



Full wwPDB EM Validation Report ⓘ

Jun 25, 2025 – 07:21 PM JST

PDB ID : 8YLD / pdb_00008yld
EMDB ID : EMD-38666
Title : State 4a (S4a) of yeast 80S ribosome bound to 2 tRNAs and open eEF3 and eEF2 during translocation
Authors : Cheng, J.; Wu, C.L.; Li, J.X.; Zhang, X.Z.
Deposited on : 2024-03-06
Resolution : 3.90 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 : **FAILED**
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

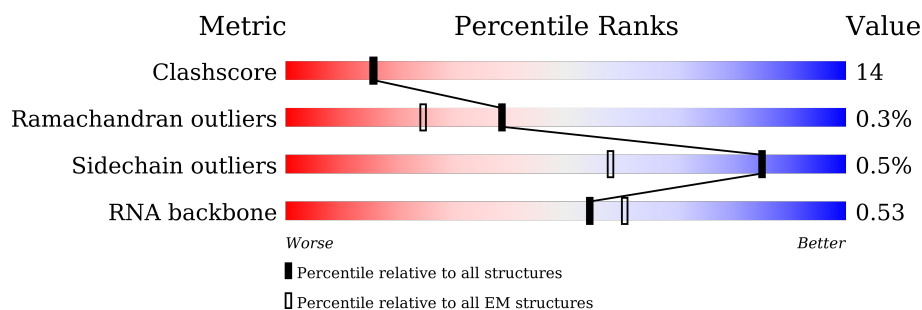
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.90 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	S	185	71% 29% .
2	2	1799	38% 49% 12% .
3	A	3394	44% 44% 6% 6%
4	B	121	43% 51% 6%
5	C	158	42% 53% 6%
6	D	251	64% 33% .
7	E	386	73% 27%
8	F	361	76% 24%

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Mol	Chain	Length	Quality of chain
9	G	294	
10	H	175	
11	I	223	
12	K	191	
13	L	218	
14	M	169	
15	N	193	
16	O	136	
17	P	203	
18	Q	197	
19	R	183	
20	T	188	
21	U	171	
22	V	159	
23	W	100	
24	X	136	
25	Y	126	
26	Z	121	
27	a	125	
28	b	135	
29	c	148	
30	d	58	
31	e	96	
32	f	109	
33	g	127	

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Mol	Chain	Length	Quality of chain
34	h	106	
35	i	112	
36	j	119	
37	k	99	
38	l	81	
39	m	77	
40	n	50	
41	o	52	
42	p	25	
43	q	103	
44	r	91	
45	s	75	
45	t	75	
46	v	977	
47	x	842	
48	SC	92	
49	SE	117	
50	SA	222	
51	SI	143	
52	SL	63	
53	SM	53	
54	SG	121	
55	SB	206	
56	SF	141	
57	SH	145	

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Mol	Chain	Length	Quality of chain
58	SK	108	
59	SN	73	
60	SD	121	
61	SZ	127	
62	Se	94	
63	SP	206	
64	SQ	232	
65	SR	216	
66	SS	258	
67	ST	228	
68	SU	184	
69	SV	200	
70	SW	184	
71	SX	142	
72	SY	150	
73	Sa	87	
74	Sb	129	
75	Sc	144	
76	Sd	134	
77	Sf	81	
78	Sg	60	
79	SJ	100	
80	J	233	
81	SO	318	

2 Entry composition [i](#)

There are 81 unique types of molecules in this entry. The entry contains 216269 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 protein called Large ribosomal subunit protein eL18A.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	S	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 2 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 3 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	A	3193	Total	C	N	O	P	0	0
			68298	30507	12315	22283	3193		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 5 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	C	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 6 is a protein called Large ribosomal subunit protein uL2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	D	245	Total	C	N	O	S	0	0
			1863	1162	376	324	1		

- Molecule 7 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	E	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 8 is a protein called Large ribosomal subunit protein uL4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	F	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 9 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	G	288	Total	C	N	O	S	0	0
			2311	1462	402	445	2		

- Molecule 10 is a protein called Large ribosomal subunit protein eL6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	H	167	Total	C	N	O	S	0	0
			1307	843	234	230			

- Molecule 11 is a protein called Large ribosomal subunit protein uL30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	I	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	22	ILE	THR	conflict	UNP P05737

- Molecule 12 is a protein called Large ribosomal subunit protein uL6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	K	188	Total	C	N	O	S	0	0
			1493	948	271	270	4		

- Molecule 13 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 14 is a protein called Large ribosomal subunit protein uL5B.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	M	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 15 is a protein called Large ribosomal subunit protein eL13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	N	193	Total	C	N	O		0	0
			1543	962	315	266			

- Molecule 16 is a protein called Large ribosomal subunit protein eL14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 17 is a protein called Large ribosomal subunit protein eL15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 18 is a protein called Large ribosomal subunit protein uL13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Q	197	Total	C	N	O	S	197	0
			1555	1003	289	262	1		

- Molecule 19 is a protein called Large ribosomal subunit protein uL22A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	R	183	Total	C	N	O		0	0
			1416	879	284	253			

- Molecule 20 is a protein called Large ribosomal subunit protein eL19A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	T	184	Total	C	N	O	0	0
			1484	914	318	252		

- Molecule 21 is a protein called Large ribosomal subunit protein eL20A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 22 is a protein called Large ribosomal subunit protein eL21A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	157	Total	C	N	O	S	0	0
			1253	787	243	219	4		

- Molecule 23 is a protein called Large ribosomal subunit protein eL22A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	W	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 24 is a protein called Large ribosomal subunit protein uL14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	132	Total	C	N	O	S	0	0
			981	617	184	173	7		

- Molecule 25 is a protein called Large ribosomal subunit protein eL24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	113	Total	C	N	O	S	0	0
			771	486	152	132	1		

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	119	Total	C	N	O	S	0	0
			954	614	167	171	2		

- Molecule 27 is a protein called Large ribosomal subunit protein uL24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	a	125	Total	C	N	O	0	0
			984	620	191	173		

- Molecule 28 is a protein called Large ribosomal subunit protein eL27A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	b	135	Total	C	N	O	0	0
			1080	701	199	180		

- Molecule 29 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	d	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 32 is a protein called Large ribosomal subunit protein eL31A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	127	Total	C	N	O	S	0	0
			1013	642	205	165	1		

- Molecule 34 is a protein called Large ribosomal subunit protein eL33A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 35 is a protein called Large ribosomal subunit protein eL34A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called Large ribosomal subunit protein uL29A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 37 is a protein called Large ribosomal subunit protein eL36A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	k	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 38 is a protein called Large ribosomal subunit protein eL37A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 39 is a protein called Large ribosomal subunit protein eL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	m	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called Large ribosomal subunit protein eL40A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 42 is a protein called Large ribosomal subunit protein eL41A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 43 is a protein called Large ribosomal subunit protein eL42A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 44 is a protein called Large ribosomal subunit protein eL43A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	r	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 45 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	s	75	Total	C	N	O	P	0	0
			1605	716	297	517	75		
45	t	75	Total	C	N	O	P	0	0
			1606	716	297	518	75		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
s	10	A	G	conflict	GB 176433
t	10	A	G	conflict	GB 176433

- Molecule 46 is a protein called Elongation factor 3A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	v	977	Total	C	N	O	S	0	0
			7476	4726	1295	1418	37		

- Molecule 47 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	837	Total	C	N	O	S	0	0
			6520	4140	1118	1233	29		

- Molecule 48 is a protein called Small ribosomal subunit protein eS10A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	SC	92	Total	C	N	O	S	0	0
			752	487	122	141	2		

- Molecule 49 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SE	114	Total	C	N	O	S	0	0
			894	570	166	151	7		

- Molecule 50 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SA	217	Total	C	N	O	S	0	0
			1687	1071	306	304	6		

- Molecule 51 is a protein called Small ribosomal subunit protein eS19A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SI	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		

- Molecule 52 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SL	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 53 is a protein called Small ribosomal subunit protein uS14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SM	47	Total	C	N	O	S	0	0
			387	237	84	62	4		

- Molecule 54 is a protein called Small ribosomal subunit protein eS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SG	121	Total	C	N	O	S	0	0
			961	599	182	178	2		

- Molecule 55 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SB	206	Total	C	N	O	S	0	0
			1605	1005	299	298	3		

- Molecule 56 is a protein called Small ribosomal subunit protein uS9A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SF	141	Total	C	N	O	S	0	0
			1105	708	203	194			

- Molecule 57 is a protein called Small ribosomal subunit protein uS13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SH	145	Total	C	N	O	S	0	0
			1188	741	237	208	2		

- Molecule 58 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SK	77	Total	C	N	O	S	0	0
			608	387	115	106			

- Molecule 59 is a protein called Small ribosomal subunit protein eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SN	73	Total	C	N	O	S	0	0
			560	355	106	95	4		

- Molecule 60 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SD	121	Total	C	N	O	S	0	0
			875	551	153	169	2		

- Molecule 61 is a protein called Small ribosomal subunit protein uS11B.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SZ	127	Total	C	N	O	S	0	0
			891	545	182	163	1		

- Molecule 62 is a protein called Small ribosomal subunit protein eS26A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Se	94	Total	C	N	O	S	0	0
			750	462	157	126	5		

- Molecule 63 is a protein called Small ribosomal subunit protein uS2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SP	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 64 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SQ	214	Total	C	N	O	S	0	0
			1709	1084	310	311	4		

- Molecule 65 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SR	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 66 is a protein called Small ribosomal subunit protein eS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	SS	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 67 is a protein called Small ribosomal subunit protein eS6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	ST	224	Total	C	N	O	S	0	0
			1789	1123	344	319	3		

- Molecule 68 is a protein called Small ribosomal subunit protein eS7A.

Mol	Chain	Residues	Atoms				AltConf	Trace
68	SU	184	Total	C	N	O		
			1473	946	263	264	0	0

- Molecule 69 is a protein called Small ribosomal subunit protein eS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SV	187	Total	C	N	O	S		
			1476	916	295	263	2	0	0

- Molecule 70 is a protein called Small ribosomal subunit protein uS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SW	184	Total	C	N	O	S		
			1479	935	285	258	1	0	0

- Molecule 71 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SX	140	Total	C	N	O	S		
			1132	727	215	187	3	0	0

- Molecule 72 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SY	150	Total	C	N	O	S		
			1192	759	224	207	2	0	0

- Molecule 73 is a protein called Small ribosomal subunit protein eS21A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Sa	87	Total	C	N	O	S		
			673	415	125	131	2	0	0

- Molecule 74 is a protein called Small ribosomal subunit protein uS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Sb	129	Total	C	N	O	S		
			1021	650	188	180	3	0	0

- Molecule 75 is a protein called Small ribosomal subunit protein uS12A.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Sc	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 76 is a protein called Small ribosomal subunit protein eS24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Sd	134	Total	C	N	O	S	0	0
			1073	676	208	189			

- Molecule 77 is a protein called Small ribosomal subunit protein eS27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Sf	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 78 is a protein called Small ribosomal subunit protein eS30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Sg	55	Total	C	N	O	S	0	0
			437	276	89	71	1		

- Molecule 79 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	SJ	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

- Molecule 80 is a protein called Large ribosomal subunit protein eL8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	J	231	Total	C	N	O	S	0	0
			1793	1145	321	324	3		

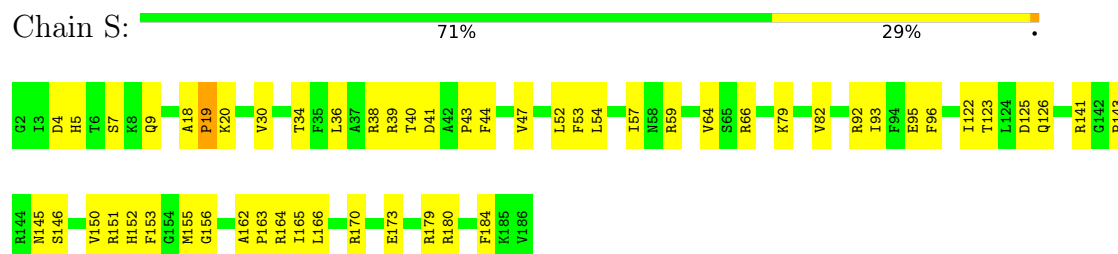
- Molecule 81 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	SO	318	Total	C	N	O	S	0	0
			2436	1541	418	469	8		

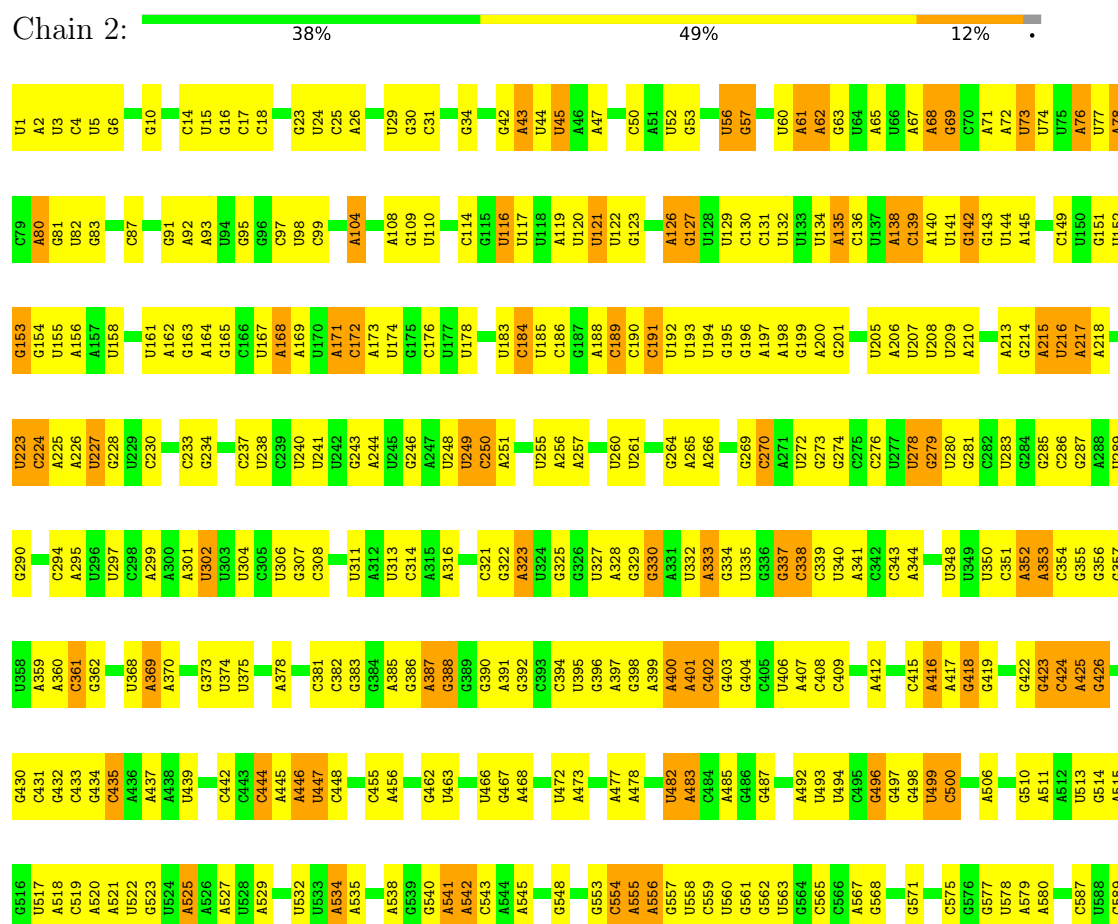
3 Residue-property plots

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. 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. 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.

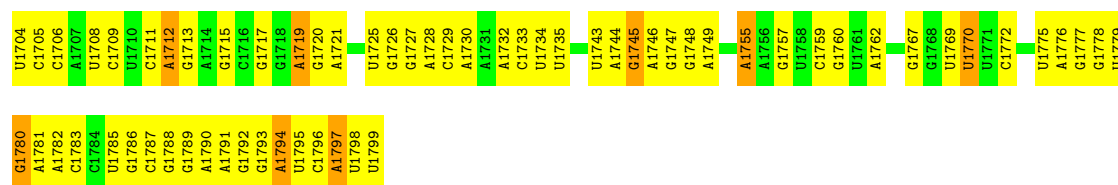
- Molecule 1: Large ribosomal subunit protein eL18A



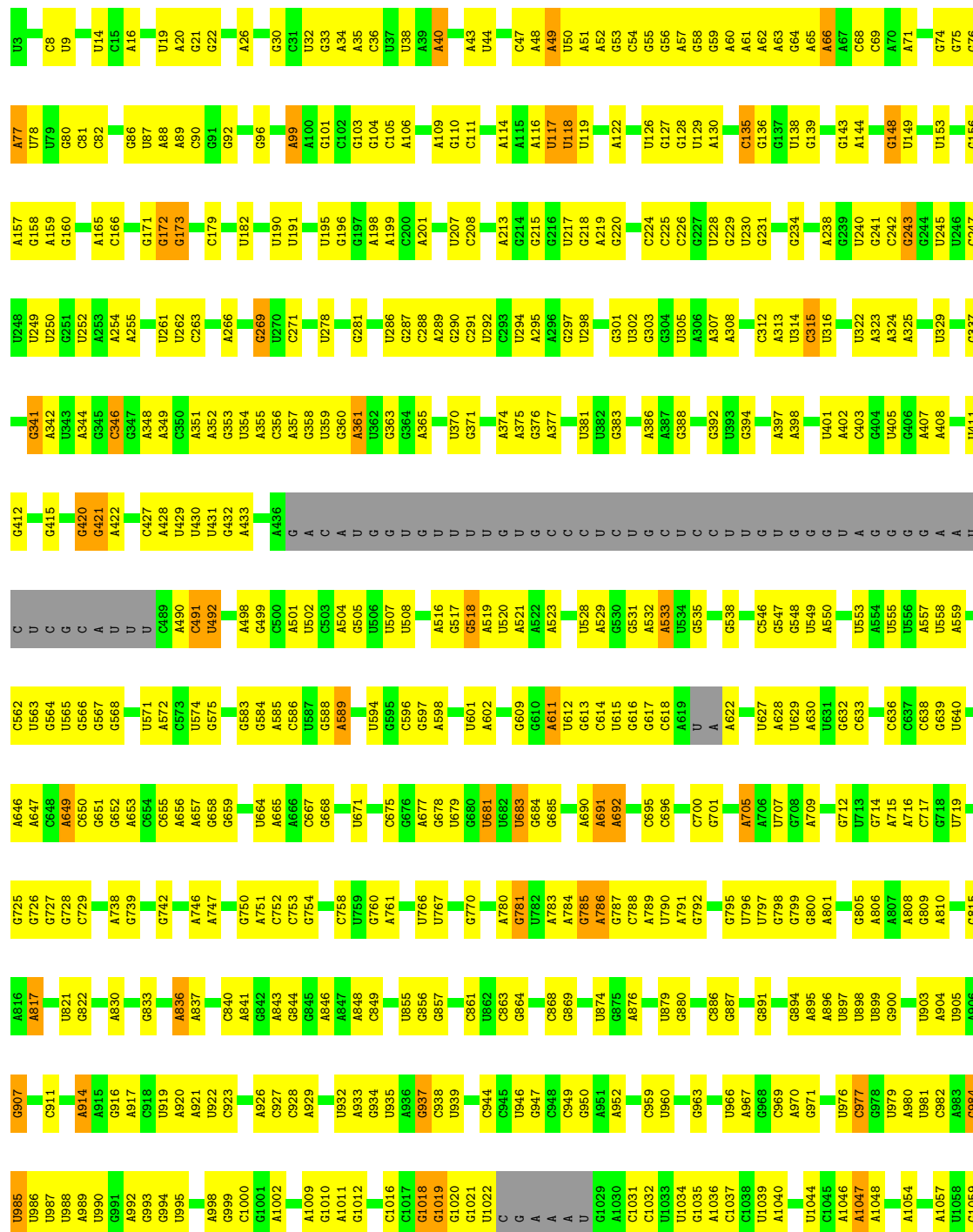
- Molecule 2: 18S rRNA



U1628	C1485	A1411	U1347	G1261	U1185	U1103	A1032	A952	G877	C798	U	C658	C590
G1629	G1486	U1411	A1348	U1262	U1186	U1104	G1082	G953	G878	A799	G	C	A591
U1630	A1487	U1415	G1349	G1263	U1187		A1036	G954	C879	G802	C	G	A592
C1632	U1488	U1416	U1352	G1265	G1188	G1108	C1037	A955	G880	A803	C	A	U593
A1633	U1489	A1417	U1353		A1189	G1109	U1038	C956	U882	A804	U	U	A594
C1634	C1490		G1190	G1270	G1190	A1113	A1039	U958	C883			U	A595
A1635	A1492	U1425	U1191		U1191	A1113	G1040	U959	A809			U	U600
C1637	A1493	C1426	C1192	G1273	C1192	G1114	U1041	U960	G810			U	A601
	C1494	A1427	U1360	C1274	A1193	A1115	G1042	U961	G811			U	U602
	C1495	G1428	U1361	A1275	A1194	A1116	A1043	C962	U886			U	U603
	U1496	G1429	U1362	U1276	C1195	U1117	U1044	A963	C962			C	A604
		U1430	U1363		A1196		U1045	U964	U813			C	A605
	G1499	C1431	G1364	U1285		C1123	G1046	U965	U814			U	A606
	C1500	U1432	C1365	U1286	G1199	A1123	G1047	U966	G815			G	A607
	C1501	G1433	U1366	G1288	G1200	A1124	A967	A966	A816			U	U608
	G1502	U1434	G1367		G1201	A1126		U967	A817			U	U609
		G1435	G1368	G1291	A1202	G1127	G1050	U968	C818			A	G610
	A1505	A1436	U1369				U1051	C969	G819			C	
			U1370	A1296	A1208	A1131	U1052	A970	U820			U	
	U1508	U1443	A1371	G1297		A1132	G1053	A971	U821			G	G613
	C1509	A1444	U1372		A1211	A1133	U1054	G972	U822			G	G614
		G1445	C1373	A1300	G1212	A1134	U1055	A973	U823			A	A615
	C1652	A1446	C1374	U1301	G1213	U1135		C975	U745			C	G616
	C1653		A1375	U1302		U1136	U1058	A977	U748			U	U617
	G1654		A1376	U1303	C1216	A1137	U1060	A978	U749			U	U618
	A1586	U1450	G1376	U1304	A1217	A1138	A1061	A979	U836			C	A619
	C1588	C1451	U1377	G1305	G1218	A1139	U1062	U982	U837			C	A620
	C1589	C1452	U1378	U1306	C1219	A1140	U1063	U983	U838			A	A621
	U1590	G1453	C1379	C1306	C1220	G1141	G1064	A983	U840			A	A622
	C1591	C1454	U1380	U1307	C1221	A1142	A1065		U841			C	A623
	A1592	G1455	U1381		C1222	A1143	C1066		C842			C	G624
	A1593	C1456	A1382	U1310	C1223	A1144	C1067		U843			C	C625
	U1594	C1457	G1383	U1311	A1224				U844			U	U626
	C1595	G1458	A1384		U1225	A1147	U1071	A992	A845			U	C627
	A1597	C1459	G1385	U1314	U1226	C1148	C1072	A993	G846			U	G628
		A1460	G1386	G1315	A1227	G1149	G1073	G997	U847			A	U629
		C1461	G1387	G1316	G1228	G1150	G1074	A998	U851			A	A630
	C1602	G1462	A1388	C1317	G1229		C1075	U999	C852			C	G631
	U1603	C1463	C1389	G1318			A1076	C1000	G853			U	U632
	U1604	G1464	U1390	A1319			C1077	A1001				U	G633
	C1605	C1465	A1391	U1320	A1234		U1080	G1002	A856			U	
	G1606	G1466	U1392	A1321	C1235	A1150	A1081	C931	U857			C	G637
		C1467	C1393	A1322	A1236	A1163	A1082	U932	G858			U	U638
	G1607	U1468	G1394	C1323		G1164	C1082	A933	A859			C	U639
	U1608	A1469	G1395	G1324	G1241	G1165	G1083	C934	U860			C	A641
	U1609	C1470	U1396	A1325	A1242	A1166	A1084	U935	U861			U	G642
	G1610	A1471	U1397		G1243	A1167	G1085	U936	A862			U	G643
	U1612	C1472	U1398	C1333	A1244	G1168	A1086	C937	U864			U	C644
	U1613	G1473	C1399	U1334	G1245	U1169	A1087		A865			U	C645
	A1614	G1474	A1400	U1335	C1246	G1170	A1088		G866			U	U646
	C1615	A1475	A1401	A1336	U1247				G867			C	G647
	U1616	C1476	G1402	A1337	C1248	A1171	A1092	C1022	G871			U	U650
	A1617	G1477	C1403	C1338	C1252	G1172	C1023	C943	A872			C	G651
	G1619	G1478	C1404	C1339		C1173	U1094	A944	U873			U	C652
	C1620	A1479	G1405	U1340	A1256	G1174	A1095	U945	A788			U	C653
		C1480	A1406	A1341	U1257	U1175	C1096	A1026	A789			U	G654
		C1481	U1407	A1344	U1258	G1177	U1097	A1027	G876			G	G655
	C1624	A1482	G1408	A1345	U1259	C1178	U1098	A1028					
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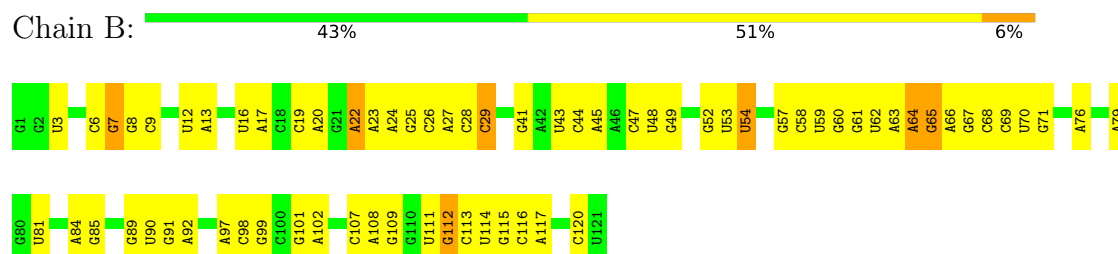
• Molecule 3: 25S rRNA



A2188	C2101	U	G	A1797	A1723	G1552	A1446	U1368	A1290	U1210	G1140	U1060
U2189	U2102	G	G	A1798	U1724	U1553	G1447	U1369	A1291	U1211	C1141	A1061
U2190	U2103	U	G	C1802	C1725	U1554		G1370	C1292	A1212	G1142	A1062
U2191	A2104	U	C	C1803	C1726	U1555		G1371	U1293	G1222	A1143	G1063
C2192	A2107	U	U	A1804	G1727	U1556	C1459	G1372	A1294	G1223	U1144	A1064
U2193		A	C	C1805	A1729	A1557	A1460	A1373	C1298	C1224	G1145	A1065
C2194	G2110	G	C	A1806	U1630	G1560	A1461	G1374	U1299	C1225	C1146	
C2195	G2111	A	U	G1807	G1733	U1561	U1462		G1300	G1226	G1147	G1072
C2196	U2112	C	U	G1808	G1734	U1562	U1463		A1301	C1227	U1148	
C2197		G	U	A1809		C1563	A1467	G1380	A1302	C1228	U1151	U1077
A2198	C2118	C	U	G1812	U1737	U1564		A1381		C1229	G1152	U1078
	G2122	C	G	C1738	U1738	G1565	U1472	G1382	G1306	G1230	A1153	U1081
C2202		C	G	U1740		U1566	G1473	G1383	G1307	C1232		
C2203	U2129	U	A	U1741		U1567	A1474	U1384	A1308		G1157	A1084
C2204	U2130	U	C	U1742		U1568		C1385	U1309	C1236	A1158	A1085
U2205	A2131	G	U	G1743		U1569	G1483	G1387	G1310	U1235	A1159	C1086
	C2132	C	G	U1744		U1570	U1483	U1388	G1311	U1236	G1160	G1087
	U2133	U	C	C1745		U1571	G1487	G1389	C1312	C1237	G1161	U1088
		A	U			U1572	U1488			C1238	U1162	G1089
G2216		G	U	U1651		G1573	A1489	G1392	A1317	C1239	A1163	A1093
U2217	U2137	U	G	G1748		U1576		G1395	A1318	G1242	G1164	
G2218		G	G	A1749		G1577	G1492		G1321	G1243	U1167	U1096
A2219	U2141	U	G	A1750		G1578	G1493	G1396	U1322	G1244	U1168	G1097
A2220	A2142	C	U	G1751		C1579	U1494	C1397	G1323	A1245	A1169	A1098
G2221		C	G			C1579	U1495	U1398	U1324	G1246		
A2222	A2147	U	G	C1756		U1580	C1496	G1400		U1247	C1175	U1100
A2223		U	C	U1757		U1581	C1497		G1328	G1248	C1176	G1101
U2225	U2153	G	C	G1758		C1582	A1498	G1403	U1329	U1249	G1177	A1102
	U2154	U	U	U1759		A1583	C1499	G1404	A1330	G1250	G1178	A1103
A2228	U2155	A	U	G1760		G1586	A1503		U1331	A1251	A1179	G1104
A2229		G	C	C1761			A1504	A1407	A1332	C1252	A1180	A1105
	C2156	A	C	U1762		A1589	U1507	C1411	C1333	U1253	G1181	G1106
G2234	A2157	C	U	U1763		G1590	G1507	G1412	U1334	C1254	A1182	C1107
	U2159	C	U	G1765		G1591	C1508	G1413	C1335	C1255	C1183	U1108
U2241	G2160	G	U	U1766		A1593	A1509	G1414	U1336	G1256	U1109	
A2242	C2161	C	U	C1767		U1594		U1415	A1337	C1257	U1110	
A2243	U2162	G	U	U1768		U1595	G1517	U1416	C1338	U1258	G1186	
A2244	C2163	C	A	G1769		U1596	U1518	C1417	C1339	A1259	U1187	U1111
C2245	A2164	U	G			C1597	G1525	A1418	G1340	G1261	C1189	A1112
	C2165	U	G	C1773		G1598	U1526		U1341	G1262	A1191	U1114
C2248	A2166	G	C	G1774			C1527	G1422	U1347	A1263	C1192	G1117
G2249	A2167	C	C	G1775		U1601	G1528		U1348	G1264	A1193	G1118
G2250	A2168	U	G	G1776		A1602	A1529	U1425	G1349	U1285	G1194	C1119
G2251	C2169	A	C	U1777		G1603		C1426	A1350	G1266	A1195	A1120
A2252	U2170	C	U	U1778		G1604	U1533	U1427	U1351	U1267	C1196	
G2253	C2171	A	U	C1779		A1605	A1534	A1428	A1352	G1268	A1197	G1127
U2254	A2172	A	A	G1780		U1606	A1535		U1353	U1269	C1198	U1128
A2255	U2173	C	U					G1431	G1354	A1270	C1199	A1129
C2256	C2174	U	C	U1785		C1609	G1538	C1432	A1355	A1271	A1200	A1130
		U	A	G1786		G1610		A1433	U1356	C1272	C1201	G1131
C2257	A2178	A	G	U1787		G1713	G1541	G1434	G1357	A1273	A1202	C1132
U2258	C2179	C	A			U1717	G1542	U1435		C1274	A1203	A1133
A2259		G	C	C1792		G1718	G1543	U1436	U1361	C1275	A1204	
C2260	G2180	C	G	C1793		G1719		C1437	G1362		A1205	A1136
G2261	C2181	U	C	U1887		U1720	A1546	U1438	A1363	C1280	G1206	U1137
A2262	A2182	C	C	G1889		U1721		U1439	C1364		C1138	G1139
C2263	A2183	C	A	U1890		U1722			G1365			
U2264		C	G	A1891								
C2265	G2185	U	C									



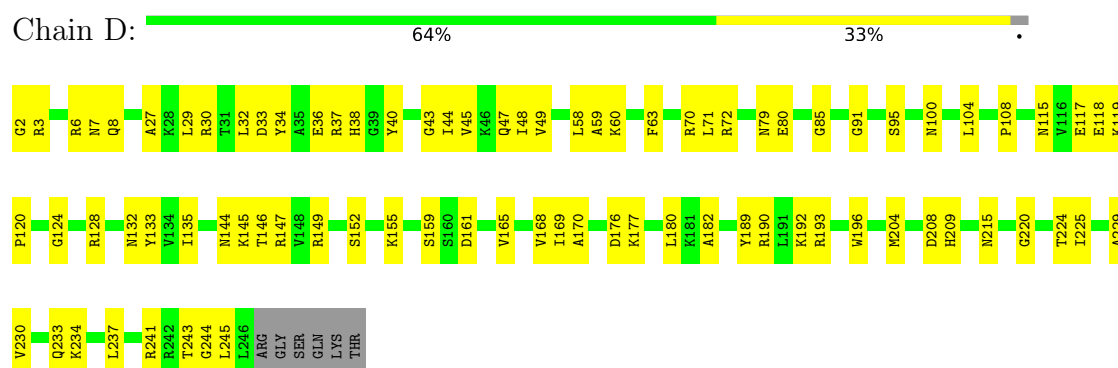
- Molecule 4: 5S rRNA



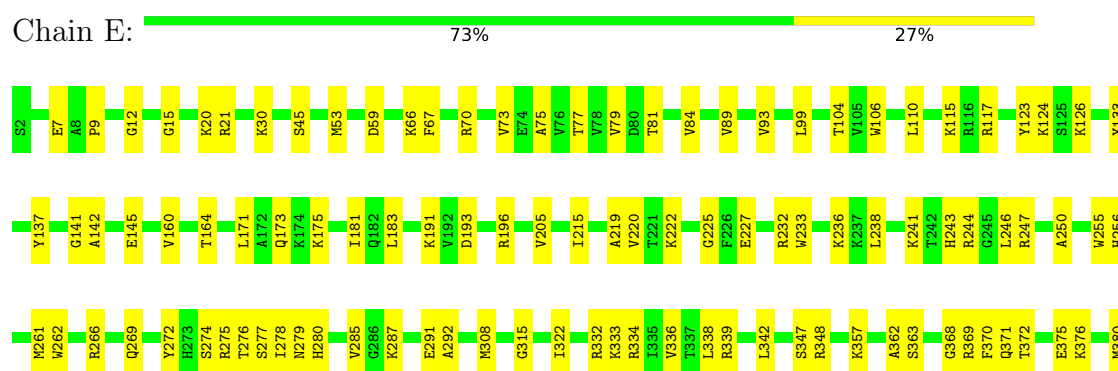
- Molecule 5: 5.8S rRNA



- Molecule 6: Large ribosomal subunit protein uL2A



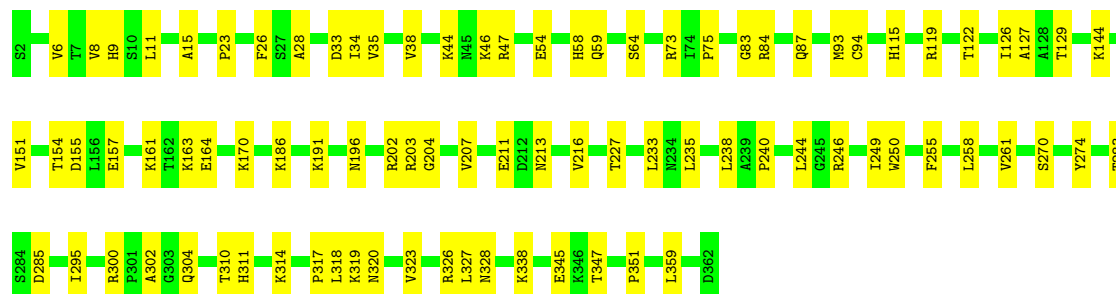
- Molecule 7: Large ribosomal subunit protein uL3





- Molecule 8: Large ribosomal subunit protein uL4A

Chain F: 76% 24%



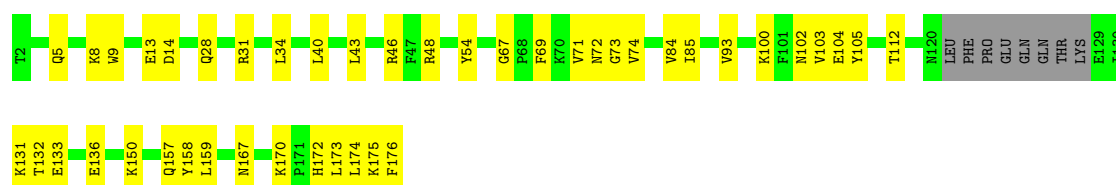
- Molecule 9: Large ribosomal subunit protein uL18

Chain G: 66% 32% .



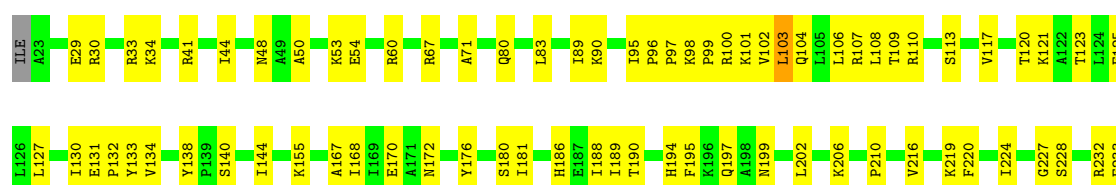
- Molecule 10: Large ribosomal subunit protein eL6B

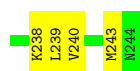
Chain H: 71% 25% 5%



- Molecule 11: Large ribosomal subunit protein uL30A

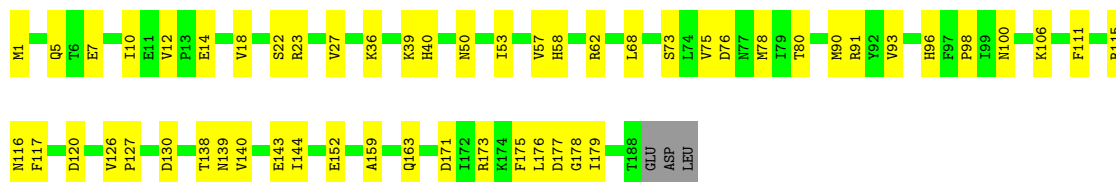
Chain I: 65% 35%





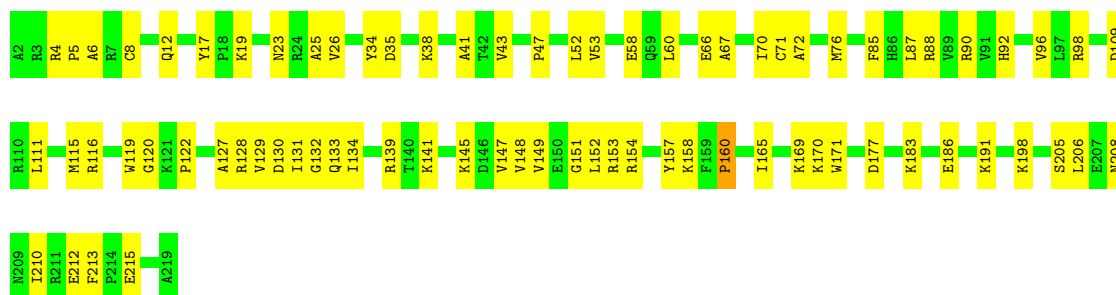
- Molecule 12: Large ribosomal subunit protein uL6A

Chain K: 70% 28%



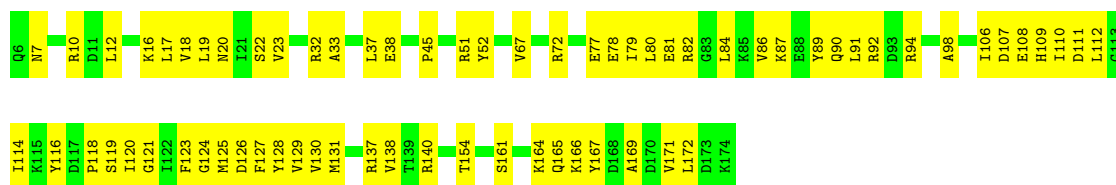
- Molecule 13: Large ribosomal subunit protein uL16

Chain L: 65% 35%



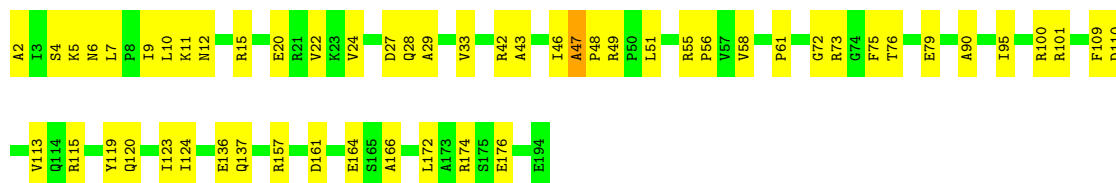
- Molecule 14: Large ribosomal subunit protein uL5B

Chain M: 60% 40%



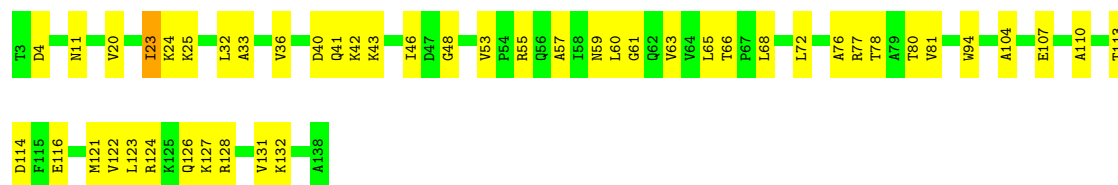
- Molecule 15: Large ribosomal subunit protein eL13A

Chain N: 72% 27%



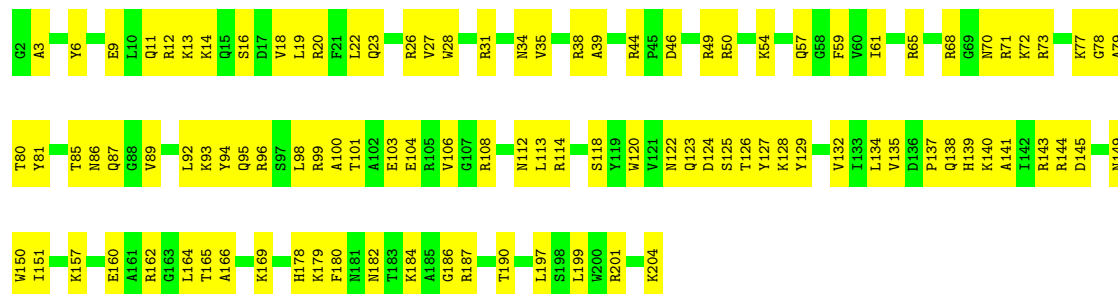
- Molecule 16: Large ribosomal subunit protein eL14A

Chain O: 65% 34%



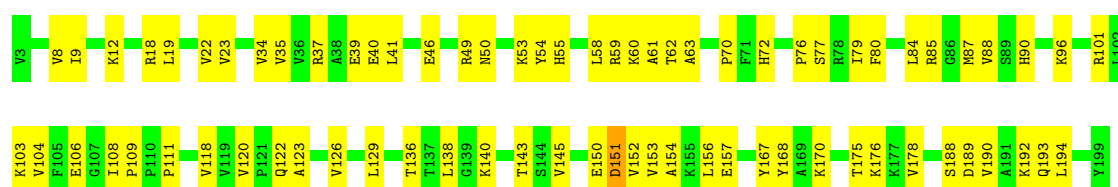
• Molecule 17: Large ribosomal subunit protein eL15A

Chain P: 49% 51%



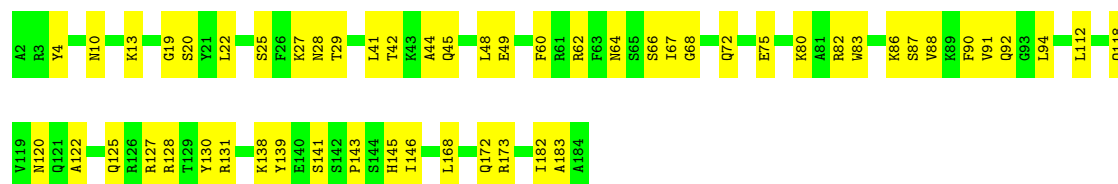
• Molecule 18: Large ribosomal subunit protein uL13A

Chain Q: 62% 37%



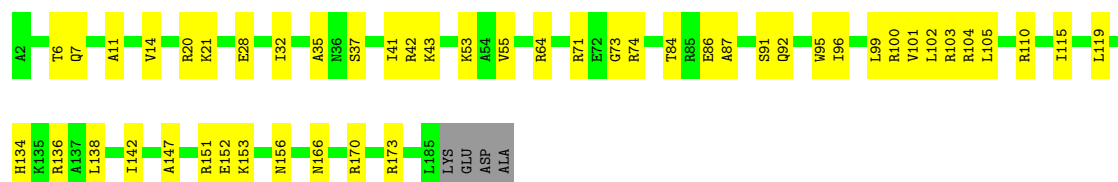
• Molecule 19: Large ribosomal subunit protein uL22A

Chain R: 70% 30%



• Molecule 20: Large ribosomal subunit protein eL19A

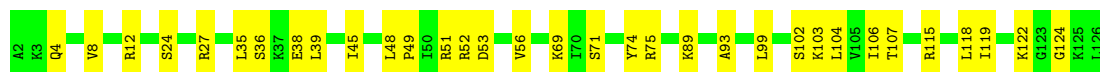
Chain T: 72% 26%



- Chain Z: 71% 27% .



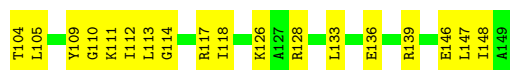
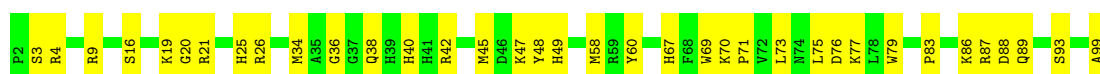
- Molecule 27: Large ribosomal subunit protein uL24A



- Molecule 28: Large ribosomal subunit protein eL27A



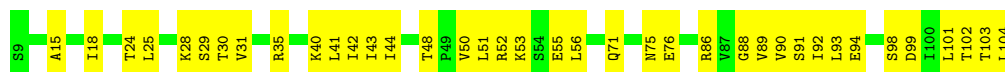
- Molecule 29: Large ribosomal subunit protein uL15



- Molecule 30: Large ribosomal subunit protein eL29



- Molecule 31: Large ribosomal subunit protein eL30



- Molecule 32: Large ribosomal subunit protein eL31A





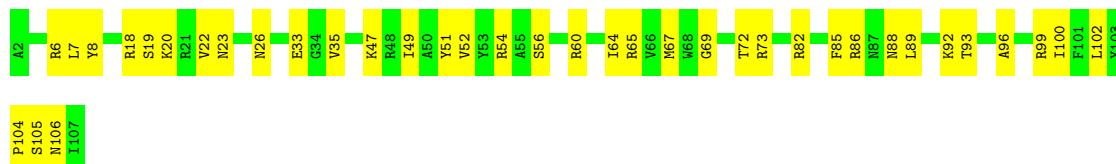
- Molecule 33: Large ribosomal subunit protein eL32

Chain g: 73% 26%



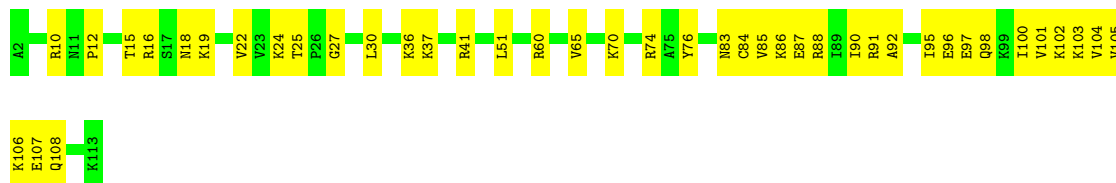
- Molecule 34: Large ribosomal subunit protein eL33A

Chain h: 64% 36%



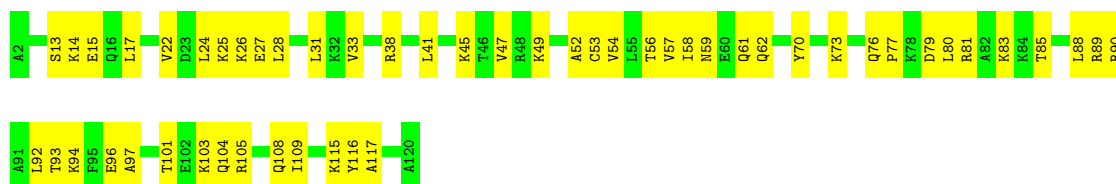
- Molecule 35: Large ribosomal subunit protein eL34A

Chain i: 62% 38%



- Molecule 36: Large ribosomal subunit protein uL29A

Chain j: 56% 44%



- Molecule 37: Large ribosomal subunit protein eL36A

Chain k: 70% 30%



- Molecule 38: Large ribosomal subunit protein eL37A

Chain l:  62% 35% .



- Molecule 39: Large ribosomal subunit protein eL38

Chain m:  73% 27%



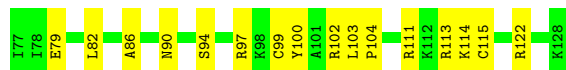
- Molecule 40: Large ribosomal subunit protein eL39

Chain n:  60% 40%



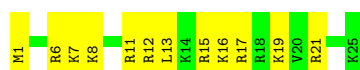
- Molecule 41: Large ribosomal subunit protein eL40A

Chain o:  69% 31%



- Molecule 42: Large ribosomal subunit protein eL41A

Chain p:  52% 48%



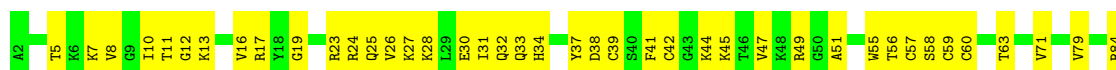
- Molecule 43: Large ribosomal subunit protein eL42A

Chain q:  80% 20%



- Molecule 44: Large ribosomal subunit protein eL43A

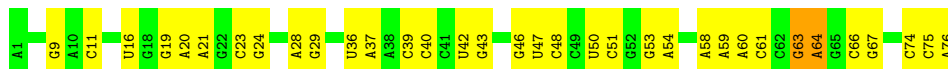
Chain r:  51% 49%





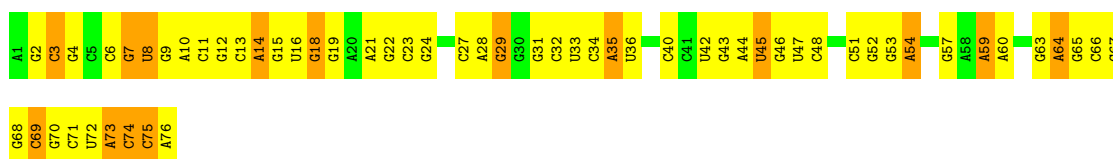
• Molecule 45: tRNA

Chain s: 55% 43%



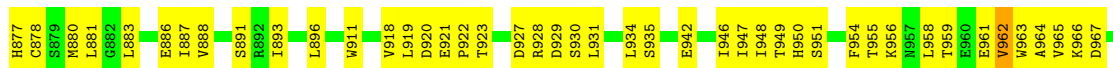
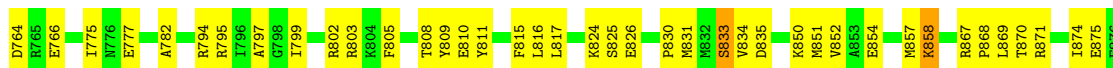
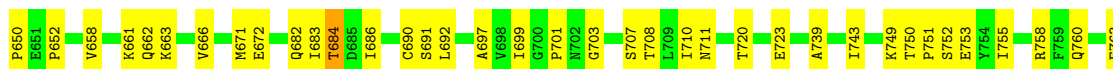
• Molecule 45: tRNA

Chain t: 23% 57% 20%



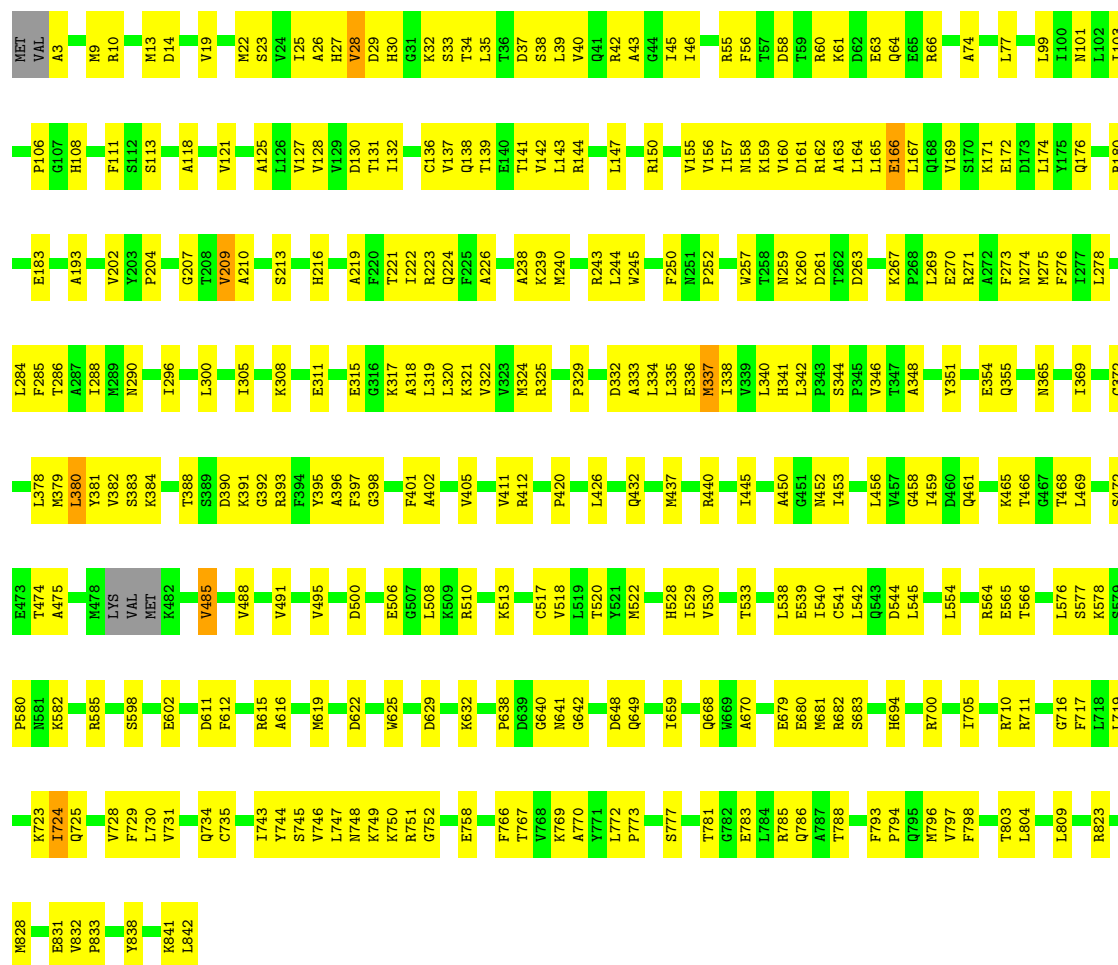
• Molecule 46: Elongation factor 3A

Chain v: 69% 30%



- Molecule 47: Elongation factor 2

Chain x:  62% 36% ..



- Molecule 48: Small ribosomal subunit protein eS10A

Chain SC:  70% 29% .



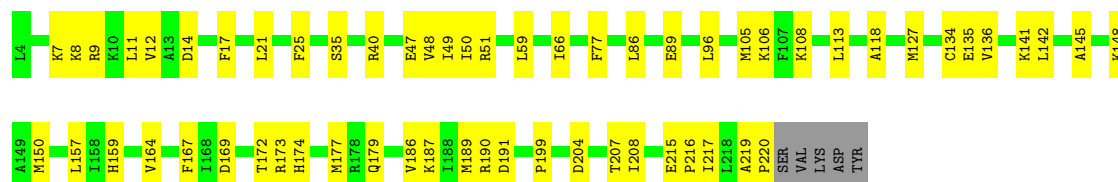
- Molecule 49: Small ribosomal subunit protein uS19

Chain SE:  74% 24% .



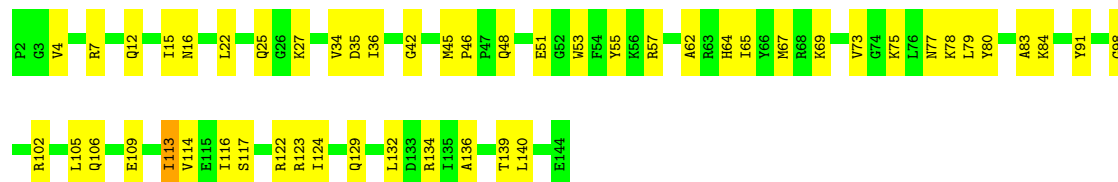
- Molecule 50: Small ribosomal subunit protein uS3

Chain SA:  71% 27% .



- Molecule 51: Small ribosomal subunit protein eS19A

Chain SI: 64% 35% .



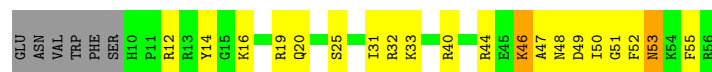
- Molecule 52: Small ribosomal subunit protein eS28A

Chain SL: 70% 30% .



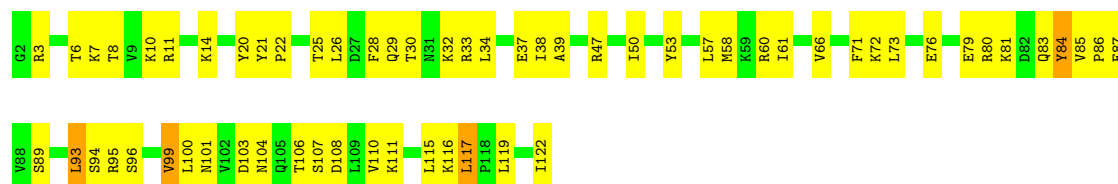
- Molecule 53: Small ribosomal subunit protein uS14A

Chain SM: 51% 34% 11% .



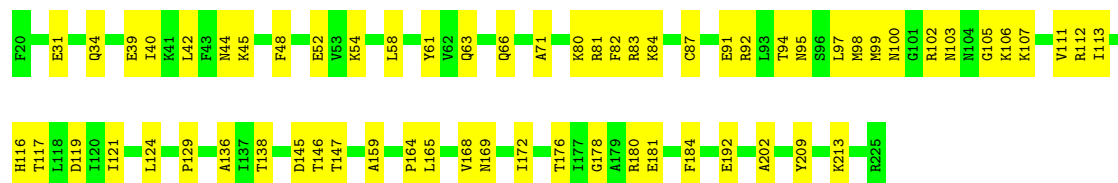
- Molecule 54: Small ribosomal subunit protein eS17A

Chain SG: 50% 47% .



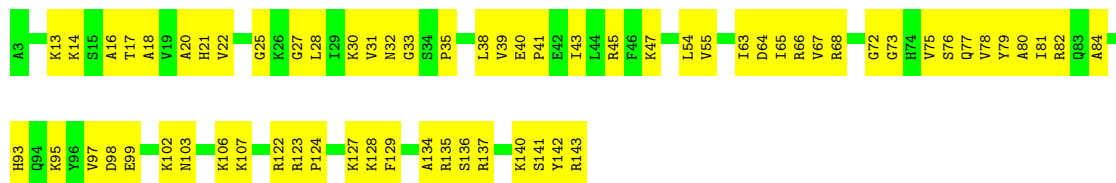
- Molecule 55: Small ribosomal subunit protein uS7

Chain SB: 69% 31% .



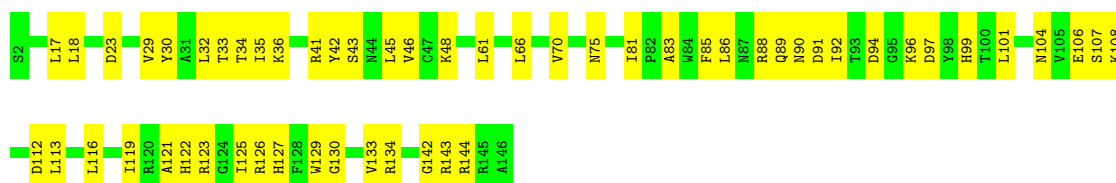
- Molecule 56: Small ribosomal subunit protein uS9A

Chain SF:  54% 46%



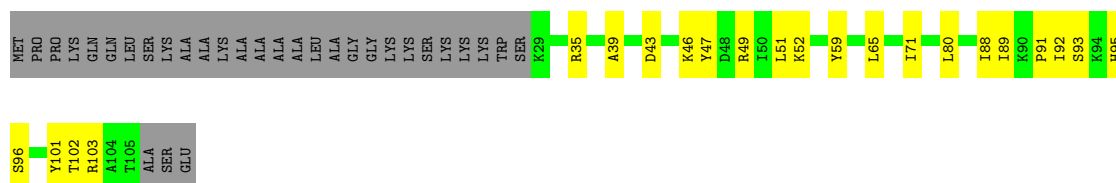
- Molecule 57: Small ribosomal subunit protein uS13A

Chain SH:  62% 38%



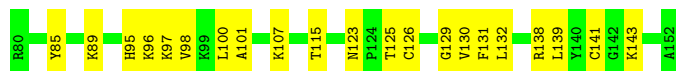
- Molecule 58: Small ribosomal subunit protein eS25A

Chain SK:  51% 20% 29%



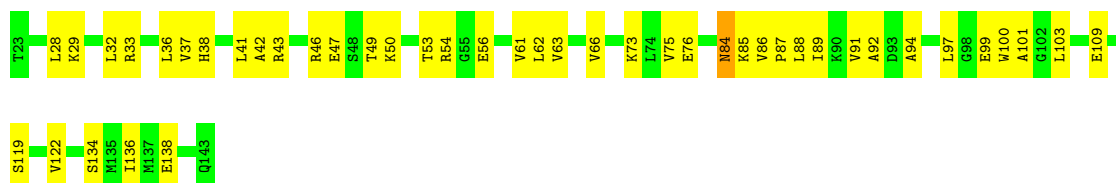
- Molecule 59: Small ribosomal subunit protein eS31

Chain SN:  71% 29%



- Molecule 60: Small ribosomal subunit protein eS12

Chain SD:  64% 36%



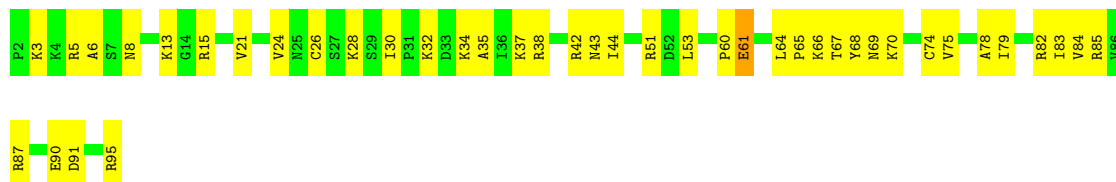
- Molecule 61: Small ribosomal subunit protein uS11B

Chain SZ:  72% 28%



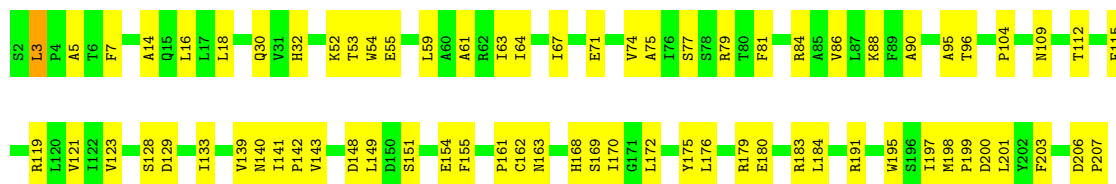
- Molecule 62: Small ribosomal subunit protein eS26A

Chain Se:  55% 44%



- Molecule 63: Small ribosomal subunit protein uS2A

Chain SP:  65% 34%



- Molecule 64: Small ribosomal subunit protein eS1A

Chain SQ:  55% 38% 8%



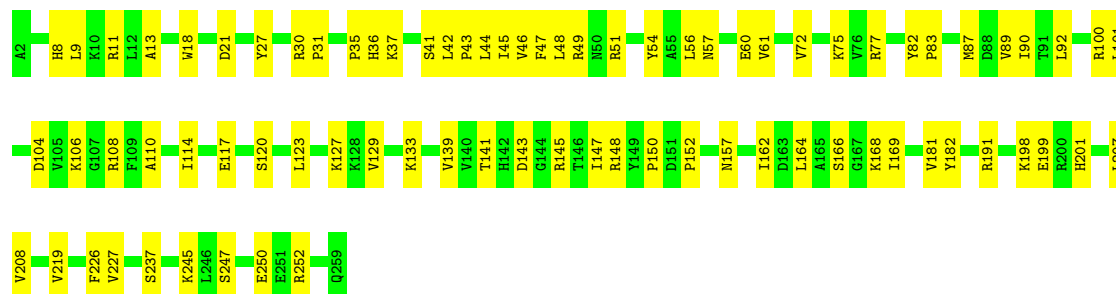
- Molecule 65: Small ribosomal subunit protein uS5

Chain SR:  70% 30%

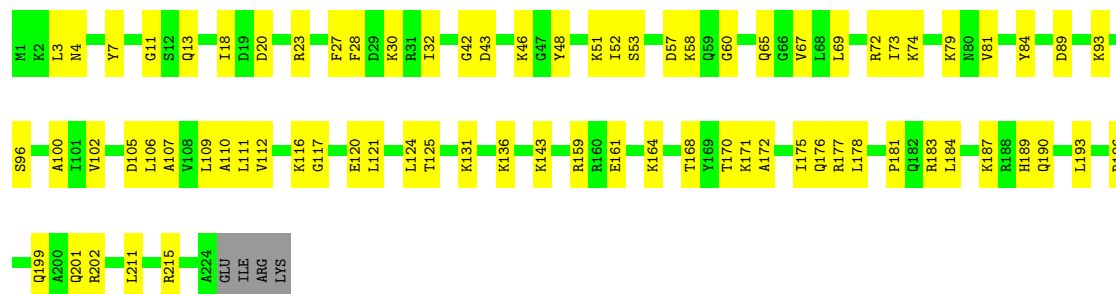




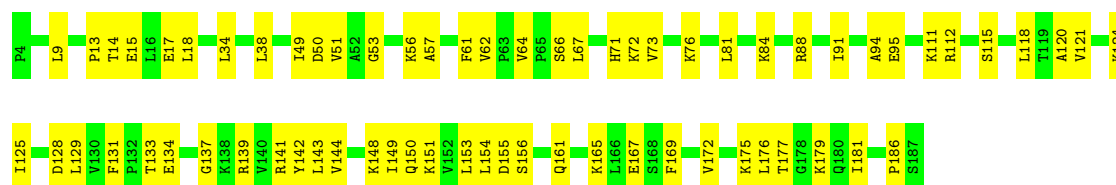
- Molecule 66: Small ribosomal subunit protein eS4A



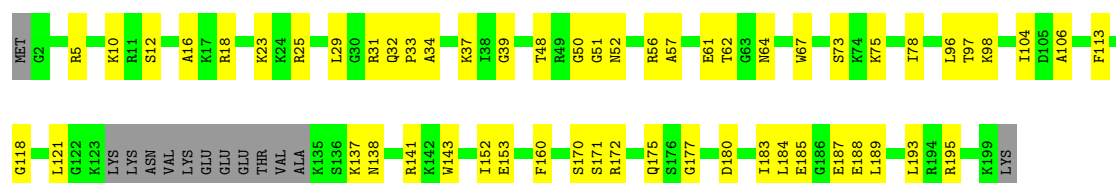
- Molecule 67: Small ribosomal subunit protein eS6A



- Molecule 68: Small ribosomal subunit protein eS7A

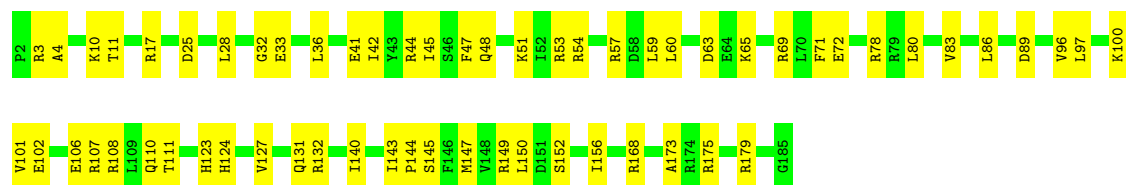


- Molecule 69: Small ribosomal subunit protein eS8A



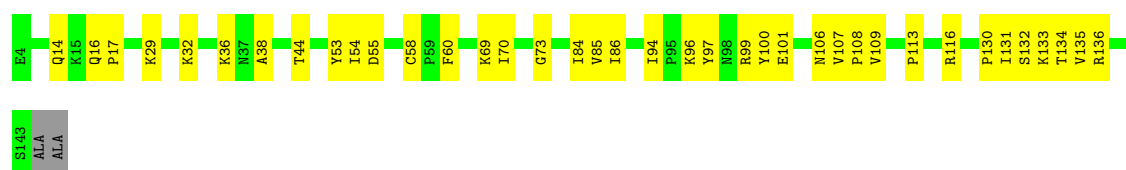
- Molecule 70: Small ribosomal subunit protein uS4A

Chain SW:  67% 33%



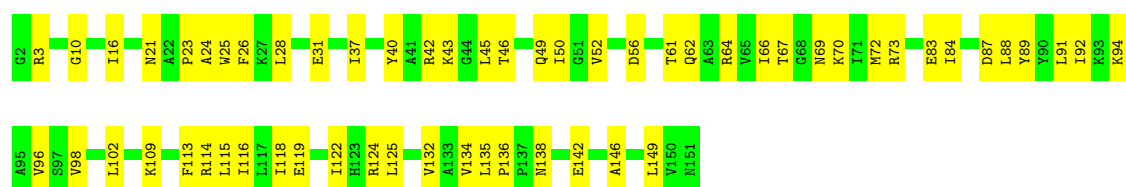
- Molecule 71: Small ribosomal subunit protein uS17A

Chain SX:  72% 27%



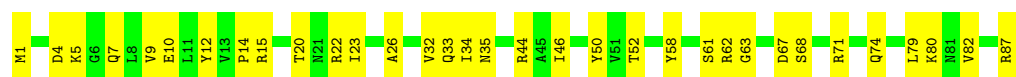
- Molecule 72: Small ribosomal subunit protein uS15

Chain SY:  61% 39%



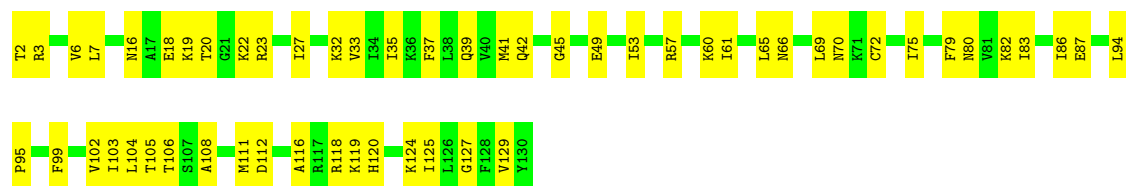
- Molecule 73: Small ribosomal subunit protein eS21A

Chain Sa:  62% 38%



- Molecule 74: Small ribosomal subunit protein uS8A

Chain Sb:  57% 43%



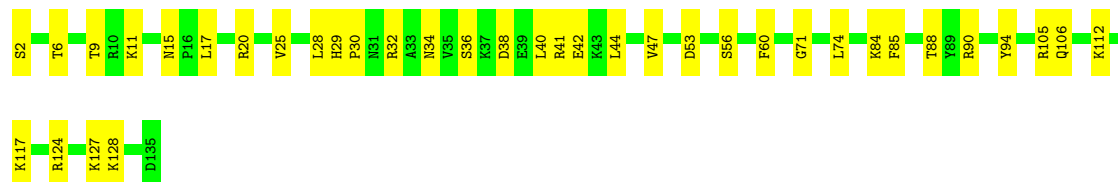
- Molecule 75: Small ribosomal subunit protein uS12A

Chain Sc:  66% 34%



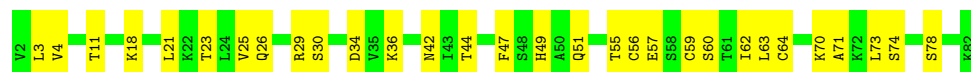
- Molecule 76: Small ribosomal subunit protein eS24A

Chain Sd: 72% 28%



- Molecule 77: Small ribosomal subunit protein eS27A

Chain Sf: 63% 37%



- Molecule 78: Small ribosomal subunit protein eS30A

Chain Sg: 58% 33% 8%



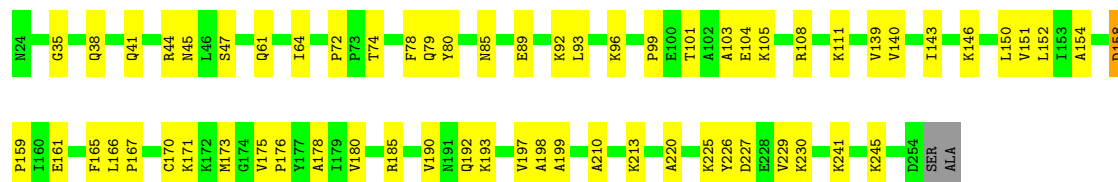
- Molecule 79: Small ribosomal subunit protein uS10

Chain SJ: 63% 36%



- Molecule 80: Large ribosomal subunit protein eL8A

Chain J: 72% 27%



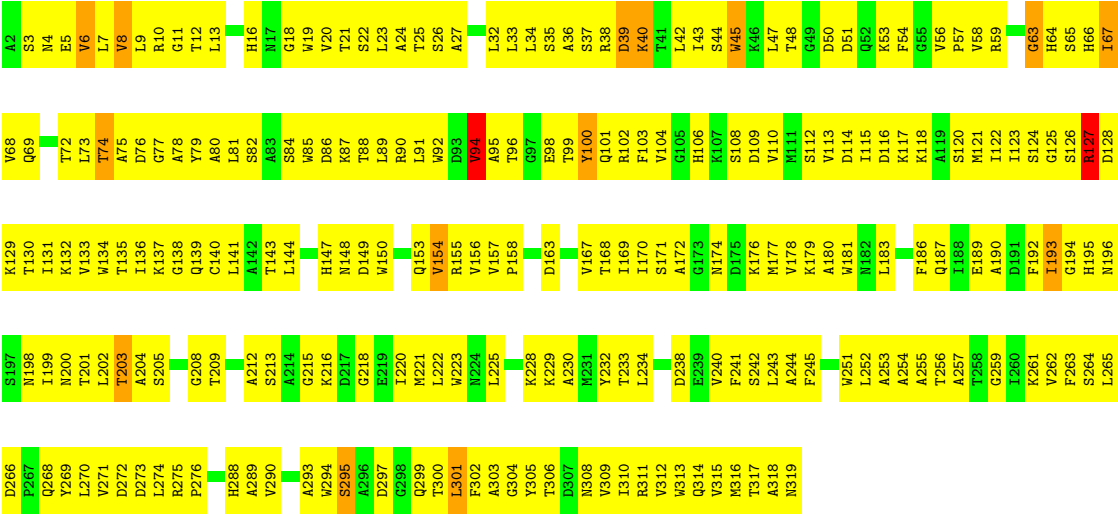
- Molecule 81: Small ribosomal subunit protein RACK1

Chain SO:

26%

69%

..



