



Full wwPDB EM Validation Report ⓘ

Mar 27, 2026 – 05:25 PM UTC

PDB ID : 7PAS / pdb_00007pas
EMDB ID : EMD-13282
Title : 70S ribosome with P/E-site tRNA in Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-07-30
Resolution : 16.00 Å (reported)
Based on initial models : 4V7C, 7OOC, 7OOD

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.dev132
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) : 2.49

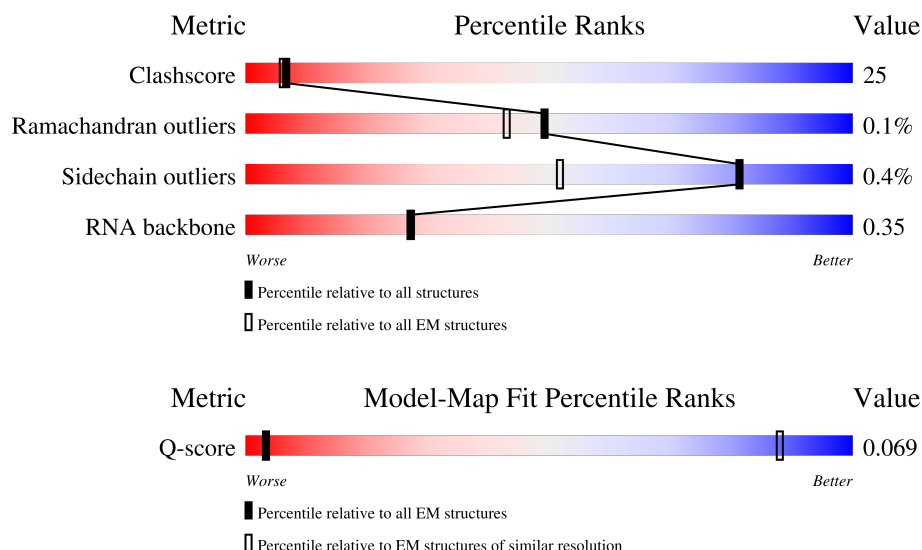
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 16.00 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	41 (15.50 - 16.50)

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	48	
2	1	59	
3	2	37	

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Mol	Chain	Length	Quality of chain
4	A	294	
5	B	273	
6	C	205	
7	D	219	
8	E	215	
9	F	155	
10	G	142	
11	H	132	
12	I	108	
13	J	121	
14	K	139	
15	L	124	
16	M	61	
17	N	86	
18	O	94	
19	P	85	
20	Q	104	
21	R	87	
22	S	87	
23	T	60	
24	a	287	
25	b	287	
26	c	212	
27	d	180	
28	e	184	

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Mol	Chain	Length	Quality of chain
29	f	149	
30	g	161	
31	h	137	
32	i	146	
33	j	122	
34	k	151	
35	l	139	
36	m	124	
37	n	116	
38	o	119	
39	p	127	
40	q	100	
41	r	159	
42	s	237	
43	t	111	
44	u	104	
45	v	65	
46	w	111	
47	x	97	
48	y	57	
49	z	53	
50	3	2907	
51	4	108	
52	5	1520	
53	8	76	

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 144440 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 50S ribosomal protein L34.

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 protein called 30S ribosomal protein S2.

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

- Molecule 5 is a protein called 30S ribosomal protein S3.

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

- Molecule 6 is a protein called 30S ribosomal protein S4.

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

- Molecule 7 is a protein called 30S ribosomal protein S5.

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

- Molecule 8 is a protein called 30S ribosomal protein S6.

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

- Molecule 9 is a protein called 30S ribosomal protein S7.

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

- Molecule 10 is a protein called 30S ribosomal protein S8.

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

- Molecule 11 is a protein called 30S ribosomal protein S9.

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

- Molecule 12 is a protein called 30S ribosomal protein S10.

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

- Molecule 13 is a protein called 30S ribosomal protein S11.

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

- Molecule 14 is a protein called 30S ribosomal protein S12.

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

- Molecule 15 is a protein called 30S ribosomal protein S13.

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

- Molecule 16 is a protein called 30S ribosomal protein S14 type Z.

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

- Molecule 17 is a protein called 30S ribosomal protein S15.

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

- Molecule 18 is a protein called 30S ribosomal protein S16.

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

- Molecule 19 is a protein called 30S ribosomal protein S17.

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

- Molecule 20 is a protein called 30S ribosomal protein S18.

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

- Molecule 21 is a protein called 30S ribosomal protein S19.

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

- Molecule 22 is a protein called 30S ribosomal protein S20.

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

- Molecule 23 is a protein called 30S ribosomal protein S21.

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

- Molecule 24 is a protein called 50S ribosomal protein L2.

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

- Molecule 25 is a protein called 50S ribosomal protein L3.

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

- Molecule 26 is a protein called 50S ribosomal protein L4.

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

- Molecule 27 is a protein called 50S ribosomal protein L5.

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

- Molecule 28 is a protein called 50S ribosomal protein L6.

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

- Molecule 29 is a protein called 50S ribosomal protein L9.

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

- Molecule 30 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	g	126	Total	C	N	O	S	
			960	612	167	178	3	0

- Molecule 31 is a protein called 50S ribosomal protein L11.

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

- Molecule 32 is a protein called 50S ribosomal protein L13.

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

- Molecule 33 is a protein called 50S ribosomal protein L14.

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

- Molecule 34 is a protein called 50S ribosomal protein L15.

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

- Molecule 35 is a protein called 50S ribosomal protein L16.

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

- Molecule 36 is a protein called 50S ribosomal protein L17.

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

- Molecule 37 is a protein called 50S ribosomal protein L18.

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

- Molecule 38 is a protein called 50S ribosomal protein L19.

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

- Molecule 39 is a protein called 50S ribosomal protein L20.

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

- Molecule 40 is a protein called 50S ribosomal protein L21.

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

- Molecule 41 is a protein called 50S ribosomal protein L22.

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

- Molecule 42 is a protein called 50S ribosomal protein L23.

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

- Molecule 43 is a protein called 50S ribosomal protein L24.

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

- Molecule 44 is a protein called 50S ribosomal protein L27.

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

- Molecule 45 is a protein called 50S ribosomal protein L28.

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

- Molecule 46 is a protein called 50S ribosomal protein L29.

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

- Molecule 47 is a protein called 50S ribosomal protein L31.

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

- Molecule 48 is a protein called 50S ribosomal protein L32.

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

- Molecule 49 is a protein called 50S ribosomal protein L33 1.

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

- Molecule 50 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 51 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 52 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

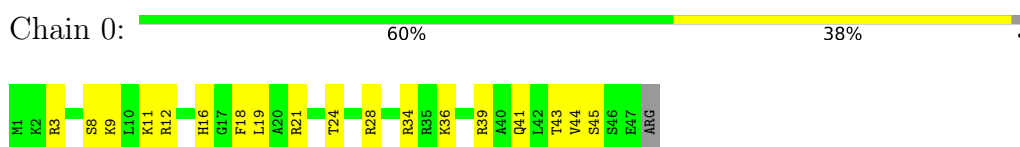
- Molecule 53 is a RNA chain called tRNA-Phe.

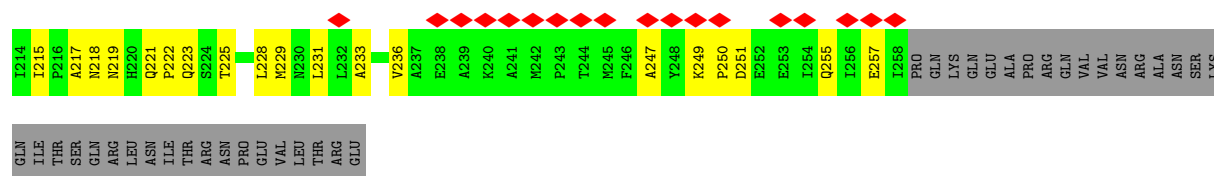
Mol	Chain	Residues	Atoms					AltConf	Trace
53	8	73	Total	C	N	O	P	0	0
			1556	695	278	511	72		

3 Residue-property plots

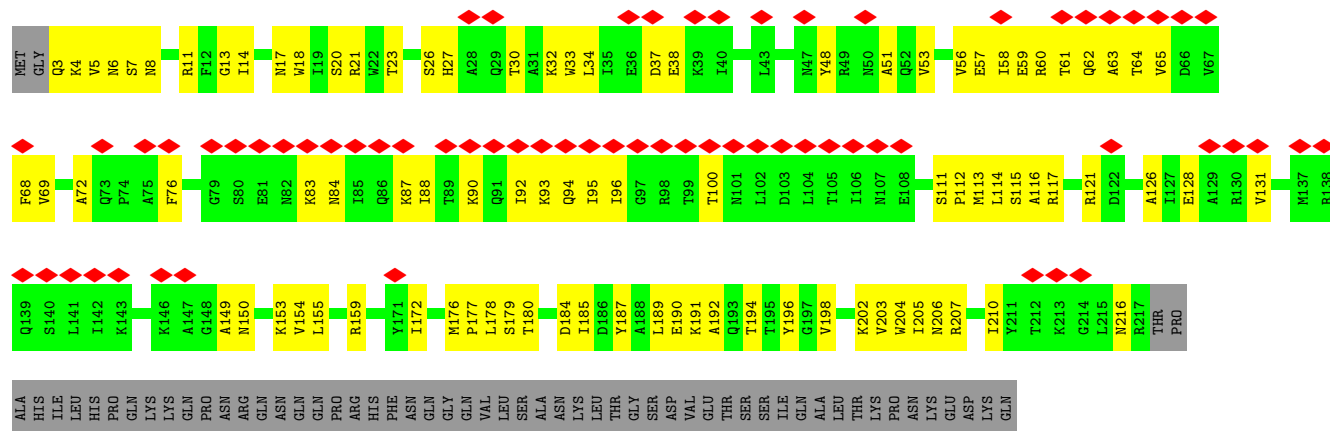
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 50S ribosomal protein L34

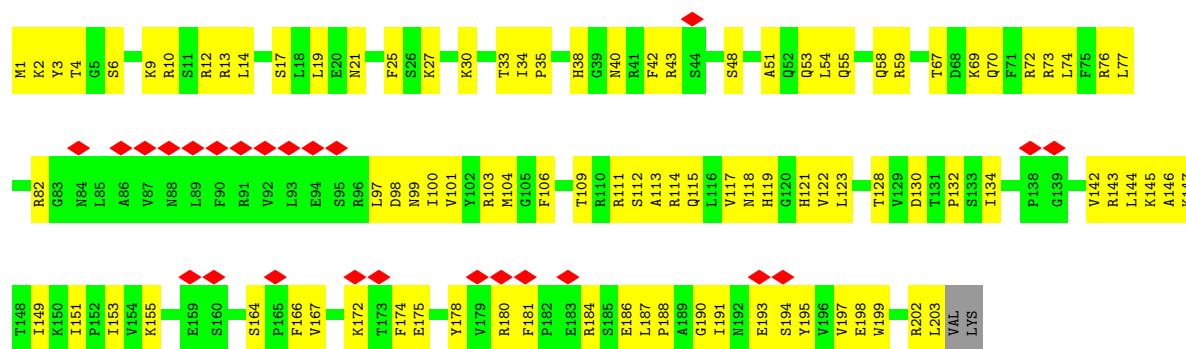




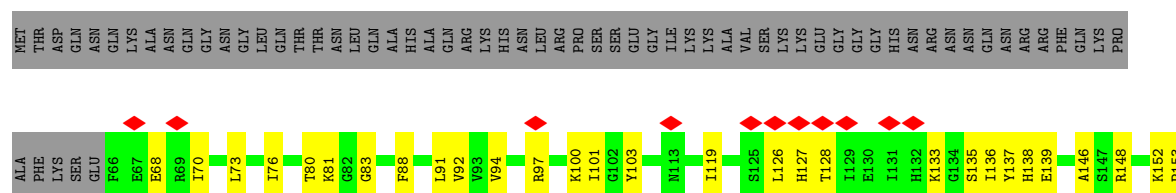
• Molecule 5: 30S ribosomal protein S3

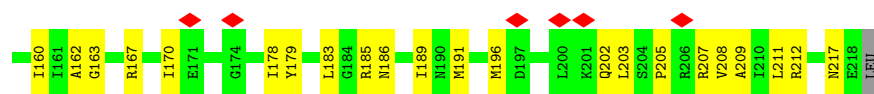


• Molecule 6: 30S ribosomal protein S4

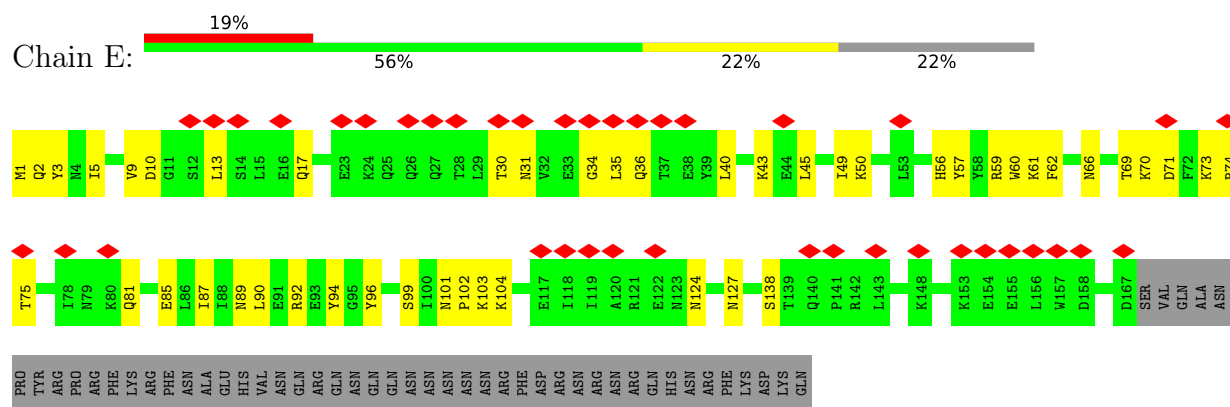


• Molecule 7: 30S ribosomal protein S5

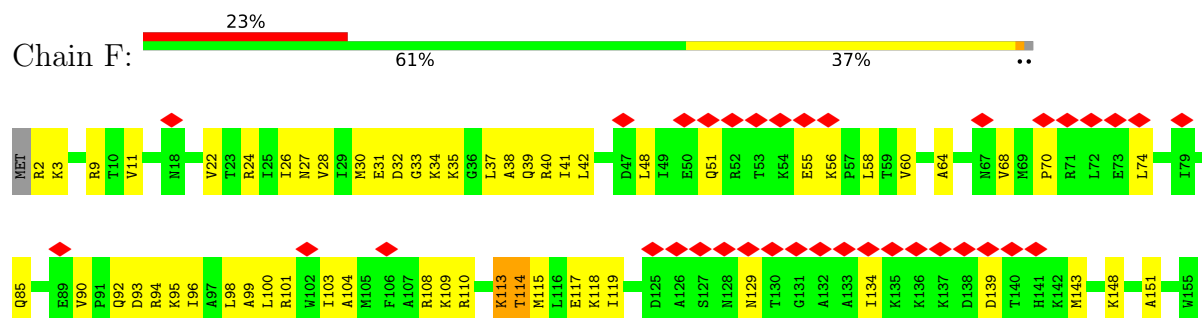




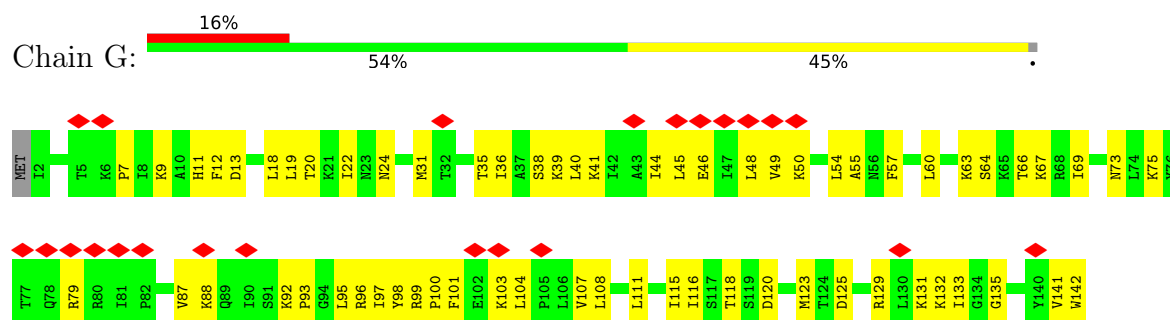
• Molecule 8: 30S ribosomal protein S6



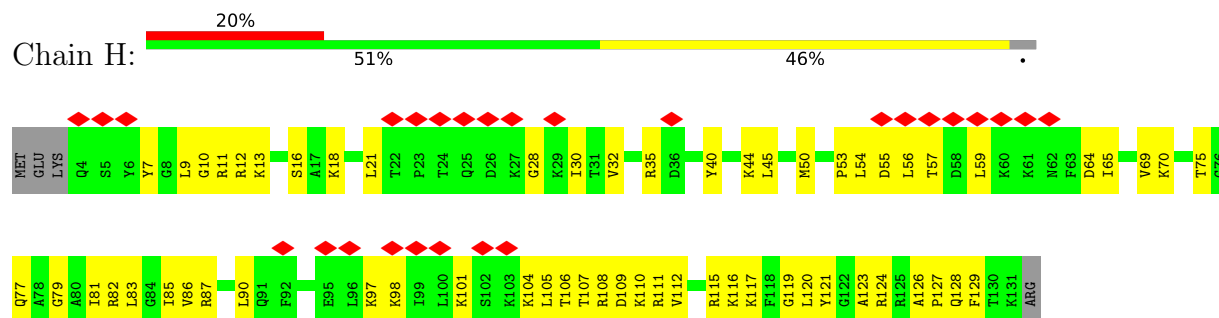
• Molecule 9: 30S ribosomal protein S7



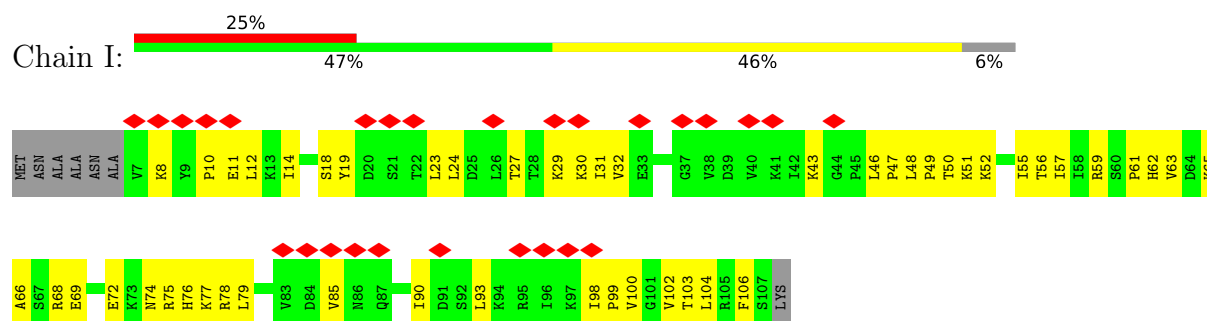
• Molecule 10: 30S ribosomal protein S8



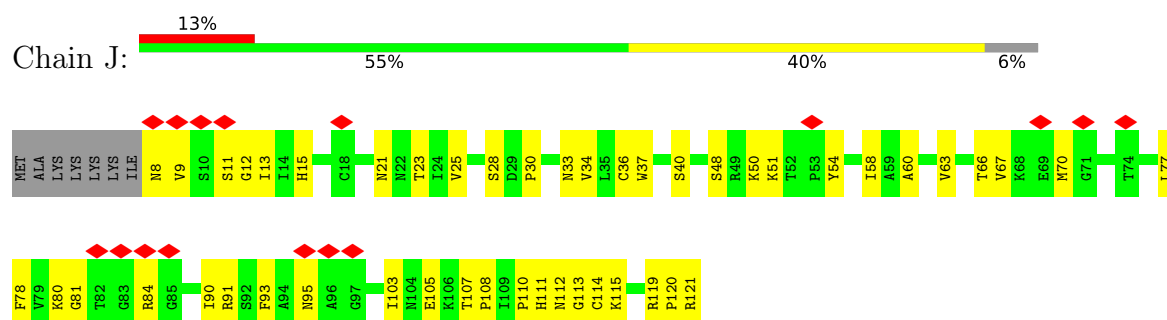
• Molecule 11: 30S ribosomal protein S9



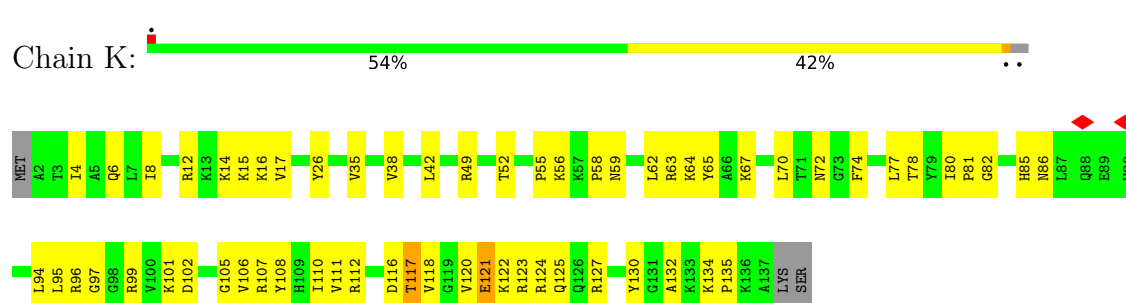
- Molecule 12: 30S ribosomal protein S10



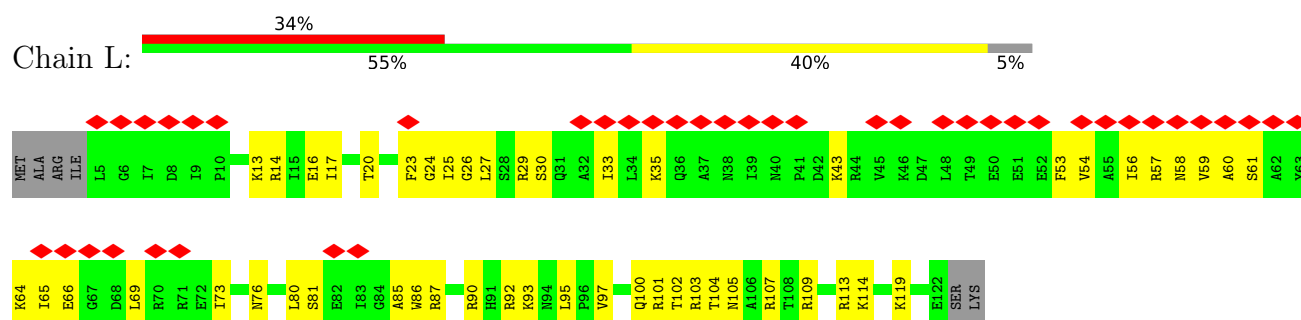
- Molecule 13: 30S ribosomal protein S11



- Molecule 14: 30S ribosomal protein S12



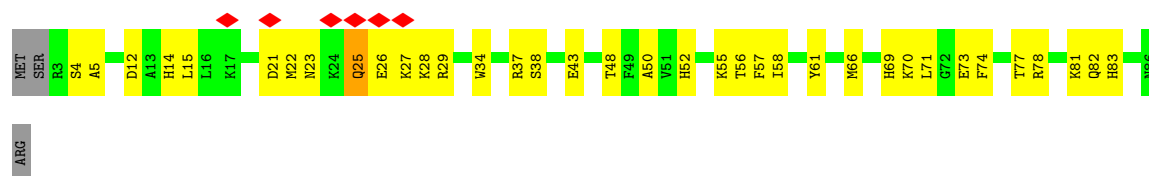
- Molecule 15: 30S ribosomal protein S13



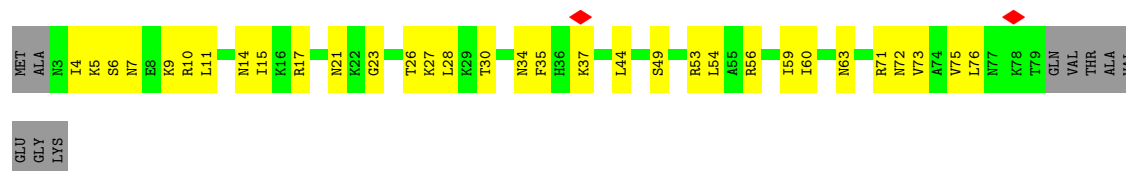
- Molecule 16: 30S ribosomal protein S14 type Z



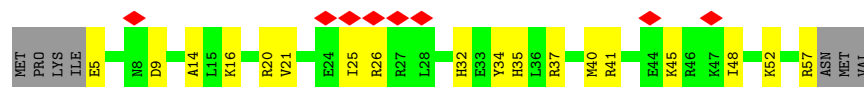




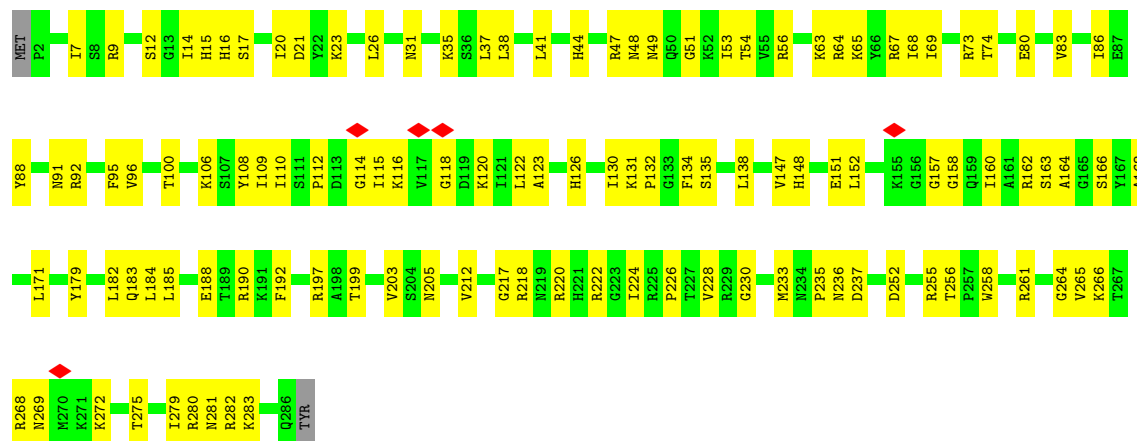
- Molecule 22: 30S ribosomal protein S20



- Molecule 23: 30S ribosomal protein S21

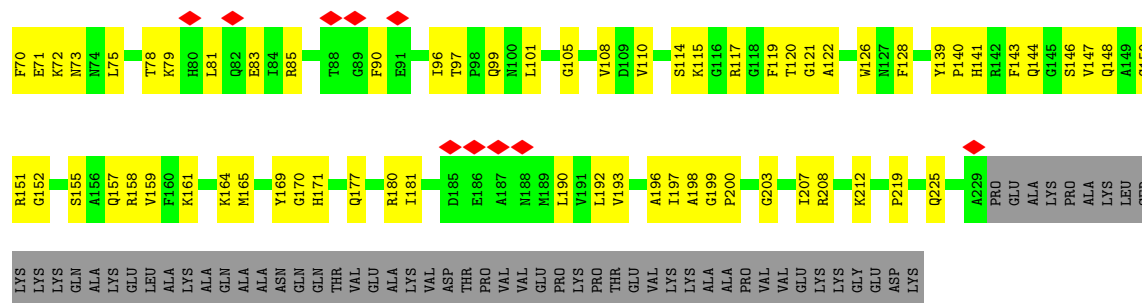


- Molecule 24: 50S ribosomal protein L2

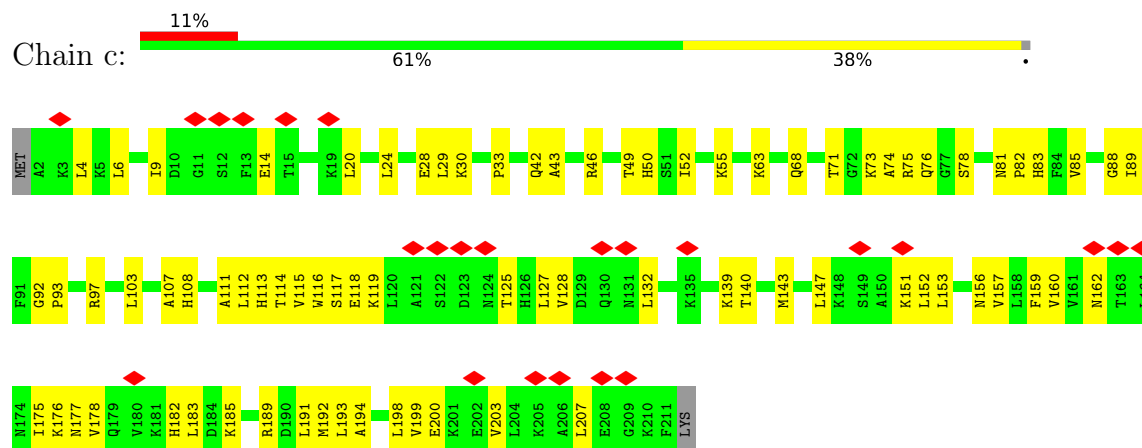


- Molecule 25: 50S ribosomal protein L3

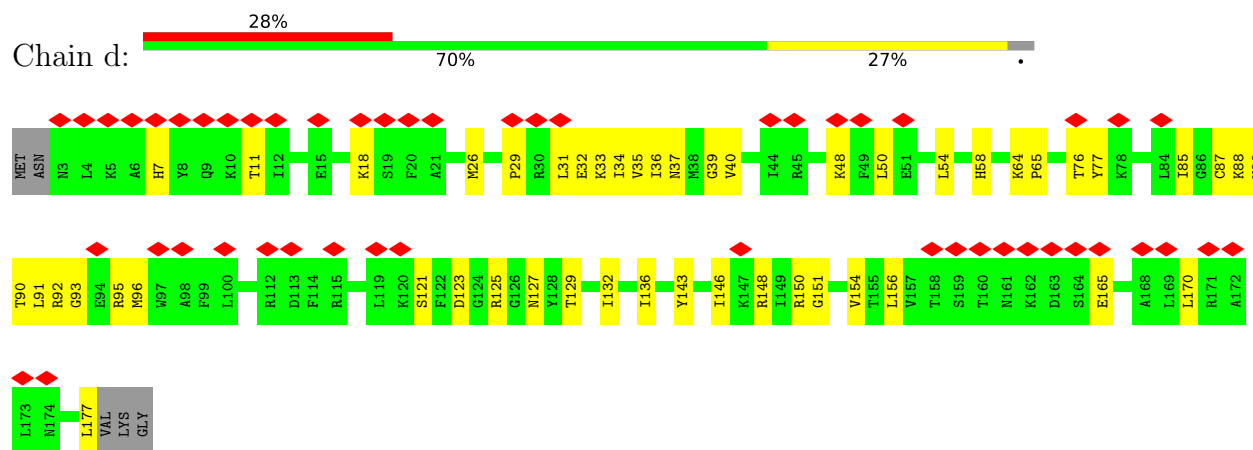




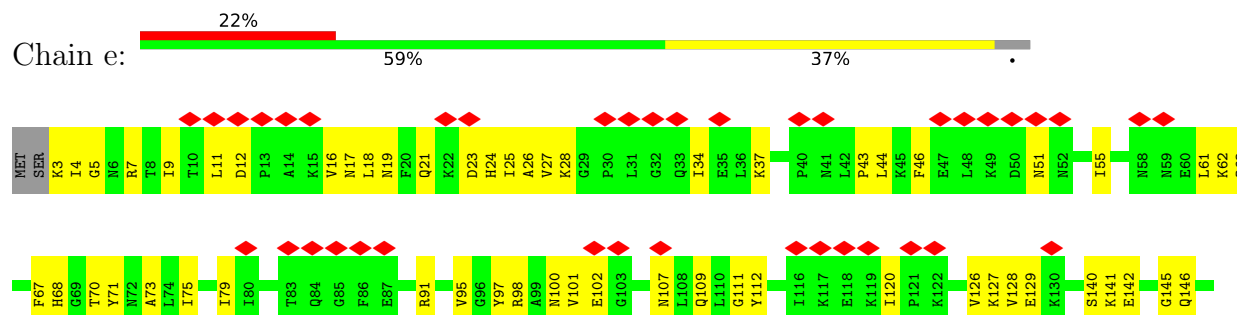
• Molecule 26: 50S ribosomal protein L4

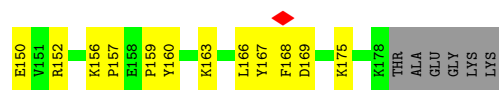


• Molecule 27: 50S ribosomal protein L5

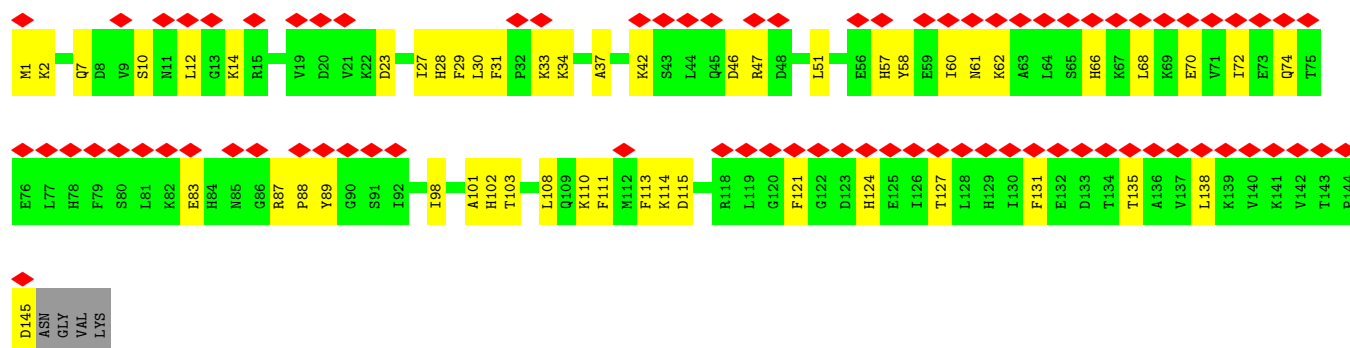


• Molecule 28: 50S ribosomal protein L6

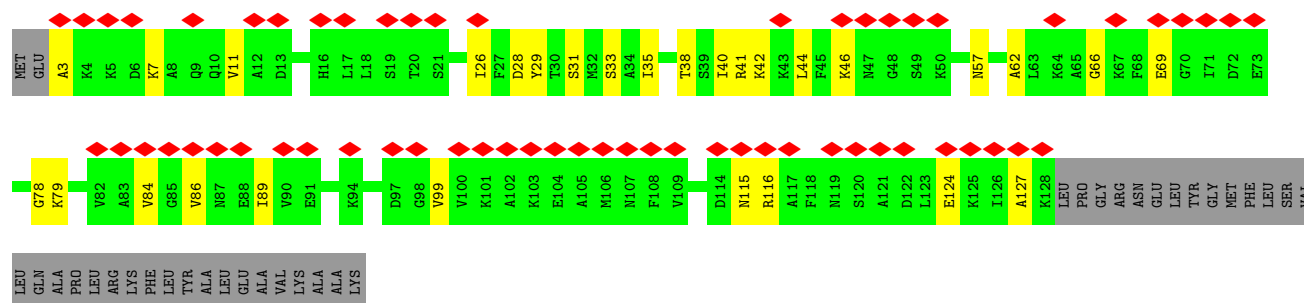
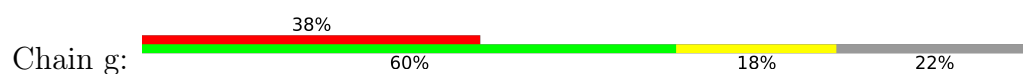




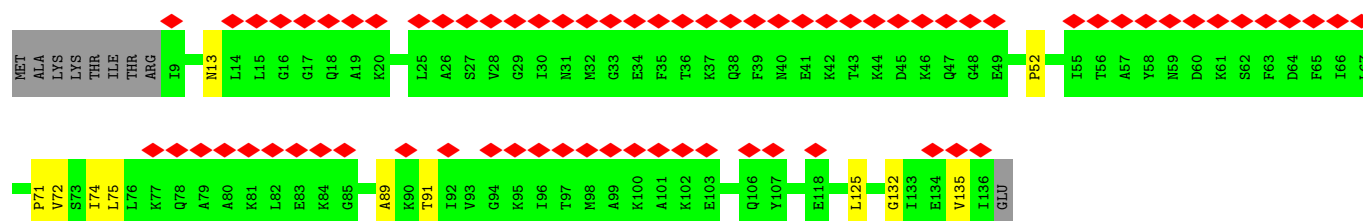
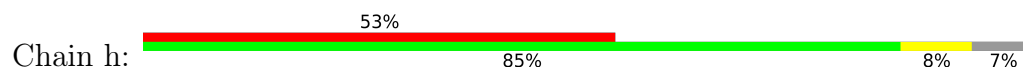
• Molecule 29: 50S ribosomal protein L9



