



Full wwPDB EM Validation Report ⓘ

Sep 16, 2026 – 03:42 pm BST

PDB ID : 9SL4 / pdb_00009sl4
EMDB ID : EMD-53668
Title : Model of M. pneumoniae 70S eT-TC (collided)
Authors : Dobbs, J.M.; Mahamid, J.
Deposited on : 2025-09-03
Resolution : 7.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev133
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

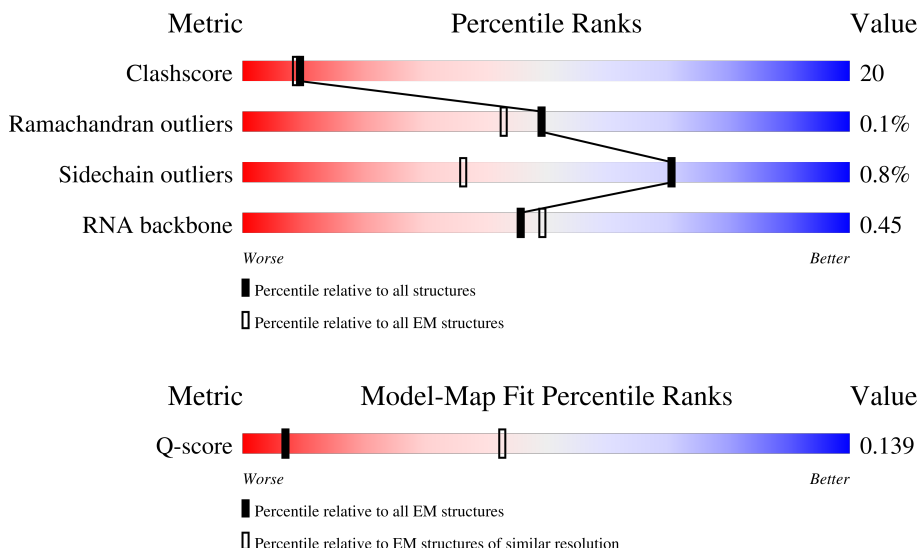
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

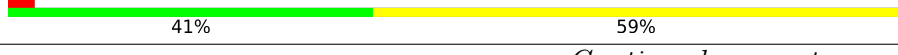
The reported resolution of this entry is 7.20 Å.

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



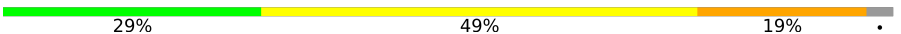
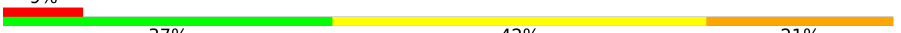
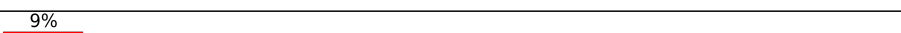
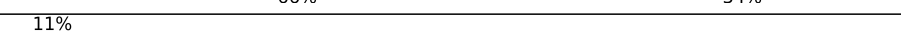
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	444 (6.70 - 7.70)

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

Mol	Chain	Length	Quality of chain
1	0	47	
2	1	59	
3	2	37	

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Mol	Chain	Length	Quality of chain
4	3	2893	
5	4	108	
6	5	1505	
7	6	247	
7	AA	247	
8	7	76	
9	8	1391	
10	9	89	
11	A	240	
12	AB	32	
13	AC	32	
14	AD	160	
15	B	215	
16	C	203	
17	D	153	
18	E	167	
19	F	154	
20	G	141	
21	H	128	
22	I	101	
23	J	114	
24	K	136	
25	L	118	
26	M	60	
27	N	83	

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Mol	Chain	Length	Quality of chain
28	O	80	
29	P	83	
30	Q	65	
31	R	84	
32	S	77	
33	T	53	
34	U	161	
35	V	29	
35	W	29	
35	X	29	
35	Y	29	
36	Z	1276	
37	a	285	
38	b	229	
39	c	210	
40	d	175	
41	e	176	
42	f	145	
43	h	128	
44	i	144	
45	j	122	
46	k	148	
47	l	136	
48	m	119	
49	n	116	

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Mol	Chain	Length	Quality of chain
50	o	115	
51	p	114	
52	q	99	
53	r	139	
54	s	92	
55	t	111	
56	u	86	
57	v	63	
58	w	108	
59	x	44	
60	y	56	
61	z	50	

2 Entry composition

There are 61 unique types of molecules in this entry. The entry contains 173941 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 bL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 6 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

- Molecule 7 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	247	Total	C	N	O	S	0	0
			1920	1236	313	362	9		
7	AA	247	Total	C	N	O	S	0	0
			1920	1236	313	362	9		

- Molecule 8 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

- Molecule 9 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	8	1391	Total	C	N	O	S	0	0
			10948	6905	1892	2114	37		

- Molecule 10 is a protein called Probable DNA-directed RNA polymerase subunit delta.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	9	89	Total	C	N	O	S	0	0
			770	505	122	140	3		

- Molecule 11 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 12 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AB	32	Total	C	N	O	P	0	0
			663	317	124	190	32		

- Molecule 13 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AC	32	Total	C	N	O	P	0	0
			649	313	110	194	32		

- Molecule 14 is a protein called Transcription termination/antitermination protein NusG.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AD	160	Total	C	N	O	S	0	0
			1277	821	220	233	3		

- Molecule 15 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 16 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 17 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 18 is a protein called Small ribosomal subunit protein bS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 19 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 20 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 21 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 22 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 23 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 24 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 25 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	L	118	Total	C	N	O		0	0
			951	594	191	166			

- Molecule 26 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 27 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 28 is a protein called Small ribosomal subunit protein bS16.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 29 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	P	83	Total	C	N	O	S	0	0
			675	425	135	115			

- Molecule 30 is a protein called Small ribosomal subunit protein bS18.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 31 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 32 is a protein called Small ribosomal subunit protein bS20.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	S	77	Total	C	N	O	S	0	0
			629	383	135	111			

- Molecule 33 is a protein called Small ribosomal subunit protein bS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

- Molecule 34 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	U	161	Total	C	N	O	S	0	0
			1239	796	213	225	5		

- Molecule 35 is a protein called Large ribosomal subunit protein bL12.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	V	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
35	W	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
35	X	29	Total	C	N	O	S	0	0
			232	146	34	50	2		
35	Y	29	Total	C	N	O	S	0	0
			232	146	34	50	2		

- Molecule 36 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Z	1276	Total	C	N	O	S	0	0
			10085	6431	1752	1872	30		

- Molecule 37 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

- Molecule 38 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

- Molecule 39 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

- Molecule 40 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

- Molecule 41 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	e	176	Total	C	N	O		
			1396	899	247	250	0	0

- Molecule 42 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	f	145	Total	C	N	O	S		
			1160	746	204	207	3	0	0

- Molecule 43 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	h	128	Total	C	N	O	S		
			959	616	160	177	6	0	0

- Molecule 44 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	i	144	Total	C	N	O	S		
			1164	737	213	209	5	0	0

- Molecule 45 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	j	122	Total	C	N	O	S		
			944	595	178	167	4	0	0

- Molecule 46 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	k	148	Total	C	N	O		
			1153	731	226	196	0	0

- Molecule 47 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	l	136	Total	C	N	O	S		
			1079	694	196	182	7	0	0

- Molecule 48 is a protein called Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 49 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 50 is a protein called Large ribosomal subunit protein bL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 51 is a protein called Large ribosomal subunit protein bL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	p	114	Total	C	N	O	S	0	0
			947	603	188	154	2		

- Molecule 52 is a protein called Large ribosomal subunit protein bL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 53 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 54 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 55 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

- Molecule 56 is a protein called Large ribosomal subunit protein bL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

- Molecule 57 is a protein called Large ribosomal subunit protein bL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

- Molecule 58 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	w	100	Total	C	N	O		0	0
			818	517	153	148			

- Molecule 59 is a protein called Large ribosomal subunit protein bL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

- Molecule 60 is a protein called Large ribosomal subunit protein bL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

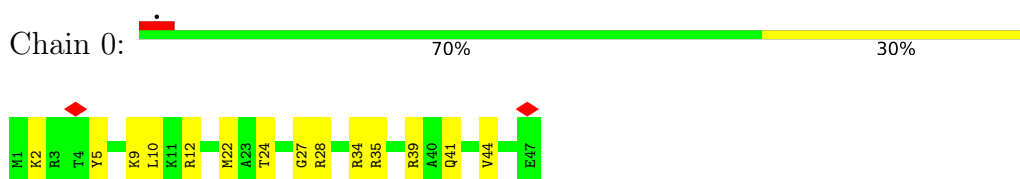
- Molecule 61 is a protein called Large ribosomal subunit protein bL33A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

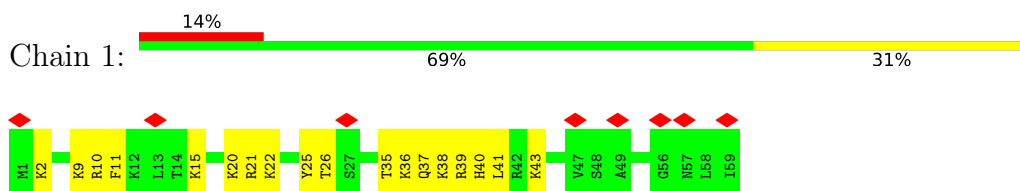
3 Residue-property plots

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

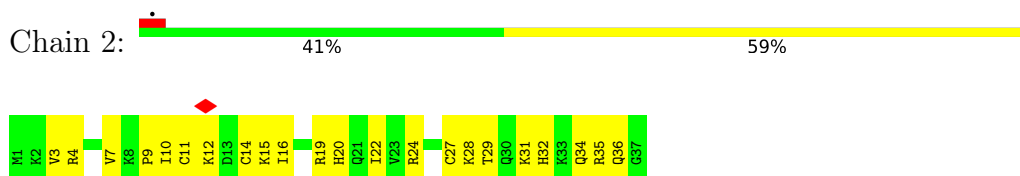
- Molecule 1: Large ribosomal subunit protein bL34



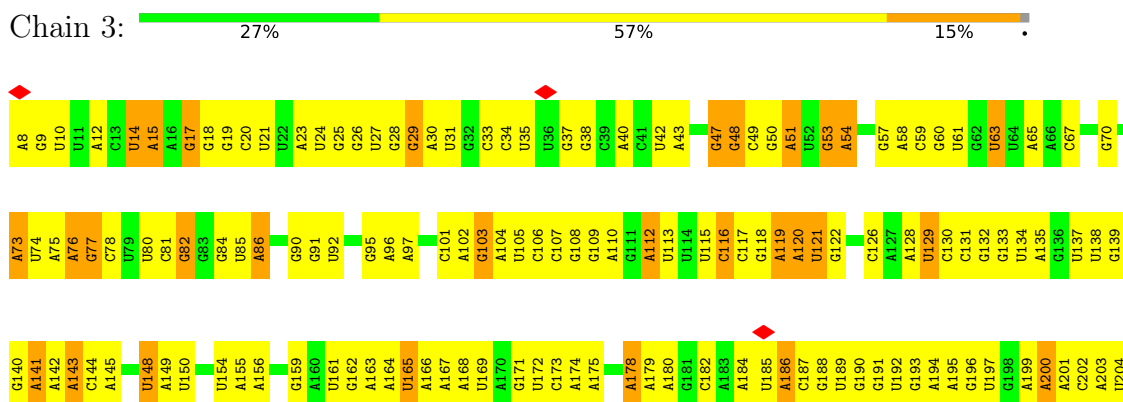
- Molecule 2: 50S ribosomal protein L35



- Molecule 3: 50S ribosomal protein L36

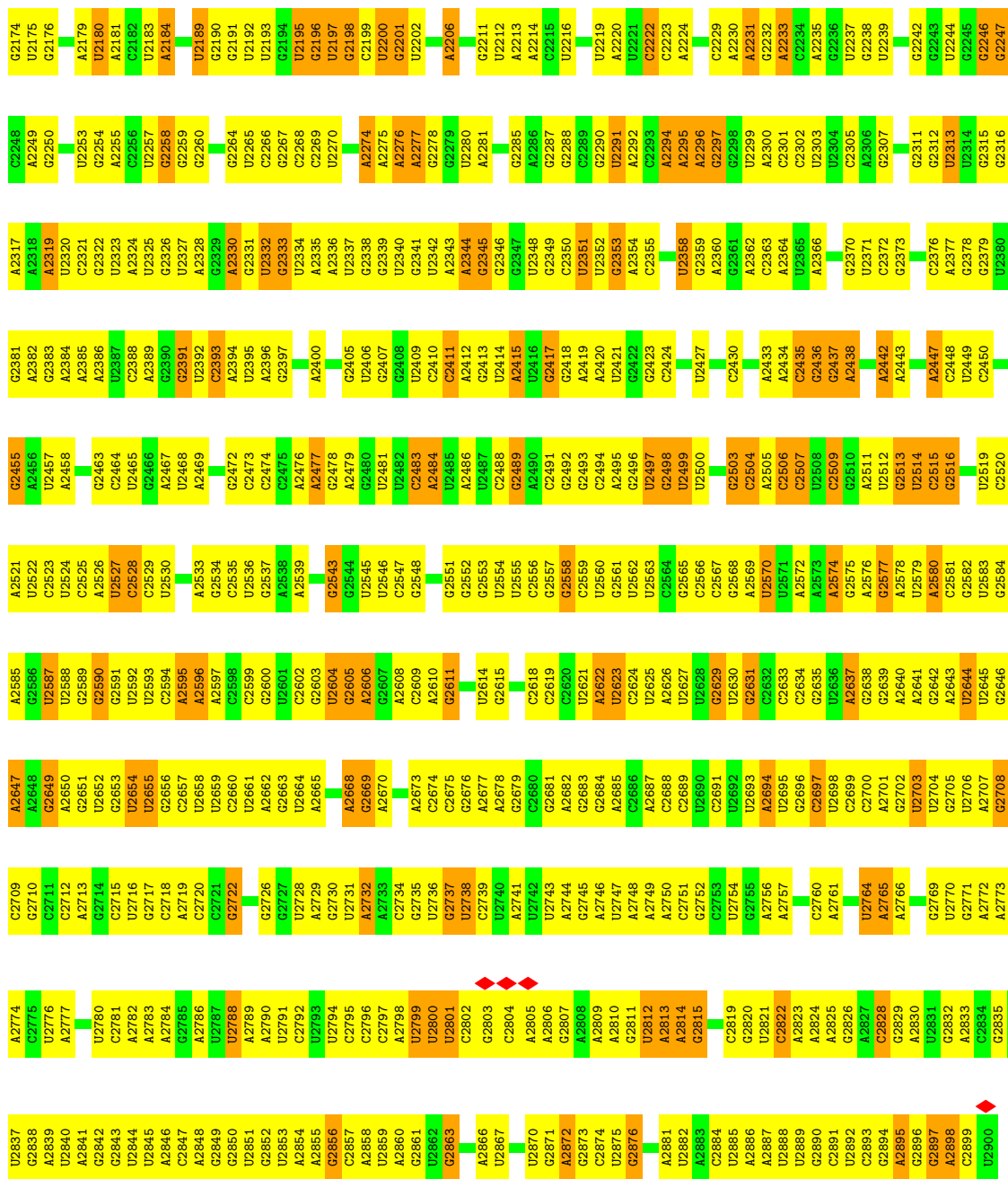


- Molecule 4: 23S ribosomal RNA



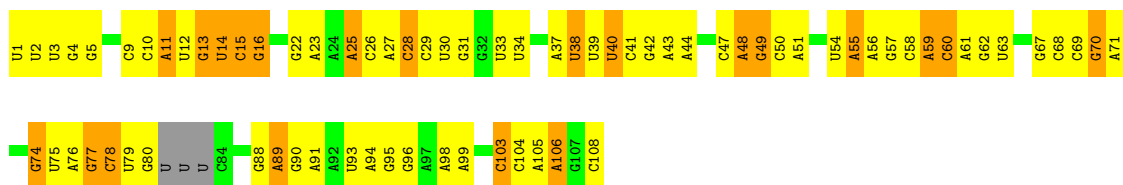
U143	U1079	G1013	U945	G875	G811	G742	U676	G610	U544	C480	U411	A343	A274	C205
C144	A1080	A1016	A946	A876	C815	G743	A679	A611	C545	C481	A412	A344	A275	
G145	A1081	A1017	A947	A877	A816	U744	A678	G612	U546	G482	G413	A345	A276	A208
A146	A1082	A1018	A948	A878	U745	G746	A681	G613	G547	A483		G346		G209
G147	A1083	G1018	C949	A817	G746	A747		C614	A548	U484	G418	C347	U279	U210
U148	C1084	U950	C950	A818			A682	G615	A549	A485	A419	A348	A280	A211
A149	A1085	G1020	C951	C882	U819		G683	G616	A550	A486	A420	G349	A281	G212
U150	C1086	G1021	U952	A883	U820	G752	A694	C617	C551	C486	A421	C350		G213
U151	G1087	C1022	G953	U886	C821	A753	G685		C552	G488	A422	G351	U284	C214
	A955	A955			A754	G755	G686		A553	A489	C423	C352	U285	A215
U154	A1088	A1024	A954		C823	U754	G687	G620		A490	G424	G353	A286	C216
G155	A1089	G1025	A954		A824	A756	U688	G621	C558	A491	U425	C354	G287	A217
C156	G1090	A1026	C958	G892	U825	A757	U689	G622	C559	A492	U426	A355	A288	G218
G157	A1092	U1027	C959	A893	C826	G758	U690	U624	U560	A493	A427	A356	U289	G219
C158	C1028	A1028	C960	G894	G827	U759	G691	G625	A561	G494	U428	A357	A290	A220
C159	A1029	U961	C961	G895	A828	G760	U692	A626	C562	U495	U429	A358	G291	A221
G160	U1095	U1030	U962	U896	A829	G761	U693	G627	A563	A496	U430	G359	G292	A222
A161	U1096	G1031	U963	A897	A830	A762	U694	A628	A564	C497	U431	G360	G293	A223
G162	G1097	A1032	A964	A898	U831	G763	G695	G629	C565	C498	G432		G294	G224
C163	G1098	A1033	U965	A899	C832	G764	U696	G630	G566	C499	A433	G363	U295	A225
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G175		A1045	G982	A915	U846			A646		A514	A446	U377	U310	A237
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A181	U1118		G988	C921	C852			U652	U587	C520	U452	U383	C316	U243
U182	A1119	U1064	G989	C922	G853	G788	G719	G653	G588	C521	U453	G384	U317	U244
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		G1071		A937	C867	U802	C733	A668	G602	G535	A468	U403	A334	A259
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	U1141	U1076	G1010	A942	C872	U808	A740	A673	U607	U540	U477	G408	U337	G270
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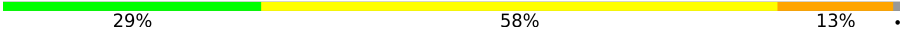


• Molecule 5: 5S ribosomal RNA

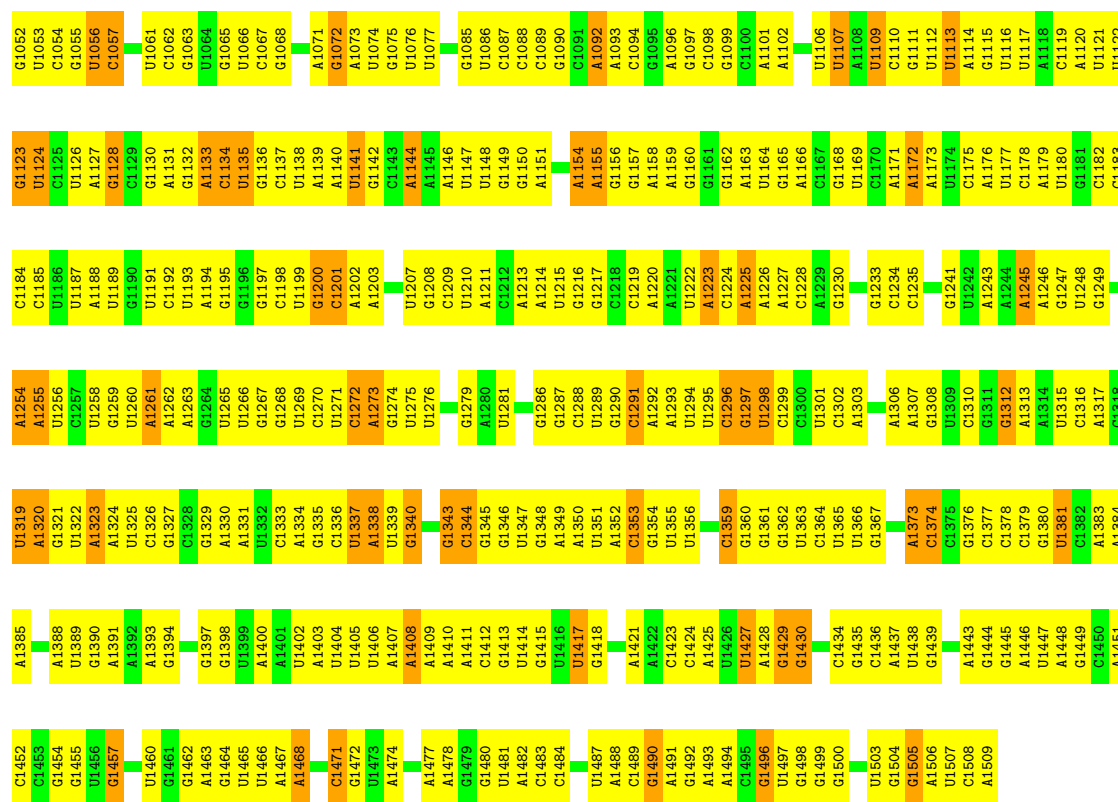
Chain 4: 29% 49% 19%



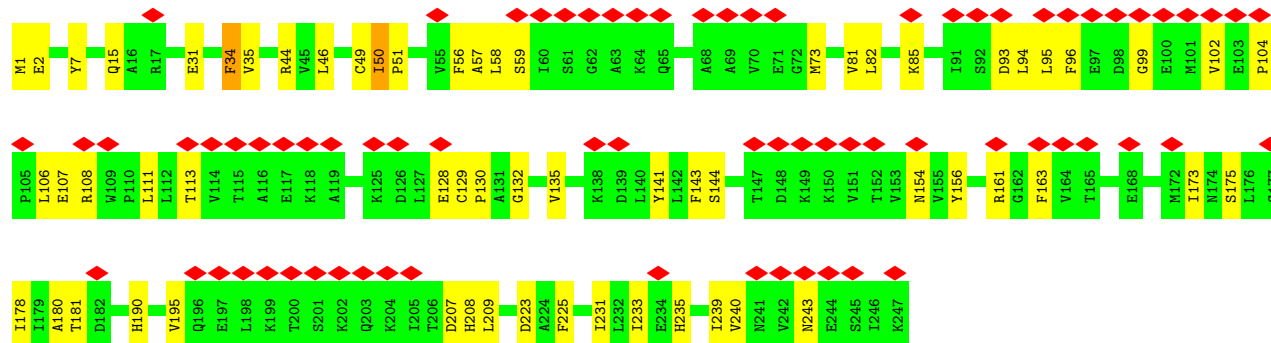
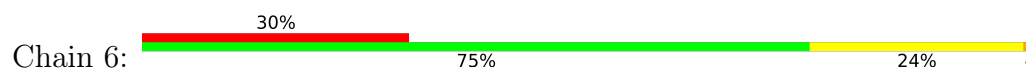
• Molecule 6: 16S ribosomal RNA

Chain 5:  29% 58% 13%

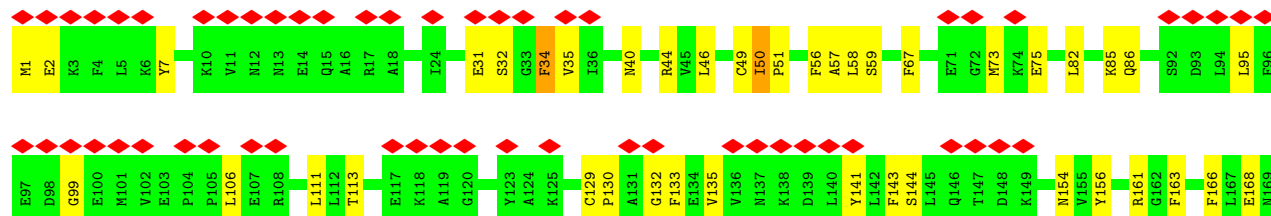
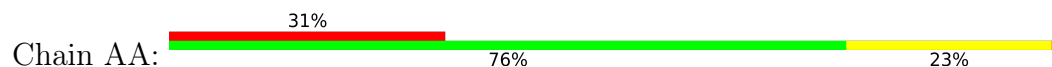
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A71	A72	G73	U80	A81	G82	A11	U83	U84	U85	A86	G87	A88	G89	G90	C91	G92	A93	A94	C95	G96	U100	A101	G102	U103	A104	C105	C106	A107	C108	G109	A110	A111	C114	A115	A116	U117	C118	U119	A120	A126	U128	G130	U131	G132	G133	G134	A135	U136	A137	C138	G139	A141	G142	U143	U144	C145																																						
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U676	C677	A678	U679	G680	U681	G682	G683	A684	U688	U689	G697	U698	A699	U700	A701	U702	A703	U704	A705	U706	U707	G708	A709	G710	U711	A712	U713	A714	C715	U716	A717	U718	G719	U720	G721	G724	A725	U726	C727	G728	C729	U730	A731	U732	A733	U734	G735	U736	A737	U738	G739	U740	C741	U742	A743	U744																																						
U745	A746	C747	U748	G749	U750	G751	G752	C753	A754	U755	G756	A757	U758	G759	U760	A761	U762	U763	A764	U765	U766	U767	U768	U769	U770	U771	U772	U773	U774	U775	U776	U777	U778	U779	U780	U781	U782	U783	U784	U785	U786	U787	U788	U789	U790	U791	U792	U793	U794	U795	U796	U797	U798	U799	U800																																							
G826	C827	U828	G829	U830	C831	G832	G833	U834	G835	C836	G837	U838	A839	U839	C842	U843	U844	C845	G846	U847	U848	U849	U850	U851	U852	U853	U854	U855	U856	U857	U858	U859	U860	U861	U862	U863	U864	U865	U866	U867	U868	U869	U870	U871	U872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890	U891	U892	U893	U894	U895	U896	U897	U898	U899																						
G900	A901	U905	G906	A907	U908	A909	G910	U911	G912	A913	U914	G915	U916	U917	U918	U919	U920	U921	U922	U923	A924	C925	U926	C927	U928	C929	A930	C931	C932	A933	U934	G937	U938	G939	C940	A941	G942	C943	A944	U945	C946	U947	U948	G949	C950	U951	U952	A953	U954	U955	U956	C957	U958	U959	U960	U961	U962	U963	U964	U965	U966	U967	U968	U969	U970	U971	U972	U973	U974	U975	U976	U977	U978	U979	U980	U981	U982	U983	U984	U985	U986	U987	U988	U989	U990	U991	U992	U993	U994	U995	U996	U997	U998	U999
A970	A971	A972	A973	C974	U975	U976	U977	U978	C979	U980	U981	A982	G983	A984	U987	G988	C999	A1000	A1001	A1002	G1003	U1010	A1011	C1012	C1013	A1014	U1015	A1016	U1017	U1018	G1019	G	A	G	G	G	U	U	A	A	C1028	A1031	G1032	U1033	U1034	U1035	A1036	U1037	G1038	U1039	G1044	C1045	A1046	U1047	G1048	U1049	U1050																																					



• Molecule 7: DNA-directed RNA polymerase subunit alpha



• Molecule 7: DNA-directed RNA polymerase subunit alpha

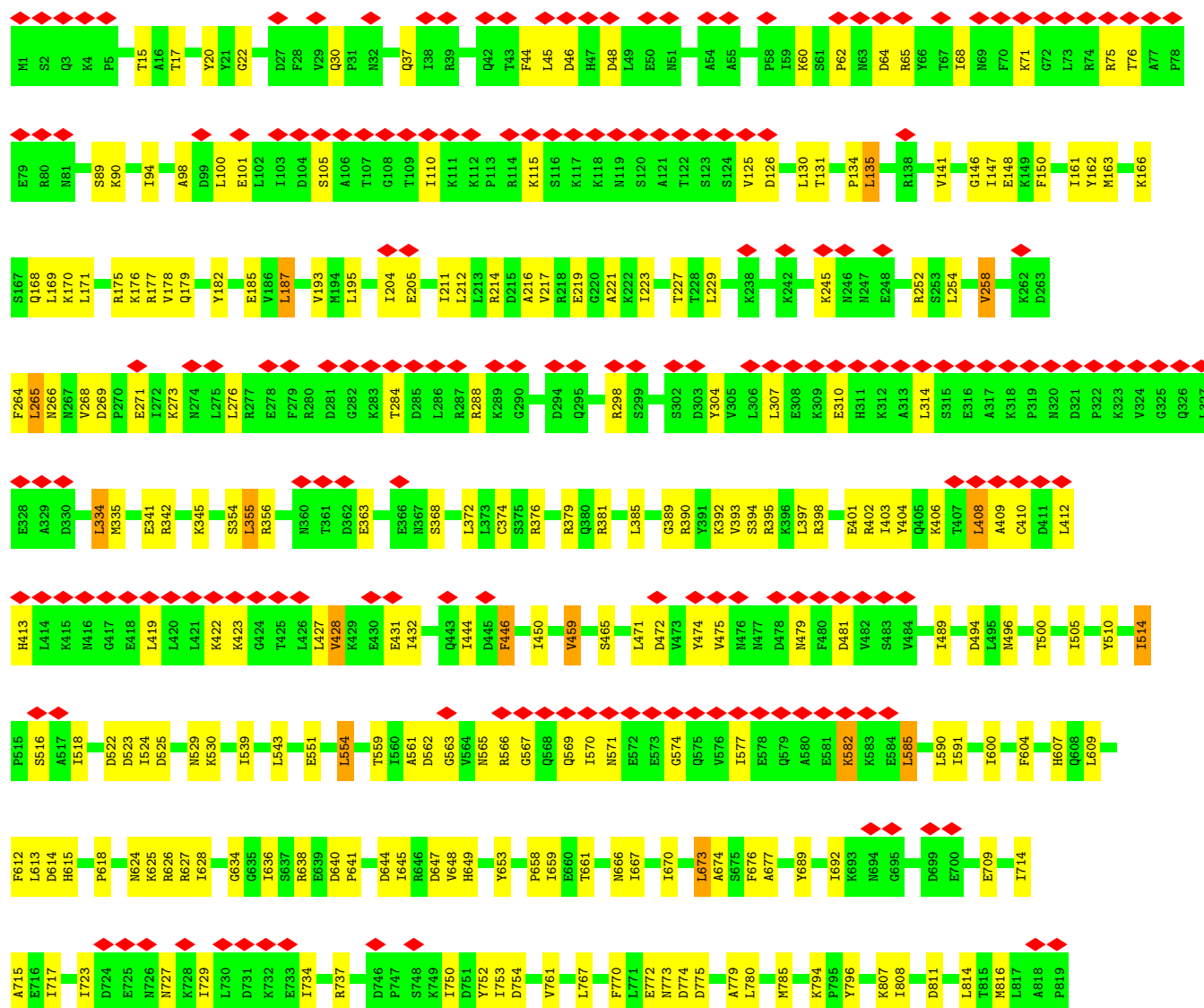


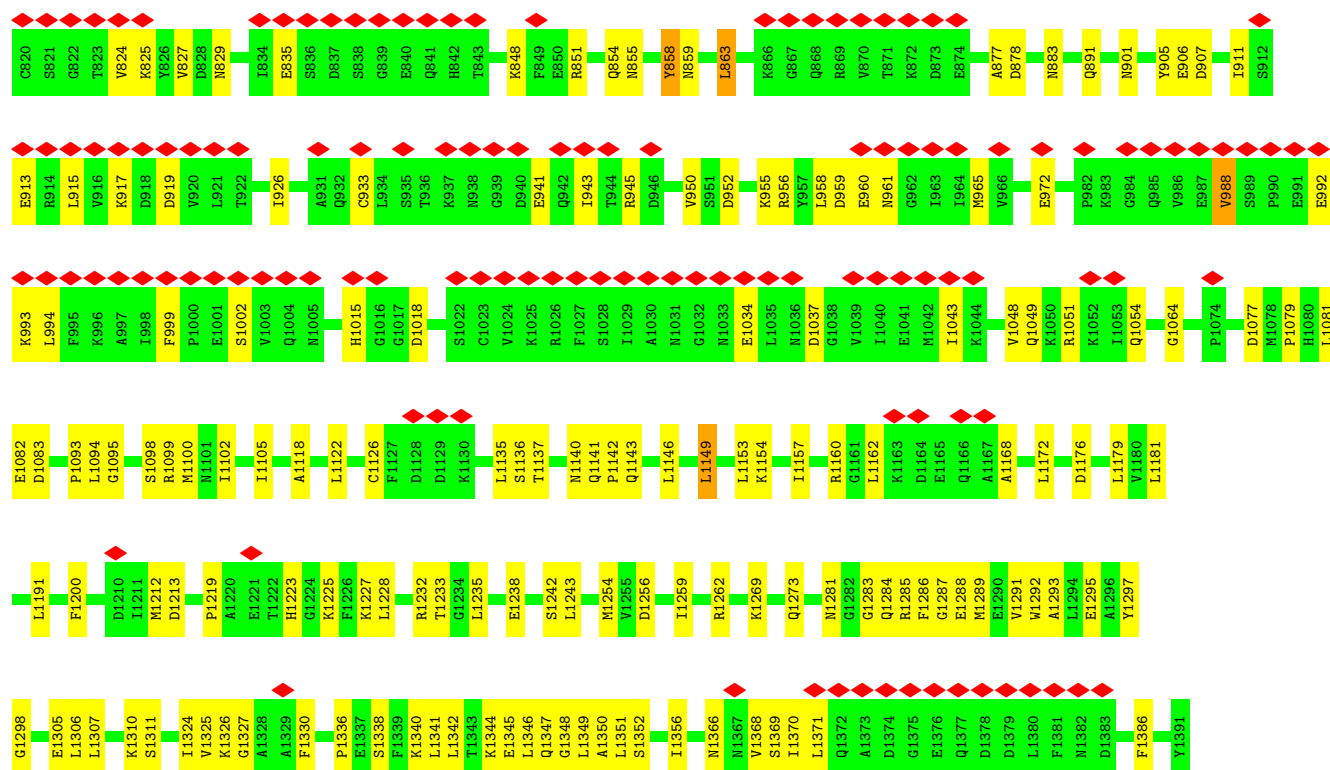


• Molecule 8: tRNA-Phe

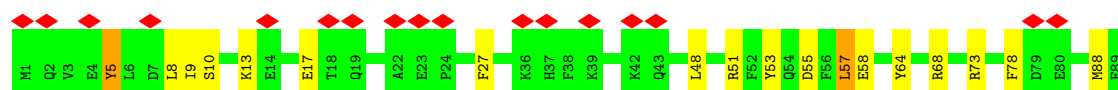
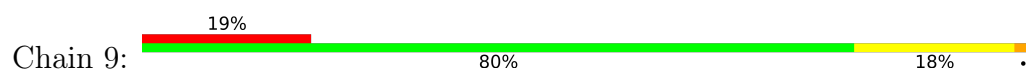


• Molecule 9: DNA-directed RNA polymerase subunit beta

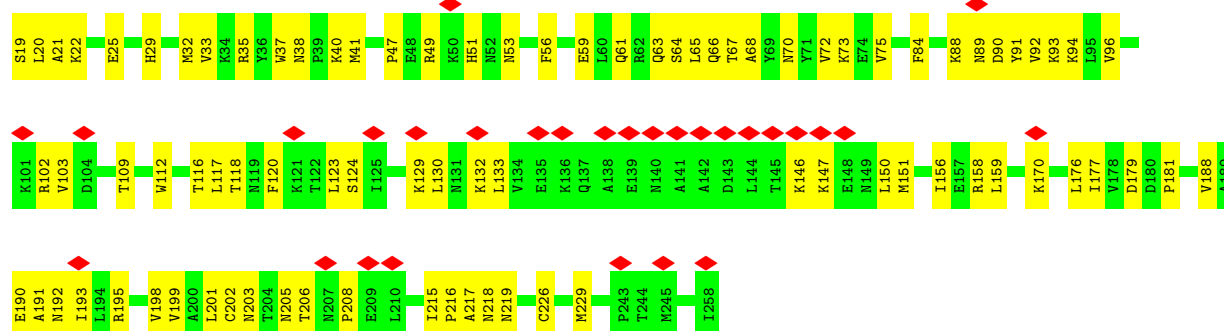




• Molecule 10: Probable DNA-directed RNA polymerase subunit delta



• Molecule 11: Small ribosomal subunit protein uS2

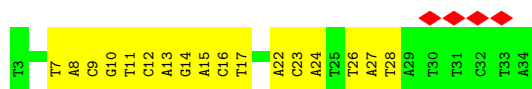


• Molecule 12: DNA

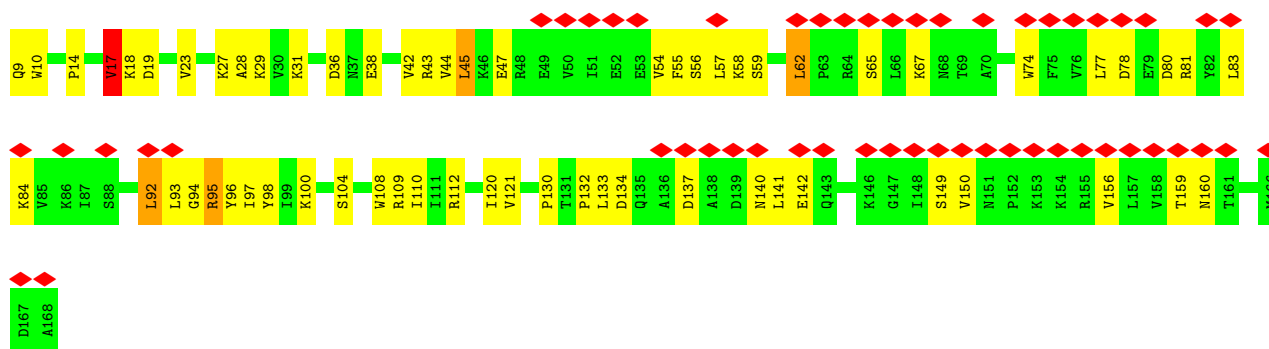




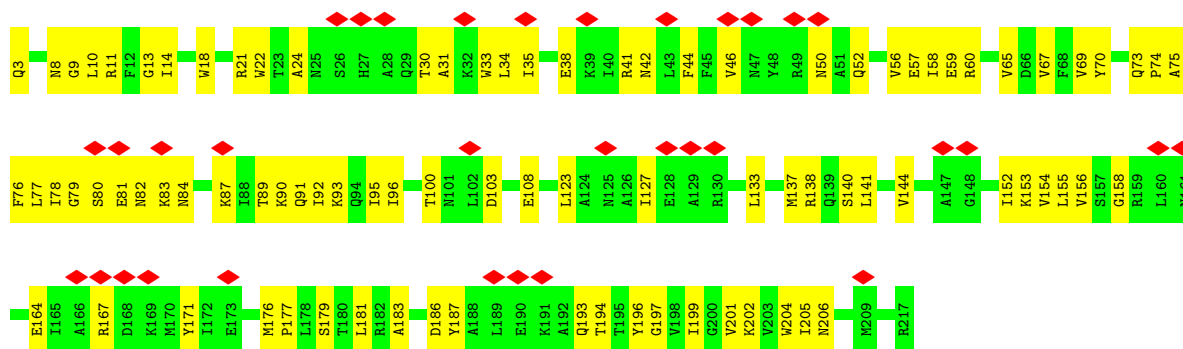
- Molecule 13: DNA



- Molecule 14: Transcription termination/antitermination protein NusG

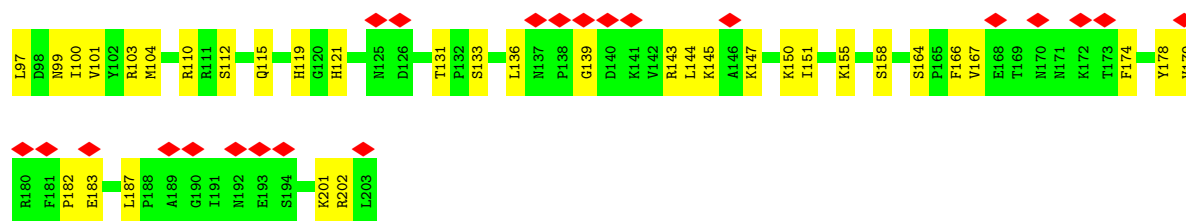


- Molecule 15: Small ribosomal subunit protein uS3

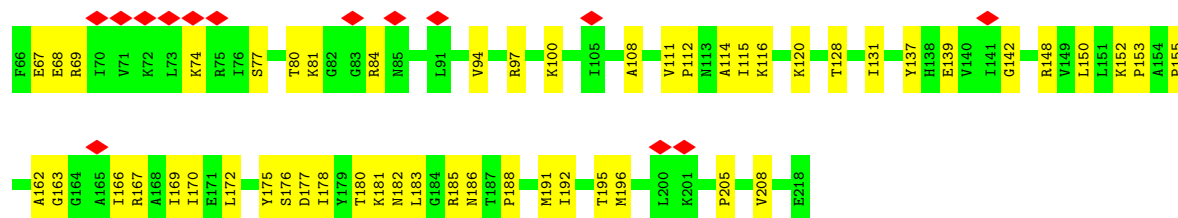


- Molecule 16: Small ribosomal subunit protein uS4

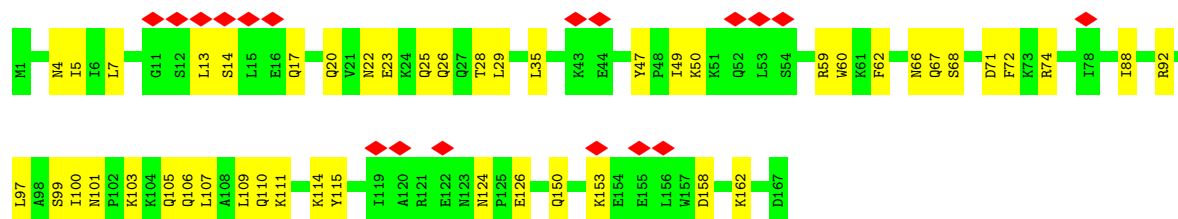




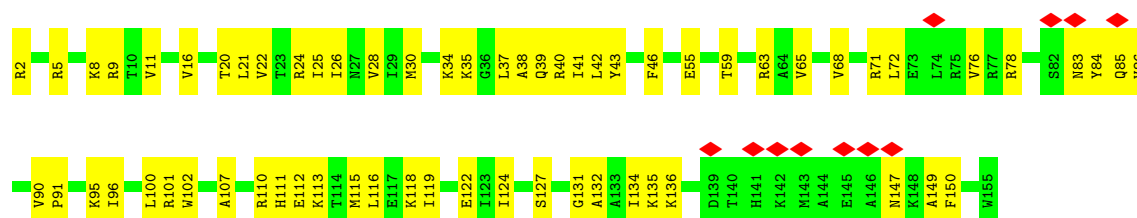
- Molecule 17: Small ribosomal subunit protein uS5



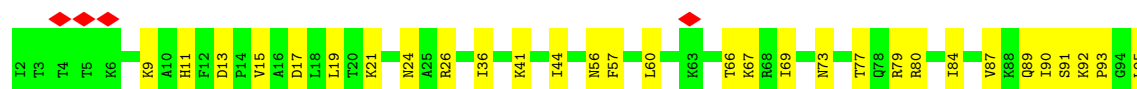
- Molecule 18: Small ribosomal subunit protein bS6



- Molecule 19: Small ribosomal subunit protein uS7

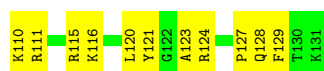
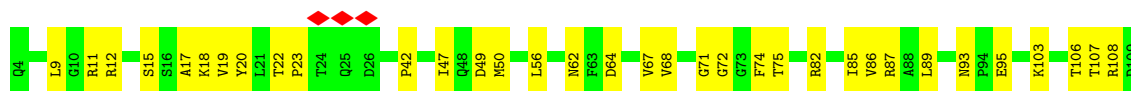


- Molecule 20: Small ribosomal subunit protein uS8

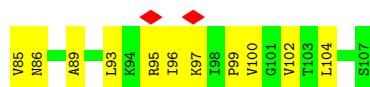




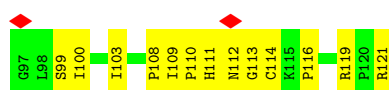
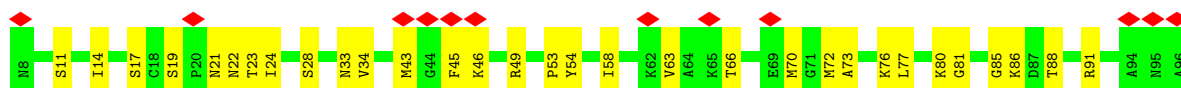
- Molecule 21: Small ribosomal subunit protein uS9



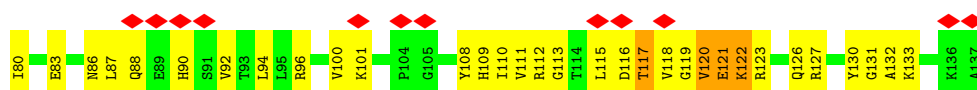
- Molecule 22: Small ribosomal subunit protein uS10



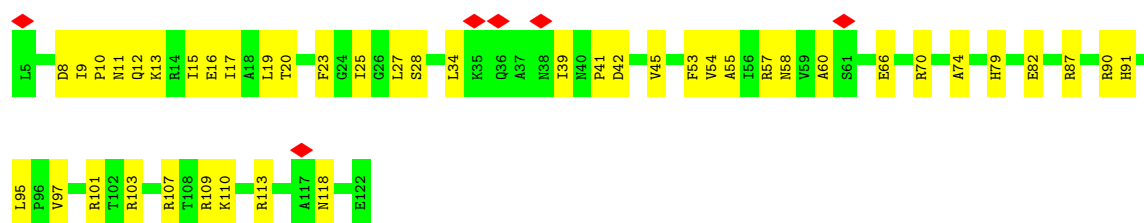
- Molecule 23: Small ribosomal subunit protein uS11



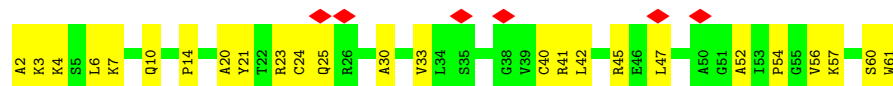
- Molecule 24: Small ribosomal subunit protein uS12



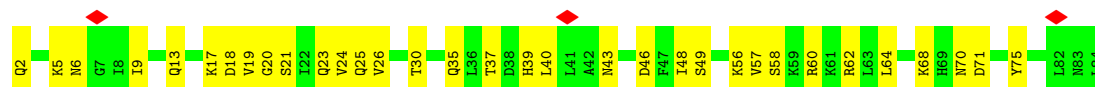
- Molecule 25: Small ribosomal subunit protein uS13



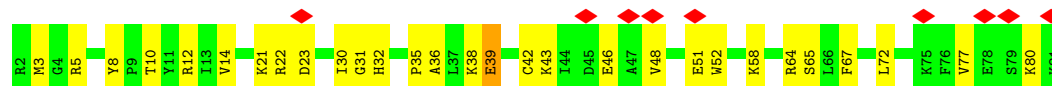
- Molecule 26: Small ribosomal subunit protein uS14



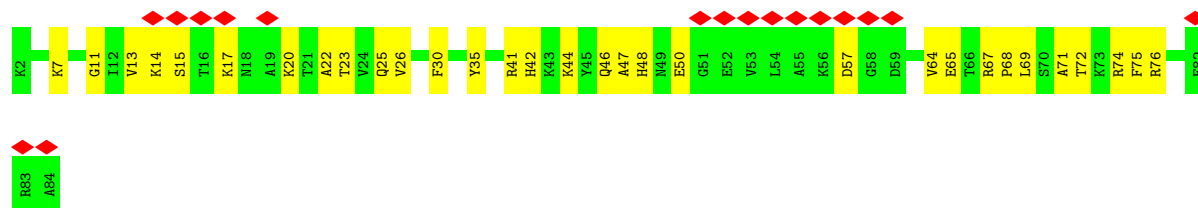
- Molecule 27: Small ribosomal subunit protein uS15



- Molecule 28: Small ribosomal subunit protein bS16



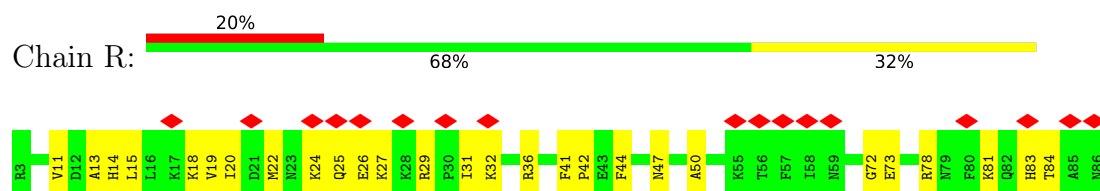
- Molecule 29: Small ribosomal subunit protein uS17



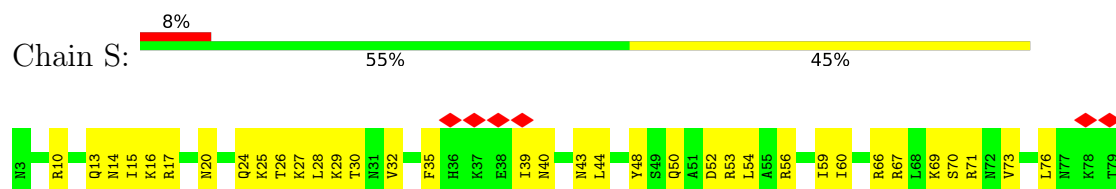
- Molecule 30: Small ribosomal subunit protein bS18



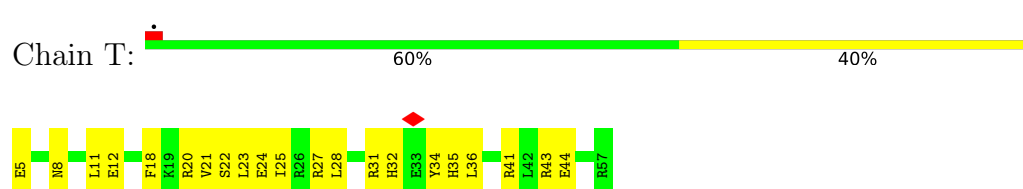
- Molecule 31: Small ribosomal subunit protein uS19



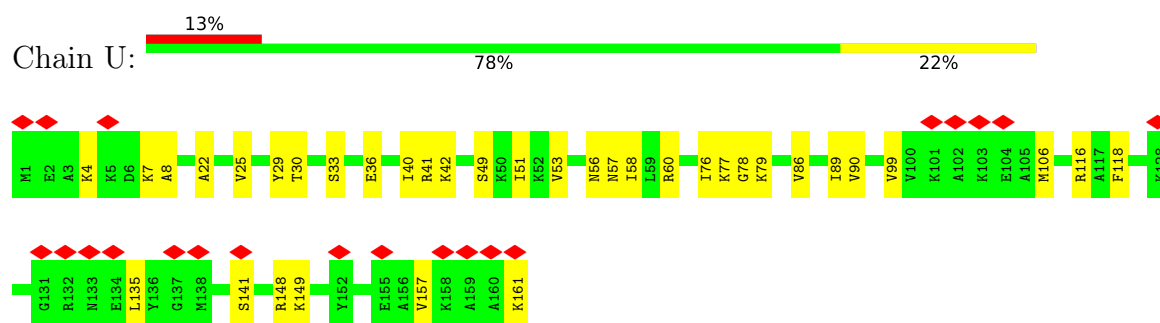
- Molecule 32: Small ribosomal subunit protein bS20



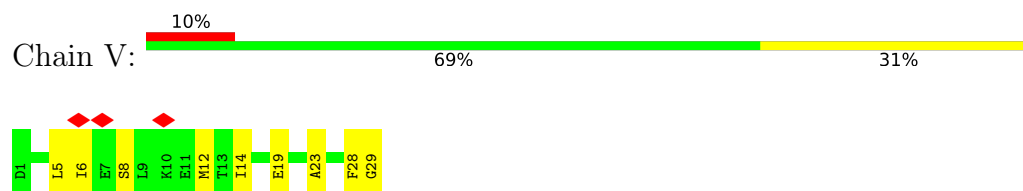
- Molecule 33: Small ribosomal subunit protein bS21



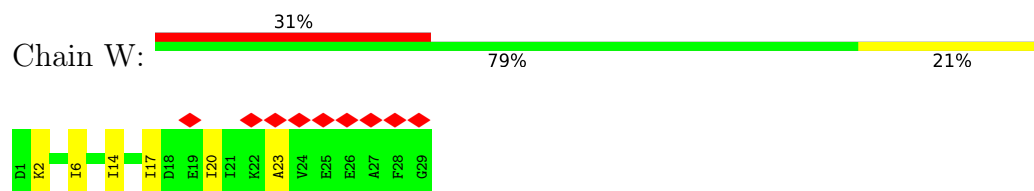
- Molecule 34: 50S ribosomal protein L10



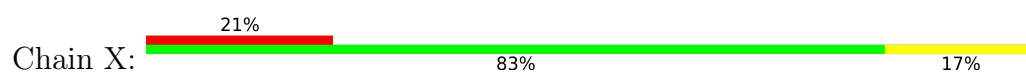
- Molecule 35: Large ribosomal subunit protein bL12



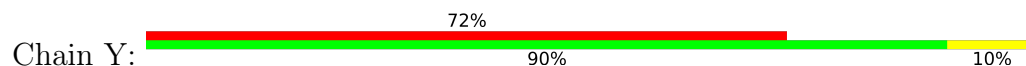
- Molecule 35: Large ribosomal subunit protein bL12



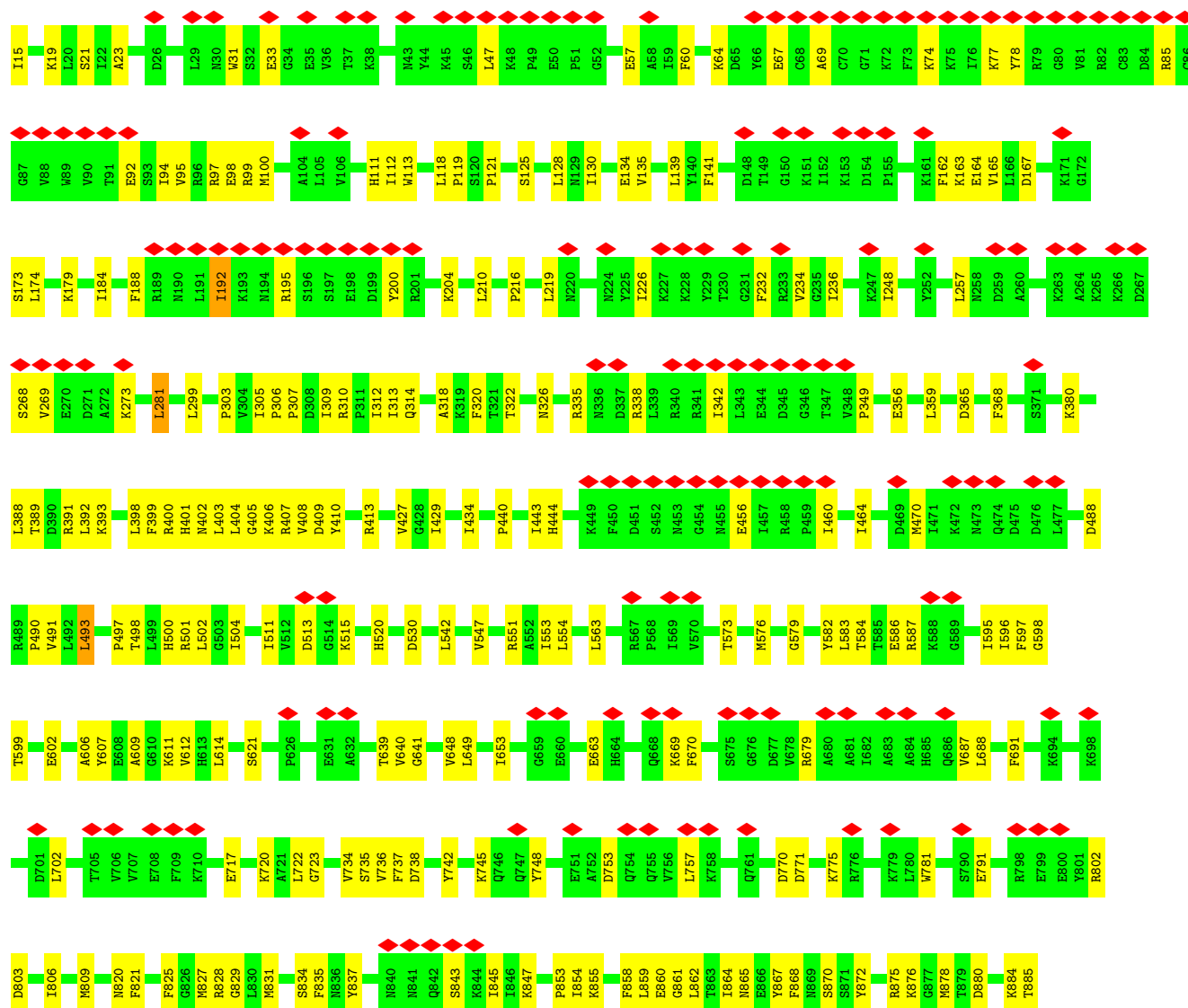
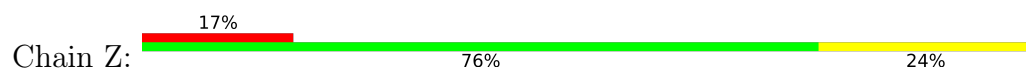
- Molecule 35: Large ribosomal subunit protein bL12

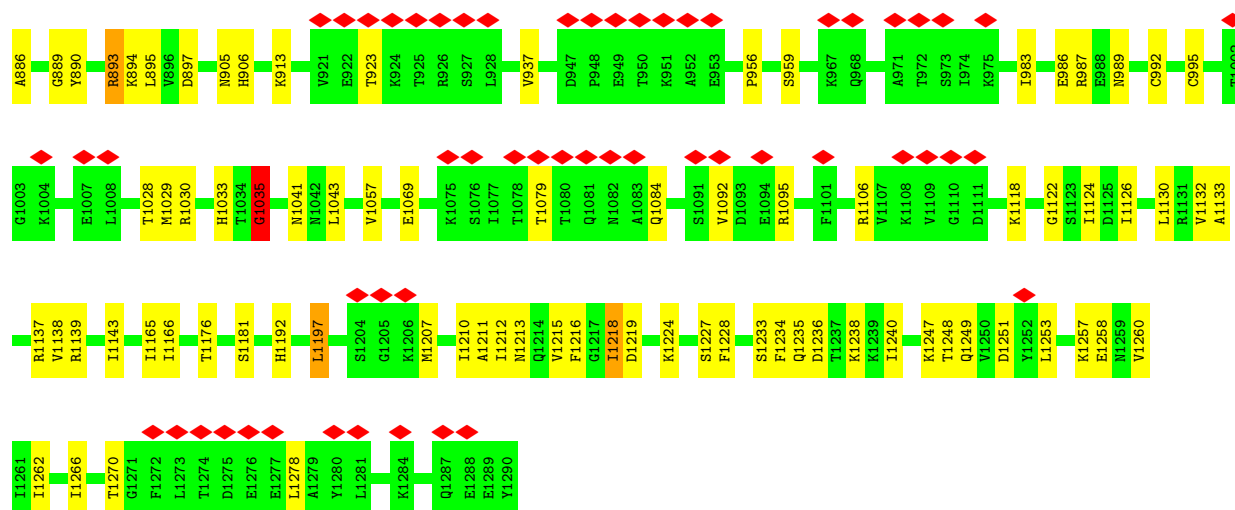


- Molecule 35: Large ribosomal subunit protein bL12

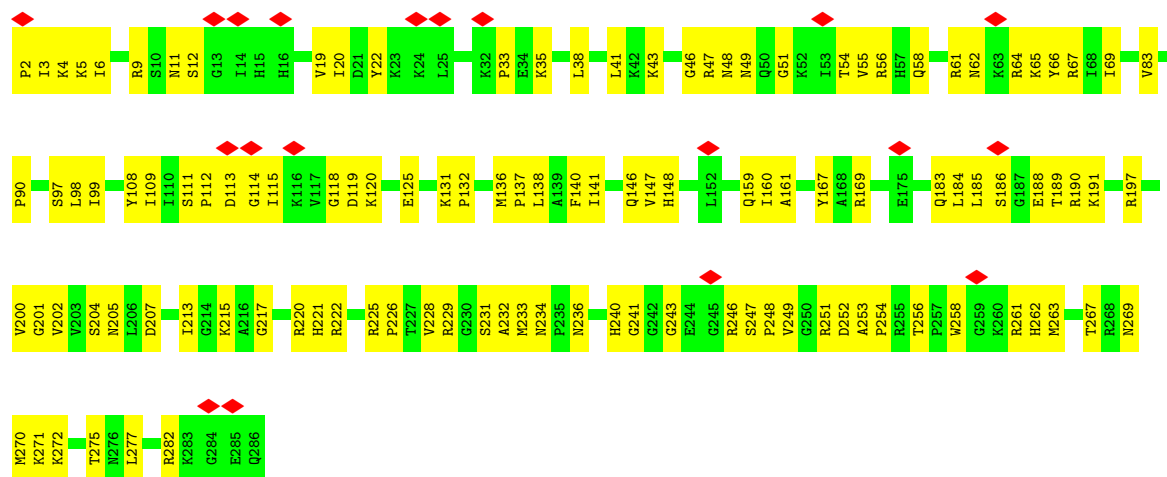


- Molecule 36: DNA-directed RNA polymerase subunit beta'

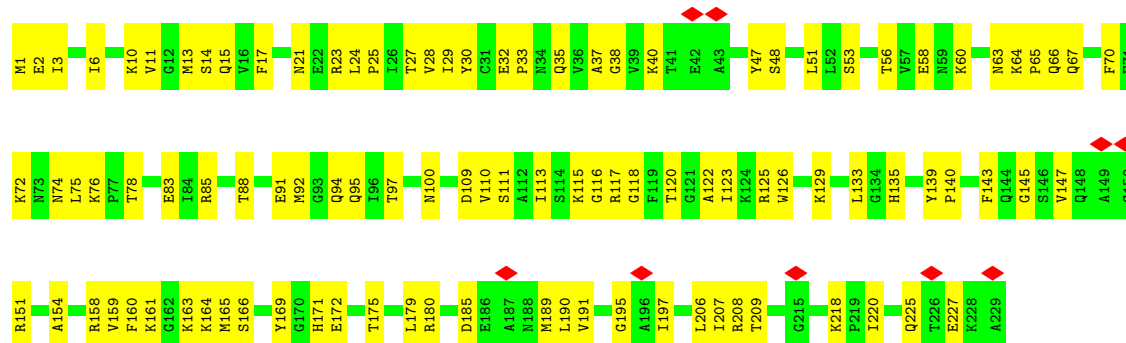




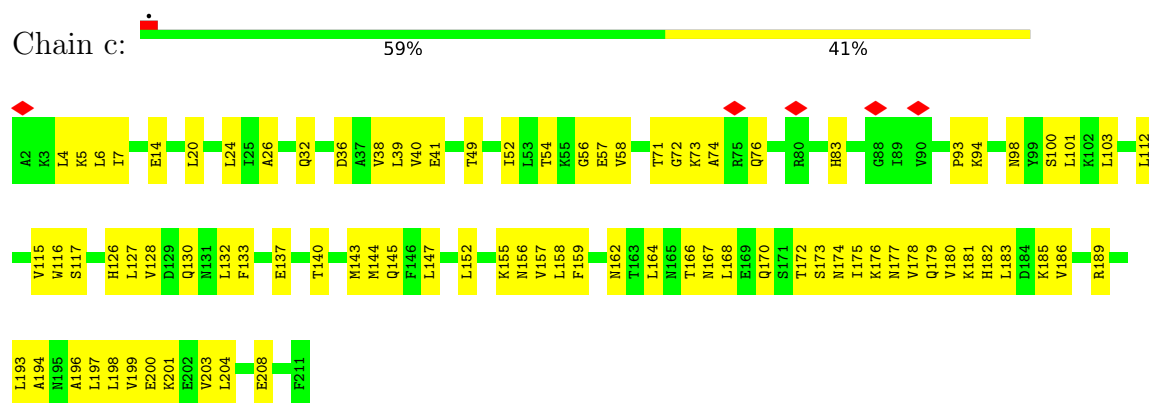
• Molecule 37: Large ribosomal subunit protein uL2



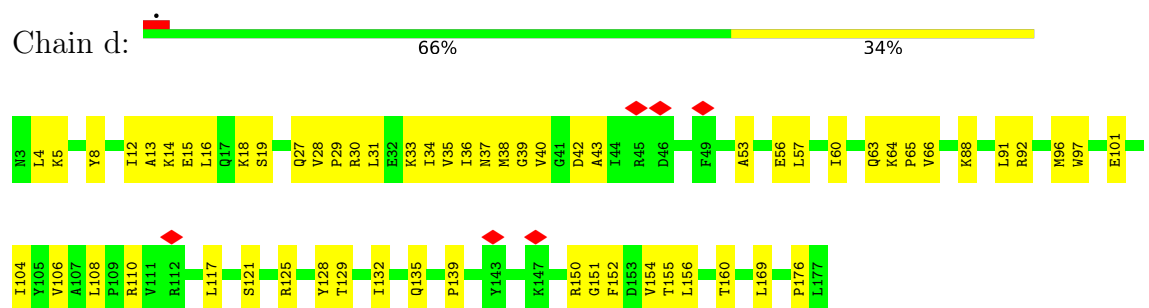
• Molecule 38: Large ribosomal subunit protein uL3



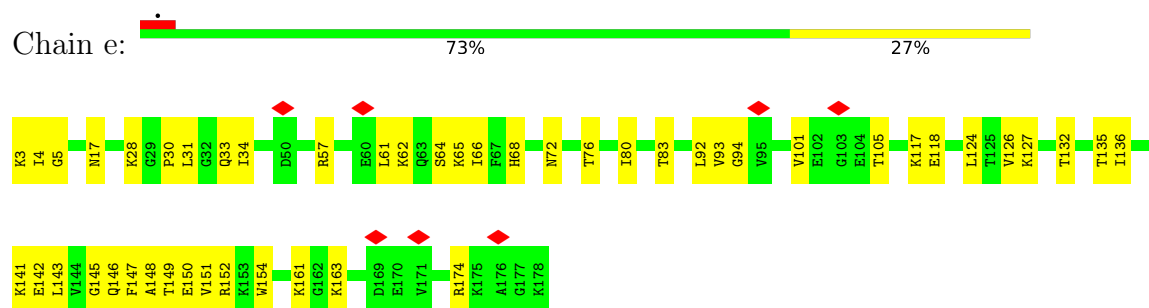
• Molecule 39: Large ribosomal subunit protein uL4



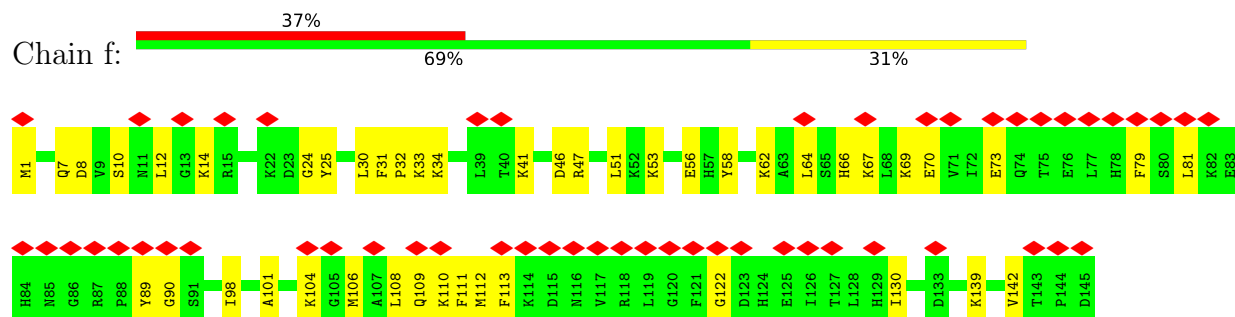
- Molecule 40: Large ribosomal subunit protein uL5



- Molecule 41: Large ribosomal subunit protein uL6

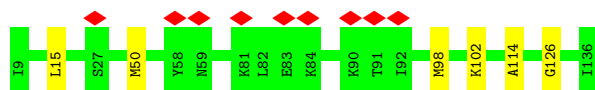


- Molecule 42: Large ribosomal subunit protein bL9

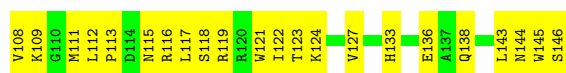
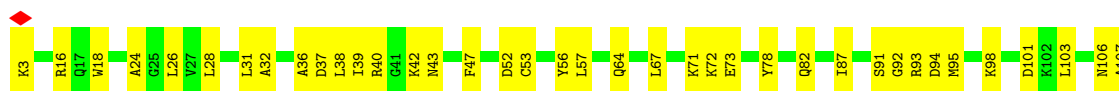


- Molecule 43: Large ribosomal subunit protein uL11

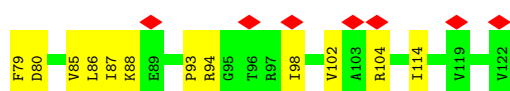




- Molecule 44: Large ribosomal subunit protein uL13



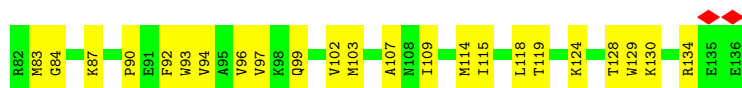
- Molecule 45: 50S ribosomal protein L14



- Molecule 46: Large ribosomal subunit protein uL15

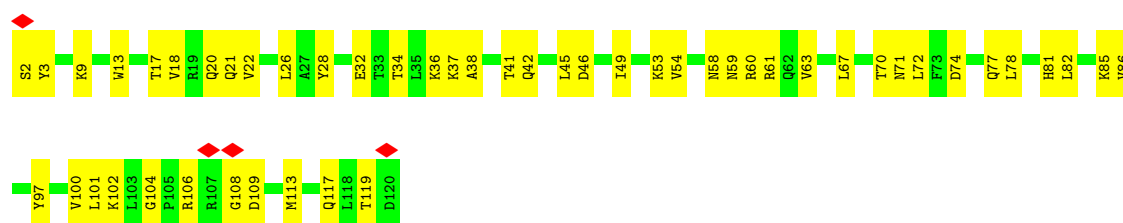


- Molecule 47: Large ribosomal subunit protein uL16



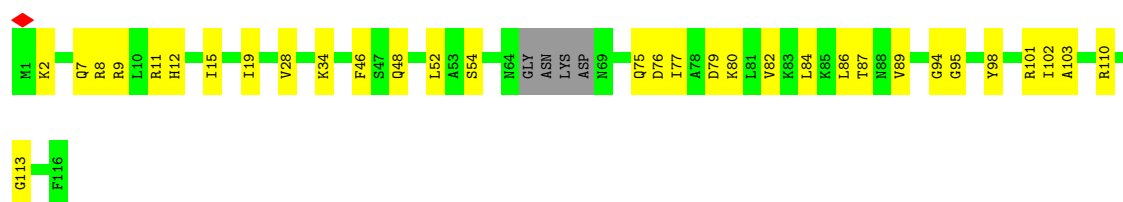
- Molecule 48: Large ribosomal subunit protein bL17

Chain m:  58% 42%

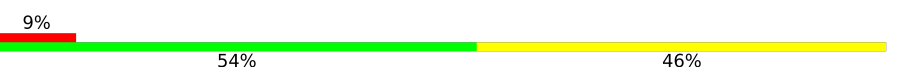


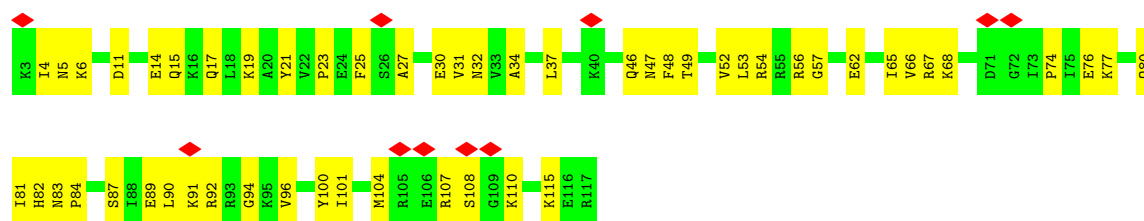
- Molecule 49: Large ribosomal subunit protein uL18

Chain n:  69% 28%



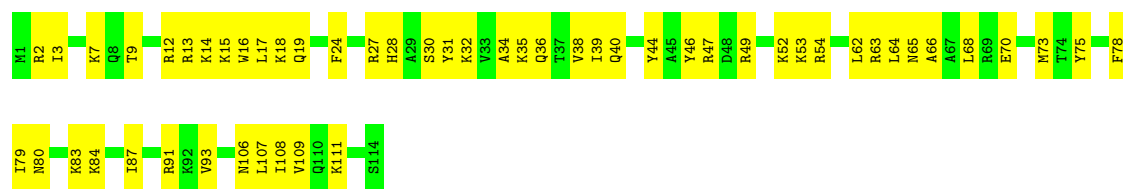
- Molecule 50: Large ribosomal subunit protein bL19

Chain o:  9% 54% 46%



- Molecule 51: Large ribosomal subunit protein bL20

Chain p:  54% 46%



- Molecule 52: Large ribosomal subunit protein bL21

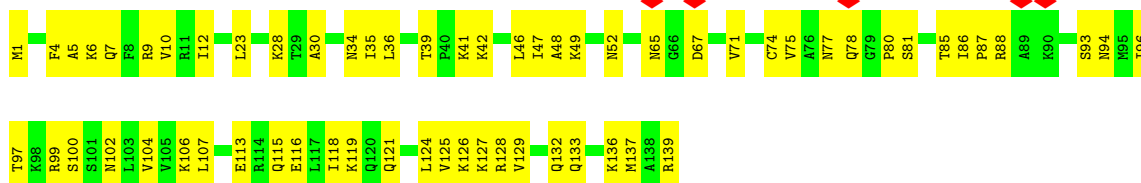
Chain q:  55% 45%





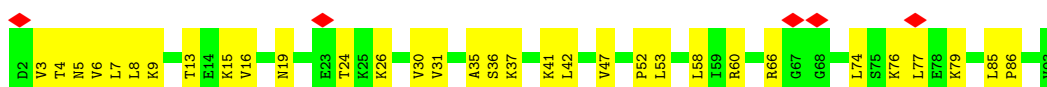
- Molecule 53: Large ribosomal subunit protein uL22

Chain r: 55% 45%



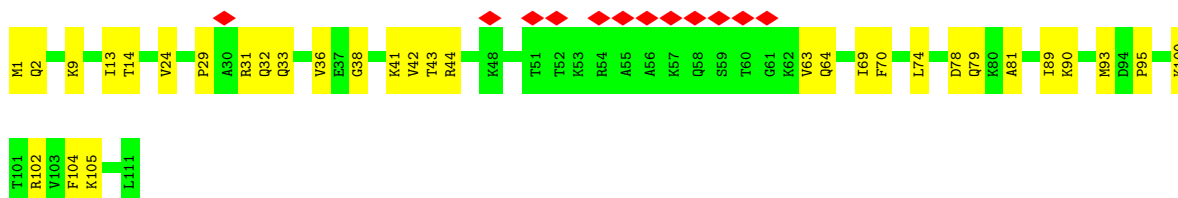
- Molecule 54: Large ribosomal subunit protein uL23

Chain s: 5% 65% 35%



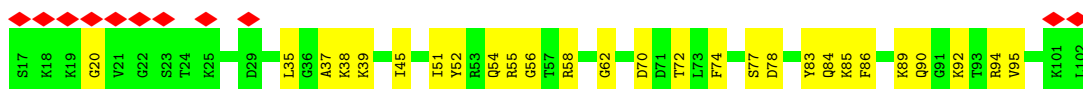
- Molecule 55: 50S ribosomal protein L24

Chain t: 11% 71% 29%



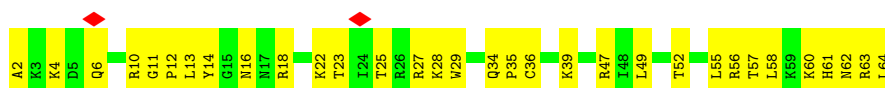
- Molecule 56: Large ribosomal subunit protein bL27

Chain u: 13% 69% 31%



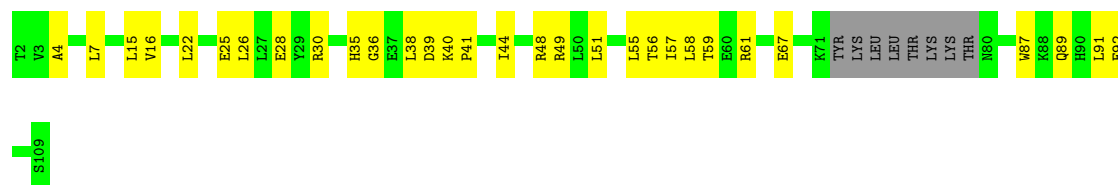
- Molecule 57: Large ribosomal subunit protein bL28

Chain v: 49% 51%

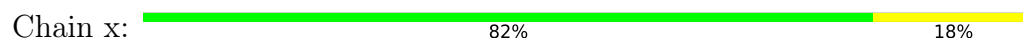


- Molecule 58: Large ribosomal subunit protein uL29

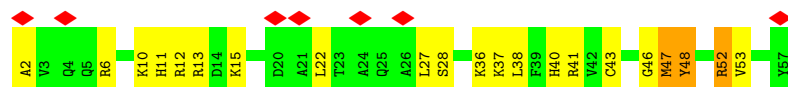
Chain w: 65% 28% 7%



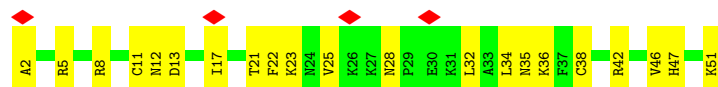
- Molecule 59: Large ribosomal subunit protein bL31



- Molecule 60: Large ribosomal subunit protein bL32



- Molecule 61: Large ribosomal subunit protein bL33A



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	2584	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	120	Depositor
Minimum defocus (nm)	2500	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.017	Depositor
Minimum map value	-0.008	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.00124	Depositor
Map size (Å)	600.0, 600.0, 600.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.0, 2.0, 2.0	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	0	0.14	0/383	0.38	0/504
2	1	0.18	0/484	0.54	0/637
3	2	0.16	0/306	0.46	0/401
4	3	0.10	0/69073	0.23	0/107710
5	4	0.11	0/2505	0.28	0/3902
6	5	0.09	0/35768	0.22	0/55764
7	6	0.67	0/1954	0.98	0/2645
7	AA	0.67	0/1954	0.98	0/2645
8	7	0.11	0/1808	0.28	0/2817
9	8	0.70	0/11124	1.06	0/15014
10	9	0.69	0/792	1.05	0/1065
11	A	0.15	0/1954	0.43	0/2642
12	AB	0.47	0/745	0.61	1/1149 (0.1%)
13	AC	0.65	1/725 (0.1%)	0.75	2/1115 (0.2%)
14	AD	0.71	0/1298	1.00	0/1752
15	B	0.18	0/1721	0.49	0/2323
16	C	0.17	0/1691	0.49	0/2267
17	D	0.19	0/1188	0.52	1/1593 (0.1%)
18	E	0.16	0/1384	0.48	2/1867 (0.1%)
19	F	0.19	0/1266	0.56	1/1700 (0.1%)
20	G	0.17	0/1126	0.53	0/1517
21	H	0.17	0/1044	0.47	0/1395
22	I	0.20	0/820	0.58	1/1103 (0.1%)
23	J	0.15	0/844	0.44	0/1136
24	K	0.28	0/1094	0.60	2/1468 (0.1%)
25	L	0.18	0/962	0.50	0/1289
26	M	0.18	0/483	0.51	0/643
27	N	0.15	0/679	0.49	1/907 (0.1%)
28	O	0.18	0/659	0.57	1/885 (0.1%)
29	P	0.15	0/684	0.42	0/913
30	Q	0.20	0/545	0.60	0/730
31	R	0.16	0/698	0.49	0/936
32	S	0.17	0/631	0.46	0/838
33	T	0.20	0/475	0.56	0/621

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
34	U	0.68	0/1254	1.11	0/1677
35	V	0.64	0/232	1.16	2/307 (0.7%)
35	W	0.60	0/232	1.09	0/307
35	X	0.64	0/232	1.04	0/307
35	Y	0.63	0/232	1.07	0/307
36	Z	0.71	0/10259	1.06	2/13846 (0.0%)
37	a	0.16	0/2267	0.43	0/3044
38	b	0.17	0/1795	0.51	0/2412
39	c	0.19	0/1671	0.51	1/2246 (0.0%)
40	d	0.16	0/1409	0.44	0/1894
41	e	0.15	0/1420	0.43	0/1912
42	f	0.19	0/1183	0.56	2/1587 (0.1%)
43	h	0.16	0/968	0.43	0/1298
44	i	0.15	0/1186	0.46	0/1592
45	j	0.16	0/953	0.47	0/1275
46	k	0.17	0/1170	0.46	0/1559
47	l	0.18	0/1104	0.47	0/1481
48	m	0.22	0/973	0.58	0/1309
49	n	0.18	0/897	0.53	0/1198
50	o	0.17	0/948	0.50	0/1262
51	p	0.19	0/961	0.48	0/1278
52	q	0.18	0/828	0.56	0/1111
53	r	0.18	0/1077	0.52	0/1441
54	s	0.17	0/732	0.52	1/988 (0.1%)
55	t	0.15	0/879	0.44	0/1165
56	u	0.15	0/665	0.43	0/884
57	v	0.22	0/519	0.53	0/695
58	w	0.18	0/826	0.47	0/1104
59	x	0.17	0/353	0.40	0/474
60	y	0.32	0/457	0.68	0/601
61	z	0.15	0/412	0.48	0/547
All	All	0.30	1/186961 (0.0%)	0.50	20/275001 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	8	0	1
20	G	0	1
23	J	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
28	O	0	1
36	Z	0	1
All	All	0	5

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	AC	22	DA	O3'-P	-15.40	1.38	1.61

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	AC	22	DA	P-O3'-C3'	14.74	142.31	120.20
12	AB	17	DT	P-O3'-C3'	8.55	133.03	120.20
13	AC	22	DA	O3'-P-O5'	-8.22	91.67	104.00
19	F	16	VAL	N-CA-C	-6.76	107.28	113.71
18	E	162	LYS	CA-C-N	6.26	133.50	121.54
18	E	162	LYS	C-N-CA	6.26	133.50	121.54
24	K	122	LYS	N-CA-C	-6.24	105.24	112.86
17	D	155	PRO	CA-N-CD	-6.20	103.32	112.00
28	O	39	GLU	N-CA-C	-6.06	103.82	110.91
36	Z	1035	GLY	CA-C-N	6.05	128.97	121.83
36	Z	1035	GLY	C-N-CA	6.05	128.97	121.83
35	V	28	PHE	CA-C-N	5.74	132.02	121.70
35	V	28	PHE	C-N-CA	5.74	132.02	121.70
27	N	19	VAL	N-CA-C	-5.69	107.20	112.43
24	K	117	THR	CB-CA-C	5.58	119.81	109.54
42	f	69	LYS	CA-C-N	-5.24	112.85	120.29
42	f	69	LYS	C-N-CA	-5.24	112.85	120.29
54	s	6	VAL	N-CA-C	-5.22	107.63	112.43
39	c	93	PRO	N-CD-CG	-5.14	95.49	103.20
22	I	96	ILE	N-CA-C	-5.01	108.95	113.71

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	8	858	TYR	Sidechain
20	G	108	LEU	Peptide
23	J	111	HIS	Peptide
28	O	39	GLU	Peptide

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Mol	Chain	Res	Type	Group
36	Z	893	ARG	Sidechain

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	0	380	0	429	10	0
2	1	477	0	530	24	0
3	2	304	0	350	16	0
4	3	61664	0	30953	1941	0
5	4	2239	0	1137	64	0
6	5	31943	0	16058	939	0
7	6	1920	0	1957	97	0
7	AA	1920	0	1959	86	0
8	7	1618	0	821	43	0
9	8	10948	0	11059	949	0
10	9	770	0	742	30	0
11	A	1921	0	1973	64	0
12	AB	663	0	361	86	0
13	AC	649	0	364	128	0
14	AD	1277	0	1329	137	0
15	B	1698	0	1762	144	0
16	C	1660	0	1718	69	0
17	D	1173	0	1267	33	0
18	E	1362	0	1377	41	0
19	F	1246	0	1308	54	0
20	G	1110	0	1226	41	0
21	H	1028	0	1094	35	0
22	I	809	0	889	79	0
23	J	829	0	855	39	0
24	K	1076	0	1170	48	0
25	L	951	0	1014	34	0
26	M	474	0	509	23	0
27	N	673	0	730	30	0
28	O	646	0	677	25	0
29	P	675	0	728	25	0
30	Q	535	0	562	23	0
31	R	682	0	691	24	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	S	629	0	681	34	0
33	T	471	0	522	18	0
34	U	1239	0	1301	128	0
35	V	232	0	237	9	0
35	W	232	0	237	7	0
35	X	232	0	237	9	0
35	Y	232	0	237	7	0
36	Z	10085	0	10377	782	0
37	a	2225	0	2301	106	0
38	b	1762	0	1808	91	0
39	c	1644	0	1731	70	0
40	d	1388	0	1469	46	0
41	e	1396	0	1481	33	0
42	f	1160	0	1172	34	0
43	h	959	0	1039	9	0
44	i	1164	0	1192	52	0
45	j	944	0	1019	45	0
46	k	1153	0	1256	46	0
47	l	1079	0	1134	48	0
48	m	958	0	1011	40	0
49	n	889	0	952	26	0
50	o	938	0	1008	47	0
51	p	947	0	1028	64	0
52	q	811	0	858	38	0
53	r	1068	0	1150	53	0
54	s	720	0	803	20	0
55	t	872	0	972	18	0
56	u	657	0	695	22	0
57	v	513	0	560	29	0
58	w	818	0	870	20	0
59	x	344	0	333	4	0
60	y	452	0	472	22	0
61	z	408	0	440	16	0
All	All	173941	0	128182	5778	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 20.