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	8681	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	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	S	0.17	0/1465	0.41	2/1965 (0.1%)
2	2	0.10	0/42211	0.24	0/65773
3	A	0.08	0/76448	0.20	0/119184
4	B	0.07	0/2883	0.18	0/4491
5	C	0.10	0/3746	0.23	0/5832
6	D	0.11	0/1897	0.33	0/2550
7	E	0.10	0/3146	0.28	0/4228
8	F	0.10	0/2800	0.28	0/3790
9	G	0.12	0/2360	0.34	0/3185
10	H	0.13	0/1329	0.33	0/1794
11	I	0.17	0/1821	0.44	1/2451 (0.0%)
12	K	0.13	0/1514	0.38	0/2039
13	L	0.15	0/1801	0.39	1/2416 (0.0%)
14	M	0.16	0/1367	0.50	0/1834
15	N	0.12	0/1568	0.31	0/2106
16	O	0.13	0/1068	0.37	0/1438
17	P	0.12	0/1757	0.31	0/2354
18	Q	0.14	0/1585	0.38	0/2128
19	R	0.11	0/1439	0.31	0/1938
20	T	0.12	0/1501	0.32	0/2002
21	U	0.11	0/1473	0.33	0/1980
22	V	0.13	0/1276	0.35	0/1712
23	W	0.18	0/812	0.49	0/1099
24	X	0.15	0/996	0.45	0/1340
25	Y	0.17	0/784	0.46	0/1058
26	Z	0.16	0/969	0.42	0/1307
27	a	0.10	0/995	0.32	0/1329
28	b	0.14	0/1106	0.39	0/1485
29	c	0.13	0/1200	0.37	0/1607
30	d	0.11	0/473	0.31	0/629
31	e	0.18	0/745	0.39	0/1001
32	f	0.18	0/890	0.45	1/1196 (0.1%)
33	g	0.10	0/1034	0.30	0/1385
34	h	0.13	0/868	0.38	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	i	0.14	0/890	0.47	0/1189
36	j	0.14	0/978	0.44	0/1301
37	k	0.15	0/772	0.48	0/1026
38	l	0.18	0/660	0.50	1/875 (0.1%)
39	m	0.13	0/618	0.35	0/826
40	n	0.16	0/443	0.41	0/588
41	o	0.14	0/416	0.41	0/553
42	p	0.19	0/230	0.46	0/296
43	q	0.11	0/836	0.30	0/1104
44	r	0.17	0/701	0.47	0/934
45	s	0.07	0/1795	0.18	0/2797
45	t	0.09	0/1796	0.25	0/2799
46	v	0.14	0/7611	0.41	4/10322 (0.0%)
47	x	0.13	0/6645	0.41	0/8996
48	SC	0.13	0/769	0.38	0/1039
49	SE	0.14	0/913	0.40	0/1227
50	SA	0.12	0/1711	0.35	0/2303
51	SI	0.15	0/1130	0.46	0/1517
52	SL	0.11	0/493	0.33	0/663
53	SM	0.18	0/394	0.51	0/520
54	SG	0.18	0/971	0.57	1/1303 (0.1%)
55	SB	0.12	0/1625	0.32	0/2197
56	SF	0.13	0/1125	0.39	0/1510
57	SH	0.13	0/1207	0.34	0/1623
58	SK	0.17	0/616	0.41	1/828 (0.1%)
59	SN	0.13	0/571	0.37	0/768
60	SD	0.15	0/883	0.48	0/1199
61	SZ	0.14	0/901	0.41	0/1217
62	Se	0.20	0/761	0.61	0/1016
63	SP	0.13	0/1644	0.39	0/2249
64	SQ	0.17	0/1735	0.41	0/2335
65	SR	0.13	0/1656	0.36	0/2251
66	SS	0.12	0/2097	0.35	0/2823
67	ST	0.13	0/1813	0.38	0/2425
68	SU	0.12	0/1498	0.34	0/2019
69	SV	0.11	0/1501	0.33	0/2006
70	SW	0.12	0/1504	0.36	0/2016
71	SX	0.12	0/1158	0.36	0/1561
72	SY	0.17	0/1215	0.44	0/1638
73	Sa	0.13	0/682	0.38	0/921
74	Sb	0.19	0/1038	0.48	0/1395
75	Sc	0.15	0/1139	0.40	1/1518 (0.1%)
76	Sd	0.10	0/1087	0.32	0/1449

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
77	Sf	0.14	0/620	0.37	0/838
78	Sg	0.14	0/444	0.39	0/591
79	SJ	0.15	0/807	0.43	0/1091
80	J	0.14	0/1825	0.38	0/2466
81	SO	0.60	0/2489	1.08	5/3389 (0.1%)
All	All	0.13	0/231740	0.31	18/339311 (0.0%)

There are no bond length outliers.

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	SO	127	ARG	N-CA-C	-7.35	104.31	113.28
46	v	511	VAL	N-CA-C	-6.94	106.73	113.53
38	l	22	CYS	N-CA-C	-6.74	102.79	111.02
46	v	962	VAL	CA-C-N	6.72	133.79	121.70
46	v	962	VAL	C-N-CA	6.72	133.79	121.70
46	v	684	THR	N-CA-C	6.58	118.61	110.91
81	SO	301	LEU	CA-C-N	6.40	130.22	120.82
81	SO	301	LEU	C-N-CA	6.40	130.22	120.82
32	f	83	GLU	CA-CB-CG	5.82	125.74	114.10
81	SO	273	ASP	N-CA-C	5.71	117.08	108.46
13	L	160	PRO	CA-N-CD	-5.65	104.09	112.00
54	SG	93	LEU	CB-CA-C	-5.40	110.33	116.54
58	SK	91	PRO	CA-N-CD	-5.35	104.52	112.00
1	S	19	PRO	CA-N-CD	-5.22	104.69	112.00
1	S	20	LYS	CA-CB-CG	5.21	124.52	114.10
11	I	132	PRO	CA-N-CD	-5.19	104.74	112.00
75	Sc	118	PRO	CA-N-CD	-5.17	104.77	112.00
81	SO	218	GLY	N-CA-C	5.14	125.35	113.18

There are no chirality outliers.

There are no planarity outliers.

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	S	1441	0	1543	44	0
2	2	37739	0	18988	803	0
3	A	68298	0	34325	1353	0
4	B	2579	0	1304	53	0
5	C	3353	0	1695	71	0
6	D	1863	0	1930	71	0
7	E	3075	0	3142	84	0
8	F	2748	0	2859	74	0
9	G	2311	0	2267	74	0
10	H	1307	0	1377	41	0
11	I	1784	0	1862	68	0
12	K	1493	0	1566	47	0
13	L	1764	0	1804	62	0
14	M	1346	0	1370	54	0
15	N	1543	0	1608	57	0
16	O	1053	0	1149	31	0
17	P	1720	0	1779	102	0
18	Q	1555	0	1659	60	0
19	R	1416	0	1433	48	0
20	T	1484	0	1578	42	0
21	U	1437	0	1475	44	0
22	V	1253	0	1292	48	0
23	W	796	0	812	25	0
24	X	981	0	1031	60	0
25	Y	771	0	676	21	0
26	Z	954	0	1018	25	0
27	a	984	0	1075	28	0
28	b	1080	0	1122	30	0
29	c	1169	0	1211	54	0
30	d	462	0	491	15	0
31	e	737	0	792	28	0
32	f	876	0	912	39	0
33	g	1013	0	1077	32	0
34	h	850	0	880	35	0
35	i	880	0	945	30	0
36	j	969	0	1078	39	0
37	k	766	0	844	26	0
38	l	645	0	649	31	0
39	m	612	0	682	15	0
40	n	436	0	475	25	0
41	o	410	0	446	18	0
42	p	229	0	273	10	0
43	q	824	0	892	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	r	694	0	738	46	0
45	s	1605	0	816	15	0
45	t	1606	0	816	38	0
46	v	7476	0	7414	213	0
47	x	6520	0	6574	244	0
48	SC	752	0	719	22	0
49	SE	894	0	925	26	0
50	SA	1687	0	1772	53	0
51	SI	1112	0	1124	49	0
52	SL	491	0	524	19	0
53	SM	387	0	387	21	0
54	SG	961	0	999	59	0
55	SB	1605	0	1669	50	0
56	SF	1105	0	1166	64	0
57	SH	1188	0	1218	47	0
58	SK	608	0	639	17	0
59	SN	560	0	560	16	0
60	SD	875	0	878	30	0
61	SZ	891	0	883	31	0
62	Se	750	0	799	33	0
63	SP	1603	0	1610	64	0
64	SQ	1709	0	1784	74	0
65	SR	1626	0	1715	60	0
66	SS	2056	0	2140	64	0
67	ST	1789	0	1875	60	0
68	SU	1473	0	1555	47	0
69	SV	1476	0	1501	41	0
70	SW	1479	0	1556	51	0
71	SX	1132	0	1199	34	0
72	SY	1192	0	1255	58	0
73	Sa	673	0	662	31	0
74	Sb	1021	0	1060	58	0
75	Sc	1121	0	1196	41	0
76	Sd	1073	0	1132	29	0
77	Sf	610	0	633	20	0
78	Sg	437	0	484	18	0
79	SJ	797	0	863	33	0
80	J	1793	0	1867	50	0
81	SO	2436	0	2385	339	0
All	All	216269	0	162478	5371	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 14.