• Molecule 30: 50S ribosomal protein L10



• Molecule 31: 50S ribosomal protein L11

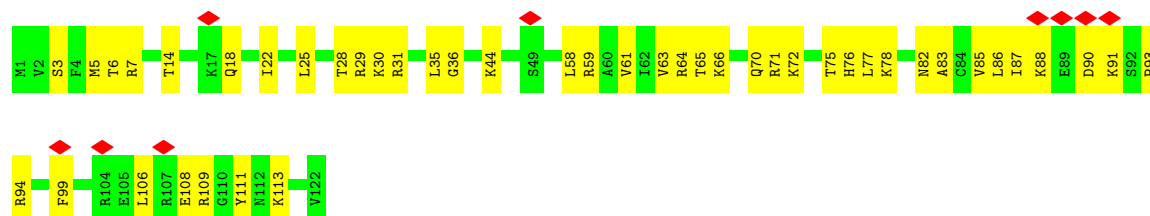


• Molecule 32: 50S ribosomal protein L13

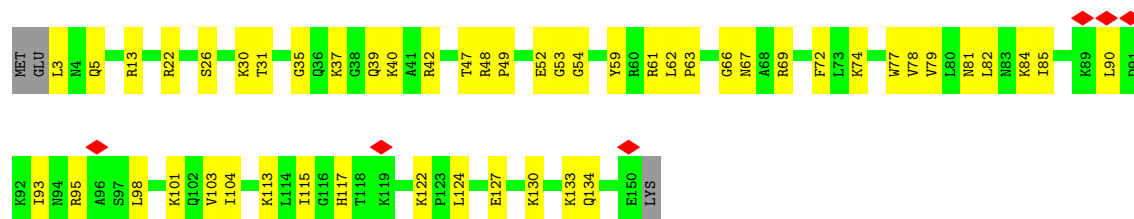




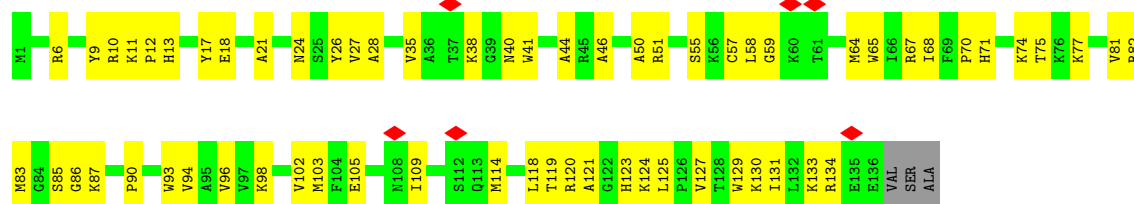
- Molecule 33: 50S ribosomal protein L14



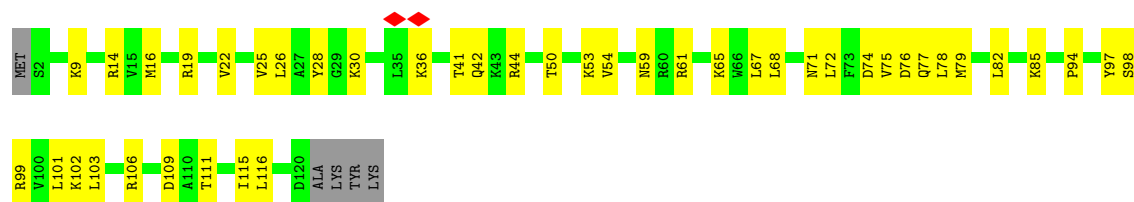
- Molecule 34: 50S ribosomal protein L15



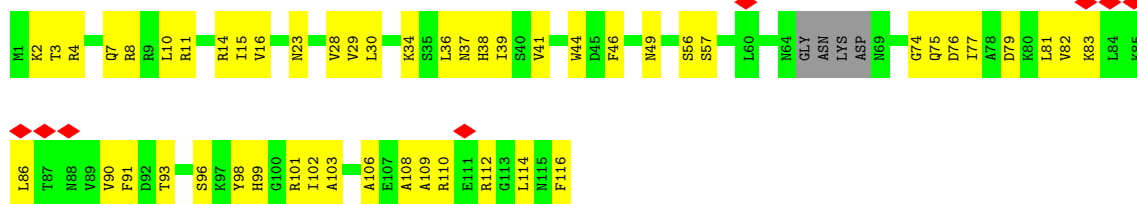
- Molecule 35: 50S ribosomal protein L16



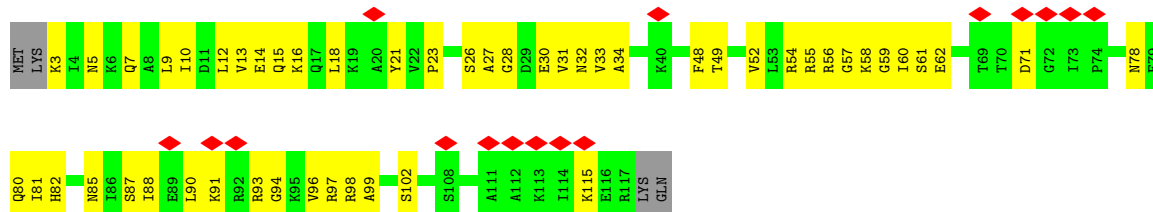
- Molecule 36: 50S ribosomal protein L17



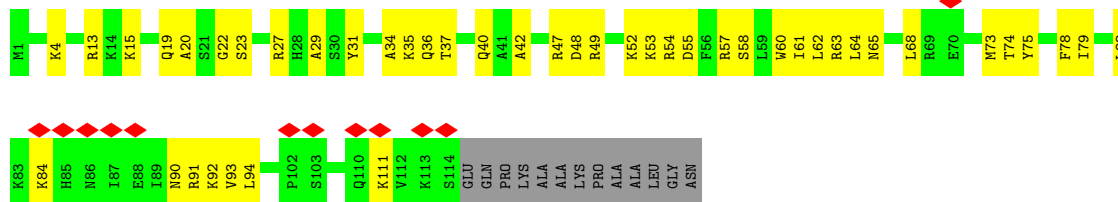
- Molecule 37: 50S ribosomal protein L18



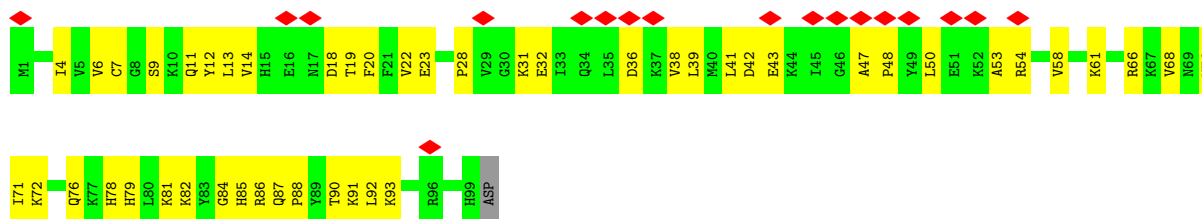
• Molecule 38: 50S ribosomal protein L19



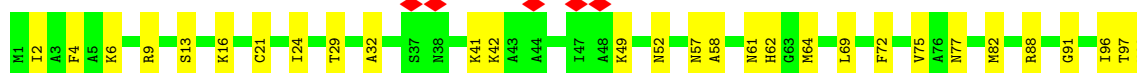
• Molecule 39: 50S ribosomal protein L20

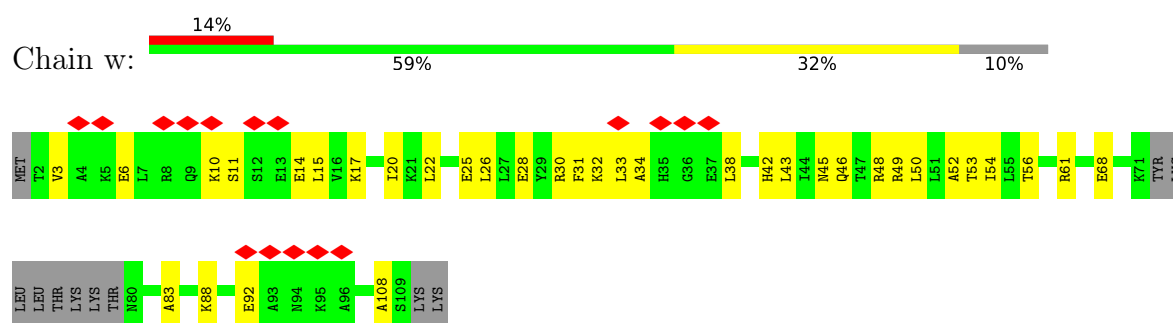


• Molecule 40: 50S ribosomal protein L21

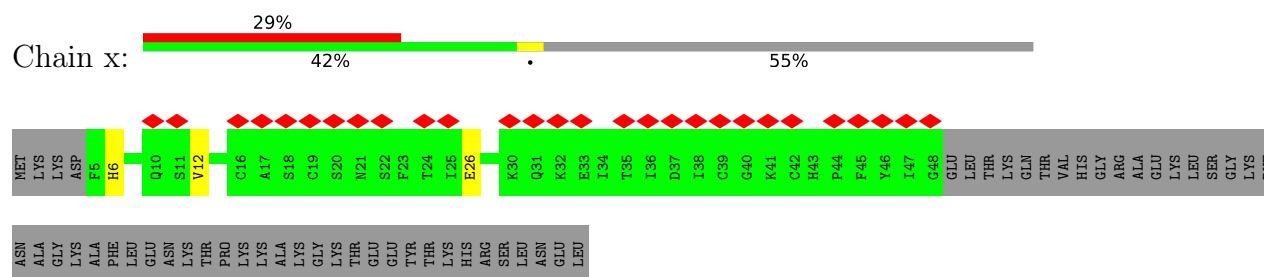


• Molecule 41: 50S ribosomal protein L22

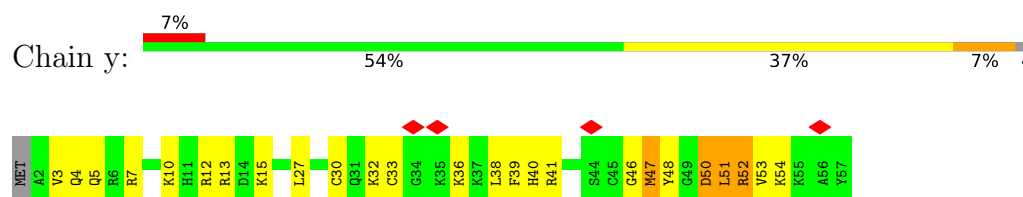




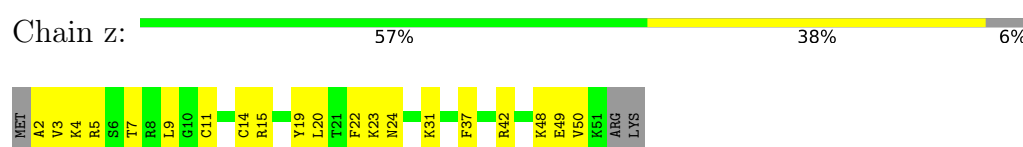
- Molecule 47: 50S ribosomal protein L31



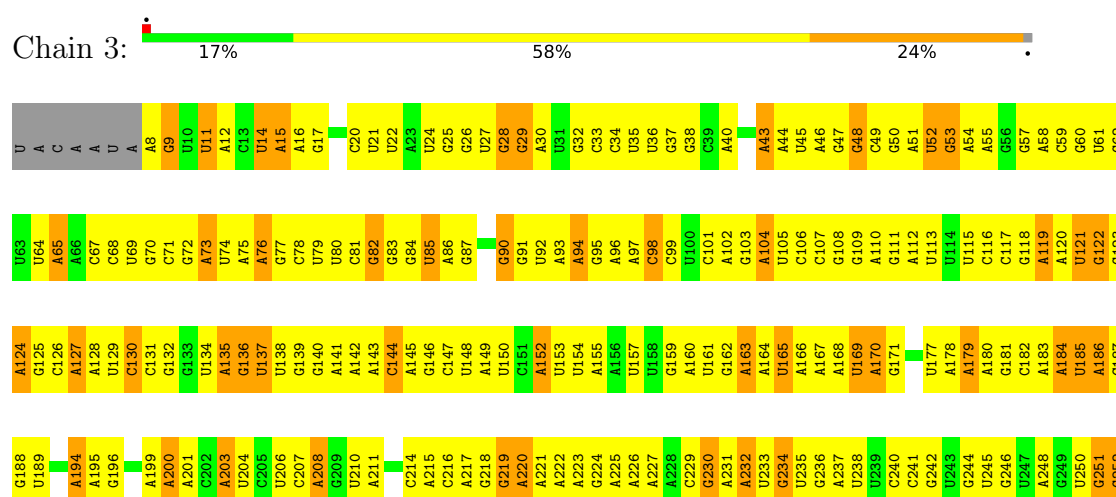
- Molecule 48: 50S ribosomal protein L32



- Molecule 49: 50S ribosomal protein L33 1

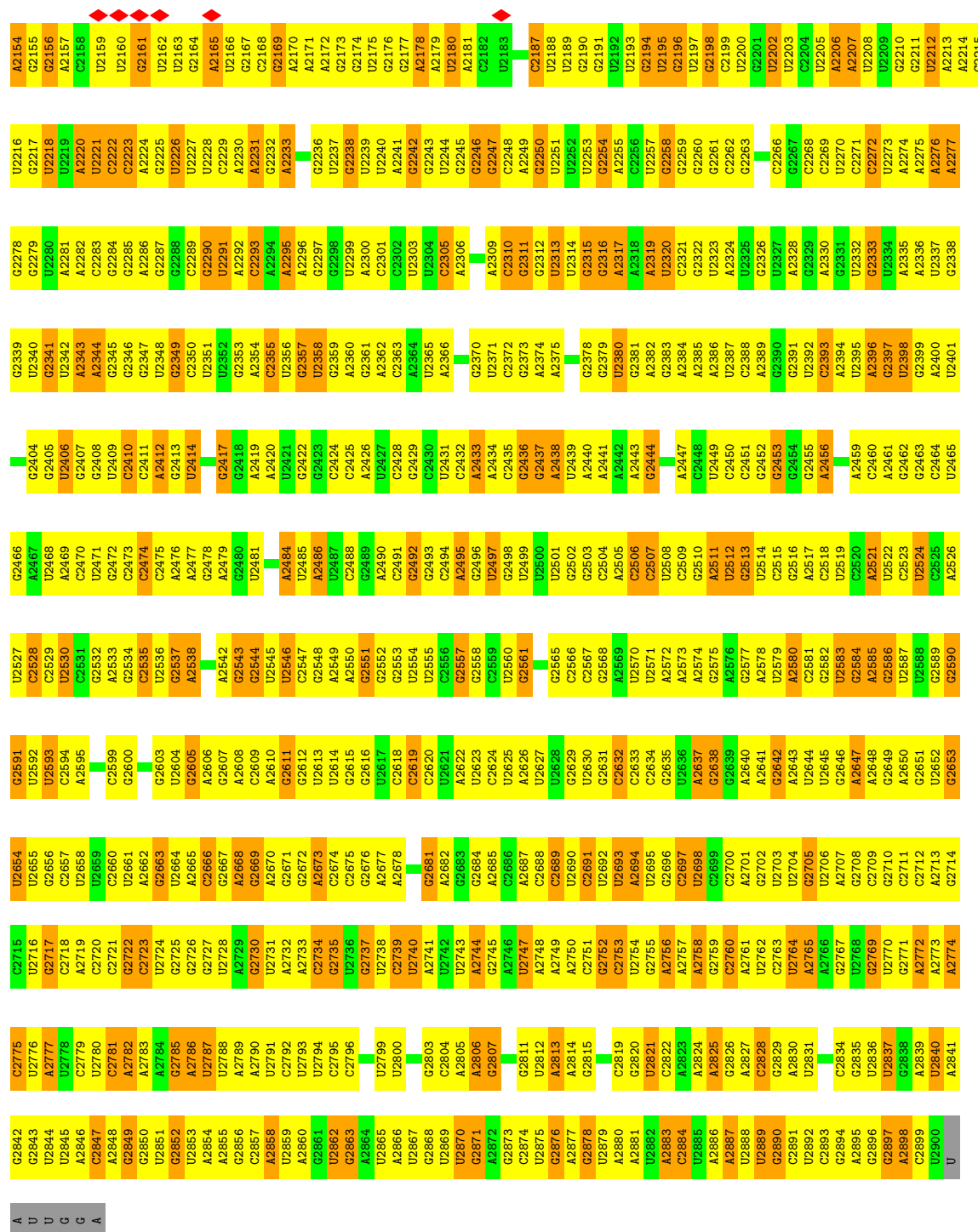


- Molecule 50: 23S ribosomal RNA



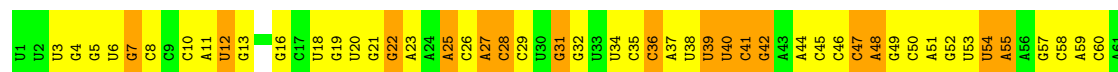
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A1011	G1012	G1013	G1014	G1015	A1016	A1017	G1018	A1019	C1023	A1024	G1025	A1026	U1027	U1028	A1029	U1030	U1031	U1032	A1033	A1034	U1035	U1036	A1037	U1038	G975	C976	A977	U978	A981	G982	A983	C984	U985	U986	U1049	U1050	U1051	A1052	C1053	U1054	A1055	A1056	G1057	U1058	G1059	U1060	A1061	A1062	A1063	A1064	G1065	U1066	A1067	U1068	U1069	U1070	G1071	A1072					
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A756	A757	U758	U759	A760	G761	A762	G763	G764	A765	A766	G767	G768	A769	C770	A771	A772	A773	A774	A775	A776	G777	A778	A779	A780	A781	A782	A783	A784	A785	A786	A787	A788	A789	A790	A791	A792	A793	A794	A795	A796	A797	A798	A799	U800	U801	U802	U803	U804	U805	U806	U807	U808	U809	U810	U811	U812	U813	U814	U815	U816	U817	U818	U819
U694	G695	U696	U697	U698	A699	A700	U701	U702	A703	A704	A705	A706	C707	C708	G709	A710	A711	A712	A713	A714	A715	A716	A717	A718	A719	A720	A721	A722	A723	A724	A725	A726	A727	A728	A729	A730	A731	A732	A733	A734	A735	A736	A737	A738	A739	A740	A741	A742	A743	A744	A745	A746	A747	A748	A749	A750	A751	A752	A753	A754	A755		
G633	C634	U635	U636	U637	A638	G639	U640	U641	A642	A643	C644	C645	A646	G647	A648	A649	A650	A651	U652	G653	G656	A657	G658	C659	U660	A661	A662	A663	A664	C665	G666	A667	A668	A669	A670	A671	A672	A673	A674	A675	A676	A677	A678	A679	A680	A681	A682	A683	A684	A685	A686	A687	A688	A689	A690	A691	A692	A693					
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G504	G505	A506	A507	A508	G509	G510	U511	G512	A513	A514	A515	A516	G517	A518	A519	C520	C521	C522	A523	A524	A525	G526	A527	U528	G529	G530	A531	A532	A533	U534	G535	A536	A537	A538	U539	A540	G541	A542	A543	U544	C545	U546	G547	A548	A549	A550	C551	U556	G557	C558	A561	A562	A563	A564	A565	A566	A567						
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C316	U317	U318	G319	G320	A321	A322	A323	C324	A325	A326	A327	A328	G329	A330	A331	G332	A333	A334	G335	U337	A338	U339	U340	G341	G342	A343	A344	A345	G346	C347	A348	A349	C350	G351	C352	G353	A354	A355	A356	A357	A358	G359	G360	A361	U362	G363	A364	U367	A368	C369	A370	C371	U372	U373	G378	A379							
C953	G954	A955	U956	C957	U958	A959	A960	A961	A962	A963	A964	A965	A966	A967	A968	A969	A970	A971	A972	A973	A974	A975	A976	A977	A978	A979	A980	A981	A982	A983	A984	A985	A986	A987	A988	A989	A990	A991	A992	A993	A994	A995	A996	A997	A998	A999	A1000	A1001	A1002	A1003	A1004	A1005	A1006	A1007	A1008	A1009	A1010	A1011					

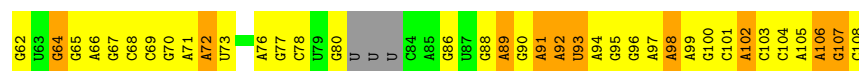
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C2043	C2043	U1983	C1916	A1854	A1792	A1728	G1662	C1599	A1535	U1468		C1343	G1282	
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C2070	C2070	U2009	U1946	G1881	U1820	G1757	C1690	C1626	G	C1499	U1434	U1369	G1245	
G2071	G2071	A2010	U1947	G1882	G1821	C1758	U1691	U1627	A	A1500	A1435	A1370	G1246	
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C2073	C2073	A2012	C1949	A1884	U1823	G1760	U1693	U1629	U	A1502	A1437	U1372	G1310	
G2074	G2074	C2013		G1885	G1824	C1761	A1694		G	A1503	G1438	C1373	G1311	
U2075	U2075	U2014	G1952	C1886	U1825	A1762	G1695	C1632	A	U1504	G1439	U1374	A1312	
G2076	G2076	C2015	U1953	C1887	A1826	G1763	C1696	C1633	U	G1505	U1440	G1375	G1313	
A2077	A2077	G2016	C1954	U1888	U1827	U1764	C1697	A1634	C	U1506	A1441	G1376	C1252	
G2078	G2078	G2017	G1955	U1889	A1828	G1765	A1698		A	G1507	G1442	A1377	G1253	
A2079	A2079	U2018		G1890	U1829	A1766	A1699			G1508	A1443	C1378	U1254	
C2080	C2080	G2019	U1958	A1891	G1830	A1767	G1701	C1638		U1509	C1444	C1379	U1255	
U2081	U2081	A2020	A1959	A1892	G1831	G1768	A1702	C1639	G1571	A1510	U1445	U1380	A1256	
U2082	U2082	A2021	C1962	C1893	A1770	A1769	A1703	G1640		G1513	G1446	A1381	G1321	
U2083	U2083	A2022	U1961	G1894	A1771	C1771	A1706	A1641	A1577	U1514	A1447	A1382	C1258	
		U2023	U1962	G1895	U1834		U1707	G1642	A1578		U1448	G1383	A1322	
U2086	U2086	G2024	U1963	A1896	G1835	G1774	C1706	A1644	G1580	G1517	G1449	U1384	A1324	
G2087	G2087	C2025	A1896		C1837	G1775	U1707	C1645	U1581	G1518	G1450	U1385	U1260	
U2088	U2088	A2026	C1965		C1837	G1776	U1708	C1645		A1519	A1451	G1386	G1325	
A2089	A2089	G2027	U1966		C1838	G1777	C1709	G1646		A1519	G1452	A1387	G1326	
G2090	G2090	U2029	C1968		C1840	G1778	U1713	A1647	U1584	A1520	U1453	G1388	A1328	
				C1902				A1648	A1585	A1521	G1454	G1389	U1329	



Molecule 51: 5S ribosomal RNA

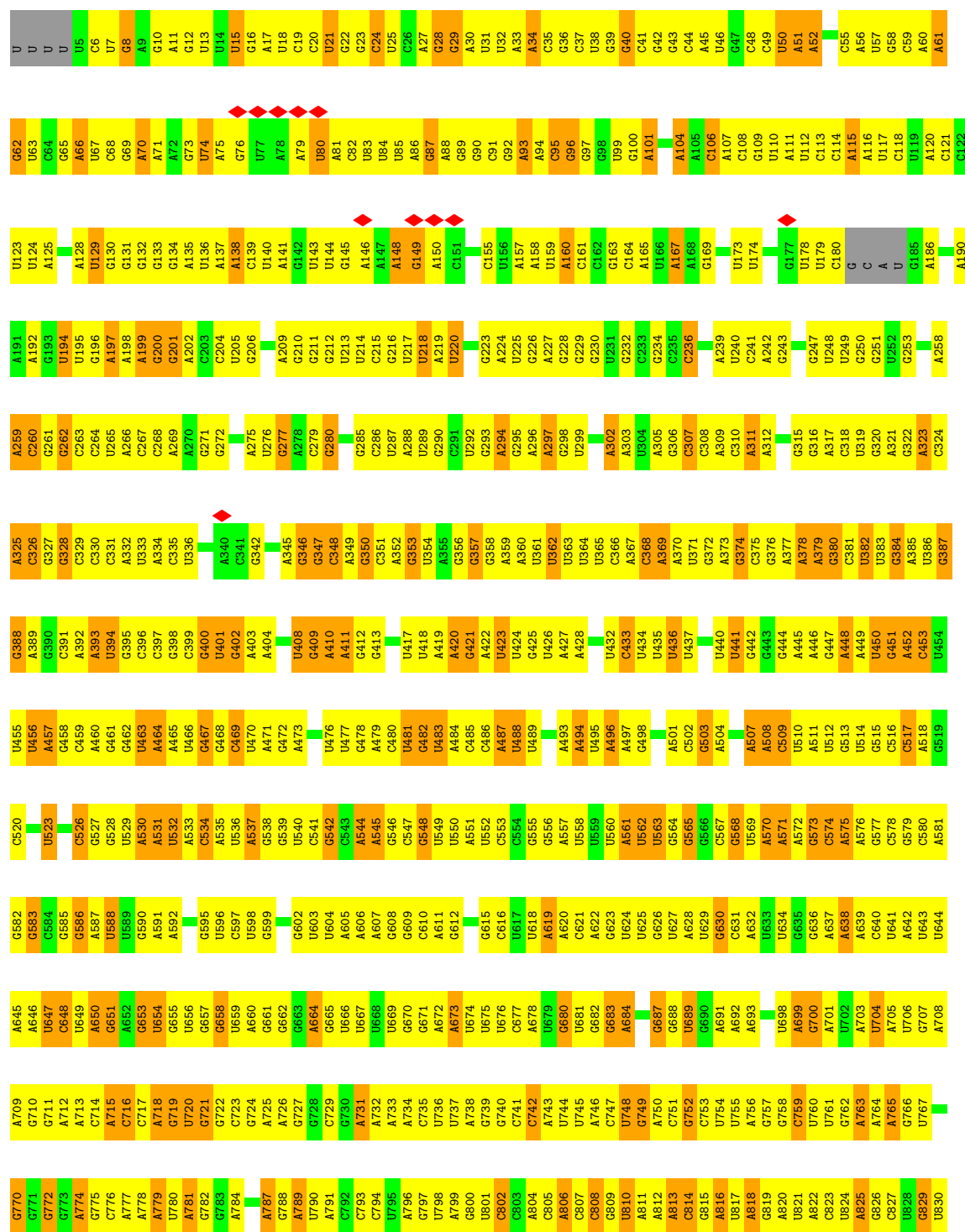
Chain 4: 18% 56% 24%

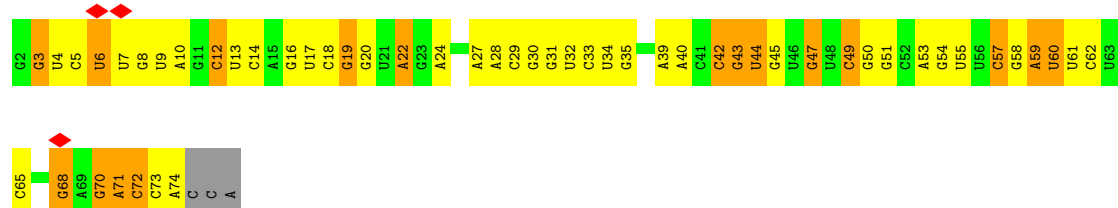
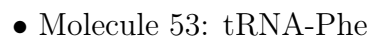




Molecule 52: 16S ribosomal RNA

Chain 5: 16% 60% 22%





4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	675	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	3.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.831	Depositor
Minimum map value	-0.134	Depositor
Average map value	0.024	Depositor
Map value standard deviation	0.100	Depositor
Recommended contour level	0.35	Depositor
Map size (Å)	435.328, 435.328, 435.328	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7005, 1.7005, 1.7005	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	0.13	0/383	0.40	0/504
2	1	0.13	0/484	0.39	0/637
3	2	0.16	0/306	0.42	0/401
4	A	0.15	0/1954	0.42	0/2642
5	B	0.14	0/1721	0.40	1/2323 (0.0%)
6	C	0.15	0/1691	0.44	0/2267
7	D	0.15	0/1188	0.44	0/1593
8	E	0.15	0/1384	0.43	0/1867
9	F	0.15	0/1266	0.48	0/1700
10	G	0.16	0/1126	0.44	0/1517
11	H	0.16	0/1044	0.50	0/1395
12	I	0.17	0/820	0.43	0/1103
13	J	0.17	0/844	0.46	0/1136
14	K	0.31	0/1094	0.56	0/1468
15	L	0.16	0/962	0.45	0/1289
16	M	0.16	0/483	0.45	0/643
17	N	0.15	0/679	0.43	0/907
18	O	0.16	0/659	0.49	0/885
19	P	0.14	0/684	0.44	0/913
20	Q	0.13	0/545	0.45	0/730
21	R	0.17	0/698	0.48	0/936
22	S	0.15	0/631	0.40	0/838
23	T	0.12	0/475	0.36	0/621
24	a	0.16	0/2267	0.44	0/3044
25	b	0.15	0/1795	0.42	0/2412
26	c	0.13	0/1671	0.44	2/2246 (0.1%)
27	d	0.14	0/1409	0.43	0/1894
28	e	0.16	0/1420	0.42	0/1912
29	f	0.18	0/1183	0.45	0/1587
30	g	0.53	0/969	0.86	0/1295
31	h	0.17	0/968	0.56	1/1298 (0.1%)
32	i	0.13	0/1186	0.36	0/1592
33	j	0.13	0/953	0.38	0/1275
34	k	0.13	0/1170	0.40	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	l	0.16	0/1104	0.45	0/1481
36	m	0.13	0/973	0.40	0/1309
37	n	0.15	0/897	0.51	0/1198
38	o	0.15	0/948	0.42	0/1262
39	p	0.14	0/961	0.40	0/1278
40	q	0.17	0/828	0.48	0/1111
41	r	0.14	0/1077	0.44	0/1441
42	s	0.14	0/732	0.45	0/988
43	t	0.16	0/879	0.42	0/1165
44	u	0.15	0/665	0.42	0/884
45	v	0.14	0/519	0.41	0/695
46	w	0.13	0/826	0.40	0/1104
47	x	0.12	0/353	0.37	0/474
48	y	0.31	0/457	0.73	1/601 (0.2%)
49	z	0.16	0/412	0.41	0/547
50	3	0.11	0/69073	0.28	0/107710
51	4	0.11	0/2505	0.31	0/3902
52	5	0.11	0/35768	0.28	0/55764
53	8	0.12	0/1739	0.30	0/2710
All	All	0.13	0/156828	0.34	5/234053 (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
6	C	0	1
9	F	0	1
21	R	0	1
37	n	0	1
All	All	0	4

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	h	74	ILE	N-CA-C	-8.33	105.80	113.71
48	y	50	ASP	CA-CB-CG	-7.14	105.46	112.60
26	c	63	LYS	CA-C-N	-6.54	112.52	121.61
26	c	63	LYS	C-N-CA	-6.54	112.52	121.61
5	B	14	ILE	N-CA-C	-5.24	108.73	113.71

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	C	19	LEU	Peptide
9	F	113	LYS	Peptide
21	R	25	GLN	Peptide
37	n	90	VAL	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	24	0
2	1	477	0	530	25	0
3	2	304	0	350	19	0
4	A	1921	0	1973	70	0
5	B	1698	0	1768	85	0
6	C	1660	0	1719	94	0
7	D	1173	0	1267	45	0
8	E	1362	0	1377	41	0
9	F	1246	0	1308	54	0
10	G	1110	0	1226	61	0
11	H	1028	0	1094	64	0
12	I	809	0	894	53	0
13	J	829	0	855	51	0
14	K	1076	0	1170	61	0
15	L	951	0	1014	64	0
16	M	474	0	509	50	0
17	N	673	0	730	38	0
18	O	646	0	677	30	0
19	P	675	0	728	28	0
20	Q	535	0	562	41	0
21	R	682	0	691	38	0
22	S	629	0	681	32	0
23	T	471	0	522	17	0
24	a	2225	0	2301	104	0
25	b	1762	0	1808	103	0
26	c	1644	0	1731	72	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	d	1388	0	1469	37	0
28	e	1396	0	1481	61	0
29	f	1160	0	1172	42	0
30	g	960	0	1014	13	0
31	h	959	0	1039	8	0
32	i	1164	0	1192	54	0
33	j	944	0	1019	50	0
34	k	1153	0	1256	59	0
35	l	1079	0	1134	56	0
36	m	958	0	1011	39	0
37	n	889	0	952	46	0
38	o	938	0	1008	53	0
39	p	947	0	1028	54	0
40	q	811	0	858	45	0
41	r	1068	0	1150	57	0
42	s	720	0	803	43	0
43	t	872	0	972	26	0
44	u	657	0	695	26	0
45	v	513	0	560	24	0
46	w	818	0	870	31	0
47	x	344	0	333	2	0
48	y	452	0	472	28	0
49	z	408	0	440	21	0
50	3	61664	0	30954	2662	0
51	4	2239	0	1137	88	0
52	5	31943	0	16058	1559	0
53	8	1556	0	788	34	0
All	All	144440	0	98779	5664	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 25.