All (5778) 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)
4:3:1081:A:C4	34:U:7:LYS:HD3	1.25	1.70
9:8:1344:LYS:HG3	36:Z:309:ILE:CD1	1.26	1.57
9:8:965:MET:HE2	15:B:78:ILE:CG2	1.19	1.57
9:8:1342:LEU:CD1	36:Z:392:LEU:CD2	1.79	1.56
9:8:1342:LEU:CB	36:Z:398:LEU:CD2	1.84	1.54
9:8:1306:LEU:CD2	36:Z:408:VAL:HG21	1.33	1.51
9:8:1342:LEU:HD12	36:Z:392:LEU:CD2	1.35	1.49
13:AC:27:DA:H5''	14:AD:18:LYS:N	1.26	1.49
13:AC:27:DA:H2'	14:AD:18:LYS:CE	1.36	1.48
13:AC:27:DA:H5'	14:AD:17:VAL:CG1	1.41	1.48
4:3:1118:U:C5'	34:U:41:ARG:CD	1.82	1.46
9:8:1344:LYS:HD2	36:Z:306:PRO:CD	1.43	1.45
9:8:1342:LEU:CB	36:Z:398:LEU:HD23	1.43	1.44
9:8:965:MET:CE	15:B:78:ILE:HG21	1.00	1.44
13:AC:27:DA:C5'	14:AD:17:VAL:HG12	1.32	1.43
9:8:658:PRO:HG3	36:Z:868:PHE:CD2	1.52	1.42
9:8:1342:LEU:HB2	36:Z:398:LEU:CD2	0.97	1.42
9:8:1371:LEU:CD1	36:Z:95:VAL:HG13	0.94	1.42
12:AB:15:DT:H5''	14:AD:95:ARG:NH1	1.11	1.41
9:8:1310:LYS:HB3	36:Z:409:ASP:N	1.15	1.41
9:8:1289:MET:HE3	13:AC:15:DA:C5'	1.52	1.40
4:3:1081:A:C4	34:U:7:LYS:CD	2.04	1.40
4:3:1142:G:C4'	34:U:78:GLY:N	1.84	1.39
9:8:1310:LYS:CB	36:Z:409:ASP:H	1.35	1.38
9:8:961:ASN:ND2	15:B:81:GLU:HG3	1.31	1.38
13:AC:14:DG:C8	36:Z:886:ALA:HA	1.57	1.38
9:8:1348:GLY:C	36:Z:388:LEU:CD1	1.96	1.37
12:AB:15:DT:H5''	14:AD:95:ARG:CZ	1.55	1.37
4:3:1118:U:H5''	34:U:41:ARG:CD	1.39	1.36
6:5:430:G:H4'	14:AD:56:SER:CB	1.55	1.35
12:AB:15:DT:C5'	14:AD:95:ARG:HH12	1.39	1.34
9:8:649:HIS:CD2	36:Z:837:TYR:CZ	2.16	1.33
9:8:1371:LEU:HD12	36:Z:95:VAL:CG1	0.85	1.33
4:3:1088:A:C2	34:U:79:LYS:HE3	1.63	1.32
6:5:432:U:OP2	14:AD:81:ARG:NH1	1.62	1.32
9:8:1349:LEU:HA	36:Z:368:PHE:CD1	1.62	1.32
9:8:1371:LEU:HD11	36:Z:92:GLU:O	1.24	1.32
9:8:1349:LEU:HD23	36:Z:368:PHE:CA	1.61	1.31
7:6:95:LEU:CD2	22:I:33:GLU:OE2	1.78	1.31
36:Z:876:LYS:HG3	36:Z:1030:ARG:NH1	1.43	1.31
9:8:1310:LYS:HD3	36:Z:409:ASP:O	1.21	1.31
4:3:1142:G:H4'	34:U:78:GLY:N	1.01	1.30

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:965:MET:HE1	15:B:78:ILE:CG1	1.60	1.30
9:8:216:ALA:C	12:AB:20:DG:H2'	1.54	1.30
9:8:1349:LEU:HD21	36:Z:368:PHE:O	1.21	1.29
9:8:1344:LYS:CG	36:Z:309:ILE:CD1	2.09	1.29
9:8:1352:SER:OG	36:Z:31:TRP:CZ2	1.86	1.29
9:8:1269:LYS:CE	36:Z:313:ILE:HG23	1.62	1.29
4:3:1142:G:C1'	34:U:78:GLY:HA2	1.62	1.29
9:8:1287:GLY:HA3	13:AC:16:DC:OP1	1.30	1.29
13:AC:23:DC:N1	36:Z:380:LYS:HB3	1.47	1.28
9:8:170:LYS:N	12:AB:25:DC:H1'	1.46	1.28
7:AA:82:LEU:HD22	36:Z:598:GLY:N	1.45	1.28
9:8:959:ASP:CG	15:B:80:SER:HA	1.59	1.28
9:8:1342:LEU:CD1	36:Z:392:LEU:HD22	1.48	1.28
9:8:649:HIS:CD2	36:Z:837:TYR:OH	1.86	1.28
9:8:1289:MET:SD	13:AC:15:DA:C4'	2.22	1.28
9:8:175:ARG:NH2	12:AB:26:DT:C6	2.01	1.27
7:6:95:LEU:HD23	22:I:33:GLU:OE2	1.26	1.27
4:3:1081:A:O2'	34:U:7:LYS:NZ	1.67	1.27
4:3:1142:G:O4'	34:U:78:GLY:C	1.78	1.26
36:Z:876:LYS:CG	36:Z:1030:ARG:NH1	1.99	1.26
9:8:965:MET:CE	15:B:78:ILE:CG2	1.81	1.26
13:AC:27:DA:C2'	14:AD:18:LYS:CE	1.89	1.25
9:8:1344:LYS:HE3	36:Z:306:PRO:CG	1.67	1.25
9:8:1285:ARG:HB3	13:AC:17:DT:P	1.72	1.25
9:8:1306:LEU:CD2	36:Z:408:VAL:CG2	2.15	1.25
13:AC:17:DT:H4'	36:Z:413:ARG:NH1	1.51	1.25
9:8:965:MET:HE1	15:B:78:ILE:CB	1.67	1.24
9:8:1289:MET:CE	13:AC:15:DA:H5'	1.67	1.24
9:8:1344:LYS:O	36:Z:305:ILE:HG21	1.32	1.24
9:8:1345:GLU:OE2	36:Z:391:ARG:CB	1.84	1.24
9:8:1306:LEU:O	36:Z:408:VAL:HG12	1.36	1.23
13:AC:27:DA:C2'	14:AD:18:LYS:HE3	1.53	1.23
9:8:994:LEU:CD1	16:C:40:ASN:O	1.85	1.23
9:8:1289:MET:CG	13:AC:15:DA:H4'	1.68	1.23
9:8:1306:LEU:CB	36:Z:408:VAL:HG11	1.68	1.22
4:3:1118:U:C5'	34:U:41:ARG:HD3	1.52	1.22
4:3:1142:G:C4'	34:U:78:GLY:CA	2.17	1.22
9:8:175:ARG:NH2	12:AB:26:DT:C2	2.07	1.21
9:8:1269:LYS:HD2	36:Z:313:ILE:CG2	1.69	1.21
13:AC:10:DG:C4'	36:Z:119:PRO:HD3	1.68	1.21
9:8:649:HIS:CD2	36:Z:837:TYR:CE1	2.29	1.21