All (5371) 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)
81:SO:120:SER:OG	81:SO:121:MET:SD	1.92	1.26
54:SG:29:GLN:HG2	81:SO:85:TRP:CH2	1.79	1.16
81:SO:177:MET:HE1	81:SO:193:ILE:C	1.73	1.11
54:SG:29:GLN:HG2	81:SO:85:TRP:CZ3	1.88	1.08
81:SO:123:ILE:HD11	81:SO:154:VAL:HG21	1.28	1.07
81:SO:16:HIS:HB3	81:SO:308:ASN:HD22	1.16	1.05
2:2:394:C:N4	2:2:401:A:H62	1.55	1.02
2:2:394:C:H42	2:2:401:A:N6	1.59	1.01
50:SA:220:PRO:C	81:SO:193:ILE:HG12	1.85	1.01
54:SG:30:THR:HG22	81:SO:85:TRP:CH2	1.98	0.99
2:2:1229:G:H21	2:2:1256:A:H62	1.07	0.98
2:2:628:G:N2	2:2:971:A:H62	1.63	0.97
54:SG:30:THR:HG22	81:SO:85:TRP:CZ2	2.00	0.97
2:2:1047:G:H1	2:2:1071:U:H3	1.14	0.96
3:A:508:U:H3	3:A:583:G:H1	1.13	0.95
2:2:1499:G:H1	2:2:1508:U:H3	1.15	0.95
81:SO:232:TYR:HD1	81:SO:233:THR:H	1.08	0.95
3:A:2436:U:H3	3:A:2512:C:H42	1.03	0.95
3:A:1919:G:H21	3:A:1933:A:H62	1.06	0.95
3:A:1662:G:H1	3:A:1787:A:H61	0.97	0.94
3:A:1538:G:H21	3:A:1583:A:H62	1.09	0.94
2:2:628:G:H21	2:2:971:A:N6	1.65	0.93
81:SO:294:TRP:HA	81:SO:301:LEU:HD11	1.48	0.92
56:SF:47:LYS:HB3	56:SF:82:ARG:HH12	1.35	0.92
81:SO:33:LEU:HG	81:SO:34:LEU:H	1.35	0.92
2:2:1690:G:H1	2:2:1711:C:HO2'	1.13	0.91
3:A:1257:C:N4	3:A:1261:G:H22	1.69	0.91
53:SM:51:GLY:H	79:SJ:84:MET:HE3	1.35	0.90
81:SO:116:ASP:HB3	81:SO:121:MET:HB2	1.50	0.90
79:SJ:63:LEU:HB2	79:SJ:84:MET:HB2	1.52	0.90
81:SO:6:VAL:HG22	81:SO:317:THR:HA	1.54	0.90
81:SO:176:LYS:HB3	81:SO:195:HIS:HB2	1.54	0.90
81:SO:168:THR:HG21	81:SO:225:LEU:HD13	1.55	0.90
3:A:129:U:H3	3:A:139:G:H1	1.20	0.89
2:2:1588:G:H1	2:2:1608:U:H3	0.92	0.89
3:A:1662:G:H1	3:A:1787:A:N6	1.70	0.88
81:SO:205:SER:HB2	81:SO:245:PHE:CD2	2.08	0.88
3:A:2427:U:H3	3:A:2602:G:H1	1.16	0.87
81:SO:88:THR:HB	81:SO:90:ARG:HG3	1.57	0.87
3:A:1257:C:H42	3:A:1261:G:N2	1.72	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:301:G:H1	3:A:314:U:H3	1.24	0.85
3:A:87:U:H3	3:A:99:A:N6	1.75	0.85
3:A:1919:G:N2	3:A:1933:A:H62	1.74	0.85
3:A:341:G:H21	3:A:349:A:N6	1.74	0.85
46:v:209:ILE:HG13	46:v:210:PRO:HD3	1.59	0.83
65:SR:228:ASN:HD22	73:Sa:1:MET:HB3	1.43	0.83
3:A:19:U:H4'	17:P:138:GLN:HE21	1.44	0.83
81:SO:74:THR:HG23	81:SO:75:ALA:H	1.42	0.83
2:2:1229:G:N2	2:2:1256:A:H62	1.76	0.83
29:c:75:LEU:HB3	29:c:118:ILE:HD11	1.60	0.83
81:SO:33:LEU:HG	81:SO:34:LEU:N	1.90	0.83
50:SA:220:PRO:HA	81:SO:193:ILE:CD1	2.09	0.83
81:SO:133:VAL:HG23	81:SO:140:CYS:HA	1.59	0.82
81:SO:172:ALA:HB3	81:SO:202:LEU:HD21	1.61	0.82
17:P:113:LEU:HB3	17:P:134:LEU:HD12	1.60	0.82
6:D:180:LEU:HD21	44:r:26:VAL:HG11	1.60	0.82
75:Sc:74:VAL:HG11	75:Sc:104:LEU:HD11	1.62	0.81
81:SO:131:ILE:HD12	81:SO:144:LEU:HB3	1.59	0.81
81:SO:193:ILE:HD12	81:SO:194:GLY:N	1.95	0.81
81:SO:243:LEU:HD13	81:SO:254:ALA:HB2	1.61	0.81
81:SO:200:ASN:HD22	81:SO:241:PHE:HA	1.45	0.81
66:SS:87:MET:HE1	66:SS:123:LEU:H	1.46	0.81
3:A:3346:U:H3	3:A:3359:A:H61	1.28	0.80
60:SD:28:LEU:HG	60:SD:136:ILE:HD11	1.63	0.80
2:2:16:G:H21	2:2:1138:A:H62	1.28	0.80
68:SU:141:ARG:HB2	68:SU:149:ILE:HB	1.62	0.80
3:A:1257:C:N4	3:A:1261:G:N2	2.29	0.80
3:A:341:G:N2	3:A:349:A:N6	2.29	0.80
63:SP:198:MET:HB2	63:SP:199:PRO:HD2	1.61	0.80
66:SS:48:LEU:HB2	66:SS:54:TYR:HB2	1.64	0.79
2:2:593:U:H4'	2:2:595:G:H4'	1.65	0.79
50:SA:220:PRO:HA	81:SO:193:ILE:HD11	1.61	0.79
3:A:1267:U:H3'	3:A:1268:G:C8	2.18	0.78
3:A:1538:G:N2	3:A:1583:A:H62	1.81	0.78
81:SO:316:MET:HG2	81:SO:318:ALA:H	1.48	0.78
81:SO:120:SER:O	81:SO:121:MET:HE3	1.82	0.78
3:A:87:U:H3	3:A:99:A:H62	1.25	0.78
64:SQ:121:ILE:HG12	64:SQ:161:ILE:HD13	1.65	0.78
3:A:1919:G:H21	3:A:1933:A:N6	1.79	0.77
81:SO:13:LEU:HD11	81:SO:310:ILE:HB	1.65	0.77
81:SO:177:MET:HE3	81:SO:178:VAL:H	1.50	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:28:VAL:HG22	47:x:108:HIS:HD2	1.49	0.77
2:2:628:G:H21	2:2:971:A:H62	0.84	0.77
3:A:3313:U:H4'	7:E:173:GLN:HE22	1.50	0.77
81:SO:38:ARG:C	81:SO:40:LYS:H	1.93	0.77
3:A:3169:U:H2'	3:A:3170:A:C4	2.20	0.76
81:SO:157:VAL:HG12	81:SO:208:GLY:HA3	1.66	0.76
2:2:1229:G:H21	2:2:1256:A:N6	1.80	0.76
10:H:43:LEU:HD11	34:h:102:LEU:HB2	1.67	0.76
3:A:2436:U:H3	3:A:2512:C:N4	1.79	0.76
47:x:541:CYS:HA	47:x:544:ASP:HB2	1.67	0.76
2:2:874:C:H2'	2:2:875:G:C8	2.20	0.76
3:A:2574:G:H2'	3:A:2575:G:H8	1.51	0.76
61:SZ:84:ARG:HB3	61:SZ:118:VAL:HG13	1.68	0.76
49:SE:41:VAL:HG23	49:SE:84:ILE:HD13	1.66	0.75
47:x:576:LEU:HB3	47:x:842:LEU:HB3	1.67	0.75
81:SO:193:ILE:HD12	81:SO:194:GLY:H	1.51	0.75
2:2:862:A:H5''	72:SY:16:ILE:HD13	1.67	0.75
37:k:60:LEU:HD21	37:k:68:ARG:HB2	1.66	0.75
81:SO:116:ASP:HB3	81:SO:121:MET:CB	2.17	0.75
81:SO:200:ASN:HB2	81:SO:215:GLY:HA2	1.68	0.75
81:SO:130:THR:HG22	81:SO:132:LYS:HG3	1.68	0.75
81:SO:6:VAL:HG11	81:SO:319:ASN:CG	2.11	0.75
14:M:120:ILE:HB	14:M:123:PHE:HB2	1.68	0.75
2:2:590:C:H2'	2:2:591:A:H8	1.50	0.75
62:Se:78:ALA:HB1	62:Se:83:ILE:HB	1.69	0.75
34:h:18:ARG:NH1	34:h:19:SER:O	2.19	0.74
81:SO:120:SER:CB	81:SO:121:MET:SD	2.75	0.74
81:SO:150:TRP:CD1	81:SO:174:ASN:ND2	2.55	0.74
2:2:774:A:H61	2:2:786:C:H42	1.35	0.74
3:A:21:G:H3'	3:A:22:G:H8	1.52	0.74
5:C:29:U:H5''	15:N:27:ASP:HB3	1.68	0.74
81:SO:157:VAL:HG22	81:SO:168:THR:O	1.88	0.74
11:I:240:VAL:HA	11:I:243:MET:HB3	1.69	0.74
2:2:1358:G:H1'	51:SI:129:GLN:HE22	1.50	0.74
59:SN:129:GLY:HA3	60:SD:50:LYS:HG2	1.67	0.74
2:2:1461:C:H5'	57:SH:144:ARG:HH22	1.53	0.74
64:SQ:125:VAL:HG21	64:SQ:172:LEU:HD11	1.70	0.74
2:2:875:G:H22	2:2:952:A:H2	1.34	0.74
28:b:5:LEU:HD11	31:e:35:ARG:HD2	1.68	0.74
3:A:56:G:H21	17:P:162:ARG:HD3	1.53	0.73
3:A:1310:G:H2'	3:A:1311:G:C8	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:817:LEU:HB2	46:v:831:MET:SD	2.28	0.73
54:SG:29:GLN:N	54:SG:29:GLN:OE1	2.20	0.73
65:SR:182:PRO:HA	65:SR:185:LYS:HG2	1.69	0.73
3:A:1336:U:H2'	3:A:1337:A:H8	1.53	0.73
81:SO:150:TRP:NE1	81:SO:174:ASN:HD22	1.85	0.73
11:I:216:VAL:HG11	11:I:227:GLY:HA2	1.69	0.73
81:SO:192:PHE:CZ	81:SO:228:LYS:HA	2.23	0.73
2:2:1060:U:H3'	2:2:1061:A:H5''	1.71	0.73
3:A:3226:A:N6	3:A:3260:G:N1	2.37	0.73
32:f:11:GLU:HA	32:f:74:ARG:HA	1.71	0.73
42:p:7:LYS:HE2	42:p:11:ARG:HE	1.53	0.73
63:SP:3:LEU:HG	63:SP:5:ALA:H	1.52	0.73
63:SP:63:ILE:HD12	73:Sa:34:ILE:HD11	1.68	0.73
10:H:40:LEU:HD12	10:H:84:VAL:HB	1.70	0.73
62:Se:44:ILE:HD11	62:Se:65:PRO:HD2	1.69	0.73
24:X:7:GLN:OE1	24:X:7:GLN:N	2.21	0.73
54:SG:29:GLN:CG	81:SO:85:TRP:CZ3	2.70	0.73
81:SO:25:THR:HG22	81:SO:26:SER:H	1.54	0.73
64:SQ:113:MET:HE3	64:SQ:113:MET:H	1.54	0.72
30:d:10:HIS:O	30:d:12:GLN:NE2	2.22	0.72
46:v:390:MET:HG3	46:v:399:ALA:HB1	1.72	0.72
4:B:81:U:H3	4:B:99:G:H1	1.37	0.72
54:SG:115:LEU:HD12	54:SG:116:LYS:H	1.54	0.72
66:SS:147:ILE:HG21	66:SS:169:ILE:HD11	1.70	0.72
76:Sd:56:SER:HB2	76:Sd:90:ARG:HH22	1.54	0.72
53:SM:53:ASN:HB3	53:SM:55:PHE:CZ	2.24	0.72
2:2:1297:G:N2	2:2:1300:A:OP2	2.21	0.72
5:C:142:C:H5''	17:P:38:ARG:HH12	1.52	0.72
63:SP:162:CYS:SG	63:SP:163:ASN:N	2.62	0.72
2:2:1775:U:OP2	42:p:7:LYS:NZ	2.22	0.72
32:f:13:THR:OG1	32:f:72:ARG:NH2	2.23	0.72
81:SO:304:GLY:HA2	81:SO:310:ILE:HG13	1.71	0.72
63:SP:53:THR:HG22	63:SP:161:PRO:HG2	1.71	0.72
64:SQ:70:LEU:HB3	64:SQ:79:HIS:HB3	1.71	0.71
81:SO:177:MET:HE1	81:SO:193:ILE:O	1.89	0.71
3:A:2964:G:N2	3:A:2967:A:OP2	2.23	0.71
2:2:78:A:H5''	67:ST:159:ARG:HH12	1.55	0.71
3:A:565:U:H2'	3:A:566:G:H8	1.54	0.71
2:2:1055:U:H3	2:2:1064:G:H1	1.37	0.71
7:E:7:GLU:OE1	7:E:7:GLU:N	2.23	0.71
46:v:156:VAL:HG12	46:v:163:VAL:HG11	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SA:40:ARG:HB2	50:SA:47:GLU:HB3	1.72	0.71
3:A:3276:G:H1	19:R:172:GLN:HE21	1.39	0.71
16:O:41:GLN:HG3	16:O:42:LYS:HG3	1.71	0.71
35:i:74:ARG:HD3	35:i:85:VAL:HG21	1.71	0.71
3:A:420:G:N7	18:Q:96[A]:LYS:NZ	2.38	0.71
24:X:108:GLU:HA	24:X:128:ARG:HE	1.55	0.71
46:v:628:VAL:HG21	46:v:637:TYR:HB2	1.73	0.71
3:A:491:C:H3'	3:A:492:U:H5''	1.72	0.71
18:Q:54[A]:TYR:HE2	18:Q:145[A]:VAL:HG21	1.55	0.71
81:SO:8:VAL:HG23	81:SO:314:GLN:HB3	1.73	0.71
3:A:101:G:N2	3:A:101:G:OP2	2.24	0.71
3:A:2573:G:H2'	3:A:2574:G:C8	2.26	0.71
5:C:8:C:H2'	5:C:9:A:H8	1.56	0.71
81:SO:86:ASP:C	81:SO:87:LYS:HD3	2.15	0.71
2:2:1302:U:H2'	2:2:1303:U:C6	2.26	0.70
2:2:1426:C:H3'	2:2:1427:A:H4'	1.74	0.70
3:A:517:G:OP1	11:I:67:ARG:NH2	2.24	0.70
3:A:3234:A:H61	3:A:3253:G:H1	1.38	0.70
46:v:275:LEU:HD23	46:v:276:VAL:HG13	1.73	0.70
18:Q:46[A]:GLU:O	18:Q:50[A]:ASN:ND2	2.25	0.70
46:v:652:PRO:HD2	46:v:942:GLU:HB3	1.73	0.70
75:Sc:42:PRO:HB3	75:Sc:81:LYS:HD2	1.72	0.70
80:J:139:VAL:HG21	80:J:197:VAL:HG11	1.72	0.70
81:SO:84:SER:OG	81:SO:85:TRP:N	2.24	0.70
2:2:871:G:H2'	2:2:872:G:C8	2.25	0.70
3:A:1236:G:N2	3:A:1244:A:OP1	2.24	0.70
8:F:327:LEU:HD12	11:I:181:ILE:HD13	1.72	0.70
32:f:55:LEU:HB2	32:f:95:PRO:HD3	1.73	0.70
3:A:1312:C:H1'	18:Q:87[A]:MET:HB3	1.73	0.70
5:C:154:C:O2'	80:J:185:ARG:NH1	2.25	0.70
16:O:25:LYS:HA	16:O:25:LYS:HE2	1.72	0.70
52:SL:54:LEU:HD12	52:SL:55:VAL:H	1.55	0.70
81:SO:48:THR:HG21	81:SO:53:LYS:HE3	1.73	0.70
2:2:1572:G:H5'	2:2:1573:A:H5'	1.71	0.70
47:x:136:CYS:SG	47:x:137:VAL:N	2.63	0.70
47:x:344:SER:H	47:x:348:ALA:HB3	1.56	0.70
12:K:140:VAL:HB	12:K:143:GLU:HG2	1.72	0.70
46:v:805:PHE:HB2	46:v:810:GLU:HG3	1.73	0.70
3:A:50:U:H2'	3:A:51:A:H8	1.56	0.70
9:G:61:ILE:HD12	9:G:63:GLN:HE22	1.57	0.70
2:2:412:A:H1'	2:2:422:G:H22	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:40:A:H61	3:A:963:G:N2	1.90	0.70
3:A:627:U:H2'	3:A:628:A:H8	1.56	0.70
3:A:836:A:H2'	3:A:837:A:H8	1.57	0.70
25:Y:47:ARG:HH12	25:Y:54:LEU:HD11	1.57	0.70
69:SV:62:THR:HB	69:SV:75:LYS:HD2	1.73	0.70
81:SO:6:VAL:CG2	81:SO:317:THR:HA	2.22	0.70
81:SO:45:TRP:HZ2	81:SO:310:ILE:HD13	1.55	0.70
3:A:171:G:H2'	3:A:172:G:H5''	1.74	0.69
3:A:894:G:N2	3:A:1660:C:OP1	2.24	0.69
11:I:80:GLN:OE1	11:I:80:GLN:N	2.22	0.69
81:SO:157:VAL:HG21	81:SO:225:LEU:HD22	1.73	0.69
3:A:797:U:O2	15:N:12:ASN:ND2	2.25	0.69
11:I:95:ILE:HG23	11:I:133:TYR:HE2	1.57	0.69
52:SL:38:ARG:HH11	62:Se:51:ARG:HD2	1.57	0.69
3:A:1245:A:C8	3:A:1271:A:O2'	2.45	0.69
47:x:42:ARG:HH22	47:x:333:ALA:HB3	1.57	0.69
56:SF:79:TYR:HA	56:SF:82:ARG:HE	1.58	0.69
70:SW:28:LEU:HD11	78:Sg:39:LEU:HD12	1.74	0.69
2:2:1022:C:O2'	2:2:1125:A:N1	2.24	0.69
3:A:71:A:OP1	29:c:67:HIS:NE2	2.26	0.69
4:B:89:G:N2	4:B:92:A:OP2	2.26	0.69
9:G:63:GLN:OE1	9:G:63:GLN:N	2.24	0.69
29:c:71:PRO:HD2	29:c:110:GLY:H	1.58	0.69
32:f:55:LEU:O	32:f:59:ILE:HD12	1.93	0.69
68:SU:62:VAL:HG23	68:SU:64:VAL:H	1.57	0.69
74:Sb:23:ARG:HH22	74:Sb:66:ASN:HA	1.57	0.69
81:SO:94:VAL:HB	81:SO:96:THR:HG23	1.73	0.69
12:K:14:GLU:OE1	12:K:14:GLU:N	2.23	0.69
68:SU:176:LEU:HD23	68:SU:177:THR:HG23	1.74	0.69
2:2:1307:U:H3	2:2:1318:G:H21	1.41	0.69
3:A:2515:A:N1	3:A:2594:C:N4	2.39	0.69
47:x:719:LEU:HA	47:x:838:TYR:HE1	1.57	0.69
74:Sb:75:ILE:HG12	74:Sb:127:GLY:HA2	1.72	0.69
81:SO:120:SER:O	81:SO:121:MET:CE	2.41	0.69
2:2:1097:U:H1'	65:SR:168:ARG:HH21	1.58	0.69
3:A:2393:G:N2	3:A:2394:G:O6	2.25	0.69
3:A:3095:U:H5'	24:X:86:ARG:HH22	1.58	0.69
9:G:141:PRO:HB2	9:G:172:TYR:HB2	1.75	0.69
47:x:121:VAL:HG11	47:x:383:SER:HB2	1.75	0.69
81:SO:19:TRP:HB3	81:SO:38:ARG:HB2	1.72	0.69
2:2:1202:A:H62	2:2:1456:C:H3'	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:799:ILE:HG22	46:v:851:MET:HG2	1.74	0.69
66:SS:44:LEU:HA	66:SS:47:PHE:HB2	1.74	0.69
75:Sc:17:VAL:HA	75:Sc:20:ARG:HD3	1.73	0.69
2:2:821:U:H3	2:2:852:C:N4	1.90	0.69
3:A:519:A:N6	21:U:65:ASN:O	2.25	0.69
31:e:43:ILE:HB	31:e:90:VAL:HG12	1.75	0.69
46:v:580:TRP:HA	46:v:583:ASN:ND2	2.08	0.69
2:2:1558:U:H5''	57:SH:126:ARG:HH22	1.59	0.68
3:A:1257:C:N3	3:A:1261:G:N1	2.41	0.68
3:A:1370:G:H2'	3:A:1371:G:H8	1.57	0.68
80:J:158:ASP:HB2	80:J:159:PRO:HD2	1.74	0.68
23:W:18:ASP:HB3	23:W:104:ARG:HG2	1.74	0.68
47:x:25:ILE:HD12	47:x:142:VAL:HB	1.74	0.68
2:2:50:C:OP1	2:2:423:G:N2	2.27	0.68
2:2:1177:C:H2'	2:2:1178:G:H8	1.59	0.68
4:B:45:A:OP1	9:G:151:GLN:NE2	2.26	0.68
47:x:216:HIS:HA	47:x:325:ARG:HH22	1.59	0.68
53:SM:51:GLY:HA3	79:SJ:82:TYR:HB3	1.75	0.68
3:A:1433:A:N7	33:g:19:ARG:NH2	2.42	0.68
50:SA:219:ALA:O	81:SO:193:ILE:HD13	1.92	0.68
54:SG:95:ARG:HB3	54:SG:100:LEU:HB3	1.75	0.68
3:A:297:G:OP2	3:A:297:G:N2	2.20	0.68
3:A:2705:A:N6	22:V:47:SER:O	2.26	0.68
47:x:317:LYS:HA	47:x:320:LEU:HD13	1.76	0.68
81:SO:264:SER:OG	81:SO:265:LEU:N	2.24	0.68
17:P:57:GLN:HB2	17:P:139:HIS:HE2	1.58	0.68
46:v:597:HIS:NE2	46:v:927:ASP:OD1	2.27	0.68
2:2:1108:G:OP2	2:2:1108:G:N2	2.22	0.68
3:A:681:U:O2	3:A:696:C:N4	2.24	0.68
47:x:171:LYS:HB2	47:x:274:ASN:HB3	1.75	0.68
47:x:411:VAL:HG21	47:x:469:LEU:HD13	1.75	0.68
81:SO:238:ASP:HB3	81:SO:256:THR:OG1	1.94	0.68
3:A:1112:A:N3	3:A:1370:G:O2'	2.27	0.68
3:A:3333:G:H22	3:A:3369:G:H1'	1.59	0.68
2:2:577:G:H22	2:2:1755:A:H61	1.41	0.68
3:A:87:U:O4	3:A:99:A:N7	2.25	0.68
3:A:990:U:H4'	22:V:100:LYS:HB2	1.76	0.68
3:A:1551:C:H2'	3:A:1552:G:C8	2.29	0.68
17:P:140:LYS:HG3	17:P:144:ARG:HD2	1.75	0.68
56:SF:99:GLU:HB2	81:SO:58:VAL:O	1.93	0.68
81:SO:198:ASN:HB3	81:SO:216:LYS:HB3	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1115:U:O2	2:2:1131:A:N7	2.26	0.68
3:A:1104:G:H2'	3:A:1105:A:H8	1.58	0.68
45:t:8:U:O2	45:t:14:A:N7	2.27	0.68
51:SI:65:ILE:HG23	51:SI:124:ILE:HD11	1.74	0.68
2:2:76:A:N3	2:2:80:A:N6	2.41	0.67
2:2:1585:U:H3	2:2:1611:A:H2	1.40	0.67
3:A:408:A:N3	3:A:655:C:O2'	2.26	0.67
3:A:1517:G:H5''	40:n:22:PRO:HG3	1.76	0.67
8:F:204:GLY:O	8:F:246:ARG:NH2	2.22	0.67
10:H:175:LYS:NZ	16:O:110:ALA:O	2.23	0.67
47:x:150:ARG:NH1	47:x:351:TYR:O	2.26	0.67
70:SW:48:GLN:HA	70:SW:51:LYS:HZ3	1.59	0.67
81:SO:150:TRP:O	81:SO:174:ASN:HB2	1.94	0.67
2:2:1404:C:H2'	2:2:1405:G:C8	2.29	0.67
3:A:358:G:N2	3:A:361:A:OP2	2.27	0.67
3:A:1244:A:H4'	3:A:1245:A:H5''	1.75	0.67
81:SO:116:ASP:CG	81:SO:117:LYS:H	2.02	0.67
3:A:3123:A:HO2'	12:K:40:HIS:HD1	1.41	0.67
33:g:42:VAL:O	33:g:52:GLN:NE2	2.27	0.67
47:x:60:ARG:HB2	47:x:63:GLU:HG3	1.76	0.67
2:2:15:U:O2'	2:2:620:A:N6	2.27	0.67
2:2:135:A:H4'	2:2:136:C:H5'	1.75	0.67
3:A:1538:G:H21	3:A:1583:A:N6	1.88	0.67
47:x:285:PHE:HA	47:x:288:ILE:HG12	1.77	0.67
51:SI:83:ALA:HB1	51:SI:91:TYR:HB3	1.74	0.67
2:2:273:G:H1	2:2:283:U:H3	1.41	0.67
3:A:1151:U:O2'	3:A:2369:G:N2	2.28	0.67
2:2:297:U:H5''	66:SS:37:LYS:HD2	1.77	0.67
2:2:1126:G:P	42:p:15:ARG:HH12	2.17	0.67
3:A:431:U:H5''	34:h:65:ARG:HH21	1.60	0.67
3:A:2110:G:H3'	25:Y:48:ARG:HH22	1.60	0.67
20:T:6:THR:OG1	20:T:7:GLN:OE1	2.12	0.67
27:a:24:SER:OG	27:a:75:ARG:NH1	2.28	0.67
68:SU:150:GLN:HB3	68:SU:181:ILE:HG22	1.76	0.67
3:A:1362:G:H2'	3:A:1363:A:H8	1.59	0.67
17:P:138:GLN:HA	17:P:143:ARG:HH21	1.59	0.67
31:e:40:LYS:HB3	31:e:101:LEU:HD11	1.75	0.67
53:SM:51:GLY:N	79:SJ:84:MET:HE3	2.07	0.67
2:2:44:U:OP2	2:2:437:A:N6	2.28	0.67
13:L:53:VAL:HG13	13:L:132:GLY:HA2	1.76	0.67
3:A:68:C:N4	3:A:314:U:O2'	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:101:LYS:HA	11:I:104:GLN:HG3	1.77	0.67
46:v:45:VAL:HB	46:v:392:ILE:HG23	1.76	0.67
81:SO:131:ILE:H	81:SO:143:THR:HG23	1.59	0.67
3:A:1438:U:H1'	8:F:94:CYS:HA	1.76	0.67
46:v:750:THR:HG23	46:v:753:GLU:H	1.60	0.67
47:x:565:GLU:HB2	47:x:681:MET:HG3	1.77	0.67
55:SB:58:LEU:HD12	55:SB:138:THR:HG22	1.77	0.67
63:SP:197:ILE:HG21	63:SP:201:LEU:HD22	1.77	0.67
64:SQ:81:PHE:HB2	64:SQ:109:LYS:HG2	1.76	0.67
81:SO:241:PHE:CG	81:SO:290:VAL:HG23	2.29	0.67
2:2:169:A:OP2	2:2:171:A:N6	2.28	0.66
3:A:691:A:N1	5:C:28:C:O2'	2.27	0.66
71:SX:131:ILE:HD13	71:SX:135:VAL:HG12	1.77	0.66
74:Sb:106:THR:HG23	74:Sb:108:ALA:H	1.60	0.66
81:SO:39:ASP:O	81:SO:40:LYS:HD3	1.94	0.66
3:A:2931:C:H4'	24:X:40:LYS:HB3	1.75	0.66
23:W:17:VAL:HG12	23:W:103:TYR:HB2	1.76	0.66
36:j:38:ARG:NH1	36:j:41:LEU:HD13	2.09	0.66
2:2:394:C:H42	2:2:401:A:H62	0.76	0.66
3:A:1729:A:N6	44:r:41:PHE:O	2.25	0.66
3:A:3269:U:OP2	10:H:46:ARG:NH2	2.29	0.66
20:T:73:GLY:O	20:T:74:ARG:NH1	2.28	0.66
65:SR:157:LYS:HD3	65:SR:168:ARG:HH12	1.61	0.66
2:2:153:G:H2'	2:2:154:G:H8	1.61	0.66
17:P:6:TYR:CE1	37:k:40:VAL:HG12	2.30	0.66
46:v:867:ARG:NH1	46:v:878:CYS:SG	2.69	0.66
54:SG:93:LEU:O	54:SG:96:SER:N	2.29	0.66
3:A:360:G:H21	3:A:815:G:H1'	1.61	0.66
3:A:664:U:H3	3:A:798:G:H1	1.42	0.66
7:E:380:MET:HG3	7:E:383:LEU:HD21	1.76	0.66
47:x:506:GLU:O	47:x:510:ARG:HG3	1.95	0.66
47:x:750:LYS:NZ	47:x:783:GLU:OE1	2.29	0.66
2:2:227:U:O2'	2:2:834:G:N2	2.28	0.66
2:2:513:U:H2'	2:2:514:G:H8	1.60	0.66
3:A:1639:C:OP2	35:i:74:ARG:NH2	2.28	0.66
14:M:125:MET:SD	14:M:126:ASP:N	2.68	0.66
46:v:662:GLN:HA	46:v:691:SER:HB2	1.78	0.66
81:SO:245:PHE:HA	81:SO:252:LEU:HD12	1.78	0.66
46:v:751:PRO:HB2	46:v:888:VAL:HG23	1.77	0.66
47:x:823:ARG:HE	47:x:832:VAL:HA	1.60	0.66
55:SB:102:ARG:O	55:SB:106:LYS:NZ	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:57:A:H2'	3:A:58:G:C8	2.31	0.66
3:A:341:G:N2	3:A:349:A:C6	2.64	0.66
6:D:115:ASN:HB3	6:D:165:VAL:HG12	1.78	0.66
7:E:362:ALA:HB2	7:E:371:GLN:HE22	1.59	0.66
14:M:109:HIS:HE1	14:M:120:ILE:HG21	1.59	0.66
17:P:3:ALA:HB2	80:J:140:VAL:HG21	1.77	0.66
34:h:47:LYS:NZ	34:h:104:PRO:O	2.27	0.66
81:SO:85:TRP:HA	81:SO:109:ASP:HB3	1.76	0.66
2:2:3:U:O2'	70:SW:17:ARG:NH2	2.29	0.66
3:A:655:C:H2'	3:A:656:A:H8	1.60	0.66
3:A:2255:A:N6	3:A:2262:A:N7	2.43	0.66
3:A:2676:A:H61	14:M:23:VAL:HA	1.59	0.66
30:d:13:THR:O	30:d:17:HIS:HB2	1.96	0.66
81:SO:132:LYS:HA	81:SO:143:THR:OG1	1.96	0.66
2:2:5:U:H2'	2:2:6:G:C8	2.31	0.66
3:A:1203:A:OP2	3:A:1301:A:N6	2.26	0.66
3:A:1551:C:H2'	3:A:1552:G:H8	1.59	0.66
18:Q:152[A]:VAL:O	18:Q:156[A]:LEU:HD12	1.96	0.66
19:R:122:ALA:HB3	19:R:143:PRO:HB2	1.76	0.66
56:SF:30:LYS:HA	56:SF:35:PRO:HA	1.78	0.66
80:J:170:CYS:HB3	80:J:175:VAL:HG23	1.79	0.66
12:K:98:PRO:HD3	47:x:167:LEU:HD12	1.77	0.65
14:M:92:ARG:HD2	14:M:94:ARG:H	1.60	0.65
47:x:823:ARG:NH2	47:x:831:GLU:O	2.28	0.65
56:SF:22:VAL:HG13	56:SF:65:ILE:HG22	1.78	0.65
2:2:395:U:H3	2:2:399:A:H62	1.44	0.65
46:v:919:LEU:HD13	46:v:947:ILE:HG22	1.78	0.65
47:x:128:VAL:HG23	47:x:156:VAL:HG13	1.78	0.65
73:Sa:35:ASN:HB3	73:Sa:50:TYR:HB3	1.77	0.65
2:2:153:G:OP2	76:Sd:128:LYS:NZ	2.29	0.65
3:A:2340:U:H2'	3:A:2341:A:H8	1.61	0.65
72:SY:56:ASP:HA	77:Sf:47:PHE:HB3	1.79	0.65
3:A:77:A:N1	3:A:324:A:N6	2.44	0.65
3:A:707:U:O2'	3:A:754:G:N3	2.29	0.65
3:A:2225:U:H4'	43:q:36:PHE:HZ	1.59	0.65
3:A:2417:U:H1'	3:A:2966:G:H21	1.62	0.65
19:R:87:SER:O	19:R:91:VAL:HG23	1.97	0.65
23:W:34:ALA:O	23:W:38:ILE:HG12	1.97	0.65
38:l:52:LYS:HB3	38:l:56:ARG:HH12	1.62	0.65
56:SF:99:GLU:HG2	81:SO:57:PRO:C	2.22	0.65
81:SO:16:HIS:HB3	81:SO:308:ASN:ND2	2.01	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:322:U:O2	3:A:323:A:N6	2.29	0.65
17:P:118:SER:HB3	17:P:132:VAL:HG12	1.77	0.65
76:Sd:90:ARG:NH2	76:Sd:94:TYR:OH	2.28	0.65
2:2:521:A:H4'	76:Sd:36:SER:HB2	1.78	0.65
2:2:1613:U:OP1	55:SB:84:LYS:NZ	2.29	0.65
3:A:68:C:H41	3:A:314:U:HO2'	1.43	0.65
22:V:119:ALA:O	22:V:123:GLY:N	2.26	0.65
31:e:48:THR:O	31:e:53:LYS:NZ	2.30	0.65
46:v:794:ARG:HB3	46:v:815:PHE:HB3	1.78	0.65
47:x:33:SER:HB2	47:x:55:ARG:HH11	1.61	0.65
54:SG:30:THR:HG22	81:SO:85:TRP:HH2	1.56	0.65
63:SP:139:VAL:HG13	63:SP:141:ILE:HG12	1.78	0.65
77:Sf:49:HIS:O	77:Sf:51:GLN:NE2	2.28	0.65
3:A:937:G:H5'	3:A:938:C:H5	1.61	0.65
51:SI:116:ILE:HA	51:SI:122:ARG:HG3	1.79	0.65
52:SL:54:LEU:HD13	55:SB:164:PRO:HD3	1.77	0.65
81:SO:223:TRP:CE3	81:SO:230:ALA:HB2	2.32	0.65
2:2:1645:G:O2'	3:A:2259:A:N1	2.29	0.65
3:A:627:U:H2'	3:A:628:A:C8	2.31	0.65
9:G:29:ASP:HB3	9:G:32:GLN:HE22	1.62	0.65
20:T:147:ALA:O	20:T:151:ARG:HG2	1.96	0.65
31:e:71:GLN:N	31:e:71:GLN:OE1	2.26	0.65
35:i:91:ARG:O	35:i:95:ILE:HG12	1.97	0.65
2:2:1097:U:O4	65:SR:201:ASN:ND2	2.28	0.65
47:x:456:LEU:HD21	47:x:459:ILE:HD11	1.79	0.65
81:SO:33:LEU:HD13	81:SO:302:PHE:CE2	2.32	0.65
1:S:165:ILE:HG12	1:S:173:GLU:HG3	1.78	0.65
3:A:2854:U:H4'	13:L:160:PRO:HD3	1.79	0.65
9:G:58:LYS:HA	9:G:93:THR:HB	1.78	0.65
47:x:378:LEU:HD11	47:x:405:VAL:HG22	1.79	0.65
2:2:1314:U:H4'	2:2:1315:U:H5	1.62	0.64
2:2:1785:U:H2'	2:2:1786:G:H8	1.62	0.64
3:A:2356:A:H5'	19:R:138:LYS:NZ	2.12	0.64
29:c:104:THR:HG21	29:c:112:ILE:HD11	1.78	0.64
65:SR:81:MET:SD	65:SR:186:LYS:NZ	2.61	0.64
68:SU:142:TYR:HE2	74:Sb:35:ILE:HD11	1.62	0.64
81:SO:144:LEU:CD1	81:SO:181:TRP:HD1	2.10	0.64
2:2:521:A:N3	76:Sd:34:ASN:ND2	2.44	0.64
3:A:1302:A:N7	3:A:2857:C:O2'	2.29	0.64
53:SM:46:LYS:HD3	53:SM:49:ASP:HB3	1.78	0.64
57:SH:86:LEU:HD23	57:SH:99:HIS:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SD:99:GLU:N	60:SD:99:GLU:OE2	2.31	0.64
63:SP:61:ALA:HA	63:SP:64:ILE:HD12	1.79	0.64
2:2:463:U:O2'	2:2:527:A:N6	2.31	0.64
2:2:1213:G:O2'	2:2:1244:A:N7	2.30	0.64
3:A:2632:G:H5''	22:V:12:ARG:HB2	1.79	0.64
4:B:3:U:H4'	4:B:25:G:H21	1.62	0.64
9:G:105:ILE:O	9:G:109:THR:HG23	1.97	0.64
15:N:22:VAL:HG22	17:P:197:LEU:HB2	1.80	0.64
46:v:464:ASN:ND2	46:v:930:SER:OG	2.30	0.64
3:A:797:U:H2'	3:A:798:G:C8	2.32	0.64
3:A:1255:C:H2'	3:A:1256:G:C8	2.33	0.64
68:SU:144:VAL:HA	74:Sb:42:GLN:HB3	1.78	0.64
71:SX:14:GLN:HB3	71:SX:54:ILE:HG21	1.79	0.64
81:SO:177:MET:HE1	81:SO:193:ILE:CA	2.26	0.64
72:SY:16:ILE:H	72:SY:16:ILE:HD12	1.63	0.64
74:Sb:18:GLU:OE2	74:Sb:65:LEU:HD22	1.97	0.64
74:Sb:116:ALA:HA	74:Sb:119:LYS:HG2	1.78	0.64
79:SJ:62:VAL:HG12	79:SJ:85:ARG:HD3	1.80	0.64
80:J:61:GLN:HA	80:J:64:ILE:HG22	1.79	0.64
81:SO:232:TYR:HD1	81:SO:233:THR:N	1.88	0.64
3:A:1786:G:H2'	3:A:1787:A:C8	2.32	0.64
5:C:142:C:OP1	17:P:38:ARG:NH1	2.30	0.64
9:G:257:GLU:HG2	9:G:259:LYS:H	1.62	0.64
56:SF:35:PRO:HD2	56:SF:38:LEU:HD13	1.78	0.64
66:SS:31:PRO:HG3	66:SS:43:PRO:HG3	1.79	0.64
81:SO:174:ASN:HA	81:SO:199:ILE:HG13	1.79	0.64
2:2:1502:G:N2	2:2:1505:A:OP2	2.23	0.64
3:A:40:A:H61	3:A:963:G:H21	1.44	0.64
3:A:1404:G:N2	3:A:1407:A:OP2	2.31	0.64
21:U:10:ILE:HG12	21:U:26:ARG:HB2	1.78	0.64
23:W:84:LEU:HD11	23:W:93:ILE:HG23	1.80	0.64
54:SG:30:THR:CG2	81:SO:85:TRP:CH2	2.79	0.64
63:SP:184:LEU:HA	73:Sa:44:ARG:HA	1.79	0.64
6:D:47:GLN:HG3	6:D:60:LYS:HZ1	1.63	0.64
57:SH:81:ILE:HG12	57:SH:83:ALA:H	1.63	0.64
59:SN:107:LYS:HD3	59:SN:115:THR:H	1.62	0.64
59:SN:126:CYS:HB3	59:SN:143:LYS:HZ2	1.63	0.64
65:SR:76:LEU:HD12	65:SR:105:GLY:H	1.63	0.64
65:SR:203:LYS:NZ	65:SR:206:THR:OG1	2.30	0.64
81:SO:5:GLU:HB2	81:SO:271:VAL:HG21	1.80	0.64
81:SO:38:ARG:C	81:SO:40:LYS:N	2.56	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:59:ARG:HH11	81:SO:95:ALA:HB1	1.63	0.64
81:SO:74:THR:HB	81:SO:115:ILE:HG23	1.77	0.64
81:SO:127:ARG:O	81:SO:127:ARG:HD3	1.98	0.64
2:2:431:C:H2'	2:2:432:G:H8	1.61	0.64
3:A:2424:A:H61	6:D:230:VAL:HG11	1.63	0.64
50:SA:40:ARG:HG2	79:SJ:110:PRO:HG3	1.79	0.64
61:SZ:12:GLN:OE1	61:SZ:12:GLN:N	2.31	0.64
71:SX:99:ARG:HG3	75:Sc:12:ALA:HB2	1.80	0.64
2:2:1339:C:O2'	2:2:1341:A:N7	2.31	0.64
2:2:1397:U:O2'	2:2:1400:A:N6	2.30	0.64
3:A:3309:G:H3'	3:A:3310:A:H8	1.63	0.64
49:SE:49:MET:N	49:SE:49:MET:SD	2.70	0.64
2:2:348:U:OP1	71:SX:106:ASN:ND2	2.31	0.63
2:2:924:A:H2'	2:2:925:G:C8	2.33	0.63
3:A:2950:G:N2	3:A:2950:G:OP2	2.31	0.63
3:A:3226:A:N6	3:A:3260:G:C6	2.66	0.63
7:E:369:ARG:O	7:E:371:GLN:NE2	2.31	0.63
22:V:42:ILE:HD11	22:V:74:VAL:HG11	1.80	0.63
46:v:253:GLY:O	46:v:262:LYS:NZ	2.30	0.63
72:SY:40:TYR:HA	72:SY:43:LYS:HZ1	1.63	0.63
2:2:5:U:H2'	2:2:6:G:H8	1.61	0.63
3:A:2588:U:OP1	80:J:241:LYS:NZ	2.31	0.63
32:f:19:ARG:HB3	32:f:35:GLU:HG3	1.79	0.63
47:x:308:LYS:HG2	47:x:311:GLU:HG2	1.78	0.63
2:2:343:C:H2'	2:2:344:A:H8	1.62	0.63
3:A:75:G:H5'	15:N:58:VAL:HG11	1.80	0.63
3:A:1896:A:H61	3:A:2339:C:H42	1.45	0.63
32:f:25:PHE:HB3	32:f:65:LYS:HB3	1.80	0.63
46:v:457:ARG:NH2	46:v:588:CYS:O	2.31	0.63
48:SC:56:LYS:HE3	48:SC:58:GLN:HG2	1.80	0.63
50:SA:157:LEU:HA	50:SA:189:MET:HE1	1.79	0.63
61:SZ:17:ALA:HB3	61:SZ:81:VAL:HG12	1.80	0.63
81:SO:89:LEU:HD11	81:SO:110:VAL:HG21	1.81	0.63
2:2:1727:G:H2'	2:2:1728:A:H8	1.64	0.63
3:A:1492:G:N7	40:n:2:ALA:N	2.47	0.63
3:A:2216:G:H1	3:A:2229:A:H61	1.45	0.63
3:A:2511:A:C6	3:A:2512:C:N4	2.67	0.63
14:M:94:ARG:NH1	14:M:94:ARG:O	2.32	0.63
17:P:106:VAL:HG11	17:P:132:VAL:HG21	1.80	0.63
17:P:124:ASP:OD1	17:P:127:TYR:N	2.27	0.63
46:v:923:THR:HG22	46:v:931:LEU:HD11	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:928:ARG:O	46:v:928:ARG:NH1	2.27	0.63
47:x:162:ARG:HB3	47:x:167:LEU:HD23	1.79	0.63
48:SC:48:SER:OG	48:SC:52:LYS:NZ	2.30	0.63
81:SO:73:LEU:HD23	81:SO:73:LEU:H	1.62	0.63
81:SO:89:LEU:HB2	81:SO:103:PHE:HB2	1.81	0.63
2:2:1417:A:O2'	56:SF:128:LYS:NZ	2.32	0.63
2:2:1650:U:H2'	2:2:1651:A:H8	1.63	0.63
3:A:87:U:N3	3:A:99:A:N6	2.37	0.63
30:d:17:HIS:HA	30:d:21:ILE:HD11	1.80	0.63
45:t:73:A:O2'	45:t:74:C:O2	2.16	0.63
66:SS:247:SER:HB2	66:SS:250:GLU:HG3	1.80	0.63
81:SO:240:VAL:HG22	81:SO:241:PHE:H	1.63	0.63
2:2:50:C:H41	2:2:424:C:H2'	1.64	0.63
2:2:1428:G:N2	79:SJ:74:GLU:OE1	2.27	0.63
46:v:883:LEU:HD12	46:v:887:ILE:HG21	1.79	0.63
67:ST:32:ILE:HG21	67:ST:65:GLN:HG2	1.81	0.63
2:2:680:U:O4	2:2:682:C:N4	2.32	0.63
68:SU:137:GLY:HA3	68:SU:153:LEU:HB2	1.81	0.63
2:2:1179:G:H21	2:2:1460:A:H62	1.45	0.63
2:2:1341:A:H1'	81:SO:65:SER:HB2	1.79	0.63
3:A:3014:U:H2'	3:A:3015:G:C8	2.34	0.63
3:A:3116:G:OP1	3:A:3116:G:N2	2.32	0.63
13:L:90:ARG:HD2	13:L:134:ILE:HB	1.81	0.63
36:j:73:LYS:O	36:j:76:GLN:NE2	2.29	0.63
46:v:758:ARG:NH1	46:v:766:GLU:OE2	2.32	0.63
47:x:522:MET:HE1	75:Sc:144:ARG:HD2	1.81	0.63
2:2:354:C:H5''	69:SV:16:ALA:HB2	1.81	0.63
2:2:532:U:OP1	70:SW:132:ARG:NH1	2.32	0.63
2:2:1483:A:OP2	2:2:1521:G:N2	2.31	0.63
3:A:567:G:H2'	3:A:568:G:C8	2.34	0.63
3:A:1255:C:H2'	3:A:1256:G:H8	1.63	0.63
3:A:1618:G:O2'	5:C:126:A:N1	2.32	0.63
47:x:163:ALA:HB2	47:x:174:LEU:HD13	1.80	0.63
47:x:245:TRP:HE3	47:x:271:ARG:HH22	1.45	0.63
48:SC:8:ARG:O	48:SC:12:HIS:ND1	2.32	0.63
62:Se:24:VAL:HG23	62:Se:26:CYS:H	1.63	0.63
80:J:161:GLU:N	80:J:161:GLU:OE1	2.31	0.63
3:A:504:A:H2'	3:A:505:G:H8	1.64	0.62
3:A:1433:A:H5'	33:g:27:ARG:HB2	1.81	0.62
47:x:392:GLY:O	47:x:510:ARG:NH2	2.32	0.62
47:x:744:TYR:O	47:x:748:ASN:ND2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sc:56:LYS:HG2	75:Sc:72:VAL:HG12	1.81	0.62
2:2:628:G:OP1	72:SY:124:ARG:NH1	2.32	0.62
2:2:1523:G:N2	2:2:1523:G:OP2	2.31	0.62
3:A:2724:U:OP1	22:V:78:LYS:NZ	2.31	0.62
7:E:363:SER:HB3	7:E:368:GLY:HA3	1.80	0.62
20:T:21:LYS:HE2	20:T:55:VAL:HA	1.81	0.62
67:ST:159:ARG:HE	67:ST:170:THR:HG21	1.64	0.62
72:SY:61:THR:HG23	72:SY:62:GLN:OE1	1.99	0.62
2:2:1471:A:H2	2:2:1474:G:H21	1.47	0.62
3:A:3051:U:H2'	3:A:3052:G:H8	1.64	0.62
49:SE:18:ARG:NH1	57:SH:90:ASN:O	2.32	0.62
3:A:2423:U:H2'	3:A:2424:A:H8	1.64	0.62
3:A:2853:A:H1'	13:L:158:LYS:HE3	1.82	0.62
24:X:40:LYS:NZ	24:X:57:MET:O	2.31	0.62
25:Y:53:VAL:HA	25:Y:56:ARG:HB2	1.81	0.62
31:e:52:ARG:O	31:e:55:GLU:HG3	2.00	0.62
47:x:750:LYS:HZ1	47:x:783:GLU:HB2	1.63	0.62
61:SZ:18:ARG:HA	61:SZ:82:LYS:HG2	1.82	0.62
70:SW:132:ARG:HB2	70:SW:140:ILE:HD12	1.80	0.62
81:SO:126:SER:OG	81:SO:127:ARG:N	2.29	0.62
2:2:556:A:H5'	78:Sg:55:ARG:HH22	1.63	0.62
3:A:2901:G:O2'	3:A:3024:A:N1	2.30	0.62
13:L:58:GLU:N	13:L:58:GLU:OE2	2.32	0.62
46:v:243:LEU:O	46:v:247:VAL:HG23	1.99	0.62
47:x:380:LEU:HD23	47:x:469:LEU:HD21	1.82	0.62
49:SE:80:MET:HE1	49:SE:83:MET:HB2	1.81	0.62
72:SY:42:ARG:HH11	72:SY:42:ARG:HA	1.65	0.62
81:SO:114:ASP:O	81:SO:123:ILE:N	2.24	0.62
2:2:435:C:OP2	75:Sc:50:LYS:NZ	2.33	0.62
2:2:1789:G:N7	61:SZ:132:ARG:NH2	2.47	0.62
3:A:928:C:H2'	3:A:929:A:C8	2.33	0.62
3:A:1103:A:N6	3:A:1363:A:O2'	2.33	0.62
3:A:1364:C:OP1	11:I:110:ARG:NH2	2.33	0.62
3:A:1794:G:O2'	3:A:1796:G:N2	2.32	0.62
3:A:1805:C:H2'	3:A:1806:A:H8	1.65	0.62
3:A:2331:C:H2'	3:A:2332:A:H8	1.65	0.62
81:SO:157:VAL:CG1	81:SO:208:GLY:HA3	2.29	0.62
2:2:768:C:H1'	70:SW:143:ILE:HG21	1.82	0.62
2:2:1305:U:H5''	2:2:1306:C:H5	1.65	0.62
2:2:1368:G:H5'	51:SI:69:LYS:HE3	1.82	0.62
3:A:1517:G:OP1	40:n:41:ARG:NH2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:731:VAL:N	47:x:770:ALA:O	2.32	0.62
81:SO:16:HIS:CB	81:SO:308:ASN:HD22	2.04	0.62
3:A:1104:G:H2'	3:A:1105:A:C8	2.34	0.62
3:A:3172:A:O2'	18:Q:101[A]:ARG:NH1	2.32	0.62
24:X:18:PRO:HA	24:X:51:ALA:HA	1.82	0.62
2:2:69:G:H1	2:2:82:U:H3	1.48	0.62
2:2:1067:C:H5''	64:SQ:150:VAL:HG12	1.82	0.62
3:A:314:U:H2'	3:A:315:C:H6	1.65	0.62
3:A:1362:G:H2'	3:A:1363:A:C8	2.33	0.62
3:A:1717:U:H2'	3:A:1718:G:H8	1.65	0.62
3:A:2305:G:N2	3:A:2305:G:OP2	2.33	0.62
3:A:2981:U:OP2	7:E:244:ARG:NH2	2.33	0.62
6:D:108:PRO:HG2	44:r:86:LEU:HD12	1.80	0.62
47:x:239:LYS:HB3	47:x:243:ARG:HH21	1.65	0.62
3:A:1888:U:OP1	7:E:247:ARG:NH1	2.33	0.62
75:Sc:92:CYS:HA	75:Sc:95:PHE:HD2	1.64	0.62
81:SO:99:THR:O	81:SO:100:TYR:C	2.42	0.62
3:A:314:U:H2'	3:A:315:C:C6	2.35	0.61
3:A:2335:G:N2	3:A:2339:C:O2'	2.33	0.61
3:A:2585:G:N7	80:J:47:SER:OG	2.27	0.61
14:M:86:VAL:HG21	14:M:112:LEU:HD23	1.81	0.61
51:SI:7:ARG:HD3	56:SF:33:GLY:HA3	1.81	0.61
66:SS:199:GLU:OE1	66:SS:199:GLU:N	2.33	0.61
2:2:871:G:H2'	2:2:872:G:H8	1.65	0.61
3:A:928:C:H2'	3:A:929:A:H8	1.65	0.61
3:A:1318:A:N7	18:Q:18[A]:ARG:NH1	2.48	0.61
3:A:3028:G:H5''	47:x:28:VAL:HG11	1.81	0.61
22:V:18:ASP:OD1	22:V:19:PHE:N	2.33	0.61
55:SB:42:LEU:HD22	55:SB:48:PHE:H	1.66	0.61
62:Se:79:ILE:H	62:Se:79:ILE:HD12	1.65	0.61
64:SQ:161:ILE:HA	64:SQ:164:ILE:HG22	1.82	0.61
80:J:151:VAL:HG23	80:J:199:ALA:HB2	1.82	0.61
81:SO:127:ARG:CZ	81:SO:150:TRP:HB3	2.30	0.61
81:SO:215:GLY:O	81:SO:240:VAL:HG13	2.00	0.61
2:2:1366:U:O2'	51:SI:7:ARG:NH1	2.33	0.61
8:F:8:VAL:HA	8:F:151:VAL:HG23	1.83	0.61
44:r:57:CYS:SG	44:r:60:CYS:N	2.73	0.61
44:r:89:MET:HE2	44:r:89:MET:HA	1.82	0.61
46:v:580:TRP:HA	46:v:583:ASN:HD21	1.64	0.61
47:x:539:GLU:HA	47:x:542:LEU:HD12	1.82	0.61
81:SO:170:ILE:CD1	81:SO:180:ALA:HA	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1059:G:H21	22:V:61:THR:HG21	1.63	0.61
3:A:1266:G:N2	3:A:1275:C:H41	1.96	0.61
3:A:1612:A:H5''	39:m:51:LEU:HD22	1.81	0.61
3:A:2660:G:H1'	3:A:2744:U:H1'	1.82	0.61
46:v:697:ALA:HB2	46:v:959:THR:HG21	1.82	0.61
56:SF:93:HIS:HB3	56:SF:102:LYS:HG3	1.81	0.61
3:A:2574:G:H2'	3:A:2575:G:C8	2.33	0.61
12:K:116:ASN:ND2	47:x:166:GLU:O	2.33	0.61
21:U:93:GLU:HB2	21:U:140:VAL:HG21	1.82	0.61
24:X:7:GLN:NE2	24:X:127:PRO:HD3	2.15	0.61
81:SO:176:LYS:HA	81:SO:199:ILE:HD11	1.80	0.61
2:2:1345:A:H1'	79:SJ:56:VAL:HG23	1.83	0.61
2:2:1695:G:H2'	2:2:1696:G:C8	2.35	0.61
3:A:2331:C:H2'	3:A:2332:A:C8	2.36	0.61
39:m:14:LEU:HD12	39:m:17:ARG:HD3	1.83	0.61
51:SI:113:ILE:HD11	51:SI:132:LEU:HG	1.82	0.61
55:SB:63:GLN:HE21	55:SB:66:GLN:HB3	1.66	0.61
72:SY:72:MET:N	72:SY:72:MET:SD	2.68	0.61
2:2:67:A:N6	2:2:83:G:O2'	2.33	0.61
3:A:1141:C:O2'	3:A:1153:A:N3	2.31	0.61
27:a:56:VAL:HG22	27:a:106:ILE:HA	1.83	0.61
2:2:1477:G:H2'	2:2:1478:G:H8	1.66	0.61
3:A:2846:U:O2	41:o:122:ARG:NH2	2.25	0.61
63:SP:16:LEU:HD13	63:SP:172:LEU:HD11	1.83	0.61
68:SU:72:LYS:HG3	68:SU:73:VAL:HG13	1.83	0.61
81:SO:117:LYS:NZ	81:SO:163:ASP:OD1	2.33	0.61
81:SO:179:LYS:NZ	81:SO:192:PHE:H	1.98	0.61
81:SO:213:SER:H	81:SO:220:ILE:HG23	1.66	0.61
3:A:520:U:N3	8:F:347:THR:O	2.32	0.61
3:A:1035:G:H2'	3:A:1036:A:H8	1.64	0.61
7:E:238:LEU:HD21	7:E:250:ALA:HB2	1.82	0.61
13:L:170:LYS:HA	13:L:177:ASP:HA	1.80	0.61
32:f:25:PHE:HA	32:f:28:ARG:HG3	1.82	0.61
32:f:54:GLU:N	32:f:54:GLU:OE2	2.31	0.61
46:v:539:PRO:C	46:v:541:SER:H	2.07	0.61
60:SD:63:VAL:HB	60:SD:94:ALA:HB2	1.82	0.61
72:SY:114:ARG:O	72:SY:118:ILE:HD12	2.00	0.61
81:SO:144:LEU:HD11	81:SO:181:TRP:HD1	1.66	0.61
2:2:395:U:O4	2:2:399:A:N7	2.33	0.61
3:A:370:U:H3	3:A:374:A:H62	1.49	0.61
3:A:407:A:H4'	3:A:1397:C:H5'	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:23:ARG:NH1	9:G:23:ARG:O	2.33	0.61
38:l:46:SER:HB3	38:l:54:LYS:HZ2	1.64	0.61
46:v:344:VAL:HG12	46:v:348:LEU:HD23	1.82	0.61
81:SO:297:ASP:OD2	81:SO:299:GLN:HB2	2.01	0.61
1:S:36:LEU:HD21	8:F:295:ILE:HD11	1.82	0.60
6:D:95:SER:O	6:D:100:ASN:ND2	2.32	0.60
32:f:73:LEU:HA	32:f:95:PRO:HA	1.82	0.60
35:i:22:VAL:HG12	35:i:30:LEU:HD12	1.83	0.60
46:v:642:ASN:HD21	46:v:928:ARG:HH22	1.48	0.60
3:A:312:C:H2'	3:A:313:A:H8	1.65	0.60
17:P:122:ASN:OD1	17:P:123:GLN:N	2.33	0.60
47:x:147:LEU:HD22	47:x:193:ALA:HB2	1.82	0.60
62:Se:30:ILE:H	62:Se:30:ILE:HD12	1.66	0.60
63:SP:88:LYS:O	63:SP:88:LYS:NZ	2.33	0.60
70:SW:131:GLN:N	70:SW:131:GLN:OE1	2.34	0.60
2:2:249:U:H3	71:SX:17:PRO:HG2	1.66	0.60
2:2:1341:A:P	81:SO:63:GLY:HA2	2.41	0.60
2:2:1488:G:H3'	2:2:1515:A:H61	1.66	0.60
2:2:1628:U:H2'	2:2:1629:G:C8	2.36	0.60
3:A:562:C:H5''	21:U:71:LYS:HG3	1.81	0.60
3:A:2457:G:H5'	3:A:2482:U:H1'	1.83	0.60
9:G:236:LEU:HA	9:G:239:ILE:HG12	1.82	0.60
17:P:137:PRO:HG3	17:P:151:ILE:HG22	1.83	0.60
44:r:10:ILE:O	44:r:13:LYS:NZ	2.34	0.60
44:r:11:THR:HG21	44:r:26:VAL:HG23	1.83	0.60
46:v:364:ILE:HD12	46:v:367:ILE:HD11	1.82	0.60
64:SQ:33:LYS:HE3	64:SQ:95:ASN:HB3	1.84	0.60
68:SU:51:VAL:HG23	68:SU:53:GLY:H	1.67	0.60
70:SW:54:ARG:HG2	70:SW:57:ARG:HH12	1.67	0.60
75:Sc:79:ASN:HD21	75:Sc:81:LYS:HE3	1.65	0.60
11:I:224:ILE:H	11:I:224:ILE:HD12	1.66	0.60
24:X:15:LEU:HD22	24:X:51:ALA:HB3	1.82	0.60
38:l:19:CYS:SG	38:l:22:CYS:HB3	2.42	0.60
61:SZ:19:ILE:HG12	61:SZ:28:VAL:HG12	1.83	0.60
75:Sc:27:ASN:O	75:Sc:31:LYS:NZ	2.32	0.60
81:SO:6:VAL:HG11	81:SO:319:ASN:ND2	2.15	0.60
2:2:603:U:H2'	2:2:604:A:C8	2.37	0.60
2:2:1097:U:H6	65:SR:168:ARG:HE	1.48	0.60
2:2:1727:G:H2'	2:2:1728:A:C8	2.36	0.60
3:A:1527:C:N4	3:A:1528:G:O6	2.34	0.60
3:A:1756:C:H2'	3:A:1757:A:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1887:A:H4'	7:E:227:GLU:HA	1.83	0.60
3:A:2671:A:O2'	14:M:98:ALA:N	2.34	0.60
3:A:3089:C:OP1	7:E:222:LYS:NZ	2.29	0.60
13:L:145:LYS:O	13:L:149:VAL:HG12	2.01	0.60
17:P:157:LYS:O	17:P:162:ARG:NH2	2.34	0.60
47:x:28:VAL:HG22	47:x:108:HIS:CD2	2.34	0.60
47:x:744:TYR:CE1	47:x:747:LEU:HD12	2.36	0.60
2:2:961:U:H2'	2:2:962:C:C6	2.36	0.60
3:A:836:A:H2'	3:A:837:A:C8	2.36	0.60
3:A:2433:U:H1'	17:P:125:SER:HB3	1.83	0.60
3:A:3075:G:H2'	3:A:3076:C:C6	2.35	0.60
47:x:804:LEU:H	47:x:804:LEU:HD23	1.66	0.60
63:SP:88:LYS:HE3	63:SP:201:LEU:HD21	1.83	0.60
2:2:16:G:N2	2:2:1138:A:H62	1.96	0.60
3:A:215:G:H5''	27:a:12:ARG:HD3	1.84	0.60
3:A:1105:A:H2'	3:A:1106:G:H8	1.67	0.60
3:A:2364:G:N2	3:A:2376:G:N7	2.49	0.60
3:A:2699:G:O2'	22:V:15:PHE:O	2.20	0.60
10:H:131:LYS:HE3	10:H:133:GLU:HB3	1.83	0.60
13:L:12:GLN:HB3	13:L:128:ARG:HH21	1.65	0.60
14:M:90:GLN:OE1	14:M:91:LEU:N	2.35	0.60
21:U:6:GLU:HB3	21:U:64:ILE:HB	1.84	0.60
2:2:561:G:H2'	2:2:562:G:H8	1.67	0.60
2:2:733:A:N3	2:2:736:C:N4	2.49	0.60
3:A:2374:C:O2	7:E:256:HIS:NE2	2.34	0.60
3:A:2555:G:N2	28:b:135:ARG:O	2.34	0.60
9:G:78:ALA:HB2	9:G:105:ILE:HD13	1.83	0.60
18:Q:154[A]:ALA:HA	18:Q:157[A]:GLU:OE1	2.02	0.60
32:f:15:ASN:HA	32:f:70:ARG:HA	1.82	0.60
47:x:344:SER:HB2	47:x:348:ALA:H	1.66	0.60
60:SD:47:GLU:OE1	60:SD:47:GLU:N	2.35	0.60
3:A:618:C:OP1	19:R:173:ARG:NH2	2.35	0.60
3:A:638:C:N4	3:A:639:G:O6	2.35	0.60
3:A:894:G:H4'	3:A:895:A:H5'	1.83	0.60
3:A:2184:U:H2'	3:A:2185:G:H8	1.67	0.60
8:F:54:GLU:OE1	8:F:54:GLU:N	2.35	0.60
15:N:90:ALA:HB1	15:N:95:ILE:HB	1.83	0.60
46:v:572:HIS:HA	46:v:951:SER:HB3	1.84	0.60
51:SI:64:HIS:HA	51:SI:67:MET:HB2	1.82	0.60
56:SF:40:GLU:H	56:SF:45:ARG:HH22	1.48	0.60
64:SQ:164:ILE:O	64:SQ:168:ILE:HG22	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:7:LEU:HD22	81:SO:274:LEU:HB3	1.84	0.60
2:2:763:G:H5''	70:SW:78:ARG:HH22	1.66	0.60
2:2:883:C:N3	2:2:945:U:O4	2.35	0.60
3:A:127:G:H2'	3:A:128:G:H8	1.67	0.60
3:A:353:G:O6	38:l:55:ARG:NH1	2.35	0.60
3:A:1298:C:O2'	41:o:113:ARG:NH2	2.32	0.60
18:Q:37[A]:ARG:HD2	18:Q:108[A]:ILE:HD11	1.84	0.60
2:2:1628:U:H2'	2:2:1629:G:H8	1.67	0.59
3:A:2185:G:O2'	3:A:2314:U:OP2	2.20	0.59
40:n:45:ARG:HD2	40:n:46:ARG:HH12	1.67	0.59
47:x:520:THR:HG22	47:x:530:VAL:HA	1.84	0.59
81:SO:20:VAL:HG23	81:SO:36:ALA:O	2.02	0.59
81:SO:189:GLU:HB3	81:SO:228:LYS:HE3	1.83	0.59
1:S:66:ARG:NH2	3:A:785:G:OP1	2.35	0.59
3:A:939:U:OP2	29:c:26:ARG:NH1	2.35	0.59
3:A:1565:G:H1'	3:A:1576:G:C4	2.36	0.59
3:A:3108:G:N3	12:K:163:GLN:NE2	2.50	0.59
15:N:5:LYS:H	15:N:5:LYS:HZ3	1.48	0.59
17:P:103:GLU:HG3	17:P:160:GLU:HB2	1.84	0.59
46:v:386:ILE:HD12	46:v:403:LEU:HD22	1.85	0.59
49:SE:111:MET:HE3	57:SH:119:ILE:HD11	1.83	0.59
53:SM:20:GLN:N	53:SM:20:GLN:OE1	2.35	0.59
63:SP:176:LEU:HA	63:SP:179:ARG:HD3	1.83	0.59
81:SO:11:GLY:O	81:SO:311:ARG:HG2	2.02	0.59
81:SO:12:THR:HA	81:SO:311:ARG:HG2	1.84	0.59
2:2:143:G:OP1	67:ST:143:LYS:NZ	2.29	0.59
2:2:554:C:O2	2:2:556:A:N6	2.35	0.59
2:2:1026:A:N7	2:2:1772:C:O2'	2.30	0.59
2:2:1743:U:H2'	2:2:1744:A:C8	2.37	0.59
3:A:911:C:H42	6:D:3:ARG:HH11	1.48	0.59
3:A:1695:U:O2'	3:A:1749:A:N1	2.33	0.59
3:A:3019:U:O3'	47:x:317:LYS:NZ	2.35	0.59
9:G:50:ARG:NH1	9:G:147:ASP:OD2	2.35	0.59
21:U:112:ALA:O	21:U:115:ARG:NH1	2.34	0.59
41:o:86:ALA:O	41:o:90:ASN:HB2	2.02	0.59
50:SA:21:LEU:HD12	50:SA:25:PHE:HE1	1.66	0.59
3:A:1044:U:H1'	13:L:92:HIS:CD2	2.37	0.59
3:A:3044:G:H2'	3:A:3045:G:H8	1.67	0.59
9:G:32:GLN:OE1	9:G:32:GLN:N	2.25	0.59
9:G:122:VAL:O	9:G:248:ARG:NH2	2.35	0.59
16:O:36:VAL:HG12	16:O:72:LEU:HD21	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:150:TRP:CD1	17:P:150:TRP:H	2.20	0.59
21:U:132:THR:HB	21:U:144:LEU:HD22	1.83	0.59
40:n:27:ILE:HG23	40:n:30:ARG:HH21	1.68	0.59
60:SD:97:LEU:HA	60:SD:100:TRP:HB2	1.82	0.59
65:SR:168:ARG:HH11	65:SR:170:ILE:HD11	1.67	0.59
69:SV:172:ARG:HE	69:SV:175:GLN:HG3	1.67	0.59
9:G:97:ALA:O	9:G:101:THR:HG23	2.03	0.59
24:X:109:MET:HA	24:X:109:MET:HE3	1.83	0.59
24:X:121:GLU:OE1	24:X:121:GLU:N	2.22	0.59
38:l:28:HIS:CE1	38:l:30:GLN:H	2.20	0.59
74:Sb:27:ILE:HB	74:Sb:61:ILE:HB	1.84	0.59
74:Sb:105:THR:N	74:Sb:124:LYS:O	2.30	0.59
75:Sc:29:TYR:HE1	75:Sc:33:LEU:HD11	1.67	0.59
1:S:39:ARG:NH2	8:F:300:ARG:O	2.35	0.59
1:S:173:GLU:OE2	29:c:49:HIS:ND1	2.35	0.59
3:A:1310:G:N2	3:A:2381:G:OP1	2.35	0.59
3:A:2597:U:H2'	3:A:2598:G:H8	1.67	0.59
11:I:107:ARG:NH2	11:I:199:ASN:O	2.35	0.59
13:L:34:TYR:HE2	13:L:92:HIS:CE1	2.21	0.59
32:f:23:VAL:HG13	32:f:28:ARG:HG2	1.84	0.59
36:j:53:CYS:O	36:j:57:VAL:HG12	2.02	0.59
36:j:77:PRO:HB2	36:j:80:LEU:HD23	1.84	0.59
64:SQ:83:LYS:HD2	64:SQ:83:LYS:C	2.28	0.59
67:ST:52:ILE:H	67:ST:52:ILE:HD12	1.66	0.59
3:A:64:G:OP2	17:P:169:LYS:NZ	2.33	0.59
3:A:66:A:H61	3:A:76:G:H1'	1.68	0.59
3:A:348:A:N3	3:A:352:A:O2'	2.35	0.59
3:A:919:U:H5''	3:A:920:A:H5'	1.84	0.59
3:A:1601:U:OP1	20:T:42:ARG:NH2	2.36	0.59
3:A:2573:G:H2'	3:A:2574:G:H8	1.68	0.59
35:i:25:THR:HG23	35:i:27:GLY:H	1.66	0.59
77:Sf:56:CYS:SG	77:Sf:57:GLU:N	2.75	0.59
81:SO:13:LEU:O	81:SO:311:ARG:NH1	2.35	0.59
2:2:818:C:N4	2:2:819:G:N7	2.50	0.59
2:2:1591:C:H2'	2:2:1592:A:H8	1.68	0.59
3:A:229:G:H5''	27:a:4:GLN:H	1.68	0.59
3:A:1062:A:H5''	3:A:1063:G:H5'	1.84	0.59
19:R:48:LEU:HD22	19:R:88:VAL:HG23	1.84	0.59
20:T:138:LEU:O	20:T:142:ILE:HG12	2.02	0.59
24:X:85:TRP:NE1	24:X:121:GLU:OE2	2.35	0.59
47:x:26:ALA:O	47:x:32:LYS:NZ	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SE:80:MET:HE1	49:SE:83:MET:HE3	1.83	0.59
3:A:21:G:H3'	3:A:22:G:C8	2.36	0.59
3:A:2228:A:H2'	3:A:2229:A:H8	1.68	0.59
3:A:2847:A:OP1	41:o:122:ARG:NH1	2.36	0.59
3:A:3181:C:H2'	3:A:3182:G:H8	1.67	0.59
15:N:172:LEU:O	15:N:176:GLU:HG2	2.03	0.59
29:c:71:PRO:HG2	29:c:109:TYR:HA	1.85	0.59
47:x:10:ARG:HD2	47:x:13:MET:HE3	1.84	0.59
60:SD:46:ARG:HG3	60:SD:47:GLU:OE1	2.03	0.59
64:SQ:96:LEU:HD23	64:SQ:96:LEU:H	1.68	0.59
1:S:54:LEU:HB2	1:S:59:ARG:HG3	1.85	0.59
1:S:123:THR:OG1	1:S:125:ASP:OD1	2.20	0.59
2:2:23:G:H1	2:2:602:U:H3	1.49	0.59
2:2:29:U:H2'	2:2:30:G:H8	1.68	0.59
2:2:1305:U:H5''	2:2:1306:C:C5	2.37	0.59
2:2:1547:A:OP2	57:SH:123:ARG:NH1	2.31	0.59
3:A:1266:G:H21	3:A:1275:C:H41	1.51	0.59
3:A:1596:C:O2'	3:A:1696:A:N3	2.33	0.59
3:A:1717:U:H3	3:A:1727:G:H1	1.51	0.59
17:P:44:ARG:NH1	17:P:120:TRP:O	2.36	0.59
29:c:126:LYS:HG2	29:c:146:GLU:HB3	1.85	0.59
40:n:27:ILE:O	40:n:33:ASN:ND2	2.36	0.59
47:x:39:LEU:HB2	47:x:334:LEU:HD22	1.85	0.59
55:SB:176:THR:HG22	55:SB:180:ARG:HH12	1.67	0.59
74:Sb:7:LEU:HD21	74:Sb:33:VAL:HG23	1.85	0.59
80:J:220:ALA:O	80:J:225:LYS:NZ	2.35	0.59
3:A:1084:A:H2'	3:A:1085:A:C8	2.38	0.58
3:A:2655:U:H3'	43:q:3:ASN:HB3	1.85	0.58
3:A:2945:G:O2'	3:A:2948:C:OP2	2.20	0.58
3:A:3379:C:H4'	7:E:315:GLY:HA2	1.85	0.58
8:F:304:GLN:N	8:F:304:GLN:OE1	2.36	0.58
11:I:95:ILE:O	11:I:100:ARG:NH1	2.35	0.58
12:K:23:ARG:HE	12:K:39:LYS:HD3	1.67	0.58
26:Z:108:LEU:HD13	26:Z:125:ARG:HG3	1.85	0.58
68:SU:49:ILE:HB	68:SU:57:ALA:HB3	1.83	0.58
81:SO:150:TRP:CD1	81:SO:174:ASN:HD22	2.17	0.58
2:2:1358:G:H2'	2:2:1359:C:C6	2.38	0.58
2:2:1611:A:O2'	55:SB:95:ASN:O	2.22	0.58
3:A:1237:G:O6	3:A:1251:A:N1	2.36	0.58
3:A:2461:A:O2'	3:A:2485:A:N1	2.34	0.58
3:A:2947:G:C2	7:E:250:ALA:HB1	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:27:HIS:HE1	47:x:130:ASP:H	1.51	0.58
81:SO:23:LEU:HD23	81:SO:33:LEU:HD21	1.85	0.58
81:SO:179:LYS:HZ2	81:SO:192:PHE:H	1.48	0.58
81:SO:200:ASN:ND2	81:SO:241:PHE:HA	2.16	0.58
81:SO:268:GLN:O	81:SO:269:TYR:HD1	1.85	0.58
2:2:798:C:H2'	2:2:799:A:C8	2.37	0.58
2:2:1641:C:H2'	2:2:1642:G:H8	1.68	0.58
3:A:76:G:O2'	15:N:100:ARG:NE	2.34	0.58
3:A:1191:U:OP2	18:Q:49[A]:ARG:NH1	2.35	0.58
3:A:1661:G:H2'	3:A:1662:G:C8	2.37	0.58
3:A:2099:A:H2'	3:A:2100:A:C8	2.39	0.58
3:A:3395:G:N2	3:A:3396:U:O4	2.35	0.58
16:O:42:LYS:HA	16:O:60:LEU:HD23	1.85	0.58
25:Y:1:MET:SD	25:Y:1:MET:N	2.77	0.58
33:g:102:ALA:HA	33:g:105:ARG:HB2	1.85	0.58
37:k:60:LEU:HD23	37:k:64:SER:HB3	1.85	0.58
51:SI:35:ASP:H	51:SI:53:TRP:HZ2	1.51	0.58
54:SG:30:THR:CG2	81:SO:85:TRP:HH2	2.14	0.58
74:Sb:119:LYS:HA	74:Sb:119:LYS:HE3	1.85	0.58
79:SJ:25:THR:HG23	79:SJ:90:TYR:HB3	1.84	0.58
2:2:110:U:OP1	2:2:753:A:O2'	2.22	0.58
2:2:604:A:H2'	2:2:605:A:O4'	2.02	0.58
2:2:972:G:H21	3:A:846:A:N6	2.01	0.58
3:A:640:U:OP1	29:c:21:ARG:NH2	2.36	0.58
3:A:2234:G:HO2'	3:A:2603:G:HO2'	1.50	0.58
3:A:2900:A:O2'	3:A:3025:C:O2'	2.21	0.58
17:P:6:TYR:HE1	37:k:40:VAL:HG12	1.68	0.58
29:c:128:ARG:HG2	37:k:8:ALA:HB2	1.85	0.58
46:v:799:ILE:CG2	46:v:851:MET:HG2	2.34	0.58
48:SC:35:ILE:HG12	48:SC:37:THR:HG22	1.85	0.58
67:ST:67:VAL:HG12	67:ST:69:LEU:H	1.68	0.58
81:SO:150:TRP:HE1	81:SO:174:ASN:HD22	1.49	0.58
81:SO:275:ARG:HG3	81:SO:276:PRO:HD2	1.85	0.58
1:S:95:GLU:N	1:S:95:GLU:OE1	2.36	0.58
3:A:182:U:H3	3:A:234:G:H1	1.51	0.58
3:A:1145:G:N2	3:A:1331:U:O2'	2.32	0.58
3:A:2196:C:H2'	3:A:2242:A:N6	2.19	0.58
3:A:3016:A:H2'	3:A:3017:A:H8	1.68	0.58
17:P:13:LYS:HZ1	37:k:44:VAL:HG22	1.69	0.58
20:T:28:GLU:O	20:T:32:ILE:HG22	2.04	0.58
27:a:27:ARG:NH1	27:a:75:ARG:O	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:t:53:G:H2'	45:t:54:A:H8	1.68	0.58
48:SC:62:GLN:NE2	53:SM:25:SER:OG	2.37	0.58
51:SI:36:ILE:O	57:SH:41:ARG:NH2	2.36	0.58
63:SP:123:VAL:HG11	63:SP:133:ILE:HD11	1.86	0.58
81:SO:295:SER:H	81:SO:301:LEU:CD1	2.17	0.58
2:2:1337:A:O2'	56:SF:123:ARG:NH2	2.36	0.58
3:A:1188:U:OP1	3:A:1210:U:O2'	2.21	0.58
3:A:1560:G:O2'	3:A:1561:G:O4'	2.21	0.58
3:A:1829:G:H5''	3:A:1830:G:H5'	1.84	0.58
3:A:3233:C:H2'	3:A:3234:A:C8	2.39	0.58
14:M:80:LEU:O	14:M:84:LEU:HD22	2.02	0.58
28:b:51:LEU:HB2	28:b:65:ARG:HE	1.68	0.58
35:i:104:VAL:HA	35:i:107:GLU:OE1	2.04	0.58
47:x:716:GLY:HA2	47:x:719:LEU:HD12	1.86	0.58
62:Se:21:VAL:HG22	62:Se:30:ILE:HD11	1.86	0.58
81:SO:19:TRP:HE1	81:SO:306:THR:HB	1.67	0.58
81:SO:228:LYS:HB2	81:SO:229:LYS:NZ	2.19	0.58
2:2:351:C:OP1	2:2:630:A:O2'	2.21	0.58
3:A:994:G:N2	3:A:995:U:O4	2.31	0.58
3:A:1047:A:N3	3:A:2633:U:O2'	2.37	0.58
3:A:1682:U:H3'	23:W:85:LYS:HE2	1.86	0.58
19:R:118:GLN:NE2	19:R:120:ASN:OD1	2.37	0.58
55:SB:80:LYS:HD3	55:SB:83:ARG:HE	1.68	0.58
55:SB:165:LEU:O	55:SB:169:ASN:ND2	2.37	0.58
66:SS:162:ILE:HG13	66:SS:164:LEU:H	1.68	0.58
71:SX:96:LYS:HG3	71:SX:97:TYR:HD1	1.67	0.58
81:SO:233:THR:O	81:SO:234:LEU:HG	2.03	0.58
2:2:278:U:OP2	2:2:279:G:N2	2.37	0.58
2:2:1524:A:N3	2:2:1590:G:O2'	2.36	0.58
3:A:3050:U:O2'	25:Y:16:GLY:O	2.22	0.58
16:O:77:ARG:O	16:O:81:VAL:HG12	2.04	0.58
19:R:25:SER:OG	19:R:28:ASN:OD1	2.21	0.58
24:X:79:VAL:HG23	24:X:80:ARG:HD3	1.86	0.58
27:a:48:LEU:HD12	27:a:49:PRO:HD2	1.84	0.58
36:j:76:GLN:O	36:j:81:ARG:NH2	2.37	0.58
38:l:29:VAL:HG23	38:l:30:GLN:HG3	1.86	0.58
46:v:962:VAL:HB	46:v:964:ALA:H	1.69	0.58
50:SA:66:ILE:H	50:SA:66:ILE:HD12	1.69	0.58
61:SZ:105:LEU:HD12	61:SZ:110:LEU:HD23	1.86	0.58
81:SO:116:ASP:OD1	81:SO:117:LYS:N	2.28	0.58
2:2:68:A:OP1	67:ST:171:LYS:NZ	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1098:A:OP2	22:V:108:ARG:NH2	2.37	0.58
3:A:2349:U:O2'	3:A:3307:A:N3	2.37	0.58
3:A:2446:U:H2'	3:A:2447:A:C8	2.39	0.58
12:K:18:VAL:HG12	12:K:27:VAL:HG12	1.85	0.58
23:W:33:TYR:HA	23:W:83:TYR:HE2	1.68	0.58
32:f:29:ALA:O	32:f:33:VAL:HG23	2.03	0.58
51:SI:114:VAL:HG23	51:SI:124:ILE:HA	1.86	0.58
66:SS:100:ARG:HG3	66:SS:114:ILE:HG13	1.86	0.58
69:SV:48:THR:OG1	69:SV:51:GLY:O	2.21	0.58
73:Sa:44:ARG:NH1	73:Sa:44:ARG:O	2.36	0.58
2:2:1641:C:H2'	2:2:1642:G:C8	2.39	0.58
3:A:96:G:H5'	15:N:15:ARG:NH2	2.18	0.58
3:A:2328:U:H2'	3:A:2329:C:H6	1.69	0.58
3:A:2366:C:H2'	3:A:2367:A:H8	1.69	0.58
11:I:30:ARG:HG2	11:I:34:LYS:HE2	1.84	0.58
46:v:490:ARG:NH2	46:v:560:ASN:O	2.35	0.58
46:v:532:THR:HG22	46:v:533:ASP:H	1.69	0.58
46:v:775:ILE:HG12	46:v:777:GLU:H	1.69	0.58
46:v:918:VAL:HG23	46:v:946:ILE:HB	1.86	0.58
47:x:758:GLU:H	47:x:769:LYS:HZ3	1.51	0.58
57:SH:61:LEU:HD21	57:SH:66:LEU:HB3	1.86	0.58
67:ST:199:GLN:HG2	67:ST:202:ARG:HH21	1.69	0.58
81:SO:129:LYS:HE2	81:SO:148:ASN:C	2.28	0.58
81:SO:153:GLN:OE1	81:SO:201:THR:HA	2.04	0.58
1:S:92:ARG:HH22	3:A:785:G:H5''	1.69	0.57
2:2:248:U:H5'	71:SX:36:LYS:HG2	1.86	0.57
2:2:447:U:OP1	66:SS:49:ARG:NH2	2.37	0.57
2:2:499:U:H6	2:2:500:C:H5	1.50	0.57
2:2:895:G:H2'	2:2:896:U:C6	2.39	0.57
3:A:1270:A:C8	47:x:744:TYR:CE2	2.91	0.57
3:A:1426:C:OP2	29:c:4:ARG:NH2	2.36	0.57
3:A:2683:U:H5'	14:M:18:VAL:HG21	1.86	0.57
3:A:2786:G:H5'	43:q:38:GLN:HG2	1.85	0.57
46:v:526:LEU:HB3	46:v:531:PHE:HB2	1.86	0.57
47:x:611:ASP:OD1	47:x:612:PHE:N	2.36	0.57
48:SC:50:THR:HG22	48:SC:55:VAL:HG13	1.85	0.57
53:SM:52:PHE:O	53:SM:53:ASN:C	2.47	0.57
54:SG:87:GLU:HG3	54:SG:89:SER:H	1.69	0.57
74:Sb:2:THR:OG1	74:Sb:3:ARG:N	2.36	0.57
15:N:55:ARG:O	15:N:115:ARG:NH2	2.37	0.57
18:Q:19[A]:LEU:O	18:Q:23[A]:VAL:HG12	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:749:LYS:HG3	47:x:750:LYS:HG2	1.86	0.57
49:SE:72:LYS:NZ	49:SE:91:GLY:O	2.37	0.57
53:SM:48:ASN:HA	53:SM:52:PHE:HB3	1.86	0.57
66:SS:157:ASN:O	66:SS:157:ASN:ND2	2.37	0.57
80:J:99:PRO:HG2	80:J:190:VAL:HA	1.86	0.57
81:SO:312:VAL:HA	81:SO:313:TRP:CE3	2.39	0.57
2:2:246:G:N2	71:SX:38:ALA:O	2.28	0.57
2:2:853:G:OP1	20:T:173:ARG:NH1	2.37	0.57
2:2:884:A:H2'	2:2:885:G:C8	2.38	0.57
3:A:837:A:OP1	44:r:5:THR:OG1	2.23	0.57
3:A:3226:A:C6	3:A:3260:G:N1	2.73	0.57
47:x:640:GLY:HA2	47:x:668:GLN:HE22	1.68	0.57
47:x:823:ARG:HH11	47:x:828:MET:HE3	1.69	0.57
57:SH:23:ASP:OD1	57:SH:34:THR:HG21	2.04	0.57
74:Sb:111:MET:N	74:Sb:111:MET:SD	2.77	0.57
2:2:776:G:N7	76:Sd:11:LYS:NZ	2.44	0.57
3:A:1824:U:O2'	39:m:17:ARG:NH1	2.38	0.57
3:A:2137:U:OP2	3:A:2142:A:N6	2.37	0.57
3:A:2157:G:O6	6:D:152:SER:OG	2.23	0.57
3:A:2530:G:H21	3:A:2531:C:H41	1.50	0.57
29:c:83:PRO:HD2	29:c:86:LYS:HD2	1.86	0.57
57:SH:18:LEU:HD12	57:SH:101:LEU:HD12	1.86	0.57
66:SS:145:ARG:HH11	66:SS:145:ARG:HA	1.69	0.57
2:2:45:U:O2	2:2:433:C:O2'	2.20	0.57
2:2:327:U:O4	2:2:328:A:N6	2.37	0.57
2:2:907:A:O2'	2:2:997:G:O2'	2.20	0.57
2:2:1650:U:H2'	2:2:1651:A:C8	2.39	0.57
3:A:1868:G:O2'	3:A:2118:C:O2'	2.21	0.57
12:K:93:VAL:HG23	41:o:82:LEU:HB3	1.87	0.57
24:X:46:LEU:HD23	24:X:47:ASN:HB2	1.85	0.57
41:o:79:GLU:O	41:o:82:LEU:N	2.38	0.57
46:v:472:MET:SD	46:v:472:MET:N	2.68	0.57
54:SG:108:ASP:HB3	54:SG:119:LEU:HD22	1.86	0.57
56:SF:31:VAL:HG12	56:SF:67:VAL:HB	1.85	0.57
81:SO:190:ALA:HB3	81:SO:228:LYS:HG3	1.86	0.57
2:2:127:G:O6	67:ST:202:ARG:NH2	2.38	0.57
2:2:1654:G:N2	2:2:1745:G:H2'	2.19	0.57
3:A:243:G:OP1	36:j:115:LYS:NZ	2.38	0.57
3:A:549:U:H2'	3:A:550:A:H8	1.70	0.57
3:A:899:U:H2'	3:A:900:G:H8	1.69	0.57
3:A:1793:C:OP2	44:r:49:ARG:NH2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2317:A:H2'	3:A:2318:U:C6	2.38	0.57
11:I:197:GLN:OE1	11:I:197:GLN:N	2.24	0.57
19:R:60:PHE:HB3	19:R:64:ASN:HB3	1.87	0.57
32:f:8:VAL:HG12	32:f:77:ARG:HH12	1.69	0.57
36:j:105:ARG:O	36:j:109:ILE:HG13	2.04	0.57
38:l:25:ARG:NH1	40:n:51:ILE:O	2.37	0.57
50:SA:167:PHE:HE1	50:SA:190:ARG:HG3	1.70	0.57
1:S:79:LYS:NZ	3:A:729:C:O2'	2.38	0.57
2:2:1787:C:H2'	2:2:1788:G:H8	1.69	0.57
3:A:1395:G:H1	3:A:1415:U:H3	1.52	0.57
66:SS:56:LEU:HD23	66:SS:56:LEU:H	1.69	0.57
76:Sd:2:SER:HB2	76:Sd:32:ARG:HH21	1.69	0.57
2:2:123:G:OP1	66:SS:77:ARG:NH1	2.38	0.57
2:2:1580:C:H4'	56:SF:137:ARG:HB2	1.85	0.57
3:A:1717:U:H2'	3:A:1718:G:C8	2.39	0.57
3:A:2363:A:H2'	3:A:2364:G:C8	2.40	0.57
3:A:2686:A:O3'	9:G:8:LYS:NZ	2.37	0.57
3:A:3082:C:H2'	3:A:3083:G:H8	1.69	0.57
10:H:14:ASP:OD1	10:H:14:ASP:N	2.37	0.57
13:L:109:ASP:N	13:L:109:ASP:OD1	2.38	0.57
62:Se:87:ARG:HH21	62:Se:91:ASP:HA	1.70	0.57
81:SO:271:VAL:HG13	81:SO:272:ASP:OD1	2.04	0.57
2:2:332:U:H5''	69:SV:31:ARG:HH21	1.68	0.57
2:2:867:G:H1	2:2:961:U:H3	1.53	0.57
3:A:288:C:H2'	3:A:289:A:H8	1.70	0.57
3:A:2524:A:H1'	3:A:2525:G:C8	2.40	0.57
3:A:2535:A:H1'	3:A:2536:A:H5'	1.86	0.57
7:E:285:VAL:O	7:E:287:LYS:NZ	2.37	0.57
34:h:51:TYR:HB3	34:h:67:MET:HB2	1.86	0.57
56:SF:81:ILE:H	56:SF:81:ILE:HD12	1.70	0.57
67:ST:27:PHE:HZ	67:ST:111:LEU:HD21	1.69	0.57
68:SU:49:ILE:HG23	68:SU:175:LYS:HD3	1.87	0.57
2:2:153:G:H2'	2:2:154:G:C8	2.39	0.57
2:2:773:C:O2'	2:2:787:G:N2	2.38	0.57
2:2:1434:U:O4	2:2:1436:A:N6	2.38	0.57
8:F:11:LEU:HD11	8:F:155:ASP:HB3	1.86	0.57
8:F:34:ILE:O	8:F:38:VAL:HG23	2.05	0.57
9:G:214:ASP:OD1	9:G:215:ASP:N	2.37	0.57
13:L:52:LEU:H	13:L:134:ILE:HG23	1.69	0.57
46:v:128:LEU:HD11	46:v:155:MET:HE1	1.87	0.57
46:v:508:LEU:HD23	46:v:519:LYS:HE3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SR:87:GLN:OE1	65:SR:87:GLN:N	2.38	0.57
66:SS:48:LEU:HD11	66:SS:61:VAL:HG13	1.87	0.57
81:SO:213:SER:OG	81:SO:220:ILE:HA	2.05	0.57
1:S:43:PRO:HB2	3:A:728:G:H5''	1.87	0.56
2:2:1609:U:H5''	56:SF:75:VAL:HG22	1.86	0.56
3:A:2991:A:P	7:E:20:LYS:HB2	2.45	0.56
24:X:34:LEU:HD12	24:X:60:ALA:HB3	1.87	0.56
46:v:472:MET:HB2	46:v:565:LEU:HD11	1.86	0.56
47:x:461:GLN:O	47:x:513:LYS:NZ	2.37	0.56
47:x:578:LYS:H	47:x:711:ARG:HD3	1.70	0.56
50:SA:25:PHE:HD2	50:SA:50:ILE:HD12	1.70	0.56
53:SM:55:PHE:HE2	79:SJ:85:ARG:HG3	1.70	0.56
81:SO:117:LYS:HE2	81:SO:158:PRO:HA	1.87	0.56
2:2:891:A:H2'	2:2:892:A:H8	1.70	0.56
3:A:655:C:H2'	3:A:656:A:C8	2.40	0.56
3:A:1270:A:C8	47:x:744:TYR:CD2	2.93	0.56
3:A:1447:G:O6	19:R:25:SER:HB2	2.05	0.56
3:A:2269:U:H2'	3:A:2270:A:C8	2.40	0.56
6:D:117:GLU:HG2	6:D:124:GLY:H	1.70	0.56
7:E:137:TYR:HA	7:E:141:GLY:HA2	1.87	0.56
9:G:54:ARG:NH1	9:G:148:ILE:O	2.39	0.56
10:H:48:ARG:HB3	34:h:7:LEU:HD22	1.87	0.56
11:I:120:THR:H	11:I:123:THR:HG1	1.50	0.56
17:P:23:GLN:O	17:P:27:VAL:HG12	2.04	0.56
29:c:89:GLN:O	29:c:93:SER:OG	2.21	0.56
47:x:32:LYS:HE2	47:x:106:PRO:HA	1.86	0.56
63:SP:119:ARG:NH1	65:SR:241:ASP:OD1	2.38	0.56
2:2:513:U:H2'	2:2:514:G:C8	2.41	0.56
2:2:798:C:H2'	2:2:799:A:H8	1.70	0.56
2:2:918:U:H4'	61:SZ:18:ARG:HD3	1.88	0.56
2:2:1073:G:H4'	72:SY:10:GLY:HA2	1.86	0.56
2:2:1322:A:H4'	63:SP:104:PRO:HG2	1.86	0.56
3:A:63:A:N3	3:A:78:U:O2'	2.34	0.56
3:A:307:A:H2'	3:A:308:A:H8	1.70	0.56
3:A:1178:G:N1	34:h:19:SER:HA	2.19	0.56
3:A:1447:G:C5	19:R:27:LYS:HG3	2.41	0.56
3:A:1463:U:H3	3:A:1467:A:H62	1.53	0.56
9:G:129:TYR:OH	9:G:175:HIS:O	2.23	0.56
31:e:25:LEU:O	31:e:29:SER:OG	2.24	0.56
36:j:54:VAL:O	36:j:58:ILE:HG22	2.05	0.56
38:l:76:ASN:HD21	38:l:79:GLN:HE21	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:649:PHE:HD1	46:v:650:PRO:HD2	1.70	0.56
64:SQ:144:ARG:HB3	64:SQ:206:PRO:HB2	1.87	0.56
65:SR:137:ILE:HD12	65:SR:138:PRO:HD2	1.88	0.56
68:SU:15:GLU:HA	68:SU:18:LEU:HB2	1.87	0.56
3:A:54:C:H2'	3:A:55:G:H8	1.71	0.56
3:A:738:A:OP1	3:A:1093:A:N6	2.39	0.56
3:A:1874:A:OP2	20:T:20:ARG:NH2	2.38	0.56
3:A:3283:U:H2'	3:A:3284:G:H8	1.70	0.56
18:Q:126[A]:VAL:O	21:U:154:HIS:NE2	2.39	0.56
63:SP:109:ASN:O	63:SP:112:THR:HG22	2.04	0.56
75:Sc:109:ARG:O	75:Sc:112:LYS:NZ	2.37	0.56
2:2:468:A:N1	2:2:594:A:O2'	2.36	0.56
2:2:603:U:H2'	2:2:604:A:H8	1.70	0.56
2:2:1392:U:H2'	2:2:1393:C:C6	2.41	0.56
3:A:254:A:H2'	3:A:255:A:H8	1.70	0.56
3:A:501:A:H2'	3:A:502:U:C6	2.40	0.56
3:A:966:U:H2'	3:A:967:A:H8	1.70	0.56
3:A:3190:C:H2'	3:A:3191:G:H8	1.70	0.56
3:A:3231:U:O2	3:A:3256:G:O6	2.23	0.56
7:E:171:LEU:HD11	7:E:333:LYS:HB2	1.87	0.56
7:E:183:LEU:O	7:E:191:LYS:NZ	2.38	0.56
12:K:22:SER:OG	12:K:23:ARG:N	2.39	0.56
46:v:162:GLN:O	46:v:165:LEU:HG	2.06	0.56
71:SX:44:THR:HA	71:SX:60:PHE:HE2	1.71	0.56
1:S:36:LEU:O	1:S:40:THR:OG1	2.23	0.56
2:2:923:A:H2'	2:2:924:A:H8	1.69	0.56
2:2:1199:G:O4'	53:SM:40:ARG:NH2	2.39	0.56
3:A:1324:U:H5'	21:U:2:ALA:HA	1.88	0.56
3:A:1803:C:H2'	3:A:1804:A:H8	1.70	0.56
3:A:1805:C:H2'	3:A:1806:A:C8	2.41	0.56
3:A:1889:G:OP1	7:E:246:LEU:N	2.36	0.56
3:A:2560:C:N4	3:A:2575:G:OP1	2.37	0.56
7:E:66:LYS:HB2	24:X:88:ARG:HH21	1.70	0.56
48:SC:71:GLU:H	48:SC:71:GLU:CD	2.13	0.56
56:SF:103:ASN:HA	56:SF:106:LYS:HE3	1.86	0.56
63:SP:75:ALA:HB3	63:SP:86:VAL:HG13	1.87	0.56
69:SV:34:ALA:HA	69:SV:56:ARG:HH12	1.70	0.56
70:SW:147:MET:HE2	70:SW:147:MET:HA	1.87	0.56
71:SX:55:ASP:HB3	71:SX:58:CYS:HB2	1.88	0.56
72:SY:88:LEU:O	72:SY:92:ILE:HG22	2.05	0.56
81:SO:240:VAL:CG2	81:SO:241:PHE:H	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:255:U:O4	2:2:256:A:N6	2.39	0.56
2:2:431:C:H2'	2:2:432:G:C8	2.41	0.56
2:2:947:U:H2'	2:2:948:G:H8	1.70	0.56
2:2:1164:G:O2'	2:2:1612:U:O2	2.24	0.56
2:2:1697:G:H1	2:2:1704:U:H3	1.53	0.56
3:A:584:G:H2'	3:A:585:A:H8	1.70	0.56
3:A:1265:U:H2'	3:A:1266:G:C8	2.40	0.56
3:A:1497:C:H2'	3:A:1498:A:H8	1.70	0.56
13:L:215:GLU:OE2	13:L:215:GLU:N	2.32	0.56
15:N:24:VAL:HG12	17:P:199:LEU:HB2	1.87	0.56
45:t:69:C:H2'	45:t:70:G:C8	2.41	0.56
68:SU:167:GLU:CD	68:SU:167:GLU:H	2.12	0.56
72:SY:116:ILE:HA	72:SY:119:GLU:HB2	1.88	0.56
81:SO:18:GLY:HA3	81:SO:39:ASP:HB3	1.88	0.56
2:2:1458:G:H21	49:SE:126:VAL:HG11	1.71	0.56
3:A:809:G:H2'	3:A:810:A:H8	1.71	0.56
3:A:1678:G:N7	23:W:74:LYS:NZ	2.54	0.56
3:A:3023:U:O2	3:A:3032:A:N7	2.39	0.56
9:G:123:GLU:N	9:G:123:GLU:OE2	2.38	0.56
14:M:82:ARG:NH2	14:M:112:LEU:O	2.39	0.56
20:T:115:ILE:HD11	20:T:119:LEU:HB2	1.88	0.56
46:v:682:GLN:HB3	46:v:683:ILE:HG23	1.87	0.56
81:SO:243:LEU:HB2	81:SO:253:ALA:O	2.06	0.56
3:A:44:U:OP1	17:P:85:THR:OG1	2.22	0.56
3:A:1493:G:N2	3:A:1493:G:OP2	2.39	0.56
3:A:2240:G:N2	6:D:241:ARG:O	2.39	0.56
3:A:3207:U:OP2	21:U:157:GLN:NE2	2.39	0.56
6:D:147:ARG:HG2	6:D:155:LYS:HE2	1.87	0.56
7:E:232:ARG:NH1	7:E:266:ARG:O	2.39	0.56
9:G:30:TYR:HA	9:G:33:ARG:HB2	1.88	0.56
32:f:42:LEU:HB3	32:f:43:HIS:CD2	2.41	0.56
45:s:23:C:H2'	45:s:24:G:C8	2.41	0.56
47:x:412:ARG:HB2	47:x:426:LEU:HD11	1.88	0.56
63:SP:79:ARG:HH22	63:SP:170:ILE:HD12	1.70	0.56
79:SJ:84:MET:HE2	79:SJ:84:MET:HA	1.87	0.56
3:A:547:G:H2'	3:A:548:G:C8	2.40	0.56
3:A:1268:G:H2'	3:A:1269:U:C6	2.41	0.56
3:A:1689:U:OP1	20:T:64:ARG:NH1	2.39	0.56
3:A:3110:C:H2'	3:A:3111:U:C6	2.41	0.56
15:N:110:ASP:HA	15:N:113:VAL:HG22	1.87	0.56
19:R:10:ASN:OD1	19:R:13:LYS:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:7:GLN:OE1	20:T:7:GLN:N	2.38	0.56
22:V:41:ASP:HA	22:V:61:THR:HA	1.88	0.56
42:p:8:LYS:O	42:p:12:ARG:HG2	2.06	0.56
47:x:27:HIS:CE1	47:x:130:ASP:H	2.23	0.56
47:x:37:ASP:OD2	47:x:56:PHE:N	2.33	0.56
47:x:388:THR:HG23	47:x:390:ASP:H	1.70	0.56
50:SA:14:ASP:HA	50:SA:17:PHE:HB3	1.88	0.56
50:SA:150:MET:HA	50:SA:150:MET:HE3	1.88	0.56
67:ST:79:LYS:HA	67:ST:79:LYS:HE3	1.87	0.56
81:SO:300:THR:HA	81:SO:313:TRP:O	2.05	0.56
2:2:947:U:H2'	2:2:948:G:C8	2.41	0.55
2:2:982:U:O4	2:2:983:A:N6	2.39	0.55
2:2:1410:A:H2'	2:2:1411:A:C8	2.40	0.55
2:2:1699:G:H8	2:2:1702:A:H62	1.54	0.55
3:A:2437:G:C6	3:A:2511:A:N6	2.74	0.55
7:E:219:ALA:HB2	7:E:336:VAL:HG13	1.86	0.55
17:P:145:ASP:O	17:P:149:ASN:ND2	2.30	0.55
18:Q:151[A]:ASP:N	18:Q:151[A]:ASP:OD1	2.34	0.55
21:U:90:MET:HE1	21:U:114:HIS:HE2	1.71	0.55
46:v:683:ILE:HG13	46:v:967:ASP:CG	2.31	0.55
47:x:138:GLN:O	47:x:142:VAL:HG22	2.06	0.55
2:2:162:A:H2'	2:2:163:G:C4	2.42	0.55
2:2:1171:A:O2'	2:2:1570:A:N3	2.35	0.55
2:2:1345:A:N6	2:2:1377:U:O2'	2.40	0.55
3:A:788:C:H2'	3:A:789:A:H8	1.71	0.55
3:A:1665:C:H2'	3:A:1666:G:H8	1.71	0.55
3:A:2505:U:O2'	3:A:2506:U:OP1	2.22	0.55
6:D:225:ILE:HG21	6:D:234:LYS:HA	1.89	0.55
8:F:328:ASN:OD1	11:I:48:ASN:ND2	2.39	0.55
12:K:126:VAL:HG22	12:K:127:PRO:HD2	1.88	0.55
24:X:80:ARG:HE	24:X:99:ALA:HB3	1.70	0.55
38:l:19:CYS:SG	38:l:20:ASN:N	2.79	0.55
47:x:576:LEU:HD12	47:x:577:SER:H	1.72	0.55
52:SL:11:LYS:O	52:SL:31:GLU:N	2.30	0.55
60:SD:61:VAL:HG23	60:SD:89:ILE:HG23	1.88	0.55
67:ST:89:ASP:OD1	67:ST:89:ASP:N	2.39	0.55
81:SO:238:ASP:HB3	81:SO:256:THR:HG1	1.71	0.55
2:2:918:U:OP1	61:SZ:84:ARG:NH1	2.38	0.55
2:2:1163:A:N3	2:2:1613:U:O2'	2.31	0.55
3:A:87:U:H2'	3:A:88:A:H8	1.71	0.55
3:A:597:G:H2'	3:A:598:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:485:VAL:H	47:x:793:PHE:HB3	1.70	0.55
56:SF:21:HIS:HB3	56:SF:66:ARG:HH21	1.71	0.55
57:SH:48:LYS:HA	57:SH:48:LYS:HE3	1.88	0.55
64:SQ:39:GLU:H	64:SQ:39:GLU:CD	2.12	0.55
64:SQ:136:ARG:HB2	64:SQ:216:LYS:HB3	1.89	0.55
73:Sa:46:ILE:H	73:Sa:46:ILE:HD12	1.72	0.55
2:2:1393:C:H2'	2:2:1394:G:C8	2.42	0.55
3:A:2525:G:H5''	3:A:2526:C:H5'	1.88	0.55
3:A:3152:U:OP2	3:A:3395:G:N1	2.30	0.55
3:A:3183:A:OP1	18:Q:37[A]:ARG:NH2	2.39	0.55
5:C:57:C:O2	5:C:61:A:O2'	2.21	0.55
8:F:122:THR:O	8:F:126:ILE:HG13	2.07	0.55
9:G:41:LYS:NZ	22:V:30:TYR:O	2.38	0.55
47:x:207:GLY:HA2	47:x:223:ARG:HB2	1.88	0.55
51:SI:42:GLY:HA2	51:SI:84:LYS:HD2	1.87	0.55
54:SG:83:GLN:OE1	63:SP:84:ARG:NH1	2.37	0.55
81:SO:157:VAL:HG12	81:SO:208:GLY:CA	2.35	0.55
81:SO:189:GLU:HB3	81:SO:228:LYS:HZ1	1.71	0.55
3:A:66:A:N6	3:A:76:G:H1'	2.21	0.55
3:A:375:A:O5'	27:a:89:LYS:NZ	2.40	0.55
3:A:2552:C:OP1	35:i:102:LYS:NZ	2.38	0.55
5:C:24:G:H2'	5:C:25:G:H8	1.70	0.55
15:N:47:ALA:HB1	15:N:48:PRO:HD2	1.87	0.55
20:T:102:LEU:HD13	20:T:138:LEU:HD22	1.89	0.55
43:q:61:LYS:NZ	43:q:63:LYS:O	2.39	0.55
44:r:39:CYS:SG	44:r:41:PHE:CD2	2.99	0.55
47:x:19:VAL:HG22	47:x:99:LEU:HD23	1.89	0.55
50:SA:220:PRO:CA	81:SO:193:ILE:HG12	2.36	0.55
53:SM:12:ARG:HB2	53:SM:14:TYR:HE1	1.71	0.55
63:SP:121:VAL:HG23	63:SP:143:VAL:HG23	1.86	0.55
81:SO:34:LEU:HD13	81:SO:80:ALA:HB1	1.87	0.55
81:SO:40:LYS:HA	81:SO:67:ILE:HA	1.89	0.55
81:SO:45:TRP:CZ2	81:SO:310:ILE:HD13	2.39	0.55
1:S:38:ARG:NE	3:A:1347:U:OP2	2.32	0.55
2:2:10:G:O2'	65:SR:87:GLN:NE2	2.40	0.55
2:2:590:C:H2'	2:2:591:A:C8	2.39	0.55
3:A:346:C:N4	3:A:349:A:OP2	2.40	0.55
14:M:120:ILE:HG13	14:M:121:GLY:N	2.20	0.55
36:j:31:LEU:HD21	36:j:47:VAL:HG21	1.89	0.55
47:x:491:VAL:HG21	47:x:538:LEU:HD21	1.87	0.55
72:SY:83:GLU:OE1	72:SY:83:GLU:N	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:72:A:H2'	2:2:73:U:H4'	1.88	0.55
2:2:199:G:H2'	2:2:200:A:H8	1.71	0.55
2:2:294:C:H2'	2:2:295:A:H8	1.72	0.55
2:2:600:U:H2'	2:2:601:A:H8	1.71	0.55
3:A:198:A:N3	3:A:218:G:O2'	2.39	0.55
3:A:1009:A:H2'	3:A:1010:G:C8	2.42	0.55
3:A:1905:G:O6	7:E:241:LYS:NZ	2.40	0.55
3:A:2357:A:H2'	3:A:2358:A:H8	1.72	0.55
3:A:2444:C:H2'	3:A:2445:A:C8	2.41	0.55
9:G:270:LYS:HD2	9:G:273:ARG:HH21	1.70	0.55
18:Q:35[A]:VAL:HG13	18:Q:104[A]:VAL:HG23	1.88	0.55
29:c:47:LYS:HG3	29:c:48:TYR:HD1	1.71	0.55
57:SH:17:LEU:HD21	57:SH:66:LEU:HD13	1.89	0.55
65:SR:95:ARG:HH22	65:SR:97:ARG:HD3	1.71	0.55
68:SU:156:SER:OG	68:SU:186:PRO:O	2.25	0.55
2:2:1538:U:O2'	2:2:1539:G:N2	2.40	0.55
2:2:1625:C:H2'	2:2:1626:U:H6	1.72	0.55
2:2:1712:A:H3'	2:2:1713:G:H8	1.70	0.55
3:A:68:C:OP2	3:A:301:G:N2	2.36	0.55
3:A:1046:A:O2'	3:A:1048:A:OP2	2.21	0.55
3:A:1493:G:OP1	40:n:48:LYS:HD2	2.07	0.55
3:A:1786:G:H2'	3:A:1787:A:H8	1.70	0.55
3:A:2446:U:H2'	3:A:2447:A:H8	1.71	0.55
17:P:68:ARG:NH1	17:P:124:ASP:O	2.38	0.55
28:b:89:VAL:HG23	28:b:92:PHE:HD2	1.71	0.55
55:SB:94:THR:HA	55:SB:97:LEU:HD12	1.88	0.55
61:SZ:31:THR:OG1	61:SZ:37:GLU:O	2.24	0.55
70:SW:127:VAL:HA	70:SW:131:GLN:HE22	1.72	0.55
81:SO:172:ALA:HB3	81:SO:202:LEU:CD2	2.33	0.55
2:2:955:A:OP1	72:SY:3:ARG:NH1	2.40	0.55
3:A:80:G:O6	3:A:106:A:N6	2.40	0.55
3:A:87:U:H2'	3:A:88:A:C8	2.42	0.55
3:A:307:A:H2'	3:A:308:A:C8	2.42	0.55
3:A:1146:C:H2'	3:A:1147:G:H8	1.72	0.55
3:A:1634:G:N7	28:b:17:ARG:NH1	2.50	0.55
3:A:2527:G:H2'	3:A:2528:G:C8	2.42	0.55
6:D:243:THR:OG1	6:D:244:GLY:N	2.39	0.55
20:T:84:THR:HG23	20:T:87:ALA:H	1.72	0.55
21:U:25:PHE:HD1	22:V:151:LEU:HD21	1.72	0.55
32:f:13:THR:HG1	32:f:72:ARG:HH21	1.51	0.55
46:v:204:ASP:HB2	46:v:207:ARG:HH12	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SB:146:THR:HA	55:SB:159:ALA:HA	1.89	0.55
56:SF:93:HIS:HA	56:SF:97:VAL:HG12	1.88	0.55
60:SD:63:VAL:HG11	60:SD:66:VAL:HB	1.88	0.55