All (5664) 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)
50:3:314:G:H1	50:3:392:A:N6	1.37	1.21
52:5:684:A:H62	52:5:700:G:N2	1.49	1.11
50:3:496:A:H62	50:3:505:G:N2	1.49	1.10
50:3:1798:A:N6	50:3:1835:G:C2	2.19	1.09
52:5:661:G:H1	52:5:738:A:N6	1.50	1.09
52:5:1331:A:N6	52:5:1340:G:H1	1.51	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:341:G:N2	50:3:364:A:H61	1.53	1.06
50:3:341:G:H21	50:3:364:A:N6	1.53	1.05
52:5:684:A:N6	52:5:700:G:H21	1.54	1.05
52:5:410:A:H62	52:5:427:A:N6	1.54	1.03
50:3:1798:A:C6	50:3:1835:G:C2	2.47	1.02
50:3:283:A:N6	50:3:286:A:C2	2.26	1.02
50:3:283:A:N6	50:3:286:A:H2	1.57	1.01
50:3:2460:C:N4	50:3:2512:U:H3	1.56	1.01
28:e:16:VAL:HA	28:e:28:LYS:O	1.60	1.01
19:P:26:VAL:O	19:P:42:HIS:HA	1.62	1.00
50:3:2140:G:N2	50:3:2165:A:C6	2.29	1.00
50:3:2755:G:N2	50:3:2765:A:H62	1.59	1.00
52:5:136:U:H3	52:5:157:A:N6	1.59	1.00
50:3:496:A:N6	50:3:505:G:H21	1.59	0.99
50:3:1037:A:H62	50:3:1189:G:H21	1.01	0.99
53:8:27:A:N6	53:8:45:G:H1	1.58	0.99
50:3:1845:C:N4	50:3:1908:A:H62	1.61	0.98
50:3:2140:G:C2	50:3:2165:A:N6	2.31	0.98
52:5:1289:U:H3	52:5:1293:A:H62	1.08	0.98
50:3:80:U:H3	50:3:109:G:H1	0.98	0.98
51:4:47:C:N4	51:4:48:A:H62	1.60	0.97
52:5:319:U:H3	52:5:323:A:H62	1.07	0.97
52:5:410:A:N6	52:5:427:A:H61	1.64	0.96
52:5:1133:A:N6	52:5:1153:G:N2	2.14	0.95
52:5:775:G:H1	52:5:801:U:H3	1.11	0.95
50:3:629:G:H1	50:3:696:U:H3	1.11	0.94
50:3:1807:C:H42	50:3:1824:G:N2	1.64	0.94
50:3:1807:C:N4	50:3:1824:G:H22	1.65	0.94
50:3:711:A:H62	50:3:837:A:N6	1.66	0.94
27:d:132:ILE:O	27:d:151:GLY:HA3	1.68	0.93
50:3:1845:C:H42	50:3:1908:A:N6	1.65	0.93
50:3:2755:G:H21	50:3:2765:A:N6	1.66	0.93
28:e:97:TYR:HA	28:e:109:GLN:O	1.67	0.93
52:5:1138:U:H3	52:5:1149:G:H1	0.98	0.93
51:4:47:C:N4	51:4:48:A:N6	2.16	0.92
52:5:833:G:H1	52:5:844:U:H3	1.07	0.92
50:3:1807:C:H42	50:3:1824:G:H22	0.93	0.92
50:3:729:U:H3	50:3:803:G:H1	0.92	0.91
50:3:2695:U:H3	50:3:2730:G:H1	1.15	0.91
14:K:56:LYS:HG3	14:K:58:PRO:HD2	1.51	0.91
50:3:61:U:H3	50:3:70:G:H1	1.18	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:574:G:H1	50:3:587:U:H3	1.15	0.91
50:3:711:A:H62	50:3:837:A:H61	0.96	0.91
52:5:612:G:H1	52:5:624:U:H3	1.14	0.91
52:5:144:U:H3	52:5:149:G:H1	1.12	0.90
32:i:42:LYS:HG3	39:p:62:LEU:HD11	1.53	0.90
50:3:534:U:H3	50:3:538:A:H62	1.17	0.90
52:5:201:G:H1	52:5:214:U:H3	0.93	0.90
50:3:1093:U:H3	50:3:1115:G:H1	1.11	0.90
50:3:2530:U:H3	50:3:2551:G:H1	0.89	0.89
50:3:1866:G:N1	50:3:1891:A:C8	2.39	0.89
50:3:1087:C:O2	50:3:1142:G:N2	2.04	0.89
50:3:1762:A:H61	50:3:2702:G:N2	1.70	0.89
50:3:1070:U:H3	50:3:1155:G:H1	1.20	0.89
52:5:1133:A:H61	52:5:1153:G:N2	1.70	0.89
50:3:1872:U:O2	50:3:1883:A:N7	2.06	0.88
50:3:1445:U:H3	50:3:1615:G:H22	1.19	0.88
52:5:684:A:H62	52:5:700:G:H21	0.88	0.87
50:3:865:A:N6	50:3:2453:G:N3	2.22	0.87
9:F:24:ARG:HB3	9:F:100:LEU:HD21	1.55	0.87
52:5:401:U:H3	52:5:497:A:H62	1.23	0.86
52:5:683:G:N2	52:5:701:A:N6	2.23	0.86
50:3:1762:A:N6	50:3:2702:G:N2	2.24	0.86
50:3:2190:G:H2'	50:3:2191:G:C8	2.11	0.86
50:3:2290:G:H21	50:3:2398:U:H1'	1.41	0.85
52:5:706:U:H2'	52:5:707:G:H8	1.41	0.85
52:5:1289:U:H3	52:5:1293:A:N6	1.75	0.84
52:5:683:G:N2	52:5:701:A:H62	1.74	0.84
50:3:1037:A:H62	50:3:1189:G:N2	1.74	0.84
52:5:683:G:H21	52:5:701:A:N6	1.76	0.84
48:y:7:ARG:HH21	50:3:2026:A:H5''	1.43	0.83
50:3:1845:C:N4	50:3:1908:A:N6	2.26	0.83
50:3:137:U:H3	50:3:146:G:H1	0.83	0.83
26:c:68:GLN:HG2	26:c:75:ARG:HD2	1.59	0.82
50:3:2058:G:H22	50:3:2625:U:H3	1.28	0.82
52:5:1337:U:H4'	52:5:1338:A:H5'	1.61	0.82
50:3:2115:A:N1	50:3:2190:G:O6	2.13	0.82
50:3:711:A:N6	50:3:837:A:H61	1.78	0.81
52:5:218:U:H2'	52:5:219:A:H8	1.45	0.81
52:5:410:A:H62	52:5:427:A:H61	0.83	0.81
14:K:94:LEU:HB3	14:K:111:VAL:HB	1.60	0.81
50:3:81:C:N3	50:3:108:G:N1	2.26	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:101:ARG:NH2	52:5:946:G:N7	2.28	0.81
52:5:922:G:H21	52:5:1507:U:H4'	1.45	0.81
50:3:1037:A:N6	50:3:1189:G:H21	1.77	0.81
40:q:84:GLY:HA3	50:3:1255:G:H5'	1.63	0.81
48:y:13:ARG:HD3	50:3:1293:U:H5''	1.63	0.81
52:5:722:G:OP1	52:5:847:G:N2	2.12	0.81
38:o:14:GLU:HB3	38:o:60:ILE:HB	1.62	0.81
50:3:1099:C:N4	50:3:1105:A:OP1	2.14	0.81
38:o:57:GLY:HA3	38:o:62:GLU:HA	1.62	0.81
50:3:641:U:O2	50:3:657:A:N7	2.14	0.81
50:3:2104:A:H2'	50:3:2105:G:H8	1.46	0.81
16:M:23:ARG:HA	16:M:33:VAL:HG21	1.63	0.80
52:5:420:A:H5''	52:5:421:G:H8	1.44	0.80
50:3:1798:A:C5	50:3:1835:G:N2	2.49	0.80
50:3:1351:G:H21	50:3:1650:A:H61	1.30	0.80
50:3:2755:G:H21	50:3:2765:A:H62	0.85	0.80
11:H:82:ARG:HD2	11:H:105:LEU:HD22	1.62	0.80
52:5:764:A:O2'	52:5:1499:G:N3	2.15	0.79
50:3:1284:A:H5''	50:3:1285:U:H5''	1.63	0.79
50:3:1972:C:H5''	50:3:1973:U:H2'	1.63	0.79
38:o:61:SER:HB2	50:3:2691:C:H5''	1.63	0.79
50:3:1507:G:O2'	50:3:1534:A:N6	2.15	0.79
7:D:76:ILE:HG12	7:D:88:PHE:HA	1.64	0.79
50:3:80:U:O4	50:3:109:G:O6	2.01	0.79
50:3:343:A:N6	50:3:1240:U:O2'	2.16	0.79
50:3:598:G:H1	50:3:609:U:H3	1.31	0.79
50:3:2819:C:H2'	50:3:2820:G:H8	1.47	0.79
50:3:343:A:N3	50:3:363:G:O2'	2.14	0.79
50:3:2305:C:H5'	50:3:2326:G:H22	1.47	0.79
52:5:1008:G:O6	52:5:1014:A:N6	2.16	0.79
52:5:96:G:H4'	52:5:372:G:H21	1.47	0.79
50:3:1798:A:C6	50:3:1835:G:N2	2.51	0.79
18:O:2:ARG:N	52:5:371:U:HO2'	1.81	0.78
18:O:62:THR:O	18:O:65:SER:OG	2.02	0.78
50:3:86:A:N7	50:3:103:G:N2	2.30	0.78
50:3:1087:C:N3	50:3:1142:G:N1	2.30	0.78
1:0:43:THR:OG1	50:3:127:A:N6	2.16	0.78
52:5:250:G:H2'	52:5:251:G:C8	2.18	0.78
52:5:41:C:H2'	52:5:42:G:H8	1.47	0.78
52:5:412:G:H1	52:5:424:U:H3	1.28	0.78
52:5:826:G:H1	52:5:851:U:H3	1.32	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1785:U:H3	50:3:1792:A:H62	1.32	0.78
52:5:1297:G:N2	52:5:1335:G:O2'	2.17	0.78
50:3:1702:A:H62	50:3:1998:U:H3	1.32	0.78
52:5:434:U:H3	52:5:493:A:N6	1.82	0.78
9:F:40:ARG:NH2	52:5:1265:U:OP1	2.17	0.77
50:3:850:G:O3'	50:3:1215:G:N2	2.16	0.77
50:3:2122:G:H21	50:3:2179:A:H61	1.31	0.77
52:5:93:A:N6	52:5:319:U:O2	2.16	0.77
52:5:775:G:O6	52:5:801:U:O4	2.01	0.77
50:3:810:G:N2	50:3:828:A:O2'	2.17	0.77
50:3:1775:G:H1	50:3:1991:U:H3	0.81	0.77
52:5:335:C:O2	52:5:347:G:N2	2.16	0.77
50:3:2303:U:H3	50:3:2345:G:H1	0.81	0.77
11:H:28:GLY:HA2	11:H:64:ASP:HA	1.65	0.77
38:o:5:ASN:HB3	38:o:7:GLN:HE22	1.50	0.77
50:3:957:G:N2	50:3:2277:A:OP1	2.17	0.77
50:3:1695:G:H5''	50:3:2720:C:H1'	1.66	0.77
50:3:1762:A:N6	50:3:2702:G:H21	1.82	0.77
15:L:100:GLN:HG3	52:5:1281:U:H5''	1.67	0.77
18:O:65:SER:HB3	52:5:451:G:H5'	1.64	0.77
52:5:434:U:O4	52:5:493:A:N7	2.18	0.77
13:J:119:ARG:HB2	23:T:35:HIS:H	1.50	0.77
1:O:3:ARG:HG2	50:3:1654:G:H1'	1.66	0.77
11:H:106:THR:HG23	11:H:107:THR:HG23	1.66	0.77
14:K:123:ARG:HG2	14:K:125:GLN:H	1.49	0.77
28:e:152:ARG:HH21	28:e:156:LYS:HD3	1.49	0.77
29:f:114:LYS:HE3	50:3:2228:U:H5''	1.67	0.77
50:3:1907:A:H5'	50:3:1977:A:H5'	1.65	0.77
50:3:2637:A:H4'	50:3:2638:G:H5'	1.67	0.76
50:3:1121:A:O2'	50:3:1122:G:N7	2.18	0.76
50:3:2175:U:O2	50:3:2179:A:N7	2.19	0.76
52:5:134:G:H2'	52:5:135:A:H8	1.48	0.76
52:5:1213:A:H2'	52:5:1214:A:H8	1.48	0.76
50:3:225:A:N6	50:3:463:U:C2	2.52	0.76
50:3:733:C:H5''	50:3:734:A:H5'	1.67	0.76
37:n:28:VAL:HG11	37:n:86:LEU:HD13	1.68	0.76
50:3:283:A:N7	50:3:286:A:N1	2.33	0.76
50:3:293:G:H4'	50:3:302:G:H4'	1.67	0.76
50:3:596:G:N1	50:3:611:A:C2	2.52	0.76
50:3:977:A:H3'	50:3:978:G:H8	1.50	0.76
34:k:93:ILE:HD12	34:k:101:LYS:HZ1	1.48	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2064:G:OP2	50:3:2066:A:N6	2.18	0.76
50:3:2332:U:C4	50:3:2393:C:N4	2.54	0.76
17:N:39:HIS:NE2	17:N:46:ASP:OD2	2.18	0.76
25:b:85:ARG:HH12	50:3:2782:A:H62	1.33	0.76
52:5:660:A:H61	52:5:739:G:H1	1.34	0.76
52:5:133:G:H2'	52:5:134:G:H8	1.49	0.76
52:5:1064:U:O4	52:5:1075:G:N2	2.18	0.76
10:G:93:PRO:HB2	52:5:872:C:H5''	1.68	0.76
50:3:416:C:N4	50:3:417:G:O6	2.18	0.76
50:3:1965:C:H2'	50:3:1966:G:C8	2.21	0.76
50:3:1966:G:N3	52:5:1393:A:O2'	2.18	0.76
50:3:2310:C:O2	50:3:2322:G:N2	2.16	0.76
52:5:1293:A:H61	52:5:1334:A:H2	1.33	0.76
6:C:54:LEU:O	6:C:58:GLN:NE2	2.19	0.76
50:3:1841:U:H5''	50:3:1842:G:H5'	1.68	0.76
52:5:984:A:N6	52:5:1192:C:O2	2.18	0.76
50:3:548:A:H61	50:3:1289:G:H21	1.31	0.75
50:3:1849:G:H1	50:3:1905:U:H3	1.31	0.75
36:m:19:ARG:NH1	50:3:2717:G:OP1	2.18	0.75
7:D:183:LEU:HD12	52:5:558:U:H2'	1.69	0.75
26:c:90:VAL:O	50:3:704:G:N1	2.19	0.75
50:3:337:U:H2'	50:3:338:G:H8	1.51	0.75
52:5:941:A:O2'	52:5:1307:A:N3	2.18	0.75
50:3:334:A:O2'	50:3:352:C:O2	2.04	0.75
52:5:462:G:O2'	52:5:464:A:N7	2.18	0.75
50:3:1813:C:N4	50:3:1814:G:O6	2.18	0.75
50:3:81:C:O2	50:3:108:G:N2	2.13	0.75
50:3:2550:A:H4'	50:3:2551:G:H5'	1.67	0.75
52:5:1321:G:HO2'	52:5:1348:G:H1	1.34	0.75
50:3:341:G:H21	50:3:364:A:H61	0.77	0.75
50:3:432:G:O2'	50:3:2238:G:O2'	2.04	0.75
52:5:1133:A:N6	52:5:1153:G:C2	2.53	0.75
18:O:19:ARG:NH2	52:5:120:A:N1	2.34	0.75
29:f:1:MET:N	45:v:59:LYS:O	2.19	0.75
50:3:451:A:N6	50:3:2417:G:O6	2.20	0.75
50:3:2551:G:H2'	50:3:2552:G:C8	2.22	0.75
20:Q:51:ILE:HG21	20:Q:85:HIS:HB3	1.68	0.75
50:3:437:A:H61	50:3:458:A:H61	1.32	0.75
50:3:2333:G:H22	50:3:2397:G:H22	1.34	0.74
11:H:70:LYS:HB2	52:5:1225:A:H5'	1.68	0.74
50:3:603:G:N3	50:3:1019:A:N6	2.34	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2534:G:H4'	50:3:2751:C:H5'	1.68	0.74
50:3:2889:U:H5''	50:3:2890:G:H5''	1.69	0.74
52:5:981:U:H2'	52:5:982:A:H8	1.50	0.74
52:5:65:G:H4'	52:5:66:A:H3'	1.68	0.74
50:3:258:G:H4'	50:3:422:A:H4'	1.70	0.74
50:3:989:G:N2	50:3:1000:U:O2	2.21	0.74
50:3:1261:U:H2'	50:3:1262:G:H8	1.51	0.74
13:J:108:PRO:HA	52:5:673:A:H4'	1.70	0.74
50:3:1023:C:O2'	50:3:1036:A:N3	2.20	0.74
51:4:13:G:N2	51:4:100:G:N3	2.36	0.74
52:5:947:U:O2'	52:5:959:A:N6	2.20	0.74
50:3:1295:A:OP1	50:3:2021:A:N6	2.21	0.74
52:5:724:G:N2	52:5:727:G:OP2	2.21	0.74
50:3:984:C:H2'	50:3:985:A:H8	1.52	0.74
50:3:2123:A:OP1	50:3:2174:G:N2	2.21	0.74
52:5:754:U:O2'	52:5:873:U:O2	2.05	0.74
7:D:80:THR:HG22	7:D:81:LYS:H	1.53	0.74
39:p:94:LEU:HD23	40:q:4:ILE:HG12	1.69	0.74
50:3:1807:C:N3	50:3:1824:G:N1	2.33	0.74
51:4:70:G:N2	51:4:93:U:OP2	2.20	0.74
52:5:1213:A:H2	52:5:1216:G:H21	1.35	0.74
15:L:81:SER:HB3	15:L:92:ARG:HE	1.52	0.73
50:3:1389:G:O2'	50:3:2223:C:O2'	2.03	0.73
52:5:689:U:C2	52:5:692:A:N7	2.56	0.73
52:5:1230:G:N2	52:5:1234:C:O2	2.19	0.73
52:5:1261:A:H2'	52:5:1262:A:C8	2.22	0.73
25:b:16:VAL:HG12	25:b:26:ILE:HG13	1.70	0.73
50:3:2495:A:H2'	50:3:2496:G:H8	1.53	0.73
50:3:2706:U:H3	50:3:2717:G:H1	1.36	0.73
52:5:413:G:N2	52:5:538:G:O2'	2.21	0.73
52:5:1501:G:H2'	52:5:1502:G:C8	2.22	0.73
50:3:1371:G:N2	50:3:1433:U:O2	2.22	0.73
50:3:1760:G:N2	50:3:1763:G:OP2	2.21	0.73
52:5:305:A:O2'	52:5:605:A:N1	2.21	0.73
52:5:1046:A:N6	52:5:1175:C:O2	2.21	0.73
25:b:157:GLN:NE2	50:3:607:U:O4	2.22	0.73
52:5:71:A:H4'	52:5:139:C:H4'	1.70	0.73
6:C:48:SER:H	6:C:51:ALA:HB3	1.52	0.73
50:3:2005:G:N2	50:3:2694:A:O2'	2.22	0.73
50:3:2409:U:H5''	50:3:2410:C:H5'	1.71	0.73
52:5:903:A:HO2'	52:5:1388:A:HO2'	1.36	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:104:THR:O	15:L:107:ARG:NH2	2.21	0.73
36:m:76:ASP:OD2	50:3:2709:C:O2'	2.07	0.73
50:3:2034:G:H2'	50:3:2035:U:H6	1.54	0.73
52:5:661:G:N2	52:5:738:A:N1	2.31	0.73
5:B:184:ASP:HB2	5:B:210:ILE:HB	1.70	0.72
34:k:84:LYS:HD2	50:3:662:U:H1'	1.70	0.72
52:5:674:U:H3	52:5:710:G:H22	1.37	0.72
50:3:1086:G:O6	50:3:1144:C:N4	2.22	0.72
52:5:541:C:H2'	52:5:542:G:H8	1.54	0.72
52:5:582:G:H1	52:5:754:U:H3	1.34	0.72
25:b:120:THR:HB	25:b:169:TYR:HB3	1.72	0.72
33:j:28:THR:HG21	50:3:2573:A:H62	1.55	0.72
50:3:1011:A:N7	50:3:1025:G:N2	2.37	0.72
52:5:661:G:N2	52:5:723:C:O2'	2.19	0.72
1:0:45:SER:HG	50:3:127:A:H62	1.36	0.72
50:3:742:G:H1	50:3:759:U:H3	1.35	0.72
50:3:1885:G:H2'	50:3:1886:C:C6	2.23	0.72
33:j:7:ARG:NH1	50:3:1702:A:OP1	2.22	0.72
50:3:1976:A:O2'	50:3:1979:G:N3	2.21	0.72
52:5:108:C:H2'	52:5:109:G:H8	1.54	0.72
52:5:761:U:H2'	52:5:762:G:H8	1.53	0.72
11:H:55:ASP:HA	11:H:59:LEU:HB2	1.72	0.72
32:i:42:LYS:HE2	50:3:1042:C:H5''	1.72	0.72
33:j:35:LEU:HD12	33:j:77:LEU:HD21	1.72	0.72
52:5:63:U:H3	52:5:90:G:H1	1.37	0.72
1:0:3:ARG:HG3	50:3:1646:G:H21	1.54	0.72
33:j:87:ILE:HA	33:j:93:PRO:HA	1.72	0.72
50:3:1412:A:O2'	50:3:1432:C:O2	2.07	0.72
52:5:733:A:H2'	52:5:734:A:H8	1.55	0.72
52:5:945:U:OP1	52:5:972:A:N6	2.22	0.72
4:A:222:PRO:HG2	4:A:257:GLU:H	1.54	0.72
50:3:1775:G:N2	50:3:1964:C:O2'	2.21	0.72
50:3:2315:G:OP1	50:3:2319:A:N6	2.22	0.72
52:5:897:A:H2'	52:5:898:A:H8	1.52	0.72
25:b:121:GLY:H	50:3:1689:A:H4'	1.55	0.72
50:3:665:C:H4'	50:3:685:G:H21	1.54	0.72
50:3:2115:A:C2	50:3:2190:G:C6	2.77	0.72
52:5:133:G:H2'	52:5:134:G:C8	2.25	0.72
12:I:11:GLU:H	12:I:85:VAL:HG21	1.54	0.71
50:3:245:U:H3	50:3:259:A:H5''	1.55	0.71
50:3:2287:G:HO2'	50:3:2335:A:HO2'	1.37	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1222:U:O2	52:5:1264:G:O6	2.07	0.71
24:a:261:ARG:NH2	50:3:1849:G:O2'	2.23	0.71
42:s:6:VAL:HB	42:s:32:ASN:HB2	1.72	0.71
52:5:1406:U:H3	52:5:1444:G:H1	1.36	0.71
6:C:123:LEU:HB2	6:C:145:LYS:HD3	1.73	0.71
35:l:26:TYR:O	35:l:67:ARG:NH2	2.22	0.71
34:k:39:GLN:HE22	34:k:47:THR:HG23	1.55	0.71
16:M:23:ARG:HH11	16:M:30:ALA:H	1.37	0.71
16:M:29:ARG:NH1	52:5:969:A:OP1	2.23	0.71
19:P:4:ASN:HA	52:5:113:C:H4'	1.73	0.71
25:b:13:MET:SD	50:3:2688:C:O2'	2.48	0.71
37:n:110:ARG:HH22	50:3:2384:A:H1'	1.54	0.71
40:q:6:VAL:HG22	40:q:11:GLN:HG2	1.71	0.71
50:3:707:C:H5''	50:3:836:G:H1	1.56	0.71
50:3:1693:U:H2'	50:3:1694:A:H8	1.55	0.71
50:3:2819:C:H2'	50:3:2820:G:C8	2.24	0.71
52:5:111:A:H4'	52:5:602:G:H21	1.56	0.71
4:A:99:ILE:HD12	4:A:233:ALA:HB2	1.70	0.71
12:I:65:LYS:HD3	52:5:967:C:H5'	1.72	0.71
15:L:33:ILE:HD11	15:L:60:ALA:HB2	1.71	0.71
16:M:6:LEU:HD12	16:M:23:ARG:HH12	1.54	0.71
40:q:78:HIS:HB2	50:3:1219:U:H4'	1.70	0.71
50:3:2323:U:H2'	50:3:2324:A:H8	1.55	0.71
50:3:2732:A:H2'	50:3:2733:A:C8	2.26	0.71
52:5:1085:G:O5'	52:5:1087:C:N4	2.24	0.71
37:n:110:ARG:NH2	50:3:2384:A:N3	2.39	0.71
50:3:899:A:H1'	51:4:90:G:H1'	1.73	0.71
50:3:2035:U:H3	50:3:2040:A:H62	1.37	0.71
52:5:288:A:H5''	52:5:629:U:H3	1.53	0.71
24:a:126:HIS:HB3	29:f:87:ARG:HE	1.55	0.71
28:e:4:ILE:HG13	28:e:7:ARG:HD3	1.73	0.71
50:3:799:A:N1	50:3:1796:A:O2'	2.23	0.71
50:3:1326:C:H42	50:3:1676:G:H1	1.39	0.71
52:5:46:U:H3	52:5:392:A:H61	1.38	0.71
52:5:76:G:N2	52:5:79:A:OP2	2.24	0.71
52:5:110:U:HO2'	52:5:630:G:H21	1.38	0.71
50:3:1243:A:N6	50:3:1265:G:O2'	2.23	0.71
50:3:107:C:O2	50:3:328:A:O2'	2.08	0.71
50:3:354:C:O2'	50:3:356:A:N7	2.22	0.71
50:3:2654:U:OP2	50:3:2740:U:O2'	2.08	0.71
52:5:459:C:H2'	52:5:460:A:C8	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:112:ARG:HB3	14:K:130:TYR:HA	1.73	0.70
25:b:37:ALA:HB3	25:b:51:LEU:HD22	1.73	0.70
50:3:313:G:H1	50:3:394:C:H42	1.38	0.70
50:3:1539:U:H2'	50:3:1540:G:C8	2.25	0.70
15:L:86:TRP:HD1	21:R:77:THR:H	1.39	0.70
50:3:2025:C:H2'	50:3:2026:A:H8	1.56	0.70
52:5:946:G:O2'	52:5:967:C:N4	2.24	0.70
52:5:1160:G:O2'	52:5:1321:G:OP1	2.07	0.70
15:L:107:ARG:NE	52:5:942:G:OP2	2.23	0.70
50:3:314:G:N2	50:3:316:C:O2	2.25	0.70
50:3:843:G:N2	50:3:1284:A:O2'	2.24	0.70
2:1:4:LYS:HE3	50:3:255:A:H5''	1.74	0.70
42:s:41:LYS:HG3	42:s:52:PRO:HG2	1.73	0.70
50:3:171:G:N2	50:3:2218:U:OP2	2.23	0.70
52:5:1480:G:H5'	52:5:1481:U:H2'	1.71	0.70
6:C:12:ARG:NH2	52:5:423:U:OP1	2.21	0.70
50:3:2310:C:N4	50:3:2311:G:O6	2.25	0.70
50:3:2651:G:N1	50:3:2780:U:N3	2.39	0.70
51:4:47:C:C4	51:4:48:A:N6	2.58	0.70
52:5:873:U:H2'	52:5:874:C:H6	1.55	0.70
21:R:23:ASN:ND2	21:R:43:GLU:O	2.25	0.70
24:a:112:PRO:HG2	24:a:132:PRO:HB3	1.72	0.70
25:b:117:ARG:NH2	50:3:2732:A:OP1	2.25	0.70
50:3:1046:A:H1'	50:3:1188:C:H1'	1.73	0.70
50:3:1798:A:C6	50:3:1835:G:N3	2.60	0.70
50:3:2303:U:OP1	51:4:44:A:O2'	2.10	0.70
52:5:1320:A:N6	52:5:1350:A:OP2	2.24	0.70
1:0:16:HIS:NE2	50:3:500:U:O2	2.24	0.70
2:1:54:ARG:HH12	34:k:52:GLU:HA	1.56	0.70
35:l:41:TRP:HD1	35:l:96:VAL:HG12	1.55	0.70
42:s:70:ARG:NH2	42:s:70:ARG:O	2.25	0.70
50:3:2655:U:H3	50:3:2681:G:H1	1.40	0.70
52:5:587:A:N6	52:5:750:A:OP2	2.22	0.70
36:m:94:PRO:O	50:3:2843:G:N2	2.23	0.70
52:5:59:C:O2	52:5:350:G:N2	2.24	0.70
52:5:1065:G:N2	52:5:1074:U:O2	2.25	0.70
52:5:1112:U:H3	52:5:1128:G:H1	1.40	0.70
11:H:97:LYS:NZ	52:5:1154:A:OP1	2.25	0.70
52:5:358:G:N1	52:5:361:U:OP2	2.25	0.70
52:5:372:G:H2'	52:5:373:A:C8	2.27	0.70
52:5:765:A:N3	52:5:1487:U:O2'	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:4:LEU:HD21	26:c:125:THR:HG23	1.73	0.69
39:p:54:ARG:NH1	50:3:1012:G:O2'	2.23	0.69
50:3:412:A:N6	50:3:436:G:O2'	2.25	0.69
50:3:1617:U:H5''	50:3:1618:U:H5'	1.73	0.69
50:3:1672:C:O2	50:3:2706:U:O2'	2.09	0.69
50:3:2124:A:N6	50:3:2170:A:OP2	2.25	0.69
4:A:32:MET:HG2	4:A:204:THR:HG22	1.74	0.69
28:e:62:LYS:HG2	28:e:63:GLN:HE21	1.58	0.69
32:i:95:MET:HE1	32:i:103:LEU:HB2	1.73	0.69
50:3:1454:G:H2'	50:3:1606:A:H61	1.57	0.69
20:Q:93:ALA:HB1	20:Q:98:LEU:HB2	1.74	0.69
39:p:58:SER:HB3	50:3:1045:A:H1'	1.73	0.69
50:3:639:G:N3	50:3:692:U:O2'	2.26	0.69
52:5:534:C:H2'	52:5:535:A:C8	2.27	0.69
22:S:59:ILE:HG23	22:S:60:ILE:HG12	1.75	0.69
52:5:1215:U:H3'	52:5:1216:G:H8	1.58	0.69
11:H:107:THR:HA	52:5:1154:A:H4'	1.75	0.69
17:N:45:LYS:HB2	52:5:665:G:H4'	1.73	0.69
25:b:65:PRO:O	50:3:2794:U:O2'	2.06	0.69
50:3:2143:G:N1	50:3:2163:U:N3	2.41	0.69
52:5:106:C:H42	52:5:111:A:N6	1.89	0.69
25:b:150:GLY:O	50:3:2059:G:O2'	2.11	0.69
27:d:37:ASN:ND2	50:3:2320:U:O2	2.26	0.69
44:u:41:ASP:HB2	50:3:891:G:H21	1.55	0.69
50:3:638:A:N6	50:3:661:G:C6	2.60	0.69
50:3:1552:C:H42	50:3:1579:G:H1	1.40	0.69
50:3:2349:G:H21	50:3:2383:G:H5'	1.58	0.69
50:3:2460:C:H42	50:3:2512:U:H3	0.78	0.69
52:5:603:U:O2	52:5:630:G:O6	2.10	0.69
53:8:27:A:H61	53:8:45:G:H1	0.76	0.69
16:M:45:ARG:NH2	52:5:1050:U:O2'	2.25	0.69
41:r:21:CYS:HA	41:r:24:ILE:HG22	1.75	0.69
50:3:221:A:N7	50:3:467:U:O2	2.25	0.69
50:3:1940:G:H1	50:3:1974:U:H3	0.77	0.69
50:3:2149:U:OP2	50:3:2150:C:N4	2.22	0.69
52:5:91:C:O2	52:5:374:G:O2'	2.11	0.69
24:a:255:ARG:HH22	50:3:2245:G:H4'	1.57	0.69
50:3:143:A:OP2	50:3:144:C:N4	2.26	0.69
50:3:2115:A:C6	50:3:2190:G:O6	2.46	0.69
52:5:811:A:OP2	52:5:813:A:N6	2.26	0.69
12:I:10:PRO:HA	12:I:85:VAL:HG11	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:94:LEU:HG	40:q:13:LEU:HB2	1.74	0.68
50:3:639:G:H21	50:3:693:U:H5'	1.58	0.68
50:3:1803:U:H3	50:3:1830:G:H1	1.41	0.68
52:5:159:U:OP2	52:5:161:C:N4	2.26	0.68
5:B:150:ASN:HB2	5:B:206:ASN:HB3	1.76	0.68
10:G:98:TYR:H	19:P:31:LYS:HZ2	1.41	0.68
15:L:87:ARG:HG3	21:R:73:GLU:HG3	1.74	0.68
50:3:314:G:N1	50:3:392:A:N6	2.13	0.68
52:5:502:C:H1'	52:5:508:A:H2'	1.76	0.68
52:5:974:C:H41	52:5:1334:A:H62	1.41	0.68
52:5:1009:G:H21	52:5:1012:A:H2	1.38	0.68
24:a:47:ARG:HA	24:a:53:ILE:HA	1.75	0.68
50:3:1201:A:N6	50:3:1215:G:O6	2.26	0.68
50:3:1245:G:O6	50:3:1264:U:O4	2.11	0.68
50:3:1327:G:H21	50:3:1675:A:H62	1.41	0.68
50:3:2258:G:N2	50:3:2283:C:O2'	2.26	0.68
52:5:765:A:H4'	52:5:1498:G:H21	1.58	0.68
52:5:1213:A:N7	52:5:1275:U:O2	2.26	0.68
52:5:1254:A:O2'	52:5:1257:C:N4	2.27	0.68
9:F:39:GLN:HG3	11:H:45:LEU:HD22	1.75	0.68
24:a:80:GLU:HB2	24:a:120:LYS:HE3	1.74	0.68
25:b:83:GLU:OE1	50:3:2643:A:O2'	2.12	0.68
50:3:1009:A:O2'	50:3:1217:G:N2	2.27	0.68
52:5:319:U:O4	52:5:323:A:N7	2.27	0.68
42:s:50:ILE:HA	46:w:83:ALA:HB2	1.76	0.68
46:w:26:LEU:HD11	46:w:48:ARG:HD2	1.75	0.68
50:3:50:G:N2	50:3:51:A:N1	2.41	0.68
50:3:1070:U:H2'	50:3:1071:G:H8	1.59	0.68
50:3:1129:U:N3	50:3:1132:C:OP2	2.21	0.68
50:3:1639:C:H2'	50:3:1642:G:H21	1.59	0.68
50:3:2323:U:H2'	50:3:2324:A:C8	2.28	0.68
51:4:62:G:N7	51:4:98:A:O2'	2.26	0.68
52:5:770:G:O6	52:5:804:A:N6	2.25	0.68
52:5:1214:A:H62	52:5:1273:A:H62	1.38	0.68
53:8:49:C:H2'	53:8:60:U:H1'	1.76	0.68
12:I:69:GLU:HG2	16:M:58:LYS:HZ2	1.59	0.68
50:3:408:G:OP2	50:3:459:A:N6	2.27	0.68
50:3:1095:U:H4'	50:3:1096:U:O5'	1.94	0.68
50:3:1296:G:N2	50:3:2020:A:OP2	2.25	0.68
50:3:2396:A:H3'	50:3:2397:G:C8	2.29	0.68
50:3:2435:C:O2'	50:3:2437:G:N2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2652:U:O2'	50:3:2684:G:N2	2.26	0.68
7:D:148:ARG:NH2	52:5:21:U:OP1	2.26	0.68
50:3:496:A:H62	50:3:505:G:H21	0.74	0.68
50:3:844:G:H4'	50:3:1283:A:H2'	1.76	0.68
50:3:1702:A:OP2	50:3:1997:C:N4	2.27	0.68
50:3:1807:C:O2	50:3:1824:G:O6	2.12	0.68
52:5:116:A:N6	52:5:229:G:N3	2.41	0.68
52:5:412:G:H2'	52:5:413:G:H8	1.58	0.68
52:5:1129:C:H2'	52:5:1130:G:H8	1.59	0.68
50:3:2266:C:O2'	50:3:2435:C:OP2	2.11	0.68
52:5:1142:G:N2	52:5:1145:A:OP2	2.25	0.68
14:K:85:HIS:HA	14:K:112:ARG:HH12	1.59	0.68
38:o:56:ARG:HD2	50:3:2727:G:H5''	1.74	0.68
50:3:62:G:N2	50:3:90:G:O6	2.27	0.68
50:3:742:G:O6	50:3:759:U:O4	2.12	0.68
50:3:2521:A:H2'	50:3:2522:U:C6	2.29	0.68
52:5:145:G:N2	52:5:148:A:OP2	2.27	0.68
4:A:133:LEU:HD22	4:A:156:ILE:HD11	1.76	0.68
23:T:37:ARG:HB2	23:T:40:MET:HG3	1.74	0.68
50:3:136:G:N1	50:3:148:U:N3	2.42	0.68
50:3:432:G:N2	50:3:2239:U:O2'	2.27	0.68
50:3:535:G:H2'	50:3:540:A:H61	1.57	0.68
52:5:970:A:H61	52:5:1342:C:H4'	1.58	0.68
7:D:162:ALA:HB3	7:D:167:ARG:HG3	1.75	0.67
38:o:54:ARG:NH1	38:o:78:ASN:OD1	2.28	0.67
40:q:72:LYS:NZ	50:3:1027:U:O2'	2.27	0.67
