
31	AW	22	LEU
31	AW	24	VAL
31	AW	42	LEU
31	AW	53	GLU
31	AW	75	GLU
31	AW	147	GLN
32	AY	107	LYS
32	AY	160	VAL
32	AY	167	ASP
32	AY	183	VAL
33	AT	37	ARG
33	AT	38	PHE
33	AT	51	LYS
33	AT	120	HIS
33	AT	141	ILE
34	AZ	14	MET
34	AZ	34	LEU
34	AZ	41	LYS
34	AZ	56	LEU
34	AZ	57	ILE
34	AZ	62	ASN
34	AZ	65	ARG

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Mol	Chain	Res	Type
34	AZ	81	VAL
34	AZ	85	THR
34	AZ	117	ILE
35	A3	8	GLU
35	A3	13	LYS
35	A3	43	ASN
35	A3	46	ILE
35	A3	70	GLN
35	A3	77	PHE
35	A3	87	THR
35	A3	98	GLN
35	A3	107	LYS
36	A5	40	LYS
36	A5	53	LEU
36	A5	65	GLU
36	A5	107	LYS
36	A5	134	GLU
36	A5	138	ILE
36	A5	150	LEU
36	A5	163	VAL
36	A5	207	VAL
36	A5	257	ILE
37	AD	45	VAL
37	AD	80	GLU
37	AD	96	LEU
37	AD	125	THR
37	AD	136	VAL
37	AD	146	THR
37	AD	180	LEU
37	AD	194	ASN
37	AD	235	VAL
38	AE	28	LYS
38	AE	34	LYS
38	AE	43	PHE
38	AE	47	MET
38	AE	56	ILE
38	AE	60	VAL
38	AE	68	HIS
38	AE	110	VAL
38	AE	126	GLU
38	AE	131	THR
38	AE	145	LEU

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Mol	Chain	Res	Type
38	AE	149	GLU
38	AE	185	MET
38	AE	206	PHE
38	AE	211	MET
38	AE	226	VAL
38	AE	299	GLU
38	AE	318	PHE
38	AE	320	LEU
38	AE	321	LEU
38	AE	325	VAL
38	AE	335	LEU
38	AE	353	LEU
38	AE	362	ILE
39	AF	71	ARG
39	AF	79	VAL
39	AF	86	ARG
39	AF	133	VAL
39	AF	137	VAL
39	AF	174	LEU
39	AF	187	LYS
39	AF	219	LYS
39	AF	289	ILE
39	AF	296	ASP
39	AF	310	LYS
39	AF	324	VAL
39	AF	327	ARG
39	AF	338	LEU
40	AG	14	VAL
40	AG	17	LEU
40	AG	23	VAL
40	AG	41	THR
40	AG	43	GLN
40	AG	72	ARG
40	AG	102	PHE
40	AG	106	ILE
40	AG	129	VAL
40	AG	138	VAL
41	AU	12	ASN
41	AU	16	TYR
41	AU	58	ASN
41	AU	64	ASN
41	AU	102	GLU

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Mol	Chain	Res	Type
41	AU	114	GLN
41	AU	154	ARG
41	AU	156	LEU
41	AU	165	THR
42	AH	18	VAL
42	AH	26	THR
42	AH	40	HIS
42	AH	49	LYS
42	AH	57	VAL
42	AH	78	ASN
42	AH	79	MET
42	AH	150	ILE
42	AH	176	ASP
42	AH	184	THR
43	AV	43	ILE
43	AV	56	ASN
43	AV	87	GLN
43	AV	97	VAL
43	AV	108	LEU
43	AV	124	ASN
44	Ag	8	TYR
44	Ag	15	MET
44	Ag	17	TRP
45	AX	54	ILE
45	AX	81	VAL
45	AX	88	TYR
45	AX	101	ARG
45	AX	108	LYS
45	AX	116	ILE
45	AX	123	ILE
45	AX	131	GLU
46	A0	21	TYR
46	A0	24	ARG
46	A0	32	ASP
47	S1	53	VAL
48	S2	58	VAL
48	S2	64	ILE
49	S3	12	LYS
49	S3	43	ASN
49	S3	44	ILE
49	S3	45	VAL
49	S3	71	GLN

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Mol	Chain	Res	Type
49	S3	75	VAL
49	S3	79	ILE
49	S3	94	VAL
50	S4	53	LEU
50	S4	77	PHE
51	S5	66	LEU
52	S6	16	ASN
52	S6	47	ASN
54	SB	28	GLU
54	SB	39	LEU
54	SB	43	PHE
54	SB	68	VAL
54	SB	96	CYS
54	SB	106	THR
54	SB	114	ILE
54	SB	119	THR
54	SB	131	ASP
54	SB	152	SER
54	SB	153	THR
54	SB	172	MET
54	SB	210	VAL
55	SC	29	LEU
55	SC	92	TYR
55	SC	123	VAL
55	SC	143	VAL
55	SC	144	ILE
55	SC	148	ASP
55	SC	150	ASP
55	SC	177	LEU
55	SC	197	MET
55	SC	202	LEU
56	SD	100	MET
56	SD	144	ARG
56	SD	157	TYR
57	SE	16	LYS
57	SE	62	LEU
57	SE	70	ILE
57	SE	104	LEU
57	SE	138	LYS
58	SF	69	ILE
58	SF	70	VAL
58	SF	78	THR

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Mol	Chain	Res	Type
58	SF	90	ILE
58	SF	102	LEU
58	SF	110	VAL
58	SF	140	VAL
58	SF	150	ILE
58	SF	195	ILE
58	SF	223	SER
59	SG	50	LEU
59	SG	62	ILE
59	SG	64	LEU
59	SG	92	VAL
59	SG	95	ILE
59	SG	148	LEU
59	SG	166	VAL
59	SG	188	THR
59	SG	226	ILE
59	SG	234	TYR
59	SG	242	TRP
59	SG	261	THR
60	SH	14	LYS
60	SH	70	ASN
60	SH	71	ASN
60	SH	160	ARG
60	SH	212	LEU
61	SI	9	LYS
61	SI	40	THR
61	SI	93	LEU
61	SI	150	ARG
61	SI	158	LYS
61	SI	162	GLU
62	SJ	7	ARG
62	SJ	20	ILE
62	SJ	48	ASP
62	SJ	143	MET
62	SJ	150	VAL
62	SJ	185	VAL
63	SK	10	CYS
63	SK	52	ILE
63	SK	53	VAL
63	SK	69	ILE
63	SK	71	LYS
63	SK	94	LEU

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Mol	Chain	Res	Type
63	SK	102	LEU
63	SK	103	ILE
63	SK	125	VAL
64	SL	41	ARG
64	SL	46	VAL
64	SL	100	CYS
64	SL	185	ILE
65	SM	38	ASP
65	SM	102	THR
65	SM	118	LEU
66	SN	24	THR
66	SN	61	ARG
66	SN	67	SER
67	SO	55	MET
68	SP	28	PHE
68	SP	54	VAL
68	SP	85	LEU
68	SP	91	THR
68	SP	114	SER
69	SQ	44	ARG
69	SQ	72	VAL
69	SQ	83	ILE
69	SQ	87	VAL
69	SQ	107	PHE
69	SQ	124	VAL
70	SR	128	GLU
71	SS	32	LEU
71	SS	67	ASP
71	SS	80	LYS
71	SS	98	ILE
71	SS	113	LEU
72	ST	12	TYR
72	ST	21	VAL
72	ST	22	CYS
72	ST	29	ILE
72	ST	47	ILE
73	SU	45	GLN
73	SU	71	ILE
73	SU	87	ASP
73	SU	88	LEU
73	SU	93	LYS
73	SU	103	GLU

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Mol	Chain	Res	Type
73	SU	120	SER
74	SV	7	VAL
74	SV	57	VAL
74	SV	102	ARG
74	SV	109	ASN
74	SV	126	VAL
75	SW	5	ARG
75	SW	24	LEU
75	SW	63	LYS
76	SX	85	ILE
76	SX	105	VAL
76	SX	122	THR
77	SY	95	VAL
78	SZ	11	ILE
78	SZ	22	ARG
78	SZ	28	GLU
78	SZ	44	VAL
78	SZ	57	HIS
78	SZ	63	GLU
78	SZ	78	LEU
78	SZ	80	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

Mol	Chain	Res	Type
5	AL	146	ASN
6	A1	141	HIS
7	A2	40	ASN
7	A2	81	HIS
8	A4	38	ASN
9	A6	55	GLN
11	AN	18	ASN
11	AN	150	ASN
12	A8	50	ASN
13	A9	75	GLN
14	Aa	3	GLN
14	Aa	6	HIS
14	Aa	18	ASN
15	Ab	87	HIS
15	Ab	104	GLN
18	Af	44	GLN
19	AP	15	GLN

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Mol	Chain	Res	Type
19	AP	92	GLN
22	AI	12	ASN
22	AI	113	ASN
22	AI	126	ASN
23	AJ	86	GLN
23	AJ	130	ASN
23	AJ	154	ASN
23	AJ	166	ASN
25	AK	30	GLN
25	AK	49	ASN
25	AK	155	ASN
25	AK	194	GLN
26	AM	49	ASN
26	AM	77	ASN
27	AS	73	ASN
28	AO	19	HIS
28	AO	40	HIS
28	AO	113	ASN
28	AO	118	HIS
29	AQ	92	HIS
29	AQ	100	ASN
30	AR	47	GLN
33	AT	35	ASN
33	AT	146	ASN
35	A3	61	ASN
35	A3	74	ASN
35	A3	98	GLN
36	A5	51	ASN
36	A5	190	ASN
37	AD	19	HIS
37	AD	22	HIS
37	AD	122	ASN
37	AD	139	GLN
38	AE	55	HIS
38	AE	179	GLN
39	AF	29	GLN
39	AF	50	HIS
39	AF	89	GLN
39	AF	146	HIS
39	AF	314	GLN
40	AG	20	ASN
41	AU	123	HIS

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Mol	Chain	Res	Type
42	AH	168	ASN
43	AV	29	ASN
45	AX	62	GLN
46	A0	65	ASN
50	S4	17	HIS
50	S4	63	GLN
52	S6	38	GLN
52	S6	41	ASN
55	SC	58	GLN
55	SC	91	GLN
55	SC	163	ASN
56	SD	13	ASN
58	SF	176	GLN
58	SF	215	ASN
59	SG	40	ASN
59	SG	101	GLN
60	SH	59	GLN
60	SH	119	ASN
61	SI	34	GLN
61	SI	70	HIS
61	SI	98	ASN
61	SI	140	GLN
61	SI	151	ASN
62	SJ	22	GLN
62	SJ	82	ASN
63	SK	101	HIS
65	SM	95	GLN
66	SN	104	ASN
68	SP	32	HIS
70	SR	26	GLN
72	ST	14	GLN
74	SV	141	ASN
76	SX	46	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	S7	75/76 (98%)	30 (40%)	2 (2%)
1	S9	75/76 (98%)	15 (20%)	1 (1%)
2	AA	3162/3788 (83%)	768 (24%)	57 (1%)
3	AC	148/159 (93%)	34 (22%)	4 (2%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
4	AB	117/119 (98%)	41 (35%)	1 (0%)
53	SA	1587/2092 (75%)	360 (22%)	24 (1%)
79	mR	8/9 (88%)	6 (75%)	0
All	All	5172/6319 (81%)	1254 (24%)	89 (1%)