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:15:DT:C5'	14:AD:95:ARG:NH1	2.00	1.20
7:AA:82:LEU:HD22	36:Z:598:GLY:CA	1.70	1.20
7:6:108:ARG:CZ	22:I:99:PRO:HG3	1.71	1.20
9:8:1352:SER:CB	36:Z:31:TRP:CH2	2.24	1.20
9:8:1289:MET:CE	13:AC:14:DG:H2''	1.71	1.20
9:8:1344:LYS:CG	36:Z:309:ILE:HD12	1.69	1.20
9:8:1344:LYS:CD	36:Z:306:PRO:HD2	1.71	1.20
9:8:1371:LEU:CG	36:Z:95:VAL:HG13	1.70	1.20
4:3:1119:A:C4	34:U:53:VAL:HG21	1.76	1.19
9:8:1269:LYS:CD	36:Z:313:ILE:HG23	1.72	1.19
9:8:994:LEU:HD11	16:C:40:ASN:O	1.04	1.19
9:8:1289:MET:SD	13:AC:15:DA:H4'	1.82	1.19
9:8:959:ASP:OD1	15:B:80:SER:HA	1.02	1.19
9:8:1307:LEU:CA	36:Z:406:LYS:HD2	1.71	1.19
9:8:959:ASP:CB	15:B:79:GLY:O	1.75	1.18
9:8:1352:SER:CB	36:Z:31:TRP:HH2	1.53	1.18
9:8:649:HIS:NE2	36:Z:837:TYR:CE1	2.12	1.18
9:8:1344:LYS:O	36:Z:305:ILE:CG2	1.91	1.18
9:8:1348:GLY:HA3	36:Z:388:LEU:HD11	1.23	1.17
4:3:1081:A:C5	34:U:7:LYS:CD	2.12	1.17
4:3:1141:U:O2'	34:U:79:LYS:HA	1.42	1.17
9:8:1105:ILE:CG2	36:Z:736:VAL:HG23	1.74	1.16
9:8:216:ALA:HB1	12:AB:20:DG:C8	1.80	1.16
13:AC:17:DT:C4'	36:Z:413:ARG:NH1	2.07	1.16
9:8:1347:GLN:OE1	36:Z:100:MET:SD	2.03	1.16
9:8:175:ARG:NH2	12:AB:26:DT:C5	2.13	1.16
9:8:1269:LYS:CD	36:Z:313:ILE:HG12	1.76	1.16
9:8:1348:GLY:CA	36:Z:388:LEU:CD1	2.24	1.16
4:3:1118:U:H5'	34:U:41:ARG:CD	1.66	1.16
9:8:634:GLY:HA2	12:AB:24:DT:C7	1.76	1.16
9:8:1345:GLU:OE2	36:Z:391:ARG:HB3	1.44	1.15
9:8:1348:GLY:C	36:Z:388:LEU:HD13	1.71	1.15
9:8:1352:SER:CA	36:Z:31:TRP:HH2	1.59	1.14
9:8:1352:SER:OG	36:Z:31:TRP:HZ2	1.19	1.14
4:3:1142:G:C4'	34:U:78:GLY:H	1.48	1.14
9:8:1344:LYS:CE	36:Z:306:PRO:HG2	1.78	1.14
9:8:356:ARG:HD2	14:AD:109:ARG:HB3	1.16	1.14
34:U:42:LYS:HE2	43:h:114:ALA:N	1.58	1.14
13:AC:27:DA:C2'	14:AD:18:LYS:HE2	1.53	1.13
4:3:1142:G:OP1	34:U:56:ASN:HB2	1.48	1.13
9:8:1273:GLN:NE2	36:Z:402:ASN:HD22	1.44	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1348:GLY:O	36:Z:368:PHE:CE1	2.01	1.13
9:8:356:ARG:HE	14:AD:110:ILE:HG13	1.01	1.13
9:8:1348:GLY:HA3	36:Z:388:LEU:CD1	1.78	1.13
9:8:814:LEU:HD23	9:8:858:TYR:CZ	1.83	1.13
9:8:959:ASP:OD1	15:B:80:SER:CA	1.97	1.13
9:8:647:ASP:HB2	36:Z:835:PHE:CZ	1.84	1.12
9:8:1289:MET:SD	13:AC:15:DA:O4'	2.06	1.12
6:5:1331:A:N6	6:5:1340:G:H1	1.44	1.12
9:8:1371:LEU:CD2	36:Z:94:ILE:HG22	1.78	1.12
13:AC:23:DC:C6	36:Z:380:LYS:HB3	1.66	1.12
9:8:1344:LYS:CD	36:Z:306:PRO:CD	2.24	1.12
9:8:1269:LYS:NZ	36:Z:313:ILE:HG23	1.64	1.12
35:W:14:ILE:HD11	35:X:17:ILE:HG13	1.31	1.12
9:8:1349:LEU:CD2	36:Z:368:PHE:CA	2.28	1.11
9:8:1349:LEU:CD2	36:Z:368:PHE:O	1.97	1.11
12:AB:15:DT:C5'	14:AD:95:ARG:HH22	1.63	1.11
4:3:1081:A:C5	34:U:7:LYS:HD2	1.76	1.11
9:8:959:ASP:HB2	15:B:79:GLY:O	1.36	1.11
9:8:1349:LEU:CD2	36:Z:368:PHE:HA	1.79	1.11
34:U:42:LYS:CE	43:h:114:ALA:N	1.98	1.11
9:8:993:LYS:NZ	16:C:30:LYS:O	1.81	1.11
13:AC:14:DG:H5'	36:Z:890:TYR:CB	1.81	1.11
13:AC:10:DG:H4'	36:Z:119:PRO:CD	1.82	1.10
9:8:175:ARG:NH2	12:AB:26:DT:C4	2.18	1.10
9:8:901:ASN:ND2	9:8:1232:ARG:HH12	1.49	1.10
9:8:952:ASP:HB3	15:B:73:GLN:HG3	1.28	1.10
9:8:1306:LEU:HB3	36:Z:408:VAL:HG11	1.15	1.09
9:8:1342:LEU:HB2	36:Z:398:LEU:HD21	1.15	1.09
9:8:1348:GLY:O	36:Z:368:PHE:HE1	1.33	1.09
9:8:1371:LEU:HD12	36:Z:95:VAL:HG11	1.19	1.09
4:3:1142:G:C3'	34:U:78:GLY:H	1.65	1.09
9:8:1306:LEU:HD23	36:Z:408:VAL:CB	1.82	1.09
4:3:1142:G:H4'	34:U:78:GLY:CA	1.75	1.09
9:8:945:ARG:NH2	15:B:75:ALA:HB3	1.58	1.09
9:8:961:ASN:ND2	15:B:81:GLU:CG	2.16	1.09
13:AC:27:DA:C5'	14:AD:18:LYS:N	2.16	1.09
7:6:113:THR:H	22:I:95:ARG:NH2	1.49	1.09
9:8:628:ILE:HD11	9:8:673:LEU:HD12	1.34	1.09
9:8:965:MET:HE1	15:B:78:ILE:HG13	1.18	1.09
9:8:1307:LEU:HA	36:Z:406:LYS:HD2	1.33	1.09
9:8:1352:SER:HA	36:Z:31:TRP:CH2	1.86	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1348:GLY:CA	36:Z:388:LEU:HD11	1.81	1.08
13:AC:10:DG:H4'	36:Z:119:PRO:HD3	1.17	1.08
9:8:170:LYS:H	12:AB:25:DC:C1'	1.64	1.08
9:8:1306:LEU:HD22	36:Z:408:VAL:CG2	1.81	1.08
9:8:217:VAL:N	12:AB:20:DG:H2'	1.68	1.08
9:8:1285:ARG:CB	13:AC:17:DT:P	2.41	1.08
9:8:1287:GLY:CA	13:AC:16:DC:OP1	2.01	1.08
4:3:1807:C:H42	4:3:1824:G:N2	1.51	1.08
13:AC:23:DC:C6	36:Z:380:LYS:CB	2.31	1.08
36:Z:400:ARG:NH2	36:Z:1234:PHE:O	1.85	1.08
9:8:523:ASP:OD2	36:Z:837:TYR:CD1	2.07	1.07
14:AD:108:TRP:HE1	14:AD:112:ARG:CZ	1.67	1.07
9:8:356:ARG:HD2	14:AD:109:ARG:CB	1.85	1.07
7:6:94:LEU:HB3	22:I:33:GLU:HB2	1.35	1.07
9:8:175:ARG:NH2	12:AB:26:DT:N1	1.99	1.07
9:8:1105:ILE:HG22	36:Z:736:VAL:HG23	1.09	1.07
13:AC:13:DA:H4'	36:Z:890:TYR:CD1	1.55	1.07
13:AC:27:DA:C5'	14:AD:18:LYS:H	1.68	1.07
4:3:1081:A:N3	34:U:7:LYS:HD3	1.68	1.06
12:AB:15:DT:C5'	14:AD:95:ARG:NH2	2.18	1.06
9:8:216:ALA:CB	12:AB:20:DG:C8	2.39	1.06
9:8:1352:SER:HB2	36:Z:23:ALA:HB2	1.07	1.06
9:8:965:MET:HE1	15:B:78:ILE:CG2	1.80	1.05
9:8:1311:SER:HB2	36:Z:407:ARG:O	1.55	1.05
9:8:1344:LYS:HD2	36:Z:306:PRO:HD3	1.32	1.05
9:8:1289:MET:HG3	13:AC:15:DA:H4'	1.37	1.05
4:3:1142:G:C4'	34:U:78:GLY:O	2.03	1.05
9:8:829:ASN:O	9:8:848:LYS:CE	2.05	1.05
9:8:965:MET:CE	15:B:78:ILE:CB	2.28	1.05
9:8:1269:LYS:HD2	36:Z:313:ILE:CG1	1.87	1.05
6:5:1136:G:H1	6:5:1151:A:N6	1.53	1.05
36:Z:876:LYS:HG2	36:Z:1030:ARG:HH11	1.19	1.04
36:Z:890:TYR:CE1	36:Z:894:LYS:HE3	1.92	1.04
9:8:729:ILE:HG21	9:8:734:ILE:HD11	1.39	1.04
4:3:1119:A:N9	34:U:53:VAL:HG21	1.72	1.04
4:3:1807:C:N4	4:3:1824:G:H22	1.56	1.03
9:8:994:LEU:HD11	16:C:40:ASN:C	1.82	1.03
9:8:1269:LYS:HD3	36:Z:313:ILE:HG12	1.38	1.03
9:8:1345:GLU:HA	36:Z:388:LEU:HD22	1.30	1.03
9:8:1349:LEU:HD23	36:Z:368:PHE:HA	1.04	1.03
9:8:1352:SER:CB	36:Z:23:ALA:HB2	1.87	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:684:A:H62	6:5:700:G:N2	1.55	1.03
9:8:1307:LEU:CD2	36:Z:406:LYS:HG3	1.88	1.03
9:8:1345:GLU:OE2	36:Z:391:ARG:HB2	1.55	1.03
13:AC:13:DA:H4'	36:Z:890:TYR:CG	1.79	1.03
13:AC:14:DG:H5'	36:Z:890:TYR:HB2	1.04	1.03
9:8:658:PRO:CG	36:Z:868:PHE:CD2	2.41	1.03
4:3:1119:A:N1	34:U:29:TYR:CE2	2.27	1.03
6:5:430:G:H4'	14:AD:56:SER:HB2	1.10	1.03
7:6:161:ARG:NH1	7:AA:2:GLU:O	1.90	1.03
9:8:952:ASP:HB3	15:B:73:GLN:CG	1.84	1.03
7:AA:86:GLN:NE2	36:Z:599:THR:CG2	2.21	1.03
4:3:1142:G:O4'	34:U:78:GLY:CA	2.06	1.02
9:8:216:ALA:C	12:AB:20:DG:C2'	2.32	1.02
9:8:1341:LEU:CD1	36:Z:309:ILE:HG23	1.89	1.02
6:5:661:G:H1	6:5:738:A:N6	1.55	1.02
9:8:1297:TYR:OH	36:Z:504:ILE:O	1.77	1.02
9:8:1342:LEU:HD11	36:Z:392:LEU:HD22	1.09	1.01
9:8:175:ARG:NH2	12:AB:26:DT:N3	2.08	1.01
9:8:1325:VAL:CG1	36:Z:464:ILE:CG2	2.38	1.01
9:8:1341:LEU:HD12	36:Z:309:ILE:HG23	1.41	1.01
12:AB:29:DC:H5''	36:Z:1057:VAL:HG22	1.38	1.01
13:AC:13:DA:C4'	36:Z:890:TYR:CD1	2.42	1.01
6:5:69:G:H1	6:5:86:A:H61	1.06	1.01
7:6:108:ARG:NH1	22:I:99:PRO:HG3	1.75	1.01
9:8:1325:VAL:CG1	36:Z:464:ILE:HG21	1.91	1.01
9:8:1344:LYS:HD2	36:Z:306:PRO:HD2	1.02	1.01
13:AC:17:DT:C4'	36:Z:413:ARG:HH12	1.71	1.01
4:3:1142:G:H5'	34:U:78:GLY:O	1.60	1.01
9:8:945:ARG:NH2	15:B:75:ALA:N	1.97	1.01
4:3:192:U:H3	4:3:212:G:H1	1.10	1.00
9:8:217:VAL:CA	12:AB:20:DG:C2'	2.39	1.00
9:8:408:LEU:HD23	9:8:410:CYS:O	1.59	1.00
13:AC:14:DG:C5'	36:Z:890:TYR:HB2	1.91	1.00
4:3:204:U:H3	4:3:254:G:H1	1.06	1.00
9:8:1102:ILE:HD11	36:Z:858:PHE:C	1.87	1.00
13:AC:23:DC:C2	36:Z:380:LYS:HB3	1.90	1.00
9:8:1341:LEU:HD12	36:Z:309:ILE:CG2	1.90	0.99
4:3:226:A:N6	4:3:236:G:C2	2.30	0.99
4:3:1089:A:H1'	34:U:30:THR:HG23	1.44	0.99
9:8:1371:LEU:CD1	36:Z:92:GLU:O	2.10	0.99
4:3:1142:G:OP1	34:U:56:ASN:CB	2.08	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:27:DA:H5''	14:AD:18:LYS:CA	1.92	0.99
4:3:1142:G:C2'	34:U:78:GLY:HA2	1.92	0.99
4:3:1141:U:N3	34:U:79:LYS:HE2	1.77	0.99
9:8:1093:PRO:HB2	36:Z:734:VAL:HG23	1.41	0.99
4:3:629:G:H1	4:3:696:U:H3	1.02	0.98
6:5:430:G:C4'	14:AD:56:SER:CB	2.40	0.98
6:5:460:A:H2	6:5:467:G:H1	1.06	0.98
6:5:290:G:H1	6:5:299:U:H3	1.08	0.98
9:8:217:VAL:HA	12:AB:20:DG:H2''	1.41	0.98
9:8:258:VAL:HG12	9:8:268:VAL:HG11	1.45	0.98
38:b:185:ASP:O	38:b:189:MET:HA	1.63	0.98
34:U:42:LYS:HE2	43:h:114:ALA:H	1.12	0.98
9:8:1306:LEU:HD22	36:Z:408:VAL:HG21	1.00	0.98
6:5:684:A:N6	6:5:700:G:H21	1.60	0.98
9:8:1306:LEU:HD23	36:Z:408:VAL:CG2	1.89	0.98
9:8:1310:LYS:CD	36:Z:409:ASP:O	2.10	0.98
9:8:217:VAL:CA	12:AB:20:DG:H2''	1.74	0.98
12:AB:29:DC:H5''	36:Z:1057:VAL:CG2	1.92	0.98
9:8:1306:LEU:C	36:Z:408:VAL:HG12	1.86	0.98
9:8:569:GLN:NE2	14:AD:160:ASN:ND2	2.11	0.98
9:8:163:MET:HE2	9:8:514:ILE:HD12	1.45	0.97
9:8:772:GLU:O	36:Z:862:LEU:N	1.97	0.97
9:8:945:ARG:HH22	15:B:75:ALA:N	1.49	0.97
9:8:1094:LEU:HD23	36:Z:809:MET:SD	2.03	0.97
9:8:1307:LEU:HD22	36:Z:406:LYS:HG3	1.47	0.97
12:AB:15:DT:H5'	14:AD:95:ARG:HH22	1.29	0.97
9:8:94:ILE:HG23	9:8:135:LEU:HD12	1.43	0.97
34:U:42:LYS:CE	43:h:114:ALA:H	1.62	0.97
4:3:1142:G:C1'	34:U:78:GLY:CA	2.41	0.97
6:5:430:G:C4'	14:AD:56:SER:HB2	1.94	0.97
9:8:1307:LEU:CB	36:Z:406:LYS:HD2	1.94	0.97
9:8:1342:LEU:CA	36:Z:398:LEU:CD2	2.42	0.97
9:8:565:ASN:ND2	14:AD:28:ALA:O	1.98	0.97
9:8:1349:LEU:CD2	36:Z:368:PHE:C	2.37	0.97
4:3:1764:U:C2	4:3:1769:A:N6	2.32	0.97
4:3:1807:C:H42	4:3:1824:G:H22	1.03	0.97
4:3:1089:A:H1'	34:U:30:THR:CG2	1.94	0.97
13:AC:26:DT:H4'	14:AD:17:VAL:HG21	1.44	0.96
6:5:319:U:H3	6:5:323:A:H62	1.07	0.96
9:8:376:ARG:NH2	12:AB:20:DG:N7	2.13	0.96
12:AB:15:DT:C5'	14:AD:95:ARG:CZ	2.40	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:779:A:H62	6:5:797:G:N2	1.64	0.96
9:8:1371:LEU:HD23	36:Z:94:ILE:HG22	1.48	0.96
9:8:1348:GLY:CA	36:Z:388:LEU:HD13	1.93	0.96
9:8:1200:PHE:CE2	36:Z:864:ILE:HD13	2.00	0.96
9:8:1289:MET:HE1	13:AC:14:DG:H2''	1.45	0.96
13:AC:27:DA:H2''	14:AD:18:LYS:HE2	1.45	0.96
4:3:1142:G:C5'	34:U:78:GLY:O	2.13	0.95
9:8:1325:VAL:HG11	36:Z:464:ILE:HG21	1.43	0.95
4:3:418:G:H1	4:3:430:U:H3	1.07	0.95
4:3:633:G:H1	4:3:692:U:H3	1.03	0.95
4:3:2695:U:H3	4:3:2730:G:H1	1.06	0.95
9:8:1325:VAL:HG13	36:Z:464:ILE:HG23	1.47	0.95
36:Z:427:VAL:HG21	36:Z:493:LEU:HD11	1.48	0.95
4:3:1118:U:H5'	34:U:41:ARG:HD2	1.47	0.95
9:8:1349:LEU:N	36:Z:388:LEU:HD13	1.80	0.95
4:3:900:G:N2	4:3:903:A:H61	1.64	0.95
9:8:1342:LEU:CD1	36:Z:392:LEU:HD23	1.96	0.95
9:8:523:ASP:OD2	36:Z:837:TYR:HD1	1.50	0.94
9:8:960:GLU:OE2	15:B:84:ASN:N	1.75	0.94
9:8:1293:ALA:HB2	36:Z:498:THR:HG21	1.47	0.94
4:3:1142:G:O4'	34:U:78:GLY:O	1.83	0.94
9:8:775:ASP:OD1	36:Z:828:ARG:NH2	1.99	0.94
13:AC:17:DT:H4'	36:Z:413:ARG:HH11	1.28	0.94
6:5:1405:U:H3	6:5:1445:G:H1	1.02	0.94
9:8:1324:ILE:HD13	36:Z:440:PRO:HG3	1.49	0.94
13:AC:27:DA:O5'	14:AD:18:LYS:CG	2.15	0.94
9:8:1352:SER:HB2	36:Z:31:TRP:CH2	1.99	0.94
9:8:565:ASN:CG	14:AD:28:ALA:O	2.10	0.94
9:8:829:ASN:O	9:8:848:LYS:HE3	1.66	0.94
6:5:63:U:H3	6:5:90:G:H1	1.14	0.94
9:8:1348:GLY:C	36:Z:388:LEU:HD12	1.92	0.94
4:3:2035:U:H3	4:3:2040:A:N6	1.66	0.93
9:8:649:HIS:HD2	36:Z:837:TYR:OH	1.37	0.93
4:3:725:G:H1	4:3:807:U:H3	1.09	0.93
4:3:1142:G:H1'	34:U:78:GLY:HA2	1.46	0.93
9:8:1344:LYS:CG	36:Z:309:ILE:HD13	1.95	0.93
13:AC:14:DG:H1'	36:Z:889:GLY:HA3	1.49	0.93
4:3:739:G:HO2'	4:3:761:G:H1	1.02	0.93
4:3:2299:U:H3	4:3:2349:G:H1	0.93	0.93
7:6:99:GLY:O	7:AA:1:MET:N	2.01	0.93
9:8:219:GLU:HG3	12:AB:21:DC:N4	1.83	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:814:LEU:HD23	9:8:858:TYR:OH	1.66	0.93
9:8:1349:LEU:HG	36:Z:388:LEU:HB2	1.51	0.93
9:8:1310:LYS:CB	36:Z:409:ASP:N	2.09	0.93
35:X:6:ILE:HD11	35:Y:23:ALA:HB1	1.49	0.93
9:8:961:ASN:ND2	15:B:80:SER:C	2.27	0.93
9:8:1344:LYS:CE	36:Z:306:PRO:CG	2.40	0.93
4:3:1142:G:O2'	34:U:78:GLY:HA2	1.67	0.93
4:3:1142:G:C4'	34:U:78:GLY:C	2.34	0.93
9:8:959:ASP:CG	15:B:80:SER:CA	2.29	0.93
9:8:1306:LEU:HB3	36:Z:408:VAL:CG1	1.98	0.93
4:3:1088:A:H2	34:U:79:LYS:HE3	1.18	0.92
9:8:634:GLY:HA2	12:AB:24:DT:H72	1.46	0.92
9:8:356:ARG:CD	14:AD:109:ARG:HB3	1.99	0.92
7:AA:82:LEU:HD22	36:Z:597:PHE:C	1.94	0.92
9:8:60:LYS:HD3	9:8:64:ASP:OD1	1.68	0.92
9:8:960:GLU:OE2	15:B:84:ASN:OD1	1.88	0.92
13:AC:26:DT:H4'	14:AD:17:VAL:CG2	1.97	0.92
36:Z:687:VAL:HG11	36:Z:802:ARG:HH22	1.31	0.92
7:6:95:LEU:HD21	22:I:33:GLU:OE2	1.68	0.92
6:5:518:A:H62	6:5:527:G:H21	1.14	0.92
9:8:569:GLN:CD	14:AD:160:ASN:ND2	2.28	0.92
9:8:1352:SER:HB2	36:Z:23:ALA:CB	1.99	0.92
4:3:1141:U:C2	34:U:79:LYS:HE2	2.04	0.92
13:AC:14:DG:C8	36:Z:886:ALA:CA	2.50	0.92
9:8:1351:LEU:HD11	36:Z:113:TRP:CZ3	2.05	0.91
4:3:1027:U:H3	4:3:1198:G:H1	1.10	0.91
9:8:45:LEU:O	9:8:75:ARG:NH2	2.04	0.91
9:8:1338:SER:O	36:Z:398:LEU:HD11	1.70	0.91
9:8:1342:LEU:HD13	36:Z:392:LEU:CD2	1.99	0.91
36:Z:775:LYS:HE3	36:Z:845:ILE:HD13	1.52	0.91
40:d:132:ILE:O	40:d:151:GLY:HA3	1.69	0.91
4:3:1118:U:H5''	34:U:41:ARG:HD3	1.09	0.91
7:6:108:ARG:HD3	22:I:99:PRO:HD3	1.50	0.91
9:8:1273:GLN:HE22	36:Z:402:ASN:HD22	1.16	0.91
9:8:1306:LEU:HD23	36:Z:408:VAL:HB	1.52	0.91
9:8:1370:ILE:HG22	36:Z:94:ILE:HG21	1.53	0.91
4:3:1801:U:H3	4:3:1832:G:H1	1.18	0.90
9:8:1105:ILE:HG22	36:Z:736:VAL:CG2	2.01	0.90
9:8:729:ILE:CG2	9:8:734:ILE:HD11	2.01	0.90
9:8:169:LEU:HD13	9:8:193:VAL:HG11	1.50	0.90
6:5:245:U:H3	6:5:271:G:H1	1.16	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:952:ASP:CB	15:B:73:GLN:CG	2.46	0.90
9:8:1366:ASN:ND2	36:Z:31:TRP:O	2.04	0.90
4:3:742:G:H1	4:3:759:U:H3	1.08	0.90
4:3:2061:A:H62	4:3:2585:A:H61	1.11	0.90
9:8:1349:LEU:HD23	36:Z:368:PHE:CB	2.01	0.90
47:1:68:ILE:HD11	47:1:103:MET:HB2	1.51	0.90
4:3:1142:G:H4'	34:U:77:LYS:C	1.97	0.90
6:5:1390:G:H1	6:5:1460:U:H3	1.19	0.90
9:8:1342:LEU:CB	36:Z:398:LEU:HD21	1.78	0.90
9:8:1349:LEU:HD21	36:Z:368:PHE:C	1.95	0.90
4:3:80:U:H3	4:3:109:G:H1	0.95	0.90
9:8:1345:GLU:HA	36:Z:388:LEU:CD2	2.02	0.89
9:8:1342:LEU:HD12	36:Z:392:LEU:HD21	0.90	0.89
9:8:1349:LEU:HG	36:Z:388:LEU:CB	2.03	0.89
9:8:1366:ASN:ND2	36:Z:100:MET:HB2	1.85	0.89
9:8:170:LYS:H	12:AB:25:DC:H1'	1.10	0.89
6:5:826:G:H1	6:5:851:U:H3	1.17	0.89
7:6:95:LEU:HD23	22:I:33:GLU:CD	1.97	0.89
7:6:7:TYR:OH	7:AA:235:HIS:O	1.89	0.89
9:8:1371:LEU:HD12	36:Z:95:VAL:CB	2.01	0.89
9:8:945:ARG:HD3	15:B:76:PHE:HD1	1.38	0.89
4:3:1081:A:H61	34:U:8:ALA:N	1.70	0.89
9:8:1370:ILE:HD13	36:Z:94:ILE:HD11	1.54	0.89
4:3:413:G:H1	4:3:435:U:H3	1.18	0.89
9:8:402:ARG:HD3	9:8:510:TYR:CE2	2.08	0.89
9:8:1289:MET:CE	13:AC:15:DA:O4'	2.20	0.89
4:3:1088:A:N1	34:U:79:LYS:HE3	1.88	0.88
6:5:430:G:H4'	14:AD:56:SER:OG	1.72	0.88
6:5:590:G:H1	6:5:644:U:H3	1.20	0.88
7:6:34:PHE:HE2	7:AA:49:CYS:HG	1.20	0.88
7:6:235:HIS:O	7:AA:7:TYR:OH	1.91	0.88
9:8:945:ARG:HH21	15:B:75:ALA:HB3	1.34	0.88
12:AB:15:DT:H5''	14:AD:95:ARG:NH2	1.81	0.88
9:8:1370:ILE:HD12	36:Z:97:ARG:HD3	1.52	0.88
4:3:1494:U:H3	4:3:1550:G:H1	1.16	0.88
9:8:961:ASN:HD21	15:B:81:GLU:CG	1.79	0.88
9:8:961:ASN:HD21	15:B:81:GLU:HG3	0.96	0.88
9:8:1269:LYS:HB2	36:Z:313:ILE:CD1	2.03	0.88
9:8:1347:GLN:HB3	36:Z:100:MET:HE1	1.53	0.88
9:8:1349:LEU:CA	36:Z:368:PHE:CD1	2.54	0.88
4:3:2360:A:H62	4:3:2373:G:H21	1.14	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:488:ASP:O	36:Z:551:ARG:NH2	2.07	0.88
9:8:1306:LEU:CB	36:Z:408:VAL:CG1	2.52	0.88
9:8:1371:LEU:CD1	36:Z:95:VAL:CG1	1.80	0.88
6:5:253:G:H1	6:5:265:U:H3	1.19	0.88
7:6:2:GLU:O	7:AA:161:ARG:NH1	2.06	0.88
9:8:1345:GLU:CA	36:Z:388:LEU:HD22	2.03	0.88
4:3:2090:G:H1	4:3:2244:U:H3	1.21	0.87
9:8:1371:LEU:CG	36:Z:94:ILE:HG22	2.03	0.87
36:Z:488:ASP:HB3	36:Z:551:ARG:HH22	1.37	0.87
9:8:1347:GLN:OE1	36:Z:100:MET:CE	2.22	0.87
12:AB:19:DT:H2''	12:AB:21:DC:H4'	1.54	0.87
4:3:1088:A:C2	34:U:79:LYS:CE	2.55	0.87
4:3:2035:U:H3	4:3:2040:A:H62	0.89	0.87
9:8:958:LEU:O	15:B:75:ALA:HA	1.73	0.87
9:8:1269:LYS:HD2	36:Z:313:ILE:HG23	1.38	0.87
6:5:779:A:H62	6:5:797:G:H21	1.17	0.87
9:8:779:ALA:CB	36:Z:867:TYR:OH	2.22	0.87
9:8:779:ALA:HB2	36:Z:867:TYR:OH	1.74	0.87
14:AD:23:VAL:HG21	14:AD:44:VAL:HG23	1.53	0.87
4:3:163:A:H62	4:3:169:U:H3	1.21	0.87
9:8:1366:ASN:HD21	36:Z:100:MET:HB2	1.38	0.87
35:X:23:ALA:HB1	35:Y:6:ILE:HD11	1.55	0.87
4:3:442:G:H1	4:3:457:U:H3	1.18	0.87
7:6:108:ARG:CZ	22:I:99:PRO:CG	2.53	0.87
9:8:945:ARG:NE	15:B:75:ALA:CB	2.31	0.87
7:AA:82:LEU:CD2	36:Z:598:GLY:N	2.34	0.87
38:b:40:LYS:O	38:b:48:SER:HA	1.74	0.87
9:8:1371:LEU:HG	36:Z:94:ILE:CG2	2.04	0.86
36:Z:876:LYS:HG3	36:Z:1030:ARG:HH12	1.06	0.86
9:8:634:GLY:HA2	12:AB:24:DT:H73	1.55	0.86
9:8:952:ASP:CB	15:B:73:GLN:HG3	2.05	0.86
4:3:1071:G:H1	4:3:1154:U:H3	0.88	0.86
9:8:1325:VAL:HG12	36:Z:464:ILE:HD13	1.58	0.86
9:8:1347:GLN:O	36:Z:303:PRO:HG2	1.74	0.86
4:3:1119:A:C1'	34:U:53:VAL:HB	2.04	0.86
6:5:779:A:N6	6:5:797:G:H21	1.73	0.86
10:9:5:TYR:CE2	10:9:48:LEU:HD23	2.10	0.86
13:AC:23:DC:C2	36:Z:380:LYS:CB	2.52	0.86
9:8:961:ASN:HD22	15:B:81:GLU:HG3	1.33	0.86
14:AD:78:ASP:OD1	14:AD:81:ARG:HB2	1.75	0.86
6:5:432:U:P	14:AD:81:ARG:NH1	2.49	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:814:LEU:CD2	9:8:858:TYR:CZ	2.58	0.86
9:8:1289:MET:CE	13:AC:15:DA:C4'	2.53	0.86
7:6:132:GLY:N	22:I:34:VAL:HG23	1.74	0.85
9:8:945:ARG:NE	15:B:76:PHE:CD1	2.44	0.85
9:8:1324:ILE:HD12	36:Z:410:TYR:OH	1.76	0.85
9:8:1306:LEU:CA	36:Z:408:VAL:CG1	2.55	0.85
13:AC:14:DG:C1'	36:Z:889:GLY:HA3	2.06	0.85
9:8:217:VAL:N	12:AB:20:DG:C2'	2.40	0.85
14:AD:43:ARG:NH1	14:AD:159:THR:O	2.10	0.85
6:5:429:A:O2'	14:AD:58:LYS:HB2	1.76	0.85
9:8:1310:LYS:HE2	36:Z:410:TYR:HB2	1.59	0.85
9:8:1102:ILE:HD11	36:Z:859:LEU:N	1.91	0.85
50:o:92:ARG:HD3	50:o:115:LYS:HE3	1.58	0.85
9:8:1342:LEU:CA	36:Z:398:LEU:HD22	2.06	0.85
9:8:1344:LYS:HE3	36:Z:306:PRO:HG2	0.86	0.85
7:6:82:LEU:HD13	9:8:794:LYS:HE3	1.59	0.84
7:AA:85:LYS:HD3	36:Z:602:GLU:OE1	1.77	0.84
7:6:94:LEU:HD13	22:I:33:GLU:O	1.77	0.84
9:8:647:ASP:CB	36:Z:835:PHE:CZ	2.60	0.84
9:8:1293:ALA:CB	36:Z:498:THR:HG21	2.07	0.84
14:AD:108:TRP:NE1	14:AD:112:ARG:CZ	2.39	0.84
6:5:1112:U:H3	6:5:1128:G:H1	0.86	0.84
9:8:1289:MET:CE	13:AC:14:DG:C2'	2.56	0.84
9:8:1306:LEU:CD2	36:Z:408:VAL:HG11	2.08	0.84
36:Z:905:ASN:ND2	36:Z:989:ASN:O	2.09	0.84
4:3:61:U:H3	4:3:70:G:H1	0.87	0.84
4:3:1119:A:H1'	34:U:53:VAL:HB	1.60	0.84
4:3:2810:A:N7	4:3:2895:A:N6	2.24	0.84
9:8:960:GLU:OE2	15:B:84:ASN:CG	2.20	0.84
9:8:1225:LYS:NZ	36:Z:738:ASP:OD1	2.10	0.84
6:5:365:U:H3	6:5:388:G:H1	1.20	0.84
4:3:2534:G:H1	4:3:2545:U:H3	0.84	0.84
9:8:170:LYS:N	12:AB:25:DC:C1'	2.28	0.84
36:Z:488:ASP:HB3	36:Z:551:ARG:NH2	1.93	0.84
4:3:1081:A:N7	34:U:7:LYS:HD2	1.92	0.84
9:8:945:ARG:NE	15:B:75:ALA:HB3	1.85	0.84
4:3:1142:G:OP1	34:U:56:ASN:CG	2.20	0.83
5:4:5:G:OP1	49:n:9:ARG:NH1	2.10	0.83
6:5:579:G:H5'	27:N:58:SER:HB2	1.59	0.83
13:AC:27:DA:O5'	14:AD:18:LYS:HG3	1.41	0.83
42:f:112:MET:HE3	42:f:130:ILE:HG23	1.58	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:7:GLN:HG3	49:n:11:ARG:HH21	1.44	0.83
4:3:2405:G:H1	4:3:2427:U:H3	1.25	0.83
9:8:1342:LEU:CG	36:Z:398:LEU:HD23	2.08	0.83
12:AB:17:DT:H2''	12:AB:18:DG:C8	2.14	0.83
6:5:134:G:H1	6:5:160:A:H61	1.26	0.83
9:8:1269:LYS:HB2	36:Z:313:ILE:HD11	1.58	0.83
9:8:1306:LEU:HD21	36:Z:408:VAL:HG21	1.60	0.83
9:8:1350:ALA:HB2	36:Z:368:PHE:HZ	1.44	0.83
13:AC:12:DC:H4'	36:Z:1235:GLN:OE1	1.78	0.83
4:3:2851:U:H3	4:3:2873:G:H1	1.25	0.83
9:8:1289:MET:HE3	13:AC:15:DA:C4'	2.08	0.83
9:8:1352:SER:CA	36:Z:31:TRP:CH2	2.43	0.83
9:8:658:PRO:HB3	36:Z:868:PHE:CE2	2.13	0.83
9:8:1293:ALA:HB2	36:Z:498:THR:CG2	2.09	0.83
9:8:394:SER:HA	9:8:489:ILE:HD11	1.60	0.83
9:8:729:ILE:HG21	9:8:734:ILE:CD1	2.09	0.82
9:8:1311:SER:CB	36:Z:407:ARG:O	2.27	0.82
9:8:1346:LEU:CD2	36:Z:392:LEU:HD11	2.09	0.82
4:3:1118:U:H5'	34:U:41:ARG:HD3	1.37	0.82
9:8:1368:VAL:O	36:Z:98:GLU:HB2	1.78	0.82
10:9:78:PHE:CE2	36:Z:1095:ARG:NH1	2.48	0.82
9:8:523:ASP:OD2	36:Z:837:TYR:CE1	2.31	0.82
9:8:1269:LYS:HD2	36:Z:313:ILE:CB	2.08	0.82
10:9:58:GLU:HG2	36:Z:1213:ASN:HD21	1.44	0.82
9:8:355:LEU:HD12	9:8:372:LEU:HD22	1.62	0.82
50:o:80:GLN:HG3	50:o:83:ASN:HB2	1.61	0.82
4:3:1119:A:N9	34:U:53:VAL:CG2	2.43	0.82
9:8:169:LEU:HD23	12:AB:25:DC:N3	1.95	0.82
4:3:313:G:N2	4:3:394:C:O2	2.13	0.82
9:8:569:GLN:NE2	14:AD:160:ASN:HD22	1.73	0.82
9:8:772:GLU:HB2	36:Z:862:LEU:O	1.78	0.82
7:AA:205:ILE:HD11	36:Z:513:ASP:OD2	1.79	0.82
9:8:1259:ILE:HD12	36:Z:515:LYS:HB3	1.61	0.82
9:8:1289:MET:HG3	13:AC:15:DA:C4'	2.10	0.82
9:8:1289:MET:HE1	13:AC:14:DG:C2'	2.09	0.82
4:3:1142:G:O2'	34:U:78:GLY:CA	2.27	0.82
9:8:1269:LYS:CD	36:Z:313:ILE:CG2	2.41	0.82
9:8:1310:LYS:HA	36:Z:409:ASP:HB2	1.62	0.82
13:AC:12:DC:O3'	36:Z:890:TYR:OH	1.98	0.82
8:7:2:G:N2	8:7:73:C:O2	2.13	0.81
9:8:1093:PRO:CB	36:Z:734:VAL:HG23	2.08	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:2:G:N1	8:7:73:C:N3	2.28	0.81
9:8:945:ARG:CD	15:B:76:PHE:HD1	1.93	0.81
9:8:1269:LYS:NZ	36:Z:313:ILE:CG2	2.41	0.81
9:8:1310:LYS:HG2	36:Z:409:ASP:HB2	1.62	0.81
9:8:141:VAL:HG11	9:8:613:LEU:HD22	1.61	0.81
9:8:1307:LEU:HD23	36:Z:406:LYS:CG	2.10	0.81
12:AB:29:DC:C5'	36:Z:1057:VAL:HG13	2.08	0.81
48:m:26:LEU:HD21	48:m:67:LEU:HD11	1.62	0.81
4:3:1119:A:C2	34:U:29:TYR:CE2	2.67	0.81
35:V:23:ALA:HB1	35:W:6:ILE:HD11	1.63	0.81
9:8:1285:ARG:HB3	13:AC:17:DT:OP2	1.79	0.81
9:8:1325:VAL:CG1	36:Z:464:ILE:HG23	2.07	0.81
9:8:170:LYS:NZ	12:AB:25:DC:O5'	2.13	0.81
9:8:176:LYS:HE3	13:AC:9:DC:C5	2.14	0.81
9:8:1289:MET:HE3	13:AC:15:DA:H5'	0.83	0.81
44:i:32:ALA:HB1	44:i:111:MET:HE1	1.63	0.81
9:8:1345:GLU:CD	36:Z:391:ARG:CB	2.54	0.81
7:AA:86:GLN:NE2	36:Z:599:THR:HG22	1.95	0.81
20:G:56:ASN:HB2	20:G:73:ASN:HD22	1.46	0.81
4:3:900:G:N2	4:3:903:A:N6	2.29	0.81
7:AA:205:ILE:CD1	36:Z:513:ASP:OD2	2.28	0.81
36:Z:876:LYS:CG	36:Z:1030:ARG:HH11	1.77	0.81
9:8:961:ASN:HD22	15:B:80:SER:C	1.89	0.81
7:AA:168:GLU:OE1	36:Z:611:LYS:NZ	2.14	0.81
9:8:959:ASP:HB2	15:B:82:ASN:H	1.47	0.80
9:8:1307:LEU:CD2	36:Z:406:LYS:CG	2.58	0.80
4:3:1142:G:H4'	34:U:78:GLY:H	1.01	0.80
4:3:2570:U:H3	4:3:2574:A:H62	1.25	0.80
9:8:658:PRO:HG3	36:Z:868:PHE:HD2	0.97	0.80
9:8:958:LEU:O	15:B:75:ALA:CB	2.28	0.80
9:8:1269:LYS:CD	36:Z:313:ILE:CG1	2.47	0.80
9:8:1310:LYS:HB3	36:Z:408:VAL:C	2.05	0.80
6:5:661:G:H1	6:5:738:A:H61	0.84	0.80
9:8:356:ARG:NE	14:AD:110:ILE:HG13	1.77	0.80
9:8:1371:LEU:HG	36:Z:94:ILE:HG22	1.62	0.80
9:8:569:GLN:CD	14:AD:160:ASN:HD22	1.87	0.80
4:3:1054:U:O2'	4:3:1056:A:N7	2.14	0.80
9:8:956:ARG:CZ	15:B:108:GLU:HG3	2.10	0.80
4:3:1382:A:H62	4:3:1405:G:H21	1.30	0.80
9:8:412:LEU:HD13	9:8:471:LEU:HD11	1.63	0.80
9:8:1370:ILE:CD1	36:Z:97:ARG:HD3	2.10	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:216:ALA:O	12:AB:20:DG:C2'	2.22	0.80
4:3:900:G:H21	4:3:903:A:N6	1.79	0.80
9:8:1288:GLU:OE1	36:Z:893:ARG:NH2	2.14	0.80
6:5:69:G:H1	6:5:86:A:N6	1.79	0.80
23:J:17:SER:HB2	23:J:80:LYS:HE3	1.63	0.79
36:Z:923:THR:OG1	36:Z:1106:ARG:NH2	2.15	0.79
9:8:1350:ALA:HB2	36:Z:368:PHE:CZ	2.17	0.79
9:8:1370:ILE:CD1	36:Z:94:ILE:CG1	2.60	0.79
27:N:35:GLN:HG2	27:N:39:HIS:HE1	1.46	0.79
9:8:958:LEU:O	15:B:75:ALA:CA	2.30	0.79
9:8:1306:LEU:CD2	36:Z:408:VAL:CB	2.53	0.79
12:AB:32:DA:H5''	36:Z:121:PRO:HD3	1.63	0.79
4:3:186:A:N1	4:3:219:G:O6	2.16	0.79
4:3:1492:G:H5''	4:3:1493:A:H5'	1.64	0.79
4:3:2799:U:O4	4:3:2895:A:C6	2.36	0.79
9:8:653:TYR:CE2	36:Z:865:ASN:OD1	2.36	0.79
9:8:288:ARG:HB3	9:8:298:ARG:NH2	1.97	0.79
9:8:945:ARG:CD	15:B:76:PHE:CD1	2.66	0.79
4:3:329:G:H1	4:3:377:U:H3	1.28	0.79
9:8:1269:LYS:HZ3	36:Z:313:ILE:HA	1.48	0.79
9:8:1297:TYR:CZ	36:Z:504:ILE:O	2.35	0.79
9:8:1348:GLY:C	36:Z:388:LEU:HD11	2.01	0.79
11:A:191:ALA:HB1	11:A:198:VAL:HG21	1.65	0.79
9:8:1368:VAL:O	36:Z:98:GLU:CB	2.31	0.79
13:AC:27:DA:C5'	14:AD:17:VAL:CG1	2.25	0.79
50:o:34:ALA:HA	50:o:46:GLN:O	1.83	0.79
4:3:1305:G:N3	48:m:20:GLN:NE2	2.30	0.79
9:8:945:ARG:NH2	15:B:75:ALA:CB	2.07	0.79
4:3:1118:U:C5'	34:U:41:ARG:HD2	2.02	0.78
9:8:264:PHE:HZ	9:8:342:ARG:HG2	1.47	0.78
4:3:454:G:H2'	4:3:455:G:H8	1.47	0.78
4:3:2143:G:H1	4:3:2162:U:H3	1.31	0.78
9:8:901:ASN:HD21	9:8:1232:ARG:HH12	1.29	0.78
14:AD:55:PHE:HB3	14:AD:62:LEU:HD12	1.63	0.78
6:5:1136:G:H1	6:5:1151:A:H61	0.80	0.78
14:AD:137:ASP:OD2	36:Z:349:PRO:HG3	1.84	0.78
4:3:1141:U:C2	34:U:79:LYS:CE	2.63	0.78
7:6:111:LEU:HG	22:I:97:LYS:HD2	1.65	0.78
9:8:444:ILE:HG22	9:8:446:PHE:CD1	2.19	0.78
9:8:945:ARG:HD3	15:B:76:PHE:CD1	2.18	0.78
13:AC:12:DC:H5''	36:Z:1235:GLN:HB2	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:358:A:N6	4:3:372:G:H21	1.82	0.77
4:3:2570:U:H3	4:3:2574:A:N6	1.82	0.77
9:8:185:GLU:HG2	9:8:195:LEU:HD21	1.66	0.77
9:8:653:TYR:HE2	36:Z:865:ASN:OD1	1.65	0.77
9:8:1291:VAL:HG21	36:Z:404:LEU:O	1.83	0.77
9:8:1307:LEU:HD23	36:Z:406:LYS:HG3	1.66	0.77
6:5:732:A:H2'	6:5:733:A:H8	1.49	0.77
9:8:648:VAL:HB	36:Z:872:TYR:CD1	2.19	0.77
9:8:1306:LEU:CA	36:Z:408:VAL:HG12	2.15	0.77
9:8:1349:LEU:N	36:Z:388:LEU:CD1	2.43	0.77
36:Z:669:LYS:HE3	36:Z:670:PHE:CZ	2.19	0.77
9:8:258:VAL:CG1	9:8:268:VAL:HG11	2.13	0.77
9:8:1346:LEU:CD2	36:Z:392:LEU:CD1	2.62	0.77
9:8:169:LEU:C	12:AB:25:DC:H1'	2.09	0.77
9:8:1310:LYS:CA	36:Z:409:ASP:H	1.97	0.77
9:8:1346:LEU:HD21	36:Z:392:LEU:CD1	2.15	0.77
4:3:1937:G:HO2'	4:3:1975:G:H1	1.32	0.77
9:8:1307:LEU:HA	36:Z:406:LYS:CD	2.14	0.77
12:AB:19:DT:C2'	12:AB:21:DC:H4'	2.13	0.77
50:o:25:PHE:HE1	50:o:31:VAL:HG21	1.47	0.77
4:3:186:A:H2	4:3:219:G:H1	1.29	0.77
6:5:603:U:H3	6:5:630:G:H1	1.33	0.77
6:5:655:G:O6	6:5:744:U:C2	2.38	0.77
13:AC:27:DA:H5''	14:AD:18:LYS:H	0.97	0.77
19:F:115:MET:HG3	19:F:118:LYS:HE2	1.65	0.77
9:8:1346:LEU:HD21	36:Z:392:LEU:HD13	1.66	0.77
12:AB:29:DC:H5''	36:Z:1057:VAL:CG1	2.14	0.77
14:AD:44:VAL:HG22	14:AD:97:ILE:HG22	1.66	0.77
38:b:110:VAL:HG11	38:b:197:ILE:HD12	1.67	0.77
39:c:54:THR:HG22	39:c:57:GLU:HG3	1.66	0.77
40:d:31:LEU:HD11	40:d:156:LEU:HB3	1.66	0.77
56:u:86:PHE:O	56:u:92:LYS:HB2	1.85	0.77
4:3:2116:U:OP1	4:3:2156:G:N2	2.17	0.77
4:3:2175:U:N3	4:3:2179:A:C8	2.53	0.77
8:7:12:C:O2	8:7:25:G:N2	2.17	0.77
9:8:1324:ILE:CD1	36:Z:410:TYR:OH	2.32	0.77
18:E:59:ARG:HH22	30:Q:54:ILE:HD13	1.50	0.77
22:I:48:LEU:HB3	22:I:77:LYS:HE2	1.67	0.77
7:6:190:HIS:HE1	9:8:1083:ASP:O	1.67	0.76
9:8:1286:PHE:HB3	36:Z:406:LYS:O	1.85	0.76
9:8:1289:MET:CE	13:AC:15:DA:C5'	2.39	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1350:ALA:CB	36:Z:368:PHE:CZ	2.68	0.76
7:AA:86:GLN:HE21	36:Z:599:THR:HG23	1.49	0.76
47:l:74:LYS:HB2	47:l:92:PHE:HB2	1.65	0.76
48:m:46:ASP:HB2	48:m:97:TYR:HD1	1.50	0.76
52:q:65:GLN:HB3	52:q:87:GLN:HB3	1.67	0.76
6:5:1381:U:O2	6:5:1492:G:N2	2.18	0.76
9:8:217:VAL:HA	12:AB:20:DG:C2'	2.10	0.76
17:D:192:ILE:HG22	17:D:196:MET:HE1	1.67	0.76
6:5:319:U:O4	6:5:323:A:N7	2.19	0.76
9:8:374:CYS:CB	9:8:459:VAL:CG1	2.63	0.76
9:8:618:PRO:HA	9:8:814:LEU:HD12	1.66	0.76
9:8:1349:LEU:O	36:Z:111:HIS:NE2	2.18	0.76
4:3:1785:U:H3	4:3:1792:A:H62	1.33	0.76
4:3:2189:U:H2'	4:3:2190:G:H8	1.50	0.76
4:3:2590:G:N2	4:3:2591:G:N2	2.34	0.76
4:3:2683:G:H5''	45:j:31:ARG:HH12	1.51	0.76
9:8:901:ASN:ND2	9:8:1232:ARG:NH1	2.31	0.76
50:o:27:ALA:HB3	50:o:96:VAL:HG21	1.66	0.76
6:5:1331:A:N1	6:5:1340:G:N2	2.33	0.76
14:AD:47:GLU:HB2	14:AD:92:LEU:HD12	1.67	0.76
50:o:30:GLU:HB3	50:o:92:ARG:HB2	1.67	0.76
4:3:2291:U:O2	4:3:2333:G:O6	2.04	0.76
7:AA:82:LEU:CD2	36:Z:597:PHE:C	2.58	0.76
9:8:1324:ILE:HD13	36:Z:440:PRO:CG	2.15	0.76
12:AB:15:DT:P	14:AD:95:ARG:HH22	2.08	0.76
13:AC:11:DT:H4'	36:Z:1236:ASP:OD1	1.86	0.76
37:a:119:ASP:OD2	37:a:120:LYS:N	2.18	0.76
4:3:2019:G:H4'	53:r:96:ILE:HD11	1.67	0.76
9:8:658:PRO:HG3	36:Z:868:PHE:CE2	2.17	0.76
9:8:658:PRO:CG	36:Z:868:PHE:CE2	2.69	0.76
9:8:945:ARG:HG2	15:B:76:PHE:HE1	1.50	0.76
9:8:1289:MET:HE3	13:AC:14:DG:H2''	1.66	0.76
13:AC:27:DA:H5'	14:AD:17:VAL:HG13	1.60	0.76
4:3:1141:U:H3	34:U:79:LYS:HE2	1.49	0.76
4:3:1446:G:H22	4:3:1612:U:H5''	1.50	0.76
4:3:1830:G:H5''	37:a:55:VAL:HG21	1.66	0.76
12:AB:29:DC:H5''	36:Z:1057:VAL:HG13	1.67	0.75
35:V:6:ILE:HD11	35:W:23:ALA:HB1	1.68	0.75
9:8:1344:LYS:HB3	36:Z:305:ILE:HB	1.68	0.75
13:AC:10:DG:O4'	36:Z:119:PRO:HD3	1.84	0.75
10:9:5:TYR:CE2	10:9:48:LEU:CD2	2.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:619:A:O2'	16:C:73:ARG:NH2	2.20	0.75
12:AB:15:DT:H5'	14:AD:95:ARG:NH2	1.91	0.75
6:5:36:G:H4'	24:K:131:GLY:HA2	1.67	0.75
4:3:1764:U:N3	4:3:1769:A:C6	2.55	0.75
9:8:428:VAL:HG23	9:8:431:GLU:OE2	1.86	0.75
9:8:1344:LYS:C	36:Z:305:ILE:HG21	2.10	0.75
4:3:2088:U:H3	4:3:2247:G:H1	1.33	0.75
6:5:1295:U:H3'	6:5:1296:C:H2'	1.68	0.75
37:a:233:MET:SD	37:a:234:ASN:N	2.55	0.75
9:8:1102:ILE:CD1	36:Z:859:LEU:HA	2.16	0.75
36:Z:835:PHE:HB2	36:Z:837:TYR:CE2	2.22	0.75
9:8:965:MET:CE	15:B:78:ILE:HG13	2.09	0.75
6:5:41:C:H2'	6:5:42:G:H8	1.52	0.74
10:9:5:TYR:OH	10:9:51:ARG:HB2	1.86	0.74
6:5:833:G:H1	6:5:844:U:H3	0.79	0.74
4:3:2645:U:H3	4:3:2784:A:H62	1.35	0.74
8:7:12:C:N3	8:7:25:G:N1	2.35	0.74
9:8:408:LEU:HD12	9:8:427:LEU:HD11	1.68	0.74
10:9:5:TYR:HE2	10:9:48:LEU:HD23	1.50	0.74
4:3:1541:A:O2'	4:3:1590:U:O2'	2.04	0.74
4:3:2736:U:HO2'	4:3:2737:G:H8	1.33	0.74
6:5:1138:U:H3	6:5:1149:G:H1	1.35	0.74
9:8:412:LEU:HD13	9:8:471:LEU:CD1	2.17	0.74
10:9:88:MET:HB3	36:Z:1212:ILE:CD1	2.18	0.74
36:Z:895:LEU:HD22	36:Z:1165:ILE:HD13	1.70	0.74
48:m:42:GLN:HE21	48:m:100:VAL:HG11	1.52	0.74
6:5:600:G:H1	6:5:633:U:H3	1.33	0.74
9:8:1344:LYS:CE	36:Z:306:PRO:CD	2.64	0.74
4:3:161:U:H3	4:3:171:G:H1	1.33	0.74
4:3:675:U:H3	4:3:685:G:H1	1.35	0.74
6:5:711:G:H2'	6:5:712:A:H8	1.51	0.74
9:8:46:ASP:HA	9:8:75:ARG:HH22	1.51	0.74
12:AB:29:DC:C5'	36:Z:1057:VAL:CG1	2.65	0.74
4:3:219:G:N2	4:3:468:A:N1	2.35	0.74
4:3:1392:G:N2	4:3:1395:A:OP2	2.20	0.74
13:AC:27:DA:H5'	14:AD:17:VAL:HG12	0.74	0.74
15:B:152:ILE:HD12	15:B:205:ILE:HD12	1.70	0.74
4:3:2360:A:H62	4:3:2373:G:N2	1.86	0.74
7:AA:82:LEU:CD2	36:Z:598:GLY:CA	2.60	0.74
18:E:158:ASP:HB2	20:G:80:ARG:HH11	1.52	0.74
39:c:175:ILE:HG22	39:c:177:ASN:H	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:421:A:N6	4:3:424:G:OP2	2.20	0.74
9:8:1344:LYS:HG3	36:Z:309:ILE:HD12	0.74	0.74
20:G:92:LYS:HB2	20:G:95:LEU:HB2	1.68	0.74
4:3:1081:A:H61	34:U:8:ALA:H	1.35	0.74
6:5:715:A:H61	30:Q:94:ARG:HH22	1.36	0.73
25:L:34:LEU:HA	25:L:39:ILE:HD12	1.69	0.73
55:t:69:ILE:HD12	55:t:74:LEU:HD21	1.70	0.73
4:3:2589:G:N2	4:3:2589:G:OP2	2.22	0.73
6:5:1136:G:N2	6:5:1151:A:N1	2.35	0.73
9:8:1344:LYS:O	36:Z:305:ILE:HG22	1.88	0.73
13:AC:13:DA:C4'	36:Z:890:TYR:CG	2.59	0.73
4:3:2223:C:H2'	4:3:2224:A:H8	1.52	0.73
6:5:317:A:N1	6:5:328:G:O6	2.21	0.73
9:8:1287:GLY:HA3	13:AC:16:DC:P	2.27	0.73
1:0:24:THR:HG23	1:0:27:GLY:H	1.54	0.73
9:8:628:ILE:HD11	9:8:673:LEU:CD1	2.18	0.73
9:8:1273:GLN:CD	36:Z:402:ASN:HD22	1.95	0.73
9:8:1349:LEU:HA	36:Z:368:PHE:CE1	2.22	0.73
6:5:21:U:O2'	6:5:571:A:N6	2.21	0.73
9:8:613:LEU:HD23	9:8:615:HIS:NE2	2.03	0.73
9:8:1273:GLN:NE2	36:Z:402:ASN:ND2	2.30	0.73
13:AC:10:DG:C4'	36:Z:119:PRO:CD	2.52	0.73
4:3:2820:G:N3	4:3:2887:A:O2'	2.21	0.73
7:AA:86:GLN:HE21	36:Z:599:THR:CG2	1.96	0.73
14:AD:108:TRP:HE1	14:AD:112:ARG:NH2	1.85	0.73
6:5:518:A:H62	6:5:527:G:N2	1.86	0.73
11:A:90:ASP:HB2	11:A:94:LYS:HE2	1.70	0.73
19:F:55:GLU:OE2	19:F:59:THR:OG1	2.05	0.73
4:3:247:U:N3	4:3:259:A:C8	2.56	0.73
6:5:111:A:OP1	6:5:603:U:O2'	2.07	0.73
9:8:1341:LEU:HD13	36:Z:309:ILE:HG23	1.69	0.73
55:t:38:GLY:H	55:t:41:LYS:HE2	1.54	0.73
4:3:1803:U:H3	4:3:1830:G:H1	1.37	0.73
49:n:76:ASP:OD1	49:n:77:ILE:N	2.21	0.73
4:3:2332:U:H3	4:3:2339:G:H1	1.34	0.72
6:5:170:A:O2'	6:5:220:U:OP1	2.06	0.72
11:A:176:LEU:HD21	11:A:198:VAL:HG22	1.70	0.72
16:C:22:ASN:H	36:Z:85:ARG:NH2	1.87	0.72
4:3:1099:C:N4	4:3:1105:A:OP1	2.22	0.72
9:8:814:LEU:CD2	9:8:858:TYR:CE2	2.72	0.72
9:8:1289:MET:HG3	13:AC:15:DA:C5'	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:771:ASP:HB3	36:Z:845:ILE:HD12	1.71	0.72
4:3:898:A:O2'	5:4:76:A:N3	2.22	0.72
4:3:1832:G:OP2	37:a:56:ARG:NH2	2.22	0.72
5:4:40:U:H4'	40:d:64:LYS:HB2	1.70	0.72
6:5:807:C:O2'	6:5:894:A:N6	2.20	0.72
6:5:1224:C:N3	6:5:1262:A:N7	2.36	0.72
10:9:78:PHE:CZ	36:Z:1095:ARG:CZ	2.72	0.72
9:8:1307:LEU:HB3	36:Z:406:LYS:HD2	1.71	0.72
9:8:1348:GLY:O	36:Z:368:PHE:CD1	2.41	0.72
13:AC:27:DA:H5''	14:AD:18:LYS:CB	2.14	0.72
4:3:1956:G:H2'	4:3:1957:G:C8	2.24	0.72
9:8:402:ARG:HD3	9:8:510:TYR:CD2	2.23	0.72
6:5:429:A:O2'	14:AD:58:LYS:CB	2.38	0.72
9:8:1351:LEU:CD1	36:Z:113:TRP:CZ3	2.73	0.72
9:8:216:ALA:HB3	12:AB:20:DG:C8	2.25	0.72
6:5:431:U:H5''	14:AD:54:VAL:HG11	1.72	0.72
9:8:1285:ARG:CB	13:AC:17:DT:OP2	2.37	0.72
9:8:1344:LYS:CG	36:Z:306:PRO:HD2	2.20	0.72
29:P:22:ALA:HB3	29:P:47:ALA:O	1.90	0.72
30:Q:81:MET:HE3	30:Q:85:HIS:HE1	1.55	0.72
4:3:1070:U:H3	4:3:1155:G:H1	1.37	0.72
14:AD:108:TRP:NE1	14:AD:112:ARG:NE	2.37	0.72
58:w:57:ILE:O	58:w:61:ARG:NH1	2.22	0.72
4:3:1262:G:H2'	4:3:1263:G:C8	2.25	0.71
4:3:1489:G:H2'	4:3:1490:G:C8	2.24	0.71
6:5:1217:G:H1	6:5:1269:U:H3	1.38	0.71
9:8:131:THR:HG21	9:8:600:ILE:HD12	1.70	0.71
9:8:168:GLN:O	12:AB:25:DC:C2'	2.38	0.71
9:8:356:ARG:HE	14:AD:110:ILE:CG1	1.93	0.71
45:j:70:GLN:NE2	45:j:71:ARG:O	2.23	0.71
4:3:51:A:N7	4:3:121:U:O4	2.23	0.71
4:3:638:A:H62	4:3:660:U:H3	1.38	0.71
4:3:1119:A:H1'	34:U:53:VAL:CB	2.20	0.71
31:R:27:LYS:HZ1	31:R:47:ASN:HD22	1.38	0.71
6:5:460:A:H2	6:5:467:G:N1	1.87	0.71
9:8:1126:CYS:O	9:8:1154:LYS:HE2	1.90	0.71
53:r:126:LYS:HA	53:r:129:VAL:HG22	1.71	0.71
4:3:2695:U:O2	4:3:2730:G:N2	2.23	0.71
7:6:108:ARG:CD	22:I:99:PRO:HD3	2.20	0.71
4:3:598:G:H1	4:3:609:U:H3	1.38	0.71
7:6:108:ARG:N	22:I:97:LYS:NZ	2.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:673:LEU:HD23	9:8:677:ALA:HB3	1.72	0.71
9:8:1289:MET:CG	13:AC:15:DA:C4'	2.54	0.71
15:B:155:LEU:HD23	15:B:202:LYS:HD2	1.70	0.71
24:K:86:ASN:OD1	24:K:88:GLN:NE2	2.23	0.71
39:c:183:LEU:HG	39:c:203:VAL:HG11	1.72	0.71
14:AD:108:TRP:CZ3	14:AD:130:PRO:HB3	2.26	0.71
14:AD:134:ASP:OD2	36:Z:349:PRO:HB3	1.91	0.71
54:s:60:ARG:O	54:s:77:LEU:HA	1.90	0.71
57:v:34:GLN:HE22	57:v:55:LEU:HD11	1.54	0.71
9:8:94:ILE:CG2	9:8:135:LEU:HD12	2.21	0.71
9:8:1105:ILE:CG2	36:Z:736:VAL:CG2	2.63	0.71
4:3:1081:A:C8	34:U:7:LYS:HD2	2.25	0.71
4:3:2572:A:N6	4:3:2655:U:O2'	2.24	0.71
9:8:1307:LEU:O	36:Z:406:LYS:CD	2.38	0.71
13:AC:14:DG:H5'	36:Z:890:TYR:CA	2.21	0.71
15:B:176:MET:HE2	15:B:204:TRP:HB3	1.72	0.71
19:F:102:TRP:CD1	19:F:136:LYS:HZ2	2.08	0.71
50:o:62:GLU:HB3	50:o:81:ILE:HD12	1.72	0.71
4:3:1143:U:C4	4:3:1144:C:N4	2.58	0.71
4:3:1385:U:H3	4:3:1402:G:H1	1.38	0.71
6:5:1193:U:H2'	6:5:1194:A:H8	1.55	0.71
30:Q:78:ASN:HB3	30:Q:82:HIS:HB2	1.72	0.71
4:3:1081:A:N9	34:U:7:LYS:HD3	1.99	0.71
6:5:1413:G:N2	6:5:1438:U:O2	2.24	0.71
9:8:265:LEU:HD11	9:8:335:MET:HE3	1.73	0.71
9:8:1200:PHE:CE2	36:Z:864:ILE:CD1	2.74	0.71
23:J:100:ILE:HG23	33:T:8:ASN:HD21	1.55	0.71
4:3:250:U:H3	4:3:256:G:H1	1.39	0.70
4:3:313:G:N1	4:3:394:C:N3	2.37	0.70
4:3:990:G:H1	4:3:999:U:H3	1.37	0.70
4:3:1083:A:H1'	4:3:1147:G:H21	1.56	0.70
4:3:1142:G:C2'	34:U:78:GLY:CA	2.67	0.70
4:3:2061:A:H62	4:3:2585:A:N6	1.85	0.70
9:8:613:LEU:HD23	9:8:615:HIS:HE2	1.54	0.70
9:8:1306:LEU:CD2	36:Z:408:VAL:CG1	2.69	0.70
4:3:226:A:N6	4:3:236:G:N2	2.39	0.70
4:3:2799:U:C4	4:3:2895:A:N1	2.60	0.70
9:8:1341:LEU:CD1	36:Z:309:ILE:CG2	2.58	0.70
20:G:115:ILE:HB	20:G:138:LEU:HB2	1.74	0.70
29:P:68:PRO:HB3	29:P:74:ARG:HG2	1.73	0.70
32:S:13:GLN:HA	32:S:16:LYS:HE2	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:739:G:OP1	27:N:56:LYS:NZ	2.22	0.70
9:8:175:ARG:HH21	12:AB:26:DT:C6	1.48	0.70
4:3:1090:G:H4'	34:U:33:SER:HA	1.73	0.70
4:3:1661:A:H2'	4:3:1662:G:H8	1.54	0.70
4:3:2010:A:N3	48:m:2:SER:N	2.39	0.70
4:3:2360:A:N6	4:3:2373:G:H21	1.90	0.70
6:5:688:G:N7	23:J:21:ASN:ND2	2.40	0.70
6:5:1316:C:H2'	6:5:1317:A:C8	2.27	0.70
7:6:94:LEU:CD1	22:I:33:GLU:O	2.39	0.70
5:4:28:C:O2'	5:4:55:A:N1	2.25	0.70
6:5:885:U:O2	6:5:901:A:N7	2.25	0.70
4:3:1807:C:O2'	37:a:159:GLN:NE2	2.25	0.70
6:5:684:A:H62	6:5:700:G:H21	0.78	0.70
4:3:638:A:N6	4:3:661:G:C6	2.58	0.70
6:5:821:U:O2	20:G:11:HIS:NE2	2.25	0.70
9:8:216:ALA:HB1	12:AB:20:DG:H8	1.51	0.70
9:8:374:CYS:CB	9:8:459:VAL:HG11	2.22	0.70
36:Z:1133:ALA:HB1	36:Z:1137:ARG:HD3	1.72	0.70
43:h:15:LEU:HA	43:h:50:MET:HA	1.73	0.70
58:w:57:ILE:HG22	58:w:61:ARG:HH22	1.55	0.70
4:3:1119:A:C2	34:U:29:TYR:CZ	2.80	0.70
4:3:2536:U:H3	4:3:2543:G:H1	1.40	0.70
7:6:49:CYS:HG	7:AA:34:PHE:HE2	1.40	0.70
56:u:84:GLN:OE1	56:u:94:ARG:NH2	2.25	0.70
6:5:1046:A:N7	6:5:1175:C:N4	2.40	0.69
6:5:1106:U:H3	6:5:1160:G:H1	1.40	0.69
7:6:94:LEU:HB3	22:I:33:GLU:CB	2.17	0.69
7:6:113:THR:N	22:I:95:ARG:NH2	2.33	0.69
4:3:1141:U:O2'	34:U:79:LYS:CA	2.34	0.69
4:3:1446:G:O2'	4:3:1613:A:N6	2.21	0.69
4:3:1553:G:N2	4:3:1577:A:OP2	2.24	0.69
7:6:95:LEU:CD2	22:I:33:GLU:CD	2.62	0.69
9:8:185:GLU:HG2	9:8:195:LEU:CD2	2.21	0.69
9:8:1370:ILE:CD1	36:Z:94:ILE:HG12	2.20	0.69
17:D:169:ILE:HD11	17:D:192:ILE:HD12	1.74	0.69
2:1:39:ARG:NH2	4:3:2359:G:O6	2.25	0.69
4:3:487:C:N4	4:3:490:A:OP2	2.25	0.69
4:3:782:U:H2'	53:r:88:ARG:HH21	1.56	0.69
4:3:849:C:H2'	4:3:850:G:H8	1.55	0.69
4:3:2455:G:H21	4:3:2457:U:H3'	1.56	0.69
6:5:134:G:H1	6:5:160:A:N6	1.89	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AD:57:LEU:HD12	14:AD:80:ASP:HA	1.75	0.69
15:B:93:LYS:HA	15:B:96:ILE:HG22	1.74	0.69
42:f:47:ARG:HH22	42:f:51:LEU:HB2	1.57	0.69
2:1:36:LYS:HG3	2:1:40:HIS:HE1	1.57	0.69
2:1:36:LYS:O	2:1:40:HIS:ND1	2.25	0.69
4:3:358:A:H62	4:3:372:G:N2	1.91	0.69
4:3:1738:G:H2'	4:3:1739:G:C8	2.27	0.69
57:v:4:LYS:O	57:v:6:GLN:NE2	2.26	0.69
4:3:1764:U:N3	4:3:1769:A:N6	2.39	0.69
13:AC:14:DG:N7	36:Z:886:ALA:HA	2.03	0.69
19:F:43:TYR:HA	19:F:46:PHE:HD2	1.58	0.69
27:N:35:GLN:HG2	27:N:39:HIS:CE1	2.27	0.69
4:3:631:A:H2'	4:3:632:A:H8	1.57	0.69
6:5:1162:G:N2	26:M:60:SER:OG	2.25	0.69
9:8:644:ASP:O	36:Z:835:PHE:CE1	2.45	0.69
9:8:960:GLU:HG3	15:B:80:SER:O	1.93	0.69
7:AA:166:PHE:CE2	36:Z:679:ARG:NH2	2.60	0.69
12:AB:17:DT:H4'	12:AB:18:DG:OP1	1.93	0.69
4:3:703:A:H2'	4:3:705:A:H62	1.57	0.69
4:3:1418:U:O4	4:3:1423:A:N7	2.26	0.69
9:8:960:GLU:OE2	15:B:84:ASN:CA	2.40	0.69
7:AA:73:MET:HE3	7:AA:143:PHE:CD2	2.28	0.69
15:B:127:ILE:HD12	15:B:133:LEU:HD22	1.73	0.69
6:5:249:U:H3	6:5:269:A:H61	1.41	0.69
23:J:116:PRO:HD2	33:T:35:HIS:HB2	1.74	0.69
47:l:39:GLY:HA2	47:l:97:VAL:O	1.92	0.69
56:u:35:LEU:HD13	56:u:54:GLN:HA	1.75	0.69
4:3:420:A:H62	4:3:425:U:H3	1.40	0.69
9:8:219:GLU:HG3	12:AB:21:DC:H42	1.58	0.69
9:8:1371:LEU:HG	36:Z:94:ILE:HG23	1.74	0.69
6:5:70:A:H2'	6:5:71:A:H8	1.57	0.69
45:j:86:LEU:HB3	45:j:94:ARG:HD2	1.75	0.69
3:2:27:CYS:SG	3:2:28:LYS:N	2.66	0.68
4:3:1089:A:H1'	34:U:30:THR:HG22	1.75	0.68
6:5:1164:U:H5''	15:B:10:LEU:HD11	1.75	0.68
13:AC:10:DG:H4'	36:Z:119:PRO:N	2.07	0.68
13:AC:10:DG:H4'	36:Z:118:LEU:C	2.18	0.68
3:2:3:VAL:HG12	3:2:35:ARG:HB3	1.75	0.68
4:3:640:U:H3	4:3:658:G:H1	1.40	0.68
9:8:561:ALA:HB1	9:8:585:LEU:HD11	1.74	0.68
7:AA:82:LEU:HD22	36:Z:598:GLY:HA2	1.69	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:82:LEU:CD1	36:Z:621:SER:HB2	2.23	0.68
4:3:1554:A:OP2	4:3:1576:G:N2	2.27	0.68
4:3:2574:A:H4'	4:3:2575:G:H5''	1.74	0.68
6:5:294:A:O2'	6:5:295:G:O5'	2.09	0.68
9:8:1346:LEU:HD23	36:Z:392:LEU:HD11	1.74	0.68
10:9:64:TYR:HB3	10:9:88:MET:HE1	1.74	0.68
24:K:67:LYS:HE3	24:K:75:GLU:HG3	1.74	0.68
4:3:895:G:OP2	56:u:58:ARG:NH1	2.26	0.68
4:3:1043:C:H3'	4:3:1044:C:H2'	1.74	0.68
4:3:1379:C:O2'	4:3:1605:A:O2'	2.12	0.68
4:3:2661:U:O2	4:3:2676:G:C2	2.46	0.68
6:5:742:C:H2'	6:5:743:A:C8	2.28	0.68
24:K:86:ASN:HD22	24:K:118:VAL:H	1.39	0.68
37:a:3:ILE:HD11	37:a:207:ASP:HB3	1.76	0.68
4:3:2570:U:O4	4:3:2574:A:N7	2.26	0.68
6:5:1150:G:H2'	6:5:1151:A:H8	1.58	0.68
9:8:1306:LEU:CA	36:Z:408:VAL:HG11	2.18	0.68
14:AD:27:LYS:HE3	14:AD:42:VAL:O	1.92	0.68
36:Z:884:LYS:HG2	36:Z:1029:MET:HG3	1.75	0.68
38:b:158:ARG:NH1	38:b:159:VAL:O	2.27	0.68
42:f:7:GLN:NE2	42:f:8:ASP:OD1	2.26	0.68
4:3:1067:A:N1	4:3:1157:G:O6	2.27	0.68
6:5:1077:U:H3	6:5:1090:G:H22	1.40	0.68
9:8:658:PRO:CB	36:Z:868:PHE:CE2	2.77	0.68
4:3:733:C:H4'	4:3:769:A:H61	1.59	0.68
9:8:176:LYS:HD2	13:AC:8:DA:H2'	1.75	0.68
4:3:226:A:C6	4:3:236:G:N2	2.61	0.68
4:3:1081:A:C2'	34:U:7:LYS:NZ	2.55	0.68
4:3:2754:U:H5''	41:e:141:LYS:HE2	1.75	0.68
6:5:662:G:O6	6:5:721:G:O6	2.12	0.68
6:5:1224:C:O2	6:5:1262:A:N6	2.27	0.68
9:8:565:ASN:CB	14:AD:28:ALA:O	2.40	0.68
9:8:1370:ILE:HD13	36:Z:94:ILE:CD1	2.22	0.68
39:c:159:PHE:HB2	39:c:180:VAL:HG22	1.76	0.68
4:3:2521:A:OP1	38:b:164:LYS:NZ	2.27	0.68
9:8:170:LYS:NZ	12:AB:25:DC:C5'	2.57	0.68
9:8:958:LEU:O	15:B:75:ALA:HB1	1.93	0.68
20:G:118:THR:HA	20:G:135:GLY:HA3	1.76	0.68
6:5:273:C:H5''	29:P:44:LYS:HE2	1.75	0.68
9:8:390:ARG:CD	9:8:496:ASN:O	2.41	0.68
19:F:86:VAL:HG22	19:F:150:PHE:HB3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:j:63:VAL:HG23	45:j:64:ARG:HG3	1.73	0.68
55:t:93:MET:HG3	55:t:95:PRO:HD3	1.75	0.68
4:3:1295:A:H61	4:3:2020:A:H3'	1.60	0.67
4:3:2321:C:H2'	4:3:2322:G:H8	1.59	0.67
9:8:1310:LYS:HA	36:Z:409:ASP:CB	2.23	0.67
17:D:163:GLY:O	17:D:167:ARG:N	2.25	0.67
34:U:42:LYS:HE2	43:h:114:ALA:C	2.19	0.67
36:Z:828:ARG:NH1	36:Z:870:SER:HB2	2.09	0.67
58:w:38:LEU:HD23	58:w:40:LYS:H	1.59	0.67
4:3:2020:A:H1'	53:r:94:ASN:HD21	1.59	0.67
5:4:22:G:O2'	5:4:25:A:N6	2.28	0.67
32:S:52:ASP:O	32:S:56:ARG:NH2	2.27	0.67
38:b:3:ILE:HG23	38:b:209:THR:HB	1.76	0.67
50:o:32:ASN:HB3	50:o:91:LYS:HZ1	1.58	0.67
4:3:2124:A:O2'	4:3:2126:A:OP2	2.11	0.67
4:3:2291:U:O4	4:3:2292:A:N6	2.27	0.67
6:5:201:G:H1	6:5:214:U:H3	1.42	0.67
9:8:638:ARG:HH21	9:8:666:ASN:ND2	1.91	0.67
9:8:780:LEU:HD22	36:Z:878:MET:HE1	1.76	0.67
9:8:961:ASN:ND2	15:B:80:SER:O	2.27	0.67
9:8:1306:LEU:C	36:Z:408:VAL:CG1	2.65	0.67
9:8:1336:PRO:HG2	36:Z:406:LYS:HZ3	1.59	0.67
41:e:101:VAL:HG21	41:e:126:VAL:HG21	1.75	0.67
4:3:590:U:OP1	44:i:116:ARG:NH2	2.27	0.67
4:3:1700:G:H4'	45:j:6:THR:HG23	1.75	0.67
9:8:945:ARG:NH2	15:B:75:ALA:H	1.91	0.67
10:9:13:LYS:HE2	10:9:17:GLU:OE1	1.95	0.67
32:S:35:PHE:HE1	32:S:44:LEU:HB2	1.59	0.67
4:3:193:G:H1	4:3:209:G:HO2'	1.41	0.67
4:3:2655:U:H2'	4:3:2656:G:H8	1.58	0.67
9:8:374:CYS:HB2	9:8:459:VAL:CG1	2.24	0.67
32:S:16:LYS:O	32:S:20:ASN:ND2	2.27	0.67
52:q:36:ASP:HA	52:q:54:ARG:HE	1.59	0.67
4:3:2749:A:H62	4:3:2771:G:H21	1.41	0.67
6:5:1213:A:N6	6:5:1275:U:N3	2.41	0.67
6:5:1265:U:H4'	21:H:42:PRO:HB3	1.77	0.67
9:8:1102:ILE:HD11	36:Z:859:LEU:CA	2.25	0.67
9:8:1349:LEU:HD11	36:Z:389:THR:N	2.09	0.67
4:3:2096:U:H3	4:3:2238:G:H1	1.41	0.67
6:5:289:U:OP1	6:5:608:G:N2	2.28	0.67
9:8:214:ARG:NH2	12:AB:22:DA:C6	2.63	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:907:ASP:OD2	9:8:1099:ARG:NH2	2.27	0.67
7:AA:82:LEU:HD13	36:Z:598:GLY:HA2	1.75	0.67
16:C:74:LEU:HD23	16:C:77:LEU:HD21	1.77	0.67
36:Z:884:LYS:CG	36:Z:1029:MET:HG3	2.25	0.67
4:3:1187:C:H5''	51:p:79:ILE:HD13	1.76	0.67
4:3:1616:G:O2'	4:3:1619:A:N3	2.28	0.67
4:3:2455:G:N2	4:3:2458:A:OP2	2.28	0.67
6:5:1012:A:OP2	6:5:1013:C:N4	2.28	0.67
6:5:1245:A:H2'	6:5:1246:A:H8	1.59	0.67
9:8:772:GLU:CB	36:Z:862:LEU:O	2.43	0.67
12:AB:15:DT:H5''	14:AD:95:ARG:HH12	0.85	0.67
4:3:1023:C:O2'	4:3:1036:A:N3	2.27	0.67
9:8:390:ARG:HD3	9:8:496:ASN:O	1.95	0.67
9:8:565:ASN:HB3	14:AD:28:ALA:O	1.94	0.67
53:r:36:LEU:HD21	53:r:47:ILE:HG13	1.76	0.67
60:y:47:MET:HG3	60:y:52:ARG:HB2	1.74	0.67
4:3:411:U:H3	4:3:437:A:H62	1.42	0.66
9:8:1307:LEU:O	36:Z:406:LYS:HD3	1.95	0.66
37:a:83:VAL:HB	37:a:118:GLY:H	1.59	0.66
38:b:56:THR:HA	38:b:78:THR:HA	1.77	0.66
38:b:185:ASP:O	38:b:189:MET:CA	2.42	0.66
41:e:4:ILE:O	41:e:72:ASN:ND2	2.28	0.66
49:n:8:ARG:HG2	49:n:95:GLY:HA3	1.77	0.66
4:3:1119:A:C1'	34:U:53:VAL:CB	2.73	0.66
6:5:460:A:N1	6:5:467:G:O6	2.28	0.66
9:8:1307:LEU:HD22	36:Z:406:LYS:CG	2.24	0.66
18:E:97:LEU:HG	18:E:99:SER:H	1.60	0.66
25:L:8:ASP:OD1	25:L:9:ILE:N	2.27	0.66
36:Z:128:LEU:HD23	36:Z:248:ILE:HD11	1.75	0.66
4:3:49:C:HO2'	4:3:54:A:HO2'	1.40	0.66
4:3:1232:U:H2'	4:3:1233:A:H8	1.61	0.66
6:5:350:G:N2	6:5:384:G:O2'	2.28	0.66
6:5:786:U:N3	6:5:789:A:OP2	2.28	0.66
13:AC:12:DC:C5'	36:Z:1235:GLN:HB2	2.25	0.66
37:a:43:LYS:NZ	37:a:62:ASN:O	2.29	0.66
45:j:87:ILE:HA	45:j:93:PRO:HA	1.78	0.66
21:H:9:LEU:H	21:H:87:ARG:HD2	1.61	0.66
45:j:80:ASP:OD2	50:o:67:ARG:NH2	2.29	0.66
3:2:14:CYS:HA	3:2:27:CYS:HB2	1.77	0.66
6:5:423:U:OP1	16:C:31:ARG:NH2	2.29	0.66
6:5:1224:C:O2'	21:H:72:GLY:O	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:77:LYS:HE3	36:Z:78:TYR:CZ	2.31	0.66
39:c:140:THR:HA	39:c:143:MET:HE2	1.78	0.66
4:3:840:G:H5''	46:k:42:ARG:HG3	1.77	0.66
4:3:857:U:O4	4:3:858:A:N6	2.28	0.66
4:3:1092:A:OP2	4:3:1124:G:N1	2.23	0.66
6:5:460:A:C2	6:5:467:G:N1	2.55	0.66
6:5:871:U:OP1	20:G:92:LYS:NZ	2.29	0.66
36:Z:1069:GLU:HB2	36:Z:1095:ARG:NH1	2.10	0.66
4:3:648:G:H22	39:c:185:LYS:HG3	1.61	0.66
4:3:1141:U:H1'	34:U:79:LYS:HG2	1.77	0.66
9:8:1349:LEU:CA	36:Z:368:PHE:CE1	2.79	0.66
36:Z:687:VAL:HG11	36:Z:802:ARG:NH2	2.08	0.66
51:p:16:TRP:HA	51:p:19:GLN:HE22	1.60	0.66
4:3:1187:C:H2'	4:3:1188:C:H6	1.61	0.66
7:6:113:THR:N	22:I:95:ARG:CZ	2.59	0.66
9:8:356:ARG:CD	14:AD:109:ARG:CB	2.64	0.66
9:8:412:LEU:CD1	9:8:471:LEU:CD1	2.74	0.66
15:B:133:LEU:HB3	15:B:137:MET:HE1	1.77	0.66
18:E:66:ASN:OD1	18:E:67:GLN:NE2	2.25	0.66
36:Z:1234:PHE:CD1	36:Z:1235:GLN:HG2	2.31	0.66
45:j:10:VAL:HG12	45:j:12:ASP:H	1.59	0.66
48:m:42:GLN:HA	48:m:45:LEU:HD12	1.77	0.66
59:x:12:VAL:HB	59:x:27:SER:HB2	1.77	0.66
2:1:20:LYS:HZ3	4:3:666:G:H5''	1.60	0.66
4:3:1837:C:H2'	4:3:1838:A:H8	1.58	0.66
6:5:683:G:O2'	6:5:700:G:N2	2.29	0.66
10:9:88:MET:HB3	36:Z:1212:ILE:HD11	1.78	0.66
16:C:20:GLU:N	36:Z:85:ARG:NH2	2.43	0.66
6:5:673:A:H1'	23:J:110:PRO:HB3	1.78	0.66
9:8:649:HIS:CD2	36:Z:837:TYR:HE1	2.07	0.66
9:8:1338:SER:CB	36:Z:402:ASN:HB3	2.26	0.66
13:AC:12:DC:H2''	36:Z:890:TYR:OH	1.96	0.66
37:a:38:LEU:HD11	37:a:65:LYS:HB3	1.78	0.66
38:b:110:VAL:HG21	38:b:179:LEU:HD22	1.78	0.66
4:3:2104:A:H2'	4:3:2105:G:C8	2.32	0.65
4:3:2266:C:O2'	4:3:2435:C:OP2	2.13	0.65
4:3:2732:A:OP1	38:b:117:ARG:NH2	2.22	0.65
6:5:1503:U:OP2	33:T:43:ARG:NH2	2.29	0.65
11:A:59:GLU:O	11:A:63:GLN:NE2	2.29	0.65
4:3:2315:G:N1	40:d:39:GLY:O	2.29	0.65
5:4:29:C:OP1	40:d:30:ARG:NH1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:374:CYS:HB3	9:8:459:VAL:CG1	2.26	0.65
9:8:1352:SER:OG	36:Z:31:TRP:CH2	2.28	0.65
4:3:620:G:H1	46:k:34:ARG:HH21	1.44	0.65
4:3:816:A:OP2	37:a:225:ARG:NH2	2.30	0.65
4:3:1355:C:N3	4:3:1681:G:N2	2.44	0.65
9:8:1306:LEU:CG	36:Z:408:VAL:HG11	2.25	0.65
57:v:4:LYS:HG2	57:v:11:GLY:HA2	1.78	0.65
4:3:625:G:H2'	4:3:626:A:H8	1.62	0.65
4:3:713:C:H2'	4:3:714:G:H8	1.61	0.65
4:3:2828:C:H3'	4:3:2829:G:H21	1.62	0.65
3:2:31:LYS:NZ	4:3:2535:C:O2'	2.30	0.65
4:3:2035:U:O4	4:3:2040:A:N7	2.29	0.65
4:3:2070:C:N4	4:3:2509:C:O2	2.29	0.65
6:5:1225:A:H4'	21:H:71:GLY:HA2	1.78	0.65
7:6:107:GLU:C	22:I:97:LYS:HZ1	2.04	0.65
9:8:1336:PRO:CG	36:Z:406:LYS:HZ3	2.08	0.65
9:8:1347:GLN:CD	36:Z:100:MET:HE2	2.20	0.65
25:L:87:ARG:HG3	25:L:97:VAL:HG13	1.78	0.65
30:Q:67:TYR:HE1	33:T:5:GLU:HA	1.61	0.65
34:U:42:LYS:HE2	43:h:114:ALA:CA	2.27	0.65
48:m:46:ASP:HB2	48:m:97:TYR:CD1	2.32	0.65
4:3:515:A:H1'	4:3:517:G:H5'	1.78	0.65
4:3:1081:A:N9	34:U:7:LYS:CD	2.58	0.65
9:8:945:ARG:NE	15:B:75:ALA:HB1	2.12	0.65
9:8:1269:LYS:HD2	36:Z:313:ILE:HG21	1.77	0.65
9:8:1305:GLU:OE1	9:8:1310:LYS:HE3	1.95	0.65
9:8:1306:LEU:O	36:Z:408:VAL:CG1	2.30	0.65
39:c:158:LEU:HD11	39:c:181:LYS:HG3	1.78	0.65
4:3:287:G:H22	57:v:63:ARG:HH22	1.44	0.65
4:3:1414:C:H2'	4:3:1415:A:C8	2.31	0.65
4:3:1476:C:H2'	4:3:1477:A:H8	1.60	0.65
4:3:2641:A:O2'	38:b:66:GLN:NE2	2.29	0.65
9:8:269:ASP:OD2	9:8:342:ARG:NE	2.21	0.65
9:8:1325:VAL:HG11	36:Z:464:ILE:CG2	2.15	0.65
48:m:117:GLN:HE22	48:m:119:THR:HG22	1.62	0.65
4:3:2676:G:H2'	4:3:2677:A:H8	1.61	0.65
6:5:133:G:H2'	6:5:134:G:C8	2.32	0.65
6:5:376:G:N2	6:5:379:A:OP2	2.25	0.65
22:I:12:LEU:HB3	22:I:82:LEU:HB2	1.77	0.65
31:R:32:LYS:HA	31:R:50:ALA:HB3	1.79	0.65
36:Z:890:TYR:CE1	36:Z:894:LYS:CE	2.76	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:b:139:TYR:CG	38:b:140:PRO:HD3	2.31	0.65
4:3:1067:A:H2	4:3:1157:G:H1	1.44	0.65
4:3:1292:A:H61	4:3:2024:C:H42	1.44	0.65
4:3:1729:G:H4'	37:a:9:ARG:HG3	1.79	0.65
6:5:1414:U:OP1	32:S:29:LYS:NZ	2.29	0.65
9:8:1349:LEU:HA	36:Z:368:PHE:CG	2.30	0.65
9:8:1349:LEU:CG	36:Z:388:LEU:HB2	2.25	0.65
46:k:62:LEU:HD12	46:k:63:PRO:HD2	1.78	0.65
4:3:155:A:H2'	4:3:156:A:C8	2.32	0.65
6:5:540:U:OP1	16:C:9:LYS:NZ	2.30	0.65
9:8:956:ARG:NH2	15:B:108:GLU:CG	2.60	0.65
48:m:70:THR:HG23	48:m:72:LEU:H	1.62	0.65
4:3:1141:U:N3	34:U:79:LYS:CE	2.56	0.64
9:8:1298:GLY:HA2	36:Z:1266:ILE:HD11	1.79	0.64
9:8:1338:SER:HB3	36:Z:402:ASN:HB3	1.78	0.64
9:8:1349:LEU:CD2	36:Z:368:PHE:CB	2.70	0.64
42:f:79:PHE:HB2	42:f:142:VAL:HG12	1.79	0.64
42:f:101:ALA:HA	42:f:106:MET:HE2	1.79	0.64
4:3:2017:G:H5''	53:r:42:LYS:HB2	1.79	0.64
4:3:2592:U:O2'	8:7:77:A:N6	2.30	0.64
7:6:94:LEU:CB	22:I:33:GLU:HB2	2.21	0.64
9:8:1310:LYS:HB3	36:Z:409:ASP:CA	2.23	0.64
9:8:1342:LEU:HB2	36:Z:398:LEU:HD23	0.65	0.64
40:d:34:ILE:HG13	40:d:96:MET:HE3	1.78	0.64
44:i:73:GLU:HG3	44:i:93:ARG:HD2	1.79	0.64
4:3:700:U:H2'	4:3:701:A:H8	1.61	0.64
4:3:1807:C:N3	4:3:1824:G:N1	2.42	0.64
4:3:2321:C:O4'	40:d:37:ASN:ND2	2.31	0.64
4:3:2499:U:H5'	4:3:2578:A:H5''	1.79	0.64
4:3:2812:U:H1'	4:3:2813:A:H2'	1.80	0.64
54:s:8:LEU:HB3	54:s:30:VAL:HG13	1.79	0.64
4:3:1086:G:H4'	4:3:2760:C:H1'	1.79	0.64
6:5:1429:G:H2'	6:5:1430:G:H8	1.63	0.64
13:AC:27:DA:H2'	14:AD:18:LYS:HE3	0.68	0.64
37:a:251:ARG:HH21	37:a:254:PRO:HA	1.61	0.64
4:3:354:C:O2	39:c:174:ASN:ND2	2.30	0.64
4:3:1128:G:N2	4:3:1134:G:O6	2.30	0.64
4:3:1141:U:H3	34:U:79:LYS:CE	2.09	0.64
6:5:33:A:H61	6:5:550:U:H3	1.46	0.64
9:8:1098:SER:HA	36:Z:820:ASN:ND2	2.11	0.64
9:8:1297:TYR:CE2	36:Z:501:ARG:O	2.51	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:a:38:LEU:HD21	37:a:65:LYS:HD3	1.78	0.64
38:b:48:SER:O	38:b:85:ARG:NH1	2.29	0.64
4:3:512:G:N2	4:3:515:A:N7	2.46	0.64
4:3:1511:C:N4	4:3:1512:A:N6	2.46	0.64
4:3:1920:A:H62	6:5:1468:A:H1'	1.63	0.64
54:s:52:PRO:HA	54:s:85:LEU:HD13	1.77	0.64
4:3:919:C:H2'	4:3:920:G:H8	1.62	0.64
4:3:1016:A:N6	4:3:1171:G:OP2	2.31	0.64
4:3:1081:A:H2	34:U:58:ILE:CD1	2.11	0.64
4:3:2626:A:O2'	38:b:158:ARG:NH1	2.26	0.64
6:5:316:G:H2'	6:5:317:A:C8	2.33	0.64
6:5:736:U:OP1	27:N:2:GLN:NE2	2.30	0.64
9:8:945:ARG:CZ	15:B:76:PHE:CD1	2.80	0.64
9:8:1366:ASN:ND2	36:Z:100:MET:CB	2.58	0.64
20:G:19:LEU:HD22	20:G:87:VAL:HG11	1.79	0.64
49:n:2:LYS:HD2	49:n:7:GLN:HB2	1.79	0.64
4:3:312:U:H2'	4:3:313:G:C8	2.32	0.64
4:3:452:U:H3	4:3:2415:A:H61	1.46	0.64
4:3:1685:G:H4'	48:m:36:LYS:HD2	1.79	0.64
4:3:1722:U:O2'	4:3:1734:A:N7	2.30	0.64
4:3:1737:G:H2'	4:3:1738:G:C8	2.33	0.64
4:3:2745:G:H2'	4:3:2746:A:C8	2.32	0.64
6:5:213:U:OP1	6:5:461:G:N2	2.31	0.64
6:5:1436:C:H2'	6:5:1437:A:C8	2.33	0.64
6:5:1497:U:H2'	6:5:1498:G:H8	1.61	0.64
9:8:1307:LEU:HD23	36:Z:406:LYS:CB	2.27	0.64
12:AB:15:DT:P	14:AD:95:ARG:NH2	2.70	0.64
4:3:2697:C:OP2	4:3:2699:C:N4	2.31	0.64
6:5:749:G:H1'	6:5:751:C:H41	1.63	0.64
11:A:47:PRO:HB2	11:A:49:ARG:HH12	1.62	0.64
36:Z:906:HIS:HB2	36:Z:987:ARG:HE	1.63	0.64
4:3:2588:U:H2'	4:3:2589:G:C4	2.33	0.64
6:5:96:G:H5''	28:O:21:LYS:HA	1.79	0.64
36:Z:19:LYS:HE3	36:Z:1248:THR:HG22	1.80	0.64
36:Z:897:ASP:OD2	36:Z:1234:PHE:CD2	2.51	0.64
37:a:254:PRO:O	37:a:261:ARG:NH1	2.31	0.64
4:3:1010:G:OP2	52:q:77:LYS:NZ	2.31	0.63
9:8:444:ILE:CG2	9:8:446:PHE:CD1	2.80	0.63
9:8:1297:TYR:HE2	36:Z:504:ILE:HB	1.63	0.63
9:8:1307:LEU:HD23	36:Z:406:LYS:HB2	1.79	0.63
14:AD:10:TRP:HB3	14:AD:133:LEU:HD12	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:B:22:TRP:H	26:M:54:PRO:HG3	1.63	0.63
21:H:19:VAL:HG12	21:H:67:VAL:HG22	1.80	0.63
39:c:144:MET:HE1	39:c:147:LEU:HD23	1.79	0.63
1:0:12:ARG:NH1	4:3:500:U:O2'	2.31	0.63
3:2:11:CYS:SG	3:2:12:LYS:N	2.71	0.63
4:3:1119:A:C8	34:U:53:VAL:CG2	2.81	0.63
4:3:1491:G:H2'	4:3:1492:G:C8	2.34	0.63
4:3:1734:A:H3'	4:3:1735:A:H8	1.63	0.63
4:3:2145:A:H2'	4:3:2146:A:H8	1.63	0.63
9:8:342:ARG:HH11	9:8:345:LYS:HD3	1.63	0.63
9:8:1149:LEU:HD11	9:8:1181:LEU:HD23	1.79	0.63
42:f:7:GLN:HB2	42:f:34:LYS:HG2	1.79	0.63
44:i:24:ALA:HA	44:i:64:GLN:HE21	1.63	0.63
2:1:10:ARG:NH1	46:k:59:TYR:O	2.31	0.63
7:6:132:GLY:N	22:I:34:VAL:CG2	2.51	0.63
9:8:307:LEU:HD12	9:8:334:LEU:HD13	1.78	0.63
9:8:1102:ILE:HD12	36:Z:859:LEU:HA	1.80	0.63
4:3:892:G:H2'	4:3:893:A:H8	1.62	0.63
4:3:1119:A:C8	34:U:53:VAL:HG21	2.33	0.63
4:3:1230:U:H2'	4:3:1231:G:C8	2.33	0.63
4:3:1702:A:H62	4:3:1998:U:H3	1.45	0.63
4:3:2691:C:H41	4:3:2735:G:H21	1.47	0.63
7:6:94:LEU:HD22	22:I:36:LYS:HE3	1.79	0.63
17:D:68:GLU:H	17:D:94:VAL:HG23	1.64	0.63
34:U:40:ILE:HG22	34:U:51:ILE:HD11	1.79	0.63
4:3:85:U:H4'	55:t:2:GLN:HE22	1.63	0.63
4:3:356:A:OP1	39:c:173:SER:OG	2.15	0.63
4:3:552:C:OP1	60:y:13:ARG:NH1	2.31	0.63
4:3:1119:A:O4'	34:U:53:VAL:HB	1.98	0.63
4:3:1872:U:N3	4:3:1882:G:N1	2.46	0.63
6:5:265:U:H2'	6:5:266:A:H8	1.63	0.63
6:5:1110:C:H2'	6:5:1111:G:H8	1.62	0.63
9:8:960:GLU:HB3	15:B:84:ASN:ND2	2.13	0.63
4:3:1028:C:OP1	51:p:46:TYR:OH	2.12	0.63
4:3:1166:G:O2'	4:3:2032:G:O2'	2.15	0.63
5:4:37:A:O2'	5:4:44:A:N1	2.32	0.63
5:4:58:C:H2'	5:4:59:A:H8	1.63	0.63
9:8:1342:LEU:HA	36:Z:398:LEU:HD22	1.78	0.63
10:9:53:TYR:CE1	10:9:57:LEU:HD12	2.33	0.63
15:B:57:GLU:O	15:B:67:VAL:HA	1.98	0.63
39:c:71:THR:HG22	39:c:73:LYS:H	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:i:106:ASN:HA	44:i:109:LYS:HG2	1.81	0.63
2:1:10:ARG:NH1	46:k:62:LEU:O	2.32	0.63
4:3:1020:G:H5''	4:3:1021:C:H5	1.64	0.63
4:3:1418:U:H3	4:3:1423:A:N6	1.97	0.63
4:3:1511:C:N4	4:3:1512:A:H62	1.96	0.63
4:3:2789:A:H5''	4:3:2790:A:H5'	1.79	0.63
6:5:311:A:O2'	6:5:326:C:O2'	2.15	0.63
6:5:732:A:OP1	30:Q:91:LYS:NZ	2.30	0.63
6:5:1261:A:H2'	6:5:1262:A:C8	2.33	0.63
9:8:965:MET:CE	15:B:78:ILE:HB	2.28	0.63
9:8:988:VAL:HG12	9:8:992:GLU:OE2	1.99	0.63
9:8:1223:HIS:HB3	36:Z:737:PHE:HB2	1.79	0.63
7:AA:82:LEU:HB3	36:Z:598:GLY:HA3	1.80	0.63
50:o:4:ILE:O	50:o:6:LYS:NZ	2.32	0.63
56:u:35:LEU:HD11	56:u:55:ARG:HH11	1.64	0.63
4:3:1446:G:N1	4:3:1612:U:OP2	2.32	0.63
4:3:1748:U:N3	4:3:1751:A:N7	2.47	0.63
6:5:87:G:H2'	6:5:88:A:H8	1.63	0.63
6:5:1213:A:N6	6:5:1275:U:C2	2.67	0.63
9:8:376:ARG:CZ	12:AB:20:DG:N7	2.61	0.63
9:8:1223:HIS:C	36:Z:737:PHE:CD2	2.77	0.63
9:8:1351:LEU:HD11	36:Z:113:TRP:CE3	2.34	0.63
16:C:57:LYS:O	16:C:60:MET:HG3	1.98	0.63
19:F:76:VAL:HG12	19:F:85:GLN:HE22	1.64	0.63
6:5:500:G:H5''	24:K:126:GLN:HA	1.81	0.63
6:5:709:A:H2'	6:5:710:G:C8	2.34	0.63
9:8:661:THR:O	9:8:780:LEU:HD11	1.99	0.63
9:8:955:LYS:O	15:B:75:ALA:HB2	1.99	0.63
21:H:22:THR:O	21:H:64:ASP:HB3	1.97	0.63
24:K:115:LEU:HB3	24:K:117:THR:HG22	1.81	0.63
27:N:35:GLN:O	27:N:39:HIS:ND1	2.32	0.63
4:3:86:A:OP2	4:3:103:G:N2	2.32	0.62
4:3:1204:A:N6	4:3:1212:C:N3	2.46	0.62
4:3:1323:A:H2'	4:3:1324:A:C8	2.34	0.62
6:5:403:A:H2'	6:5:404:A:C8	2.34	0.62
6:5:416:U:C2	6:5:421:G:C2	2.87	0.62
6:5:518:A:N6	6:5:527:G:H21	1.92	0.62
6:5:940:G:N2	6:5:1308:G:O2'	2.33	0.62
9:8:1306:LEU:HA	36:Z:408:VAL:CG1	2.27	0.62
9:8:1371:LEU:N	36:Z:94:ILE:HG23	2.13	0.62
37:a:113:ASP:HB3	37:a:202:VAL:HG23	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:631:A:H2'	4:3:632:A:C8	2.33	0.62
9:8:1269:LYS:HZ3	36:Z:313:ILE:HG23	1.63	0.62
9:8:1285:ARG:HB2	13:AC:17:DT:P	2.37	0.62
37:a:138:LEU:HD23	37:a:141:ILE:HD12	1.81	0.62
4:3:1367:G:H5''	54:s:15:LYS:HD2	1.80	0.62
4:3:2321:C:H2'	4:3:2322:G:C8	2.34	0.62
4:3:2436:G:H5''	4:3:2437:G:H5'	1.80	0.62
6:5:1448:A:H2'	6:5:1449:G:C8	2.34	0.62
9:8:168:GLN:O	12:AB:25:DC:C1'	2.47	0.62
9:8:356:ARG:NE	14:AD:110:ILE:CG1	2.58	0.62
9:8:1269:LYS:CE	36:Z:313:ILE:CG2	2.58	0.62
9:8:1307:LEU:HB3	36:Z:406:LYS:CE	2.28	0.62
25:L:15:ILE:HG21	25:L:39:ILE:HG21	1.81	0.62
4:3:782:U:H3	4:3:2021:A:H1'	1.64	0.62
4:3:1306:G:H2'	4:3:1307:G:H8	1.64	0.62
4:3:2299:U:H1'	4:3:2382:A:H1'	1.80	0.62
6:5:1302:C:H5''	25:L:28:SER:HB3	1.82	0.62
14:AD:149:SER:HB2	14:AD:156:VAL:HG23	1.82	0.62
4:3:389:C:H2'	4:3:390:A:C8	2.35	0.62
4:3:614:C:OP1	51:p:30:SER:OG	2.17	0.62
4:3:2859:U:H2'	4:3:2860:A:H8	1.64	0.62
5:4:79:U:H2'	5:4:80:G:C4	2.34	0.62
9:8:100:LEU:HD13	9:8:591:ILE:CD1	2.30	0.62
13:AC:12:DC:H5''	36:Z:1235:GLN:CB	2.29	0.62
40:d:106:VAL:HG11	40:d:139:PRO:HD3	1.81	0.62
4:3:1700:G:O2'	45:j:5:MET:O	2.16	0.62
4:3:1712:A:O2'	4:3:1997:C:O2'	2.16	0.62
4:3:2590:G:N2	4:3:2591:G:H22	1.96	0.62
6:5:320:G:N1	6:5:323:A:OP2	2.29	0.62
6:5:430:G:C4'	14:AD:56:SER:OG	2.42	0.62
6:5:670:G:H2'	6:5:671:G:C8	2.34	0.62
6:5:831:C:H2'	6:5:832:G:C8	2.35	0.62
6:5:1330:A:H2'	6:5:1331:A:H8	1.64	0.62
7:6:113:THR:HG22	7:6:154:ASN:OD1	1.99	0.62
9:8:205:GLU:O	9:8:252:ARG:CZ	2.47	0.62
11:A:146:LYS:O	11:A:150:LEU:HB2	1.99	0.62
15:B:153:LYS:NZ	15:B:154:VAL:O	2.32	0.62
38:b:10:LYS:HD3	38:b:197:ILE:HB	1.80	0.62
4:3:603:G:H1'	4:3:1019:A:N1	2.14	0.62
4:3:1034:A:H5''	51:p:83:LYS:HZ3	1.64	0.62
4:3:1043:C:H4'	44:i:113:PRO:HD3	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2757:A:H1'	41:e:66:ILE:HG12	1.82	0.62
9:8:1295:GLU:OE1	36:Z:1260:VAL:HG21	1.99	0.62
32:S:66:ARG:HA	32:S:69:LYS:HE2	1.82	0.62
36:Z:742:TYR:HE1	36:Z:745:LYS:HB3	1.64	0.62
39:c:54:THR:H	39:c:57:GLU:HB2	1.63	0.62
4:3:2307:G:H1	4:3:2325:U:H3	1.45	0.62
5:4:12:U:H2'	5:4:13:G:H21	1.64	0.62
9:8:227:THR:HG21	9:8:254:LEU:HG	1.82	0.62
9:8:1336:PRO:CG	36:Z:406:LYS:NZ	2.63	0.62
14:AD:31:LYS:HA	14:AD:36:ASP:OD1	2.00	0.62
17:D:192:ILE:O	17:D:195:THR:OG1	2.16	0.62
4:3:201:A:N6	4:3:2438:A:O2'	2.33	0.62
4:3:1999:G:H22	4:3:2003:C:H1'	1.64	0.62
4:3:2031:C:H2'	4:3:2032:G:H8	1.65	0.62
6:5:305:A:O2'	6:5:605:A:N1	2.32	0.62
6:5:474:G:H2'	6:5:475:U:C6	2.35	0.62
19:F:147:ASN:HB2	19:F:150:PHE:HD2	1.62	0.62
22:I:9:TYR:HB3	22:I:85:VAL:HB	1.82	0.62
23:J:85:GLY:O	23:J:88:THR:OG1	2.17	0.62
32:S:48:TYR:CE1	32:S:69:LYS:HD2	2.35	0.62
4:3:163:A:N7	4:3:169:U:O4	2.32	0.62
4:3:2090:G:N2	4:3:2244:U:O2	2.32	0.62
4:3:2528:C:H2'	4:3:2529:C:C6	2.34	0.62
5:4:40:U:O2	40:d:63:GLN:NE2	2.33	0.62
6:5:319:U:H3	6:5:323:A:N6	1.89	0.62
6:5:831:C:H2'	6:5:832:G:H8	1.65	0.62
6:5:1507:U:OP2	6:5:1509:A:N6	2.33	0.62
7:6:1:MET:N	7:AA:99:GLY:O	2.20	0.62
9:8:90:LYS:NZ	9:8:1034:GLU:HB3	2.15	0.62
9:8:1371:LEU:N	36:Z:94:ILE:CG2	2.63	0.62
10:9:68:ARG:HH21	36:Z:1207:MET:HB2	1.65	0.62
16:C:78:VAL:HG11	16:C:89:LEU:HB3	1.82	0.62
31:R:19:VAL:HG21	31:R:44:PHE:HE1	1.64	0.62
36:Z:880:ASP:OD2	36:Z:1030:ARG:HD2	2.00	0.62
55:t:90:LYS:NZ	55:t:104:PHE:O	2.33	0.62
4:3:611:A:H2'	4:3:2025:C:H5''	1.81	0.61
4:3:1287:C:OP1	39:c:73:LYS:NZ	2.31	0.61
6:5:655:G:O6	6:5:744:U:O2	2.18	0.61
9:8:1102:ILE:HD11	36:Z:859:LEU:HA	1.82	0.61
9:8:1342:LEU:CD1	36:Z:392:LEU:HD21	1.75	0.61
11:A:32:MET:SD	11:A:203:ASN:ND2	2.71	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:m:60:ARG:HA	48:m:63:VAL:HG22	1.82	0.61
52:q:39:LEU:HA	52:q:50:LEU:HG	1.81	0.61
6:5:394:U:H2'	6:5:395:G:H8	1.64	0.61
6:5:431:U:H5''	14:AD:81:ARG:HD2	1.82	0.61
6:5:1288:C:H2'	6:5:1289:U:H6	1.64	0.61
9:8:341:GLU:OE1	9:8:368:SER:OG	2.15	0.61
9:8:363:GLU:HG2	9:8:379:ARG:NH1	2.13	0.61
11:A:201:LEU:HD12	11:A:217:ALA:HB3	1.83	0.61
51:p:108:ILE:HA	51:p:111:LYS:HE2	1.82	0.61
4:3:2195:U:H2'	4:3:2196:G:H8	1.64	0.61
4:3:2735:G:H2'	4:3:2736:U:C6	2.35	0.61
5:4:4:G:O6	5:4:105:A:N6	2.34	0.61
6:5:397:C:O3'	16:C:73:ARG:NH2	2.33	0.61
7:6:95:LEU:HG	22:I:33:GLU:OE1	2.00	0.61
9:8:1212:MET:SD	36:Z:737:PHE:HZ	2.23	0.61
9:8:1310:LYS:CA	36:Z:409:ASP:HB2	2.29	0.61
51:p:9:THR:O	51:p:13:ARG:HG3	2.01	0.61
4:3:33:C:O2'	4:3:1268:U:OP1	2.17	0.61
4:3:485:A:H1'	51:p:2:ARG:NH1	2.15	0.61
4:3:686:C:H2'	4:3:687:G:H8	1.65	0.61
4:3:1476:C:H2'	4:3:1477:A:C8	2.35	0.61
4:3:1794:A:OP1	37:a:246:ARG:NH2	2.33	0.61
4:3:2144:C:H2'	4:3:2145:A:H8	1.65	0.61
4:3:2645:U:O4	4:3:2784:A:N7	2.33	0.61
6:5:1213:A:N6	6:5:1275:U:H3	1.96	0.61
9:8:1100:MET:HB3	36:Z:858:PHE:CD2	2.34	0.61
9:8:1310:LYS:CG	36:Z:409:ASP:HB2	2.30	0.61
14:AD:65:SER:OG	14:AD:67:LYS:HG3	2.01	0.61
44:i:47:PHE:HB3	51:p:63:ARG:HD3	1.83	0.61
53:r:115:GLN:HA	53:r:118:ILE:HD12	1.81	0.61
4:3:896:U:H2'	4:3:897:A:H8	1.64	0.61
4:3:1382:A:H62	4:3:1405:G:N2	1.94	0.61
4:3:1462:A:O2'	4:3:1463:G:O5'	2.18	0.61
5:4:31:G:O6	5:4:48:A:N6	2.34	0.61
9:8:1345:GLU:O	36:Z:388:LEU:HD22	2.01	0.61
24:K:50:VAL:HG21	24:K:87:LEU:HD13	1.81	0.61
24:K:120:VAL:HG23	24:K:132:ALA:HB2	1.82	0.61
4:3:31:U:O2'	51:p:7:LYS:NZ	2.32	0.61
4:3:729:U:H3	4:3:803:G:H1	1.46	0.61
6:5:185:G:O2'	29:P:67:ARG:NH2	2.33	0.61
6:5:870:A:O3'	20:G:89:GLN:NE2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1356:ILE:O	36:Z:15:ILE:HG23	2.01	0.61
55:t:44:ARG:HG3	55:t:63:VAL:HB	1.83	0.61
4:3:638:A:C6	4:3:661:G:C6	2.88	0.61
4:3:742:G:O6	4:3:759:U:O4	2.19	0.61
4:3:869:U:H2'	4:3:870:A:C8	2.35	0.61
4:3:1012:G:H2'	4:3:1013:G:H8	1.65	0.61
4:3:2469:A:N1	4:3:2498:G:N2	2.48	0.61
7:6:107:GLU:CD	15:B:70:TYR:HH	2.08	0.61
15:B:153:LYS:HB3	15:B:204:TRP:HB2	1.82	0.61
47:l:54:ILE:O	47:l:58:LEU:HB2	2.01	0.61
9:8:30:GLN:HG3	9:8:676:PHE:CE1	2.36	0.61
48:m:34:THR:HB	48:m:37:LYS:HG3	1.82	0.61
4:3:26:G:N2	53:r:78:GLN:OE1	2.34	0.61
4:3:2057:C:H2'	4:3:2058:G:C4	2.36	0.61
6:5:70:A:H2'	6:5:71:A:C8	2.36	0.61
6:5:838:A:OP2	18:E:105:GLN:NE2	2.33	0.61
9:8:1095:GLY:O	9:8:1099:ARG:HD2	2.00	0.61
9:8:1307:LEU:C	36:Z:406:LYS:HD2	2.26	0.61
10:9:73:ARG:NH1	36:Z:1132:VAL:O	2.28	0.61
11:A:96:VAL:HA	11:A:229:MET:HE1	1.81	0.61
14:AD:108:TRP:HZ3	14:AD:130:PRO:HB3	1.64	0.61
15:B:90:LYS:HD3	15:B:93:LYS:HZ1	1.66	0.61
22:I:27:THR:HG21	22:I:102:VAL:HG21	1.81	0.61
47:l:34:LEU:HD11	47:l:129:TRP:HB2	1.83	0.61
4:3:1702:A:N7	4:3:1998:U:O4	2.34	0.61
4:3:2385:A:H1'	49:n:110:ARG:HH22	1.65	0.61
5:4:16:G:O6	5:4:63:U:O2	2.18	0.61
6:5:893:C:H3'	6:5:894:A:C8	2.36	0.61
6:5:1115:G:N2	6:5:1116:U:O4	2.33	0.61
13:AC:28:DT:OP2	14:AD:18:LYS:HE2	2.01	0.61
15:B:38:GLU:HA	15:B:41:ARG:HG3	1.83	0.61
20:G:97:ILE:HG23	20:G:99:ARG:HH22	1.66	0.61
45:j:98:ILE:HG12	45:j:114:ILE:HG23	1.82	0.61
4:3:205:C:OP1	57:v:18:ARG:NH2	2.31	0.60
4:3:869:U:O4	4:3:980:C:N4	2.34	0.60
4:3:2093:U:H2'	4:3:2094:A:C8	2.36	0.60
4:3:2829:G:N2	4:3:2829:G:OP2	2.31	0.60
5:4:12:U:OP2	5:4:68:C:O2'	2.19	0.60
6:5:358:G:OP1	24:K:44:ARG:NH1	2.34	0.60
6:5:576:A:O2'	6:5:725:A:N3	2.33	0.60
6:5:659:U:H3	6:5:740:G:H1	1.48	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1166:A:OP2	15:B:3:GLN:NE2	2.35	0.60
6:5:1241:G:N1	6:5:1245:A:N6	2.49	0.60
7:6:94:LEU:O	22:I:33:GLU:HB2	2.01	0.60
7:6:107:GLU:C	22:I:97:LYS:NZ	2.59	0.60
9:8:1347:GLN:CB	36:Z:100:MET:HE1	2.28	0.60
6:5:94:A:N7	6:5:320:G:N2	2.47	0.60
6:5:1200:G:H2'	25:L:103:ARG:HH22	1.64	0.60
9:8:271:GLU:OE2	9:8:342:ARG:NH1	2.35	0.60
9:8:779:ALA:HB3	36:Z:867:TYR:OH	2.02	0.60
9:8:796:TYR:HA	9:8:883:ASN:HD22	1.66	0.60
9:8:863:LEU:CD1	9:8:878:ASP:OD2	2.49	0.60
10:9:55:ASP:OD1	36:Z:913:LYS:NZ	2.30	0.60
38:b:180:ARG:NH1	38:b:218:LYS:O	2.31	0.60
49:n:34:LYS:HD3	49:n:102:ILE:HD11	1.83	0.60
2:1:9:LYS:NZ	4:3:253:C:O2	2.32	0.60
4:3:2754:U:O2	4:3:2766:A:N6	2.33	0.60
4:3:2855:A:N3	48:m:58:ASN:ND2	2.47	0.60
6:5:1115:G:H4'	22:I:43:LYS:HD2	1.82	0.60
9:8:772:GLU:C	36:Z:862:LEU:H	2.02	0.60
9:8:1349:LEU:C	36:Z:368:PHE:CE1	2.78	0.60
24:K:27:ASN:OD1	24:K:36:THR:OG1	2.20	0.60
47:l:39:GLY:N	47:l:99:GLN:OE1	2.35	0.60
4:3:1141:U:C1'	34:U:79:LYS:HG2	2.27	0.60
4:3:2274:A:N6	4:3:2281:A:OP2	2.34	0.60
6:5:1241:G:N1	6:5:1245:A:C6	2.69	0.60
9:8:614:ASP:H	9:8:624:ASN:HD22	1.47	0.60
9:8:1349:LEU:HG	36:Z:388:LEU:HB3	1.81	0.60
16:C:99:ASN:HA	16:C:110:ARG:HG2	1.81	0.60
21:H:12:ARG:O	21:H:15:SER:HB2	2.01	0.60
38:b:117:ARG:HD2	38:b:169:TYR:HD2	1.65	0.60
4:3:672:G:H4'	4:3:674:G:H4'	1.84	0.60
4:3:2032:G:H2'	4:3:2033:G:H8	1.67	0.60
4:3:2822:C:H2'	4:3:2823:A:C8	2.36	0.60
6:5:565:G:N7	24:K:12:ARG:NH1	2.45	0.60
9:8:956:ARG:NH2	15:B:108:GLU:HG2	2.17	0.60
24:K:60:SER:O	24:K:63:ARG:NH1	2.35	0.60
55:t:31:ARG:HG3	55:t:33:GLN:HG2	1.83	0.60
4:3:1764:U:C2	4:3:1769:A:C6	2.89	0.60
6:5:1003:G:O6	6:5:1018:U:C4	2.54	0.60
35:X:6:ILE:HD11	35:Y:23:ALA:CB	2.27	0.60
37:a:125:GLU:OE1	42:f:89:TYR:OH	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:i:98:LYS:HA	44:i:98:LYS:HE3	1.83	0.60
47:l:75:THR:HG22	47:l:90:PRO:HG3	1.84	0.60
4:3:764:G:N2	37:a:12:SER:O	2.34	0.60
4:3:2133:A:N6	4:3:2180:U:OP2	2.35	0.60
5:4:11:A:OP2	56:u:90:GLN:NE2	2.34	0.60
6:5:689:U:O4	23:J:21:ASN:ND2	2.33	0.60
9:8:945:ARG:HG2	15:B:76:PHE:CE1	2.35	0.60
16:C:139:GLY:N	16:C:178:TYR:O	2.34	0.60
37:a:213:ILE:HG23	37:a:222:ARG:HH22	1.67	0.60
60:y:27:LEU:HD12	60:y:28:SER:H	1.67	0.60
4:3:204:U:O4	4:3:254:G:N2	2.27	0.60
4:3:1081:A:N6	34:U:4:LYS:O	2.35	0.60
4:3:1619:A:H2'	4:3:1620:A:C8	2.36	0.60
6:5:195:U:H2'	6:5:196:G:C8	2.37	0.60
9:8:647:ASP:HB3	36:Z:835:PHE:CE2	2.35	0.60
9:8:1352:SER:HB2	36:Z:31:TRP:HH2	1.39	0.60
36:Z:1069:GLU:OE2	36:Z:1095:ARG:NH1	2.26	0.60
6:5:65:G:H5''	6:5:378:A:H61	1.67	0.60
6:5:215:C:N4	6:5:216:G:O6	2.35	0.60
6:5:983:G:H21	6:5:1012:A:H8	1.49	0.60
8:7:53:A:H4'	47:l:6:ARG:HH12	1.67	0.60
40:d:104:ILE:HG22	40:d:108:LEU:HD12	1.83	0.60
4:3:1208:A:H2'	4:3:1209:U:H4'	1.83	0.60
4:3:1414:C:H2'	4:3:1415:A:H8	1.66	0.60
6:5:68:C:H2'	6:5:69:G:C8	2.36	0.60
26:M:6:LEU:HD13	26:M:23:ARG:HD3	1.83	0.60
39:c:32:GLN:NE2	39:c:36:ASP:OD2	2.35	0.60
4:3:559:C:O2'	4:3:589:A:OP1	2.19	0.59
4:3:1261:U:H2'	4:3:1262:G:C8	2.37	0.59
4:3:2376:C:H2'	4:3:2377:A:H8	1.67	0.59
9:8:131:THR:HG21	9:8:600:ILE:CD1	2.32	0.59
44:i:117:LEU:O	44:i:121:TRP:N	2.34	0.59
4:3:95:G:H2'	4:3:96:A:C8	2.37	0.59
4:3:1093:U:H3	4:3:1115:G:H1	1.51	0.59
4:3:1298:A:H62	4:3:2019:G:H21	1.49	0.59
4:3:1495:A:OP2	4:3:1548:A:N6	2.35	0.59
4:3:2603:G:N2	4:3:2606:A:OP2	2.35	0.59
4:3:2604:U:O2'	4:3:2605:G:OP1	2.20	0.59
4:3:2720:C:OP1	4:3:2722:G:O2'	2.18	0.59
6:5:435:U:H4'	16:C:119:HIS:HB3	1.83	0.59
6:5:893:C:H3'	6:5:894:A:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:128:GLU:HB2	22:I:95:ARG:CZ	2.31	0.59
9:8:169:LEU:HD11	9:8:187:LEU:CD1	2.33	0.59
9:8:1094:LEU:CD2	36:Z:809:MET:SD	2.87	0.59
9:8:1135:LEU:HD23	9:8:1146:LEU:HD22	1.83	0.59
9:8:1336:PRO:HG2	36:Z:406:LYS:NZ	2.17	0.59
9:8:1370:ILE:HG22	36:Z:94:ILE:CG2	2.26	0.59
9:8:1371:LEU:HD23	36:Z:94:ILE:CG2	2.29	0.59
18:E:49:ILE:HG23	18:E:50:LYS:H	1.67	0.59
34:U:161:LYS:HE3	35:Y:17:ILE:HD11	1.84	0.59
36:Z:669:LYS:HE3	36:Z:670:PHE:CE2	2.37	0.59
37:a:61:ARG:HH21	37:a:64:ARG:HE	1.49	0.59
37:a:190:ARG:NH1	37:a:191:LYS:O	2.35	0.59
4:3:1418:U:N3	4:3:1423:A:N6	2.51	0.59
4:3:1436:C:H2'	4:3:1437:A:H8	1.67	0.59
4:3:2092:U:H3	4:3:2242:G:H1	1.50	0.59
6:5:941:A:H2'	6:5:942:G:C8	2.38	0.59
9:8:65:ARG:HB3	9:8:562:ASP:OD1	2.01	0.59
9:8:1306:LEU:HD23	36:Z:408:VAL:CG1	2.32	0.59
13:AC:14:DG:C4'	36:Z:890:TYR:N	2.65	0.59
22:I:61:PRO:HA	26:M:41:ARG:HH12	1.67	0.59
37:a:269:ASN:O	37:a:272:LYS:NZ	2.35	0.59
39:c:128:VAL:HG13	39:c:132:LEU:HD21	1.85	0.59
6:5:48:C:N4	6:5:356:G:O6	2.35	0.59
9:8:44:PHE:HA	9:8:48:ASP:HB2	1.85	0.59
9:8:1223:HIS:O	36:Z:737:PHE:HD2	1.84	0.59
52:q:95:VAL:HG13	52:q:96:ARG:HG3	1.85	0.59
4:3:746:G:H2'	4:3:747:A:H8	1.67	0.59
4:3:869:U:H2'	4:3:870:A:H8	1.67	0.59
4:3:1588:A:H2'	4:3:1589:A:C8	2.38	0.59
4:3:2812:U:H5'	4:3:2895:A:C8	2.38	0.59
6:5:677:C:H2'	6:5:678:A:H8	1.68	0.59
6:5:1130:G:H2'	6:5:1131:A:H8	1.67	0.59
19:F:41:ILE:HD12	19:F:116:LEU:HD21	1.85	0.59
34:U:149:LYS:NZ	35:V:29:GLY:O	2.35	0.59
36:Z:770:ASP:OD2	36:Z:847:LYS:NZ	2.36	0.59
42:f:81:LEU:HD21	42:f:90:GLY:HA3	1.85	0.59
4:3:8:A:H2'	4:3:9:G:C8	2.37	0.59
4:3:918:G:N2	4:3:932:U:O2'	2.27	0.59
4:3:1305:G:H2'	4:3:1306:G:C8	2.36	0.59
6:5:1344:C:OP1	21:H:116:LYS:N	2.28	0.59
9:8:634:GLY:CA	12:AB:24:DT:H72	2.27	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1297:TYR:CZ	36:Z:501:ARG:O	2.56	0.59
13:AC:11:DT:C4'	36:Z:1236:ASP:OD1	2.50	0.59
16:C:64:TYR:CZ	16:C:93:LEU:HB3	2.36	0.59
25:L:107:ARG:HG3	25:L:110:LYS:HB2	1.84	0.59
39:c:116:TRP:HZ2	39:c:186:VAL:HG21	1.67	0.59
49:n:54:SER:O	49:n:80:LYS:NZ	2.36	0.59
3:2:24:ARG:NH1	4:3:2750:A:OP2	2.32	0.59
4:3:28:G:O6	4:3:29:G:N2	2.36	0.59
4:3:1142:G:O2'	34:U:78:GLY:N	2.36	0.59
6:5:448:A:N6	6:5:478:G:OP2	2.35	0.59
6:5:1397:G:H2'	6:5:1398:G:H8	1.66	0.59
6:5:1407:A:H5''	50:o:110:LYS:HG3	1.83	0.59
9:8:539:ILE:HG22	9:8:543:LEU:HD12	1.85	0.59
4:3:53:G:H21	4:3:119:A:H62	1.48	0.59
4:3:872:C:N4	4:3:978:G:O6	2.35	0.59
4:3:2031:C:H2'	4:3:2032:G:C8	2.38	0.59
4:3:2253:U:H5''	4:3:2254:G:H5'	1.84	0.59
4:3:2704:U:H2'	4:3:2705:G:H8	1.68	0.59
6:5:727:G:O2'	6:5:811:A:N6	2.35	0.59
6:5:1225:A:H2'	6:5:1226:A:C8	2.38	0.59
9:8:89:SER:HA	9:8:146:GLY:HA3	1.84	0.59
9:8:288:ARG:HB3	9:8:298:ARG:HH22	1.66	0.59
9:8:863:LEU:CD1	9:8:878:ASP:CG	2.76	0.59
19:F:149:ALA:HB3	23:J:49:ARG:NH1	2.18	0.59
39:c:7:ILE:HD11	39:c:126:HIS:HB2	1.84	0.59
39:c:172:THR:HA	39:c:178:VAL:HG23	1.83	0.59
58:w:16:VAL:HG21	58:w:67:GLU:HB3	1.84	0.59
2:1:36:LYS:HG3	2:1:40:HIS:CE1	2.38	0.59
4:3:615:G:H2'	4:3:616:G:H8	1.67	0.59
4:3:788:G:H2'	4:3:789:A:H8	1.68	0.59
6:5:810:U:OP2	6:5:813:A:N6	2.36	0.59
6:5:934:G:H4'	19:F:101:ARG:HH22	1.68	0.59
9:8:71:LYS:HE3	9:8:101:GLU:OE2	2.02	0.59
9:8:794:LYS:O	9:8:891:GLN:NE2	2.33	0.59
9:8:1269:LYS:CB	36:Z:313:ILE:CD1	2.80	0.59
9:8:1330:PHE:CZ	36:Z:542:LEU:HD13	2.38	0.59
9:8:1342:LEU:HD13	36:Z:392:LEU:HD23	1.71	0.59
16:C:145:LYS:HD3	16:C:147:LYS:HE2	1.85	0.59
21:H:120:LEU:HD13	21:H:124:ARG:HA	1.85	0.59
36:Z:100:MET:SD	36:Z:306:PRO:HD3	2.43	0.59
2:1:21:ARG:NH1	2:1:22:LYS:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:593:C:O2'	51:p:47:ARG:NH2	2.35	0.59
4:3:734:A:H62	4:3:768:G:H21	1.51	0.59
4:3:1081:A:C2	34:U:7:LYS:HD3	2.34	0.59
4:3:1103:G:O2'	4:3:1131:A:N3	2.36	0.59
4:3:1332:A:N1	4:3:1659:C:N4	2.50	0.59
4:3:1345:G:H2'	4:3:1346:G:H8	1.67	0.59
4:3:2290:G:HO2'	61:z:2:ALA:N	2.01	0.59
6:5:621:C:O2	28:O:5:ARG:NH2	2.36	0.59
6:5:1062:C:H2'	6:5:1063:G:H8	1.68	0.59
6:5:1384:A:H2'	6:5:1385:A:H8	1.67	0.59
9:8:1200:PHE:HE2	36:Z:864:ILE:HD13	1.62	0.59
9:8:1347:GLN:CD	36:Z:100:MET:CE	2.75	0.59
13:AC:13:DA:OP1	36:Z:890:TYR:HE2	1.84	0.59
28:O:5:ARG:HB2	28:O:8:TYR:HB3	1.85	0.59
4:3:1833:G:O2'	4:3:1978:U:OP2	2.21	0.58
6:5:433:C:H2'	6:5:434:U:C6	2.38	0.58
6:5:823:C:O2	20:G:24:ASN:ND2	2.33	0.58
9:8:647:ASP:CB	36:Z:835:PHE:CE2	2.85	0.58
9:8:961:ASN:HD22	15:B:81:GLU:CG	2.01	0.58
11:A:61:GLN:NE2	11:A:216:PRO:O	2.34	0.58
60:y:12:ARG:HA	60:y:15:LYS:HG2	1.83	0.58
2:1:35:THR:HA	2:1:38:LYS:HB2	1.84	0.58
4:3:499:G:N2	4:3:502:A:OP2	2.33	0.58
4:3:2299:U:O4	4:3:2349:G:O6	2.20	0.58
4:3:2655:U:H2'	4:3:2656:G:C8	2.38	0.58
4:3:2700:C:H2'	4:3:2701:A:H8	1.68	0.58
6:5:573:G:H4'	6:5:574:C:H5''	1.85	0.58
6:5:663:G:O6	6:5:737:U:O2	2.21	0.58
15:B:50:ASN:O	15:B:52:GLN:NE2	2.36	0.58
18:E:4:ASN:HB2	18:E:88:ILE:HB	1.85	0.58
19:F:24:ARG:NH2	19:F:96:ILE:HD12	2.17	0.58
36:Z:1216:PHE:CE1	36:Z:1224:LYS:NZ	2.70	0.58
39:c:112:LEU:O	39:c:116:TRP:HD1	1.86	0.58
4:3:784:A:N7	4:3:1652:A:N6	2.52	0.58
6:5:1068:G:N2	6:5:1071:A:OP2	2.36	0.58
9:8:628:ILE:CD1	9:8:673:LEU:HD12	2.22	0.58
9:8:945:ARG:HE	15:B:75:ALA:HB3	1.62	0.58
9:8:1102:ILE:HD11	36:Z:858:PHE:O	2.02	0.58
11:A:170:LYS:HZ3	36:Z:456:GLU:HB3	1.67	0.58
7:AA:141:TYR:OH	7:AA:144:SER:HB2	2.03	0.58
18:E:5:ILE:HG12	18:E:62:PHE:HE1	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:o:53:LEU:HB3	50:o:101:ILE:O	2.03	0.58
4:3:192:U:O4	4:3:212:G:O6	2.21	0.58
4:3:247:U:C2	4:3:259:A:N7	2.71	0.58
4:3:489:A:N3	4:3:493:A:O2'	2.36	0.58
6:5:287:U:N3	6:5:306:G:C6	2.71	0.58
6:5:680:G:O6	6:5:705:A:N6	2.36	0.58
6:5:1326:C:H2'	6:5:1327:G:C8	2.38	0.58
6:5:1406:U:H3	6:5:1444:G:H1	1.49	0.58
11:A:21:ALA:HB2	11:A:65:LEU:HD23	1.85	0.58
13:AC:14:DG:H4'	36:Z:889:GLY:C	2.29	0.58
48:m:81:HIS:CE1	48:m:85:LYS:HD3	2.39	0.58
3:2:10:ILE:HD12	3:2:32:HIS:HA	1.84	0.58
4:3:70:G:N2	4:3:76:A:O4'	2.35	0.58
4:3:1172:G:H21	44:i:111:MET:HA	1.68	0.58
6:5:22:G:H2'	6:5:23:G:C8	2.38	0.58
6:5:519:G:N7	24:K:63:ARG:NH2	2.51	0.58
6:5:1141:U:HO2'	6:5:1142:G:H8	1.49	0.58
9:8:565:ASN:O	14:AD:31:LYS:HD3	2.02	0.58
9:8:959:ASP:HA	15:B:78:ILE:HG22	1.85	0.58
9:8:1297:TYR:CE2	36:Z:504:ILE:O	2.56	0.58
15:B:90:LYS:HA	15:B:93:LYS:HZ3	1.67	0.58
19:F:24:ARG:HH22	19:F:96:ILE:HD12	1.69	0.58
4:3:61:U:O4	4:3:70:G:O6	2.20	0.58
4:3:947:A:H62	47:l:12:PRO:HA	1.69	0.58
4:3:1316:U:O2'	4:3:1681:G:N2	2.35	0.58
4:3:2032:G:H2'	4:3:2033:G:C8	2.39	0.58
4:3:2814:A:H2'	4:3:2815:G:O4'	2.04	0.58
6:5:164:C:OP2	32:S:53:ARG:NH1	2.33	0.58
6:5:369:A:H61	6:5:387:G:H1'	1.69	0.58
6:5:473:A:O2'	6:5:474:G:O4'	2.14	0.58
6:5:834:G:H2'	6:5:835:G:C8	2.39	0.58
6:5:885:U:H2'	6:5:886:A:H8	1.67	0.58
6:5:1089:C:OP2	11:A:158:ARG:NH2	2.37	0.58
6:5:1329:G:H2'	6:5:1330:A:H8	1.69	0.58
9:8:171:LEU:HD13	9:8:212:LEU:CD2	2.33	0.58
9:8:356:ARG:HD2	14:AD:109:ARG:HB2	1.84	0.58
11:A:93:LYS:NZ	11:A:109:THR:O	2.36	0.58
40:d:42:ASP:OD1	40:d:43:ALA:N	2.37	0.58
4:3:1301:G:H22	4:3:1649:C:H42	1.51	0.58
4:3:2794:U:H5''	38:b:72:LYS:HD2	1.86	0.58
6:5:1208:G:O2'	6:5:1340:G:OP1	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1388:A:H2	6:5:1462:G:H22	1.52	0.58
9:8:1223:HIS:O	36:Z:737:PHE:CD2	2.56	0.58
9:8:1307:LEU:HB3	36:Z:406:LYS:CD	2.32	0.58
20:G:97:ILE:HG23	20:G:99:ARG:NH2	2.17	0.58
4:3:529:G:H4'	53:r:6:LYS:HB2	1.86	0.58
4:3:713:C:H2'	4:3:714:G:C8	2.38	0.58
4:3:1909:C:H5''	37:a:249:VAL:HG11	1.86	0.58
4:3:2294:A:H1'	4:3:2295:A:C5	2.38	0.58
6:5:373:A:H2'	6:5:374:G:H8	1.69	0.58
6:5:704:U:H2'	6:5:705:A:C8	2.38	0.58
6:5:715:A:H5''	6:5:716:C:H5	1.69	0.58
6:5:779:A:N6	6:5:797:G:N2	2.38	0.58
9:8:182:TYR:CD1	9:8:514:ILE:HG22	2.39	0.58
9:8:1310:LYS:HD3	36:Z:409:ASP:C	2.20	0.58
12:AB:25:DC:H3'	12:AB:26:DT:C5'	2.33	0.58
41:e:57:ARG:HG3	41:e:68:HIS:HD2	1.69	0.58
4:3:590:U:H2'	4:3:591:G:C8	2.38	0.58
4:3:697:U:H2'	4:3:698:A:H8	1.68	0.58
4:3:2481:U:OP1	4:3:2537:G:N2	2.34	0.58
9:8:829:ASN:O	9:8:848:LYS:NZ	2.36	0.58
9:8:1100:MET:HB3	36:Z:858:PHE:CE2	2.39	0.58
9:8:1269:LYS:HZ3	36:Z:313:ILE:CA	2.15	0.58
28:O:48:VAL:HG23	28:O:52:TRP:CZ3	2.39	0.58
39:c:128:VAL:HG21	39:c:198:LEU:HB2	1.85	0.58
39:c:152:LEU:HD22	39:c:155:LYS:HG3	1.86	0.58
57:v:52:THR:HA	57:v:55:LEU:HD12	1.86	0.58
4:3:1081:A:C2'	34:U:7:LYS:HZ2	2.17	0.58
4:3:2447:A:N6	8:7:77:A:OP2	2.37	0.58
9:8:1371:LEU:CG	36:Z:94:ILE:CG2	2.70	0.58
7:AA:175:SER:OG	7:AA:178:ILE:HD12	2.02	0.58
19:F:11:VAL:HG23	19:F:20:THR:HB	1.85	0.58
36:Z:884:LYS:NZ	36:Z:1028:THR:HA	2.19	0.58
4:3:1294:G:N1	4:3:2021:A:OP2	2.35	0.57
4:3:1768:G:O6	4:3:1769:A:N6	2.37	0.57
4:3:2552:G:H2'	4:3:2553:G:C8	2.38	0.57
6:5:1241:G:C2	6:5:1245:A:C6	2.92	0.57
8:7:63:U:H2'	8:7:64:G:C8	2.39	0.57
9:8:644:ASP:O	36:Z:835:PHE:CZ	2.57	0.57
11:A:91:TYR:HE1	11:A:226:CYS:HB3	1.69	0.57
34:U:40:ILE:CG2	34:U:51:ILE:HD11	2.33	0.57
36:Z:584:THR:HG21	36:Z:691:PHE:CD2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:i:144:ASN:OD1	44:i:145:TRP:N	2.37	0.57
48:m:32:GLU:N	48:m:32:GLU:OE2	2.34	0.57
56:u:84:GLN:NE2	56:u:85:LYS:O	2.36	0.57
60:y:27:LEU:HD11	60:y:36:LYS:HE3	1.84	0.57
4:3:333:A:H2'	4:3:334:A:C4	2.38	0.57
4:3:633:G:O6	4:3:692:U:O4	2.21	0.57
4:3:640:U:O4	4:3:658:G:O6	2.22	0.57
4:3:1019:A:O2'	4:3:1020:G:O4'	2.20	0.57
4:3:1032:A:O5'	51:p:91:ARG:NH2	2.36	0.57
4:3:1093:U:O2	4:3:1115:G:N2	2.37	0.57
4:3:1286:G:N2	39:c:83:HIS:O	2.35	0.57
4:3:1445:U:H2'	4:3:1446:G:O4'	2.04	0.57
4:3:2021:A:H2'	4:3:2022:A:C4	2.39	0.57
6:5:416:U:N3	6:5:421:G:N1	2.52	0.57
6:5:1214:A:H62	6:5:1273:A:H62	1.51	0.57
6:5:1326:C:H2'	6:5:1327:G:H8	1.69	0.57
6:5:1329:G:H2'	6:5:1330:A:C8	2.40	0.57
9:8:100:LEU:HD13	9:8:591:ILE:HD11	1.85	0.57
9:8:659:ILE:O	9:8:780:LEU:CD1	2.51	0.57
9:8:961:ASN:HD22	15:B:81:GLU:N	2.01	0.57
9:8:1352:SER:CB	36:Z:31:TRP:CZ2	2.64	0.57
13:AC:10:DG:H4'	36:Z:118:LEU:O	2.04	0.57
13:AC:12:DC:C5'	36:Z:1235:GLN:OE1	2.52	0.57
23:J:81:GLY:O	23:J:86:LYS:NZ	2.26	0.57
28:O:77:VAL:HG23	28:O:80:LYS:HE3	1.84	0.57
48:m:42:GLN:NE2	48:m:100:VAL:HG11	2.19	0.57
4:3:247:U:O2	4:3:259:A:N7	2.37	0.57
4:3:740:A:O2'	37:a:9:ARG:NH2	2.37	0.57
4:3:752:C:H3'	4:3:753:A:H8	1.68	0.57
4:3:839:A:OP2	46:k:43:LYS:NZ	2.38	0.57
4:3:1702:A:N6	4:3:1998:U:H3	2.03	0.57
4:3:1837:C:H2'	4:3:1838:A:C8	2.38	0.57
4:3:2745:G:H2'	4:3:2746:A:H8	1.69	0.57
4:3:2847:C:H2'	4:3:2848:A:H8	1.69	0.57
6:5:1343:G:O3'	21:H:115:ARG:NH1	2.36	0.57
9:8:94:ILE:HG23	9:8:135:LEU:CD1	2.28	0.57
20:G:60:LEU:HB2	20:G:69:ILE:HG13	1.84	0.57
48:m:46:ASP:HA	48:m:49:ILE:HD12	1.85	0.57
4:3:159:G:O6	4:3:174:A:N6	2.38	0.57
4:3:522:C:H2'	4:3:523:A:C8	2.39	0.57
4:3:799:A:H5''	37:a:217:GLY:HA2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1391:U:O2'	4:3:1816:A:N3	2.34	0.57
6:5:966:A:O2'	6:5:1340:G:O2'	2.16	0.57
6:5:1245:A:HO2'	6:5:1287:G:HO2'	1.53	0.57
9:8:450:ILE:HD11	9:8:505:ILE:HD12	1.86	0.57
9:8:585:LEU:CD2	9:8:590:LEU:HD21	2.34	0.57
9:8:636:ILE:HD13	9:8:645:ILE:HG21	1.85	0.57
9:8:1310:LYS:HA	36:Z:409:ASP:CG	2.29	0.57
7:AA:35:VAL:HG21	7:AA:207:ASP:HB3	1.85	0.57
36:Z:775:LYS:HE3	36:Z:845:ILE:CD1	2.32	0.57
39:c:130:GLN:HA	39:c:133:PHE:CE1	2.39	0.57
51:p:13:ARG:O	51:p:17:LEU:HD23	2.05	0.57
57:v:27:ARG:NH1	57:v:28:LYS:O	2.37	0.57
4:3:1754:U:H2'	4:3:1755:A:H8	1.69	0.57
6:5:359:A:N1	24:K:40:SER:OG	2.38	0.57
6:5:558:U:H4'	6:5:559:U:H3'	1.86	0.57
6:5:732:A:H2'	6:5:733:A:C8	2.37	0.57
9:8:851:ARG:NH1	9:8:855:ASN:OD1	2.38	0.57
9:8:1370:ILE:HD13	36:Z:94:ILE:CG1	2.35	0.57
20:G:106:LEU:HB2	20:G:110:GLY:HA2	1.87	0.57
26:M:14:PRO:HG3	26:M:20:ALA:HB2	1.86	0.57
36:Z:781:TRP:CD2	36:Z:853:PRO:HG3	2.40	0.57
45:j:59:ARG:O	45:j:94:ARG:NH1	2.31	0.57
45:j:104:ARG:HH12	50:o:37:LEU:HD13	1.68	0.57
4:3:90:G:H2'	4:3:91:G:C8	2.39	0.57
4:3:1081:A:H2	34:U:58:ILE:HD13	1.69	0.57
4:3:2141:A:OP2	4:3:2164:G:N2	2.38	0.57
6:5:509:C:O2	16:C:38:HIS:NE2	2.37	0.57
9:8:952:ASP:OD1	15:B:73:GLN:HG2	2.04	0.57
7:AA:85:LYS:HD3	36:Z:602:GLU:CD	2.29	0.57
22:I:24:LEU:O	22:I:28:THR:HG23	2.04	0.57
24:K:42:LEU:HD23	24:K:94:LEU:HD21	1.87	0.57
24:K:92:VAL:HG22	24:K:115:LEU:HD21	1.86	0.57
50:o:34:ALA:HB3	50:o:87:SER:HB2	1.85	0.57
4:3:358:A:H62	4:3:372:G:H21	1.47	0.57
4:3:1248:A:H2'	4:3:1249:A:C8	2.39	0.57
4:3:1316:U:H5	4:3:1354:U:H3	1.52	0.57
4:3:2154:A:H2'	4:3:2155:G:C8	2.39	0.57
6:5:661:G:N2	6:5:738:A:N1	2.42	0.57
6:5:927:C:OP2	19:F:2:ARG:N	2.37	0.57
9:8:956:ARG:HA	15:B:74:PRO:HD2	1.84	0.57
9:8:1306:LEU:HD22	36:Z:408:VAL:HG11	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1349:LEU:CD2	36:Z:368:PHE:HB3	2.33	0.57
9:8:1369:SER:OG	36:Z:95:VAL:HG12	2.04	0.57
7:AA:163:PHE:CZ	36:Z:606:ALA:HB2	2.39	0.57
17:D:69:ARG:HE	17:D:172:LEU:HD21	1.69	0.57
31:R:36:ARG:HA	31:R:72:GLY:HA3	1.87	0.57
36:Z:488:ASP:C	36:Z:551:ARG:HH21	2.12	0.57
47:l:39:GLY:CA	47:l:97:VAL:O	2.52	0.57
4:3:286:A:O2'	4:3:288:A:N7	2.34	0.57
4:3:552:C:H5''	60:y:13:ARG:HH12	1.70	0.57
4:3:1191:A:OP1	51:p:53:LYS:NZ	2.33	0.57
4:3:1289:G:H2'	4:3:1290:G:C8	2.40	0.57
4:3:2781:C:H2'	4:3:2782:A:H8	1.69	0.57
6:5:664:A:H2'	6:5:665:G:C8	2.40	0.57
6:5:672:A:H61	6:5:712:A:H61	1.51	0.57
6:5:1389:U:H2'	6:5:1390:G:H8	1.70	0.57
7:6:240:VAL:HG21	7:AA:233:ILE:HD12	1.86	0.57
9:8:1269:LYS:HZ2	36:Z:313:ILE:HG23	1.66	0.57
9:8:1344:LYS:CB	36:Z:309:ILE:HD13	2.35	0.57
11:A:35:ARG:HE	11:A:37:TRP:HE1	1.52	0.57
14:AD:108:TRP:NE1	14:AD:112:ARG:NH2	2.49	0.57
16:C:63:MET:HE2	16:C:63:MET:HA	1.87	0.57
37:a:185:LEU:HD23	37:a:186:SER:N	2.20	0.57
4:3:846:U:H2'	46:k:22:ARG:HA	1.86	0.57
5:4:104:C:H2'	5:4:105:A:C8	2.40	0.57
6:5:145:G:N2	6:5:148:A:OP2	2.36	0.57
6:5:170:A:H61	6:5:195:U:H3	1.52	0.57
11:A:67:THR:HA	11:A:70:ASN:HD21	1.70	0.57
11:A:147:LYS:HB3	11:A:151:MET:HE1	1.87	0.57
24:K:56:LYS:HG3	24:K:58:PRO:HD2	1.86	0.57
4:3:312:U:H2'	4:3:313:G:H8	1.68	0.57
4:3:1207:U:O2	4:3:1208:A:N6	2.36	0.57
4:3:2381:G:H2'	4:3:2382:A:H8	1.70	0.57
4:3:2484:A:H2	4:3:2489:G:H1	1.53	0.57
4:3:2676:G:H2'	4:3:2677:A:C8	2.38	0.57
6:5:146:A:H2'	6:5:147:A:C4	2.39	0.57
7:6:161:ARG:NH2	7:AA:31:GLU:OE1	2.37	0.57
9:8:381:ARG:NH2	9:8:551:GLU:OE2	2.38	0.57
29:P:20:LYS:HB2	29:P:48:HIS:HB2	1.86	0.57
31:R:29:ARG:HH11	31:R:47:ASN:HB3	1.69	0.57
36:Z:501:ARG:CZ	36:Z:563:LEU:HD21	2.35	0.57
4:3:164:A:H3'	4:3:165:U:H2'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:60:A:H3'	6:5:327:G:H22	1.70	0.56
6:5:262:G:OP1	6:5:262:G:N2	2.38	0.56
6:5:354:U:H2'	6:5:355:A:H8	1.70	0.56
6:5:768:G:O6	6:5:806:A:N6	2.38	0.56
7:6:163:PHE:HB2	9:8:917:LYS:HE2	1.87	0.56
9:8:68:ILE:HD12	9:8:554:LEU:HD21	1.85	0.56
36:Z:429:ILE:HD11	36:Z:491:VAL:HG21	1.86	0.56
37:a:262:HIS:ND1	37:a:263:MET:SD	2.78	0.56
44:i:3:LYS:N	52:q:12:TYR:OH	2.38	0.56
4:3:2081:U:HO2'	4:3:2605:G:HO2'	1.39	0.56
6:5:680:G:H21	23:J:33:ASN:HA	1.71	0.56
6:5:833:G:O6	6:5:844:U:O4	2.22	0.56
6:5:1202:A:OP2	25:L:110:LYS:NZ	2.32	0.56
9:8:264:PHE:CZ	9:8:342:ARG:HG2	2.34	0.56
9:8:1342:LEU:HD12	36:Z:392:LEU:HD23	1.64	0.56
35:W:17:ILE:HG13	35:X:14:ILE:HD11	1.88	0.56
36:Z:897:ASP:OD2	36:Z:1234:PHE:HD2	1.88	0.56
41:e:105:THR:HG21	41:e:117:LYS:HE3	1.85	0.56
47:l:41:TRP:HB3	47:l:94:VAL:HG11	1.87	0.56
2:1:10:ARG:HD3	46:k:64:LYS:HA	1.88	0.56
4:3:26:G:H2'	4:3:27:U:C6	2.40	0.56
4:3:657:A:OP2	46:k:105:SER:OG	2.20	0.56
4:3:1141:U:H2'	4:3:1142:G:H8	1.70	0.56
4:3:1180:U:H2'	4:3:1181:A:C8	2.40	0.56
4:3:2332:U:O4	4:3:2339:G:O6	2.24	0.56
4:3:2580:A:OP2	38:b:151:ARG:N	2.29	0.56
4:3:2684:G:H2'	4:3:2685:A:C8	2.41	0.56
6:5:18:U:H5''	17:D:74:LYS:HE2	1.87	0.56
6:5:145:G:N1	6:5:149:G:N7	2.54	0.56
6:5:372:G:H2'	6:5:373:A:H8	1.69	0.56
6:5:556:G:OP2	6:5:557:A:O2'	2.23	0.56
6:5:1051:U:H2'	6:5:1052:G:H8	1.70	0.56
7:6:46:LEU:HD23	7:6:50:ILE:HD11	1.87	0.56
9:8:175:ARG:CZ	12:AB:26:DT:C6	2.83	0.56
9:8:419:LEU:HD21	9:8:422:LYS:HG3	1.88	0.56
9:8:644:ASP:O	36:Z:835:PHE:HE1	1.88	0.56
9:8:972:GLU:CD	9:8:1015:HIS:HD1	2.13	0.56
9:8:1122:LEU:HD21	9:8:1149:LEU:CD2	2.35	0.56
9:8:1269:LYS:HD2	36:Z:313:ILE:CD1	2.34	0.56
9:8:1342:LEU:N	36:Z:398:LEU:CD2	2.67	0.56
9:8:1370:ILE:HD12	36:Z:94:ILE:CG1	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:A:130:LEU:HD12	11:A:159:LEU:HD22	1.86	0.56
7:AA:82:LEU:HB3	36:Z:598:GLY:CA	2.35	0.56
31:R:41:PHE:CG	31:R:42:PRO:HD2	2.40	0.56
37:a:147:VAL:HG22	37:a:200:VAL:HG12	1.86	0.56
47:l:44:ALA:O	47:l:47:ILE:N	2.38	0.56
47:l:64:MET:N	47:l:64:MET:SD	2.79	0.56
3:2:36:GLN:OE1	4:3:1159:C:O2'	2.22	0.56
4:3:29:G:OP1	4:3:1289:G:O2'	2.22	0.56
4:3:1764:U:H5'	4:3:1765:G:H5''	1.87	0.56
4:3:1796:A:OP2	37:a:229:ARG:NH1	2.38	0.56
4:3:2577:G:H2'	4:3:2578:A:C8	2.41	0.56
4:3:2663:G:N1	4:3:2673:A:OP2	2.32	0.56
4:3:2798:A:H5''	4:3:2799:U:C6	2.41	0.56
6:5:462:G:O2'	6:5:463:U:O4'	2.14	0.56
6:5:1197:G:OP2	6:5:1296:C:N4	2.39	0.56
9:8:177:ARG:NH1	9:8:221:ALA:H	2.03	0.56
9:8:1342:LEU:CD1	36:Z:398:LEU:HD23	2.35	0.56
13:AC:14:DG:C2	36:Z:885:THR:HG22	2.40	0.56
61:z:23:LYS:NZ	61:z:28:ASN:O	2.39	0.56
4:3:78:C:OP1	58:w:49:ARG:NH1	2.38	0.56
4:3:154:U:H2'	4:3:155:A:C8	2.40	0.56
4:3:2521:A:H2'	4:3:2522:U:C6	2.41	0.56
4:3:2716:U:H2'	4:3:2717:G:H8	1.70	0.56
5:4:11:A:H1'	5:4:13:G:H2'	1.86	0.56
6:5:207:C:H3'	6:5:208:A:C8	2.41	0.56
6:5:1288:C:H2'	6:5:1289:U:C6	2.40	0.56
11:A:192:ASN:O	11:A:195:ARG:NH1	2.39	0.56
47:l:4:PRO:HG3	47:l:69:PHE:HE2	1.70	0.56
48:m:106:ARG:HG2	48:m:108:GLY:H	1.71	0.56
4:3:164:A:H62	4:3:168:A:H61	1.53	0.56
4:3:410:G:H4'	4:3:411:U:O5'	2.04	0.56
4:3:2323:U:O2	40:d:125:ARG:NH1	2.38	0.56
6:5:1193:U:H2'	6:5:1194:A:C8	2.40	0.56
6:5:1287:G:H2'	6:5:1288:C:H6	1.71	0.56
7:6:94:LEU:C	22:I:33:GLU:OE1	2.49	0.56
8:7:18:C:H4'	8:7:19:G:H5''	1.87	0.56
38:b:143:PHE:HD2	38:b:145:GLY:H	1.52	0.56
41:e:30:PRO:HG2	41:e:31:LEU:HD12	1.88	0.56
46:k:31:THR:HG21	46:k:36:GLN:HE22	1.70	0.56
4:3:220:A:H2'	4:3:221:A:H8	1.69	0.56
4:3:1016:A:C2	4:3:1171:G:H4'	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1784:U:H2'	4:3:1785:U:C6	2.40	0.56
4:3:1853:G:H2'	4:3:1854:A:C4	2.41	0.56
6:5:621:C:H2'	6:5:622:A:H8	1.70	0.56
6:5:748:U:H2'	6:5:749:G:O4'	2.05	0.56
6:5:1224:C:N4	6:5:1262:A:OP2	2.33	0.56