50:3:1027:U:H2'	50:3:1028:C:H6	1.59	0.67
50:3:2646:G:N2	50:3:2647:A:N1	2.42	0.67
52:5:520:C:H1'	52:5:534:C:H4'	1.76	0.67
52:5:789:A:N6	52:5:1471:C:O2'	2.25	0.67
4:A:150:LEU:HD11	52:5:1135:U:H3'	1.74	0.67
9:F:40:ARG:HB2	11:H:44:LYS:HE2	1.76	0.67
50:3:2140:G:N2	50:3:2165:A:N6	2.38	0.67
50:3:2821:U:O2'	50:3:2841:A:N3	2.27	0.67
52:5:60:A:OP1	52:5:382:U:O2'	2.11	0.67
52:5:350:G:N2	52:5:351:C:H41	1.92	0.67
9:F:110:ARG:HB3	9:F:118:LYS:HD3	1.75	0.67
27:d:95:ARG:NH2	51:4:42:G:OP1	2.27	0.67
36:m:109:ASP:OD1	50:3:2016:G:N2	2.26	0.67
48:y:32:LYS:HD2	48:y:50:ASP:CG	2.19	0.67
50:3:840:G:H1'	50:3:866:G:H1'	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1336:A:N6	50:3:1640:G:O2'	2.27	0.67
50:3:1340:U:O2'	50:3:1342:C:N4	2.26	0.67
52:5:962:G:O2'	52:5:963:U:OP1	2.11	0.67
14:K:81:PRO:HG2	14:K:112:ARG:HE	1.59	0.67
14:K:99:ARG:HH22	52:5:907:A:H62	1.40	0.67
17:N:43:ASN:ND2	52:5:665:G:N3	2.42	0.67
18:O:5:ARG:NH2	52:5:620:A:N1	2.42	0.67
24:a:164:ALA:HA	24:a:203:VAL:HB	1.75	0.67
39:p:52:LYS:HG3	50:3:1031:U:H5'	1.76	0.67
50:3:1798:A:N6	50:3:1835:G:N1	2.42	0.67
52:5:765:A:H3'	52:5:766:G:H8	1.59	0.67
52:5:1123:G:O3'	52:5:1125:C:N4	2.28	0.67
10:G:12:PHE:O	52:5:585:G:O2'	2.11	0.67
27:d:32:GLU:O	27:d:92:ARG:NH2	2.28	0.67
52:5:940:G:N2	52:5:1308:G:O2'	2.27	0.67
11:H:98:LYS:NZ	52:5:1151:A:OP1	2.24	0.67
12:I:50:THR:HG22	12:I:77:LYS:H	1.59	0.67
20:Q:80:GLN:HE21	20:Q:84:ARG:HG3	1.59	0.67
33:j:7:ARG:HH21	33:j:44:LYS:HD2	1.60	0.67
50:3:47:G:H4'	50:3:48:G:H5'	1.76	0.67
50:3:337:U:H2'	50:3:338:G:C8	2.30	0.67
50:3:697:U:H2'	50:3:698:A:C8	2.30	0.67
50:3:2299:U:O2	50:3:2382:A:O2'	2.12	0.67
52:5:1473:U:O2'	52:5:1475:A:N6	2.27	0.67
53:8:8:G:N2	53:8:68:G:O6	2.28	0.67
50:3:1543:U:H2'	50:3:1544:G:H8	1.60	0.67
52:5:1497:U:H2'	52:5:1498:G:H8	1.60	0.67
46:w:52:ALA:HA	50:3:74:U:H1'	1.76	0.67
50:3:603:G:N2	50:3:2507:C:OP1	2.27	0.67
50:3:1261:U:H2'	50:3:1262:G:C8	2.30	0.67
50:3:1864:A:O2'	50:3:1865:A:N7	2.27	0.67
52:5:892:G:O2'	52:5:894:A:N7	2.27	0.67
19:P:21:THR:OG1	19:P:73:LYS:NZ	2.27	0.67
32:i:110:GLY:HA2	50:3:2046:G:H5'	1.76	0.67
51:4:4:G:N2	51:4:105:A:N7	2.42	0.67
52:5:51:A:N6	52:5:356:G:O2'	2.28	0.67
52:5:496:A:O2'	52:5:545:A:N6	2.26	0.67
52:5:829:G:N1	52:5:849:A:C6	2.63	0.67
10:G:96:ARG:NH1	52:5:585:G:OP1	2.27	0.67
19:P:70:SER:OG	52:5:250:G:OP1	2.12	0.67
50:3:2208:U:O4	50:3:2232:G:N2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:797:G:N2	52:5:798:U:O4	2.28	0.67
2:1:15:LYS:NZ	50:3:662:U:OP1	2.24	0.66
8:E:70:LYS:NZ	52:5:667:U:O2	2.27	0.66
13:J:34:VAL:O	52:5:681:U:O2'	2.13	0.66
27:d:58:HIS:HB2	27:d:65:PRO:HG3	1.75	0.66
50:3:1083:A:H2	50:3:1148:U:H1'	1.60	0.66
50:3:1164:A:O2'	50:3:2523:C:O2	2.12	0.66
50:3:1470:C:H2'	50:3:1471:A:H8	1.60	0.66
50:3:1495:A:OP2	50:3:1547:G:N1	2.29	0.66
50:3:2349:G:N2	50:3:2382:A:O2'	2.29	0.66
50:3:2549:A:H4'	50:3:2774:A:H1'	1.76	0.66
50:3:2552:G:H2'	50:3:2553:G:C8	2.30	0.66
52:5:502:C:H2'	52:5:509:C:C6	2.30	0.66
13:J:33:ASN:HA	52:5:680:G:H21	1.60	0.66
20:Q:57:LEU:HA	20:Q:60:LEU:HD12	1.77	0.66
50:3:606:G:O2'	50:3:608:A:OP1	2.13	0.66
50:3:986:G:H1	50:3:1003:U:H3	1.43	0.66
4:A:83:LEU:HD21	4:A:169:LEU:HD13	1.76	0.66
26:c:176:LYS:HE3	50:3:357:A:H1'	1.78	0.66
6:C:1:MET:HB2	52:5:544:A:C6	2.31	0.66
6:C:53:GLN:HA	6:C:195:TYR:HB3	1.77	0.66
25:b:143:PHE:HE2	50:3:2586:G:H21	1.44	0.66
50:3:1450:G:O6	50:3:1611:C:N4	2.29	0.66
50:3:2700:C:O2	50:3:2851:U:O2'	2.14	0.66
52:5:110:U:O2'	52:5:630:G:N2	2.23	0.66
52:5:134:G:H1	52:5:160:A:H61	1.44	0.66
13:J:121:ARG:NH1	52:5:1497:U:OP1	2.29	0.66
34:k:79:VAL:HG13	34:k:115:ILE:HG21	1.78	0.66
50:3:872:C:N4	50:3:977:A:N7	2.44	0.66
50:3:2725:G:H2'	50:3:2726:G:C8	2.31	0.66
6:C:184:ARG:NH1	6:C:191:ILE:O	2.29	0.66
11:H:128:GLN:OE1	52:5:937:G:N2	2.20	0.66
15:L:105:ASN:HA	15:L:107:ARG:HH21	1.61	0.66
50:3:1503:A:N6	50:3:1540:G:O2'	2.28	0.66
52:5:747:C:H2'	52:5:748:U:H5	1.58	0.66
52:5:929:C:O2'	52:5:1318:C:OP2	2.13	0.66
52:5:1302:C:H2'	52:5:1303:A:H8	1.60	0.66
19:P:23:THR:HG22	19:P:46:GLN:HG2	1.76	0.66
24:a:74:THR:HB	24:a:197:ARG:HH12	1.58	0.66
25:b:177:GLN:O	50:3:2738:U:O2'	2.13	0.66
41:r:75:VAL:HG11	50:3:25:G:H1'	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:77:ASN:ND2	41:r:102:ASN:O	2.27	0.66
45:v:31:VAL:HA	50:3:432:G:H4'	1.77	0.66
45:v:32:ASN:OD1	45:v:34:GLN:NE2	2.27	0.66
50:3:1836:A:OP1	50:3:1837:C:N4	2.26	0.66
50:3:2697:C:OP2	50:3:2876:G:N1	2.23	0.66
52:5:544:A:H4'	52:5:546:G:H4'	1.76	0.66
52:5:727:G:N2	52:5:761:U:O2'	2.29	0.66
5:B:53:VAL:HG13	5:B:69:VAL:HG13	1.76	0.66
18:O:54:ASN:O	52:5:123:U:O2'	2.14	0.66
25:b:119:PHE:H	50:3:2827:A:H5'	1.61	0.66
40:q:87:GLN:OE1	50:3:1197:G:N2	2.24	0.66
50:3:852:C:O2'	50:3:874:U:OP1	2.14	0.66
52:5:368:C:O2'	52:5:371:U:O4	2.14	0.66
11:H:65:ILE:HD12	11:H:85:ILE:HG12	1.77	0.65
19:P:48:HIS:HB3	19:P:73:LYS:HE3	1.77	0.65
50:3:341:G:O2'	50:3:1240:U:O2'	2.13	0.65
50:3:485:A:O2'	50:3:1278:G:N2	2.27	0.65
50:3:2175:U:C2	50:3:2179:A:N7	2.64	0.65
50:3:2534:G:O6	50:3:2545:U:O4	2.13	0.65
50:3:2603:G:N2	50:3:2606:A:OP2	2.26	0.65
52:5:201:G:O6	52:5:214:U:O4	2.14	0.65
52:5:1280:A:N6	52:5:1304:U:O2	2.29	0.65
53:8:22:A:N6	53:8:47:G:O2'	2.29	0.65
53:8:61:U:OP2	53:8:62:C:N4	2.23	0.65
5:B:59:GLU:HB3	12:I:100:VAL:HG21	1.78	0.65
50:3:1433:U:H2'	50:3:1434:U:C4	2.31	0.65
3:2:22:ILE:HD13	50:3:1159:C:H4'	1.77	0.65
16:M:19:ARG:NH2	52:5:1194:A:OP2	2.25	0.65
33:j:3:SER:OG	50:3:2002:U:O2	2.14	0.65
50:3:29:G:O2'	50:3:546:U:O4	2.12	0.65
50:3:84:G:N1	50:3:104:A:OP2	2.19	0.65
50:3:891:G:H22	50:3:960:A:H2	1.43	0.65
52:5:1043:U:O4	52:5:1181:G:O6	2.14	0.65
52:5:1487:U:H3	52:5:1498:G:H1	1.43	0.65
25:b:161:LYS:HD2	32:i:82:GLN:HB2	1.78	0.65
29:f:23:ASP:O	50:3:2100:G:O2'	2.13	0.65
49:z:9:LEU:HB2	49:z:19:TYR:HB2	1.77	0.65
52:5:211:G:H2'	52:5:212:G:H8	1.61	0.65
52:5:879:G:H2'	52:5:880:G:H8	1.61	0.65
52:5:902:A:H61	52:5:1462:G:H21	1.45	0.65
5:B:8:ASN:HB2	5:B:187:TYR:HB3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:o:98:ARG:NH2	50:3:2701:A:N3	2.44	0.65
50:3:1858:U:H1'	53:8:3:G:H21	1.61	0.65
52:5:1321:G:O2'	52:5:1348:G:N1	2.25	0.65
6:C:4:THR:HG21	6:C:10:ARG:HH12	1.62	0.65
10:G:44:ILE:HG13	10:G:115:ILE:HG21	1.77	0.65
12:I:50:THR:HB	12:I:76:HIS:HA	1.78	0.65
13:J:121:ARG:NH2	52:5:793:C:OP1	2.30	0.65
32:i:48:THR:HB	32:i:53:CYS:HB3	1.79	0.65
38:o:55:ARG:NH2	38:o:62:GLU:OE1	2.29	0.65
50:3:535:G:N1	50:3:538:A:OP2	2.27	0.65
50:3:1228:G:H4'	50:3:1258:C:H5'	1.77	0.65
50:3:2635:G:N2	50:3:2785:G:O5'	2.30	0.65
50:3:2828:C:H3'	50:3:2829:G:H21	1.62	0.65
51:4:102:A:H2'	51:4:103:C:C6	2.31	0.65
52:5:727:G:H21	52:5:762:G:H5'	1.62	0.65
52:5:1193:U:H2'	52:5:1194:A:C8	2.30	0.65
16:M:23:ARG:NH1	16:M:30:ALA:H	1.95	0.65
33:j:64:ARG:HB2	33:j:83:ALA:HB3	1.78	0.65
50:3:2140:G:C2	50:3:2165:A:C6	2.81	0.65
52:5:134:G:H1	52:5:160:A:N6	1.94	0.65
4:A:32:MET:HG3	4:A:33:VAL:H	1.62	0.65
15:L:17:ILE:HG23	52:5:1276:U:H5'	1.79	0.65
16:M:31:ARG:NH1	52:5:978:A:N7	2.45	0.65
45:v:10:ARG:NH1	50:3:432:G:OP2	2.29	0.65
50:3:858:A:H2'	50:3:859:G:C8	2.31	0.65
50:3:1213:U:H2'	50:3:1214:U:C6	2.32	0.65
50:3:2733:A:O2'	50:3:2735:G:OP2	2.14	0.65
52:5:67:U:O4	52:5:89:G:N2	2.30	0.65
52:5:109:G:H5'	52:5:306:G:H21	1.60	0.65
52:5:433:C:N4	52:5:493:A:OP1	2.29	0.65
52:5:658:G:N2	52:5:833:G:O2'	2.29	0.65
52:5:673:A:H2'	52:5:674:U:H6	1.62	0.65
52:5:733:A:H2'	52:5:734:A:C8	2.31	0.65
53:8:59:A:O2'	53:8:62:C:N4	2.30	0.65
18:O:2:ARG:NH1	52:5:387:G:O2'	2.30	0.65
44:u:60:TYR:OH	50:3:2341:G:OP1	2.14	0.65
50:3:195:A:OP2	50:3:208:A:N6	2.29	0.65
50:3:684:A:H2'	50:3:685:G:H8	1.62	0.65
50:3:1856:G:H2'	50:3:1857:G:C8	2.32	0.65
50:3:1900:C:O2'	53:8:70:G:OP1	2.15	0.65
52:5:576:A:H2'	52:5:577:G:C8	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1393:A:OP2	52:5:1457:G:N2	2.28	0.65
6:C:199:TRP:O	6:C:202:ARG:NH1	2.30	0.65
25:b:110:VAL:HG22	25:b:207:ILE:HG12	1.78	0.65
28:e:18:LEU:HG	28:e:27:VAL:HG22	1.78	0.65
41:r:62:HIS:HB2	41:r:64:MET:HG3	1.78	0.65
50:3:221:A:OP2	50:3:223:A:N6	2.29	0.65
51:4:5:G:OP1	51:4:57:G:N2	2.30	0.65
52:5:1228:C:H2'	52:5:1229:A:C8	2.31	0.65
26:c:55:LYS:NZ	50:3:708:C:OP1	2.30	0.64
35:l:67:ARG:NH1	50:3:943:A:O2'	2.30	0.64
41:r:4:PHE:O	50:3:529:G:O2'	2.14	0.64
50:3:603:G:H5'	50:3:1008:A:H4'	1.79	0.64
50:3:615:G:H2'	50:3:616:G:C8	2.32	0.64
50:3:662:U:H5''	50:3:663:A:H5''	1.80	0.64
50:3:1114:C:N4	50:3:1123:A:OP2	2.30	0.64
50:3:1940:G:N2	50:3:1974:U:O2	2.24	0.64
50:3:2846:A:N1	50:3:2880:A:N6	2.45	0.64
52:5:777:A:N6	52:5:798:U:OP2	2.21	0.64
52:5:988:G:H21	52:5:990:C:H42	1.45	0.64
52:5:1003:G:N1	52:5:1018:U:N3	2.45	0.64
3:2:7:VAL:HG22	3:2:37:GLY:HA3	1.80	0.64
15:L:30:SER:HA	15:L:33:ILE:HD12	1.78	0.64
17:N:62:ARG:NH2	52:5:753:C:OP2	2.30	0.64
34:k:53:GLY:O	50:3:866:G:N2	2.30	0.64
36:m:42:GLN:HG3	36:m:98:SER:HB2	1.79	0.64
52:5:319:U:H3	52:5:323:A:N6	1.89	0.64
52:5:873:U:H2'	52:5:874:C:C6	2.32	0.64
21:R:12:ASP:OD2	21:R:37:ARG:NH2	2.30	0.64
35:l:65:TRP:HB2	35:l:105:GLU:HG3	1.80	0.64
50:3:11:U:OP2	50:3:2789:A:N6	2.25	0.64
50:3:975:G:H21	50:3:1222:A:H4'	1.62	0.64
50:3:2495:A:H2'	50:3:2496:G:C8	2.31	0.64
52:5:599:G:N2	52:5:634:U:O2	2.29	0.64
52:5:616:C:N4	52:5:619:A:OP2	2.30	0.64
12:I:48:LEU:O	52:5:1126:U:O2'	2.15	0.64
33:j:5:MET:HE1	50:3:1959:A:H62	1.62	0.64
50:3:1906:G:H21	50:3:1909:C:H41	1.44	0.64
50:3:1960:A:O2'	50:3:2567:C:O2	2.15	0.64
52:5:658:G:O2'	52:5:834:G:OP1	2.15	0.64
52:5:763:A:N7	52:5:810:U:O4	2.30	0.64
52:5:986:U:H1'	52:5:988:G:H8	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1062:C:H2'	52:5:1063:G:C8	2.33	0.64
3:2:16:ILE:HG12	3:2:25:VAL:HG12	1.79	0.64
25:b:17:PHE:HZ	38:o:80:GLN:HG2	1.62	0.64
33:j:76:HIS:HB3	38:o:78:ASN:HB3	1.78	0.64
46:w:45:ASN:OD1	46:w:49:ARG:NH2	2.31	0.64
50:3:952:U:O2'	51:4:70:G:OP1	2.16	0.64
50:3:2859:U:H2'	50:3:2860:A:H8	1.62	0.64
52:5:511:A:N1	52:5:537:A:N6	2.46	0.64
3:2:7:VAL:HB	3:2:25:VAL:HG13	1.79	0.64
16:M:34:LEU:O	16:M:38:GLY:N	2.31	0.64
25:b:4:ARG:NH2	25:b:101:LEU:O	2.30	0.64
30:g:3:ALA:HA	50:3:1078:C:H5''	1.78	0.64
41:r:96:ILE:HD12	50:3:1353:G:H21	1.62	0.64
50:3:81:C:N4	50:3:108:G:O6	2.28	0.64
50:3:675:U:H3	50:3:685:G:H1	1.46	0.64
50:3:718:U:H2'	50:3:719:G:C8	2.33	0.64
50:3:995:A:N3	50:3:2465:U:O2'	2.29	0.64
50:3:2691:C:H41	50:3:2735:G:H21	1.46	0.64
52:5:144:U:O2	52:5:149:G:N2	2.28	0.64
52:5:242:A:H62	52:5:277:G:N2	1.94	0.64
52:5:735:C:H2'	52:5:736:U:C6	2.33	0.64
4:A:86:GLY:HA2	4:A:92:VAL:HG12	1.80	0.64
10:G:11:HIS:CD2	10:G:12:PHE:H	2.16	0.64
50:3:902:U:OP1	50:3:943:A:N6	2.27	0.64
50:3:1301:G:O2'	50:3:1652:A:N7	2.25	0.64
50:3:2071:C:H2'	50:3:2072:C:C6	2.33	0.64
50:3:2237:U:H2'	50:3:2238:G:H8	1.63	0.64
50:3:2567:C:H2'	50:3:2568:G:C8	2.33	0.64
50:3:2567:C:H2'	50:3:2568:G:H8	1.62	0.64
52:5:173:U:H3	52:5:192:A:H61	1.44	0.64
25:b:37:ALA:HA	25:b:75:LEU:HD11	1.79	0.64
35:l:12:PRO:O	35:l:87:LYS:NZ	2.31	0.64
40:q:19:THR:HG22	40:q:93:LYS:HD2	1.80	0.64
41:r:72:PHE:O	41:r:114:ARG:NH2	2.31	0.64
50:3:159:G:H2'	50:3:160:A:H8	1.62	0.64
50:3:1554:A:N6	50:3:1576:G:O2'	2.31	0.64
50:3:2057:C:N4	50:3:2058:G:O6	2.31	0.64
50:3:2655:U:O2	50:3:2681:G:N2	2.29	0.64
52:5:22:G:H2'	52:5:23:G:C8	2.33	0.64
52:5:742:C:H2'	52:5:743:A:H8	1.62	0.64
52:5:905:U:H2'	52:5:906:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1283:G:H2'	52:5:1284:A:H8	1.62	0.64
6:C:121:HIS:HA	6:C:145:LYS:HB2	1.80	0.64
9:F:3:LYS:HG2	52:5:930:A:H61	1.63	0.64
24:a:63:LYS:HB2	50:3:1602:G:H4'	1.80	0.64
33:j:14:THR:HG21	33:j:86:LEU:HD23	1.80	0.64
43:t:105:LYS:HD2	50:3:333:A:H5''	1.80	0.64
50:3:1199:A:O2'	50:3:1254:U:O2	2.13	0.64
50:3:1500:A:N6	50:3:1544:G:O6	2.31	0.64
50:3:1984:A:OP2	50:3:1986:C:N4	2.30	0.64
50:3:2122:G:H21	50:3:2179:A:N6	1.96	0.64
52:5:711:G:H2'	52:5:712:A:H8	1.61	0.64
52:5:994:C:N4	52:5:1032:G:O6	2.30	0.64
52:5:1044:G:N2	52:5:1048:G:OP2	2.30	0.64
52:5:1220:A:N6	52:5:1267:G:O6	2.31	0.64
52:5:1382:C:H2'	52:5:1383:A:C8	2.32	0.64
4:A:93:LYS:HE2	4:A:109:THR:HB	1.79	0.64
6:C:119:HIS:HA	52:5:436:U:H5'	1.80	0.64
9:F:98:LEU:HA	9:F:101:ARG:HD2	1.80	0.64
32:i:108:VAL:HG11	32:i:125:VAL:HG21	1.80	0.64
50:3:1262:G:H2'	50:3:1263:G:C8	2.32	0.64
50:3:2104:A:H2'	50:3:2105:G:C8	2.32	0.64
34:k:66:GLY:O	50:3:667:A:O2'	2.16	0.63
38:o:31:VAL:HG12	38:o:90:LEU:HA	1.80	0.63
50:3:728:A:O2'	50:3:1381:A:N3	2.28	0.63
50:3:759:U:H3'	50:3:760:G:H8	1.62	0.63
50:3:1370:A:O2'	50:3:1634:A:N6	2.31	0.63
50:3:1687:G:OP1	50:3:2826:G:N2	2.30	0.63
50:3:2027:G:N2	50:3:2029:U:O4'	2.31	0.63
50:3:2733:A:N7	50:3:2735:G:C6	2.66	0.63
50:3:2836:U:H5''	50:3:2837:U:H2'	1.78	0.63
52:5:763:A:OP1	52:5:809:G:N2	2.31	0.63
52:5:1193:U:H2'	52:5:1194:A:H8	1.63	0.63
41:r:42:LYS:HB3	50:3:2017:G:H5'	1.80	0.63
50:3:83:G:N2	50:3:329:G:OP1	2.28	0.63
50:3:1180:U:O4	50:3:1181:A:N6	2.32	0.63
50:3:1262:G:H2'	50:3:1263:G:H8	1.64	0.63
50:3:2106:G:H22	50:3:2198:G:H1	1.45	0.63
52:5:223:G:H2'	52:5:224:A:H8	1.62	0.63
52:5:943:C:H2'	52:5:944:A:H8	1.62	0.63
52:5:1386:C:H2'	52:5:1387:U:C6	2.33	0.63
6:C:1:MET:HB2	52:5:544:A:N1	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:34:GLY:O	8:E:36:GLN:NE2	2.32	0.63
16:M:23:ARG:O	16:M:25:GLN:NE2	2.31	0.63
17:N:51:ARG:HE	52:5:577:G:HO2'	1.47	0.63
50:3:764:G:H1'	50:3:799:A:H5'	1.80	0.63
50:3:959:C:H2'	50:3:960:A:C4	2.33	0.63
50:3:2533:A:O2'	50:3:2750:A:O2'	2.13	0.63
6:C:73:ARG:HD3	52:5:397:C:H5''	1.79	0.63
11:H:120:LEU:HD13	11:H:124:ARG:HA	1.81	0.63
13:J:112:ASN:HB2	52:5:714:C:H4'	1.80	0.63
14:K:67:LYS:HD3	14:K:77:LEU:HG	1.80	0.63
29:f:37:ALA:O	45:v:62:ASN:ND2	2.32	0.63
50:3:219:G:N3	50:3:220:A:O2'	2.28	0.63
50:3:574:G:O6	50:3:587:U:O4	2.17	0.63
50:3:1869:G:H1	50:3:1887:U:H3	1.44	0.63
50:3:1965:C:H2'	50:3:1966:G:H8	1.61	0.63
52:5:106:C:N4	52:5:111:A:H61	1.97	0.63
52:5:248:U:O2	52:5:271:G:N2	2.31	0.63
8:E:70:LYS:HB3	8:E:74:ARG:HH12	1.63	0.63
25:b:24:LEU:HD21	25:b:180:ARG:HH11	1.64	0.63
33:j:75:THR:HG22	38:o:80:GLN:H	1.64	0.63
43:t:44:ARG:NH2	50:3:517:G:O5'	2.32	0.63
50:3:694:U:H2'	50:3:695:G:H8	1.62	0.63
50:3:1308:A:H2'	50:3:1309:G:H8	1.63	0.63
50:3:1514:U:O4	50:3:1525:G:O6	2.17	0.63
50:3:2684:G:H2'	50:3:2685:A:C8	2.34	0.63
52:5:74:U:H2'	52:5:75:A:C8	2.34	0.63
52:5:101:A:H61	52:5:310:C:H1'	1.63	0.63
52:5:397:C:O2'	52:5:619:A:N3	2.30	0.63
21:R:15:LEU:HD12	52:5:1010:A:H5'	1.79	0.63
33:j:91:LYS:HB2	33:j:113:LYS:HD3	1.81	0.63
50:3:1196:U:H2'	50:3:1197:G:C8	2.33	0.63
50:3:1426:C:H2'	50:3:1427:C:C6	2.33	0.63
50:3:2650:A:H2'	50:3:2651:G:H8	1.63	0.63
50:3:2706:U:H3'	50:3:2707:A:C8	2.33	0.63
50:3:2749:A:H62	50:3:2771:G:H21	1.47	0.63
52:5:576:A:H2'	52:5:577:G:H8	1.63	0.63
5:B:187:TYR:OH	52:5:1050:U:OP1	2.17	0.63
25:b:161:LYS:HG3	50:3:2627:U:H5''	1.81	0.63
50:3:352:C:H2'	50:3:353:G:C8	2.34	0.63
50:3:1867:G:O6	50:3:1889:U:O2	2.16	0.63
52:5:631:C:H2'	52:5:632:A:H8	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:661:G:H21	52:5:723:C:HO2'	1.42	0.63
14:K:26:TYR:HB2	14:K:72:ASN:HB2	1.80	0.63
33:j:36:GLY:HA2	33:j:106:LEU:HA	1.81	0.63
48:y:3:VAL:HG22	50:3:2063:G:H21	1.62	0.63
50:3:318:U:N3	50:3:391:U:O2	2.32	0.63
50:3:683:G:H2'	50:3:684:A:H8	1.64	0.63
50:3:1053:C:H2'	50:3:1054:U:C6	2.34	0.63
50:3:2645:U:H3'	50:3:2646:G:H8	1.64	0.63
50:3:2707:A:H2	50:3:2716:U:H3	1.46	0.63
52:5:376:G:O2'	52:5:378:A:N7	2.26	0.63
52:5:661:G:H1	52:5:738:A:H61	0.73	0.63
52:5:810:U:O2	52:5:1486:C:O2'	2.16	0.63
52:5:1065:G:H1	52:5:1074:U:H3	1.45	0.63
5:B:7:SER:H	5:B:204:TRP:HE1	1.47	0.63
7:D:146:ALA:HB3	52:5:20:C:H4'	1.80	0.63
9:F:109:LYS:HE3	52:5:1310:C:H2'	1.80	0.63
45:v:8:THR:HG21	45:v:54:THR:HG21	1.79	0.63
50:3:2530:U:O4	50:3:2551:G:O6	2.17	0.63
50:3:2712:C:H2'	50:3:2713:A:H8	1.63	0.63
52:5:136:U:H2'	52:5:137:A:H8	1.62	0.63
6:C:17:SER:HB2	6:C:21:ASN:HA	1.81	0.62
13:J:84:ARG:HG3	23:T:26:ARG:HD3	1.79	0.62
24:a:233:MET:HE2	50:3:817:A:H2	1.64	0.62
35:l:9:TYR:OH	50:3:949:C:OP1	2.16	0.62
50:3:511:U:H4'	50:3:545:C:H5''	1.80	0.62
50:3:1254:U:H2'	50:3:1255:G:C4	2.34	0.62
50:3:1446:G:N2	50:3:1613:A:OP2	2.28	0.62
50:3:2292:A:O2'	50:3:2296:A:N6	2.32	0.62
52:5:807:C:O2'	52:5:894:A:N6	2.31	0.62
52:5:885:U:H2'	52:5:886:A:H5''	1.79	0.62
5:B:30:THR:OG1	16:M:36:HIS:O	2.17	0.62
11:H:116:LYS:NZ	52:5:1342:C:OP2	2.31	0.62
51:4:47:C:H42	51:4:48:A:N6	1.97	0.62
5:B:6:ASN:ND2	52:5:1051:U:OP2	2.32	0.62
25:b:69:PHE:O	25:b:73:ASN:ND2	2.32	0.62
26:c:68:GLN:NE2	50:3:709:G:O2'	2.33	0.62
28:e:67:PHE:HA	28:e:70:THR:HG22	1.81	0.62
50:3:713:C:H2'	50:3:714:G:H8	1.64	0.62
50:3:2075:U:O2	50:3:2438:A:N7	2.32	0.62
50:3:2829:G:N2	50:3:2829:G:OP2	2.30	0.62
51:4:4:G:N2	51:4:104:C:N3	2.46	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:6:U:H2'	51:4:7:G:C8	2.34	0.62
34:k:37:LYS:NZ	50:3:601:U:OP1	2.25	0.62
44:u:48:GLY:O	50:3:2361:G:N2	2.28	0.62
50:3:727:C:O2	50:3:1382:A:O2'	2.16	0.62
50:3:2733:A:C8	50:3:2735:G:O6	2.52	0.62
52:5:1393:A:N6	52:5:1457:G:O2'	2.33	0.62
13:J:80:LYS:HA	13:J:107:THR:HA	1.82	0.62
15:L:113:ARG:NH1	52:5:942:G:OP2	2.31	0.62
24:a:265:VAL:HA	50:3:1850:C:H4'	1.80	0.62
29:f:42:LYS:HD2	29:f:46:ASP:HB3	1.81	0.62
41:r:58:ALA:HB1	41:r:64:MET:HB2	1.82	0.62
50:3:1265:G:H2'	50:3:1266:G:N3	2.14	0.62
50:3:1460:G:H2'	50:3:1461:A:H8	1.65	0.62
50:3:1487:U:O2'	50:3:2710:G:N2	2.32	0.62
50:3:1805:U:O2'	50:3:1809:A:O2'	2.17	0.62
50:3:1809:A:OP2	50:3:1822:A:N6	2.30	0.62
50:3:2533:A:H2'	50:3:2534:G:H8	1.64	0.62
52:5:111:A:OP1	52:5:603:U:O2'	2.18	0.62
52:5:654:U:H2'	52:5:655:G:H8	1.65	0.62
52:5:916:U:H2'	52:5:917:G:C8	2.34	0.62
33:j:61:VAL:HG23	33:j:87:ILE:HD13	1.81	0.62
42:s:56:ASN:ND2	50:3:1369:U:O2	2.32	0.62
50:3:715:G:OP2	50:3:811:G:N1	2.22	0.62
50:3:1862:A:H1'	50:3:2095:A:H1'	1.82	0.62
52:5:434:U:N3	52:5:493:A:N6	2.48	0.62
3:2:4:ARG:HA	50:3:2473:C:H5''	1.82	0.62
5:B:128:GLU:HA	5:B:194:THR:HB	1.81	0.62
25:b:6:ILE:HG22	25:b:207:ILE:HB	1.80	0.62
25:b:58:GLU:OE2	25:b:61:LYS:NZ	2.32	0.62
38:o:9:LEU:HA	38:o:12:LEU:HB3	1.82	0.62
40:q:87:GLN:NE2	40:q:88:PRO:O	2.33	0.62
50:3:1999:G:O2'	50:3:2004:G:O6	2.13	0.62
50:3:2336:A:H2'	50:3:2337:U:C6	2.35	0.62
50:3:2753:C:H2'	50:3:2754:U:H6	1.64	0.62
52:5:570:A:H1'	52:5:911:G:H21	1.65	0.62
52:5:1322:U:O2	52:5:1350:A:N6	2.33	0.62
11:H:101:LYS:HB2	11:H:107:THR:HG21	1.82	0.62
25:b:159:VAL:O	50:3:2626:A:O2'	2.17	0.62
27:d:93:GLY:H	27:d:96:MET:HE3	1.65	0.62
33:j:71:ARG:HB2	33:j:77:LEU:HB2	1.80	0.62
41:r:113:GLU:HA	41:r:116:GLU:HB2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:703:A:N6	50:3:705:A:O2'	2.32	0.62
50:3:2353:G:H1'	50:3:2389:A:H2'	1.82	0.62
50:3:2706:U:O4	50:3:2717:G:O6	2.17	0.62
52:5:206:G:N2	52:5:209:A:OP2	2.30	0.62
52:5:1129:C:H2'	52:5:1130:G:C8	2.35	0.62
18:O:35:PRO:HB2	52:5:447:G:H4'	1.80	0.62
20:Q:80:GLN:HB3	52:5:831:C:H5''	1.80	0.62
24:a:226:PRO:HB3	50:3:1796:A:H4'	1.81	0.62
37:n:76:ASP:OD1	37:n:77:ILE:N	2.33	0.62
43:t:105:LYS:NZ	50:3:333:A:OP1	2.29	0.62
50:3:939:U:H2'	50:3:940:A:H8	1.65	0.62
52:5:42:G:O2'	52:5:485:C:OP1	2.15	0.62
52:5:1278:G:O6	52:5:1305:G:O2'	2.18	0.62
10:G:63:LYS:HE2	52:5:648:C:H4'	1.81	0.62
18:O:5:ARG:HB3	18:O:8:TYR:HB3	1.81	0.62
50:3:67:C:O2	50:3:492:C:N4	2.33	0.62
50:3:195:A:H2'	50:3:196:G:H8	1.65	0.62
50:3:784:A:N1	50:3:788:G:O2'	2.30	0.62
50:3:2333:G:H1	50:3:2397:G:H1	1.47	0.62
50:3:2605:G:O2'	50:3:2606:A:O4'	2.16	0.62
51:4:106:A:H2'	51:4:107:G:H5''	1.82	0.62
52:5:536:U:H2'	52:5:537:A:C8	2.35	0.62
52:5:561:A:OP1	52:5:564:G:N2	2.33	0.62
52:5:855:G:O2'	52:5:868:G:O2'	2.17	0.62
52:5:988:G:H2'	52:5:990:C:H41	1.65	0.62
5:B:11:ARG:NH1	5:B:180:THR:O	2.33	0.61
14:K:26:TYR:HD1	14:K:35:VAL:HG11	1.64	0.61
26:c:192:MET:HE2	34:k:5:GLN:HG3	1.82	0.61
35:l:38:LYS:HB3	35:l:127:VAL:HG12	1.82	0.61
43:t:43:THR:HB	50:3:534:U:H4'	1.82	0.61
46:w:11:SER:HA	46:w:15:LEU:HD13	1.82	0.61
50:3:20:C:O2'	50:3:587:U:OP1	2.14	0.61
50:3:1837:C:H2'	50:3:1838:A:H8	1.65	0.61
50:3:2190:G:C6	50:3:2191:G:O6	2.53	0.61
50:3:2764:U:H1'	50:3:2765:A:H5''	1.82	0.61
6:C:13:ARG:HD2	52:5:541:C:H4'	1.82	0.61
7:D:91:LEU:HD22	7:D:189:ILE:HD12	1.82	0.61
11:H:126:ALA:HB3	52:5:1317:A:H4'	1.80	0.61
24:a:14:ILE:HG22	50:3:1729:G:H8	1.64	0.61
38:o:81:ILE:HA	38:o:88:ILE:HD12	1.82	0.61
43:t:12:VAL:HG13	43:t:73:LYS:HB3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:417:G:N1	50:3:432:G:O6	2.32	0.61
50:3:1795:C:H2'	50:3:1796:A:H8	1.64	0.61
50:3:2205:U:O2'	50:3:2207:A:OP2	2.17	0.61
52:5:399:C:H2'	52:5:400:G:C8	2.34	0.61
19:P:11:GLY:HA2	19:P:26:VAL:HA	1.81	0.61
20:Q:46:ILE:HG23	20:Q:48:GLN:H	1.63	0.61
45:v:58:LEU:HD23	45:v:63:ARG:HG2	1.81	0.61
50:3:780:G:N3	50:3:783:G:N2	2.49	0.61
50:3:1027:U:H2'	50:3:1028:C:C6	2.35	0.61
50:3:1871:U:N3	50:3:1885:G:N1	2.47	0.61
50:3:1932:C:O2	50:3:1936:G:N2	2.33	0.61
50:3:2059:G:O6	50:3:2625:U:O2	2.19	0.61
50:3:2534:G:N1	50:3:2546:U:N3	2.49	0.61
9:F:115:MET:HA	9:F:118:LYS:HG2	1.82	0.61
29:f:28:HIS:HA	29:f:34:LYS:HE3	1.82	0.61
50:3:224:G:H21	50:3:238:U:H1'	1.64	0.61
50:3:325:G:H1	50:3:383:U:H3	1.47	0.61
50:3:2359:G:O2'	50:3:2374:A:N6	2.33	0.61