80:J:41:GLN:OE1	80:J:44:ARG:NH2	2.39	0.55
2:2:610:G:HO2'	2:2:613:G:HO2'	1.55	0.55
3:A:2341:A:OP2	7:E:247:ARG:NH2	2.39	0.55
3:A:3343:G:O2'	3:A:3362:A:N6	2.40	0.55
9:G:218:ARG:HH21	9:G:222:LEU:HD11	1.72	0.55
13:L:4:ARG:NH1	13:L:4:ARG:HA	2.22	0.55
21:U:63:GLN:OE1	21:U:65:ASN:ND2	2.39	0.55
29:c:19:LYS:NZ	29:c:25:HIS:CE1	2.75	0.55
40:n:16:ALA:HB1	40:n:42:ARG:HH22	1.72	0.55
49:SE:52:LYS:HG3	49:SE:53:PRO:HD3	1.89	0.55
50:SA:106:LYS:NZ	50:SA:174:HIS:O	2.40	0.55
61:SZ:43:THR:H	61:SZ:46:MET:HG2	1.71	0.55
61:SZ:114:ARG:HH21	64:SQ:72:ASP:HB2	1.72	0.55
62:Se:38:ARG:HG2	62:Se:74:CYS:SG	2.47	0.55
71:SX:94:ILE:HD11	75:Sc:12:ALA:HB1	1.89	0.55
74:Sb:20:THR:HG23	74:Sb:22:LYS:HG2	1.89	0.55
77:Sf:59:CYS:SG	77:Sf:60:SER:N	2.80	0.55
1:S:155:MET:SD	1:S:156:GLY:N	2.80	0.54
2:2:78:A:H4'	67:ST:172:ALA:HB3	1.89	0.54
3:A:86:G:N2	3:A:99:A:OP2	2.26	0.54
3:A:629:U:H2'	3:A:630:A:C8	2.41	0.54
3:A:2631:U:H2'	3:A:2632:G:C8	2.42	0.54
3:A:2703:A:OP2	9:G:23:ARG:NH2	2.36	0.54
35:i:36:LYS:NZ	35:i:37:LYS:O	2.39	0.54
50:SA:35:SER:HB3	50:SA:51:ARG:HB3	1.89	0.54
54:SG:101:ASN:OD1	54:SG:103:ASP:HB3	2.07	0.54
2:2:610:G:H22	75:Sc:22:ASN:ND2	2.06	0.54
2:2:1494:C:H2'	2:2:1495:C:C6	2.43	0.54
3:A:374:A:H4'	3:A:375:A:H5'	1.88	0.54
3:A:1290:A:H2'	3:A:1291:A:H8	1.72	0.54
3:A:2154:U:H2'	3:A:2155:G:H8	1.72	0.54
3:A:2768:U:H2'	3:A:2769:A:H8	1.71	0.54
5:C:104:A:H5'	5:C:105:A:C8	2.41	0.54
9:G:238:ASP:OD1	9:G:238:ASP:N	2.38	0.54
11:I:98:LYS:O	11:I:102:VAL:HG12	2.07	0.54
11:I:110:ARG:O	11:I:113:SER:OG	2.23	0.54
46:v:962:VAL:HG21	46:v:976:ASN:HB2	1.89	0.54
51:SI:51:GLU:OE1	51:SI:51:GLU:N	2.33	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SL:19:THR:OG1	52:SL:20:GLY:N	2.39	0.54
54:SG:101:ASN:ND2	63:SP:18:LEU:O	2.40	0.54
55:SB:52:GLU:O	55:SB:54:LYS:NZ	2.40	0.54
65:SR:195:ASP:N	65:SR:195:ASP:OD1	2.38	0.54
66:SS:148:ARG:NH1	67:ST:201:GLN:OE1	2.40	0.54
76:Sd:20:ARG:HB2	76:Sd:74:LEU:HD11	1.89	0.54
1:S:163:PRO:HG2	1:S:165:ILE:HD11	1.87	0.54
2:2:922:G:H2'	2:2:923:A:H8	1.71	0.54
2:2:1041:G:H2'	2:2:1042:G:C8	2.41	0.54
3:A:158:G:H2'	3:A:159:A:H8	1.73	0.54
3:A:1720:U:OP1	20:T:110:ARG:NH2	2.41	0.54
3:A:2228:A:H2'	3:A:2229:A:C8	2.43	0.54
3:A:2413:A:H2'	3:A:2414:G:H8	1.72	0.54
8:F:83:GLY:O	8:F:87:GLN:NE2	2.40	0.54
17:P:150:TRP:H	17:P:150:TRP:HD1	1.56	0.54
47:x:681:MET:N	47:x:681:MET:SD	2.81	0.54
56:SF:14:LYS:NZ	56:SF:122:ARG:O	2.31	0.54
67:ST:176:GLN:HG2	67:ST:177:ARG:HG3	1.90	0.54
81:SO:183:LEU:HA	81:SO:186:PHE:CE1	2.43	0.54
2:2:473:A:OP1	70:SW:44:ARG:NH1	2.35	0.54
2:2:1175:U:H3	2:2:1464:G:H1	1.54	0.54
2:2:1648:A:H2'	2:2:1649:G:C8	2.43	0.54
3:A:1258:U:N3	3:A:1261:G:OP2	2.30	0.54
3:A:1413:G:H2'	3:A:1414:G:H8	1.72	0.54
3:A:2217:U:H2'	3:A:2218:G:H8	1.72	0.54
3:A:2295:A:H5'	24:X:61:THR:HG21	1.88	0.54
4:B:28:C:H5''	14:M:137:ARG:HD3	1.89	0.54
7:E:67:PHE:HB2	24:X:88:ARG:HH22	1.72	0.54
32:f:9:THR:HG23	32:f:76:SER:HB3	1.90	0.54
46:v:760:GLN:HE21	46:v:869:LEU:HB3	1.72	0.54
49:SE:59:LYS:HZ2	49:SE:60:LEU:HA	1.72	0.54
57:SH:126:ARG:HE	57:SH:133:VAL:HG12	1.73	0.54
74:Sb:41:MET:HE2	74:Sb:129:VAL:HG11	1.88	0.54
2:2:446:A:O3'	66:SS:57:ASN:ND2	2.40	0.54
2:2:883:C:H2'	2:2:884:A:C8	2.42	0.54
2:2:1466:G:O2'	2:2:1602:C:OP1	2.22	0.54
3:A:922:U:N3	3:A:926:A:O2'	2.40	0.54
3:A:999:G:N3	3:A:1002:A:N6	2.54	0.54
3:A:1117:G:O6	3:A:1142:G:N2	2.41	0.54
3:A:2685:C:H2'	3:A:2686:A:H8	1.71	0.54
3:A:2746:A:H5''	9:G:176:SER:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:35:ASP:OD1	13:L:35:ASP:N	2.40	0.54
24:X:109:MET:H	24:X:128:ARG:HH21	1.54	0.54
71:SX:133:LYS:O	71:SX:136:ARG:NH2	2.39	0.54
81:SO:123:ILE:CD1	81:SO:154:VAL:HG21	2.19	0.54
81:SO:157:VAL:HG21	81:SO:225:LEU:CD2	2.37	0.54
2:2:334:G:O6	69:SV:5:ARG:NH2	2.41	0.54
2:2:762:A:O2'	66:SS:252:ARG:NH2	2.40	0.54
3:A:2174:G:OP2	6:D:193:ARG:NH2	2.40	0.54
3:A:2559:U:H5''	3:A:2561:A:H5'	1.89	0.54
17:P:103:GLU:HA	17:P:106:VAL:HG12	1.90	0.54
27:a:45:ILE:HD11	27:a:122:LYS:HE3	1.89	0.54
38:l:19:CYS:HB3	38:l:27:PHE:HB2	1.90	0.54
38:l:58:THR:OG1	38:l:59:THR:N	2.40	0.54
81:SO:88:THR:CB	81:SO:90:ARG:HG3	2.35	0.54
2:2:174:U:H3	2:2:266:A:H62	1.56	0.54
2:2:687:G:O2'	74:Sb:118:ARG:NH2	2.41	0.54
2:2:1341:A:H4'	81:SO:90:ARG:NH1	2.23	0.54
3:A:982:C:O2'	30:d:22:LYS:NZ	2.29	0.54
3:A:1661:G:H2'	3:A:1662:G:H8	1.72	0.54
8:F:154:THR:OG1	8:F:157:GLU:OE2	2.25	0.54
13:L:115:MET:HA	13:L:115:MET:HE3	1.89	0.54
44:r:86:LEU:O	44:r:90:VAL:HG12	2.08	0.54
46:v:887:ILE:O	46:v:891:SER:OG	2.23	0.54
81:SO:302:PHE:HA	81:SO:312:VAL:HG12	1.89	0.54
2:2:323:A:OP2	69:SV:10:LYS:NZ	2.35	0.54
2:2:335:U:O2'	71:SX:130:PRO:O	2.26	0.54
2:2:650:U:H2'	2:2:651:G:C8	2.43	0.54
2:2:912:U:H5'	2:2:913:G:H2'	1.88	0.54
2:2:1588:G:O6	2:2:1608:U:O4	2.26	0.54
2:2:1776:A:H2'	2:2:1777:G:C8	2.43	0.54
3:A:2660:G:H2'	3:A:2661:G:C8	2.43	0.54
15:N:161:ASP:N	15:N:161:ASP:OD1	2.40	0.54
18:Q:153[A]:VAL:O	18:Q:157[A]:GLU:HG3	2.08	0.54
25:Y:52:THR:O	25:Y:56:ARG:N	2.40	0.54
34:h:69:GLY:HA3	34:h:85:PHE:CD1	2.43	0.54
53:SM:46:LYS:HD2	53:SM:47:ALA:N	2.23	0.54
64:SQ:83:LYS:NZ	64:SQ:104:ASP:HB3	2.23	0.54
71:SX:84:ILE:O	71:SX:109:VAL:N	2.40	0.54
71:SX:113:PRO:O	71:SX:116:ARG:NH1	2.40	0.54
79:SJ:50:LEU:HD22	79:SJ:99:ILE:HD12	1.89	0.54
81:SO:176:LYS:NZ	81:SO:196:ASN:O	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1474:A:O2'	32:f:57:GLN:OE1	2.26	0.54
3:A:2141:U:O2'	3:A:2976:A:N3	2.37	0.54
3:A:3191:G:H5''	18:Q:176[A]:LYS:HE2	1.89	0.54
4:B:60:G:H2'	4:B:61:G:H8	1.73	0.54
5:C:47:C:H1'	5:C:61:A:H2'	1.89	0.54
8:F:311:HIS:HE1	8:F:314:LYS:HA	1.72	0.54
11:I:239:LEU:O	11:I:243:MET:N	2.31	0.54
28:b:72:ILE:HD11	28:b:96:VAL:HG21	1.89	0.54
31:e:71:GLN:H	31:e:71:GLN:CD	2.16	0.54
3:A:947:G:H5''	33:g:55:ILE:HB	1.90	0.54
3:A:1057:A:OP1	11:I:98:LYS:NZ	2.39	0.54
3:A:3140:G:O6	7:E:30:LYS:NZ	2.39	0.54
4:B:13:A:OP2	4:B:67:G:N2	2.40	0.54
22:V:52:MET:SD	22:V:52:MET:N	2.81	0.54
45:s:63:G:O2'	45:s:64:A:OP1	2.20	0.54
47:x:379:MET:HG3	47:x:401:PHE:HB2	1.90	0.54
48:SC:38:LYS:HE2	48:SC:41:TYR:HE2	1.73	0.54
60:SD:85:LYS:HB2	60:SD:87:PRO:HD3	1.88	0.54
62:Se:43:ASN:HA	62:Se:66:LYS:HB3	1.90	0.54
72:SY:135:LEU:HD23	72:SY:136:PRO:HD2	1.89	0.54
81:SO:123:ILE:HD11	81:SO:154:VAL:CG2	2.20	0.54
2:2:803:A:O2'	2:2:804:A:H8	1.90	0.53
2:2:1340:U:H5''	2:2:1341:A:H5''	1.89	0.53
2:2:1582:U:H5''	56:SF:135:ARG:HH21	1.72	0.53
2:2:1659:A:H2'	2:2:1660:A:H8	1.73	0.53
3:A:431:U:OP1	34:h:65:ARG:NE	2.36	0.53
3:A:695:C:P	8:F:115:HIS:HE2	2.31	0.53
3:A:969:C:OP1	30:d:19:ASN:ND2	2.40	0.53
3:A:1176:C:OP2	3:A:1177:G:O2'	2.26	0.53
3:A:1765:U:H2'	3:A:1766:G:C8	2.43	0.53
3:A:2242:A:H5'	6:D:243:THR:HG23	1.90	0.53
3:A:2340:U:OP2	7:E:236:LYS:NZ	2.38	0.53
3:A:2423:U:H2'	3:A:2424:A:C8	2.42	0.53
3:A:2703:A:N6	9:G:28:THR:O	2.41	0.53
5:C:154:C:H2'	5:C:155:A:C8	2.43	0.53
7:E:347:SER:OG	7:E:348:ARG:N	2.34	0.53
8:F:318:LEU:HD12	8:F:319:LYS:HG3	1.90	0.53
11:I:168:ILE:O	11:I:172:ASN:ND2	2.38	0.53
35:i:84:CYS:HA	35:i:87:GLU:OE1	2.08	0.53
35:i:105:VAL:HA	35:i:108:GLN:HE21	1.71	0.53
42:p:1:MET:SD	42:p:6:ARG:NH1	2.81	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:566:THR:N	47:x:723:LYS:O	2.35	0.53
52:SL:9:LEU:HB3	52:SL:33:LEU:HD23	1.89	0.53
55:SB:121:ILE:HB	55:SB:129:PRO:HB3	1.89	0.53
64:SQ:97:LEU:HD23	64:SQ:97:LEU:H	1.71	0.53
72:SY:40:TYR:HA	72:SY:43:LYS:NZ	2.22	0.53
73:Sa:9:VAL:HG22	73:Sa:10:GLU:H	1.72	0.53
81:SO:6:VAL:HG23	81:SO:7:LEU:N	2.22	0.53
81:SO:47:LEU:HG	81:SO:48:THR:H	1.72	0.53
81:SO:259:GLY:HA2	81:SO:275:ARG:HH22	1.73	0.53
2:2:623:A:H3'	2:2:624:G:H5''	1.89	0.53
2:2:1042:G:H2'	2:2:1043:A:H8	1.73	0.53
3:A:1178:G:N2	3:A:1328:C:O2'	2.35	0.53
3:A:3186:A:N6	12:K:58:HIS:O	2.38	0.53
3:A:3321:C:H2'	3:A:3322:A:H8	1.72	0.53
6:D:3:ARG:NH2	6:D:208:ASP:OD1	2.41	0.53
9:G:68:THR:OG1	9:G:71:GLY:O	2.23	0.53
29:c:136:GLU:HA	29:c:139:ARG:HG2	1.89	0.53
47:x:29:ASP:OD1	47:x:30:HIS:N	2.41	0.53
61:SZ:26:THR:O	61:SZ:43:THR:OG1	2.27	0.53
63:SP:90:ALA:HA	63:SP:95:ALA:HB3	1.90	0.53
64:SQ:35:PRO:HB3	64:SQ:231:LEU:HB3	1.90	0.53
66:SS:129:VAL:HG12	66:SS:139:VAL:HG12	1.90	0.53
68:SU:81:LEU:HA	68:SU:84:LYS:HG2	1.91	0.53
81:SO:170:ILE:HD11	81:SO:179:LYS:O	2.08	0.53
3:A:707:U:H1'	3:A:754:G:H1'	1.91	0.53
3:A:1065:A:N1	30:d:26:THR:OG1	2.35	0.53
3:A:2201:G:H21	6:D:224:THR:HG21	1.74	0.53
3:A:2933:A:H2'	3:A:2934:A:C4	2.43	0.53
10:H:131:LYS:HD2	10:H:132:THR:N	2.23	0.53
14:M:120:ILE:HG13	14:M:121:GLY:H	1.73	0.53
47:x:250:PHE:HA	47:x:257:TRP:HA	1.90	0.53
48:SC:56:LYS:HD2	48:SC:57:THR:N	2.24	0.53
51:SI:4:VAL:HG11	51:SI:140:LEU:HD13	1.90	0.53
59:SN:130:VAL:HG21	59:SN:143:LYS:H	1.74	0.53
65:SR:35:TRP:HD1	65:SR:35:TRP:H	1.57	0.53
65:SR:222:TYR:HE1	73:Sa:14:PRO:HG3	1.73	0.53
80:J:152:LEU:HD23	80:J:180:VAL:HG11	1.89	0.53
2:2:200:A:H2'	2:2:201:G:C8	2.43	0.53
2:2:774:A:H61	2:2:786:C:N4	2.02	0.53
2:2:821:U:H3	2:2:852:C:H42	1.55	0.53
3:A:149:U:OP2	17:P:49:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2432:A:N6	3:A:2598:G:O6	2.41	0.53
7:E:66:LYS:HB2	24:X:88:ARG:NH2	2.24	0.53
10:H:72:ASN:OD1	10:H:73:GLY:N	2.41	0.53
12:K:5:GLN:NE2	12:K:7:GLU:OE2	2.37	0.53
17:P:94:TYR:HD1	17:P:96:ARG:H	1.56	0.53
18:Q:168[A]:TYR:O	18:Q:168[A]:TYR:HD1	1.91	0.53
23:W:16:THR:HG22	23:W:64:THR:HG23	1.91	0.53
39:m:20:VAL:HG12	39:m:47:GLY:HA2	1.91	0.53
44:r:57:CYS:SG	44:r:58:SER:N	2.81	0.53
47:x:335:LEU:HA	47:x:338:ILE:HG12	1.90	0.53
47:x:619:MET:HE2	47:x:619:MET:O	2.08	0.53
54:SG:11:ARG:HA	54:SG:14:LYS:HZ3	1.73	0.53
54:SG:103:ASP:OD1	54:SG:106:THR:OG1	2.24	0.53
69:SV:12:SER:HB3	69:SV:18:ARG:HE	1.73	0.53
77:Sf:18:LYS:O	77:Sf:29:ARG:NH2	2.38	0.53
2:2:923:A:H2'	2:2:924:A:C8	2.43	0.53
2:2:1474:G:H2'	2:2:1475:A:H8	1.73	0.53
3:A:632:G:H21	34:h:23:ASN:HD21	1.56	0.53
3:A:695:C:OP2	8:F:115:HIS:NE2	2.40	0.53
4:B:16:U:H2'	4:B:17:A:H8	1.73	0.53
4:B:26:C:N4	4:B:54:U:O4	2.41	0.53
4:B:64:A:H5'	4:B:65:G:H5''	1.90	0.53
14:M:38:GLU:HB3	14:M:45:PRO:HD3	1.89	0.53
40:n:27:ILE:H	40:n:27:ILE:HD12	1.73	0.53
44:r:38:ASP:HB3	44:r:45:LYS:HD2	1.90	0.53
54:SG:30:THR:HG22	81:SO:85:TRP:HZ2	1.64	0.53
54:SG:111:LYS:HA	54:SG:111:LYS:HE3	1.89	0.53
75:Sc:109:ARG:HH21	75:Sc:112:LYS:HE2	1.74	0.53
2:2:200:A:H2'	2:2:201:G:H8	1.74	0.53
2:2:1383:G:H2'	2:2:1384:A:C8	2.43	0.53
3:A:491:C:O5'	10:H:112:THR:OG1	2.25	0.53
3:A:609:G:H8	8:F:310:THR:HG23	1.73	0.53
3:A:1039:U:H2'	3:A:1040:A:C8	2.44	0.53
3:A:1474:A:OP1	20:T:53:LYS:NZ	2.41	0.53
3:A:1529:A:OP2	3:A:1592:G:N2	2.42	0.53
3:A:2617:U:O2'	13:L:116:ARG:NH2	2.42	0.53
3:A:2837:A:H5''	13:L:154:ARG:NH2	2.23	0.53
27:a:119:ILE:HG22	27:a:124:GLY:HA3	1.91	0.53
46:v:181:THR:HG23	51:SI:134:ARG:HD2	1.90	0.53
46:v:437:LEU:HG	46:v:444:LEU:HD12	1.89	0.53
46:v:877:HIS:O	46:v:880:MET:HG3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:x:238:ALA:H	47:x:240:MET:HE1	1.73	0.53
47:x:629:ASP:OD2	47:x:649:GLN:NE2	2.42	0.53
53:SM:12:ARG:HB2	53:SM:14:TYR:CE1	2.43	0.53
54:SG:108:ASP:O	54:SG:111:LYS:NZ	2.42	0.53
63:SP:71:GLU:O	63:SP:96:THR:OG1	2.27	0.53
64:SQ:141:ALA:HB1	64:SQ:207:LEU:HD22	1.90	0.53
71:SX:133:LYS:HG3	71:SX:134:THR:HG23	1.90	0.53
81:SO:7:LEU:HG	81:SO:272:ASP:OD2	2.08	0.53
81:SO:192:PHE:HD2	81:SO:223:TRP:CD2	2.27	0.53
2:2:189:C:H2'	2:2:190:C:C6	2.44	0.53
2:2:340:U:H2'	2:2:341:A:C8	2.44	0.53
2:2:866:G:H5''	72:SY:3:ARG:H	1.74	0.53
3:A:278:U:H3	3:A:287:G:H1	1.57	0.53
3:A:1427:U:OP2	29:c:4:ARG:NH1	2.42	0.53
3:A:1777:U:H2'	3:A:1778:G:C8	2.43	0.53
3:A:2659:G:H2'	3:A:2660:G:H8	1.74	0.53
3:A:3008:A:N1	3:A:3139:A:N6	2.56	0.53
3:A:3234:A:N6	3:A:3253:G:H1	2.06	0.53
7:E:67:PHE:HB2	24:X:88:ARG:HH12	1.73	0.53
8:F:23:PRO:HD3	8:F:255:PHE:CE1	2.43	0.53
32:f:42:LEU:HB3	32:f:43:HIS:HD2	1.74	0.53
34:h:33:GLU:CD	34:h:33:GLU:H	2.15	0.53
35:i:65:VAL:O	35:i:70:LYS:NZ	2.42	0.53
50:SA:217:ILE:HG12	81:SO:193:ILE:CD1	2.39	0.53
55:SB:39:GLU:HG2	55:SB:40:ILE:N	2.23	0.53
65:SR:35:TRP:H	65:SR:35:TRP:CD1	2.27	0.53
68:SU:9:LEU:HD11	68:SU:13:PRO:HA	1.90	0.53
81:SO:135:THR:HG23	81:SO:137:LYS:H	1.72	0.53
81:SO:170:ILE:HD13	81:SO:180:ALA:HA	1.90	0.53
81:SO:193:ILE:CD1	81:SO:194:GLY:N	2.69	0.53
2:2:250:C:H2'	2:2:251:A:H8	1.72	0.53
2:2:350:U:O2'	2:2:970:A:N1	2.41	0.53
2:2:589:C:H2'	2:2:590:C:C6	2.44	0.53
3:A:683:U:OP2	15:N:28:GLN:NE2	2.35	0.53
3:A:1098:A:OP2	22:V:130:ARG:NH1	2.42	0.53
3:A:1411:C:OP1	33:g:98:HIS:ND1	2.40	0.53
3:A:2244:A:OP1	6:D:243:THR:OG1	2.27	0.53
3:A:2526:C:H2'	3:A:2527:G:C8	2.44	0.53
5:C:91:C:H2'	5:C:92:A:H8	1.74	0.53
5:C:154:C:H2'	5:C:155:A:H8	1.73	0.53
47:x:160:VAL:HG22	47:x:213:SER:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SF:73:GLY:O	56:SF:77:GLN:N	2.34	0.53
56:SF:129:PHE:O	56:SF:137:ARG:NH2	2.42	0.53
64:SQ:88:VAL:HG21	64:SQ:96:LEU:HD12	1.90	0.53
69:SV:138:ASN:OD1	69:SV:141:ARG:NH2	2.41	0.53
69:SV:189:LEU:O	69:SV:193:LEU:HG	2.07	0.53
73:Sa:5:LYS:O	73:Sa:7:GLN:NE2	2.42	0.53
74:Sb:86:ILE:H	74:Sb:86:ILE:HD12	1.74	0.53
75:Sc:19:ARG:O	75:Sc:23:ARG:HG3	2.08	0.53
3:A:428:A:H2'	3:A:429:U:C6	2.43	0.53
3:A:836:A:H4'	44:r:12:GLY:HA3	1.89	0.53
3:A:1785:U:H2'	3:A:1786:G:C8	2.44	0.53
3:A:2444:C:H2'	3:A:2445:A:H8	1.72	0.53
3:A:2681:U:O2	14:M:20:ASN:ND2	2.41	0.53
3:A:2710:C:H2'	3:A:2711:C:C6	2.44	0.53
3:A:2951:G:H2'	3:A:2952:G:H8	1.74	0.53
4:B:64:A:OP1	13:L:206:LEU:N	2.36	0.53
5:C:44:A:O3'	40:n:12:LYS:NZ	2.42	0.53
11:I:186:HIS:O	11:I:190:THR:OG1	2.25	0.53
15:N:123:ILE:HD11	36:j:116:TYR:HB2	1.91	0.53
16:O:55:ARG:HD2	16:O:78:THR:HG22	1.91	0.53
20:T:153:LYS:HA	20:T:156:ASN:HD21	1.74	0.53
28:b:10:VAL:HA	28:b:24:VAL:HA	1.91	0.53
37:k:45:ARG:NH2	37:k:89:GLU:OE2	2.40	0.53
56:SF:39:VAL:H	56:SF:45:ARG:HH12	1.56	0.53
81:SO:68:VAL:HG13	81:SO:84:SER:HB2	1.91	0.53
81:SO:86:ASP:O	81:SO:87:LYS:HD3	2.08	0.53
81:SO:174:ASN:ND2	81:SO:199:ILE:HB	2.24	0.53
3:A:2522:G:N2	3:A:2522:G:OP1	2.42	0.53
3:A:2941:A:OP2	7:E:255:TRP:HB3	2.08	0.53
3:A:3107:U:H2'	3:A:3108:G:C8	2.44	0.53
6:D:145:LYS:HD3	6:D:159:SER:HA	1.90	0.53
12:K:152:GLU:OE1	12:K:152:GLU:N	2.39	0.53
15:N:48:PRO:HB2	36:j:117:ALA:HB2	1.91	0.53
21:U:142:GLN:HG3	21:U:143:PHE:HD1	1.73	0.53
46:v:919:LEU:HD21	46:v:922:PRO:HD3	1.90	0.53
64:SQ:113:MET:HG2	64:SQ:142:PHE:CZ	2.44	0.53
2:2:332:U:OP2	69:SV:175:GLN:NE2	2.41	0.52
2:2:397:A:H4'	69:SV:50:GLY:HA2	1.91	0.52
2:2:1202:A:N6	2:2:1457:C:O5'	2.42	0.52
2:2:1605:G:OP2	56:SF:127:LYS:NZ	2.40	0.52
3:A:675:C:O2'	3:A:679:U:OP1	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:760:G:N2	3:A:770:G:N3	2.57	0.52
3:A:900:G:H1'	3:A:1589:A:H62	1.75	0.52
3:A:2356:A:H5'	19:R:138:LYS:HZ3	1.73	0.52
3:A:2660:G:H2'	3:A:2661:G:H8	1.74	0.52
3:A:2727:A:OP2	3:A:2728:G:N2	2.42	0.52
11:I:107:ARG:NH2	11:I:202:LEU:O	2.43	0.52
21:U:99:ARG:O	21:U:103:VAL:HG13	2.09	0.52
26:Z:63:ILE:HD11	26:Z:95:ILE:HG23	1.89	0.52
29:c:36:GLY:HA3	29:c:40:HIS:HE1	1.74	0.52
35:i:97:GLU:O	35:i:101:VAL:HG12	2.09	0.52
36:j:45:LYS:O	36:j:49:LYS:HG2	2.09	0.52
54:SG:107:SER:HA	54:SG:110:VAL:HB	1.91	0.52
57:SH:29:VAL:O	57:SH:43:SER:OG	2.25	0.52
67:ST:120:GLU:OE1	67:ST:125:THR:OG1	2.25	0.52
76:Sd:60:PHE:HD1	76:Sd:71:GLY:HA3	1.74	0.52
2:2:819:G:H4'	2:2:820:U:O5'	2.09	0.52
2:2:1477:G:H2'	2:2:1478:G:C8	2.44	0.52
3:A:647:A:OP1	3:A:649:A:N6	2.42	0.52
3:A:3226:A:N6	3:A:3260:G:H1	2.08	0.52
4:B:9:C:OP1	22:V:26:HIS:ND1	2.42	0.52
4:B:79:A:H62	4:B:101:G:H21	1.58	0.52
5:C:91:C:H2'	5:C:92:A:C8	2.44	0.52
47:x:602:GLU:OE1	47:x:682:ARG:NH2	2.43	0.52
54:SG:83:GLN:HE21	54:SG:86:PRO:HG3	1.74	0.52
81:SO:297:ASP:OD2	81:SO:299:GLN:N	2.42	0.52
2:2:1597:A:C5	53:SM:16:LYS:HE2	2.45	0.52
2:2:1659:A:H2'	2:2:1660:A:C8	2.45	0.52
2:2:1704:U:H2'	2:2:1705:C:C6	2.45	0.52
3:A:594:U:P	3:A:609:G:H1	2.32	0.52
3:A:1119:C:H2'	3:A:1120:A:H8	1.75	0.52
5:C:27:U:H2'	5:C:28:C:H6	1.74	0.52
6:D:192:LYS:HE2	6:D:193:ARG:HH22	1.74	0.52
8:F:59:GLN:O	38:l:52:LYS:NZ	2.37	0.52
18:Q:50[A]:ASN:ND2	18:Q:136[A]:THR:OG1	2.43	0.52
21:U:34:GLU:O	21:U:38:LYS:HG3	2.09	0.52
28:b:46:ILE:HG23	28:b:68:ILE:HD11	1.92	0.52
34:h:52:VAL:HG21	34:h:99:ARG:HE	1.74	0.52
39:m:46:ARG:HH21	39:m:51:LEU:HB2	1.73	0.52
45:t:42:U:H2'	45:t:43:G:H8	1.73	0.52
46:v:671:MET:HE3	46:v:671:MET:HA	1.91	0.52
56:SF:141:SER:O	56:SF:141:SER:OG	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SZ:22:SER:OG	61:SZ:23:PHE:N	2.41	0.52
69:SV:34:ALA:HA	69:SV:56:ARG:HH22	1.75	0.52
69:SV:104:ILE:HD12	69:SV:106:ALA:H	1.73	0.52
2:2:637:C:OP1	74:Sb:32:LYS:N	2.42	0.52
2:2:1135:U:H2'	2:2:1136:U:C6	2.45	0.52
3:A:806:A:N6	3:A:2411:U:O2'	2.42	0.52
3:A:2432:A:C2	17:P:125:SER:HB2	2.44	0.52
3:A:2443:A:H2	3:A:2504:U:H3	1.57	0.52
3:A:2536:A:H1'	3:A:2546:C:N3	2.24	0.52
3:A:2676:A:H5'	3:A:2677:G:C8	2.44	0.52
3:A:2969:A:H62	6:D:215:ASN:HD21	1.57	0.52
3:A:3173:G:N1	34:h:92:LYS:O	2.41	0.52
17:P:16:SER:HB3	17:P:19:LEU:HD23	1.89	0.52
21:U:77:VAL:HG12	21:U:126:VAL:HG23	1.91	0.52
22:V:40:VAL:HG23	22:V:98:HIS:HA	1.91	0.52
45:t:3:C:H2'	45:t:4:G:H8	1.74	0.52
49:SE:108:ARG:H	49:SE:111:MET:HE1	1.73	0.52
64:SQ:99:ASN:OD1	64:SQ:100:PHE:N	2.42	0.52
67:ST:121:LEU:HD12	67:ST:124:LEU:HD13	1.91	0.52
69:SV:185:GLU:OE1	69:SV:185:GLU:N	2.43	0.52
2:2:329:G:H5''	69:SV:98:LYS:HB3	1.92	0.52
2:2:992:A:O2'	2:2:1785:U:O2	2.26	0.52
2:2:1187:U:H2'	2:2:1188:G:H8	1.74	0.52
3:A:224:C:O2	27:a:102:SER:OG	2.27	0.52
3:A:738:A:H2'	3:A:739:G:H8	1.75	0.52
3:A:1009:A:H2'	3:A:1010:G:H8	1.74	0.52
3:A:1237:G:H1	3:A:1251:A:H2	1.57	0.52
3:A:1643:A:O2'	3:A:1644:C:O4'	2.25	0.52
3:A:3075:G:H2'	3:A:3076:C:H6	1.74	0.52
4:B:48:U:H2'	4:B:49:G:C8	2.44	0.52
9:G:33:ARG:HH21	9:G:37:VAL:HG11	1.73	0.52
11:I:29:GLU:OE1	11:I:33:ARG:NH2	2.41	0.52
13:L:191:LYS:O	13:L:198:LYS:N	2.32	0.52
18:Q:122[A]:GLN:OE1	18:Q:122[A]:GLN:N	2.30	0.52
39:m:26:LYS:HE2	39:m:78:LEU:HD13	1.91	0.52
46:v:294:LYS:HG2	46:v:313:LEU:HD11	1.91	0.52
47:x:670:ALA:HB2	47:x:710:ARG:HG2	1.90	0.52
63:SP:155:PHE:HE1	73:Sa:61:SER:HA	1.73	0.52
64:SQ:199:ASN:HA	64:SQ:202:LYS:HE2	1.91	0.52
75:Sc:15:LEU:HD23	75:Sc:15:LEU:H	1.74	0.52
2:2:617:U:H2'	2:2:618:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1011:A:H2'	3:A:1012:G:H8	1.75	0.52
3:A:1088:U:C2	3:A:1089:G:C8	2.97	0.52
3:A:1293:U:O2'	21:U:88:HIS:NE2	2.42	0.52
3:A:1894:U:O2'	3:A:3054:U:OP1	2.28	0.52
3:A:2469:G:N1	3:A:2477:G:O6	2.42	0.52
3:A:3082:C:H2'	3:A:3083:G:C8	2.43	0.52
3:A:3107:U:H2'	3:A:3108:G:H8	1.75	0.52
4:B:84:A:H2'	4:B:85:G:C8	2.45	0.52
5:C:67:U:H2'	5:C:68:G:H8	1.75	0.52
6:D:177:LYS:HG3	44:r:26:VAL:HG12	1.92	0.52
41:o:94:SER:OG	41:o:104:PRO:O	2.25	0.52
47:x:321:LYS:O	47:x:325:ARG:HG2	2.10	0.52
62:Se:68:TYR:HE2	64:SQ:112:SER:HB3	1.75	0.52
62:Se:87:ARG:NE	62:Se:91:ASP:OD1	2.42	0.52
63:SP:7:PHE:O	63:SP:54:TRP:NE1	2.34	0.52
68:SU:161:GLN:O	68:SU:165:LYS:NZ	2.43	0.52
80:J:227:ASP:HA	80:J:230:LYS:HD3	1.92	0.52
81:SO:106:HIS:ND1	81:SO:110:VAL:HG11	2.23	0.52
2:2:406:U:H2'	2:2:407:A:C8	2.45	0.52
2:2:577:G:H22	2:2:1755:A:N6	2.06	0.52
2:2:1585:U:H4'	56:SF:135:ARG:HG3	1.91	0.52
3:A:1339:C:H2'	3:A:1340:G:C8	2.44	0.52
3:A:1728:G:OP2	31:e:86:ARG:NH1	2.42	0.52
3:A:2511:A:N1	3:A:2512:C:N4	2.58	0.52
3:A:2697:A:H2'	3:A:2698:G:C8	2.45	0.52
3:A:2744:U:H2'	3:A:2745:G:C8	2.44	0.52
3:A:3048:A:N6	3:A:3091:A:OP2	2.43	0.52
3:A:3064:U:H2'	3:A:3065:G:H8	1.74	0.52
4:B:59:U:H2'	4:B:60:G:C8	2.45	0.52
9:G:39:GLN:HB3	9:G:48:LYS:HD2	1.91	0.52
19:R:168:LEU:HD12	19:R:172:GLN:HB3	1.92	0.52
23:W:19:VAL:HA	23:W:105:LEU:HD23	1.92	0.52
26:Z:51:VAL:HG23	36:j:62:GLN:OE1	2.10	0.52
46:v:639:GLU:HG3	46:v:928:ARG:HH21	1.74	0.52
73:Sa:20:THR:HG23	73:Sa:22:ARG:HG2	1.92	0.52
78:Sg:26:LYS:HD2	78:Sg:27:PRO:HD2	1.90	0.52
2:2:553:G:OP2	2:2:554:C:O2'	2.24	0.52
2:2:1236:A:O2'	59:SN:138:ARG:NH1	2.43	0.52
2:2:1304:G:O5'	2:2:1305:U:H2'	2.10	0.52
2:2:1529:C:H5''	58:SK:95:HIS:CE1	2.44	0.52
3:A:32:U:H3	3:A:52:A:H61	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1431:G:OP2	29:c:9:ARG:NH2	2.42	0.52
3:A:1722:U:H4'	20:T:95:TRP:HZ3	1.75	0.52
3:A:1942:U:OP2	20:T:74:ARG:NE	2.35	0.52
3:A:2754:G:O6	43:q:86:LYS:NZ	2.39	0.52
3:A:3037:U:H5''	7:E:348:ARG:HD2	1.92	0.52
3:A:3231:U:H2'	3:A:3232:G:H8	1.75	0.52
4:B:27:A:OP2	9:G:57:ASN:ND2	2.43	0.52
5:C:24:G:H2'	5:C:25:G:C8	2.45	0.52
8:F:351:PRO:HA	11:I:71:ALA:HA	1.90	0.52
13:L:19:LYS:HG3	13:L:26:VAL:HG11	1.91	0.52
27:a:115:ARG:O	27:a:119:ILE:HG12	2.09	0.52
46:v:148:ILE:O	46:v:152:ILE:HG13	2.10	0.52
46:v:661:LYS:HA	46:v:692:LEU:HD23	1.92	0.52
47:x:55:ARG:HG3	47:x:58:ASP:OD1	2.10	0.52
57:SH:101:LEU:HD23	57:SH:104:ASN:HB2	1.91	0.52
68:SU:50:ASP:OD1	68:SU:50:ASP:N	2.43	0.52
75:Sc:55:GLU:N	75:Sc:55:GLU:OE2	2.43	0.52
80:J:150:LEU:HA	80:J:176:PRO:HG2	1.92	0.52
2:2:1392:U:H2'	2:2:1393:C:H6	1.75	0.52
3:A:1384:U:OP2	8:F:202:ARG:NE	2.35	0.52
3:A:1604:G:H5''	3:A:1835:A:H4'	1.91	0.52
3:A:2407:C:H2'	3:A:2408:U:H6	1.75	0.52
24:X:66:LYS:HG3	24:X:68:GLU:HG3	1.92	0.52
31:e:28:LYS:HA	31:e:31:VAL:HG12	1.91	0.52
47:x:10:ARG:NE	47:x:10:ARG:O	2.43	0.52
47:x:319:LEU:HA	47:x:322:VAL:HG22	1.91	0.52
50:SA:220:PRO:HA	81:SO:193:ILE:CG1	2.39	0.52
55:SB:91:GLU:HA	55:SB:94:THR:HG23	1.91	0.52
81:SO:63:GLY:HA3	81:SO:92:TRP:CZ2	2.45	0.52
3:A:76:G:OP1	15:N:73:ARG:N	2.37	0.52
3:A:242:C:HO2'	3:A:243:G:H8	1.58	0.52
3:A:1100:U:H2'	3:A:1101:G:C8	2.46	0.52
3:A:1886:A:H2'	3:A:1887:A:H8	1.75	0.52
3:A:2815:G:N2	3:A:2818:U:O2	2.39	0.52
3:A:2895:G:O2'	41:o:100:TYR:O	2.27	0.52
3:A:3009:G:N2	7:E:15:GLY:O	2.40	0.52
3:A:3252:G:H2'	3:A:3253:G:C8	2.45	0.52
7:E:84:VAL:HG12	7:E:164:THR:HG22	1.91	0.52
44:r:24:ARG:HG2	44:r:28:LYS:NZ	2.24	0.52
58:SK:65:LEU:HB3	58:SK:71:ILE:HD11	1.90	0.52
63:SP:140:ASN:ND2	65:SR:60:SER:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SY:118:ILE:O	72:SY:122:ILE:HG12	2.09	0.52
73:Sa:87:ARG:O	77:Sf:11:THR:N	2.33	0.52
81:SO:120:SER:C	81:SO:121:MET:SD	2.93	0.52
2:2:108:A:H2'	2:2:109:G:C8	2.45	0.51
2:2:329:G:H2'	2:2:330:G:H8	1.75	0.51
2:2:1125:A:C6	2:2:1126:G:H1'	2.45	0.51
2:2:1220:C:OP1	48:SC:48:SER:OG	2.25	0.51
2:2:1606:C:H2'	2:2:1607:G:H8	1.75	0.51
3:A:1060:U:H2'	3:A:1061:A:C8	2.46	0.51
3:A:1109:U:H2'	3:A:1110:U:C6	2.45	0.51
3:A:1778:G:O2'	3:A:1780:G:OP2	2.28	0.51
3:A:2184:U:OP2	6:D:6:ARG:NH2	2.43	0.51
3:A:2526:C:H2'	3:A:2527:G:H8	1.74	0.51
3:A:2666:C:OP2	3:A:2687:G:N1	2.43	0.51
3:A:3044:G:H2'	3:A:3045:G:C8	2.45	0.51
3:A:3139:A:H4'	7:E:20:LYS:HE3	1.91	0.51
6:D:48:ILE:HD12	6:D:59:ALA:HA	1.91	0.51
47:x:388:THR:HG22	47:x:393:ARG:H	1.75	0.51
56:SF:41:PRO:HB3	56:SF:78:VAL:HG21	1.92	0.51
67:ST:48:TYR:HE1	67:ST:117:GLY:H	1.58	0.51
68:SU:120:ALA:O	68:SU:124:LYS:HG2	2.10	0.51
79:SJ:100:VAL:O	79:SJ:104:THR:OG1	2.28	0.51
81:SO:68:VAL:HG22	81:SO:84:SER:HB2	1.92	0.51
81:SO:89:LEU:O	81:SO:91:LEU:HD23	2.10	0.51
81:SO:155:ARG:O	81:SO:169:ILE:HG13	2.10	0.51
81:SO:170:ILE:HD13	81:SO:181:TRP:H	1.75	0.51
2:2:29:U:H2'	2:2:30:G:C8	2.44	0.51
2:2:1474:G:H2'	2:2:1475:A:C8	2.45	0.51
3:A:196:G:N1	3:A:199:A:OP2	2.40	0.51
3:A:381:U:H3	3:A:388:G:H1	1.58	0.51
3:A:1718:G:H2'	3:A:1719:G:H8	1.73	0.51
5:C:128:U:OP1	5:C:129:C:N4	2.34	0.51
12:K:93:VAL:HB	41:o:82:LEU:HD12	1.93	0.51
18:Q:22[A]:VAL:HG11	18:Q:120[A]:VAL:HG11	1.92	0.51
18:Q:55[A]:HIS:HA	18:Q:58[A]:LEU:HD12	1.92	0.51
18:Q:77[A]:SER:OG	18:Q:104[A]:VAL:HG13	2.10	0.51
24:X:33:ASN:HD21	24:X:64:LYS:HG3	1.75	0.51
24:X:130:ALA:O	24:X:133:SER:OG	2.27	0.51
63:SP:198:MET:HB2	63:SP:199:PRO:CD	2.35	0.51
66:SS:8:HIS:O	66:SS:30:ARG:NH2	2.43	0.51
72:SY:89:TYR:OH	72:SY:149:LEU:O	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:170:ILE:HG12	81:SO:180:ALA:HA	1.92	0.51
81:SO:201:THR:CG2	81:SO:242:SER:HA	2.40	0.51
2:2:93:A:H61	2:2:396:G:H1'	1.76	0.51
2:2:1173:C:HO2'	2:2:1601:G:H1	1.59	0.51
2:2:1726:G:H2'	2:2:1727:G:H8	1.75	0.51
3:A:616:G:H2'	3:A:617:G:H8	1.75	0.51
3:A:2355:G:H4'	19:R:139:TYR:CE1	2.45	0.51
3:A:2810:C:OP2	3:A:2955:U:O2'	2.29	0.51
3:A:2899:C:O2'	3:A:2901:G:OP2	2.27	0.51
3:A:3006:A:H62	3:A:3140:G:H21	1.57	0.51
3:A:3014:U:H2'	3:A:3015:G:H8	1.74	0.51
3:A:3283:U:H2'	3:A:3284:G:C8	2.44	0.51
5:C:104:A:H5'	5:C:105:A:H8	1.75	0.51
9:G:18:THR:OG1	9:G:24:ARG:NE	2.42	0.51
10:H:31:ARG:NH2	34:h:105:SER:O	2.43	0.51
13:L:149:VAL:HG23	13:L:165:ILE:HG21	1.92	0.51
14:M:17:LEU:HA	14:M:129:VAL:HA	1.92	0.51
23:W:102:GLU:C	23:W:103:TYR:HD1	2.19	0.51
27:a:24:SER:HA	27:a:27:ARG:HB2	1.90	0.51
46:v:347:LEU:HD23	46:v:402:ILE:HG23	1.92	0.51
47:x:495:VAL:HG11	47:x:500:ASP:HB3	1.91	0.51
48:SC:49:LEU:HB3	48:SC:54:TYR:HB2	1.91	0.51
52:SL:9:LEU:HG	52:SL:53:ILE:HD11	1.91	0.51
54:SG:53:TYR:O	54:SG:57:LEU:HD12	2.09	0.51
61:SZ:64:ALA:HB3	61:SZ:104:ALA:HB3	1.91	0.51
66:SS:92:LEU:HD21	76:Sd:17:LEU:HD11	1.92	0.51
67:ST:102:VAL:HG13	67:ST:106:LEU:HD23	1.93	0.51
2:2:60:U:N3	2:2:63:G:OP1	2.38	0.51
2:2:877:G:H22	2:2:951:A:H2	1.58	0.51
2:2:907:A:HO2'	2:2:997:G:HO2'	1.51	0.51
2:2:929:A:H5''	2:2:931:C:H41	1.76	0.51
2:2:1274:C:H4'	2:2:1275:A:O5'	2.10	0.51
3:A:1062:A:O2'	3:A:1098:A:OP2	2.28	0.51
3:A:2170:U:H2'	3:A:2171:G:O4'	2.11	0.51
3:A:2683:U:H2'	3:A:2684:C:H6	1.74	0.51
4:B:65:G:H2'	4:B:66:A:H8	1.76	0.51
9:G:39:GLN:OE1	9:G:39:GLN:N	2.33	0.51
13:L:66:GLU:O	13:L:70:ILE:HG12	2.10	0.51
19:R:22:LEU:HD22	19:R:146:ILE:HD13	1.91	0.51
22:V:84:TYR:HB3	30:d:24:PRO:HD3	1.91	0.51
28:b:87:LEU:HD13	28:b:127:ASN:HD22	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SP:55:GLU:HG2	73:Sa:79:LEU:HD22	1.92	0.51
64:SQ:129:THR:HG23	64:SQ:131:ASP:H	1.75	0.51
67:ST:23:ARG:NH2	67:ST:42:GLY:HA2	2.25	0.51
72:SY:132:VAL:HG13	72:SY:134:VAL:HG22	1.91	0.51
2:2:891:A:H2'	2:2:892:A:C8	2.45	0.51
2:2:1179:G:H21	2:2:1460:A:N6	2.09	0.51
2:2:1682:U:O4	2:2:1720:G:N2	2.43	0.51
2:2:1729:C:H2'	2:2:1730:A:O4'	2.11	0.51
3:A:34:A:H5'	17:P:86:ASN:HD22	1.75	0.51
3:A:89:A:OP1	29:c:60:TYR:N	2.40	0.51
3:A:528:U:H2'	3:A:529:A:C8	2.46	0.51
3:A:1290:A:H2'	3:A:1291:A:C8	2.46	0.51
3:A:1795:U:C4	44:r:51:ALA:HA	2.45	0.51
3:A:1803:C:H2'	3:A:1804:A:C8	2.45	0.51
4:B:12:U:O3'	4:B:111:U:O2'	2.22	0.51
10:H:131:LYS:HD2	10:H:132:THR:H	1.74	0.51
21:U:8:GLN:HB3	21:U:64:ILE:HD11	1.92	0.51
24:X:66:LYS:HD2	24:X:67:PRO:HD2	1.91	0.51
47:x:22:MET:N	47:x:22:MET:SD	2.83	0.51
55:SB:192:GLU:OE1	55:SB:192:GLU:N	2.27	0.51
60:SD:86:VAL:N	60:SD:87:PRO:HD3	2.26	0.51
72:SY:45:LEU:HA	72:SY:49:GLN:HE21	1.76	0.51
2:2:1171:A:H2'	2:2:1172:G:C8	2.45	0.51
2:2:1681:A:N7	67:ST:65:GLN:NE2	2.55	0.51
3:A:207:U:H2'	3:A:208:C:C6	2.46	0.51
3:A:294:U:H5''	37:k:53:TYR:CE2	2.45	0.51
3:A:405:U:H5''	3:A:1416:C:H4'	1.91	0.51
3:A:1624:G:O2'	3:A:1643:A:N1	2.39	0.51
36:j:13:SER:O	36:j:17:LEU:HD12	2.11	0.51
44:r:39:CYS:SG	44:r:41:PHE:HD2	2.33	0.51
53:SM:31:ILE:H	53:SM:31:ILE:HD12	1.76	0.51
63:SP:175:TYR:CE2	63:SP:179:ARG:HD2	2.46	0.51
73:Sa:44:ARG:H	73:Sa:44:ARG:HD3	1.76	0.51
79:SJ:58:LEU:HD12	79:SJ:88:LYS:HG3	1.93	0.51
81:SO:23:LEU:HB3	81:SO:33:LEU:HD11	1.92	0.51
81:SO:26:SER:OG	81:SO:27:ALA:N	2.41	0.51
81:SO:91:LEU:HB2	81:SO:100:TYR:HD1	1.76	0.51
2:2:120:U:H3'	2:2:121:U:H5''	1.92	0.51
2:2:545:A:O4'	2:2:594:A:N6	2.43	0.51
2:2:563:U:H3	2:2:580:A:H62	1.58	0.51
2:2:1144:U:O2'	2:2:1301:U:H4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1611:A:OP1	55:SB:107:LYS:NZ	2.42	0.51
3:A:129:U:H2'	3:A:130:A:C8	2.46	0.51
3:A:421:G:O6	3:A:2383:C:O2'	2.27	0.51
3:A:1167:U:O2'	11:I:210:PRO:O	2.26	0.51
3:A:1533:U:H2'	3:A:1534:A:H8	1.75	0.51
3:A:1543:G:O2'	3:A:2168:A:O2'	2.29	0.51
3:A:2951:G:H2'	3:A:2952:G:C8	2.45	0.51
7:E:220:VAL:HA	7:E:274:SER:HA	1.92	0.51
9:G:54:ARG:HB2	9:G:61:ILE:HD11	1.90	0.51
13:L:206:LEU:O	13:L:210:ILE:HG12	2.10	0.51
31:e:75:ASN:OD1	31:e:76:GLU:N	2.44	0.51
32:f:72:ARG:HG2	32:f:96:VAL:HB	1.92	0.51
33:g:65:PHE:HB2	33:g:72:LYS:HE2	1.93	0.51
46:v:42:GLU:HG3	46:v:44:ASP:H	1.75	0.51
50:SA:108:LYS:HE2	50:SA:113:LEU:HB3	1.93	0.51
51:SI:124:ILE:HG21	51:SI:129:GLN:HB2	1.92	0.51
52:SL:47:PRO:HB3	55:SB:81:ARG:HH21	1.74	0.51
54:SG:47:ARG:HA	54:SG:50:ILE:HG22	1.93	0.51
63:SP:142:PRO:HG3	73:Sa:32:VAL:HB	1.93	0.51
65:SR:66:PHE:CD2	65:SR:130:ILE:HD11	2.46	0.51
80:J:108:ARG:HA	80:J:111:LYS:HG2	1.92	0.51
1:S:143:PRO:HB2	1:S:146:SER:HB3	1.93	0.51
2:2:256:A:N3	69:SV:73:SER:OG	2.37	0.51
2:2:626:U:H1'	72:SY:113:PHE:HZ	1.75	0.51
2:2:925:G:H2'	2:2:926:A:C8	2.46	0.51
3:A:69:C:OP1	17:P:178:HIS:ND1	2.38	0.51
3:A:114:A:N1	3:A:266:A:O2'	2.43	0.51
3:A:933:A:C8	8:F:58:HIS:HE1	2.27	0.51
3:A:1372:C:H2'	3:A:1373:A:H8	1.75	0.51
3:A:1460:A:H5'	32:f:51:LEU:O	2.11	0.51
3:A:2298:U:O4	3:A:2925:C:N4	2.32	0.51
29:c:16:SER:OG	29:c:20:GLY:O	2.24	0.51
32:f:15:ASN:O	32:f:19:ARG:NH1	2.43	0.51
47:x:565:GLU:HA	47:x:724:ILE:HA	1.92	0.51
66:SS:75:LYS:HB3	66:SS:77:ARG:HD3	1.93	0.51
75:Sc:27:ASN:OD1	75:Sc:28:ASN:N	2.44	0.51
81:SO:37:SER:OG	81:SO:38:ARG:N	2.44	0.51
2:2:71:A:OP2	67:ST:164:LYS:NZ	2.30	0.51
2:2:1632:C:O2'	2:2:1633:A:H5'	2.10	0.51
3:A:363:G:OP2	38:l:56:ARG:NH2	2.43	0.51
3:A:1102:A:OP1	11:I:155:LYS:NZ	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1576:G:H2'	3:A:1577:G:C8	2.46	0.51
3:A:3052:G:OP1	25:Y:34:SER:HB2	2.11	0.51
3:A:3304:U:H1'	7:E:334:ARG:HH21	1.76	0.51
10:H:13:GLU:N	10:H:13:GLU:OE2	2.44	0.51
16:O:113:THR:HG22	16:O:116:GLU:HG2	1.93	0.51
16:O:121:MET:HE3	16:O:122:VAL:N	2.26	0.51
24:X:104:ASN:OD1	24:X:108:GLU:N	2.33	0.51
36:j:13:SER:OG	36:j:15:GLU:OE2	2.29	0.51
45:t:22:G:N7	45:t:46:G:O6	2.44	0.51
46:v:121:ASN:HD22	46:v:124:ALA:HB2	1.75	0.51
47:x:729:PHE:HB3	47:x:796:MET:HB2	1.92	0.51
51:SI:15:ILE:HD12	51:SI:16:ASN:N	2.26	0.51
54:SG:104:ASN:HD21	54:SG:122:ILE:H	1.59	0.51
76:Sd:38:ASP:N	76:Sd:38:ASP:OD1	2.43	0.51
79:SJ:96:PRO:HD2	79:SJ:98:GLN:HE22	1.75	0.51
81:SO:12:THR:HA	81:SO:311:ARG:CG	2.41	0.51
2:2:1389:C:H6	54:SG:28:PHE:CZ	2.29	0.51
2:2:1787:C:H2'	2:2:1788:G:C8	2.45	0.51
3:A:172:G:H2'	3:A:173:G:C8	2.46	0.51
3:A:1411:C:H2'	3:A:1412:G:H8	1.75	0.51
3:A:2908:G:H4'	41:o:114:LYS:HE2	1.92	0.51
13:L:4:ARG:HA	13:L:4:ARG:CZ	2.41	0.51
26:Z:93:TYR:HA	26:Z:96:LYS:HG2	1.92	0.51
27:a:52:ARG:NH2	27:a:71:SER:O	2.43	0.51
31:e:103:THR:OG1	31:e:104:LEU:N	2.43	0.51
47:x:809:LEU:HD22	47:x:833:PRO:HB3	1.92	0.51
50:SA:8:LYS:HE3	79:SJ:63:LEU:HD11	1.93	0.51
66:SS:207:LEU:HD11	66:SS:219:VAL:HG13	1.92	0.51
67:ST:196:ARG:NH1	67:ST:199:GLN:OE1	2.44	0.51
69:SV:187:GLU:OE1	69:SV:187:GLU:N	2.44	0.51
76:Sd:56:SER:HB2	76:Sd:90:ARG:NH2	2.22	0.51
81:SO:102:ARG:O	81:SO:104:VAL:N	2.44	0.51
1:S:43:PRO:O	1:S:47:VAL:HG12	2.10	0.50
2:2:156:A:N6	2:2:418:G:N7	2.59	0.50
2:2:554:C:N4	2:2:571:G:O6	2.44	0.50
2:2:887:A:H5''	61:SZ:120:PRO:HB2	1.93	0.50
2:2:941:A:C5	2:2:942:G:H1'	2.46	0.50
2:2:1467:C:H2'	2:2:1468:U:C6	2.46	0.50
2:2:1486:G:H2'	2:2:1487:A:C8	2.46	0.50
3:A:19:U:H2'	3:A:20:A:C8	2.46	0.50
3:A:337:G:OP2	8:F:196:ASN:ND2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:684:G:H2'	3:A:685:G:H8	1.76	0.50
3:A:1949:G:H1	3:A:2097:U:H3	1.58	0.50
3:A:2250:G:H2'	3:A:2251:G:H8	1.74	0.50
3:A:2415:C:OP1	6:D:2:GLY:N	2.44	0.50
3:A:2697:A:H2'	3:A:2698:G:H8	1.77	0.50
3:A:2812:C:H2'	3:A:2813:A:C8	2.46	0.50
4:B:3:U:H4'	4:B:25:G:N2	2.26	0.50
5:C:145:U:H2'	5:C:146:U:C6	2.46	0.50
10:H:174:LEU:HB3	10:H:176:PHE:HE1	1.76	0.50
17:P:16:SER:O	17:P:20:ARG:N	2.37	0.50
20:T:152:GLU:O	20:T:156:ASN:ND2	2.44	0.50
24:X:63:LYS:C	24:X:70:ARG:HH22	2.19	0.50
31:e:41:LEU:HB3	31:e:92:ILE:HD11	1.94	0.50
34:h:19:SER:N	34:h:22:VAL:O	2.44	0.50
35:i:83:ASN:O	35:i:87:GLU:HG3	2.11	0.50
44:r:7:LYS:O	44:r:27:LYS:NZ	2.44	0.50
46:v:554:ALA:HA	46:v:557:VAL:HG22	1.93	0.50
67:ST:187:LYS:O	67:ST:190:GLN:NE2	2.45	0.50
3:A:288:C:H2'	3:A:289:A:C8	2.46	0.50
3:A:308:A:H1'	3:A:2222:A:C2	2.46	0.50
3:A:341:G:N2	3:A:349:A:H61	2.07	0.50
3:A:753:C:H2'	3:A:754:G:H8	1.77	0.50
3:A:1178:G:C6	34:h:19:SER:HA	2.47	0.50
3:A:1662:G:N2	3:A:1787:A:N1	2.45	0.50
3:A:2154:U:H2'	3:A:2155:G:C8	2.46	0.50
3:A:2351:U:H2'	3:A:2352:A:H8	1.77	0.50
3:A:2646:C:N4	3:A:2647:A:N6	2.59	0.50
3:A:3187:A:H5'	12:K:22:SER:HA	1.94	0.50
6:D:79:ASN:HA	6:D:169:ILE:HA	1.93	0.50
6:D:176:ASP:O	44:r:25:GLN:NE2	2.44	0.50
9:G:208:MET:HE2	9:G:208:MET:HA	1.92	0.50
19:R:41:LEU:HD11	19:R:112:LEU:HB2	1.93	0.50
31:e:52:ARG:O	31:e:56:LEU:HG	2.12	0.50
46:v:457:ARG:NH1	46:v:590:ILE:O	2.44	0.50
46:v:464:ASN:H	46:v:929:ASP:HB3	1.76	0.50
46:v:658:VAL:HG12	46:v:663:LYS:HD3	1.93	0.50
47:x:132:ILE:HG23	47:x:162:ARG:HG2	1.94	0.50
54:SG:58:MET:HA	54:SG:61:ILE:HG12	1.91	0.50
60:SD:62:LEU:HD13	60:SD:75:VAL:HG21	1.93	0.50
65:SR:65:GLU:HB2	65:SR:68:ILE:HD12	1.94	0.50
66:SS:35:PRO:HG2	66:SS:36:HIS:CE1	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SS:72:VAL:HG12	66:SS:90:ILE:HG22	1.93	0.50
69:SV:104:ILE:HD12	69:SV:106:ALA:N	2.26	0.50
70:SW:152:SER:O	70:SW:156:ILE:N	2.45	0.50
73:Sa:62:ARG:CZ	73:Sa:62:ARG:HA	2.41	0.50
1:S:19:PRO:HD3	1:S:53:PHE:HA	1.93	0.50
2:2:269:G:H2'	2:2:270:C:C6	2.46	0.50
2:2:614:C:H2'	2:2:615:A:H8	1.77	0.50
2:2:755:A:H2	66:SS:13:ALA:HA	1.77	0.50
2:2:1234:A:C8	2:2:1245:G:N7	2.79	0.50
2:2:1415:U:H2'	2:2:1416:G:H8	1.75	0.50
2:2:1483:A:H2	2:2:1607:G:H1'	1.77	0.50
2:2:1776:A:H2'	2:2:1777:G:H8	1.77	0.50
3:A:3027:A:H1'	47:x:785:ARG:NH2	2.26	0.50
7:E:81:THR:O	7:E:81:THR:OG1	2.29	0.50
12:K:130:ASP:OD1	12:K:130:ASP:N	2.42	0.50
13:L:151:GLY:O	13:L:154:ARG:HG2	2.11	0.50
14:M:19:LEU:HG	14:M:125:MET:CE	2.41	0.50
14:M:109:HIS:HB3	14:M:124:GLY:HA2	1.93	0.50
33:g:12:LYS:NZ	33:g:58:GLY:O	2.38	0.50
33:g:63:THR:O	33:g:63:THR:HG22	2.12	0.50
46:v:178:MET:HE1	46:v:190:THR:HB	1.93	0.50
46:v:802:ARG:HG2	46:v:809:TYR:HB3	1.93	0.50
50:SA:135:GLU:HB3	50:SA:187:LYS:HB2	1.93	0.50
56:SF:14:LYS:HZ1	56:SF:123:ARG:HD3	1.75	0.50
62:Se:42:ARG:O	62:Se:67:THR:OG1	2.25	0.50
62:Se:60:PRO:HB2	62:Se:61:GLU:OE1	2.10	0.50
65:SR:36:VAL:HG23	65:SR:36:VAL:O	2.12	0.50
78:Sg:56:MET:C	78:Sg:56:MET:HE2	2.35	0.50
81:SO:192:PHE:CD2	81:SO:223:TRP:CE3	2.99	0.50
2:2:511:A:H5''	70:SW:173:ALA:HB2	1.93	0.50
2:2:1479:A:OP1	51:SI:57:ARG:NH1	2.45	0.50
3:A:1266:G:H21	3:A:1275:C:N4	2.09	0.50
3:A:1403:C:H2'	3:A:1404:G:C8	2.46	0.50
3:A:2340:U:H2'	3:A:2341:A:C8	2.45	0.50
15:N:46:ILE:HD11	15:N:49:ARG:HE	1.76	0.50
15:N:110:ASP:OD1	15:N:110:ASP:N	2.45	0.50
18:Q:58[A]:LEU:HA	18:Q:72[A]:HIS:ND1	2.25	0.50
22:V:44:ALA:HA	22:V:95:HIS:HB3	1.94	0.50
28:b:43:VAL:HG11	28:b:80:LEU:HD11	1.94	0.50
39:m:5:ILE:HG21	39:m:11:PHE:HB2	1.93	0.50
45:s:39:C:H2'	45:s:40:C:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:t:8:U:C2	45:t:14:A:N7	2.79	0.50
47:x:158:ASN:OD1	47:x:159:LYS:N	2.42	0.50
57:SH:86:LEU:HB2	57:SH:89:GLN:HG3	1.92	0.50
61:SZ:118:VAL:O	61:SZ:118:VAL:HG22	2.11	0.50
66:SS:104:ASP:HB3	66:SS:110:ALA:HB2	1.92	0.50
68:SU:139:ARG:HB2	68:SU:151:LYS:HB3	1.93	0.50
81:SO:259:GLY:HA2	81:SO:275:ARG:NH2	2.26	0.50
2:2:387:A:H2'	2:2:402:C:H5'	1.94	0.50
2:2:422:G:H2'	2:2:423:G:C8	2.46	0.50
2:2:1609:U:H2'	2:2:1610:G:O4'	2.12	0.50
2:2:1719:A:H3'	2:2:1720:G:H8	1.77	0.50
3:A:127:G:H2'	3:A:128:G:C8	2.47	0.50
3:A:508:U:O2	3:A:583:G:N2	2.32	0.50
3:A:571:U:H2'	3:A:572:A:H8	1.76	0.50
3:A:656:A:H2'	3:A:657:A:H8	1.76	0.50
3:A:1388:U:O2'	33:g:99:ASN:OD1	2.28	0.50
3:A:1616:U:H2'	3:A:1617:G:C8	2.46	0.50
3:A:1748:G:OP2	39:m:42:LYS:NZ	2.44	0.50
12:K:138:THR:OG1	12:K:139:ASN:N	2.44	0.50
14:M:32:ARG:HH22	14:M:118:PRO:HG2	1.77	0.50
14:M:86:VAL:HG22	14:M:111:ASP:OD1	2.12	0.50
15:N:5:LYS:O	15:N:7:LEU:HD12	2.12	0.50
17:P:18:VAL:HG23	17:P:19:LEU:HD22	1.92	0.50
17:P:34:ASN:OD1	17:P:35:VAL:N	2.44	0.50
18:Q:150[A]:GLU:N	18:Q:150[A]:GLU:OE2	2.42	0.50
32:f:10:ARG:HG2	32:f:108:VAL:HA	1.93	0.50
46:v:557:VAL:HG21	46:v:580:TRP:HZ2	1.76	0.50
47:x:598:SER:HB2	47:x:682:ARG:HH12	1.77	0.50
64:SQ:66:VAL:O	64:SQ:86:LEU:N	2.42	0.50
65:SR:226:THR:HG23	74:Sb:99:PHE:HD2	1.76	0.50
66:SS:117:GLU:O	66:SS:120:SER:OG	2.29	0.50
66:SS:141:THR:OG1	66:SS:143:ASP:OD1	2.21	0.50
69:SV:57:ALA:HB2	69:SV:177:GLY:HA2	1.93	0.50
81:SO:124:SER:HB3	81:SO:134:TRP:CD1	2.46	0.50
81:SO:245:PHE:HA	81:SO:252:LEU:CD1	2.40	0.50
2:2:563:U:O4	2:2:580:A:N7	2.44	0.50
2:2:651:G:N1	2:2:684:A:C6	2.79	0.50
2:2:1648:A:H2'	2:2:1649:G:H8	1.75	0.50
2:2:1759:C:H2'	2:2:1760:G:C8	2.47	0.50
3:A:805:G:H1'	8:F:73:ARG:HH21	1.77	0.50
3:A:1018:G:H22	3:A:1034:U:H2'	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1339:C:H2'	3:A:1340:G:H8	1.77	0.50
3:A:2255:A:N7	3:A:2261:G:N2	2.60	0.50
3:A:2948:C:H4'	7:E:243:HIS:H	1.76	0.50
4:B:24:A:H2'	4:B:25:G:C8	2.47	0.50
4:B:97:A:H2'	4:B:98:C:C6	2.46	0.50
5:C:9:A:H2'	5:C:10:A:H8	1.77	0.50
17:P:46:ASP:OD1	17:P:50:ARG:NH1	2.41	0.50
18:Q:58[A]:LEU:HA	18:Q:72[A]:HIS:CE1	2.46	0.50
45:t:53:G:H2'	45:t:54:A:C8	2.45	0.50
47:x:224:GLN:HE21	47:x:329:PRO:HB2	1.76	0.50
47:x:244:LEU:HD23	47:x:271:ARG:HH21	1.75	0.50
50:SA:7:LYS:O	50:SA:11:LEU:HG	2.12	0.50
63:SP:198:MET:HE1	63:SP:200:ASP:OD2	2.12	0.50
64:SQ:88:VAL:HA	64:SQ:98:THR:HA	1.94	0.50
65:SR:144:TRP:H	65:SR:152:HIS:HE1	1.60	0.50
65:SR:175:GLY:O	70:SW:53:ARG:NH1	2.44	0.50
70:SW:36:LEU:HD12	70:SW:41:GLU:HG3	1.93	0.50
1:S:179:ARG:NH1	3:A:709:A:OP1	2.44	0.50
2:2:751:G:H2'	2:2:752:A:C8	2.46	0.50
2:2:884:A:H2'	2:2:885:G:H8	1.76	0.50
2:2:1446:A:OP1	59:SN:85:TYR:OH	2.29	0.50
2:2:1609:U:O2'	55:SB:106:LYS:N	2.44	0.50
3:A:201:A:H4'	3:A:220:G:C6	2.46	0.50
3:A:1270:A:N9	47:x:744:TYR:CE2	2.80	0.50
3:A:2522:G:H1	6:D:70:ARG:HH22	1.60	0.50
3:A:2765:C:O2'	45:t:75:C:N4	2.45	0.50
7:E:193:ASP:HA	7:E:196:ARG:HE	1.76	0.50
10:H:170:LYS:HB3	10:H:172:HIS:CE1	2.47	0.50
14:M:166:LYS:NZ	14:M:167:TYR:HB2	2.26	0.50
18:Q:167[A]:TYR:HA	18:Q:170[A]:LYS:HZ3	1.77	0.50
24:X:66:LYS:HB3	24:X:69:LEU:HB2	1.94	0.50
24:X:84:SER:HA	24:X:94:TYR:HB3	1.93	0.50
37:k:37:THR:O	37:k:41:ARG:HG3	2.12	0.50
64:SQ:149:GLN:HE21	64:SQ:151:LYS:H	1.59	0.50
2:2:898:A:H4'	61:SZ:46:MET:HE1	1.93	0.50
2:2:975:C:H5'	72:SY:109:LYS:NZ	2.26	0.50
2:2:1524:A:H2'	2:2:1525:A:C8	2.47	0.50
3:A:394:G:N1	3:A:397:A:OP2	2.35	0.50
3:A:658:G:H21	8:F:93:MET:HB2	1.77	0.50
3:A:2181:C:OP1	6:D:192:LYS:NZ	2.44	0.50
7:E:205:VAL:HG11	7:E:322:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:80:GLN:HE22	22:V:136:ARG:HB2	1.76	0.50
24:X:10:LYS:HB2	24:X:125:LEU:HD21	1.93	0.50
27:a:53:ASP:HA	27:a:69:LYS:HZ3	1.76	0.50
39:m:28:ASN:HB2	39:m:40:GLN:HB2	1.93	0.50
44:r:57:CYS:SG	44:r:59:CYS:N	2.80	0.50
46:v:73:ILE:HA	46:v:76:GLN:OE1	2.11	0.50
56:SF:54:LEU:HD12	56:SF:55:VAL:HG13	1.93	0.50
66:SS:82:TYR:HD1	66:SS:83:PRO:HD2	1.75	0.50
67:ST:20:ASP:O	67:ST:23:ARG:HG2	2.11	0.50
80:J:143:ILE:HD12	80:J:175:VAL:HG21	1.94	0.50
81:SO:19:TRP:NE1	81:SO:306:THR:HB	2.27	0.50
81:SO:38:ARG:O	81:SO:40:LYS:N	2.33	0.50
81:SO:288:HIS:O	81:SO:306:THR:HG23	2.11	0.50
1:S:30:VAL:O	1:S:34:THR:HG22	2.11	0.50
2:2:1316:G:OP1	54:SG:6:THR:OG1	2.22	0.50
2:2:1414:U:O3'	54:SG:3:ARG:NH1	2.45	0.50
3:A:1472:U:H2'	3:A:1473:G:H8	1.77	0.50
3:A:2742:C:H2'	3:A:2743:A:H8	1.77	0.50
3:A:3121:U:H1'	3:A:3122:A:H5''	1.94	0.50
10:H:85:ILE:HD12	10:H:176:PHE:HD2	1.76	0.50
17:P:186:GLY:O	17:P:190:THR:HG23	2.12	0.50
18:Q:175[A]:THR:HA	18:Q:178[A]:VAL:HG22	1.94	0.50
22:V:38:ASP:OD1	22:V:38:ASP:N	2.41	0.50
45:t:3:C:H2'	45:t:4:G:C8	2.46	0.50
46:v:539:PRO:C	46:v:541:SER:N	2.69	0.50
46:v:686:ILE:HG23	46:v:967:ASP:O	2.12	0.50
46:v:935:SER:HB3	46:v:958:LEU:HD21	1.94	0.50
47:x:767:THR:O	47:x:769:LYS:NZ	2.45	0.50
56:SF:39:VAL:H	56:SF:45:ARG:HH22	1.58	0.50
63:SP:195:TRP:HE1	63:SP:197:ILE:HB	1.77	0.50
65:SR:137:ILE:HD11	73:Sa:26:ALA:HB3	1.94	0.50
71:SX:53:TYR:HD2	71:SX:55:ASP:HB2	1.76	0.50
71:SX:108:PRO:HB2	71:SX:135:VAL:HG22	1.94	0.50
74:Sb:39:GLN:HA	74:Sb:42:GLN:HE22	1.77	0.50
77:Sf:21:LEU:H	77:Sf:21:LEU:HD12	1.77	0.50
80:J:85:ASN:O	80:J:89:GLU:HG2	2.11	0.50
2:2:205:U:H2'	2:2:206:A:H8	1.75	0.49
2:2:609:U:H4'	2:2:610:G:O5'	2.10	0.49
2:2:1490:C:OP2	50:SA:9:ARG:NH2	2.41	0.49
2:2:1547:A:H1'	57:SH:88:ARG:HH12	1.77	0.49
2:2:1591:C:H2'	2:2:1592:A:C8	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1662:G:H2'	2:2:1663:G:H8	1.77	0.49
3:A:647:A:H2	3:A:2371:G:H21	1.59	0.49
3:A:922:U:H3	3:A:926:A:HO2'	1.58	0.49
3:A:1112:A:H1'	3:A:1371:G:H5'	1.94	0.49
3:A:1169:A:H4'	11:I:219:LYS:HE2	1.93	0.49
3:A:1198:C:OP2	3:A:1199:C:O2'	2.24	0.49
3:A:1472:U:H2'	3:A:1473:G:C8	2.47	0.49
3:A:2575:G:H2'	3:A:2576:G:H8	1.77	0.49
3:A:2759:U:H5''	3:A:2760:C:H5'	1.93	0.49
4:B:16:U:H2'	4:B:17:A:C8	2.46	0.49
45:t:32:C:OP2	56:SF:143:ARG:NH1	2.45	0.49
47:x:382:VAL:O	47:x:466:THR:OG1	2.30	0.49
60:SD:37:VAL:HG23	60:SD:38:HIS:ND1	2.27	0.49
63:SP:168:HIS:HA	63:SP:203:PHE:CZ	2.47	0.49
64:SQ:89:ASP:OD1	64:SQ:90:GLU:N	2.44	0.49
81:SO:3:SER:HB3	81:SO:271:VAL:HG23	1.93	0.49
81:SO:122:ILE:HB	81:SO:134:TRP:O	2.12	0.49
2:2:400:A:N6	69:SV:29:LEU:HD11	2.27	0.49
2:2:749:U:H2'	2:2:750:U:C6	2.48	0.49
2:2:1632:C:H2'	2:2:1633:A:C8	2.47	0.49
3:A:714:G:C4	29:c:113:LEU:HD11	2.47	0.49
3:A:984:G:H3'	11:I:101:LYS:NZ	2.27	0.49
3:A:1597:C:H2'	3:A:1598:G:C8	2.47	0.49
3:A:2225:U:H4'	43:q:36:PHE:CZ	2.44	0.49
4:B:28:C:H2'	4:B:29:C:O4'	2.12	0.49
5:C:95:G:O2'	38:l:81:GLY:O	2.22	0.49
7:E:117:ARG:HD3	7:E:175:LYS:HE2	1.95	0.49
7:E:372:THR:HG23	7:E:375:GLU:H	1.76	0.49
9:G:103:LEU:O	9:G:107:ARG:HG2	2.11	0.49
13:L:23:ASN:O	13:L:25:ALA:N	2.45	0.49
14:M:16:LYS:O	14:M:130:VAL:HG22	2.12	0.49
15:N:29:ALA:O	15:N:33:VAL:HG13	2.12	0.49
17:P:73:ARG:HD3	17:P:92:LEU:HD22	1.95	0.49
24:X:85:TRP:N	24:X:93:LEU:O	2.38	0.49
24:X:104:ASN:OD1	24:X:107:GLY:N	2.32	0.49
32:f:74:ARG:HG2	32:f:94:GLU:HB3	1.94	0.49
33:g:35:GLN:N	33:g:35:GLN:OE1	2.45	0.49
43:q:17:CYS:O	43:q:19:LYS:NZ	2.44	0.49
47:x:244:LEU:HD21	47:x:273:PHE:HB2	1.94	0.49
47:x:582:LYS:O	47:x:585:ARG:NH1	2.45	0.49
47:x:728:VAL:HA	47:x:773:PRO:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SR:167:VAL:HG21	65:SR:214:ALA:HA	1.94	0.49
73:Sa:15:ARG:NH1	73:Sa:33:GLN:OE1	2.45	0.49
2:2:925:G:H2'	2:2:926:A:H8	1.77	0.49
2:2:1247:U:H2'	2:2:1248:C:C6	2.47	0.49
2:2:1348:A:H2'	2:2:1349:G:O4'	2.13	0.49
2:2:1483:A:H2'	2:2:1484:G:C8	2.47	0.49
3:A:563:U:H2'	3:A:564:G:H8	1.77	0.49
3:A:809:G:H2'	3:A:810:A:C8	2.46	0.49
3:A:1267:U:H3'	3:A:1268:G:H8	1.69	0.49
3:A:1370:G:H2'	3:A:1371:G:C8	2.42	0.49
3:A:1459:C:H2'	3:A:1460:A:C8	2.47	0.49
3:A:1459:C:H2'	3:A:1460:A:H8	1.76	0.49
3:A:2294:U:OP2	24:X:71:LYS:NZ	2.45	0.49
3:A:2533:G:H1	3:A:2548:C:H1'	1.76	0.49
3:A:2685:C:H2'	3:A:2686:A:C8	2.47	0.49
3:A:3057:U:O2'	3:A:3058:U:H4'	2.12	0.49
23:W:36:TYR:CE1	23:W:40:HIS:CG	3.00	0.49
47:x:334:LEU:HA	47:x:337:MET:HE1	1.95	0.49
47:x:615:ARG:O	47:x:619:MET:HG3	2.11	0.49
81:SO:198:ASN:HB3	81:SO:216:LYS:CB	2.40	0.49
2:2:406:U:H2'	2:2:407:A:H8	1.77	0.49
2:2:605:A:OP2	2:2:606:A:O2'	2.20	0.49
2:2:990:C:H5''	61:SZ:129:LYS:HE2	1.95	0.49
2:2:1170:G:H1	2:2:1469:A:H61	1.59	0.49
3:A:1077:U:H2'	3:A:1078:U:C6	2.47	0.49
3:A:1138:U:H2'	3:A:1139:G:H8	1.78	0.49
3:A:1380:G:OP1	8:F:191:LYS:N	2.46	0.49
3:A:1497:C:H2'	3:A:1498:A:C8	2.47	0.49
3:A:2683:U:H2'	3:A:2684:C:C6	2.47	0.49
8:F:44:LYS:HG3	8:F:47:ARG:HD2	1.94	0.49
12:K:117:PHE:HE1	12:K:177:ASP:HB3	1.76	0.49
13:L:43:VAL:HA	13:L:139:ARG:HH12	1.77	0.49
16:O:122:VAL:O	16:O:126:GLN:HG2	2.12	0.49
18:Q:76[A]:PRO:HB3	18:Q:138[A]:LEU:HG	1.94	0.49
23:W:84:LEU:CD1	23:W:93:ILE:HG23	2.42	0.49
24:X:53:SER:N	24:X:56:ASP:OD2	2.46	0.49
25:Y:52:THR:HB	25:Y:55:PHE:HB2	1.95	0.49
32:f:44:MET:HA	32:f:44:MET:HE2	1.93	0.49
43:q:24:LYS:N	43:q:73:GLU:O	2.31	0.49
46:v:464:ASN:CG	46:v:927:ASP:HB3	2.37	0.49
46:v:811:TYR:CZ	46:v:852:VAL:HG13	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SH:123:ARG:HA	57:SH:126:ARG:HH21	1.77	0.49
69:SV:171:SER:HB3	69:SV:180:ASP:H	1.77	0.49
70:SW:89:ASP:OD1	70:SW:89:ASP:N	2.45	0.49
74:Sb:79:PHE:O	74:Sb:124:LYS:NZ	2.45	0.49
81:SO:131:ILE:HD12	81:SO:144:LEU:O	2.12	0.49
2:2:872:G:N2	2:2:1047:G:H4'	2.28	0.49
2:2:977:A:N7	2:2:1024:U:O4	2.45	0.49
2:2:1177:C:H2'	2:2:1178:G:C8	2.44	0.49
2:2:1499:G:O6	2:2:1508:U:O4	2.30	0.49
3:A:547:G:H2'	3:A:548:G:H8	1.77	0.49
3:A:783:A:H5''	3:A:784:A:H5'	1.93	0.49
3:A:1785:U:H2'	3:A:1786:G:H8	1.77	0.49
3:A:2222:A:H2'	3:A:2223:A:C8	2.48	0.49
3:A:2263:C:H2'	3:A:2264:U:C6	2.47	0.49
3:A:2308:C:H5''	3:A:2309:A:H2'	1.92	0.49
3:A:2768:U:H2'	3:A:2769:A:C8	2.47	0.49
3:A:3069:G:C2	3:A:3070:A:C8	3.00	0.49
3:A:3252:G:H2'	3:A:3253:G:H8	1.77	0.49
8:F:26:PHE:HA	8:F:127:ALA:HA	1.94	0.49
26:Z:24:LEU:HD12	26:Z:27:ARG:HH22	1.78	0.49
36:j:85:THR:HG23	36:j:88:LEU:H	1.77	0.49
45:s:58:A:O2'	45:s:60:A:OP2	2.22	0.49
45:t:66:C:H2'	45:t:67:G:C8	2.48	0.49
46:v:540:ILE:HA	46:v:543:LEU:HG	1.95	0.49
48:SC:69:THR:OG1	48:SC:71:GLU:OE2	2.28	0.49
65:SR:165:VAL:HG21	65:SR:210:THR:HG22	1.94	0.49
67:ST:4:ASN:HB3	67:ST:110:ALA:HA	1.94	0.49
75:Sc:37:ALA:HA	75:Sc:41:SER:HB3	1.95	0.49
2:2:931:C:OP2	62:Se:70:LYS:NZ	2.45	0.49
3:A:1105:A:H2'	3:A:1106:G:C8	2.45	0.49
3:A:1660:C:H2'	3:A:1661:G:H8	1.78	0.49
3:A:2837:A:H2'	3:A:2845:A:H2	1.77	0.49
8:F:33:ASP:N	8:F:33:ASP:OD1	2.46	0.49
8:F:151:VAL:HG12	8:F:250:TRP:HB2	1.94	0.49
13:L:35:ASP:HB3	13:L:88:ARG:HD3	1.94	0.49
15:N:164:GLU:O	29:c:139:ARG:NH2	2.45	0.49
21:U:89:ASN:HD21	22:V:156:TYR:H	1.58	0.49
33:g:121:ASN:OD1	33:g:121:ASN:N	2.44	0.49
38:l:59:THR:HG22	38:l:64:MET:HE2	1.93	0.49
43:q:43:TYR:O	43:q:47:GLN:HB2	2.13	0.49
44:r:27:LYS:O	44:r:31:ILE:HG12	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SH:104:ASN:OD1	57:SH:107:SER:OG	2.30	0.49
67:ST:175:ILE:HG22	67:ST:178:LEU:HB2	1.94	0.49
73:Sa:74:GLN:NE2	73:Sa:80:LYS:O	2.45	0.49
2:2:16:G:H21	2:2:1138:A:N6	2.04	0.49
2:2:646:C:H2'	2:2:647:G:C8	2.48	0.49
2:2:1064:G:H2'	2:2:1065:A:H8	1.78	0.49
2:2:1117:U:OP1	42:p:21:ARG:NH2	2.33	0.49
2:2:1633:A:H1'	2:2:1634:C:OP2	2.12	0.49
2:2:1699:G:H2'	2:2:1701:A:H62	1.78	0.49
3:A:1395:G:O2'	5:C:18:U:O2	2.30	0.49
3:A:1635:G:N2	3:A:1638:A:OP2	2.44	0.49
3:A:2895:G:H21	41:o:100:TYR:HD2	1.60	0.49
3:A:2916:U:H2'	3:A:2917:G:C8	2.48	0.49
3:A:3346:U:H2'	3:A:3347:A:H8	1.76	0.49
3:A:3385:U:H2'	3:A:3386:G:C8	2.48	0.49
5:C:68:G:H2'	5:C:69:U:H6	1.78	0.49
26:Z:110:VAL:HG22	26:Z:124:VAL:HG12	1.94	0.49
26:Z:126:LEU:HD12	26:Z:130:TYR:HB2	1.94	0.49
32:f:88:PRO:O	32:f:89:LEU:HD23	2.12	0.49
46:v:666:VAL:HG12	46:v:690:CYS:HB3	1.95	0.49
60:SD:36:LEU:HD22	60:SD:41:LEU:HB2	1.95	0.49
63:SP:52:LYS:HG2	73:Sa:82:VAL:HA	1.94	0.49
72:SY:49:GLN:HA	72:SY:52:VAL:HG22	1.95	0.49
74:Sb:41:MET:N	74:Sb:41:MET:SD	2.85	0.49
76:Sd:44:LEU:HA	76:Sd:47:VAL:HG22	1.95	0.49
1:S:151:ARG:NH1	3:A:781:G:OP1	2.43	0.49
2:2:444:C:H5	76:Sd:105:ARG:HH22	1.60	0.49
2:2:867:G:H21	72:SY:87:ASP:CG	2.19	0.49
2:2:1109:G:H1	2:2:1136:U:H3	1.61	0.49
2:2:1647:U:H2'	2:2:1648:A:C8	2.48	0.49
3:A:76:G:HO2'	15:N:100:ARG:HE	1.57	0.49
3:A:658:G:N2	8:F:93:MET:HB2	2.28	0.49
3:A:821:U:H2'	3:A:822:G:H8	1.76	0.49
3:A:876:A:H5''	3:A:1890:U:H5''	1.93	0.49
3:A:998:A:H2'	3:A:999:G:H8	1.77	0.49
3:A:1206:G:OP1	13:L:157:TYR:OH	2.22	0.49
3:A:1247:U:C4	3:A:1268:G:O6	2.65	0.49
3:A:1489:A:OP1	35:i:10:ARG:NH1	2.46	0.49
3:A:1553:U:H4'	3:A:1554:U:H5'	1.95	0.49
3:A:1651:U:H5'	6:D:71:LEU:HD13	1.95	0.49
3:A:2369:G:H2'	3:A:2370:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2376:G:H2'	3:A:2377:G:C8	2.48	0.49
3:A:2688:U:N3	9:G:17:GLN:O	2.46	0.49
3:A:3385:U:H2'	3:A:3386:G:H8	1.77	0.49
8:F:126:ILE:O	8:F:129:THR:OG1	2.29	0.49
9:G:99:TYR:HE1	9:G:164:LYS:HG2	1.77	0.49
9:G:131:LEU:H	9:G:131:LEU:HD12	1.78	0.49
23:W:87:ASN:C	23:W:89:LEU:H	2.19	0.49
25:Y:45:ASN:C	25:Y:47:ARG:H	2.20	0.49
46:v:149:LEU:HD11	46:v:188:ALA:HB1	1.95	0.49
47:x:315:GLU:HA	47:x:319:LEU:HD22	1.94	0.49
50:SA:177:MET:HE1	50:SA:179:GLN:HB3	1.95	0.49
51:SI:45:MET:SD	51:SI:46:PRO:HD2	2.52	0.49
63:SP:59:LEU:HD22	73:Sa:79:LEU:HD21	1.94	0.49
66:SS:162:ILE:HD11	66:SS:166:SER:O	2.13	0.49
70:SW:63:ASP:OD1	70:SW:63:ASP:N	2.36	0.49
70:SW:96:VAL:HG23	70:SW:97:LEU:HD12	1.93	0.49
74:Sb:105:THR:O	74:Sb:124:LYS:N	2.35	0.49
75:Sc:36:THR:O	75:Sc:40:SER:OG	2.26	0.49
76:Sd:124:ARG:HA	76:Sd:127:LYS:NZ	2.27	0.49
2:2:373:G:H5''	71:SX:96:LYS:HD2	1.94	0.49
2:2:541:A:O2'	2:2:542:A:OP1	2.27	0.49
2:2:876:G:N2	2:2:944:A:N7	2.60	0.49
2:2:1479:A:H5''	51:SI:80:TYR:HE2	1.78	0.49
3:A:106:A:N3	3:A:325:A:H1'	2.28	0.49
3:A:1307:G:C2	18:Q:60[A]:LYS:HG3	2.47	0.49
3:A:1389:G:OP1	33:g:104:ASN:ND2	2.46	0.49
3:A:1756:C:H2'	3:A:1757:A:C8	2.47	0.49
3:A:2217:U:H2'	3:A:2218:G:C8	2.48	0.49
3:A:2396:G:OP1	3:A:2397:A:O2'	2.25	0.49
3:A:2618:G:O2'	3:A:2865:U:OP1	2.23	0.49
9:G:115:LEU:HD23	9:G:115:LEU:O	2.13	0.49
25:Y:4:GLU:HB2	25:Y:13:ILE:HB	1.94	0.49
29:c:73:LEU:HD12	29:c:109:TYR:CG	2.47	0.49
33:g:87:MET:N	33:g:87:MET:SD	2.86	0.49
46:v:502:HIS:O	46:v:540:ILE:HB	2.13	0.49
46:v:750:THR:OG1	46:v:888:VAL:O	2.31	0.49
46:v:764:ASP:OD1	46:v:764:ASP:N	2.35	0.49
47:x:28:VAL:O	47:x:28:VAL:HG12	2.12	0.49
62:Se:30:ILE:HG23	62:Se:75:VAL:HG21	1.94	0.49
69:SV:171:SER:HB2	69:SV:180:ASP:HB2	1.95	0.49
70:SW:47:PHE:HD1	70:SW:51:LYS:HZ2	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:142:G:H22	2:2:173:A:H2	1.61	0.49
2:2:589:C:OP1	78:Sg:42:ARG:NH1	2.43	0.49
3:A:499:G:O4'	3:A:3273:A:N6	2.46	0.49
3:A:1311:G:H2'	3:A:1312:C:C6	2.48	0.49
3:A:1543:G:HO2'	3:A:2168:A:HO2'	1.57	0.49
3:A:3211:C:H2'	3:A:3212:C:C6	2.48	0.49
12:K:117:PHE:HZ	12:K:178:GLY:HA2	1.77	0.49
14:M:78:GLU:OE1	14:M:79:ILE:HG13	2.13	0.49
14:M:164:LYS:HE3	14:M:171:VAL:HG12	1.94	0.49
20:T:7:GLN:NE2	20:T:35:ALA:O	2.43	0.49
20:T:105:LEU:HD22	20:T:138:LEU:CD2	2.43	0.49
30:d:33:LYS:HA	30:d:40:ARG:NH2	2.28	0.49
37:k:51:SER:H	37:k:54:GLU:HG2	1.77	0.49
40:n:49:MET:N	40:n:49:MET:SD	2.80	0.49
51:SI:105:LEU:O	51:SI:109:GLU:HG3	2.13	0.49
62:Se:5:ARG:H	62:Se:5:ARG:HD2	1.77	0.49
64:SQ:196:GLU:HA	64:SQ:199:ASN:HD21	1.76	0.49
74:Sb:57:ARG:NH1	77:Sf:26:GLN:HG3	2.28	0.49
81:SO:39:ASP:C	81:SO:40:LYS:HD3	2.37	0.49
81:SO:42:LEU:N	81:SO:42:LEU:HD12	2.28	0.49
81:SO:252:LEU:HD23	81:SO:253:ALA:N	2.28	0.49
2:2:50:C:N4	2:2:424:C:H2'	2.27	0.48
2:2:955:A:H5''	72:SY:10:GLY:HA3	1.94	0.48
2:2:1040:G:H2'	2:2:1041:G:H8	1.78	0.48
2:2:1645:G:H2'	2:2:1646:C:C6	2.48	0.48
2:2:1684:U:H2'	2:2:1685:G:H8	1.78	0.48
3:A:786:A:O3'	3:A:787:G:H8	1.96	0.48
3:A:1439:U:H2'	3:A:1440:G:C8	2.48	0.48
3:A:1508:C:H2'	3:A:1509:A:C8	2.47	0.48
3:A:1729:A:OP1	31:e:88:GLY:N	2.46	0.48
3:A:1757:A:H2'	3:A:1758:G:H8	1.77	0.48
3:A:2218:G:P	37:k:68:ARG:HH22	2.36	0.48
3:A:2546:C:H2'	3:A:2547:A:O4'	2.13	0.48
6:D:135:ILE:O	6:D:149:ARG:N	2.44	0.48
22:V:58:GLN:OE1	22:V:58:GLN:HA	2.13	0.48
45:s:66:C:H2'	45:s:67:G:H8	1.78	0.48
46:v:117:VAL:HG11	46:v:155:MET:HB3	1.95	0.48
46:v:538:MET:SD	46:v:543:LEU:HD23	2.53	0.48
46:v:797:ALA:HB2	46:v:816:LEU:HG	1.94	0.48
46:v:815:PHE:O	46:v:831:MET:HG2	2.12	0.48
46:v:824:LYS:C	46:v:826:GLU:H	2.21	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:870:THR:N	46:v:874:ILE:HG21	2.29	0.48
47:x:103:ILE:HG21	47:x:118:ALA:HB1	1.95	0.48
65:SR:226:THR:HG23	74:Sb:99:PHE:CD2	2.48	0.48
66:SS:45:ILE:HA	66:SS:61:VAL:HG11	1.95	0.48
67:ST:74:LYS:HA	67:ST:96:SER:HA	1.94	0.48
69:SV:113:PHE:HD2	69:SV:121:LEU:HD11	1.78	0.48
69:SV:195:ARG:HD2	69:SV:195:ARG:N	2.27	0.48
71:SX:132:SER:O	71:SX:136:ARG:NH1	2.43	0.48
81:SO:58:VAL:HG23	81:SO:59:ARG:N	2.28	0.48
81:SO:189:GLU:HB3	81:SO:228:LYS:CE	2.43	0.48
2:2:929:A:O2'	61:SZ:124:ASP:OD2	2.29	0.48
2:2:1036:A:H2'	2:2:1037:C:C6	2.47	0.48
2:2:1087:A:H2'	2:2:1088:A:C8	2.48	0.48
2:2:1555:A:O2'	49:SE:82:ASN:ND2	2.46	0.48
3:A:597:G:H2'	3:A:598:A:C8	2.48	0.48
3:A:1107:C:H2'	3:A:1108:U:H6	1.78	0.48
3:A:1498:A:H2'	3:A:1499:C:C6	2.48	0.48
3:A:1660:C:H2'	3:A:1661:G:C8	2.47	0.48
3:A:1744:G:H2'	3:A:1745:C:C6	2.49	0.48
3:A:2152:A:H2'	3:A:2153:U:H6	1.78	0.48
3:A:3004:C:O2'	3:A:3005:A:OP1	2.31	0.48
3:A:3146:G:H2'	3:A:3147:G:C8	2.47	0.48
6:D:47:GLN:OE1	6:D:49:VAL:HG13	2.13	0.48
14:M:161:SER:O	14:M:165:GLN:HG2	2.13	0.48
16:O:65:LEU:HD12	16:O:65:LEU:H	1.77	0.48
18:Q:54[A]:TYR:CE2	18:Q:145[A]:VAL:HG21	2.43	0.48
22:V:131:GLN:HB3	22:V:134:GLN:HE21	1.77	0.48
24:X:45:ARG:HG2	24:X:48:ARG:HE	1.78	0.48
35:i:41:ARG:NE	35:i:51:LEU:O	2.45	0.48
61:SZ:16:VAL:N	61:SZ:31:THR:O	2.35	0.48
71:SX:100:TYR:OH	74:Sb:80:ASN:ND2	2.46	0.48
74:Sb:37:PHE:CE1	74:Sb:103:ILE:HD11	2.47	0.48
80:J:171:LYS:NZ	80:J:226:TYR:HB3	2.28	0.48
2:2:207:U:H2'	2:2:208:U:C6	2.48	0.48
2:2:294:C:H2'	2:2:295:A:C8	2.48	0.48
2:2:368:U:O4	2:2:369:A:N6	2.46	0.48
2:2:607:G:O2'	65:SR:201:ASN:OD1	2.27	0.48
3:A:692:A:H4'	8:F:46:LYS:HB2	1.94	0.48
3:A:791:A:H2'	3:A:792:G:H8	1.77	0.48
3:A:1254:C:H2'	3:A:1255:C:C6	2.48	0.48
3:A:2160:G:H2'	3:A:2161:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2660:G:H4'	3:A:2749:G:H22	1.78	0.48
5:C:8:C:H2'	5:C:9:A:C8	2.43	0.48
7:E:215:ILE:HD11	7:E:338:LEU:HB3	1.94	0.48
9:G:32:GLN:H	9:G:32:GLN:CD	2.19	0.48
13:L:76:MET:HE1	13:L:147:VAL:HG22	1.94	0.48
68:SU:139:ARG:HE	74:Sb:53:ILE:HD13	1.78	0.48
81:SO:5:GLU:HB2	81:SO:271:VAL:CG2	2.42	0.48
81:SO:212:ALA:HA	81:SO:221:MET:O	2.13	0.48
81:SO:240:VAL:HG22	81:SO:241:PHE:N	2.28	0.48
2:2:82:U:H2'	2:2:83:G:O4'	2.13	0.48
2:2:99:C:OP2	2:2:378:A:O2'	2.25	0.48
2:2:167:U:H2'	2:2:168:A:H8	1.78	0.48
2:2:382:C:H2'	2:2:383:G:C8	2.49	0.48
2:2:748:U:OP1	74:Sb:82:LYS:NZ	2.34	0.48
2:2:924:A:H2'	2:2:925:G:H8	1.77	0.48
2:2:1575:G:H21	45:t:42:U:H1'	1.78	0.48
2:2:1749:A:H4'	42:p:16:LYS:NZ	2.28	0.48
3:A:308:A:H1'	3:A:2222:A:H2	1.79	0.48
3:A:903:U:H2'	3:A:904:A:C8	2.49	0.48
3:A:988:U:H2'	3:A:989:A:C8	2.48	0.48
3:A:1266:G:N2	3:A:1275:C:N4	2.61	0.48
3:A:1422:G:N2	10:H:5:GLN:OE1	2.41	0.48
3:A:1609:C:H2'	3:A:1610:G:H8	1.78	0.48
3:A:2268:U:H2'	3:A:2269:U:N1	2.28	0.48
3:A:3027:A:C6	47:x:786:GLN:HB2	2.49	0.48
3:A:3374:U:H2'	3:A:3378:C:H41	1.77	0.48
5:C:143:U:H2'	5:C:144:G:C8	2.49	0.48
10:H:8:LYS:HD2	10:H:8:LYS:C	2.38	0.48
13:L:119:TRP:HD1	13:L:120:GLY:N	2.12	0.48
35:i:76:TYR:HD2	35:i:88:ARG:HH21	1.60	0.48
46:v:304:GLU:O	46:v:307:GLU:HG3	2.13	0.48
47:x:9:MET:SD	47:x:9:MET:N	2.75	0.48
50:SA:169:ASP:OD1	50:SA:169:ASP:N	2.46	0.48
56:SF:25:GLY:HA3	56:SF:64:ASP:OD2	2.14	0.48
61:SZ:13:VAL:HG12	64:SQ:45:LYS:HD3	1.95	0.48
61:SZ:112:ILE:HG21	62:Se:53:LEU:HD22	1.95	0.48
65:SR:45:VAL:HG11	65:SR:68:ILE:HG12	1.95	0.48
70:SW:106:GLU:O	70:SW:111:THR:OG1	2.31	0.48
81:SO:301:LEU:HD12	81:SO:302:PHE:H	1.78	0.48
2:2:1429:G:H2'	2:2:1430:U:C6	2.48	0.48
2:2:1490:C:H5'	2:2:1492:A:H1'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:715:A:H4'	3:A:752:C:O2'	2.13	0.48
3:A:1293:U:H2'	3:A:1294:A:C8	2.49	0.48
3:A:2658:G:H2'	3:A:2659:G:C8	2.49	0.48
3:A:2658:G:H2'	3:A:2659:G:H8	1.79	0.48
3:A:3170:A:N7	34:h:56:SER:HB3	2.28	0.48
5:C:47:C:O2'	5:C:62:C:OP2	2.27	0.48
6:D:70:ARG:HB3	6:D:72:ARG:HH12	1.77	0.48
19:R:22:LEU:HD23	19:R:90:PHE:CD2	2.49	0.48
24:X:23:MET:O	24:X:34:LEU:N	2.28	0.48
26:Z:95:ILE:H	26:Z:95:ILE:HD12	1.78	0.48
32:f:51:LEU:HG	32:f:55:LEU:HD23	1.96	0.48
35:i:92:ALA:O	35:i:96:GLU:HG3	2.13	0.48
43:q:96:GLU:OE2	43:q:96:GLU:N	2.41	0.48
46:v:962:VAL:HG12	46:v:965:VAL:HG23	1.96	0.48
47:x:161:ASP:HA	47:x:164:LEU:HB2	1.96	0.48
58:SK:46:LYS:HG3	58:SK:49:ARG:HH21	1.77	0.48
81:SO:135:THR:HG23	81:SO:138:GLY:H	1.78	0.48
81:SO:170:ILE:CG1	81:SO:180:ALA:HA	2.44	0.48
81:SO:251:TRP:HA	81:SO:264:SER:OG	2.14	0.48
81:SO:294:TRP:HA	81:SO:301:LEU:CD1	2.34	0.48
2:2:647:G:H22	2:2:687:G:H1	1.60	0.48
2:2:976:G:N1	2:2:1023:A:H1'	2.28	0.48
3:A:655:C:OP2	33:g:27:ARG:NH2	2.46	0.48
3:A:987:U:H2'	3:A:988:U:H6	1.77	0.48
3:A:2894:C:H2'	3:A:2895:G:H8	1.78	0.48
3:A:2930:A:H2'	3:A:2931:C:C6	2.48	0.48
18:Q:77[A]:SER:HB2	18:Q:106[A]:GLU:CD	2.38	0.48
47:x:485:VAL:HG12	47:x:533:THR:HB	1.96	0.48
54:SG:7:LYS:HA	54:SG:10:LYS:HB2	1.95	0.48
65:SR:59:HIS:CD2	73:Sa:15:ARG:HH21	2.31	0.48
80:J:101:THR:HG22	80:J:103:ALA:H	1.78	0.48
81:SO:21:THR:OG1	81:SO:69:GLN:HA	2.13	0.48
1:S:7:SER:O	1:S:9:GLN:NE2	2.47	0.48
2:2:97:C:H1'	2:2:426:G:H5'	1.95	0.48
2:2:499:U:H5''	2:2:500:C:C5	2.48	0.48
2:2:1381:U:H4'	79:SJ:59:PRO:HG3	1.94	0.48
2:2:1652:C:H2'	2:2:1653:C:H6	1.78	0.48
2:2:1790:A:H2'	2:2:1791:A:C8	2.48	0.48
3:A:158:G:H2'	3:A:159:A:C8	2.47	0.48
3:A:633:C:H4'	34:h:18:ARG:NH2	2.29	0.48
3:A:985:U:O4'	11:I:101:LYS:HE3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1127:G:N2	3:A:1130:A:OP2	2.38	0.48
5:C:141:C:O2	17:P:112:ASN:ND2	2.47	0.48
9:G:51:LEU:O	9:G:147:ASP:N	2.47	0.48
18:Q:120[A]:VAL:HG23	18:Q:123[A]:ALA:HB3	1.95	0.48
19:R:64:ASN:HA	19:R:67:ILE:HD13	1.96	0.48
46:v:858:LYS:NZ	46:v:858:LYS:HB2	2.29	0.48
59:SN:123:ASN:ND2	59:SN:125:THR:OG1	2.46	0.48
66:SS:181:VAL:HG23	66:SS:227:VAL:HA	1.94	0.48
70:SW:83:VAL:O	70:SW:107:ARG:NH2	2.36	0.48
71:SX:16:GLN:HG3	71:SX:54:ILE:HD11	1.95	0.48
76:Sd:41:ARG:NH2	76:Sd:53:ASP:O	2.47	0.48
80:J:101:THR:O	80:J:104:GLU:HG2	2.14	0.48
81:SO:74:THR:HG23	81:SO:75:ALA:N	2.21	0.48
1:S:41:ASP:OD1	1:S:41:ASP:N	2.47	0.48
2:2:634:G:N2	2:2:965:U:OP2	2.29	0.48
2:2:774:A:N6	2:2:786:C:H42	2.05	0.48
2:2:1690:G:N1	2:2:1711:C:O2'	2.28	0.48
3:A:34:A:H3'	3:A:48:A:H61	1.79	0.48
3:A:106:A:C2	3:A:325:A:H1'	2.49	0.48
3:A:412:G:OP1	19:R:62:ARG:NH1	2.40	0.48
3:A:1128:U:H1'	13:L:8:CYS:HB2	1.96	0.48
3:A:2344:U:H2'	3:A:2345:A:C8	2.48	0.48
4:B:47:C:OP2	9:G:158:ARG:NE	2.39	0.48
5:C:30:C:H2'	5:C:31:G:H8	1.79	0.48
10:H:157:GLN:OE1	10:H:157:GLN:N	2.37	0.48
11:I:120:THR:N	11:I:123:THR:OG1	2.41	0.48
25:Y:23:ARG:HG2	25:Y:23:ARG:HH11	1.79	0.48
32:f:30:PRO:O	32:f:34:LYS:HG2	2.14	0.48
40:n:46:ARG:HG2	40:n:46:ARG:HH11	1.79	0.48
47:x:744:TYR:O	47:x:744:TYR:HD1	1.96	0.48
50:SA:220:PRO:HA	81:SO:193:ILE:HG12	1.95	0.48
60:SD:62:LEU:HD22	60:SD:75:VAL:HG21	1.95	0.48
72:SY:46:THR:HG22	72:SY:49:GLN:CD	2.39	0.48
80:J:78:PHE:HE1	80:J:167:PRO:HG2	1.79	0.48
81:SO:74:THR:CB	81:SO:115:ILE:HG23	2.44	0.48
81:SO:203:THR:HG21	81:SO:245:PHE:CD1	2.49	0.48
2:2:434:G:H5'	75:Sc:78:LYS:HG2	1.94	0.48
2:2:478:A:O2'	70:SW:124:HIS:ND1	2.27	0.48
2:2:1040:G:H2'	2:2:1041:G:C8	2.48	0.48
2:2:1403:C:H2'	2:2:1404:C:C6	2.49	0.48
2:2:1735:U:P	24:X:32:ARG:HH12	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:616:G:H2'	3:A:617:G:C8	2.49	0.48
3:A:988:U:H2'	3:A:989:A:H8	1.79	0.48
3:A:1271:A:H2'	3:A:1272:C:O4'	2.14	0.48
3:A:2948:C:H5''	7:E:243:HIS:HB3	1.95	0.48
3:A:3108:G:H21	12:K:163:GLN:HE21	1.61	0.48
3:A:3114:A:OP2	3:A:3115:C:O2'	2.20	0.48
5:C:9:A:H2'	5:C:10:A:C8	2.49	0.48
18:Q:8[A]:VAL:O	18:Q:118[A]:VAL:HG22	2.14	0.48
19:R:25:SER:O	19:R:29:THR:HG23	2.13	0.48
21:U:155:ARG:NE	21:U:171:PHE:O	2.46	0.48
23:W:36:TYR:HD2	23:W:83:TYR:CD2	2.32	0.48
24:X:7:GLN:HE21	24:X:127:PRO:HD3	1.77	0.48
27:a:56:VAL:HG11	27:a:104:LEU:HD22	1.95	0.48
36:j:105:ARG:HD2	36:j:108:GLN:HE21	1.79	0.48
37:k:36:ARG:O	37:k:40:VAL:HG22	2.14	0.48
46:v:458:TYR:HB3	46:v:610:ILE:HD11	1.95	0.48
47:x:508:LEU:HD13	47:x:528:HIS:CE1	2.48	0.48
49:SE:18:ARG:N	57:SH:92:ILE:O	2.36	0.48
49:SE:57:MET:O	49:SE:57:MET:HE3	2.13	0.48
64:SQ:77:GLU:O	64:SQ:80:SER:OG	2.29	0.48
73:Sa:12:TYR:CG	73:Sa:12:TYR:O	2.66	0.48
81:SO:88:THR:HB	81:SO:90:ARG:CG	2.36	0.48
81:SO:200:ASN:N	81:SO:215:GLY:HA2	2.29	0.48
81:SO:240:VAL:HG23	81:SO:255:ALA:O	2.13	0.48
2:2:328:A:H2'	2:2:329:G:H8	1.78	0.48
2:2:496:G:H2'	2:2:497:G:C8	2.48	0.48
2:2:1307:U:H3	2:2:1318:G:N2	2.11	0.48
2:2:1323:C:H2'	2:2:1324:G:C8	2.49	0.48
3:A:88:A:N1	3:A:281:G:H1'	2.29	0.48
3:A:750:G:C2	3:A:751:A:C8	3.02	0.48
3:A:981:U:O2'	3:A:1105:A:O2'	2.27	0.48
3:A:1353:U:O2	10:H:8:LYS:NZ	2.42	0.48
3:A:2816:G:N2	3:A:2819:A:OP2	2.42	0.48
6:D:45:VAL:HG23	6:D:85:GLY:H	1.79	0.48
6:D:182:ALA:HB1	6:D:196:TRP:HH2	1.78	0.48
7:E:339:ARG:HH21	7:E:342:LEU:HD22	1.79	0.48
18:Q:80[A]:PHE:CD2	18:Q:104[A]:VAL:HG21	2.49	0.48
18:Q:87[A]:MET:HE2	18:Q:87[A]:MET:O	2.14	0.48
31:e:30:THR:HG23	31:e:91:SER:HB3	1.96	0.48
47:x:207:GLY:HA3	47:x:223:ARG:HH11	1.79	0.48
47:x:659:ILE:HD11	47:x:705:ILE:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SD:29:LYS:O	60:SD:33:ARG:NH1	2.46	0.48
63:SP:183:ARG:HE	63:SP:191:ARG:NH1	2.12	0.48
2:2:625:C:H2'	2:2:626:U:C6	2.49	0.47
2:2:1797:A:H4'	62:Se:95:ARG:HB2	1.95	0.47
3:A:76:G:HO2'	15:N:100:ARG:NE	2.12	0.47
3:A:228:U:H5''	27:a:8:VAL:HG11	1.95	0.47
3:A:787:G:H2'	3:A:788:C:H6	1.77	0.47
3:A:1224:C:H2'	3:A:1225:A:H8	1.79	0.47
3:A:1388:U:P	33:g:78:ASN:HD21	2.37	0.47
3:A:2515:A:H5''	17:P:28:TRP:CD1	2.48	0.47
8:F:64:SER:HA	8:F:75:PRO:HA	1.95	0.47
10:H:67:GLY:HA3	10:H:74:VAL:HB	1.96	0.47
11:I:102:VAL:HG22	11:I:130:ILE:HD11	1.96	0.47
13:L:67:ALA:HB1	13:L:158:LYS:HE2	1.96	0.47
14:M:89:TYR:O	14:M:169:ALA:HB1	2.13	0.47
18:Q:80[A]:PHE:HD2	18:Q:104[A]:VAL:HG21	1.79	0.47
23:W:81:LYS:HD2	23:W:90:ARG:HH22	1.78	0.47
29:c:69:TRP:CD1	29:c:71:PRO:HD3	2.49	0.47
46:v:215:CYS:SG	46:v:225:THR:OG1	2.67	0.47
47:x:391:LYS:O	47:x:510:ARG:NH2	2.45	0.47
50:SA:25:PHE:CD2	50:SA:50:ILE:HD12	2.49	0.47
65:SR:142:GLY:N	65:SR:153:SER:O	2.36	0.47