6:5:1393:A:N6	6:5:1457:G:O2'	2.39	0.56
8:7:67:C:H2'	8:7:68:G:H8	1.71	0.56
9:8:403:ILE:HD12	9:8:427:LEU:HD13	1.88	0.56
9:8:640:ASP:OD1	12:AB:26:DT:H5'	2.05	0.56
9:8:649:HIS:NE2	36:Z:837:TYR:CZ	2.53	0.56
9:8:715:ALA:HB2	9:8:750:ILE:HD13	1.88	0.56
14:AD:17:VAL:HG12	14:AD:18:LYS:H	1.71	0.56
42:f:104:LYS:HB2	42:f:106:MET:HE1	1.85	0.56
45:j:88:LYS:HB3	45:j:94:ARG:HG2	1.88	0.56
4:3:2094:A:H2'	4:3:2095:A:C8	2.40	0.56
4:3:2175:U:C2	4:3:2179:A:N7	2.74	0.56
4:3:2556:C:OP1	45:j:29:ARG:NH2	2.39	0.56
4:3:2706:U:H2'	4:3:2707:A:C8	2.40	0.56
6:5:641:U:H2'	6:5:642:A:H8	1.71	0.56
6:5:1112:U:O2	6:5:1128:G:N2	2.28	0.56
10:9:9:ILE:HG13	10:9:55:ASP:HB3	1.87	0.56
15:B:11:ARG:HH22	15:B:183:ALA:HB3	1.70	0.56
17:D:188:PRO:O	17:D:192:ILE:HG12	2.06	0.56
25:L:34:LEU:HD21	25:L:41:PRO:HD3	1.86	0.56
34:U:135:LEU:CD1	35:V:14:ILE:HG23	2.36	0.56
54:s:74:LEU:O	54:s:76:LYS:NZ	2.37	0.56
4:3:500:U:O2'	4:3:501:G:OP1	2.23	0.56
4:3:711:A:HO2'	4:3:2450:C:HO2'	1.54	0.56
4:3:1081:A:N6	34:U:8:ALA:N	2.50	0.56
4:3:1245:G:O3'	51:p:7:LYS:NZ	2.38	0.56
4:3:1326:C:H2'	4:3:1327:G:C8	2.41	0.56
4:3:2088:U:O4	4:3:2247:G:O6	2.22	0.56
4:3:2781:C:H2'	4:3:2782:A:C8	2.41	0.56
6:5:880:G:H1	6:5:905:U:H3	1.53	0.56
6:5:1051:U:H5''	22:I:59:ARG:HB3	1.88	0.56
9:8:1347:GLN:HB3	36:Z:100:MET:CE	2.31	0.56
9:8:1369:SER:OG	36:Z:95:VAL:HA	2.06	0.56
15:B:11:ARG:HD3	15:B:181:LEU:HA	1.88	0.56
21:H:116:LYS:HE2	21:H:123:ALA:HA	1.86	0.56
22:I:53:GLU:HB2	22:I:73:LYS:HB3	1.86	0.56
36:Z:586:GLU:HG2	36:Z:639:THR:HG21	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1141:U:C2'	34:U:79:LYS:HA	2.35	0.56
4:3:2802:C:H41	4:3:2807:G:H4'	1.70	0.56
6:5:145:G:O2'	6:5:147:A:N6	2.39	0.56
7:6:15:GLN:NE2	9:8:1160:ARG:HG2	2.21	0.56
9:8:814:LEU:HD21	9:8:858:TYR:CE2	2.41	0.56
29:P:48:HIS:CE1	29:P:69:LEU:HD11	2.41	0.56
31:R:81:LYS:NZ	31:R:84:THR:O	2.31	0.56
37:a:4:LYS:NZ	37:a:5:LYS:O	2.35	0.56
46:k:77:TRP:CZ3	46:k:111:PRO:HB2	2.41	0.56
4:3:517:G:H1	4:3:544:U:H3	1.52	0.55
4:3:892:G:H2'	4:3:893:A:C8	2.41	0.55
4:3:902:U:N3	4:3:941:C:OP2	2.39	0.55
4:3:2750:A:H2'	4:3:2751:C:C6	2.41	0.55
6:5:412:G:H2'	6:5:413:G:H8	1.71	0.55
6:5:1281:U:O3'	25:L:109:ARG:NH1	2.39	0.55
6:5:1330:A:H2'	6:5:1331:A:C8	2.40	0.55
9:8:307:LEU:CD1	9:8:334:LEU:HD13	2.36	0.55
9:8:1297:TYR:HB3	36:Z:554:LEU:HD21	1.86	0.55
7:AA:113:THR:HG22	7:AA:154:ASN:OD1	2.05	0.55
13:AC:14:DG:C5'	36:Z:890:TYR:CA	2.84	0.55
28:O:12:ARG:HH22	28:O:23:ASP:HB2	1.71	0.55
4:3:1159:C:H3'	4:3:1160:G:C8	2.41	0.55
4:3:1543:U:H2'	4:3:1544:G:H8	1.68	0.55
4:3:2335:A:H2'	4:3:2336:A:C8	2.41	0.55
4:3:2769:G:H2'	4:3:2770:U:C6	2.41	0.55
5:4:11:A:N6	5:4:67:G:O2'	2.39	0.55
6:5:1226:A:H2'	6:5:1227:A:C8	2.42	0.55
9:8:394:SER:HA	9:8:489:ILE:CD1	2.34	0.55
9:8:692:ILE:HD11	9:8:753:ILE:HB	1.87	0.55
9:8:1136:SER:HB2	9:8:1143:GLN:OE1	2.07	0.55
9:8:1345:GLU:C	36:Z:388:LEU:HD22	2.31	0.55
15:B:186:ASP:OD1	15:B:187:TYR:N	2.39	0.55
19:F:115:MET:HA	19:F:118:LYS:HG2	1.86	0.55
29:P:50:GLU:OE1	29:P:76:ARG:NH1	2.39	0.55
36:Z:434:ILE:HD12	36:Z:511:ILE:HG12	1.88	0.55
39:c:24:LEU:HD21	39:c:208:GLU:HA	1.88	0.55
51:p:12:ARG:HA	51:p:15:LYS:HG2	1.88	0.55
4:3:61:U:O2	4:3:70:G:N2	2.38	0.55
4:3:1261:U:H2'	4:3:1262:G:H8	1.71	0.55
4:3:1645:C:H2'	4:3:1646:G:C8	2.42	0.55
4:3:1963:U:H2'	4:3:1964:C:H5'	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2176:G:N1	4:3:2179:A:OP2	2.39	0.55
4:3:2828:C:H3'	4:3:2829:G:N2	2.21	0.55
6:5:416:U:N3	6:5:421:G:C6	2.74	0.55
6:5:576:A:H2'	6:5:577:G:H8	1.71	0.55
6:5:1102:A:N6	15:B:179:SER:OG	2.39	0.55
6:5:1397:G:H2'	6:5:1398:G:C8	2.41	0.55
9:8:956:ARG:HG3	15:B:74:PRO:CD	2.36	0.55
9:8:1370:ILE:CD1	36:Z:94:ILE:HD11	2.27	0.55
11:A:22:LYS:HB3	11:A:25:GLU:HB3	1.88	0.55
11:A:170:LYS:NZ	36:Z:456:GLU:HB3	2.21	0.55
13:AC:11:DT:O3'	36:Z:1236:ASP:OD1	2.24	0.55
16:C:139:GLY:H	16:C:179:VAL:HA	1.71	0.55
47:l:15:VAL:HG11	47:l:96:VAL:HG11	1.87	0.55
50:o:21:TYR:CE2	50:o:23:PRO:HG3	2.42	0.55
3:2:7:VAL:HG12	3:2:34:GLN:HG3	1.87	0.55
4:3:697:U:H2'	4:3:698:A:C8	2.41	0.55
4:3:1081:A:C8	34:U:7:LYS:CD	2.89	0.55
4:3:1549:U:H3'	4:3:1550:G:H8	1.71	0.55
4:3:1942:G:N2	4:3:1971:G:O5'	2.38	0.55
4:3:2514:U:OP2	4:3:2584:G:N1	2.37	0.55
6:5:461:G:O6	6:5:462:G:N2	2.39	0.55
6:5:711:G:H2'	6:5:712:A:C8	2.35	0.55
6:5:1138:U:H2'	6:5:1139:A:H8	1.72	0.55
36:Z:488:ASP:C	36:Z:551:ARG:NH2	2.65	0.55
38:b:6:ILE:HG22	38:b:207:ILE:HB	1.87	0.55
38:b:125:ARG:HD2	38:b:126:TRP:NE1	2.21	0.55
47:l:2:LEU:HB3	47:l:69:PHE:HE1	1.72	0.55
51:p:91:ARG:HD3	52:q:11:GLN:HB3	1.88	0.55
53:r:71:VAL:HA	53:r:107:LEU:HD13	1.88	0.55
55:t:29:PRO:O	55:t:32:GLN:NE2	2.39	0.55
4:3:254:G:H2'	4:3:255:A:C8	2.41	0.55
4:3:939:U:H2'	4:3:940:A:H8	1.71	0.55
4:3:1382:A:N6	4:3:1405:G:H21	2.00	0.55
4:3:1529:U:H2'	4:3:1530:G:C8	2.41	0.55
4:3:2080:C:H5''	37:a:236:ASN:HB2	1.88	0.55
4:3:2832:G:H2'	4:3:2833:A:H8	1.70	0.55
6:5:172:C:O2'	32:S:73:VAL:HG11	2.07	0.55
6:5:295:G:H2'	6:5:296:A:C4	2.42	0.55
6:5:432:U:P	14:AD:81:ARG:HH12	2.21	0.55
6:5:1213:A:N7	6:5:1275:U:O4	2.39	0.55
9:8:245:LYS:NZ	9:8:472:ASP:OD2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:571:ASN:HB3	9:8:577:ILE:HD11	1.87	0.55
9:8:1102:ILE:CD1	36:Z:859:LEU:CA	2.82	0.55
36:Z:427:VAL:HG21	36:Z:493:LEU:CD1	2.32	0.55
5:4:60:C:H2'	5:4:61:A:H8	1.70	0.55
6:5:431:U:P	14:AD:81:ARG:HH11	2.27	0.55
6:5:536:U:H2'	6:5:537:A:C8	2.42	0.55
9:8:943:ILE:HD13	9:8:1043:ILE:CD1	2.37	0.55
9:8:1340:LYS:NZ	9:8:1370:ILE:CG1	2.70	0.55
23:J:70:MET:HB2	23:J:72:MET:HE1	1.89	0.55
24:K:48:THR:HA	24:K:90:HIS:CE1	2.42	0.55
24:K:80:ILE:HG12	24:K:112:ARG:HH11	1.71	0.55
26:M:42:LEU:O	26:M:45:ARG:N	2.36	0.55
28:O:10:THR:HA	28:O:35:PRO:HD2	1.89	0.55
36:Z:587:ARG:NH1	36:Z:803:ASP:OD2	2.39	0.55
37:a:243:GLY:HA3	37:a:247:SER:HB3	1.88	0.55
39:c:166:THR:O	39:c:170:GLN:HB2	2.06	0.55
40:d:14:LYS:HB2	40:d:18:LYS:NZ	2.21	0.55
50:o:92:ARG:HD3	50:o:115:LYS:CE	2.32	0.55
52:q:28:PRO:HD2	52:q:31:LYS:HE3	1.88	0.55
4:3:552:C:OP2	60:y:10:LYS:NZ	2.37	0.55
4:3:611:A:OP1	4:3:1285:U:O2'	2.25	0.55
6:5:684:A:N1	6:5:697:G:O2'	2.36	0.55
9:8:1273:GLN:HE22	36:Z:402:ASN:ND2	1.94	0.55
16:C:10:ARG:HD3	16:C:62:TYR:CE2	2.41	0.55
33:T:20:ARG:O	33:T:23:LEU:HG	2.06	0.55
42:f:122:GLY:N	42:f:142:VAL:O	2.39	0.55
53:r:1:MET:N	53:r:113:GLU:OE1	2.39	0.55
4:3:389:C:H2'	4:3:390:A:H8	1.71	0.55
4:3:432:G:H5'	57:v:13:LEU:HB2	1.87	0.55
4:3:886:U:H3	4:3:964:A:H61	1.52	0.55
4:3:945:U:O2'	47:l:71:HIS:NE2	2.39	0.55
4:3:2054:C:H2'	4:3:2055:A:H8	1.71	0.55
4:3:2259:G:H2'	4:3:2260:G:H8	1.71	0.55
4:3:2691:C:OP1	50:o:56:ARG:NH1	2.39	0.55
6:5:257:U:OP2	32:S:67:ARG:NH2	2.40	0.55
6:5:536:U:H2'	6:5:537:A:H8	1.71	0.55
6:5:748:U:H3'	6:5:749:G:C8	2.42	0.55
9:8:148:GLU:OE2	9:8:615:HIS:CE1	2.60	0.55
9:8:169:LEU:HD23	12:AB:25:DC:C2	2.42	0.55
36:Z:607:TYR:CE2	36:Z:614:LEU:HG	2.41	0.55
4:3:1249:A:N3	53:r:128:ARG:NH2	2.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1807:C:N4	4:3:1824:G:N2	2.26	0.55
6:5:540:U:O2'	16:C:13:ARG:NH1	2.40	0.55
9:8:709:GLU:HG3	9:8:714:ILE:CD1	2.37	0.55
9:8:1325:VAL:HG13	36:Z:443:ILE:HG21	1.87	0.55
14:AD:140:ASN:OD1	14:AD:150:VAL:HG21	2.07	0.55
36:Z:192:ILE:O	36:Z:195:ARG:HG3	2.07	0.55
4:3:139:G:H2'	4:3:140:G:C8	2.42	0.55
4:3:477:U:H2'	4:3:478:G:C8	2.42	0.55
4:3:764:G:N2	37:a:12:SER:OG	2.38	0.55
4:3:1027:U:O4	4:3:1198:G:O6	2.25	0.55
4:3:1923:A:N6	6:5:1383:A:O2'	2.40	0.55
4:3:2591:G:H2'	4:3:2592:U:C6	2.42	0.55
5:4:58:C:H2'	5:4:59:A:C8	2.41	0.55
6:5:149:G:H2'	6:5:150:A:C8	2.42	0.55
6:5:265:U:H2'	6:5:266:A:C8	2.42	0.55
6:5:375:C:H2'	6:5:376:G:C8	2.42	0.55
6:5:448:A:H62	6:5:478:G:H5'	1.70	0.55
9:8:115:LYS:HG2	9:8:126:ASP:OD1	2.06	0.55
9:8:638:ARG:HH21	9:8:666:ASN:HD21	1.53	0.55
9:8:1307:LEU:CA	36:Z:406:LYS:CD	2.64	0.55
13:AC:12:DC:C4'	36:Z:1235:GLN:OE1	2.51	0.55
42:f:64:LEU:HD23	42:f:67:LYS:HZ1	1.72	0.55
4:3:226:A:C6	4:3:236:G:C2	2.95	0.54
4:3:425:U:H4'	4:3:426:U:OP2	2.06	0.54
4:3:799:A:N3	37:a:220:ARG:NH1	2.55	0.54
4:3:941:C:H2'	4:3:942:A:C8	2.42	0.54
4:3:2382:A:H2'	4:3:2383:G:C8	2.42	0.54
5:4:55:A:H4'	40:d:27:GLN:NE2	2.21	0.54
6:5:136:U:H3	6:5:157:A:H62	1.55	0.54
9:8:1350:ALA:HB3	36:Z:368:PHE:CE2	2.42	0.54
10:9:78:PHE:CZ	36:Z:1095:ARG:NH1	2.74	0.54
39:c:140:THR:O	39:c:144:MET:N	2.36	0.54
4:3:358:A:N6	4:3:372:G:N2	2.50	0.54
4:3:1203:G:H2'	4:3:1204:A:H8	1.71	0.54
4:3:1978:U:H1'	37:a:248:PRO:HB3	1.89	0.54
9:8:170:LYS:HZ2	12:AB:25:DC:H5'	1.72	0.54
9:8:1325:VAL:HG12	36:Z:464:ILE:CD1	2.34	0.54
16:C:91:ARG:HG3	16:C:182:PRO:HD2	1.89	0.54
18:E:23:GLU:HA	18:E:26:GLN:HG2	1.88	0.54
34:U:116:ARG:HG3	34:U:118:PHE:CE2	2.42	0.54
40:d:4:LEU:HD22	40:d:101:GLU:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:j:8:LEU:O	45:j:18:GLN:NE2	2.40	0.54
2:1:11:PHE:HE2	46:k:59:TYR:HB3	1.72	0.54
4:3:1450:G:H1	4:3:1610:U:H3	1.55	0.54
6:5:144:U:O2	6:5:149:G:O6	2.25	0.54
6:5:951:U:H3	6:5:1200:G:H1	1.55	0.54
6:5:957:C:H2'	6:5:958:G:C8	2.43	0.54
6:5:1003:G:C6	6:5:1018:U:N3	2.76	0.54
9:8:761:VAL:HG13	36:Z:864:ILE:HD11	1.88	0.54
54:s:13:THR:H	54:s:16:VAL:HB	1.71	0.54
4:3:370:C:H2'	4:3:371:C:C6	2.43	0.54
4:3:1805:U:H3'	37:a:282:ARG:HH22	1.72	0.54
4:3:2393:C:H2'	4:3:2394:A:C8	2.42	0.54
6:5:14:U:H3	6:5:909:A:H62	1.54	0.54
6:5:319:U:O2'	32:S:17:ARG:NH2	2.40	0.54
6:5:1054:C:OP2	6:5:1055:G:O2'	2.23	0.54
9:8:211:ILE:HD13	9:8:229:LEU:HD22	1.88	0.54
9:8:398:ARG:NH2	9:8:494:ASP:OD2	2.40	0.54
9:8:829:ASN:O	9:8:848:LYS:HE2	2.03	0.54
9:8:906:GLU:OE2	36:Z:530:ASP:HB3	2.07	0.54
9:8:1346:LEU:HD23	36:Z:392:LEU:CD1	2.33	0.54
36:Z:876:LYS:HG2	36:Z:1030:ARG:NH1	1.81	0.54
52:q:27:ALA:HB1	52:q:31:LYS:HZ1	1.72	0.54
4:3:51:A:N7	4:3:121:U:C4	2.76	0.54
4:3:1416:G:H2'	4:3:1417:G:C8	2.42	0.54
4:3:2294:A:N6	61:z:21:THR:OG1	2.39	0.54
6:5:1384:A:H2'	6:5:1385:A:C8	2.42	0.54
7:6:35:VAL:HG21	7:6:207:ASP:CB	2.38	0.54
7:6:113:THR:OG1	22:I:95:ARG:CD	2.55	0.54
9:8:569:GLN:CG	14:AD:160:ASN:HD21	2.20	0.54
9:8:945:ARG:NE	15:B:76:PHE:HD1	1.96	0.54
9:8:1269:LYS:HB2	36:Z:313:ILE:HD13	1.87	0.54
7:AA:86:GLN:NE2	36:Z:599:THR:HG23	2.08	0.54
32:S:10:ARG:HD3	32:S:13:GLN:HE21	1.71	0.54
34:U:90:VAL:HG21	35:V:14:ILE:HG21	1.89	0.54
37:a:69:ILE:HG23	37:a:109:ILE:HA	1.89	0.54
46:k:126:PHE:HB2	46:k:146:VAL:HG22	1.89	0.54
4:3:1046:A:H5''	51:p:65:ASN:ND2	2.23	0.54
4:3:2417:G:H2'	4:3:2418:G:C8	2.43	0.54
4:3:2493:G:OP2	47:l:45:ARG:NH2	2.40	0.54
6:5:372:G:H2'	6:5:373:A:C8	2.42	0.54
6:5:612:G:H1	6:5:624:U:H3	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1109:U:OP2	21:H:11:ARG:NH1	2.36	0.54
6:5:1241:G:C2	6:5:1245:A:N1	2.75	0.54
9:8:354:SER:HA	14:AD:109:ARG:NH1	2.23	0.54
9:8:390:ARG:HD2	9:8:496:ASN:O	2.05	0.54
9:8:1093:PRO:HB2	36:Z:734:VAL:CG2	2.27	0.54
9:8:1297:TYR:CG	36:Z:554:LEU:CD2	2.90	0.54
11:A:117:LEU:N	11:A:190:GLU:OE1	2.41	0.54
11:A:202:CYS:HG	11:A:206:THR:HG1	1.46	0.54
38:b:122:ALA:N	38:b:166:SER:OG	2.40	0.54
4:3:408:G:O2'	4:3:460:G:OP1	2.24	0.54
4:3:714:G:H2'	4:3:715:G:H8	1.73	0.54
4:3:1717:C:H2'	4:3:1718:C:C6	2.43	0.54
4:3:2682:A:H4'	45:j:30:LYS:HD3	1.88	0.54
4:3:2695:U:O4	4:3:2730:G:O6	2.25	0.54
4:3:2704:U:H2'	4:3:2705:G:C8	2.41	0.54
4:3:2840:U:H2'	4:3:2841:A:C8	2.42	0.54
6:5:541:C:H2'	6:5:542:G:H8	1.72	0.54
7:6:233:ILE:HD12	7:AA:240:VAL:HG21	1.88	0.54
9:8:634:GLY:CA	12:AB:24:DT:C7	2.69	0.54
9:8:907:ASP:CG	9:8:1099:ARG:HH22	2.15	0.54
24:K:19:SER:HB3	24:K:25:HIS:HE2	1.71	0.54
37:a:64:ARG:NH1	37:a:90:PRO:O	2.41	0.54
40:d:29:PRO:HD2	40:d:169:LEU:HD11	1.88	0.54
4:3:30:A:H2'	4:3:31:U:C6	2.43	0.54
4:3:59:C:H2'	4:3:60:G:C8	2.43	0.54
5:4:3:U:H2'	5:4:4:G:H8	1.73	0.54
6:5:510:U:H2'	6:5:511:A:H8	1.72	0.54
6:5:1302:C:H2'	6:5:1303:A:C8	2.43	0.54
7:6:130:PRO:HA	22:I:95:ARG:O	2.08	0.54
16:C:34:ILE:HD11	16:C:39:GLY:HA3	1.88	0.54
17:D:142:GLY:O	17:D:148:ARG:HA	2.08	0.54
20:G:15:VAL:O	20:G:19:LEU:HG	2.07	0.54
36:Z:884:LYS:HZ1	36:Z:1028:THR:HA	1.73	0.54
38:b:161:LYS:NZ	44:i:82:GLN:HG3	2.23	0.54
46:k:67:ASN:ND2	46:k:69:ARG:O	2.40	0.54
49:n:87:THR:OG1	49:n:113:GLY:O	2.25	0.54
50:o:57:GLY:HA3	50:o:62:GLU:HG2	1.90	0.54
4:3:96:A:H2'	4:3:97:A:C8	2.43	0.54
4:3:732:G:H2'	4:3:733:C:C6	2.43	0.54
4:3:802:U:H2'	4:3:803:G:H8	1.72	0.54
4:3:1253:G:N7	52:q:67:LYS:NZ	2.47	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1845:C:H4'	4:3:1846:A:H5'	1.90	0.54
4:3:2025:C:H2'	4:3:2026:A:H8	1.72	0.54
6:5:1225:A:H2	6:5:1345:G:H1'	1.72	0.54
8:7:23:G:H2'	8:7:24:A:H8	1.72	0.54
9:8:219:GLU:CG	12:AB:21:DC:N4	2.67	0.54
9:8:1235:LEU:HD21	7:AA:44:ARG:HH12	1.72	0.54
9:8:1345:GLU:CD	36:Z:391:ARG:HB2	2.29	0.54
10:9:58:GLU:HG2	36:Z:1213:ASN:ND2	2.19	0.54
37:a:97:SER:HB3	37:a:111:SER:HB3	1.89	0.54
52:q:32:GLU:OE2	52:q:56:VAL:HG12	2.08	0.54
4:3:401:G:O2'	4:3:402:A:OP1	2.25	0.54
4:3:2826:G:OP1	38:b:118:GLY:N	2.41	0.54
6:5:939:G:N2	6:5:1313:A:OP2	2.41	0.54
9:8:479:ASN:HB3	9:8:481:ASP:OD1	2.08	0.54
9:8:648:VAL:O	36:Z:835:PHE:HE2	1.89	0.54
9:8:1105:ILE:HG21	36:Z:736:VAL:HG23	1.82	0.54
10:9:78:PHE:CZ	36:Z:1095:ARG:NH2	2.75	0.54
14:AD:78:ASP:OD2	14:AD:81:ARG:NH2	2.37	0.54
15:B:123:LEU:O	15:B:127:ILE:HG12	2.07	0.54
27:N:46:ASP:O	27:N:49:SER:OG	2.24	0.54
28:O:12:ARG:HH12	28:O:23:ASP:C	2.16	0.54
36:Z:488:ASP:CB	36:Z:551:ARG:NH2	2.70	0.54
44:i:133:HIS:CE1	44:i:136:GLU:HG3	2.43	0.54
4:3:17:G:O6	4:3:560:U:O2	2.26	0.53
4:3:241:C:H2'	4:3:242:G:H8	1.73	0.53
4:3:700:U:H2'	4:3:701:A:C8	2.42	0.53
4:3:1142:G:C3'	34:U:78:GLY:N	2.43	0.53
4:3:2031:C:H5''	38:b:158:ARG:HD3	1.91	0.53
4:3:2631:G:O5'	4:3:2830:A:O2'	2.26	0.53
4:3:2822:C:H2'	4:3:2823:A:H8	1.73	0.53
6:5:369:A:H2'	6:5:370:A:H8	1.74	0.53
32:S:14:ASN:OD1	32:S:15:ILE:HD12	2.07	0.53
4:3:144:C:H2'	4:3:145:A:C8	2.43	0.53
4:3:725:G:O2'	37:a:47:ARG:NH2	2.42	0.53
4:3:1354:U:HO2'	4:3:2017:G:HO2'	1.55	0.53
4:3:1754:U:H2'	4:3:1755:A:C8	2.43	0.53
4:3:2126:A:O2'	4:3:2127:G:H5'	2.08	0.53
4:3:2506:C:O2'	4:3:2507:C:OP1	2.26	0.53
4:3:2694:A:H2'	4:3:2695:U:H6	1.73	0.53
8:7:19:G:H4'	8:7:20:G:OP1	2.08	0.53
14:AD:137:ASP:OD2	36:Z:349:PRO:CG	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:21:SER:HB3	36:Z:1248:THR:HG23	1.89	0.53
36:Z:162:PHE:CE1	36:Z:163:LYS:HE3	2.43	0.53
36:Z:586:GLU:HG2	36:Z:639:THR:CG2	2.38	0.53
38:b:13:MET:HA	38:b:27:THR:HA	1.90	0.53
44:i:26:LEU:HB3	44:i:31:LEU:HD23	1.89	0.53
44:i:42:LYS:HE3	51:p:62:LEU:HD11	1.89	0.53
4:3:269:A:N6	4:3:315:A:O4'	2.41	0.53
4:3:999:U:O2'	4:3:2258:G:O6	2.26	0.53
4:3:1184:U:H2'	4:3:1185:U:C6	2.43	0.53
4:3:2798:A:N1	4:3:2897:G:C6	2.77	0.53
6:5:85:U:O2'	6:5:86:A:N7	2.35	0.53
7:6:94:LEU:O	22:I:33:GLU:CB	2.56	0.53
7:6:141:TYR:OH	7:6:144:SER:HB2	2.08	0.53
8:7:67:C:H2'	8:7:68:G:C8	2.43	0.53
9:8:1310:LYS:O	36:Z:409:ASP:N	2.42	0.53
27:N:6:ASN:HA	27:N:9:ILE:HG12	1.91	0.53
31:R:25:GLN:O	31:R:26:GLU:HG3	2.08	0.53
2:1:20:LYS:NZ	4:3:666:G:H5''	2.22	0.53
4:3:452:U:H3	4:3:2415:A:N6	2.04	0.53
4:3:523:A:C6	4:3:529:G:N1	2.77	0.53
4:3:1079:U:O2'	4:3:1146:A:N1	2.41	0.53
4:3:1119:A:C8	34:U:53:VAL:HG23	2.44	0.53
4:3:2206:A:H1'	42:f:30:LEU:HD21	1.90	0.53
4:3:2350:C:H2'	4:3:2351:U:C6	2.44	0.53
4:3:2587:U:H2'	4:3:2588:U:C6	2.44	0.53
4:3:2697:C:H5'	4:3:2876:G:H22	1.73	0.53
4:3:2706:U:H2'	4:3:2707:A:H8	1.74	0.53
6:5:331:C:H2'	6:5:332:A:H8	1.74	0.53
6:5:431:U:C5'	14:AD:54:VAL:HG11	2.37	0.53
6:5:448:A:H3'	28:O:38:LYS:HE3	1.90	0.53
6:5:681:U:H2'	6:5:682:G:C8	2.44	0.53
7:6:113:THR:H	22:I:95:ARG:CZ	1.98	0.53
9:8:649:HIS:CG	36:Z:837:TYR:OH	2.56	0.53
9:8:956:ARG:CZ	15:B:108:GLU:CG	2.85	0.53
9:8:1160:ARG:HD2	9:8:1176:ASP:OD1	2.08	0.53
16:C:94:GLU:HG3	16:C:187:LEU:HD13	1.91	0.53
16:C:143:ARG:NH2	16:C:144:LEU:O	2.41	0.53
39:c:127:LEU:HD12	39:c:199:VAL:HG23	1.89	0.53
46:k:75:GLN:OE1	46:k:77:TRP:NE1	2.42	0.53
4:3:974:C:N4	4:3:975:G:O6	2.42	0.53
4:3:1224:G:N7	46:k:16:LYS:NZ	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1633:C:H2'	4:3:1634:A:C8	2.44	0.53
4:3:2018:U:H2'	4:3:2019:G:O4'	2.09	0.53
4:3:2857:C:H2'	4:3:2858:A:C8	2.44	0.53
4:3:2885:U:H2'	4:3:2886:A:H8	1.74	0.53
8:7:29:C:H2'	8:7:30:G:H8	1.74	0.53
9:8:825:LYS:HE3	9:8:835:GLU:OE2	2.08	0.53
9:8:1269:LYS:HZ2	36:Z:313:ILE:CG2	2.20	0.53
32:S:35:PHE:CE1	32:S:44:LEU:HB2	2.42	0.53
53:r:81:SER:OG	53:r:97:THR:OG1	2.23	0.53
4:3:740:A:OP2	4:3:761:G:N2	2.42	0.53
4:3:982:G:H2'	4:3:983:A:C8	2.44	0.53
6:5:169:G:N2	6:5:219:A:O2'	2.41	0.53
6:5:219:A:H2'	6:5:220:U:O4'	2.09	0.53
11:A:32:MET:O	11:A:53:ASN:ND2	2.32	0.53
18:E:13:LEU:HB3	18:E:17:GLN:HE21	1.73	0.53
36:Z:1233:SER:OG	36:Z:1257:LYS:HE2	2.09	0.53
45:j:77:LEU:HD13	50:o:77:LYS:HB2	1.89	0.53
50:o:32:ASN:HD21	50:o:47:ASN:HB3	1.74	0.53
4:3:163:A:H2'	4:3:164:A:C8	2.44	0.53
4:3:2098:U:O2'	57:v:34:GLN:NE2	2.41	0.53
4:3:2195:U:H2'	4:3:2196:G:C8	2.43	0.53
4:3:2285:G:H5''	47:l:11:LYS:HD2	1.91	0.53
6:5:650:A:C5	20:G:67:LYS:HG2	2.44	0.53
6:5:742:C:H2'	6:5:743:A:H8	1.74	0.53
6:5:1113:U:H2'	6:5:1114:A:C8	2.43	0.53
6:5:1345:G:H2'	6:5:1346:G:H8	1.73	0.53
7:6:223:ASP:OD1	7:AA:243:ASN:ND2	2.41	0.53
9:8:76:THR:HG22	9:8:125:VAL:HG21	1.91	0.53
24:K:76:VAL:HG21	24:K:108:TYR:HE1	1.73	0.53
25:L:55:ALA:O	25:L:58:ASN:HB2	2.08	0.53
45:j:2:VAL:HG23	45:j:33:ALA:HB3	1.89	0.53
46:k:131:VAL:HG22	46:k:148:LEU:HD11	1.90	0.53
50:o:32:ASN:HA	50:o:49:THR:HA	1.90	0.53
53:r:136:LYS:O	53:r:139:ARG:NH2	2.40	0.53
4:3:733:C:H5''	4:3:734:A:H5'	1.91	0.53
4:3:1081:A:O3'	34:U:57:ASN:ND2	2.42	0.53
4:3:1262:G:H1'	53:r:128:ARG:HG2	1.90	0.53
4:3:1370:A:N6	4:3:1636:U:O2	2.41	0.53
4:3:1764:U:O4	4:3:1769:A:N7	2.42	0.53
6:5:836:C:H2'	6:5:837:G:C4	2.44	0.53
6:5:881:G:N1	6:5:905:U:C2	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1350:A:H4'	19:F:28:VAL:HG12	1.91	0.53
9:8:30:GLN:HG3	9:8:676:PHE:HE1	1.73	0.53
9:8:1225:LYS:NZ	36:Z:738:ASP:CG	2.66	0.53
19:F:91:PRO:O	19:F:95:LYS:HG3	2.09	0.53
24:K:67:LYS:HD3	24:K:77:LEU:HD23	1.91	0.53
26:M:10:GLN:NE2	26:M:21:TYR:O	2.42	0.53
28:O:31:GLY:HA3	28:O:43:LYS:O	2.08	0.53
41:e:92:LEU:N	41:e:132:THR:O	2.39	0.53
4:3:73:A:H4'	4:3:74:U:H3'	1.91	0.53
4:3:129:U:H2'	4:3:130:C:C6	2.44	0.53
4:3:1012:G:H2'	4:3:1013:G:C8	2.44	0.53
4:3:1463:G:H2'	4:3:1464:G:H8	1.73	0.53
4:3:2102:U:H5''	42:f:12:LEU:HD21	1.90	0.53
4:3:2351:U:O2'	4:3:2381:G:O2'	2.23	0.53
5:4:95:G:H2'	5:4:96:G:H8	1.74	0.53
6:5:585:G:N1	6:5:751:C:OP2	2.37	0.53
6:5:1156:G:H4'	6:5:1157:G:H5'	1.89	0.53
6:5:1436:C:H2'	6:5:1437:A:H8	1.71	0.53
9:8:94:ILE:CG2	9:8:135:LEU:CD1	2.87	0.53
9:8:406:LYS:HE3	9:8:518:ILE:HG12	1.90	0.53
9:8:627:ARG:HD3	9:8:670:ILE:CG2	2.39	0.53
9:8:1310:LYS:CB	36:Z:409:ASP:HB2	2.39	0.53
17:D:177:ASP:N	17:D:177:ASP:OD1	2.42	0.53
23:J:100:ILE:HG12	23:J:103:ILE:HD11	1.91	0.53
4:3:499:G:N2	4:3:501:G:H3'	2.24	0.53
4:3:762:A:OP2	4:3:1459:A:O2'	2.25	0.53
4:3:1034:A:OP1	51:p:83:LYS:NZ	2.42	0.53
4:3:2885:U:H2'	4:3:2886:A:C8	2.44	0.53
6:5:320:G:H5'	32:S:17:ARG:HH22	1.73	0.53
6:5:412:G:H2'	6:5:413:G:C8	2.44	0.53
6:5:909:A:H2'	6:5:911:G:H5''	1.90	0.53
7:6:190:HIS:CE1	9:8:1083:ASP:O	2.56	0.53
8:7:54:G:N1	8:7:63:U:N3	2.57	0.53
9:8:1285:ARG:NH2	36:Z:401:HIS:ND1	2.57	0.53
18:E:5:ILE:HG12	18:E:62:PHE:CE1	2.44	0.53
18:E:22:ASN:O	18:E:26:GLN:NE2	2.40	0.53
19:F:21:LEU:O	19:F:24:ARG:HG2	2.09	0.53
24:K:69:ARG:HD2	24:K:70:LEU:O	2.09	0.53
44:i:106:ASN:HA	44:i:109:LYS:HE2	1.92	0.53
47:l:31:GLU:H	47:l:107:ALA:HB2	1.74	0.53
4:3:57:G:H2'	4:3:58:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:223:A:N6	4:3:464:A:OP2	2.40	0.52
4:3:686:C:H2'	4:3:687:G:C8	2.44	0.52
4:3:1187:C:H5'	51:p:79:ILE:HG21	1.90	0.52
4:3:1262:G:H2'	4:3:1263:G:H8	1.74	0.52
4:3:2372:C:H4'	56:u:72:THR:HG21	1.91	0.52
4:3:2644:U:O2'	38:b:47:TYR:OH	2.27	0.52
4:3:2855:A:H3'	4:3:2856:G:H8	1.73	0.52
6:5:407:A:N6	6:5:426:U:O5'	2.41	0.52
6:5:675:U:H2'	6:5:676:U:H6	1.73	0.52
6:5:923:G:O2'	6:5:1508:C:OP1	2.26	0.52
6:5:944:A:O2'	6:5:966:A:N6	2.42	0.52
9:8:659:ILE:O	9:8:780:LEU:HD13	2.09	0.52
16:C:166:PHE:CD2	16:C:167:VAL:HG13	2.44	0.52
22:I:21:SER:O	22:I:25:ASP:N	2.35	0.52
34:U:135:LEU:HD11	35:V:14:ILE:HG23	1.91	0.52
39:c:194:ALA:C	39:c:196:ALA:H	2.16	0.52
4:3:220:A:H2'	4:3:221:A:C8	2.44	0.52
4:3:300:G:H2'	4:3:301:G:C8	2.44	0.52
4:3:313:G:N2	4:3:394:C:C2	2.75	0.52
4:3:567:U:H4'	4:3:568:G:C8	2.44	0.52
4:3:599:U:OP1	52:q:78:HIS:NE2	2.42	0.52
4:3:1872:U:O4	4:3:1882:G:O6	2.27	0.52
4:3:2383:G:N2	4:3:2386:A:OP2	2.23	0.52
4:3:2743:U:H2'	4:3:2744:A:C8	2.45	0.52
5:4:104:C:H2'	5:4:105:A:H8	1.73	0.52
6:5:7:U:O2'	6:5:294:A:N3	2.42	0.52
6:5:47:G:O2'	6:5:361:U:H1'	2.09	0.52
6:5:879:G:H2'	6:5:880:G:H8	1.74	0.52
6:5:1267:G:H2'	6:5:1268:G:H8	1.74	0.52
6:5:1287:G:H2'	6:5:1288:C:C6	2.44	0.52
7:6:94:LEU:HD13	22:I:36:LYS:HB2	1.91	0.52
9:8:216:ALA:CB	12:AB:20:DG:N7	2.72	0.52
9:8:648:VAL:O	36:Z:835:PHE:CE2	2.63	0.52
9:8:1345:GLU:CD	36:Z:391:ARG:HB3	2.21	0.52
9:8:1368:VAL:O	36:Z:98:GLU:HB3	2.07	0.52
27:N:21:SER:OG	27:N:23:GLN:OE1	2.27	0.52
44:i:67:LEU:HB2	44:i:72:LYS:HG3	1.92	0.52
49:n:11:ARG:NH1	49:n:95:GLY:O	2.42	0.52
52:q:28:PRO:O	52:q:31:LYS:NZ	2.41	0.52
4:3:355:A:O2'	4:3:374:A:N3	2.41	0.52
4:3:869:U:O2'	4:3:2366:A:H1'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1119:A:C1'	34:U:53:VAL:CG2	2.87	0.52
4:3:2494:C:H2'	4:3:2495:A:H8	1.73	0.52
4:3:2826:G:O2'	4:3:2828:C:OP2	2.22	0.52
6:5:36:G:H2'	6:5:37:C:C6	2.43	0.52
6:5:612:G:N2	6:5:624:U:O2	2.40	0.52
9:8:1081:LEU:HD21	9:8:1243:LEU:HD21	1.91	0.52
9:8:1289:MET:SD	13:AC:15:DA:C1'	2.96	0.52
9:8:1371:LEU:HB2	36:Z:95:VAL:CG1	2.39	0.52
13:AC:14:DG:C5'	36:Z:890:TYR:CB	2.67	0.52
15:B:89:THR:HA	15:B:92:ILE:HG12	1.90	0.52
17:D:139:GLU:OE1	17:D:152:LYS:HB2	2.09	0.52
17:D:191:MET:O	17:D:195:THR:HG23	2.09	0.52
21:H:49:ASP:OD1	21:H:50:MET:N	2.41	0.52
23:J:73:ALA:O	23:J:99:SER:OG	2.27	0.52
36:Z:753:ASP:OD2	36:Z:855:LYS:NZ	2.43	0.52
36:Z:983:ILE:HG21	36:Z:1139:ARG:HD3	1.91	0.52
37:a:136:MET:HE2	37:a:140:PHE:HB2	1.92	0.52
4:3:670:G:H2'	4:3:671:C:C6	2.45	0.52
4:3:935:U:H2'	4:3:936:G:C8	2.45	0.52
4:3:1280:G:P	46:k:22:ARG:HE	2.33	0.52
6:5:34:A:H2'	6:5:35:C:C6	2.45	0.52
6:5:429:A:HO2'	14:AD:58:LYS:HB2	1.72	0.52
6:5:560:U:O2	24:K:13:LYS:N	2.42	0.52
6:5:1114:A:N6	6:5:1127:A:H61	2.07	0.52
6:5:1178:C:H2'	6:5:1179:A:C8	2.45	0.52
8:7:2:G:N2	8:7:74:A:N7	2.58	0.52
7:AA:86:GLN:CD	36:Z:599:THR:CG2	2.81	0.52
21:H:23:PRO:HB3	21:H:62:ASN:O	2.09	0.52
22:I:25:ASP:O	22:I:29:LYS:HG2	2.10	0.52
36:Z:64:LYS:HD2	36:Z:67:GLU:OE2	2.09	0.52
36:Z:1253:LEU:HD13	36:Z:1262:ILE:HD13	1.91	0.52
47:l:3:GLN:OE1	47:l:4:PRO:HD2	2.10	0.52
49:n:7:GLN:HG3	49:n:11:ARG:NH2	2.20	0.52
4:3:893:A:H2'	4:3:894:G:C8	2.45	0.52
4:3:894:G:H21	4:3:2276:A:H3'	1.75	0.52
4:3:1081:A:C2	34:U:58:ILE:CD1	2.91	0.52
4:3:1106:G:O2'	4:3:1124:G:OP2	2.28	0.52
4:3:1649:C:OP2	4:3:1651:C:N4	2.43	0.52
4:3:1862:A:N6	4:3:1863:G:O6	2.43	0.52
4:3:2353:G:H1'	4:3:2389:A:H2'	1.90	0.52
4:3:2609:C:H2'	4:3:2611:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:610:C:H2'	6:5:611:A:H8	1.74	0.52
6:5:621:C:H2'	6:5:622:A:C8	2.44	0.52
6:5:1039:G:H5''	26:M:2:ALA:HA	1.92	0.52
7:AA:35:VAL:HG21	7:AA:207:ASP:CB	2.40	0.52
18:E:153:LYS:HA	20:G:56:ASN:HD21	1.74	0.52
19:F:124:ILE:O	19:F:127:SER:OG	2.27	0.52
21:H:93:ASN:ND2	21:H:95:GLU:OE2	2.42	0.52
22:I:28:THR:CG2	22:I:78:ARG:HG2	2.39	0.52
46:k:48:ARG:HG2	46:k:50:GLY:H	1.74	0.52
47:l:115:ILE:O	47:l:119:THR:HG23	2.08	0.52
4:3:274:A:OP2	4:3:294:G:N1	2.42	0.52
4:3:347:C:H2'	4:3:348:A:C8	2.44	0.52
4:3:513:A:O2'	4:3:514:A:OP1	2.27	0.52
4:3:723:U:H2'	4:3:724:A:H8	1.74	0.52
4:3:2083:U:O5'	4:3:2246:G:N2	2.42	0.52
4:3:2409:U:O4	4:3:2423:G:O6	2.27	0.52
6:5:306:G:H2'	6:5:307:C:C6	2.45	0.52
6:5:561:A:H2'	6:5:565:G:C8	2.45	0.52
6:5:1266:U:OP2	19:F:40:ARG:NH2	2.42	0.52
6:5:1312:G:H2'	6:5:1313:A:C4	2.44	0.52
8:7:7:U:H3	8:7:68:G:H1	1.57	0.52
9:8:1338:SER:O	36:Z:398:LEU:HD21	2.09	0.52
11:A:120:PHE:O	11:A:124:SER:N	2.36	0.52
17:D:67:GLU:HG2	17:D:97:ARG:HH11	1.75	0.52
32:S:25:LYS:O	32:S:28:LEU:HG	2.10	0.52
39:c:57:GLU:OE1	39:c:94:LYS:NZ	2.43	0.52
47:l:44:ALA:HA	47:l:47:ILE:HD12	1.91	0.52
47:l:77:LYS:HG3	47:l:81:VAL:HG11	1.92	0.52
53:r:115:GLN:CD	53:r:115:GLN:H	2.17	0.52
58:w:15:LEU:HD22	58:w:58:LEU:HD21	1.90	0.52
4:3:379:A:N3	4:3:381:A:N6	2.58	0.52
5:4:95:G:H2'	5:4:96:G:C8	2.45	0.52
6:5:941:A:OP2	25:L:113:ARG:NH1	2.42	0.52
6:5:1176:A:H4'	6:5:1177:U:H5''	1.91	0.52
6:5:1203:A:OP2	25:L:107:ARG:NH2	2.41	0.52
6:5:1219:C:H2'	6:5:1220:A:C8	2.44	0.52
9:8:1292:TRP:CZ2	36:Z:893:ARG:HG3	2.45	0.52
14:AD:96:TYR:OH	36:Z:338:ARG:NH2	2.43	0.52
31:R:19:VAL:HG21	31:R:44:PHE:CE1	2.45	0.52
31:R:22:MET:O	31:R:27:LYS:N	2.35	0.52
56:u:62:GLY:N	56:u:95:VAL:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:21:U:OP1	51:p:28:HIS:NE2	2.43	0.52
4:3:86:A:N6	4:3:101:C:O4'	2.42	0.52
4:3:316:C:O2'	4:3:392:A:N1	2.38	0.52
4:3:453:U:H2'	4:3:454:G:C8	2.45	0.52
4:3:616:G:OP1	51:p:13:ARG:NH2	2.43	0.52
4:3:1691:U:H4'	38:b:139:TYR:HD2	1.74	0.52
4:3:2646:G:O2'	4:3:2647:A:N7	2.41	0.52
4:3:2700:C:H2'	4:3:2701:A:C8	2.45	0.52
6:5:519:G:C6	6:5:527:G:N1	2.78	0.52
6:5:599:G:O6	6:5:634:U:O2	2.28	0.52
6:5:655:G:C6	6:5:746:A:C6	2.98	0.52
6:5:675:U:H2'	6:5:676:U:C6	2.44	0.52
6:5:939:G:N1	6:5:1312:G:OP2	2.34	0.52
8:7:68:G:H2'	8:7:69:A:H8	1.75	0.52
9:8:1118:ALA:HB1	9:8:1191:LEU:O	2.10	0.52
9:8:1344:LYS:HB2	36:Z:309:ILE:HG21	1.92	0.52
18:E:97:LEU:HD23	18:E:100:ILE:HB	1.92	0.52
23:J:22:ASN:OD1	23:J:23:THR:N	2.43	0.52
26:M:47:LEU:HD12	26:M:52:ALA:HB2	1.91	0.52
44:i:78:TYR:HB3	44:i:87:ILE:HD12	1.91	0.52
4:3:134:U:H2'	4:3:135:A:C8	2.45	0.52
4:3:2269:C:H2'	4:3:2270:U:H6	1.74	0.52
5:4:103:C:H2'	5:4:104:C:C6	2.45	0.52
6:5:724:G:N2	6:5:727:G:OP2	2.37	0.52
6:5:1139:A:H2'	6:5:1140:A:H8	1.75	0.52
9:8:1212:MET:SD	36:Z:737:PHE:CZ	3.02	0.52
11:A:90:ASP:OD1	11:A:91:TYR:N	2.43	0.52
7:AA:35:VAL:CG1	7:AA:195:VAL:HG22	2.40	0.52
36:Z:19:LYS:HE3	36:Z:1248:THR:CG2	2.40	0.52
4:3:116:C:O2'	4:3:128:A:O2'	2.21	0.52
4:3:454:G:H2'	4:3:455:G:C8	2.37	0.52
4:3:815:G:H21	4:3:818:A:H61	1.56	0.52
4:3:1119:A:C5	34:U:53:VAL:HG21	2.39	0.52
4:3:2376:C:H2'	4:3:2377:A:C8	2.45	0.52
6:5:65:G:H4'	6:5:66:A:H3'	1.91	0.52
6:5:250:G:H2'	6:5:251:G:C8	2.44	0.52
6:5:251:G:H5''	29:P:20:LYS:HE2	1.91	0.52
9:8:1344:LYS:CB	36:Z:309:ILE:CD1	2.87	0.52
17:D:162:ALA:HB1	17:D:166:ILE:HG22	1.92	0.52
19:F:107:ALA:HA	19:F:122:GLU:CD	2.35	0.52
20:G:26:ARG:HG3	20:G:84:ILE:HG23	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:335:ARG:NH1	36:Z:359:LEU:HD13	2.24	0.52
39:c:26:ALA:N	39:c:117:SER:OG	2.42	0.52
55:t:24:VAL:HA	55:t:36:VAL:HG22	1.91	0.52
4:3:142:A:H2	4:3:1628:G:H21	1.57	0.51
4:3:1088:A:H2	34:U:79:LYS:CE	2.07	0.51
4:3:1364:A:OP1	54:s:66:ARG:NH1	2.43	0.51
4:3:2892:U:H2'	4:3:2893:C:H6	1.75	0.51
6:5:250:G:H2'	6:5:251:G:H8	1.75	0.51
6:5:649:U:O4	6:5:749:G:O2'	2.21	0.51
6:5:713:A:H1'	23:J:113:GLY:HA2	1.92	0.51
6:5:1031:A:H2'	6:5:1032:G:C8	2.45	0.51
6:5:1112:U:O4	6:5:1128:G:O6	2.28	0.51
8:7:55:U:O2	8:7:59:A:N7	2.43	0.51
9:8:667:ILE:HD11	36:Z:875:ARG:HG3	1.92	0.51
10:9:5:TYR:OH	10:9:48:LEU:HA	2.09	0.51
30:Q:81:MET:O	30:Q:85:HIS:ND1	2.38	0.51
32:S:50:GLN:HA	32:S:53:ARG:HD2	1.91	0.51
37:a:147:VAL:HA	37:a:200:VAL:HA	1.91	0.51
38:b:165:MET:HE3	38:b:166:SER:H	1.75	0.51
57:v:57:THR:O	57:v:61:HIS:ND1	2.42	0.51
61:z:35:ASN:HB3	61:z:46:VAL:HG22	1.92	0.51
2:1:36:LYS:O	2:1:39:ARG:HD3	2.10	0.51
4:3:674:G:H2'	4:3:675:U:H6	1.74	0.51
4:3:680:A:H2'	4:3:682:A:N7	2.24	0.51
4:3:808:U:H4'	37:a:51:GLY:HA3	1.92	0.51
4:3:1029:A:OP1	51:p:49:ARG:NE	2.42	0.51
6:5:63:U:O2'	6:5:375:C:O2	2.28	0.51
6:5:736:U:O2'	27:N:39:HIS:HD2	1.93	0.51
6:5:832:G:H2'	6:5:833:G:H8	1.76	0.51
6:5:1248:U:H2'	6:5:1249:G:O4'	2.09	0.51
11:A:72:VAL:HA	11:A:75:VAL:HG12	1.92	0.51
13:AC:17:DT:C4'	36:Z:413:ARG:HH11	1.98	0.51
27:N:70:ASN:OD1	27:N:71:ASP:N	2.44	0.51
36:Z:47:LEU:HD21	36:Z:320:PHE:HZ	1.75	0.51
51:p:65:ASN:OD1	51:p:75:TYR:HB2	2.11	0.51
4:3:192:U:O2	4:3:212:G:N2	2.36	0.51
4:3:632:A:H2'	4:3:633:G:H8	1.76	0.51
4:3:1292:A:OP1	53:r:99:ARG:NH1	2.44	0.51
4:3:1511:C:H2'	4:3:1512:A:C8	2.45	0.51
4:3:1846:A:H1'	4:3:1934:A:C8	2.45	0.51
4:3:2104:A:H2'	4:3:2105:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2339:G:H2'	4:3:2340:U:O4'	2.11	0.51
4:3:2659:U:H2'	4:3:2660:C:C6	2.45	0.51
4:3:2843:G:O6	4:3:2882:U:O2	2.27	0.51
6:5:519:G:C6	6:5:527:G:C2	2.97	0.51
6:5:537:A:H2'	6:5:538:G:C8	2.45	0.51
6:5:662:G:H1'	6:5:730:G:H5'	1.92	0.51
6:5:1003:G:N1	6:5:1018:U:N3	2.58	0.51
6:5:1417:U:H2'	6:5:1418:G:H8	1.75	0.51
9:8:569:GLN:HG2	14:AD:160:ASN:HD21	1.74	0.51
9:8:1348:GLY:O	36:Z:388:LEU:HD12	2.08	0.51
54:s:36:SER:OG	54:s:37:LYS:N	2.43	0.51
4:3:669:A:O2'	4:3:2412:A:OP1	2.24	0.51
4:3:1543:U:H2'	4:3:1544:G:C8	2.45	0.51
4:3:2744:A:H2'	4:3:2745:G:H8	1.74	0.51
6:5:331:C:H2'	6:5:332:A:C8	2.46	0.51
6:5:753:C:OP2	27:N:62:ARG:NH2	2.41	0.51
6:5:842:C:H2'	6:5:843:C:C6	2.45	0.51
6:5:1154:A:O2'	6:5:1155:A:O4'	2.21	0.51
7:6:31:GLU:OE1	7:AA:161:ARG:NH2	2.43	0.51
7:6:111:LEU:HD21	7:6:156:TYR:CE1	2.45	0.51
8:7:2:G:O6	8:7:73:C:N4	2.42	0.51
9:8:374:CYS:HB2	9:8:459:VAL:HG13	1.91	0.51
9:8:648:VAL:HG12	36:Z:872:TYR:CE1	2.46	0.51
9:8:956:ARG:HG3	15:B:74:PRO:HD2	1.92	0.51
9:8:1371:LEU:HB2	36:Z:95:VAL:HG12	1.92	0.51
7:AA:170:ARG:HH22	36:Z:679:ARG:HH12	1.59	0.51
13:AC:14:DG:N2	36:Z:497:PRO:HG3	2.26	0.51
18:E:71:ASP:N	18:E:71:ASP:OD1	2.43	0.51
36:Z:342:ILE:CD1	36:Z:356:GLU:HG3	2.40	0.51
37:a:229:ARG:HH21	37:a:232:ALA:HB2	1.74	0.51
59:x:16:CYS:HB3	59:x:21:ASN:HB3	1.91	0.51
4:3:300:G:H2'	4:3:301:G:H8	1.76	0.51
4:3:1756:A:H2'	4:3:1757:G:C8	2.45	0.51
4:3:1816:A:H2'	4:3:1817:A:C8	2.46	0.51
4:3:2145:A:H2'	4:3:2146:A:C8	2.44	0.51
4:3:2249:A:H2'	4:3:2250:G:C8	2.45	0.51
5:4:38:U:H1'	5:4:43:A:H62	1.74	0.51
5:4:59:A:O2'	5:4:60:C:OP1	2.28	0.51
6:5:1201:C:H4'	31:R:81:LYS:HD3	1.91	0.51
9:8:450:ILE:CD1	9:8:505:ILE:HD12	2.40	0.51
15:B:42:ASN:O	15:B:46:VAL:HG22	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:67:GLU:HG2	36:Z:74:LYS:HG2	1.92	0.51
36:Z:393:LYS:HE3	36:Z:1238:LYS:HB2	1.92	0.51
37:a:131:LYS:HD2	37:a:132:PRO:HD2	1.92	0.51
37:a:136:MET:HA	37:a:197:ARG:HH21	1.76	0.51
50:o:67:ARG:HE	50:o:74:PRO:HB2	1.73	0.51
59:x:13:SER:HA	59:x:24:THR:HB	1.91	0.51
4:3:990:G:N2	4:3:999:U:O2	2.29	0.51
4:3:1032:A:H2'	4:3:1033:A:H8	1.75	0.51
4:3:1201:A:H2'	4:3:1202:A:H8	1.74	0.51
4:3:1475:C:H1'	4:3:1577:A:H2	1.76	0.51
4:3:1662:G:H2'	4:3:1663:G:H8	1.75	0.51
4:3:1917:G:H2'	4:3:1918:U:C6	2.45	0.51
4:3:2622:A:O4'	60:y:2:ALA:N	2.43	0.51
4:3:2668:A:O2'	4:3:2669:G:H8	1.93	0.51
4:3:2892:U:H2'	4:3:2893:C:C6	2.45	0.51
6:5:190:A:H2'	6:5:191:A:O4'	2.10	0.51
6:5:1065:G:H2'	6:5:1066:U:H6	1.76	0.51
7:6:243:ASN:ND2	7:AA:223:ASP:OD1	2.44	0.51
9:8:807:LYS:HE3	9:8:811:ASP:OD2	2.11	0.51
11:A:133:LEU:HB3	11:A:156:ILE:HD11	1.92	0.51
7:AA:129:CYS:SG	7:AA:135:VAL:HG23	2.50	0.51
15:B:11:ARG:NH1	15:B:177:PRO:O	2.43	0.51
18:E:25:GLN:O	18:E:28:THR:OG1	2.24	0.51
53:r:124:LEU:O	53:r:127:LYS:HG2	2.11	0.51
58:w:51:LEU:O	58:w:55:LEU:HD23	2.11	0.51
4:3:67:C:O2'	4:3:492:C:N3	2.35	0.51
4:3:299:A:H2'	4:3:300:G:C8	2.45	0.51
4:3:494:G:HO2'	4:3:505:G:H1	1.58	0.51
4:3:784:A:H61	4:3:788:G:H21	1.57	0.51
4:3:1088:A:N1	34:U:79:LYS:CE	2.67	0.51
4:3:1176:U:OP2	44:i:71:LYS:NZ	2.39	0.51
4:3:1315:A:N6	48:m:109:ASP:OD2	2.38	0.51
4:3:2311:G:N3	40:d:129:THR:HG21	2.25	0.51
5:4:76:A:C6	5:4:77:G:C6	2.99	0.51
6:5:1222:U:H2'	6:5:1223:A:H8	1.74	0.51
11:A:32:MET:HE3	11:A:33:VAL:HG22	1.93	0.51
22:I:45:PRO:HB3	22:I:78:ARG:HD2	1.93	0.51
32:S:53:ARG:HA	32:S:56:ARG:NH2	2.25	0.51
36:Z:742:TYR:CE1	36:Z:745:LYS:HB3	2.45	0.51
36:Z:884:LYS:HE2	36:Z:1029:MET:HG3	1.91	0.51
36:Z:1118:LYS:HE2	36:Z:1124:ILE:HG13	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:n:28:VAL:HG13	49:n:89:VAL:HG12	1.91	0.51
50:o:48:PHE:HE2	50:o:66:VAL:HG13	1.74	0.51
4:3:793:C:H2'	4:3:794:G:H8	1.76	0.51
4:3:966:U:H2'	4:3:967:U:C6	2.46	0.51
4:3:1347:A:H2'	4:3:1348:C:C6	2.46	0.51
4:3:2097:A:N6	4:3:2238:G:O6	2.44	0.51
4:3:2555:U:H2'	4:3:2556:C:C6	2.46	0.51
4:3:2845:U:H2'	4:3:2846:A:H8	1.75	0.51
6:5:510:U:H2'	6:5:511:A:C8	2.45	0.51
6:5:554:C:H2'	6:5:555:G:C8	2.45	0.51
6:5:1065:G:H2'	6:5:1066:U:C6	2.45	0.51
6:5:1483:C:H2'	6:5:1484:C:H6	1.76	0.51
8:7:63:U:H2'	8:7:64:G:H8	1.73	0.51
11:A:89:ASN:OD1	11:A:90:ASP:N	2.40	0.51
30:Q:57:LEU:O	30:Q:61:LYS:HG2	2.10	0.51
38:b:117:ARG:HD2	38:b:169:TYR:CD2	2.46	0.51
4:3:1455:A:H2	37:a:35:LYS:HD3	1.75	0.51
4:3:2841:A:H2'	4:3:2842:G:H8	1.76	0.51
6:5:318:C:H2'	6:5:319:U:C6	2.46	0.51
6:5:603:U:O2	6:5:630:G:N2	2.37	0.51
6:5:650:A:N6	20:G:66:THR:O	2.44	0.51
6:5:1124:U:H4'	21:H:18:LYS:HD2	1.93	0.51
6:5:1359:C:H2'	6:5:1360:G:C8	2.45	0.51
8:7:23:G:H2'	8:7:24:A:C8	2.46	0.51
9:8:1305:GLU:OE1	36:Z:542:LEU:HG	2.11	0.51
17:D:167:ARG:HA	17:D:170:ILE:HG22	1.93	0.51
19:F:63:ARG:NE	19:F:127:SER:O	2.44	0.51
22:I:28:THR:HG22	22:I:78:ARG:HG2	1.93	0.51
30:Q:43:PHE:HB2	30:Q:82:HIS:ND1	2.26	0.51
32:S:53:ARG:HA	32:S:56:ARG:HH22	1.76	0.51
35:X:23:ALA:CB	35:Y:6:ILE:HD11	2.35	0.51
38:b:63:ASN:HB3	38:b:66:GLN:OE1	2.11	0.51
41:e:118:GLU:OE2	41:e:154:TRP:NE1	2.38	0.51
44:i:101:ASP:HB2	44:i:127:VAL:HG13	1.93	0.51
46:k:93:ILE:HD13	46:k:126:PHE:HE1	1.75	0.51
4:3:163:A:N6	4:3:169:U:H3	2.00	0.51
4:3:522:C:H2'	4:3:523:A:H8	1.76	0.51
4:3:960:A:H2'	4:3:961:U:C6	2.45	0.51
4:3:1866:G:N1	4:3:1891:A:N7	2.59	0.51
4:3:2093:U:H2'	4:3:2094:A:H8	1.73	0.51
4:3:2744:A:H2'	4:3:2745:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:614:ASP:HA	9:8:854:GLN:NE2	2.27	0.51
11:A:88:LYS:HB2	11:A:92:VAL:HG12	1.93	0.51
36:Z:33:GLU:HG3	36:Z:99:ARG:HE	1.75	0.51
36:Z:595:ILE:HD12	36:Z:612:VAL:HG22	1.93	0.51
50:o:92:ARG:HB3	50:o:115:LYS:HD2	1.93	0.51
61:z:8:ARG:HD3	61:z:17:ILE:HG23	1.93	0.51
4:3:148:U:H2'	4:3:149:A:C8	2.47	0.50
4:3:715:G:OP2	4:3:811:G:N1	2.44	0.50
4:3:1305:G:C6	4:3:1322:A:C6	2.99	0.50
4:3:2321:C:H5'	40:d:88:LYS:HE2	1.93	0.50
5:4:3:U:OP1	5:4:59:A:O2'	2.29	0.50
6:5:435:U:O2'	6:5:437:U:O4	2.29	0.50
6:5:500:G:H2'	6:5:501:A:C8	2.46	0.50
6:5:590:G:H2'	6:5:591:A:H8	1.76	0.50
6:5:1230:G:N7	6:5:1254:A:N6	2.59	0.50
10:9:68:ARG:NH2	36:Z:1207:MET:HB2	2.25	0.50
14:AD:38:GLU:OE2	14:AD:104:SER:OG	2.23	0.50
17:D:176:SER:OG	17:D:177:ASP:OD1	2.28	0.50
36:Z:167:ASP:O	36:Z:173:SER:HA	2.11	0.50
39:c:116:TRP:CZ2	39:c:186:VAL:HG21	2.46	0.50
53:r:9:ARG:H	53:r:102:ASN:HA	1.77	0.50
61:z:5:ARG:HB2	61:z:22:PHE:HB3	1.93	0.50
4:3:192:U:H5''	57:v:14:TYR:CD1	2.46	0.50
4:3:385:U:H2'	4:3:386:U:C6	2.46	0.50
4:3:1081:A:H61	34:U:7:LYS:C	2.00	0.50
4:3:1164:A:O2'	4:3:2523:C:O2'	2.19	0.50
4:3:1196:U:H2'	4:3:1197:G:C8	2.47	0.50
4:3:1691:U:H2'	4:3:1692:A:C8	2.47	0.50
4:3:2144:C:H2'	4:3:2145:A:C8	2.44	0.50
4:3:2312:G:H1	4:3:2320:U:H3	1.57	0.50
4:3:2352:U:H2'	61:z:34:LEU:HD22	1.92	0.50
6:5:283:U:H2'	6:5:284:A:C8	2.47	0.50
6:5:441:U:H2'	6:5:442:G:C8	2.46	0.50
6:5:885:U:C2	6:5:901:A:N7	2.80	0.50
6:5:1156:G:H1'	6:5:1157:G:C4	2.46	0.50
9:8:381:ARG:HH22	9:8:551:GLU:CD	2.20	0.50
9:8:1018:ASP:O	9:8:1049:GLN:HG2	2.11	0.50
13:AC:10:DG:H5''	36:Z:118:LEU:CB	2.42	0.50
17:D:181:LYS:NZ	17:D:182:ASN:O	2.40	0.50
38:b:30:TYR:OH	38:b:32:GLU:OE2	2.23	0.50
44:i:3:LYS:N	52:q:12:TYR:HH	2.08	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:130:C:H2'	4:3:131:C:C6	2.47	0.50
4:3:673:A:OP1	46:k:117:HIS:HB2	2.11	0.50
4:3:904:C:H42	4:3:949:C:H1'	1.76	0.50
4:3:1187:C:C5'	51:p:79:ILE:HG21	2.42	0.50
4:3:1224:G:H2'	4:3:1225:A:C8	2.47	0.50
4:3:1451:A:H2'	4:3:1452:G:H8	1.76	0.50
6:5:1219:C:H2'	6:5:1220:A:H8	1.76	0.50
9:8:661:THR:HG21	36:Z:875:ARG:CZ	2.42	0.50
9:8:770:PHE:HB3	9:8:773:ASN:HD22	1.75	0.50
9:8:913:GLU:CD	9:8:917:LYS:HE3	2.36	0.50
40:d:33:LYS:HD3	40:d:92:ARG:HH11	1.76	0.50
4:3:325:G:H1	4:3:383:U:H3	1.58	0.50
4:3:725:G:H4'	37:a:225:ARG:HH22	1.77	0.50
4:3:1024:A:N1	4:3:1025:G:N2	2.59	0.50
4:3:1073:A:H2'	4:3:1074:A:C8	2.46	0.50
4:3:1609:U:H2'	4:3:1610:U:C6	2.46	0.50
4:3:1820:U:O2'	4:3:1821:G:OP1	2.26	0.50
4:3:1834:U:H2'	4:3:1835:G:O4'	2.12	0.50
4:3:2072:C:H2'	4:3:2073:C:H6	1.76	0.50
4:3:2235:A:H5''	37:a:271:LYS:HE3	1.93	0.50
4:3:2478:G:O6	4:3:2489:G:N2	2.43	0.50
4:3:2561:G:N2	4:3:2591:G:H21	2.09	0.50
4:3:2743:U:H2'	4:3:2744:A:H8	1.77	0.50
6:5:57:U:N3	6:5:58:G:O6	2.44	0.50
6:5:385:A:H3'	6:5:386:U:C6	2.46	0.50
6:5:506:U:O2	6:5:507:A:N6	2.45	0.50
6:5:830:U:H3	6:5:847:G:H1	1.59	0.50
6:5:1096:A:H2'	6:5:1097:G:H8	1.76	0.50
6:5:1331:A:H61	6:5:1340:G:H1	0.64	0.50
7:6:73:MET:HE3	7:6:143:PHE:CD2	2.46	0.50
9:8:101:GLU:HG2	9:8:110:ILE:HG23	1.93	0.50
9:8:570:ILE:CG2	9:8:574:GLY:HA2	2.41	0.50
9:8:1273:GLN:CD	36:Z:402:ASN:ND2	2.64	0.50
10:9:5:TYR:HE2	10:9:48:LEU:CD2	2.15	0.50
23:J:119:ARG:HB2	33:T:34:TYR:HB2	1.93	0.50
36:Z:1043:LEU:HD21	36:Z:1122:GLY:HA2	1.94	0.50
48:m:28:TYR:OH	48:m:71:ASN:OD1	2.26	0.50
49:n:8:ARG:NH1	49:n:9:ARG:HE	2.09	0.50
53:r:49:LYS:HA	53:r:52:ASN:HD21	1.75	0.50
4:3:118:G:OP2	4:3:120:A:O2'	2.25	0.50
4:3:663:A:N3	4:3:672:G:N2	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1176:U:H4'	4:3:1177:A:O4'	2.12	0.50
4:3:1290:G:H2'	4:3:1291:C:C6	2.46	0.50
4:3:2017:G:H2'	4:3:2018:U:C6	2.46	0.50
4:3:2100:G:N7	4:3:2233:A:H2'	2.26	0.50
4:3:2301:C:H2'	4:3:2302:C:C6	2.46	0.50
4:3:2843:G:H2'	4:3:2844:U:C6	2.46	0.50
6:5:318:C:H2'	6:5:319:U:H6	1.75	0.50
6:5:319:U:O3'	32:S:17:ARG:NH2	2.44	0.50
6:5:937:G:H1	6:5:1315:U:H3	1.60	0.50
6:5:1353:C:H5''	19:F:5:ARG:HH12	1.77	0.50
9:8:219:GLU:HG3	12:AB:21:DC:H41	1.72	0.50
9:8:774:ASP:O	36:Z:867:TYR:HE2	1.94	0.50
9:8:994:LEU:HD21	16:C:40:ASN:O	2.11	0.50
11:A:181:PRO:HB3	11:A:188:VAL:HG11	1.92	0.50
7:AA:173:ILE:HD12	7:AA:180:ALA:HB2	1.92	0.50
14:AD:74:TRP:CZ2	14:AD:84:LYS:HD2	2.47	0.50
45:j:50:GLY:O	45:j:53:LYS:NZ	2.41	0.50
4:3:14:U:O4	4:3:2634:C:O2'	2.30	0.50
4:3:606:G:O6	4:3:2036:G:O2'	2.24	0.50
4:3:609:U:H2'	4:3:610:G:C8	2.47	0.50
4:3:1222:A:H2'	4:3:1223:C:C6	2.47	0.50
4:3:2297:G:N2	4:3:2354:A:OP1	2.44	0.50
4:3:2494:C:H2'	4:3:2495:A:C8	2.47	0.50
4:3:2794:U:H2'	4:3:2795:C:C6	2.47	0.50
4:3:2799:U:N3	4:3:2810:A:N6	2.60	0.50
5:4:31:G:N2	5:4:34:U:O4	2.45	0.50
6:5:58:G:H2'	6:5:59:C:C6	2.46	0.50
6:5:442:G:H2'	6:5:443:G:C8	2.47	0.50
6:5:631:C:H2'	6:5:632:A:C8	2.46	0.50
6:5:649:U:H1'	6:5:650:A:C8	2.47	0.50
6:5:1147:U:H2'	6:5:1148:U:C6	2.47	0.50
6:5:1175:C:OP1	6:5:1176:A:O2'	2.24	0.50
9:8:1370:ILE:HD12	36:Z:94:ILE:HG12	1.91	0.50
7:AA:85:LYS:NZ	36:Z:602:GLU:OE1	2.37	0.50
24:K:94:LEU:HD22	24:K:111:VAL:HB	1.94	0.50
27:N:20:GLY:HA2	27:N:25:GLN:HE22	1.77	0.50
36:Z:47:LEU:HD21	36:Z:320:PHE:CZ	2.47	0.50
37:a:213:ILE:HD13	37:a:222:ARG:HH12	1.77	0.50
39:c:145:GLN:NE2	39:c:145:GLN:O	2.45	0.50
40:d:14:LYS:HB2	40:d:18:LYS:HZ3	1.77	0.50
58:w:55:LEU:O	58:w:59:THR:HG23	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:590:U:H2'	4:3:591:G:H8	1.77	0.50
4:3:1028:C:H2'	4:3:1029:A:H8	1.77	0.50
4:3:1104:A:H5''	4:3:1105:A:C8	2.47	0.50
4:3:1306:G:H2'	4:3:1307:G:C8	2.46	0.50
4:3:1461:A:H2'	4:3:1462:A:C8	2.47	0.50
4:3:1480:A:O2'	4:3:2710:G:O6	2.21	0.50
4:3:1838:A:H2'	4:3:1839:C:C6	2.46	0.50
4:3:2213:A:H2'	4:3:2214:A:C8	2.47	0.50
4:3:2635:G:O2'	4:3:2789:A:N1	2.36	0.50
4:3:2849:G:H2'	4:3:2850:G:C8	2.47	0.50
6:5:671:G:H2'	6:5:672:A:H8	1.77	0.50
6:5:882:U:H3'	6:5:883:A:H8	1.76	0.50
6:5:1222:U:H2'	6:5:1223:A:C8	2.46	0.50
8:7:12:C:N4	8:7:25:G:O6	2.43	0.50
9:8:1291:VAL:HG21	36:Z:405:GLY:HA2	1.94	0.50
9:8:1307:LEU:CD2	36:Z:406:LYS:CD	2.90	0.50
10:9:53:TYR:CE1	10:9:57:LEU:CD1	2.95	0.50
11:A:29:HIS:CD2	11:A:56:PHE:HB2	2.45	0.50
16:C:72:ARG:HH12	16:C:202:ARG:HH21	1.59	0.50
28:O:14:VAL:HA	28:O:30:ILE:HD13	1.93	0.50
30:Q:58:GLU:O	30:Q:62:ARG:HG3	2.12	0.50
36:Z:113:TRP:CD1	36:Z:1238:LYS:HE3	2.47	0.50
37:a:56:ARG:NH1	37:a:228:VAL:O	2.45	0.50
37:a:252:ASP:N	37:a:252:ASP:OD1	2.44	0.50
53:r:124:LEU:O	53:r:128:ARG:HG3	2.12	0.50
55:t:9:LYS:HB2	55:t:79:GLN:HE21	1.77	0.50
61:z:32:LEU:HD21	61:z:34:LEU:HD12	1.94	0.50
4:3:322:A:H2'	4:3:323:A:C8	2.47	0.50
4:3:482:G:H5'	51:p:2:ARG:NH2	2.27	0.50
4:3:655:G:H3'	4:3:656:G:H21	1.77	0.50
4:3:931:G:H2'	4:3:932:U:H4'	1.94	0.50
4:3:2575:G:H2'	4:3:2576:A:C8	2.47	0.50
4:3:2602:C:N4	4:3:2603:G:O6	2.44	0.50
5:4:27:A:O2'	5:4:56:A:N1	2.41	0.50
6:5:442:G:H2'	6:5:443:G:H8	1.77	0.50
6:5:679:U:H2'	6:5:680:G:H8	1.77	0.50
6:5:1051:U:H2'	6:5:1052:G:C8	2.46	0.50
7:6:49:CYS:SG	7:AA:34:PHE:HE2	2.34	0.50
7:6:163:PHE:CB	9:8:917:LYS:HE2	2.41	0.50
8:7:36:A:H2'	8:7:37:A:C8	2.47	0.50
8:7:38:G:H3'	8:7:39:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:37:GLN:HG3	9:8:150:PHE:CZ	2.46	0.50
9:8:1262:ARG:HD2	9:8:1281:ASN:O	2.12	0.50
10:9:64:TYR:CZ	36:Z:1210:ILE:CD1	2.95	0.50
12:AB:14:DA:O3'	14:AD:95:ARG:NH2	2.44	0.50
36:Z:310:ARG:HD2	36:Z:326:ASN:OD1	2.12	0.50
36:Z:876:LYS:CG	36:Z:1030:ARG:HH12	1.86	0.50
46:k:13:ARG:HD2	46:k:13:ARG:O	2.12	0.50
50:o:54:ARG:HG3	50:o:100:TYR:CE1	2.45	0.50
4:3:199:A:H61	4:3:202:C:H3'	1.76	0.50
4:3:769:A:H3'	4:3:770:A:H8	1.76	0.50
4:3:859:G:H21	4:3:2366:A:N6	2.09	0.50
4:3:1260:U:O2'	53:r:132:GLN:OE1	2.26	0.50
4:3:1416:G:H2'	4:3:1417:G:H8	1.77	0.50
4:3:1730:C:H4'	37:a:11:ASN:OD1	2.12	0.50
4:3:1934:A:H2'	4:3:1935:A:C8	2.47	0.50
4:3:2331:G:O2'	4:3:2332:U:H5'	2.12	0.50
4:3:2412:A:O3'	46:k:69:ARG:NH2	2.44	0.50
4:3:2694:A:H2'	4:3:2695:U:C6	2.46	0.50
6:5:441:U:H2'	6:5:442:G:H8	1.76	0.50
6:5:704:U:H2'	6:5:705:A:H8	1.77	0.50
6:5:714:C:H4'	23:J:112:ASN:OD1	2.12	0.50
9:8:171:LEU:HD12	9:8:195:LEU:HD12	1.94	0.50
9:8:933:CYS:SG	9:8:941:GLU:O	2.70	0.50
13:AC:14:DG:O4'	36:Z:889:GLY:HA3	2.11	0.50
16:C:145:LYS:HG2	16:C:147:LYS:H	1.76	0.50
19:F:132:ALA:O	19:F:135:LYS:NZ	2.45	0.50
23:J:119:ARG:HH12	33:T:36:LEU:HD13	1.76	0.50
26:M:3:LYS:HG3	26:M:4:LYS:HD3	1.93	0.50
45:j:43:VAL:HG13	45:j:54:LYS:HA	1.94	0.50
53:r:12:ILE:HD11	53:r:46:LEU:HD13	1.93	0.50
4:3:511:U:H4'	4:3:545:C:H5''	1.94	0.49
4:3:945:U:OP1	47:l:22:LYS:HG3	2.12	0.49
4:3:1437:A:H2'	4:3:1438:G:C8	2.47	0.49
4:3:1511:C:H42	4:3:1512:A:N6	2.11	0.49
4:3:1710:A:H2'	4:3:1711:A:O4'	2.13	0.49
4:3:1959:A:N3	45:j:22:ILE:HD11	2.27	0.49
4:3:2061:A:N6	4:3:2585:A:H61	1.93	0.49
4:3:2477:A:H2'	4:3:2478:G:O4'	2.12	0.49
6:5:91:C:H2'	6:5:92:G:C8	2.47	0.49
6:5:843:C:H2'	6:5:844:U:H6	1.77	0.49
6:5:1098:C:OP1	15:B:176:MET:N	2.39	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:b:185:ASP:HB3	38:b:190:LEU:H	1.76	0.49
47:l:24:ASN:OD1	47:l:67:ARG:NH1	2.44	0.49
48:m:102:LYS:HG2	60:y:48:TYR:HE1	1.77	0.49
2:1:26:THR:HG22	2:1:41:LEU:HD22	1.94	0.49
4:3:572:G:N2	4:3:590:U:O4	2.45	0.49
4:3:606:G:N2	4:3:2038:A:OP1	2.40	0.49
4:3:694:U:H2'	4:3:695:G:H8	1.77	0.49
4:3:772:C:N4	4:3:773:G:O6	2.46	0.49
4:3:815:G:O2'	4:3:817:A:N7	2.45	0.49
4:3:984:C:H2'	4:3:985:A:H8	1.76	0.49
4:3:987:U:H2'	4:3:988:G:C8	2.47	0.49
4:3:1176:U:O2	4:3:1177:A:N6	2.45	0.49
4:3:1246:U:H2'	4:3:1247:C:C6	2.47	0.49
6:5:259:A:C8	6:5:260:C:H5	2.29	0.49
6:5:601:U:H2'	6:5:602:G:C8	2.47	0.49
6:5:654:U:O2'	27:N:25:GLN:NE2	2.43	0.49
8:7:70:G:H2'	8:7:71:A:C8	2.47	0.49
8:7:76:C:H3'	8:7:77:A:H8	1.77	0.49
9:8:1352:SER:HG	36:Z:31:TRP:HZ2	0.54	0.49
9:8:1370:ILE:CG2	36:Z:94:ILE:HG21	2.36	0.49
12:AB:17:DT:C2'	12:AB:18:DG:C8	2.92	0.49
36:Z:312:ILE:HG12	36:Z:322:THR:HG22	1.94	0.49
49:n:8:ARG:HH12	49:n:9:ARG:HE	1.60	0.49
52:q:68:VAL:H	52:q:86:ARG:HH11	1.59	0.49
4:3:133:G:H2'	4:3:134:U:H6	1.77	0.49
4:3:200:A:H61	4:3:866:G:H21	1.61	0.49
4:3:343:A:H1'	4:3:363:G:C2	2.47	0.49
4:3:485:A:H1'	51:p:2:ARG:HH12	1.76	0.49
4:3:866:G:O2'	46:k:39:GLN:OE1	2.22	0.49
4:3:986:G:H2'	4:3:987:U:H6	1.77	0.49
4:3:1378:C:N4	4:3:1379:C:N4	2.60	0.49
4:3:1436:C:H2'	4:3:1437:A:C8	2.47	0.49
4:3:1784:U:H2'	4:3:1785:U:H6	1.77	0.49
4:3:2378:G:H2'	4:3:2379:G:C8	2.47	0.49
4:3:2405:G:N2	4:3:2427:U:O2	2.36	0.49
6:5:357:G:H2'	6:5:358:G:O4'	2.13	0.49
6:5:431:U:H4'	14:AD:54:VAL:HB	1.94	0.49
9:8:169:LEU:CD2	12:AB:25:DC:N3	2.71	0.49
9:8:1342:LEU:H	36:Z:398:LEU:HD21	1.77	0.49
9:8:1371:LEU:CG	36:Z:95:VAL:CG1	2.57	0.49
7:AA:111:LEU:HD21	7:AA:156:TYR:CE1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:F:35:LYS:O	19:F:38:ALA:N	2.46	0.49
26:M:24:CYS:HB2	26:M:40:CYS:H	1.77	0.49
46:k:94:ASN:HD21	46:k:96:ALA:HB3	1.77	0.49
4:3:768:G:H3'	4:3:796:A:H61	1.78	0.49
4:3:1080:A:H5''	4:3:1082:A:O4'	2.12	0.49
4:3:1119:A:C2	34:U:29:TYR:OH	2.64	0.49
4:3:1190:A:O3'	51:p:54:ARG:NH2	2.42	0.49
4:3:1292:A:N6	4:3:2024:C:H42	2.10	0.49
4:3:2039:G:H1'	38:b:154:ALA:H	1.76	0.49
4:3:2100:G:H2'	4:3:2101:A:H8	1.78	0.49
4:3:2268:C:H2'	4:3:2269:C:C6	2.47	0.49
6:5:818:A:H2'	6:5:819:G:C8	2.46	0.49
6:5:1123:G:OP1	21:H:20:TYR:OH	2.29	0.49
6:5:1316:C:H4'	21:H:129:PHE:HB3	1.93	0.49
9:8:162:TYR:HA	9:8:522:ASP:OD2	2.12	0.49
9:8:166:LYS:HE3	9:8:178:VAL:HG11	1.94	0.49
13:AC:27:DA:OP1	14:AD:18:LYS:HB2	2.13	0.49
15:B:13:GLY:O	26:M:57:LYS:NZ	2.46	0.49
16:C:22:ASN:N	36:Z:85:ARG:NH2	2.58	0.49
37:a:112:PRO:HD2	37:a:115:ILE:HD13	1.93	0.49
37:a:113:ASP:OD1	37:a:114:GLY:N	2.46	0.49
50:o:67:ARG:NH1	50:o:76:GLU:OE1	2.45	0.49
52:q:57:CYS:HA	52:q:94:VAL:HA	1.94	0.49
3:2:15:LYS:NZ	3:2:16:ILE:O	2.37	0.49
4:3:202:C:O2'	4:3:203:A:H5'	2.12	0.49
4:3:352:C:H2'	4:3:353:G:C8	2.47	0.49
4:3:597:C:O2'	4:3:1283:A:N1	2.41	0.49
4:3:1009:A:H5'	4:3:1219:U:H1'	1.94	0.49
6:5:483:U:H2'	6:5:484:A:C8	2.47	0.49
6:5:1052:G:O6	6:5:1172:A:N6	2.45	0.49
6:5:1377:C:H2'	6:5:1378:C:O4'	2.13	0.49
9:8:1344:LYS:CD	36:Z:306:PRO:HD3	2.14	0.49
11:A:38:ASN:OD1	11:A:40:LYS:HG2	2.13	0.49
23:J:53:PRO:HB2	23:J:88:THR:HG21	1.94	0.49
24:K:40:SER:OG	24:K:42:LEU:O	2.30	0.49
26:M:23:ARG:O	26:M:25:GLN:NE2	2.45	0.49
36:Z:192:ILE:HA	36:Z:200:TYR:CE2	2.48	0.49
39:c:4:LEU:HB3	39:c:20:LEU:HD21	1.93	0.49
53:r:77:ASN:HB2	53:r:102:ASN:HB2	1.94	0.49
4:3:81:C:H2'	4:3:82:G:H8	1.77	0.49
4:3:116:C:H2'	4:3:117:C:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1393:A:O3'	57:v:4:LYS:NZ	2.46	0.49
4:3:1833:G:H2'	4:3:1834:U:C6	2.47	0.49
4:3:2292:A:O2'	4:3:2296:A:N1	2.32	0.49
6:5:141:A:H2'	6:5:142:G:H8	1.77	0.49
6:5:293:G:N2	6:5:295:G:OP1	2.46	0.49
6:5:939:G:N2	6:5:1312:G:H3'	2.28	0.49
6:5:966:A:HO2'	6:5:1340:G:HO2'	1.55	0.49
6:5:977:U:H5'	6:5:978:A:C8	2.48	0.49
6:5:1138:U:H2'	6:5:1139:A:C8	2.48	0.49
6:5:1183:C:H2'	6:5:1184:C:H6	1.78	0.49
6:5:1214:A:H62	6:5:1273:A:N6	2.09	0.49
6:5:1323:A:H3'	6:5:1324:A:H8	1.78	0.49
6:5:1348:G:H4'	19:F:30:MET:HE3	1.94	0.49
6:5:1408:A:N7	6:5:1443:A:N6	2.61	0.49
9:8:1297:TYR:CD1	36:Z:554:LEU:HD23	2.47	0.49
9:8:1348:GLY:HA3	36:Z:388:LEU:HD13	1.70	0.49
33:T:22:SER:HA	33:T:25:ILE:HG12	1.95	0.49
33:T:27:ARG:O	33:T:31:ARG:NH1	2.46	0.49
36:Z:821:PHE:HB3	36:Z:825:PHE:CZ	2.48	0.49
39:c:127:LEU:HD21	39:c:201:LYS:HB3	1.95	0.49
44:i:91:SER:N	44:i:94:ASP:OD2	2.43	0.49
61:z:8:ARG:HD3	61:z:17:ILE:HD12	1.95	0.49
4:3:155:A:C6	4:3:178:A:N1	2.80	0.49
4:3:1389:G:H2'	4:3:1390:C:H6	1.77	0.49
4:3:2118:U:C2	4:3:2125:U:H4'	2.48	0.49
4:3:2332:U:N3	4:3:2339:G:N1	2.45	0.49
4:3:2599:C:H2'	4:3:2600:G:C8	2.47	0.49
6:5:308:C:H2'	6:5:309:A:C8	2.47	0.49
6:5:1016:A:H2'	6:5:1017:A:C8	2.48	0.49
6:5:1497:U:OP1	23:J:121:ARG:NH2	2.29	0.49
9:8:374:CYS:HB3	9:8:459:VAL:HG11	1.92	0.49
15:B:8:ASN:OD1	15:B:9:GLY:N	2.44	0.49
21:H:86:VAL:HA	21:H:89:LEU:HG	1.94	0.49
37:a:20:ILE:HB	37:a:22:TYR:CZ	2.48	0.49
4:3:161:U:H2'	4:3:162:G:O4'	2.12	0.49
4:3:178:A:H2'	4:3:179:A:C8	2.48	0.49
4:3:1982:G:H2'	4:3:1983:U:O4'	2.13	0.49
4:3:2078:A:H2'	4:3:2079:G:C8	2.48	0.49
4:3:2315:G:N2	4:3:2319:A:O2'	2.44	0.49
4:3:2580:A:H5''	4:3:2582:G:H4'	1.94	0.49
4:3:2644:U:H2'	4:3:2645:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2832:G:H2'	4:3:2833:A:C8	2.47	0.49
4:3:2840:U:H2'	4:3:2841:A:H8	1.77	0.49
6:5:85:U:O2	6:5:86:A:N6	2.42	0.49
6:5:223:G:H2'	6:5:224:A:H8	1.77	0.49
6:5:429:A:C2	14:AD:59:SER:HB2	2.48	0.49
6:5:432:U:H2'	6:5:433:C:H6	1.78	0.49
6:5:823:C:O2'	20:G:21:LYS:NZ	2.30	0.49
6:5:885:U:H2'	6:5:886:A:C8	2.48	0.49
6:5:1135:U:O4'	6:5:1157:G:N2	2.46	0.49
6:5:1213:A:OP1	6:5:1310:C:N4	2.45	0.49
6:5:1297:G:H2'	6:5:1298:U:O4'	2.13	0.49
9:8:563:GLY:HA2	9:8:566:ARG:HG3	1.94	0.49
9:8:636:ILE:CD1	9:8:645:ILE:HG21	2.42	0.49
9:8:1370:ILE:CG2	36:Z:94:ILE:CG2	2.89	0.49
14:AD:108:TRP:CZ3	14:AD:120:ILE:HD12	2.47	0.49
18:E:101:ASN:C	18:E:103:LYS:H	2.21	0.49
20:G:36:ILE:HA	20:G:69:ILE:HG22	1.94	0.49
22:I:89:ALA:O	22:I:93:LEU:HG	2.12	0.49
23:J:14:ILE:HG23	23:J:77:LEU:HA	1.94	0.49
36:Z:906:HIS:HD2	36:Z:987:ARG:NH2	2.10	0.49
36:Z:986:GLU:HA	36:Z:1192:HIS:CE1	2.48	0.49
44:i:72:LYS:HA	44:i:92:GLY:HA3	1.95	0.49
4:3:241:C:H2'	4:3:242:G:C8	2.48	0.49
4:3:1282:G:H21	51:p:32:LYS:HA	1.77	0.49
4:3:2123:A:N7	4:3:2169:G:O2'	2.46	0.49
4:3:2134:G:H2'	4:3:2135:C:C6	2.48	0.49
4:3:2561:G:H21	4:3:2590:G:H21	1.61	0.49
6:5:34:A:H4'	6:5:360:A:N3	2.28	0.49
6:5:733:A:H2'	6:5:734:A:C8	2.48	0.49
6:5:775:G:H1'	23:J:114:CYS:SG	2.53	0.49
6:5:927:C:H42	6:5:1360:G:H1	1.59	0.49
6:5:1197:G:OP1	6:5:1295:U:O2'	2.26	0.49
6:5:1425:A:H2'	6:5:1427:U:H3	1.78	0.49
7:6:35:VAL:HG21	7:6:207:ASP:HB3	1.95	0.49
9:8:65:ARG:HA	9:8:105:SER:OG	2.12	0.49
9:8:649:HIS:HD2	36:Z:837:TYR:CZ	1.91	0.49
9:8:956:ARG:CG	15:B:74:PRO:HG2	2.42	0.49
11:A:120:PHE:HA	11:A:123:LEU:HB2	1.93	0.49
15:B:92:ILE:HA	15:B:95:ILE:HG22	1.95	0.49
17:D:185:ARG:HE	17:D:186:ASN:H	1.61	0.49
19:F:110:ARG:HH11	19:F:122:GLU:HG3	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:11:HIS:HB3	20:G:17:ASP:OD1	2.12	0.49
22:I:73:LYS:NZ	22:I:75:ARG:HE	2.11	0.49
36:Z:488:ASP:CA	36:Z:551:ARG:HH21	2.26	0.49
41:e:94:GLY:HA2	41:e:163:LYS:HE2	1.95	0.49
42:f:10:SER:HG	42:f:14:LYS:HZ3	1.52	0.49
46:k:90:LEU:HD21	46:k:97:SER:HB2	1.94	0.49
46:k:95:ARG:NH1	46:k:110:LEU:O	2.46	0.49
48:m:18:VAL:O	48:m:22:VAL:HG13	2.12	0.49
53:r:86:ILE:HD12	53:r:87:PRO:HD2	1.95	0.49
4:3:615:G:H2'	4:3:616:G:C8	2.48	0.49
4:3:740:A:H2'	4:3:741:A:O4'	2.13	0.49
4:3:1201:A:H2'	4:3:1202:A:C8	2.47	0.49
4:3:1389:G:H2'	4:3:1390:C:C6	2.47	0.49
4:3:1648:A:OP1	4:3:1651:C:N4	2.45	0.49
4:3:1797:C:H5'	37:a:226:PRO:HB3	1.94	0.49
4:3:2301:C:H2'	4:3:2302:C:H6	1.78	0.49
4:3:2331:G:H22	4:3:2340:U:H2'	1.78	0.49
6:5:249:U:H3	6:5:269:A:N6	2.08	0.49
6:5:673:A:H2'	6:5:674:U:H6	1.77	0.49
6:5:822:A:H2'	6:5:823:C:C6	2.48	0.49
6:5:833:G:N2	6:5:844:U:O2	2.30	0.49
6:5:1013:C:H2'	6:5:1014:A:N9	2.28	0.49
6:5:1214:A:H1'	6:5:1216:G:C5	2.48	0.49
6:5:1245:A:H2'	6:5:1246:A:C8	2.45	0.49
6:5:1255:A:H3'	6:5:1256:U:H6	1.77	0.49
6:5:1303:A:OP1	25:L:27:LEU:N	2.29	0.49
10:9:58:GLU:CG	36:Z:1213:ASN:HD21	2.22	0.49
14:AD:74:TRP:CZ3	14:AD:84:LYS:HB2	2.48	0.49
19:F:21:LEU:O	19:F:25:ILE:HG12	2.13	0.49
24:K:115:LEU:HG	24:K:116:ASP:H	1.77	0.49
24:K:121:GLU:C	24:K:123:ARG:N	2.71	0.49
34:U:22:ALA:HB3	34:U:86:VAL:O	2.12	0.49
44:i:109:LYS:HB3	44:i:122:ILE:HD12	1.95	0.49
52:q:47:ALA:HB3	52:q:48:PRO:HD3	1.94	0.49
4:3:24:U:H2'	4:3:25:G:C8	2.47	0.48
4:3:112:A:O2'	4:3:113:U:O4'	2.26	0.48
4:3:352:C:H2'	4:3:353:G:H8	1.79	0.48
4:3:474:U:H2'	4:3:475:A:C8	2.47	0.48
4:3:853:G:N1	4:3:1219:U:OP2	2.39	0.48
4:3:891:G:H2'	4:3:892:G:C8	2.48	0.48
4:3:1119:A:N1	34:U:29:TYR:HE2	2.03	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1504:G:H1	4:3:1539:U:H3	1.60	0.48
4:3:1803:U:H2'	4:3:1804:A:C8	2.48	0.48
4:3:2406:U:H2'	4:3:2407:G:C8	2.48	0.48
5:4:47:C:P	49:n:101:ARG:HE	2.36	0.48
6:5:858:A:H2'	6:5:859:A:C8	2.47	0.48
6:5:905:U:H2'	6:5:906:C:C6	2.48	0.48
6:5:1088:C:OP1	11:A:158:ARG:NH1	2.46	0.48
9:8:1289:MET:HG3	13:AC:15:DA:H5''	1.94	0.48
9:8:1349:LEU:HD22	36:Z:368:PHE:HB3	1.94	0.48
15:B:14:ILE:HG12	15:B:181:LEU:HD21	1.94	0.48
18:E:13:LEU:HD12	18:E:17:GLN:HE22	1.77	0.48
19:F:131:GLY:HA2	19:F:134:ILE:HB	1.95	0.48
24:K:86:ASN:HD22	24:K:118:VAL:N	2.10	0.48
37:a:146:GLN:HG3	37:a:169:ARG:HD3	1.94	0.48
38:b:11:VAL:HG23	38:b:28:VAL:HG23	1.94	0.48
38:b:109:ASP:HB3	38:b:208:ARG:HE	1.78	0.48
38:b:165:MET:HE3	38:b:166:SER:N	2.28	0.48
51:p:73:MET:HE1	51:p:78:PHE:HB2	1.94	0.48
53:r:133:GLN:HB3	53:r:137:MET:HE1	1.95	0.48
54:s:35:ALA:O	54:s:79:LYS:NZ	2.45	0.48
4:3:53:G:N2	4:3:119:A:H62	2.09	0.48
4:3:155:A:H2'	4:3:156:A:H8	1.74	0.48
4:3:404:C:H2'	4:3:405:C:C6	2.48	0.48
4:3:1227:C:H2'	4:3:1228:G:H8	1.77	0.48
4:3:1801:U:O2	4:3:1832:G:N2	2.30	0.48
4:3:2324:A:H2'	4:3:2325:U:C6	2.48	0.48
4:3:2325:U:H2'	4:3:2326:G:O4'	2.13	0.48
6:5:1182:C:C4	6:5:1183:C:N4	2.80	0.48
9:8:168:GLN:HG3	9:8:524:ILE:HD13	1.95	0.48
9:8:1051:ARG:HH11	9:8:1254:MET:HE3	1.78	0.48
9:8:1126:CYS:SG	9:8:1153:LEU:HD23	2.54	0.48
9:8:1269:LYS:CD	36:Z:313:ILE:CB	2.81	0.48
33:T:20:ARG:O	33:T:23:LEU:N	2.46	0.48
37:a:125:GLU:HG3	37:a:137:PRO:HG2	1.95	0.48
39:c:164:LEU:HD21	39:c:182:HIS:HD2	1.78	0.48
39:c:201:LYS:HA	39:c:204:LEU:HG	1.94	0.48
50:o:54:ARG:NH2	50:o:65:ILE:HG13	2.28	0.48
1:0:9:LYS:HG3	1:0:10:LEU:HD22	1.94	0.48
4:3:189:U:H2'	4:3:190:G:C8	2.49	0.48
4:3:224:G:H1	4:3:463:U:H3'	1.78	0.48
4:3:530:G:H5''	53:r:4:PHE:CE2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:650:G:H1	39:c:185:LYS:HD2	1.78	0.48
4:3:650:G:O6	39:c:185:LYS:NZ	2.45	0.48
4:3:720:A:H5''	4:3:809:A:H62	1.78	0.48
4:3:845:U:C5	46:k:30:LYS:HD3	2.49	0.48
4:3:1116:U:H2'	4:3:1117:U:C6	2.48	0.48
4:3:1653:C:N4	4:3:1654:G:O6	2.45	0.48
4:3:2001:C:H2'	4:3:2002:U:C6	2.48	0.48
4:3:2063:G:H2'	4:3:2064:G:C8	2.48	0.48
4:3:2547:C:H2'	4:3:2548:G:C8	2.48	0.48
5:4:61:A:H2'	5:4:62:G:C8	2.47	0.48
6:5:372:G:O2'	6:5:373:A:H5'	2.13	0.48
6:5:1493:A:H2'	6:5:1494:A:C4	2.49	0.48
7:6:44:ARG:NH1	9:8:1077:ASP:OD1	2.46	0.48
9:8:1288:GLU:OE2	36:Z:893:ARG:NH1	2.47	0.48
9:8:1289:MET:HE3	13:AC:14:DG:C2'	2.36	0.48
14:AD:108:TRP:CZ3	14:AD:130:PRO:HG3	2.48	0.48
15:B:59:GLU:HG3	22:I:100:VAL:HG22	1.94	0.48
22:I:78:ARG:HD3	22:I:79:LEU:N	2.28	0.48
31:R:22:MET:HG3	31:R:27:LYS:HD2	1.95	0.48
36:Z:828:ARG:NH1	36:Z:870:SER:CB	2.76	0.48
40:d:29:PRO:HB3	40:d:160:THR:HG23	1.94	0.48
40:d:57:LEU:HD23	40:d:65:PRO:HB3	1.95	0.48
45:j:6:THR:H	45:j:21:ILE:HG22	1.77	0.48
45:j:18:GLN:HB3	45:j:45:ASP:HB2	1.95	0.48
52:q:4:ILE:HB	52:q:39:LEU:O	2.13	0.48
4:3:329:G:O6	4:3:377:U:O4	2.30	0.48
4:3:694:U:H2'	4:3:695:G:C8	2.48	0.48
4:3:2000:U:H5''	38:b:133:LEU:HD12	1.96	0.48
4:3:2843:G:O6	4:3:2881:A:N6	2.47	0.48
6:5:405:C:H2'	6:5:406:G:O4'	2.14	0.48
6:5:1156:G:H1'	6:5:1157:G:C5	2.47	0.48
6:5:1321:G:C8	21:H:111:ARG:HG2	2.49	0.48
6:5:1425:A:O2'	6:5:1428:A:N6	2.46	0.48
9:8:950:VAL:HB	9:8:955:LYS:HE3	1.95	0.48
9:8:1342:LEU:N	36:Z:398:LEU:HD21	2.27	0.48
9:8:1349:LEU:C	36:Z:368:PHE:CZ	2.91	0.48
7:AA:205:ILE:HD13	36:Z:513:ASP:OD2	2.10	0.48
14:AD:9:GLN:OE1	14:AD:132:PRO:HG3	2.13	0.48
18:E:17:GLN:O	18:E:20:GLN:HG2	2.14	0.48
21:H:108:ARG:NH1	21:H:110:LYS:HB3	2.29	0.48
35:V:8:SER:OG	35:V:12:MET:HE3	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:520:HIS:NE2	36:Z:717:GLU:OE1	2.46	0.48
36:Z:835:PHE:HB2	36:Z:837:TYR:CZ	2.47	0.48
38:b:33:PRO:HG3	38:b:97:THR:HG22	1.95	0.48
57:v:34:GLN:NE2	57:v:55:LEU:HD11	2.27	0.48
4:3:669:A:N3	4:3:2411:C:H4'	2.29	0.48
4:3:762:A:H2'	4:3:763:G:C8	2.48	0.48
4:3:849:C:H2'	4:3:850:G:C8	2.42	0.48
4:3:1005:G:H2'	4:3:1006:U:C6	2.49	0.48
4:3:1545:A:H2'	4:3:1546:U:C6	2.49	0.48
4:3:1552:C:H2'	4:3:1553:G:O4'	2.13	0.48
4:3:2764:U:H1'	4:3:2765:A:H5''	1.95	0.48
6:5:285:G:H2'	6:5:286:C:C6	2.48	0.48
6:5:1402:U:H2'	6:5:1403:A:C8	2.49	0.48
7:6:129:CYS:SG	7:6:135:VAL:HG23	2.53	0.48
9:8:649:HIS:HD2	36:Z:837:TYR:CE1	2.07	0.48
9:8:717:ILE:HG22	9:8:754:ASP:HB2	1.96	0.48
14:AD:55:PHE:CB	14:AD:62:LEU:HD12	2.37	0.48
19:F:38:ALA:O	19:F:42:LEU:HD23	2.14	0.48
22:I:18:SER:HB2	22:I:102:VAL:HG12	1.94	0.48
34:U:141:SER:O	34:U:148:ARG:NH2	2.46	0.48
36:Z:806:ILE:HA	36:Z:809:MET:HE3	1.95	0.48
37:a:183:GLN:NE2	37:a:188:GLU:O	2.46	0.48
37:a:183:GLN:OE1	37:a:189:THR:OG1	2.31	0.48
38:b:139:TYR:CD2	38:b:140:PRO:HD3	2.49	0.48
47:l:37:THR:O	47:l:99:GLN:NE2	2.45	0.48
54:s:4:THR:HG21	54:s:47:VAL:HB	1.96	0.48
54:s:8:LEU:HG	54:s:9:LYS:HG3	1.95	0.48
58:w:30:ARG:HH22	58:w:44:ILE:HG12	1.78	0.48
4:3:15:A:N6	4:3:561:A:OP2	2.37	0.48
4:3:173:C:H2'	4:3:174:A:C8	2.48	0.48
4:3:337:U:H2'	4:3:338:G:C8	2.49	0.48
4:3:638:A:C6	4:3:661:G:N1	2.82	0.48
4:3:863:U:O2'	4:3:866:G:O6	2.30	0.48
4:3:1736:G:H2'	4:3:1737:G:H5''	1.94	0.48
4:3:1987:C:H3'	4:3:1988:A:H5''	1.95	0.48
4:3:2267:G:H2'	4:3:2268:C:C6	2.49	0.48
4:3:2324:A:H2'	4:3:2325:U:H6	1.79	0.48
4:3:2738:U:H2'	4:3:2739:C:C6	2.49	0.48
4:3:2825:A:H2'	4:3:2826:G:O4'	2.13	0.48
6:5:560:U:OP1	6:5:564:G:N2	2.47	0.48
6:5:640:C:H2'	6:5:641:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:999:C:O2	6:5:1000:A:O2'	2.29	0.48
6:5:1146:A:H2'	6:5:1147:U:C6	2.49	0.48
6:5:1216:G:H2'	6:5:1217:G:H8	1.79	0.48
9:8:90:LYS:HZ2	9:8:1034:GLU:HB3	1.75	0.48
9:8:653:TYR:CE1	9:8:737:ARG:NH2	2.82	0.48
7:AA:86:GLN:CD	36:Z:599:THR:HG21	2.38	0.48
13:AC:17:DT:C5'	36:Z:413:ARG:NH1	2.72	0.48
19:F:119:ILE:HA	19:F:122:GLU:OE1	2.12	0.48
38:b:70:PHE:O	38:b:74:ASN:N	2.46	0.48
39:c:6:LEU:HG	39:c:14:GLU:HG3	1.95	0.48
4:3:568:G:H2'	4:3:569:U:C6	2.49	0.48
4:3:863:U:H4'	4:3:866:G:N1	2.29	0.48
4:3:2464:C:N4	4:3:2465:U:O4	2.46	0.48
4:3:2695:U:H2'	4:3:2696:G:O4'	2.14	0.48
6:5:643:U:H2'	6:5:644:U:C6	2.49	0.48
6:5:980:C:H2'	6:5:981:U:C6	2.49	0.48
7:AA:85:LYS:CD	36:Z:602:GLU:OE1	2.56	0.48
17:D:111:VAL:O	17:D:115:ILE:HG12	2.12	0.48
27:N:26:VAL:O	27:N:30:THR:HG23	2.14	0.48
30:Q:64:LEU:HD23	30:Q:65:SER:O	2.14	0.48
32:S:29:LYS:HA	32:S:32:VAL:HG22	1.96	0.48
36:Z:663:GLU:HB3	36:Z:702:LEU:HD11	1.95	0.48
45:j:29:ARG:O	45:j:31:ARG:NH1	2.43	0.48
54:s:3:VAL:HG13	54:s:5:ASN:H	1.77	0.48
4:3:34:C:N4	4:3:510:G:O6	2.47	0.48
4:3:139:G:O6	4:3:145:A:N6	2.47	0.48
4:3:610:G:H2'	4:3:611:A:C8	2.49	0.48
4:3:674:G:H2'	4:3:675:U:C6	2.48	0.48
4:3:696:U:H2'	4:3:697:U:C6	2.48	0.48
4:3:1073:A:H2'	4:3:1074:A:H8	1.78	0.48
4:3:1182:U:H2'	4:3:1183:A:C8	2.48	0.48
4:3:1187:C:H2'	4:3:1188:C:C6	2.44	0.48
4:3:1600:A:N3	37:a:62:ASN:ND2	2.62	0.48
4:3:1775:G:H2'	4:3:1776:G:C8	2.49	0.48
4:3:1872:U:C4	4:3:1882:G:O6	2.67	0.48
4:3:2090:G:O6	4:3:2244:U:O4	2.32	0.48
4:3:2495:A:H2'	4:3:2496:G:C8	2.48	0.48
4:3:2527:U:O2'	4:3:2529:C:OP2	2.30	0.48
4:3:2644:U:OP1	38:b:83:GLU:HB2	2.14	0.48
4:3:2825:A:H5''	38:b:116:GLY:HA3	1.95	0.48
4:3:2859:U:H2'	4:3:2860:A:C8	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:672:A:N6	6:5:712:A:H61	2.12	0.48
6:5:741:C:H2'	6:5:742:C:C6	2.49	0.48
6:5:912:G:H2'	6:5:913:A:C8	2.48	0.48
6:5:946:G:H2'	6:5:947:U:C6	2.49	0.48
6:5:1297:G:O2'	6:5:1336:C:H1'	2.13	0.48
6:5:1376:G:H2'	6:5:1377:C:C6	2.48	0.48
7:6:35:VAL:HG13	7:6:209:LEU:HB2	1.96	0.48
9:8:169:LEU:HD11	9:8:187:LEU:HD12	1.95	0.48
9:8:1051:ARG:HH11	9:8:1254:MET:CE	2.27	0.48
9:8:1269:LYS:HZ3	36:Z:313:ILE:CG2	2.23	0.48
9:8:1288:GLU:OE1	36:Z:893:ARG:CZ	2.62	0.48
9:8:1340:LYS:NZ	9:8:1370:ILE:HG13	2.29	0.48
16:C:155:LYS:O	16:C:158:SER:OG	2.19	0.48
36:Z:827:MET:HE2	36:Z:829:GLY:HA2	1.95	0.48
45:j:78:LYS:HB2	50:o:76:GLU:HG3	1.96	0.48
4:3:133:G:H2'	4:3:134:U:C6	2.48	0.48
4:3:450:C:O2'	4:3:1871:U:O2	2.32	0.48
4:3:511:U:H3'	4:3:512:G:C8	2.48	0.48
4:3:576:A:H2'	4:3:577:C:O4'	2.14	0.48
4:3:771:C:H2'	4:3:772:C:C6	2.49	0.48
4:3:1115:G:H1'	43:h:126:GLY:HA3	1.95	0.48
4:3:1203:G:H2'	4:3:1204:A:C8	2.49	0.48
4:3:1229:U:H2'	4:3:1230:U:C6	2.49	0.48
4:3:1287:C:H2'	4:3:1288:C:C6	2.48	0.48
4:3:2665:A:H1'	4:3:2673:A:H61	1.78	0.48
6:5:149:G:H2'	6:5:150:A:H8	1.79	0.48
6:5:335:C:H2'	6:5:336:U:H6	1.78	0.48
6:5:368:C:N4	6:5:384:G:OP2	2.35	0.48
6:5:386:U:H2'	6:5:387:G:C8	2.49	0.48
7:6:175:SER:OG	7:6:178:ILE:HD12	2.13	0.48
9:8:161:ILE:HG13	9:8:393:VAL:HG22	1.95	0.48
9:8:171:LEU:CD1	9:8:212:LEU:CD2	2.91	0.48
9:8:211:ILE:HD13	9:8:229:LEU:CD2	2.44	0.48
9:8:709:GLU:HG3	9:8:714:ILE:HD11	1.94	0.48
9:8:773:ASN:OD1	36:Z:861:GLY:N	2.47	0.48
9:8:1284:GLN:OE1	13:AC:17:DT:H5''	2.14	0.48
9:8:1344:LYS:C	36:Z:305:ILE:CG2	2.77	0.48
12:AB:15:DT:OP1	14:AD:95:ARG:NH2	2.47	0.48
18:E:14:SER:H	18:E:17:GLN:HE21	1.59	0.48
18:E:88:ILE:HG23	18:E:92:ARG:HE	1.79	0.48
18:E:106:GLN:O	18:E:110:GLN:N	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:15:ILE:HD13	25:L:39:ILE:HD13	1.95	0.48
36:Z:490:PRO:HD2	36:Z:547:VAL:HG13	1.95	0.48
38:b:35:GLN:HG2	38:b:75:LEU:HD23	1.96	0.48
55:t:70:PHE:O	55:t:74:LEU:HD23	2.14	0.48
4:3:518:A:O2'	4:3:532:A:N1	2.47	0.48
4:3:696:U:H2'	4:3:697:U:H6	1.78	0.48
4:3:1076:U:O2	4:3:1149:G:N2	2.44	0.48
4:3:1374:U:N3	4:3:1375:G:N7	2.61	0.48
4:3:1406:A:O2'	4:3:1408:G:OP2	2.32	0.48
4:3:1608:C:H2'	4:3:1609:U:C6	2.49	0.48
4:3:2146:A:H2'	4:3:2147:G:C8	2.49	0.48
4:3:2391:G:H2'	4:3:2392:U:C6	2.49	0.48
4:3:2852:G:H1'	4:3:2872:A:H61	1.79	0.48
6:5:9:A:H62	16:C:201:LYS:HB3	1.78	0.48
6:5:399:C:H4'	16:C:131:THR:HG22	1.96	0.48
6:5:1142:G:H2'	6:5:1144:A:OP2	2.14	0.48
6:5:1290:G:N1	6:5:1293:A:OP2	2.44	0.48
7:6:1:MET:HG3	7:AA:51:PRO:HG3	1.96	0.48
7:6:231:ILE:HG22	7:AA:34:PHE:HZ	1.78	0.48
9:8:363:GLU:HG2	9:8:379:ARG:CZ	2.44	0.48
9:8:1200:PHE:CZ	36:Z:864:ILE:HA	2.49	0.48
9:8:1344:LYS:HB2	36:Z:309:ILE:HD13	1.95	0.48
10:9:57:LEU:CD2	36:Z:1211:ALA:O	2.61	0.48
19:F:65:VAL:HA	19:F:68:VAL:HG22	1.96	0.48
24:K:7:LEU:HB3	29:P:35:TYR:CZ	2.49	0.48
38:b:110:VAL:CG2	38:b:179:LEU:HD22	2.44	0.48
45:j:8:LEU:H	45:j:8:LEU:HD23	1.79	0.48
4:3:50:G:H22	4:3:179:A:H2'	1.79	0.47
4:3:59:C:H2'	4:3:60:G:H8	1.79	0.47
4:3:144:C:H2'	4:3:145:A:H8	1.79	0.47
4:3:279:U:H2'	4:3:280:A:C8	2.49	0.47
4:3:406:C:H2'	4:3:407:U:C6	2.49	0.47
4:3:563:A:N1	44:i:119:ARG:NH1	2.62	0.47
4:3:568:G:H2'	4:3:569:U:H6	1.79	0.47
4:3:595:U:C4	4:3:605:A:N7	2.82	0.47
4:3:768:G:H2'	4:3:769:A:H5''	1.95	0.47
4:3:913:U:H2'	4:3:914:G:O4'	2.14	0.47
4:3:1142:G:P	34:U:56:ASN:CG	2.96	0.47
4:3:1588:A:O2'	4:3:1589:A:O4'	2.22	0.47
4:3:1735:A:OP1	4:3:1770:A:N6	2.47	0.47
4:3:2071:C:H2'	4:3:2072:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2190:G:H2'	4:3:2191:G:C8	2.50	0.47
4:3:2409:U:N3	4:3:2423:G:N1	2.54	0.47
4:3:2776:U:O4	4:3:2777:A:N6	2.47	0.47
6:5:706:U:H2'	6:5:707:G:C8	2.49	0.47
6:5:1179:A:H2'	6:5:1180:U:O4'	2.13	0.47
8:7:38:G:H3'	8:7:39:A:C8	2.49	0.47
9:8:141:VAL:HG11	9:8:613:LEU:CD2	2.39	0.47
9:8:1157:ILE:HG12	9:8:1172:LEU:HD11	1.96	0.47
11:A:179:ASP:OD1	11:A:179:ASP:N	2.47	0.47
13:AC:14:DG:H5'	36:Z:890:TYR:N	2.29	0.47
36:Z:748:TYR:OH	36:Z:791:GLU:OE1	2.24	0.47
39:c:168:LEU:HB3	39:c:180:VAL:HG21	1.96	0.47
46:k:36:GLN:OE1	46:k:37:LYS:HE3	2.14	0.47
46:k:36:GLN:HG3	46:k:37:LYS:HG2	1.96	0.47
52:q:69:ASN:HD21	52:q:82:LYS:HE3	1.79	0.47
58:w:26:LEU:HD13	58:w:48:ARG:HH12	1.78	0.47
4:3:134:U:H2'	4:3:135:A:H8	1.79	0.47
4:3:246:G:N2	4:3:259:A:OP2	2.47	0.47
4:3:336:C:H2'	4:3:337:U:C6	2.49	0.47
4:3:759:U:H2'	4:3:760:G:O4'	2.13	0.47
4:3:987:U:H2'	4:3:988:G:H8	1.79	0.47
4:3:993:A:N6	4:3:995:A:N1	2.62	0.47
4:3:1264:U:H2'	4:3:1265:G:O4'	2.13	0.47
4:3:1305:G:H2'	4:3:1306:G:H8	1.79	0.47
4:3:1319:C:H2'	4:3:1320:C:C6	2.49	0.47
4:3:1471:A:N6	4:3:1582:G:O6	2.47	0.47
4:3:1511:C:C4	4:3:1512:A:N6	2.81	0.47
4:3:1544:G:H2'	4:3:1545:A:H8	1.79	0.47
4:3:1951:A:H61	4:3:2565:G:H1'	1.79	0.47
4:3:2071:C:H2'	4:3:2072:C:C6	2.49	0.47
4:3:2338:G:H21	56:u:56:GLY:HA2	1.78	0.47
4:3:2420:A:H2'	4:3:2421:U:O4'	2.14	0.47
4:3:2781:C:O2'	38:b:172:GLU:OE2	2.32	0.47
4:3:2843:G:H2'	4:3:2844:U:H6	1.79	0.47
6:5:317:A:H2	6:5:328:G:H1	1.57	0.47
6:5:430:G:C5'	14:AD:56:SER:OG	2.62	0.47
6:5:671:G:H2'	6:5:672:A:C8	2.48	0.47
6:5:838:A:C8	18:E:109:LEU:HD13	2.49	0.47
7:6:239:ILE:HG23	7:AA:225:PHE:CE1	2.49	0.47
9:8:1213:ASP:OD1	9:8:1219:PRO:HD2	2.13	0.47
9:8:1305:GLU:CD	36:Z:542:LEU:HD12	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1350:ALA:HB3	36:Z:368:PHE:CZ	2.48	0.47
10:9:51:ARG:NH2	36:Z:986:GLU:OE2	2.47	0.47
11:A:41:MET:HE3	11:A:208:PRO:HD3	1.96	0.47
11:A:68:ALA:O	11:A:72:VAL:HG13	2.13	0.47
15:B:76:PHE:O	15:B:84:ASN:ND2	2.47	0.47
18:E:7:LEU:HD21	18:E:72:PHE:HZ	1.79	0.47
19:F:149:ALA:HB3	23:J:49:ARG:HH12	1.77	0.47
20:G:9:LYS:HA	20:G:36:ILE:HD11	1.96	0.47
34:U:86:VAL:HG11	34:U:89:ILE:HD12	1.97	0.47
39:c:112:LEU:C	39:c:116:TRP:HD1	2.22	0.47
40:d:57:LEU:HA	40:d:60:ILE:HG22	1.96	0.47
50:o:94:GLY:HA2	50:o:115:LYS:HA	1.96	0.47
52:q:68:VAL:N	52:q:86:ARG:HH11	2.12	0.47
53:r:7:GLN:NE2	53:r:10:VAL:HB	2.29	0.47
60:y:27:LEU:HD11	60:y:36:LYS:HB3	1.95	0.47
4:3:210:U:H2'	4:3:211:A:H8	1.78	0.47
4:3:421:A:N6	4:3:423:C:H2'	2.30	0.47
4:3:650:G:H2'	4:3:651:A:C8	2.49	0.47
4:3:652:U:H2'	4:3:653:G:H8	1.79	0.47
4:3:917:G:N2	4:3:935:U:O2	2.47	0.47
4:3:1376:G:O6	4:3:1377:A:N6	2.48	0.47
4:3:1463:G:H2'	4:3:1464:G:C8	2.49	0.47
4:3:2106:G:H22	4:3:2198:G:H1	1.62	0.47
4:3:2388:C:H2'	4:3:2389:A:C8	2.49	0.47
4:3:2413:G:O2'	4:3:2419:A:N6	2.47	0.47
4:3:2577:G:H2'	4:3:2578:A:H8	1.78	0.47
4:3:2623:U:H2'	4:3:2624:C:C6	2.49	0.47
4:3:2795:C:H1'	38:b:65:PRO:HB3	1.95	0.47
4:3:2799:U:O4	4:3:2895:A:N1	2.45	0.47
6:5:26:C:H2'	6:5:27:A:C8	2.49	0.47
6:5:302:A:H3'	6:5:303:A:H8	1.78	0.47
6:5:1010:A:H2'	6:5:1011:A:C8	2.49	0.47
6:5:1207:U:H5''	21:H:128:GLN:HB3	1.96	0.47
6:5:1241:G:C6	6:5:1245:A:N6	2.82	0.47
9:8:475:VAL:HG13	9:8:516:SER:HB3	1.95	0.47
9:8:659:ILE:O	9:8:780:LEU:HD12	2.15	0.47
9:8:1269:LYS:HE3	36:Z:313:ILE:HG23	1.82	0.47
9:8:1344:LYS:HG2	36:Z:309:ILE:CD1	2.28	0.47
34:U:49:SER:OG	34:U:86:VAL:HA	2.14	0.47
47:l:24:ASN:O	47:l:102:VAL:N	2.47	0.47
4:3:319:G:O6	4:3:390:A:N6	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:445:C:H2'	4:3:446:A:C8	2.50	0.47
4:3:461:C:H2'	4:3:462:C:C6	2.49	0.47
4:3:587:U:H2'	4:3:588:G:O4'	2.14	0.47
4:3:1070:U:H2'	4:3:1071:G:H8	1.78	0.47
4:3:1470:C:H2'	4:3:1471:A:C8	2.49	0.47
4:3:2197:U:H2'	4:3:2198:G:C8	2.49	0.47
4:3:2200:U:H2'	4:3:2201:G:H8	1.79	0.47
4:3:2534:G:O6	4:3:2545:U:O4	2.32	0.47
5:4:3:U:H2'	5:4:4:G:C8	2.49	0.47
6:5:509:C:H4'	16:C:38:HIS:HB3	1.94	0.47
8:7:70:G:H2'	8:7:71:A:H8	1.80	0.47
9:8:627:ARG:HD3	9:8:670:ILE:HG21	1.97	0.47
9:8:673:LEU:CD2	9:8:677:ALA:HB3	2.42	0.47
9:8:824:VAL:HG11	9:8:827:VAL:CG2	2.44	0.47
9:8:863:LEU:HD11	9:8:878:ASP:OD2	2.12	0.47
9:8:956:ARG:HG3	15:B:74:PRO:HG2	1.97	0.47
9:8:1345:GLU:O	36:Z:388:LEU:HB3	2.14	0.47
9:8:1371:LEU:CB	36:Z:95:VAL:CG1	2.91	0.47
11:A:66:GLN:O	11:A:70:ASN:ND2	2.47	0.47
13:AC:10:DG:C5'	36:Z:118:LEU:HB3	2.44	0.47
22:I:27:THR:O	22:I:31:ILE:HG12	2.14	0.47
52:q:46:GLY:H	52:q:50:LEU:HD23	1.79	0.47
4:3:34:C:N4	4:3:483:A:OP2	2.48	0.47
4:3:432:G:OP2	57:v:10:ARG:NH1	2.47	0.47
4:3:569:U:H2'	4:3:570:C:C6	2.50	0.47
4:3:730:G:H1	4:3:802:U:H3	1.61	0.47
4:3:767:C:H2'	4:3:768:G:O4'	2.14	0.47
4:3:860:C:H4'	4:3:2436:G:C5	2.50	0.47
4:3:991:G:H21	47:l:83:MET:HE2	1.78	0.47
4:3:1143:U:N3	4:3:1144:C:N4	2.61	0.47
4:3:1298:A:H2'	4:3:1299:A:O4'	2.15	0.47
4:3:2311:G:O2'	40:d:129:THR:OG1	2.22	0.47
4:3:2683:G:H2'	4:3:2684:G:C8	2.49	0.47
4:3:2799:U:H3'	4:3:2896:G:N2	2.30	0.47
6:5:33:A:H2'	6:5:34:A:C8	2.48	0.47
6:5:309:A:H2'	6:5:310:C:C6	2.50	0.47
6:5:1266:U:H2'	6:5:1267:G:C8	2.49	0.47
8:7:16:G:N2	8:7:22:A:N3	2.62	0.47
8:7:57:C:H3'	8:7:58:G:C8	2.49	0.47
9:8:1242:SER:HB2	36:Z:735:SER:HB2	1.97	0.47
20:G:91:SER:OG	20:G:137:ILE:O	2.25	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:P:13:VAL:HG13	29:P:57:ASP:HA	1.95	0.47
30:Q:43:PHE:HB2	30:Q:82:HIS:CG	2.50	0.47
31:R:15:LEU:HD23	31:R:15:LEU:H	1.79	0.47
31:R:20:ILE:O	31:R:24:LYS:HG2	2.15	0.47
36:Z:670:PHE:CE1	36:Z:688:LEU:HD11	2.50	0.47
36:Z:1176:THR:HG21	36:Z:1212:ILE:CD1	2.44	0.47
38:b:15:GLN:OE1	38:b:23:ARG:NH2	2.42	0.47
45:j:63:VAL:HB	45:j:102:VAL:HG23	1.97	0.47
46:k:110:LEU:HD12	46:k:111:PRO:HD2	1.96	0.47
4:3:499:G:H22	4:3:501:G:H3'	1.79	0.47
6:5:337:C:H2'	6:5:338:C:C6	2.49	0.47
6:5:381:C:H2'	6:5:382:U:C6	2.49	0.47
6:5:416:U:C2	6:5:421:G:N1	2.83	0.47
6:5:737:U:H2'	6:5:738:A:C8	2.50	0.47
9:8:90:LYS:CE	9:8:1034:GLU:O	2.63	0.47
9:8:905:TYR:CE1	9:8:906:GLU:HG3	2.50	0.47
9:8:1305:GLU:OE2	36:Z:542:LEU:HB2	2.14	0.47
9:8:1344:LYS:NZ	36:Z:100:MET:SD	2.88	0.47
11:A:91:TYR:CE1	11:A:226:CYS:HB3	2.50	0.47
13:AC:28:DT:OP2	14:AD:18:LYS:CE	2.63	0.47
14:AD:9:GLN:HE22	36:Z:216:PRO:CB	2.28	0.47
15:B:194:THR:HG23	15:B:196:TYR:H	1.79	0.47
16:C:50:TYR:CE2	16:C:54:LEU:HD11	2.49	0.47
25:L:42:ASP:HB3	25:L:45:VAL:HB	1.97	0.47
26:M:23:ARG:NH1	26:M:30:ALA:HB2	2.30	0.47
29:P:68:PRO:HA	29:P:74:ARG:HA	1.96	0.47
36:Z:1228:PHE:CE1	36:Z:1251:ASP:HB2	2.50	0.47
38:b:38:GLY:HA2	38:b:92:MET:HE1	1.96	0.47
39:c:128:VAL:O	39:c:200:GLU:HA	2.15	0.47
42:f:58:TYR:O	42:f:62:LYS:HG2	2.15	0.47
4:3:20:C:H2'	4:3:21:U:C6	2.49	0.47
4:3:117:C:H2'	4:3:118:G:O4'	2.13	0.47
4:3:411:U:O4	4:3:437:A:N7	2.48	0.47
4:3:580:U:OP1	4:3:1249:A:O2'	2.21	0.47
4:3:597:C:H2'	4:3:598:G:C8	2.50	0.47
4:3:679:A:N1	4:3:2377:A:O2'	2.48	0.47
4:3:941:C:H2'	4:3:942:A:H8	1.78	0.47
4:3:1071:G:O6	4:3:1154:U:O4	2.31	0.47
4:3:1221:G:H2'	4:3:1222:A:C8	2.49	0.47
4:3:1400:U:H2'	4:3:1401:A:H8	1.79	0.47
4:3:1546:U:H3'	4:3:1547:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1698:A:N3	4:3:1698:A:H2'	2.29	0.47
4:3:1764:U:N3	4:3:1769:A:C5	2.82	0.47
4:3:1871:U:H3	4:3:1885:G:H1	1.62	0.47
4:3:2043:C:H2'	4:3:2044:C:C6	2.50	0.47
4:3:2189:U:H2'	4:3:2190:G:C8	2.40	0.47
4:3:2259:G:H2'	4:3:2260:G:C8	2.49	0.47
4:3:2476:A:H2'	4:3:2484:A:C6	2.50	0.47
4:3:2558:G:H2'	4:3:2559:C:H6	1.80	0.47
4:3:2629:G:H2'	4:3:2630:U:O4'	2.15	0.47
4:3:2645:U:H2'	4:3:2646:G:O4'	2.15	0.47
4:3:2677:A:H2'	4:3:2678:A:C8	2.49	0.47
6:5:144:U:N3	6:5:145:G:N7	2.62	0.47
6:5:146:A:N1	6:5:340:A:O2'	2.36	0.47
6:5:253:G:O6	6:5:265:U:O4	2.32	0.47
6:5:432:U:H2'	6:5:433:C:C6	2.49	0.47
6:5:701:A:H2'	6:5:702:U:C6	2.50	0.47
6:5:718:A:H4'	6:5:719:G:C4	2.49	0.47
6:5:732:A:H1'	30:Q:95:TYR:CE2	2.50	0.47
6:5:740:G:C2	6:5:741:C:C5	3.03	0.47
6:5:749:G:H1'	6:5:751:C:N4	2.28	0.47
6:5:781:A:H2'	6:5:782:G:H8	1.80	0.47
7:6:108:ARG:CZ	22:I:99:PRO:CB	2.92	0.47
9:8:147:ILE:HG21	9:8:612:PHE:CE1	2.50	0.47
9:8:419:LEU:HD21	9:8:422:LYS:CG	2.44	0.47
9:8:994:LEU:CD2	16:C:40:ASN:O	2.63	0.47
9:8:999:PHE:HB3	9:8:1002:SER:OG	2.14	0.47
9:8:1297:TYR:CE2	36:Z:504:ILE:HB	2.46	0.47
9:8:1370:ILE:HB	36:Z:94:ILE:CG2	2.44	0.47
11:A:170:LYS:HD2	36:Z:456:GLU:OE2	2.13	0.47
7:AA:35:VAL:HG13	7:AA:209:LEU:HB2	1.97	0.47
7:AA:82:LEU:HD13	36:Z:621:SER:HB2	1.96	0.47
13:AC:10:DG:H5''	36:Z:118:LEU:HB3	1.96	0.47
14:AD:77:LEU:CD1	14:AD:83:LEU:HB2	2.44	0.47
15:B:41:ARG:HD2	15:B:42:ASN:N	2.29	0.47
15:B:56:VAL:HG12	15:B:69:VAL:HG12	1.97	0.47
23:J:17:SER:CB	23:J:80:LYS:HE3	2.41	0.47
25:L:11:ASN:OD1	25:L:12:GLN:HG2	2.14	0.47
35:W:14:ILE:HD11	35:X:17:ILE:CG1	2.22	0.47
36:Z:460:ILE:HG22	36:Z:470:MET:HE1	1.97	0.47
36:Z:986:GLU:HA	36:Z:1192:HIS:HE1	1.80	0.47
38:b:160:PHE:H	38:b:163:LYS:HE2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:c:74:ALA:O	39:c:76:GLN:NE2	2.48	0.47
42:f:47:ARG:NH2	42:f:51:LEU:HB2	2.28	0.47
44:i:118:SER:HA	44:i:121:TRP:HB2	1.96	0.47
45:j:85:VAL:HG13	45:j:87:ILE:HD11	1.96	0.47
50:o:11:ASP:O	50:o:15:GLN:HG3	2.14	0.47
51:p:91:ARG:HE	51:p:93:VAL:HG12	1.79	0.47
52:q:4:ILE:HG13	52:q:40:MET:HE3	1.95	0.47
52:q:34:GLN:O	52:q:34:GLN:HG2	2.15	0.47
58:w:25:GLU:HA	58:w:28:GLU:HG3	1.97	0.47
1:0:34:ARG:NH2	1:0:41:GLN:O	2.41	0.47
2:1:37:GLN:NE2	4:3:2371:U:OP2	2.40	0.47
4:3:333:A:C6	4:3:356:A:C4	3.03	0.47
4:3:486:G:N1	4:3:490:A:OP1	2.45	0.47
4:3:986:G:H2'	4:3:987:U:C6	2.50	0.47
4:3:1019:A:H2'	4:3:1020:G:C4	2.50	0.47
4:3:1180:U:H2'	4:3:1181:A:H8	1.79	0.47
4:3:2076:G:H2'	4:3:2077:A:C8	2.50	0.47
4:3:2223:C:H2'	4:3:2224:A:C8	2.41	0.47
4:3:2418:G:H2'	4:3:2419:A:C8	2.50	0.47
4:3:2844:U:H2'	4:3:2845:U:C6	2.50	0.47
4:3:2845:U:H2'	4:3:2846:A:C8	2.49	0.47
6:5:361:U:H5''	6:5:362:U:H5'	1.96	0.47
6:5:408:U:H4'	6:5:409:G:H5'	1.97	0.47
6:5:706:U:H2'	6:5:707:G:H8	1.80	0.47
6:5:744:U:H4'	6:5:745:U:H5	1.79	0.47
9:8:179:GLN:NE2	9:8:212:LEU:HD13	2.30	0.47
9:8:525:ASP:HA	9:8:530:LYS:HE3	1.96	0.47
9:8:1342:LEU:N	36:Z:398:LEU:HD22	2.29	0.47
13:AC:11:DT:H2'	13:AC:12:DC:C6	2.49	0.47
14:AD:14:PRO:HD3	14:AD:121:VAL:HG23	1.96	0.47
18:E:107:LEU:O	18:E:110:GLN:HB2	2.15	0.47
29:P:44:LYS:HD3	29:P:46:GLN:OE1	2.14	0.47
36:Z:687:VAL:CG1	36:Z:802:ARG:HH22	2.16	0.47
49:n:15:ILE:O	49:n:19:ILE:HG12	2.15	0.47
3:2:29:THR:HB	3:2:32:HIS:CG	2.50	0.47
4:3:359:G:H2'	4:3:360:G:C8	2.50	0.47
4:3:448:A:H62	4:3:2420:A:H1'	1.80	0.47
4:3:762:A:H2'	4:3:763:G:N9	2.30	0.47
4:3:1000:U:H1'	4:3:2281:A:C2	2.50	0.47
4:3:1400:U:H2'	4:3:1401:A:C8	2.50	0.47
4:3:1589:A:H2'	4:3:1590:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2394:A:H4'	56:u:70:ASP:HA	1.97	0.47
4:3:2678:A:H2'	4:3:2679:G:C8	2.50	0.47
4:3:2823:A:C2	4:3:2832:G:C2	3.03	0.47
4:3:2861:G:N2	4:3:2863:G:OP2	2.47	0.47
5:4:47:C:OP1	49:n:101:ARG:NE	2.42	0.47
5:4:56:A:C4	5:4:57:G:C8	3.03	0.47
6:5:61:A:N6	6:5:92:G:O2'	2.48	0.47
6:5:109:G:N2	6:5:233:C:O2	2.35	0.47
6:5:117:U:O2'	6:5:258:A:O2'	2.26	0.47
6:5:931:C:C2	6:5:932:A:C8	3.02	0.47
9:8:618:PRO:HA	9:8:814:LEU:CD1	2.39	0.47
18:E:17:GLN:HA	18:E:20:GLN:HG2	1.96	0.47
21:H:47:ILE:O	21:H:50:MET:HE3	2.15	0.47
29:P:30:PHE:CZ	29:P:41:ARG:HD3	2.50	0.47
39:c:40:VAL:HG12	39:c:101:LEU:HD13	1.96	0.47
40:d:15:GLU:O	40:d:19:SER:OG	2.17	0.47
53:r:28:LYS:NZ	53:r:67:ASP:O	2.42	0.47
58:w:22:LEU:HA	58:w:25:GLU:HG3	1.96	0.47
4:3:35:U:H3	4:3:483:A:H62	1.63	0.47
4:3:450:C:H2'	4:3:451:A:H8	1.79	0.47
4:3:1141:U:O2'	34:U:78:GLY:O	2.17	0.47
4:3:1142:G:C2'	34:U:78:GLY:N	2.77	0.47
4:3:2496:G:O2'	4:3:2497:U:H5'	2.15	0.47
4:3:2547:C:H2'	4:3:2548:G:H8	1.79	0.47
6:5:38:U:H2'	6:5:39:G:H8	1.80	0.47
6:5:373:A:H2'	6:5:374:G:C8	2.47	0.47
6:5:1139:A:H2'	6:5:1140:A:C8	2.50	0.47
6:5:1362:G:H2'	6:5:1363:U:C6	2.50	0.47
9:8:565:ASN:ND2	14:AD:29:LYS:HA	2.30	0.47
9:8:785:MET:CE	9:8:1064:GLY:HA2	2.44	0.47
11:A:202:CYS:SG	11:A:206:THR:OG1	2.62	0.47
15:B:90:LYS:HA	15:B:93:LYS:NZ	2.30	0.47
37:a:98:LEU:HB2	37:a:108:TYR:CE1	2.49	0.47
38:b:1:MET:N	38:b:88:THR:H	2.11	0.47
38:b:58:GLU:HG2	38:b:60:LYS:H	1.79	0.47
40:d:35:VAL:HG12	40:d:155:THR:HG22	1.96	0.47
44:i:115:ASN:OD1	44:i:116:ARG:N	2.48	0.47
2:1:43:LYS:NZ	4:3:2358:U:O5'	2.47	0.46
4:3:20:C:O2'	4:3:587:U:H5''	2.15	0.46
4:3:78:C:H1'	58:w:56:THR:HG21	1.97	0.46
4:3:381:A:H2'	4:3:382:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:652:U:H2'	4:3:653:G:C8	2.50	0.46
4:3:1065:G:O6	4:3:1160:G:N2	2.48	0.46
4:3:1089:A:C1'	34:U:30:THR:HG22	2.45	0.46
4:3:1761:C:H2'	4:3:1762:A:C8	2.50	0.46
4:3:1767:A:H2'	4:3:1768:G:C8	2.49	0.46
4:3:1819:G:H2'	4:3:1820:U:H6	1.79	0.46
4:3:1833:G:H2'	4:3:1834:U:H6	1.79	0.46
4:3:2002:U:OP2	4:3:2003:C:O2'	2.25	0.46
4:3:2609:C:H2'	4:3:2611:G:H8	1.79	0.46
6:5:590:G:H2'	6:5:591:A:C8	2.50	0.46
6:5:822:A:H2'	6:5:823:C:H6	1.80	0.46
6:5:881:G:C2	6:5:905:U:C2	3.03	0.46
6:5:1269:U:H2'	6:5:1270:C:C6	2.51	0.46
6:5:1347:U:H2'	6:5:1348:G:O4'	2.16	0.46
9:8:723:ILE:CG2	9:8:727:ASN:HA	2.45	0.46
9:8:1149:LEU:HD11	9:8:1181:LEU:CD2	2.45	0.46
21:H:56:LEU:HD13	21:H:103:LYS:HG3	1.95	0.46
40:d:117:LEU:H	40:d:176:PRO:HB2	1.79	0.46
40:d:135:GLN:HA	40:d:152:PHE:CZ	2.50	0.46
42:f:12:LEU:HB2	42:f:14:LYS:NZ	2.29	0.46
50:o:53:LEU:HD11	50:o:104:MET:HE2	1.97	0.46
55:t:1:MET:HB2	55:t:100:LYS:HE2	1.97	0.46
58:w:4:ALA:HA	58:w:7:LEU:HD23	1.96	0.46
58:w:39:ASP:O	58:w:40:LYS:HE2	2.15	0.46
4:3:29:G:O2'	4:3:30:A:N7	2.40	0.46
4:3:615:G:H5''	51:p:13:ARG:NH2	2.30	0.46
4:3:616:G:H2'	4:3:617:C:C6	2.50	0.46
4:3:801:U:H2'	4:3:802:U:C6	2.50	0.46
4:3:997:G:N2	4:3:2037:A:OP1	2.48	0.46
4:3:1016:A:H2'	4:3:1017:A:C4	2.50	0.46
4:3:1158:C:H2'	4:3:1159:C:C6	2.50	0.46
4:3:1475:C:H1'	4:3:1577:A:C2	2.50	0.46
4:3:1604:A:H2'	4:3:1605:A:O4'	2.15	0.46
4:3:1842:G:H2'	4:3:1843:C:H6	1.80	0.46
4:3:1928:G:H2'	4:3:1929:G:C8	2.50	0.46
4:3:1953:U:H2'	4:3:1954:C:O4'	2.15	0.46
4:3:2085:C:H2'	4:3:2086:U:C6	2.50	0.46
4:3:2313:U:H3	40:d:150:ARG:HB2	1.80	0.46
4:3:2533:A:H2'	4:3:2534:G:H8	1.79	0.46
4:3:2627:U:H5''	38:b:161:LYS:HE2	1.97	0.46
6:5:330:C:H2'	6:5:331:C:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:460:A:N1	6:5:467:G:C6	2.84	0.46
6:5:919:C:H2'	6:5:920:G:C8	2.50	0.46
6:5:1343:G:H5'	21:H:116:LYS:HB3	1.96	0.46
7:6:57:ALA:HB2	7:6:173:ILE:HD11	1.98	0.46
13:AC:26:DT:H1'	14:AD:17:VAL:HG13	1.97	0.46
17:D:116:LYS:HE3	17:D:120:LYS:HZ1	1.79	0.46
18:E:59:ARG:HH12	30:Q:54:ILE:HB	1.79	0.46
36:Z:125:SER:HB2	36:Z:130:ILE:O	2.15	0.46
41:e:149:THR:O	41:e:152:ARG:HG2	2.15	0.46
50:o:31:VAL:HG13	50:o:90:LEU:HA	1.96	0.46
52:q:74:ILE:HG22	52:q:77:LYS:HG3	1.97	0.46
57:v:62:ASN:O	57:v:63:ARG:NE	2.48	0.46
4:3:141:A:H3'	4:3:142:A:C8	2.50	0.46
4:3:383:U:H2'	4:3:384:G:H8	1.79	0.46
4:3:464:A:H2'	4:3:464:A:N3	2.31	0.46
4:3:567:U:H5''	51:p:27:ARG:NH2	2.29	0.46
4:3:1095:U:H1'	4:3:1097:G:OP2	2.15	0.46
4:3:1219:U:H2'	4:3:1220:A:O4'	2.16	0.46
4:3:1460:G:H2'	4:3:1461:A:C8	2.50	0.46
4:3:1870:G:H4'	4:3:2419:A:H4'	1.96	0.46
4:3:2213:A:H2'	4:3:2214:A:H8	1.80	0.46
6:5:337:C:H2'	6:5:338:C:H6	1.81	0.46
6:5:511:A:H2'	6:5:512:U:C6	2.50	0.46
6:5:911:G:H2'	6:5:912:G:H8	1.79	0.46
6:5:929:C:N3	6:5:932:A:N6	2.63	0.46
8:7:2:G:N2	8:7:73:C:C2	2.78	0.46
9:8:1082:GLU:OE1	9:8:1227:LYS:HD3	2.15	0.46
11:A:70:ASN:HA	11:A:73:LYS:NZ	2.30	0.46
18:E:150:GLN:HB2	20:G:57:PHE:CE1	2.50	0.46
19:F:78:ARG:HE	19:F:83:ASN:HA	1.81	0.46
19:F:102:TRP:HD1	19:F:136:LYS:HZ2	1.60	0.46
49:n:2:LYS:HD3	49:n:2:LYS:HA	1.74	0.46
49:n:46:PHE:C	49:n:48:GLN:H	2.22	0.46
4:3:252:G:O5'	4:3:253:C:H5''	2.16	0.46
4:3:1032:A:H2'	4:3:1033:A:C8	2.49	0.46
4:3:1281:A:OP1	51:p:9:THR:OG1	2.33	0.46
4:3:1477:A:N6	4:3:1489:G:O6	2.48	0.46
4:3:1654:G:H2'	4:3:1655:U:C6	2.50	0.46
4:3:1999:G:N2	4:3:2003:C:H1'	2.30	0.46
4:3:2687:A:H2'	4:3:2688:C:C6	2.50	0.46
4:3:2708:G:H2'	4:3:2709:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:253:G:C6	6:5:266:A:C6	3.03	0.46
6:5:664:A:OP1	6:5:729:C:O2'	2.26	0.46
6:5:736:U:H2'	6:5:737:U:O4'	2.15	0.46
6:5:797:G:N2	6:5:798:U:O4	2.48	0.46
6:5:1011:A:H2'	6:5:1012:A:N3	2.31	0.46
6:5:1126:U:H2'	6:5:1127:A:C8	2.49	0.46
6:5:1389:U:H2'	6:5:1390:G:C8	2.50	0.46
19:F:110:ARG:HG2	19:F:111:HIS:N	2.30	0.46
22:I:54:VAL:HG21	26:M:61:TRP:HH2	1.81	0.46
27:N:64:LEU:O	27:N:68:LYS:HG2	2.16	0.46
36:Z:112:ILE:HD12	36:Z:365:ASP:HB3	1.96	0.46
38:b:27:THR:HG21	38:b:197:ILE:HG12	1.98	0.46
38:b:180:ARG:HE	38:b:220:ILE:HD12	1.79	0.46
40:d:5:LYS:HB2	40:d:97:TRP:CD1	2.50	0.46
44:i:38:LEU:HD23	44:i:57:LEU:HD22	1.96	0.46
44:i:52:ASP:OD1	44:i:121:TRP:NE1	2.48	0.46
53:r:6:LYS:HD3	53:r:104:VAL:HB	1.97	0.46
53:r:28:LYS:HG2	53:r:30:ALA:H	1.80	0.46
4:3:186:A:N1	4:3:219:G:C6	2.83	0.46
4:3:224:G:N1	4:3:464:A:OP2	2.48	0.46
4:3:341:G:N1	4:3:344:A:OP2	2.35	0.46
4:3:558:C:H5''	4:3:575:C:O2'	2.16	0.46
4:3:568:G:P	51:p:24:PHE:H	2.38	0.46
4:3:755:C:H2'	4:3:756:A:C8	2.51	0.46
4:3:793:C:H2'	4:3:794:G:C8	2.50	0.46
4:3:831:U:H2'	4:3:832:C:C6	2.51	0.46
4:3:1345:G:H2'	4:3:1346:G:C8	2.49	0.46
4:3:1392:G:H3'	57:v:2:ALA:HB1	1.97	0.46
4:3:1730:C:H2'	4:3:1731:G:O4'	2.15	0.46
4:3:1941:C:H2'	4:3:1942:G:C8	2.50	0.46
4:3:2200:U:H2'	4:3:2201:G:C8	2.51	0.46
4:3:2299:U:H2'	4:3:2300:A:C8	2.50	0.46
4:3:2503:G:H2'	4:3:2504:C:C6	2.50	0.46
6:5:45:A:H2'	6:5:46:U:C6	2.51	0.46
6:5:280:G:H2'	6:5:281:U:C6	2.51	0.46
6:5:526:C:H4'	6:5:533:A:C6	2.51	0.46
6:5:950:C:H2'	6:5:951:U:C2	2.50	0.46
6:5:1406:U:H2'	6:5:1407:A:C8	2.50	0.46
9:8:176:LYS:HD3	13:AC:7:DT:H2''	1.97	0.46
9:8:1371:LEU:CD1	36:Z:95:VAL:CB	2.78	0.46
7:AA:57:ALA:HB2	7:AA:173:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:33:VAL:HA	26:M:40:CYS:HA	1.97	0.46
28:O:32:HIS:O	28:O:42:CYS:HA	2.16	0.46
36:Z:314:GLN:HE21	36:Z:318:ALA:HA	1.80	0.46
36:Z:992:CYS:SG	36:Z:995:CYS:SG	3.13	0.46
37:a:6:ILE:HD11	37:a:19:VAL:HG22	1.98	0.46
38:b:111:SER:OG	38:b:206:LEU:HB2	2.15	0.46
52:q:6:VAL:HA	52:q:11:GLN:HA	1.98	0.46
4:3:8:A:H2'	4:3:9:G:H8	1.77	0.46
4:3:86:A:H2	4:3:104:A:C5	2.33	0.46
4:3:746:G:H2'	4:3:747:A:C8	2.49	0.46
4:3:886:U:H3	4:3:964:A:N6	2.13	0.46
4:3:918:G:H22	4:3:932:U:HO2'	1.55	0.46
4:3:1141:U:H2'	4:3:1142:G:C8	2.48	0.46
4:3:1186:A:H2'	4:3:1187:C:O4'	2.16	0.46
4:3:1641:A:H4'	4:3:1642:G:C8	2.51	0.46
4:3:2094:A:H2'	4:3:2095:A:H8	1.77	0.46
4:3:2497:U:H2'	4:3:2498:G:C4	2.51	0.46
6:5:366:C:H2'	6:5:367:A:C8	2.50	0.46
6:5:911:G:H2'	6:5:912:G:C8	2.50	0.46
6:5:1429:G:H2'	6:5:1430:G:C8	2.48	0.46
7:6:1:MET:HE3	7:AA:51:PRO:HD3	1.98	0.46
9:8:1200:PHE:CD1	36:Z:862:LEU:O	2.69	0.46
13:AC:14:DG:N7	36:Z:886:ALA:CA	2.71	0.46
15:B:33:TRP:HB3	15:B:60:ARG:NH2	2.31	0.46
28:O:48:VAL:O	28:O:51:GLU:HB3	2.16	0.46
37:a:83:VAL:HA	37:a:99:ILE:HG13	1.97	0.46
46:k:56:THR:O	46:k:61:ARG:NH2	2.49	0.46
50:o:48:PHE:CE1	50:o:68:LYS:HB2	2.51	0.46
53:r:34:ASN:OD1	53:r:35:ILE:N	2.45	0.46
57:v:16:ASN:HD21	57:v:25:THR:H	1.63	0.46
4:3:214:C:H2'	4:3:215:A:C8	2.51	0.46
4:3:629:G:N2	4:3:696:U:O2	2.39	0.46
4:3:756:A:H2'	4:3:757:A:H8	1.80	0.46
4:3:1634:A:N6	4:3:1635:G:O6	2.49	0.46
4:3:2066:A:OP1	39:c:72:GLY:N	2.49	0.46
4:3:2467:A:H2'	4:3:2468:U:O4'	2.16	0.46
4:3:2684:G:H2'	4:3:2685:A:H8	1.80	0.46
4:3:2784:A:O2'	4:3:2790:A:N7	2.41	0.46
4:3:2866:A:H2'	4:3:2867:U:C6	2.51	0.46
6:5:37:C:H5''	24:K:133:LYS:HA	1.98	0.46
6:5:703:A:H2'	6:5:704:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:823:C:H2'	6:5:824:U:C6	2.51	0.46
6:5:874:C:H5''	24:K:9:ARG:NH1	2.31	0.46
6:5:1325:U:H2'	6:5:1326:C:C6	2.51	0.46
9:8:1310:LYS:HG2	36:Z:409:ASP:CB	2.40	0.46
9:8:1344:LYS:HG3	36:Z:309:ILE:HD11	1.66	0.46
7:AA:35:VAL:HG11	7:AA:195:VAL:HG22	1.97	0.46
7:AA:163:PHE:HB3	36:Z:609:ALA:CB	2.46	0.46
13:AC:14:DG:C4'	36:Z:889:GLY:C	2.88	0.46
16:C:164:SER:HB2	16:C:167:VAL:HG22	1.97	0.46
21:H:56:LEU:HD23	21:H:56:LEU:H	1.80	0.46
22:I:62:HIS:CD2	22:I:63:VAL:HG23	2.51	0.46
36:Z:500:HIS:CE1	36:Z:502:LEU:HB2	2.50	0.46
37:a:234:ASN:C	37:a:241:GLY:HA3	2.41	0.46
38:b:120:THR:HG21	38:b:169:TYR:HB2	1.98	0.46
42:f:73:GLU:OE2	42:f:139:LYS:NZ	2.49	0.46
45:j:17:LYS:HE3	45:j:45:ASP:HB3	1.97	0.46
45:j:65:THR:O	45:j:79:PHE:HB2	2.15	0.46
51:p:87:ILE:H	51:p:87:ILE:HD12	1.80	0.46
4:3:173:C:H2'	4:3:174:A:H8	1.80	0.46
4:3:1010:G:H1'	4:3:1025:G:N2	2.31	0.46
4:3:1661:A:H2'	4:3:1662:G:C8	2.43	0.46
4:3:1702:A:H5'	45:j:5:MET:HE2	1.97	0.46
4:3:1709:C:H3'	4:3:1710:A:H8	1.81	0.46
4:3:1872:U:N3	4:3:1882:G:C6	2.84	0.46
4:3:2034:G:H2'	4:3:2035:U:C6	2.51	0.46
4:3:2110:U:H2'	4:3:2111:U:O2	2.16	0.46
4:3:2171:A:H5''	4:3:2180:U:O2'	2.16	0.46
4:3:2381:G:H2'	4:3:2382:A:C8	2.50	0.46
4:3:2823:A:O2'	4:3:2825:A:N7	2.35	0.46
6:5:319:U:H4'	32:S:17:ARG:HD3	1.98	0.46
6:5:402:G:N3	16:C:115:GLN:NE2	2.63	0.46
6:5:406:G:O6	6:5:426:U:O2'	2.20	0.46
6:5:1106:U:O2'	6:5:1107:U:H5'	2.15	0.46
6:5:1183:C:H2'	6:5:1184:C:C6	2.51	0.46
6:5:1294:U:H1'	31:R:73:GLU:HB2	1.98	0.46
6:5:1379:C:H2'	6:5:1380:G:C8	2.51	0.46
6:5:1383:A:H2'	6:5:1384:A:C8	2.51	0.46
16:C:57:LYS:HA	16:C:60:MET:HG3	1.98	0.46
20:G:56:ASN:HB2	20:G:73:ASN:ND2	2.23	0.46
22:I:16:LEU:HD21	22:I:78:ARG:HG3	1.98	0.46
23:J:63:VAL:HA	23:J:66:THR:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:21:SER:O	27:N:24:VAL:HG22	2.16	0.46
39:c:162:ASN:N	39:c:200:GLU:OE2	2.49	0.46
51:p:91:ARG:HH21	51:p:93:VAL:HG11	1.81	0.46
52:q:5:VAL:HG22	52:q:38:VAL:HG23	1.97	0.46
53:r:129:VAL:O	53:r:133:GLN:HG3	2.15	0.46
60:y:28:SER:N	60:y:37:LYS:O	2.42	0.46
4:3:317:U:H2'	4:3:318:U:C6	2.50	0.46
4:3:448:A:H3'	4:3:449:C:C6	2.51	0.46
4:3:498:C:N4	4:3:499:G:O6	2.49	0.46
4:3:1081:A:C2	34:U:7:LYS:CD	2.97	0.46
4:3:1380:U:H1'	4:3:1604:A:H2	1.81	0.46
4:3:1777:G:O6	4:3:1990:C:N4	2.49	0.46
4:3:1819:G:H2'	4:3:1820:U:C6	2.51	0.46
4:3:2530:U:H1'	4:3:2572:A:H2	1.81	0.46