All (1254) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	S7	3	C
1	S7	6	G
1	S7	9	G
1	S7	10	G
1	S7	11	A
1	S7	12	G
1	S7	13	C
1	S7	16	C
1	S7	17	C
1	S7	20	U
1	S7	21	A
1	S7	27	U
1	S7	28	C
1	S7	32	C
1	S7	34	C
1	S7	45	G
1	S7	46	G
1	S7	48	C
1	S7	52	G
1	S7	54	U
1	S7	55	U
1	S7	56	C
1	S7	59	A
1	S7	61	C
1	S7	63	G
1	S7	70	G
1	S7	71	C
1	S7	74	C
1	S7	75	C
1	S7	76	A
2	AA	11	A
2	AA	13	G
2	AA	14	U
2	AA	15	U

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Mol	Chain	Res	Type
2	AA	26	A
2	AA	40	A
2	AA	43	A
2	AA	49	U
2	AA	59	G
2	AA	60	A
2	AA	62	A
2	AA	63	A
2	AA	66	A
2	AA	74	A
2	AA	75	U
2	AA	77	A
2	AA	85	A
2	AA	92	G
2	AA	110	G
2	AA	113	C
2	AA	121	U
2	AA	123	A
2	AA	124	U
2	AA	130	G
2	AA	133	U
2	AA	134	G
2	AA	136	U
2	AA	137	G
2	AA	146	U
2	AA	148	G
2	AA	161	U
2	AA	162	U
2	AA	163	G
2	AA	165	A
2	AA	167	U
2	AA	168	A
2	AA	169	U
2	AA	172	C
2	AA	174	U
2	AA	175	G
2	AA	180	C
2	AA	181	C
2	AA	182	U
2	AA	183	U
2	AA	185	A
2	AA	192	G

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Mol	Chain	Res	Type
2	AA	198	U
2	AA	199	G
2	AA	200	A
2	AA	201	G
2	AA	204	G
2	AA	207	A
2	AA	215	C
2	AA	216	C
2	AA	219	A
2	AA	220	G
2	AA	226	G
2	AA	227	A
2	AA	228	A
2	AA	229	A
2	AA	235	A
2	AA	239	U
2	AA	246	U
2	AA	250	U
2	AA	254	U
2	AA	255	C
2	AA	256	A
2	AA	257	U
2	AA	258	U
2	AA	264	U
2	AA	267	U
2	AA	268	C
2	AA	269	A
2	AA	270	U
2	AA	271	G
2	AA	276	G
2	AA	277	U
2	AA	302	A
2	AA	303	A
2	AA	306	C
2	AA	307	G
2	AA	308	U
2	AA	309	G
2	AA	313	U
2	AA	337	A
2	AA	338	U
2	AA	345	G
2	AA	347	C

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Mol	Chain	Res	Type
2	AA	360	A
2	AA	382	A
2	AA	384	A
2	AA	385	G
2	AA	386	U
2	AA	395	A
2	AA	400	C
2	AA	409	A
2	AA	412	A
2	AA	413	C
2	AA	414	C
2	AA	431	G
2	AA	432	A
2	AA	433	A
2	AA	439	U
2	AA	440	A
2	AA	445	A
2	AA	448	A
2	AA	449	A
2	AA	451	C
2	AA	459	G
2	AA	463	G
2	AA	489	U
2	AA	490	U
2	AA	494	U
2	AA	495	U
2	AA	501	U
2	AA	502	U
2	AA	505	A
2	AA	506	A
2	AA	510	A
2	AA	518	G
2	AA	521	U
2	AA	522	A
2	AA	530	U
2	AA	534	A
2	AA	536	A
2	AA	537	A
2	AA	538	A
2	AA	539	G
2	AA	542	A
2	AA	543	U

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Mol	Chain	Res	Type
2	AA	544	C
2	AA	547	C
2	AA	573	U
2	AA	580	A
2	AA	581	C
2	AA	582	U
2	AA	585	C
2	AA	586	U
2	AA	587	C
2	AA	592	C
2	AA	597	A
2	AA	599	G
2	AA	605	A
2	AA	607	A
2	AA	608	A
2	AA	609	C
2	AA	610	U
2	AA	620	U
2	AA	621	C
2	AA	623	U
2	AA	642	A
2	AA	644	G
2	AA	646	A
2	AA	648	U
2	AA	649	U
2	AA	650	U
2	AA	652	A
2	AA	653	A
2	AA	658	U
2	AA	665	U
2	AA	666	U
2	AA	667	U
2	AA	674	U
2	AA	675	A
2	AA	681	U
2	AA	684	G
2	AA	685	U
2	AA	693	A
2	AA	694	U
2	AA	696	C
2	AA	697	A
2	AA	698	G

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Mol	Chain	Res	Type
2	AA	699	U
2	AA	704	U
2	AA	708	A
2	AA	714	C
2	AA	715	U
2	AA	716	C
2	AA	722	G
2	AA	727	A
2	AA	738	A
2	AA	755	A
2	AA	759	U
2	AA	765	A
2	AA	767	U
2	AA	769	U
2	AA	771	U
2	AA	773	A
2	AA	774	A
2	AA	778	U
2	AA	779	U
2	AA	793	A
2	AA	794	C
2	AA	795	G
2	AA	805	U
2	AA	806	G
2	AA	809	A
2	AA	810	U
2	AA	812	U
2	AA	818	C
2	AA	822	A
2	AA	826	U
2	AA	833	G
2	AA	835	G
2	AA	857	C
2	AA	859	C
2	AA	860	A
2	AA	861	C
2	AA	862	U
2	AA	863	U
2	AA	866	C
2	AA	874	A
2	AA	889	U
2	AA	890	G

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Mol	Chain	Res	Type
2	AA	893	U
2	AA	899	A
2	AA	900	G
2	AA	903	C
2	AA	904	G
2	AA	905	A
2	AA	918	G
2	AA	925	A
2	AA	935	A
2	AA	936	A
2	AA	946	A
2	AA	949	A
2	AA	959	C
2	AA	964	G
2	AA	966	A
2	AA	968	G
2	AA	969	U
2	AA	976	G
2	AA	980	A
2	AA	984	A
2	AA	988	G
2	AA	993	U
2	AA	998	U
2	AA	999	G
2	AA	1014	C
2	AA	1016	A
2	AA	1026	G
2	AA	1027	G
2	AA	1033	A
2	AA	1035	G
2	AA	1040	A
2	AA	1042	C
2	AA	1043	G
2	AA	1056	G
2	AA	1063	A
2	AA	1070	A
2	AA	1073	G
2	AA	1078	C
2	AA	1099	U
2	AA	1100	A
2	AA	1101	A
2	AA	1107	U

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Mol	Chain	Res	Type
2	AA	1114	A
2	AA	1121	G
2	AA	1122	A
2	AA	1123	U
2	AA	1124	A
2	AA	1126	U
2	AA	1131	A
2	AA	1158	G
2	AA	1159	A
2	AA	1170	A
2	AA	1172	C
2	AA	1185	A
2	AA	1187	A
2	AA	1189	G
2	AA	1193	G
2	AA	1194	A
2	AA	1196	A
2	AA	1197	U
2	AA	1198	A
2	AA	1199	A
2	AA	1200	C
2	AA	1206	U
2	AA	1208	G
2	AA	1214	C
2	AA	1215	A
2	AA	1217	U
2	AA	1218	C
2	AA	1219	A
2	AA	1221	A
2	AA	1222	U
2	AA	1225	A
2	AA	1229	A
2	AA	1230	A
2	AA	1231	A
2	AA	1233	A
2	AA	1245	G
2	AA	1259	G
2	AA	1271	A
2	AA	1272	U
2	AA	1281	C
2	AA	1287	A
2	AA	1288	C

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Mol	Chain	Res	Type
2	AA	1296	U
2	AA	1306	A
2	AA	1307	A
2	AA	1309	U
2	AA	1310	A
2	AA	1319	U
2	AA	1320	G
2	AA	1325	C
2	AA	1329	U
2	AA	1335	G
2	AA	1336	U
2	AA	1337	G
2	AA	1338	U
2	AA	1342	U
2	AA	1344	C
2	AA	1345	A
2	AA	1346	U
2	AA	1416	U
2	AA	1420	C
2	AA	1435	G
2	AA	1436	A
2	AA	1437	U
2	AA	1441	G
2	AA	1444	A
2	AA	1445	A
2	AA	1459	U
2	AA	1460	A
2	AA	1476	A
2	AA	1480	G
2	AA	1481	A
2	AA	1498	U
2	AA	1499	U
2	AA	1503	A
2	AA	1504	A
2	AA	1506	C
2	AA	1525	C
2	AA	1535	G
2	AA	1537	G
2	AA	1539	U
2	AA	1547	A
2	AA	1550	A
2	AA	1552	G

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Mol	Chain	Res	Type
2	AA	1554	G
2	AA	1555	A
2	AA	1556	G
2	AA	1559	U
2	AA	1565	G
2	AA	1567	A
2	AA	1572	U
2	AA	1575	C
2	AA	1580	G
2	AA	1583	G
2	AA	1586	C
2	AA	1595	A
2	AA	1601	A
2	AA	1619	U
2	AA	1630	A
2	AA	1631	A
2	AA	1636	A
2	AA	1637	G
2	AA	1638	A
2	AA	1639	A
2	AA	1657	U
2	AA	1676	C
2	AA	1685	G
2	AA	1691	G
2	AA	1700	U
2	AA	1703	U
2	AA	1704	U
2	AA	1705	A
2	AA	1706	A
2	AA	1707	A
2	AA	1725	U
2	AA	1730	A
2	AA	1732	A
2	AA	1736	A
2	AA	1737	A
2	AA	1739	C
2	AA	1748	A
2	AA	1749	U
2	AA	1750	U
2	AA	1756	G
2	AA	1762	A
2	AA	1763	G

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Mol	Chain	Res	Type
2	AA	1765	A
2	AA	1766	U
2	AA	1767	U
2	AA	1769	U
2	AA	1770	G
2	AA	1772	G
2	AA	1773	U
2	AA	1781	A
2	AA	1783	G
2	AA	1791	A
2	AA	1793	A
2	AA	1796	U
2	AA	1799	A
2	AA	1800	U
2	AA	1801	G
2	AA	1805	U
2	AA	1806	C
2	AA	1812	C
2	AA	1838	U
2	AA	1849	U
2	AA	1851	A
2	AA	1853	C
2	AA	1854	U
2	AA	1855	U
2	AA	1856	U
2	AA	1859	A
2	AA	1862	A
2	AA	1863	A
2	AA	1876	A
2	AA	1877	U
2	AA	1878	U
2	AA	1881	C
2	AA	1882	U
2	AA	1885	G
2	AA	1886	A
2	AA	1887	G
2	AA	1888	A
2	AA	1890	G
2	AA	1891	A
2	AA	1895	U
2	AA	1897	G
2	AA	1899	U