76:Sd:29:HIS:HB2	76:Sd:32:ARG:HD2	1.94	0.47
81:SO:154:VAL:O	81:SO:155:ARG:HB2	2.12	0.47
81:SO:177:MET:CE	81:SO:193:ILE:C	2.66	0.47
2:2:1042:G:H2'	2:2:1043:A:C8	2.50	0.47
3:A:639:G:H2'	3:A:640:U:H6	1.79	0.47
3:A:1595:U:O2'	3:A:1606:U:O2	2.32	0.47
3:A:1765:U:OP2	20:T:43:LYS:NZ	2.35	0.47
3:A:1927:G:C8	44:r:16:VAL:HA	2.49	0.47
3:A:2190:U:H2'	3:A:2191:U:H6	1.79	0.47
3:A:3338:C:H2'	3:A:3339:A:C8	2.50	0.47
12:K:76:ASP:O	12:K:80:THR:HG22	2.14	0.47
17:P:39:ALA:HB3	17:P:61:ILE:HG22	1.96	0.47
18:Q:188[A]:SER:O	18:Q:192[A]:LYS:HG2	2.14	0.47
34:h:86:ARG:HE	34:h:86:ARG:C	2.22	0.47
45:t:66:C:H2'	45:t:67:G:H8	1.79	0.47
46:v:300:ILE:HG22	46:v:302:ASP:H	1.80	0.47
47:x:101:ASN:ND2	47:x:452:ASN:OD1	2.47	0.47
47:x:744:TYR:HA	47:x:747:LEU:HB3	1.96	0.47
66:SS:106:LYS:HA	66:SS:106:LYS:HD2	1.65	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:100:LYS:NZ	70:SW:102:GLU:HB2	2.29	0.47
78:Sg:7:SER:HB3	78:Sg:10:ARG:HD3	1.95	0.47
79:SJ:23:ARG:HB3	79:SJ:117:VAL:HG13	1.94	0.47
2:2:24:U:OP1	70:SW:10:LYS:NZ	2.47	0.47
2:2:57:G:H5''	76:Sd:112:LYS:HE3	1.96	0.47
2:2:614:C:H2'	2:2:615:A:C8	2.48	0.47
2:2:1396:U:H3	2:2:1402:G:H1	1.63	0.47
3:A:411:U:H2'	3:A:412:G:H8	1.79	0.47
3:A:788:C:H2'	3:A:789:A:C8	2.49	0.47
3:A:937:G:H5'	3:A:938:C:C5	2.46	0.47
3:A:1590:G:O2'	3:A:1797:A:N6	2.48	0.47
3:A:2183:A:H5''	6:D:7:ASN:HB3	1.95	0.47
3:A:2536:A:C8	3:A:2537:U:H1'	2.49	0.47
3:A:3015:G:H2'	3:A:3016:A:H8	1.78	0.47
3:A:3105:U:C2	3:A:3106:A:C8	3.02	0.47
12:K:10:ILE:HD12	12:K:75:VAL:HG11	1.96	0.47
20:T:119:LEU:H	20:T:119:LEU:HD12	1.79	0.47
29:c:70:LYS:HE3	29:c:111:LYS:HD2	1.96	0.47
45:t:69:C:H2'	45:t:70:G:H8	1.79	0.47
46:v:701:PRO:O	46:v:703:GLY:N	2.45	0.47
47:x:23:SER:H	47:x:125:ALA:HA	1.79	0.47
47:x:772:LEU:HD21	47:x:777:SER:HB2	1.96	0.47
48:SC:26:ASP:O	48:SC:39:ASN:ND2	2.47	0.47
49:SE:56:PHE:CE1	49:SE:60:LEU:HD13	2.49	0.47
49:SE:59:LYS:NZ	49:SE:60:LEU:HA	2.29	0.47
55:SB:99:MET:HE2	55:SB:100:ASN:N	2.28	0.47
56:SF:18:ALA:HB2	56:SF:80:ALA:HB1	1.96	0.47
61:SZ:17:ALA:HA	61:SZ:30:VAL:HA	1.96	0.47
72:SY:42:ARG:HA	72:SY:42:ARG:NH1	2.28	0.47
74:Sb:103:ILE:HA	74:Sb:112:ASP:HA	1.95	0.47
81:SO:129:LYS:HG2	81:SO:149:ASP:O	2.13	0.47
81:SO:149:ASP:CG	81:SO:150:TRP:CZ3	2.92	0.47
81:SO:167:VAL:O	81:SO:167:VAL:HG13	2.14	0.47
2:2:587:C:OP2	78:Sg:23:LYS:NZ	2.47	0.47
2:2:956:C:H2'	2:2:957:G:H8	1.78	0.47
2:2:1273:G:H4'	2:2:1274:C:O5'	2.14	0.47
2:2:1275:A:HO2'	50:SA:141:LYS:HZ2	1.56	0.47
3:A:87:U:OP2	15:N:11:LYS:NZ	2.39	0.47
3:A:1916:U:OP1	20:T:84:THR:OG1	2.28	0.47
3:A:2258:U:H2'	3:A:2259:A:C8	2.49	0.47
4:B:59:U:H2'	4:B:60:G:H8	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:35:VAL:HG21	8:F:244:LEU:HD11	1.96	0.47
9:G:19:PRO:HD2	9:G:24:ARG:HG3	1.96	0.47
9:G:34:LYS:O	9:G:34:LYS:NZ	2.45	0.47
10:H:103:VAL:HG13	10:H:104:GLU:OE2	2.15	0.47
14:M:125:MET:HG3	14:M:127:PHE:CE1	2.50	0.47
17:P:11:GLN:OE1	17:P:44:ARG:NH2	2.47	0.47
19:R:128:ARG:HH11	19:R:130:TYR:HE1	1.63	0.47
22:V:66:ASN:OD1	22:V:67:VAL:N	2.47	0.47
44:r:37:TYR:HB2	44:r:47:VAL:HB	1.95	0.47
45:t:28:A:H2'	45:t:29:G:O4'	2.14	0.47
45:t:51:C:H2'	45:t:52:G:C8	2.49	0.47
46:v:532:THR:HG22	46:v:533:ASP:N	2.30	0.47
46:v:850:LYS:O	46:v:854:GLU:HG3	2.14	0.47
47:x:318:ALA:HA	47:x:321:LYS:HE2	1.95	0.47
64:SQ:121:ILE:HD13	64:SQ:164:ILE:HG21	1.97	0.47
65:SR:227:PRO:HA	65:SR:230:TRP:CD1	2.49	0.47
66:SS:100:ARG:NH2	66:SS:237:SER:O	2.48	0.47
72:SY:26:PHE:HE1	72:SY:28:LEU:HD12	1.79	0.47
81:SO:27:ALA:HB3	81:SO:77:GLY:O	2.14	0.47
81:SO:192:PHE:HZ	81:SO:228:LYS:HA	1.74	0.47
81:SO:242:SER:OG	81:SO:243:LEU:N	2.45	0.47
81:SO:316:MET:HG2	81:SO:318:ALA:N	2.24	0.47
1:S:179:ARG:NH2	3:A:709:A:OP2	2.48	0.47
2:2:400:A:H3'	69:SV:23:LYS:HE3	1.97	0.47
2:2:401:A:O2'	2:2:402:C:H4'	2.13	0.47
2:2:936:G:OP1	2:2:1074:G:N2	2.32	0.47
2:2:1142:A:H2'	2:2:1143:A:C8	2.49	0.47
2:2:1410:A:O2'	2:2:1411:A:O4'	2.26	0.47
3:A:531:G:H2'	3:A:532:A:C8	2.49	0.47
3:A:1695:U:H5'	35:i:24:LYS:HE3	1.95	0.47
3:A:1718:G:H2'	3:A:1719:G:C8	2.49	0.47
3:A:2368:A:H2'	3:A:2369:G:H8	1.79	0.47
3:A:2434:U:N3	3:A:2594:C:OP2	2.43	0.47
3:A:2775:U:O2'	3:A:2777:G:N1	2.48	0.47
3:A:3190:C:H2'	3:A:3191:G:C8	2.49	0.47
16:O:23:ILE:HA	16:O:63:VAL:HG12	1.97	0.47
17:P:162:ARG:HB3	17:P:164:LEU:HD23	1.95	0.47
21:U:34:GLU:OE2	21:U:38:LYS:HD2	2.13	0.47
32:f:55:LEU:HA	32:f:95:PRO:HG3	1.94	0.47
36:j:52:ALA:O	36:j:56:THR:HG22	2.15	0.47
40:n:27:ILE:HG23	40:n:30:ARG:HE	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:9:LYS:HD2	43:q:22:GLN:HA	1.96	0.47
45:t:42:U:H2'	45:t:43:G:C8	2.49	0.47
46:v:183:LYS:NZ	46:v:187:ALA:HB2	2.30	0.47
46:v:262:LYS:HD3	46:v:262:LYS:HA	1.66	0.47
46:v:710:ILE:HG21	46:v:918:VAL:HG21	1.94	0.47
57:SH:42:TYR:O	57:SH:46:VAL:HG23	2.14	0.47
58:SK:35:ARG:HG2	58:SK:35:ARG:O	2.14	0.47
64:SQ:109:LYS:O	64:SQ:113:MET:HE1	2.14	0.47
66:SS:117:GLU:OE2	66:SS:117:GLU:N	2.32	0.47
68:SU:66:SER:O	68:SU:66:SER:OG	2.24	0.47
74:Sb:124:LYS:HD2	74:Sb:124:LYS:HA	1.73	0.47
81:SO:133:VAL:HG21	81:SO:141:LEU:H	1.79	0.47
81:SO:304:GLY:CA	81:SO:310:ILE:HG13	2.42	0.47
2:2:629:U:OP2	2:2:969:C:N4	2.35	0.47
2:2:956:C:OP1	2:2:1072:C:O2'	2.30	0.47
2:2:1359:C:OP1	51:SI:134:ARG:NH2	2.47	0.47
3:A:117:U:O2'	3:A:119:U:OP2	2.26	0.47
3:A:1246:G:H8	3:A:1246:G:OP1	1.97	0.47
3:A:2837:A:H2'	3:A:2845:A:C2	2.49	0.47
3:A:3160:U:H3	3:A:3290:G:H22	1.63	0.47
6:D:204:MET:HG2	6:D:209:HIS:HB2	1.95	0.47
7:E:275:ARG:HD3	7:E:275:ARG:HA	1.68	0.47
13:L:76:MET:HE2	13:L:76:MET:HA	1.96	0.47
45:t:18:G:O2'	45:t:57:G:N2	2.40	0.47
46:v:413:ASN:OD1	46:v:414:ILE:N	2.47	0.47
46:v:539:PRO:HG2	46:v:541:SER:OG	2.15	0.47
47:x:252:PRO:HD3	47:x:269:LEU:HD21	1.96	0.47
47:x:769:LYS:HD3	47:x:769:LYS:N	2.29	0.47
57:SH:88:ARG:HA	57:SH:88:ARG:NH1	2.29	0.47
68:SU:128:ASP:HA	68:SU:131:PHE:HB2	1.97	0.47
72:SY:116:ILE:HD12	72:SY:116:ILE:H	1.79	0.47
79:SJ:97:VAL:O	79:SJ:100:VAL:HG12	2.14	0.47
80:J:78:PHE:C	80:J:80:TYR:H	2.22	0.47
81:SO:150:TRP:NE1	81:SO:174:ASN:HB3	2.30	0.47
2:2:213:A:H2'	2:2:214:G:O4'	2.14	0.47
2:2:338:C:H5''	69:SV:10:LYS:HD3	1.95	0.47
2:2:482:U:H2'	2:2:483:A:H8	1.79	0.47
2:2:1173:C:OP2	57:SH:142:GLY:N	2.47	0.47
2:2:1346:A:OP2	2:2:1348:A:N6	2.38	0.47
2:2:1385:G:H2'	2:2:1386:G:C8	2.49	0.47
2:2:1749:A:O2'	42:p:16:LYS:NZ	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:271:C:O2	37:k:82:ARG:NH2	2.48	0.47
3:A:504:A:H2'	3:A:505:G:C8	2.46	0.47
3:A:987:U:H2'	3:A:988:U:C6	2.49	0.47
3:A:1101:G:H5''	11:I:107:ARG:HD3	1.96	0.47
3:A:1157:G:H2'	3:A:1158:A:O4'	2.15	0.47
3:A:1446:A:N1	3:A:2356:A:H5''	2.30	0.47
3:A:1882:G:H2'	3:A:1883:A:C8	2.50	0.47
3:A:2216:G:H1	3:A:2229:A:N6	2.12	0.47
3:A:2268:U:H2'	3:A:2269:U:C6	2.50	0.47
3:A:2515:A:H5''	17:P:28:TRP:HD1	1.79	0.47
3:A:2899:C:N3	12:K:173:ARG:NH1	2.53	0.47
3:A:3016:A:H2'	3:A:3017:A:C8	2.50	0.47
3:A:3092:C:O2	24:X:12:ARG:NH1	2.48	0.47
3:A:3213:A:N7	16:O:124:ARG:NH1	2.63	0.47
3:A:3314:A:H2'	3:A:3315:G:C8	2.50	0.47
7:E:59:ASP:HA	7:E:357:LYS:HZ1	1.79	0.47
9:G:211:LEU:HB3	9:G:219:PHE:HE1	1.79	0.47
9:G:235:SER:O	9:G:239:ILE:HG23	2.14	0.47
12:K:90:MET:HE3	12:K:91:ARG:H	1.79	0.47
19:R:72:GLN:OE1	19:R:83:TRP:NE1	2.39	0.47
24:X:59:MET:HA	24:X:75:PRO:HA	1.97	0.47
31:e:24:THR:HG23	31:e:93:LEU:HD21	1.96	0.47
36:j:22:VAL:HG13	36:j:26:LYS:NZ	2.30	0.47
45:t:23:C:H2'	45:t:24:G:C8	2.49	0.47
46:v:126:LYS:HA	46:v:126:LYS:HD2	1.76	0.47
46:v:795:ARG:O	46:v:816:LEU:N	2.46	0.47
46:v:816:LEU:HD23	46:v:830:PRO:HA	1.95	0.47
47:x:66:ARG:NH1	47:x:66:ARG:O	2.48	0.47
47:x:333:ALA:O	47:x:336:GLU:HG3	2.15	0.47
59:SN:97:LYS:O	59:SN:98:VAL:C	2.57	0.47
62:Se:78:ALA:O	62:Se:82:ARG:N	2.48	0.47
63:SP:79:ARG:HG2	63:SP:81:PHE:HD1	1.79	0.47
63:SP:119:ARG:HA	63:SP:141:ILE:HD12	1.97	0.47
64:SQ:196:GLU:HA	64:SQ:199:ASN:ND2	2.30	0.47
65:SR:157:LYS:HE3	74:Sb:95:PRO:HA	1.97	0.47
77:Sf:63:LEU:O	77:Sf:74:SER:N	2.45	0.47
81:SO:5:GLU:OE1	81:SO:315:VAL:HB	2.15	0.47
81:SO:289:ALA:HB2	81:SO:305:TYR:CD2	2.49	0.47
2:2:71:A:H2'	2:2:72:A:O4'	2.15	0.47
2:2:430:G:H2'	2:2:431:C:C6	2.49	0.47
2:2:560:U:H2'	2:2:561:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:976:G:H1	2:2:1023:A:H1'	1.80	0.47
2:2:1083:G:H2'	2:2:1084:A:H8	1.80	0.47
2:2:1316:G:OP1	54:SG:7:LYS:HG3	2.14	0.47
3:A:32:U:H2'	3:A:33:G:O4'	2.15	0.47
3:A:126:U:H2'	3:A:127:G:H8	1.80	0.47
3:A:659:G:H21	3:A:1435:A:N6	2.13	0.47
3:A:746:A:H2'	3:A:747:A:C8	2.49	0.47
3:A:949:C:O2'	3:A:971:G:H5''	2.15	0.47
3:A:1138:U:H2'	3:A:1139:G:C8	2.50	0.47
3:A:1372:C:H2'	3:A:1373:A:C8	2.50	0.47
3:A:1742:U:H2'	3:A:1743:G:H8	1.80	0.47
3:A:2577:C:H2'	3:A:2578:U:C6	2.50	0.47
5:C:75:G:OP2	27:a:74:TYR:OH	2.29	0.47
7:E:45:SER:HB3	7:E:181:ILE:HD12	1.95	0.47
11:I:140:SER:O	11:I:144:ILE:HG12	2.15	0.47
12:K:140:VAL:CB	12:K:143:GLU:HG2	2.41	0.47
17:P:100:ALA:O	17:P:103:GLU:HG2	2.15	0.47
21:U:73:LYS:HG3	21:U:75:PHE:CE1	2.50	0.47
22:V:54:HIS:H	22:V:57:TYR:HD2	1.63	0.47
25:Y:82:ILE:HA	67:ST:131:LYS:HB3	1.97	0.47
31:e:24:THR:HB	31:e:29:SER:HB2	1.97	0.47
47:x:128:VAL:HG22	47:x:158:ASN:HB2	1.96	0.47
47:x:659:ILE:HD11	47:x:705:ILE:HG21	1.97	0.47
48:SC:30:ALA:HA	48:SC:38:LYS:HG2	1.96	0.47
51:SI:117:SER:HB2	51:SI:123:ARG:HB2	1.97	0.47
56:SF:129:PHE:HE2	79:SJ:78:THR:HA	1.80	0.47
65:SR:40:LYS:HD3	65:SR:43:ARG:HH21	1.80	0.47
65:SR:79:GLU:O	65:SR:102:VAL:HG23	2.14	0.47
66:SS:11:ARG:NH1	66:SS:21:ASP:O	2.47	0.47
66:SS:145:ARG:HA	66:SS:145:ARG:NH1	2.29	0.47
68:SU:62:VAL:HG22	68:SU:94:ALA:HA	1.97	0.47
68:SU:64:VAL:HB	68:SU:94:ALA:HB1	1.97	0.47
68:SU:143:LEU:HD13	68:SU:149:ILE:HD13	1.97	0.47
72:SY:37:ILE:H	72:SY:37:ILE:HD12	1.79	0.47
79:SJ:37:VAL:O	79:SJ:41:ILE:HG12	2.15	0.47
81:SO:181:TRP:HB3	81:SO:186:PHE:HD1	1.80	0.47
2:2:209:U:H2'	2:2:210:A:C8	2.50	0.47
3:A:346:C:O2	3:A:348:A:N6	2.48	0.47
3:A:612:U:H2'	3:A:613:G:H8	1.79	0.47
3:A:797:U:OP1	15:N:2:ALA:N	2.47	0.47
3:A:1254:C:H2'	3:A:1255:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1334:U:H5''	11:I:206:LYS:HB2	1.96	0.47
3:A:1941:C:H42	3:A:2107:A:H61	1.63	0.47
3:A:2203:U:H2'	3:A:2204:C:C6	2.49	0.47
3:A:2667:A:N6	3:A:2687:G:O2'	2.48	0.47
3:A:3076:C:H2'	3:A:3077:A:C8	2.50	0.47
3:A:3193:C:H2'	3:A:3194:C:H6	1.80	0.47
3:A:3225:C:H2'	3:A:3226:A:C8	2.49	0.47
9:G:109:THR:O	9:G:113:LEU:HD22	2.15	0.47
15:N:6:ASN:HB2	29:c:48:TYR:CE2	2.50	0.47
20:T:99:LEU:HD21	20:T:103:ARG:CZ	2.45	0.47
26:Z:81:ILE:HG21	26:Z:123:TYR:HB3	1.97	0.47
35:i:86:LYS:O	35:i:90:ILE:HG22	2.14	0.47
46:v:607:GLU:O	46:v:622:GLY:N	2.47	0.47
67:ST:58:LYS:HA	67:ST:58:LYS:HD2	1.72	0.47
72:SY:88:LEU:HD13	72:SY:125:LEU:HD11	1.97	0.47
81:SO:24:ALA:O	81:SO:33:LEU:HD12	2.14	0.47
81:SO:192:PHE:HD2	81:SO:223:TRP:CE3	2.33	0.47
81:SO:297:ASP:OD1	81:SO:297:ASP:N	2.48	0.47
2:2:52:U:H2'	2:2:53:G:H8	1.79	0.47
2:2:391:A:H4'	2:2:1730:A:H4'	1.96	0.47
2:2:447:U:O2'	66:SS:27:TYR:O	2.32	0.47
2:2:477:A:O2'	78:Sg:33:ARG:NH1	2.41	0.47
2:2:1408:G:H2'	2:2:1409:G:O4'	2.15	0.47
2:2:1573:A:N1	55:SB:102:ARG:NH2	2.62	0.47
2:2:1770:U:H5	62:Se:28:LYS:HE3	1.80	0.47
3:A:429:U:H2'	3:A:430:U:H6	1.80	0.47
3:A:596:C:O2	8:F:326:ARG:NH1	2.48	0.47
3:A:1132:C:H2'	3:A:1133:A:H8	1.79	0.47
3:A:1863:G:N2	3:A:1866:C:OP2	2.43	0.47
3:A:2184:U:H2'	3:A:2185:G:C8	2.49	0.47
3:A:2218:G:H2'	3:A:2219:A:C8	2.50	0.47
3:A:2713:U:H2'	43:q:8:ARG:HE	1.80	0.47
3:A:3095:U:H2'	3:A:3096:C:C6	2.50	0.47
8:F:326:ARG:HE	8:F:327:LEU:HD22	1.79	0.47
9:G:166:ALA:HB1	9:G:171:LEU:HD21	1.96	0.47
14:M:37:LEU:HD12	14:M:67:VAL:HB	1.97	0.47
14:M:107:ASP:OD1	14:M:108:GLU:N	2.48	0.47
15:N:157:ARG:O	29:c:99:ALA:N	2.42	0.47
24:X:104:ASN:ND2	24:X:108:GLU:OE1	2.48	0.47
32:f:10:ARG:HH21	32:f:44:MET:HE1	1.80	0.47
41:o:99:CYS:HB3	41:o:115:CYS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:491:THR:HG22	46:v:563:ILE:HB	1.97	0.47
47:x:730:LEU:HB3	47:x:797:VAL:HG23	1.97	0.47
51:SI:53:TRP:O	51:SI:57:ARG:HB2	2.15	0.47
51:SI:75:LYS:HG3	51:SI:79:LEU:HD23	1.97	0.47
61:SZ:43:THR:OG1	61:SZ:44:GLY:N	2.48	0.47
65:SR:81:MET:HE2	65:SR:81:MET:N	2.30	0.47
69:SV:39:GLY:HA2	69:SV:61:GLU:HG2	1.97	0.47
74:Sb:79:PHE:N	74:Sb:124:LYS:HZ3	2.13	0.47
76:Sd:42:GLU:OE2	76:Sd:42:GLU:N	2.35	0.47
2:2:499:U:H6	2:2:500:C:C5	2.32	0.46
2:2:1483:A:C2	2:2:1607:G:H1'	2.50	0.46
2:2:1734:U:H5''	24:X:32:ARG:NH1	2.29	0.46
3:A:165:A:H2'	3:A:166:C:C6	2.49	0.46
3:A:651:G:H2'	3:A:652:G:C8	2.50	0.46
3:A:1355:A:H4'	3:A:1356:U:H5''	1.96	0.46
3:A:1722:U:OP1	20:T:100:ARG:NH2	2.48	0.46
3:A:2522:G:O6	6:D:70:ARG:NH1	2.48	0.46
5:C:6:U:H2'	5:C:7:U:C6	2.50	0.46
5:C:104:A:C8	5:C:105:A:C8	3.03	0.46
8:F:28:ALA:HB3	8:F:127:ALA:HB2	1.97	0.46
16:O:104:ALA:HA	16:O:107:GLU:OE1	2.15	0.46
24:X:79:VAL:HB	24:X:118:VAL:HG23	1.97	0.46
32:f:8:VAL:HG12	32:f:77:ARG:NH1	2.30	0.46
46:v:372:ILE:HD11	46:v:410:ALA:HB1	1.97	0.46
46:v:962:VAL:H	46:v:963:TRP:HA	1.80	0.46
47:x:29:ASP:OD1	47:x:30:HIS:ND1	2.47	0.46
47:x:396:ALA:N	47:x:456:LEU:O	2.47	0.46
47:x:432:GLN:HB2	47:x:458:GLY:HA3	1.97	0.46
50:SA:96:LEU:HD22	50:SA:190:ARG:HB3	1.96	0.46
51:SI:27:LYS:N	51:SI:27:LYS:HD2	2.29	0.46
56:SF:47:LYS:HB3	56:SF:82:ARG:NH1	2.17	0.46
63:SP:180:GLU:O	63:SP:184:LEU:HG	2.14	0.46
64:SQ:98:THR:OG1	64:SQ:99:ASN:N	2.48	0.46
70:SW:25:ASP:OD1	70:SW:25:ASP:N	2.47	0.46
2:2:17:C:O2'	2:2:1137:A:N1	2.47	0.46
2:2:619:A:H4'	2:2:1140:G:O2'	2.14	0.46
2:2:752:A:H2	2:2:797:G:H22	1.63	0.46
2:2:1166:A:H2'	2:2:1167:G:O4'	2.15	0.46
2:2:1374:C:H2'	2:2:1375:A:C8	2.50	0.46
2:2:1606:C:H2'	2:2:1607:G:C8	2.50	0.46
3:A:342:A:H5'	3:A:344:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1493:G:N9	40:n:13:MET:HE1	2.30	0.46
3:A:1525:G:H5'	3:A:1830:G:OP2	2.15	0.46
3:A:1765:U:H2'	3:A:1766:G:H8	1.80	0.46
3:A:1890:U:O4	3:A:1891:A:N6	2.48	0.46
3:A:2538:U:C5	3:A:2540:A:H1'	2.50	0.46
3:A:3027:A:C5	47:x:786:GLN:HB2	2.50	0.46
3:A:3163:A:N6	3:A:3288:G:O6	2.48	0.46
5:C:143:U:H2'	5:C:144:G:H8	1.80	0.46
11:I:103:LEU:O	11:I:108:LEU:HB2	2.14	0.46
11:I:238:LYS:O	11:I:238:LYS:HD2	2.15	0.46
15:N:76:THR:N	15:N:79:GLU:OE1	2.48	0.46
28:b:48:ARG:HH12	28:b:69:LYS:HD3	1.80	0.46
28:b:77:TYR:HB3	31:e:35:ARG:NH1	2.30	0.46
34:h:89:LEU:HD23	34:h:93:THR:OG1	2.15	0.46
45:t:73:A:O2'	45:t:74:C:H5''	2.15	0.46
46:v:529:PHE:O	46:v:529:PHE:CG	2.67	0.46
47:x:468:THR:OG1	47:x:469:LEU:N	2.48	0.46
54:SG:33:ARG:NH1	81:SO:127:ARG:HG3	2.29	0.46
54:SG:85:VAL:HG13	63:SP:198:MET:HG3	1.96	0.46
57:SH:86:LEU:HD13	57:SH:97:ASP:HB3	1.95	0.46
71:SX:32:LYS:HD2	71:SX:32:LYS:HA	1.72	0.46
74:Sb:104:LEU:HB2	74:Sb:125:ILE:HA	1.97	0.46
81:SO:257:ALA:HA	81:SO:288:HIS:CD2	2.50	0.46
81:SO:262:VAL:HG13	81:SO:270:LEU:HG	1.97	0.46
1:S:170:ARG:NH2	29:c:58:MET:O	2.47	0.46
2:2:14:C:O5'	65:SR:164:SER:OG	2.33	0.46
2:2:104:A:N6	2:2:308:C:OP2	2.49	0.46
2:2:250:C:H2'	2:2:251:A:C8	2.49	0.46
2:2:356:G:H2'	2:2:357:G:C8	2.50	0.46
2:2:442:C:P	76:Sd:106:GLN:HE22	2.38	0.46
2:2:934:C:C5	2:2:1077:C:H4'	2.50	0.46
2:2:1462:G:N7	57:SH:143:ARG:NH2	2.46	0.46
3:A:1011:A:H2'	3:A:1012:G:C8	2.51	0.46
3:A:1533:U:H1'	3:A:1798:A:H2	1.79	0.46
3:A:1609:C:H2'	3:A:1610:G:C8	2.50	0.46
3:A:2264:U:H2'	3:A:2265:C:C6	2.51	0.46
3:A:2735:U:H2'	3:A:2736:A:C8	2.50	0.46
4:B:23:A:N3	4:B:120:C:O2'	2.48	0.46
12:K:93:VAL:O	12:K:93:VAL:HG22	2.15	0.46
18:Q:61[A]:ALA:HA	18:Q:70[A]:PRO:HD2	1.97	0.46
30:d:21:ILE:HD12	30:d:21:ILE:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:d:32:LEU:O	30:d:35:VAL:HG13	2.14	0.46
31:e:15:ALA:O	31:e:18:ILE:HG22	2.14	0.46
45:s:28:A:H2'	45:s:29:G:H8	1.79	0.46
45:t:64:A:H2'	45:t:65:G:H8	1.80	0.46
46:v:951:SER:OG	46:v:954:PHE:HB3	2.15	0.46
66:SS:43:PRO:HB2	66:SS:45:ILE:HG22	1.98	0.46
69:SV:118:GLY:HA3	69:SV:143:TRP:HE1	1.79	0.46
72:SY:69:ASN:OD1	72:SY:69:ASN:N	2.46	0.46
81:SO:19:TRP:CE3	81:SO:38:ARG:HD3	2.50	0.46
81:SO:135:THR:CG2	81:SO:138:GLY:H	2.28	0.46
1:S:30:VAL:HG22	1:S:52:LEU:HD23	1.98	0.46
2:2:52:U:H2'	2:2:53:G:C8	2.50	0.46
2:2:78:A:O2'	67:ST:172:ALA:O	2.33	0.46
2:2:215:A:O2'	2:2:216:U:OP1	2.31	0.46
2:2:1037:C:H2'	2:2:1038:U:C6	2.49	0.46
2:2:1579:U:OP1	56:SF:142:TYR:OH	2.22	0.46
3:A:172:G:H2'	3:A:173:G:H8	1.78	0.46
3:A:1186:G:N3	21:U:112:ALA:HB1	2.29	0.46
3:A:1639:C:H2'	3:A:1640:G:H8	1.80	0.46
3:A:2292:U:H3	3:A:2300:G:H1	1.62	0.46
3:A:2724:U:OP2	3:A:2726:C:N4	2.48	0.46
3:A:3153:U:OP2	3:A:3293:U:O2'	2.24	0.46
3:A:3369:G:C4	7:E:380:MET:HE1	2.50	0.46
5:C:104:A:C5'	5:C:105:A:H8	2.28	0.46
7:E:123:TYR:OH	7:E:124:LYS:NZ	2.47	0.46
16:O:32:LEU:HD11	16:O:94:TRP:CD1	2.49	0.46
17:P:26:ARG:HB2	17:P:122:ASN:HD22	1.79	0.46
19:R:44:ALA:O	19:R:48:LEU:HG	2.15	0.46
19:R:60:PHE:CE1	19:R:82:ARG:HB2	2.51	0.46
20:T:95:TRP:CH2	20:T:99:LEU:HD13	2.50	0.46
24:X:86:ARG:HA	24:X:91:VAL:O	2.15	0.46
33:g:96:ILE:HG22	33:g:100:ILE:HD13	1.97	0.46
45:t:27:C:H2'	45:t:28:A:H8	1.80	0.46
46:v:545:GLY:N	46:v:707:SER:HB3	2.29	0.46
47:x:533:THR:O	47:x:533:THR:OG1	2.31	0.46
52:SL:30:VAL:HG11	52:SL:42:ARG:HB2	1.97	0.46
54:SG:30:THR:HB	54:SG:33:ARG:HH21	1.79	0.46
56:SF:99:GLU:HG2	81:SO:57:PRO:O	2.15	0.46
61:SZ:13:VAL:HG23	61:SZ:77:THR:H	1.80	0.46
65:SR:237:VAL:HG12	73:Sa:52:THR:HG21	1.97	0.46
81:SO:209:THR:HG22	81:SO:225:LEU:HG	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:4:ASP:O	11:I:109:THR:OG1	2.34	0.46
2:2:163:G:O2'	67:ST:53:SER:OG	2.22	0.46
2:2:1123:C:OP2	44:r:7:LYS:NZ	2.47	0.46
2:2:1726:G:H2'	2:2:1727:G:C8	2.50	0.46
3:A:932:U:O4'	3:A:934:G:H5'	2.16	0.46
3:A:946:U:H2'	3:A:947:G:H8	1.80	0.46
3:A:1615:C:H2'	3:A:1616:U:C6	2.51	0.46
4:B:57:G:H4'	14:M:138:VAL:HG21	1.96	0.46
5:C:63:G:H22	5:C:97:A:H2	1.61	0.46
19:R:146:ILE:H	19:R:146:ILE:HD12	1.80	0.46
22:V:68:THR:HG22	22:V:69:LYS:N	2.30	0.46
30:d:28:LYS:HE3	30:d:28:LYS:HB3	1.63	0.46
45:t:51:C:H2'	45:t:52:G:H8	1.80	0.46
46:v:805:PHE:N	46:v:808:THR:O	2.33	0.46
46:v:930:SER:O	46:v:934:LEU:HD23	2.16	0.46
47:x:180:ARG:O	47:x:183:GLU:HG3	2.15	0.46
47:x:723:LYS:HE3	47:x:803:THR:HG21	1.97	0.46
50:SA:108:LYS:HD3	50:SA:108:LYS:C	2.40	0.46
54:SG:99:VAL:HG11	54:SG:117:LEU:HA	1.98	0.46
64:SQ:97:LEU:HB2	64:SQ:232:HIS:CE1	2.51	0.46
64:SQ:113:MET:H	64:SQ:113:MET:CE	2.25	0.46
81:SO:33:LEU:HD13	81:SO:302:PHE:HE2	1.81	0.46
2:2:199:G:H2'	2:2:200:A:C8	2.49	0.46
2:2:1479:A:H2'	2:2:1480:G:C8	2.50	0.46
2:2:1508:U:H2'	2:2:1509:C:C6	2.50	0.46
2:2:1559:A:N7	57:SH:134:ARG:NH1	2.62	0.46
3:A:589:A:H1'	3:A:1337:A:H5''	1.97	0.46
3:A:1415:U:H2'	3:A:1416:C:O4'	2.15	0.46
3:A:1791:C:H2'	3:A:1792:C:C6	2.50	0.46
3:A:2198:A:H1'	3:A:2269:U:H4'	1.96	0.46
3:A:2736:A:H4'	22:V:71:SER:HB3	1.97	0.46
3:A:3110:C:H2'	3:A:3111:U:H6	1.79	0.46
3:A:3306:U:OP1	7:E:225:GLY:N	2.43	0.46
4:B:6:C:O5'	9:G:22:ARG:NH2	2.49	0.46
5:C:143:U:P	17:P:38:ARG:HH22	2.39	0.46
17:P:79:ALA:HB1	17:P:81:TYR:CE1	2.51	0.46
19:R:125:GLN:HG2	19:R:141:SER:HB2	1.97	0.46
46:v:222:VAL:HG11	46:v:252:ARG:HG3	1.97	0.46
46:v:480:VAL:HB	46:v:483:PHE:HB3	1.96	0.46
48:SC:58:GLN:O	48:SC:65:TYR:N	2.47	0.46
55:SB:168:VAL:O	55:SB:172:ILE:HG12	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SQ:157:GLN:O	64:SQ:157:GLN:HG2	2.16	0.46
65:SR:59:HIS:CE1	65:SR:238:SER:HA	2.51	0.46
72:SY:23:PRO:O	72:SY:25:TRP:N	2.48	0.46
74:Sb:105:THR:HG23	74:Sb:124:LYS:HB3	1.97	0.46
81:SO:262:VAL:O	81:SO:263:PHE:HB2	2.16	0.46
2:2:97:C:H2'	2:2:98:U:C6	2.51	0.46
2:2:356:G:H2'	2:2:357:G:H8	1.80	0.46
2:2:1477:G:N3	51:SI:48:GLN:NE2	2.63	0.46
2:2:1789:G:H2'	2:2:1790:A:H8	1.81	0.46
3:A:261:U:H2'	3:A:262:U:C6	2.50	0.46
3:A:370:U:O4	3:A:374:A:N7	2.48	0.46
3:A:415:G:O6	5:C:9:A:N6	2.48	0.46
3:A:1602:A:N6	26:Z:70:GLU:OE2	2.49	0.46
3:A:1696:A:H2'	3:A:1697:A:H8	1.81	0.46
3:A:1709:C:H2'	3:A:1710:C:C6	2.50	0.46
3:A:1832:C:O2'	5:C:113:U:OP1	2.24	0.46
3:A:2549:G:C2	80:J:35:GLY:HA2	2.50	0.46
3:A:2578:U:H2'	3:A:2579:G:O4'	2.16	0.46
3:A:2708:C:C2	3:A:2709:C:C5	3.04	0.46
3:A:3027:A:H1'	47:x:785:ARG:CZ	2.46	0.46
5:C:97:A:O2'	36:j:59:ASN:OD1	2.27	0.46
12:K:120:ASP:OD1	12:K:120:ASP:N	2.49	0.46
29:c:114:GLY:HA3	29:c:133:LEU:HD22	1.98	0.46
46:v:599:SER:HA	46:v:624:PHE:HD2	1.81	0.46
51:SI:22:LEU:HB2	51:SI:55:TYR:HB3	1.98	0.46
57:SH:32:LEU:HA	57:SH:35:ILE:HD12	1.97	0.46
64:SQ:133:TYR:CD2	64:SQ:217:LEU:HD11	2.51	0.46
67:ST:57:ASP:HA	67:ST:107:ALA:H	1.80	0.46
68:SU:34:LEU:HG	68:SU:38:LEU:HD22	1.96	0.46
68:SU:142:TYR:CE2	74:Sb:35:ILE:HD11	2.48	0.46
81:SO:123:ILE:C	81:SO:123:ILE:HD12	2.41	0.46
81:SO:139:GLN:HG2	81:SO:140:CYS:H	1.80	0.46
2:2:442:C:O2'	2:2:525:A:N1	2.48	0.46
2:2:971:A:C5	2:2:972:G:H1'	2.50	0.46
2:2:1179:G:N2	2:2:1460:A:H62	2.12	0.46
2:2:1647:U:H2'	2:2:1648:A:H8	1.81	0.46
3:A:207:U:H2'	3:A:208:C:H6	1.81	0.46
3:A:427:C:OP1	33:g:15:LYS:NZ	2.41	0.46
3:A:1136:A:O4'	3:A:2636:A:N6	2.49	0.46
3:A:1886:A:H2'	3:A:1887:A:C8	2.51	0.46
3:A:3051:U:H2'	3:A:3052:G:C8	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:3060:C:H2'	3:A:3061:G:H8	1.81	0.46
11:I:101:LYS:HG3	11:I:102:VAL:N	2.30	0.46
13:L:4:ARG:CZ	13:L:5:PRO:HD2	2.46	0.46
16:O:33:ALA:HB1	16:O:46:ILE:HB	1.98	0.46
17:P:135:VAL:HG11	17:P:151:ILE:HG13	1.97	0.46
22:V:102:ARG:HD2	22:V:102:ARG:HA	1.70	0.46
23:W:95:PHE:CZ	23:W:103:TYR:HD2	2.33	0.46
29:c:75:LEU:H	29:c:75:LEU:HD12	1.80	0.46
37:k:81:THR:O	37:k:84:LYS:HG2	2.16	0.46
43:q:27:GLN:HE22	43:q:29:LYS:HB2	1.80	0.46
46:v:583:ASN:OD1	46:v:584:TYR:N	2.49	0.46
47:x:485:VAL:HG22	47:x:793:PHE:HA	1.97	0.46
69:SV:184:LEU:HB3	69:SV:188:GLU:HB2	1.97	0.46
80:J:152:LEU:HG	80:J:178:ALA:HB3	1.98	0.46
81:SO:87:LYS:HB3	81:SO:108:SER:O	2.16	0.46
81:SO:144:LEU:HD11	81:SO:181:TRP:CD1	2.48	0.46
2:2:788:A:H3'	66:SS:108:ARG:HH21	1.81	0.46
2:2:1291:G:OP2	2:2:1291:G:N2	2.49	0.46
3:A:1340:G:H2'	3:A:1341:U:C6	2.51	0.46
3:A:1729:A:N6	44:r:42:CYS:HA	2.31	0.46
3:A:2457:G:H2'	3:A:2458:A:H2'	1.97	0.46
5:C:68:G:H2'	5:C:69:U:C6	2.50	0.46
5:C:71:A:H4'	5:C:72:A:O5'	2.16	0.46
6:D:30:ARG:HD3	6:D:63:PHE:CD2	2.51	0.46
7:E:53:MET:N	7:E:53:MET:SD	2.89	0.46
9:G:33:ARG:O	9:G:37:VAL:HG22	2.16	0.46
18:Q:41[A]:LEU:HD23	18:Q:138[A]:LEU:HD23	1.97	0.46
24:X:24:ASN:HA	24:X:33:ASN:HA	1.97	0.46
24:X:130:ALA:C	24:X:133:SER:HG	2.23	0.46
27:a:36:SER:OG	27:a:38:GLU:OE1	2.22	0.46
38:l:28:HIS:CD2	38:l:31:LYS:H	2.34	0.46
39:m:28:ASN:HD22	39:m:30:LYS:HE2	1.79	0.46
47:x:35:LEU:HA	47:x:38:SER:HB3	1.97	0.46
50:SA:59:LEU:HA	50:SA:66:ILE:HD11	1.97	0.46
54:SG:101:ASN:ND2	63:SP:18:LEU:HD13	2.31	0.46
55:SB:63:GLN:NE2	55:SB:66:GLN:HB3	2.28	0.46
62:Se:64:LEU:N	62:Se:65:PRO:HD3	2.31	0.46
68:SU:64:VAL:HA	68:SU:67:LEU:HD23	1.98	0.46
68:SU:177:THR:O	68:SU:179:LYS:NZ	2.49	0.46
69:SV:97:THR:OG1	69:SV:98:LYS:N	2.49	0.46
72:SY:62:GLN:OE1	72:SY:62:GLN:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Sd:84:LYS:HE3	76:Sd:85:PHE:HE1	1.81	0.46
81:SO:293:ALA:O	81:SO:301:LEU:HD11	2.16	0.46
2:2:352:A:H4'	2:2:353:A:O5'	2.16	0.46
2:2:606:A:H4'	2:2:607:G:H3'	1.96	0.46
2:2:1171:A:H2'	2:2:1172:G:H8	1.81	0.46
3:A:647:A:OP1	3:A:650:C:N4	2.49	0.46
3:A:904:A:H2'	3:A:905:U:C6	2.51	0.46
3:A:1508:C:H5''	3:A:2354:C:H1'	1.98	0.46
3:A:2366:C:H2'	3:A:2367:A:C8	2.50	0.46
3:A:2829:U:OP1	13:L:4:ARG:NH1	2.48	0.46
3:A:3164:C:H42	3:A:3286:G:H1	1.63	0.46
8:F:119:ARG:HD3	8:F:274:TYR:CE2	2.51	0.46
8:F:144:LYS:HD3	8:F:144:LYS:HA	1.72	0.46
9:G:232:ASP:OD1	9:G:233:ALA:N	2.45	0.46
11:I:106:LEU:HD13	11:I:117:VAL:HG21	1.98	0.46
13:L:96:VAL:HG13	13:L:122:PRO:HB3	1.98	0.46
24:X:17:LEU:HD23	24:X:17:LEU:HA	1.81	0.46
26:Z:126:LEU:HD23	26:Z:126:LEU:H	1.81	0.46
38:l:63:ARG:HG2	38:l:63:ARG:HH11	1.81	0.46
45:t:44:A:H2'	45:t:45:U:H5''	1.98	0.46
46:v:133:THR:OG1	46:v:169:GLU:OE2	2.29	0.46
46:v:672:GLU:O	46:v:720:THR:OG1	2.28	0.46
47:x:202:VAL:HG23	47:x:204:PRO:HD3	1.98	0.46
47:x:222:ILE:HG13	47:x:223:ARG:N	2.30	0.46
48:SC:58:GLN:HB2	48:SC:65:TYR:HB2	1.98	0.46
56:SF:95:LYS:HD3	56:SF:95:LYS:HA	1.66	0.46
59:SN:89:LYS:HD3	59:SN:89:LYS:C	2.41	0.46
68:SU:134:GLU:OE2	72:SY:21:ASN:ND2	2.49	0.46
72:SY:113:PHE:O	72:SY:113:PHE:HD1	1.99	0.46
74:Sb:41:MET:O	74:Sb:45:GLY:N	2.48	0.46
81:SO:20:VAL:HA	81:SO:37:SER:HA	1.97	0.46
81:SO:72:THR:OG1	81:SO:73:LEU:N	2.49	0.46
81:SO:116:ASP:CG	81:SO:117:LYS:N	2.69	0.46
81:SO:305:TYR:HB2	81:SO:309:VAL:HB	1.98	0.46
2:2:374:U:H2'	2:2:375:U:C6	2.50	0.45
2:2:979:A:H4'	2:2:1786:G:H21	1.79	0.45
2:2:1045:C:H2'	2:2:1046:G:H8	1.80	0.45
2:2:1632:C:H2'	2:2:1633:A:O4'	2.16	0.45
3:A:269:G:H5''	17:P:14:LYS:HE2	1.98	0.45
3:A:383:G:N2	3:A:386:A:OP2	2.34	0.45
3:A:664:U:H2'	3:A:665:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1148:G:OP1	34:h:20:LYS:HB2	2.17	0.45
3:A:2368:A:H2'	3:A:2369:G:C8	2.51	0.45
6:D:149:ARG:NE	6:D:149:ARG:HA	2.31	0.45
7:E:278:ILE:HG22	7:E:279:ASN:OD1	2.15	0.45
10:H:40:LEU:HD23	10:H:54:TYR:HB3	1.98	0.45
40:n:10:LYS:O	40:n:13:MET:HB2	2.16	0.45
46:v:593:ILE:HD12	46:v:593:ILE:HA	1.88	0.45
47:x:545:LEU:HB3	47:x:554:LEU:HD21	1.97	0.45
64:SQ:203:ASP:OD1	64:SQ:203:ASP:N	2.44	0.45
80:J:78:PHE:N	80:J:78:PHE:CD1	2.85	0.45
81:SO:241:PHE:CD1	81:SO:290:VAL:HG23	2.52	0.45
2:2:821:U:O2	2:2:852:C:N3	2.49	0.45
2:2:1187:U:H2'	2:2:1188:G:C8	2.51	0.45
2:2:1252:C:H4'	59:SN:131:PHE:HB2	1.98	0.45
3:A:143:G:H2'	3:A:144:A:H8	1.81	0.45
3:A:817:A:C8	38:l:15:SER:HB3	2.51	0.45
3:A:1175:C:H2'	3:A:1176:C:C6	2.50	0.45
3:A:1709:C:H2'	3:A:1710:C:H6	1.81	0.45
3:A:1711:C:H2'	3:A:1712:G:O4'	2.16	0.45
3:A:1809:A:OP2	28:b:65:ARG:NH2	2.49	0.45
3:A:2180:G:H2'	3:A:2181:C:C6	2.52	0.45
3:A:3066:U:H2'	3:A:3067:C:C6	2.52	0.45
3:A:3138:U:H2'	3:A:3139:A:H8	1.80	0.45
3:A:3332:U:H2'	3:A:3333:G:O4'	2.16	0.45
4:B:23:A:H2'	4:B:24:A:C8	2.51	0.45
11:I:121:LYS:O	11:I:125:GLU:HG2	2.16	0.45
14:M:108:GLU:OE1	14:M:111:ASP:N	2.50	0.45
15:N:49:ARG:HH11	36:j:116:TYR:HE1	1.62	0.45
15:N:95:ILE:HD11	15:N:119:TYR:CE2	2.51	0.45
17:P:184:LYS:HB2	17:P:184:LYS:HE3	1.84	0.45
21:U:155:ARG:HH21	21:U:172:TYR:HA	1.80	0.45
24:X:10:LYS:HD3	24:X:11:PHE:O	2.16	0.45
46:v:763:GLU:OE2	46:v:857:MET:HG3	2.16	0.45
51:SI:46:PRO:HD3	57:SH:41:ARG:NH1	2.30	0.45
53:SM:32:ARG:HG3	53:SM:33:LYS:HG3	1.98	0.45
54:SG:73:LEU:O	54:SG:76:GLU:HB3	2.16	0.45
64:SQ:36:SER:N	64:SQ:231:LEU:O	2.49	0.45
70:SW:80:LEU:HB3	70:SW:86:LEU:HB2	1.98	0.45
73:Sa:4:ASP:OD1	73:Sa:4:ASP:N	2.49	0.45
78:Sg:15:LYS:HA	78:Sg:15:LYS:HE2	1.98	0.45
81:SO:58:VAL:HG23	81:SO:59:ARG:H	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:117:LYS:CE	81:SO:158:PRO:HA	2.46	0.45
2:2:388:G:H5'	2:2:425:A:N6	2.31	0.45
2:2:1485:C:H2'	2:2:1486:G:O4'	2.16	0.45
3:A:365:A:H4'	8:F:84:ARG:HD3	1.99	0.45
3:A:1361:U:H2'	3:A:1362:G:C8	2.51	0.45
3:A:3217:C:N4	19:R:183:ALA:O	2.49	0.45
7:E:277:SER:OG	7:E:280:HIS:NE2	2.38	0.45
10:H:69:PHE:HA	10:H:73:GLY:HA2	1.98	0.45
10:H:93:VAL:O	10:H:93:VAL:HG12	2.15	0.45
21:U:27:MET:HE1	21:U:44:PHE:HD2	1.82	0.45
29:c:19:LYS:NZ	29:c:25:HIS:HE1	2.14	0.45
29:c:45:MET:HE2	29:c:45:MET:N	2.32	0.45
32:f:43:HIS:CD2	32:f:43:HIS:N	2.85	0.45
34:h:26:ASN:HA	34:h:88:ASN:ND2	2.31	0.45
46:v:699:ILE:HD12	46:v:962:VAL:HG22	1.97	0.45
47:x:172:GLU:H	47:x:172:GLU:CD	2.22	0.45
47:x:391:LYS:HD3	47:x:510:ARG:HH12	1.81	0.45
50:SA:108:LYS:HE3	50:SA:118:ALA:HB2	1.98	0.45
63:SP:176:LEU:HD13	63:SP:179:ARG:HD3	1.97	0.45
66:SS:152:PRO:HG2	67:ST:215:ARG:HG3	1.97	0.45
74:Sb:87:GLU:OE2	74:Sb:87:GLU:N	2.34	0.45
80:J:166:LEU:HD22	80:J:166:LEU:H	1.80	0.45
81:SO:102:ARG:O	81:SO:104:VAL:HG13	2.17	0.45
2:2:95:G:H5'	66:SS:8:HIS:HD2	1.81	0.45
2:2:1725:U:H2'	2:2:1726:G:H8	1.82	0.45
3:A:1364:C:H2'	3:A:1365:G:C8	2.52	0.45
3:A:2527:G:H2'	3:A:2528:G:H8	1.81	0.45
3:A:2916:U:H2'	3:A:2917:G:H8	1.80	0.45
6:D:133:TYR:HE2	6:D:135:ILE:HG12	1.81	0.45
14:M:77:GLU:O	14:M:81:GLU:HG3	2.17	0.45
20:T:134:HIS:HD2	20:T:136:ARG:HB3	1.80	0.45
34:h:73:ARG:CZ	34:h:82:ARG:HH12	2.30	0.45
47:x:14:ASP:OD1	47:x:14:ASP:N	2.42	0.45
47:x:518:VAL:HG22	47:x:520:THR:HG23	1.98	0.45
47:x:841:LYS:HD2	47:x:841:LYS:HA	1.71	0.45
50:SA:204:ASP:OD1	50:SA:204:ASP:N	2.49	0.45
62:Se:6:ALA:O	62:Se:8:ASN:N	2.48	0.45
67:ST:3:LEU:HD23	67:ST:18:ILE:HG13	1.97	0.45
77:Sf:64:CYS:HB2	77:Sf:71:ALA:HB1	1.99	0.45
81:SO:114:ASP:OD1	81:SO:115:ILE:N	2.47	0.45
2:2:87:C:O2'	2:2:169:A:N1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:861:U:H3'	2:2:862:A:C8	2.52	0.45
2:2:894:U:H2'	2:2:895:G:N7	2.32	0.45
2:2:1115:U:C2	2:2:1131:A:N7	2.85	0.45
2:2:1226:A:H4'	2:2:1227:A:OP1	2.17	0.45
2:2:1584:G:H3'	56:SF:124:PRO:HA	1.97	0.45
3:A:201:A:OP1	3:A:220:G:O2'	2.33	0.45
3:A:225:C:H2'	3:A:226:C:C6	2.52	0.45
3:A:2674:A:N3	14:M:107:ASP:HA	2.31	0.45
3:A:2745:G:N2	3:A:2748:A:N7	2.64	0.45
6:D:189:TYR:HD2	6:D:196:TRP:HB2	1.81	0.45
10:H:174:LEU:HB3	10:H:176:PHE:CE1	2.52	0.45
11:I:167:ALA:O	11:I:170:GLU:HG3	2.17	0.45
11:I:197:GLN:H	11:I:197:GLN:CD	2.18	0.45
12:K:90:MET:HB3	12:K:144:ILE:HG23	1.97	0.45
14:M:33:ALA:HB2	14:M:123:PHE:HE2	1.81	0.45
17:P:104:GLU:OE2	17:P:108:ARG:NH2	2.49	0.45
28:b:123:GLN:OE1	28:b:123:GLN:N	2.49	0.45
31:e:56:LEU:HD13	31:e:89:VAL:HG21	1.98	0.45
32:f:64:VAL:HG23	32:f:65:LYS:HG2	1.99	0.45
45:t:68:G:H2'	45:t:69:C:O4'	2.17	0.45
46:v:101:LYS:HD2	46:v:101:LYS:HA	1.55	0.45
46:v:218:ASP:OD1	46:v:218:ASP:N	2.49	0.45
46:v:339:THR:O	46:v:343:VAL:HG23	2.17	0.45
47:x:157:ILE:HD11	47:x:209:VAL:HG12	1.99	0.45
47:x:274:ASN:HA	47:x:278:LEU:HB3	1.98	0.45
51:SI:67:MET:HE2	51:SI:67:MET:HA	1.97	0.45
65:SR:86:VAL:HG23	65:SR:97:ARG:HG3	1.98	0.45
65:SR:226:THR:HB	65:SR:228:ASN:OD1	2.16	0.45
72:SY:62:GLN:HG2	72:SY:64:ARG:H	1.81	0.45
81:SO:81:LEU:HD23	81:SO:81:LEU:HA	1.63	0.45
81:SO:115:ILE:HD11	81:SO:120:SER:N	2.32	0.45
2:2:1:U:O4	70:SW:53:ARG:NH1	2.50	0.45
2:2:289:U:H2'	2:2:290:G:C8	2.52	0.45
2:2:841:U:H2'	2:2:842:C:C6	2.51	0.45
3:A:927:C:C2	3:A:928:C:C5	3.05	0.45
3:A:984:G:H3'	11:I:101:LYS:HZ3	1.82	0.45
3:A:998:A:H2'	3:A:999:G:C8	2.51	0.45
3:A:1246:G:H2'	3:A:1247:U:C6	2.52	0.45
3:A:2097:U:H2'	3:A:2098:C:C6	2.52	0.45
3:A:2218:G:H2'	3:A:2219:A:H8	1.82	0.45
4:B:112:G:H2'	4:B:113:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:20:U:H2'	5:C:21:C:H6	1.81	0.45
8:F:270:SER:O	8:F:270:SER:OG	2.34	0.45
9:G:30:TYR:HD2	22:V:27:LEU:HD22	1.81	0.45
12:K:176:LEU:HD22	41:o:86:ALA:HB1	1.99	0.45
19:R:41:LEU:H	19:R:41:LEU:HD12	1.81	0.45
27:a:45:ILE:HD12	27:a:45:ILE:HA	1.90	0.45
30:d:5:LYS:HZ2	30:d:8:THR:HG1	1.59	0.45
46:v:240:PRO:HG3	46:v:281:VAL:HG23	1.98	0.45
47:x:30:HIS:O	47:x:34:THR:HG23	2.17	0.45
47:x:682:ARG:NH1	47:x:683:SER:HB3	2.32	0.45
47:x:694:HIS:O	47:x:700:ARG:NH1	2.50	0.45
54:SG:37:GLU:OE2	81:SO:127:ARG:CZ	2.65	0.45
55:SB:181:GLU:HA	55:SB:184:PHE:HB3	1.97	0.45
81:SO:19:TRP:CD1	81:SO:20:VAL:H	2.34	0.45
2:2:138:A:H62	2:2:142:G:H1'	1.82	0.45
2:2:385:A:H2'	2:2:386:G:C8	2.52	0.45
3:A:518:G:H3'	3:A:519:A:H3'	1.98	0.45
3:A:1249:G:H2'	3:A:1250:G:H8	1.81	0.45
3:A:1267:U:H3'	3:A:1268:G:N7	2.30	0.45
3:A:2371:G:N1	3:A:2375:G:OP1	2.49	0.45
3:A:2418:G:OP2	3:A:2606:G:N2	2.50	0.45
3:A:2431:C:N4	3:A:2432:A:H62	2.15	0.45
3:A:2632:G:H4'	22:V:12:ARG:HD2	1.97	0.45
10:H:102:ASN:OD1	10:H:105:TYR:N	2.49	0.45
12:K:50:ASN:HD21	16:O:4:ASP:HB2	1.82	0.45
20:T:166:ASN:O	20:T:170:ARG:HG2	2.17	0.45
25:Y:44:LYS:HD3	25:Y:44:LYS:HA	1.78	0.45
27:a:35:LEU:HD23	27:a:106:ILE:HD11	1.98	0.45
29:c:75:LEU:CB	29:c:118:ILE:HD11	2.41	0.45
33:g:42:VAL:HG22	33:g:52:GLN:NE2	2.32	0.45
45:t:14:A:H2'	45:t:15:G:O4'	2.16	0.45
45:t:34:C:O2'	45:t:35:A:H8	2.00	0.45
48:SC:69:THR:HG23	48:SC:72:GLY:H	1.81	0.45
50:SA:11:LEU:HD12	50:SA:12:VAL:HG13	1.99	0.45
58:SK:89:ILE:HG23	58:SK:102:THR:O	2.16	0.45
62:Se:66:LYS:HB2	62:Se:68:TYR:HE1	1.82	0.45
64:SQ:29:TRP:CE3	64:SQ:45:LYS:HG2	2.52	0.45
68:SU:133:THR:HG21	68:SU:154:LEU:HD13	1.99	0.45
79:SJ:21:LYS:HB3	79:SJ:119:ALA:HA	1.99	0.45
81:SO:256:THR:HG1	81:SO:257:ALA:H	1.63	0.45
2:2:556:A:H5'	78:Sg:55:ARG:NH2	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1135:U:OP2	75:Sc:121:ARG:NH1	2.46	0.45
2:2:1400:A:H2'	2:2:1401:A:C8	2.51	0.45
3:A:129:U:H2'	3:A:130:A:H8	1.82	0.45
3:A:1227:C:H2'	3:A:1228:C:C6	2.52	0.45
3:A:2103:U:H2'	3:A:2104:A:H8	1.82	0.45
3:A:2389:C:H2'	3:A:2390:A:H8	1.81	0.45
5:C:39:G:N3	5:C:105:A:C2	2.85	0.45
8:F:9:HIS:HA	8:F:15:ALA:HA	1.99	0.45
12:K:27:VAL:HG21	12:K:78:MET:HE1	1.97	0.45
13:L:129:VAL:HG23	13:L:133:GLN:HB3	1.98	0.45
17:P:57:GLN:HB2	17:P:139:HIS:NE2	2.26	0.45
17:P:180:PHE:N	17:P:180:PHE:CD1	2.84	0.45
23:W:41:ILE:HG23	23:W:50:LEU:HD21	1.98	0.45
29:c:38:GLN:O	29:c:42:ARG:NH1	2.50	0.45
37:k:39:PHE:O	37:k:43:LEU:HD22	2.17	0.45
37:k:86:LYS:HD3	37:k:86:LYS:HA	1.64	0.45
45:t:27:C:H2'	45:t:28:A:C8	2.51	0.45
46:v:102:ASP:N	46:v:102:ASP:OD1	2.50	0.45
47:x:141:THR:O	47:x:144:ARG:HG3	2.17	0.45
47:x:638:PRO:HD2	47:x:642:GLY:HA3	1.98	0.45
48:SC:32:HIS:HD2	48:SC:39:ASN:HA	1.82	0.45
50:SA:127:MET:HE3	50:SA:134:CYS:HB2	1.98	0.45
56:SF:129:PHE:CE2	79:SJ:78:THR:HA	2.52	0.45
60:SD:91:VAL:HG23	60:SD:92:ALA:N	2.31	0.45
64:SQ:207:LEU:C	64:SQ:210:ILE:HD11	2.42	0.45
68:SU:14:THR:N	68:SU:17:GLU:OE2	2.48	0.45
70:SW:59:LEU:HD11	70:SW:72:GLU:HG3	1.99	0.45
70:SW:65:LYS:HD3	70:SW:65:LYS:HA	1.71	0.45
81:SO:118:LYS:HE2	81:SO:120:SER:OG	2.16	0.45
81:SO:135:THR:OG1	81:SO:136:ILE:N	2.49	0.45
2:2:534:A:H3'	2:2:535:A:H8	1.81	0.45
2:2:1147:A:H2'	2:2:1148:C:C6	2.52	0.45
3:A:1383:G:H4'	8:F:240:PRO:HB2	1.99	0.45
3:A:1436:U:H5''	3:A:1437:C:H5''	1.98	0.45
3:A:1776:G:H2'	3:A:1777:U:C6	2.51	0.45
3:A:2525:G:C5	6:D:34:TYR:HD2	2.34	0.45
3:A:2556:C:H2'	3:A:2557:A:C8	2.52	0.45
3:A:2748:A:H4'	9:G:145:PHE:CE2	2.51	0.45
3:A:2901:G:N2	3:A:3030:G:O2'	2.50	0.45
6:D:7:ASN:OD1	6:D:8:GLN:N	2.50	0.45
6:D:29:LEU:H	6:D:29:LEU:HD12	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:32:ARG:NH2	14:M:119:SER:O	2.49	0.45
14:M:87:LYS:HG3	14:M:90:GLN:O	2.17	0.45
17:P:77:LYS:HB2	17:P:77:LYS:HE2	1.79	0.45
26:Z:135:ILE:O	26:Z:139:ILE:HG23	2.16	0.45
34:h:100:ILE:HD13	34:h:100:ILE:HA	1.85	0.45
46:v:684:THR:OG1	46:v:966:LYS:HG3	2.17	0.45
47:x:30:HIS:CD2	47:x:34:THR:H	2.35	0.45
58:SK:89:ILE:HD11	58:SK:103:ARG:HH21	1.82	0.45
65:SR:59:HIS:CE1	65:SR:239:PRO:HD3	2.51	0.45
72:SY:142:GLU:N	72:SY:142:GLU:OE2	2.50	0.45
74:Sb:95:PRO:HB2	74:Sb:99:PHE:CE1	2.52	0.45
81:SO:124:SER:OG	81:SO:125:GLY:N	2.50	0.45
81:SO:149:ASP:HB3	81:SO:150:TRP:CE3	2.52	0.45
2:2:91:G:OP1	2:2:397:A:N6	2.40	0.45
2:2:514:G:H2'	2:2:515:A:H8	1.82	0.45
2:2:971:A:C6	2:2:972:G:H1'	2.52	0.45
2:2:1288:G:OP1	2:2:1624:C:O2'	2.35	0.45
3:A:32:U:O3'	17:P:71:ARG:NH1	2.46	0.45
3:A:705:A:N6	3:A:715:A:OP2	2.44	0.45
3:A:790:U:H2'	3:A:791:A:C8	2.52	0.45
3:A:1300:G:OP2	3:A:1301:A:O2'	2.29	0.45
3:A:2550:U:OP1	35:i:106:LYS:NZ	2.49	0.45
3:A:2561:A:H2'	3:A:2562:A:H8	1.82	0.45
3:A:2607:G:H8	6:D:233:GLN:HE21	1.64	0.45
3:A:2709:C:H2'	3:A:2710:C:C6	2.51	0.45
3:A:3159:C:H2'	3:A:3160:U:H6	1.82	0.45
3:A:3231:U:H2'	3:A:3232:G:C8	2.52	0.45
5:C:4:C:H2'	5:C:5:U:H6	1.80	0.45
7:E:117:ARG:HE	7:E:175:LYS:HG2	1.81	0.45
10:H:46:ARG:O	10:H:48:ARG:NH1	2.50	0.45
11:I:99:PRO:HA	11:I:102:VAL:HG12	1.99	0.45
16:O:40:ASP:OD1	16:O:43:LYS:HB2	2.17	0.45
24:X:101:VAL:HG11	24:X:129:VAL:HG21	1.98	0.45
26:Z:133:LEU:HD12	26:Z:142:ILE:HD11	1.99	0.45
29:c:88:ASP:OD1	29:c:88:ASP:N	2.50	0.45
37:k:83:ALA:O	37:k:87:VAL:HG12	2.16	0.45
44:r:39:CYS:HB3	44:r:42:CYS:SG	2.57	0.45
44:r:42:CYS:HB2	44:r:44:LYS:NZ	2.31	0.45
44:r:55:TRP:CD2	44:r:71:VAL:HG12	2.52	0.45
44:r:56:THR:HA	44:r:63:THR:HG22	1.99	0.45
45:s:66:C:H2'	45:s:67:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:211:SER:O	46:v:211:SER:OG	2.34	0.45
46:v:263:ARG:O	46:v:267:VAL:HG23	2.17	0.45
46:v:803:ARG:O	46:v:810:GLU:N	2.25	0.45
47:x:564:ARG:O	47:x:725:GLN:N	2.47	0.45
52:SL:47:PRO:HB2	55:SB:82:PHE:CZ	2.52	0.45
63:SP:30:GLN:HE22	63:SP:149:LEU:HB3	1.82	0.45
66:SS:191:ARG:HD3	66:SS:245:LYS:HE3	1.99	0.45
67:ST:105:ASP:N	67:ST:105:ASP:OD1	2.48	0.45
2:2:1557:U:O2'	2:2:1558:U:OP1	2.33	0.44
3:A:21:G:O5'	3:A:21:G:H8	2.00	0.44
3:A:1321:G:N2	21:U:112:ALA:HB2	2.32	0.44
3:A:1696:A:H2'	3:A:1697:A:C8	2.52	0.44
6:D:32:LEU:HD12	6:D:36:GLU:HG2	1.98	0.44
7:E:67:PHE:CD1	7:E:70:ARG:HG3	2.52	0.44
7:E:236:LYS:HD2	7:E:236:LYS:HA	1.79	0.44
9:G:76:ALA:HB2	9:G:112:LYS:HD2	1.99	0.44
17:P:27:VAL:HG23	17:P:129:TYR:OH	2.18	0.44
20:T:86:GLU:OE1	20:T:91:SER:N	2.37	0.44
20:T:101:VAL:HA	20:T:104:ARG:HG2	1.99	0.44
21:U:23:LYS:HD2	22:V:146:ASN:HD21	1.81	0.44
23:W:87:ASN:OD1	23:W:87:ASN:N	2.46	0.44
36:j:92:LEU:HB3	36:j:97:ALA:HB2	1.99	0.44
37:k:71:LYS:HA	37:k:71:LYS:HD2	1.82	0.44
46:v:833:SER:O	46:v:835:ASP:N	2.50	0.44
46:v:961:GLU:HB2	46:v:963:TRP:CD2	2.52	0.44
47:x:40:VAL:HA	47:x:77:LEU:HD21	1.98	0.44
47:x:622:ASP:OD1	47:x:622:ASP:N	2.39	0.44
47:x:729:PHE:HE1	47:x:798:PHE:HD1	1.64	0.44
57:SH:91:ASP:N	57:SH:91:ASP:OD1	2.48	0.44
58:SK:80:LEU:HD13	58:SK:101:TYR:CE2	2.52	0.44
81:SO:110:VAL:HG12	81:SO:128:ASP:OD2	2.17	0.44
81:SO:157:VAL:CB	81:SO:208:GLY:HA3	2.47	0.44
81:SO:170:ILE:CD1	81:SO:181:TRP:H	2.30	0.44
2:2:243:G:H2'	2:2:244:A:C8	2.53	0.44
2:2:860:U:H2'	2:2:861:U:C6	2.52	0.44
2:2:1610:G:H4'	55:SB:98:MET:HE3	1.99	0.44
3:A:47:C:OP2	3:A:48:A:O2'	2.29	0.44
3:A:432:G:H2'	3:A:433:A:C8	2.52	0.44
3:A:1031:C:H2'	3:A:1032:C:C5	2.51	0.44
3:A:1268:G:H8	3:A:1268:G:O5'	2.00	0.44
3:A:1948:G:H5'	20:T:101:VAL:HG21	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2646:C:H4'	13:L:119:TRP:CZ3	2.53	0.44
3:A:3193:C:H2'	3:A:3194:C:C6	2.52	0.44
4:B:27:A:H2'	4:B:28:C:C6	2.52	0.44
8:F:211:GLU:OE1	8:F:213:ASN:ND2	2.51	0.44
10:H:167:ASN:OD1	10:H:167:ASN:N	2.51	0.44
12:K:100:ASN:HB3	12:K:115:ARG:HB2	2.00	0.44
15:N:76:THR:HG22	15:N:101:ARG:HB3	2.00	0.44
17:P:18:VAL:HA	80:J:72:PRO:HG3	1.98	0.44
17:P:150:TRP:CD1	17:P:150:TRP:N	2.85	0.44
18:Q:189[A]:ASP:HB2	18:Q:193[A]:GLN:HE22	1.82	0.44
41:o:97:ARG:NE	41:o:122:ARG:HH21	2.15	0.44
47:x:724:ILE:HG23	47:x:804:LEU:HD21	1.99	0.44
47:x:734:GLN:HB2	47:x:767:THR:HG22	1.99	0.44
54:SG:72:LYS:N	54:SG:72:LYS:HD2	2.32	0.44
55:SB:113:ILE:O	55:SB:117:THR:OG1	2.30	0.44
56:SF:79:TYR:HA	56:SF:82:ARG:HH21	1.81	0.44
56:SF:99:GLU:OE2	56:SF:103:ASN:HB3	2.15	0.44
59:SN:100:LEU:HD12	59:SN:101:ALA:N	2.32	0.44
70:SW:42:ILE:HD11	70:SW:101:VAL:HG21	2.00	0.44
80:J:152:LEU:N	80:J:198:ALA:O	2.45	0.44
81:SO:21:THR:HG22	81:SO:38:ARG:HD2	1.98	0.44
2:2:882:U:H2'	2:2:883:C:C6	2.52	0.44
2:2:979:A:H4'	2:2:1786:G:N2	2.31	0.44
2:2:1458:G:N3	2:2:1458:G:H2'	2.31	0.44
2:2:1502:G:N7	51:SI:102:ARG:NH2	2.66	0.44
3:A:727:G:O6	3:A:742:G:O2'	2.30	0.44
3:A:1097:G:O2'	22:V:108:ARG:NH2	2.51	0.44
3:A:1132:C:H2'	3:A:1133:A:C8	2.53	0.44
3:A:1267:U:O2	3:A:1267:U:H2'	2.17	0.44
3:A:1407:A:H5''	33:g:33:ARG:HH12	1.82	0.44
3:A:1439:U:H2'	3:A:1440:G:H8	1.81	0.44
3:A:2728:G:C6	22:V:80:VAL:HG11	2.52	0.44
3:A:3084:C:H2'	3:A:3085:G:O4'	2.17	0.44
5:C:45:C:OP1	40:n:15:LYS:HG2	2.18	0.44
5:C:69:U:H2'	5:C:70:G:O4'	2.17	0.44
7:E:160:VAL:HG13	7:E:181:ILE:HB	1.98	0.44
8:F:258:LEU:HA	8:F:261:VAL:HG12	1.98	0.44
18:Q:59[A]:ARG:HD2	18:Q:59[A]:ARG:HA	1.83	0.44
18:Q:109[A]:PRO:HB2	18:Q:111[A]:PRO:HD2	2.00	0.44
19:R:86:LYS:O	19:R:90:PHE:HD1	2.00	0.44
46:v:599:SER:HA	46:v:624:PHE:CD2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:699:ILE:HA	46:v:950:HIS:HA	1.99	0.44
46:v:755:ILE:HG21	46:v:911:TRP:CZ3	2.53	0.44
47:x:3:ALA:N	47:x:43:ALA:O	2.51	0.44
49:SE:33:PHE:HE2	49:SE:87:PRO:HD3	1.81	0.44
49:SE:59:LYS:HG3	49:SE:76:VAL:HG12	1.98	0.44
55:SB:136:ALA:HB2	55:SB:202:ALA:HB2	2.00	0.44
65:SR:43:ARG:NH1	65:SR:248:SER:OG	2.51	0.44
70:SW:60:LEU:HA	70:SW:69:ARG:HH12	1.81	0.44
71:SX:101:GLU:N	71:SX:101:GLU:OE2	2.50	0.44
75:Sc:109:ARG:HG3	75:Sc:114:LYS:HA	1.99	0.44
81:SO:131:ILE:O	81:SO:131:ILE:HG22	2.18	0.44
1:S:44:PHE:HZ	1:S:82:VAL:HG11	1.82	0.44
2:2:600:U:H2'	2:2:601:A:C8	2.52	0.44
2:2:1318:G:H2'	2:2:1319:A:C8	2.53	0.44
2:2:1334:U:H2'	2:2:1335:U:C6	2.53	0.44
2:2:1450:U:H2'	2:2:1451:C:C6	2.52	0.44
2:2:1453:G:H2'	2:2:1454:G:H8	1.83	0.44
2:2:1603:U:H2'	2:2:1604:U:C6	2.53	0.44
3:A:103:G:H2'	3:A:104:G:C8	2.53	0.44
3:A:290:G:H1'	17:P:70:ASN:HD21	1.83	0.44
3:A:518:G:H5'	3:A:520:U:H5'	1.98	0.44
3:A:920:A:OP1	3:A:923:C:N4	2.42	0.44
3:A:2543:U:H2'	3:A:2544:U:C6	2.52	0.44
3:A:2738:A:H2'	3:A:2739:A:C8	2.53	0.44
5:C:133:G:H2'	5:C:134:G:H8	1.83	0.44
6:D:27:ALA:HB3	6:D:128:ARG:HH21	1.82	0.44
17:P:6:TYR:CD1	37:k:40:VAL:HG12	2.51	0.44
17:P:22:LEU:HD21	17:P:26:ARG:NH1	2.32	0.44
32:f:16:LEU:N	32:f:69:TYR:O	2.35	0.44
33:g:45:ARG:NH1	33:g:45:ARG:HB2	2.32	0.44
36:j:83:LYS:O	36:j:89:ARG:NH2	2.51	0.44
37:k:51:SER:CB	37:k:54:GLU:HG2	2.47	0.44
45:s:29:G:OP1	47:x:580:PRO:HB3	2.18	0.44
45:t:64:A:H2'	45:t:65:G:C8	2.53	0.44
47:x:130:ASP:OD1	47:x:131:THR:N	2.50	0.44
47:x:165:LEU:O	47:x:167:LEU:N	2.51	0.44
49:SE:108:ARG:HE	49:SE:110:GLU:HB3	1.83	0.44
50:SA:105:MET:HE2	50:SA:105:MET:HA	1.98	0.44
50:SA:208:ILE:HD13	50:SA:208:ILE:HA	1.92	0.44
63:SP:115:PHE:HZ	65:SR:39:THR:HG22	1.82	0.44
63:SP:154:GLU:OE1	63:SP:154:GLU:N	2.39	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SS:89:VAL:HG12	66:SS:100:ARG:HG2	1.99	0.44
70:SW:150:LEU:HD23	70:SW:150:LEU:HA	1.82	0.44
81:SO:92:TRP:HA	81:SO:98:GLU:O	2.17	0.44
2:2:14:C:H2'	2:2:15:U:C6	2.52	0.44
2:2:922:G:H2'	2:2:923:A:C8	2.51	0.44
2:2:1322:A:H2'	2:2:1323:C:C6	2.53	0.44
3:A:984:G:N2	3:A:1138:U:OP1	2.50	0.44
3:A:1518:U:P	40:n:22:PRO:HG2	2.58	0.44
3:A:2245:C:O2'	6:D:220:GLY:O	2.35	0.44
3:A:2611:U:H2'	3:A:2612:U:C6	2.53	0.44
3:A:3027:A:H2'	3:A:3028:G:C8	2.53	0.44
3:A:3160:U:O2	3:A:3290:G:N2	2.50	0.44
4:B:107:C:H2'	4:B:108:A:H8	1.83	0.44
5:C:4:C:H5''	19:R:62:ARG:HB2	2.00	0.44
8:F:327:LEU:HD12	11:I:181:ILE:CD1	2.46	0.44
13:L:38:LYS:HE3	13:L:41:ALA:HB2	1.99	0.44
15:N:28:GLN:OE1	17:P:201:ARG:NH1	2.50	0.44
17:P:99:ARG:NH1	17:P:118:SER:O	2.50	0.44
21:U:81:TYR:HB3	21:U:121:ILE:HD13	2.00	0.44
21:U:81:TYR:HE2	21:U:90:MET:SD	2.41	0.44
25:Y:13:ILE:HD13	25:Y:13:ILE:HA	1.84	0.44
25:Y:23:ARG:HB3	25:Y:25:ASP:OD1	2.17	0.44
45:s:28:A:H2'	45:s:29:G:C8	2.53	0.44
45:s:50:U:H2'	45:s:51:C:C6	2.52	0.44
47:x:300:LEU:HB2	47:x:305:ILE:HG13	1.99	0.44
60:SD:88:LEU:HD23	60:SD:88:LEU:HA	1.87	0.44
66:SS:46:VAL:HA	66:SS:49:ARG:HG2	1.99	0.44
67:ST:4:ASN:N	67:ST:109:LEU:O	2.50	0.44
80:J:146:LYS:HE2	80:J:146:LYS:HB2	1.79	0.44
81:SO:78:ALA:O	81:SO:79:TYR:HD1	1.99	0.44
2:2:151:G:N3	67:ST:13:GLN:NE2	2.66	0.44
2:2:167:U:H2'	2:2:168:A:C8	2.53	0.44
2:2:395:U:H2'	2:2:396:G:O4'	2.18	0.44
2:2:1168:U:C2	2:2:1169:G:C8	3.06	0.44
2:2:1576:A:O2'	45:t:40:C:O2	2.30	0.44
2:2:1701:A:H2'	2:2:1702:A:C8	2.53	0.44
3:A:20:A:N6	5:C:140:G:O6	2.50	0.44
3:A:302:U:H5''	17:P:179:LYS:HZ3	1.82	0.44
3:A:717:C:OP1	3:A:751:A:O2'	2.31	0.44
3:A:1336:U:H2'	3:A:1337:A:C8	2.42	0.44
3:A:1447:G:O2'	3:A:2355:G:O6	2.34	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2881:C:H2'	3:A:2882:U:C6	2.53	0.44
3:A:3072:C:H4'	3:A:3336:A:H4'	1.99	0.44
3:A:3146:G:H2'	3:A:3147:G:H8	1.81	0.44
3:A:3152:U:O2'	3:A:3155:U:N3	2.51	0.44
3:A:3338:C:H2'	3:A:3339:A:H8	1.82	0.44
4:B:107:C:H2'	4:B:108:A:C8	2.52	0.44
7:E:21:ARG:HG2	7:E:272:TYR:HD2	1.82	0.44
7:E:142:ALA:HA	7:E:145:GLU:HG2	1.99	0.44
8:F:161:LYS:HA	8:F:161:LYS:HD2	1.83	0.44
15:N:6:ASN:HB2	29:c:48:TYR:HE2	1.82	0.44
18:Q:9[A]:ILE:HG13	18:Q:35[A]:VAL:HB	1.99	0.44
22:V:96:ILE:C	22:V:97:LYS:HD2	2.43	0.44
26:Z:66:PRO:HD3	36:j:33:VAL:HG22	1.98	0.44
46:v:686:ILE:HG12	46:v:967:ASP:HB3	1.99	0.44
46:v:956:LYS:HD2	46:v:956:LYS:HA	1.83	0.44
47:x:219:ALA:O	47:x:333:ALA:HB1	2.18	0.44
47:x:388:THR:C	47:x:390:ASP:H	2.25	0.44
53:SM:19:ARG:HH21	53:SM:32:ARG:NE	2.16	0.44
55:SB:71:ALA:HB1	55:SB:91:GLU:HB3	2.00	0.44
64:SQ:220:GLN:N	64:SQ:220:GLN:OE1	2.50	0.44
70:SW:33:GLU:HG3	78:Sg:40:TYR:HE2	1.83	0.44
79:SJ:63:LEU:O	79:SJ:83:GLU:HA	2.18	0.44
2:2:960:U:H2'	2:2:961:U:H6	1.81	0.44
2:2:1168:U:H2'	2:2:1169:G:H8	1.81	0.44
2:2:1344:A:O2'	2:2:1345:A:OP1	2.32	0.44
3:A:105:C:H2'	3:A:106:A:H8	1.82	0.44
3:A:213:A:N6	3:A:228:U:O4'	2.50	0.44
3:A:354:U:H2'	3:A:355:A:H8	1.83	0.44
3:A:432:G:H2'	3:A:433:A:H8	1.83	0.44
3:A:586:C:HO2'	3:A:1164:G:HO2'	1.65	0.44
3:A:1250:G:H2'	3:A:1251:A:C8	2.53	0.44
3:A:1260:A:H5'	3:A:1280:C:H4'	2.00	0.44
3:A:1263:A:O3'	3:A:1264:G:H8	2.01	0.44
3:A:1311:G:H21	18:Q:87[A]:MET:HA	1.83	0.44
3:A:1416:C:H2'	3:A:1417:G:C4	2.53	0.44
3:A:1567:U:H3	3:A:1571:A:H1'	1.81	0.44
3:A:1689:U:H2'	3:A:1690:C:C6	2.52	0.44
3:A:2165:G:HO2'	3:A:2167:A:H62	1.64	0.44
3:A:2190:U:H2'	3:A:2191:U:C6	2.52	0.44
3:A:2350:C:H5''	19:R:68:GLY:HA3	1.98	0.44
3:A:2367:A:H2'	3:A:2368:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2686:A:H2'	3:A:2687:G:O4'	2.18	0.44
3:A:2895:G:H5''	41:o:102:ARG:HH12	1.81	0.44
4:B:62:U:H2'	4:B:63:A:C8	2.53	0.44
5:C:10:A:H2'	5:C:11:C:C6	2.53	0.44
5:C:11:C:O2'	19:R:4:TYR:O	2.35	0.44
7:E:261:MET:HA	7:E:261:MET:HE3	1.98	0.44
8:F:283:THR:HG22	8:F:285:ASP:H	1.83	0.44
11:I:44:ILE:HG12	11:I:180:SER:HB3	1.99	0.44
18:Q:129[A]:LEU:HD23	18:Q:129[A]:LEU:HA	1.84	0.44
20:T:37:SER:O	20:T:41:ILE:HG22	2.18	0.44
21:U:73:LYS:HB2	21:U:128:GLU:CD	2.43	0.44
35:i:18:ASN:HD22	35:i:18:ASN:HA	1.61	0.44
36:j:105:ARG:O	36:j:108:GLN:HG3	2.18	0.44
37:k:58:ILE:HA	37:k:61:ILE:HG22	1.99	0.44
45:s:42:U:H2'	45:s:43:G:C8	2.51	0.44
50:SA:49:ILE:HD11	50:SA:89:GLU:HB3	2.00	0.44
51:SI:73:VAL:HG13	51:SI:105:LEU:HD13	2.00	0.44
67:ST:181:PRO:HA	67:ST:184:LEU:HD23	1.99	0.44
70:SW:108:ARG:HG3	70:SW:145:SER:HA	1.99	0.44
71:SX:85:VAL:HA	71:SX:108:PRO:HA	2.00	0.44
72:SY:70:LYS:H	72:SY:70:LYS:HG2	1.60	0.44
77:Sf:49:HIS:HE1	77:Sf:70:LYS:HG2	1.83	0.44
80:J:93:LEU:HA	80:J:96:LYS:HE3	1.98	0.44
81:SO:241:PHE:CB	81:SO:290:VAL:HG23	2.47	0.44
2:2:325:G:O6	2:2:344:A:N6	2.50	0.44
2:2:647:G:H1	2:2:687:G:H1	1.66	0.44
2:2:1361:U:O2'	2:2:1362:U:H2'	2.18	0.44
2:2:1374:C:H2'	2:2:1375:A:H8	1.83	0.44
2:2:1672:G:H2'	2:2:1673:G:C8	2.53	0.44
3:A:716:A:N7	29:c:117:ARG:HG3	2.33	0.44
3:A:907:G:C5	3:A:926:A:C8	3.05	0.44
3:A:1127:G:OP2	13:L:98:ARG:NH2	2.43	0.44
3:A:1503:A:H2'	3:A:1503:A:N3	2.33	0.44
3:A:1508:C:OP1	19:R:127:ARG:NH1	2.36	0.44
3:A:2129:U:H2'	3:A:2130:G:C8	2.53	0.44
3:A:2512:C:H5''	80:J:245:LYS:HE3	1.99	0.44
3:A:2936:A:H2'	3:A:2937:G:C8	2.52	0.44
3:A:2999:U:H2'	3:A:3000:A:C8	2.53	0.44
3:A:3095:U:H5'	24:X:86:ARG:NH2	2.30	0.44
3:A:3175:U:H4'	3:A:3176:G:H5'	1.99	0.44
3:A:3268:A:H5'	10:H:46:ARG:HH22	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:110:LEU:HB3	7:E:115:LYS:HG3	1.99	0.44
14:M:32:ARG:NH2	14:M:119:SER:H	2.16	0.44
17:P:22:LEU:HD23	17:P:26:ARG:HG2	1.99	0.44
18:Q:140[A]:LYS:HA	18:Q:143[A]:THR:HG22	1.99	0.44
24:X:83:LYS:HD2	24:X:84:SER:H	1.81	0.44
39:m:69:LEU:HD22	39:m:75:VAL:HG11	1.99	0.44
44:r:33:GLN:HE22	44:r:34:HIS:CE1	2.36	0.44
46:v:760:GLN:NE2	46:v:869:LEU:HB3	2.33	0.44
51:SI:34:VAL:O	51:SI:36:ILE:HG23	2.18	0.44
55:SB:107:LYS:O	55:SB:111:VAL:HG13	2.17	0.44
66:SS:9:LEU:HB2	66:SS:30:ARG:HB2	1.98	0.44
66:SS:133:LYS:HD2	66:SS:133:LYS:HA	1.69	0.44
68:SU:133:THR:OG1	68:SU:155:ASP:OD1	2.35	0.44
71:SX:69:LYS:HE2	71:SX:69:LYS:HB2	1.85	0.44
80:J:35:GLY:HA3	80:J:38:GLN:HG2	2.00	0.44
81:SO:19:TRP:HB3	81:SO:38:ARG:CB	2.43	0.44
81:SO:43:ILE:HD12	81:SO:43:ILE:N	2.33	0.44
2:2:168:A:H4'	67:ST:176:GLN:HE22	1.82	0.44
2:2:997:G:H2'	2:2:998:A:O4'	2.18	0.44
2:2:1158:C:O2'	2:2:1581:C:OP2	2.30	0.44
2:2:1379:C:O2'	56:SF:17:THR:OG1	2.21	0.44
2:2:1522:U:H4'	2:2:1523:G:OP2	2.18	0.44
3:A:53:G:N2	3:A:1546:A:N1	2.66	0.44
3:A:138:U:H2'	3:A:139:G:H8	1.83	0.44
3:A:632:G:H2'	3:A:633:C:C6	2.53	0.44
3:A:843:A:H2'	3:A:844:G:H8	1.82	0.44
3:A:981:U:HO2'	3:A:1105:A:HO2'	1.60	0.44
3:A:1019:G:H8	3:A:1019:G:OP2	2.00	0.44
3:A:1322:U:H2'	3:A:1323:G:H8	1.82	0.44
3:A:1639:C:H2'	3:A:1640:G:C8	2.53	0.44
3:A:2103:U:H2'	3:A:2104:A:C8	2.52	0.44
3:A:2615:G:H2'	3:A:2616:C:C6	2.53	0.44
3:A:2739:A:N6	3:A:2740:A:H62	2.16	0.44
3:A:2854:U:H2'	3:A:2855:U:C6	2.53	0.44
3:A:2882:U:H2'	3:A:2883:U:C6	2.53	0.44
3:A:2890:A:HO2'	3:A:2933:A:H1'	1.83	0.44
5:C:19:C:H2'	5:C:20:U:C6	2.53	0.44
10:H:31:ARG:NE	34:h:106:ASN:OD1	2.50	0.44
15:N:46:ILE:HD11	15:N:49:ARG:NE	2.32	0.44
18:Q:12[A]:LYS:HE3	18:Q:12[A]:LYS:HB2	1.69	0.44
19:R:90:PHE:O	19:R:94:LEU:HD23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:94:ILE:HD13	21:U:94:ILE:HA	1.85	0.44
28:b:108:GLU:HA	28:b:111:LYS:HB2	1.99	0.44
31:e:42:ILE:HG13	31:e:44:ILE:HD11	2.00	0.44
44:r:30:GLU:HA	44:r:33:GLN:HG3	2.00	0.44
46:v:457:ARG:HB2	46:v:606:CYS:HA	1.98	0.44
46:v:893:ILE:HG23	46:v:896:LEU:HB2	2.00	0.44
47:x:354:GLU:O	47:x:355:GLN:HG2	2.18	0.44
56:SF:20:ALA:HB2	56:SF:84:ALA:HB1	2.00	0.44
64:SQ:100:PHE:HD1	64:SQ:101:HIS:N	2.15	0.44
67:ST:79:LYS:O	67:ST:81:VAL:HG23	2.18	0.44
75:Sc:63:GLN:HA	75:Sc:63:GLN:OE1	2.18	0.44
76:Sd:36:SER:O	76:Sd:40:LEU:HB2	2.18	0.44
80:J:139:VAL:O	80:J:143:ILE:HG12	2.18	0.44
81:SO:6:VAL:HA	81:SO:272:ASP:CG	2.42	0.44
81:SO:294:TRP:HZ3	81:SO:297:ASP:C	2.26	0.44
2:2:30:G:H2'	2:2:31:C:C6	2.53	0.43
2:2:872:G:H22	2:2:1047:G:H4'	1.83	0.43
2:2:876:G:N2	2:2:943:C:N4	2.66	0.43
2:2:1018:U:H2'	2:2:1019:A:C8	2.53	0.43
2:2:1234:A:H3'	2:2:1245:G:N7	2.33	0.43
2:2:1245:G:O2'	2:2:1247:U:OP2	2.26	0.43
2:2:1515:A:OP2	50:SA:7:LYS:HB2	2.18	0.43
2:2:1593:A:H2'	2:2:1594:G:H8	1.83	0.43
2:2:1612:U:H2'	2:2:1613:U:O4'	2.18	0.43
3:A:370:U:H2'	3:A:371:G:O4'	2.17	0.43
3:A:725:G:O6	3:A:746:A:N6	2.50	0.43
3:A:2601:A:H2'	3:A:2602:G:H8	1.83	0.43
3:A:2669:G:H2'	3:A:2670:G:H8	1.83	0.43
3:A:2786:G:C2	3:A:2787:G:C8	3.06	0.43
3:A:2891:U:O2'	3:A:3014:U:H5''	2.18	0.43
3:A:3060:C:H2'	3:A:3061:G:C8	2.53	0.43
3:A:3090:U:H2'	3:A:3091:A:C8	2.53	0.43
3:A:3138:U:H2'	3:A:3139:A:C8	2.53	0.43
5:C:57:C:H4'	5:C:63:G:N7	2.33	0.43
6:D:80:GLU:HB3	6:D:170:ALA:HA	2.00	0.43
8:F:163:LYS:HG3	8:F:164:GLU:N	2.33	0.43
8:F:203:ARG:HB3	8:F:246:ARG:NH2	2.33	0.43
11:I:127:LEU:O	11:I:131:GLU:N	2.50	0.43
13:L:109:ASP:HB2	13:L:111:LEU:HD23	2.00	0.43
13:L:183:LYS:O	13:L:186:GLU:HG3	2.18	0.43
14:M:131:MET:SD	14:M:154:THR:HG21	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:101:SER:OG	33:g:102:ALA:N	2.51	0.43
44:r:32:GLN:O	44:r:37:TYR:OH	2.34	0.43
46:v:542:ALA:HB1	46:v:708:THR:CG2	2.48	0.43
54:SG:20:TYR:CD2	54:SG:38:ILE:HD12	2.53	0.43
56:SF:106:LYS:HD2	56:SF:107:LYS:N	2.33	0.43
62:Se:78:ALA:HB3	62:Se:84:VAL:HG23	2.00	0.43
64:SQ:46:THR:HG22	64:SQ:48:VAL:HG23	2.00	0.43
64:SQ:121:ILE:HB	64:SQ:141:ALA:O	2.18	0.43
66:SS:168:LYS:HD3	66:SS:168:LYS:HA	1.66	0.43
70:SW:175:ARG:HB3	70:SW:179:ARG:HH21	1.83	0.43
77:Sf:34:ASP:OD1	77:Sf:34:ASP:N	2.51	0.43
81:SO:86:ASP:OD1	81:SO:86:ASP:N	2.48	0.43
81:SO:155:ARG:HG3	81:SO:204:ALA:HB3	2.00	0.43
1:S:164:ARG:NH2	15:N:6:ASN:O	2.51	0.43
2:2:197:A:H5'	2:2:198:A:OP1	2.19	0.43
2:2:408:C:H2'	2:2:409:C:C6	2.53	0.43
2:2:1636:C:H4'	2:2:1637:C:O5'	2.18	0.43
2:2:1688:U:H3	2:2:1713:G:H1	1.66	0.43
3:A:1098:A:H5'	22:V:129:LYS:HD2	1.99	0.43
3:A:1428:A:OP2	29:c:3:SER:OG	2.29	0.43
3:A:1542:G:H2'	3:A:1543:G:C8	2.53	0.43
3:A:2167:A:OP1	17:P:72:LYS:NZ	2.48	0.43
4:B:108:A:H2'	4:B:109:G:C8	2.54	0.43
7:E:261:MET:HE3	7:E:262:TRP:H	1.81	0.43
9:G:80:SER:O	9:G:92:LEU:HD11	2.17	0.43
9:G:111:GLN:OE1	9:G:251:PRO:HG2	2.17	0.43
9:G:250:ASP:OD1	9:G:250:ASP:N	2.49	0.43
12:K:140:VAL:CG1	12:K:143:GLU:HG2	2.49	0.43
16:O:68:LEU:H	16:O:68:LEU:HD12	1.81	0.43
18:Q:12[A]:LYS:HA	18:Q:40[A]:GLU:HB3	1.99	0.43
24:X:87:ARG:HB2	24:X:89:ASP:OD1	2.18	0.43
29:c:36:GLY:HA3	29:c:40:HIS:CE1	2.53	0.43
31:e:94:GLU:N	31:e:94:GLU:OE2	2.50	0.43
35:i:15:THR:OG1	35:i:16:ARG:N	2.50	0.43
36:j:101:THR:HG22	36:j:104:GLN:H	1.83	0.43
38:l:21:ARG:O	38:l:22:CYS:C	2.61	0.43
46:v:549:MET:HE1	46:v:572:HIS:HB2	2.00	0.43
46:v:723:GLU:N	46:v:723:GLU:OE1	2.51	0.43
46:v:752:SER:HB3	46:v:869:LEU:HD12	2.00	0.43
47:x:540:ILE:HG13	47:x:541:CYS:N	2.33	0.43
52:SL:53:ILE:O	55:SB:164:PRO:HG3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SL:64:ARG:O	52:SL:65:ARG:NH1	2.45	0.43
57:SH:75:ASN:N	57:SH:75:ASN:OD1	2.51	0.43
71:SX:53:TYR:CD2	71:SX:55:ASP:HB2	2.53	0.43
72:SY:91:LEU:HD11	72:SY:118:ILE:HG23	1.99	0.43
75:Sc:50:LYS:HA	75:Sc:103:LEU:HA	1.99	0.43
81:SO:59:ARG:NH1	81:SO:95:ALA:HB1	2.30	0.43
81:SO:244:ALA:O	81:SO:252:LEU:HG	2.18	0.43
2:2:92:A:OP2	2:2:398:G:N1	2.32	0.43
2:2:97:C:H2'	2:2:98:U:H6	1.83	0.43
2:2:122:U:H5''	66:SS:77:ARG:NH2	2.32	0.43
2:2:304:U:O2	71:SX:69:LYS:NZ	2.40	0.43
2:2:1125:A:C5	2:2:1126:G:H1'	2.53	0.43
2:2:1175:U:H2'	2:2:1176:G:H8	1.82	0.43
2:2:1216:C:O2'	2:2:1217:A:H2'	2.17	0.43
2:2:1594:G:OP2	2:2:1596:C:N4	2.49	0.43
2:2:1658:G:H1	2:2:1743:U:H3	1.67	0.43
3:A:254:A:H2'	3:A:255:A:C8	2.52	0.43
3:A:999:G:H2'	3:A:1000:C:C6	2.53	0.43
3:A:1535:A:H62	3:A:1586:G:H21	1.66	0.43
3:A:1722:U:H5''	20:T:99:LEU:HD22	2.00	0.43
3:A:1887:A:C2	3:A:2391:G:H4'	2.52	0.43
3:A:2099:A:H2'	3:A:2100:A:H8	1.84	0.43
3:A:2428:U:H2'	3:A:2429:G:H8	1.83	0.43
3:A:2613:U:O2'	3:A:2805:G:OP2	2.36	0.43
5:C:26:U:H2'	5:C:27:U:H6	1.83	0.43
8:F:326:ARG:HA	11:I:41:ARG:HH12	1.83	0.43
12:K:12:VAL:HG21	12:K:53:ILE:HG12	2.00	0.43
21:U:29:ILE:HG21	21:U:37:ALA:HA	2.00	0.43
27:a:35:LEU:HB3	27:a:39:LEU:HD12	2.01	0.43
46:v:179:TRP:HB3	51:SI:25:GLN:HG2	1.99	0.43
46:v:647:PHE:CZ	46:v:881:LEU:HA	2.53	0.43
46:v:870:THR:H	46:v:874:ILE:HG21	1.83	0.43
47:x:743:ILE:HG13	47:x:788:THR:HG21	2.01	0.43
54:SG:38:ILE:HG22	54:SG:39:ALA:H	1.83	0.43
57:SH:121:ALA:O	57:SH:125:ILE:HG12	2.18	0.43
60:SD:76:GLU:OE2	60:SD:76:GLU:N	2.45	0.43
67:ST:28:PHE:O	67:ST:30:LYS:HG2	2.18	0.43
70:SW:42:ILE:HA	70:SW:45:ILE:HD12	1.99	0.43
75:Sc:132:LEU:HD23	75:Sc:132:LEU:HA	1.83	0.43
79:SJ:21:LYS:HA	79:SJ:21:LYS:HD2	1.84	0.43
1:S:164:ARG:NH1	3:A:668:G:O2'	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:116:U:O2'	2:2:333:A:N3	2.44	0.43
2:2:610:G:O2'	2:2:613:G:O2'	2.22	0.43
2:2:856:A:H1'	68:SU:64:VAL:HG13	2.00	0.43
2:2:953:G:H2'	2:2:954:G:H8	1.83	0.43
2:2:1036:A:H2'	2:2:1037:C:H6	1.82	0.43
2:2:1086:A:OP1	65:SR:164:SER:HB3	2.19	0.43
2:2:1499:G:OP1	51:SI:122:ARG:NH1	2.51	0.43
3:A:40:A:N6	3:A:963:G:H21	2.10	0.43
3:A:126:U:H5'	17:P:141:ALA:HB2	1.99	0.43
3:A:615:U:H2'	3:A:616:G:H8	1.82	0.43
3:A:787:G:H2'	3:A:788:C:C6	2.52	0.43
3:A:1246:G:O6	3:A:1266:G:N2	2.51	0.43
3:A:1617:G:H2'	3:A:1618:G:C8	2.54	0.43
3:A:2131:A:H2	44:r:17:ARG:HB2	1.84	0.43
3:A:2163:C:N3	3:A:2172:A:N6	2.66	0.43
3:A:2359:C:H4'	3:A:2399:A:H4'	2.01	0.43
3:A:2525:G:H4'	3:A:2526:C:C6	2.53	0.43
3:A:3027:A:H1'	47:x:785:ARG:NH1	2.32	0.43
3:A:3056:U:H5'	3:A:3058:U:C6	2.53	0.43
3:A:3211:C:H2'	3:A:3212:C:H6	1.82	0.43
4:B:6:C:P	9:G:22:ARG:HH21	2.40	0.43
9:G:60:ILE:H	9:G:80:SER:HB3	1.83	0.43
11:I:121:LYS:HB2	22:V:133:ALA:HB3	2.00	0.43
12:K:96:HIS:CD2	12:K:96:HIS:C	2.96	0.43
13:L:145:LYS:O	13:L:148:VAL:HG12	2.18	0.43
16:O:24:LYS:NZ	16:O:61:GLY:O	2.36	0.43
16:O:76:ALA:HB1	16:O:80:THR:OG1	2.18	0.43
17:P:26:ARG:HD3	17:P:26:ARG:HA	1.79	0.43
20:T:43:LYS:HE2	20:T:43:LYS:HB2	1.61	0.43
23:W:93:ILE:HD11	23:W:105:LEU:HB3	1.99	0.43
26:Z:91:ASN:O	26:Z:94:GLN:N	2.52	0.43
46:v:204:ASP:N	46:v:204:ASP:OD1	2.49	0.43
46:v:545:GLY:O	46:v:549:MET:HE3	2.18	0.43
47:x:465:LYS:HA	47:x:465:LYS:HD3	1.80	0.43
55:SB:31:GLU:OE2	55:SB:34:GLN:NE2	2.51	0.43
55:SB:112:ARG:HH21	58:SK:95:HIS:CD2	2.35	0.43
63:SP:163:ASN:O	63:SP:169:SER:OG	2.31	0.43
66:SS:42:LEU:HD23	66:SS:101:LEU:HD11	2.00	0.43
69:SV:37:LYS:HD3	69:SV:37:LYS:HA	1.72	0.43
72:SY:94:LYS:O	72:SY:98:VAL:HG12	2.19	0.43
75:Sc:78:LYS:HA	75:Sc:78:LYS:HD2	1.69	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:J:226:TYR:HA	80:J:229:VAL:HG22	2.00	0.43
81:SO:10:ARG:HD3	81:SO:314:GLN:HB2	2.00	0.43
81:SO:232:TYR:CD1	81:SO:233:THR:N	2.73	0.43
2:2:43:A:N1	2:2:378:A:N6	2.67	0.43
2:2:43:A:H2'	2:2:44:U:C6	2.54	0.43
2:2:183:U:H2'	2:2:184:C:C6	2.53	0.43
2:2:749:U:OP1	74:Sb:82:LYS:HG3	2.18	0.43
2:2:873:U:C2	2:2:874:C:C6	3.06	0.43
2:2:1236:A:H1'	59:SN:138:ARG:NH2	2.33	0.43
2:2:1574:G:H5''	2:2:1575:G:OP1	2.18	0.43
2:2:1608:U:H2'	2:2:1609:U:C6	2.54	0.43
3:A:549:U:H2'	3:A:550:A:C8	2.52	0.43
3:A:700:C:H2'	3:A:701:G:H8	1.82	0.43
3:A:1298:C:H2'	3:A:1299:U:C6	2.54	0.43
3:A:1368:U:C2	3:A:1369:A:C8	3.06	0.43
3:A:1806:A:H2'	3:A:1807:G:O4'	2.19	0.43
3:A:2961:G:H2'	3:A:2962:U:H6	1.83	0.43
3:A:3384:U:O2	32:f:105:GLN:NE2	2.46	0.43
5:C:27:U:H2'	5:C:28:C:C6	2.53	0.43
11:I:96:PRO:O	11:I:99:PRO:HD2	2.19	0.43
12:K:57:VAL:HB	12:K:68:LEU:HD22	2.00	0.43
14:M:116:TYR:OH	57:SH:106:GLU:OE2	2.31	0.43
19:R:64:ASN:O	19:R:80:LYS:NZ	2.36	0.43
25:Y:4:GLU:C	25:Y:5:ILE:HD13	2.43	0.43
32:f:74:ARG:HG2	32:f:94:GLU:O	2.18	0.43
34:h:72:THR:OG1	34:h:73:ARG:N	2.52	0.43
39:m:5:ILE:HD13	39:m:5:ILE:HA	1.88	0.43
40:n:15:LYS:HA	40:n:15:LYS:HD3	1.70	0.43
42:p:19:LYS:O	42:p:19:LYS:NZ	2.36	0.43
44:r:10:ILE:HG23	44:r:11:THR:HG23	2.00	0.43
46:v:254:LEU:O	46:v:296:ASN:ND2	2.41	0.43
47:x:25:ILE:HG13	47:x:127:VAL:HG13	2.00	0.43
47:x:488:VAL:HG21	47:x:781:THR:HG21	2.00	0.43
54:SG:87:GLU:HA	63:SP:198:MET:HE3	2.01	0.43
55:SB:111:VAL:HG23	56:SF:43:ILE:HG21	2.00	0.43
55:SB:124:LEU:HB2	58:SK:59:TYR:HB2	1.99	0.43
59:SN:95:HIS:CE1	59:SN:98:VAL:HG12	2.53	0.43
70:SW:123:HIS:CE1	78:Sg:37:ARG:HD2	2.53	0.43
72:SY:66:ILE:HG23	72:SY:67:THR:HG23	2.01	0.43
72:SY:92:ILE:O	72:SY:96:VAL:HG23	2.18	0.43
73:Sa:67:ASP:O	73:Sa:71:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:303:ALA:C	81:SO:310:ILE:HG23	2.44	0.43
1:S:93:ILE:HD13	1:S:93:ILE:HA	1.90	0.43
2:2:45:U:H3	2:2:434:G:H1'	1.83	0.43
2:2:61:A:O2'	2:2:62:A:O4'	2.35	0.43
2:2:328:A:H2'	2:2:329:G:C8	2.54	0.43
2:2:555:A:H62	2:2:591:A:H4'	1.83	0.43
2:2:602:U:H2'	2:2:603:U:H6	1.82	0.43
2:2:762:A:H4'	70:SW:71:PHE:HE1	1.82	0.43
2:2:1083:G:H2'	2:2:1084:A:C8	2.54	0.43
3:A:89:A:H2'	3:A:90:C:H6	1.83	0.43
3:A:584:G:H2'	3:A:585:A:C8	2.52	0.43
3:A:855:U:H2'	3:A:856:G:O4'	2.19	0.43
3:A:914:A:C2	6:D:204:MET:HE1	2.54	0.43
3:A:985:U:H2'	3:A:986:U:H6	1.83	0.43
3:A:1333:C:C2	3:A:1334:U:C5	3.07	0.43
3:A:1629:U:O4	28:b:108:GLU:HB3	2.19	0.43
3:A:1733:G:H2'	3:A:1734:G:H8	1.82	0.43
3:A:2250:G:H2'	3:A:2251:G:C8	2.52	0.43
3:A:2356:A:H5'	19:R:138:LYS:HZ1	1.82	0.43
3:A:2374:C:OP1	3:A:2823:G:O2'	2.32	0.43
3:A:2407:C:H2'	3:A:2408:U:C6	2.52	0.43
3:A:2553:U:O2'	35:i:91:ARG:NH1	2.52	0.43
10:H:71:VAL:HG21	10:H:159:LEU:HB3	2.01	0.43
10:H:150:LYS:HE3	10:H:150:LYS:HB3	1.88	0.43
13:L:17:TYR:HB3	13:L:96:VAL:HB	1.99	0.43
14:M:18:VAL:HG12	14:M:128:TYR:O	2.19	0.43
15:N:56:PRO:HB3	15:N:75:PHE:CE2	2.54	0.43
28:b:92:PHE:O	28:b:96:VAL:HG12	2.18	0.43
38:l:28:HIS:CD2	38:l:31:LYS:NZ	2.87	0.43
44:r:13:LYS:H	44:r:13:LYS:HG2	1.57	0.43
46:v:610:ILE:H	46:v:610:ILE:HD12	1.84	0.43
46:v:963:TRP:CD1	46:v:963:TRP:N	2.86	0.43
47:x:163:ALA:HA	47:x:169:VAL:HG23	1.99	0.43
48:SC:29:GLN:HE21	48:SC:39:ASN:CG	2.26	0.43
51:SI:113:ILE:HD12	51:SI:113:ILE:HA	1.86	0.43
52:SL:45:LYS:HE3	55:SB:147:THR:HG22	1.99	0.43
64:SQ:29:TRP:HB3	64:SQ:45:LYS:HE2	2.00	0.43
66:SS:77:ARG:HD2	66:SS:77:ARG:N	2.33	0.43
69:SV:78:ILE:HG21	69:SV:96:LEU:HD11	2.00	0.43
72:SY:56:ASP:OD1	72:SY:56:ASP:N	2.39	0.43
79:SJ:64:LYS:C	79:SJ:65:ILE:HD13	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:5:HIS:HE1	3:A:1364:C:H4'	1.84	0.43
2:2:15:U:H2'	2:2:16:G:O4'	2.19	0.43
2:2:567:A:H5''	75:Sc:70:LYS:NZ	2.34	0.43
2:2:877:G:O2'	2:2:878:G:H5'	2.18	0.43
2:2:1488:G:O2'	2:2:1494:C:O2	2.31	0.43
2:2:1501:C:OP2	51:SI:106:GLN:NE2	2.38	0.43
2:2:1611:A:H2'	2:2:1612:U:H6	1.83	0.43
2:2:1649:G:H2'	2:2:1650:U:C6	2.53	0.43
2:2:1732:A:H2'	2:2:1733:C:C6	2.54	0.43
2:2:1778:G:H2'	2:2:1779:U:C6	2.53	0.43
3:A:653:A:H5'	3:A:2360:C:H3'	2.00	0.43
3:A:863:C:H2'	3:A:864:G:O4'	2.19	0.43
3:A:1177:G:OP1	3:A:1177:G:N2	2.28	0.43
3:A:1212:A:H1'	21:U:114:HIS:HE1	1.84	0.43
3:A:1412:G:C2	3:A:1413:G:C8	3.06	0.43
3:A:1929:G:OP2	3:A:1930:A:O2'	2.35	0.43
3:A:2277:C:H2'	3:A:2278:C:C6	2.53	0.43
3:A:2716:U:H2'	3:A:2717:U:C6	2.54	0.43
3:A:2897:A:H2'	3:A:2899:C:H5'	2.00	0.43
3:A:2972:G:H2'	3:A:2973:G:H8	1.84	0.43
3:A:3296:A:H2'	3:A:3297:U:C6	2.52	0.43
3:A:3360:C:H2'	3:A:3361:G:O4'	2.19	0.43
5:C:75:G:H2'	5:C:76:C:C6	2.53	0.43
6:D:118:GLU:O	6:D:119:LYS:HD2	2.18	0.43
6:D:144:ASN:O	6:D:145:LYS:NZ	2.43	0.43
7:E:21:ARG:HH12	7:E:269:GLN:HG3	1.83	0.43
10:H:100:LYS:O	10:H:100:LYS:NZ	2.48	0.43
11:I:188:ILE:HA	11:I:195:PHE:HE1	1.84	0.43
17:P:98:LEU:HA	17:P:101:THR:HG22	2.01	0.43
27:a:118:LEU:HD12	27:a:122:LYS:HG3	2.01	0.43
44:r:19:GLY:O	44:r:23:ARG:NE	2.52	0.43
46:v:63:ALA:O	46:v:67:MET:HB3	2.18	0.43
46:v:279:PRO:O	46:v:282:ILE:HG22	2.19	0.43
46:v:361:VAL:O	46:v:364:ILE:HG22	2.17	0.43
46:v:699:ILE:HD13	46:v:977:TRP:HB2	2.00	0.43
46:v:962:VAL:HB	46:v:964:ALA:N	2.33	0.43
47:x:155:VAL:O	47:x:209:VAL:HA	2.18	0.43
47:x:332:ASP:HA	47:x:335:LEU:HD12	2.00	0.43
47:x:420:PRO:HB3	47:x:474:THR:HA	2.01	0.43