4:3:2823:A:N1	4:3:2832:G:C6	2.84	0.46
6:5:446:A:O2'	28:O:36:ALA:O	2.34	0.46
6:5:1116:U:O2'	6:5:1117:U:O5'	2.26	0.46
6:5:1361:G:H2'	6:5:1362:G:H8	1.80	0.46
9:8:413:HIS:CE1	9:8:419:LEU:HD12	2.50	0.46
9:8:1348:GLY:O	36:Z:388:LEU:CD1	2.52	0.46
11:A:112:TRP:HZ2	11:A:117:LEU:HG	1.80	0.46
23:J:17:SER:OG	23:J:24:ILE:HB	2.15	0.46
32:S:40:ASN:OD1	32:S:43:ASN:ND2	2.49	0.46
36:Z:831:MET:HE3	36:Z:854:ILE:HD12	1.97	0.46
37:a:191:LYS:HB2	37:a:277:LEU:HD12	1.98	0.46
40:d:121:SER:HB3	40:d:128:TYR:CZ	2.51	0.46
47:l:4:PRO:HG3	47:l:69:PHE:CE2	2.50	0.46
51:p:107:LEU:O	51:p:111:LYS:HG3	2.16	0.46
52:q:37:LYS:HB2	52:q:37:LYS:HE3	1.75	0.46
4:3:851:U:H2'	4:3:852:C:C6	2.50	0.46
4:3:990:G:H2'	4:3:991:G:C8	2.51	0.46
4:3:1371:G:N3	4:3:1371:G:H2'	2.31	0.46
4:3:1453:U:H3'	4:3:1454:G:C8	2.51	0.46
4:3:1798:A:C2	4:3:1836:A:H4'	2.51	0.46
4:3:1848:U:C2	4:3:1849:G:C8	3.04	0.46
4:3:1954:C:H2'	4:3:1955:G:H8	1.79	0.46
4:3:2483:C:H42	4:3:2537:G:N2	2.14	0.46
4:3:2568:G:H2'	4:3:2569:A:C8	2.51	0.46
4:3:2651:G:H2'	4:3:2652:U:O4'	2.16	0.46
6:5:732:A:H1'	30:Q:95:TYR:CD2	2.51	0.46
6:5:1010:A:H5''	31:R:14:HIS:ND1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1184:C:H2'	6:5:1185:C:C6	2.51	0.46
6:5:1319:U:O2'	6:5:1352:A:N6	2.46	0.46
6:5:1446:A:H2'	6:5:1447:U:C6	2.51	0.46
16:C:144:LEU:HB3	16:C:174:PHE:HB3	1.97	0.46
36:Z:299:LEU:CD1	36:Z:368:PHE:HE2	2.29	0.46
39:c:130:GLN:HA	39:c:133:PHE:CD1	2.51	0.46
52:q:81:LYS:HD3	52:q:81:LYS:HA	1.70	0.46
60:y:43:CYS:SG	60:y:46:GLY:N	2.89	0.46
4:3:116:C:HO2'	4:3:128:A:HO2'	1.53	0.45
4:3:715:G:H2'	4:3:716:G:H8	1.81	0.45
4:3:774:A:H1'	4:3:775:C:H5	1.81	0.45
4:3:845:U:OP2	46:k:30:LYS:HE2	2.16	0.45
4:3:858:A:H2'	4:3:859:G:H8	1.80	0.45
4:3:1289:G:H2'	4:3:1290:G:H8	1.78	0.45
4:3:2078:A:H2'	4:3:2079:G:H8	1.81	0.45
4:3:2496:G:H2'	4:3:2497:U:C6	2.51	0.45
5:4:74:G:H2'	5:4:75:U:C6	2.51	0.45
5:4:78:C:H3'	5:4:79:U:C2	2.51	0.45
6:5:290:G:OP1	6:5:608:G:O2'	2.34	0.45
6:5:922:G:H1	6:5:1365:U:H3	1.65	0.45
6:5:1066:U:H2'	6:5:1067:C:C6	2.51	0.45
22:I:86:ASN:O	22:I:89:ALA:N	2.46	0.45
29:P:25:GLN:OE1	29:P:42:HIS:HB2	2.16	0.45
4:3:780:G:O2'	4:3:783:G:H1'	2.16	0.45
4:3:1061:A:H2'	4:3:1062:A:H8	1.81	0.45
4:3:1127:C:H2'	4:3:1128:G:O4'	2.16	0.45
4:3:1390:C:H2'	4:3:1391:U:H6	1.81	0.45
4:3:1457:A:H2'	4:3:1458:A:C8	2.51	0.45
4:3:1505:G:H2'	4:3:1506:U:C6	2.51	0.45
4:3:1688:A:H62	4:3:2012:A:H2	1.63	0.45
4:3:1842:G:H2'	4:3:1843:C:C6	2.51	0.45
4:3:1955:G:C2'	4:3:1956:G:H5'	2.46	0.45
4:3:2106:G:H2'	4:3:2107:A:H8	1.81	0.45
4:3:2269:C:H2'	4:3:2270:U:C6	2.51	0.45
4:3:2277:A:C4	4:3:2278:G:C8	3.05	0.45
4:3:2339:G:O2'	4:3:2344:A:N6	2.49	0.45
4:3:2681:G:H2'	4:3:2682:A:C8	2.51	0.45
4:3:2701:A:H2'	4:3:2702:G:H8	1.80	0.45
6:5:72:A:H2'	6:5:73:G:C8	2.51	0.45
6:5:236:C:H2'	6:5:237:A:C8	2.51	0.45
6:5:264:C:H2'	6:5:265:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:416:U:O2	6:5:421:G:C2	2.68	0.45
6:5:649:U:H1'	6:5:650:A:H8	1.80	0.45
9:8:1338:SER:HB3	36:Z:402:ASN:CB	2.46	0.45
15:B:18:TRP:CD1	26:M:54:PRO:HA	2.50	0.45
16:C:89:LEU:HA	16:C:92:VAL:HG22	1.98	0.45
17:D:108:ALA:HB3	17:D:114:ALA:HB2	1.98	0.45
19:F:22:VAL:O	19:F:26:ILE:HG12	2.17	0.45
30:Q:93:ALA:O	30:Q:97:ALA:N	2.49	0.45
45:j:30:LYS:O	45:j:31:ARG:HG2	2.16	0.45
57:v:18:ARG:HB3	57:v:22:LYS:HA	1.98	0.45
4:3:1042:C:H2'	4:3:1043:C:C6	2.51	0.45
4:3:1070:U:H5''	41:e:62:LYS:HE2	1.98	0.45
4:3:1091:G:N1	4:3:1137:C:OP2	2.48	0.45
4:3:1243:A:H2'	4:3:1244:A:O4'	2.17	0.45
4:3:1292:A:OP2	53:r:99:ARG:NH2	2.49	0.45
4:3:1372:U:H4'	4:3:1412:A:C5	2.51	0.45
4:3:1544:G:C2	4:3:1545:A:C5	3.05	0.45
4:3:1872:U:O2	4:3:1882:G:N2	2.49	0.45
4:3:2275:A:N6	4:3:2280:U:C2	2.85	0.45
4:3:2524:U:H2'	4:3:2525:C:C6	2.52	0.45
4:3:2591:G:O2'	4:3:2592:U:O4'	2.18	0.45
4:3:2604:U:HO2'	4:3:2605:G:P	2.39	0.45
4:3:2835:G:O3'	4:3:2838:G:N2	2.50	0.45
4:3:2856:G:H2'	4:3:2857:C:H6	1.81	0.45
5:4:57:G:C5	5:4:58:C:C5	3.05	0.45
5:4:93:U:H2'	5:4:94:A:C8	2.50	0.45
6:5:224:A:H2'	6:5:225:U:C6	2.51	0.45
6:5:255:G:OP2	32:S:71:ARG:HD3	2.15	0.45
6:5:934:G:O2'	19:F:101:ARG:NH1	2.47	0.45
6:5:1047:U:H2'	6:5:1048:G:H8	1.81	0.45
6:5:1223:A:H2'	6:5:1224:C:C6	2.51	0.45
6:5:1360:G:H2'	6:5:1361:G:C8	2.51	0.45
7:6:173:ILE:HD12	7:6:180:ALA:HB2	1.99	0.45
9:8:408:LEU:HD13	9:8:427:LEU:HD21	1.97	0.45
9:8:1310:LYS:HB3	36:Z:408:VAL:CA	2.46	0.45
7:AA:67:PHE:CE1	36:Z:596:ILE:CD1	2.99	0.45
13:AC:23:DC:C6	36:Z:380:LYS:HB2	2.40	0.45
29:P:7:LYS:HZ2	29:P:65:GLU:H	1.63	0.45
30:Q:81:MET:HA	30:Q:84:ARG:NH2	2.31	0.45
31:R:22:MET:HE1	31:R:31:ILE:HD13	1.98	0.45
36:Z:501:ARG:HG2	36:Z:563:LEU:CD1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:583:LEU:O	36:Z:641:GLY:HA3	2.17	0.45
36:Z:1079:THR:HG22	36:Z:1084:GLN:HG2	1.97	0.45
37:a:125:GLU:HB2	42:f:89:TYR:HE1	1.82	0.45
44:i:108:VAL:O	44:i:112:LEU:HD23	2.16	0.45
47:l:109:ILE:O	47:l:114:MET:HE2	2.16	0.45
48:m:106:ARG:HB2	48:m:113:MET:HE1	1.98	0.45
53:r:88:ARG:HG3	53:r:94:ASN:HB2	1.97	0.45
54:s:53:LEU:HD11	54:s:86:PRO:HA	1.98	0.45
56:u:38:LYS:N	56:u:51:ILE:O	2.44	0.45
57:v:39:LYS:HB3	57:v:64:LEU:HD12	1.98	0.45
4:3:77:G:OP1	58:w:49:ARG:NH2	2.50	0.45
4:3:109:G:H1'	4:3:380:A:H61	1.80	0.45
4:3:704:G:N3	4:3:704:G:H2'	2.31	0.45
4:3:794:G:H2'	4:3:795:G:H8	1.81	0.45
4:3:897:A:H62	4:3:953:G:H21	1.63	0.45
4:3:1390:C:H2'	4:3:1391:U:C6	2.51	0.45
4:3:1709:C:H3'	4:3:1710:A:C8	2.51	0.45
4:3:1830:G:OP1	37:a:58:GLN:NE2	2.50	0.45
4:3:2157:A:H2'	4:3:2158:C:C6	2.51	0.45
4:3:2515:C:H2'	4:3:2516:G:O4'	2.17	0.45
4:3:2570:U:N3	4:3:2574:A:N6	2.48	0.45
4:3:2582:G:H2'	4:3:2583:U:C6	2.51	0.45
4:3:2656:G:H2'	4:3:2657:C:C6	2.52	0.45
6:5:394:U:H2'	6:5:395:G:C8	2.48	0.45
6:5:446:A:H2'	6:5:447:G:O4'	2.16	0.45
6:5:875:G:OP1	24:K:9:ARG:NH1	2.50	0.45
6:5:1203:A:OP1	25:L:107:ARG:NH1	2.39	0.45
6:5:1294:U:N3	6:5:1295:U:O4	2.49	0.45
9:8:30:GLN:CG	9:8:676:PHE:HE1	2.29	0.45
9:8:363:GLU:CG	9:8:379:ARG:NH1	2.78	0.45
9:8:1289:MET:CG	13:AC:15:DA:C5'	2.89	0.45
13:AC:23:DC:H2''	13:AC:24:DA:C8	2.51	0.45
29:P:20:LYS:HD2	29:P:48:HIS:HB2	1.98	0.45
37:a:146:GLN:O	37:a:201:GLY:N	2.39	0.45
45:j:1:MET:HE1	45:j:32:TYR:HB3	1.97	0.45
2:1:11:PHE:CE2	46:k:59:TYR:HB3	2.52	0.45
4:3:477:U:H2'	4:3:478:G:H8	1.82	0.45
4:3:719:G:C6	4:3:809:A:H1'	2.51	0.45
4:3:892:G:H4'	56:u:83:TYR:CD2	2.52	0.45
4:3:1039:G:H2'	4:3:1040:U:C6	2.52	0.45
4:3:1108:A:H2'	4:3:1109:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1468:U:H2'	4:3:1469:C:O4'	2.16	0.45
4:3:1544:G:H2'	4:3:1545:A:C8	2.51	0.45
4:3:1826:A:H1'	4:3:1828:A:C5	2.52	0.45
4:3:2100:G:H2'	4:3:2101:A:C8	2.51	0.45
4:3:2322:G:H2'	4:3:2323:U:C6	2.51	0.45
4:3:2330:A:H3'	4:3:2331:G:H8	1.82	0.45
4:3:2372:C:H2'	4:3:2373:G:C8	2.51	0.45
4:3:2395:U:H1'	56:u:55:ARG:HG2	1.99	0.45
4:3:2472:G:H2'	4:3:2473:C:H6	1.82	0.45
4:3:2699:C:H2'	4:3:2700:C:H6	1.81	0.45
6:5:137:A:H3'	6:5:138:A:H8	1.81	0.45
6:5:238:U:H2'	6:5:280:G:H22	1.82	0.45
6:5:473:A:H2'	6:5:474:G:C8	2.52	0.45
6:5:503:G:H2'	6:5:504:A:C8	2.50	0.45
6:5:538:G:H2'	6:5:539:G:C8	2.51	0.45
6:5:879:G:H2'	6:5:880:G:C8	2.51	0.45
6:5:1003:G:C6	6:5:1018:U:C4	3.04	0.45
6:5:1261:A:N3	6:5:1327:G:O2'	2.32	0.45
6:5:1320:A:H2'	19:F:9:ARG:HE	1.80	0.45
9:8:1366:ASN:HD21	36:Z:100:MET:CB	2.18	0.45
12:AB:19:DT:H2''	12:AB:21:DC:C4'	2.37	0.45
16:C:7:ILE:HG13	16:C:8:PHE:CD1	2.52	0.45
24:K:113:GLY:HA2	24:K:119:GLY:HA2	1.99	0.45
28:O:58:LYS:HB3	28:O:64:ARG:NH1	2.32	0.45
31:R:15:LEU:HA	31:R:18:LYS:NZ	2.32	0.45
36:Z:1033:HIS:ND1	36:Z:1041:ASN:HB3	2.31	0.45
38:b:35:GLN:HE22	38:b:76:LYS:HB2	1.81	0.45
39:c:40:VAL:HG11	39:c:103:LEU:HD23	1.98	0.45
44:i:18:TRP:NE1	44:i:138:GLN:HE21	2.14	0.45
50:o:107:ARG:HD3	50:o:108:SER:O	2.16	0.45
52:q:27:ALA:HB1	52:q:31:LYS:NZ	2.31	0.45
4:3:61:U:O2'	4:3:76:A:OP2	2.33	0.45
4:3:84:G:H2'	4:3:85:U:C6	2.52	0.45
4:3:491:A:H2	4:3:509:G:H5'	1.81	0.45
4:3:843:G:H2'	4:3:844:G:C8	2.52	0.45
4:3:1037:A:H3'	4:3:1038:G:H8	1.82	0.45
4:3:1758:C:H2'	4:3:1759:C:C6	2.52	0.45
4:3:1813:C:OP1	37:a:258:TRP:NE1	2.49	0.45
4:3:2054:C:H2'	4:3:2055:A:C8	2.51	0.45
4:3:2106:G:N2	4:3:2198:G:H1	2.15	0.45
4:3:2269:C:H1'	4:3:2396:A:H1'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2712:C:C2	4:3:2713:A:C8	3.04	0.45
4:3:2799:U:H3	4:3:2810:A:N6	2.14	0.45
5:4:105:A:H2'	5:4:106:A:C8	2.51	0.45
6:5:152:U:H2'	6:5:153:A:C8	2.52	0.45
6:5:660:A:H61	6:5:739:G:H1	1.64	0.45
6:5:1447:U:H2'	6:5:1448:A:C8	2.51	0.45
9:8:98:ALA:HB2	9:8:130:LEU:HD11	1.98	0.45
9:8:409:ALA:O	9:8:423:LYS:HE3	2.17	0.45
9:8:1283:GLY:O	36:Z:407:ARG:NH1	2.50	0.45
11:A:102:ARG:HE	11:A:103:VAL:HG13	1.81	0.45
13:AC:12:DC:C2'	36:Z:890:TYR:OH	2.65	0.45
14:AD:94:GLY:O	14:AD:95:ARG:HG3	2.16	0.45
15:B:11:ARG:HG2	15:B:181:LEU:HD12	1.99	0.45
17:D:80:THR:OG1	17:D:81:LYS:N	2.50	0.45
19:F:90:VAL:HG13	19:F:95:LYS:HG2	1.98	0.45
36:Z:184:ILE:HD12	36:Z:210:LEU:CD1	2.47	0.45
36:Z:501:ARG:HG2	36:Z:563:LEU:HD11	1.97	0.45
36:Z:1219:ASP:HB3	36:Z:1235:GLN:HE22	1.81	0.45
44:i:95:MET:HE2	44:i:103:LEU:HB2	1.99	0.45
51:p:79:ILE:HD11	51:p:83:LYS:NZ	2.32	0.45
4:3:562:C:O2	44:i:119:ARG:NH2	2.49	0.45
4:3:873:G:H2'	4:3:874:U:C6	2.52	0.45
4:3:958:C:H2'	4:3:959:C:C6	2.52	0.45
4:3:975:G:H2'	4:3:976:C:C6	2.51	0.45
4:3:1167:U:C5	44:i:78:TYR:HB2	2.51	0.45
4:3:1202:A:H2'	4:3:1203:G:C8	2.52	0.45
4:3:1557:G:H21	4:3:1573:A:H62	1.65	0.45
4:3:1820:U:HO2'	4:3:1821:G:P	2.38	0.45
4:3:1841:U:H5''	4:3:1842:G:H5''	1.99	0.45
4:3:2303:U:C2	4:3:2346:G:N1	2.85	0.45
4:3:2780:U:H2'	4:3:2781:C:C6	2.52	0.45
4:3:2810:A:C8	4:3:2895:A:N6	2.83	0.45
6:5:69:G:N2	6:5:86:A:N1	2.48	0.45
6:5:403:A:H2'	6:5:404:A:H8	1.79	0.45
6:5:429:A:H2	14:AD:59:SER:HB2	1.82	0.45
6:5:501:A:H2'	6:5:502:C:C6	2.52	0.45
6:5:1032:G:H2'	6:5:1033:U:C6	2.52	0.45
6:5:1351:U:H2'	6:5:1352:A:H8	1.82	0.45
15:B:141:LEU:HA	15:B:144:VAL:HG22	1.98	0.45
18:E:88:ILE:HG23	18:E:92:ARG:NE	2.32	0.45
20:G:118:THR:OG1	20:G:119:SER:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:19:LEU:HD12	25:L:25:ILE:HG21	1.97	0.45
30:Q:61:LYS:NZ	30:Q:99:VAL:HG12	2.32	0.45
36:Z:1130:LEU:HD22	36:Z:1215:VAL:HG23	1.98	0.45
38:b:14:SER:HB2	50:o:14:GLU:OE1	2.17	0.45
41:e:148:ALA:HA	41:e:151:VAL:HG22	1.99	0.45
44:i:37:ASP:OD2	44:i:43:ASN:ND2	2.49	0.45
4:3:513:A:H2'	4:3:514:A:C8	2.51	0.45
4:3:1349:C:H2'	4:3:1350:A:C8	2.51	0.45
6:5:403:A:H4'	16:C:112:SER:HA	1.99	0.45
6:5:669:U:H2'	6:5:670:G:C8	2.51	0.45
6:5:733:A:H2'	6:5:734:A:H8	1.81	0.45
6:5:742:C:H5''	6:5:845:C:O2'	2.16	0.45
6:5:744:U:H4'	6:5:745:U:C5	2.51	0.45
9:8:661:THR:HG21	36:Z:875:ARG:NE	2.31	0.45
7:AA:67:PHE:HE1	36:Z:596:ILE:CD1	2.30	0.45
15:B:60:ARG:HG2	15:B:65:VAL:HA	1.99	0.45
29:P:30:PHE:HZ	29:P:41:ARG:HD3	1.82	0.45
31:R:81:LYS:HG3	31:R:83:HIS:H	1.82	0.45
36:Z:57:GLU:OE2	36:Z:69:ALA:HB2	2.17	0.45
36:Z:134:GLU:HB3	36:Z:165:VAL:HG21	1.97	0.45
36:Z:226:ILE:HG22	36:Z:232:PHE:HB3	1.99	0.45
38:b:1:MET:CE	38:b:2:GLU:HG2	2.46	0.45
57:v:4:LYS:HG2	57:v:12:PRO:HD3	1.99	0.45
4:3:8:A:H1'	44:i:138:GLN:OE1	2.17	0.45
4:3:342:G:N2	4:3:513:A:OP1	2.46	0.45
4:3:625:G:H2'	4:3:626:A:C8	2.47	0.45
4:3:648:G:N2	39:c:185:LYS:HG3	2.30	0.45
4:3:853:G:H21	4:3:1220:A:H62	1.64	0.45
4:3:877:G:H2'	4:3:878:A:C8	2.52	0.45
4:3:1171:G:H2'	4:3:1172:G:H8	1.82	0.45
4:3:1369:U:OP1	4:3:1636:U:O2'	2.27	0.45
4:3:1462:A:O2'	4:3:1463:G:H8	1.99	0.45
4:3:1839:C:H2'	4:3:1840:C:C6	2.51	0.45
4:3:2002:U:H2'	4:3:2003:C:C5	2.52	0.45
4:3:2023:U:H2'	4:3:2024:C:O4'	2.17	0.45
4:3:2126:A:H2	4:3:2176:G:H21	1.65	0.45
4:3:2330:A:H2'	4:3:2331:G:O4'	2.17	0.45
4:3:2731:U:OP1	38:b:115:LYS:NZ	2.37	0.45
6:5:106:C:H41	6:5:231:U:H3'	1.82	0.45
6:5:223:G:H2'	6:5:224:A:C8	2.52	0.45
6:5:402:G:O6	6:5:403:A:N6	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:606:A:H3'	6:5:607:A:H8	1.82	0.45
6:5:643:U:H2'	6:5:644:U:H6	1.79	0.45
6:5:767:U:H1'	6:5:894:A:H2	1.81	0.45
7:6:44:ARG:NH1	9:8:1232:ARG:HA	2.32	0.45
7:6:107:GLU:CD	15:B:70:TYR:OH	2.59	0.45
9:8:1160:ARG:NH1	9:8:1176:ASP:OD2	2.50	0.45
11:A:112:TRP:CZ2	11:A:116:THR:HB	2.51	0.45
13:AC:27:DA:O5'	14:AD:18:LYS:CD	2.63	0.45
16:C:74:LEU:HA	16:C:77:LEU:HG	1.99	0.45
21:H:106:THR:HG23	21:H:107:THR:HG23	1.99	0.45
22:I:63:VAL:HG12	22:I:64:ASP:H	1.81	0.45
24:K:96:ARG:HH22	24:K:130:TYR:HE1	1.65	0.45
30:Q:70:ILE:HD12	30:Q:90:LEU:HD21	1.99	0.45
36:Z:257:LEU:HB3	36:Z:281:LEU:HD12	1.99	0.45
36:Z:781:TRP:CE3	36:Z:853:PRO:HG3	2.52	0.45
36:Z:890:TYR:CD1	36:Z:894:LYS:HE3	2.47	0.45
39:c:176:LYS:C	39:c:179:GLN:HE22	2.23	0.45
53:r:115:GLN:HB3	53:r:119:LYS:NZ	2.31	0.45
3:2:15:LYS:HA	3:2:15:LYS:HD2	1.81	0.45
4:3:195:A:H2'	4:3:196:G:C8	2.52	0.45
4:3:289:U:H2'	4:3:290:A:C8	2.52	0.45
4:3:405:C:H2'	4:3:406:C:C6	2.52	0.45
4:3:874:U:H2'	4:3:875:G:C8	2.52	0.45
4:3:899:A:H2'	4:3:900:G:C8	2.52	0.45
4:3:1101:U:O2	4:3:1108:A:N6	2.50	0.45
4:3:1778:G:H2'	4:3:1779:G:C8	2.52	0.45
4:3:2268:C:H2'	4:3:2269:C:H6	1.81	0.45
4:3:2701:A:H2'	4:3:2702:G:C8	2.52	0.45
4:3:2754:U:H5''	41:e:141:LYS:HB3	1.99	0.45
4:3:2852:G:H1'	4:3:2872:A:N6	2.32	0.45
6:5:94:A:O2'	6:5:95:C:H5'	2.16	0.45
6:5:597:C:H5''	20:G:100:PRO:HA	1.98	0.45
6:5:619:A:OP2	6:5:619:A:H8	2.00	0.45
6:5:887:C:H2'	6:5:888:A:O4'	2.17	0.45
6:5:949:G:H3'	6:5:950:C:C5	2.52	0.45
6:5:1072:G:H2'	6:5:1073:A:C8	2.52	0.45
6:5:1464:G:H2'	6:5:1465:U:C6	2.52	0.45
8:7:3:G:H1'	56:u:20:GLY:HA3	1.99	0.45
8:7:30:G:H5''	25:L:118:ASN:CG	2.42	0.45
9:8:15:THR:HG21	9:8:863:LEU:HD23	1.99	0.45
9:8:1200:PHE:CD1	36:Z:864:ILE:N	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:14:DG:H4'	36:Z:890:TYR:N	2.30	0.45
32:S:50:GLN:NE2	32:S:54:LEU:HD23	2.32	0.45
38:b:208:ARG:HD2	38:b:209:THR:N	2.32	0.45
41:e:145:GLY:O	41:e:149:THR:HG23	2.16	0.45
44:i:143:LEU:HG	44:i:146:SER:HB3	1.99	0.45
49:n:28:VAL:HG11	49:n:86:LEU:HD13	1.99	0.45
52:q:67:LYS:HA	52:q:86:ARG:HE	1.82	0.45
55:t:41:LYS:HD2	55:t:64:GLN:HB3	1.99	0.45
4:3:174:A:H2'	4:3:175:A:H8	1.82	0.44
4:3:306:G:H2'	4:3:307:C:C6	2.51	0.44
4:3:858:A:N6	4:3:870:A:H61	2.15	0.44
4:3:1001:C:H2'	4:3:1002:A:C8	2.53	0.44
4:3:1065:G:H5''	47:l:129:TRP:HH2	1.81	0.44
4:3:1149:G:O2'	4:3:1150:U:H5'	2.18	0.44
4:3:1300:C:OP1	4:3:1301:G:H5'	2.17	0.44
4:3:1343:C:H2'	4:3:1344:U:C6	2.52	0.44
4:3:1513:A:H2'	4:3:1514:U:C6	2.52	0.44
4:3:1587:U:O2'	4:3:1588:A:N7	2.45	0.44
4:3:1785:U:H2'	4:3:1786:U:O2	2.18	0.44
4:3:2447:A:H1'	4:3:2595:A:OP1	2.17	0.44
4:3:2643:A:O2'	38:b:83:GLU:OE2	2.32	0.44
6:5:304:U:H2'	6:5:305:A:C8	2.52	0.44
6:5:490:U:H2'	6:5:491:U:C6	2.52	0.44
6:5:519:G:C5	6:5:527:G:N2	2.85	0.44
6:5:1168:G:H2'	6:5:1169:U:H6	1.82	0.44
6:5:1258:U:H2'	6:5:1259:G:C8	2.52	0.44
6:5:1390:G:H2'	6:5:1391:A:H8	1.82	0.44
9:8:17:THR:H	9:8:1140:ASN:HD21	1.65	0.44
9:8:945:ARG:CD	15:B:76:PHE:CE1	3.00	0.44
9:8:956:ARG:NH2	15:B:108:GLU:HG3	2.26	0.44
9:8:1340:LYS:HZ3	9:8:1370:ILE:HG13	1.81	0.44
7:AA:82:LEU:HD12	36:Z:621:SER:HB2	1.98	0.44
12:AB:29:DC:C5'	36:Z:1057:VAL:CG2	2.81	0.44
16:C:2:LYS:HG3	16:C:3:TYR:HD1	1.82	0.44
16:C:147:LYS:O	16:C:150:LYS:NZ	2.49	0.44
38:b:227:GLU:OE1	38:b:227:GLU:N	2.51	0.44
50:o:90:LEU:C	50:o:91:LYS:HD3	2.42	0.44
53:r:85:THR:OG1	53:r:93:SER:OG	2.35	0.44
4:3:455:G:C4	4:3:456:G:C8	3.05	0.44
4:3:731:A:H2'	4:3:732:G:C8	2.53	0.44
4:3:832:C:H2'	4:3:833:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1447:A:O2'	4:3:1448:U:H5''	2.18	0.44
4:3:1457:A:H2'	4:3:1458:A:H8	1.81	0.44
4:3:1600:A:H1'	37:a:62:ASN:HD22	1.80	0.44
4:3:2265:U:H2'	4:3:2266:C:C6	2.52	0.44
4:3:2850:G:H2'	4:3:2851:U:H6	1.83	0.44
4:3:2861:G:O2'	4:3:2863:G:N7	2.46	0.44
5:4:4:G:C6	5:4:105:A:N6	2.86	0.44
6:5:623:G:H4'	28:O:32:HIS:HE2	1.82	0.44
6:5:865:U:O2'	6:5:866:A:OP1	2.34	0.44
6:5:939:G:N2	6:5:1312:G:H8	2.16	0.44
6:5:964:A:H2'	6:5:965:C:C6	2.52	0.44
6:5:1089:C:H2'	6:5:1090:G:C8	2.51	0.44
6:5:1114:A:N6	6:5:1127:A:N6	2.65	0.44
9:8:354:SER:N	12:AB:20:DG:C4	2.83	0.44
9:8:1269:LYS:CB	36:Z:313:ILE:HD11	2.38	0.44
9:8:1292:TRP:CH2	36:Z:893:ARG:HG3	2.51	0.44
9:8:1330:PHE:CZ	36:Z:542:LEU:CD1	3.01	0.44
9:8:1340:LYS:NZ	9:8:1370:ILE:HG12	2.33	0.44
14:AD:108:TRP:CZ3	14:AD:130:PRO:CB	2.99	0.44
32:S:27:LYS:O	32:S:30:THR:OG1	2.34	0.44
36:Z:135:VAL:HG12	36:Z:139:LEU:HD12	1.99	0.44
38:b:64:LYS:O	38:b:67:GLN:HG2	2.16	0.44
39:c:156:ASN:O	39:c:194:ALA:HA	2.16	0.44
52:q:35:LEU:HB3	52:q:55:VAL:HG23	1.99	0.44
4:3:57:G:H2'	4:3:58:A:H8	1.81	0.44
4:3:810:G:H4'	4:3:811:G:H5'	1.99	0.44
4:3:984:C:H2'	4:3:985:A:C8	2.52	0.44
4:3:1028:C:H2'	4:3:1029:A:C8	2.53	0.44
4:3:1364:A:H2'	4:3:1365:G:C8	2.53	0.44
4:3:1408:G:H2'	4:3:1409:G:H8	1.82	0.44
4:3:1475:C:H2'	4:3:1476:C:O4'	2.16	0.44
4:3:1596:U:H2'	4:3:1597:U:C6	2.51	0.44
4:3:1687:G:OP1	4:3:2826:G:N1	2.50	0.44
4:3:1954:C:H2'	4:3:1955:G:C8	2.53	0.44
4:3:2028:G:OP1	60:y:11:HIS:NE2	2.50	0.44
4:3:2534:G:N2	4:3:2545:U:O2	2.37	0.44
6:5:108:C:H5''	6:5:307:C:H1'	1.99	0.44
6:5:176:G:H2'	6:5:177:G:C8	2.52	0.44
6:5:409:G:H1'	6:5:425:G:H21	1.81	0.44
6:5:747:C:H5'	27:N:17:LYS:HE3	1.98	0.44
6:5:1438:U:H2'	6:5:1439:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1326:LYS:HG2	36:Z:464:ILE:HD11	2.00	0.44
17:D:148:ARG:HB2	17:D:183:LEU:HB2	1.98	0.44
18:E:35:LEU:HD12	18:E:60:TRP:CD1	2.51	0.44
20:G:116:ILE:O	20:G:123:MET:N	2.39	0.44
22:I:56:THR:O	22:I:68:ARG:NH1	2.51	0.44
41:e:142:GLU:OE1	41:e:142:GLU:N	2.39	0.44
61:z:11:CYS:HA	61:z:47:HIS:ND1	2.33	0.44
4:3:387:U:H2'	4:3:388:U:C6	2.52	0.44
4:3:745:U:H2'	4:3:746:G:C8	2.52	0.44
4:3:858:A:H2'	4:3:859:G:C8	2.52	0.44
4:3:868:C:H2'	4:3:869:U:C6	2.52	0.44
4:3:991:G:H4'	47:l:87:LYS:HE3	1.99	0.44
4:3:1229:U:H2'	4:3:1230:U:H6	1.83	0.44
4:3:1308:A:H2'	4:3:1309:G:H8	1.83	0.44
4:3:1344:U:H2'	4:3:1345:G:C8	2.53	0.44
4:3:1703:A:H8	45:j:5:MET:HG2	1.80	0.44
4:3:2002:U:H3'	4:3:2003:C:H2'	2.00	0.44
5:4:77:G:H2'	5:4:78:C:H1'	1.98	0.44
6:5:13:U:O2'	6:5:908:A:OP2	2.29	0.44
6:5:14:U:H3'	6:5:15:U:C6	2.52	0.44
6:5:80:U:H2'	6:5:81:A:C8	2.53	0.44
6:5:256:G:O6	32:S:71:ARG:NH1	2.50	0.44
6:5:571:A:O2'	6:5:572:A:O4'	2.27	0.44
6:5:678:A:H2'	6:5:679:U:H6	1.83	0.44
6:5:909:A:O2'	6:5:910:C:H5'	2.18	0.44
6:5:1228:C:O2'	6:5:1329:G:O2'	2.30	0.44
7:6:94:LEU:CD1	22:I:36:LYS:O	2.66	0.44
8:7:68:G:H2'	8:7:69:A:C8	2.51	0.44
9:8:392:LYS:NZ	9:8:529:ASN:HA	2.33	0.44
9:8:607:HIS:HE1	9:8:609:LEU:HD12	1.83	0.44
9:8:848:LYS:HD3	9:8:859:ASN:OD1	2.16	0.44
11:A:132:LYS:HE2	11:A:132:LYS:HB3	1.83	0.44
17:D:137:TYR:O	17:D:153:PRO:HG3	2.17	0.44
19:F:71:ARG:HG3	19:F:72:LEU:HD22	1.99	0.44
20:G:21:LYS:HA	20:G:21:LYS:HD2	1.67	0.44
22:I:57:ILE:HD12	26:M:41:ARG:HB2	2.00	0.44
23:J:46:LYS:HE2	23:J:46:LYS:HB2	1.89	0.44
31:R:41:PHE:CD1	31:R:42:PRO:HD2	2.52	0.44
34:U:25:VAL:CG2	34:U:89:ILE:HD11	2.48	0.44
40:d:106:VAL:O	40:d:110:ARG:HB2	2.17	0.44
41:e:127:LYS:HB2	41:e:135:THR:HB	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:l:36:ALA:N	47:l:103:MET:HE1	2.33	0.44
48:m:117:GLN:HG2	60:y:53:VAL:HG21	2.00	0.44
49:n:79:ASP:O	49:n:82:VAL:HG22	2.16	0.44
50:o:5:ASN:C	50:o:6:LYS:HD3	2.43	0.44
53:r:65:ASN:ND2	53:r:67:ASP:OD2	2.50	0.44
4:3:297:G:H1	4:3:440:C:H5	1.65	0.44
4:3:755:C:H2'	4:3:756:A:H8	1.82	0.44
4:3:815:G:H5''	37:a:225:ARG:NH2	2.33	0.44
4:3:892:G:H4'	56:u:83:TYR:HD2	1.83	0.44
4:3:1535:A:H2'	4:3:1536:C:O4'	2.16	0.44
4:3:1692:A:H2'	4:3:1693:U:C6	2.53	0.44
4:3:1830:G:H2'	4:3:1831:G:C8	2.52	0.44
4:3:1843:C:H2'	4:3:1844:C:C6	2.52	0.44
4:3:2087:G:H2'	4:3:2088:U:H6	1.83	0.44
4:3:2382:A:H2'	4:3:2383:G:H8	1.82	0.44
4:3:2823:A:C6	4:3:2832:G:N1	2.86	0.44
4:3:2858:A:H2'	4:3:2859:U:C6	2.53	0.44
4:3:2891:C:H2'	4:3:2892:U:H6	1.83	0.44
5:4:70:G:H21	5:4:94:A:H62	1.65	0.44
6:5:255:G:H2'	6:5:256:G:C8	2.53	0.44
6:5:324:C:H4'	6:5:325:A:H5''	2.00	0.44
6:5:434:U:O2'	16:C:121:HIS:NE2	2.45	0.44
6:5:613:C:H2'	6:5:614:U:H6	1.82	0.44
6:5:826:G:N2	6:5:851:U:O2	2.35	0.44
6:5:1012:A:O2'	6:5:1192:C:O2'	2.33	0.44
9:8:141:VAL:CG1	9:8:613:LEU:HD22	2.42	0.44
9:8:614:ASP:HA	9:8:854:GLN:HE22	1.82	0.44
9:8:1342:LEU:HD13	36:Z:398:LEU:HD23	1.99	0.44
11:A:193:ILE:O	11:A:195:ARG:NH2	2.48	0.44
16:C:41:ARG:HH21	16:C:41:ARG:HG2	1.81	0.44
20:G:41:LYS:HA	20:G:44:ILE:HG12	2.00	0.44
60:y:40:HIS:C	60:y:41:ARG:HD2	2.42	0.44
4:3:280:A:H2'	4:3:281:U:C6	2.52	0.44
4:3:1597:U:H2'	4:3:1598:U:C6	2.52	0.44
4:3:1695:G:H4'	4:3:2720:C:O2	2.17	0.44
4:3:1725:G:O6	4:3:1731:G:N2	2.51	0.44
4:3:2599:C:H2'	4:3:2600:G:H8	1.82	0.44
4:3:2656:G:H2'	4:3:2657:C:H6	1.82	0.44
6:5:10:G:H2'	6:5:11:A:C8	2.53	0.44
6:5:433:C:O2'	16:C:151:ILE:HG12	2.18	0.44
6:5:523:U:H5''	24:K:101:LYS:NZ	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:881:G:N1	6:5:905:U:N3	2.66	0.44
6:5:1114:A:H2'	6:5:1115:G:C8	2.53	0.44
6:5:1348:G:H5''	19:F:35:LYS:HE3	1.99	0.44
6:5:1463:A:H2'	6:5:1464:G:C8	2.53	0.44
9:8:76:THR:CG2	9:8:125:VAL:HG21	2.48	0.44
15:B:18:TRP:O	15:B:21:ARG:NH1	2.50	0.44
15:B:35:ILE:HG12	26:M:25:GLN:HB2	2.00	0.44
16:C:95:SER:O	16:C:95:SER:OG	2.35	0.44
27:N:18:ASP:OD1	27:N:18:ASP:N	2.50	0.44
27:N:37:THR:HA	27:N:40:LEU:HG	2.00	0.44
29:P:7:LYS:O	29:P:64:VAL:HG12	2.18	0.44
38:b:29:ILE:HB	38:b:191:VAL:HG13	2.00	0.44
39:c:112:LEU:O	39:c:115:VAL:HG12	2.18	0.44
42:f:33:LYS:HE3	42:f:109:GLN:NE2	2.33	0.44
42:f:98:ILE:HD13	42:f:108:LEU:HD12	1.99	0.44
45:j:21:ILE:HD11	45:j:39:VAL:HB	1.99	0.44
4:3:27:U:H4'	53:r:80:PRO:HD3	1.98	0.44
4:3:616:G:H2'	4:3:617:C:H6	1.82	0.44
4:3:764:G:O4'	37:a:215:LYS:NZ	2.49	0.44
4:3:1082:A:HO2'	4:3:1083:A:P	2.40	0.44
4:3:1756:A:H2'	4:3:1757:G:H8	1.82	0.44
4:3:2073:C:H2'	4:3:2074:G:C8	2.52	0.44
4:3:2334:U:O2'	4:3:2335:A:N7	2.51	0.44
4:3:2799:U:H3'	4:3:2896:G:H21	1.82	0.44
5:4:59:A:H2'	5:4:60:C:H6	1.83	0.44
6:5:335:C:H2'	6:5:336:U:C6	2.51	0.44
6:5:371:U:H2'	6:5:372:G:C8	2.53	0.44
6:5:492:G:H2'	6:5:494:A:H8	1.83	0.44
6:5:712:A:H2'	6:5:713:A:C8	2.52	0.44
6:5:1132:G:N2	6:5:1154:A:C2	2.86	0.44
6:5:1154:A:H5''	21:H:107:THR:HA	2.00	0.44
6:5:1194:A:H2'	6:5:1195:G:H8	1.83	0.44
9:8:163:MET:HG3	9:8:510:TYR:CD1	2.53	0.44
9:8:395:ARG:O	9:8:401:GLU:HG3	2.17	0.44
9:8:723:ILE:HG22	9:8:727:ASN:HA	1.98	0.44
9:8:1223:HIS:O	36:Z:737:PHE:HB2	2.18	0.44
9:8:1349:LEU:HD11	36:Z:389:THR:CA	2.48	0.44
16:C:100:ILE:HG13	16:C:136:LEU:HG	1.98	0.44
17:D:131:ILE:HD13	17:D:175:TYR:CE2	2.53	0.44
19:F:37:LEU:O	19:F:41:ILE:HG12	2.18	0.44
19:F:78:ARG:HH11	19:F:84:TYR:N	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:9:ILE:O	27:N:13:GLN:HG3	2.18	0.44
33:T:28:LEU:HA	33:T:31:ARG:NH2	2.33	0.44
52:q:10:LYS:HD3	52:q:10:LYS:HA	1.75	0.44
4:3:107:C:H2'	4:3:108:G:C8	2.53	0.44
4:3:481:C:O3'	51:p:2:ARG:NH2	2.51	0.44
4:3:609:U:O2'	4:3:610:G:H5'	2.18	0.44
4:3:727:C:H2'	4:3:728:A:C8	2.52	0.44
4:3:730:G:H2'	4:3:731:A:C8	2.53	0.44
4:3:1050:A:N6	4:3:1183:A:H61	2.16	0.44
4:3:1317:C:H2'	4:3:1318:U:C6	2.53	0.44
4:3:1749:A:O2'	4:3:1750:A:O4'	2.18	0.44
4:3:1857:G:H2'	4:3:1858:U:C6	2.53	0.44
4:3:1992:C:H2'	4:3:1993:U:C6	2.53	0.44
4:3:2070:C:O2'	8:7:77:A:H5''	2.17	0.44
4:3:2074:G:H3'	4:3:2075:U:H4'	1.99	0.44
4:3:2113:U:O2	4:3:2191:G:N2	2.51	0.44
4:3:2127:G:N3	4:3:2127:G:H2'	2.33	0.44
6:5:287:U:N3	6:5:306:G:N1	2.66	0.44
6:5:596:U:H2'	6:5:597:C:C6	2.53	0.44
6:5:656:U:H2'	6:5:657:G:C8	2.53	0.44
6:5:912:G:H2'	6:5:913:A:H8	1.81	0.44
7:6:34:PHE:HZ	7:AA:231:ILE:HG22	1.82	0.44
13:AC:28:DT:H73	14:AD:18:LYS:NZ	2.33	0.44
16:C:3:TYR:HD2	16:C:5:GLY:H	1.66	0.44
23:J:11:SER:OG	23:J:76:LYS:NZ	2.50	0.44
23:J:119:ARG:HH22	33:T:36:LEU:HD13	1.82	0.44
24:K:100:VAL:HG13	24:K:109:HIS:HE1	1.83	0.44
40:d:40:VAL:HG23	40:d:150:ARG:CZ	2.48	0.44
41:e:57:ARG:NH1	41:e:64:SER:OG	2.50	0.44
41:e:147:PHE:HA	41:e:150:GLU:CD	2.42	0.44
42:f:25:TYR:CE2	42:f:30:LEU:HB2	2.53	0.44
46:k:6:LEU:HD23	46:k:6:LEU:H	1.83	0.44
46:k:34:ARG:NH1	46:k:40:LYS:O	2.47	0.44
46:k:99:ILE:HG13	46:k:100:GLU:N	2.33	0.44
53:r:116:GLU:N	53:r:116:GLU:OE1	2.50	0.44
60:y:40:HIS:O	60:y:41:ARG:HD2	2.18	0.44
4:3:40:A:H1'	39:c:49:THR:HB	2.00	0.44
4:3:137:U:H2'	4:3:138:U:C6	2.53	0.44
4:3:498:C:H2'	4:3:499:G:C8	2.53	0.44
4:3:595:U:H2'	4:3:605:A:C1'	2.48	0.44
4:3:1065:G:H2'	4:3:1066:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1307:G:H2'	4:3:1308:A:C8	2.53	0.44
4:3:1368:U:O2	4:3:1636:U:H5''	2.18	0.44
4:3:1451:A:H2'	4:3:1452:G:C8	2.53	0.44
4:3:2041:C:H2'	4:3:2042:A:C8	2.53	0.44
4:3:2736:U:O2'	4:3:2737:G:H8	1.95	0.44
6:5:317:A:N1	6:5:328:G:C6	2.85	0.44
6:5:591:A:H2'	6:5:592:A:C8	2.52	0.44
6:5:747:C:H4'	27:N:18:ASP:HA	2.00	0.44
6:5:763:A:N7	6:5:810:U:O4	2.50	0.44
6:5:1098:C:C2	6:5:1099:G:C8	3.05	0.44
6:5:1505:G:O2'	6:5:1506:A:O4'	2.26	0.44
8:7:11:G:N2	8:7:27:A:H1'	2.33	0.44
9:8:943:ILE:HD13	9:8:1043:ILE:HD12	1.99	0.44
9:8:1310:LYS:HA	36:Z:409:ASP:OD2	2.17	0.44
9:8:1350:ALA:N	36:Z:368:PHE:CZ	2.86	0.44
13:AC:17:DT:C5'	36:Z:413:ARG:HH11	2.31	0.44
16:C:12:ARG:HG2	16:C:35:PRO:HD3	1.99	0.44
20:G:90:ILE:HG12	20:G:139:ALA:HA	2.00	0.44
25:L:90:ARG:HG2	25:L:95:LEU:HB2	2.00	0.44
29:P:11:GLY:HA3	29:P:26:VAL:HG12	1.99	0.44
29:P:14:LYS:HD2	29:P:15:SER:OG	2.17	0.44
39:c:54:THR:HG23	39:c:56:GLY:H	1.83	0.44
42:f:1:MET:N	42:f:24:GLY:HA2	2.33	0.44
54:s:16:VAL:HA	54:s:19:ASN:HD22	1.83	0.44
3:2:4:ARG:HB3	4:3:2474:C:OP1	2.18	0.43
4:3:109:G:H2'	4:3:110:A:C8	2.52	0.43
4:3:535:G:N1	4:3:538:A:OP2	2.42	0.43
4:3:675:U:H2'	4:3:676:U:H6	1.83	0.43
4:3:761:G:O2'	4:3:762:A:N7	2.47	0.43
4:3:929:G:H2'	4:3:930:C:C6	2.52	0.43
4:3:1142:G:C1'	34:U:78:GLY:C	2.76	0.43
4:3:1172:G:N2	44:i:111:MET:HA	2.31	0.43
4:3:1320:C:H2'	4:3:1321:C:C6	2.53	0.43
4:3:1337:G:H2'	4:3:1338:G:C8	2.53	0.43
4:3:1460:G:N2	4:3:1596:U:O2	2.50	0.43
4:3:1470:C:H2'	4:3:1471:A:H8	1.82	0.43
4:3:2001:C:H2'	4:3:2002:U:C5	2.52	0.43
4:3:2080:C:H2'	4:3:2081:U:C6	2.53	0.43
4:3:2258:G:N2	47:l:84:GLY:HA3	2.33	0.43
4:3:2677:A:H2'	4:3:2678:A:H8	1.83	0.43
6:5:59:C:H42	6:5:351:C:N4	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:60:A:N6	6:5:327:G:H1'	2.33	0.43
6:5:404:A:H2'	6:5:405:C:C6	2.53	0.43
9:8:374:CYS:HB3	9:8:459:VAL:HG12	2.00	0.43
9:8:404:TYR:HA	9:8:432:ILE:HD11	1.99	0.43
7:AA:168:GLU:CD	36:Z:611:LYS:NZ	2.75	0.43
14:AD:74:TRP:CH2	14:AD:84:LYS:HD2	2.53	0.43
18:E:71:ASP:HA	18:E:74:ARG:NE	2.33	0.43
27:N:5:LYS:O	27:N:9:ILE:HG23	2.18	0.43
36:Z:164:GLU:OE1	36:Z:179:LYS:NZ	2.49	0.43
36:Z:745:LYS:NZ	36:Z:860:GLU:OE2	2.46	0.43
38:b:123:ILE:H	38:b:123:ILE:HD12	1.82	0.43
38:b:161:LYS:HG2	44:i:82:GLN:HG2	2.00	0.43
59:x:39:CYS:H	59:x:42:CYS:HB2	1.82	0.43
4:3:344:A:H1'	4:3:346:G:N7	2.33	0.43
4:3:349:G:H2'	4:3:350:C:C6	2.53	0.43
4:3:433:A:H2'	4:3:434:G:H8	1.83	0.43
4:3:565:C:O2'	4:3:567:U:O4	2.32	0.43
4:3:725:G:H2'	4:3:726:U:C6	2.53	0.43
4:3:1077:G:H2'	4:3:1078:C:C6	2.53	0.43
4:3:1213:U:H2'	4:3:1214:U:C6	2.53	0.43
4:3:1255:G:O2'	4:3:1256:A:O5'	2.33	0.43
4:3:1775:G:H2'	4:3:1776:G:H8	1.82	0.43
4:3:2025:C:H2'	4:3:2026:A:C8	2.51	0.43
4:3:2087:G:H2'	4:3:2088:U:C6	2.53	0.43
4:3:2179:A:H1'	4:3:2180:U:C5	2.53	0.43
4:3:2267:G:H2'	4:3:2268:C:H6	1.83	0.43
4:3:2348:U:H2'	4:3:2349:G:H8	1.83	0.43
4:3:2730:G:H2'	4:3:2731:U:C6	2.53	0.43
4:3:2749:A:H62	4:3:2771:G:N2	2.10	0.43
4:3:2893:C:H2'	4:3:2894:G:O4'	2.17	0.43
6:5:343:G:H2'	6:5:344:G:O4'	2.18	0.43
6:5:418:U:H5''	6:5:420:A:H2	1.83	0.43
6:5:604:U:H5''	6:5:605:A:H5'	2.00	0.43
6:5:798:U:C2	6:5:799:A:C8	3.06	0.43
6:5:839:U:H1'	30:Q:45:ALA:HB2	2.00	0.43
6:5:862:C:H2'	6:5:863:A:O4'	2.17	0.43
6:5:914:A:H2'	6:5:915:U:C6	2.54	0.43
6:5:980:C:H2'	6:5:981:U:H6	1.83	0.43
6:5:1002:A:H3'	6:5:1003:G:H8	1.83	0.43
9:8:1079:PRO:HB2	9:8:1228:LEU:HD21	2.00	0.43
39:c:137:GLU:HA	39:c:167:ASN:HD22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:c:189:ARG:O	39:c:193:LEU:N	2.51	0.43
40:d:40:VAL:HA	40:d:150:ARG:NH1	2.34	0.43
41:e:161:LYS:HA	41:e:174:ARG:HH12	1.83	0.43
48:m:17:THR:O	48:m:21:GLN:OE1	2.36	0.43
49:n:75:GLN:O	49:n:79:ASP:N	2.39	0.43
52:q:54:ARG:HB2	52:q:98:VAL:HG22	2.00	0.43
58:w:35:HIS:CG	58:w:36:GLY:H	2.36	0.43
4:3:481:C:H2'	4:3:482:G:C8	2.53	0.43
4:3:897:A:C2	5:4:76:A:H2	2.37	0.43
4:3:898:A:O3'	5:4:76:A:O2'	2.26	0.43
4:3:1263:G:H2'	4:3:1264:U:H6	1.83	0.43
4:3:1278:G:C5	51:p:2:ARG:HB2	2.53	0.43
4:3:1310:U:H2'	4:3:1311:G:C8	2.53	0.43
4:3:1440:U:H2'	4:3:1441:A:C8	2.52	0.43
4:3:1578:A:H2'	4:3:1579:G:O4'	2.18	0.43
4:3:1619:A:H2'	4:3:1620:A:H8	1.83	0.43
4:3:1640:G:H4'	4:3:1642:G:N1	2.33	0.43
4:3:1758:C:H2'	4:3:1759:C:H6	1.83	0.43
4:3:2138:U:H4'	4:3:2140:G:N7	2.34	0.43
4:3:2258:G:H22	47:l:84:GLY:HA3	1.83	0.43
4:3:2639:G:H2'	4:3:2640:A:C8	2.52	0.43
4:3:2681:G:H2'	4:3:2682:A:H8	1.82	0.43
6:5:87:G:H2'	6:5:88:A:C8	2.49	0.43
6:5:118:C:H2'	6:5:119:U:C6	2.54	0.43
6:5:137:A:C2	6:5:138:A:H1'	2.53	0.43
6:5:276:U:C2	29:P:41:ARG:HA	2.53	0.43
6:5:927:C:H5''	19:F:2:ARG:N	2.33	0.43
6:5:1224:C:H42	6:5:1262:A:H8	1.62	0.43
6:5:1233:G:H2'	6:5:1234:C:C6	2.53	0.43
6:5:1366:U:H2'	6:5:1367:G:C8	2.53	0.43
7:6:128:GLU:HB2	22:I:95:ARG:NH2	2.34	0.43
9:8:177:ARG:NH1	9:8:221:ALA:O	2.51	0.43
9:8:658:PRO:CB	36:Z:868:PHE:CD2	2.99	0.43
9:8:774:ASP:O	36:Z:867:TYR:CE2	2.71	0.43
9:8:911:ILE:HB	9:8:915:LEU:HD12	2.00	0.43
22:I:63:VAL:HG12	22:I:64:ASP:N	2.33	0.43
32:S:24:GLN:HA	32:S:27:LYS:HG2	2.00	0.43
36:Z:894:LYS:NZ	36:Z:1219:ASP:OD2	2.52	0.43
37:a:204:SER:OG	37:a:205:ASN:N	2.50	0.43
37:a:253:ALA:O	37:a:261:ARG:NH2	2.43	0.43
40:d:117:LEU:HB2	40:d:176:PRO:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:e:93:VAL:HG13	41:e:163:LYS:HA	2.00	0.43
50:o:52:VAL:HA	50:o:65:ILE:O	2.18	0.43
58:w:87:TRP:O	58:w:91:LEU:HG	2.18	0.43
4:3:9:G:H2'	4:3:10:U:C6	2.53	0.43
4:3:990:G:H2'	4:3:991:G:H8	1.84	0.43
4:3:1030:U:OP1	51:p:52:LYS:NZ	2.35	0.43
4:3:1459:A:H2'	4:3:1460:G:C8	2.53	0.43
4:3:1585:A:N3	4:3:1585:A:H2'	2.34	0.43
4:3:1701:G:H5''	45:j:7:ARG:NH1	2.33	0.43
4:3:1741:G:H2'	4:3:1742:C:C6	2.53	0.43
4:3:2669:G:H2'	4:3:2670:A:C8	2.54	0.43
4:3:2780:U:H4'	38:b:175:THR:HG21	2.00	0.43
5:4:16:G:O6	5:4:63:U:C2	2.70	0.43
6:5:111:A:H8	6:5:111:A:OP2	2.01	0.43
6:5:409:G:O3'	6:5:425:G:N2	2.51	0.43
6:5:499:U:H2'	6:5:500:G:C8	2.53	0.43
6:5:519:G:O6	6:5:527:G:N1	2.51	0.43
6:5:781:A:H2'	6:5:782:G:C8	2.53	0.43
6:5:843:C:H2'	6:5:844:U:C6	2.54	0.43
6:5:1003:G:N1	6:5:1018:U:C2	2.86	0.43
6:5:1373:A:H4'	6:5:1374:C:O5'	2.17	0.43
6:5:1471:C:H2'	6:5:1472:G:C8	2.54	0.43
6:5:1487:U:H3	6:5:1498:G:H1	1.64	0.43
9:8:648:VAL:C	36:Z:835:PHE:HE2	2.26	0.43
11:A:67:THR:HA	11:A:70:ASN:ND2	2.33	0.43
7:AA:82:LEU:HD21	36:Z:597:PHE:C	2.42	0.43
14:AD:100:LYS:NZ	14:AD:142:GLU:OE1	2.50	0.43
15:B:123:LEU:HD21	15:B:140:SER:HB2	1.99	0.43
17:D:77:SER:OG	17:D:84:ARG:HD3	2.19	0.43
17:D:166:ILE:H	17:D:166:ILE:HD12	1.83	0.43
24:K:43:LYS:HA	24:K:43:LYS:HD2	1.74	0.43
36:Z:188:PHE:CE2	36:Z:204:LYS:HB2	2.54	0.43
37:a:61:ARG:NH2	37:a:64:ARG:HE	2.16	0.43
51:p:14:LYS:HE2	51:p:14:LYS:HB2	1.72	0.43
4:3:482:G:H5'	51:p:2:ARG:HH21	1.83	0.43
4:3:591:G:H2'	4:3:592:G:H8	1.83	0.43
4:3:683:G:H2'	4:3:684:A:H8	1.83	0.43
4:3:1691:U:O3'	38:b:139:TYR:HB2	2.19	0.43
4:3:2222:C:H2'	4:3:2223:C:O4'	2.19	0.43
4:3:2384:A:H2'	4:3:2385:A:O4'	2.19	0.43
4:3:2702:G:H2'	4:3:2703:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:203:C:H2'	6:5:204:C:C6	2.54	0.43
6:5:222:U:H2'	6:5:223:G:C8	2.53	0.43
6:5:431:U:C5'	14:AD:81:ARG:HD2	2.48	0.43
6:5:455:U:H3	6:5:472:G:H22	1.65	0.43
6:5:575:A:H2'	6:5:576:A:C8	2.53	0.43
6:5:610:C:H2'	6:5:611:A:C8	2.53	0.43
6:5:949:G:H21	6:5:1202:A:N6	2.16	0.43
6:5:1214:A:H1'	6:5:1216:G:C4	2.53	0.43
6:5:1306:A:H2'	6:5:1307:A:O4'	2.19	0.43
6:5:1423:C:H2'	6:5:1424:C:C6	2.54	0.43
6:5:1482:A:H2'	6:5:1483:C:O4'	2.18	0.43
7:6:49:CYS:SG	7:AA:34:PHE:CE2	3.07	0.43
9:8:304:TYR:CE2	9:8:335:MET:HE2	2.54	0.43
9:8:465:SER:HB2	9:8:500:THR:HB	2.00	0.43
9:8:816:MET:HB3	9:8:877:ALA:HB3	1.99	0.43
9:8:906:GLU:OE2	36:Z:530:ASP:CB	2.66	0.43
9:8:1126:CYS:O	9:8:1154:LYS:CE	2.64	0.43
11:A:129:LYS:O	11:A:133:LEU:HD23	2.18	0.43
25:L:57:ARG:HA	25:L:60:ALA:HB3	1.99	0.43
37:a:98:LEU:HB2	37:a:108:TYR:HE1	1.84	0.43
41:e:147:PHE:HA	41:e:150:GLU:OE2	2.18	0.43
4:3:867:G:H1'	46:k:53:GLY:HA2	2.01	0.43
4:3:942:A:H2'	4:3:943:A:O4'	2.18	0.43
4:3:944:U:OP1	47:l:24:ASN:N	2.35	0.43
4:3:1231:G:H2'	4:3:1232:U:C6	2.53	0.43
4:3:1408:G:H2'	4:3:1409:G:C8	2.53	0.43
4:3:1454:G:H2'	4:3:1455:A:N7	2.33	0.43
4:3:1805:U:H5'	37:a:267:THR:HB	2.01	0.43
4:3:1869:G:H2'	4:3:1870:G:C8	2.53	0.43
4:3:1959:A:C4	45:j:22:ILE:HD11	2.53	0.43
4:3:2024:C:O3'	60:y:6:ARG:NH1	2.51	0.43
4:3:2363:C:O3'	56:u:38:LYS:NZ	2.52	0.43
4:3:2463:G:H2'	4:3:2464:C:C6	2.53	0.43
4:3:2478:G:H2'	4:3:2479:A:H8	1.83	0.43
4:3:2566:C:H2'	4:3:2567:C:C6	2.53	0.43
4:3:2673:A:H2'	4:3:2674:C:C6	2.53	0.43
4:3:2855:A:O2'	48:m:61:ARG:NH1	2.52	0.43
6:5:212:G:H2'	6:5:213:U:C6	2.53	0.43
6:5:386:U:H2'	6:5:387:G:H8	1.83	0.43
6:5:818:A:H2'	6:5:819:G:H8	1.83	0.43
6:5:1405:U:O2	6:5:1445:G:N2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1454:G:H2'	6:5:1455:G:C8	2.54	0.43
6:5:1499:G:H2'	6:5:1500:G:H8	1.83	0.43
7:6:35:VAL:HG21	7:6:207:ASP:HB2	2.00	0.43
9:8:385:LEU:O	9:8:389:GLY:HA3	2.19	0.43
9:8:567:GLY:H	14:AD:31:LYS:HD3	0.66	0.43
9:8:1325:VAL:HG22	36:Z:443:ILE:CD1	2.49	0.43
7:AA:95:LEU:HD11	7:AA:132:GLY:HA3	2.00	0.43
15:B:158:GLY:HA3	15:B:199:ILE:HG13	2.00	0.43
16:C:103:ARG:HG3	16:C:166:PHE:HZ	1.83	0.43
36:Z:576:MET:SD	36:Z:720:LYS:HG3	2.58	0.43
36:Z:835:PHE:CB	36:Z:837:TYR:CZ	3.02	0.43
36:Z:1227:SER:HB2	36:Z:1258:GLU:OE1	2.19	0.43
42:f:110:LYS:HD2	42:f:113:PHE:CE2	2.54	0.43
45:j:22:ILE:HG22	45:j:40:VAL:C	2.43	0.43
45:j:22:ILE:HG22	45:j:40:VAL:O	2.19	0.43
49:n:12:HIS:ND1	49:n:94:GLY:HA2	2.34	0.43
51:p:34:ALA:O	51:p:38:VAL:HG23	2.18	0.43
58:w:89:GLN:O	58:w:92:GLU:HG2	2.18	0.43
60:y:52:ARG:HE	60:y:52:ARG:HB3	1.74	0.43
4:3:42:U:H2'	4:3:43:A:C8	2.53	0.43
4:3:105:U:H2'	4:3:106:C:H5'	2.01	0.43
4:3:347:C:H2'	4:3:348:A:H8	1.84	0.43
4:3:428:U:H2'	4:3:429:U:C6	2.53	0.43
4:3:1019:A:H2'	4:3:1020:G:N3	2.34	0.43
4:3:1171:G:H2'	4:3:1172:G:C8	2.53	0.43
4:3:1541:A:H3'	4:3:1542:G:H8	1.84	0.43
4:3:2183:U:H2'	4:3:2184:A:C8	2.53	0.43
6:5:175:U:H3	6:5:190:A:H61	1.67	0.43
6:5:944:A:H2'	6:5:945:U:C6	2.54	0.43
6:5:1201:C:OP2	25:L:90:ARG:NH1	2.46	0.43
6:5:1208:G:H2'	6:5:1209:C:C6	2.54	0.43
9:8:524:ILE:O	9:8:530:LYS:HE3	2.19	0.43
9:8:648:VAL:HB	36:Z:872:TYR:HD1	1.77	0.43
9:8:994:LEU:CD1	16:C:40:ASN:C	2.68	0.43
10:9:5:TYR:CZ	10:9:48:LEU:HD23	2.53	0.43
16:C:57:LYS:O	16:C:60:MET:N	2.48	0.43
19:F:30:MET:SD	19:F:34:LYS:N	2.92	0.43
20:G:107:VAL:HG13	20:G:140:TYR:HB3	2.01	0.43
23:J:109:ILE:HG23	33:T:32:HIS:ND1	2.34	0.43
24:K:76:VAL:HG21	24:K:108:TYR:CE1	2.53	0.43
27:N:57:VAL:HG23	27:N:60:ARG:NH1	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:399:PHE:HA	36:Z:403:LEU:HD12	2.00	0.43
36:Z:1235:GLN:O	36:Z:1240:ILE:HD12	2.19	0.43
37:a:33:PRO:HG3	37:a:67:ARG:NH1	2.34	0.43
37:a:132:PRO:HA	37:a:200:VAL:HG23	2.00	0.43
38:b:17:PHE:HZ	38:b:21:ASN:HD22	1.66	0.43
38:b:97:THR:OG1	38:b:100:ASN:OD1	2.36	0.43
42:f:110:LYS:HB3	42:f:110:LYS:HE3	1.85	0.43
44:i:40:ARG:HA	44:i:121:TRP:CZ3	2.53	0.43
4:3:47:G:H5''	4:3:48:G:OP1	2.17	0.43
4:3:500:U:HO2'	4:3:501:G:P	2.42	0.43
4:3:762:A:H2'	4:3:763:G:C4	2.53	0.43
4:3:766:C:H2'	4:3:767:C:C6	2.53	0.43
4:3:912:A:H2'	4:3:913:U:C6	2.54	0.43
4:3:1089:A:C6	34:U:79:LYS:CE	2.90	0.43
4:3:2009:U:H5'	48:m:9:LYS:HB2	2.00	0.43
4:3:2092:U:O3'	37:a:270:MET:HE1	2.18	0.43
4:3:2639:G:H2'	4:3:2640:A:H8	1.83	0.43
4:3:2819:C:H2'	4:3:2820:G:H8	1.84	0.43
4:3:2874:C:H2'	4:3:2875:U:C6	2.54	0.43
5:4:40:U:C5	40:d:66:VAL:HG21	2.54	0.43
6:5:621:C:H1'	28:O:5:ARG:CZ	2.48	0.43
6:5:719:G:C8	6:5:721:G:H1'	2.53	0.43
7:6:34:PHE:HE2	7:AA:49:CYS:SG	2.30	0.43
7:6:108:ARG:N	22:I:97:LYS:HZ1	2.08	0.43
9:8:960:GLU:HB2	15:B:83:LYS:HD3	2.00	0.43
9:8:1118:ALA:CB	9:8:1191:LEU:O	2.67	0.43
7:AA:130:PRO:HG2	7:AA:133:PHE:CD2	2.54	0.43
15:B:92:ILE:O	15:B:96:ILE:N	2.52	0.43
41:e:33:GLN:NE2	41:e:34:ILE:O	2.52	0.43
44:i:16:ARG:HD2	44:i:56:TYR:CZ	2.53	0.43
47:l:67:ARG:HB2	47:l:103:MET:HA	2.00	0.43
55:t:13:ILE:HG13	55:t:14:THR:N	2.32	0.43
55:t:90:LYS:HG2	55:t:105:LYS:HE2	2.01	0.43
57:v:14:TYR:CE2	57:v:28:LYS:HB2	2.53	0.43
4:3:491:A:C2	4:3:509:G:H5'	2.54	0.43
4:3:870:A:C6	4:3:871:G:C6	3.06	0.43
4:3:1057:G:N7	44:i:71:LYS:HD3	2.34	0.43
4:3:1270:C:H2'	4:3:1271:A:H8	1.83	0.43
4:3:1764:U:C4	4:3:1769:A:N7	2.86	0.43
4:3:2022:A:H8	4:3:2023:U:C5	2.37	0.43
4:3:2332:U:O2	4:3:2339:G:N2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:2800:U:O2	4:3:2800:U:H2'	2.18	0.43
6:5:253:G:H2'	6:5:254:G:C8	2.53	0.43
6:5:290:G:H2'	6:5:291:C:C6	2.54	0.43
6:5:292:U:H1'	6:5:554:C:H1'	2.01	0.43
6:5:672:A:H61	6:5:712:A:N6	2.14	0.43
6:5:1056:U:H1'	6:5:1057:C:H5	1.84	0.43
9:8:62:PRO:HG2	9:8:559:THR:HG23	2.00	0.43
9:8:824:VAL:CG1	9:8:827:VAL:HG23	2.49	0.43
9:8:1306:LEU:HD22	36:Z:408:VAL:CG1	2.42	0.43
11:A:37:TRP:CD1	11:A:37:TRP:H	2.37	0.43
11:A:218:ASN:OD1	11:A:219:ASN:N	2.51	0.43
7:AA:166:PHE:CE1	36:Z:595:ILE:HG12	2.54	0.43
19:F:100:LEU:HD12	19:F:101:ARG:N	2.34	0.43
23:J:80:LYS:HD3	23:J:108:PRO:HD3	2.00	0.43
31:R:19:VAL:HA	31:R:22:MET:HG2	2.01	0.43
34:U:161:LYS:HE3	35:Y:17:ILE:CD1	2.47	0.43
36:Z:1126:ILE:HG23	36:Z:1138:VAL:HG13	1.99	0.43
42:f:67:LYS:HA	42:f:70:GLU:CD	2.44	0.43
45:j:38:VAL:HA	45:j:61:VAL:HG22	1.99	0.43
51:p:66:ALA:O	51:p:70:GLU:HG3	2.19	0.43
53:r:5:ALA:O	53:r:104:VAL:HA	2.19	0.43
3:2:9:PRO:HB3	3:2:14:CYS:HB2	2.01	0.43
4:3:552:C:H2'	4:3:553:A:H8	1.84	0.43
4:3:659:C:H2'	4:3:660:U:C5	2.54	0.43
4:3:788:G:H2'	4:3:789:A:C8	2.50	0.43
4:3:1070:U:H2'	4:3:1071:G:C8	2.53	0.43
4:3:1082:A:O2'	4:3:1083:A:O5'	2.36	0.43
4:3:1314:A:H1'	4:3:1316:U:OP1	2.19	0.43
4:3:1315:A:H8	48:m:106:ARG:NH1	2.16	0.43
4:3:1363:C:H2'	4:3:1364:A:C8	2.54	0.43
4:3:1458:A:H2'	4:3:1459:A:C8	2.54	0.43
4:3:1829:U:H2'	4:3:1830:G:H8	1.84	0.43
4:3:2231:A:H2'	4:3:2232:G:O4'	2.19	0.43
4:3:2728:U:H2'	4:3:2729:A:O4'	2.19	0.43
4:3:2797:C:N4	4:3:2798:A:N6	2.66	0.43
6:5:451:G:H5'	28:O:65:SER:HB2	2.01	0.43
6:5:524:C:C4	6:5:525:G:H1'	2.54	0.43
6:5:681:U:O2	23:J:34:VAL:HG12	2.19	0.43
6:5:1315:U:H2'	6:5:1316:C:C5	2.54	0.43
6:5:1364:C:H2'	6:5:1365:U:C6	2.53	0.43
9:8:1307:LEU:C	36:Z:406:LYS:CD	2.89	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:1348:GLY:C	36:Z:368:PHE:CE1	2.88	0.43
9:8:1370:ILE:CD1	36:Z:94:ILE:HG13	2.46	0.43
7:AA:163:PHE:O	36:Z:611:LYS:HE3	2.19	0.43
15:B:77:LEU:HD12	15:B:78:ILE:HG12	2.00	0.43
18:E:111:LYS:O	18:E:115:TYR:N	2.51	0.43
31:R:11:VAL:HG22	31:R:13:ALA:H	1.84	0.43
33:T:20:ARG:HA	33:T:23:LEU:HG	2.01	0.43
36:Z:488:ASP:CA	36:Z:551:ARG:NH2	2.82	0.43
37:a:46:GLY:O	37:a:54:THR:OG1	2.28	0.43
38:b:37:ALA:HB3	38:b:51:LEU:HD22	2.01	0.43
40:d:16:LEU:HA	40:d:19:SER:OG	2.18	0.43
42:f:41:LYS:HB2	42:f:46:ASP:HB2	2.01	0.43
44:i:39:ILE:HD11	44:i:121:TRP:HB3	2.00	0.43
47:l:27:VAL:HG13	47:l:134:ARG:HG3	2.00	0.43
57:v:18:ARG:HA	57:v:23:THR:O	2.19	0.43
61:z:35:ASN:HA	61:z:46:VAL:HA	2.00	0.43
2:1:36:LYS:C	2:1:40:HIS:HD1	2.23	0.42
4:3:309:A:N3	4:3:311:G:N1	2.66	0.42
4:3:493:A:H4'	4:3:494:G:H4'	2.01	0.42
4:3:659:C:H2'	4:3:660:U:C6	2.54	0.42
4:3:756:A:H2'	4:3:757:A:C8	2.53	0.42
4:3:852:C:H2'	4:3:853:G:O4'	2.18	0.42
4:3:1173:G:H2'	4:3:1174:G:O4'	2.19	0.42
4:3:1211:U:H2'	4:3:1212:C:O4'	2.19	0.42
4:3:1647:A:H61	4:3:1651:C:H2'	1.83	0.42
4:3:2237:U:H2'	4:3:2238:G:H8	1.83	0.42
4:3:2764:U:H4'	4:3:2765:A:OP1	2.18	0.42
4:3:2795:C:H2'	4:3:2796:C:C6	2.54	0.42
6:5:253:G:O6	6:5:266:A:N6	2.52	0.42
6:5:290:G:H2'	6:5:291:C:H6	1.84	0.42
6:5:576:A:H2'	6:5:577:G:C8	2.53	0.42
6:5:652:A:H2'	6:5:653:G:O4'	2.19	0.42
6:5:880:G:H2'	6:5:881:G:C8	2.54	0.42
6:5:1113:U:H2'	6:5:1114:A:H8	1.84	0.42
6:5:1451:A:H2'	6:5:1452:C:C6	2.54	0.42
7:6:81:VAL:HG13	7:6:181:THR:HG22	2.01	0.42
9:8:342:ARG:NH1	9:8:345:LYS:HD3	2.33	0.42
9:8:773:ASN:OD1	36:Z:861:GLY:CA	2.67	0.42
9:8:1327:GLY:HA3	36:Z:444:HIS:ND1	2.33	0.42
15:B:24:ALA:HB3	15:B:30:THR:HG22	2.01	0.42
18:E:13:LEU:HB3	18:E:17:GLN:NE2	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:62:HIS:CG	22:I:63:VAL:H	2.36	0.42
24:K:70:LEU:HG	24:K:71:THR:H	1.84	0.42
25:L:17:ILE:O	25:L:20:THR:OG1	2.32	0.42
37:a:167:TYR:HE1	37:a:169:ARG:HD3	1.84	0.42
40:d:53:ALA:O	40:d:56:GLU:HG3	2.18	0.42
41:e:126:VAL:HG12	41:e:136:ILE:HD13	2.00	0.42
42:f:53:LYS:HA	42:f:56:GLU:HG2	2.00	0.42
50:o:48:PHE:CE2	50:o:66:VAL:HG13	2.54	0.42
51:p:64:LEU:O	51:p:68:LEU:HG	2.18	0.42
53:r:10:VAL:C	53:r:100:SER:HG	2.23	0.42
4:3:226:A:C5	4:3:236:G:N2	2.86	0.42
4:3:552:C:H2'	4:3:553:A:C8	2.54	0.42
4:3:563:A:OP1	44:i:116:ARG:NH1	2.53	0.42
4:3:666:G:N1	4:3:670:G:O6	2.51	0.42
4:3:714:G:H2'	4:3:715:G:C8	2.52	0.42
4:3:963:U:O2	4:3:964:A:C8	2.71	0.42
4:3:1155:G:H2'	4:3:1156:C:C6	2.54	0.42
4:3:1367:G:H3'	54:s:60:ARG:HH12	1.82	0.42
4:3:1423:A:O2'	4:3:1425:U:OP2	2.31	0.42
4:3:1489:G:C6	4:3:1490:G:C6	3.07	0.42
4:3:1536:C:H2'	4:3:1537:A:C8	2.53	0.42
4:3:1598:U:H2'	4:3:1599:C:O4'	2.19	0.42
4:3:1881:C:H2'	4:3:1882:G:C8	2.54	0.42
4:3:1974:U:H2'	4:3:1975:G:O4'	2.19	0.42
4:3:2551:G:H21	4:3:2654:U:H5''	1.84	0.42
4:3:2798:A:H5''	4:3:2799:U:H6	1.82	0.42
6:5:779:A:OP1	6:5:1496:G:N2	2.42	0.42
7:6:108:ARG:CZ	22:I:99:PRO:HB3	2.49	0.42
11:A:68:ALA:HB2	11:A:215:ILE:HD11	2.01	0.42
16:C:60:MET:HE1	16:C:71:PHE:HE1	1.83	0.42
35:X:6:ILE:CD1	35:Y:23:ALA:HB1	2.35	0.42
37:a:2:PRO:HB2	37:a:3:ILE:H	1.61	0.42
39:c:36:ASP:HA	39:c:39:LEU:HD12	2.02	0.42
42:f:66:HIS:O	42:f:70:GLU:OE1	2.38	0.42
47:l:114:MET:O	47:l:118:LEU:HD23	2.19	0.42
53:r:48:ALA:O	53:r:52:ASN:ND2	2.52	0.42
3:2:20:HIS:O	3:2:22:ILE:HD12	2.19	0.42
4:3:82:G:N2	4:3:328:A:N3	2.66	0.42
4:3:325:G:C6	4:3:384:G:C6	3.07	0.42
4:3:667:A:N1	4:3:2424:C:H4'	2.34	0.42
4:3:915:A:C6	4:3:937:A:C8	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1084:C:C2	4:3:1085:A:C8	3.07	0.42
4:3:1369:U:H4'	54:s:58:LEU:HG	2.00	0.42
4:3:1439:U:H3	4:3:1625:G:H1	1.66	0.42
4:3:1475:C:H2'	4:3:1476:C:C6	2.54	0.42
4:3:1501:U:H2'	4:3:1502:A:O4'	2.19	0.42
4:3:1672:C:H1'	4:3:2706:U:O2'	2.19	0.42
4:3:1920:A:N6	6:5:1468:A:H1'	2.33	0.42
4:3:2238:G:H2'	4:3:2239:U:C6	2.53	0.42
4:3:2345:G:H2'	4:3:2345:G:N3	2.34	0.42
4:3:2522:U:H2'	4:3:2523:C:C6	2.54	0.42
4:3:2623:U:H2'	4:3:2624:C:H6	1.83	0.42
4:3:2849:G:H2'	4:3:2850:G:H8	1.83	0.42
5:4:90:G:H2'	5:4:91:A:O4'	2.19	0.42
6:5:82:C:H2'	6:5:83:U:C6	2.54	0.42
6:5:176:G:O6	6:5:190:A:N6	2.52	0.42
6:5:214:U:H2'	6:5:215:C:C6	2.53	0.42
6:5:451:G:H2'	6:5:451:G:N3	2.35	0.42
6:5:780:U:H2'	6:5:781:A:H8	1.84	0.42
6:5:1061:U:H2'	6:5:1062:C:C6	2.54	0.42
6:5:1490:G:H2'	6:5:1491:A:C8	2.53	0.42
9:8:943:ILE:HD13	9:8:1043:ILE:HD11	2.00	0.42
15:B:31:ALA:HA	15:B:34:LEU:HG	2.00	0.42
20:G:77:THR:HG22	20:G:79:ARG:H	1.84	0.42
22:I:48:LEU:HD23	22:I:48:LEU:HA	1.88	0.42
23:J:43:MET:HE3	23:J:45:PHE:HE1	1.83	0.42
37:a:148:HIS:HB2	37:a:161:ALA:O	2.19	0.42
37:a:183:GLN:NE2	37:a:184:LEU:O	2.36	0.42
45:j:21:ILE:HA	45:j:41:VAL:HG12	2.01	0.42
53:r:125:VAL:O	53:r:128:ARG:HB2	2.19	0.42
57:v:13:LEU:HB3	57:v:29:TRP:HB2	2.01	0.42
4:3:500:U:H2'	4:3:501:G:C8	2.54	0.42
4:3:745:U:H2'	4:3:746:G:H8	1.85	0.42
4:3:815:G:H21	4:3:818:A:N6	2.17	0.42
4:3:847:C:H5''	4:3:1280:G:O2'	2.19	0.42
4:3:1041:C:H2'	4:3:1042:C:C6	2.54	0.42
4:3:1061:A:H2'	4:3:1062:A:C8	2.54	0.42
4:3:2174:G:H2'	4:3:2175:U:C6	2.54	0.42
4:3:2519:U:H5'	38:b:129:LYS:NZ	2.34	0.42
4:3:2782:A:H2'	4:3:2783:A:O4'	2.19	0.42
4:3:2800:U:H3'	4:3:2801:U:C5	2.54	0.42
6:5:671:G:H5'	18:E:47:TYR:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1092:A:H4'	6:5:1093:A:O5'	2.19	0.42
6:5:1182:C:H2'	6:5:1183:C:C6	2.55	0.42
6:5:1272:C:C6	19:F:113:LYS:HD2	2.54	0.42
8:7:28:A:H2'	8:7:29:C:C6	2.54	0.42
9:8:100:LEU:CD1	9:8:591:ILE:CD1	2.97	0.42
9:8:648:VAL:HB	36:Z:872:TYR:CE1	2.53	0.42
9:8:1324:ILE:CD1	36:Z:440:PRO:HG3	2.35	0.42
7:AA:32:SER:HA	7:AA:207:ASP:OD2	2.19	0.42
15:B:58:ILE:HG13	15:B:67:VAL:HG12	2.00	0.42
15:B:103:ASP:N	15:B:103:ASP:OD1	2.52	0.42
27:N:57:VAL:HG23	27:N:60:ARG:CZ	2.50	0.42
36:Z:745:LYS:HZ1	36:Z:860:GLU:CD	2.24	0.42
37:a:256:THR:HG23	37:a:262:HIS:HB2	2.02	0.42
38:b:147:VAL:O	38:b:163:LYS:NZ	2.52	0.42
38:b:165:MET:HE3	38:b:166:SER:HB2	2.02	0.42
41:e:143:LEU:O	41:e:146:GLN:HG3	2.20	0.42
44:i:47:PHE:HA	44:i:53:CYS:SG	2.58	0.42
45:j:58:LEU:HD23	45:j:94:ARG:NE	2.34	0.42
46:k:104:ILE:HG13	46:k:105:SER:N	2.35	0.42
51:p:80:ASN:HD22	51:p:84:LYS:HE3	1.84	0.42
2:1:15:LYS:HB3	4:3:687:G:H5''	2.01	0.42
4:3:200:A:N7	46:k:39:GLN:NE2	2.67	0.42
4:3:430:U:H2'	4:3:431:U:C6	2.54	0.42
4:3:597:C:H2'	4:3:598:G:H8	1.82	0.42
4:3:904:C:H2'	4:3:905:U:O4'	2.19	0.42
4:3:1399:G:OP1	37:a:49:ASN:ND2	2.52	0.42
4:3:1433:U:H2'	4:3:1434:U:H6	1.84	0.42
4:3:1656:A:H2'	4:3:1657:G:O4'	2.19	0.42
4:3:1720:C:H3'	4:3:1721:G:H8	1.85	0.42
4:3:1766:A:H2'	4:3:1767:A:C8	2.54	0.42
4:3:2056:A:H2'	4:3:2057:C:C6	2.55	0.42
4:3:2472:G:H2'	4:3:2473:C:C6	2.55	0.42
6:5:56:A:H2'	6:5:57:U:O4'	2.19	0.42
6:5:453:C:H2'	6:5:454:U:C6	2.55	0.42
6:5:899:U:H2'	6:5:900:G:O4'	2.20	0.42
6:5:1052:G:C6	6:5:1053:U:C4	3.07	0.42
6:5:1488:A:H2'	6:5:1489:C:C6	2.55	0.42
9:8:569:GLN:CG	14:AD:160:ASN:ND2	2.76	0.42
9:8:1200:PHE:HD1	36:Z:862:LEU:O	2.02	0.42
7:AA:166:PHE:HE1	36:Z:595:ILE:HG12	1.84	0.42
17:D:178:ILE:HG23	17:D:180:THR:HG23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:121:TYR:CE2	21:H:127:PRO:HB3	2.55	0.42
24:K:121:GLU:C	24:K:123:ARG:H	2.26	0.42
36:Z:579:GLY:HA3	36:Z:723:GLY:O	2.19	0.42
39:c:98:ASN:ND2	39:c:100:SER:OG	2.52	0.42
41:e:76:THR:O	41:e:80:ILE:HG12	2.19	0.42
49:n:98:TYR:CE1	49:n:103:ALA:HA	2.54	0.42
50:o:89:GLU:HG2	50:o:91:LYS:NZ	2.34	0.42
51:p:13:ARG:HA	51:p:31:TYR:HE1	1.85	0.42
51:p:35:LYS:O	51:p:39:ILE:HG12	2.19	0.42
53:r:74:CYS:SG	53:r:75:VAL:N	2.92	0.42
54:s:41:LYS:HG3	54:s:42:LEU:HD22	2.01	0.42
56:u:37:ALA:HA	56:u:52:TYR:HD2	1.83	0.42
4:3:101:C:H4'	4:3:103:G:C5	2.54	0.42
4:3:164:A:OP2	4:3:165:U:O2'	2.35	0.42
4:3:228:A:N6	4:3:455:G:O2'	2.48	0.42
4:3:675:U:O4	4:3:685:G:O6	2.38	0.42
4:3:837:A:H2'	4:3:838:U:C6	2.54	0.42
4:3:1301:G:H22	4:3:1649:C:N4	2.16	0.42
4:3:1429:G:H2'	4:3:1430:U:C6	2.53	0.42
4:3:1611:C:H2'	4:3:1612:U:C6	2.55	0.42
4:3:1702:A:N7	4:3:1998:U:C4	2.87	0.42
4:3:1921:C:H3'	4:3:1922:U:H6	1.84	0.42
4:3:2072:C:H2'	4:3:2073:C:C6	2.52	0.42
5:4:14:U:H2'	5:4:15:C:C6	2.55	0.42
6:5:150:A:H2'	6:5:151:C:C6	2.54	0.42
6:5:273:C:H2'	6:5:274:A:C8	2.54	0.42
6:5:358:G:O2'	6:5:359:A:N7	2.46	0.42
6:5:494:A:H5'	6:5:495:U:OP2	2.19	0.42
6:5:779:A:N6	6:5:797:G:C2	2.86	0.42
6:5:951:U:H2'	6:5:952:U:C6	2.54	0.42
6:5:1013:C:H2'	6:5:1014:A:C8	2.55	0.42
11:A:70:ASN:HA	11:A:73:LYS:HZ3	1.84	0.42
11:A:177:ILE:HD13	11:A:199:VAL:HG13	2.01	0.42
25:L:57:ARG:HA	25:L:57:ARG:HD3	1.91	0.42
36:Z:573:THR:H	36:Z:576:MET:HE3	1.85	0.42
37:a:136:MET:CE	37:a:140:PHE:HB2	2.49	0.42
38:b:24:LEU:HD12	38:b:25:PRO:HD2	2.02	0.42
46:k:133:LYS:O	46:k:137:LYS:HG2	2.19	0.42
48:m:9:LYS:HD3	48:m:13:TRP:CZ3	2.53	0.42
48:m:38:ALA:O	48:m:41:THR:N	2.52	0.42
48:m:49:ILE:O	48:m:53:LYS:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:q:60:GLU:CD	52:q:92:LEU:HA	2.45	0.42
55:t:89:ILE:HG21	55:t:102:ARG:HB3	2.02	0.42
4:3:17:G:H2'	4:3:18:G:O4'	2.19	0.42
4:3:107:C:H2'	4:3:108:G:H8	1.85	0.42
4:3:355:A:N3	39:c:170:GLN:NE2	2.51	0.42
4:3:534:U:H2'	4:3:535:G:O4'	2.19	0.42
4:3:867:G:H2'	4:3:868:C:C6	2.55	0.42
4:3:1095:U:O4'	4:3:1097:G:H5'	2.19	0.42
4:3:1249:A:H1'	53:r:128:ARG:HH22	1.84	0.42
4:3:1255:G:O2'	4:3:1256:A:O4'	2.34	0.42
4:3:1280:G:OP1	46:k:22:ARG:NH1	2.47	0.42
4:3:1960:A:O2'	4:3:2567:C:O2'	2.27	0.42
4:3:2034:G:H2'	4:3:2035:U:H6	1.84	0.42
4:3:2657:C:H2'	4:3:2658:U:C6	2.54	0.42
4:3:2718:C:H2'	4:3:2719:A:C8	2.54	0.42
6:5:203:C:H2'	6:5:204:C:H6	1.85	0.42
6:5:360:A:C8	6:5:361:U:C5	3.07	0.42
6:5:974:C:H2'	6:5:974:C:O2	2.19	0.42
6:5:1016:A:H2'	6:5:1017:A:H8	1.83	0.42
6:5:1051:U:OP1	22:l:59:ARG:NH1	2.53	0.42
6:5:1247:G:H2'	6:5:1248:U:C6	2.54	0.42
6:5:1320:A:H62	6:5:1349:A:H3'	1.83	0.42
9:8:168:GLN:O	12:AB:25:DC:N1	2.30	0.42
9:8:1122:LEU:HD21	9:8:1149:LEU:HD23	2.01	0.42
9:8:1238:GLU:OE2	36:Z:582:TYR:OH	2.32	0.42
9:8:1341:LEU:HD11	36:Z:391:ARG:NH1	2.35	0.42
9:8:1371:LEU:HD11	36:Z:95:VAL:HG22	2.01	0.42
14:AD:23:VAL:CG2	14:AD:44:VAL:HG23	2.38	0.42
17:D:205:PRO:HA	17:D:208:VAL:HG22	2.02	0.42
20:G:113:ILE:HB	20:G:141:VAL:HB	2.01	0.42
25:L:16:GLU:OE2	25:L:17:ILE:HG23	2.20	0.42
26:M:21:TYR:OH	26:M:23:ARG:NH1	2.49	0.42
34:U:60:ARG:NH2	34:U:76:ILE:O	2.49	0.42
36:Z:232:PHE:CE1	36:Z:234:VAL:HG13	2.55	0.42
36:Z:1181:SER:HB2	36:Z:1197:LEU:HD21	2.02	0.42
38:b:1:MET:SD	38:b:3:ILE:HD12	2.60	0.42
42:f:31:PHE:HD1	42:f:111:PHE:CD1	2.37	0.42
42:f:32:PRO:HG2	42:f:111:PHE:HZ	1.84	0.42
48:m:54:VAL:HB	48:m:59:ASN:HD22	1.84	0.42
51:p:13:ARG:HA	51:p:31:TYR:CE1	2.54	0.42
53:r:104:VAL:HG13	53:r:106:LYS:NZ	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:s:7:LEU:HD23	54:s:31:VAL:HG12	2.01	0.42
55:t:42:VAL:HG22	55:t:43:THR:H	1.84	0.42
1:0:22:MET:O	1:0:28:ARG:NH1	2.53	0.42
3:2:19:ARG:HA	4:3:2764:U:H5''	2.01	0.42
4:3:51:A:C5	4:3:121:U:O4	2.73	0.42
4:3:172:U:H2'	4:3:173:C:C6	2.54	0.42
4:3:243:U:H2'	4:3:244:G:O4'	2.20	0.42
4:3:435:U:H2'	4:3:436:G:O4'	2.20	0.42
4:3:568:G:OP1	51:p:24:PHE:N	2.48	0.42
4:3:720:A:O2'	4:3:808:U:O4	2.27	0.42
4:3:849:C:O2'	4:3:850:G:H5'	2.19	0.42
4:3:1046:A:H5''	51:p:65:ASN:HD22	1.85	0.42
4:3:1230:U:H1'	51:p:3:ILE:HD11	2.01	0.42
4:3:1299:A:H61	4:3:2018:U:H3	1.67	0.42
4:3:1635:G:H2'	4:3:1636:U:C6	2.54	0.42
4:3:1737:G:C6	4:3:1738:G:C6	3.07	0.42
4:3:1860:A:H2'	4:3:1861:A:O4'	2.20	0.42
4:3:2294:A:H8	4:3:2295:A:N6	2.18	0.42
4:3:2419:A:H2'	4:3:2420:A:C8	2.54	0.42
4:3:2608:A:H2'	4:3:2609:C:C6	2.55	0.42
6:5:191:A:H2'	6:5:192:A:C8	2.55	0.42
6:5:206:G:H2'	6:5:208:A:OP2	2.20	0.42
6:5:387:G:OP1	28:O:22:ARG:NH2	2.53	0.42
6:5:511:A:H2'	6:5:512:U:H6	1.85	0.42
6:5:543:C:C2	6:5:544:A:C8	3.08	0.42
6:5:872:C:H5''	20:G:93:PRO:O	2.20	0.42
6:5:1055:G:H1'	6:5:1165:G:N2	2.34	0.42
7:6:225:PHE:CE1	7:AA:239:ILE:HG23	2.54	0.42
9:8:772:GLU:HB2	36:Z:862:LEU:N	2.35	0.42
12:AB:19:DT:C2'	12:AB:21:DC:C4'	2.92	0.42
15:B:153:LYS:NZ	15:B:171:TYR:O	2.39	0.42
18:E:49:ILE:HG23	18:E:50:LYS:N	2.32	0.42
25:L:70:ARG:NH2	25:L:74:ALA:HB2	2.35	0.42
26:M:4:LYS:HA	26:M:7:LYS:HD3	2.02	0.42
31:R:27:LYS:HG3	31:R:29:ARG:HD3	2.02	0.42
36:Z:269:VAL:HG11	36:Z:273:LYS:HD3	2.01	0.42
36:Z:648:VAL:HG21	36:Z:722:LEU:CD1	2.49	0.42
37:a:272:LYS:HB2	37:a:275:THR:HG23	2.02	0.42
41:e:80:ILE:HA	41:e:83:THR:HG22	2.02	0.42
44:i:121:TRP:CD1	44:i:124:LYS:HZ3	2.38	0.42
46:k:101:LYS:HA	46:k:101:LYS:HD2	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:l:34:LEU:HD12	47:l:130:LYS:O	2.20	0.42
50:o:21:TYR:HE2	50:o:23:PRO:HG3	1.84	0.42
53:r:23:LEU:HD11	60:y:22:LEU:HG	2.01	0.42
4:3:594:G:H4'	51:p:47:ARG:HH12	1.85	0.42
4:3:993:A:C6	4:3:995:A:N1	2.88	0.42
4:3:1163:G:H1'	4:3:1164:A:C8	2.55	0.42
4:3:1307:G:H2'	4:3:1308:A:H8	1.83	0.42
4:3:1392:G:H2'	4:3:1394:A:OP2	2.20	0.42
4:3:1455:A:C2	37:a:35:LYS:HD3	2.54	0.42
4:3:1842:G:O6	4:3:1937:G:N2	2.53	0.42
4:3:1885:G:H2'	4:3:1886:C:C6	2.55	0.42
4:3:1974:U:H3'	4:3:1975:G:H8	1.85	0.42
4:3:2120:G:H2'	4:3:2121:A:O4'	2.20	0.42
4:3:2562:U:H2'	4:3:2563:U:H6	1.84	0.42
4:3:2596:A:N6	4:3:2615:G:O6	2.53	0.42
4:3:2841:A:C4	4:3:2842:G:C8	3.08	0.42
5:4:76:A:H2'	5:4:77:G:C8	2.54	0.42
5:4:76:A:N6	5:4:89:A:H1'	2.35	0.42
6:5:173:U:H2'	6:5:174:U:C6	2.54	0.42
6:5:260:C:H2'	6:5:261:G:O4'	2.20	0.42
6:5:500:G:OP1	24:K:127:ARG:N	2.52	0.42
6:5:569:U:H5'	6:5:816:A:C5	2.55	0.42
6:5:831:C:H5''	30:Q:80:GLN:HB2	2.01	0.42
6:5:924:A:H2'	6:5:925:C:C6	2.55	0.42
6:5:1046:A:H62	6:5:1175:C:N4	2.18	0.42
7:6:111:LEU:HG	22:I:97:LYS:CD	2.44	0.42
9:8:647:ASP:HB3	36:Z:834:SER:HB3	2.02	0.42
9:8:648:VAL:CG1	36:Z:872:TYR:CE1	3.02	0.42
7:AA:75:GLU:OE1	7:AA:141:TYR:OH	2.36	0.42
14:AD:93:LEU:HD11	14:AD:98:TYR:OH	2.19	0.42
16:C:100:ILE:O	16:C:104:MET:HG2	2.20	0.42
18:E:110:GLN:O	18:E:114:LYS:HG2	2.19	0.42
25:L:10:PRO:HB2	25:L:13:LYS:HZ2	1.85	0.42
32:S:59:ILE:HG13	32:S:60:ILE:N	2.34	0.42
35:V:19:GLU:HB3	35:W:2:LYS:HD3	2.02	0.42
36:Z:612:VAL:HG11	36:Z:640:VAL:HG21	2.02	0.42
36:Z:1143:ILE:HG13	36:Z:1166:ILE:CD1	2.50	0.42
38:b:33:PRO:HB2	38:b:95:GLN:HB3	2.01	0.42
41:e:5:GLY:HA2	41:e:72:ASN:HD22	1.85	0.42
41:e:17:ASN:OD1	41:e:28:LYS:HB3	2.20	0.42
51:p:40:GLN:HG3	51:p:44:TYR:CZ	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:q:5:VAL:N	52:q:11:GLN:OE1	2.53	0.42
53:r:125:VAL:O	53:r:129:VAL:HG13	2.20	0.42
2:1:15:LYS:HD2	4:3:687:G:H5'	2.02	0.42
4:3:270:G:H2'	4:3:271:G:H8	1.84	0.42
4:3:358:A:P	39:c:176:LYS:HE2	2.59	0.42
4:3:462:C:H2'	4:3:463:U:C6	2.55	0.42
4:3:612:G:H5'	4:3:2024:C:H3'	2.01	0.42
4:3:680:A:H2'	4:3:682:A:C8	2.55	0.42
4:3:1138:A:H2'	4:3:1139:C:O4'	2.19	0.42
4:3:1523:C:H2'	4:3:1524:C:H6	1.85	0.42
4:3:1714:U:H2'	4:3:1715:A:O4'	2.20	0.42
4:3:1783:G:C2	4:3:1796:A:C2	3.08	0.42
4:3:1801:U:H2'	4:3:1802:C:C6	2.55	0.42
4:3:1867:G:H2'	4:3:1868:A:H8	1.85	0.42
4:3:1991:U:H2'	4:3:1992:C:C6	2.55	0.42
4:3:2229:C:H2'	4:3:2230:A:C8	2.55	0.42
4:3:2254:G:H2'	4:3:2255:A:C8	2.55	0.42
4:3:2558:G:H2'	4:3:2559:C:C6	2.55	0.42
4:3:2726:G:H4'	50:o:100:TYR:CE2	2.55	0.42
4:3:2750:A:H2'	4:3:2751:C:H6	1.83	0.42
5:4:1:U:H2'	5:4:2:U:O4'	2.20	0.42
6:5:63:U:H2'	6:5:64:C:C6	2.55	0.42
6:5:287:U:C4	6:5:306:G:C6	3.08	0.42
6:5:404:A:H2'	6:5:405:C:H6	1.85	0.42
6:5:458:G:H2'	6:5:459:C:C6	2.55	0.42
6:5:498:G:H2'	6:5:499:U:O4'	2.20	0.42
6:5:710:G:H2'	6:5:711:G:C8	2.55	0.42
6:5:741:C:H2'	6:5:742:C:H6	1.85	0.42
6:5:778:A:H2	6:5:1489:C:H4'	1.83	0.42
6:5:946:G:OP2	25:L:101:ARG:NH2	2.49	0.42
6:5:1087:C:H2'	6:5:1088:C:C6	2.55	0.42
6:5:1402:U:H2'	6:5:1403:A:H8	1.84	0.42
6:5:1434:C:H2'	6:5:1435:G:H8	1.85	0.42
7:6:56:PHE:CE1	7:6:156:TYR:HB3	2.55	0.42
8:7:54:G:C2	8:7:63:U:C2	3.07	0.42
9:8:409:ALA:HA	9:8:474:TYR:CE2	2.55	0.42
9:8:1054:GLN:NE2	9:8:1256:ASP:OD1	2.53	0.42
10:9:57:LEU:HD21	36:Z:1211:ALA:H	1.84	0.42
11:A:19:SER:OG	11:A:20:LEU:N	2.51	0.42
15:B:176:MET:SD	15:B:206:ASN:HB2	2.60	0.42
18:E:124:ASN:O	18:E:126:GLU:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:a:48:ASN:OD1	37:a:49:ASN:N	2.52	0.42
39:c:157:VAL:HB	39:c:159:PHE:CE1	2.55	0.42
40:d:36:ILE:HD13	40:d:154:VAL:HG12	2.02	0.42
44:i:52:ASP:OD1	44:i:53:CYS:N	2.52	0.42
47:l:77:LYS:HD3	47:l:78:PRO:HD2	2.02	0.42
53:r:39:THR:HG22	53:r:41:LYS:HG2	2.01	0.42
57:v:35:PRO:HB3	57:v:49:LEU:HD22	2.02	0.42
61:z:51:LYS:H	61:z:51:LYS:HG2	1.69	0.42
4:3:19:G:H4'	51:p:24:PHE:CE1	2.55	0.41
4:3:23:A:H2'	4:3:24:U:C6	2.55	0.41
4:3:29:G:N2	4:3:547:G:O2'	2.46	0.41
4:3:239:U:O4	4:3:240:C:N4	2.53	0.41
4:3:860:C:H4'	4:3:2436:G:N7	2.35	0.41
4:3:928:G:H2'	4:3:929:G:C8	2.55	0.41
4:3:1840:C:H2'	4:3:1841:U:C6	2.55	0.41
4:3:1878:A:H2'	4:3:1879:A:O4'	2.20	0.41
4:3:2175:U:O2	4:3:2179:A:N7	2.53	0.41
4:3:2348:U:H2'	4:3:2349:G:C8	2.55	0.41
4:3:2520:C:H2'	4:3:2521:A:O4'	2.20	0.41
4:3:2578:A:H2'	4:3:2579:U:C6	2.55	0.41
5:4:4:G:H5'	5:4:25:A:H2	1.84	0.41
6:5:320:G:N1	6:5:323:A:N7	2.68	0.41
6:5:880:G:H2'	6:5:881:G:H8	1.85	0.41
6:5:957:C:H2'	6:5:958:G:H8	1.85	0.41
6:5:1291:C:H3'	6:5:1292:A:C8	2.55	0.41
6:5:1322:U:HO2'	21:H:124:ARG:HH21	1.67	0.41
6:5:1355:U:O2'	19:F:2:ARG:NH1	2.53	0.41
7:6:107:GLU:OE1	15:B:70:TYR:OH	2.18	0.41
9:8:1269:LYS:HD2	36:Z:313:ILE:HD13	1.99	0.41
9:8:1307:LEU:CB	36:Z:406:LYS:CD	2.80	0.41
13:AC:10:DG:O4'	36:Z:119:PRO:CD	2.63	0.41
14:AD:108:TRP:CE3	14:AD:120:ILE:HD12	2.54	0.41
21:H:15:SER:OG	21:H:72:GLY:HA3	2.20	0.41
24:K:41:PRO:C	24:K:42:LEU:HD12	2.45	0.41
36:Z:1247:LYS:HE3	36:Z:1249:GLN:OE1	2.20	0.41
38:b:91:GLU:HB2	38:b:94:GLN:NE2	2.35	0.41
50:o:49:THR:HG22	50:o:68:LYS:HE3	2.02	0.41
4:3:116:C:H2'	4:3:117:C:C6	2.54	0.41
4:3:190:G:H2'	4:3:191:G:C8	2.55	0.41
4:3:194:A:N6	4:3:211:A:H1'	2.35	0.41
4:3:217:A:H2'	4:3:218:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:224:G:H22	4:3:463:U:H2'	1.84	0.41
4:3:228:A:H62	4:3:455:G:HO2'	1.68	0.41
4:3:355:A:O4'	39:c:170:GLN:NE2	2.46	0.41
4:3:377:U:H2'	4:3:378:G:C8	2.55	0.41
4:3:524:G:O2'	53:r:49:LYS:NZ	2.35	0.41
4:3:637:U:C6	46:k:88:LEU:HD13	2.55	0.41
4:3:771:C:H2'	4:3:772:C:H6	1.84	0.41
4:3:1077:G:C6	4:3:1149:G:C6	3.07	0.41
4:3:1437:A:H2'	4:3:1438:G:H8	1.84	0.41
4:3:1558:A:H3'	4:3:1570:A:H61	1.84	0.41
4:3:1806:G:N2	37:a:160:ILE:HG23	2.34	0.41
4:3:1853:G:N2	4:3:1902:C:C2	2.88	0.41
4:3:1958:U:H2'	4:3:1960:A:OP2	2.21	0.41
5:4:61:A:H2'	5:4:62:G:H8	1.85	0.41
6:5:16:G:O2'	17:D:84:ARG:NH2	2.53	0.41
6:5:675:U:O2	6:5:710:G:N2	2.52	0.41
6:5:951:U:H2'	6:5:952:U:N1	2.35	0.41
6:5:981:U:H2'	6:5:982:A:C8	2.55	0.41
6:5:1376:G:H2'	6:5:1377:C:H6	1.85	0.41
7:6:85:LYS:NZ	9:8:919:ASP:OD2	2.52	0.41
7:6:93:ASP:HA	7:6:96:PHE:CD2	2.55	0.41
7:6:94:LEU:C	22:I:33:GLU:HB2	2.45	0.41
8:7:19:G:N7	8:7:56:U:O2'	2.47	0.41
9:8:212:LEU:HD12	9:8:223:ILE:HG12	2.01	0.41
9:8:626:ARG:NH2	9:8:674:ALA:O	2.53	0.41
9:8:1051:ARG:NH1	9:8:1254:MET:HE3	2.34	0.41
12:AB:26:DT:H3'	12:AB:26:DT:OP1	2.20	0.41
14:AD:45:LEU:HD12	14:AD:98:TYR:CE2	2.56	0.41
14:AD:134:ASP:CG	36:Z:349:PRO:HB3	2.44	0.41
15:B:65:VAL:HG11	15:B:96:ILE:HG12	2.02	0.41
15:B:65:VAL:HG12	15:B:100:THR:HB	2.01	0.41
17:D:100:LYS:HA	17:D:128:THR:HA	2.02	0.41
22:I:16:LEU:HA	22:I:104:LEU:HA	2.01	0.41
23:J:54:TYR:CZ	23:J:58:ILE:HD11	2.55	0.41
23:J:88:THR:O	23:J:91:ARG:HB2	2.20	0.41
29:P:71:ALA:O	29:P:72:THR:OG1	2.35	0.41
32:S:20:ASN:O	32:S:24:GLN:OE1	2.39	0.41
38:b:58:GLU:HG2	38:b:60:LYS:HB2	2.02	0.41
45:j:60:ALA:HB2	45:j:86:LEU:HD13	2.02	0.41
46:k:57:PRO:O	46:k:61:ARG:HG3	2.20	0.41
60:y:27:LEU:HD12	60:y:28:SER:N	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:525:A:N6	4:3:1312:A:N1	2.69	0.41
4:3:945:U:H2'	4:3:946:A:H8	1.84	0.41
4:3:983:A:H2'	4:3:984:C:C6	2.56	0.41
4:3:1588:A:O2'	4:3:1589:A:P	2.78	0.41
4:3:1676:G:H2'	4:3:1677:G:C8	2.55	0.41
4:3:1790:U:C2	4:3:2595:A:N6	2.89	0.41
4:3:1836:A:H3'	4:3:1837:C:C6	2.54	0.41
4:3:1845:C:N4	4:3:1905:U:H2'	2.35	0.41
4:3:1954:C:C2	4:3:1955:G:C8	3.08	0.41
4:3:1997:C:H2'	4:3:1998:U:C6	2.55	0.41
4:3:2129:U:H2'	4:3:2130:A:C8	2.56	0.41
4:3:2148:U:H2'	4:3:2149:U:C6	2.55	0.41
4:3:2649:G:H2'	4:3:2650:A:C8	2.56	0.41
4:3:2668:A:O2'	4:3:2669:G:O5'	2.30	0.41
4:3:2788:U:H5''	44:i:123:THR:HB	2.02	0.41
4:3:2847:C:H2'	4:3:2848:A:C8	2.52	0.41
5:4:69:C:OP1	56:u:89:LYS:NZ	2.39	0.41
6:5:10:G:H2'	6:5:11:A:H8	1.85	0.41
6:5:400:G:N3	6:5:400:G:H2'	2.35	0.41
6:5:838:A:H4'	18:E:106:GLN:HG2	2.01	0.41
6:5:1052:G:C6	6:5:1172:A:C6	3.08	0.41
6:5:1262:A:H2'	6:5:1263:A:C8	2.55	0.41
6:5:1413:G:H2'	6:5:1414:U:C6	2.55	0.41
7:6:35:VAL:CG1	7:6:195:VAL:HG22	2.50	0.41
9:8:566:ARG:HH22	9:8:582:LYS:HG2	1.85	0.41
15:B:156:VAL:HG22	15:B:201:VAL:HG12	2.01	0.41
21:H:17:ALA:HA	21:H:68:VAL:O	2.20	0.41
25:L:9:ILE:HD13	25:L:53:PHE:CZ	2.55	0.41
28:O:48:VAL:HG23	28:O:52:TRP:HZ3	1.82	0.41
36:Z:884:LYS:HG3	36:Z:1029:MET:HE2	2.03	0.41
38:b:47:TYR:HB2	38:b:85:ARG:CZ	2.50	0.41
41:e:3:LYS:HB3	41:e:4:ILE:H	1.61	0.41
50:o:4:ILE:C	50:o:6:LYS:HZ2	2.26	0.41
51:p:91:ARG:CD	52:q:11:GLN:HB3	2.50	0.41
57:v:58:LEU:CD1	57:v:63:ARG:HB2	2.51	0.41
61:z:38:CYS:O	61:z:42:ARG:N	2.53	0.41
1:0:12:ARG:HG3	1:0:44:VAL:HG11	2.00	0.41
4:3:645:C:H2'	4:3:646:A:C8	2.54	0.41
4:3:656:G:H4'	4:3:657:A:H5''	2.02	0.41
4:3:985:A:C6	4:3:1005:G:C6	3.08	0.41
4:3:1309:G:H2'	4:3:1310:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:1482:U:O4'	48:m:60:ARG:NH1	2.39	0.41
4:3:1738:G:C6	4:3:1739:G:C6	3.09	0.41
4:3:2155:G:H2'	4:3:2156:G:C8	2.56	0.41
4:3:2513:G:O2'	4:3:2514:U:O5'	2.33	0.41
4:3:2545:U:H2'	4:3:2546:U:C6	2.55	0.41
4:3:2553:G:H2'	4:3:2554:U:H6	1.85	0.41
4:3:2630:U:H2'	4:3:2631:G:C8	2.55	0.41
4:3:2819:C:C2	4:3:2820:G:C8	3.09	0.41
6:5:226:G:H2'	6:5:227:A:C8	2.55	0.41
6:5:259:A:H2'	6:5:260:C:C5	2.56	0.41
6:5:311:A:H4'	6:5:313:U:OP2	2.19	0.41
6:5:421:G:H2'	6:5:422:A:H8	1.86	0.41
6:5:618:U:C2	16:C:133:SER:HB2	2.56	0.41
6:5:622:A:H2'	6:5:623:G:C8	2.55	0.41
6:5:861:A:H2'	6:5:862:C:H6	1.84	0.41
6:5:874:C:H2'	6:5:875:G:C8	2.55	0.41
6:5:950:C:H2'	6:5:951:U:C6	2.55	0.41
6:5:1301:U:H2'	6:5:1302:C:C6	2.55	0.41
6:5:1337:U:O5'	6:5:1338:A:H5'	2.21	0.41
9:8:168:GLN:O	12:AB:25:DC:H2''	2.18	0.41
9:8:767:LEU:HD21	9:8:808:ILE:HD12	2.01	0.41
9:8:1233:THR:HA	7:AA:40:ASN:ND2	2.35	0.41
9:8:1324:ILE:CD1	36:Z:410:TYR:CZ	3.03	0.41
11:A:177:ILE:CD1	11:A:199:VAL:HG13	2.51	0.41
14:AD:10:TRP:CB	14:AD:133:LEU:HD12	2.49	0.41
15:B:164:GLU:OE1	15:B:167:ARG:NE	2.36	0.41
15:B:193:GLN:NE2	15:B:194:THR:O	2.53	0.41
18:E:29:LEU:HD22	18:E:68:SER:OG	2.20	0.41
27:N:68:LYS:HD3	27:N:75:TYR:CD1	2.56	0.41
30:Q:82:HIS:O	30:Q:86:VAL:HG22	2.21	0.41
36:Z:60:PHE:CD1	36:Z:307:PRO:HD3	2.55	0.41
37:a:62:ASN:HD21	37:a:221:HIS:CD2	2.39	0.41
38:b:25:PRO:O	38:b:195:GLY:N	2.51	0.41
39:c:4:LEU:HD12	39:c:5:LYS:H	1.86	0.41
44:i:28:LEU:HD21	44:i:103:LEU:HD21	2.02	0.41
48:m:101:LEU:HD13	60:y:48:TYR:HB3	2.02	0.41
51:p:49:ARG:HA	51:p:52:LYS:HE2	2.02	0.41
61:z:36:LYS:O	61:z:47:HIS:NE2	2.49	0.41
4:3:27:U:H2'	4:3:28:G:C8	2.55	0.41
4:3:149:A:H2'	4:3:150:U:O4'	2.21	0.41
4:3:609:U:H2'	4:3:610:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:657:A:C5	4:3:658:G:H1'	2.55	0.41
4:3:688:U:H5''	4:3:689:U:H5'	2.02	0.41
4:3:764:G:C8	37:a:215:LYS:HD3	2.56	0.41
4:3:772:C:H4'	4:3:801:U:H4'	2.03	0.41
4:3:947:A:H2'	4:3:948:A:C8	2.56	0.41
4:3:1142:G:OP1	34:U:56:ASN:ND2	2.53	0.41
4:3:1167:U:H2'	4:3:1168:A:C5	2.55	0.41
4:3:1446:G:N2	4:3:1612:U:H5''	2.28	0.41
4:3:1652:A:N1	48:m:3:TYR:HE2	2.18	0.41
4:3:1894:U:H2'	4:3:1895:G:O4'	2.20	0.41
4:3:1995:G:C2	4:3:1996:A:C5	3.09	0.41
4:3:2035:U:C2	4:3:2040:A:N6	2.88	0.41
4:3:2196:G:H2'	4:3:2197:U:C6	2.55	0.41
4:3:2373:G:H4'	56:u:74:PHE:CZ	2.55	0.41
4:3:2770:U:H2'	4:3:2771:G:O4'	2.20	0.41
4:3:2803:G:H8	4:3:2805:A:H4'	1.85	0.41
6:5:177:G:H2'	6:5:178:U:C6	2.56	0.41
6:5:294:A:H2'	6:5:295:G:C8	2.56	0.41
6:5:398:G:H5'	16:C:73:ARG:NH2	2.36	0.41
6:5:614:U:H2'	6:5:615:G:H8	1.86	0.41
6:5:715:A:H61	30:Q:94:ARG:NH2	2.12	0.41
6:5:1137:C:H2'	6:5:1138:U:H6	1.84	0.41
6:5:1178:C:H2'	6:5:1179:A:H8	1.85	0.41
6:5:1261:A:H2'	6:5:1262:A:H8	1.81	0.41
6:5:1289:U:O2'	6:5:1334:A:N3	2.47	0.41
9:8:90:LYS:HZ1	9:8:1034:GLU:HB3	1.85	0.41
9:8:134:PRO:HG2	9:8:604:PHE:CD2	2.56	0.41
9:8:266:ASN:O	9:8:273:LYS:NZ	2.50	0.41
9:8:689:TYR:HB3	9:8:752:TYR:HB3	2.03	0.41
16:C:79:LEU:HA	16:C:85:LEU:HD11	2.02	0.41
18:E:26:GLN:HE22	18:E:60:TRP:HZ2	1.67	0.41
22:I:30:LYS:O	22:I:33:GLU:HG3	2.20	0.41
32:S:70:SER:HA	32:S:73:VAL:HG12	2.01	0.41
33:T:11:LEU:HG	33:T:12:GLU:HG2	2.03	0.41
38:b:113:ILE:HD11	38:b:171:HIS:CD2	2.55	0.41
39:c:54:THR:O	39:c:58:VAL:HG23	2.19	0.41
41:e:61:LEU:O	41:e:65:LYS:N	2.47	0.41
48:m:26:LEU:CD1	48:m:78:LEU:HD13	2.50	0.41
51:p:32:LYS:O	51:p:36:GLN:HG3	2.21	0.41
56:u:77:SER:OG	56:u:78:ASP:N	2.52	0.41
4:3:196:G:H2'	4:3:197:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:476:G:H2'	4:3:477:U:H6	1.86	0.41
4:3:647:G:O3'	39:c:185:LYS:NZ	2.54	0.41
4:3:738:U:H3'	4:3:739:G:C8	2.55	0.41
4:3:851:U:H2'	4:3:852:C:H6	1.85	0.41
4:3:894:G:H3'	4:3:895:G:C8	2.55	0.41
4:3:955:A:N3	5:4:78:C:O2'	2.54	0.41
4:3:1231:G:H2'	4:3:1232:U:H6	1.86	0.41
4:3:1269:C:H2'	4:3:1270:C:C6	2.56	0.41
4:3:1603:A:H2'	4:3:1604:A:O4'	2.20	0.41
4:3:1707:U:H5	38:b:135:HIS:HE1	1.68	0.41
4:3:1798:A:O3'	37:a:213:ILE:HB	2.20	0.41
4:3:2007:U:H2'	4:3:2008:A:C8	2.55	0.41
4:3:2082:U:OP2	4:3:2246:G:O2'	2.24	0.41
4:3:2321:C:O2'	40:d:35:VAL:HG11	2.20	0.41
4:3:2384:A:N6	49:n:98:TYR:CG	2.89	0.41
4:3:2846:A:H2'	4:3:2847:C:C6	2.55	0.41
6:5:23:G:H2'	6:5:24:C:C6	2.55	0.41
6:5:174:U:H2'	6:5:175:U:C6	2.55	0.41
6:5:664:A:H2'	6:5:665:G:H8	1.84	0.41
6:5:773:G:O2'	6:5:774:A:N7	2.51	0.41
6:5:1093:A:H2'	6:5:1094:C:C6	2.55	0.41
6:5:1198:C:P	31:R:78:ARG:HH11	2.44	0.41
6:5:1267:G:H2'	6:5:1268:G:C8	2.53	0.41
9:8:658:PRO:HD3	36:Z:868:PHE:HE2	1.85	0.41
9:8:1122:LEU:HD11	9:8:1149:LEU:HD23	2.02	0.41
7:AA:46:LEU:HD23	7:AA:50:ILE:HD11	2.01	0.41
7:AA:166:PHE:N	7:AA:182:ASP:OD1	2.44	0.41
13:AC:13:DA:OP1	36:Z:890:TYR:CE2	2.70	0.41
16:C:4:THR:HG21	16:C:62:TYR:CE1	2.55	0.41
16:C:89:LEU:O	16:C:93:LEU:HD23	2.20	0.41
19:F:28:VAL:HG11	19:F:100:LEU:CD1	2.51	0.41
22:I:15:LYS:HD3	22:I:79:LEU:HD11	2.02	0.41
22:I:78:ARG:HD3	22:I:79:LEU:H	1.85	0.41
24:K:83:GLU:O	24:K:112:ARG:NH2	2.52	0.41
25:L:23:PHE:HB3	25:L:66:GLU:HB2	2.02	0.41
36:Z:806:ILE:HG22	36:Z:821:PHE:CE1	2.55	0.41
37:a:215:LYS:HG3	37:a:217:GLY:H	1.85	0.41
37:a:231:SER:HA	37:a:240:HIS:HB3	2.03	0.41
38:b:53:SER:HB2	38:b:78:THR:OG1	2.21	0.41
39:c:4:LEU:HD11	39:c:127:LEU:N	2.36	0.41
39:c:52:ILE:HD12	39:c:52:ILE:HA	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:d:34:ILE:O	40:d:91:LEU:HD23	2.20	0.41
41:e:146:GLN:O	41:e:149:THR:OG1	2.20	0.41
4:3:163:A:N3	4:3:2216:U:O2'	2.42	0.41
4:3:178:A:O2'	4:3:179:A:O4'	2.17	0.41
4:3:291:G:C2	4:3:292:G:C5	3.08	0.41
4:3:766:C:H2'	4:3:767:C:H6	1.83	0.41
4:3:1036:A:H2'	4:3:1037:A:C8	2.55	0.41
4:3:1041:C:H2'	4:3:1042:C:C5	2.56	0.41
4:3:1055:A:N6	4:3:1176:U:O2'	2.49	0.41
4:3:1268:U:H2'	4:3:1269:C:C6	2.56	0.41
4:3:1336:A:H2'	4:3:1337:G:O4'	2.21	0.41
4:3:1367:G:H3'	54:s:60:ARG:NH1	2.36	0.41
4:3:2166:U:H2'	4:3:2167:G:H8	1.86	0.41
4:3:2557:G:H2'	4:3:2558:G:H8	1.85	0.41
4:3:2873:G:H2'	4:3:2874:C:C6	2.55	0.41
6:5:588:U:H2'	6:5:589:U:H6	1.86	0.41
6:5:596:U:H4'	20:G:98:TYR:HD1	1.86	0.41
6:5:1325:U:H2'	6:5:1326:C:H6	1.86	0.41
6:5:1409:A:H2'	6:5:1410:A:H8	1.86	0.41
6:5:1414:U:P	32:S:29:LYS:HZ1	2.40	0.41
6:5:1424:C:H2'	6:5:1425:A:O4'	2.21	0.41
7:6:44:ARG:HH11	9:8:1232:ARG:HA	1.86	0.41
7:6:51:PRO:HG3	7:AA:1:MET:SD	2.60	0.41
9:8:20:TYR:CE1	9:8:22:GLY:HA3	2.55	0.41
9:8:926:ILE:HG12	9:8:1048:VAL:HG22	2.03	0.41
9:8:1162:LEU:HD13	9:8:1168:ALA:HA	2.03	0.41
9:8:1297:TYR:CD1	36:Z:554:LEU:CD2	3.03	0.41
9:8:1370:ILE:HB	36:Z:94:ILE:HG23	2.03	0.41
7:AA:73:MET:HE3	7:AA:143:PHE:CG	2.54	0.41
15:B:138:ARG:HD2	15:B:138:ARG:HA	1.89	0.41
16:C:97:LEU:O	16:C:101:VAL:HG23	2.21	0.41
21:H:82:ARG:HA	21:H:85:ILE:HG12	2.02	0.41
21:H:106:THR:OG1	21:H:107:THR:N	2.53	0.41
34:U:36:GLU:HG2	34:U:99:VAL:HG12	2.03	0.41
38:b:56:THR:HB	38:b:78:THR:HG22	2.02	0.41
40:d:37:ASN:O	40:d:38:MET:HE2	2.21	0.41
47:l:15:VAL:HG11	47:l:96:VAL:HG21	2.03	0.41
51:p:14:LYS:C	51:p:18:LYS:HZ3	2.27	0.41
4:3:174:A:C2	4:3:175:A:C5	3.08	0.41
4:3:257:C:H2'	4:3:258:G:O4'	2.21	0.41
4:3:267:A:H2'	4:3:268:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:638:A:C5	4:3:661:G:C2	3.08	0.41
4:3:725:G:N2	4:3:807:U:O2	2.35	0.41
4:3:744:U:H2'	4:3:745:U:C6	2.55	0.41
4:3:1477:A:C6	4:3:1489:G:C6	3.08	0.41
4:3:1701:G:C6	4:3:1998:U:H3'	2.56	0.41
4:3:1737:G:H2'	4:3:1738:G:H8	1.80	0.41
4:3:2324:A:H1'	40:d:125:ARG:CZ	2.51	0.41
5:4:89:A:C4	5:4:90:G:C8	3.09	0.41
6:5:333:U:H2'	6:5:334:A:C8	2.56	0.41
6:5:398:G:H4'	6:5:618:U:H3	1.85	0.41
6:5:665:G:H1'	27:N:43:ASN:HD22	1.86	0.41
8:7:55:U:C2	8:7:59:A:N7	2.89	0.41
9:8:772:GLU:O	36:Z:861:GLY:HA2	2.20	0.41
9:8:1141:GLN:OE1	9:8:1142:PRO:HD2	2.21	0.41
9:8:1200:PHE:CE1	36:Z:864:ILE:HA	2.56	0.41
11:A:37:TRP:HA	11:A:205:ASN:HB3	2.03	0.41
14:AD:108:TRP:CD1	14:AD:112:ARG:NH2	2.89	0.41
19:F:111:HIS:ND1	19:F:112:GLU:HG3	2.36	0.41
22:I:14:ILE:HD11	22:I:104:LEU:HD13	2.02	0.41
28:O:3:MET:N	28:O:3:MET:SD	2.94	0.41
33:T:18:PHE:HA	33:T:21:VAL:HG22	2.02	0.41
33:T:24:GLU:HG3	33:T:27:ARG:NH1	2.35	0.41
36:Z:775:LYS:HE2	36:Z:1035:GLY:O	2.21	0.41
36:Z:895:LEU:HD23	36:Z:1218:ILE:HG21	2.02	0.41
39:c:197:LEU:HD23	39:c:198:LEU:N	2.35	0.41
40:d:8:TYR:HA	40:d:12:ILE:HG12	2.02	0.41
48:m:17:THR:O	48:m:18:VAL:C	2.64	0.41
54:s:24:THR:HG1	54:s:26:LYS:HZ2	1.64	0.41
57:v:36:CYS:O	57:v:47:ARG:HA	2.21	0.41
1:0:35:ARG:NH2	4:3:182:C:O3'	2.54	0.41
4:3:23:A:O2'	53:r:121:GLN:OE1	2.29	0.41
4:3:35:U:O4	4:3:483:A:N7	2.54	0.41
4:3:47:G:H4'	4:3:48:G:H5'	2.03	0.41
4:3:140:G:N2	4:3:143:A:H62	2.18	0.41
4:3:173:C:N4	4:3:174:A:H62	2.19	0.41
4:3:186:A:C2	4:3:219:G:N1	2.77	0.41
4:3:226:A:C8	4:3:456:G:H4'	2.56	0.41
4:3:291:G:H2'	4:3:292:G:C8	2.56	0.41
4:3:386:U:H2'	4:3:387:U:C6	2.55	0.41
4:3:404:C:H2'	4:3:405:C:H6	1.86	0.41
4:3:410:G:O5'	57:v:60:LYS:NZ	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:483:A:O4'	4:3:485:A:N6	2.53	0.41
4:3:519:A:H3'	4:3:520:C:H6	1.86	0.41
4:3:525:A:C6	4:3:1312:A:N6	2.89	0.41
4:3:531:G:C4	4:3:532:A:C8	3.08	0.41
4:3:621:U:H2'	4:3:622:U:C6	2.55	0.41
4:3:764:G:H5'	4:3:765:A:H5''	2.02	0.41
4:3:820:U:H2'	4:3:821:C:O4'	2.21	0.41
4:3:983:A:H2'	4:3:984:C:H6	1.86	0.41
4:3:1067:A:N1	4:3:1157:G:C6	2.88	0.41
4:3:1082:A:H2'	4:3:1145:G:N1	2.36	0.41
4:3:1106:G:H21	4:3:1124:G:H2'	1.86	0.41
4:3:1119:A:P	4:3:1119:A:H8	2.44	0.41
4:3:1140:U:H2'	4:3:1141:U:C6	2.56	0.41
4:3:1592:A:H4'	4:3:1593:U:H3'	2.03	0.41
4:3:1613:A:H3'	4:3:1614:G:H8	1.86	0.41
4:3:1742:C:H2'	4:3:1743:U:C6	2.56	0.41
4:3:1795:C:OP1	37:a:229:ARG:NH2	2.48	0.41
4:3:1802:C:H2'	4:3:1803:U:C6	2.56	0.41
4:3:1999:G:H5'	4:3:2001:C:H41	1.85	0.41
4:3:2363:C:H2'	4:3:2364:A:C4	2.56	0.41
4:3:2388:C:H2'	4:3:2389:A:H8	1.86	0.41
4:3:2530:U:H1'	4:3:2572:A:C2	2.56	0.41
4:3:2624:C:H2'	4:3:2625:U:C6	2.56	0.41
4:3:2699:C:H2'	4:3:2700:C:C6	2.56	0.41
6:5:130:G:H2'	6:5:131:G:C8	2.55	0.41
6:5:172:C:H2'	6:5:173:U:C6	2.56	0.41
6:5:449:A:OP2	28:O:38:LYS:NZ	2.38	0.41
6:5:471:A:H2'	6:5:472:G:C8	2.56	0.41
6:5:562:U:OP2	24:K:12:ARG:NH1	2.53	0.41
6:5:727:G:C5	6:5:728:G:H1'	2.56	0.41
6:5:736:U:O2'	27:N:39:HIS:CD2	2.73	0.41
6:5:821:U:H2'	6:5:822:A:C8	2.56	0.41
6:5:1065:G:O2'	11:A:118:THR:HG21	2.21	0.41
6:5:1133:A:H5'	6:5:1134:C:C6	2.56	0.41
6:5:1137:C:H2'	6:5:1138:U:C6	2.55	0.41
6:5:1191:U:H2'	6:5:1192:C:C6	2.55	0.41
6:5:1298:U:H2'	6:5:1299:C:C6	2.56	0.41
8:7:20:G:O3'	8:7:58:G:N2	2.54	0.41
9:8:653:TYR:CD1	9:8:737:ARG:NH2	2.89	0.41
9:8:1288:GLU:HG2	9:8:1292:TRP:CZ2	2.56	0.41
7:AA:56:PHE:CE1	7:AA:156:TYR:HB3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:B:33:TRP:HB3	15:B:60:ARG:CZ	2.51	0.41
15:B:44:PHE:HD2	15:B:56:VAL:HG21	1.85	0.41
16:C:183:GLU:O	16:C:187:LEU:HG	2.21	0.41
17:D:111:VAL:HB	17:D:112:PRO:HD3	2.02	0.41
20:G:116:ILE:HA	20:G:136:GLU:O	2.20	0.41
21:H:74:PHE:CD2	21:H:75:THR:HG23	2.56	0.41
24:K:78:THR:HG22	24:K:110:ILE:HG13	2.03	0.41
25:L:10:PRO:HG2	25:L:13:LYS:HD2	2.02	0.41
25:L:54:VAL:O	25:L:58:ASN:N	2.41	0.41
28:O:46:GLU:OE1	28:O:72:LEU:HD12	2.20	0.41
28:O:67:PHE:CD2	28:O:72:LEU:HD13	2.55	0.41
29:P:65:GLU:HA	29:P:75:PHE:HD1	1.86	0.41
37:a:12:SER:O	37:a:12:SER:OG	2.38	0.41
37:a:41:LEU:HD23	37:a:66:TYR:HB3	2.02	0.41
38:b:225:GLN:NE2	50:o:84:PRO:HG3	2.36	0.41
40:d:13:ALA:HA	40:d:28:VAL:HG11	2.03	0.41
48:m:82:LEU:O	48:m:86:VAL:HG22	2.21	0.41
49:n:52:LEU:HD13	49:n:84:LEU:HD13	2.02	0.41
55:t:78:ASP:OD2	55:t:81:ALA:HB3	2.21	0.41
61:z:23:LYS:HZ3	61:z:25:VAL:HA	1.85	0.41
1:0:5:TYR:HD1	4:3:823:A:H2	1.69	0.41
4:3:38:G:H4'	4:3:487:C:C4	2.56	0.41
4:3:63:U:C2	58:w:41:PRO:HB2	2.56	0.41
4:3:101:C:H4'	4:3:103:G:C4	2.55	0.41
4:3:167:A:H2'	4:3:168:A:O4'	2.21	0.41
4:3:385:U:H2'	4:3:386:U:H6	1.85	0.41
4:3:595:U:H2'	4:3:605:A:H1'	2.03	0.41
4:3:627:U:H2'	4:3:628:A:C8	2.55	0.41
4:3:730:G:H2'	4:3:731:A:H8	1.86	0.41
4:3:1391:U:C2	4:3:1392:G:C8	3.08	0.41
4:3:1852:G:H2'	4:3:1853:G:C8	2.56	0.41
4:3:1980:G:H2'	4:3:1981:U:C6	2.54	0.41
4:3:2080:C:OP1	37:a:236:ASN:ND2	2.54	0.41
4:3:2336:A:H61	4:3:2395:U:H3	1.69	0.41
4:3:2337:U:H2'	4:3:2338:G:C8	2.56	0.41
4:3:2491:C:N3	47:l:124:LYS:NZ	2.55	0.41
4:3:2661:U:H3'	4:3:2662:A:H8	1.86	0.41
4:3:2791:U:H2'	4:3:2792:C:C6	2.55	0.41
5:4:26:C:H2'	5:4:27:A:C8	2.55	0.41
6:5:388:G:O2'	6:5:480:C:O2'	2.30	0.41
6:5:827:C:H2'	6:5:828:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:1411:A:H2'	6:5:1412:C:C6	2.56	0.41
7:6:128:GLU:CB	22:I:95:ARG:NH2	2.83	0.41
9:8:150:PHE:CZ	9:8:625:LYS:HA	2.56	0.41
9:8:1307:LEU:HB3	36:Z:406:LYS:NZ	2.36	0.41
11:A:177:ILE:HA	11:A:199:VAL:O	2.21	0.41
20:G:13:ASP:N	20:G:13:ASP:OD1	2.54	0.41
23:J:54:TYR:O	23:J:58:ILE:HG12	2.21	0.41
26:M:56:VAL:O	26:M:57:LYS:HE2	2.20	0.41
32:S:39:ILE:HG23	32:S:76:LEU:HD12	2.03	0.41
36:Z:956:PRO:HG2	36:Z:959:SER:OG	2.21	0.41
40:d:92:ARG:HA	40:d:96:MET:SD	2.61	0.41
42:f:67:LYS:HA	42:f:70:GLU:OE1	2.21	0.41
43:h:98:MET:O	43:h:102:LYS:HB2	2.21	0.41
46:k:82:LEU:HA	46:k:85:ILE:HG22	2.03	0.41
48:m:74:ASP:HB3	48:m:77:GLN:OE1	2.21	0.41
50:o:19:LYS:HD2	50:o:82:HIS:HA	2.03	0.41
51:p:31:TYR:CZ	51:p:35:LYS:HD2	2.56	0.41
4:3:598:G:H2'	4:3:599:U:C6	2.56	0.40
4:3:784:A:H4'	4:3:1301:G:N3	2.36	0.40
4:3:794:G:H2'	4:3:795:G:C8	2.55	0.40
4:3:1117:U:H2'	4:3:1118:U:O4'	2.21	0.40
4:3:1227:C:H2'	4:3:1228:G:C8	2.56	0.40
4:3:1625:G:H2'	4:3:1626:C:C6	2.57	0.40
4:3:2160:U:H2'	4:3:2161:G:C8	2.56	0.40
4:3:2590:G:C2	4:3:2591:G:N2	2.88	0.40
4:3:2625:U:O4	4:3:2626:A:N6	2.54	0.40
4:3:2661:U:OP2	4:3:2662:A:O2'	2.29	0.40
6:5:663:G:C6	6:5:737:U:O2	2.74	0.40
6:5:677:C:H2'	6:5:678:A:C8	2.52	0.40
6:5:949:G:N7	6:5:950:C:N4	2.69	0.40
6:5:1011:A:H1'	6:5:1193:U:O2'	2.21	0.40
6:5:1365:U:H2'	6:5:1366:U:C6	2.57	0.40
9:8:265:LEU:HD23	9:8:276:LEU:CD1	2.52	0.40
9:8:659:ILE:HD11	36:Z:867:TYR:CE1	2.56	0.40
9:8:1136:SER:HA	9:8:1146:LEU:CD1	2.51	0.40
9:8:1310:LYS:C	36:Z:409:ASP:H	2.29	0.40
10:9:27:PHE:CE2	10:9:53:TYR:HD2	2.39	0.40
19:F:8:LYS:HA	19:F:8:LYS:HD3	1.93	0.40
20:G:95:LEU:HD13	24:K:4:ILE:HD13	2.03	0.40
23:J:19:SER:N	23:J:22:ASN:O	2.54	0.40
28:O:58:LYS:HB3	28:O:64:ARG:HH12	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:c:38:VAL:O	39:c:41:GLU:HG3	2.21	0.40
39:c:174:ASN:ND2	39:c:175:ILE:HG13	2.36	0.40
41:e:124:LEU:HB3	41:e:136:ILE:HD11	2.03	0.40
42:f:12:LEU:HB2	42:f:14:LYS:HZ2	1.86	0.40
47:l:37:THR:OG1	47:l:128:THR:HB	2.20	0.40
47:l:41:TRP:CD1	47:l:41:TRP:N	2.89	0.40
48:m:104:GLY:O	48:m:113:MET:HE2	2.21	0.40
52:q:2:HIS:HB2	52:q:13:LEU:HD11	2.03	0.40
4:3:166:A:H2'	4:3:167:A:C8	2.56	0.40
4:3:255:A:H8	4:3:255:A:O5'	2.04	0.40
4:3:256:G:H2'	4:3:257:C:C6	2.57	0.40
4:3:615:G:O2'	4:3:616:G:H5'	2.21	0.40
4:3:992:G:O3'	4:3:993:A:H8	2.04	0.40
4:3:1230:U:H2'	4:3:1231:G:H8	1.84	0.40
4:3:1251:G:OP1	52:q:66:ARG:NH1	2.46	0.40
4:3:1327:G:H4'	4:3:1328:A:O5'	2.21	0.40
4:3:1647:A:N6	4:3:1651:C:H2'	2.36	0.40
4:3:1701:G:O2'	4:3:1998:U:O4	2.36	0.40
4:3:2003:C:H4'	4:3:2004:G:O4'	2.20	0.40
4:3:2264:G:H2'	4:3:2265:U:C6	2.57	0.40
4:3:2483:C:N4	4:3:2537:G:N2	2.69	0.40
4:3:2513:G:H2'	4:3:2584:G:H1	1.86	0.40
4:3:2748:A:H2'	4:3:2749:A:C8	2.56	0.40
4:3:2821:U:O2'	4:3:2841:A:H1'	2.21	0.40
6:5:248:U:H2'	6:5:249:U:C6	2.56	0.40
6:5:271:G:H5'	29:P:17:LYS:HD3	2.04	0.40
6:5:431:U:P	14:AD:81:ARG:NH1	2.86	0.40
6:5:737:U:H5'	27:N:39:HIS:CD2	2.55	0.40
6:5:1038:G:OP1	26:M:4:LYS:HE3	2.20	0.40
6:5:1055:G:H1'	6:5:1165:G:H21	1.87	0.40
6:5:1447:U:H2'	6:5:1448:A:H8	1.86	0.40
9:8:647:ASP:CG	36:Z:834:SER:HB3	2.47	0.40
9:8:1350:ALA:N	36:Z:368:PHE:CE1	2.89	0.40
11:A:64:SER:O	11:A:67:THR:OG1	2.32	0.40
11:A:84:PHE:HA	11:A:177:ILE:HG22	2.02	0.40
12:AB:32:DA:H5''	36:Z:121:PRO:CD	2.43	0.40
15:B:87:LYS:O	15:B:91:GLN:OE1	2.39	0.40
23:J:77:LEU:HB3	23:J:103:ILE:HG13	2.03	0.40
24:K:16:LYS:HA	24:K:16:LYS:HD3	1.97	0.40
25:L:79:HIS:HA	25:L:82:GLU:OE1	2.20	0.40
29:P:23:THR:HG22	29:P:46:GLN:OE1	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Z:141:PHE:HA	36:Z:236:ILE:HD11	2.03	0.40
36:Z:553:ILE:CD1	36:Z:1270:THR:HG23	2.51	0.40
38:b:17:PHE:HB3	50:o:17:GLN:HE22	1.87	0.40
2:1:25:TYR:HD1	4:3:2400:A:H4'	1.86	0.40
4:3:38:G:N3	4:3:486:G:O2'	2.54	0.40
4:3:205:C:H1'	4:3:255:A:H2	1.86	0.40
4:3:436:G:N7	57:v:56:ARG:NH1	2.68	0.40
4:3:487:C:O2	4:3:489:A:N6	2.55	0.40
4:3:490:A:H3'	4:3:491:A:C8	2.57	0.40
4:3:549:A:H2'	4:3:550:A:C8	2.57	0.40
4:3:573:A:H2'	4:3:574:G:O4'	2.21	0.40
4:3:738:U:H3	4:3:763:G:H1	1.70	0.40
4:3:739:G:O2'	4:3:761:G:N1	2.25	0.40
4:3:1103:G:H4'	4:3:1105:A:H62	1.86	0.40
4:3:1202:A:H2'	4:3:1203:G:H8	1.87	0.40
4:3:1391:U:H2'	4:3:1392:G:C8	2.55	0.40
4:3:1780:A:C5	4:3:1836:A:H1'	2.57	0.40
4:3:1838:A:H2'	4:3:1839:C:H6	1.87	0.40
4:3:1841:U:H4'	4:3:1842:G:H5'	2.03	0.40
4:3:1872:U:C2	4:3:1882:G:N1	2.90	0.40
4:3:2557:G:O2'	4:3:2558:G:H5'	2.21	0.40
4:3:2614:U:H2'	4:3:2615:G:C8	2.56	0.40
4:3:2845:U:C2	4:3:2846:A:C8	3.10	0.40
5:4:30:U:C2	5:4:49:G:N2	2.89	0.40
6:5:31:U:H3	6:5:551:A:H61	1.69	0.40
6:5:434:U:HO2'	16:C:121:HIS:HE2	1.65	0.40
6:5:815:G:N2	6:5:817:U:O2'	2.54	0.40
6:5:983:G:N2	6:5:1012:A:H8	2.18	0.40
6:5:1046:A:H2	15:B:197:GLY:HA2	1.85	0.40
7:6:102:VAL:O	7:6:104:PRO:HD3	2.22	0.40
9:8:640:ASP:OD1	9:8:641:PRO:HD2	2.21	0.40
9:8:965:MET:CE	15:B:78:ILE:CG1	2.56	0.40
9:8:1288:GLU:OE2	36:Z:893:ARG:CZ	2.70	0.40
9:8:1371:LEU:HD23	36:Z:92:GLU:OE2	2.21	0.40
14:AD:108:TRP:CZ3	14:AD:130:PRO:CG	3.04	0.40
16:C:103:ARG:HA	16:C:103:ARG:HD3	1.86	0.40
23:J:28:SER:OG	23:J:33:ASN:N	2.54	0.40
33:T:41:ARG:O	33:T:44:GLU:HG3	2.21	0.40
34:U:157:VAL:HG22	35:X:28:PHE:CD2	2.56	0.40
45:j:3:SER:O	45:j:6:THR:OG1	2.38	0.40
51:p:106:ASN:HA	51:p:109:VAL:HG12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:u:39:LYS:HD2	56:u:45:ILE:HG21	2.03	0.40
61:z:12:ASN:OD1	61:z:13:ASP:N	2.53	0.40
1:0:2:LYS:HE3	4:3:722:C:H4'	2.04	0.40
2:1:2:LYS:HE3	4:3:246:G:O2'	2.21	0.40
4:3:329:G:H2'	4:3:330:A:H8	1.86	0.40
4:3:342:G:C2	4:3:536:A:N7	2.90	0.40
4:3:495:U:H2'	4:3:496:A:H8	1.87	0.40
4:3:1121:A:O2'	4:3:1122:G:N7	2.54	0.40
4:3:1263:G:H2'	4:3:1264:U:C6	2.56	0.40
4:3:1760:G:N2	4:3:1762:A:H5''	2.36	0.40
4:3:2364:A:H2	4:3:2370:G:N1	2.19	0.40
4:3:2590:G:C2	4:3:2591:G:C2	3.09	0.40
6:5:253:G:H2'	6:5:254:G:H8	1.87	0.40
6:5:398:G:H2'	6:5:399:C:C6	2.56	0.40
6:5:554:C:N4	6:5:555:G:O6	2.54	0.40
6:5:881:G:C2	6:5:905:U:O2	2.74	0.40
6:5:1131:A:C4	6:5:1132:G:C8	3.10	0.40
6:5:1209:C:H2'	6:5:1210:U:O4'	2.21	0.40
6:5:1225:A:C6	6:5:1226:A:C6	3.10	0.40
6:5:1286:G:C2	6:5:1287:G:C8	3.10	0.40
6:5:1390:G:H2'	6:5:1391:A:C8	2.56	0.40
8:7:57:C:H3'	8:7:58:G:H8	1.86	0.40
9:8:1297:TYR:CB	36:Z:554:LEU:HD21	2.52	0.40
9:8:1338:SER:O	36:Z:398:LEU:CD1	2.57	0.40
12:AB:15:DT:C4'	14:AD:95:ARG:HH12	2.22	0.40
15:B:80:SER:O	15:B:81:GLU:HG3	2.22	0.40
19:F:26:ILE:HG21	19:F:39:GLN:NE2	2.37	0.40
20:G:15:VAL:HG21	20:G:138:LEU:HD12	2.03	0.40
35:V:5:LEU:HD23	35:W:20:ILE:HG23	2.04	0.40
36:Z:19:LYS:CE	36:Z:1248:THR:CG2	3.00	0.40
36:Z:649:LEU:HB3	36:Z:653:ILE:CD1	2.51	0.40
37:a:185:LEU:HD23	37:a:186:SER:H	1.86	0.40
47:l:17:TYR:HD1	47:l:41:TRP:NE1	2.19	0.40
53:r:36:LEU:HD12	53:r:36:LEU:HA	1.93	0.40
1:0:39:ARG:NE	4:3:494:G:O2'	2.55	0.40
2:1:39:ARG:O	2:1:43:LYS:HG2	2.20	0.40
4:3:80:U:O4	4:3:109:G:O6	2.38	0.40
4:3:201:A:H2	4:3:2442:A:H62	1.70	0.40
4:3:308:A:H2'	4:3:309:A:C8	2.57	0.40
4:3:343:A:H1'	4:3:363:G:N3	2.36	0.40
4:3:596:G:C6	4:3:2025:C:C2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:759:U:C4	4:3:760:G:C5	3.09	0.40
4:3:806:A:H2'	4:3:807:U:C6	2.57	0.40
4:3:985:A:N6	4:3:1005:G:O6	2.54	0.40
4:3:1078:C:H2'	4:3:1079:U:O4'	2.21	0.40
4:3:1408:G:H8	4:3:1408:G:O5'	2.05	0.40
4:3:1418:U:C2	4:3:1423:A:N6	2.89	0.40
4:3:1525:G:H2'	4:3:1526:U:O4'	2.22	0.40
4:3:1821:G:H2'	4:3:1822:A:C8	2.57	0.40
4:3:2633:C:H2'	4:3:2634:C:C6	2.57	0.40
4:3:2637:A:N3	4:3:2898:A:N6	2.70	0.40
4:3:2823:A:C6	4:3:2832:G:C6	3.09	0.40
5:4:77:G:C2	5:4:78:C:C4	3.10	0.40
6:5:408:U:H1'	6:5:409:G:H2'	2.03	0.40
6:5:663:G:H21	27:N:48:ILE:HD11	1.87	0.40
6:5:960:C:H5'	6:5:964:A:H5'	2.04	0.40
6:5:1413:G:H1	6:5:1438:U:H3	1.69	0.40
6:5:1477:A:O2'	6:5:1478:A:H3'	2.21	0.40
9:8:161:ILE:HD12	9:8:397:LEU:HD11	2.03	0.40
9:8:170:LYS:HE3	12:AB:25:DC:H3'	1.09	0.40
9:8:956:ARG:HG3	15:B:74:PRO:CG	2.51	0.40
9:8:956:ARG:HH21	15:B:108:GLU:HG2	1.84	0.40
9:8:1225:LYS:NZ	36:Z:738:ASP:OD2	2.55	0.40
9:8:1306:LEU:HA	36:Z:408:VAL:HG12	1.93	0.40
9:8:1325:VAL:HG22	36:Z:443:ILE:HD13	2.03	0.40
17:D:150:LEU:HD12	17:D:150:LEU:HA	1.83	0.40
18:E:13:LEU:HD12	18:E:17:GLN:NE2	2.37	0.40
19:F:111:HIS:O	19:F:112:GLU:HB2	2.22	0.40
22:I:47:PRO:HA	22:I:78:ARG:HH22	1.86	0.40
32:S:26:THR:O	32:S:30:THR:HG23	2.21	0.40
37:a:125:GLU:HB2	42:f:89:TYR:CE1	2.56	0.40
38:b:76:LYS:HA	38:b:76:LYS:HD3	1.89	0.40
44:i:36:ALA:HA	44:i:39:ILE:HG22	2.02	0.40
44:i:106:ASN:OD1	44:i:107:ALA:N	2.55	0.40
45:j:35:LEU:HB2	45:j:69:GLN:NE2	2.36	0.40
47:l:3:GLN:HE22	47:l:93:TRP:NE1	2.19	0.40
57:v:16:ASN:ND2	57:v:25:THR:H	2.19	0.40
60:y:38:LEU:HD22	60:y:41:ARG:HD3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	0	45/47 (96%)	44 (98%)	1 (2%)	0	100	100
2	1	57/59 (97%)	54 (95%)	3 (5%)	0	100	100
3	2	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
7	6	245/247 (99%)	242 (99%)	3 (1%)	0	100	100
7	AA	245/247 (99%)	242 (99%)	3 (1%)	0	100	100
9	8	1389/1391 (100%)	1355 (98%)	33 (2%)	1 (0%)	48	83
10	9	87/89 (98%)	85 (98%)	2 (2%)	0	100	100
11	A	238/240 (99%)	222 (93%)	16 (7%)	0	100	100
14	AD	158/160 (99%)	155 (98%)	1 (1%)	2 (1%)	9	42
15	B	213/215 (99%)	196 (92%)	17 (8%)	0	100	100
16	C	201/203 (99%)	191 (95%)	10 (5%)	0	100	100
17	D	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
18	E	165/167 (99%)	147 (89%)	18 (11%)	0	100	100
19	F	152/154 (99%)	135 (89%)	17 (11%)	0	100	100
20	G	139/141 (99%)	125 (90%)	14 (10%)	0	100	100
21	H	126/128 (98%)	115 (91%)	11 (9%)	0	100	100
22	I	99/101 (98%)	87 (88%)	12 (12%)	0	100	100
23	J	112/114 (98%)	105 (94%)	7 (6%)	0	100	100
24	K	134/136 (98%)	126 (94%)	8 (6%)	0	100	100
25	L	116/118 (98%)	104 (90%)	12 (10%)	0	100	100
26	M	58/60 (97%)	56 (97%)	2 (3%)	0	100	100
27	N	81/83 (98%)	81 (100%)	0	0	100	100
28	O	78/80 (98%)	70 (90%)	8 (10%)	0	100	100
29	P	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
30	Q	63/65 (97%)	52 (82%)	11 (18%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	R	82/84 (98%)	73 (89%)	9 (11%)	0	100	100
32	S	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
33	T	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
34	U	159/161 (99%)	154 (97%)	4 (2%)	1 (1%)	21	59
35	V	27/29 (93%)	27 (100%)	0	0	100	100
35	W	27/29 (93%)	27 (100%)	0	0	100	100
35	X	27/29 (93%)	27 (100%)	0	0	100	100
35	Y	27/29 (93%)	27 (100%)	0	0	100	100
36	Z	1274/1276 (100%)	1252 (98%)	21 (2%)	1 (0%)	48	83
37	a	283/285 (99%)	265 (94%)	18 (6%)	0	100	100
38	b	227/229 (99%)	214 (94%)	13 (6%)	0	100	100
39	c	208/210 (99%)	197 (95%)	11 (5%)	0	100	100
40	d	173/175 (99%)	161 (93%)	12 (7%)	0	100	100
41	e	174/176 (99%)	166 (95%)	8 (5%)	0	100	100
42	f	143/145 (99%)	125 (87%)	18 (13%)	0	100	100
43	h	126/128 (98%)	114 (90%)	12 (10%)	0	100	100
44	i	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
45	j	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
46	k	146/148 (99%)	139 (95%)	7 (5%)	0	100	100
47	l	134/136 (98%)	124 (92%)	10 (8%)	0	100	100
48	m	117/119 (98%)	108 (92%)	9 (8%)	0	100	100
49	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
50	o	113/115 (98%)	101 (89%)	12 (11%)	0	100	100
51	p	112/114 (98%)	108 (96%)	4 (4%)	0	100	100
52	q	97/99 (98%)	90 (93%)	7 (7%)	0	100	100
53	r	137/139 (99%)	134 (98%)	3 (2%)	0	100	100
54	s	90/92 (98%)	88 (98%)	2 (2%)	0	100	100
55	t	109/111 (98%)	104 (95%)	5 (5%)	0	100	100
56	u	84/86 (98%)	81 (96%)	3 (4%)	0	100	100
57	v	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
58	w	96/108 (89%)	89 (93%)	7 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
59	x	42/44 (96%)	35 (83%)	7 (17%)	0	100	100
60	y	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
61	z	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
All	All	9361/9495 (99%)	8905 (95%)	451 (5%)	5 (0%)	49	83