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Mol	Chain	Res	Type
2	AA	1900	G
2	AA	1902	A
2	AA	1903	C
2	AA	1904	U
2	AA	1914	A
2	AA	1961	U
2	AA	1964	G
2	AA	1966	A
2	AA	1968	C
2	AA	1969	A
2	AA	1970	A
2	AA	1971	U
2	AA	1972	A
2	AA	1973	G
2	AA	1976	A
2	AA	1978	U
2	AA	1980	G
2	AA	1981	U
2	AA	1990	A
2	AA	1991	U
2	AA	1996	C
2	AA	1998	A
2	AA	1999	A
2	AA	2000	G
2	AA	2019	A
2	AA	2029	G
2	AA	2031	A
2	AA	2034	G
2	AA	2035	G
2	AA	2080	C
2	AA	2084	U
2	AA	2086	A
2	AA	2090	U
2	AA	2093	U
2	AA	2094	A
2	AA	2095	U
2	AA	2096	G
2	AA	2097	A
2	AA	2102	A
2	AA	2106	A
2	AA	2107	C
2	AA	2108	A

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Mol	Chain	Res	Type
2	AA	2109	A
2	AA	2117	A
2	AA	2121	C
2	AA	2122	U
2	AA	2125	A
2	AA	2126	A
2	AA	2128	G
2	AA	2129	U
2	AA	2131	A
2	AA	2145	A
2	AA	2146	A
2	AA	2147	A
2	AA	2154	A
2	AA	2160	G
2	AA	2174	G
2	AA	2175	C
2	AA	2178	A
2	AA	2180	U
2	AA	2181	A
2	AA	2204	A
2	AA	2207	G
2	AA	2208	G
2	AA	2211	C
2	AA	2216	G
2	AA	2217	A
2	AA	2219	A
2	AA	2220	U
2	AA	2389	G
2	AA	2394	C
2	AA	2395	U
2	AA	2400	A
2	AA	2404	A
2	AA	2405	A
2	AA	2406	A
2	AA	2408	G
2	AA	2413	A
2	AA	2415	G
2	AA	2424	A
2	AA	2433	U
2	AA	2451	A
2	AA	2453	A
2	AA	2461	A

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Mol	Chain	Res	Type
2	AA	2463	U
2	AA	2481	A
2	AA	2485	C
2	AA	2500	A
2	AA	2516	A
2	AA	2521	A
2	AA	2524	C
2	AA	2525	A
2	AA	2532	G
2	AA	2537	A
2	AA	2539	G
2	AA	2544	G
2	AA	2545	A
2	AA	2549	A
2	AA	2550	C
2	AA	2551	U
2	AA	2555	A
2	AA	2556	C
2	AA	2563	A
2	AA	2565	G
2	AA	2566	G
2	AA	2567	U
2	AA	2573	A
2	AA	2577	C
2	AA	2588	A
2	AA	2591	U
2	AA	2600	G
2	AA	2601	C
2	AA	2603	U
2	AA	2606	A
2	AA	2607	U
2	AA	2608	G
2	AA	2628	G
2	AA	2629	U
2	AA	2658	C
2	AA	2666	A
2	AA	2667	C
2	AA	2668	G
2	AA	2681	U
2	AA	2686	G
2	AA	2687	G
2	AA	2690	A

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Mol	Chain	Res	Type
2	AA	2694	A
2	AA	2695	A
2	AA	2696	G
2	AA	2697	A
2	AA	2704	U
2	AA	2711	U
2	AA	2727	U
2	AA	2743	A
2	AA	2744	G
2	AA	2804	C
2	AA	2805	U
2	AA	2806	U
2	AA	2810	A
2	AA	2817	U
2	AA	2823	U
2	AA	2824	A
2	AA	2833	U
2	AA	2835	G
2	AA	2884	G
2	AA	2885	A
2	AA	2886	A
2	AA	2887	U
2	AA	2920	A
2	AA	2932	A
2	AA	2934	A
2	AA	2938	C
2	AA	2945	G
2	AA	2946	G
2	AA	2953	G
2	AA	2960	G
2	AA	2965	A
2	AA	2976	A
2	AA	2987	G
2	AA	2990	G
2	AA	2991	U
2	AA	2995	A
2	AA	3011	G
2	AA	3013	A
2	AA	3015	A
2	AA	3016	G
2	AA	3018	A
2	AA	3019	A

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Mol	Chain	Res	Type
2	AA	3028	A
2	AA	3030	A
2	AA	3033	A
2	AA	3035	A
2	AA	3039	G
2	AA	3041	A
2	AA	3042	A
2	AA	3061	U
2	AA	3067	G
2	AA	3068	A
2	AA	3086	A
2	AA	3091	U
2	AA	3092	G
2	AA	3094	C
2	AA	3111	U
2	AA	3116	A
2	AA	3117	A
2	AA	3123	C
2	AA	3124	G
2	AA	3125	U
2	AA	3126	A
2	AA	3130	U
2	AA	3131	A
2	AA	3135	A
2	AA	3138	A
2	AA	3141	G
2	AA	3147	A
2	AA	3155	G
2	AA	3158	U
2	AA	3159	G
2	AA	3160	A
2	AA	3161	A
2	AA	3163	A
2	AA	3169	C
2	AA	3173	G
2	AA	3175	G
2	AA	3176	A
2	AA	3201	C
2	AA	3203	C
2	AA	3206	A
2	AA	3226	C
2	AA	3228	U

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Mol	Chain	Res	Type
2	AA	3230	G
2	AA	3231	A
2	AA	3246	A
2	AA	3248	C
2	AA	3257	G
2	AA	3258	C
2	AA	3259	A
2	AA	3270	A
2	AA	3282	U
2	AA	3286	C
2	AA	3289	G
2	AA	3292	A
2	AA	3293	A
2	AA	3294	U
2	AA	3295	A
2	AA	3301	C
2	AA	3302	G
2	AA	3306	G
2	AA	3310	G
2	AA	3311	G
2	AA	3330	A
2	AA	3342	C
2	AA	3349	G
2	AA	3353	A
2	AA	3357	U
2	AA	3362	A
2	AA	3365	U
2	AA	3374	U
2	AA	3375	A
2	AA	3377	A
2	AA	3379	A
2	AA	3380	U
2	AA	3381	A
2	AA	3382	U
2	AA	3384	G
2	AA	3385	U
2	AA	3391	G
2	AA	3398	A
2	AA	3404	C
2	AA	3407	G
2	AA	3408	G
2	AA	3413	A

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Mol	Chain	Res	Type
2	AA	3414	G
2	AA	3415	A
2	AA	3421	A
2	AA	3426	G
2	AA	3437	U
2	AA	3438	G
2	AA	3442	C
2	AA	3443	A
2	AA	3445	C
2	AA	3446	A
2	AA	3450	G
2	AA	3452	U
2	AA	3453	U
2	AA	3463	G
2	AA	3467	U
2	AA	3468	G
2	AA	3476	A
2	AA	3477	A
2	AA	3483	U
2	AA	3485	G
2	AA	3492	G
2	AA	3501	C
2	AA	3506	U
2	AA	3507	A
2	AA	3513	G
2	AA	3514	A
2	AA	3515	A
2	AA	3516	A
2	AA	3526	U
2	AA	3527	U
2	AA	3528	A
2	AA	3548	U
2	AA	3553	G
2	AA	3571	A
2	AA	3572	A
2	AA	3573	U
2	AA	3574	G
2	AA	3580	G
2	AA	3581	A
2	AA	3582	G
2	AA	3585	A
2	AA	3586	U

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Mol	Chain	Res	Type
2	AA	3588	A
2	AA	3590	A
2	AA	3591	U
2	AA	3592	A
2	AA	3593	U
2	AA	3595	U
2	AA	3615	A
2	AA	3617	A
2	AA	3618	A
2	AA	3623	A
2	AA	3626	A
2	AA	3632	U
2	AA	3636	U
2	AA	3658	G
2	AA	3659	C
2	AA	3665	U
2	AA	3666	U
2	AA	3668	U
2	AA	3670	U
2	AA	3684	A
2	AA	3689	C
2	AA	3697	G
2	AA	3698	U
2	AA	3707	U
2	AA	3711	U
2	AA	3712	G
2	AA	3718	G
2	AA	3719	G
2	AA	3722	G
2	AA	3724	U
2	AA	3725	G
2	AA	3728	A
2	AA	3732	U
2	AA	3733	G
2	AA	3737	G
2	AA	3740	A
2	AA	3741	A
2	AA	3751	A
2	AA	3755	U
2	AA	3761	G
2	AA	3762	A
2	AA	3764	G

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Mol	Chain	Res	Type
2	AA	3767	U
2	AA	3770	C
2	AA	3774	A
2	AA	3775	G
2	AA	3777	G
2	AA	3781	A
2	AA	3782	A
2	AA	3783	G
3	AC	5	A
3	AC	6	C
3	AC	16	G
3	AC	20	G
3	AC	36	C
3	AC	38	G
3	AC	43	G
3	AC	55	A
3	AC	63	A
3	AC	66	C
3	AC	67	G
3	AC	75	A
3	AC	76	A
3	AC	78	U
3	AC	79	G
3	AC	84	G
3	AC	85	A
3	AC	90	G
3	AC	91	A
3	AC	92	A
3	AC	98	A
3	AC	107	A
3	AC	109	U
3	AC	114	A
3	AC	115	C
3	AC	116	U
3	AC	119	A
3	AC	123	A
3	AC	135	G
3	AC	138	U
3	AC	140	G
3	AC	141	U
3	AC	145	A
3	AC	146	C

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Mol	Chain	Res	Type
4	AB	7	G
4	AB	8	U
4	AB	10	C
4	AB	11	A
4	AB	13	A
4	AB	14	C
4	AB	15	U
4	AB	16	A
4	AB	17	C
4	AB	20	U
4	AB	22	G
4	AB	23	C
4	AB	25	A
4	AB	26	C
4	AB	27	A
4	AB	33	U
4	AB	36	C
4	AB	39	C
4	AB	41	G
4	AB	48	G
4	AB	50	A
4	AB	53	U
4	AB	54	A
4	AB	56	G
4	AB	58	A
4	AB	59	C
4	AB	60	U
4	AB	63	A
4	AB	64	A
4	AB	66	G
4	AB	69	U
4	AB	73	U
4	AB	74	A
4	AB	90	A
4	AB	93	G
4	AB	97	G
4	AB	100	A
4	AB	103	A
4	AB	105	C
4	AB	109	U
4	AB	110	G
53	SA	2	A