53:SM:46:LYS:NZ	53:SM:50:ILE:HB	2.34	0.43
56:SF:47:LYS:HE3	56:SF:82:ARG:HH12	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SQ:125:VAL:O	64:SQ:136:ARG:NH2	2.52	0.43
81:SO:228:LYS:HB2	81:SO:229:LYS:HZ1	1.84	0.43
2:2:45:U:N3	2:2:434:G:H1'	2.33	0.43
2:2:152:U:H2'	2:2:153:G:O4'	2.19	0.43
2:2:154:G:H2'	2:2:155:U:C6	2.54	0.43
2:2:361:C:H2'	2:2:362:G:C8	2.54	0.43
2:2:513:U:OP1	70:SW:168:ARG:NH1	2.51	0.43
2:2:560:U:H2'	2:2:561:G:C8	2.54	0.43
2:2:892:A:H2'	2:2:893:U:C6	2.54	0.43
2:2:1216:C:O2	2:2:1446:A:N6	2.51	0.43
2:2:1452:U:H2'	2:2:1453:G:H8	1.84	0.43
2:2:1525:A:H2'	2:2:1526:A:C8	2.54	0.43
2:2:1770:U:H5''	2:2:1794:A:N6	2.34	0.43
3:A:289:A:C2	17:P:93:LYS:HG3	2.53	0.43
3:A:303:G:C6	3:A:313:A:N6	2.87	0.43
3:A:359:U:H2'	3:A:360:G:O4'	2.18	0.43
3:A:574:U:H2'	3:A:575:G:C8	2.53	0.43
3:A:1084:A:H4'	22:V:35:LYS:HE3	2.00	0.43
3:A:1460:A:H2'	3:A:1461:A:H8	1.84	0.43
3:A:1759:C:H2'	3:A:1760:A:H8	1.84	0.43
3:A:2766:U:OP1	43:q:37:ALA:HB1	2.19	0.43
3:A:2982:A:H4'	3:A:2983:C:C5	2.54	0.43
3:A:3064:U:H2'	3:A:3065:G:C8	2.52	0.43
3:A:3101:G:H2'	3:A:3102:G:C8	2.54	0.43
4:B:22:A:C8	9:G:272:TYR:HD2	2.37	0.43
7:E:126:LYS:HD3	7:E:126:LYS:HA	1.88	0.43
7:E:261:MET:HE1	18:Q:63[A]:ALA:O	2.19	0.43
8:F:359:LEU:HD12	8:F:359:LEU:HA	1.89	0.43
13:L:158:LYS:HD2	13:L:158:LYS:HA	1.74	0.43
16:O:59:ASN:C	16:O:59:ASN:OD1	2.61	0.43
17:P:22:LEU:HD21	17:P:26:ARG:CZ	2.49	0.43
26:Z:26:VAL:HG23	80:J:45:ASN:HD22	1.82	0.43
34:h:49:ILE:HG23	34:h:100:ILE:HD13	2.00	0.43
34:h:54:ARG:HA	34:h:64:ILE:HA	2.00	0.43
36:j:24:LEU:O	36:j:27:GLU:HG2	2.18	0.43
36:j:38:ARG:HG2	36:j:38:ARG:HH11	1.84	0.43
45:s:9:G:H8	45:s:11:C:H41	1.66	0.43
46:v:707:SER:O	46:v:711:ASN:ND2	2.51	0.43
46:v:710:ILE:HB	46:v:948:ILE:HD12	2.01	0.43
47:x:564:ARG:N	47:x:564:ARG:HD2	2.32	0.43
52:SL:11:LYS:HA	52:SL:11:LYS:HD2	1.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SF:28:LEU:HG	56:SF:64:ASP:HB3	2.01	0.43
58:SK:39:ALA:H	58:SK:71:ILE:HA	1.84	0.43
60:SD:42:ALA:HB3	60:SD:122:VAL:HB	2.00	0.43
64:SQ:27:LYS:HA	64:SQ:49:ASN:HA	2.00	0.43
66:SS:182:TYR:N	66:SS:226:PHE:O	2.41	0.43
68:SU:155:ASP:OD1	68:SU:155:ASP:N	2.51	0.43
74:Sb:99:PHE:C	74:Sb:99:PHE:CD1	2.97	0.43
78:Sg:51:ASN:OD1	78:Sg:52:GLY:N	2.48	0.43
79:SJ:57:ARG:HD2	79:SJ:89:ARG:HH11	1.84	0.43
81:SO:91:LEU:HD12	81:SO:100:TYR:CD1	2.54	0.43
81:SO:127:ARG:NH2	81:SO:150:TRP:HE3	2.16	0.43
81:SO:150:TRP:CD1	81:SO:174:ASN:CB	3.02	0.43
81:SO:241:PHE:HB3	81:SO:290:VAL:HG23	2.00	0.43
2:2:472:U:O2'	2:2:769:A:N3	2.49	0.43
2:2:477:A:H2'	2:2:478:A:H8	1.84	0.43
2:2:523:G:H1'	2:2:529:A:H62	1.83	0.43
2:2:705:U:O2'	2:2:706:A:O5'	2.24	0.43
2:2:799:A:H4'	66:SS:201:HIS:CD2	2.54	0.43
2:2:856:A:N6	68:SU:115:SER:O	2.49	0.43
2:2:960:U:H2'	2:2:961:U:C6	2.53	0.43
2:2:1415:U:P	54:SG:3:ARG:HH12	2.42	0.43
2:2:1743:U:H2'	2:2:1744:A:H8	1.81	0.43
3:A:613:G:H2'	3:A:614:C:C6	2.54	0.43
3:A:1087:G:OP1	30:d:29:TYR:OH	2.35	0.43
3:A:1141:C:H5''	3:A:1144:U:O2'	2.18	0.43
3:A:1272:C:H3'	3:A:1273:A:H8	1.83	0.43
3:A:1541:G:H1'	3:A:1557:A:C5	2.54	0.43
3:A:1666:G:H2'	3:A:1667:A:H8	1.82	0.43
3:A:1667:A:H2'	3:A:1668:G:H8	1.84	0.43
3:A:1802:C:H2'	3:A:1803:C:H6	1.84	0.43
3:A:2492:C:H2'	3:A:2493:U:H4'	2.01	0.43
3:A:2684:C:H2'	3:A:2685:C:H6	1.83	0.43
3:A:2975:U:H2'	3:A:2976:A:C8	2.54	0.43
6:D:120:PRO:HG3	6:D:161:ASP:HB3	2.00	0.43
6:D:225:ILE:N	6:D:237:LEU:O	2.46	0.43
6:D:229:ALA:O	6:D:234:LYS:NZ	2.44	0.43
7:E:291:GLU:CD	7:E:292:ALA:H	2.27	0.43
15:N:42:ARG:O	15:N:46:ILE:HG22	2.19	0.43
17:P:31:ARG:NH1	17:P:124:ASP:OD2	2.52	0.43
17:P:124:ASP:OD1	17:P:126:THR:N	2.52	0.43
17:P:138:GLN:OE1	17:P:138:GLN:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:256:GLU:HG3	46:v:258:GLU:H	1.83	0.43
46:v:494:VAL:HG12	46:v:495:GLU:HB2	2.01	0.43
47:x:259:ASN:OD1	47:x:260:LYS:N	2.52	0.43
47:x:365:ASN:O	47:x:369:ILE:HG23	2.19	0.43
52:SL:18:ARG:HA	52:SL:26:THR:HA	2.00	0.43
54:SG:30:THR:N	81:SO:85:TRP:HH2	2.16	0.43
65:SR:53:ILE:HD11	65:SR:110:HIS:CE1	2.54	0.43
67:ST:136:LYS:HD2	67:ST:136:LYS:HA	1.80	0.43
74:Sb:3:ARG:HH22	74:Sb:6:VAL:HA	1.84	0.43
74:Sb:83:ILE:HD12	74:Sb:83:ILE:HA	1.86	0.43
75:Sc:72:VAL:HG23	75:Sc:85:ALA:HB3	2.01	0.43
77:Sf:36:LYS:NZ	77:Sf:78:SER:OG	2.46	0.43
78:Sg:37:ARG:O	78:Sg:41:THR:HG22	2.18	0.43
81:SO:45:TRP:HB3	81:SO:56:VAL:O	2.18	0.43
81:SO:129:LYS:HB3	81:SO:129:LYS:NZ	2.34	0.43
2:2:337:G:H1'	2:2:339:C:OP2	2.19	0.43
2:2:763:G:H5''	70:SW:78:ARG:NH2	2.31	0.43
2:2:900:A:H2'	2:2:901:G:H8	1.84	0.43
2:2:1228:G:OP1	60:SD:119:SER:N	2.49	0.43
2:2:1644:C:H2'	2:2:1645:G:C8	2.54	0.43
3:A:1085:A:O2'	30:d:43:HIS:NE2	2.38	0.43
3:A:1211:U:H5''	12:K:1:MET:H1	1.83	0.43
3:A:1388:U:O2'	33:g:99:ASN:O	2.36	0.43
3:A:2533:G:H1'	3:A:2534:G:N7	2.34	0.43
3:A:2661:G:OP1	3:A:2748:A:N6	2.51	0.43
5:C:40:A:H2'	5:C:41:A:H8	1.84	0.43
5:C:55:U:C2	5:C:56:G:C8	3.06	0.43
6:D:168:VAL:HG23	44:r:79:VAL:HG21	2.01	0.43
13:L:71:CYS:SG	13:L:72:ALA:N	2.91	0.43
15:N:47:ALA:HB1	36:j:115:LYS:HE3	2.01	0.43
22:V:119:ALA:HB1	22:V:126:VAL:HG12	2.01	0.43
28:b:77:TYR:C	31:e:35:ARG:HH12	2.26	0.43
44:r:84:ARG:NH2	44:r:85:ARG:HG2	2.34	0.43
46:v:315:THR:HA	46:v:318:ARG:HG2	2.01	0.43
46:v:460:ILE:HG12	46:v:610:ILE:HD13	2.00	0.43
46:v:833:SER:C	46:v:835:ASP:N	2.76	0.43
47:x:747:LEU:HD22	47:x:752:GLY:HA3	2.00	0.43
50:SA:190:ARG:NH2	50:SA:191:ASP:O	2.51	0.43
52:SL:60:GLU:OE1	61:SZ:103:ARG:NH2	2.52	0.43
57:SH:88:ARG:HE	57:SH:108:LYS:HE3	1.84	0.43
63:SP:128:SER:OG	63:SP:129:ASP:OD1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SP:148:ASP:OD1	63:SP:151:SER:N	2.52	0.43
67:ST:51:LYS:HB2	67:ST:112:VAL:HG23	2.01	0.43
68:SU:67:LEU:O	68:SU:71:HIS:ND1	2.51	0.43
68:SU:111:LYS:HA	68:SU:111:LYS:HD2	1.78	0.43
69:SV:152:ILE:HG23	69:SV:153:GLU:H	1.84	0.43
77:Sf:42:ASN:O	77:Sf:44:THR:HG23	2.19	0.43
81:SO:290:VAL:HG22	81:SO:290:VAL:O	2.18	0.43
1:S:57:ILE:HG12	3:A:671:U:OP2	2.19	0.42
2:2:117:U:H5'	2:2:333:A:H1'	2.01	0.42
2:2:874:C:H2'	2:2:875:G:H8	1.77	0.42
2:2:1024:U:H5''	2:2:1027:A:H61	1.82	0.42
2:2:1211:A:H2'	2:2:1212:G:O4'	2.19	0.42
2:2:1221:A:H2'	2:2:1222:C:C6	2.54	0.42
2:2:1732:A:H2'	2:2:1733:C:H6	1.83	0.42
2:2:1746:A:H4'	3:A:2290:C:O2'	2.18	0.42
3:A:217:U:O2	27:a:103:LYS:NZ	2.49	0.42
3:A:269:G:C5	17:P:14:LYS:HD2	2.53	0.42
3:A:533:A:H2'	3:A:535:G:C8	2.54	0.42
3:A:1242:G:H2'	3:A:1243:G:C8	2.54	0.42
3:A:1488:G:N3	35:i:12:PRO:HG3	2.34	0.42
3:A:1886:A:O4'	3:A:3307:A:H5'	2.19	0.42
3:A:2354:C:H2'	3:A:2355:G:O4'	2.19	0.42
3:A:2469:G:HO2'	3:A:2470:C:P	2.42	0.42
3:A:2656:A:N7	3:A:2658:G:C8	2.87	0.42
3:A:2688:U:O2	9:G:17:GLN:HB3	2.18	0.42
3:A:3101:G:H2'	3:A:3102:G:H8	1.82	0.42
4:B:7:G:H2'	4:B:8:G:H8	1.85	0.42
5:C:57:C:H4'	5:C:63:G:C8	2.54	0.42
11:I:138:TYR:HE1	11:I:233:GLU:HG3	1.83	0.42
17:P:114:ARG:C	17:P:134:LEU:HD13	2.44	0.42
19:R:19:GLY:N	19:R:146:ILE:O	2.51	0.42
22:V:83:ARG:HD3	22:V:84:TYR:H	1.84	0.42
23:W:97:SER:OG	23:W:99:LYS:O	2.37	0.42
35:i:19:LYS:O	35:i:19:LYS:HD2	2.20	0.42
36:j:28:LEU:HB2	36:j:47:VAL:HG11	2.01	0.42
47:x:27:HIS:HB3	47:x:139:THR:HG23	2.01	0.42
47:x:240:MET:HA	47:x:243:ARG:NE	2.33	0.42
47:x:286:THR:O	47:x:290:ASN:HB2	2.18	0.42
47:x:318:ALA:O	47:x:322:VAL:HG13	2.19	0.42
47:x:321:LYS:HB3	47:x:325:ARG:HH21	1.84	0.42
47:x:632:LYS:HB3	47:x:648:ASP:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SE:17:TYR:O	49:SE:20:VAL:HG12	2.19	0.42
57:SH:113:LEU:HD11	57:SH:127:HIS:ND1	2.33	0.42
68:SU:169:PHE:HA	68:SU:172:VAL:HG12	2.01	0.42
69:SV:67:TRP:CD1	69:SV:183:ILE:HD13	2.53	0.42
72:SY:46:THR:O	72:SY:50:ILE:HG12	2.18	0.42
74:Sb:16:ASN:O	74:Sb:20:THR:HG22	2.18	0.42
75:Sc:54:LEU:HB2	75:Sc:55:GLU:OE2	2.19	0.42
77:Sf:23:THR:OG1	77:Sf:25:VAL:O	2.36	0.42
81:SO:35:SER:OG	81:SO:44:SER:HA	2.19	0.42
81:SO:35:SER:O	81:SO:42:LEU:HB3	2.19	0.42
2:2:172:C:H2'	2:2:173:A:C8	2.53	0.42
2:2:445:A:H61	2:2:462:G:H1'	1.84	0.42
2:2:841:U:H2'	2:2:842:C:H6	1.84	0.42
2:2:1032:G:H1	2:2:1103:U:H3	1.66	0.42
2:2:1262:U:H2'	2:2:1263:G:C8	2.54	0.42
3:A:229:G:H2'	3:A:230:U:C6	2.54	0.42
3:A:351:A:N6	40:n:37:TYR:O	2.51	0.42
3:A:538:G:H1	3:A:553:U:H3	1.66	0.42
3:A:2659:G:O2'	3:A:2660:G:H5'	2.19	0.42
3:A:2674:A:H2'	3:A:2675:C:O4'	2.19	0.42
3:A:2854:U:OP1	13:L:6:ALA:HB2	2.19	0.42
3:A:2960:C:H2'	3:A:2961:G:C8	2.54	0.42
3:A:3309:G:C4	3:A:3310:A:C8	3.08	0.42
7:E:123:TYR:CZ	7:E:124:LYS:HG3	2.54	0.42
7:E:276:THR:HG22	7:E:278:ILE:HD11	2.01	0.42
9:G:36:LEU:HD23	9:G:50:ARG:HD2	2.01	0.42
11:I:83:LEU:HD22	11:I:189:ILE:HA	2.01	0.42
12:K:36:LYS:HB2	12:K:36:LYS:NZ	2.35	0.42
12:K:90:MET:HE2	12:K:179:ILE:HB	2.00	0.42
15:N:56:PRO:HG2	15:N:72:GLY:HA3	2.01	0.42
16:O:123:LEU:HD12	18:Q:190[A]:VAL:HG13	2.00	0.42
26:Z:69:SER:O	26:Z:73:MET:HE2	2.19	0.42
26:Z:91:ASN:O	26:Z:95:ILE:HD12	2.19	0.42
27:a:52:ARG:HG3	27:a:53:ASP:OD1	2.19	0.42
38:l:22:CYS:SG	38:l:26:SER:HB2	2.59	0.42
41:o:103:LEU:HD11	41:o:111:ARG:H	1.83	0.42
43:q:38:GLN:OE1	43:q:38:GLN:HA	2.19	0.42
46:v:699:ILE:HG12	46:v:955:THR:HG21	2.01	0.42
47:x:172:GLU:O	47:x:176:GLN:HG2	2.19	0.42
47:x:261:ASP:C	47:x:263:ASP:H	2.26	0.42
47:x:285:PHE:HA	47:x:288:ILE:CG1	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SI:136:ALA:HA	51:SI:139:THR:HG22	2.00	0.42
53:SM:44:ARG:HH12	79:SJ:69:LYS:HG2	1.85	0.42
54:SG:21:TYR:HB3	54:SG:22:PRO:HD3	2.01	0.42
55:SB:61:TYR:CE2	55:SB:164:PRO:HG2	2.54	0.42
55:SB:213:LYS:HD3	55:SB:213:LYS:HA	1.87	0.42
64:SQ:43:VAL:HB	64:SQ:68:VAL:HG11	2.00	0.42
64:SQ:67:GLU:HA	64:SQ:85:LYS:HA	2.01	0.42
64:SQ:113:MET:HG2	64:SQ:142:PHE:CE2	2.54	0.42
64:SQ:207:LEU:HD23	64:SQ:207:LEU:HA	1.85	0.42
65:SR:211:LEU:HD12	65:SR:211:LEU:HA	1.83	0.42
67:ST:183:ARG:HG2	67:ST:184:LEU:HD22	2.01	0.42
80:J:111:LYS:HE3	80:J:111:LYS:HB2	1.86	0.42
81:SO:133:VAL:CG2	81:SO:140:CYS:HA	2.39	0.42
81:SO:150:TRP:HE3	81:SO:150:TRP:H	1.65	0.42
2:2:154:G:N3	67:ST:60:GLY:HA3	2.34	0.42
2:2:748:U:H2'	2:2:749:U:C6	2.55	0.42
2:2:802:G:H2'	2:2:803:A:C4	2.55	0.42
2:2:1023:A:H4'	2:2:1024:U:O5'	2.20	0.42
2:2:1040:G:H5'	63:SP:32:HIS:NE2	2.34	0.42
2:2:1191:U:H5''	2:2:1194:A:N7	2.34	0.42
2:2:1770:U:H5''	2:2:1794:A:H62	1.84	0.42
3:A:135:C:C5	36:j:94:LYS:HE3	2.54	0.42
3:A:292:U:OP2	17:P:68:ARG:NH2	2.53	0.42
3:A:341:G:H4'	3:A:344:A:H1'	1.99	0.42
3:A:1140:G:H2'	3:A:1141:C:C6	2.55	0.42
3:A:1827:C:H2'	3:A:1828:A:C8	2.54	0.42
3:A:2707:C:C2	3:A:2708:C:C5	3.07	0.42
6:D:34:TYR:HE1	6:D:38:HIS:NE2	2.17	0.42
8:F:207:VAL:HG22	8:F:249:ILE:HB	2.00	0.42
9:G:64:ILE:HG22	9:G:144:VAL:HG21	2.00	0.42
10:H:170:LYS:HD2	10:H:173:LEU:HD12	2.00	0.42
15:N:166:ALA:HB1	29:c:147:LEU:HD21	2.01	0.42
18:Q:39[A]:GLU:OE2	18:Q:39[A]:GLU:N	2.44	0.42
20:T:153:LYS:HA	20:T:156:ASN:ND2	2.34	0.42
21:U:46:GLN:NE2	21:U:52:LYS:HG3	2.34	0.42
22:V:41:ASP:C	22:V:41:ASP:OD1	2.62	0.42
28:b:23:VAL:HG23	28:b:44:ALA:C	2.44	0.42
37:k:43:LEU:O	37:k:47:ILE:HG12	2.19	0.42
45:t:23:C:H2'	45:t:24:G:H8	1.84	0.42
46:v:508:LEU:HD12	46:v:508:LEU:HA	1.88	0.42
49:SE:76:VAL:HG23	49:SE:94:VAL:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SI:77:ASN:HD21	51:SI:98:GLY:HA2	1.83	0.42
54:SG:60:ARG:CZ	54:SG:66:VAL:HG11	2.49	0.42
54:SG:93:LEU:O	54:SG:95:ARG:N	2.52	0.42
55:SB:97:LEU:HD23	55:SB:180:ARG:NH2	2.34	0.42
58:SK:51:LEU:H	58:SK:51:LEU:HD22	1.84	0.42
60:SD:32:LEU:O	60:SD:36:LEU:HG	2.19	0.42
63:SP:30:GLN:HE22	63:SP:149:LEU:HD13	1.84	0.42
63:SP:88:LYS:HA	63:SP:88:LYS:HD2	1.78	0.42
67:ST:72:ARG:O	67:ST:73:ILE:HD13	2.19	0.42
72:SY:70:LYS:HE2	72:SY:70:LYS:HB3	1.88	0.42
79:SJ:102:ARG:HA	79:SJ:105:GLN:HE22	1.84	0.42
81:SO:101:GLN:HG3	81:SO:137:LYS:O	2.20	0.42
81:SO:139:GLN:CG	81:SO:140:CYS:H	2.32	0.42
81:SO:170:ILE:HD13	81:SO:181:TRP:N	2.34	0.42
81:SO:193:ILE:CG1	81:SO:194:GLY:N	2.81	0.42
81:SO:201:THR:HG21	81:SO:242:SER:HA	2.00	0.42
1:S:153:PHE:HB3	3:A:1109:U:H5''	2.02	0.42
1:S:184:PHE:CG	3:A:2730:G:H4'	2.53	0.42
2:2:192:U:H3	69:SV:137:LYS:HE3	1.85	0.42
2:2:455:C:H3'	2:2:456:A:H8	1.84	0.42
2:2:521:A:H2'	2:2:522:U:C6	2.54	0.42
2:2:1492:A:H2'	2:2:1493:A:O4'	2.19	0.42
2:2:1579:U:H2'	2:2:1580:C:C6	2.54	0.42
3:A:89:A:H2'	3:A:90:C:C6	2.54	0.42
3:A:516:A:H2'	3:A:517:G:C8	2.54	0.42
3:A:840:C:H2'	3:A:841:A:H8	1.85	0.42
3:A:1097:G:H4'	22:V:129:LYS:HD3	2.00	0.42
3:A:1321:G:H2'	3:A:1322:U:C6	2.54	0.42
3:A:2180:G:H2'	3:A:2181:C:H6	1.82	0.42
3:A:2188:A:H2'	3:A:2188:A:N3	2.34	0.42
3:A:2188:A:H2	44:r:19:GLY:HA2	1.83	0.42
3:A:2356:A:OP1	19:R:138:LYS:NZ	2.52	0.42
3:A:3306:U:H5''	7:E:225:GLY:HA2	2.01	0.42
11:I:60:ARG:HD2	11:I:60:ARG:HA	1.82	0.42
11:I:194:HIS:HA	11:I:197:GLN:HE22	1.83	0.42
13:L:85:PHE:CE1	13:L:87:LEU:HD23	2.54	0.42
17:P:6:TYR:HD2	80:J:165:PHE:CD2	2.37	0.42
17:P:143:ARG:HG2	36:j:96:GLU:OE2	2.19	0.42
26:Z:84:PHE:CE2	26:Z:103:TYR:HE2	2.37	0.42
28:b:51:LEU:HB2	28:b:65:ARG:NE	2.32	0.42
36:j:14:LYS:HE3	36:j:61:GLN:OE1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:140:ASN:OD1	46:v:140:ASN:N	2.52	0.42
46:v:690:CYS:SG	46:v:691:SER:N	2.92	0.42
47:x:750:LYS:NZ	47:x:783:GLU:HB2	2.33	0.42
47:x:758:GLU:H	47:x:769:LYS:NZ	2.16	0.42
50:SA:159:HIS:C	50:SA:164:VAL:HG21	2.44	0.42
55:SB:39:GLU:HG2	55:SB:40:ILE:H	1.85	0.42
55:SB:40:ILE:O	55:SB:40:ILE:HG13	2.19	0.42
56:SF:13:LYS:HB3	56:SF:16:ALA:HB3	2.01	0.42
56:SF:32:ASN:H	56:SF:68:ARG:HE	1.68	0.42
57:SH:126:ARG:O	57:SH:130:GLY:N	2.52	0.42
60:SD:101:ALA:HB3	60:SD:103:LEU:HD23	2.01	0.42
62:Se:32:LYS:HE3	62:Se:34:LYS:HD2	2.00	0.42
64:SQ:168:ILE:HA	64:SQ:171:ILE:HG22	2.01	0.42
67:ST:32:ILE:HB	67:ST:100:ALA:HB1	2.00	0.42
68:SU:61:PHE:HB3	68:SU:95:GLU:CD	2.44	0.42
70:SW:83:VAL:HA	70:SW:149:ARG:HA	2.00	0.42
70:SW:110:GLN:NE2	70:SW:144:PRO:HB3	2.35	0.42
74:Sb:23:ARG:HG3	77:Sf:4:VAL:HG22	2.01	0.42
79:SJ:58:LEU:HD11	79:SJ:90:TYR:CE2	2.55	0.42
81:SO:256:THR:OG1	81:SO:257:ALA:N	2.53	0.42
2:2:93:A:N6	2:2:396:G:H1'	2.34	0.42
2:2:446:A:N3	2:2:446:A:H2'	2.34	0.42
2:2:967:A:OP2	72:SY:124:ARG:NH2	2.50	0.42
2:2:1072:C:H2'	2:2:1073:G:C8	2.54	0.42
2:2:1103:U:H2'	2:2:1104:U:C6	2.54	0.42
2:2:1333:C:H2'	2:2:1334:U:H6	1.83	0.42
2:2:1609:U:OP1	56:SF:76:SER:OG	2.29	0.42
3:A:195:U:H2'	3:A:196:G:O4'	2.20	0.42
3:A:632:G:H2'	3:A:633:C:H6	1.85	0.42
3:A:655:C:OP1	33:g:27:ARG:N	2.52	0.42
3:A:684:G:H2'	3:A:685:G:C8	2.54	0.42
3:A:840:C:H2'	3:A:841:A:C8	2.54	0.42
3:A:868:C:H2'	3:A:869:G:C8	2.54	0.42
3:A:926:A:H2'	3:A:927:C:H6	1.83	0.42
3:A:1757:A:H2'	3:A:1758:G:C8	2.54	0.42
3:A:2352:A:H5''	19:R:83:TRP:O	2.20	0.42
3:A:2960:C:H2'	3:A:2961:G:H8	1.84	0.42
3:A:3004:C:O2'	7:E:99:LEU:O	2.37	0.42
5:C:32:C:H2'	5:C:33:A:C8	2.55	0.42
6:D:58:LEU:HD23	6:D:58:LEU:HA	1.85	0.42
16:O:48:GLY:HA3	16:O:53:VAL:HG22	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:54:LYS:H	17:P:59:PHE:HD2	1.66	0.42
21:U:16:THR:HG23	21:U:19:VAL:H	1.85	0.42
22:V:45:ASN:H	22:V:95:HIS:CD2	2.37	0.42
27:a:39:LEU:HD11	27:a:107:THR:HA	2.02	0.42
38:l:64:MET:HG2	38:l:67:LEU:HB2	2.00	0.42
46:v:545:GLY:C	46:v:549:MET:HE3	2.45	0.42
46:v:649:PHE:CD1	46:v:650:PRO:HD2	2.52	0.42
46:v:782:ALA:O	46:v:795:ARG:NH1	2.52	0.42
47:x:267:LYS:HA	47:x:267:LYS:HD2	1.75	0.42
54:SG:32:LYS:HB3	54:SG:47:ARG:CZ	2.49	0.42
55:SB:44:ASN:C	55:SB:45:LYS:HD2	2.45	0.42
61:SZ:82:LYS:HG3	61:SZ:118:VAL:HG11	2.01	0.42
64:SQ:30:PHE:CD2	64:SQ:94:LYS:HA	2.55	0.42
64:SQ:145:LYS:HD2	64:SQ:145:LYS:HA	1.96	0.42
76:Sd:6:THR:O	76:Sd:6:THR:OG1	2.33	0.42
80:J:154:ALA:HA	80:J:180:VAL:O	2.19	0.42
2:2:477:A:H2'	2:2:478:A:C8	2.54	0.42
2:2:555:A:N3	2:2:555:A:H2'	2.34	0.42
2:2:602:U:H2'	2:2:603:U:C6	2.54	0.42
2:2:1798:U:H2'	62:Se:38:ARG:NH2	2.34	0.42
3:A:1018:G:N2	3:A:1034:U:O2	2.53	0.42
3:A:1161:G:H21	33:g:56:GLY:HA2	1.84	0.42
3:A:1210:U:OP1	12:K:62:ARG:NH2	2.53	0.42
3:A:2095:G:H2'	3:A:2096:A:C8	2.55	0.42
3:A:2243:A:N7	6:D:245:LEU:HD22	2.33	0.42
3:A:2367:A:H2'	3:A:2368:A:H8	1.85	0.42
3:A:2425:G:H1	3:A:2604:U:H3	1.67	0.42
3:A:2831:G:N1	3:A:2858:U:O4	2.52	0.42
4:B:58:C:H2'	4:B:59:U:C6	2.55	0.42
4:B:114:U:H2'	4:B:115:G:H8	1.84	0.42
11:I:90:LYS:HD3	11:I:220:PHE:HZ	1.84	0.42
11:I:224:ILE:HA	21:U:36:ILE:CD1	2.49	0.42
14:M:51:ARG:HG3	14:M:52:TYR:HD1	1.84	0.42
15:N:43:ALA:HA	15:N:46:ILE:HG22	2.00	0.42
18:Q:34[A]:VAL:HG23	18:Q:103[A]:LYS:HB2	2.00	0.42
19:R:182:ILE:HD12	19:R:182:ILE:HA	1.89	0.42
22:V:68:THR:CG2	22:V:69:LYS:H	2.32	0.42
24:X:87:ARG:HH22	24:X:120:LYS:HB3	1.85	0.42
26:Z:91:ASN:HD21	26:Z:93:TYR:HD2	1.68	0.42
27:a:89:LYS:HD3	27:a:93:ALA:HB3	2.02	0.42
28:b:116:LYS:O	28:b:120:GLU:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:j:70:TYR:HD2	36:j:77:PRO:HD3	1.85	0.42
45:s:53:G:H2'	45:s:54:A:H8	1.85	0.42
46:v:250:LEU:HD11	46:v:269:ILE:HD11	2.02	0.42
47:x:735:CYS:O	47:x:766:PHE:N	2.52	0.42
51:SI:124:ILE:CG2	51:SI:129:GLN:HB2	2.49	0.42
56:SF:27:GLY:HA2	56:SF:63:ILE:O	2.19	0.42
57:SH:144:ARG:NE	57:SH:144:ARG:HA	2.35	0.42
65:SR:174:ARG:O	70:SW:97:LEU:HB3	2.20	0.42
72:SY:84:ILE:HB	72:SY:89:TYR:CD2	2.55	0.42
72:SY:84:ILE:HB	72:SY:89:TYR:HD2	1.85	0.42
74:Sb:94:LEU:HD21	74:Sb:102:VAL:HB	2.00	0.42
75:Sc:73:ARG:HD2	75:Sc:73:ARG:HA	1.57	0.42
76:Sd:28:LEU:HD12	76:Sd:30:PRO:HD3	2.02	0.42
81:SO:66:HIS:O	81:SO:67:ILE:HG13	2.20	0.42
81:SO:147:HIS:NE2	81:SO:172:ALA:HA	2.34	0.42
1:S:180:ARG:HH22	3:A:2719:U:H5''	1.85	0.42
2:2:1010:C:H3'	2:2:1011:G:H8	1.84	0.42
2:2:1259:U:H2'	2:2:1260:U:C6	2.55	0.42
2:2:1261:G:H2'	2:2:1262:U:C6	2.54	0.42
2:2:1304:G:C5	2:2:1305:U:C4	3.07	0.42
2:2:1479:A:H2'	2:2:1480:G:H8	1.85	0.42
3:A:35:A:H2'	3:A:36:C:C6	2.55	0.42
3:A:357:A:H2'	3:A:358:G:C8	2.55	0.42
3:A:501:A:H4'	10:H:28:GLN:HB2	2.02	0.42
3:A:833:G:OP1	20:T:86:GLU:HB3	2.20	0.42
3:A:1698:C:H2'	3:A:1699:A:C8	2.55	0.42
3:A:2533:G:H2'	3:A:2535:A:C8	2.55	0.42
3:A:2746:A:H2'	3:A:2747:A:C8	2.55	0.42
3:A:2769:A:H2'	3:A:2770:G:C8	2.54	0.42
3:A:3025:C:H4'	12:K:175:PHE:CE1	2.55	0.42
3:A:3295:A:H2'	3:A:3296:A:C8	2.54	0.42
4:B:23:A:C6	4:B:24:A:C6	3.08	0.42
9:G:15:ARG:HA	9:G:15:ARG:HD2	1.88	0.42
13:L:38:LYS:HB3	13:L:41:ALA:HB2	2.01	0.42
15:N:42:ARG:O	15:N:46:ILE:N	2.53	0.42
15:N:95:ILE:HD11	15:N:119:TYR:CZ	2.55	0.42
19:R:131:ARG:HE	19:R:131:ARG:HB3	1.68	0.42
20:T:71:ARG:HA	20:T:71:ARG:HD2	1.72	0.42
24:X:22:ILE:HD11	24:X:33:ASN:HD22	1.85	0.42
35:i:100:ILE:HD12	35:i:103:LYS:HD2	2.00	0.42
46:v:392:ILE:HG22	46:v:393:PHE:HD1	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:439:TYR:HB2	46:v:444:LEU:HD21	2.01	0.42
46:v:966:LYS:HD3	46:v:966:LYS:HA	1.70	0.42
47:x:167:LEU:HG	47:x:169:VAL:HG22	2.01	0.42
47:x:445:ILE:HD13	47:x:445:ILE:HA	1.93	0.42
48:SC:17:GLN:H	48:SC:17:GLN:CD	2.27	0.42
48:SC:49:LEU:HB2	48:SC:55:VAL:HG12	2.02	0.42
50:SA:215:GLU:CD	50:SA:216:PRO:HD2	2.45	0.42
56:SF:14:LYS:HZ1	56:SF:123:ARG:HA	1.84	0.42
56:SF:30:LYS:HE2	56:SF:33:GLY:HA2	2.02	0.42
56:SF:127:LYS:HA	56:SF:134:ALA:HA	2.01	0.42
60:SD:41:LEU:HD21	60:SD:43:ARG:HD2	2.02	0.42
60:SD:134:SER:O	60:SD:138:GLU:HG2	2.20	0.42
61:SZ:133:ARG:HD3	61:SZ:136:ARG:HD3	2.02	0.42
64:SQ:199:ASN:HA	64:SQ:202:LYS:HG3	2.02	0.42
65:SR:37:PRO:HG2	65:SR:43:ARG:HG2	2.01	0.42
65:SR:152:HIS:HB3	65:SR:174:ARG:HH21	1.85	0.42
66:SS:60:GLU:CD	66:SS:60:GLU:H	2.27	0.42
66:SS:198:LYS:HG2	66:SS:208:VAL:HG23	2.01	0.42
67:ST:43:ASP:OD1	67:ST:43:ASP:N	2.49	0.42
67:ST:159:ARG:NH2	67:ST:170:THR:OG1	2.52	0.42
72:SY:31:GLU:N	72:SY:31:GLU:OE2	2.52	0.42
72:SY:92:ILE:HD11	72:SY:146:ALA:HB1	2.01	0.42
72:SY:102:LEU:HD23	72:SY:102:LEU:HA	1.88	0.42
81:SO:251:TRP:HE1	81:SO:262:VAL:HG23	1.85	0.42
2:2:190:C:C5	2:2:191:C:H1'	2.55	0.42
2:2:215:A:HO2'	2:2:216:U:P	2.42	0.42
2:2:223:U:H2'	2:2:224:C:O4'	2.20	0.42
2:2:632:U:H4'	75:Sc:11:SER:HB3	2.02	0.42
2:2:861:U:OP1	72:SY:64:ARG:NH2	2.51	0.42
2:2:1220:C:H2'	2:2:1221:A:C8	2.54	0.42
2:2:1225:U:H2'	2:2:1226:A:O4'	2.19	0.42
2:2:1317:C:H2'	2:2:1318:G:O4'	2.19	0.42
2:2:1586:A:H2'	2:2:1587:A:O4'	2.19	0.42
3:A:356:C:H2'	3:A:357:A:H8	1.84	0.42
3:A:361:A:OP1	38:l:24:ARG:NH2	2.53	0.42
3:A:622:A:O4'	34:h:60:ARG:NH2	2.53	0.42
3:A:886:C:H2'	3:A:887:G:H8	1.83	0.42
3:A:1562:C:H42	3:A:1578:C:H42	1.68	0.42
3:A:1616:U:H2'	3:A:1617:G:H8	1.84	0.42
3:A:2420:C:H2'	3:A:2421:U:C6	2.55	0.42
3:A:3109:G:O2'	12:K:159:ALA:HB1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:41:G:H1'	4:B:44:C:H42	1.85	0.42
8:F:163:LYS:HE2	8:F:163:LYS:HB2	1.86	0.42
8:F:191:LYS:HE3	8:F:191:LYS:HB2	1.85	0.42
14:M:16:LYS:HD2	14:M:72:ARG:NH1	2.34	0.42
17:P:123:GLN:HA	17:P:128:LYS:HA	2.01	0.42
23:W:52:ASN:O	23:W:52:ASN:ND2	2.53	0.42
27:a:36:SER:OG	27:a:39:LEU:HG	2.20	0.42
28:b:12:VAL:HG12	28:b:22:LYS:HA	2.02	0.42
28:b:122:HIS:HB2	28:b:131:PHE:CE1	2.55	0.42
31:e:102:THR:OG1	31:e:103:THR:N	2.52	0.42
32:f:83:GLU:OE1	32:f:83:GLU:O	2.38	0.42
33:g:38:ILE:O	33:g:44:ARG:NH2	2.53	0.42
33:g:97:ALA:O	33:g:105:ARG:NH2	2.52	0.42
47:x:284:LEU:HD23	47:x:285:PHE:CD1	2.55	0.42
47:x:342:LEU:HD23	47:x:342:LEU:HA	1.91	0.42
47:x:388:THR:HA	47:x:395:TYR:CE2	2.54	0.42
47:x:751:ARG:HA	47:x:751:ARG:HD2	1.73	0.42
49:SE:83:MET:HB2	49:SE:83:MET:HE3	1.98	0.42
50:SA:21:LEU:HD21	50:SA:77:PHE:CE1	2.55	0.42
50:SA:207:THR:OG1	50:SA:208:ILE:N	2.52	0.42
54:SG:34:LEU:HD12	54:SG:37:GLU:HB2	2.01	0.42
60:SD:73:LYS:HA	60:SD:76:GLU:OE1	2.18	0.42
63:SP:154:GLU:HA	73:Sa:63:GLY:HA3	2.01	0.42
64:SQ:146:GLN:O	64:SQ:149:GLN:HB2	2.19	0.42
70:SW:71:PHE:CD1	70:SW:71:PHE:C	2.98	0.42
71:SX:86:ILE:HG22	71:SX:107:VAL:O	2.20	0.42
74:Sb:120:HIS:O	74:Sb:120:HIS:CG	2.72	0.42
1:S:145:ASN:C	1:S:150:VAL:HG11	2.45	0.42
2:2:520:A:H2'	2:2:521:A:H8	1.85	0.42
2:2:992:A:H2	2:2:1012:U:H3	1.63	0.42
2:2:1045:C:H2'	2:2:1046:G:C8	2.54	0.42
2:2:1208:A:H4'	2:2:1270:G:P	2.59	0.42
3:A:8:C:H2'	3:A:9:U:C6	2.55	0.42
3:A:153:U:OP2	36:j:103:LYS:HD3	2.20	0.42
3:A:171:G:C2'	3:A:172:G:H5''	2.46	0.42
3:A:266:A:C6	37:k:30:LYS:HE2	2.55	0.42
3:A:876:A:H4'	3:A:1890:U:H4'	2.02	0.42
3:A:1018:G:N1	3:A:1034:U:N3	2.67	0.42
3:A:1201:C:N4	3:A:2857:C:OP1	2.37	0.42
3:A:1493:G:C4	40:n:13:MET:HE1	2.54	0.42
3:A:1554:U:O4	3:A:1582:C:O2'	2.24	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1804:A:H2'	3:A:1805:C:H6	1.84	0.42
3:A:2219:A:H2'	3:A:2220:A:H8	1.85	0.42
3:A:2275:A:H62	3:A:2311:G:H21	1.68	0.42
3:A:2327:U:H2'	3:A:2328:U:C6	2.55	0.42
3:A:2467:G:H1'	3:A:2468:A:C8	2.55	0.42
3:A:2646:C:C4	3:A:2647:A:N6	2.88	0.42
3:A:3121:U:OP2	41:o:111:ARG:NE	2.40	0.42
3:A:3392:U:O2'	19:R:75:GLU:OE2	2.27	0.42
4:B:97:A:O2'	11:I:224:ILE:HD13	2.20	0.42
7:E:89:VAL:HA	7:E:160:VAL:HA	2.02	0.42
8:F:345:GLU:HG3	8:F:347:THR:HG23	2.01	0.42
11:I:228:SER:HA	11:I:232:ARG:HH21	1.85	0.42
12:K:106:LYS:HE2	12:K:111:PHE:CD2	2.55	0.42
13:L:212:GLU:HG3	13:L:213:PHE:CE1	2.55	0.42
17:P:80:THR:HG21	17:P:87:GLN:HA	2.01	0.42
19:R:42:THR:O	19:R:45:GLN:HG3	2.20	0.42
20:T:92:GLN:O	20:T:96:ILE:HG13	2.20	0.42
29:c:77:LYS:H	29:c:77:LYS:HG2	1.71	0.42
33:g:62:LYS:HE3	33:g:62:LYS:HB3	1.79	0.42
34:h:18:ARG:HH11	34:h:18:ARG:HG3	1.85	0.42
38:l:19:CYS:SG	38:l:23:GLY:N	2.75	0.42
46:v:344:VAL:HG11	46:v:361:VAL:HG13	2.00	0.42
46:v:962:VAL:N	46:v:963:TRP:HA	2.35	0.42
47:x:796:MET:HE3	47:x:796:MET:HB3	1.92	0.42
54:SG:84:TYR:CG	54:SG:85:VAL:N	2.86	0.42
57:SH:30:TYR:O	57:SH:33:THR:OG1	2.37	0.42
63:SP:140:ASN:O	63:SP:141:ILE:HD13	2.20	0.42
65:SR:181:SER:OG	65:SR:184:VAL:HG12	2.19	0.42
69:SV:48:THR:OG1	69:SV:52:ASN:O	2.37	0.42
74:Sb:69:LEU:HD23	74:Sb:70:ASN:N	2.35	0.42
81:SO:9:LEU:O	81:SO:10:ARG:HD2	2.19	0.42
81:SO:34:LEU:HD22	81:SO:80:ALA:HA	2.02	0.42
81:SO:112:SER:OG	81:SO:113:VAL:N	2.50	0.42
1:S:166:LEU:HD11	15:N:10:LEU:HG	2.01	0.42
2:2:444:C:H6	76:Sd:105:ARG:HH12	1.68	0.42
2:2:686:C:O2'	74:Sb:118:ARG:HD2	2.19	0.42
2:2:879:G:H2'	2:2:880:C:C6	2.55	0.42
2:2:1608:U:H2'	2:2:1609:U:H6	1.85	0.42
2:2:1652:C:H2'	2:2:1653:C:C6	2.55	0.42
3:A:563:U:H2'	3:A:564:G:C8	2.55	0.42
3:A:725:G:H2'	3:A:726:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:952:A:C2	3:A:1114:U:H4'	2.55	0.42
3:A:1328:C:H2'	3:A:1329:U:C6	2.55	0.42
3:A:1347:U:H5''	8:F:302:ALA:HB1	2.01	0.42
3:A:1837:U:H2'	3:A:1838:G:O4'	2.20	0.42
3:A:3139:A:OP1	7:E:274:SER:OG	2.38	0.42
3:A:3292:A:H2'	3:A:3293:U:C6	2.55	0.42
3:A:3305:A:H2'	3:A:3306:U:C2	2.54	0.42
4:B:43:U:H2'	4:B:44:C:O4'	2.20	0.42
15:N:109:PHE:O	15:N:113:VAL:HG13	2.20	0.42
15:N:123:ILE:HD12	15:N:124:ILE:H	1.85	0.42
21:U:19:VAL:O	21:U:19:VAL:HG13	2.20	0.42
23:W:43:VAL:HG13	23:W:44:GLU:CD	2.45	0.42
31:e:53:LYS:HA	31:e:56:LEU:HG	2.02	0.42
35:i:98:GLN:HA	35:i:98:GLN:OE1	2.20	0.42
36:j:93:THR:OG1	36:j:96:GLU:HB3	2.20	0.42
38:l:46:SER:HB3	38:l:54:LYS:NZ	2.35	0.42
39:m:24:THR:HG23	39:m:76:ASN:HB3	2.01	0.42
46:v:66:ALA:O	46:v:70:VAL:HG23	2.19	0.42
46:v:532:THR:HB	46:v:535:MET:HE3	2.02	0.42
46:v:921:GLU:HA	46:v:949:THR:HG22	2.01	0.42
47:x:336:GLU:O	47:x:340:LEU:HD13	2.19	0.42
62:Se:79:ILE:HA	62:Se:85:ARG:HH22	1.85	0.42
67:ST:106:LEU:HD21	67:ST:109:LEU:HD11	2.01	0.42
72:SY:135:LEU:HD23	72:SY:136:PRO:CD	2.49	0.42
81:SO:167:VAL:HG21	81:SO:183:LEU:HD11	2.01	0.42
81:SO:170:ILE:HD12	81:SO:171:SER:H	1.84	0.42
2:2:123:G:P	66:SS:77:ARG:HH12	2.43	0.41
2:2:126:A:O2'	2:2:264:G:O2'	2.27	0.41
2:2:311:U:H3	2:2:355:G:H1	1.67	0.41
2:2:639:U:OP1	68:SU:112:ARG:NH2	2.53	0.41
2:2:976:G:N2	2:2:1024:U:OP2	2.53	0.41
2:2:1095:U:H4'	74:Sb:19:LYS:NZ	2.35	0.41
2:2:1318:G:H2'	2:2:1319:A:H8	1.85	0.41
3:A:498:A:O2'	3:A:3273:A:N1	2.51	0.41
3:A:629:U:H2'	3:A:630:A:H8	1.82	0.41
3:A:897:U:H2'	3:A:898:U:C6	2.55	0.41
3:A:946:U:H2'	3:A:947:G:C8	2.55	0.41
3:A:1381:A:H2'	3:A:1382:G:H8	1.85	0.41
3:A:1413:G:H2'	3:A:1414:G:C8	2.54	0.41
3:A:1427:U:C5	29:c:4:ARG:HD3	2.55	0.41
3:A:1719:G:H5''	20:T:110:ARG:HH12	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2389:C:H5''	19:R:66:SER:HA	2.02	0.41
3:A:2417:U:H1'	3:A:2966:G:N2	2.32	0.41
5:C:107:G:H2'	5:C:108:C:C6	2.55	0.41
6:D:190:ARG:HE	6:D:190:ARG:HB3	1.65	0.41
7:E:73:VAL:HG11	24:X:90:GLY:HA3	2.02	0.41
8:F:235:LEU:HD12	8:F:235:LEU:HA	1.86	0.41
11:I:188:ILE:HA	11:I:188:ILE:HD13	1.96	0.41
11:I:202:LEU:HD23	11:I:202:LEU:HA	1.80	0.41
12:K:98:PRO:CD	47:x:167:LEU:HD12	2.47	0.41
15:N:55:ARG:NH1	15:N:73:ARG:O	2.53	0.41
17:P:182:ASN:OD1	17:P:182:ASN:N	2.52	0.41
26:Z:94:GLN:N	26:Z:94:GLN:OE1	2.53	0.41
45:s:36:U:H2'	45:s:37:A:H8	1.85	0.41
46:v:598:ASP:HB2	46:v:601:PHE:HB3	2.02	0.41
47:x:74:ALA:O	47:x:437:MET:HE1	2.20	0.41
50:SA:141:LYS:HZ1	50:SA:145:ALA:HA	1.83	0.41
51:SI:55:TYR:N	51:SI:55:TYR:CD1	2.88	0.41
52:SL:45:LYS:NZ	55:SB:145:ASP:O	2.50	0.41
62:Se:82:ARG:HA	62:Se:85:ARG:NH2	2.34	0.41
63:SP:77:SER:HB3	63:SP:86:VAL:HG21	2.01	0.41
63:SP:168:HIS:HA	63:SP:203:PHE:HZ	1.83	0.41
64:SQ:34:ALA:N	64:SQ:41:ARG:O	2.36	0.41
66:SS:18:TRP:NE1	66:SS:41:SER:O	2.46	0.41
66:SS:152:PRO:HD3	67:ST:211:LEU:HD21	2.02	0.41
67:ST:51:LYS:HD2	67:ST:51:LYS:HA	1.92	0.41
71:SX:131:ILE:H	71:SX:131:ILE:HD12	1.85	0.41
75:Sc:31:LYS:HB2	75:Sc:36:THR:OG1	2.20	0.41
79:SJ:108:ILE:C	79:SJ:108:ILE:HD12	2.45	0.41
79:SJ:108:ILE:HD12	79:SJ:108:ILE:O	2.20	0.41
2:2:400:A:P	69:SV:25:ARG:HE	2.44	0.41
2:2:1660:A:H2'	2:2:1661:U:C6	2.55	0.41
2:2:1744:A:H2'	2:2:1745:G:C8	2.55	0.41
3:A:20:A:OP2	36:j:90:ARG:NH1	2.53	0.41
3:A:291:C:OP1	17:P:68:ARG:NE	2.44	0.41
3:A:1334:U:H2'	3:A:1335:C:C6	2.54	0.41
3:A:1725:C:H2'	3:A:1726:C:C6	2.55	0.41
3:A:2429:G:H2'	3:A:2430:A:H8	1.85	0.41
3:A:2457:G:H1	3:A:2485:A:H61	1.68	0.41
3:A:2880:U:H2'	3:A:2881:C:C6	2.55	0.41
3:A:3201:C:H2'	3:A:3202:G:C8	2.55	0.41
3:A:3322:A:H61	3:A:3385:U:H3	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:68:C:H2'	4:B:69:C:C6	2.55	0.41
10:H:133:GLU:O	10:H:136:GLU:HG3	2.20	0.41
12:K:73:SER:HA	12:K:76:ASP:OD2	2.19	0.41
13:L:52:LEU:O	13:L:134:ILE:HA	2.20	0.41
14:M:108:GLU:HA	14:M:123:PHE:O	2.20	0.41
14:M:110:ILE:HA	14:M:114:ILE:HB	2.01	0.41
15:N:9:ILE:HG23	29:c:34:MET:HE1	2.02	0.41
15:N:174:ARG:HB2	37:k:9:ILE:HD13	2.02	0.41
17:P:9:GLU:O	17:P:12:ARG:HB2	2.20	0.41
17:P:22:LEU:HD23	17:P:22:LEU:O	2.20	0.41
19:R:20:SER:HA	19:R:145:HIS:HD2	1.84	0.41
21:U:61:ILE:HD12	21:U:61:ILE:HA	1.81	0.41
22:V:39:ILE:HG13	22:V:102:ARG:HD3	2.02	0.41
24:X:45:ARG:HA	24:X:45:ARG:HD2	1.92	0.41
25:Y:45:ASN:O	25:Y:47:ARG:N	2.51	0.41
29:c:19:LYS:HG3	29:c:25:HIS:ND1	2.35	0.41
34:h:93:THR:HB	34:h:96:ALA:HB3	2.02	0.41
39:m:31:LEU:HD11	39:m:34:ALA:HA	2.02	0.41
46:v:334:ALA:O	46:v:336:ASP:N	2.51	0.41
46:v:340:THR:HB	46:v:365:ALA:HB1	2.02	0.41
46:v:505:THR:O	46:v:539:PRO:HA	2.20	0.41
49:SE:118:GLU:HA	57:SH:122:HIS:HB2	2.02	0.41
51:SI:75:LYS:O	51:SI:78:LYS:HG2	2.20	0.41
54:SG:25:THR:OG1	54:SG:26:LEU:N	2.53	0.41
57:SH:126:ARG:HA	57:SH:129:TRP:HB2	2.02	0.41
59:SN:96:LYS:O	59:SN:97:LYS:C	2.63	0.41
64:SQ:86:LEU:HD13	64:SQ:98:THR:HG21	2.02	0.41
70:SW:3:ARG:NH2	70:SW:4:ALA:O	2.53	0.41
74:Sb:3:ARG:HH12	74:Sb:6:VAL:HA	1.85	0.41
75:Sc:104:LEU:HD13	75:Sc:124:VAL:HG12	2.03	0.41
76:Sd:9:THR:HA	76:Sd:25:VAL:HG12	2.02	0.41
80:J:92:LYS:O	80:J:96:LYS:HG3	2.21	0.41
1:S:152:HIS:ND1	1:S:162:ALA:O	2.53	0.41
2:2:138:A:H2'	2:2:139:C:C6	2.55	0.41
2:2:1625:C:H2'	2:2:1626:U:C6	2.53	0.41
3:A:900:G:H1'	3:A:1589:A:N6	2.34	0.41
3:A:993:G:N3	3:A:2637:A:H2'	2.35	0.41
3:A:1146:C:H2'	3:A:1147:G:C8	2.53	0.41
3:A:1163:A:H2'	3:A:1164:G:H8	1.85	0.41
3:A:1222:G:O2'	3:A:1223:A:OP2	2.36	0.41
3:A:1909:A:H2'	3:A:1910:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2257:C:O2'	3:A:2258:U:OP1	2.35	0.41
3:A:3133:C:H2'	3:A:3134:A:H8	1.85	0.41
4:B:58:C:H2'	4:B:59:U:H6	1.86	0.41
8:F:249:ILE:HD13	8:F:249:ILE:HA	1.85	0.41
8:F:317:PRO:C	8:F:319:LYS:H	2.28	0.41
15:N:136:GLU:HG3	15:N:137:GLN:N	2.36	0.41
17:P:124:ASP:OD1	17:P:124:ASP:C	2.64	0.41
23:W:14:THR:O	23:W:14:THR:OG1	2.31	0.41
24:X:25:CYS:N	24:X:32:ARG:O	2.51	0.41
29:c:19:LYS:HZ3	29:c:25:HIS:CE1	2.38	0.41
34:h:6:ARG:HG3	34:h:8:TYR:CE1	2.56	0.41
34:h:47:LYS:HE2	34:h:102:LEU:HA	2.01	0.41
40:n:41:ARG:HD2	40:n:42:ARG:H	1.85	0.41
46:v:182:LYS:HB3	46:v:185:VAL:HG23	2.01	0.41
46:v:749:LYS:H	46:v:749:LYS:HG2	1.62	0.41
46:v:871:ARG:O	46:v:875:GLU:HG2	2.20	0.41
47:x:300:LEU:O	47:x:305:ILE:HG12	2.21	0.41
50:SA:127:MET:HE2	50:SA:127:MET:HA	2.02	0.41
57:SH:112:ASP:O	57:SH:116:LEU:HD23	2.20	0.41
59:SN:132:LEU:HB3	59:SN:139:LEU:HD12	2.01	0.41
63:SP:59:LEU:O	63:SP:63:ILE:HG12	2.19	0.41
65:SR:127:ALA:HA	65:SR:130:ILE:HG22	2.02	0.41
74:Sb:72:CYS:SG	74:Sb:129:VAL:HG13	2.60	0.41
2:2:143:G:H2'	2:2:144:U:C6	2.55	0.41
2:2:217:A:N1	2:2:844:A:O2'	2.46	0.41
2:2:306:U:H2'	2:2:307:G:C8	2.55	0.41
2:2:472:U:H5''	70:SW:11:THR:HG23	2.02	0.41
2:2:876:G:C2	2:2:944:A:C5	3.08	0.41
2:2:926:A:H2'	2:2:927:C:C6	2.55	0.41
2:2:992:A:OP2	2:2:1011:G:N1	2.50	0.41
2:2:1085:G:N2	2:2:1088:A:OP2	2.43	0.41
2:2:1564:U:H2'	2:2:1565:C:C6	2.56	0.41
3:A:249:U:O2	3:A:250:U:N3	2.53	0.41
3:A:377:A:H1'	3:A:392:G:N2	2.36	0.41
3:A:949:C:H2'	3:A:950:G:O4'	2.20	0.41
3:A:992:A:N6	3:A:993:G:O6	2.53	0.41
3:A:1190:A:N3	3:A:1190:A:H2'	2.35	0.41
3:A:1493:G:C8	40:n:13:MET:HE1	2.55	0.41
3:A:1759:C:H2'	3:A:1760:A:C8	2.54	0.41
3:A:1934:G:N1	3:A:1935:G:N7	2.68	0.41
3:A:2242:A:H5''	6:D:244:GLY:HA3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2655:U:H1'	3:A:2656:A:C2	2.54	0.41
3:A:3393:U:H2'	3:A:3394:U:C6	2.55	0.41
4:B:19:C:H2'	4:B:20:A:C8	2.55	0.41
5:C:41:A:H5'	38:l:67:LEU:HD23	2.03	0.41
7:E:106:TRP:HB2	7:E:133:TYR:HE2	1.85	0.41
8:F:115:HIS:O	8:F:119:ARG:HG3	2.21	0.41
8:F:320:ASN:HB3	8:F:323:VAL:HG12	2.02	0.41
9:G:103:LEU:HD12	9:G:247:ILE:HD11	2.02	0.41
13:L:60:LEU:O	13:L:127:ALA:N	2.46	0.41
17:P:78:GLY:HA2	17:P:89:VAL:HG21	2.02	0.41
22:V:68:THR:HG22	22:V:69:LYS:H	1.85	0.41
29:c:79:TRP:HE1	29:c:118:ILE:HG23	1.84	0.41
29:c:105:LEU:HD13	29:c:148:ILE:HD11	2.03	0.41
31:e:50:VAL:O	31:e:51:LEU:C	2.62	0.41
33:g:117:ILE:HD13	33:g:117:ILE:HA	1.89	0.41
39:m:11:PHE:O	39:m:15:THR:HG23	2.20	0.41
44:r:84:ARG:HH22	44:r:85:ARG:HG2	1.85	0.41
46:v:572:HIS:CD2	46:v:949:THR:HB	2.55	0.41
46:v:758:ARG:HD2	46:v:764:ASP:HB3	2.02	0.41
47:x:744:TYR:O	47:x:744:TYR:CD1	2.73	0.41
54:SG:29:GLN:HA	54:SG:32:LYS:HD2	2.02	0.41
58:SK:95:HIS:CG	58:SK:96:SER:H	2.38	0.41
68:SU:142:TYR:CE1	68:SU:148:LYS:HG3	2.55	0.41
80:J:192:GLN:HG2	80:J:193:LYS:H	1.86	0.41
81:SO:39:ASP:OD2	81:SO:43:ILE:HD11	2.20	0.41
81:SO:295:SER:H	81:SO:301:LEU:HD13	1.85	0.41
2:2:1241:G:H3'	2:2:1242:A:H8	1.85	0.41
2:2:1334:U:H2'	2:2:1335:U:H6	1.86	0.41
2:2:1382:A:O2'	2:2:1383:G:H8	2.03	0.41
2:2:1477:G:H5'	51:SI:45:MET:HB3	2.01	0.41
2:2:1482:C:O2'	56:SF:72:GLY:O	2.35	0.41
2:2:1615:C:OP2	52:SL:47:PRO:HG3	2.21	0.41
2:2:1760:G:H1'	2:2:1781:A:C2	2.55	0.41
3:A:632:G:H21	34:h:23:ASN:ND2	2.18	0.41
3:A:1194:G:H2'	3:A:1195:A:C8	2.55	0.41
3:A:1298:C:HO2'	41:o:113:ARG:HH22	1.62	0.41
3:A:1335:C:H2'	3:A:1336:U:C6	2.55	0.41
3:A:1737:U:H2'	3:A:1738:C:C6	2.55	0.41
3:A:2392:C:H2'	3:A:2393:G:C4	2.56	0.41
3:A:2459:A:N6	3:A:2477:G:OP1	2.53	0.41
3:A:2553:U:O3'	35:i:91:ARG:NH1	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:12:GLY:HA3	7:E:233:TRP:HE3	1.86	0.41
7:E:370:PHE:CD2	7:E:376:LYS:HG3	2.56	0.41
9:G:260:PHE:HB3	9:G:264:GLN:NE2	2.35	0.41
11:I:50:ALA:O	11:I:54:GLU:HG2	2.20	0.41
11:I:83:LEU:HD12	11:I:83:LEU:HA	1.88	0.41
11:I:89:ILE:HG22	11:I:134:VAL:HA	2.02	0.41
14:M:87:LYS:HD2	14:M:87:LYS:HA	1.80	0.41
14:M:137:ARG:HA	14:M:140:ARG:HB2	2.01	0.41
38:l:76:ASN:ND2	38:l:79:GLN:HE21	2.17	0.41
40:n:35:ILE:HD13	40:n:35:ILE:HA	1.91	0.41
43:q:4:VAL:HA	43:q:5:PRO:HD3	1.93	0.41
46:v:151:ALA:O	46:v:155:MET:HG2	2.21	0.41
46:v:245:ILE:HD12	46:v:246:MET:N	2.34	0.41
47:x:275:MET:HE1	47:x:276:PHE:CD2	2.55	0.41
47:x:320:LEU:O	47:x:324:MET:SD	2.78	0.41
47:x:381:TYR:CD2	47:x:468:THR:HB	2.55	0.41
47:x:472:SER:HB3	47:x:475:ALA:HB2	2.01	0.41
49:SE:83:MET:HB3	49:SE:116:LEU:HD11	2.03	0.41
54:SG:80:ARG:HB2	54:SG:81:LYS:H	1.64	0.41
54:SG:84:TYR:O	54:SG:86:PRO:HD3	2.21	0.41
57:SH:18:LEU:HD21	57:SH:70:VAL:HB	2.03	0.41
57:SH:125:ILE:HG12	57:SH:125:ILE:H	1.69	0.41
58:SK:49:ARG:HA	58:SK:52:LYS:HG2	2.02	0.41
63:SP:155:PHE:CE1	73:Sa:61:SER:HA	2.55	0.41
67:ST:161:GLU:OE2	67:ST:168:THR:OG1	2.34	0.41
68:SU:91:ILE:HG12	68:SU:129:LEU:HD12	2.01	0.41
80:J:150:LEU:HD12	80:J:151:VAL:N	2.35	0.41
81:SO:50:ASP:OD1	81:SO:51:ASP:N	2.50	0.41
81:SO:156:VAL:HG22	81:SO:169:ILE:HD12	2.01	0.41
2:2:301:A:H2'	2:2:302:U:C6	2.56	0.41
2:2:762:A:H2'	2:2:763:G:C8	2.55	0.41
2:2:1177:C:H4'	2:2:1189:A:H61	1.85	0.41
2:2:1352:G:H2'	2:2:1353:U:C6	2.55	0.41
2:2:1430:U:O2'	2:2:1431:C:OP1	2.29	0.41
2:2:1443:U:H4'	2:2:1446:A:H1'	2.03	0.41
2:2:1611:A:H2'	2:2:1612:U:C6	2.55	0.41
3:A:507:U:H2'	3:A:508:U:C6	2.56	0.41
3:A:546:C:C5	3:A:547:G:H1'	2.55	0.41
3:A:612:U:H2'	3:A:613:G:C8	2.55	0.41
3:A:628:A:H2'	3:A:629:U:C6	2.55	0.41
3:A:790:U:H2'	3:A:791:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2746:A:N6	9:G:153:THR:HB	2.36	0.41
3:A:2877:G:H2'	3:A:2878:G:H8	1.85	0.41
6:D:33:ASP:O	6:D:37:ARG:NE	2.54	0.41
14:M:167:TYR:O	14:M:167:TYR:CD1	2.74	0.41
16:O:127:LYS:HG3	18:Q:194[A]:LEU:HD22	2.03	0.41
17:P:35:VAL:HG12	17:P:65:ARG:CZ	2.50	0.41
20:T:11:ALA:HA	20:T:14:VAL:HG12	2.03	0.41
21:U:92:LYS:NZ	21:U:109:ASP:OD2	2.40	0.41
22:V:78:LYS:HD3	22:V:87:LYS:HE3	2.03	0.41
31:e:98:SER:OG	31:e:99:ASP:N	2.52	0.41
33:g:97:ALA:HB3	33:g:100:ILE:HD11	2.01	0.41
37:k:13:LYS:HE3	37:k:13:LYS:HB3	1.81	0.41
38:l:34:CYS:SG	38:l:37:CYS:N	2.73	0.41
44:r:24:ARG:C	44:r:28:LYS:HZ2	2.28	0.41
45:s:39:C:H2'	45:s:40:C:C6	2.55	0.41
46:v:242:THR:O	46:v:245:ILE:HG13	2.21	0.41
46:v:574:ASP:O	46:v:578:VAL:HG13	2.21	0.41
46:v:868:PRO:HB2	46:v:871:ARG:HD2	2.03	0.41
47:x:346:VAL:HG11	47:x:372:CYS:HB3	2.02	0.41
47:x:397:PHE:CE1	47:x:453:ILE:HD12	2.56	0.41
55:SB:119:ASP:OD2	58:SK:93:SER:OG	2.37	0.41
60:SD:49:THR:O	60:SD:53:THR:HG23	2.21	0.41
64:SQ:27:LYS:HG2	64:SQ:49:ASN:HA	2.03	0.41
70:SW:44:ARG:O	70:SW:48:GLN:HG2	2.19	0.41
71:SX:29:LYS:HA	71:SX:29:LYS:HD3	1.71	0.41
71:SX:96:LYS:HG3	71:SX:97:TYR:CD1	2.50	0.41
73:Sa:23:ILE:HD12	73:Sa:23:ILE:HA	1.81	0.41
73:Sa:58:TYR:OH	74:Sb:20:THR:HA	2.21	0.41
73:Sa:68:SER:HA	73:Sa:71:ARG:CZ	2.50	0.41
76:Sd:117:LYS:HE3	76:Sd:117:LYS:HB2	1.83	0.41
81:SO:131:ILE:HD12	81:SO:144:LEU:CB	2.41	0.41
81:SO:179:LYS:HD3	81:SO:179:LYS:HA	1.69	0.41
1:S:92:ARG:HG2	29:c:76:ASP:HB2	2.02	0.41
2:2:809:A:H2'	2:2:810:G:C8	2.55	0.41
2:2:1383:G:OP2	79:SJ:87:HIS:ND1	2.52	0.41
2:2:1425:A:H2'	2:2:1426:C:C6	2.55	0.41
2:2:1680:G:N2	2:2:1720:G:H2'	2.36	0.41
3:A:342:A:H5'	3:A:344:A:N7	2.36	0.41
3:A:795:G:H2'	3:A:796:U:C6	2.56	0.41
3:A:1176:C:H2'	3:A:1177:G:C2	2.56	0.41
3:A:1388:U:H5	8:F:186:LYS:HE2	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:1596:C:H2'	3:A:1597:C:H6	1.85	0.41
3:A:2286:U:O4'	3:A:2288:G:H5'	2.20	0.41
3:A:2555:G:O2'	28:b:136:PHE:O	2.35	0.41
5:C:135:G:H5''	26:Z:49:LYS:HD3	2.02	0.41
6:D:72:ARG:HH11	6:D:72:ARG:HG2	1.85	0.41
8:F:216:VAL:HG22	8:F:227:THR:HG21	2.01	0.41
9:G:221:GLU:HG2	9:G:222:LEU:HD12	2.00	0.41
10:H:31:ARG:HD2	10:H:34:LEU:HD23	2.03	0.41
10:H:158:TYR:OH	16:O:114:ASP:OD2	2.25	0.41
12:K:39:LYS:HD3	12:K:39:LYS:HA	1.90	0.41
14:M:106:ILE:HD12	14:M:107:ASP:H	1.86	0.41
16:O:43:LYS:NZ	16:O:57:ALA:O	2.37	0.41
17:P:65:ARG:HB2	17:P:129:TYR:CD2	2.55	0.41
26:Z:115:ARG:HH12	26:Z:121:LYS:HD3	1.86	0.41
28:b:121:ARG:O	28:b:121:ARG:NH1	2.54	0.41
47:x:58:ASP:OD1	47:x:58:ASP:N	2.54	0.41
47:x:619:MET:HE1	47:x:625:TRP:CG	2.56	0.41
57:SH:41:ARG:O	57:SH:45:LEU:HD13	2.21	0.41
61:SZ:16:VAL:O	61:SZ:31:THR:N	2.47	0.41
63:SP:67:ILE:HD12	63:SP:67:ILE:HA	1.98	0.41
64:SQ:114:VAL:O	64:SQ:115:ARG:HD3	2.21	0.41
66:SS:139:VAL:HG13	66:SS:150:PRO:HG3	2.02	0.41
67:ST:116:LYS:HA	67:ST:116:LYS:HD2	1.90	0.41
72:SY:102:LEU:HD12	72:SY:115:LEU:HD23	2.03	0.41
75:Sc:23:ARG:HA	75:Sc:26:GLU:OE1	2.21	0.41
76:Sd:15:ASN:OD1	76:Sd:15:ASN:N	2.53	0.41
80:J:78:PHE:O	80:J:79:GLN:HG3	2.21	0.41
2:2:57:G:C6	2:2:91:G:N1	2.89	0.41
2:2:1234:A:OP2	2:2:1245:G:H2'	2.20	0.41
2:2:1310:U:H2'	2:2:1311:U:C6	2.56	0.41
3:A:103:G:H2'	3:A:104:G:H8	1.85	0.41
3:A:118:U:O4	3:A:148:G:N2	2.48	0.41
3:A:138:U:H2'	3:A:139:G:C8	2.56	0.41
3:A:1138:U:O3'	11:I:97:PRO:HD3	2.21	0.41
3:A:1176:C:H2'	3:A:1177:G:N2	2.36	0.41
3:A:1203:A:H2'	3:A:1204:A:C8	2.55	0.41
3:A:1615:C:H2'	3:A:1616:U:H6	1.84	0.41
3:A:1793:C:N4	6:D:177:LYS:O	2.46	0.41
3:A:1927:G:N7	44:r:16:VAL:HG13	2.36	0.41
3:A:2092:A:H2'	3:A:2093:A:H4'	2.01	0.41
3:A:2330:C:C2	3:A:2331:C:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2930:A:H2'	3:A:2931:C:H6	1.83	0.41
3:A:3121:U:H4'	3:A:3122:A:OP1	2.21	0.41
3:A:3132:C:H2'	3:A:3133:C:C6	2.55	0.41
3:A:3345:G:H2'	3:A:3346:U:C6	2.56	0.41
4:B:90:U:H2'	4:B:91:G:O4'	2.21	0.41
6:D:104:LEU:HB2	6:D:146:THR:HG21	2.02	0.41
7:E:332:ARG:O	7:E:333:LYS:HG2	2.20	0.41
8:F:119:ARG:HH11	8:F:274:TYR:HD2	1.67	0.41
8:F:338:LYS:HD2	8:F:338:LYS:HA	1.94	0.41
9:G:100:ALA:O	9:G:104:LEU:HG	2.21	0.41
9:G:241:THR:O	9:G:245:GLU:HG2	2.20	0.41
18:Q:9[A]:ILE:HD12	18:Q:19[A]:LEU:HD11	2.03	0.41
18:Q:85[A]:ARG:HG2	18:Q:90[A]:HIS:CD2	2.56	0.41
29:c:19:LYS:HD3	29:c:19:LYS:HA	1.68	0.41
29:c:87:ARG:HE	29:c:87:ARG:HB2	1.71	0.41
32:f:51:LEU:HD12	32:f:51:LEU:HA	1.83	0.41
42:p:13:LEU:HD21	42:p:17:ARG:NH1	2.36	0.41
46:v:540:ILE:HG22	46:v:548:LYS:HE2	2.03	0.41
46:v:867:ARG:HD3	46:v:874:ILE:HA	2.03	0.41
47:x:284:LEU:HD23	47:x:285:PHE:HD1	1.86	0.41
47:x:440:ARG:HA	47:x:440:ARG:HD3	1.71	0.41
47:x:485:VAL:HG13	47:x:794:PRO:HD2	2.02	0.41
49:SE:40:ARG:HD2	49:SE:40:ARG:HA	1.79	0.41
50:SA:172:THR:C	50:SA:173:ARG:HD2	2.46	0.41
50:SA:217:ILE:HG12	81:SO:193:ILE:HD12	2.02	0.41
53:SM:53:ASN:HB3	53:SM:55:PHE:CE1	2.55	0.41
54:SG:71:PHE:CE1	54:SG:73:LEU:HB3	2.56	0.41
56:SF:47:LYS:HE3	56:SF:82:ARG:NH1	2.35	0.41
62:Se:35:ALA:O	62:Se:37:LYS:HD2	2.21	0.41
64:SQ:115:ARG:H	64:SQ:118:GLN:NE2	2.19	0.41
71:SX:70:ILE:N	71:SX:70:ILE:HD12	2.35	0.41
75:Sc:61:SER:OG	75:Sc:62:LYS:N	2.53	0.41
81:SO:3:SER:OG	81:SO:4:ASN:N	2.44	0.41
1:S:141:ARG:HH12	3:A:976:U:H5''	1.85	0.41
2:2:381:C:O2'	2:2:755:A:N1	2.54	0.41
2:2:435:C:H5''	75:Sc:50:LYS:HZ1	1.86	0.41
2:2:851:U:H1'	2:2:852:C:H5	1.86	0.41
2:2:1000:C:H2'	2:2:1002:G:OP2	2.20	0.41
2:2:1074:G:H2'	2:2:1075:C:C6	2.55	0.41
2:2:1103:U:H2'	2:2:1104:U:H6	1.85	0.41
2:2:1192:C:H4'	56:SF:140:LYS:HE3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1552:U:O2'	2:2:1597:A:N3	2.49	0.41
2:2:1592:A:H2'	2:2:1593:A:H8	1.86	0.41
2:2:1606:C:C2	2:2:1607:G:C8	3.09	0.41
2:2:1780:G:H2'	2:2:1781:A:O4'	2.21	0.41
3:A:8:C:H2'	3:A:9:U:H6	1.86	0.41
3:A:81:C:H2'	3:A:82:C:C6	2.56	0.41
3:A:88:A:C2	3:A:89:A:H1'	2.56	0.41
3:A:105:C:H2'	3:A:106:A:C8	2.56	0.41
3:A:159:A:H2'	3:A:160:G:H8	1.86	0.41
3:A:224:C:H2'	3:A:225:C:C6	2.56	0.41
3:A:432:G:H1	3:A:627:U:H3	1.69	0.41
3:A:588:G:N2	3:A:611:A:O5'	2.50	0.41
3:A:800:G:N2	3:A:801:A:N1	2.69	0.41
3:A:952:A:H2	3:A:1114:U:H4'	1.86	0.41
3:A:1289:G:H2'	3:A:1290:A:H8	1.86	0.41
3:A:1596:C:H2'	3:A:1597:C:C6	2.56	0.41
3:A:1667:A:H2'	3:A:1668:G:C8	2.56	0.41
3:A:2178:A:H5''	6:D:132:ASN:HD22	1.86	0.41
3:A:2482:U:H3	3:A:2486:A:N6	2.18	0.41
3:A:2677:G:O6	3:A:2680:A:N1	2.54	0.41
3:A:2709:C:C2	3:A:2710:C:C5	3.08	0.41
3:A:2866:U:O2	3:A:2867:C:N4	2.54	0.41
3:A:3039:C:H2'	3:A:3040:A:C8	2.56	0.41
3:A:3139:A:H2'	3:A:3140:G:O4'	2.21	0.41
3:A:3226:A:N1	3:A:3260:G:C2	2.88	0.41
4:B:19:C:H2'	4:B:20:A:H8	1.86	0.41
5:C:26:U:H2'	5:C:27:U:C6	2.56	0.41
5:C:40:A:H2'	5:C:41:A:C8	2.54	0.41
6:D:40:TYR:HA	6:D:91:GLY:HA3	2.03	0.41
6:D:43:GLY:C	6:D:44:ILE:HD13	2.45	0.41
6:D:224:THR:HG22	6:D:237:LEU:HD12	2.03	0.41
7:E:53:MET:HB3	7:E:77:THR:HG22	2.03	0.41
13:L:169:LYS:HD2	13:L:169:LYS:HA	1.89	0.41
14:M:90:GLN:CD	14:M:172:LEU:HB2	2.46	0.41
15:N:4:SER:HB3	15:N:5:LYS:NZ	2.35	0.41
15:N:51:LEU:HD22	15:N:51:LEU:H	1.85	0.41
17:P:18:VAL:HG11	80:J:74:THR:HB	2.03	0.41
19:R:45:GLN:O	19:R:49:GLU:HG3	2.21	0.41
21:U:47:LYS:HE2	21:U:47:LYS:HB2	1.78	0.41
21:U:77:VAL:HG21	21:U:106:LEU:HD22	2.02	0.41
21:U:136:LYS:H	21:U:136:LYS:HG2	1.71	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:22:VAL:HB	25:Y:23:ARG:H	1.79	0.41
25:Y:52:THR:HG22	25:Y:54:LEU:H	1.86	0.41
28:b:68:ILE:O	28:b:115:LYS:HE2	2.21	0.41
29:c:118:ILE:N	29:c:118:ILE:HD13	2.35	0.41
32:f:26:LYS:HA	32:f:26:LYS:HD2	1.84	0.41
33:g:26:HIS:O	33:g:26:HIS:ND1	2.46	0.41
33:g:71:HIS:HB3	33:g:93:ALA:HB2	2.03	0.41
36:j:79:ASP:O	36:j:80:LEU:HD22	2.21	0.41
44:r:25:GLN:OE1	44:r:25:GLN:C	2.64	0.41
45:t:35:A:H2'	45:t:36:U:C6	2.56	0.41
45:t:71:C:H2'	45:t:72:U:C6	2.56	0.41
46:v:233:THR:HG23	46:v:443:ILE:HD11	2.03	0.41
46:v:625:THR:OG1	46:v:626:GLU:OE1	2.39	0.41
46:v:699:ILE:HB	46:v:977:TRP:CE3	2.55	0.41
46:v:739:ALA:O	46:v:743:ILE:HG12	2.20	0.41
46:v:920:ASP:HA	46:v:948:ILE:HG22	2.03	0.41
47:x:157:ILE:H	47:x:157:ILE:HD12	1.84	0.41
47:x:402:ALA:HA	47:x:450:ALA:HB1	2.03	0.41
47:x:564:ARG:NH1	47:x:679:GLU:OE1	2.49	0.41
47:x:616:ALA:HA	47:x:619:MET:SD	2.60	0.41
49:SE:111:MET:HG2	49:SE:111:MET:O	2.21	0.41
51:SI:62:ALA:HA	51:SI:65:ILE:HG22	2.02	0.41
54:SG:6:THR:HG23	54:SG:8:THR:H	1.86	0.41
56:SF:78:VAL:HG12	56:SF:82:ARG:NH2	2.36	0.41
57:SH:81:ILE:HD11	57:SH:85:PHE:HD1	1.86	0.41
57:SH:94:ASP:O	57:SH:96:LYS:NZ	2.54	0.41
60:SD:54:ARG:HG3	60:SD:56:GLU:H	1.85	0.41
63:SP:206:ASP:OD1	63:SP:207:PRO:HD3	2.21	0.41
64:SQ:156:ALA:HA	64:SQ:205:PHE:HZ	1.86	0.41
64:SQ:197:ILE:HG21	64:SQ:210:ILE:HG21	2.03	0.41
65:SR:137:ILE:CD1	65:SR:138:PRO:HD2	2.50	0.41
65:SR:148:LEU:HD12	65:SR:148:LEU:HA	1.94	0.41
67:ST:159:ARG:HB3	67:ST:170:THR:HB	2.03	0.41
68:SU:56:LYS:HB2	68:SU:88:ARG:HD3	2.03	0.41
70:SW:32:GLY:HA3	78:Sg:40:TYR:HD2	1.86	0.41
70:SW:100:LYS:HZ3	70:SW:102:GLU:HB2	1.85	0.41
72:SY:122:ILE:HG12	72:SY:122:ILE:H	1.70	0.41
74:Sb:60:LYS:C	74:Sb:61:ILE:HD13	2.45	0.41
75:Sc:74:VAL:HG21	75:Sc:104:LEU:HD21	2.03	0.41
78:Sg:55:ARG:HE	78:Sg:56:MET:H	1.69	0.41
80:J:192:GLN:HG2	80:J:193:LYS:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:SO:39:ASP:N	81:SO:39:ASP:OD1	2.54	0.41
81:SO:85:TRP:HA	81:SO:109:ASP:CB	2.48	0.41
81:SO:104:VAL:O	81:SO:104:VAL:HG23	2.21	0.41
81:SO:155:ARG:N	81:SO:169:ILE:HD11	2.36	0.41
81:SO:187:GLN:OE1	81:SO:187:GLN:N	2.53	0.41
81:SO:201:THR:OG1	81:SO:202:LEU:N	2.45	0.41
81:SO:221:MET:O	81:SO:222:LEU:HD12	2.20	0.41
2:2:56:U:OP1	2:2:403:G:N1	2.46	0.41
2:2:119:A:H2'	2:2:120:U:O4'	2.21	0.41
2:2:392:G:OP1	2:2:1729:C:O2'	2.39	0.41
2:2:602:U:C2	2:2:603:U:C5	3.09	0.41
2:2:859:A:C5	72:SY:73:ARG:HD3	2.56	0.41
2:2:918:U:H2'	2:2:919:A:H8	1.86	0.41
2:2:959:U:O2	77:Sf:30:SER:OG	2.39	0.41
2:2:1141:G:H2'	2:2:1142:A:H8	1.86	0.41
2:2:1296:A:H2'	2:2:1297:G:C8	2.56	0.41
2:2:1649:G:H2'	2:2:1650:U:H6	1.86	0.41
2:2:1660:A:H2'	2:2:1661:U:H6	1.85	0.41
3:A:179:C:N3	3:A:238:A:N6	2.69	0.41
3:A:361:A:P	38:l:24:ARG:HH22	2.44	0.41
3:A:659:G:N2	3:A:1435:A:N6	2.69	0.41
3:A:2111:G:H5''	25:Y:48:ARG:NH1	2.36	0.41
3:A:2351:U:H2'	3:A:2352:A:C8	2.56	0.41
3:A:2684:C:H2'	3:A:2685:C:C6	2.56	0.41
3:A:3023:U:C2	3:A:3032:A:N7	2.89	0.41
3:A:3137:C:H2'	3:A:3138:U:C6	2.56	0.41
3:A:3159:C:H4'	3:A:3395:G:C5	2.56	0.41
3:A:3170:A:H2	3:A:3281:U:N3	2.19	0.41
3:A:3372:A:H2'	3:A:3373:U:C6	2.56	0.41
5:C:4:C:H2'	5:C:5:U:C6	2.55	0.41
8:F:170:LYS:HB3	8:F:170:LYS:HE3	1.82	0.41
11:I:53:LYS:HD2	11:I:53:LYS:HA	1.93	0.41
13:L:130:ASP:OD1	13:L:131:ILE:N	2.51	0.41
13:L:153:ARG:NH1	13:L:157:TYR:OH	2.53	0.41
13:L:205:SER:OG	13:L:208:ASN:OD1	2.35	0.41
14:M:7:ASN:O	14:M:10:ARG:HB3	2.21	0.41
14:M:108:GLU:OE2	14:M:110:ILE:HG12	2.21	0.41
18:Q:84[A]:LEU:O	18:Q:88[A]:VAL:HG12	2.21	0.41
23:W:54:VAL:HG22	23:W:67:SER:HB2	2.02	0.41
44:r:39:CYS:HB2	44:r:60:CYS:SG	2.61	0.41
45:t:15:G:N2	45:t:59:A:C5	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:v:136:ILE:HB	46:v:148:ILE:HD13	2.02	0.41
46:v:211:SER:HA	46:v:214:GLN:HE21	1.85	0.41
50:SA:136:VAL:HG12	50:SA:186:VAL:HG13	2.03	0.41
55:SB:105:GLY:C	55:SB:106:LYS:HD3	2.46	0.41
56:SF:97:VAL:HG22	56:SF:98:ASP:H	1.86	0.41
58:SK:46:LYS:HG3	58:SK:49:ARG:HE	1.86	0.41
62:Se:13:LYS:NZ	62:Se:15:ARG:HB2	2.36	0.41
63:SP:74:VAL:O	63:SP:121:VAL:HA	2.21	0.41
63:SP:195:TRP:NE1	63:SP:197:ILE:HB	2.36	0.41
64:SQ:85:LYS:HG2	64:SQ:102:GLY:O	2.21	0.41
66:SS:127:LYS:HD2	66:SS:127:LYS:HA	1.84	0.41
67:ST:7:TYR:O	67:ST:11:GLY:N	2.53	0.41
68:SU:76:LYS:HA	68:SU:76:LYS:HD2	1.93	0.41
74:Sb:112:ASP:OD1	74:Sb:112:ASP:C	2.63	0.41
75:Sc:126:LYS:HA	75:Sc:131:SER:HA	2.02	0.41
78:Sg:13:LYS:O	78:Sg:17:GLN:HG2	2.19	0.41
80:J:210:ALA:O	80:J:213:LYS:HG2	2.21	0.41
81:SO:144:LEU:HD13	81:SO:181:TRP:HD1	1.82	0.41
2:2:149:C:OP2	76:Sd:124:ARG:NH2	2.54	0.40
2:2:416:A:C2	47:x:46:ILE:HD13	2.56	0.40
2:2:647:G:N2	2:2:687:G:H1	2.19	0.40
2:2:842:C:H2'	2:2:843:U:O4'	2.21	0.40
2:2:956:C:H2'	2:2:957:G:C8	2.55	0.40
2:2:1176:G:H2'	2:2:1177:C:C6	2.56	0.40
2:2:1388:A:C6	2:2:1411:A:N7	2.90	0.40
2:2:1586:A:H5''	56:SF:136:SER:HB3	2.03	0.40
3:A:74:G:O2'	15:N:61:PRO:HA	2.21	0.40
3:A:656:A:H2'	3:A:657:A:C8	2.56	0.40
3:A:1229:G:H2'	3:A:1230:G:H8	1.86	0.40
3:A:1576:G:H2'	3:A:1577:G:H8	1.84	0.40
3:A:1597:C:H5'	3:A:1696:A:H1'	2.02	0.40
3:A:1609:C:H5''	26:Z:125:ARG:NH2	2.36	0.40
3:A:1677:G:H5'	23:W:97:SER:HB3	2.03	0.40
3:A:2133:U:O4	3:A:2147:A:H2	2.04	0.40
3:A:2357:A:H2'	3:A:2358:A:C8	2.53	0.40
3:A:3159:C:H2'	3:A:3160:U:C6	2.56	0.40
3:A:3321:C:H2'	3:A:3322:A:C8	2.54	0.40
4:B:70:U:H2'	4:B:71:G:C8	2.56	0.40
10:H:8:LYS:HE3	10:H:9:TRP:HB2	2.03	0.40
11:I:176:TYR:CE2	11:I:197:GLN:HG3	2.56	0.40
14:M:12:LEU:HD13	14:M:131:MET:SD	2.61	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:11:ASN:OD1	16:O:11:ASN:N	2.52	0.40
16:O:132:LYS:HA	16:O:132:LYS:HD3	1.87	0.40
17:P:204:LYS:HE3	17:P:204:LYS:HB3	1.96	0.40
19:R:48:LEU:HD13	19:R:92:GLN:HG3	2.03	0.40
29:c:19:LYS:HZ2	29:c:25:HIS:CE1	2.38	0.40
45:t:43:G:C4	45:t:44:A:C8	3.09	0.40
46:v:171:ILE:CD1	46:v:245:ILE:HG22	2.51	0.40
46:v:371:LEU:HD13	46:v:382:TRP:CD2	2.55	0.40
47:x:285:PHE:CD1	47:x:285:PHE:N	2.86	0.40
47:x:529:ILE:H	47:x:529:ILE:HG12	1.71	0.40
51:SI:34:VAL:HG22	51:SI:35:ASP:OD2	2.20	0.40
56:SF:41:PRO:O	56:SF:43:ILE:HD12	2.20	0.40
59:SN:141:CYS:SG	59:SN:143:LYS:HE2	2.61	0.40
64:SQ:87:ARG:HB2	64:SQ:101:HIS:ND1	2.36	0.40
64:SQ:97:LEU:HD12	64:SQ:232:HIS:ND1	2.35	0.40
64:SQ:104:ASP:HA	64:SQ:214:LYS:HG2	2.03	0.40
65:SR:120:GLU:CD	65:SR:123:GLY:H	2.29	0.40
66:SS:47:PHE:O	66:SS:51:ARG:HB2	2.21	0.40
74:Sb:23:ARG:HG3	77:Sf:4:VAL:CG2	2.51	0.40
80:J:192:GLN:HE21	80:J:192:GLN:HB3	1.73	0.40
81:SO:26:SER:OG	81:SO:32:LEU:HD13	2.21	0.40
81:SO:50:ASP:O	81:SO:54:PHE:HE1	2.04	0.40
81:SO:82:SER:OG	81:SO:90:ARG:O	2.35	0.40
81:SO:261:LYS:HG2	81:SO:262:VAL:N	2.37	0.40
2:2:164:A:N6	2:2:165:G:O6	2.54	0.40
2:2:285:G:H2'	2:2:286:C:C6	2.56	0.40
2:2:311:U:P	75:Sc:24:TRP:HE1	2.44	0.40
2:2:466:U:H2'	2:2:467:G:O4'	2.22	0.40
2:2:482:U:H2'	2:2:483:A:C8	2.55	0.40
2:2:629:U:C2	2:2:630:A:C8	3.09	0.40
2:2:1050:G:H2'	2:2:1051:G:C8	2.57	0.40
2:2:1304:G:H3'	2:2:1305:U:C6	2.56	0.40
2:2:1322:A:H2'	2:2:1323:C:H6	1.86	0.40
2:2:1567:U:H4'	57:SH:36:LYS:HZ1	1.86	0.40
2:2:1727:G:C2	2:2:1728:A:C5	3.08	0.40
3:A:970:A:OP1	30:d:18:ARG:HD2	2.21	0.40
3:A:1035:G:H2'	3:A:1036:A:C8	2.50	0.40
3:A:1238:C:H2'	3:A:1239:C:H6	1.86	0.40
3:A:1928:G:N2	3:A:2320:A:O2'	2.53	0.40
3:A:2468:A:N3	3:A:2477:G:N2	2.69	0.40
3:A:2700:G:H2'	3:A:2701:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:2883:U:H2'	3:A:2884:C:C6	2.56	0.40
3:A:3126:C:H2'	3:A:3127:A:C8	2.56	0.40
4:B:116:C:H2'	4:B:117:A:C8	2.57	0.40
8:F:233:LEU:HD22	8:F:238:LEU:HD11	2.02	0.40
15:N:120:GLN:HA	15:N:123:ILE:HG22	2.03	0.40
17:P:16:SER:N	17:P:19:LEU:HB2	2.35	0.40
24:X:26:ALA:O	24:X:115:THR:N	2.54	0.40
28:b:34:LYS:HB2	28:b:34:LYS:HE2	1.83	0.40
32:f:40:ALA:O	32:f:44:MET:HB2	2.22	0.40
45:t:6:C:O2'	45:t:7:G:H5'	2.21	0.40
46:v:129:LEU:O	46:v:133:THR:HG22	2.21	0.40
47:x:113:SER:OG	47:x:517:CYS:SG	2.72	0.40
47:x:143:LEU:HD12	47:x:147:LEU:HD11	2.03	0.40
47:x:296:ILE:O	47:x:300:LEU:HG	2.22	0.40
47:x:641:ASN:OD1	47:x:641:ASN:N	2.54	0.40
48:SC:21:VAL:HG23	48:SC:66:TYR:CD2	2.56	0.40
52:SL:54:LEU:HD12	52:SL:55:VAL:N	2.31	0.40
55:SB:87:CYS:SG	55:SB:92:ARG:HG3	2.61	0.40
60:SD:85:LYS:HB2	60:SD:85:LYS:HE3	1.86	0.40
63:SP:14:ALA:O	63:SP:18:LEU:HG	2.21	0.40
64:SQ:111:ARG:HA	64:SQ:111:ARG:HD2	1.81	0.40
65:SR:39:THR:OG1	65:SR:65:GLU:OE2	2.36	0.40
66:SS:168:LYS:C	66:SS:169:ILE:HD13	2.46	0.40
67:ST:84:TYR:CE1	67:ST:93:LYS:HB2	2.57	0.40
67:ST:189:HIS:O	67:ST:193:LEU:HG	2.21	0.40
69:SV:170:SER:N	69:SV:180:ASP:O	2.49	0.40
71:SX:73:GLY:C	71:SX:86:ILE:HD11	2.46	0.40
81:SO:76:ASP:OD1	81:SO:76:ASP:N	2.54	0.40
1:S:64:VAL:HB	1:S:96:PHE:HE2	1.87	0.40
1:S:122:ILE:HB	1:S:126:GLN:HB2	2.02	0.40
2:2:138:A:N6	2:2:142:G:H1'	2.35	0.40
2:2:227:U:H2'	2:2:228:G:C8	2.56	0.40
2:2:256:A:H2'	2:2:257:A:O4'	2.22	0.40
2:2:548:G:C6	2:2:591:A:N6	2.89	0.40
2:2:1126:G:C2	2:2:1127:G:C8	3.10	0.40
2:2:1213:G:H1'	2:2:1242:A:H61	1.86	0.40
2:2:1222:C:H2'	2:2:1223:A:H8	1.87	0.40
2:2:1499:G:H5''	51:SI:122:ARG:NH1	2.37	0.40
2:2:1512:G:H2'	2:2:1513:G:C8	2.56	0.40
2:2:1592:A:H2'	2:2:1593:A:C8	2.56	0.40
2:2:1619:C:H2'	2:2:1620:C:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:36:C:H4'	3:A:808:A:H2	1.86	0.40
3:A:38:U:OP1	3:A:935:U:O2'	2.37	0.40
3:A:1018:G:N1	3:A:1034:U:C2	2.89	0.40
3:A:1039:U:H2'	3:A:1040:A:H8	1.84	0.40
3:A:1107:C:H2'	3:A:1108:U:C6	2.55	0.40
3:A:1120:A:N6	3:A:1139:G:O6	2.54	0.40
3:A:1168:U:H2'	3:A:1169:A:H8	1.85	0.40
3:A:1350:A:H2'	3:A:1351:U:C6	2.57	0.40
3:A:1373:A:H2'	3:A:1374:G:C8	2.55	0.40
3:A:3333:G:H1'	3:A:3370:A:N6	2.36	0.40
8:F:23:PRO:HD3	8:F:255:PHE:HE1	1.86	0.40
9:G:33:ARG:NH2	9:G:37:VAL:HG11	2.34	0.40
9:G:194:LEU:HD12	9:G:194:LEU:HA	1.88	0.40
10:H:172:HIS:CE1	34:h:35:VAL:HG12	2.56	0.40
15:N:109:PHE:HB2	37:k:20:MET:HE1	2.03	0.40
24:X:25:CYS:SG	24:X:26:ALA:N	2.95	0.40
28:b:106:GLN:H	28:b:106:GLN:HG3	1.72	0.40
35:i:19:LYS:NZ	35:i:36:LYS:O	2.44	0.40
40:n:21:ARG:HA	40:n:22:PRO:HD2	1.97	0.40
47:x:270:GLU:HG3	47:x:274:ASN:HB2	2.02	0.40
47:x:382:VAL:HA	47:x:398:GLY:HA3	2.04	0.40
47:x:745:SER:HA	47:x:748:ASN:HD21	1.86	0.40
50:SA:167:PHE:CE1	50:SA:190:ARG:HG3	2.54	0.40
58:SK:43:ASP:O	58:SK:47:TYR:N	2.50	0.40
64:SQ:175:GLU:OE2	64:SQ:187:LYS:HD3	2.22	0.40
65:SR:227:PRO:HA	65:SR:230:TRP:CG	2.57	0.40
67:ST:46:LYS:HD2	67:ST:46:LYS:HA	1.82	0.40
77:Sf:55:THR:HB	77:Sf:62:ILE:HG13	2.03	0.40
80:J:105:LYS:HE3	80:J:105:LYS:HB2	1.88	0.40
81:SO:84:SER:HG	81:SO:85:TRP:H	1.66	0.40
81:SO:190:ALA:H	81:SO:228:LYS:NZ	2.19	0.40
81:SO:262:VAL:HG11	81:SO:271:VAL:HG12	2.04	0.40
1:S:141:ARG:NH2	3:A:977:C:OP1	2.54	0.40
2:2:17:C:H2'	2:2:18:C:C6	2.56	0.40
2:2:885:G:H21	61:SZ:123:SER:HB2	1.87	0.40
2:2:1132:A:H2'	2:2:1133:A:H8	1.85	0.40
2:2:1529:C:O2'	51:SI:12:GLN:OE1	2.37	0.40
2:2:1584:G:N7	56:SF:14:LYS:HE2	2.37	0.40
2:2:1680:G:H1'	2:2:1721:A:H61	1.86	0.40
3:A:49:A:N7	17:P:187:ARG:NE	2.69	0.40
3:A:53:G:OP1	38:l:48:ASN:N	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:61:A:C4	3:A:62:A:C8	3.09	0.40
3:A:288:C:O2'	17:P:95:GLN:O	2.40	0.40
3:A:315:C:H2'	3:A:316:U:C6	2.57	0.40
3:A:354:U:H2'	3:A:355:A:C8	2.57	0.40
3:A:1104:G:OP2	3:A:1104:G:H8	2.04	0.40
3:A:1182:A:H2'	3:A:1183:C:C6	2.56	0.40
3:A:1370:G:OP1	29:c:16:SER:HB3	2.22	0.40
3:A:1622:U:H2'	3:A:1623:G:H8	1.86	0.40
3:A:1802:C:H4'	35:i:60:ARG:HH11	1.86	0.40
3:A:1869:C:H4'	3:A:3077:A:O2'	2.21	0.40
3:A:2248:C:H4'	3:A:2272:G:H8	1.86	0.40
3:A:2290:C:H2'	3:A:2291:A:H8	1.86	0.40
3:A:2542:U:H2'	3:A:2543:U:O4'	2.22	0.40
3:A:2914:G:H5''	7:E:9:PRO:HG3	2.03	0.40
3:A:3049:A:C6	7:E:75:ALA:HB2	2.56	0.40
3:A:3384:U:H2'	3:A:3385:U:C6	2.57	0.40
13:L:47:PRO:HB3	13:L:171:TRP:CZ2	2.57	0.40
13:L:47:PRO:HD2	13:L:141:LYS:HA	2.04	0.40
13:L:141:LYS:HE2	13:L:141:LYS:HB2	1.92	0.40
16:O:20:VAL:O	16:O:66:THR:OG1	2.29	0.40
16:O:128:ARG:HA	16:O:131:VAL:HG12	2.03	0.40
18:Q:76[A]:PRO:HA	18:Q:79[A]:ILE:HG12	2.02	0.40
22:V:35:LYS:HD2	22:V:35:LYS:HA	1.98	0.40
25:Y:52:THR:HB	25:Y:55:PHE:H	1.86	0.40
28:b:6:LYS:HA	28:b:28:PRO:HG3	2.04	0.40
28:b:9:LYS:HA	28:b:9:LYS:HD3	1.84	0.40
38:l:24:ARG:NH1	38:l:36:SER:OG	2.54	0.40
46:v:459:GLY:O	46:v:609:ILE:HA	2.21	0.40
47:x:61:LYS:HA	47:x:64:GLN:OE1	2.21	0.40
47:x:384:LYS:HE3	47:x:384:LYS:HB2	1.92	0.40
47:x:746:VAL:HA	47:x:749:LYS:HB3	2.03	0.40
51:SI:55:TYR:N	51:SI:55:TYR:HD1	2.19	0.40
55:SB:99:MET:O	55:SB:103:ASN:HB2	2.22	0.40
55:SB:178:GLY:HA2	55:SB:209:TYR:HD2	1.85	0.40
69:SV:32:GLN:HG3	69:SV:33:PRO:HD2	2.02	0.40
74:Sb:23:ARG:HG2	77:Sf:3:LEU:HG	2.02	0.40
74:Sb:120:HIS:O	74:Sb:120:HIS:ND1	2.55	0.40
81:SO:265:LEU:HG	81:SO:266:ASP:CB	2.51	0.40
81:SO:265:LEU:HG	81:SO:266:ASP:HB2	2.02	0.40
2:2:607:G:H21	2:2:614:C:H5''	1.86	0.40
2:2:1050:G:H2'	2:2:1051:G:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:1080:U:H2'	2:2:1081:A:C8	2.56	0.40
2:2:1116:A:H2'	2:2:1117:U:O4'	2.21	0.40
2:2:1141:G:H2'	2:2:1142:A:C8	2.57	0.40
2:2:1611:A:H1'	55:SB:98:MET:HB3	2.04	0.40
3:A:738:A:H2'	3:A:739:G:C8	2.55	0.40
3:A:869:G:N1	3:A:891:G:C6	2.90	0.40
3:A:1054:A:H5''	3:A:2637:A:H61	1.86	0.40
3:A:1306:G:C5	18:Q:62[A]:THR:HA	2.56	0.40
3:A:1802:C:H2'	3:A:1803:C:C6	2.57	0.40
3:A:1926:C:H5''	44:r:8:VAL:HG22	2.03	0.40
3:A:2344:U:H2'	3:A:2345:A:H8	1.85	0.40
4:B:70:U:H2'	4:B:71:G:H8	1.87	0.40
5:C:44:A:H2'	5:C:45:C:C6	2.56	0.40
5:C:71:A:OP2	27:a:51:ARG:HD3	2.22	0.40
6:D:192:LYS:HE2	6:D:193:ARG:NH2	2.37	0.40
7:E:117:ARG:HD3	7:E:117:ARG:HA	1.89	0.40
8:F:326:ARG:HE	8:F:327:LEU:CD2	2.35	0.40
13:L:169:LYS:HG3	13:L:177:ASP:HB2	2.02	0.40
17:P:165:THR:OG1	17:P:166:ALA:N	2.55	0.40
18:Q:53[A]:LYS:HE2	18:Q:53[A]:LYS:HB2	1.91	0.40
21:U:6:GLU:OE1	21:U:6:GLU:HA	2.21	0.40
24:X:28:ASN:HB3	24:X:112:SER:H	1.86	0.40
26:Z:58:ASP:OD2	36:j:25:LYS:NZ	2.54	0.40
46:v:203:LYS:HD2	46:v:203:LYS:HA	1.82	0.40
46:v:458:TYR:HD1	46:v:608:TYR:HB2	1.86	0.40
47:x:210:ALA:HA	47:x:221:THR:HB	2.04	0.40
47:x:346:VAL:HG11	47:x:372:CYS:N	2.37	0.40
47:x:680:GLU:HG2	47:x:681:MET:O	2.22	0.40
47:x:700:ARG:HG3	47:x:705:ILE:HD11	2.03	0.40
50:SA:48:VAL:HB	50:SA:86:LEU:HD23	2.02	0.40
50:SA:142:LEU:HD21	50:SA:148:LYS:HG2	2.04	0.40
50:SA:217:ILE:CG1	81:SO:193:ILE:HD13	2.52	0.40
54:SG:79:GLU:HB3	54:SG:84:TYR:HB3	2.03	0.40
58:SK:88:ILE:HG21	58:SK:103:ARG:HH21	1.86	0.40
60:SD:62:LEU:HG	60:SD:63:VAL:O	2.22	0.40
62:Se:3:LYS:HA	62:Se:5:ARG:NH1	2.37	0.40
62:Se:90:GLU:OE1	62:Se:90:GLU:N	2.37	0.40
64:SQ:127:VAL:HB	64:SQ:173:THR:HG22	2.03	0.40
68:SU:118:LEU:O	68:SU:121:VAL:HG12	2.21	0.40
70:SW:123:HIS:O	70:SW:127:VAL:HG23	2.22	0.40
78:Sg:50:VAL:HG23	78:Sg:54:ARG:HE	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:J:143:ILE:O	80:J:173:MET:HG3	2.21	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	
1	S	183/185 (99%)	171 (93%)	11 (6%)	1 (0%)	25	60
6	D	243/251 (97%)	230 (95%)	13 (5%)	0	100	100
7	E	384/386 (100%)	366 (95%)	18 (5%)	0	100	100
8	F	359/361 (99%)	350 (98%)	9 (2%)	0	100	100
9	G	286/294 (97%)	265 (93%)	20 (7%)	1 (0%)	37	70
10	H	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
11	I	220/223 (99%)	213 (97%)	7 (3%)	0	100	100
12	K	186/191 (97%)	173 (93%)	13 (7%)	0	100	100
13	L	216/218 (99%)	202 (94%)	14 (6%)	0	100	100
14	M	167/169 (99%)	152 (91%)	14 (8%)	1 (1%)	22	57
15	N	191/193 (99%)	178 (93%)	12 (6%)	1 (0%)	25	60
16	O	134/136 (98%)	127 (95%)	7 (5%)	0	100	100
17	P	201/203 (99%)	192 (96%)	9 (4%)	0	100	100
18	Q	195/197 (99%)	190 (97%)	5 (3%)	0	100	100
19	R	181/183 (99%)	171 (94%)	10 (6%)	0	100	100
20	T	182/188 (97%)	178 (98%)	4 (2%)	0	100	100
21	U	169/171 (99%)	160 (95%)	9 (5%)	0	100	100
22	V	155/159 (98%)	141 (91%)	14 (9%)	0	100	100
23	W	98/100 (98%)	91 (93%)	7 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	X	130/136 (96%)	122 (94%)	8 (6%)	0	100	100
25	Y	109/126 (86%)	92 (84%)	14 (13%)	3 (3%)	4	28
26	Z	117/121 (97%)	111 (95%)	6 (5%)	0	100	100
27	a	123/125 (98%)	114 (93%)	9 (7%)	0	100	100
28	b	133/135 (98%)	127 (96%)	6 (4%)	0	100	100
29	c	146/148 (99%)	133 (91%)	13 (9%)	0	100	100
30	d	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
31	e	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
32	f	107/109 (98%)	100 (94%)	7 (6%)	0	100	100
33	g	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
34	h	104/106 (98%)	97 (93%)	7 (7%)	0	100	100
35	i	110/112 (98%)	107 (97%)	3 (3%)	0	100	100
36	j	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
37	k	97/99 (98%)	94 (97%)	3 (3%)	0	100	100
38	l	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
39	m	75/77 (97%)	72 (96%)	3 (4%)	0	100	100
40	n	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
41	o	50/52 (96%)	47 (94%)	3 (6%)	0	100	100
42	p	23/25 (92%)	23 (100%)	0	0	100	100
43	q	101/103 (98%)	98 (97%)	3 (3%)	0	100	100
44	r	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
46	v	975/977 (100%)	877 (90%)	94 (10%)	4 (0%)	30	65
47	x	833/842 (99%)	731 (88%)	96 (12%)	6 (1%)	19	54
48	SC	90/92 (98%)	83 (92%)	7 (8%)	0	100	100
49	SE	112/117 (96%)	103 (92%)	9 (8%)	0	100	100
50	SA	215/222 (97%)	207 (96%)	7 (3%)	1 (0%)	25	60
51	SI	141/143 (99%)	135 (96%)	6 (4%)	0	100	100
52	SL	61/63 (97%)	55 (90%)	6 (10%)	0	100	100
53	SM	45/53 (85%)	33 (73%)	12 (27%)	0	100	100
54	SG	119/121 (98%)	94 (79%)	21 (18%)	4 (3%)	3	25
55	SB	204/206 (99%)	194 (95%)	10 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
56	SF	139/141 (99%)	128 (92%)	11 (8%)	0	100	100
57	SH	143/145 (99%)	138 (96%)	5 (4%)	0	100	100
58	SK	75/108 (69%)	69 (92%)	5 (7%)	1 (1%)	10	41
59	SN	71/73 (97%)	59 (83%)	12 (17%)	0	100	100
60	SD	119/121 (98%)	96 (81%)	21 (18%)	2 (2%)	7	36
61	SZ	125/127 (98%)	113 (90%)	12 (10%)	0	100	100
62	Se	92/94 (98%)	65 (71%)	26 (28%)	1 (1%)	12	45
63	SP	204/206 (99%)	179 (88%)	25 (12%)	0	100	100
64	SQ	212/232 (91%)	199 (94%)	13 (6%)	0	100	100
65	SR	214/216 (99%)	202 (94%)	12 (6%)	0	100	100
66	SS	256/258 (99%)	242 (94%)	14 (6%)	0	100	100
67	ST	222/228 (97%)	207 (93%)	15 (7%)	0	100	100
68	SU	182/184 (99%)	169 (93%)	13 (7%)	0	100	100
69	SV	183/200 (92%)	175 (96%)	8 (4%)	0	100	100
70	SW	182/184 (99%)	174 (96%)	8 (4%)	0	100	100
71	SX	138/142 (97%)	131 (95%)	7 (5%)	0	100	100
72	SY	148/150 (99%)	140 (95%)	6 (4%)	2 (1%)	9	39
73	Sa	85/87 (98%)	77 (91%)	8 (9%)	0	100	100
74	Sb	127/129 (98%)	117 (92%)	10 (8%)	0	100	100
75	Sc	142/144 (99%)	133 (94%)	9 (6%)	0	100	100
76	Sd	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
77	Sf	79/81 (98%)	72 (91%)	7 (9%)	0	100	100
78	Sg	53/60 (88%)	47 (89%)	6 (11%)	0	100	100
79	SJ	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
80	J	229/233 (98%)	220 (96%)	8 (4%)	1 (0%)	30	65
81	SO	316/318 (99%)	201 (64%)	106 (34%)	9 (3%)	4	28
All	All	12707/13010 (98%)	11707 (92%)	962 (8%)	38 (0%)	38	70