52:5:369:A:H4'	52:5:477:U:H2'	1.82	0.61
52:5:631:C:H2'	52:5:632:A:C8	2.36	0.61
18:O:12:ARG:NH1	52:5:606:A:O2'	2.33	0.61
28:e:102:GLU:OE1	28:e:107:ASN:ND2	2.33	0.61
32:i:49:PRO:HB2	50:3:591:G:H1'	1.83	0.61
50:3:985:A:H2'	50:3:986:G:H8	1.64	0.61
50:3:2144:C:N3	50:3:2162:U:O4	2.34	0.61
50:3:2486:A:O2'	50:3:2535:C:O2	2.17	0.61
50:3:2677:A:H2'	50:3:2678:A:C8	2.36	0.61
52:5:294:A:H2'	52:5:295:G:C8	2.36	0.61
3:2:2:LYS:HE3	50:3:2486:A:H5'	1.83	0.61
4:A:91:TYR:OH	4:A:255:GLN:O	2.18	0.61
40:q:61:LYS:HG2	40:q:91:LYS:HB3	1.81	0.61
50:3:134:U:H2'	50:3:135:A:C8	2.35	0.61
50:3:137:U:O2	50:3:146:G:N2	2.25	0.61
52:5:833:G:O6	52:5:844:U:O4	2.17	0.61
11:H:129:PHE:HB3	52:5:1316:C:H4'	1.82	0.61
25:b:3:ILE:HG23	25:b:208:ARG:HG3	1.83	0.61
30:g:57:ASN:HB3	50:3:1081:A:H1'	1.82	0.61
33:j:82:ASN:ND2	50:3:1699:A:O2'	2.32	0.61
42:s:15:LYS:HG2	50:3:1367:G:H4'	1.82	0.61
50:3:611:A:H2'	50:3:2025:C:H5'	1.82	0.61
50:3:948:A:N3	50:3:2285:G:N2	2.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1306:G:H2'	50:3:1307:G:H8	1.64	0.61
50:3:2032:G:H2'	50:3:2033:G:H8	1.66	0.61
50:3:2536:U:O2	50:3:2544:G:C6	2.53	0.61
50:3:2851:U:O4	50:3:2873:G:O6	2.18	0.61
53:8:6:U:H1'	53:8:70:G:H22	1.65	0.61
6:C:117:VAL:HG22	6:C:122:VAL:HG21	1.83	0.61
12:I:47:PRO:HG3	12:I:78:ARG:HH11	1.65	0.61
17:N:9:ILE:HG13	52:5:655:G:H5'	1.82	0.61
29:f:131:PHE:HB2	29:f:135:THR:HA	1.81	0.61
50:3:2407:G:H2'	50:3:2408:G:C8	2.35	0.61
52:5:814:C:H42	52:5:1504:G:H1	1.48	0.61
14:K:81:PRO:O	14:K:112:ARG:NH1	2.33	0.61
16:M:2:ALA:N	52:5:1041:G:OP1	2.33	0.61
26:c:55:LYS:NZ	50:3:709:G:OP2	2.34	0.61
34:k:5:GLN:OE1	50:3:1233:A:O2'	2.09	0.61
35:l:13:HIS:H	50:3:947:A:H62	1.48	0.61
42:s:5:ASN:ND2	50:3:75:A:N7	2.49	0.61
50:3:1091:G:N1	50:3:1137:C:OP2	2.34	0.61
50:3:1305:G:H2'	50:3:1306:G:C8	2.36	0.61
50:3:1522:U:O2'	50:3:1611:C:O2'	2.18	0.61
50:3:2034:G:H2'	50:3:2035:U:C6	2.36	0.61
50:3:2549:A:O2'	50:3:2551:G:N7	2.32	0.61
5:B:57:GLU:HB2	5:B:68:PHE:HB2	1.82	0.61
9:F:2:ARG:NH1	52:5:928:G:O6	2.33	0.61
13:J:120:PRO:HD2	23:T:34:TYR:HB3	1.82	0.61
32:i:117:LEU:O	32:i:121:TRP:N	2.32	0.61
39:p:4:LYS:NZ	50:3:33:C:OP2	2.34	0.61
50:3:2534:G:C2	50:3:2546:U:O2	2.54	0.61
50:3:2663:G:N1	50:3:2673:A:OP2	2.34	0.61
52:5:1074:U:O2'	52:5:1093:A:OP2	2.18	0.61
52:5:1216:G:H2'	52:5:1217:G:H8	1.65	0.61
52:5:1417:U:H2'	52:5:1418:G:C8	2.36	0.61
7:D:100:LYS:HB3	7:D:126:LEU:HD22	1.83	0.60
33:j:14:THR:HG23	33:j:94:ARG:HD2	1.82	0.60
50:3:988:G:O6	50:3:1002:A:N6	2.34	0.60
50:3:1451:A:H2'	50:3:1452:G:H8	1.66	0.60
50:3:2035:U:O4	50:3:2040:A:N7	2.34	0.60
52:5:228:G:H2'	52:5:229:G:H8	1.65	0.60
3:2:4:ARG:HH22	3:2:8:LYS:HZ1	1.49	0.60
35:l:77:LYS:HD2	35:l:81:VAL:HG11	1.83	0.60
36:m:61:ARG:NH1	50:3:2855:A:O2'	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2224:A:H2'	50:3:2225:G:H8	1.66	0.60
50:3:2295:A:N6	50:3:2354:A:N7	2.49	0.60
50:3:2300:A:OP1	50:3:2386:A:N6	2.34	0.60
50:3:2532:G:H2'	50:3:2533:A:C8	2.37	0.60
52:5:265:U:H2'	52:5:266:A:C8	2.36	0.60
6:C:118:ASN:ND2	52:5:399:C:O2'	2.33	0.60
9:F:74:LEU:HB3	9:F:85:GLN:HB3	1.84	0.60
42:s:65:ILE:HG22	42:s:66:ARG:H	1.66	0.60
48:y:39:PHE:HD2	50:3:2819:C:H1'	1.66	0.60
50:3:528:U:H2'	50:3:529:G:C8	2.36	0.60
50:3:759:U:H3'	50:3:760:G:C8	2.36	0.60
50:3:915:A:OP2	50:3:936:G:N2	2.29	0.60
50:3:1717:C:O2	50:3:1752:A:O2'	2.19	0.60
50:3:2231:A:H3'	50:3:2232:G:C8	2.36	0.60
51:4:26:C:HO2'	51:4:57:G:H22	1.47	0.60
52:5:40:G:O2'	52:5:41:C:O4'	2.16	0.60
52:5:331:C:H2'	52:5:332:A:H8	1.67	0.60
52:5:370:A:OP1	52:5:451:G:N2	2.34	0.60
52:5:920:G:H1'	52:5:1477:A:C4	2.36	0.60
52:5:1285:G:N1	52:5:1301:U:O4	2.35	0.60
23:T:9:ASP:H	23:T:14:ALA:HB2	1.67	0.60
32:i:48:THR:N	32:i:53:CYS:SG	2.74	0.60
50:3:275:A:N3	50:3:406:C:O2'	2.33	0.60
50:3:313:G:H2'	50:3:314:G:H1'	1.82	0.60
50:3:991:G:O2'	50:3:2284:G:OP2	2.19	0.60
50:3:2848:A:H3'	50:3:2849:G:H8	1.66	0.60
52:5:1333:C:O2'	52:5:1335:G:N7	2.26	0.60
24:a:158:GLY:O	24:a:162:ARG:NH1	2.34	0.60
38:o:13:VAL:HA	38:o:16:LYS:HE3	1.82	0.60
48:y:15:LYS:O	50:3:2052:C:O2'	2.20	0.60
50:3:135:A:N6	50:3:149:A:N1	2.49	0.60
50:3:686:C:H2'	50:3:687:G:C8	2.37	0.60
50:3:1955:G:O2'	52:5:1394:G:O2'	2.19	0.60
50:3:2851:U:H3	50:3:2873:G:H1	1.47	0.60
16:M:18:VAL:HG12	52:5:974:C:N4	2.16	0.60
39:p:13:ARG:HA	39:p:31:TYR:HE1	1.67	0.60
40:q:68:VAL:HB	40:q:85:HIS:O	2.01	0.60
41:r:61:ASN:ND2	50:3:530:G:N3	2.49	0.60
50:3:518:A:O2'	50:3:532:A:N1	2.35	0.60
50:3:534:U:O4	50:3:538:A:N7	2.34	0.60
50:3:2050:G:H2'	50:3:2051:G:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2311:G:H2'	50:3:2312:G:C8	2.37	0.60
52:5:253:G:O6	52:5:266:A:N6	2.34	0.60
52:5:1212:C:H5''	52:5:1213:A:C8	2.37	0.60
4:A:72:VAL:HG12	4:A:175:LEU:HD21	1.84	0.60
15:L:24:GLY:HA3	15:L:66:GLU:HB2	1.82	0.60
15:L:103:ARG:HG2	52:5:1201:C:H41	1.67	0.60
16:M:6:LEU:HD12	16:M:23:ARG:NH1	2.16	0.60
26:c:152:LEU:HD13	26:c:157:VAL:HG11	1.83	0.60
27:d:48:LYS:HE2	27:d:146:ILE:HA	1.83	0.60
37:n:99:HIS:HD2	51:4:46:C:H4'	1.67	0.60
37:n:106:ALA:O	37:n:110:ARG:HG3	2.01	0.60
42:s:63:THR:HA	50:3:1340:U:H2'	1.84	0.60
43:t:73:LYS:NZ	50:3:363:G:OP2	2.26	0.60
50:3:1014:G:OP1	50:3:1045:A:N6	2.34	0.60
50:3:2115:A:N1	50:3:2190:G:C6	2.69	0.60
50:3:2769:G:H2'	50:3:2770:U:C6	2.36	0.60
52:5:106:C:H42	52:5:111:A:H61	1.48	0.60
52:5:788:G:H1	52:5:1472:G:H5'	1.66	0.60
52:5:1322:U:OP2	52:5:1348:G:N2	2.26	0.60
24:a:7:ILE:HG22	24:a:9:ARG:HG2	1.83	0.60
25:b:157:GLN:NE2	50:3:2041:C:OP2	2.22	0.60
29:f:7:GLN:HG3	29:f:61:ASN:HD22	1.67	0.60
35:l:98:LYS:NZ	50:3:946:A:OP1	2.33	0.60
36:m:71:ASN:ND2	50:3:1320:C:O2	2.34	0.60
50:3:900:G:H22	50:3:904:C:H41	1.50	0.60
50:3:1698:A:H2'	50:3:2734:C:H1'	1.84	0.60
50:3:1758:C:H2'	50:3:1759:C:C6	2.37	0.60
50:3:2239:U:H2'	50:3:2240:U:C6	2.37	0.60
50:3:2725:G:H2'	50:3:2726:G:H8	1.67	0.60
51:4:36:C:H2'	51:4:37:A:C8	2.36	0.60
52:5:80:U:H2'	52:5:81:A:C8	2.37	0.60
52:5:1223:A:H2'	52:5:1224:C:C6	2.36	0.60
5:B:61:THR:OG1	12:I:100:VAL:O	2.19	0.60
26:c:200:GLU:HB3	26:c:203:VAL:HG13	1.84	0.60
35:l:86:GLY:HA2	50:3:2284:G:H5'	1.84	0.60
50:3:81:C:H2'	50:3:82:G:C8	2.36	0.60
50:3:1237:G:H2'	50:3:1238:A:H8	1.67	0.60
50:3:1591:C:H3'	50:3:1592:A:H2'	1.83	0.60
50:3:2213:A:H2'	50:3:2214:A:C8	2.37	0.60
50:3:2353:G:O6	50:3:2379:G:N2	2.24	0.60
52:5:963:U:H5'	52:5:1052:G:N3	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1214:A:N1	52:5:1270:C:H2'	2.16	0.60
16:M:45:ARG:NH1	52:5:1051:U:OP1	2.35	0.60
25:b:85:ARG:NH1	50:3:2645:U:OP1	2.35	0.60
28:e:112:TYR:HA	50:3:2674:C:H42	1.66	0.60
30:g:41:ARG:HA	30:g:44:LEU:HB2	1.83	0.60
50:3:61:U:O4	50:3:70:G:O6	2.20	0.60
50:3:194:A:N3	50:3:714:G:O2'	2.30	0.60
50:3:442:G:O6	50:3:457:U:O2	2.20	0.60
50:3:2547:C:H2'	50:3:2548:G:H8	1.67	0.60
52:5:575:A:H2'	52:5:576:A:C8	2.37	0.60
52:5:662:G:O6	52:5:721:G:O6	2.19	0.60
52:5:971:A:OP2	52:5:1332:U:O2'	2.20	0.60
52:5:1123:G:H1'	52:5:1125:C:H42	1.67	0.60
9:F:34:LYS:HB2	9:F:37:LEU:HD22	1.84	0.59
9:F:48:LEU:HA	9:F:51:GLN:HB3	1.84	0.59
21:R:81:LYS:HZ2	21:R:83:HIS:HA	1.67	0.59
25:b:158:ARG:HD3	50:3:2031:C:H4'	1.84	0.59
26:c:173:SER:OG	50:3:356:A:OP2	2.16	0.59
27:d:33:LYS:HB3	27:d:92:ARG:CZ	2.31	0.59
32:i:99:GLN:NE2	50:3:2647:A:OP2	2.33	0.59
38:o:56:ARG:NH2	50:3:2691:C:OP1	2.34	0.59
38:o:99:ALA:N	50:3:2852:G:OP2	2.30	0.59
50:3:443:C:H2'	50:3:444:C:C6	2.37	0.59
50:3:450:C:O2'	50:3:1884:A:N6	2.34	0.59
50:3:697:U:H2'	50:3:698:A:H8	1.67	0.59
50:3:1039:G:O2'	50:3:1046:A:N6	2.35	0.59
50:3:1406:A:O2'	50:3:1408:G:OP2	2.19	0.59
50:3:1510:A:H2	50:3:1530:G:H1	1.50	0.59
52:5:748:U:H3'	52:5:749:G:C8	2.37	0.59
52:5:1212:C:H5''	52:5:1213:A:H8	1.67	0.59
52:5:1312:G:HO2'	53:8:42:C:HO2'	1.47	0.59
52:5:1331:A:H61	52:5:1340:G:H1	0.72	0.59
13:J:115:LYS:NZ	52:5:1499:G:OP1	2.35	0.59
18:O:2:ARG:N	52:5:371:U:O2'	2.34	0.59
28:e:95:VAL:O	28:e:98:ARG:NH2	2.34	0.59
45:v:50:VAL:HG11	45:v:55:LEU:HD13	1.84	0.59
50:3:25:G:H2'	50:3:26:G:H8	1.66	0.59
50:3:609:U:N3	50:3:610:G:O6	2.35	0.59
50:3:625:G:O6	50:3:701:A:N6	2.35	0.59
50:3:997:G:N2	50:3:2037:A:OP2	2.35	0.59
52:5:58:G:H22	52:5:351:C:H42	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:710:G:H21	52:5:774:A:H1'	1.66	0.59
52:5:1364:C:H2'	52:5:1365:U:C6	2.37	0.59
6:C:118:ASN:ND2	52:5:400:G:O5'	2.35	0.59
24:a:14:ILE:HD13	50:3:1984:A:H61	1.67	0.59
27:d:31:LEU:HD11	27:d:156:LEU:HB3	1.84	0.59
50:3:500:U:O2'	50:3:501:G:OP1	2.18	0.59
50:3:1385:U:O4	50:3:1402:G:O6	2.19	0.59
50:3:2040:A:O2'	50:3:2042:A:OP2	2.21	0.59
50:3:2077:A:H2'	50:3:2078:A:C8	2.37	0.59
50:3:2253:U:H5''	50:3:2254:G:H5''	1.83	0.59
50:3:2877:A:H3'	50:3:2878:G:H8	1.66	0.59
51:4:26:C:O2'	51:4:57:G:N2	2.33	0.59
52:5:538:G:H2'	52:5:539:G:C8	2.37	0.59
52:5:732:A:H2'	52:5:733:A:H8	1.67	0.59
5:B:23:THR:HG21	12:I:18:SER:HA	1.83	0.59
28:e:62:LYS:NZ	50:3:1069:G:O2'	2.36	0.59
35:l:6:ARG:HG3	50:3:907:A:H5'	1.82	0.59
50:3:1196:U:H2'	50:3:1197:G:H8	1.66	0.59
6:C:151:ILE:HG22	6:C:153:ILE:H	1.67	0.59
12:I:56:THR:OG1	52:5:1343:G:OP1	2.19	0.59
19:P:73:LYS:NZ	52:5:250:G:O3'	2.36	0.59
21:R:82:GLN:HB2	52:5:951:U:H4'	1.84	0.59
22:S:53:ARG:HE	52:5:196:G:H4'	1.68	0.59
28:e:11:LEU:HB3	28:e:51:ASN:HA	1.83	0.59
42:s:13:THR:H	42:s:16:VAL:HB	1.67	0.59
50:3:614:C:H2'	50:3:615:G:C8	2.37	0.59
50:3:1071:G:O6	50:3:1154:U:O2	2.21	0.59
50:3:2071:C:H2'	50:3:2072:C:H6	1.68	0.59
50:3:2148:U:P	50:3:2150:C:H42	2.24	0.59
52:5:512:U:H2'	52:5:513:G:H8	1.67	0.59
52:5:1388:A:N1	52:5:1462:G:O6	2.35	0.59
1:0:28:ARG:NH2	50:3:215:A:OP1	2.35	0.59
14:K:122:LYS:HA	14:K:135:PRO:HB3	1.83	0.59
17:N:44:LYS:NZ	52:5:806:A:OP1	2.33	0.59
26:c:185:LYS:O	50:3:648:G:N2	2.32	0.59
29:f:27:ILE:HG23	50:3:2206:A:C4	2.37	0.59
36:m:36:LYS:HG3	50:3:1685:G:H4'	1.82	0.59
49:z:42:ARG:HG3	50:3:679:A:C8	2.37	0.59
50:3:1427:C:H2'	50:3:1428:U:C6	2.38	0.59
50:3:1761:C:H2'	50:3:1762:A:C8	2.38	0.59
50:3:1775:G:N2	50:3:1991:U:O2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2451:C:H2'	50:3:2452:G:C8	2.37	0.59
50:3:2514:U:OP2	50:3:2584:G:N1	2.26	0.59
50:3:2632:C:OP1	50:3:2830:A:O2'	2.18	0.59
52:5:298:G:N2	52:5:553:C:O2'	2.31	0.59
52:5:411:A:H2'	52:5:412:G:O4'	2.02	0.59
52:5:753:C:H2'	52:5:754:U:C6	2.38	0.59
52:5:1089:C:H5'	52:5:1144:A:H1'	1.85	0.59
52:5:1133:A:N6	52:5:1153:G:H21	1.94	0.59
52:5:1211:A:O2'	52:5:1277:C:O2	2.21	0.59
4:A:164:GLY:HA2	4:A:167:LYS:HE3	1.84	0.59
5:B:61:THR:HG23	12:I:103:THR:HG22	1.83	0.59
9:F:24:ARG:NH2	52:5:1350:A:H5''	2.18	0.59
10:G:9:LYS:HG3	52:5:822:A:H5''	1.84	0.59
10:G:39:LYS:NZ	52:5:588:U:OP1	2.30	0.59
11:H:90:LEU:HD11	11:H:106:THR:HG21	1.85	0.59
50:3:586:G:H2'	50:3:587:U:O4'	2.02	0.59
50:3:899:A:H2'	50:3:900:G:C8	2.37	0.59
50:3:915:A:N6	50:3:936:G:O2'	2.35	0.59
50:3:1702:A:N7	50:3:1998:U:O4	2.36	0.59
50:3:2339:G:N2	50:3:2344:A:C6	2.65	0.59
50:3:2534:G:N1	50:3:2546:U:C2	2.71	0.59
52:5:74:U:H2'	52:5:75:A:H8	1.66	0.59
52:5:462:G:C2	52:5:463:U:H1'	2.37	0.59
52:5:938:U:H2'	52:5:939:G:H8	1.68	0.59
52:5:1010:A:H2'	52:5:1011:A:C8	2.38	0.59
52:5:1286:G:H2'	52:5:1287:G:H8	1.67	0.59
4:A:88:LYS:HB2	4:A:92:VAL:HB	1.84	0.59
8:E:124:ASN:O	52:5:838:A:N6	2.35	0.59
33:j:66:LYS:HB3	50:3:1699:A:H5'	1.84	0.59
34:k:81:ASN:ND2	50:3:663:A:OP2	2.35	0.59
50:3:564:A:H62	50:3:2049:A:H1'	1.67	0.59
50:3:1156:C:H5''	50:3:1180:U:O2'	2.02	0.59
50:3:1388:G:H3'	50:3:1389:G:H8	1.67	0.59
50:3:1778:G:H21	50:3:1793:A:H5''	1.68	0.59
50:3:2077:A:H2'	50:3:2078:A:H8	1.67	0.59
52:5:293:G:O6	52:5:297:A:N6	2.35	0.59
52:5:370:A:O2'	52:5:448:A:OP2	2.20	0.59
52:5:959:A:H4'	52:5:1173:A:H4'	1.83	0.59
52:5:1261:A:N3	52:5:1327:G:O2'	2.31	0.59
2:1:12:LYS:HB3	2:1:20:LYS:HE3	1.85	0.59
9:F:115:MET:HA	9:F:118:LYS:HE3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:23:THR:HG22	13:J:40:SER:HB3	1.84	0.59
26:c:116:TRP:CD2	26:c:191:LEU:HD21	2.37	0.59
27:d:39:GLY:O	27:d:150:ARG:NH1	2.36	0.59
44:u:55:ARG:HH21	50:3:2270:U:H5''	1.68	0.59
50:3:1400:U:H2'	50:3:1401:A:H8	1.66	0.59
50:3:1672:C:O3'	50:3:2717:G:N2	2.35	0.59
50:3:2189:U:H2'	50:3:2190:G:H8	1.68	0.59
50:3:2502:G:H2'	50:3:2503:G:C8	2.37	0.59
51:4:104:C:N4	51:4:105:A:H62	2.01	0.59
52:5:1225:A:H2'	52:5:1226:A:C8	2.36	0.59
16:M:6:LEU:HD11	52:5:977:U:H5''	1.83	0.59
25:b:117:ARG:O	50:3:1688:A:O2'	2.20	0.59
45:v:21:SER:HB2	50:3:2086:U:H4'	1.85	0.59
50:3:153:U:H4'	50:3:1387:A:H4'	1.84	0.59
50:3:154:U:H2'	50:3:155:A:C8	2.38	0.59
52:5:63:U:O2'	52:5:375:C:O2	2.21	0.59
52:5:372:G:N1	52:5:383:U:N3	2.51	0.59
52:5:660:A:N6	52:5:739:G:H1	1.98	0.59
52:5:754:U:O2	52:5:873:U:O2'	2.16	0.59
52:5:974:C:OP1	52:5:1198:C:N4	2.36	0.59
52:5:1406:U:O4	52:5:1444:G:O6	2.21	0.59
24:a:126:HIS:CG	29:f:87:ARG:HB3	2.37	0.58
25:b:190:LEU:HD13	38:o:9:LEU:HD13	1.86	0.58
36:m:74:ASP:OD1	36:m:77:GLN:NE2	2.36	0.58
42:s:77:LEU:N	50:3:60:G:OP1	2.26	0.58
50:3:43:A:H2'	50:3:44:A:H8	1.67	0.58
50:3:108:G:H21	50:3:380:A:N6	1.99	0.58
50:3:214:C:H2'	50:3:215:A:C8	2.36	0.58
50:3:368:C:OP1	50:3:370:C:N4	2.35	0.58
50:3:713:C:H2'	50:3:714:G:C8	2.37	0.58
50:3:1048:A:O2'	50:3:1049:U:OP1	2.21	0.58
52:5:149:G:H2'	52:5:150:A:C8	2.38	0.58
52:5:748:U:H3'	52:5:749:G:H8	1.68	0.58
52:5:1217:G:H2'	52:5:1218:C:C6	2.38	0.58
52:5:1322:U:H2'	52:5:1323:A:C8	2.38	0.58
52:5:1376:G:H2'	52:5:1377:C:O4'	2.03	0.58
53:8:29:C:H2'	53:8:30:G:H8	1.66	0.58
1:0:12:ARG:HG2	1:0:44:VAL:HG11	1.85	0.58
11:H:124:ARG:NH1	52:5:1319:U:OP1	2.35	0.58
26:c:156:ASN:HB2	26:c:194:ALA:HA	1.85	0.58
50:3:93:A:N3	50:3:95:G:N1	2.49	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:410:G:H4'	50:3:411:U:O5'	2.01	0.58
50:3:890:U:H2'	50:3:891:G:C8	2.38	0.58
50:3:2310:C:N3	50:3:2322:G:N1	2.38	0.58
52:5:927:C:O2	52:5:1360:G:N2	2.33	0.58
52:5:983:G:H2'	52:5:984:A:C8	2.37	0.58
52:5:1321:G:N1	52:5:1349:A:OP2	2.36	0.58
4:A:38:ASN:HB2	4:A:41:MET:HG3	1.85	0.58
5:B:159:ARG:NH1	52:5:1046:A:N3	2.48	0.58
8:E:99:SER:O	8:E:103:LYS:NZ	2.34	0.58
20:Q:80:GLN:HA	20:Q:83:GLN:HB3	1.84	0.58
33:j:31:ARG:NH1	50:3:2003:C:OP2	2.36	0.58
39:p:54:ARG:HH12	50:3:1012:G:HO2'	1.48	0.58
42:s:50:ILE:HG21	42:s:89:ILE:HG12	1.85	0.58
50:3:606:G:N1	50:3:2038:A:OP1	2.36	0.58
50:3:899:A:O2'	51:4:90:G:N3	2.36	0.58
50:3:2177:G:H3'	50:3:2178:A:H8	1.67	0.58
52:5:599:G:H1	52:5:634:U:H3	1.49	0.58
52:5:754:U:H1'	52:5:873:U:H1'	1.83	0.58
52:5:1386:C:N3	52:5:1465:U:O4	2.35	0.58
29:f:7:GLN:HG2	29:f:58:TYR:HD1	1.67	0.58
34:k:113:LYS:NZ	50:3:672:G:N7	2.49	0.58
43:t:78:ASP:OD1	43:t:79:GLN:N	2.37	0.58
50:3:448:A:N3	50:3:1887:U:O2'	2.36	0.58
50:3:1536:C:H2'	50:3:1537:A:C8	2.39	0.58
50:3:2122:G:N2	50:3:2179:A:H61	2.01	0.58
50:3:2497:U:H2'	50:3:2498:G:C8	2.38	0.58
50:3:2623:U:H2'	50:3:2624:C:C6	2.38	0.58
52:5:664:A:OP1	52:5:729:C:O2'	2.12	0.58
52:5:933:A:H2'	52:5:934:G:C8	2.38	0.58
8:E:9:VAL:HG22	8:E:56:HIS:H	1.67	0.58
10:G:100:PRO:HD2	10:G:103:LYS:HB2	1.85	0.58
22:S:10:ARG:HH22	22:S:17:ARG:HH11	1.52	0.58
39:p:91:ARG:HD3	50:3:1033:A:H4'	1.86	0.58
50:3:194:A:H3'	50:3:208:A:H61	1.68	0.58
50:3:512:G:H2'	50:3:513:A:H2'	1.85	0.58
50:3:1822:A:H4'	50:3:1823:U:OP1	2.03	0.58
50:3:2459:A:N6	50:3:2512:U:O4	2.37	0.58
50:3:2753:C:H2'	50:3:2754:U:C6	2.38	0.58
52:5:706:U:H2'	52:5:707:G:C8	2.32	0.58
52:5:765:A:H5'	52:5:1499:G:H1'	1.85	0.58
6:C:13:ARG:HH22	6:C:34:ILE:HD12	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:145:LYS:O	6:C:147:LYS:N	2.36	0.58
11:H:90:LEU:HD13	11:H:97:LYS:HG2	1.85	0.58
29:f:57:HIS:CE1	29:f:61:ASN:HD21	2.22	0.58
50:3:186:A:N6	50:3:219:G:O6	2.36	0.58
50:3:363:G:N3	50:3:513:A:N6	2.52	0.58
50:3:431:U:O2'	50:3:433:A:N7	2.31	0.58
50:3:598:G:N1	50:3:610:G:O6	2.35	0.58
50:3:1097:G:O6	50:3:1123:A:O2'	2.18	0.58
50:3:1734:A:N6	52:5:1449:G:O2'	2.36	0.58
50:3:2585:A:H5''	50:3:2586:G:H5'	1.85	0.58
50:3:2835:G:N2	50:3:2887:A:O2'	2.29	0.58
50:3:2859:U:H2'	50:3:2860:A:C8	2.38	0.58
52:5:515:G:N2	52:5:531:A:OP2	2.35	0.58
3:2:16:ILE:HG21	50:3:1067:A:H4'	1.84	0.58
15:L:102:THR:N	52:5:1200:G:OP1	2.33	0.58
22:S:11:LEU:O	22:S:15:ILE:HG12	2.02	0.58
23:T:35:HIS:NE2	52:5:1499:G:OP2	2.33	0.58
25:b:19:THR:OG1	25:b:219:PRO:O	2.21	0.58
27:d:32:GLU:HG3	27:d:92:ARG:HH12	1.69	0.58
40:q:66:ARG:NH1	50:3:1252:C:OP2	2.37	0.58
50:3:1040:U:H2'	50:3:1047:A:H2'	1.86	0.58
50:3:1214:U:H2'	50:3:1215:G:H8	1.69	0.58
50:3:1940:G:O6	50:3:1974:U:O4	2.21	0.58
50:3:2528:C:O2	50:3:2573:A:O2'	2.21	0.58
52:5:61:A:N6	52:5:95:C:O2	2.37	0.58
52:5:1502:G:H2'	52:5:1503:U:C6	2.39	0.58
6:C:114:ARG:NH2	52:5:400:G:OP2	2.36	0.58
11:H:12:ARG:HH11	11:H:111:ARG:HH21	1.50	0.58
15:L:76:ASN:ND2	52:5:1284:A:OP1	2.37	0.58
23:T:37:ARG:NE	52:5:1500:G:N7	2.50	0.58
24:a:64:ARG:NH1	24:a:91:ASN:OD1	2.36	0.58
50:3:898:A:O3'	51:4:76:A:O2'	2.22	0.58
50:3:1160:G:O6	50:3:1161:A:N6	2.32	0.58
50:3:1187:C:H2'	50:3:1188:C:C6	2.38	0.58
50:3:1201:A:H2'	50:3:1202:A:C8	2.39	0.58
50:3:1680:A:H4'	50:3:1681:G:H5''	1.86	0.58
50:3:1725:G:O6	50:3:1731:G:N2	2.37	0.58
50:3:2127:G:O6	50:3:2187:C:N4	2.37	0.58
50:3:2551:G:H2'	50:3:2552:G:H8	1.65	0.58
52:5:846:G:H2'	52:5:847:G:H8	1.68	0.58
52:5:1213:A:H2'	52:5:1214:A:C8	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:59:ARG:NH2	20:Q:54:ILE:O	2.37	0.58
9:F:114:THR:HA	52:5:1272:C:H41	1.69	0.58
39:p:57:ARG:O	39:p:61:ILE:HG12	2.04	0.58
50:3:2792:C:H2'	50:3:2793:U:C6	2.38	0.58
52:5:289:U:O2	52:5:302:A:N6	2.34	0.58
52:5:412:G:H2'	52:5:413:G:C8	2.39	0.58
39:p:35:LYS:HB3	50:3:1282:G:H22	1.69	0.58
42:s:9:LYS:HG2	46:w:34:ALA:HB2	1.85	0.58
50:3:1785:U:O4	50:3:1792:A:N7	2.37	0.58
50:3:2100:G:C8	50:3:2233:A:H2'	2.39	0.58
51:4:95:G:H2'	51:4:96:G:C8	2.38	0.58
52:5:242:A:N6	52:5:275:A:O4'	2.36	0.58
52:5:660:A:N1	52:5:739:G:N2	2.51	0.58
52:5:935:U:O2'	52:5:1323:A:N3	2.37	0.58
52:5:1259:G:N2	52:5:1329:G:H4'	2.19	0.58
6:C:128:THR:HG21	52:5:486:C:H4'	1.85	0.57
13:J:115:LYS:HB2	52:5:776:C:H1'	1.86	0.57
14:K:123:ARG:NH2	52:5:520:C:O3'	2.35	0.57
37:n:101:ARG:N	51:4:47:C:OP1	2.35	0.57
39:p:36:GLN:OE1	50:3:596:G:N2	2.37	0.57
50:3:1385:U:H3	50:3:1402:G:H1	1.51	0.57
50:3:1432:C:H2'	50:3:1433:U:C6	2.39	0.57
50:3:1955:G:HO2'	52:5:1394:G:HO2'	1.48	0.57
50:3:2599:C:H2'	50:3:2600:G:C8	2.39	0.57
52:5:125:A:H2	52:5:220:U:H3	1.51	0.57
25:b:10:LYS:N	25:b:203:GLY:O	2.33	0.57
25:b:57:VAL:HG21	25:b:79:LYS:HE2	1.86	0.57
26:c:33:PRO:HB2	26:c:111:ALA:HB2	1.84	0.57
50:3:217:A:H2'	50:3:218:G:C8	2.40	0.57
50:3:2032:G:H2'	50:3:2033:G:C8	2.39	0.57
52:5:1388:A:H2'	52:5:1389:U:H6	1.69	0.57
10:G:55:ALA:HB3	10:G:73:ASN:HB2	1.85	0.57
24:a:147:VAL:HB	24:a:168:ALA:HB3	1.85	0.57
32:i:119:ARG:HD3	50:3:563:A:H61	1.69	0.57
50:3:546:U:O2'	50:3:1245:G:N2	2.33	0.57
50:3:660:U:O2'	50:3:692:U:OP1	2.22	0.57
50:3:733:C:O2'	50:3:769:A:N6	2.37	0.57
50:3:1331:G:H2'	50:3:1332:A:C8	2.40	0.57
50:3:1344:U:H2'	50:3:1345:G:H8	1.68	0.57
52:5:57:U:H2'	52:5:58:G:C8	2.39	0.57
52:5:242:A:N6	52:5:277:G:N2	2.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1051:U:H2'	52:5:1052:G:H8	1.69	0.57
13:J:113:GLY:HA2	52:5:713:A:H1'	1.84	0.57
15:L:61:SER:HB3	15:L:65:ILE:HG13	1.86	0.57
41:r:121:GLN:NE2	50:3:22:U:O2	2.37	0.57
44:u:76:LEU:HD11	50:3:2374:A:H1'	1.85	0.57
46:w:42:HIS:ND1	50:3:97:A:O2'	2.28	0.57
50:3:15:A:O4'	50:3:561:A:N6	2.38	0.57
50:3:155:A:N6	50:3:178:A:N1	2.52	0.57
50:3:669:A:H3'	50:3:670:G:C8	2.39	0.57
50:3:1766:A:H2'	50:3:1767:A:C8	2.40	0.57
50:3:2338:G:C6	50:3:2339:G:O6	2.57	0.57
50:3:2668:A:O2'	50:3:2669:G:H8	1.88	0.57
6:C:143:ARG:HG3	6:C:175:GLU:HG3	1.85	0.57
10:G:40:LEU:HD22	52:5:640:C:H5''	1.86	0.57
43:t:13:ILE:HD12	50:3:336:C:H5'	1.86	0.57
50:3:575:C:H2'	50:3:576:A:C8	2.39	0.57
50:3:857:U:O4	50:3:858:A:N6	2.37	0.57
50:3:1450:G:N2	50:3:1523:C:O2'	2.38	0.57
50:3:1884:A:H3'	50:3:1885:G:C8	2.39	0.57
52:5:607:A:O2'	52:5:623:G:OP2	2.17	0.57
52:5:754:U:H2'	52:5:755:U:O4'	2.04	0.57
52:5:1232:C:N4	52:5:1334:A:O2'	2.37	0.57
12:I:14:ILE:HG21	12:I:93:LEU:HD11	1.84	0.57
36:m:9:LYS:NZ	50:3:1685:G:OP2	2.32	0.57
41:r:132:GLN:O	41:r:136:LYS:N	2.36	0.57
46:w:15:LEU:HD23	46:w:54:ILE:HG23	1.85	0.57
50:3:135:A:H2'	50:3:136:G:H8	1.69	0.57
50:3:227:A:H1'	50:3:456:G:H21	1.69	0.57
50:3:1541:A:O2'	50:3:1590:U:O2	2.21	0.57
50:3:2451:C:H2'	50:3:2452:G:H8	1.70	0.57
50:3:2534:G:C6	50:3:2546:U:N3	2.72	0.57
50:3:2552:G:H2'	50:3:2553:G:H8	1.69	0.57
51:4:94:A:H62	51:4:95:G:N2	2.03	0.57
9:F:129:ASN:HA	9:F:134:ILE:HG13	1.85	0.57
13:J:48:SER:HA	13:J:51:LYS:HE2	1.87	0.57
16:M:15:LYS:HD3	52:5:1011:A:H5''	1.87	0.57
21:R:37:ARG:NH1	52:5:1194:A:O3'	2.38	0.57
39:p:49:ARG:HA	39:p:52:LYS:HE2	1.84	0.57
41:r:16:LYS:NZ	50:3:2019:G:N7	2.52	0.57
50:3:1015:G:N2	50:3:1018:G:O2'	2.36	0.57
50:3:1372:U:OP2	50:3:1373:C:N4	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2879:U:H2'	50:3:2880:A:C8	2.40	0.57
51:4:20:U:H2'	51:4:21:G:C8	2.39	0.57
52:5:573:G:H4'	52:5:574:C:H5''	1.86	0.57
52:5:1216:G:H2'	52:5:1217:G:C8	2.38	0.57
10:G:20:THR:O	10:G:24:ASN:ND2	2.33	0.57
50:3:446:A:H5''	50:3:447:G:H5''	1.86	0.57
50:3:610:G:HO2'	50:3:1285:U:HO2'	1.53	0.57
50:3:1227:C:H2'	50:3:1228:G:H8	1.69	0.57
50:3:2425:C:H2'	50:3:2426:A:C8	2.40	0.57