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Mol	Chain	Res	Type
53	SA	26	A
53	SA	27	U
53	SA	34	G
53	SA	35	U
53	SA	42	G
53	SA	45	U
53	SA	47	A
53	SA	57	G
53	SA	59	G
53	SA	72	U
53	SA	73	A
53	SA	82	G
53	SA	84	A
53	SA	106	A
53	SA	108	A
53	SA	116	A
53	SA	117	G
53	SA	118	U
53	SA	128	A
53	SA	129	U
53	SA	130	U
53	SA	139	A
53	SA	143	A
53	SA	144	U
53	SA	151	G
53	SA	157	G
53	SA	163	G
53	SA	166	A
53	SA	168	U
53	SA	207	G
53	SA	208	U
53	SA	247	G
53	SA	248	G
53	SA	249	A
53	SA	251	U
53	SA	252	U
53	SA	260	A
53	SA	262	A
53	SA	263	A
53	SA	264	G
53	SA	266	A
53	SA	274	A

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Mol	Chain	Res	Type
53	SA	292	G
53	SA	305	G
53	SA	312	U
53	SA	320	C
53	SA	322	G
53	SA	326	U
53	SA	327	U
53	SA	331	G
53	SA	336	G
53	SA	339	A
53	SA	343	G
53	SA	344	C
53	SA	358	G
53	SA	365	A
53	SA	367	C
53	SA	371	G
53	SA	375	U
53	SA	379	G
53	SA	395	G
53	SA	396	G
53	SA	406	A
53	SA	408	U
53	SA	410	G
53	SA	422	A
53	SA	423	A
53	SA	424	G
53	SA	429	G
53	SA	430	C
53	SA	432	G
53	SA	441	U
53	SA	445	U
53	SA	450	C
53	SA	451	A
53	SA	458	A
53	SA	460	G
53	SA	461	A
53	SA	462	A
53	SA	474	A
53	SA	475	C
53	SA	486	A
53	SA	487	A
53	SA	488	U

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Mol	Chain	Res	Type
53	SA	489	G
53	SA	509	U
53	SA	515	U
53	SA	516	G
53	SA	518	A
53	SA	521	G
53	SA	526	G
53	SA	543	A
53	SA	545	A
53	SA	546	G
53	SA	547	U
53	SA	548	A
53	SA	549	A
53	SA	550	C
53	SA	552	A
53	SA	558	G
53	SA	562	A
53	SA	563	A
53	SA	564	G
53	SA	566	C
53	SA	572	C
53	SA	575	G
53	SA	585	U
53	SA	586	A
53	SA	601	A
53	SA	602	G
53	SA	618	U
53	SA	626	A
53	SA	627	A
53	SA	628	A
53	SA	629	A
53	SA	630	C
53	SA	631	G
53	SA	642	A
53	SA	646	U
53	SA	647	C
53	SA	651	G
53	SA	653	A
53	SA	753	U
53	SA	754	A
53	SA	757	A
53	SA	760	C

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Mol	Chain	Res	Type
53	SA	790	U
53	SA	791	U
53	SA	793	G
53	SA	801	G
53	SA	803	G
53	SA	804	U
53	SA	805	A
53	SA	806	A
53	SA	812	A
53	SA	815	G
53	SA	816	U
53	SA	821	A
53	SA	824	A
53	SA	830	U
53	SA	833	A
53	SA	836	C
53	SA	837	A
53	SA	845	U
53	SA	846	G
53	SA	849	U
53	SA	850	G
53	SA	851	A
53	SA	852	A
53	SA	857	A
53	SA	866	A
53	SA	870	A
53	SA	875	A
53	SA	876	U
53	SA	877	U
53	SA	879	A
53	SA	888	A
53	SA	908	U
53	SA	913	U
53	SA	916	G
53	SA	920	A
53	SA	924	A
53	SA	925	C
53	SA	931	A
53	SA	941	C
53	SA	942	U
53	SA	954	G
53	SA	966	C

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Mol	Chain	Res	Type
53	SA	967	A
53	SA	973	G
53	SA	974	A
53	SA	982	A
53	SA	983	G
53	SA	984	A
53	SA	991	G
53	SA	999	A
53	SA	1002	A
53	SA	1004	U
53	SA	1011	G
53	SA	1013	A
53	SA	1035	A
53	SA	1057	A
53	SA	1061	A
53	SA	1062	A
53	SA	1065	C
53	SA	1073	U
53	SA	1074	A
53	SA	1093	U
53	SA	1095	A
53	SA	1097	C
53	SA	1098	U
53	SA	1099	A
53	SA	1101	G
53	SA	1108	A
53	SA	1109	G
53	SA	1112	G
53	SA	1168	U
53	SA	1177	A
53	SA	1182	A
53	SA	1183	U
53	SA	1193	A
53	SA	1197	C
53	SA	1198	U
53	SA	1210	G
53	SA	1219	U
53	SA	1225	A
53	SA	1227	G
53	SA	1239	A
53	SA	1240	A
53	SA	1247	G

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Mol	Chain	Res	Type
53	SA	1251	G
53	SA	1252	A
53	SA	1259	C
53	SA	1261	A
53	SA	1264	A
53	SA	1265	G
53	SA	1271	G
53	SA	1282	U
53	SA	1283	U
53	SA	1284	A
53	SA	1285	A
53	SA	1286	U
53	SA	1295	A
53	SA	1296	C
53	SA	1297	A
53	SA	1300	G
53	SA	1301	G
53	SA	1306	C
53	SA	1307	U
53	SA	1308	C
53	SA	1317	A
53	SA	1318	A
53	SA	1363	U
53	SA	1367	U
53	SA	1371	G
53	SA	1374	G
53	SA	1377	U
53	SA	1382	G
53	SA	1385	U
53	SA	1386	U
53	SA	1387	U
53	SA	1414	A
53	SA	1415	A
53	SA	1416	U
53	SA	1417	U
53	SA	1422	U
53	SA	1423	A
53	SA	1425	C
53	SA	1436	U
53	SA	1443	G
53	SA	1444	C
53	SA	1445	U

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Mol	Chain	Res	Type
53	SA	1446	A
53	SA	1448	U
53	SA	1450	A
53	SA	1454	G
53	SA	1455	C
53	SA	1456	G
53	SA	1460	A
53	SA	1462	A
53	SA	1464	U
53	SA	1606	U
53	SA	1625	C
53	SA	1626	U
53	SA	1627	U
53	SA	1628	A
53	SA	1635	C
53	SA	1636	A
53	SA	1640	U
53	SA	1644	U
53	SA	1645	C
53	SA	1658	G
53	SA	1659	U
53	SA	1660	U
53	SA	1661	U
53	SA	1665	G
53	SA	1673	A
53	SA	1674	G
53	SA	1679	G
53	SA	1682	A
53	SA	1684	G
53	SA	1691	G
53	SA	1706	A
53	SA	1717	A
53	SA	1719	U
53	SA	1720	G
53	SA	1725	A
53	SA	1728	U
53	SA	1732	G
53	SA	1742	A
53	SA	1784	A
53	SA	1786	U
53	SA	1787	U
53	SA	1790	C

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Mol	Chain	Res	Type
53	SA	1792	U
53	SA	1795	G
53	SA	1802	G
53	SA	1811	A
53	SA	1812	A
53	SA	1816	U
53	SA	1817	U
53	SA	1818	A
53	SA	1819	U
53	SA	1820	C
53	SA	1824	A
53	SA	1832	U
53	SA	1833	G
53	SA	1834	A
53	SA	1836	G
53	SA	1837	G
53	SA	1839	G
53	SA	1852	A
53	SA	1854	U
53	SA	1856	A
53	SA	1862	C
53	SA	1865	G
53	SA	1866	A
53	SA	1870	A
53	SA	1871	G
53	SA	1873	A
53	SA	1879	U
53	SA	1881	G
53	SA	1887	A
53	SA	1893	C
53	SA	1898	G
53	SA	1902	G
53	SA	1907	G
53	SA	1908	A
53	SA	1909	C
53	SA	1911	A
53	SA	1913	G
53	SA	1916	C
53	SA	1928	A
53	SA	1932	A
53	SA	1938	C
53	SA	1942	G

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Mol	Chain	Res	Type
53	SA	1955	G
53	SA	1959	G
53	SA	1961	U
53	SA	1969	A
53	SA	1978	A
53	SA	1979	C
53	SA	1980	A
53	SA	1982	G
53	SA	2012	G
53	SA	2019	C
53	SA	2047	A
53	SA	2048	A
53	SA	2049	G
53	SA	2054	A
53	SA	2059	G
53	SA	2061	U
53	SA	2075	C
53	SA	2084	G
53	SA	2085	G
53	SA	2086	A
53	SA	2088	C
53	SA	2089	A
53	SA	2090	U
79	mR	16	U
79	mR	17	U
79	mR	18	U
79	mR	21	U
79	mR	22	U
79	mR	23	U
1	S9	4	G
1	S9	5	G
1	S9	10	G
1	S9	18	G
1	S9	19	G
1	S9	20	U
1	S9	32	C
1	S9	33	U
1	S9	34	C
1	S9	35	A
1	S9	37	A
1	S9	38	A
1	S9	47	U

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Mol	Chain	Res	Type
1	S9	48	C
1	S9	74	C

All (89) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	S7	53	G
1	S7	55	U
2	AA	61	A
2	AA	62	A
2	AA	162	U
2	AA	179	G
2	AA	184	U
2	AA	215	C
2	AA	257	U
2	AA	269	A
2	AA	270	U
2	AA	432	A
2	AA	439	U
2	AA	500	A
2	AA	501	U
2	AA	504	A
2	AA	505	A
2	AA	579	C
2	AA	580	A
2	AA	581	C
2	AA	607	A
2	AA	620	U
2	AA	674	U
2	AA	697	A
2	AA	698	G
2	AA	703	U
2	AA	715	U
2	AA	721	U
2	AA	764	G
2	AA	859	C
2	AA	888	A
2	AA	965	A
2	AA	1197	U
2	AA	1217	U
2	AA	1435	G
2	AA	1538	U

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Mol	Chain	Res	Type
2	AA	1574	C
2	AA	1705	A
2	AA	1736	A
2	AA	1805	U
2	AA	1881	C
2	AA	1990	A
2	AA	1999	A
2	AA	2180	U
2	AA	2219	A
2	AA	2394	C
2	AA	2816	U
2	AA	2822	U
2	AA	2885	A
2	AA	2959	G
2	AA	3137	U
2	AA	3202	U
2	AA	3230	G
2	AA	3413	A
2	AA	3414	G
2	AA	3587	U
2	AA	3590	A
2	AA	3658	G
2	AA	3667	C
3	AC	35	A
3	AC	37	A
3	AC	134	G
3	AC	145	A
4	AB	22	G
53	SA	105	A
53	SA	246	A
53	SA	248	G
53	SA	291	A
53	SA	423	A
53	SA	525	G
53	SA	752	U
53	SA	844	G
53	SA	850	G
53	SA	981	U
53	SA	998	A
53	SA	1182	A
53	SA	1224	C
53	SA	1295	A

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Mol	Chain	Res	Type
53	SA	1381	C
53	SA	1386	U
53	SA	1413	U
53	SA	1414	A
53	SA	1455	C
53	SA	1786	U
53	SA	1818	A
53	SA	1819	U
53	SA	1865	G
53	SA	2053	U
1	S9	3	C

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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
31	AW	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AW	154:ASN	C	197:UNK	N	32.90

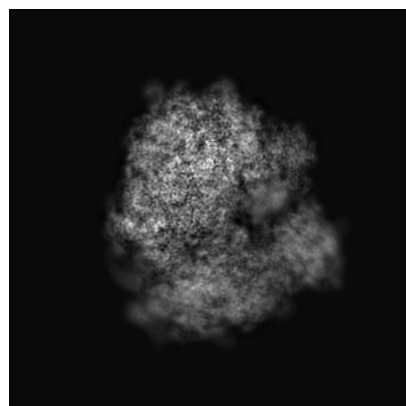
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44919. These allow visual inspection of the internal detail of the map and identification of artifacts.