All (38) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
25	Y	22	VAL
25	Y	86	SER

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Mol	Chain	Res	Type
46	v	418	PRO
46	v	833	SER
54	SG	84	TYR
47	x	45	ILE
47	x	166	GLU
54	SG	94	SER
54	SG	99	VAL
58	SK	92	ILE
80	J	158	ASP
81	SO	100	TYR
47	x	226	ALA
60	SD	109	GLU
9	G	139	PRO
46	v	825	SER
50	SA	199	PRO
81	SO	74	THR
81	SO	94	VAL
81	SO	295	SER
1	S	18	ALA
15	N	47	ALA
46	v	834	VAL
47	x	485	VAL
62	Se	61	GLU
72	SY	138	ASN
81	SO	39	ASP
81	SO	40	LYS
14	M	22	SER
60	SD	84	ASN
72	SY	24	ALA
81	SO	63	GLY
81	SO	154	VAL
25	Y	28	ILE
47	x	209	VAL
81	SO	6	VAL
47	x	28	VAL
54	SG	117	LEU

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	S	150/150 (100%)	150 (100%)	0	100	100
6	D	188/193 (97%)	188 (100%)	0	100	100
7	E	320/322 (99%)	316 (99%)	4 (1%)	65	76
8	F	288/288 (100%)	287 (100%)	1 (0%)	91	92
9	G	238/243 (98%)	237 (100%)	1 (0%)	89	91
10	H	139/154 (90%)	139 (100%)	0	100	100
11	I	186/187 (100%)	185 (100%)	1 (0%)	86	90
12	K	168/171 (98%)	167 (99%)	1 (1%)	84	88
13	L	185/185 (100%)	184 (100%)	1 (0%)	86	90
14	M	145/147 (99%)	145 (100%)	0	100	100
15	N	154/154 (100%)	153 (99%)	1 (1%)	84	88
16	O	107/107 (100%)	106 (99%)	1 (1%)	75	83
17	P	175/175 (100%)	175 (100%)	0	100	100
18	Q	160/160 (100%)	159 (99%)	1 (1%)	84	88
19	R	138/145 (95%)	138 (100%)	0	100	100
20	T	149/153 (97%)	149 (100%)	0	100	100
21	U	155/155 (100%)	155 (100%)	0	100	100
22	V	133/136 (98%)	132 (99%)	1 (1%)	79	84
23	W	87/87 (100%)	86 (99%)	1 (1%)	70	79
24	X	102/104 (98%)	100 (98%)	2 (2%)	50	68
25	Y	56/108 (52%)	56 (100%)	0	100	100
26	Z	104/105 (99%)	103 (99%)	1 (1%)	73	81
27	a	108/108 (100%)	107 (99%)	1 (1%)	75	83
28	b	112/115 (97%)	112 (100%)	0	100	100
29	c	117/118 (99%)	117 (100%)	0	100	100
30	d	46/46 (100%)	46 (100%)	0	100	100
31	e	81/81 (100%)	81 (100%)	0	100	100
32	f	92/96 (96%)	92 (100%)	0	100	100
33	g	107/109 (98%)	106 (99%)	1 (1%)	75	83
34	h	90/90 (100%)	90 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	i	95/95 (100%)	95 (100%)	0	100	100
36	j	104/104 (100%)	104 (100%)	0	100	100
37	k	80/81 (99%)	80 (100%)	0	100	100
38	l	67/67 (100%)	65 (97%)	2 (3%)	36	58
39	m	68/68 (100%)	68 (100%)	0	100	100
40	n	45/45 (100%)	45 (100%)	0	100	100
41	o	45/47 (96%)	45 (100%)	0	100	100
42	p	22/23 (96%)	22 (100%)	0	100	100
43	q	87/88 (99%)	87 (100%)	0	100	100
44	r	71/71 (100%)	71 (100%)	0	100	100
46	v	789/835 (94%)	784 (99%)	5 (1%)	84	88
47	x	710/715 (99%)	704 (99%)	6 (1%)	79	84
48	SC	77/85 (91%)	76 (99%)	1 (1%)	65	76
49	SE	93/98 (95%)	93 (100%)	0	100	100
50	SA	177/182 (97%)	177 (100%)	0	100	100
51	SI	115/115 (100%)	114 (99%)	1 (1%)	75	83
52	SL	55/56 (98%)	55 (100%)	0	100	100
53	SM	41/47 (87%)	39 (95%)	2 (5%)	21	46
54	SG	105/110 (96%)	105 (100%)	0	100	100
55	SB	172/173 (99%)	171 (99%)	1 (1%)	84	88
56	SF	117/117 (100%)	117 (100%)	0	100	100
57	SH	127/128 (99%)	127 (100%)	0	100	100
58	SK	63/89 (71%)	63 (100%)	0	100	100
59	SN	57/64 (89%)	57 (100%)	0	100	100
60	SD	88/98 (90%)	87 (99%)	1 (1%)	70	79
61	SZ	81/96 (84%)	79 (98%)	2 (2%)	42	62
62	Se	81/81 (100%)	80 (99%)	1 (1%)	67	78
63	SP	170/173 (98%)	169 (99%)	1 (1%)	84	88
64	SQ	191/205 (93%)	191 (100%)	0	100	100
65	SR	175/175 (100%)	175 (100%)	0	100	100
66	SS	220/220 (100%)	220 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	ST	188/195 (96%)	188 (100%)	0	100	100
68	SU	163/165 (99%)	162 (99%)	1 (1%)	84	88
69	SV	148/161 (92%)	146 (99%)	2 (1%)	62	75
70	SW	156/157 (99%)	156 (100%)	0	100	100
71	SX	126/127 (99%)	126 (100%)	0	100	100
72	SY	127/127 (100%)	127 (100%)	0	100	100
73	Sa	71/74 (96%)	71 (100%)	0	100	100
74	Sb	110/110 (100%)	109 (99%)	1 (1%)	75	83
75	Sc	119/119 (100%)	119 (100%)	0	100	100
76	Sd	112/112 (100%)	111 (99%)	1 (1%)	75	83
77	Sf	70/70 (100%)	69 (99%)	1 (1%)	62	75
78	Sg	47/51 (92%)	47 (100%)	0	100	100
79	SJ	93/93 (100%)	92 (99%)	1 (1%)	70	79
80	J	186/191 (97%)	186 (100%)	0	100	100
81	SO	259/261 (99%)	250 (96%)	9 (4%)	31	54
All	All	10643/10956 (97%)	10585 (100%)	58 (0%)	85	90