50:3:2840:U:H2'	50:3:2841:A:H8	1.70	0.57
52:5:62:G:N2	52:5:374:G:O2'	2.37	0.57
52:5:887:C:H41	52:5:900:G:H21	1.51	0.57
52:5:1349:A:H2'	52:5:1350:A:C8	2.39	0.57
52:5:1410:A:H2'	52:5:1411:A:O4'	2.04	0.57
4:A:231:LEU:HG	4:A:247:ALA:HB2	1.87	0.57
6:C:101:VAL:HG22	6:C:142:VAL:HG11	1.87	0.57
13:J:8:ASN:N	13:J:70:MET:O	2.37	0.57
19:P:45:TYR:HB2	19:P:63:ILE:HG13	1.86	0.57
35:l:28:ALA:O	35:l:134:ARG:NH2	2.38	0.57
42:s:37:LYS:N	50:3:1633:C:OP1	2.35	0.57
49:z:11:CYS:O	49:z:15:ARG:N	2.35	0.57
50:3:69:U:H2'	50:3:70:G:H8	1.68	0.57
50:3:269:A:H62	50:3:464:A:H62	1.52	0.57
50:3:314:G:H1	50:3:392:A:H61	0.62	0.57
50:3:686:C:H2'	50:3:687:G:H8	1.70	0.57
50:3:1297:U:O2'	50:3:1298:A:OP1	2.22	0.57
50:3:1653:C:H2'	50:3:1654:G:C8	2.40	0.57
50:3:2444:G:N2	50:3:2606:A:N3	2.45	0.57
52:5:469:C:H2'	52:5:470:U:C6	2.40	0.57
52:5:482:G:N2	52:5:482:G:OP1	2.38	0.57
4:A:27:ARG:HD3	4:A:27:ARG:H	1.70	0.57
5:B:194:THR:HG23	5:B:196:TYR:H	1.69	0.57
20:Q:43:PHE:HA	20:Q:46:ILE:HG22	1.85	0.57
24:a:268:ARG:HD2	24:a:281:ASN:HD22	1.69	0.57
26:c:83:HIS:HE1	50:3:708:C:H4'	1.68	0.57
39:p:58:SER:OG	50:3:1045:A:N3	2.33	0.57
50:3:196:G:O6	50:3:207:C:O2'	2.19	0.57
50:3:678:U:N3	50:3:681:A:OP2	2.34	0.57
50:3:1254:U:H2'	50:3:1255:G:C5	2.39	0.57
50:3:1385:U:H2'	50:3:1386:G:O4'	2.05	0.57
50:3:1758:C:H2'	50:3:1759:C:H6	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2724:U:H2'	50:3:2725:G:H8	1.69	0.57
52:5:58:G:N2	52:5:365:U:OP2	2.37	0.57
52:5:1438:U:H2'	52:5:1439:G:C8	2.39	0.57
4:A:188:VAL:HG12	4:A:198:VAL:HG11	1.87	0.56
9:F:27:ASN:ND2	52:5:1349:A:OP1	2.38	0.56
26:c:33:PRO:HB3	26:c:103:LEU:HD21	1.86	0.56
41:r:82:MET:HE3	41:r:98:LYS:HB2	1.87	0.56
49:z:15:ARG:O	50:3:2407:G:O2'	2.22	0.56
50:3:276:A:H5''	50:3:277:C:H5	1.70	0.56
50:3:1077:G:N2	50:3:1148:U:O2	2.38	0.56
50:3:1866:G:C6	50:3:1891:A:N7	2.73	0.56
50:3:2058:G:N2	50:3:2059:G:O6	2.37	0.56
50:3:2063:G:OP2	50:3:2066:A:N6	2.37	0.56
50:3:2093:U:H2'	50:3:2094:A:C8	2.40	0.56
50:3:2577:G:H2'	50:3:2578:A:C8	2.40	0.56
52:5:158:A:N7	52:5:160:A:N6	2.46	0.56
52:5:330:C:H2'	52:5:331:C:C6	2.39	0.56
52:5:331:C:O2'	52:5:1408:A:N3	2.37	0.56
52:5:580:C:N4	52:5:757:G:N7	2.53	0.56
52:5:650:A:O2'	52:5:651:G:N7	2.38	0.56
52:5:678:A:N6	52:5:707:G:O6	2.38	0.56
52:5:1086:U:OP1	52:5:1099:G:N2	2.36	0.56
11:H:87:ARG:NH1	11:H:106:THR:OG1	2.39	0.56
12:I:27:THR:HG21	12:I:102:VAL:HG21	1.87	0.56
21:R:70:LYS:NZ	52:5:1292:A:O2'	2.38	0.56
24:a:236:ASN:ND2	50:3:819:U:O4	2.38	0.56
25:b:144:GLN:HE22	50:3:2057:C:H4'	1.70	0.56
35:l:124:LYS:HE2	50:3:2475:C:N3	2.20	0.56
50:3:103:G:H4'	50:3:104:A:H5'	1.87	0.56
50:3:204:U:H3	50:3:254:G:H1	1.53	0.56
50:3:714:G:H2'	50:3:715:G:H8	1.69	0.56
50:3:1445:U:H2'	50:3:1446:G:O4'	2.05	0.56
52:5:90:G:H21	52:5:375:C:H4'	1.71	0.56
52:5:568:G:H2'	52:5:569:U:C6	2.40	0.56
53:8:19:G:N2	53:8:57:C:O2'	2.38	0.56
2:1:25:TYR:HA	50:3:2400:A:H5''	1.87	0.56
4:A:166:VAL:HG23	4:A:169:LEU:HD21	1.86	0.56
6:C:13:ARG:NH1	6:C:35:PRO:O	2.38	0.56
8:E:2:GLN:O	8:E:89:ASN:ND2	2.38	0.56
8:E:49:ILE:HG23	8:E:50:LYS:H	1.70	0.56
11:H:108:ARG:HG3	11:H:110:LYS:H	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:96:ARG:HG3	14:K:111:VAL:HG22	1.86	0.56
21:R:78:ARG:HD2	52:5:1200:G:H4'	1.86	0.56
24:a:272:LYS:HB2	24:a:275:THR:HG23	1.87	0.56
25:b:70:PHE:HA	25:b:75:LEU:HD12	1.86	0.56
26:c:71:THR:O	50:3:1285:U:N3	2.38	0.56
33:j:63:VAL:HG12	33:j:106:LEU:HD11	1.87	0.56
34:k:31:THR:OG1	50:3:1220:A:OP1	2.23	0.56
39:p:57:ARG:HA	39:p:60:TRP:CE3	2.40	0.56
41:r:69:LEU:HA	41:r:109:ASP:HA	1.86	0.56
48:y:32:LYS:HB2	48:y:50:ASP:OD2	2.05	0.56
50:3:861:U:C4	50:3:863:U:H1'	2.40	0.56
50:3:1857:G:OP2	53:8:72:C:N4	2.38	0.56
50:3:2093:U:H2'	50:3:2094:A:H8	1.70	0.56
52:5:882:U:O2'	52:5:903:A:N6	2.38	0.56
52:5:923:G:H2'	52:5:924:A:H8	1.70	0.56
11:H:117:LYS:NZ	52:5:1161:G:O2'	2.31	0.56
30:g:31:SER:HA	50:3:1089:A:O2'	2.04	0.56
50:3:1350:A:N1	50:3:1361:U:O2'	2.35	0.56
52:5:1086:U:OP2	52:5:1099:G:N1	2.37	0.56
52:5:1138:U:H2'	52:5:1139:A:C8	2.41	0.56
5:B:153:LYS:HB3	5:B:204:TRP:HB2	1.86	0.56
12:I:46:LEU:HD23	12:I:79:LEU:HD23	1.85	0.56
26:c:6:LEU:HB3	26:c:14:GLU:HB2	1.87	0.56
28:e:91:ARG:HB3	28:e:166:LEU:HB2	1.86	0.56
35:l:50:ALA:HB1	35:l:121:ALA:HB1	1.87	0.56
40:q:14:VAL:HG13	40:q:18:ASP:HB2	1.86	0.56
41:r:96:ILE:HG12	41:r:98:LYS:HE2	1.87	0.56
42:s:76:LYS:HD2	50:3:60:G:P	2.46	0.56
50:3:59:C:H2'	50:3:60:G:C8	2.40	0.56
50:3:629:G:O6	50:3:696:U:O4	2.23	0.56
50:3:956:U:N3	50:3:957:G:N7	2.54	0.56
50:3:1094:G:OP2	50:3:1095:U:H5''	2.06	0.56
50:3:1543:U:H2'	50:3:1544:G:C8	2.41	0.56
50:3:1814:G:O2'	50:3:1816:A:N6	2.34	0.56
50:3:2146:A:H2'	50:3:2147:G:H8	1.70	0.56
50:3:2769:G:H2'	50:3:2770:U:H6	1.70	0.56
52:5:144:U:N3	52:5:145:G:O6	2.37	0.56
52:5:149:G:H2'	52:5:150:A:H8	1.70	0.56
52:5:351:C:C6	52:5:384:G:H1'	2.40	0.56
5:B:179:SER:OG	52:5:1101:A:N7	2.34	0.56
10:G:92:LYS:HD3	10:G:95:LEU:HD23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:118:THR:HB	10:G:133:ILE:HG22	1.86	0.56
12:I:27:THR:O	12:I:31:ILE:HG13	2.05	0.56
24:a:115:ILE:HG23	24:a:132:PRO:HB2	1.87	0.56
31:h:71:PRO:HB3	50:3:1095:U:OP1	2.04	0.56
32:i:7:LEU:HD12	39:p:60:TRP:HE1	1.71	0.56
38:o:28:GLY:H	38:o:52:VAL:HB	1.71	0.56
39:p:29:ALA:HB1	50:3:550:A:H5''	1.88	0.56
48:y:5:GLN:OE1	50:3:2061:A:H2'	2.04	0.56
50:3:138:U:H2'	50:3:139:G:C8	2.40	0.56
50:3:977:A:H3'	50:3:978:G:C8	2.35	0.56
50:3:1961:A:H61	50:3:1993:U:H5''	1.70	0.56
50:3:2339:G:H2'	50:3:2340:U:H6	1.71	0.56
52:5:18:U:H2'	52:5:19:C:H6	1.71	0.56
52:5:38:U:H2'	52:5:39:G:H8	1.70	0.56
4:A:28:THR:O	4:A:221:GLN:NE2	2.39	0.56
11:H:104:LYS:HD2	11:H:109:ASP:HB3	1.87	0.56
11:H:119:GLY:HA3	12:I:66:ALA:HA	1.88	0.56
15:L:26:GLY:O	15:L:30:SER:OG	2.14	0.56
19:P:69:LEU:O	52:5:261:G:O2'	2.22	0.56
50:3:78:C:N3	50:3:112:A:N6	2.54	0.56
50:3:144:C:H2'	50:3:145:A:C8	2.41	0.56
50:3:254:G:H2'	50:3:255:A:C8	2.40	0.56
50:3:714:G:H2'	50:3:715:G:C8	2.41	0.56
50:3:1038:G:H2'	50:3:1039:G:C8	2.40	0.56
50:3:1219:U:C2	50:3:1220:A:C8	2.94	0.56
52:5:941:A:H2'	52:5:942:G:C8	2.41	0.56
52:5:1003:G:O6	52:5:1018:U:C4	2.59	0.56
52:5:1117:U:H6	52:5:1255:A:H2'	1.70	0.56
52:5:1316:C:H2'	52:5:1317:A:H8	1.70	0.56
52:5:1388:A:H2'	52:5:1389:U:C6	2.40	0.56
4:A:21:ALA:HB2	4:A:65:LEU:HD23	1.88	0.56
14:K:52:THR:HG22	14:K:64:LYS:HG2	1.88	0.56
50:3:353:G:H2'	50:3:354:C:C6	2.41	0.56
50:3:1542:G:H2'	50:3:1543:U:C6	2.41	0.56
50:3:1663:G:N3	50:3:2706:U:H4'	2.21	0.56
50:3:1787:A:H3'	50:3:1788:A:H2'	1.87	0.56
50:3:2634:C:H2'	50:3:2635:G:C8	2.40	0.56
52:5:94:A:C8	52:5:322:G:H2'	2.41	0.56
52:5:99:U:H2'	52:5:100:G:C8	2.41	0.56
52:5:376:G:N2	52:5:379:A:OP2	2.38	0.56
52:5:409:G:H21	52:5:425:G:H1'	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:858:A:O2'	52:5:1069:U:O4	2.15	0.56
52:5:1138:U:H2'	52:5:1139:A:H8	1.70	0.56
9:F:28:VAL:HG21	9:F:100:LEU:HB3	1.87	0.56
10:G:45:LEU:O	10:G:49:VAL:HG23	2.06	0.56
13:J:81:GLY:H	13:J:107:THR:HG22	1.71	0.56
35:l:75:THR:HG22	35:l:90:PRO:HA	1.88	0.56
38:o:7:GLN:HB2	50:3:2879:U:H4'	1.87	0.56
50:3:1455:A:N6	50:3:1605:A:OP2	2.39	0.56
50:3:1716:A:H1'	50:3:1769:A:C5	2.41	0.56
50:3:2078:A:H2'	50:3:2079:G:H8	1.69	0.56
50:3:2739:C:H2'	50:3:2740:U:C6	2.40	0.56
50:3:2883:A:H62	50:3:2886:A:H61	1.52	0.56
52:5:456:U:H2'	52:5:457:A:C8	2.41	0.56
52:5:1370:C:O2	52:5:1373:A:O2'	2.17	0.56
5:B:18:TRP:HE1	16:M:55:GLY:H	1.53	0.56
6:C:14:LEU:HD22	6:C:55:GLN:HG3	1.88	0.56
11:H:35:ARG:HH21	11:H:40:TYR:HE1	1.54	0.56
16:M:21:TYR:OH	16:M:23:ARG:NH2	2.38	0.56
23:T:16:LYS:O	23:T:20:ARG:NH1	2.39	0.56
24:a:237:ASP:OD2	50:3:828:A:N6	2.37	0.56
26:c:68:GLN:OE1	50:3:710:A:O2'	2.22	0.56
35:l:26:TYR:OH	50:3:942:A:O2'	2.24	0.56
38:o:27:ALA:HB2	38:o:55:ARG:HB2	1.88	0.56
49:z:2:ALA:N	50:3:2429:G:OP2	2.39	0.56
50:3:122:G:H2'	50:3:123:G:H8	1.71	0.56
50:3:134:U:H2'	50:3:135:A:N7	2.20	0.56
50:3:781:U:H2'	50:3:2619:C:H4'	1.88	0.56
50:3:1871:U:O4	50:3:1885:G:O6	2.24	0.56
50:3:1927:C:HO2'	52:5:1470:U:HO2'	1.53	0.56
50:3:1947:U:H5''	50:3:1973:U:H3	1.71	0.56
50:3:2217:G:H2'	50:3:2218:U:C5	2.41	0.56
52:5:136:U:O4	52:5:157:A:N7	2.39	0.56
52:5:689:U:N3	52:5:692:A:C8	2.73	0.56
52:5:963:U:N3	52:5:1170:C:O2'	2.39	0.56
52:5:1469:G:O2'	52:5:1470:U:O4'	2.14	0.56
5:B:53:VAL:HG11	5:B:56:VAL:HG13	1.88	0.55
7:D:136:ILE:H	7:D:178:ILE:HD13	1.71	0.55
7:D:208:VAL:HB	7:D:212:ARG:HH11	1.71	0.55
13:J:40:SER:HB2	13:J:50:LYS:HB2	1.87	0.55
20:Q:101:PHE:O	52:5:715:A:N6	2.39	0.55
36:m:30:LYS:HD2	36:m:115:ILE:HD11	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:106:ARG:HB3	36:m:111:THR:H	1.71	0.55
50:3:188:G:H4'	50:3:221:A:H2	1.72	0.55
50:3:913:U:H3	50:3:938:A:H61	1.54	0.55
52:5:373:A:H2'	52:5:374:G:C8	2.41	0.55
52:5:874:C:H2'	52:5:875:G:H8	1.70	0.55
21:R:66:MET:HG2	21:R:69:HIS:HD2	1.71	0.55
50:3:450:C:O2'	50:3:1871:U:O2	2.21	0.55
50:3:608:A:H2'	50:3:609:U:O4'	2.05	0.55
50:3:1244:A:OP2	50:3:1265:G:N2	2.31	0.55
50:3:1306:G:H2'	50:3:1307:G:C8	2.41	0.55
50:3:2346:G:H2'	50:3:2347:G:C8	2.41	0.55
52:5:288:A:O2'	52:5:608:G:N2	2.39	0.55
52:5:670:G:H2'	52:5:671:G:C8	2.41	0.55
52:5:1196:G:H2'	52:5:1197:G:C8	2.42	0.55
52:5:1297:G:H2'	52:5:1298:U:O4'	2.06	0.55
52:5:1472:G:H21	52:5:1494:A:H1'	1.71	0.55
13:J:37:TRP:NE1	52:5:682:G:O2'	2.40	0.55
24:a:83:VAL:HB	24:a:118:GLY:H	1.70	0.55
26:c:189:ARG:HA	26:c:192:MET:HG2	1.88	0.55
41:r:61:ASN:HB3	50:3:531:G:H1'	1.88	0.55
50:3:144:C:H2'	50:3:145:A:H8	1.72	0.55
50:3:1461:A:H61	50:3:1594:G:H22	1.54	0.55
50:3:2050:G:H2'	50:3:2051:G:C8	2.41	0.55
50:3:2536:U:O2	50:3:2544:G:O6	2.23	0.55
52:5:689:U:O2	52:5:692:A:C5	2.60	0.55
52:5:1495:C:H2'	52:5:1496:G:C8	2.40	0.55
10:G:120:ASP:OD1	52:5:637:A:O2'	2.24	0.55
24:a:218:ARG:HH21	24:a:222:ARG:HH22	1.53	0.55
26:c:4:LEU:HD13	26:c:20:LEU:HD11	1.89	0.55
29:f:42:LYS:HE2	29:f:47:ARG:HA	1.87	0.55
37:n:109:ALA:HB1	37:n:114:LEU:HD12	1.88	0.55
38:o:15:GLN:HA	38:o:18:LEU:HB2	1.87	0.55
49:z:23:LYS:NZ	49:z:49:GLU:OE2	2.39	0.55
50:3:451:A:O2'	50:3:1873:A:OP1	2.19	0.55
50:3:794:G:O2'	50:3:1783:G:OP1	2.15	0.55
50:3:1033:A:H2'	50:3:1034:A:C8	2.42	0.55
50:3:1297:U:H2'	50:3:1298:A:H8	1.70	0.55
50:3:2162:U:H2'	50:3:2163:U:C6	2.41	0.55
50:3:2313:U:H2'	50:3:2314:U:C6	2.41	0.55
51:4:32:G:O2'	51:4:42:G:N7	2.30	0.55
52:5:69:G:H2'	52:5:70:A:O4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:134:G:H2'	52:5:135:A:C8	2.37	0.55
52:5:1072:G:H2'	52:5:1073:A:H8	1.71	0.55
6:C:184:ARG:NH2	6:C:188:PRO:O	2.37	0.55
8:E:94:TYR:HB2	20:Q:51:ILE:H	1.70	0.55
24:a:166:SER:HA	24:a:185:LEU:HD13	1.89	0.55
50:3:47:G:O2'	50:3:184:A:N1	2.38	0.55
50:3:69:U:H2'	50:3:70:G:C8	2.41	0.55
50:3:638:A:N6	50:3:661:G:C5	2.74	0.55
50:3:709:G:H21	50:3:2452:G:H4'	1.71	0.55
50:3:1088:A:H2'	50:3:1089:A:O4'	2.07	0.55
50:3:1245:G:O6	50:3:1264:U:C4	2.58	0.55
50:3:1504:G:N2	50:3:1591:C:O2'	2.39	0.55
50:3:2134:G:H2'	50:3:2135:C:C6	2.41	0.55
50:3:2760:C:H2'	50:3:2761:A:C4	2.42	0.55
50:3:2775:C:H2'	50:3:2776:U:C6	2.42	0.55
52:5:684:A:N6	52:5:700:G:N2	2.28	0.55
53:8:55:U:H3	53:8:59:A:H8	1.52	0.55
5:B:34:LEU:HD13	16:M:37:PHE:HB3	1.89	0.55
8:E:1:MET:HB3	8:E:89:ASN:HD21	1.71	0.55
37:n:23:ASN:OD1	50:3:2387:U:O2'	2.23	0.55
50:3:342:G:H21	50:3:363:G:H21	1.55	0.55
50:3:802:U:H2'	50:3:803:G:C8	2.42	0.55
50:3:1062:A:N1	50:3:2496:G:H5'	2.21	0.55
50:3:2355:C:H2'	50:3:2356:U:C6	2.42	0.55
50:3:2743:U:H2'	50:3:2744:A:C8	2.41	0.55
5:B:33:TRP:HZ2	5:B:63:ALA:H	1.53	0.55
12:I:47:PRO:HB2	52:5:1126:U:H1'	1.88	0.55
12:I:52:LYS:HB2	12:I:74:ASN:HA	1.88	0.55
14:K:6:GLN:NE2	52:5:875:G:N7	2.54	0.55
21:R:14:HIS:HB2	52:5:1010:A:H5''	1.88	0.55
24:a:48:ASN:ND2	50:3:1813:C:O2	2.40	0.55
27:d:129:THR:HG21	50:3:2311:G:N3	2.22	0.55
34:k:35:GLY:N	50:3:1221:G:OP1	2.38	0.55
37:n:37:ASN:HB3	51:4:26:C:OP2	2.07	0.55
50:3:131:C:H5''	50:3:1632:C:O2'	2.06	0.55
50:3:856:A:H3'	50:3:982:G:H8	1.72	0.55
50:3:1237:G:H2'	50:3:1238:A:C8	2.41	0.55
50:3:1375:G:H4'	50:3:1406:A:H5''	1.89	0.55
50:3:2189:U:H2'	50:3:2190:G:C8	2.42	0.55
50:3:2300:A:N6	50:3:2349:G:O6	2.39	0.55
50:3:2649:G:H2'	50:3:2650:A:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2747:U:H3	50:3:2772:A:H62	1.53	0.55
50:3:2848:A:H3'	50:3:2849:G:C8	2.42	0.55
52:5:734:A:H2'	52:5:735:C:C6	2.42	0.55
52:5:760:U:H2'	52:5:761:U:C6	2.42	0.55
52:5:833:G:N2	52:5:844:U:O2	2.34	0.55
14:K:17:VAL:HG22	52:5:557:A:C8	2.42	0.55
15:L:97:VAL:H	52:5:1282:U:H5''	1.70	0.55
50:3:614:C:N4	50:3:615:G:O6	2.40	0.55
50:3:898:A:O2'	51:4:76:A:N3	2.35	0.55
52:5:23:G:H2'	52:5:24:C:C6	2.40	0.55
52:5:288:A:N6	52:5:302:A:N1	2.55	0.55
50:3:8:A:H2'	50:3:9:G:C8	2.42	0.55
50:3:344:A:H1'	50:3:345:A:H2'	1.89	0.55
50:3:726:U:H2'	50:3:727:C:C6	2.42	0.55
50:3:763:G:O2'	50:3:765:A:O4'	2.25	0.55
50:3:849:C:H42	50:3:1224:G:H1	1.54	0.55
50:3:1612:U:H2'	50:3:1613:A:H8	1.71	0.55
50:3:1735:A:H2	52:5:1449:G:H1'	1.72	0.55
50:3:2339:G:H2'	50:3:2340:U:C6	2.41	0.55
51:4:28:C:N4	51:4:50:C:N3	2.53	0.55
52:5:209:A:H3'	52:5:210:G:H8	1.72	0.55
52:5:740:G:N2	52:5:832:G:O2'	2.40	0.55
52:5:1033:U:H2'	52:5:1034:G:C8	2.42	0.55
4:A:180:ASP:OD2	4:A:219:ASN:ND2	2.40	0.55
27:d:7:HIS:O	27:d:11:THR:HG22	2.06	0.55
37:n:8:ARG:NH1	51:4:27:A:OP1	2.33	0.55
46:w:50:LEU:O	46:w:53:THR:OG1	2.21	0.55
46:w:53:THR:O	46:w:56:THR:HB	2.05	0.55
50:3:71:C:H2'	50:3:72:G:C8	2.42	0.55
50:3:336:C:H2'	50:3:337:U:C6	2.42	0.55
50:3:1171:G:N2	50:3:2045:C:O2'	2.37	0.55
50:3:1525:G:H2'	50:3:1526:U:C6	2.42	0.55
50:3:1673:U:H1'	50:3:2707:A:H4'	1.88	0.55
50:3:1879:A:H3'	50:3:1880:G:H8	1.71	0.55
50:3:2379:G:H2'	50:3:2380:U:C6	2.42	0.55
52:5:846:G:H2'	52:5:847:G:C8	2.42	0.55
52:5:1224:C:H42	52:5:1262:A:H8	1.50	0.55
52:5:1228:C:H2'	52:5:1229:A:H8	1.71	0.55
52:5:1381:U:H2'	52:5:1382:C:H5'	1.89	0.55
2:1:52:PHE:HA	2:1:55:ILE:HB	1.87	0.54
4:A:37:TRP:O	52:5:826:G:O2'	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:211:VAL:HG12	4:A:213:PHE:H	1.72	0.54
6:C:109:THR:HG22	6:C:111:ARG:H	1.72	0.54
8:E:73:LYS:HA	8:E:85:GLU:HG3	1.89	0.54
24:a:171:LEU:HB3	52:5:677:C:H4'	1.89	0.54
25:b:165:MET:HE1	50:3:2626:A:H2	1.72	0.54
26:c:140:THR:HA	26:c:143:MET:HB3	1.88	0.54
37:n:39:ILE:HD11	37:n:102:ILE:HD13	1.90	0.54
50:3:333:A:H2	50:3:353:G:H21	1.54	0.54
50:3:847:C:H5''	50:3:1280:G:O2'	2.07	0.54
50:3:869:U:H2'	50:3:870:A:C8	2.43	0.54
50:3:1186:A:H2'	50:3:1187:C:C6	2.42	0.54
50:3:1389:G:H2'	50:3:1390:C:C6	2.42	0.54
52:5:58:G:N2	52:5:351:C:H42	2.05	0.54
52:5:575:A:H2'	52:5:576:A:H8	1.70	0.54
52:5:683:G:N2	52:5:701:A:C6	2.76	0.54
52:5:1390:G:H2'	52:5:1391:A:H8	1.72	0.54
6:C:25:PHE:HA	6:C:30:LYS:HB2	1.89	0.54
6:C:180:ARG:NH1	6:C:186:GLU:OE2	2.40	0.54
7:D:139:GLU:HB2	7:D:152:LYS:HE3	1.88	0.54
9:F:26:ILE:HG23	9:F:38:ALA:HB3	1.88	0.54
11:H:18:LYS:NZ	52:5:1119:C:O2'	2.37	0.54
12:I:59:ARG:O	52:5:1050:U:O2'	2.24	0.54
12:I:61:PRO:HG3	52:5:1049:G:H1	1.71	0.54
18:O:11:TYR:OH	52:5:372:G:OP1	2.20	0.54
20:Q:91:LYS:NZ	52:5:732:A:OP1	2.40	0.54
38:o:97:ARG:HH12	50:3:2853:U:H3'	1.72	0.54
50:3:45:U:H3'	50:3:46:A:C8	2.42	0.54
50:3:163:A:N3	50:3:2216:U:O2'	2.39	0.54
50:3:683:G:N3	50:3:2358:U:O2'	2.40	0.54
50:3:1025:G:H5''	50:3:1192:U:H4'	1.89	0.54
50:3:1722:U:H5''	50:3:1723:A:H5'	1.89	0.54
50:3:2140:G:N2	50:3:2165:A:C5	2.73	0.54
50:3:2695:U:O4	50:3:2730:G:O6	2.25	0.54
50:3:2840:U:H2'	50:3:2841:A:C8	2.42	0.54
52:5:104:A:O2'	52:5:236:C:N4	2.41	0.54
52:5:331:C:H2'	52:5:332:A:C8	2.43	0.54
52:5:810:U:H4'	52:5:898:A:H5'	1.88	0.54
52:5:935:U:O2	52:5:1323:A:O2'	2.23	0.54
52:5:1054:C:O3'	52:5:1360:G:O2'	2.24	0.54
52:5:1173:A:H2'	52:5:1174:U:C6	2.42	0.54
52:5:1196:G:H2'	52:5:1197:G:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:95:LEU:O	4:A:99:ILE:HG12	2.07	0.54
10:G:97:ILE:HG22	10:G:99:ARG:HD3	1.89	0.54
15:L:25:ILE:HA	15:L:29:ARG:HD3	1.89	0.54
24:a:179:TYR:OH	50:3:2231:A:OP1	2.23	0.54
25:b:96:ILE:HD12	25:b:101:LEU:HD11	1.89	0.54
33:j:22:ILE:HD12	50:3:1959:A:C6	2.42	0.54
33:j:71:ARG:HE	33:j:77:LEU:HB2	1.73	0.54
43:t:34:ALA:N	43:t:69:ILE:O	2.40	0.54
50:3:1777:G:H2'	50:3:1778:G:C8	2.42	0.54
50:3:2511:A:O2'	50:3:2513:G:OP2	2.22	0.54
19:P:49:ASN:HD21	19:P:55:ALA:H	1.55	0.54
24:a:188:GLU:HG2	24:a:281:ASN:HA	1.89	0.54
32:i:101:ASP:OD1	32:i:102:LYS:N	2.41	0.54
34:k:66:GLY:H	50:3:2424:C:H5'	1.72	0.54
41:r:6:LYS:HA	41:r:104:VAL:HG12	1.88	0.54
50:3:362:U:O2	50:3:369:C:N4	2.41	0.54
50:3:865:A:H62	50:3:2452:G:N2	2.06	0.54
50:3:1012:G:H2'	50:3:1013:G:C8	2.43	0.54
50:3:1384:C:H2'	50:3:1385:U:C6	2.42	0.54
50:3:1433:U:H2'	50:3:1434:U:C5	2.43	0.54
50:3:1916:C:N4	50:3:1917:G:O6	2.41	0.54
50:3:2006:C:H4'	50:3:2731:U:O2	2.07	0.54
50:3:2647:A:O2'	50:3:2648:A:O4'	2.22	0.54
51:4:96:G:H2'	51:4:97:A:C4	2.43	0.54
52:5:93:A:H5''	52:5:94:A:H2'	1.89	0.54
52:5:586:G:O6	52:5:587:A:N6	2.41	0.54
4:A:29:HIS:HA	4:A:221:GLN:HB3	1.90	0.54
10:G:7:PRO:HB2	52:5:650:A:H5''	1.89	0.54
22:S:28:LEU:HD22	22:S:54:LEU:HD12	1.90	0.54
24:a:279:ILE:HG22	24:a:280:ARG:HG3	1.88	0.54
40:q:58:VAL:N	40:q:93:LYS:O	2.39	0.54
44:u:23:SER:HA	50:3:2263:G:H21	1.72	0.54
50:3:314:G:C6	50:3:392:A:N6	2.70	0.54
50:3:736:G:H1'	50:3:1666:A:H2	1.72	0.54
50:3:2591:G:H2'	50:3:2592:U:C6	2.43	0.54
50:3:2664:U:H2'	50:3:2665:A:H8	1.73	0.54
52:5:320:G:N2	52:5:323:A:OP2	2.26	0.54
15:L:58:ASN:O	15:L:61:SER:HB2	2.08	0.54
19:P:74:ARG:HD3	52:5:230:G:H4'	1.90	0.54
21:R:81:LYS:HB2	52:5:1201:C:H4'	1.89	0.54
37:n:11:ARG:NH1	51:4:45:C:H5''	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:n:38:HIS:CE1	51:4:25:A:H5'	2.43	0.54
42:s:26:LYS:HG2	42:s:84:THR:HG22	1.89	0.54
50:3:564:A:N6	50:3:2049:A:H1'	2.21	0.54
50:3:596:G:O6	50:3:611:A:C6	2.61	0.54
50:3:683:G:H2'	50:3:684:A:C8	2.42	0.54
50:3:1457:A:H2'	50:3:1458:A:H8	1.73	0.54
52:5:18:U:H2'	52:5:19:C:C6	2.43	0.54
52:5:91:C:H2'	52:5:92:G:C8	2.43	0.54
52:5:546:G:O2'	52:5:547:C:O4'	2.19	0.54
52:5:547:C:H2'	52:5:548:G:C8	2.42	0.54
52:5:957:C:H2'	52:5:958:G:C8	2.42	0.54
52:5:1505:G:H2'	52:5:1506:A:C8	2.43	0.54
12:I:57:ILE:HG21	16:M:45:ARG:HB2	1.90	0.54
15:L:80:LEU:HD23	15:L:87:ARG:HB2	1.90	0.54
19:P:66:THR:HG21	19:P:76:ARG:HG2	1.89	0.54
25:b:198:ALA:HA	50:3:2688:C:H5'	1.88	0.54
29:f:47:ARG:HH22	29:f:51:LEU:HB2	1.72	0.54
50:3:216:C:H2'	50:3:217:A:C4	2.43	0.54
50:3:225:A:C4	50:3:237:A:H1'	2.43	0.54
50:3:596:G:O6	50:3:611:A:N1	2.41	0.54
50:3:711:A:O2'	50:3:2450:C:O2	2.25	0.54
50:3:1012:G:H2'	50:3:1013:G:H8	1.73	0.54
50:3:1313:G:N2	50:3:1356:G:OP1	2.40	0.54
50:3:2143:G:N1	50:3:2163:U:C2	2.76	0.54
52:5:762:G:C6	52:5:809:G:H1'	2.43	0.54
52:5:1304:U:H2'	52:5:1305:G:C4	2.43	0.54
3:2:1:MET:HG2	3:2:2:LYS:HG3	1.89	0.54
27:d:26:MET:SD	51:4:55:A:N6	2.81	0.54
39:p:64:LEU:O	39:p:68:LEU:HG	2.08	0.54
50:3:603:G:N1	50:3:2507:C:OP2	2.41	0.54
50:3:1075:G:N1	50:3:1151:U:O4	2.40	0.54
50:3:1853:G:H2'	50:3:1854:A:C4	2.43	0.54
50:3:2703:U:H2'	50:3:2704:U:C5	2.43	0.54
51:4:103:C:H2'	51:4:104:C:C2	2.42	0.54
52:5:83:U:N3	52:5:84:U:O4	2.41	0.54
52:5:577:G:OP1	52:5:818:A:O2'	2.25	0.54
52:5:585:G:H22	52:5:751:C:H5''	1.72	0.54
52:5:1293:A:H4'	52:5:1294:U:H5	1.73	0.54
22:S:4:ILE:HA	52:5:61:A:H3'	1.90	0.54
28:e:129:GLU:N	28:e:129:GLU:OE1	2.41	0.54
31:h:13:ASN:HB2	50:3:1096:U:H2'	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1444:C:H1'	50:3:1445:U:C5	2.43	0.54
50:3:1790:U:H1'	50:3:2615:G:H21	1.73	0.54
50:3:2072:C:H2'	50:3:2073:C:C6	2.43	0.54
50:3:2213:A:H2'	50:3:2214:A:H8	1.73	0.54
50:3:2300:A:H4'	50:3:2385:A:N6	2.22	0.54
52:5:73:G:H2'	52:5:74:U:C6	2.43	0.54
52:5:329:C:H2'	52:5:330:C:C6	2.43	0.54
52:5:1197:G:OP1	52:5:1295:U:H2'	2.07	0.54
4:A:215:ILE:HG21	4:A:228:LEU:HD21	1.91	0.54
6:C:69:LYS:N	52:5:544:A:OP1	2.41	0.54
14:K:101:LYS:HG3	52:5:523:U:H5''	1.90	0.54
24:a:37:LEU:HB3	24:a:68:ILE:HD12	1.90	0.54
24:a:162:ARG:NH2	50:3:1824:G:OP2	2.40	0.54
26:c:119:LYS:HE2	26:c:192:MET:HA	1.89	0.54
29:f:10:SER:HB2	29:f:14:LYS:HD2	1.89	0.54
50:3:324:C:H2'	50:3:325:G:C8	2.43	0.54
50:3:818:A:H8	50:3:1785:U:O2'	1.91	0.54
50:3:2134:G:H2'	50:3:2135:C:H6	1.73	0.54
50:3:2447:A:N1	50:3:2593:U:H4'	2.23	0.54
52:5:508:A:O2'	52:5:540:U:O2	2.26	0.54
53:8:29:C:H2'	53:8:30:G:C8	2.42	0.54
17:N:21:SER:O	17:N:25:GLN:HG3	2.08	0.53
28:e:160:TYR:OH	50:3:2537:G:OP2	2.25	0.53
32:i:115:ASN:ND2	50:3:592:G:OP2	2.40	0.53
34:k:39:GLN:HB3	50:3:840:G:H4'	1.90	0.53
41:r:13:SER:OG	50:3:2019:G:OP2	2.21	0.53
50:3:335:G:O2'	50:3:336:C:O5'	2.26	0.53
50:3:956:U:C2	50:3:957:G:C8	2.97	0.53
50:3:963:U:H2'	50:3:964:A:C8	2.43	0.53
50:3:1902:C:H2'	50:3:1903:A:H8	1.73	0.53
51:4:20:U:H2'	51:4:21:G:H8	1.71	0.53
52:5:399:C:H2'	52:5:400:G:H8	1.73	0.53
52:5:954:A:N1	52:5:1196:G:O2'	2.36	0.53
52:5:1089:C:H2'	52:5:1090:G:C8	2.43	0.53
52:5:1148:U:H2'	52:5:1149:G:H8	1.73	0.53
4:A:38:ASN:ND2	4:A:206:THR:O	2.41	0.53
10:G:38:SER:HB3	10:G:41:LYS:H	1.72	0.53
14:K:124:ARG:NH1	52:5:539:G:N7	2.56	0.53
16:M:30:ALA:HB3	52:5:976:U:H4'	1.88	0.53
20:Q:44:CYS:HB2	20:Q:82:HIS:CE1	2.43	0.53
25:b:22:GLU:OE1	33:j:72:LYS:NZ	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:83:GLU:HB2	29:f:145:ASP:H	1.72	0.53