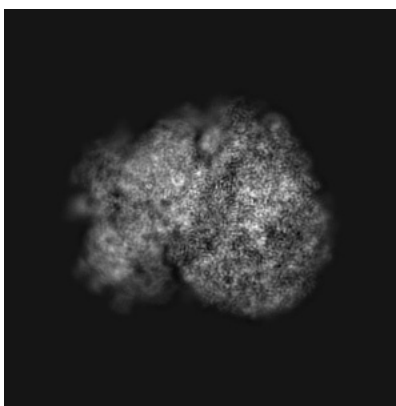
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

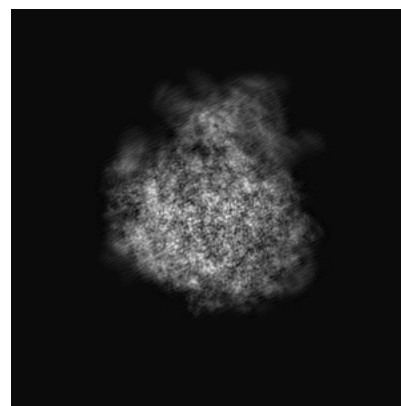
6.1.1 Primary map



X

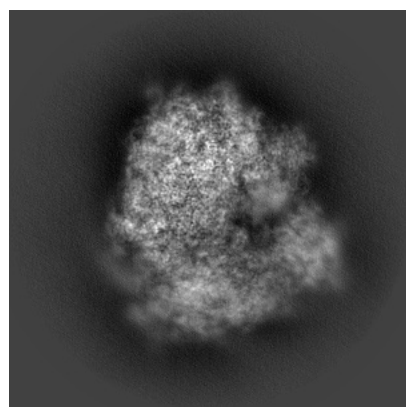


Y

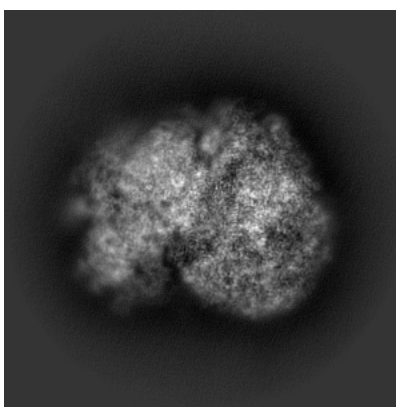


Z

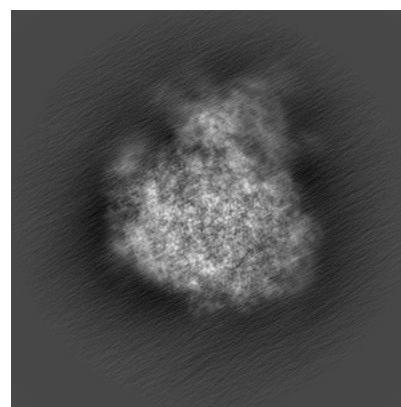
6.1.2 Raw map



X



Y

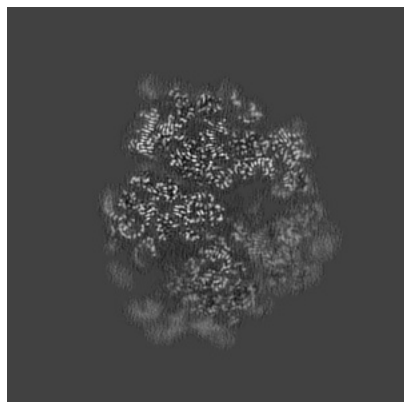


Z

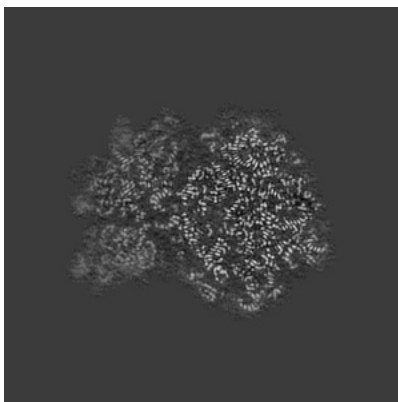
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

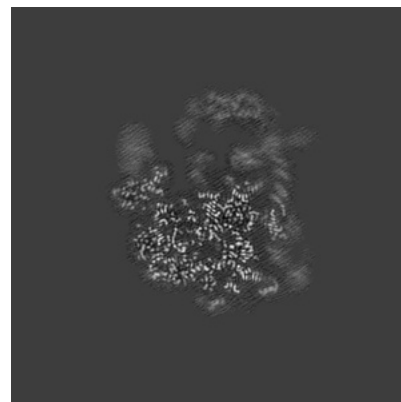
6.2.1 Primary map



X Index: 250

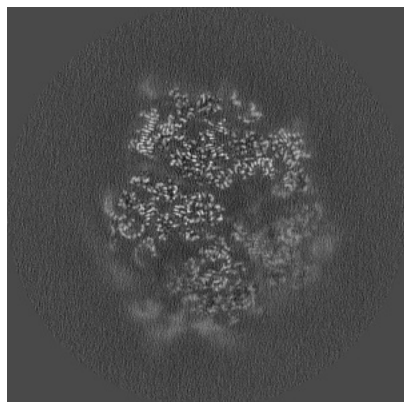


Y Index: 250

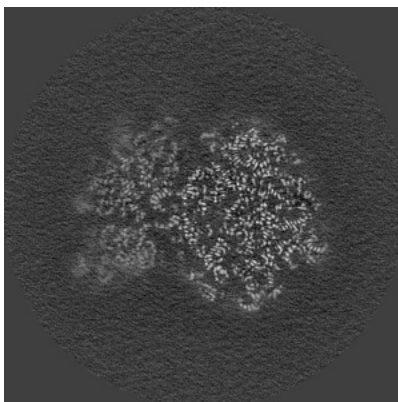


Z Index: 250

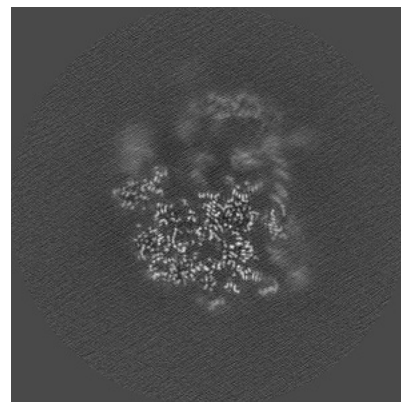
6.2.2 Raw map



X Index: 250



Y Index: 250

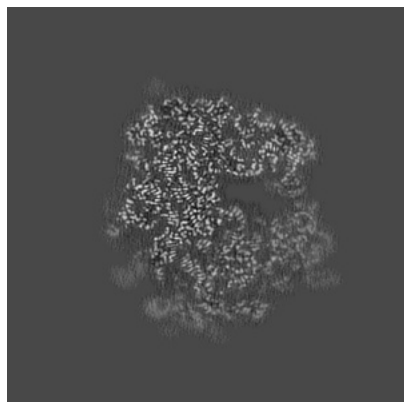


Z Index: 250

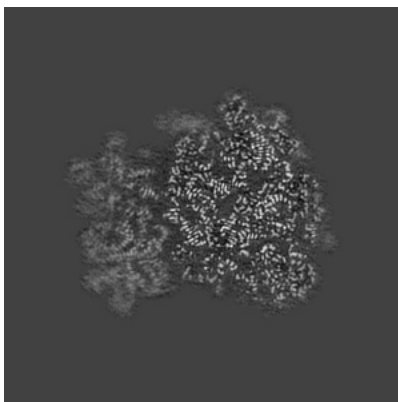
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

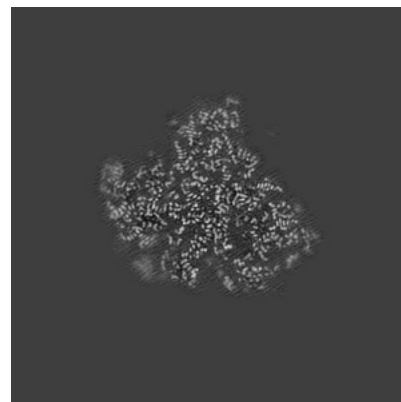
6.3.1 Primary map



X Index: 269

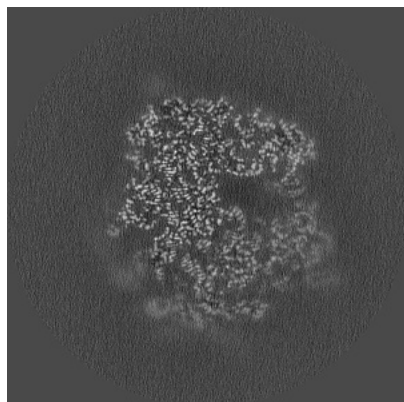


Y Index: 222

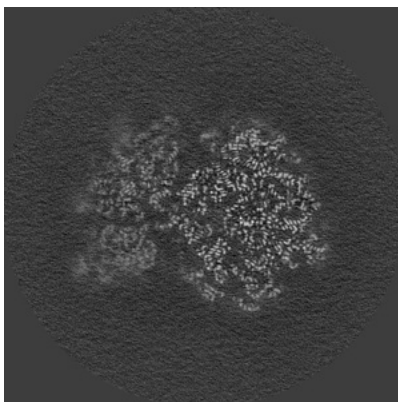


Z Index: 310

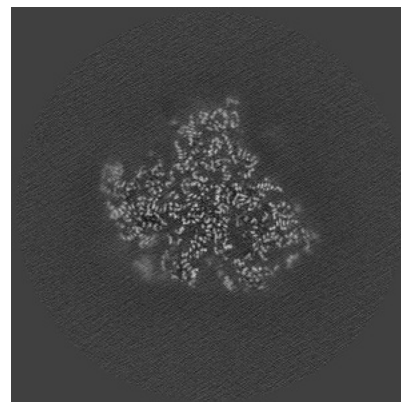
6.3.2 Raw map



X Index: 269



Y Index: 251

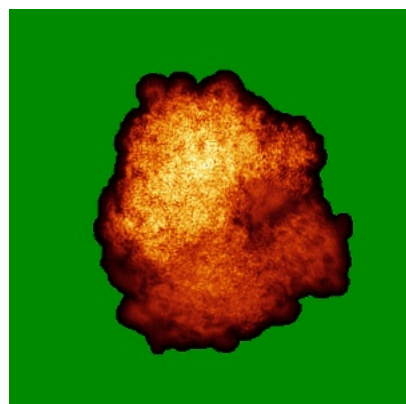


Z Index: 310

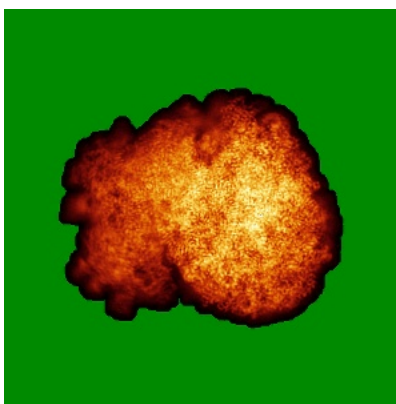
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