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	AD	95	ARG
9	8	582	LYS
36	Z	1035	GLY
34	U	106	MET
14	AD	17	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	40/40 (100%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
7	6	212/212 (100%)	206 (97%)	6 (3%)	38	59
7	AA	212/212 (100%)	207 (98%)	5 (2%)	43	64
9	8	1213/1213 (100%)	1188 (98%)	25 (2%)	47	65
10	9	83/83 (100%)	79 (95%)	4 (5%)	23	44
11	A	212/212 (100%)	211 (100%)	1 (0%)	81	83
14	AD	140/140 (100%)	134 (96%)	6 (4%)	26	47
15	B	180/180 (100%)	180 (100%)	0	100	100
16	C	181/181 (100%)	181 (100%)	0	100	100
17	D	123/123 (100%)	123 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	E	150/150 (100%)	150 (100%)	0	100	100
19	F	131/131 (100%)	131 (100%)	0	100	100
20	G	123/123 (100%)	123 (100%)	0	100	100
21	H	111/111 (100%)	111 (100%)	0	100	100
22	I	95/95 (100%)	95 (100%)	0	100	100
23	J	91/91 (100%)	91 (100%)	0	100	100
24	K	117/117 (100%)	114 (97%)	3 (3%)	40	62
25	L	100/100 (100%)	99 (99%)	1 (1%)	68	78
26	M	47/47 (100%)	47 (100%)	0	100	100
27	N	76/76 (100%)	76 (100%)	0	100	100
28	O	69/69 (100%)	69 (100%)	0	100	100
29	P	73/73 (100%)	73 (100%)	0	100	100
30	Q	56/56 (100%)	56 (100%)	0	100	100
31	R	74/74 (100%)	74 (100%)	0	100	100
32	S	70/70 (100%)	70 (100%)	0	100	100
33	T	49/49 (100%)	49 (100%)	0	100	100
34	U	129/129 (100%)	129 (100%)	0	100	100
35	V	26/26 (100%)	26 (100%)	0	100	100
35	W	26/26 (100%)	26 (100%)	0	100	100
35	X	26/26 (100%)	26 (100%)	0	100	100
35	Y	26/26 (100%)	26 (100%)	0	100	100
36	Z	1113/1113 (100%)	1100 (99%)	13 (1%)	63	75
37	a	241/241 (100%)	241 (100%)	0	100	100
38	b	186/186 (100%)	186 (100%)	0	100	100
39	c	182/182 (100%)	182 (100%)	0	100	100
40	d	150/150 (100%)	150 (100%)	0	100	100
41	e	153/153 (100%)	153 (100%)	0	100	100
42	f	123/131 (94%)	123 (100%)	0	100	100
43	h	102/102 (100%)	102 (100%)	0	100	100
44	i	126/126 (100%)	126 (100%)	0	100	100
45	j	103/103 (100%)	103 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
46	k	123/123 (100%)	123 (100%)	0	100	100
47	l	113/113 (100%)	113 (100%)	0	100	100
48	m	105/105 (100%)	105 (100%)	0	100	100
49	n	96/99 (97%)	96 (100%)	0	100	100
50	o	101/101 (100%)	101 (100%)	0	100	100
51	p	100/100 (100%)	100 (100%)	0	100	100
52	q	90/90 (100%)	90 (100%)	0	100	100
53	r	116/116 (100%)	116 (100%)	0	100	100
54	s	82/82 (100%)	82 (100%)	0	100	100
55	t	96/96 (100%)	96 (100%)	0	100	100
56	u	69/69 (100%)	69 (100%)	0	100	100
57	v	58/58 (100%)	58 (100%)	0	100	100
58	w	87/95 (92%)	87 (100%)	0	100	100
59	x	41/41 (100%)	41 (100%)	0	100	100
60	y	48/48 (100%)	45 (94%)	3 (6%)	16	37
61	z	47/47 (100%)	47 (100%)	0	100	100
All	All	8198/8217 (100%)	8131 (99%)	67 (1%)	70	80