37:n:2:LYS:HG3	37:n:10:LEU:HD22	1.88	0.53
50:3:121:U:H4'	50:3:122:G:H5''	1.90	0.53
50:3:332:G:N2	50:3:373:U:OP2	2.31	0.53
50:3:395:U:H2'	50:3:396:A:C2	2.43	0.53
50:3:515:A:H1'	50:3:517:G:H5''	1.90	0.53
50:3:674:G:H2'	50:3:675:U:C6	2.42	0.53
50:3:729:U:O4	50:3:803:G:O6	2.26	0.53
50:3:990:G:H2'	50:3:991:G:H8	1.73	0.53
50:3:1036:A:H2'	50:3:1037:A:C8	2.43	0.53
50:3:1139:C:H2'	50:3:1140:U:C6	2.43	0.53
50:3:1504:G:H2'	50:3:1505:G:C8	2.42	0.53
50:3:2154:A:H2'	50:3:2155:G:O4'	2.08	0.53
50:3:2169:G:H5''	50:3:2170:A:H3'	1.90	0.53
50:3:2528:C:H2'	50:3:2529:C:C6	2.43	0.53
50:3:2676:G:H2'	50:3:2677:A:H8	1.73	0.53
52:5:434:U:H3	52:5:493:A:H62	1.54	0.53
52:5:590:G:N2	52:5:644:U:O2	2.41	0.53
52:5:741:C:OP1	52:5:846:G:O2'	2.26	0.53
52:5:762:G:H22	52:5:810:U:H5''	1.73	0.53
52:5:954:A:O2'	52:5:979:C:O2	2.20	0.53
52:5:1259:G:H21	52:5:1329:G:H4'	1.73	0.53
4:A:110:GLN:HG3	4:A:111:ARG:H	1.72	0.53
8:E:103:LYS:NZ	52:5:836:C:H41	2.06	0.53
11:H:18:LYS:HE3	52:5:1122:U:H4'	1.90	0.53
12:I:62:HIS:CD2	12:I:63:VAL:HG13	2.44	0.53
14:K:67:LYS:NZ	52:5:1388:A:OP1	2.41	0.53
21:R:66:MET:HG2	21:R:69:HIS:CD2	2.43	0.53
25:b:36:VAL:HG21	25:b:90:PHE:HB3	1.90	0.53
50:3:210:U:H2'	50:3:211:A:H8	1.73	0.53
50:3:330:A:H2'	50:3:331:A:H8	1.73	0.53
50:3:386:U:H2'	50:3:387:U:C5	2.43	0.53
50:3:1841:U:H4'	50:3:1842:G:H8	1.73	0.53
50:3:1854:A:O5'	52:5:699:A:N6	2.41	0.53
52:5:582:G:O6	52:5:754:U:O4	2.25	0.53
52:5:683:G:N1	52:5:700:G:N3	2.57	0.53
52:5:748:U:O2'	52:5:749:G:OP1	2.26	0.53
52:5:1154:A:H2'	52:5:1155:A:C4	2.44	0.53
52:5:1224:C:N3	52:5:1262:A:N7	2.56	0.53
52:5:1236:A:H3'	52:5:1237:G:H8	1.73	0.53
52:5:1244:A:N7	52:5:1245:A:O2'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1488:A:N6	52:5:1498:G:O6	2.41	0.53
1:0:18:PHE:HE1	50:3:118:G:H4'	1.72	0.53
4:A:198:VAL:H	4:A:212:ASP:HB2	1.72	0.53
5:B:87:LYS:HA	5:B:90:LYS:HE2	1.91	0.53
9:F:115:MET:HB3	52:5:1214:A:H3'	1.89	0.53
10:G:133:ILE:HD13	52:5:598:U:H4'	1.89	0.53
50:3:236:G:N1	50:3:298:U:OP1	2.41	0.53
50:3:317:U:H2'	50:3:318:U:C5	2.44	0.53
50:3:330:A:H2'	50:3:331:A:C8	2.44	0.53
50:3:388:U:H2'	50:3:389:C:C6	2.43	0.53
50:3:1057:G:N2	50:3:1177:A:H62	2.06	0.53
50:3:1242:G:N2	50:3:1266:G:N3	2.56	0.53
50:3:1995:G:H2'	50:3:1996:A:H8	1.72	0.53
50:3:2208:U:O2'	50:3:2236:G:N2	2.42	0.53
50:3:2246:G:O4'	50:3:2248:C:N4	2.40	0.53
50:3:2718:C:H2'	50:3:2719:A:C8	2.43	0.53
50:3:2794:U:H2'	50:3:2795:C:C6	2.43	0.53
51:4:31:G:N2	51:4:34:U:O4	2.42	0.53
52:5:511:A:H2'	52:5:512:U:C6	2.43	0.53
52:5:664:A:H2'	52:5:665:G:C8	2.43	0.53
52:5:719:G:O2'	52:5:830:U:O2'	2.25	0.53
52:5:1262:A:H2'	52:5:1263:A:C8	2.43	0.53
2:1:32:HIS:HE1	49:z:3:VAL:HG23	1.72	0.53
6:C:6:SER:HB3	6:C:9:LYS:HG2	1.90	0.53
9:F:139:ASP:O	9:F:143:MET:N	2.40	0.53
16:M:10:GLN:HE22	16:M:25:GLN:HE22	1.55	0.53
29:f:101:ALA:HB1	29:f:108:LEU:HD12	1.89	0.53
35:l:120:ARG:O	35:l:124:LYS:HG2	2.08	0.53
36:m:67:LEU:HD12	36:m:79:MET:HE2	1.90	0.53
50:3:496:A:N6	50:3:505:G:N2	2.33	0.53
50:3:548:A:O2'	50:3:1247:C:OP1	2.26	0.53
50:3:663:A:H2	50:3:674:G:H21	1.56	0.53
50:3:710:A:H61	50:3:2076:G:H1'	1.72	0.53
50:3:1514:U:C4	50:3:1525:G:O6	2.62	0.53
50:3:2557:G:H2'	50:3:2558:G:C8	2.44	0.53
50:3:2646:G:H1'	50:3:2786:A:N6	2.24	0.53
50:3:2856:G:O6	50:3:2869:U:O2	2.26	0.53
52:5:136:U:H2'	52:5:137:A:C8	2.43	0.53
52:5:296:A:O2'	52:5:562:U:N3	2.40	0.53
52:5:513:G:H2'	52:5:514:U:H6	1.73	0.53
52:5:565:G:H21	52:5:571:A:H61	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:984:A:O2'	52:5:1013:C:O2'	2.25	0.53
52:5:1107:U:H2'	52:5:1108:A:O4'	2.08	0.53
9:F:9:ARG:NH1	52:5:1320:A:O2'	2.41	0.53
20:Q:78:ASN:HD21	20:Q:83:GLN:HB2	1.72	0.53
20:Q:84:ARG:HD3	52:5:661:G:H5''	1.90	0.53
22:S:56:ARG:NH2	52:5:197:A:OP1	2.42	0.53
33:j:106:LEU:HB3	33:j:111:TYR:HD2	1.73	0.53
50:3:244:G:O2'	50:3:261:A:N6	2.41	0.53
50:3:495:U:O4	50:3:506:A:N7	2.41	0.53
50:3:1257:G:H2'	50:3:1258:C:C6	2.43	0.53
50:3:2533:A:H2'	50:3:2534:G:C8	2.42	0.53
50:3:2650:A:H2'	50:3:2651:G:C8	2.44	0.53
52:5:206:G:H21	52:5:209:A:H8	1.55	0.53
52:5:579:G:N2	52:5:757:G:N7	2.57	0.53
52:5:1012:A:H5''	52:5:1013:C:C5	2.43	0.53
52:5:1130:G:H2'	52:5:1131:A:H8	1.73	0.53
52:5:1388:A:H2	52:5:1462:G:H1	1.54	0.53
5:B:159:ARG:HD2	5:B:196:TYR:HB3	1.91	0.53
14:K:67:LYS:HE3	52:5:1387:U:H4'	1.89	0.53
25:b:32:GLU:HG2	25:b:55:ASP:H	1.73	0.53
25:b:196:ALA:HB1	50:3:2688:C:H1'	1.90	0.53
27:d:92:ARG:HD2	51:4:42:G:H5''	1.91	0.53
34:k:95:ARG:HA	34:k:98:LEU:HD12	1.89	0.53
41:r:6:LYS:O	50:3:528:U:O2'	2.25	0.53
50:3:14:U:H5''	50:3:15:A:H2'	1.89	0.53
50:3:270:G:H2'	50:3:271:G:O4'	2.08	0.53
50:3:551:C:O3'	50:3:1292:A:O2'	2.26	0.53
50:3:983:A:H2'	50:3:984:C:C6	2.43	0.53
50:3:1214:U:H2'	50:3:1215:G:C8	2.43	0.53
50:3:2303:U:O4	50:3:2345:G:O6	2.27	0.53
52:5:137:A:H2'	52:5:138:A:H5'	1.90	0.53
52:5:452:A:H3'	52:5:453:C:H5''	1.90	0.53
5:B:51:ALA:HA	5:B:76:PHE:HB3	1.91	0.53
14:K:14:LYS:NZ	52:5:556:G:OP2	2.41	0.53
14:K:112:ARG:HD3	14:K:117:THR:HB	1.91	0.53
19:P:48:HIS:CD2	19:P:69:LEU:HD22	2.43	0.53
25:b:63:ASN:HB2	25:b:66:GLN:HG3	1.90	0.53
40:q:4:ILE:O	40:q:38:VAL:HA	2.09	0.53
44:u:50:ILE:HD11	50:3:2363:C:H1'	1.91	0.53
50:3:122:G:H2'	50:3:123:G:C8	2.44	0.53
50:3:211:A:H2	50:3:715:G:H1'	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:225:A:N7	50:3:463:U:O4	2.42	0.53
50:3:237:A:H2'	50:3:238:U:H6	1.74	0.53
50:3:1059:G:H21	50:3:1179:G:H1'	1.74	0.53
50:3:1351:G:H21	50:3:1650:A:N6	2.04	0.53
50:3:2097:A:N6	50:3:2238:G:O6	2.41	0.53
50:3:2585:A:OP2	50:3:2620:C:N4	2.37	0.53
52:5:110:U:H5''	52:5:604:U:H4'	1.91	0.53
52:5:136:U:H3	52:5:157:A:H62	0.73	0.53
52:5:548:G:H2'	52:5:549:U:C6	2.44	0.53
52:5:826:G:O6	52:5:851:U:O4	2.27	0.53
52:5:832:G:H2'	52:5:833:G:H8	1.73	0.53
52:5:1156:G:H1'	52:5:1157:G:C8	2.43	0.53
4:A:70:ASN:OD1	4:A:71:TYR:N	2.41	0.53
4:A:76:ALA:HB2	4:A:236:VAL:HG12	1.90	0.53
4:A:201:LEU:HB3	4:A:217:ALA:HB3	1.90	0.53
9:F:37:LEU:HD11	52:5:1264:G:H5''	1.89	0.53
33:j:63:VAL:HG23	33:j:64:ARG:HG3	1.90	0.53
34:k:117:HIS:HB3	50:3:673:A:H5''	1.89	0.53
45:v:23:THR:HA	50:3:204:U:H5''	1.90	0.53
50:3:118:G:OP2	50:3:120:A:O2'	2.15	0.53
50:3:590:U:H2'	50:3:591:G:C8	2.44	0.53
50:3:851:U:H4'	50:3:1201:A:N3	2.24	0.53
50:3:1053:C:H4'	50:3:1155:G:H21	1.74	0.53
50:3:1854:A:N6	53:8:72:C:OP2	2.42	0.53
50:3:2534:G:O6	50:3:2545:U:C4	2.61	0.53
52:5:763:A:H61	52:5:1486:C:H1'	1.73	0.53
52:5:829:G:C2	52:5:849:A:C6	2.97	0.53
52:5:874:C:H2'	52:5:875:G:C8	2.43	0.53
52:5:912:G:H2'	52:5:913:A:C8	2.44	0.53
52:5:1041:G:H2'	52:5:1042:G:C8	2.44	0.53
52:5:1048:G:N2	52:5:1177:U:O4	2.42	0.53
52:5:1133:A:OP1	52:5:1134:C:N4	2.42	0.53
52:5:1229:A:H2'	52:5:1230:G:C8	2.44	0.53
52:5:1283:G:H2'	52:5:1284:A:C8	2.42	0.53
4:A:113:LEU:HD22	52:5:1094:C:H5'	1.90	0.53
5:B:177:PRO:O	5:B:180:THR:OG1	2.26	0.53
8:E:45:LEU:HD22	20:Q:97:ALA:HB3	1.91	0.53
9:F:22:VAL:O	9:F:26:ILE:HG12	2.09	0.53
17:N:39:HIS:HE1	52:5:664:A:H2	1.55	0.53
21:R:29:ARG:HD2	21:R:48:THR:HG23	1.91	0.53
24:a:130:ILE:O	24:a:131:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:71:THR:OG1	50:3:1285:U:O4	2.26	0.53
28:e:142:GLU:HG2	50:3:2767:G:H21	1.73	0.53
34:k:82:LEU:HA	34:k:85:ILE:HB	1.89	0.53
42:s:10:PRO:HD2	46:w:34:ALA:HB3	1.91	0.53
44:u:56:GLY:N	50:3:2338:G:H21	2.07	0.53
50:3:251:G:O2'	50:3:254:G:O6	2.26	0.53
50:3:612:G:H5''	50:3:2025:C:H5''	1.90	0.53
50:3:1343:C:H2'	50:3:1344:U:C6	2.43	0.53
50:3:2322:G:H2'	50:3:2323:U:C6	2.44	0.53
50:3:2536:U:O2'	50:3:2538:A:OP1	2.26	0.53
52:5:325:A:H2'	52:5:328:G:C8	2.44	0.53
6:C:2:LYS:HE2	6:C:114:ARG:NH1	2.24	0.52
14:K:55:PRO:HB3	14:K:63:ARG:HB2	1.90	0.52
21:R:34:TRP:HE3	21:R:52:HIS:HB2	1.73	0.52
40:q:76:GLN:NE2	50:3:605:A:OP2	2.43	0.52
50:3:47:G:C8	50:3:219:G:H8	2.26	0.52
50:3:230:G:O2'	50:3:261:A:O2'	2.26	0.52
50:3:301:G:H2'	50:3:302:G:C8	2.44	0.52
50:3:546:U:OP1	50:3:1265:G:H5''	2.09	0.52
50:3:922:C:O2	50:3:928:G:N2	2.36	0.52
50:3:1721:G:O2'	52:5:1449:G:N2	2.41	0.52
52:5:19:C:H2'	52:5:20:C:H6	1.73	0.52
52:5:34:A:H8	52:5:394:U:H5''	1.73	0.52
52:5:503:G:H2'	52:5:504:A:C8	2.44	0.52
52:5:511:A:H2'	52:5:512:U:H6	1.75	0.52
52:5:621:C:H2'	52:5:622:A:H8	1.75	0.52
52:5:963:U:H3	52:5:1170:C:HO2'	1.50	0.52
52:5:1227:A:N6	52:5:1259:G:O6	2.42	0.52
1:0:8:SER:H	50:3:721:G:H21	1.57	0.52
5:B:23:THR:HB	12:I:19:TYR:HB3	1.91	0.52
18:O:27:ILE:HD13	18:O:52:TRP:HE1	1.74	0.52
22:S:5:LYS:HB3	52:5:62:G:H8	1.73	0.52
24:a:147:VAL:H	24:a:168:ALA:H	1.57	0.52
29:f:30:LEU:HD23	50:3:2206:A:H4'	1.91	0.52
32:i:143:LEU:HD11	32:i:146:SER:HB3	1.92	0.52
44:u:41:ASP:HB2	50:3:891:G:N2	2.22	0.52
50:3:602:U:O2'	50:3:1019:A:N1	2.41	0.52
50:3:672:G:HO2'	50:3:674:G:HO2'	1.38	0.52
50:3:754:U:H2'	50:3:755:C:C6	2.44	0.52
50:3:1686:U:H3	50:3:2012:A:H62	1.57	0.52
50:3:2117:G:N1	50:3:2188:U:O2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2129:U:OP2	50:3:2178:A:O2'	2.24	0.52
52:5:370:A:H4'	52:5:450:U:O4	2.09	0.52
52:5:457:A:H2'	52:5:458:G:H8	1.73	0.52
53:8:28:A:H2'	53:8:29:C:H5	1.74	0.52
5:B:60:ARG:HG2	5:B:65:VAL:HG22	1.90	0.52
14:K:4:ILE:H	14:K:4:ILE:HD12	1.75	0.52
15:L:73:ILE:HG12	52:5:1283:G:H1'	1.91	0.52
35:l:41:TRP:HB3	35:l:94:VAL:HG21	1.90	0.52
37:n:74:GLY:O	37:n:77:ILE:HG22	2.08	0.52
37:n:75:GLN:HG3	37:n:108:ALA:HB1	1.91	0.52
50:3:682:A:N3	50:3:682:A:H2'	2.23	0.52
50:3:1767:A:H2'	50:3:1768:G:C8	2.45	0.52
50:3:2018:U:H2'	50:3:2019:G:O4'	2.09	0.52
50:3:2796:C:O2'	50:3:2812:U:O2	2.26	0.52
50:3:2851:U:H3'	50:3:2852:G:H8	1.73	0.52
52:5:570:A:H2'	52:5:571:A:H8	1.74	0.52
52:5:962:G:HO2'	52:5:963:U:P	2.33	0.52
52:5:1332:U:H3	52:5:1338:A:N6	2.06	0.52
52:5:1497:U:H2'	52:5:1498:G:C8	2.43	0.52
5:B:3:GLN:O	52:5:1165:G:O2'	2.25	0.52
15:L:85:ALA:HA	21:R:74:PHE:HA	1.92	0.52
22:S:6:SER:O	22:S:7:ASN:ND2	2.43	0.52
26:c:185:LYS:HA	50:3:650:G:H1	1.74	0.52
29:f:12:LEU:HD21	50:3:2102:U:H5''	1.92	0.52
30:g:62:ALA:O	30:g:66:GLY:N	2.42	0.52
33:j:5:MET:HG2	50:3:1703:A:H1'	1.91	0.52
37:n:81:LEU:HG	37:n:86:LEU:HD12	1.90	0.52
48:y:32:LYS:HD2	48:y:50:ASP:CB	2.40	0.52
50:3:511:U:H2'	50:3:512:G:O4'	2.09	0.52
50:3:616:G:H2'	50:3:617:C:C6	2.44	0.52
50:3:618:G:OP2	50:3:1281:A:N6	2.43	0.52
50:3:1460:G:H1	50:3:1595:C:H42	1.56	0.52
50:3:2001:C:H2'	50:3:2002:U:C6	2.44	0.52
50:3:2202:U:H2'	50:3:2203:U:H5	1.75	0.52
50:3:2652:U:C4	50:3:2653:G:H1'	2.45	0.52
52:5:395:G:H2'	52:5:396:C:C6	2.44	0.52
52:5:1415:G:H2'	52:5:1416:U:C6	2.45	0.52
53:8:19:G:O2'	53:8:59:A:N1	2.42	0.52
6:C:54:LEU:HD13	52:5:542:G:H4'	1.92	0.52
10:G:24:ASN:OD1	52:5:868:G:N2	2.43	0.52
15:L:29:ARG:NE	15:L:60:ALA:HB1	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:35:PHE:HE2	22:S:76:LEU:HD12	1.75	0.52
24:a:266:LYS:HZ3	24:a:283:LYS:HE3	1.73	0.52
26:c:128:VAL:HG13	26:c:132:LEU:HD21	1.90	0.52
33:j:99:PHE:HB3	38:o:71:ASP:HB3	1.90	0.52
36:m:98:SER:HB3	36:m:116:LEU:HD11	1.90	0.52
44:u:59:VAL:HA	44:u:93:THR:O	2.10	0.52
45:v:56:ARG:HB3	50:3:410:G:C8	2.44	0.52
50:3:90:G:N1	50:3:91:G:O6	2.42	0.52
50:3:1317:C:H4'	50:3:1358:C:H1'	1.91	0.52
50:3:1453:U:H2'	50:3:1454:G:O4'	2.09	0.52
50:3:2553:G:H2'	50:3:2554:U:O4'	2.10	0.52
50:3:2651:G:O6	50:3:2780:U:O4	2.27	0.52
50:3:2820:G:H2'	50:3:2821:U:C6	2.45	0.52
52:5:216:G:H2'	52:5:217:U:C6	2.45	0.52
52:5:742:C:H2'	52:5:743:A:C8	2.44	0.52
5:B:21:ARG:NE	5:B:57:GLU:OE2	2.42	0.52
12:I:62:HIS:HD2	12:I:63:VAL:HG13	1.74	0.52
22:S:35:PHE:CE1	22:S:72:ASN:HB3	2.44	0.52
24:a:17:SER:HA	24:a:212:VAL:HB	1.91	0.52
32:i:38:LEU:HD23	32:i:57:LEU:HD13	1.91	0.52
34:k:61:ARG:NH1	50:3:2437:G:O6	2.43	0.52
50:3:218:G:N2	50:3:219:G:H1	2.07	0.52
50:3:525:A:H2	50:3:1348:C:H5''	1.75	0.52
50:3:1866:G:O6	50:3:1891:A:N7	2.42	0.52
50:3:2110:U:H3	50:3:2194:G:H1	1.58	0.52
50:3:2126:A:H61	50:3:2176:G:H4'	1.75	0.52
50:3:2413:G:N1	50:3:2419:A:OP2	2.43	0.52
50:3:2461:A:H2'	50:3:2462:G:C8	2.45	0.52
52:5:227:A:H4'	52:5:322:G:O2'	2.09	0.52
52:5:606:A:O2'	52:5:624:U:OP2	2.23	0.52
52:5:949:G:H21	52:5:1202:A:N6	2.08	0.52
52:5:1316:C:H2'	52:5:1317:A:C8	2.44	0.52
5:B:93:LYS:HA	5:B:96:ILE:HG22	1.92	0.52
9:F:27:ASN:HB3	52:5:1349:A:H1'	1.92	0.52
9:F:104:ALA:HB1	9:F:108:ARG:HH21	1.75	0.52
11:H:16:SER:HB2	52:5:1125:C:H5'	1.90	0.52
12:I:27:THR:HG22	12:I:99:PRO:HD2	1.91	0.52
17:N:15:HIS:N	17:N:18:ASP:OD2	2.31	0.52
28:e:70:THR:HB	50:3:2756:A:H1'	1.90	0.52
32:i:9:LYS:HG2	32:i:48:THR:HA	1.90	0.52
35:l:124:LYS:NZ	50:3:2491:C:N3	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:60:TRP:CE3	39:p:93:VAL:HB	2.44	0.52
50:3:68:C:H2'	50:3:69:U:O4'	2.10	0.52
50:3:500:U:HO2'	50:3:501:G:P	2.33	0.52
50:3:841:C:H4'	50:3:2452:G:H21	1.74	0.52
50:3:1895:G:O2'	50:3:1896:A:N7	2.41	0.52
50:3:2333:G:H22	50:3:2397:G:N2	2.05	0.52
50:3:2720:C:OP1	50:3:2722:G:O2'	2.28	0.52
52:5:878:U:H4'	52:5:879:G:H5'	1.92	0.52
52:5:934:G:H2'	52:5:935:U:C6	2.45	0.52
7:D:103:TYR:HD1	7:D:196:MET:HE2	1.74	0.52
7:D:133:LYS:O	7:D:135:SER:N	2.34	0.52
10:G:92:LYS:NZ	52:5:871:U:OP1	2.38	0.52
18:O:5:ARG:NH1	52:5:616:C:O2	2.43	0.52
24:a:74:THR:OG1	29:f:89:TYR:OH	2.27	0.52
33:j:35:LEU:HD21	33:j:65:THR:HG23	1.92	0.52
34:k:78:VAL:HG11	34:k:104:ILE:HG12	1.92	0.52
41:r:131:GLY:HA3	50:3:1262:G:H5'	1.92	0.52
50:3:163:A:H2'	50:3:164:A:O4'	2.10	0.52
50:3:351:G:H2'	50:3:352:C:C6	2.44	0.52
50:3:358:A:N6	50:3:373:U:O4'	2.43	0.52
50:3:525:A:C2	50:3:1348:C:H5''	2.45	0.52
50:3:1232:U:H2'	50:3:1233:A:H8	1.74	0.52
50:3:1725:G:N3	50:3:1984:A:O2'	2.43	0.52
50:3:1808:C:N4	50:3:2210:G:H1'	2.24	0.52
50:3:2075:U:C2	50:3:2438:A:N7	2.78	0.52
50:3:2078:A:H2'	50:3:2079:G:C8	2.44	0.52
50:3:2380:U:H2'	50:3:2381:G:C8	2.44	0.52
50:3:2791:U:H2'	50:3:2792:C:C6	2.44	0.52
52:5:212:G:H1'	52:5:465:A:H61	1.75	0.52
52:5:412:G:O6	52:5:424:U:O4	2.27	0.52
52:5:1153:G:N2	52:5:1156:G:OP2	2.40	0.52
52:5:1294:U:H2'	52:5:1295:U:C6	2.45	0.52
5:B:178:LEU:O	52:5:1164:U:O2'	2.27	0.52
15:L:93:LYS:HG3	15:L:95:LEU:HD23	1.91	0.52
18:O:66:LEU:O	18:O:70:THR:OG1	2.25	0.52
22:S:30:THR:HG21	52:5:1432:A:H5'	1.92	0.52
36:m:99:ARG:HH22	36:m:101:LEU:HD11	1.74	0.52
37:n:41:VAL:HG11	37:n:77:ILE:HG21	1.92	0.52
42:s:84:THR:HG21	50:3:1426:C:H4'	1.91	0.52
45:v:61:HIS:NE2	50:3:410:G:OP2	2.41	0.52
48:y:46:GLY:HA2	48:y:54:LYS:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1798:A:N1	50:3:1835:G:N3	2.58	0.52
50:3:2159:U:H2'	50:3:2160:U:C6	2.44	0.52
50:3:2399:G:N1	50:3:2433:A:OP1	2.39	0.52
50:3:2667:G:N1	50:3:2670:A:OP2	2.31	0.52
50:3:2743:U:H2'	50:3:2744:A:H8	1.74	0.52
52:5:462:G:O3'	52:5:464:A:N6	2.42	0.52
52:5:833:G:H2'	52:5:834:G:C8	2.45	0.52
52:5:1194:A:H2'	52:5:1195:G:C8	2.45	0.52
7:D:208:VAL:HA	7:D:211:LEU:HG	1.91	0.52
15:L:13:LYS:HG2	52:5:1270:C:H4'	1.91	0.52
22:S:63:ASN:HB2	52:5:118:C:H5'	1.92	0.52
25:b:97:THR:OG1	25:b:99:GLN:OE1	2.26	0.52
26:c:6:LEU:HA	26:c:127:LEU:HB3	1.92	0.52
29:f:66:HIS:O	29:f:70:GLU:HG2	2.10	0.52
33:j:108:GLU:HG3	33:j:109:ARG:HG2	1.92	0.52
43:t:1:MET:HG2	43:t:2:GLN:H	1.75	0.52
50:3:984:C:H2'	50:3:985:A:C8	2.40	0.52
50:3:1317:C:H2'	50:3:1318:U:C6	2.43	0.52
50:3:1662:G:H2'	50:3:1663:G:H8	1.76	0.52
50:3:2060:G:OP2	50:3:2585:A:N6	2.38	0.52
50:3:2224:A:H2'	50:3:2225:G:C8	2.45	0.52
50:3:2828:C:OP2	50:3:2829:G:N2	2.43	0.52
52:5:420:A:C5	52:5:421:G:H1'	2.45	0.52
52:5:423:U:H2'	52:5:424:U:C6	2.44	0.52
52:5:570:A:H2'	52:5:571:A:C8	2.44	0.52
52:5:759:C:H2'	52:5:760:U:C6	2.44	0.52
14:K:95:LEU:HA	14:K:110:ILE:HA	1.92	0.51
22:S:6:SER:HA	22:S:9:LYS:HB3	1.92	0.51
24:a:56:ARG:NH2	50:3:815:G:N7	2.54	0.51
25:b:23:ARG:N	33:j:72:LYS:O	2.44	0.51
25:b:139:TYR:CE1	50:3:2587:U:H5''	2.44	0.51
38:o:96:VAL:HG22	38:o:98:ARG:H	1.75	0.51
46:w:68:GLU:OE1	46:w:68:GLU:N	2.43	0.51
50:3:167:A:H3'	50:3:168:A:H8	1.75	0.51
50:3:985:A:H2'	50:3:986:G:C8	2.45	0.51
50:3:1056:A:H1'	50:3:1158:C:H5''	1.91	0.51
50:3:1232:U:H2'	50:3:1233:A:C8	2.46	0.51
50:3:1413:A:O2'	50:3:1424:U:O2	2.21	0.51
50:3:1529:U:H2'	50:3:1530:G:C4	2.45	0.51
50:3:1778:G:H2'	50:3:1779:G:C8	2.45	0.51
50:3:2072:C:H2'	50:3:2073:C:H6	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2140:G:O2'	50:3:2141:A:H8	1.93	0.51
50:3:2782:A:O2'	50:3:2783:A:O4'	2.25	0.51
52:5:60:A:N3	52:5:326:C:N4	2.59	0.51
52:5:242:A:N6	52:5:277:G:H21	2.08	0.51
52:5:732:A:H2'	52:5:733:A:C8	2.45	0.51
52:5:1323:A:N3	52:5:1349:A:N6	2.59	0.51
52:5:1325:U:H2'	52:5:1326:C:C6	2.46	0.51
1:0:45:SER:OG	50:3:127:A:N6	2.24	0.51
5:B:18:TRP:CD2	12:I:19:TYR:HE2	2.28	0.51
11:H:12:ARG:HH21	11:H:79:GLY:HA3	1.75	0.51
20:Q:92:ARG:O	20:Q:96:LEU:N	2.39	0.51
21:R:50:ALA:HB1	21:R:57:PHE:HB3	1.91	0.51
24:a:230:GLY:HA3	50:3:1833:G:OP1	2.10	0.51
25:b:139:TYR:CG	25:b:140:PRO:HD3	2.45	0.51
37:n:93:THR:HG21	50:3:2301:C:H5''	1.92	0.51
48:y:32:LYS:HD2	48:y:50:ASP:HB3	1.90	0.51
50:3:50:G:H22	50:3:179:A:H2'	1.75	0.51
50:3:225:A:N6	50:3:463:U:N3	2.57	0.51
50:3:420:A:H62	50:3:425:U:H3	1.58	0.51
50:3:515:A:H4'	50:3:516:A:H5'	1.93	0.51
50:3:535:G:C2	50:3:540:A:N6	2.78	0.51
50:3:1384:C:H2'	50:3:1385:U:H6	1.75	0.51
50:3:2146:A:H2'	50:3:2147:G:C8	2.46	0.51
50:3:2359:G:N2	50:3:2374:A:OP2	2.43	0.51
50:3:2633:C:H2'	50:3:2634:C:C6	2.45	0.51
50:3:2676:G:H2'	50:3:2677:A:C8	2.45	0.51
50:3:2858:A:H2'	50:3:2859:U:C6	2.44	0.51
51:4:13:G:H21	51:4:100:G:H1'	1.75	0.51
52:5:312:A:H61	52:5:333:U:H3	1.59	0.51
52:5:682:G:H2'	52:5:683:G:C4	2.45	0.51
52:5:704:U:H3	52:5:705:A:H62	1.58	0.51
52:5:1112:U:N3	52:5:1113:U:O4	2.43	0.51
52:5:1406:U:C2	52:5:1445:G:N1	2.78	0.51
19:P:70:SER:HA	52:5:262:G:H3'	1.92	0.51
21:R:38:SER:HB2	21:R:71:LEU:HB2	1.92	0.51
24:a:73:ARG:HE	24:a:123:ALA:HB2	1.75	0.51
33:j:6:THR:HG23	50:3:1700:G:H1'	1.90	0.51
43:t:100:LYS:HG3	50:3:85:U:OP1	2.10	0.51
50:3:263:C:H2'	50:3:264:G:C8	2.45	0.51
50:3:1298:A:H2'	50:3:1299:A:H8	1.75	0.51
50:3:1325:C:O2	50:3:1677:G:N2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1348:C:O2'	50:3:1358:C:N4	2.43	0.51
50:3:1391:U:O2'	50:3:1816:A:H1'	2.11	0.51
50:3:1467:U:H5	50:3:1584:U:H2'	1.76	0.51
50:3:1814:G:N2	50:3:1816:A:H8	2.08	0.51
50:3:2156:G:H2'	50:3:2157:A:C8	2.45	0.51
50:3:2262:C:H2'	50:3:2263:G:H8	1.75	0.51
52:5:1003:G:O6	52:5:1018:U:O4	2.29	0.51
52:5:1262:A:H2'	52:5:1263:A:H8	1.75	0.51
7:D:209:ALA:HB2	7:D:217:ASN:HB2	1.92	0.51
12:I:52:LYS:HA	12:I:75:ARG:HB3	1.92	0.51
13:J:9:VAL:HG22	13:J:11:SER:H	1.74	0.51
15:L:86:TRP:HH2	15:L:90:ARG:HH21	1.57	0.51
21:R:37:ARG:HH12	52:5:1194:A:H4'	1.76	0.51
22:S:26:THR:HG21	52:5:1433:G:H5'	1.93	0.51
22:S:49:SER:HG	52:5:195:U:HO2'	1.56	0.51
28:e:62:LYS:HG3	50:3:1070:U:H4'	1.93	0.51
34:k:54:GLY:O	50:3:861:U:O2'	2.29	0.51
34:k:85:ILE:HG23	34:k:124:LEU:HD12	1.92	0.51
38:o:30:GLU:OE2	38:o:49:THR:OG1	2.27	0.51
50:3:50:G:N1	50:3:179:A:O5'	2.43	0.51
50:3:588:G:O2'	50:3:590:U:O4	2.27	0.51
50:3:675:U:O4	50:3:685:G:O6	2.29	0.51
50:3:762:A:H2'	50:3:763:G:C4	2.46	0.51
50:3:895:G:H22	50:3:953:G:H2'	1.76	0.51
50:3:1767:A:H2'	50:3:1768:G:C4	2.45	0.51
50:3:1958:U:O2'	50:3:1961:A:N6	2.41	0.51
50:3:2275:A:H2	50:3:2278:G:C6	2.29	0.51
52:5:879:G:C6	52:5:907:A:N1	2.78	0.51
5:B:187:TYR:HE1	5:B:202:LYS:HB3	1.75	0.51
6:C:13:ARG:HB2	6:C:35:PRO:HD2	1.92	0.51
14:K:123:ARG:O	14:K:127:ARG:HD2	2.11	0.51
15:L:101:ARG:HA	52:5:1199:U:O3'	2.11	0.51
25:b:139:TYR:CD1	25:b:140:PRO:HD3	2.45	0.51
28:e:43:PRO:HG2	28:e:44:LEU:HD12	1.91	0.51
31:h:72:VAL:HA	31:h:75:LEU:HB3	1.92	0.51
36:m:109:ASP:HB3	50:3:1683:G:H21	1.76	0.51
37:n:8:ARG:HA	37:n:11:ARG:HH21	1.75	0.51
40:q:78:HIS:N	50:3:599:U:OP1	2.44	0.51
48:y:27:LEU:HB3	48:y:36:LYS:HZ1	1.76	0.51
50:3:259:A:O2'	50:3:422:A:OP2	2.29	0.51
50:3:534:U:H2'	50:3:535:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:788:G:H4'	50:3:1653:C:H4'	1.92	0.51
50:3:1056:A:H2'	50:3:1057:G:H4'	1.92	0.51
50:3:1487:U:H4'	50:3:2710:G:H22	1.75	0.51
50:3:1526:U:H2'	50:3:1527:U:C6	2.45	0.51
50:3:2249:A:H2'	50:3:2250:G:C8	2.45	0.51
50:3:2503:G:H2'	50:3:2504:C:O4'	2.11	0.51
50:3:2619:C:H2'	50:3:2620:C:C6	2.45	0.51
50:3:2700:C:O2'	50:3:2851:U:O2	2.29	0.51
52:5:460:A:N1	52:5:467:G:O6	2.43	0.51
52:5:711:G:H2'	52:5:712:A:C8	2.45	0.51
52:5:787:A:H5'	53:8:39:A:H5'	1.93	0.51
52:5:983:G:H1'	52:5:1011:A:H61	1.76	0.51
52:5:1196:G:H5''	52:5:1295:U:O2	2.10	0.51
17:N:6:ASN:HB2	52:5:656:U:OP1	2.11	0.51
17:N:47:PHE:CD1	52:5:761:U:H4'	2.45	0.51
26:c:182:HIS:HB3	26:c:185:LYS:HD3	1.91	0.51
28:e:62:LYS:HG2	28:e:63:GLN:NE2	2.26	0.51
33:j:29:ARG:NH1	50:3:2554:U:OP1	2.41	0.51
33:j:71:ARG:HH21	33:j:77:LEU:HA	1.75	0.51
40:q:9:SER:O	50:3:1032:A:O2'	2.28	0.51
50:3:28:G:H2'	50:3:29:G:C4	2.45	0.51
50:3:232:A:H61	50:3:262:G:H5'	1.75	0.51
50:3:479:A:N6	50:3:1275:C:HO2'	2.08	0.51
50:3:638:A:C6	50:3:661:G:C6	2.98	0.51
50:3:1493:A:C8	50:3:1579:G:H2'	2.46	0.51
50:3:1653:C:H2'	50:3:1654:G:H8	1.75	0.51
50:3:2143:G:C2	50:3:2163:U:O2	2.64	0.51
50:3:2174:G:H2'	50:3:2175:U:O4'	2.10	0.51
50:3:2229:C:H2'	50:3:2230:A:C8	2.46	0.51
50:3:2380:U:H2'	50:3:2381:G:H8	1.75	0.51
50:3:2471:U:H2'	50:3:2472:G:C8	2.45	0.51
50:3:2826:G:O2'	50:3:2828:C:OP2	2.15	0.51
52:5:16:G:O4'	52:5:1371:A:O2'	2.23	0.51