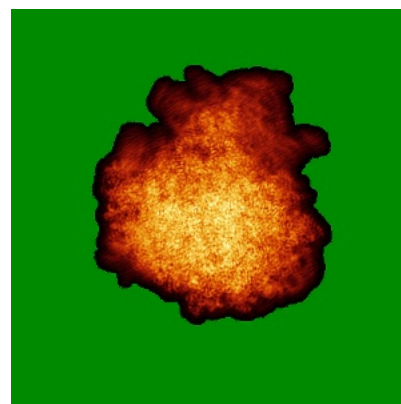
6.4.1 Primary map



X

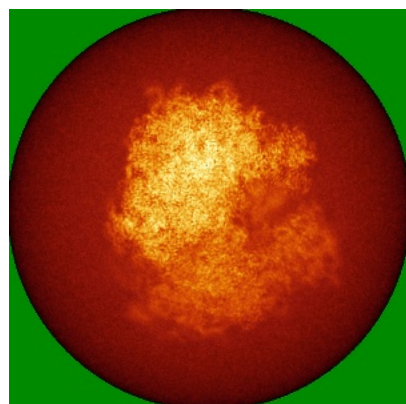


Y

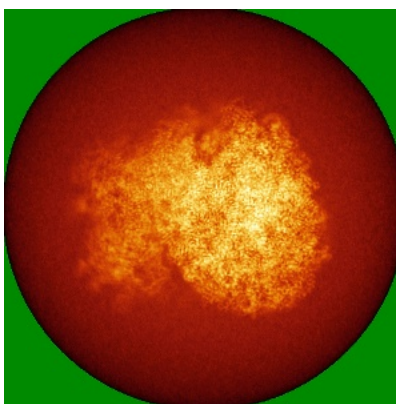


Z

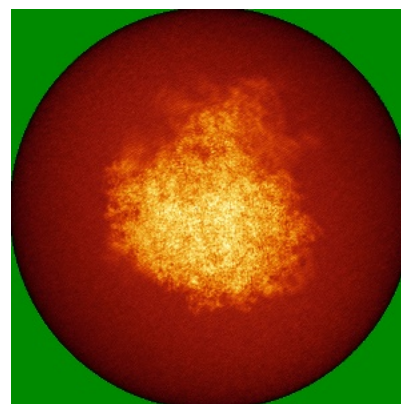
6.4.2 Raw map



X



Y

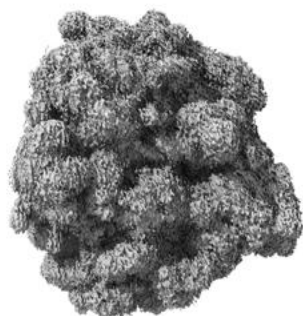


Z

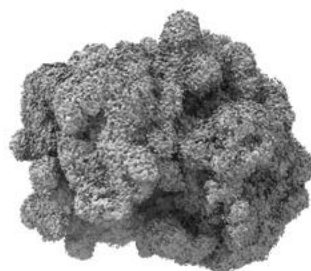
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

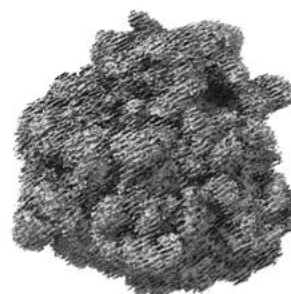
6.5.1 Primary map



X



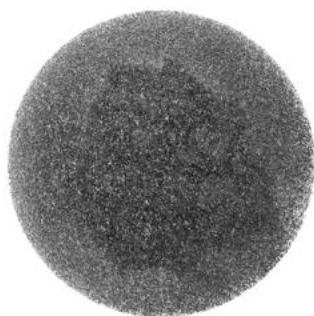
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.00277. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

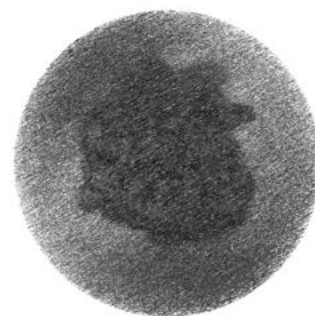
6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

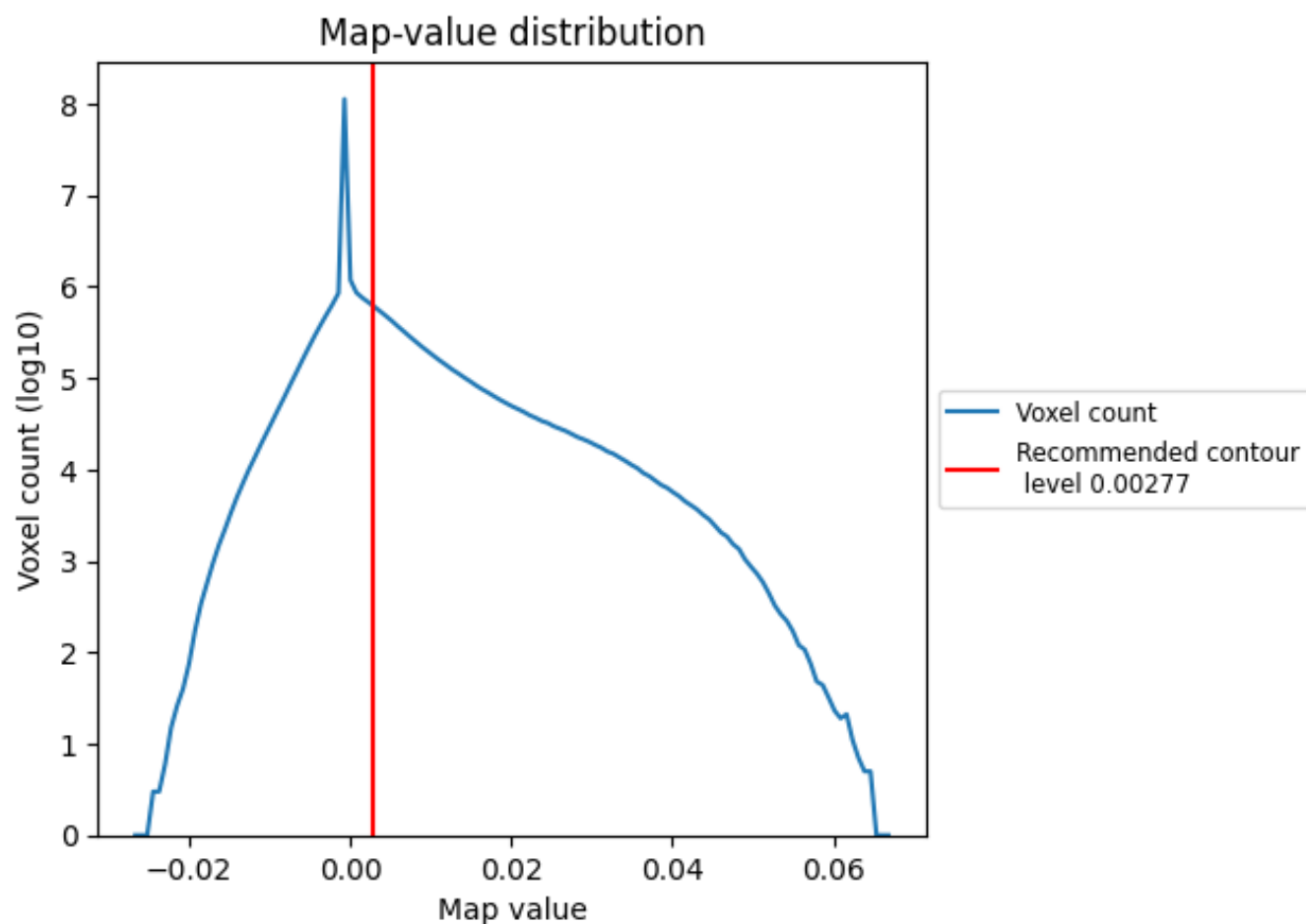
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

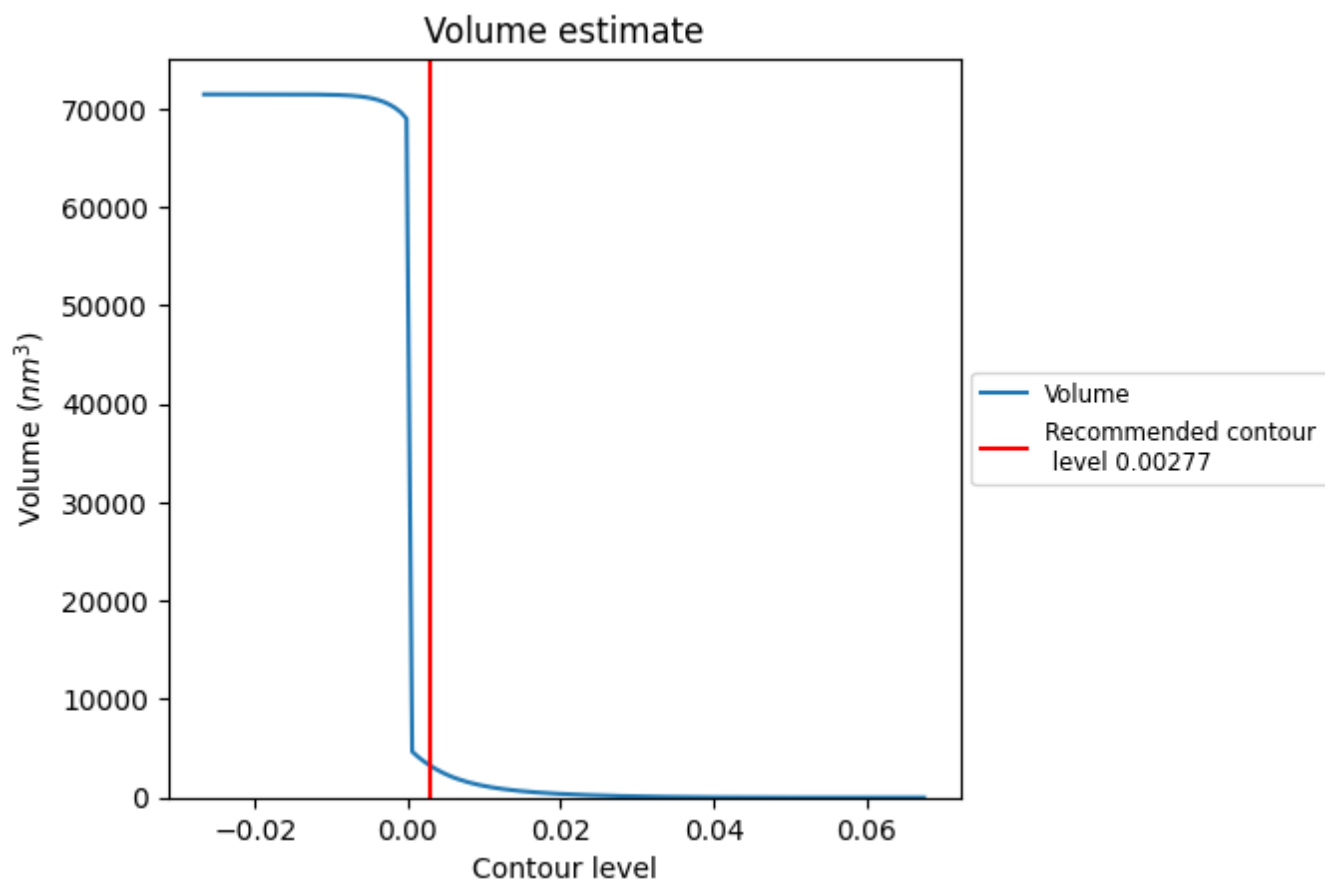
This section contains the results of statistical analysis of the map.