All (67) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	6	34	PHE
7	6	50	ILE
7	6	58	LEU
7	6	59	SER
7	6	106	LEU
7	6	208	HIS
9	8	135	LEU
9	8	187	LEU
9	8	204	ILE
9	8	258	VAL
9	8	265	LEU
9	8	284	THR
9	8	310	GLU
9	8	314	LEU
9	8	334	LEU

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Mol	Chain	Res	Type
9	8	355	LEU
9	8	408	LEU
9	8	428	VAL
9	8	446	PHE
9	8	459	VAL
9	8	514	ILE
9	8	554	LEU
9	8	585	LEU
9	8	673	LEU
9	8	863	LEU
9	8	988	VAL
9	8	1037	ASP
9	8	1137	THR
9	8	1149	LEU
9	8	1179	LEU
9	8	1386	PHE
10	9	5	TYR
10	9	8	LEU
10	9	10	SER
10	9	57	LEU
11	A	51	HIS
7	AA	34	PHE
7	AA	50	ILE
7	AA	58	LEU
7	AA	59	SER
7	AA	106	LEU
14	AD	17	VAL
14	AD	19	ASP
14	AD	45	LEU
14	AD	62	LEU
14	AD	92	LEU
14	AD	141	LEU
24	K	120	VAL
24	K	121	GLU
24	K	122	LYS
25	L	91	HIS
36	Z	174	LEU
36	Z	192	ILE
36	Z	219	LEU
36	Z	268	SER
36	Z	281	LEU
36	Z	493	LEU