All (58) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	E	79	VAL
7	E	93	VAL
7	E	104	THR
7	E	308	MET
8	F	6	VAL
9	G	238	ASP
11	I	103	LEU
12	K	171	ASP
13	L	152	LEU
15	N	20	GLU
16	O	23	ILE
18	Q	151[A]	ASP
22	V	14	MET
23	W	27	VAL
24	X	22	ILE
24	X	74	MET
26	Z	89	LYS

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Mol	Chain	Res	Type
27	a	99	LEU
33	g	71	HIS
38	l	29	VAL
38	l	34	CYS
46	v	125	ILE
46	v	543	LEU
46	v	647	PHE
46	v	858	LYS
46	v	886	GLU
47	x	111	PHE
47	x	337	MET
47	x	341	HIS
47	x	380	LEU
47	x	717	PHE
47	x	724	ILE
48	SC	55	VAL
51	SI	113	ILE
53	SM	46	LYS
53	SM	53	ASN
55	SB	116	HIS
60	SD	84	ASN
61	SZ	30	VAL
61	SZ	39	ILE
62	Se	69	ASN
63	SP	3	LEU
68	SU	125	ILE
69	SV	64	ASN
69	SV	160	PHE
74	Sb	49	GLU
76	Sd	88	THR
77	Sf	73	LEU
79	SJ	97	VAL
81	SO	8	VAL
81	SO	22	SER
81	SO	45	TRP
81	SO	64	HIS
81	SO	67	ILE
81	SO	94	VAL
81	SO	127	ARG
81	SO	193	ILE
81	SO	203	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (118)

such sidechains are listed below:

Mol	Chain	Res	Type
1	S	9	GLN
1	S	73	GLN
6	D	86	GLN
6	D	132	ASN
7	E	121	ASN
7	E	177	HIS
7	E	224	HIS
8	F	5	GLN
8	F	110	ASN
8	F	201	GLN
8	F	213	ASN
8	F	221	ASN
8	F	234	ASN
9	G	264	GLN
11	I	146	GLN
11	I	186	HIS
12	K	50	ASN
12	K	51	GLN
12	K	64	HIS
13	L	55	ASN
13	L	73	ASN
13	L	100	ASN
13	L	123	HIS
14	M	7	ASN
15	N	12	ASN
15	N	19	GLN
15	N	37	ASN
15	N	106	GLN
15	N	120	GLN
16	O	27	GLN
17	P	32	GLN
18	Q	42[A]	ASN
18	Q	50[A]	ASN
19	R	118	GLN
19	R	121	GLN
20	T	156	ASN
20	T	166	ASN
21	U	65	ASN
22	V	95	HIS
22	V	134	GLN
24	X	47	ASN
28	b	127	ASN

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Mol	Chain	Res	Type
29	c	25	HIS
29	c	64	GLN
30	d	45	HIS
32	f	43	HIS
33	g	78	ASN
34	h	26	ASN
34	h	42	GLN
35	i	18	ASN
35	i	108	GLN
36	j	99	GLN
36	j	108	GLN
38	l	28	HIS
38	l	48	ASN
38	l	69	HIS
38	l	79	GLN
40	n	11	GLN
40	n	19	GLN
40	n	20	ASN
41	o	119	ASN
43	q	3	ASN
43	q	82	GLN
44	r	33	GLN
46	v	68	GLN
46	v	72	HIS
46	v	121	ASN
46	v	446	ASN
46	v	464	ASN
46	v	486	GLN
46	v	738	HIS
47	x	27	HIS
47	x	274	ASN
47	x	477	ASN
47	x	791	GLN
47	x	836	GLN
48	SC	9	ASN
48	SC	62	GLN
50	SA	101	GLN
51	SI	16	ASN
51	SI	129	GLN
51	SI	138	GLN
54	SG	31	ASN
54	SG	48	ASN

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Mol	Chain	Res	Type
54	SG	105	GLN
55	SB	169	ASN
57	SH	13	HIS
57	SH	25	ASN
57	SH	136	GLN
58	SK	95	HIS
59	SN	123	ASN
61	SZ	99	GLN
63	SP	30	GLN
64	SQ	209	ASN
65	SR	59	HIS
65	SR	110	HIS
66	SS	8	HIS
66	SS	157	ASN
66	SS	258	GLN
67	ST	4	ASN
67	ST	13	GLN
67	ST	65	GLN
70	SW	48	GLN
70	SW	110	GLN
70	SW	112	GLN
70	SW	123	HIS
72	SY	36	GLN
72	SY	49	GLN
75	Sc	22	ASN
76	Sd	63	GLN
80	J	77	GLN
80	J	221	ASN
81	SO	17	ASN
81	SO	139	GLN
81	SO	174	ASN
81	SO	196	ASN
81	SO	200	ASN
81	SO	308	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	2	1768/1799 (98%)	444 (25%)	33 (1%)
3	A	3187/3394 (93%)	515 (16%)	10 (0%)
4	B	120/121 (99%)	10 (8%)	1 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
45	s	74/75 (98%)	14 (18%)	0
45	t	74/75 (98%)	31 (41%)	0
5	C	157/158 (99%)	34 (21%)	1 (0%)
All	All	5380/5622 (95%)	1048 (19%)	45 (0%)

All (1048) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	2	2	A
2	2	4	C
2	2	25	C
2	2	26	A
2	2	34	G
2	2	42	G
2	2	43	A
2	2	45	U
2	2	47	A
2	2	56	U
2	2	57	G
2	2	61	A
2	2	62	A
2	2	65	A
2	2	68	A
2	2	69	G
2	2	73	U
2	2	74	U
2	2	76	A
2	2	77	U
2	2	78	A
2	2	80	A
2	2	81	G
2	2	104	A
2	2	114	C
2	2	116	U
2	2	121	U
2	2	126	A
2	2	127	G
2	2	129	U
2	2	130	C
2	2	131	C
2	2	132	U
2	2	134	U

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Mol	Chain	Res	Type
2	2	135	A
2	2	138	A
2	2	140	A
2	2	141	U
2	2	142	G
2	2	145	A
2	2	153	G
2	2	158	U
2	2	161	U
2	2	168	A
2	2	171	A
2	2	172	C
2	2	176	C
2	2	178	U
2	2	184	C
2	2	185	U
2	2	186	C
2	2	188	A
2	2	189	C
2	2	191	C
2	2	193	U
2	2	194	U
2	2	195	G
2	2	196	G
2	2	216	U
2	2	217	A
2	2	218	A
2	2	223	U
2	2	224	C
2	2	225	A
2	2	226	A
2	2	227	U
2	2	230	C
2	2	233	C
2	2	234	G
2	2	238	U
2	2	240	U
2	2	241	U
2	2	249	U
2	2	250	C
2	2	260	U
2	2	261	U

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Mol	Chain	Res	Type
2	2	265	A
2	2	270	C
2	2	272	U
2	2	274	G
2	2	276	C
2	2	278	U
2	2	279	G
2	2	280	U
2	2	281	G
2	2	287	G
2	2	299	A
2	2	302	U
2	2	313	U
2	2	314	C
2	2	316	A
2	2	321	C
2	2	322	G
2	2	323	A
2	2	330	G
2	2	333	A
2	2	337	G
2	2	338	C
2	2	352	A
2	2	353	A
2	2	359	A
2	2	360	A
2	2	361	C
2	2	369	A
2	2	370	A
2	2	388	G
2	2	390	G
2	2	400	A
2	2	401	A
2	2	402	C
2	2	404	G
2	2	415	C
2	2	416	A
2	2	417	A
2	2	418	G
2	2	419	G
2	2	423	G
2	2	424	C

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Mol	Chain	Res	Type
2	2	425	A
2	2	426	G
2	2	435	C
2	2	439	U
2	2	444	C
2	2	446	A
2	2	447	U
2	2	448	C
2	2	482	U
2	2	483	A
2	2	485	A
2	2	487	G
2	2	492	A
2	2	493	U
2	2	494	U
2	2	496	G
2	2	498	G
2	2	499	U
2	2	500	C
2	2	506	A
2	2	510	G
2	2	517	U
2	2	518	A
2	2	519	C
2	2	525	A
2	2	534	A
2	2	538	A
2	2	540	G
2	2	541	A
2	2	542	A
2	2	543	C
2	2	554	C
2	2	555	A
2	2	556	A
2	2	557	G
2	2	558	U
2	2	559	C
2	2	565	C
2	2	568	G
2	2	575	C
2	2	578	U
2	2	579	A

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Mol	Chain	Res	Type
2	2	594	A
2	2	595	G
2	2	609	U
2	2	610	G
2	2	617	U
2	2	619	A
2	2	620	A
2	2	622	A
2	2	623	A
2	2	624	G
2	2	638	U
2	2	639	U
2	2	640	U
2	2	641	G
2	2	643	G
2	2	645	C
2	2	653	C
2	2	654	C
2	2	655	G
2	2	677	G
2	2	678	A
2	2	680	U
2	2	681	U
2	2	684	A
2	2	687	G
2	2	688	G
2	2	693	U
2	2	694	U
2	2	696	C
2	2	698	U
2	2	700	C
2	2	703	G
2	2	704	C
2	2	705	U
2	2	706	A
2	2	707	A
2	2	708	C
2	2	709	C
2	2	710	U
2	2	711	U
2	2	712	G
2	2	728	U

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Mol	Chain	Res	Type
2	2	730	G
2	2	732	G
2	2	733	A
2	2	736	C
2	2	738	G
2	2	741	C
2	2	742	U
2	2	743	U
2	2	745	U
2	2	756	A
2	2	765	G
2	2	766	U
2	2	767	U
2	2	774	A
2	2	775	G
2	2	778	G
2	2	781	U
2	2	782	U
2	2	783	G
2	2	787	G
2	2	789	A
2	2	811	A
2	2	812	A
2	2	813	U
2	2	814	A
2	2	816	G
2	2	819	G
2	2	820	U
2	2	821	U
2	2	823	G
2	2	833	U
2	2	836	U
2	2	837	G
2	2	840	U
2	2	841	U
2	2	846	G
2	2	857	U
2	2	861	U
2	2	863	A
2	2	864	U
2	2	873	U
2	2	886	U

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Mol	Chain	Res	Type
2	2	898	A
2	2	899	G
2	2	901	G
2	2	902	G
2	2	912	U
2	2	913	G
2	2	929	A
2	2	933	A
2	2	934	C
2	2	935	U
2	2	937	C
2	2	942	G
2	2	945	U
2	2	964	U
2	2	966	A
2	2	969	C
2	2	970	A
2	2	972	G
2	2	989	U
2	2	992	A
2	2	1004	U
2	2	1024	U
2	2	1028	C
2	2	1029	U
2	2	1032	G
2	2	1039	A
2	2	1052	U
2	2	1053	G
2	2	1055	U
2	2	1058	U
2	2	1060	U
2	2	1061	A
2	2	1062	A
2	2	1063	U
2	2	1066	C
2	2	1074	G
2	2	1076	A
2	2	1080	U
2	2	1081	A
2	2	1082	C
2	2	1092	A
2	2	1096	C

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Mol	Chain	Res	Type
2	2	1098	U
2	2	1100	G
2	2	1113	A
2	2	1138	A
2	2	1143	A
2	2	1150	G
2	2	1158	C
2	2	1160	A
2	2	1164	G
2	2	1167	G
2	2	1170	G
2	2	1185	U
2	2	1186	U
2	2	1194	A
2	2	1196	A
2	2	1199	G
2	2	1200	G
2	2	1217	A
2	2	1218	G
2	2	1227	A
2	2	1228	G
2	2	1229	G
2	2	1241	G
2	2	1243	G
2	2	1244	A
2	2	1245	G
2	2	1246	C
2	2	1252	C
2	2	1256	A
2	2	1257	U
2	2	1265	G
2	2	1274	C
2	2	1275	A
2	2	1276	U
2	2	1285	U
2	2	1307	U
2	2	1314	U
2	2	1321	A
2	2	1322	A
2	2	1325	A
2	2	1337	A
2	2	1341	A

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Mol	Chain	Res	Type
2	2	1344	A
2	2	1345	A
2	2	1346	A
2	2	1348	A
2	2	1349	G
2	2	1360	A
2	2	1361	U
2	2	1363	U
2	2	1364	G
2	2	1367	G
2	2	1370	U
2	2	1371	A
2	2	1372	U
2	2	1373	C
2	2	1378	U
2	2	1381	U
2	2	1382	A
2	2	1383	G
2	2	1390	U
2	2	1391	A
2	2	1398	U
2	2	1399	C
2	2	1400	A
2	2	1406	A
2	2	1407	U
2	2	1408	G
2	2	1409	G
2	2	1414	U
2	2	1415	U
2	2	1427	A
2	2	1428	G
2	2	1431	C
2	2	1432	U
2	2	1433	G
2	2	1436	A
2	2	1445	G
2	2	1446	A
2	2	1459	C
2	2	1460	A
2	2	1468	U
2	2	1469	A
2	2	1472	C

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Mol	Chain	Res	Type
2	2	1474	G
2	2	1479	A
2	2	1491	U
2	2	1493	A
2	2	1496	U
2	2	1516	A
2	2	1517	U
2	2	1518	C
2	2	1521	G
2	2	1523	G
2	2	1524	A
2	2	1528	U
2	2	1530	C
2	2	1531	G
2	2	1537	C
2	2	1540	G
2	2	1542	G
2	2	1543	A
2	2	1545	A
2	2	1556	A
2	2	1557	U
2	2	1558	U
2	2	1559	A
2	2	1570	A
2	2	1572	G
2	2	1574	G
2	2	1575	G
2	2	1583	A
2	2	1585	U
2	2	1595	U
2	2	1601	G
2	2	1611	A
2	2	1614	A
2	2	1616	G
2	2	1619	C
2	2	1631	A
2	2	1633	A
2	2	1634	C
2	2	1637	C
2	2	1656	U
2	2	1657	U
2	2	1658	G

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Mol	Chain	Res	Type
2	2	1659	A
2	2	1682	U
2	2	1688	U
2	2	1689	A
2	2	1693	A
2	2	1701	A
2	2	1706	C
2	2	1708	U
2	2	1709	C
2	2	1712	A
2	2	1715	G
2	2	1717	G
2	2	1719	A
2	2	1745	G
2	2	1747	G
2	2	1748	G
2	2	1755	A
2	2	1757	G
2	2	1762	A
2	2	1767	G
2	2	1769	U
2	2	1770	U
2	2	1780	G
2	2	1782	A
2	2	1783	C
2	2	1792	G
2	2	1793	G
2	2	1794	A
2	2	1795	U
2	2	1796	C
2	2	1797	A
2	2	1799	U
3	A	14	U
3	A	16	A
3	A	26	A
3	A	30	G
3	A	40	A
3	A	43	A
3	A	49	A
3	A	59	G
3	A	60	A
3	A	65	A

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Mol	Chain	Res	Type
3	A	66	A
3	A	77	A
3	A	92	G
3	A	99	A
3	A	109	A
3	A	110	G
3	A	111	C
3	A	116	A
3	A	117	U
3	A	118	U
3	A	122	A
3	A	135	C
3	A	136	G
3	A	148	G
3	A	156	G
3	A	157	A
3	A	172	G
3	A	173	G
3	A	190	U
3	A	191	U
3	A	219	A
3	A	231	G
3	A	240	U
3	A	241	G
3	A	243	G
3	A	245	U
3	A	247	C
3	A	252	U
3	A	263	C
3	A	269	G
3	A	286	U
3	A	295	A
3	A	298	U
3	A	305	U
3	A	315	C
3	A	329	U
3	A	341	G
3	A	346	C
3	A	361	A
3	A	376	G
3	A	398	A
3	A	401	U

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Mol	Chain	Res	Type
3	A	402	A
3	A	403	C
3	A	420	G
3	A	421	G
3	A	422	A
3	A	490	A
3	A	491	C
3	A	492	U
3	A	518	G
3	A	521	A
3	A	523	A
3	A	533	A
3	A	555	U
3	A	557	A
3	A	558	U
3	A	559	A
3	A	589	A
3	A	601	U
3	A	602	A
3	A	611	A
3	A	636	C
3	A	646	A
3	A	649	A
3	A	667	C
3	A	677	A
3	A	678	G
3	A	681	U
3	A	683	U
3	A	690	A
3	A	691	A
3	A	692	A
3	A	705	A
3	A	712	G
3	A	719	U
3	A	758	C
3	A	761	A
3	A	766	U
3	A	767	U
3	A	780	A
3	A	781	G
3	A	785	G
3	A	786	A

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Mol	Chain	Res	Type
3	A	799	G
3	A	817	A
3	A	830	A
3	A	836	A
3	A	848	A
3	A	849	C
3	A	857	G
3	A	861	C
3	A	874	U
3	A	879	U
3	A	880	G
3	A	896	A
3	A	907	G
3	A	914	A
3	A	916	G
3	A	917	A
3	A	921	A
3	A	937	G
3	A	944	C
3	A	959	C
3	A	960	U
3	A	977	C
3	A	979	U
3	A	980	A
3	A	984	G
3	A	985	U
3	A	1016	C
3	A	1018	G
3	A	1019	G
3	A	1020	G
3	A	1021	G
3	A	1022	U
3	A	1037	C
3	A	1047	A
3	A	1063	G
3	A	1064	A
3	A	1072	G
3	A	1081	U
3	A	1087	G
3	A	1093	A
3	A	1096	U
3	A	1097	G

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Mol	Chain	Res	Type
3	A	1098	A
3	A	1103	A
3	A	1104	G
3	A	1117	G
3	A	1131	G
3	A	1143	A
3	A	1153	A
3	A	1159	A
3	A	1178	G
3	A	1180	A
3	A	1181	U
3	A	1182	A
3	A	1189	C
3	A	1191	U
3	A	1193	A
3	A	1196	C
3	A	1201	C
3	A	1209	G
3	A	1222	G
3	A	1223	A
3	A	1232	C
3	A	1235	U
3	A	1236	G
3	A	1245	A
3	A	1246	G
3	A	1248	C
3	A	1253	U
3	A	1257	C
3	A	1258	U
3	A	1262	G
3	A	1263	A
3	A	1265	U
3	A	1266	G
3	A	1267	U
3	A	1272	C
3	A	1302	A
3	A	1307	G
3	A	1308	A
3	A	1317	A
3	A	1331	U
3	A	1348	U
3	A	1349	G

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Mol	Chain	Res	Type
3	A	1352	A
3	A	1357	G
3	A	1386	A
3	A	1392	G
3	A	1399	A
3	A	1400	G
3	A	1417	G
3	A	1418	A
3	A	1425	U
3	A	1434	G
3	A	1437	C
3	A	1446	A
3	A	1483	G
3	A	1487	G
3	A	1495	U
3	A	1496	C
3	A	1504	A
3	A	1507	G
3	A	1508	C
3	A	1556	C
3	A	1557	A
3	A	1560	G
3	A	1562	C
3	A	1563	C
3	A	1564	U
3	A	1566	A
3	A	1567	U
3	A	1569	U
3	A	1570	U
3	A	1571	A
3	A	1573	G
3	A	1576	G
3	A	1578	C
3	A	1579	C
3	A	1581	C
3	A	1582	C
3	A	1583	A
3	A	1589	A
3	A	1593	A
3	A	1594	A
3	A	1605	A
3	A	1621	A

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Mol	Chain	Res	Type
3	A	1630	U
3	A	1643	A
3	A	1645	U
3	A	1657	C
3	A	1694	U
3	A	1713	G
3	A	1724	U
3	A	1740	U
3	A	1741	A
3	A	1750	A
3	A	1751	G
3	A	1759	C
3	A	1762	C
3	A	1763	U
3	A	1767	C
3	A	1769	G
3	A	1773	C
3	A	1775	G
3	A	1796	G
3	A	1797	A
3	A	1808	G
3	A	1812	G
3	A	1815	U
3	A	1816	A
3	A	1820	U
3	A	1821	U
3	A	1840	U
3	A	1842	A
3	A	1866	C
3	A	1878	G
3	A	1879	A
3	A	1880	U
3	A	1906	G
3	A	1948	G
3	A	2095	G
3	A	2101	C
3	A	2102	U
3	A	2111	G
3	A	2112	U
3	A	2122	G
3	A	2131	A
3	A	2158	A

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Mol	Chain	Res	Type
3	A	2167	A
3	A	2168	A
3	A	2169	G
3	A	2170	U
3	A	2188	A
3	A	2194	G
3	A	2205	U
3	A	2222	A
3	A	2223	A
3	A	2244	A
3	A	2249	G
3	A	2251	G
3	A	2252	A
3	A	2253	G
3	A	2254	U
3	A	2255	A
3	A	2256	A
3	A	2257	C
3	A	2258	U
3	A	2259	A
3	A	2261	G
3	A	2262	A
3	A	2268	U
3	A	2270	A
3	A	2273	G
3	A	2274	U
3	A	2281	A
3	A	2287	C
3	A	2306	C
3	A	2307	G
3	A	2310	U
3	A	2315	G
3	A	2319	U
3	A	2320	A
3	A	2335	G
3	A	2336	U
3	A	2372	A
3	A	2373	A
3	A	2374	C
3	A	2375	G
3	A	2376	G
3	A	2388	U

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Mol	Chain	Res	Type
3	A	2393	G
3	A	2394	G
3	A	2397	A
3	A	2402	A
3	A	2403	G
3	A	2404	A
3	A	2411	U
3	A	2418	G
3	A	2436	U
3	A	2441	A
3	A	2442	G
3	A	2443	A
3	A	2449	A
3	A	2452	G
3	A	2453	U
3	A	2454	G
3	A	2455	U
3	A	2456	A
3	A	2458	A
3	A	2459	A
3	A	2461	A
3	A	2462	A
3	A	2463	G
3	A	2465	G
3	A	2468	A
3	A	2469	G
3	A	2470	C
3	A	2471	U
3	A	2474	G
3	A	2477	G
3	A	2480	A
3	A	2484	A
3	A	2487	U
3	A	2488	A
3	A	2489	C
3	A	2491	A
3	A	2492	C
3	A	2493	U
3	A	2494	A
3	A	2495	C
3	A	2498	U
3	A	2499	U

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Mol	Chain	Res	Type
3	A	2501	U
3	A	2503	G
3	A	2505	U
3	A	2506	U
3	A	2509	U
3	A	2514	U
3	A	2515	A
3	A	2522	G
3	A	2523	A
3	A	2526	C
3	A	2533	G
3	A	2534	G
3	A	2535	A
3	A	2536	A
3	A	2537	U
3	A	2538	U
3	A	2539	C
3	A	2540	A
3	A	2541	U
3	A	2542	U
3	A	2546	C
3	A	2547	A
3	A	2549	G
3	A	2552	C
3	A	2555	G
3	A	2560	C
3	A	2561	A
3	A	2569	A
3	A	2570	U
3	A	2571	U
3	A	2573	G
3	A	2585	G
3	A	2593	A
3	A	2600	C
3	A	2606	G
3	A	2607	G
3	A	2614	G
3	A	2617	U
3	A	2648	G
3	A	2652	U
3	A	2656	A
3	A	2657	A

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Mol	Chain	Res	Type
3	A	2672	G
3	A	2674	A
3	A	2676	A
3	A	2678	A
3	A	2681	U
3	A	2689	A
3	A	2691	A
3	A	2696	A
3	A	2704	A
3	A	2712	U
3	A	2713	U
3	A	2728	G
3	A	2729	U
3	A	2737	C
3	A	2746	A
3	A	2749	G
3	A	2753	G
3	A	2755	C
3	A	2772	C
3	A	2773	C
3	A	2777	G
3	A	2778	G
3	A	2779	A
3	A	2795	U
3	A	2796	G
3	A	2799	A
3	A	2800	G
3	A	2801	A
3	A	2804	A
3	A	2808	A
3	A	2810	C
3	A	2817	A
3	A	2828	G
3	A	2838	A
3	A	2843	U
3	A	2844	C
3	A	2845	A
3	A	2847	A
3	A	2860	U
3	A	2867	C
3	A	2871	G
3	A	2872	A

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Mol	Chain	Res	Type
3	A	2887	A
3	A	2889	C
3	A	2899	C
3	A	2911	A
3	A	2934	A
3	A	2935	U
3	A	2936	A
3	A	2941	A
3	A	2951	G
3	A	2971	A
3	A	2972	G
3	A	2979	U
3	A	2983	C
3	A	2990	G
3	A	2997	G
3	A	3003	G
3	A	3005	A
3	A	3012	A
3	A	3021	A
3	A	3039	C
3	A	3056	U
3	A	3057	U
3	A	3059	G
3	A	3074	G
3	A	3078	U
3	A	3079	U
3	A	3092	C
3	A	3093	C
3	A	3101	G
3	A	3113	A
3	A	3115	C
3	A	3122	A
3	A	3130	A
3	A	3131	U
3	A	3142	A
3	A	3143	C
3	A	3153	U
3	A	3154	C
3	A	3156	U
3	A	3157	U
3	A	3168	A
3	A	3170	A

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Mol	Chain	Res	Type
3	A	3172	A
3	A	3173	G
3	A	3176	G
3	A	3179	U
3	A	3181	C
3	A	3186	A
3	A	3187	A
3	A	3198	U
3	A	3207	U
3	A	3217	C
3	A	3218	A
3	A	3219	G
3	A	3227	A
3	A	3228	C
3	A	3229	G
3	A	3235	C
3	A	3244	A
3	A	3247	G
3	A	3260	G
3	A	3268	A
3	A	3270	U
3	A	3271	G
3	A	3273	A
3	A	3276	G
3	A	3277	U
3	A	3279	A
3	A	3281	U
3	A	3304	U
3	A	3313	U
3	A	3316	A
3	A	3319	U
3	A	3334	U
3	A	3335	A
3	A	3341	U
3	A	3350	C
3	A	3352	U
3	A	3353	G
3	A	3368	U
3	A	3369	G
3	A	3375	A
3	A	3378	C
3	A	3382	U

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Mol	Chain	Res	Type
3	A	3390	G
4	B	7	G
4	B	22	A
4	B	29	C
4	B	53	U
4	B	54	U
4	B	64	A
4	B	65	G
4	B	76	A
4	B	102	A
4	B	112	G
5	C	16	G
5	C	23	U
5	C	34	U
5	C	35	C
5	C	39	G
5	C	46	G
5	C	51	G
5	C	59	A
5	C	62	C
5	C	63	G
5	C	71	A
5	C	80	A
5	C	81	U
5	C	82	U
5	C	83	C
5	C	84	C
5	C	86	U
5	C	87	G
5	C	90	U
5	C	95	G
5	C	102	U
5	C	104	A
5	C	105	A
5	C	106	C
5	C	111	A
5	C	112	U
5	C	113	U
5	C	116	G
5	C	125	U
5	C	126	A
5	C	127	U

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Mol	Chain	Res	Type
5	C	148	G
5	C	152	G
5	C	157	U
45	s	16	U
45	s	19	G
45	s	20	A
45	s	21	A
45	s	46	G
45	s	47	U
45	s	48	C
45	s	59	A
45	s	61	C
45	s	63	G
45	s	64	A
45	s	74	C
45	s	75	C
45	s	76	A
45	t	2	G
45	t	3	C
45	t	7	G
45	t	8	U
45	t	9	G
45	t	10	A
45	t	11	C
45	t	12	G
45	t	13	C
45	t	14	A
45	t	16	U
45	t	18	G
45	t	19	G
45	t	21	A
45	t	29	G
45	t	31	G
45	t	33	U
45	t	35	A
45	t	45	U
45	t	47	U
45	t	48	C
45	t	54	A
45	t	59	A
45	t	60	A
45	t	63	G

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Mol	Chain	Res	Type
45	t	64	A
45	t	69	C
45	t	73	A
45	t	74	C
45	t	75	C
45	t	76	A

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	2	68	A
2	2	77	U
2	2	139	C
2	2	215	A
2	2	237	C
2	2	322	G
2	2	352	A
2	2	387	A
2	2	400	A
2	2	541	A
2	2	555	A
2	2	609	U
2	2	639	U
2	2	705	U
2	2	711	U
2	2	819	G
2	2	912	U
2	2	928	U
2	2	1023	A
2	2	1226	A
2	2	1245	G
2	2	1256	A
2	2	1273	G
2	2	1274	C
2	2	1344	A
2	2	1382	A
2	2	1430	U
2	2	1471	A
2	2	1557	U
2	2	1584	G
2	2	1633	A
2	2	1636	C

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Mol	Chain	Res	Type
2	2	1657	U
3	A	916	G
3	A	1820	U
3	A	2193	U
3	A	2255	A
3	A	2267	C
3	A	2469	G
3	A	2504	U
3	A	2505	U
3	A	3004	C
3	A	3121	U
4	B	52	G
5	C	85	G

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](#)

There are no chain breaks in this entry.