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.

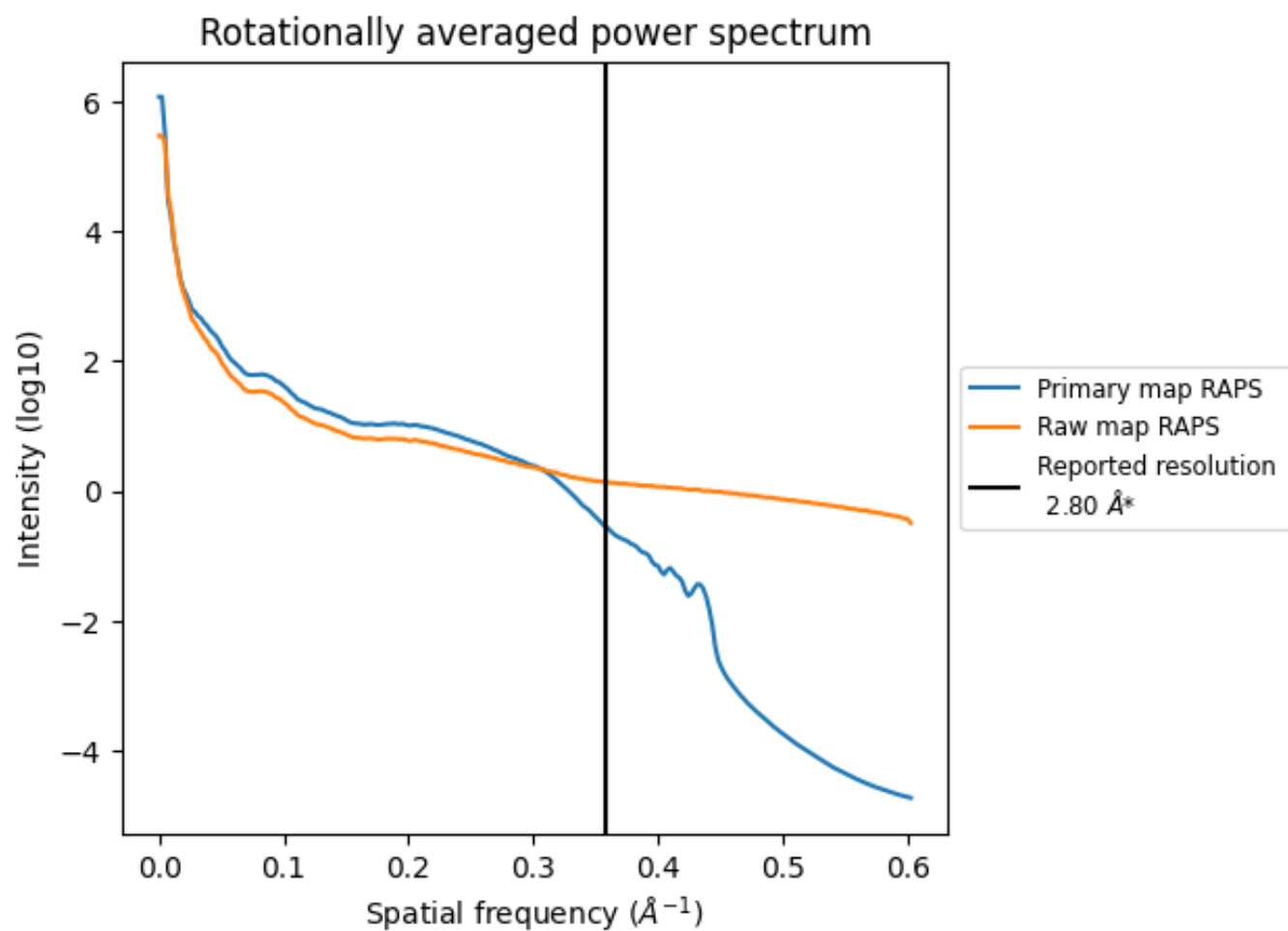
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3322 nm³; this corresponds to an approximate mass of 3000 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 ⓘ

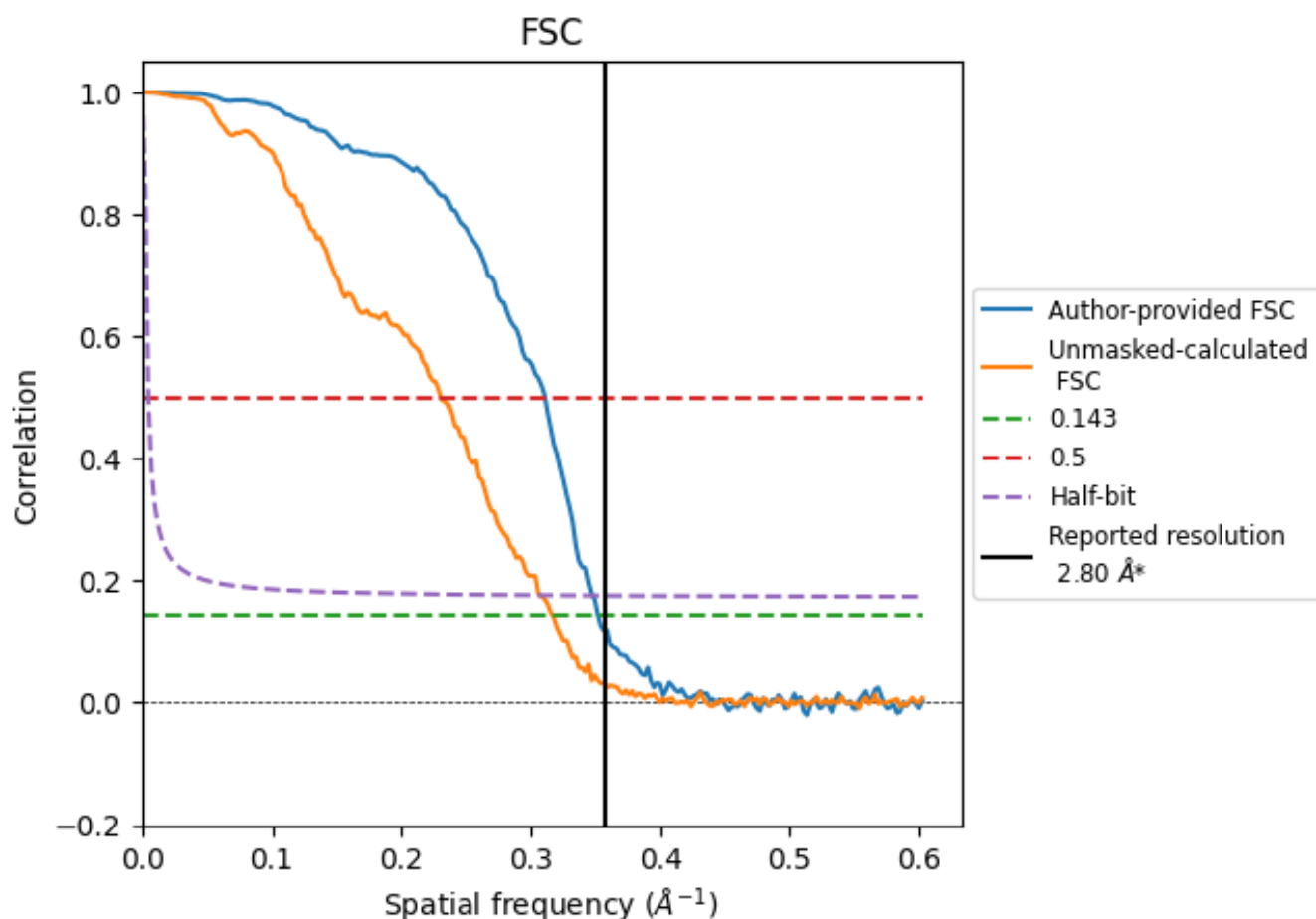


*Reported resolution corresponds to spatial frequency of 0.357 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.357 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

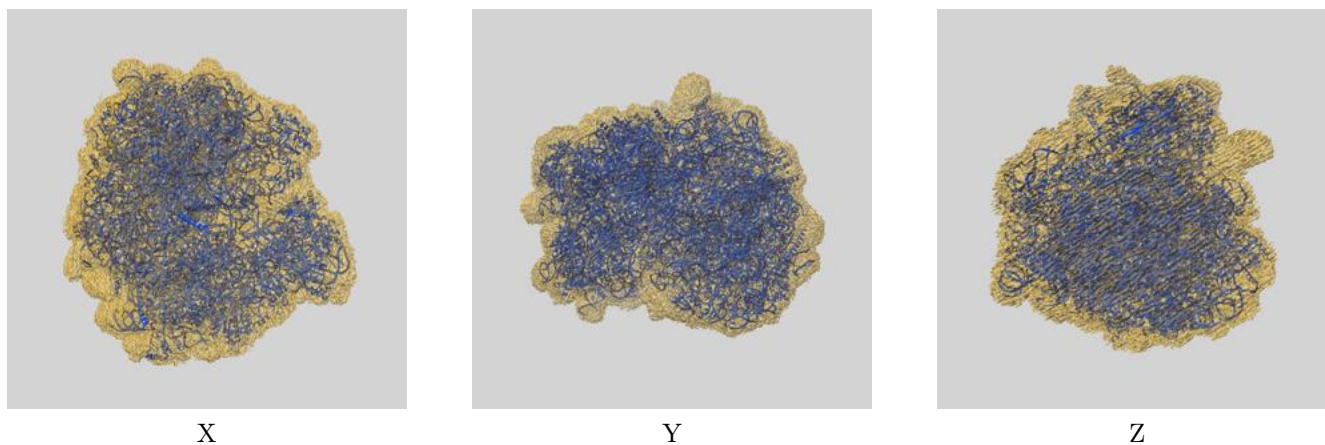
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.80	-	-
Author-provided FSC curve	2.84	3.21	2.88
Unmasked-calculated*	3.15	4.33	3.25