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Mol	Chain	Res	Type
36	Z	757	LEU
36	Z	843	SER
36	Z	937	VAL
36	Z	1092	VAL
36	Z	1197	LEU
36	Z	1218	ILE
36	Z	1278	LEU
60	y	47	MET
60	y	48	TYR
60	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (113) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	44	GLN
7	6	146	GLN
7	6	190	HIS
9	8	63	ASN
9	8	132	ASN
9	8	179	GLN
9	8	210	GLN
9	8	413	HIS
9	8	477	ASN
9	8	569	GLN
9	8	616	GLN
9	8	624	ASN
9	8	652	GLN
9	8	841	GLN
9	8	842	HIS
9	8	883	ASN
9	8	901	ASN
9	8	961	ASN
9	8	1033	ASN
9	8	1115	HIS
9	8	1140	ASN
9	8	1192	HIS
9	8	1223	HIS
9	8	1253	HIS
9	8	1304	GLN
9	8	1363	GLN
11	A	52	ASN
11	A	63	GLN

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Mol	Chain	Res	Type
11	A	66	GLN
11	A	70	ASN
11	A	97	ASN
11	A	98	ASN
11	A	192	ASN
7	AA	40	ASN
7	AA	86	GLN
7	AA	184	ASN
14	AD	160	ASN
15	B	6	ASN
15	B	47	ASN
15	B	193	GLN
17	D	190	ASN
17	D	193	HIS
17	D	202	GLN
18	E	17	GLN
18	E	36	GLN
18	E	106	GLN
19	F	85	GLN
20	G	56	ASN
21	H	77	GLN
22	I	74	ASN
24	K	59	ASN
24	K	86	ASN
24	K	88	GLN
24	K	90	HIS
25	L	40	ASN
27	N	13	GLN
27	N	39	HIS
29	P	5	GLN
30	Q	82	HIS
31	R	47	ASN
32	S	20	ASN
32	S	43	ASN
32	S	46	ASN
33	T	8	ASN
34	U	16	HIS
34	U	57	ASN
36	Z	137	GLN
36	Z	143	ASN
36	Z	296	ASN
36	Z	314	GLN

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Mol	Chain	Res	Type
36	Z	402	ASN
36	Z	500	HIS
36	Z	820	ASN
36	Z	906	HIS
36	Z	968	GLN
36	Z	1018	GLN
36	Z	1082	ASN
36	Z	1190	HIS
36	Z	1192	HIS
36	Z	1213	ASN
37	a	62	ASN
37	a	159	GLN
37	a	209	ASN
38	b	178	ASN
39	c	104	ASN
39	c	108	HIS
41	e	6	ASN
41	e	54	GLN
41	e	63	GLN
41	e	68	HIS
41	e	72	ASN
44	i	51	GLN
44	i	61	ASN
44	i	138	GLN
46	k	36	GLN
47	l	14	ASN
47	l	113	GLN
48	m	59	ASN
48	m	117	GLN
49	n	75	GLN
51	p	85	HIS
52	q	69	ASN
53	r	52	ASN
53	r	94	ASN
54	s	5	ASN
54	s	19	ASN
55	t	33	GLN
55	t	64	GLN
56	u	64	ASN
57	v	6	GLN
57	v	16	ASN
60	y	19	HIS

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Mol	Chain	Res	Type
61	z	18	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
4	3	2875/2893 (99%)	733 (25%)	25 (0%)
5	4	103/108 (95%)	34 (33%)	5 (4%)
6	5	1490/1505 (99%)	349 (23%)	6 (0%)
8	7	75/76 (98%)	25 (33%)	2 (2%)
All	All	4543/4582 (99%)	1141 (25%)	38 (0%)

All (1141) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
4	3	12	A
4	3	14	U
4	3	15	A
4	3	17	G
4	3	29	G
4	3	37	G
4	3	47	G
4	3	48	G
4	3	51	A
4	3	53	G
4	3	54	A
4	3	63	U
4	3	65	A
4	3	73	A
4	3	75	A
4	3	76	A
4	3	77	G
4	3	82	G
4	3	86	A
4	3	92	U
4	3	102	A
4	3	103	G
4	3	112	A
4	3	115	U
4	3	116	C
4	3	119	A
4	3	120	A

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Mol	Chain	Res	Type
4	3	121	U
4	3	122	G
4	3	126	C
4	3	129	U
4	3	132	G
4	3	141	A
4	3	143	A
4	3	148	U
4	3	165	U
4	3	178	A
4	3	180	A
4	3	184	A
4	3	185	U
4	3	186	A
4	3	187	C
4	3	188	G
4	3	200	A
4	3	208	A
4	3	219	G
4	3	220	A
4	3	226	A
4	3	230	G
4	3	232	A
4	3	234	G
4	3	237	A
4	3	245	U
4	3	246	G
4	3	252	G
4	3	254	G
4	3	256	G
4	3	269	A
4	3	270	G
4	3	276	A
4	3	284	U
4	3	287	G
4	3	295	U
4	3	296	U
4	3	297	G
4	3	298	U
4	3	299	A
4	3	309	A
4	3	310	U

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Mol	Chain	Res	Type
4	3	312	U
4	3	314	G
4	3	315	A
4	3	319	G
4	3	325	G
4	3	334	A
4	3	336	C
4	3	341	G
4	3	345	A
4	3	346	G
4	3	347	C
4	3	351	G
4	3	357	A
4	3	358	A
4	3	363	G
4	3	364	A
4	3	367	G
4	3	369	C
4	3	374	A
4	3	380	A
4	3	401	G
4	3	402	A
4	3	403	U
4	3	404	C
4	3	409	A
4	3	410	G
4	3	411	U
4	3	422	A
4	3	425	U
4	3	426	U
4	3	432	G
4	3	437	A
4	3	439	U
4	3	440	C
4	3	441	U
4	3	447	G
4	3	448	A
4	3	449	C
4	3	457	U
4	3	460	G
4	3	464	A
4	3	465	A

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Mol	Chain	Res	Type
4	3	466	A
4	3	467	U
4	3	480	C
4	3	482	G
4	3	484	U
4	3	485	A
4	3	487	C
4	3	491	A
4	3	492	C
4	3	495	U
4	3	500	U
4	3	501	G
4	3	509	G
4	3	514	A
4	3	515	A
4	3	516	A
4	3	517	G
4	3	519	A
4	3	527	A
4	3	540	A
4	3	543	U
4	3	544	U
4	3	545	C
4	3	565	C
4	3	566	G
4	3	567	U
4	3	581	A
4	3	582	A
4	3	583	U
4	3	595	U
4	3	596	G
4	3	599	U
4	3	601	U
4	3	605	A
4	3	606	G
4	3	607	U
4	3	608	A
4	3	610	G
4	3	616	G
4	3	620	G
4	3	623	A
4	3	636	U

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Mol	Chain	Res	Type
4	3	637	U
4	3	638	A
4	3	663	A
4	3	668	A
4	3	670	G
4	3	673	A
4	3	681	A
4	3	682	A
4	3	689	U
4	3	690	U
4	3	691	G
4	3	694	U
4	3	695	G
4	3	701	A
4	3	702	U
4	3	705	A
4	3	706	C
4	3	712	A
4	3	721	G
4	3	722	C
4	3	730	G
4	3	737	U
4	3	740	A
4	3	752	C
4	3	761	G
4	3	763	G
4	3	764	G
4	3	765	A
4	3	769	A
4	3	775	C
4	3	782	U
4	3	790	U
4	3	792	G
4	3	798	G
4	3	799	A
4	3	800	C
4	3	801	U
4	3	810	G
4	3	811	G
4	3	815	G
4	3	816	A
4	3	817	A

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Mol	Chain	Res	Type
4	3	819	U
4	3	820	U
4	3	824	A
4	3	825	U
4	3	827	G
4	3	828	A
4	3	829	A
4	3	840	G
4	3	841	C
4	3	846	U
4	3	847	C
4	3	850	G
4	3	854	A
4	3	855	A
4	3	862	U
4	3	863	U
4	3	865	A
4	3	873	G
4	3	881	A
4	3	882	C
4	3	883	A
4	3	893	A
4	3	895	G
4	3	902	U
4	3	903	A
4	3	904	C
4	3	906	G
4	3	917	G
4	3	918	G
4	3	931	G
4	3	932	U
4	3	944	U
4	3	947	A
4	3	949	C
4	3	951	C
4	3	977	A
4	3	980	C
4	3	981	A
4	3	982	G
4	3	989	G
4	3	991	G
4	3	993	A

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Mol	Chain	Res	Type
4	3	995	A
4	3	997	G
4	3	1009	A
4	3	1013	G
4	3	1016	A
4	3	1019	A
4	3	1021	C
4	3	1022	C
4	3	1024	A
4	3	1026	A
4	3	1027	U
4	3	1032	A
4	3	1042	C
4	3	1044	C
4	3	1045	A
4	3	1049	U
4	3	1055	A
4	3	1061	A
4	3	1068	U
4	3	1075	G
4	3	1080	A
4	3	1081	A
4	3	1083	A
4	3	1092	A
4	3	1095	U
4	3	1096	U
4	3	1100	U
4	3	1102	A
4	3	1105	A
4	3	1106	G
4	3	1113	U
4	3	1124	G
4	3	1125	U
4	3	1129	U
4	3	1140	U
4	3	1145	G
4	3	1147	G
4	3	1150	U
4	3	1151	U
4	3	1155	G
4	3	1157	G
4	3	1162	A

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Mol	Chain	Res	Type
4	3	1165	U
4	3	1167	U
4	3	1168	A
4	3	1169	A
4	3	1170	C
4	3	1171	G
4	3	1176	U
4	3	1177	A
4	3	1178	A
4	3	1184	U
4	3	1186	A
4	3	1203	G
4	3	1204	A
4	3	1208	A
4	3	1209	U
4	3	1210	A
4	3	1212	C
4	3	1215	G
4	3	1217	G
4	3	1222	A
4	3	1226	G
4	3	1234	U
4	3	1236	G
4	3	1248	A
4	3	1250	A
4	3	1251	G
4	3	1252	C
4	3	1255	G
4	3	1256	A
4	3	1257	G
4	3	1259	A
4	3	1266	G
4	3	1268	U
4	3	1278	G
4	3	1279	U
4	3	1280	G
4	3	1281	A
4	3	1283	A
4	3	1285	U
4	3	1286	G
4	3	1292	A
4	3	1293	U

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Mol	Chain	Res	Type
4	3	1301	G
4	3	1302	C
4	3	1303	U
4	3	1304	U
4	3	1322	A
4	3	1323	A
4	3	1326	C
4	3	1328	A
4	3	1329	U
4	3	1341	U
4	3	1342	C
4	3	1343	C
4	3	1349	C
4	3	1353	G
4	3	1360	U
4	3	1361	U
4	3	1369	U
4	3	1370	A
4	3	1371	G
4	3	1372	U
4	3	1378	C
4	3	1393	A
4	3	1396	A
4	3	1400	U
4	3	1406	A
4	3	1412	A
4	3	1414	C
4	3	1423	A
4	3	1424	U
4	3	1425	U
4	3	1426	C
4	3	1431	A
4	3	1436	C
4	3	1444	C
4	3	1445	U
4	3	1448	U
4	3	1455	A
4	3	1456	C
4	3	1462	A
4	3	1463	G
4	3	1466	U
4	3	1467	U

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Mol	Chain	Res	Type
4	3	1480	A
4	3	1481	U
4	3	1483	G
4	3	1487	U
4	3	1508	G
4	3	1510	A
4	3	1513	A
4	3	1515	A
4	3	1518	C
4	3	1519	A
4	3	1528	G
4	3	1534	A
4	3	1541	A
4	3	1546	U
4	3	1548	A
4	3	1549	U
4	3	1550	G
4	3	1558	A
4	3	1559	A
4	3	1571	G
4	3	1572	U
4	3	1577	A
4	3	1580	G
4	3	1583	G
4	3	1584	U
4	3	1585	A
4	3	1589	A
4	3	1592	A
4	3	1603	A
4	3	1612	U
4	3	1615	G
4	3	1616	G
4	3	1618	U
4	3	1619	A
4	3	1632	C
4	3	1641	A
4	3	1642	G
4	3	1643	A
4	3	1644	A
4	3	1647	A
4	3	1648	A
4	3	1651	C

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Mol	Chain	Res	Type
4	3	1659	C
4	3	1669	A
4	3	1670	U
4	3	1681	G
4	3	1682	C
4	3	1694	A
4	3	1695	G
4	3	1697	C
4	3	1698	A
4	3	1699	A
4	3	1702	A
4	3	1706	C
4	3	1707	U
4	3	1708	G
4	3	1727	U
4	3	1732	A
4	3	1733	G
4	3	1737	G
4	3	1747	G
4	3	1748	U
4	3	1761	C
4	3	1763	G
4	3	1764	U
4	3	1769	A
4	3	1770	A
4	3	1771	C
4	3	1772	G
4	3	1780	A
4	3	1785	U
4	3	1788	A
4	3	1790	U
4	3	1791	A
4	3	1794	A
4	3	1807	C
4	3	1808	C
4	3	1815	U
4	3	1816	A
4	3	1821	G
4	3	1822	A
4	3	1823	U
4	3	1824	G
4	3	1827	U

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Mol	Chain	Res	Type
4	3	1836	A
4	3	1837	C
4	3	1842	G
4	3	1844	C
4	3	1854	A
4	3	1855	A
4	3	1857	G
4	3	1876	G
4	3	1891	A
4	3	1906	G
4	3	1907	A
4	3	1910	G
4	3	1913	G
4	3	1920	A
4	3	1921	C
4	3	1934	A
4	3	1936	G
4	3	1937	G
4	3	1938	U
4	3	1943	A
4	3	1944	A
4	3	1945	A
4	3	1947	U
4	3	1948	C
4	3	1951	A
4	3	1956	G
4	3	1960	A
4	3	1962	U
4	3	1971	G
4	3	1977	A
4	3	1978	U
4	3	1979	G
4	3	1988	A
4	3	1998	U
4	3	1999	G
4	3	2000	U
4	3	2007	U
4	3	2010	A
4	3	2011	G
4	3	2020	A
4	3	2022	A
4	3	2025	C

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Mol	Chain	Res	Type
4	3	2028	G
4	3	2030	A
4	3	2037	A
4	3	2038	A
4	3	2040	A
4	3	2041	C
4	3	2043	C
4	3	2050	G
4	3	2057	C
4	3	2058	G
4	3	2062	C
4	3	2063	G
4	3	2067	A
4	3	2068	G
4	3	2069	A
4	3	2070	C
4	3	2076	G
4	3	2080	C
4	3	2083	U
4	3	2084	A
4	3	2087	G
4	3	2099	U
4	3	2100	G
4	3	2106	G
4	3	2107	A
4	3	2110	U
4	3	2111	U
4	3	2112	A
4	3	2114	C
4	3	2118	U
4	3	2123	A
4	3	2124	A
4	3	2126	A
4	3	2127	G
4	3	2128	G
4	3	2131	G
4	3	2132	G
4	3	2133	A
4	3	2138	U
4	3	2140	G
4	3	2151	G
4	3	2157	A

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Mol	Chain	Res	Type
4	3	2164	G
4	3	2166	U
4	3	2171	A
4	3	2172	A
4	3	2180	U
4	3	2181	A
4	3	2184	A
4	3	2189	U
4	3	2192	U
4	3	2193	U
4	3	2195	U
4	3	2196	G
4	3	2197	U
4	3	2198	G
4	3	2199	C
4	3	2200	U
4	3	2201	G
4	3	2202	U
4	3	2206	A
4	3	2211	G
4	3	2212	U
4	3	2219	U
4	3	2220	A
4	3	2222	C
4	3	2231	A
4	3	2233	A
4	3	2246	G
4	3	2247	G
4	3	2257	U
4	3	2258	G
4	3	2274	A
4	3	2276	A
4	3	2277	A
4	3	2287	G
4	3	2288	G
4	3	2291	U
4	3	2294	A
4	3	2295	A
4	3	2296	A
4	3	2297	G
4	3	2305	C
4	3	2313	U

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Mol	Chain	Res	Type
4	3	2316	G
4	3	2317	A
4	3	2319	A
4	3	2327	U
4	3	2328	A
4	3	2330	A
4	3	2332	U
4	3	2333	G
4	3	2341	G
4	3	2342	U
4	3	2343	A
4	3	2344	A
4	3	2345	G
4	3	2351	U
4	3	2353	G
4	3	2355	C
4	3	2358	U
4	3	2362	A
4	3	2391	G
4	3	2393	C
4	3	2397	G
4	3	2410	C
4	3	2411	C
4	3	2414	U
4	3	2415	A
4	3	2417	G
4	3	2430	C
4	3	2433	A
4	3	2434	A
4	3	2435	C
4	3	2436	G
4	3	2437	G
4	3	2438	A
4	3	2442	A
4	3	2443	A
4	3	2447	A
4	3	2448	C
4	3	2449	U
4	3	2455	G
4	3	2477	A
4	3	2483	C
4	3	2484	A

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Mol	Chain	Res	Type
4	3	2486	A
4	3	2488	C
4	3	2489	G
4	3	2492	G
4	3	2497	U
4	3	2498	G
4	3	2499	U
4	3	2500	U
4	3	2503	G
4	3	2505	A
4	3	2506	C
4	3	2507	C
4	3	2509	C
4	3	2511	A
4	3	2512	U
4	3	2513	G
4	3	2514	U
4	3	2515	C
4	3	2516	G
4	3	2526	A
4	3	2527	U
4	3	2528	C
4	3	2539	A
4	3	2543	G
4	3	2558	G
4	3	2560	U
4	3	2570	U
4	3	2574	A
4	3	2577	G
4	3	2580	A
4	3	2581	C
4	3	2587	U
4	3	2590	G
4	3	2593	U
4	3	2594	C
4	3	2595	A
4	3	2596	A
4	3	2597	A
4	3	2605	G
4	3	2606	A
4	3	2610	A
4	3	2611	G

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Mol	Chain	Res	Type
4	3	2618	C
4	3	2619	C
4	3	2621	U
4	3	2622	A
4	3	2623	U
4	3	2629	G
4	3	2631	G
4	3	2637	A
4	3	2638	G
4	3	2642	G
4	3	2644	U
4	3	2647	A
4	3	2649	G
4	3	2653	G
4	3	2654	U
4	3	2655	U
4	3	2664	U
4	3	2668	A
4	3	2669	G
4	3	2675	C
4	3	2689	C
4	3	2693	U
4	3	2694	A
4	3	2697	C
4	3	2698	U
4	3	2703	U
4	3	2708	G
4	3	2715	C
4	3	2722	G
4	3	2732	A
4	3	2734	C
4	3	2737	G
4	3	2738	U
4	3	2741	A
4	3	2747	U
4	3	2752	G
4	3	2756	A
4	3	2761	A
4	3	2765	A
4	3	2772	A
4	3	2773	A
4	3	2774	A

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Mol	Chain	Res	Type
4	3	2786	A
4	3	2788	U
4	3	2799	U
4	3	2800	U
4	3	2801	U
4	3	2804	C
4	3	2806	A
4	3	2809	A
4	3	2811	G
4	3	2812	U
4	3	2813	A
4	3	2814	A
4	3	2815	G
4	3	2822	C
4	3	2824	A
4	3	2828	C
4	3	2837	U
4	3	2839	A
4	3	2853	U
4	3	2854	A
4	3	2856	G
4	3	2863	G
4	3	2870	U
4	3	2871	G
4	3	2872	A
4	3	2876	G
4	3	2884	C
4	3	2888	U
4	3	2889	U
4	3	2890	G
4	3	2895	A
4	3	2897	G
4	3	2898	A
4	3	2899	C
5	4	9	C
5	4	10	C
5	4	11	A
5	4	13	G
5	4	14	U
5	4	15	C
5	4	16	G
5	4	23	A

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Mol	Chain	Res	Type
5	4	25	A
5	4	28	C
5	4	33	U
5	4	38	U
5	4	39	U
5	4	40	U
5	4	41	C
5	4	42	G
5	4	48	A
5	4	49	G
5	4	50	C
5	4	51	A
5	4	54	U
5	4	55	A
5	4	60	C
5	4	71	A
5	4	74	G
5	4	77	G
5	4	78	C
5	4	88	G
5	4	89	A
5	4	98	A
5	4	99	A
5	4	103	C
5	4	106	A
5	4	108	C
6	5	6	C
6	5	8	G
6	5	9	A
6	5	10	G
6	5	33	A
6	5	40	G
6	5	48	C
6	5	49	C
6	5	52	A
6	5	55	C
6	5	56	A
6	5	58	G
6	5	67	U
6	5	85	U
6	5	86	A
6	5	94	A

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Mol	Chain	Res	Type
6	5	95	C
6	5	100	G
6	5	101	A
6	5	103	U
6	5	105	A
6	5	106	C
6	5	107	A
6	5	111	A
6	5	114	C
6	5	115	A
6	5	116	A
6	5	117	U
6	5	120	A
6	5	128	A
6	5	129	U
6	5	130	G
6	5	134	G
6	5	136	U
6	5	145	G
6	5	147	A
6	5	149	G
6	5	159	U
6	5	167	A
6	5	168	A
6	5	169	G
6	5	179	U
6	5	186	A
6	5	190	A
6	5	197	A
6	5	198	A
6	5	200	G
6	5	218	U
6	5	219	A
6	5	220	U
6	5	230	G
6	5	236	C
6	5	239	A
6	5	241	C
6	5	242	A
6	5	243	G
6	5	247	G
6	5	259	A

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Mol	Chain	Res	Type
6	5	260	C
6	5	262	G
6	5	263	C
6	5	270	A
6	5	285	G
6	5	286	C
6	5	294	A
6	5	295	G
6	5	302	A
6	5	311	A
6	5	323	A
6	5	324	C
6	5	325	A
6	5	326	C
6	5	328	G
6	5	340	A
6	5	341	C
6	5	342	G
6	5	344	G
6	5	345	A
6	5	348	C
6	5	349	A
6	5	350	G
6	5	352	A
6	5	359	A
6	5	363	U
6	5	364	U
6	5	368	C
6	5	373	A
6	5	377	A
6	5	381	C
6	5	384	G
6	5	385	A
6	5	386	U
6	5	393	A
6	5	394	U
6	5	402	G
6	5	409	G
6	5	410	A
6	5	412	G
6	5	417	U
6	5	418	U

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Mol	Chain	Res	Type
6	5	420	A
6	5	423	U
6	5	425	G
6	5	426	U
6	5	432	U
6	5	436	U
6	5	440	U
6	5	445	A
6	5	446	A
6	5	449	A
6	5	451	G
6	5	452	A
6	5	453	C
6	5	456	U
6	5	457	A
6	5	461	G
6	5	464	A
6	5	471	A
6	5	473	A
6	5	476	U
6	5	477	U
6	5	478	G
6	5	481	U
6	5	482	G
6	5	488	U
6	5	493	A
6	5	504	A
6	5	507	A
6	5	509	C
6	5	510	U
6	5	515	G
6	5	516	C
6	5	517	C
6	5	524	C
6	5	525	G
6	5	527	G
6	5	529	U
6	5	530	A
6	5	531	A
6	5	543	C
6	5	545	A
6	5	548	G

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Mol	Chain	Res	Type
6	5	557	A
6	5	558	U
6	5	560	U
6	5	562	U
6	5	569	U
6	5	570	A
6	5	571	A
6	5	574	C
6	5	575	A
6	5	585	G
6	5	586	G
6	5	594	A
6	5	595	G
6	5	608	G
6	5	616	C
6	5	619	A
6	5	628	A
6	5	638	A
6	5	639	A
6	5	646	A
6	5	650	A
6	5	653	G
6	5	662	G
6	5	663	G
6	5	683	G
6	5	684	A
6	5	699	A
6	5	700	G
6	5	715	A
6	5	716	C
6	5	718	A
6	5	719	G
6	5	720	U
6	5	721	G
6	5	726	A
6	5	729	C
6	5	744	U
6	5	745	U
6	5	746	A
6	5	752	G
6	5	753	C
6	5	763	A

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Mol	Chain	Res	Type
6	5	791	A
6	5	793	C
6	5	796	A
6	5	802	C
6	5	809	G
6	5	811	A
6	5	812	A
6	5	814	C
6	5	815	G
6	5	818	A
6	5	825	A
6	5	826	G
6	5	829	G
6	5	836	C
6	5	849	A
6	5	858	A
6	5	864	U
6	5	866	A
6	5	867	A
6	5	870	A
6	5	875	G
6	5	879	G
6	5	883	A
6	5	885	U
6	5	895	A
6	5	907	A
6	5	908	A
6	5	910	C
6	5	911	G
6	5	921	G
6	5	922	G
6	5	929	C
6	5	930	A
6	5	934	G
6	5	953	A
6	5	954	A
6	5	955	U
6	5	956	U
6	5	958	G
6	5	964	A
6	5	966	A
6	5	970	A

Continued on next page...

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Mol	Chain	Res	Type
6	5	971	A
6	5	972	A
6	5	973	A
6	5	978	A
6	5	984	A
6	5	987	U
6	5	988	G
6	5	1000	A
6	5	1001	A
6	5	1003	G
6	5	1010	A
6	5	1011	A
6	5	1013	C
6	5	1014	A
6	5	1015	U
6	5	1016	A
6	5	1033	U
6	5	1037	A
6	5	1044	G
6	5	1045	C
6	5	1046	A
6	5	1047	U
6	5	1056	U
6	5	1057	C
6	5	1072	G
6	5	1074	U
6	5	1075	G
6	5	1076	U
6	5	1085	G
6	5	1086	U
6	5	1092	A
6	5	1101	A
6	5	1107	U
6	5	1109	U
6	5	1113	U
6	5	1119	C
6	5	1120	A
6	5	1121	U
6	5	1122	U
6	5	1123	G
6	5	1124	U
6	5	1128	G

Continued on next page...

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Mol	Chain	Res	Type
6	5	1133	A
6	5	1134	C
6	5	1135	U
6	5	1141	U
6	5	1144	A
6	5	1154	A
6	5	1155	A
6	5	1158	A
6	5	1159	A
6	5	1163	A
6	5	1171	A
6	5	1172	A
6	5	1173	A
6	5	1187	U
6	5	1188	A
6	5	1189	U
6	5	1199	U
6	5	1200	G
6	5	1201	C
6	5	1211	A
6	5	1215	U
6	5	1223	A
6	5	1225	A
6	5	1235	C
6	5	1243	A
6	5	1245	A
6	5	1254	A
6	5	1255	A
6	5	1260	U
6	5	1261	A
6	5	1271	U
6	5	1272	C
6	5	1273	A
6	5	1274	G
6	5	1276	U
6	5	1279	G
6	5	1291	C
6	5	1296	C
6	5	1297	G
6	5	1298	U
6	5	1312	G
6	5	1319	U

Continued on next page...

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Mol	Chain	Res	Type
6	5	1320	A
6	5	1323	A
6	5	1333	C
6	5	1335	G
6	5	1337	U
6	5	1338	A
6	5	1339	U
6	5	1340	G
6	5	1343	G
6	5	1344	C
6	5	1353	C
6	5	1354	G
6	5	1356	U
6	5	1359	C
6	5	1373	A
6	5	1374	C
6	5	1381	U
6	5	1394	G
6	5	1400	A
6	5	1404	U
6	5	1408	A
6	5	1415	G
6	5	1417	U
6	5	1421	A
6	5	1427	U
6	5	1429	G
6	5	1430	G
6	5	1457	G
6	5	1466	U
6	5	1467	A
6	5	1468	A
6	5	1471	C
6	5	1474	A
6	5	1480	G
6	5	1481	U
6	5	1490	G
6	5	1496	G
6	5	1504	G
6	5	1505	G
8	7	3	G
8	7	9	U
8	7	11	G

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Mol	Chain	Res	Type
8	7	16	G
8	7	17	U
8	7	18	C
8	7	19	G
8	7	20	G
8	7	21	U
8	7	22	A
8	7	38	G
8	7	42	C
8	7	44	U
8	7	48	U
8	7	49	C
8	7	53	A
8	7	54	G
8	7	57	C
8	7	58	G
8	7	59	A
8	7	60	U
8	7	63	U
8	7	71	A
8	7	72	C
8	7	76	C

All (38) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
4	3	309	A
4	3	410	G
4	3	425	U
4	3	500	U
4	3	513	A
4	3	688	U
4	3	881	A
4	3	996	A
4	3	1048	A
4	3	1082	A
4	3	1209	U
4	3	1255	G
4	3	1327	G
4	3	1583	G
4	3	1588	A
4	3	1820	U

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Mol	Chain	Res	Type
4	3	1920	A
4	3	2180	U
4	3	2504	C
4	3	2506	C
4	3	2513	G
4	3	2604	U
4	3	2668	A
4	3	2764	U
4	3	2897	G
5	4	10	C
5	4	50	C
5	4	54	U
5	4	59	A
5	4	70	G
6	5	294	A
6	5	417	U
6	5	448	A
6	5	1075	G
6	5	1123	G
6	5	1373	A
8	7	16	G
8	7	19	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

The following chains have linkage breaks:

Mol	Chain	Number of breaks
13	AC	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AC	22:DA	O3'	23:DC	P	1.38

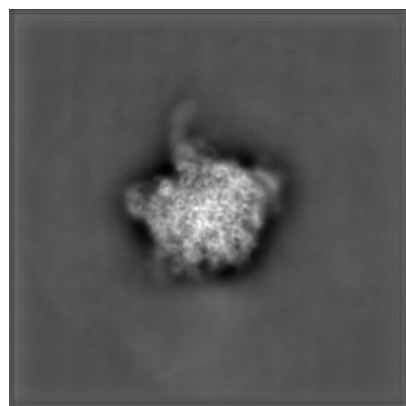
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-53668. These allow visual inspection of the internal detail of the map and identification of artifacts.

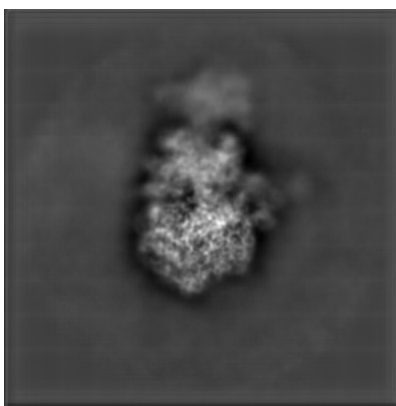
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

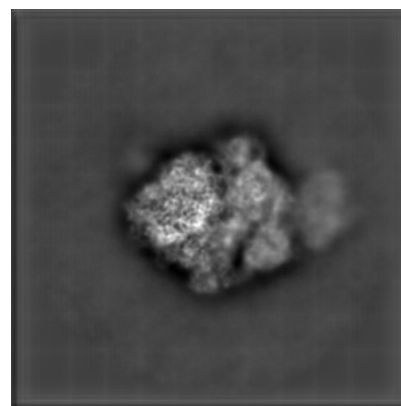
6.1.1 Primary map



X

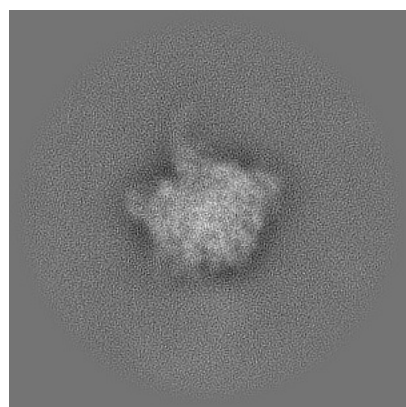


Y

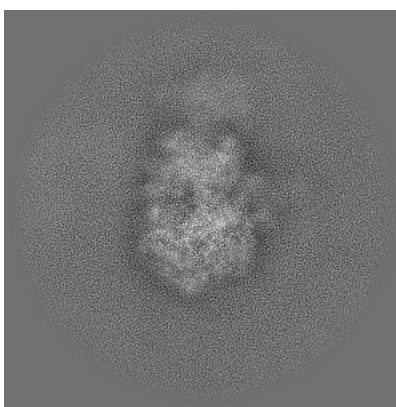


Z

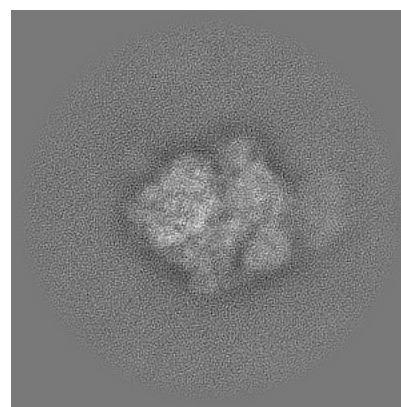
6.1.2 Raw map



X



Y

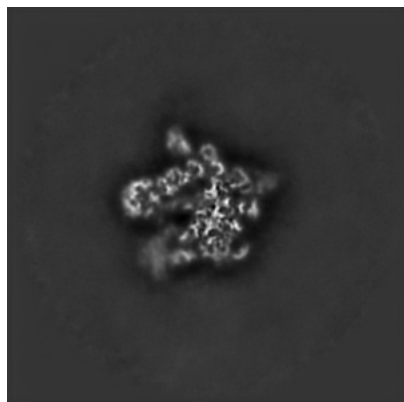


Z

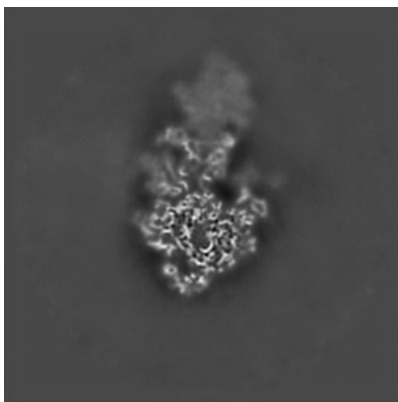
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

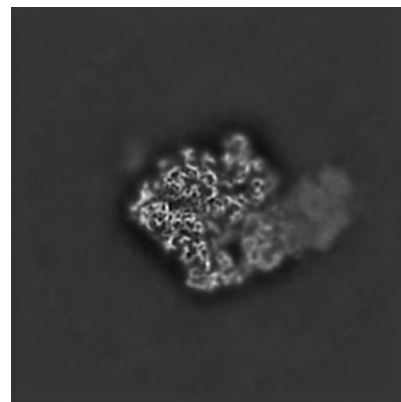
6.2.1 Primary map



X Index: 150

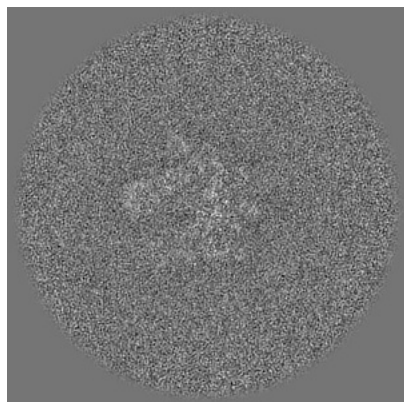


Y Index: 150

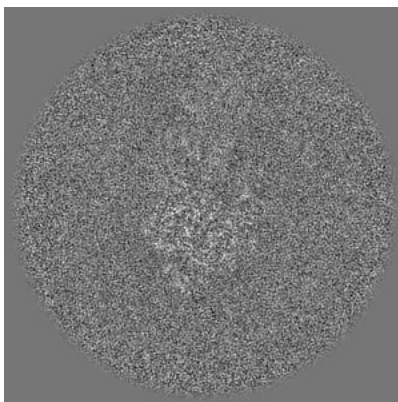


Z Index: 150

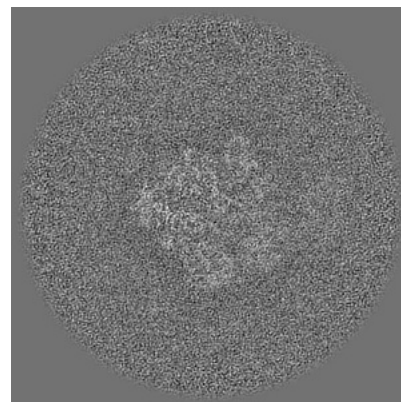
6.2.2 Raw map



X Index: 150



Y Index: 150

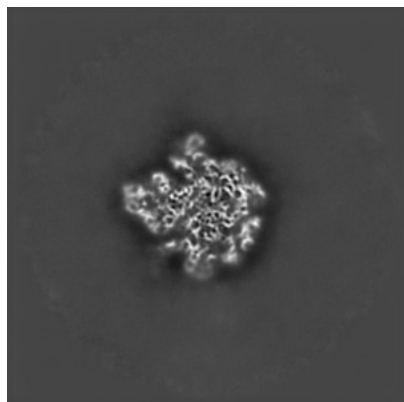


Z Index: 150

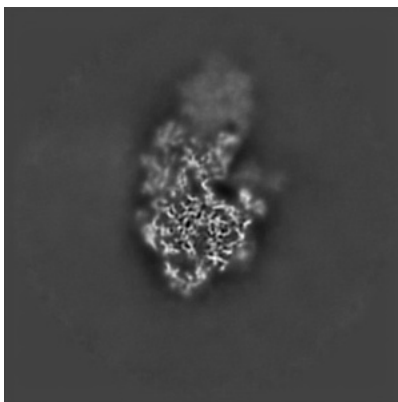
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

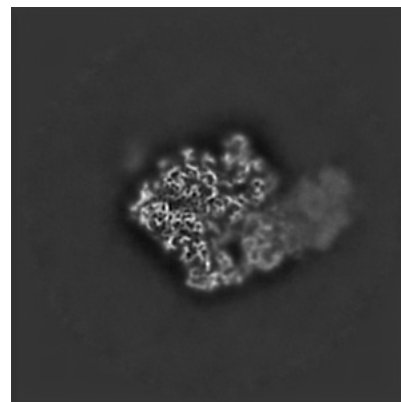
6.3.1 Primary map



X Index: 139

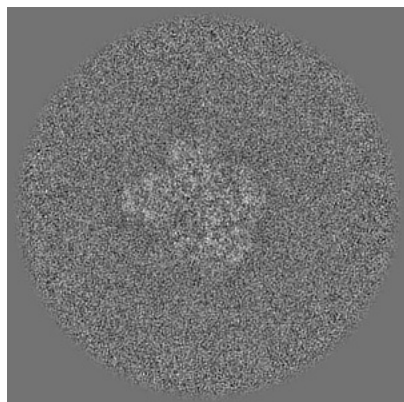


Y Index: 154

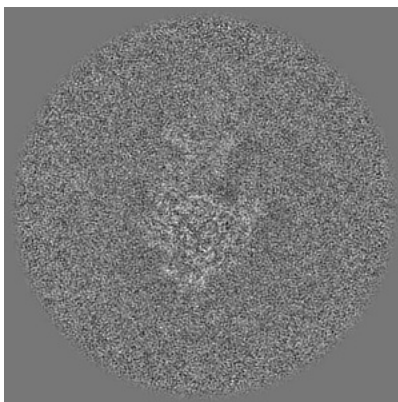


Z Index: 150

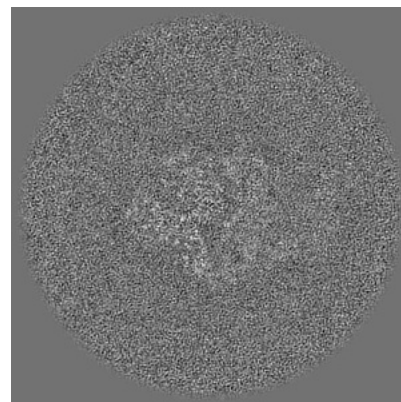
6.3.2 Raw map



X Index: 145



Y Index: 149

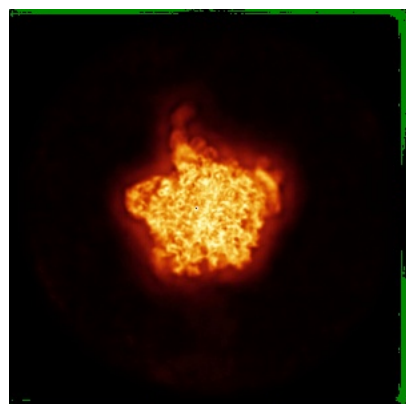


Z Index: 144

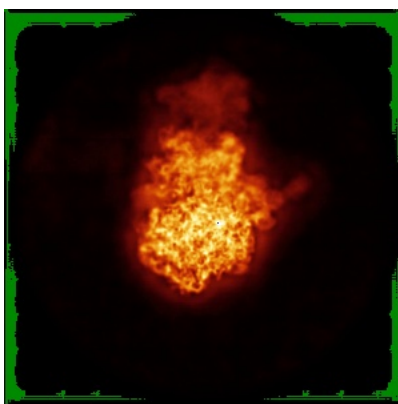
The images above show the largest variance slices of the map in three orthogonal directions.

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

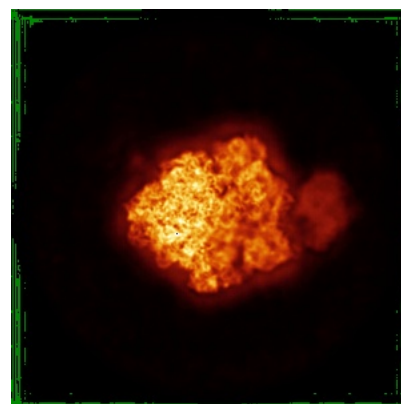
6.4.1 Primary map



X

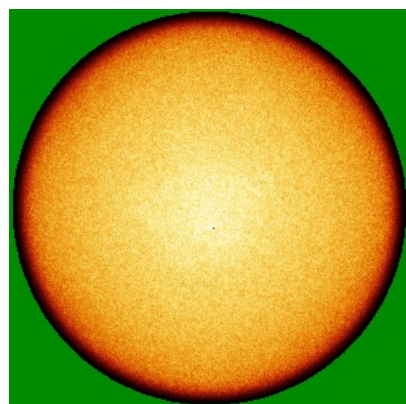


Y

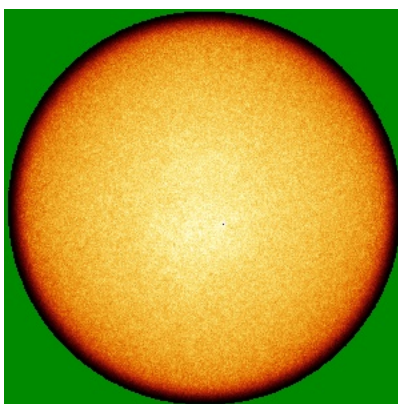


Z

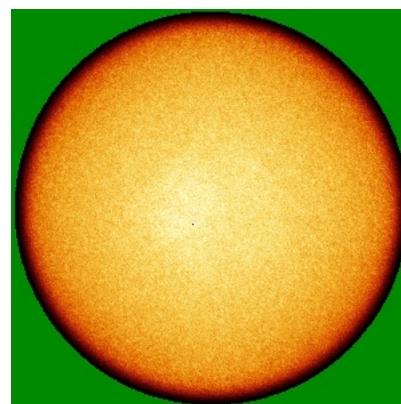
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

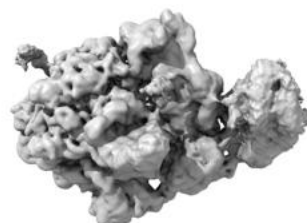
6.5.1 Primary map



X



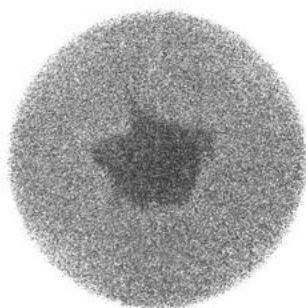
Y



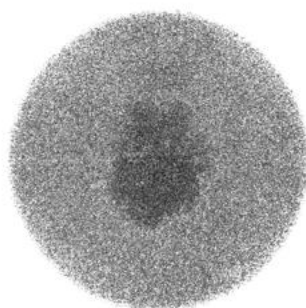
Z

The images above show the 3D surface view of the map at the recommended contour level 0.00124. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

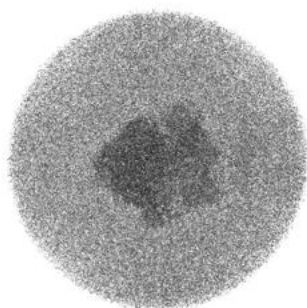
6.5.2 Raw map



X



Y



Z

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

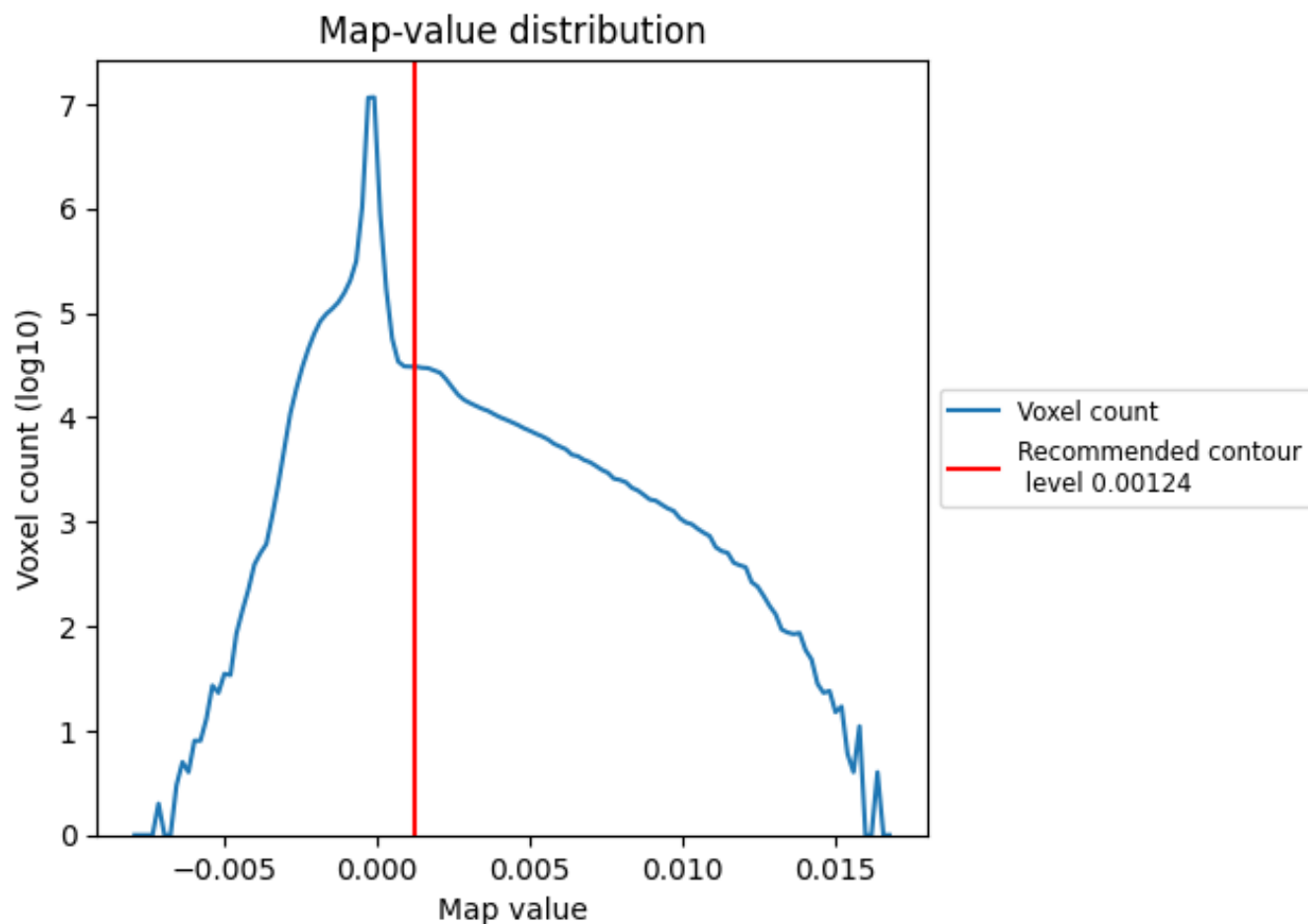
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

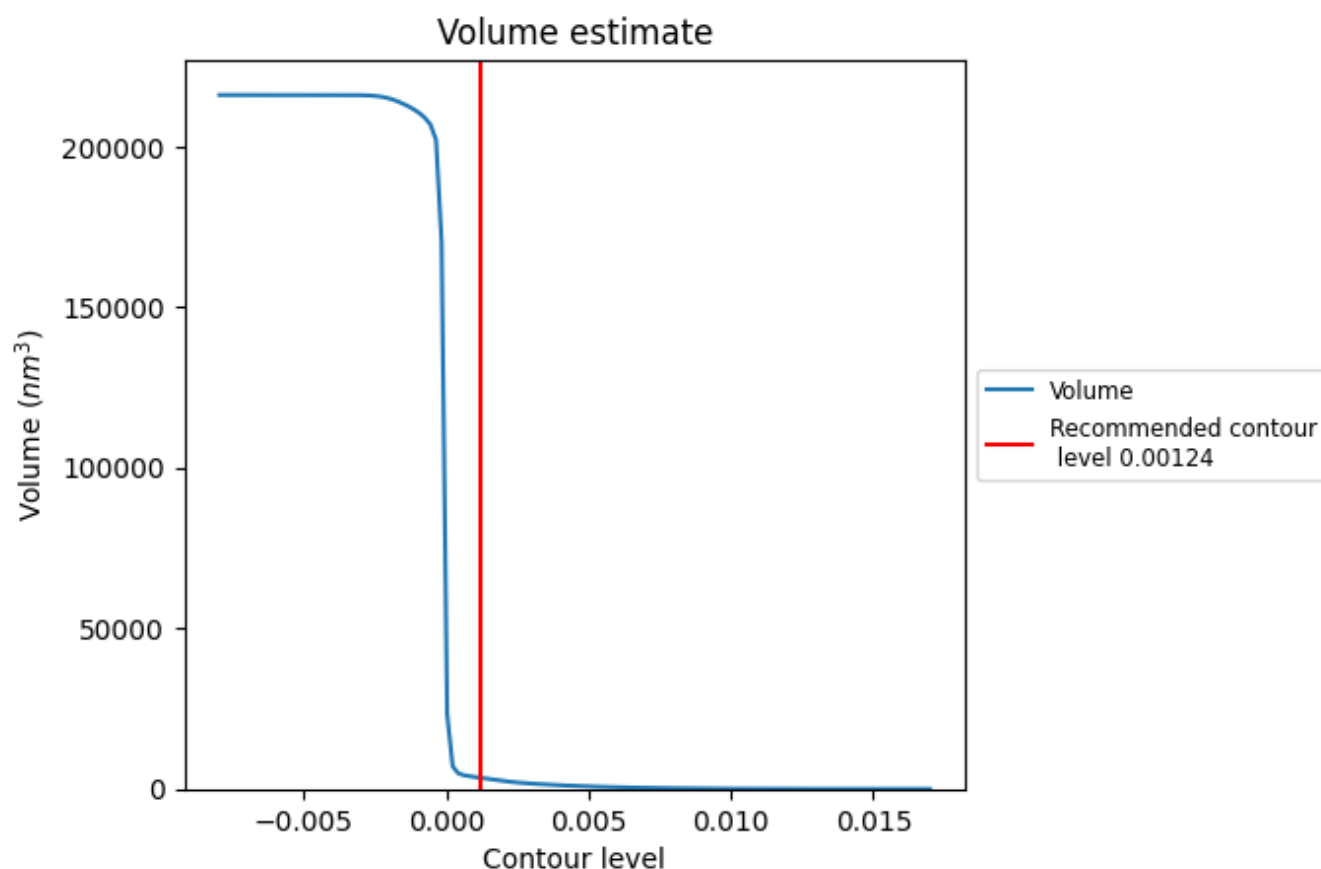
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

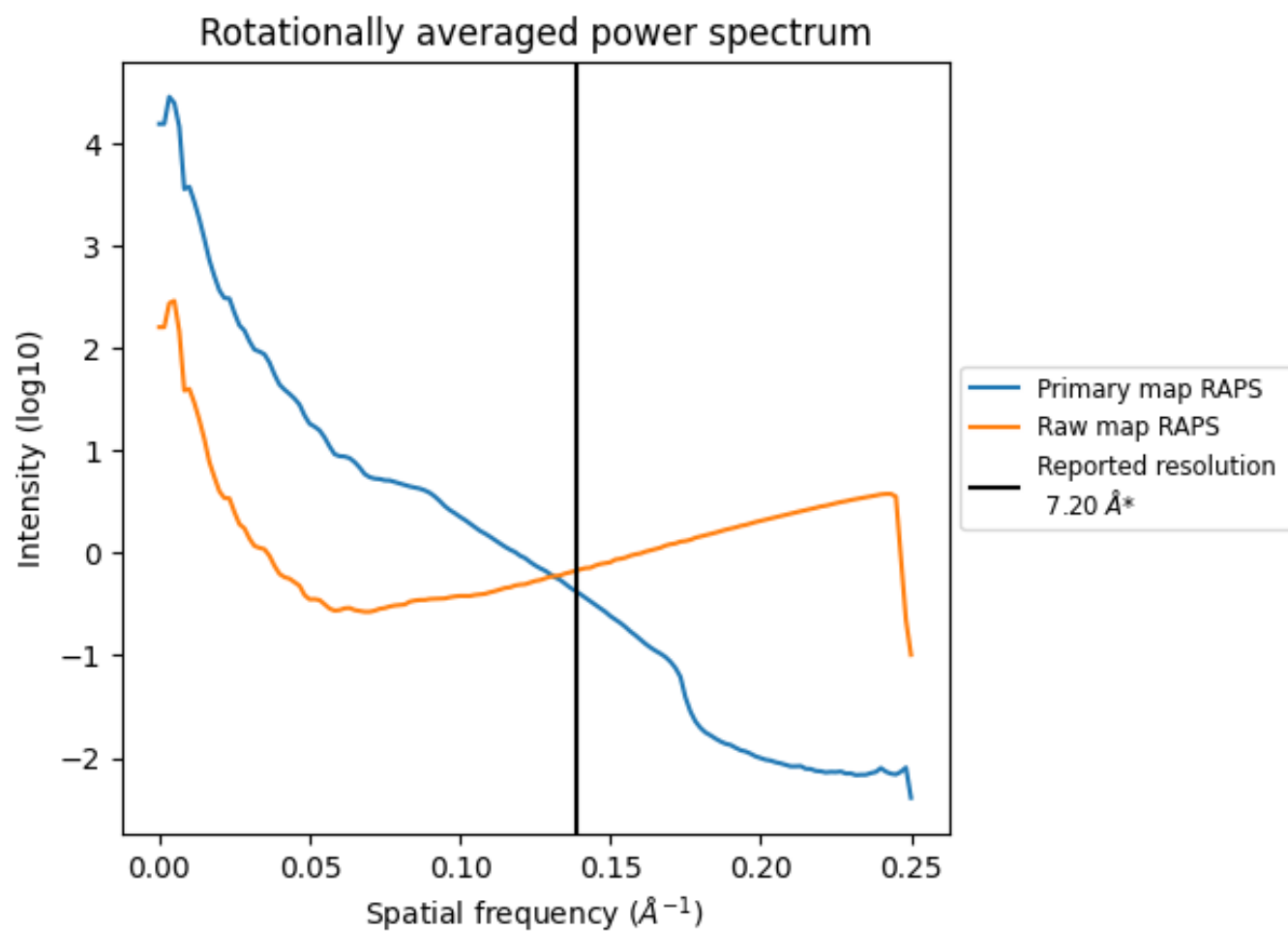
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3433 nm^3 ; this corresponds to an approximate mass of 3101 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

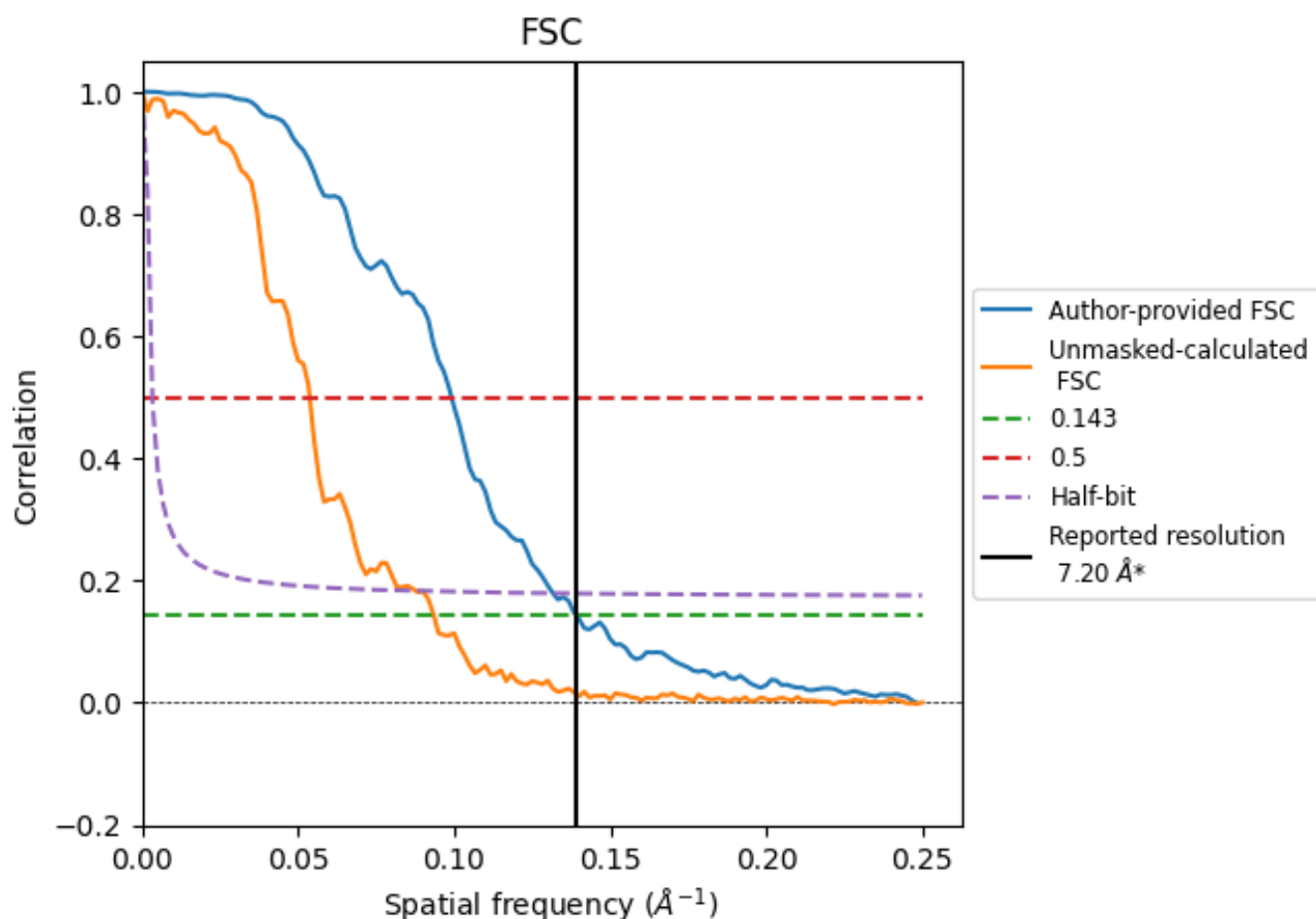


*Reported resolution corresponds to spatial frequency of 0.139 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.139 Å⁻¹

8.2 Resolution estimates [i](#)

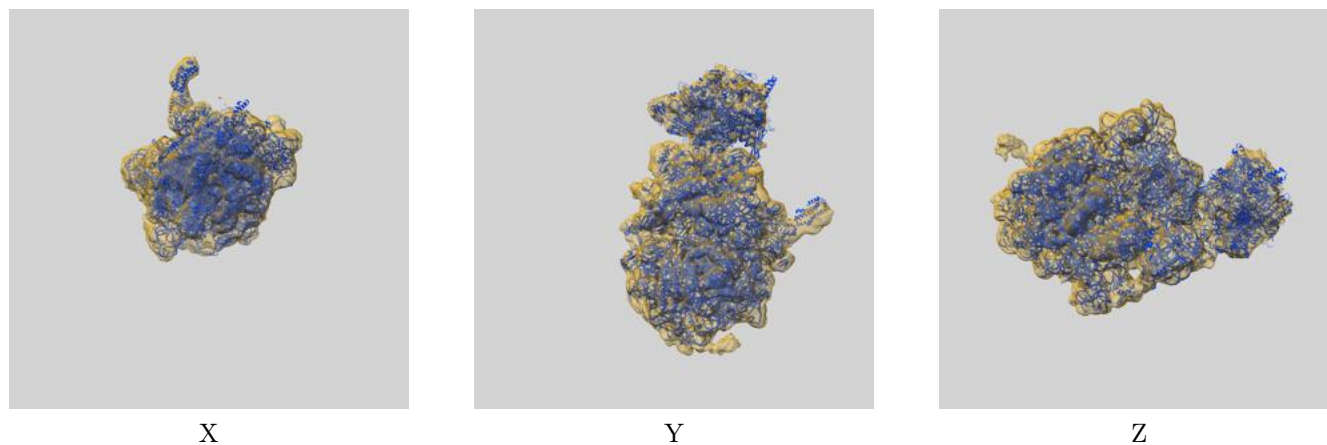
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.20	-	-
Author-provided FSC curve	7.19	10.08	7.60
Unmasked-calculated*	10.70	18.62	11.40

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 10.70 differs from the reported value 7.2 by more than 10 %

9 Map-model fit [i](#)

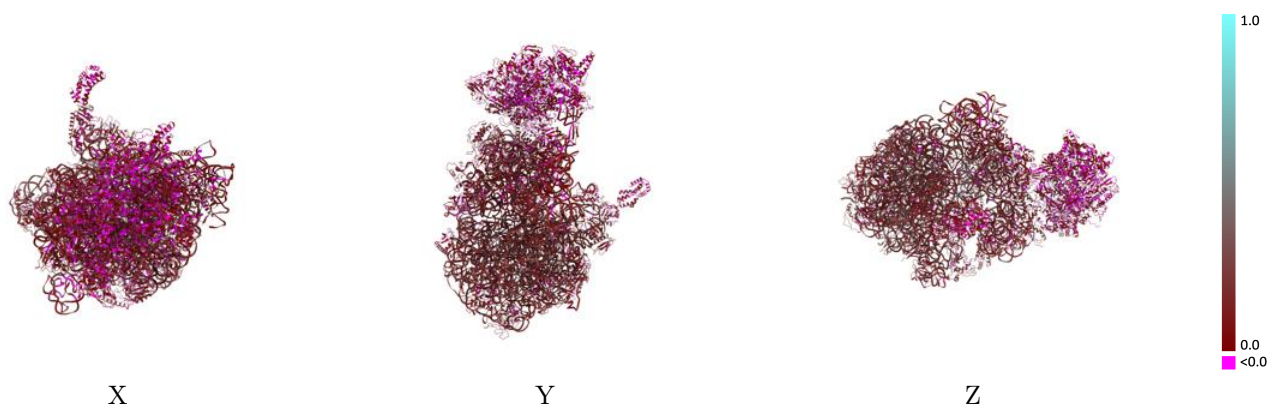
This section contains information regarding the fit between EMDB map EMD-53668 and PDB model 9SL4. Per-residue inclusion information can be found in section 3 on page 15.

9.1 Map-model overlay [i](#)



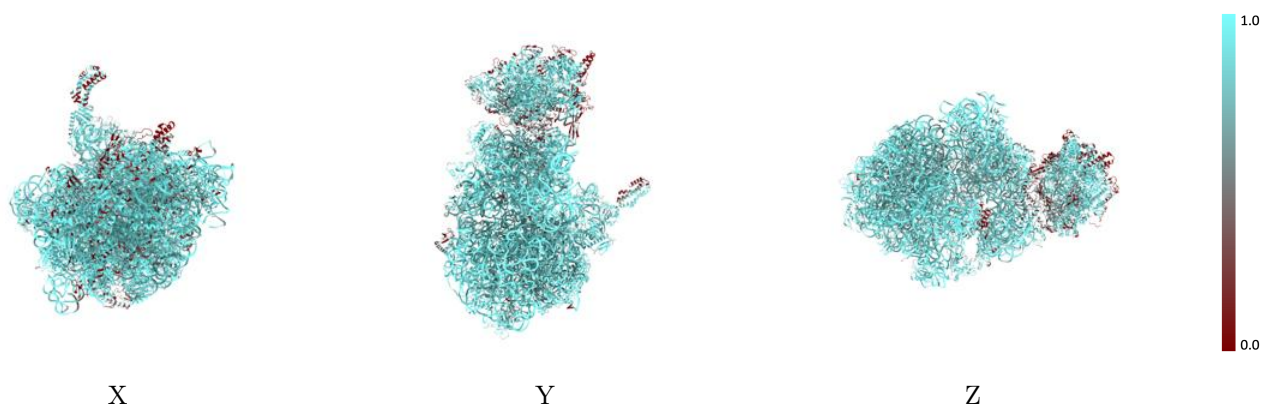
The images above show the 3D surface view of the map at the recommended contour level 0.00124 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



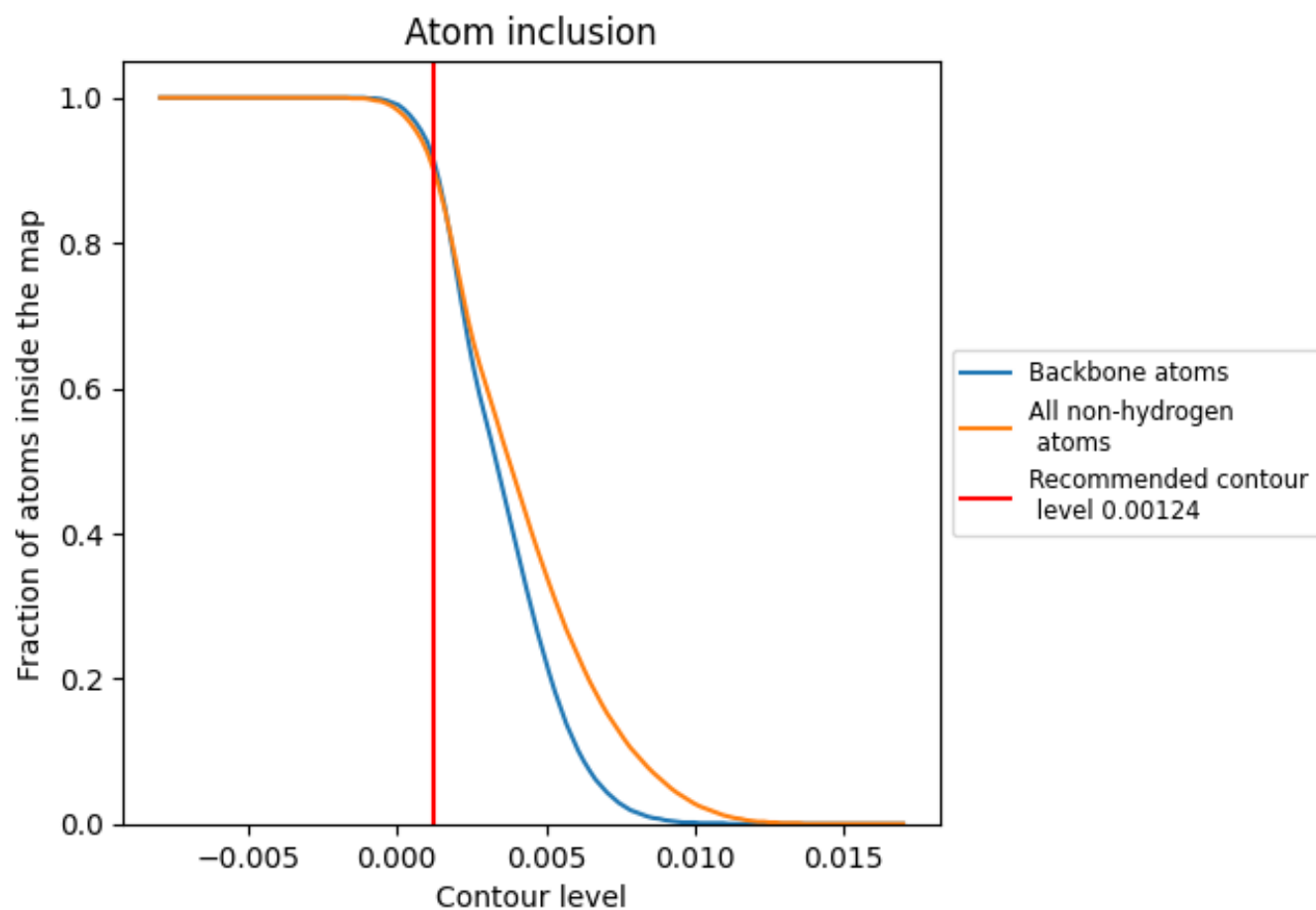
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.00124).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 90% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.00124) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8990	 0.1390
0	 0.7560	 0.1500
1	 0.7080	 0.1190
2	 0.8010	 0.1000
3	 0.9750	 0.1970
4	 0.9950	 0.1780
5	 0.9730	 0.1430
6	 0.6690	 0.0490
7	 0.7640	 0.1290
8	 0.7400	 0.0330
9	 0.7640	 0.0550
A	 0.8360	 0.1260
AA	 0.6650	 0.0530
AB	 0.9140	 0.0700
AC	 0.8690	 0.0760
AD	 0.6300	 0.0430
B	 0.7860	 0.1080
C	 0.8500	 0.0760
D	 0.8060	 0.1210
E	 0.8380	 0.1190
F	 0.9200	 0.1190
G	 0.8880	 0.1000
H	 0.9700	 0.0820
I	 0.9010	 0.0900
J	 0.8210	 0.1050
K	 0.7590	 0.0730
L	 0.8900	 0.0970
M	 0.8660	 0.0440
N	 0.9000	 0.1330
O	 0.8120	 0.0580
P	 0.7610	 0.0740
Q	 0.9440	 0.0940
R	 0.7790	 0.0850
S	 0.8790	 0.1260
T	 0.8260	 0.1190



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Chain	Atom inclusion	Q-score
U	 0.8250	 0.0850
V	 0.8280	 0.0520
W	 0.6680	 0.0600
X	 0.7200	 0.0400
Y	 0.2800	 0.0270
Z	 0.7950	 0.0440
a	 0.8150	 0.1350
b	 0.8660	 0.1440
c	 0.8700	 0.1480
d	 0.9150	 0.1110
e	 0.8940	 0.1370
f	 0.5740	 0.1040
h	 0.9020	 0.0710
i	 0.8830	 0.1480
j	 0.7160	 0.1330
k	 0.8800	 0.1420
l	 0.8340	 0.1340
m	 0.8240	 0.1320
n	 0.9260	 0.1230
o	 0.8200	 0.1330
p	 0.8610	 0.1400
q	 0.8960	 0.1460
r	 0.8160	 0.1500
s	 0.8340	 0.1320
t	 0.8330	 0.1130
u	 0.8030	 0.1190
v	 0.8360	 0.1400
w	 0.9000	 0.1530
x	 0.9480	 0.1230
y	 0.7810	 0.1190
z	 0.8440	 0.1430