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.15 differs from the reported value 2.8 by more than 10 %

9 Map-model fit [i](#)

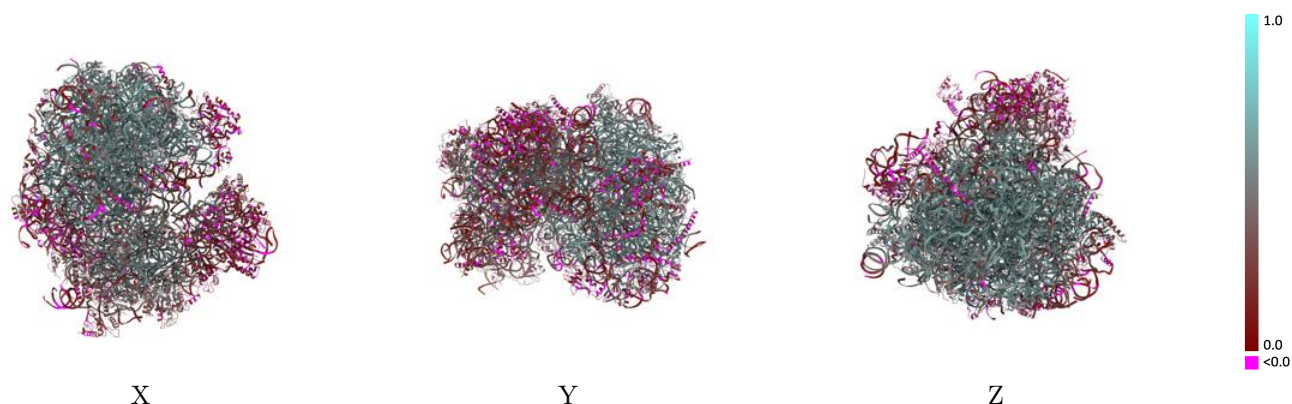
This section contains information regarding the fit between EMDB map EMD-44919 and PDB model 9BUT. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



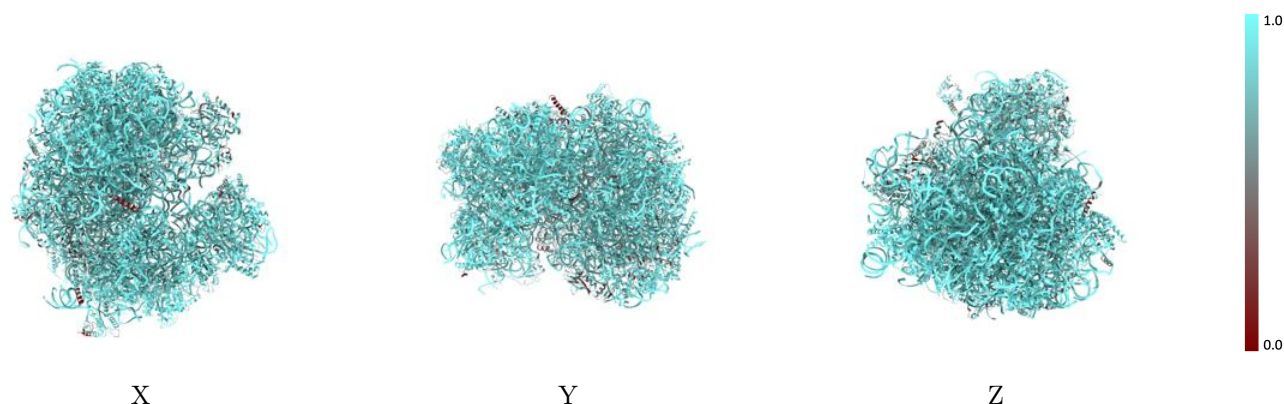
The images above show the 3D surface view of the map at the recommended contour level 0.00277 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



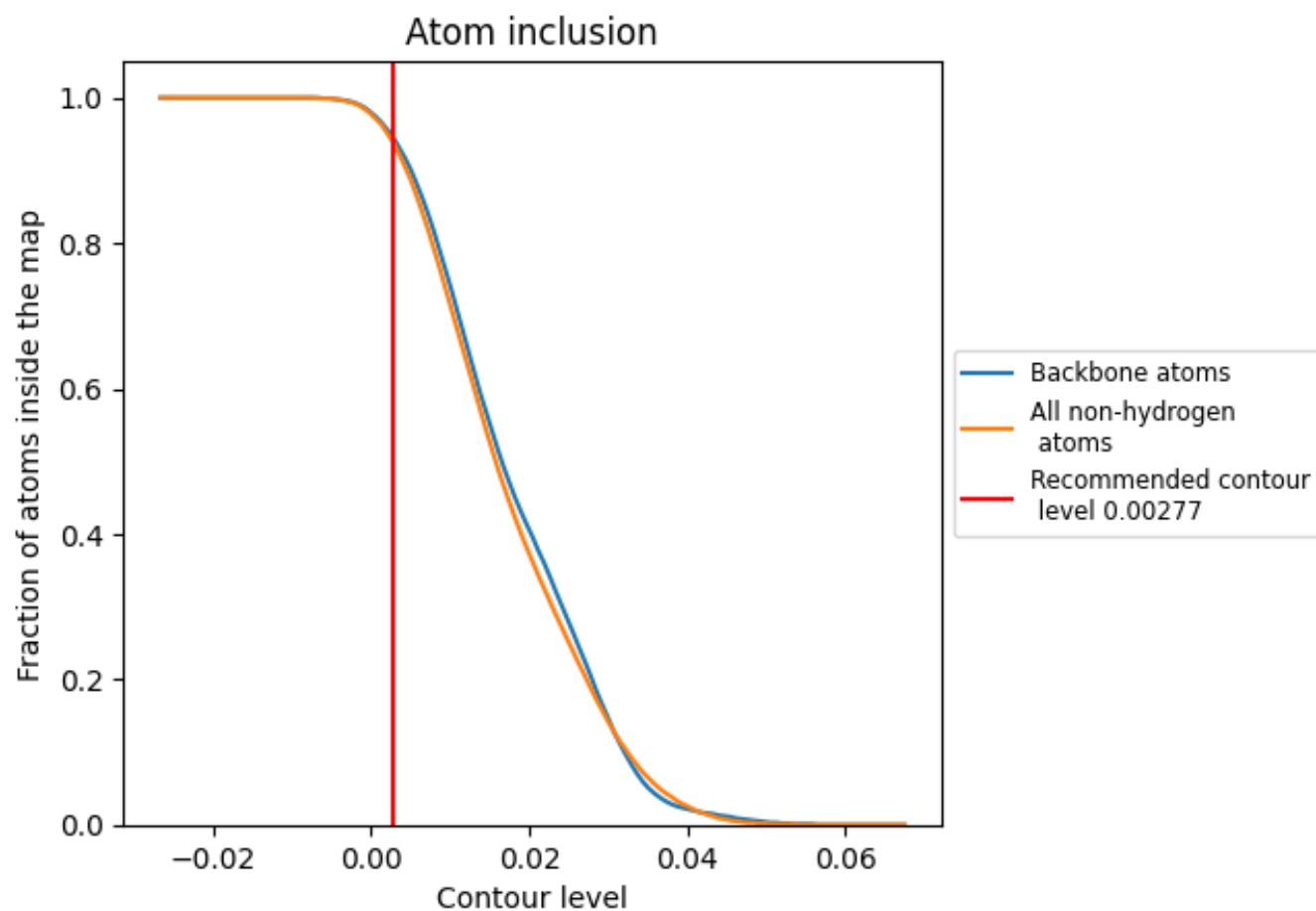
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.00277).

9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 94% 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 (0.00277) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9390	 0.4120
A0	 0.5860	 0.1210
A1	 0.7370	 0.1510
A2	 0.9630	 0.5330
A3	 0.8730	 0.3190
A4	 0.9490	 0.4440
A5	 0.9170	 0.4390
A6	 0.6920	 0.1620
A7	 0.9210	 0.4350
A8	 0.9670	 0.5730
A9	 0.9850	 0.5930
AA	 0.9690	 0.4960
AB	 0.9030	 0.2660
AC	 0.9890	 0.5240
AD	 0.9760	 0.5890
AE	 0.8760	 0.4080
AF	 0.9260	 0.4930
AG	 0.8190	 0.2030
AH	 0.7310	 0.1770
AI	 0.9840	 0.5250
AJ	 0.8350	 0.3580
AK	 0.9800	 0.5670
AL	 0.9640	 0.5070
AM	 0.8280	 0.3920
AN	 0.8690	 0.3210
AO	 0.9890	 0.5910
AP	 0.9870	 0.5980
AQ	 0.8400	 0.3320
AR	 0.7850	 0.1750
AS	 0.9840	 0.5930
AT	 0.6760	 0.2100
AU	 0.8350	 0.3430
AV	 0.9250	 0.4680
AW	 0.9870	 0.5770
AX	 0.6750	 0.1580



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Chain	Atom inclusion	Q-score
AY	 0.8690	 0.3510
AZ	 0.9670	 0.4850
Aa	 0.7860	 0.3000
Ab	 0.9780	 0.5220
Ac	 0.9800	 0.5790
Ad	 0.7960	 0.1890
Ae	 0.9810	 0.5660
Af	 0.7520	 0.1890
Ag	 0.7640	 0.3090
Ah	 0.8780	 0.4310
Ai	 0.9710	 0.5700
S1	 0.9320	 0.1980
S2	 0.5570	 0.0970
S3	 0.9670	 0.4470
S4	 0.8430	 0.2350
S5	 0.8100	 0.1290
S6	 0.8890	 0.2070
S7	 0.9650	 0.3200
S9	 0.7470	 0.1840
SA	 0.9860	 0.3800
SB	 0.9290	 0.3840
SC	 0.9610	 0.3740
SD	 0.9070	 0.1930
SE	 0.9190	 0.2830
SF	 0.9520	 0.3210
SG	 0.9430	 0.3990
SH	 0.9440	 0.2720
SI	 0.8600	 0.1400
SJ	 0.8520	 0.2520
SK	 0.9630	 0.4680
SL	 0.9370	 0.3440
SM	 0.8740	 0.1120
SN	 0.8970	 0.1580
SO	 0.9330	 0.1380
SP	 0.9600	 0.4100
SQ	 0.8870	 0.4070
SR	 0.8170	 0.0640
SS	 0.8890	 0.2190
ST	 0.8920	 0.2030
SU	 0.9260	 0.4010
SV	 0.9290	 0.4170
SW	 0.9010	 0.1400

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Chain	Atom inclusion	Q-score
SX	 0.9370	 0.2260
SY	 0.9230	 0.1670
SZ	 0.9630	 0.3980
mR	 0.9560	 0.3810