52:5:60:A:C2	52:5:327:G:H1'	2.46	0.51
52:5:97:G:N2	52:5:350:G:OP2	2.43	0.51
52:5:662:G:N3	52:5:729:C:H2'	2.25	0.51
52:5:936:G:H2'	52:5:937:G:C8	2.46	0.51
52:5:1227:A:H2'	52:5:1228:C:C6	2.46	0.51
52:5:1489:C:H2'	52:5:1490:G:H8	1.76	0.51
7:D:68:GLU:HB3	7:D:119:ILE:HG12	1.92	0.51
8:E:103:LYS:HZ1	52:5:836:C:H41	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:198:ALA:HB2	50:3:2687:A:H4'	1.93	0.51
29:f:102:HIS:NE2	29:f:108:LEU:O	2.43	0.51
32:i:12:ALA:H	50:3:573:A:H4'	1.76	0.51
35:l:51:ARG:HG3	35:l:64:MET:HG2	1.91	0.51
41:r:97:THR:O	50:3:2019:G:H5''	2.10	0.51
50:3:390:A:H2'	50:3:391:U:O4'	2.10	0.51
50:3:1010:G:OP1	50:3:1217:G:O2'	2.21	0.51
50:3:1390:C:H2'	50:3:1391:U:O4'	2.10	0.51
50:3:2023:U:H4'	50:3:2064:G:H4'	1.93	0.51
50:3:2052:C:H2'	50:3:2053:G:O4'	2.11	0.51
50:3:2134:G:H1'	50:3:2171:A:H1'	1.92	0.51
50:3:2172:A:C5	50:3:2173:G:C8	2.98	0.51
50:3:2384:A:H2'	50:3:2385:A:C8	2.46	0.51
52:5:45:A:H2'	52:5:46:U:C6	2.45	0.51
52:5:808:C:O3'	52:5:896:G:N2	2.43	0.51
52:5:981:U:H2'	52:5:982:A:C8	2.40	0.51
6:C:144:LEU:HB2	6:C:174:PHE:HB3	1.91	0.51
7:D:183:LEU:HG	52:5:558:U:C2	2.46	0.51
8:E:35:LEU:HD13	8:E:60:TRP:CD1	2.45	0.51
9:F:32:ASP:OD1	9:F:34:LYS:NZ	2.31	0.51
16:M:60:SER:HB2	52:5:1105:C:H1'	1.93	0.51
19:P:7:LYS:H	19:P:64:VAL:HG12	1.76	0.51
37:n:79:ASP:HA	37:n:82:VAL:HG22	1.93	0.51
42:s:56:ASN:ND2	50:3:1426:C:H5''	2.26	0.51
50:3:117:C:H2'	50:3:118:G:O4'	2.10	0.51
50:3:252:G:H5'	50:3:254:G:O6	2.11	0.51
50:3:387:U:H2'	50:3:388:U:C6	2.46	0.51
50:3:454:G:H2'	50:3:455:G:H8	1.73	0.51
50:3:493:A:H4'	50:3:494:G:OP1	2.11	0.51
50:3:858:A:H2'	50:3:859:G:H8	1.73	0.51
50:3:1215:G:N2	50:3:1216:U:O4'	2.44	0.51
50:3:2580:A:OP1	50:3:2582:G:O2'	2.19	0.51
51:4:94:A:H62	51:4:95:G:H21	1.59	0.51
52:5:374:G:H2'	52:5:375:C:C6	2.46	0.51
52:5:787:A:H2'	52:5:788:G:C2	2.45	0.51
52:5:915:U:H2'	52:5:916:U:C5	2.45	0.51
53:8:28:A:H2'	53:8:29:C:C5	2.46	0.51
4:A:133:LEU:HD21	4:A:152:LEU:HG	1.92	0.51
5:B:192:ALA:O	5:B:198:VAL:HA	2.10	0.51
19:P:16:THR:HG22	19:P:57:ASP:HB2	1.92	0.51
25:b:148:GLN:NE2	50:3:2580:A:OP2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:d:64:LYS:HB2	47:x:6:HIS:HB3	1.93	0.51
34:k:95:ARG:HH11	34:k:127:GLU:HB3	1.75	0.51
35:l:125:LEU:HB3	35:l:127:VAL:HG22	1.92	0.51
37:n:30:LEU:HD22	37:n:91:PHE:HE1	1.76	0.51
50:3:130:C:H2'	50:3:131:C:C6	2.46	0.51
50:3:473:U:H2'	50:3:474:U:C6	2.46	0.51
50:3:1052:A:H2'	50:3:1053:C:C6	2.46	0.51
50:3:1308:A:H2'	50:3:1309:G:C8	2.44	0.51
50:3:1398:C:H2'	50:3:1399:G:O4'	2.11	0.51
50:3:1399:G:N2	50:3:1400:U:O4	2.44	0.51
50:3:1449:G:H1'	50:3:1520:A:H61	1.75	0.51
50:3:1464:G:N3	50:3:1503:A:H2	2.09	0.51
50:3:1638:C:HO2'	50:3:1644:A:N6	2.09	0.51
50:3:1754:U:H2'	50:3:1755:A:C8	2.46	0.51
50:3:1779:G:N2	50:3:1781:C:H5''	2.26	0.51
50:3:1805:U:HO2'	50:3:1809:A:HO2'	1.57	0.51
50:3:2103:C:H2'	50:3:2104:A:C8	2.46	0.51
50:3:2315:G:H5'	50:3:2316:G:C4	2.46	0.51
52:5:232:G:N2	52:5:631:C:O2'	2.44	0.51
52:5:859:A:H2'	52:5:860:C:C6	2.45	0.51
52:5:1380:G:N3	52:5:1493:A:O2'	2.43	0.51
16:M:5:SER:N	52:5:1191:U:OP1	2.43	0.51
26:c:162:ASN:HB2	26:c:203:VAL:HG12	1.93	0.51
36:m:102:LYS:HE3	50:3:2820:G:H4'	1.93	0.51
42:s:15:LYS:NZ	50:3:1369:U:O4	2.40	0.51
42:s:39:ARG:NH2	50:3:146:G:OP1	2.44	0.51
46:w:10:LYS:HB3	46:w:14:GLU:HB2	1.93	0.51
50:3:456:G:H2'	50:3:457:U:C6	2.46	0.51
50:3:530:G:H2'	50:3:531:G:C8	2.45	0.51
50:3:551:C:H4'	50:3:1292:A:H1'	1.92	0.51
50:3:665:C:H4'	50:3:685:G:N2	2.23	0.51
50:3:705:A:H4'	50:3:706:C:H5'	1.92	0.51
50:3:1344:U:H2'	50:3:1345:G:C8	2.46	0.51
50:3:1376:G:OP2	50:3:1379:C:N4	2.44	0.51
52:5:1138:U:O4	52:5:1149:G:O6	2.29	0.51
6:C:55:GLN:O	6:C:59:ARG:HG3	2.11	0.50
8:E:40:LEU:HB2	8:E:57:TYR:HB2	1.93	0.50
12:I:47:PRO:HG3	12:I:78:ARG:NH1	2.24	0.50
13:J:63:VAL:HA	13:J:66:THR:HG22	1.93	0.50
25:b:25:PRO:HD3	50:3:2737:G:OP1	2.11	0.50
36:m:75:VAL:O	36:m:79:MET:HG2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:596:G:C6	50:3:611:A:N1	2.79	0.50
50:3:1231:G:H2'	50:3:1232:U:H6	1.75	0.50
50:3:1248:A:N1	50:3:1262:G:C6	2.79	0.50
50:3:2033:G:H2'	50:3:2034:G:C8	2.46	0.50
50:3:2561:G:H1	50:3:2590:G:H21	1.59	0.50
52:5:480:C:C5	52:5:481:U:H2'	2.46	0.50
52:5:703:A:C2'	52:5:704:U:H5'	2.41	0.50
52:5:705:A:H2'	52:5:706:U:C6	2.46	0.50
52:5:1448:A:H2'	52:5:1449:G:C8	2.46	0.50
8:E:10:ASP:HB2	8:E:81:GLN:HA	1.94	0.50
9:F:11:VAL:HG21	52:5:1349:A:H5'	1.93	0.50
18:O:2:ARG:NH2	52:5:370:A:N3	2.59	0.50
20:Q:70:ILE:HD11	20:Q:90:LEU:HB2	1.91	0.50
25:b:7:PHE:HZ	25:b:52:LEU:HD13	1.77	0.50
35:l:24:ASN:OD1	35:l:67:ARG:NH1	2.44	0.50
35:l:82:ARG:HH21	44:u:18:LYS:HB2	1.75	0.50
50:3:47:G:H3'	50:3:219:G:OP2	2.11	0.50
50:3:200:A:H2'	50:3:2075:U:C5	2.45	0.50
50:3:604:A:N6	50:3:2508:U:OP1	2.44	0.50
50:3:895:G:O2'	50:3:953:G:N2	2.41	0.50
50:3:1006:U:H5''	50:3:1025:G:O6	2.11	0.50
50:3:1431:A:H2'	50:3:1432:C:C5	2.46	0.50
50:3:2278:G:H21	50:3:2279:G:H22	1.58	0.50
50:3:2572:A:C6	50:3:2655:U:H4'	2.46	0.50
50:3:2577:G:H2'	50:3:2578:A:H8	1.75	0.50
52:5:59:C:H2'	52:5:60:A:H8	1.76	0.50
52:5:135:A:H61	52:5:158:A:H62	1.59	0.50
52:5:326:C:H3'	52:5:327:G:H8	1.76	0.50
4:A:28:THR:H	4:A:223:GLN:HG2	1.76	0.50
10:G:108:LEU:HG	10:G:111:LEU:HB2	1.91	0.50
13:J:77:LEU:HD12	13:J:90:ILE:HD12	1.93	0.50
19:P:67:ARG:HB2	52:5:116:A:N7	2.27	0.50
22:S:49:SER:OG	52:5:195:U:O2'	2.28	0.50
28:e:100:ASN:HB3	28:e:107:ASN:HD21	1.74	0.50
32:i:74:ASN:ND2	50:3:1057:G:H2'	2.27	0.50
35:l:35:VAL:HB	35:l:130:LYS:HB3	1.94	0.50
44:u:42:GLY:HA2	44:u:80:LEU:HD23	1.93	0.50
49:z:7:THR:OG1	49:z:50:VAL:O	2.29	0.50
50:3:43:A:H2'	50:3:44:A:C8	2.45	0.50
50:3:137:U:O4	50:3:146:G:O6	2.30	0.50
50:3:164:A:H2	50:3:2225:G:H1'	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:340:U:O4	50:3:344:A:N7	2.44	0.50
50:3:1720:C:C4	50:3:1721:G:C6	2.99	0.50
50:3:2117:G:O2'	50:3:2127:G:H5'	2.11	0.50
52:5:330:C:O2	52:5:1409:A:O2'	2.28	0.50
52:5:502:C:O2'	52:5:509:C:H5''	2.11	0.50
52:5:832:G:H2'	52:5:833:G:C8	2.46	0.50
6:C:114:ARG:NH1	52:5:399:C:O5'	2.43	0.50
7:D:148:ARG:HB2	7:D:183:LEU:HB2	1.92	0.50
15:L:100:GLN:NE2	52:5:1281:U:OP1	2.44	0.50
20:Q:84:ARG:NE	52:5:719:G:N7	2.59	0.50
24:a:41:LEU:HD12	24:a:64:ARG:HB2	1.94	0.50
24:a:230:GLY:HA2	24:a:233:MET:SD	2.51	0.50
39:p:40:GLN:CD	50:3:596:G:H4'	2.37	0.50
50:3:29:G:H21	50:3:30:A:H62	1.59	0.50
50:3:263:C:H2'	50:3:264:G:H8	1.76	0.50
50:3:359:G:H2'	50:3:360:G:C8	2.47	0.50
50:3:512:G:H1'	50:3:516:A:H61	1.76	0.50
50:3:797:U:C2	50:3:1459:A:H5''	2.46	0.50
50:3:848:U:H2'	50:3:849:C:C6	2.46	0.50
50:3:863:U:C5	50:3:2255:A:H1'	2.47	0.50
50:3:888:A:C2	50:3:889:G:C8	3.00	0.50
50:3:899:A:H2'	50:3:900:G:H8	1.77	0.50
50:3:2148:U:OP1	50:3:2150:C:N4	2.41	0.50
52:5:132:G:H2'	52:5:133:G:H8	1.75	0.50
52:5:567:C:H2'	52:5:573:G:H8	1.77	0.50
52:5:804:A:H2'	52:5:805:C:C6	2.47	0.50
52:5:938:U:O2'	52:5:1206:G:OP2	2.20	0.50
52:5:1055:G:H1'	52:5:1165:G:H21	1.74	0.50
4:A:186:ASN:ND2	52:5:1092:A:OP1	2.38	0.50
5:B:72:ALA:HB2	5:B:112:PRO:HG3	1.92	0.50
5:B:116:ALA:HB2	5:B:205:ILE:HG22	1.94	0.50
26:c:176:LYS:NZ	50:3:367:G:OP1	2.45	0.50
29:f:101:ALA:HB2	29:f:113:PHE:HE1	1.75	0.50
37:n:36:LEU:HD13	51:4:29:C:H41	1.77	0.50
38:o:58:LYS:HA	50:3:2849:G:H5''	1.93	0.50
46:w:88:LYS:O	46:w:92:GLU:HG2	2.12	0.50
50:3:138:U:H2'	50:3:139:G:H8	1.74	0.50
50:3:342:G:C5	50:3:536:A:C8	2.99	0.50
50:3:739:G:H4'	50:3:740:A:H5'	1.93	0.50
50:3:1305:G:H2'	50:3:1306:G:H8	1.74	0.50
50:3:1311:G:N2	50:3:1314:A:OP2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1508:G:N2	50:3:1532:A:O2'	2.45	0.50
50:3:1682:C:N4	50:3:2017:G:O6	2.44	0.50
50:3:1767:A:OP1	50:3:2720:C:N4	2.44	0.50
50:3:1803:U:H2'	50:3:1804:A:C8	2.47	0.50
50:3:2300:A:H2'	50:3:2301:C:C6	2.47	0.50
50:3:2303:U:O2	50:3:2345:G:N2	2.27	0.50
52:5:585:G:N1	52:5:751:C:OP2	2.44	0.50
52:5:723:C:H2'	52:5:724:G:O4'	2.10	0.50
52:5:742:C:O2	52:5:833:G:O2'	2.28	0.50
52:5:1406:U:N3	52:5:1445:G:N1	2.59	0.50
1:0:24:THR:O	1:0:28:ARG:HG3	2.10	0.50
6:C:114:ARG:HH11	52:5:399:C:P	2.34	0.50
9:F:148:LYS:HA	9:F:151:ALA:HB3	1.94	0.50
10:G:13:ASP:N	10:G:13:ASP:OD1	2.43	0.50
13:J:115:LYS:HZ1	52:5:1499:G:P	2.34	0.50
27:d:36:ILE:HG23	27:d:154:VAL:HG12	1.92	0.50
29:f:127:THR:HG23	29:f:138:LEU:H	1.76	0.50
34:k:103:VAL:HG22	50:3:661:G:H1	1.76	0.50
36:m:19:ARG:NH2	36:m:67:LEU:O	2.41	0.50
42:s:36:SER:HB3	50:3:1633:C:OP1	2.12	0.50
50:3:108:G:H4'	50:3:327:U:H2'	1.93	0.50
50:3:231:A:N6	50:3:446:A:H1'	2.26	0.50
50:3:348:A:H2'	50:3:349:G:C8	2.47	0.50
50:3:540:A:O2'	50:3:544:U:O2'	2.19	0.50
50:3:669:A:H3'	50:3:670:G:H8	1.76	0.50
50:3:726:U:H2'	50:3:727:C:H6	1.77	0.50
50:3:899:A:H62	50:3:949:C:H42	1.60	0.50
50:3:1388:G:C2	50:3:1389:G:H1'	2.47	0.50
50:3:1553:G:H21	50:3:1578:A:H62	1.60	0.50
50:3:1641:A:H4'	50:3:1642:G:N7	2.27	0.50
50:3:1819:G:H2'	50:3:1820:U:C6	2.46	0.50
50:3:2733:A:N7	50:3:2735:G:O6	2.43	0.50
52:5:590:G:H1	52:5:644:U:H3	1.59	0.50
52:5:741:C:H5''	52:5:846:G:O2'	2.11	0.50
6:C:35:PRO:HA	52:5:423:U:H4'	1.94	0.50
6:C:119:HIS:HB3	52:5:435:U:H4'	1.94	0.50
14:K:78:THR:HG22	14:K:108:TYR:HB2	1.93	0.50
15:L:53:PHE:O	15:L:57:ARG:NH2	2.45	0.50
23:T:21:VAL:O	23:T:25:ILE:HG12	2.11	0.50
24:a:252:ASP:HB2	50:3:1908:A:C2	2.47	0.50
37:n:16:VAL:HG22	37:n:46:PHE:HZ	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:v:31:VAL:HG12	50:3:432:G:H5''	1.93	0.50
50:3:28:G:N1	50:3:548:A:OP2	2.44	0.50
50:3:72:G:N2	50:3:73:A:N1	2.56	0.50
50:3:291:G:N7	50:3:293:G:N1	2.59	0.50
50:3:1426:C:H2'	50:3:1427:C:H6	1.72	0.50
50:3:1947:U:P	50:3:2611:G:H21	2.34	0.50
50:3:2536:U:H3	50:3:2543:G:H1	1.58	0.50
52:5:265:U:H2'	52:5:266:A:H8	1.76	0.50
52:5:289:U:H5'	52:5:609:G:H8	1.77	0.50
52:5:394:U:H2'	52:5:395:G:C8	2.47	0.50
52:5:825:A:H2'	52:5:826:G:O4'	2.12	0.50
8:E:127:ASN:O	52:5:840:C:N4	2.41	0.50
17:N:22:ILE:H	52:5:748:U:H1'	1.77	0.50
20:Q:70:ILE:HD12	52:5:717:C:H1'	1.93	0.50
40:q:76:GLN:N	50:3:598:G:OP2	2.44	0.50
45:v:17:ASN:OD1	45:v:27:ARG:NH2	2.44	0.50
50:3:57:G:H2'	50:3:58:A:C8	2.46	0.50
50:3:694:U:H2'	50:3:695:G:C8	2.46	0.50
50:3:939:U:H2'	50:3:940:A:C8	2.47	0.50
50:3:1451:A:H2'	50:3:1452:G:C8	2.45	0.50
50:3:1776:G:H2'	50:3:1777:G:C8	2.47	0.50
50:3:1828:A:H2'	50:3:1829:U:C6	2.47	0.50
50:3:1913:G:H5''	50:3:1936:G:O2'	2.12	0.50
50:3:2749:A:H62	50:3:2771:G:N2	2.09	0.50
52:5:67:U:H2'	52:5:68:C:C6	2.46	0.50
52:5:305:A:H2'	52:5:306:G:H8	1.76	0.50
52:5:586:G:H21	52:5:650:A:H62	1.59	0.50
52:5:688:G:H1'	52:5:693:A:N6	2.27	0.50
52:5:962:G:H2'	52:5:963:U:C6	2.47	0.50
4:A:154:ARG:HD2	52:5:1087:C:O3'	2.11	0.50
24:a:114:GLY:HA3	24:a:132:PRO:HG2	1.94	0.50
42:s:79:LYS:NZ	50:3:1634:A:OP1	2.44	0.50
50:3:26:G:C2	50:3:27:U:C5	3.00	0.50
50:3:509:G:H2'	50:3:510:G:C8	2.47	0.50
50:3:706:C:H2'	50:3:707:C:H6	1.77	0.50
50:3:717:U:H2'	50:3:718:U:C6	2.46	0.50
50:3:729:U:O3'	50:3:1603:A:N6	2.45	0.50
50:3:1212:C:H2'	50:3:1213:U:C6	2.47	0.50
50:3:1662:G:H2'	50:3:1663:G:C8	2.47	0.50
50:3:1702:A:N6	50:3:1998:U:H3	2.06	0.50
50:3:1894:U:H4'	50:3:2199:C:H5''	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2015:C:H2'	50:3:2016:G:C8	2.47	0.50
50:3:2112:A:H2'	50:3:2113:U:O4'	2.11	0.50
50:3:2216:U:H2'	50:3:2217:G:C8	2.47	0.50
50:3:2709:C:P	50:3:2710:G:H5''	2.52	0.50
52:5:34:A:H2'	52:5:35:C:C6	2.46	0.50
52:5:319:U:H3'	52:5:320:G:H8	1.77	0.50
52:5:903:A:O2'	52:5:1388:A:O2'	2.14	0.50
52:5:1384:A:H2'	52:5:1385:A:H8	1.76	0.50
5:B:56:VAL:HG12	5:B:69:VAL:HG22	1.93	0.49
6:C:72:ARG:HH22	52:5:29:G:H5'	1.76	0.49
7:D:138:HIS:HB3	10:G:108:LEU:HB2	1.94	0.49
9:F:31:GLU:HB2	52:5:1215:U:C2	2.47	0.49
24:a:12:SER:OG	50:3:1781:C:O2'	2.24	0.49
36:m:106:ARG:HD2	36:m:109:ASP:HB2	1.94	0.49
49:z:42:ARG:HG3	50:3:679:A:H8	1.76	0.49
50:3:47:G:H2'	50:3:219:G:N7	2.27	0.49
50:3:170:A:H2'	50:3:171:G:C8	2.47	0.49
50:3:242:G:N2	50:3:657:A:O2'	2.45	0.49
50:3:272:C:N4	50:3:295:U:O2'	2.44	0.49
50:3:899:A:H2	50:3:951:C:H41	1.59	0.49
50:3:997:G:O2'	50:3:2038:A:N1	2.37	0.49
50:3:1754:U:H2'	50:3:1755:A:H8	1.76	0.49
52:5:46:U:H3	52:5:392:A:N6	2.08	0.49
52:5:132:G:H2'	52:5:133:G:C8	2.47	0.49
52:5:137:A:P	52:5:155:C:H42	2.35	0.49
53:8:8:G:O2'	53:8:50:G:O4'	2.26	0.49
1:0:43:THR:HG1	50:3:127:A:N6	2.07	0.49
2:1:2:LYS:NZ	50:3:258:G:OP2	2.45	0.49
4:A:19:SER:N	4:A:249:LYS:O	2.45	0.49
4:A:31:GLY:O	4:A:218:ASN:ND2	2.45	0.49
8:E:49:ILE:O	52:5:670:G:O2'	2.23	0.49
12:I:72:GLU:OE2	16:M:61:TRP:N	2.45	0.49
13:J:91:ARG:O	13:J:95:ASN:ND2	2.45	0.49
14:K:127:ARG:O	14:K:132:ALA:N	2.45	0.49
21:R:4:SER:HB2	52:5:1293:A:H8	1.76	0.49
30:g:78:GLY:O	50:3:1142:G:O2'	2.22	0.49
34:k:26:SER:OG	50:3:850:G:O6	2.30	0.49
39:p:91:ARG:HE	39:p:92:LYS:HG3	1.75	0.49
40:q:82:LYS:N	50:3:849:C:OP1	2.37	0.49
50:3:58:A:H2'	50:3:59:C:C6	2.47	0.49
50:3:203:A:H61	50:3:2441:A:H2'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:319:G:H2'	50:3:320:A:C8	2.47	0.49
50:3:688:U:H4'	50:3:689:U:OP2	2.11	0.49
50:3:824:A:N6	50:3:1647:A:O3'	2.45	0.49
50:3:1505:G:H2'	50:3:1506:U:H6	1.76	0.49
50:3:2149:U:H3'	50:3:2150:C:C6	2.47	0.49
50:3:2212:U:H2'	50:3:2213:A:C8	2.47	0.49
50:3:2523:C:H2'	50:3:2524:U:C6	2.47	0.49
52:5:579:G:H3'	52:5:755:U:O4	2.12	0.49
52:5:691:A:H2'	52:5:692:A:O4'	2.12	0.49
52:5:721:G:H2'	52:5:722:G:C8	2.47	0.49
52:5:721:G:H2'	52:5:722:G:H8	1.77	0.49
52:5:829:G:N1	52:5:849:A:N6	2.60	0.49
52:5:1057:C:N4	52:5:1099:G:O2'	2.46	0.49
52:5:1331:A:N6	52:5:1340:G:N1	2.29	0.49
11:H:7:TYR:HE2	11:H:18:LYS:HG2	1.76	0.49
11:H:121:TYR:CD1	52:5:1341:U:H5''	2.48	0.49
13:J:54:TYR:O	13:J:58:ILE:HG12	2.11	0.49
26:c:73:LYS:HG2	26:c:74:ALA:H	1.77	0.49
50:3:106:C:H2'	50:3:107:C:H6	1.78	0.49
50:3:1343:C:H2'	50:3:1344:U:H6	1.77	0.49
50:3:1902:C:H2'	50:3:1903:A:C8	2.47	0.49
50:3:2090:G:H1	50:3:2244:U:H3	1.58	0.49
50:3:2141:A:C5	50:3:2164:G:N2	2.80	0.49
50:3:2720:C:O2'	50:3:2723:C:OP1	2.30	0.49
52:5:23:G:H2'	52:5:24:C:H6	1.77	0.49
52:5:93:A:OP2	52:5:322:G:N1	2.39	0.49
24:a:112:PRO:HA	24:a:203:VAL:HA	1.94	0.49
25:b:141:HIS:ND1	50:3:1692:A:OP2	2.44	0.49
28:e:152:ARG:NH2	50:3:2752:G:OP1	2.36	0.49
32:i:5:SER:HA	40:q:12:TYR:HE1	1.77	0.49
34:k:22:ARG:HH22	50:3:620:G:P	2.34	0.49
38:o:5:ASN:HB3	38:o:7:GLN:NE2	2.24	0.49
50:3:37:G:H21	50:3:486:G:H21	1.60	0.49
50:3:98:C:H2'	50:3:99:C:C6	2.48	0.49
50:3:147:C:N4	50:3:148:U:O4	2.46	0.49
50:3:411:U:O2'	50:3:459:A:N3	2.38	0.49
50:3:419:A:H2'	50:3:420:A:C8	2.47	0.49
50:3:1614:G:H2'	50:3:1615:G:O4'	2.12	0.49
50:3:1848:U:H2'	50:3:1849:G:H8	1.77	0.49
50:3:2008:A:H2'	50:3:2009:U:O4'	2.12	0.49
50:3:2269:C:H1'	50:3:2396:A:H1'	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2693:U:H2'	50:3:2694:A:C8	2.47	0.49
52:5:1242:U:H2'	52:5:1301:U:H4'	1.94	0.49
1:0:18:PHE:CE1	50:3:118:G:H4'	2.47	0.49
8:E:43:LYS:HB2	8:E:57:TYR:CE2	2.48	0.49
10:G:118:THR:HA	10:G:135:GLY:HA3	1.94	0.49
14:K:127:ARG:HG2	14:K:135:PRO:HG3	1.93	0.49
15:L:17:ILE:H	15:L:17:ILE:HD12	1.76	0.49
50:3:421:A:N6	50:3:423:C:H2'	2.27	0.49
50:3:609:U:H2'	50:3:610:G:N7	2.28	0.49
50:3:819:U:O2'	50:3:827:G:OP2	2.30	0.49
50:3:1884:A:N7	50:3:1885:G:C6	2.81	0.49
52:5:583:G:H1'	52:5:873:U:H5''	1.93	0.49
17:N:18:ASP:OD1	17:N:18:ASP:N	2.45	0.49
24:a:35:LYS:HE2	50:3:1453:U:OP1	2.13	0.49
32:i:71:LYS:HG3	50:3:1176:U:H5	1.78	0.49
41:r:91:GLY:HA3	50:3:786:A:C5	2.47	0.49
42:s:8:LEU:O	46:w:30:ARG:HB3	2.12	0.49
44:u:67:LEU:HA	44:u:72:THR:O	2.12	0.49
50:3:307:C:H2'	50:3:308:A:O4'	2.11	0.49
50:3:411:U:OP2	50:3:436:G:N1	2.45	0.49
50:3:675:U:H2'	50:3:676:U:C6	2.48	0.49
50:3:780:G:O2'	50:3:783:G:N3	2.40	0.49
50:3:816:A:H5''	50:3:817:A:N7	2.27	0.49
50:3:1228:G:H2'	50:3:1229:U:C6	2.48	0.49
50:3:1709:C:H42	50:3:2000:U:H1'	1.76	0.49
50:3:1784:U:OP2	50:3:1988:A:N6	2.46	0.49
50:3:1833:G:O2'	50:3:1978:U:OP2	2.31	0.49
50:3:1836:A:H3'	50:3:1837:C:C5	2.47	0.49
50:3:2035:U:H3	50:3:2040:A:N6	2.09	0.49
50:3:2088:U:H3	50:3:2247:G:H1	1.61	0.49
50:3:2468:U:H2'	50:3:2469:A:H8	1.77	0.49
50:3:2521:A:H2'	50:3:2522:U:H6	1.76	0.49
50:3:2806:A:OP2	50:3:2898:A:O2'	2.29	0.49
52:5:512:U:H2'	52:5:513:G:C8	2.47	0.49
52:5:1086:U:O2'	52:5:1101:A:N3	2.45	0.49
52:5:1088:C:H2'	52:5:1089:C:C5	2.48	0.49
52:5:1102:A:OP1	52:5:1158:A:O2'	2.23	0.49
1:0:39:ARG:NH1	50:3:503:G:O6	2.46	0.49
7:D:81:LYS:HE3	52:5:1362:G:H5''	1.95	0.49
7:D:186:ASN:ND2	52:5:12:G:N7	2.61	0.49
13:J:114:CYS:HB2	52:5:712:A:H1'	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:121:GLU:HA	14:K:132:ALA:HB1	1.95	0.49
15:L:86:TRP:HD1	21:R:77:THR:N	2.10	0.49
24:a:73:ARG:HH21	24:a:123:ALA:HB2	1.78	0.49
25:b:70:PHE:HB3	25:b:75:LEU:HB2	1.93	0.49
29:f:121:PHE:O	29:f:124:HIS:NE2	2.42	0.49
35:l:17:TYR:HB2	35:l:98:LYS:HG2	1.95	0.49
36:m:44:ARG:NH1	50:3:2698:U:O2'	2.46	0.49
44:u:59:VAL:HG11	44:u:95:VAL:HG12	1.93	0.49
50:3:92:U:H5''	50:3:94:A:H61	1.77	0.49
50:3:124:A:OP1	50:3:1402:G:N2	2.44	0.49
50:3:761:G:OP1	50:3:1460:G:N2	2.43	0.49
50:3:1814:G:H21	50:3:1816:A:H8	1.59	0.49
50:3:2102:U:H2'	50:3:2103:C:C6	2.47	0.49
50:3:2357:G:H2'	50:3:2358:U:O4'	2.13	0.49
50:3:2669:G:H2'	50:3:2670:A:C8	2.48	0.49
50:3:2820:G:H2'	50:3:2821:U:C5	2.47	0.49
50:3:2850:G:H2'	50:3:2851:U:H6	1.78	0.49
51:4:26:C:H2'	51:4:27:A:C8	2.48	0.49
52:5:108:C:O2	52:5:286:C:O2'	2.21	0.49
52:5:319:U:H3'	52:5:320:G:C8	2.47	0.49
52:5:657:G:H2'	52:5:658:G:O4'	2.12	0.49
52:5:765:A:O2'	52:5:1498:G:N2	2.45	0.49
52:5:766:G:OP2	52:5:800:G:O2'	2.26	0.49
2:1:54:ARG:HB3	34:k:49:PRO:HB3	1.94	0.49
4:A:130:LEU:O	4:A:134:VAL:HG23	2.13	0.49
10:G:19:LEU:HD22	10:G:87:VAL:HG23	1.94	0.49
24:a:135:SER:HB2	24:a:197:ARG:HD3	1.94	0.49
33:j:7:ARG:HD3	33:j:18:GLN:HG2	1.95	0.49
33:j:85:VAL:HB	33:j:93:PRO:HB3	1.94	0.49
39:p:52:LYS:HA	39:p:55:ASP:HB3	1.94	0.49
41:r:49:LYS:O	41:r:52:ASN:HB2	2.13	0.49
45:v:51:SER:O	45:v:55:LEU:N	2.44	0.49
50:3:79:U:H2'	50:3:80:U:C6	2.47	0.49
50:3:234:G:O6	50:3:455:G:O2'	2.24	0.49
50:3:320:A:H2'	50:3:321:A:H8	1.77	0.49
50:3:764:G:H5'	50:3:765:A:H5''	1.94	0.49
50:3:1741:G:H2'	50:3:1742:C:H6	1.78	0.49
50:3:2195:U:H2'	50:3:2196:G:N7	2.27	0.49
50:3:2333:G:OP2	50:3:2392:U:O2'	2.20	0.49
50:3:2613:U:H2'	50:3:2614:U:C6	2.48	0.49
51:4:38:U:H3'	51:4:39:U:H4'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:39:G:H5''	52:5:496:A:H5'	1.95	0.49
52:5:788:G:H2'	52:5:789:A:C8	2.47	0.49
52:5:1046:A:N7	52:5:1175:C:N3	2.61	0.49
52:5:1148:U:H2'	52:5:1149:G:C8	2.47	0.49
52:5:1389:U:H2'	52:5:1390:G:C8	2.48	0.49
6:C:180:ARG:NH2	6:C:181:PHE:O	2.46	0.49
11:H:13:LYS:H	11:H:108:ARG:NH1	2.11	0.49
15:L:17:ILE:HG12	52:5:1276:U:C6	2.48	0.49
26:c:97:ARG:NH2	50:3:1277:A:OP1	2.45	0.49
28:e:19:ASN:OD1	28:e:26:ALA:HB3	2.11	0.49
32:i:38:LEU:HD11	32:i:55:ASP:HB2	1.93	0.49
50:3:21:U:O2	50:3:586:G:H4'	2.13	0.49
50:3:851:U:P	50:3:1215:G:H21	2.36	0.49
50:3:1470:C:H2'	50:3:1471:A:C8	2.45	0.49
50:3:1843:C:H2'	50:3:1844:C:C6	2.47	0.49
50:3:2168:C:H3'	50:3:2169:G:C5'	2.43	0.49
50:3:2338:G:H2'	50:3:2339:G:C8	2.48	0.49
50:3:2607:G:H2'	50:3:2608:A:H8	1.76	0.49
50:3:2655:U:H2'	50:3:2656:G:C8	2.47	0.49
50:3:2744:A:H2'	50:3:2745:G:H8	1.76	0.49
52:5:36:G:H2'	52:5:37:C:C6	2.48	0.49
52:5:714:C:H5''	52:5:731:A:OP2	2.11	0.49
52:5:944:A:O2'	52:5:966:A:N6	2.46	0.49
52:5:969:A:H4'	52:5:970:A:H3'	1.94	0.49
52:5:1217:G:H1	52:5:1269:U:H3	1.60	0.49
52:5:1366:U:O2'	52:5:1506:A:H5''	2.12	0.49
5:B:18:TRP:NE1	16:M:55:GLY:H	2.09	0.49
12:I:29:LYS:HA	12:I:32:VAL:HG12	1.94	0.49
25:b:27:THR:HG21	25:b:197:ILE:HB	1.94	0.49
44:u:86:PHE:O	44:u:92:LYS:HB2	2.13	0.49
48:y:38:LEU:HB2	48:y:41:ARG:HG3	1.94	0.49
50:3:320:A:H2'	50:3:321:A:C8	2.47	0.49
50:3:1136:U:H2'	50:3:1137:C:C6	2.48	0.49
50:3:2070:C:O2	50:3:2070:C:H2'	2.12	0.49
50:3:2656:G:H2'	50:3:2657:C:C6	2.48	0.49
50:3:2696:G:C2	50:3:2730:G:C6	3.01	0.49
50:3:2716:U:H2'	50:3:2717:G:C8	2.48	0.49
52:5:69:G:H21	52:5:137:A:H61	1.59	0.49
52:5:234:G:N2	52:5:286:C:O2'	2.45	0.49
52:5:311:A:HO2'	52:5:326:C:HO2'	1.59	0.49
52:5:326:C:N3	52:5:350:G:H8	2.10	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:918:A:H2'	52:5:919:C:C6	2.48	0.49
52:5:1256:U:H2'	52:5:1257:C:C6	2.48	0.49
11:H:53:PRO:HG2	11:H:82:ARG:HA	1.95	0.48
12:I:46:LEU:HD11	52:5:1116:U:C6	2.48	0.48
24:a:182:LEU:HG	24:a:192:PHE:HB2	1.95	0.48
25:b:26:ILE:HG21	25:b:192:LEU:HD23	1.94	0.48
30:g:79:LYS:HB2	50:3:1088:A:N3	2.28	0.48
32:i:37:ASP:O	32:i:42:LYS:N	2.45	0.48
38:o:27:ALA:HB3	38:o:99:ALA:O	2.13	0.48
46:w:43:LEU:HA	46:w:46:GLN:HB2	1.95	0.48
50:3:272:C:O3'	50:3:394:C:O2'	2.25	0.48
50:3:567:U:O2'	50:3:2028:G:N7	2.40	0.48
50:3:601:U:H4'	50:3:981:A:N6	2.27	0.48
50:3:670:G:H2'	50:3:671:C:C6	2.48	0.48
50:3:960:A:H2'	50:3:961:U:C6	2.48	0.48
50:3:1149:G:O2'	50:3:1150:U:O4'	2.20	0.48
50:3:1450:G:H2'	50:3:1451:A:H8	1.78	0.48
50:3:1778:G:H2'	50:3:1779:G:H8	1.78	0.48
50:3:1837:C:H2'	50:3:1838:A:C8	2.47	0.48
50:3:2346:G:H2'	50:3:2347:G:H8	1.77	0.48
50:3:2589:G:OP2	50:3:2589:G:N2	2.28	0.48
50:3:2754:U:H2'	50:3:2755:G:O4'	2.12	0.48
50:3:2845:U:O4	50:3:2846:A:N6	2.46	0.48
52:5:503:G:H5'	52:5:532:U:H3	1.78	0.48
52:5:842:C:H2'	52:5:843:C:C6	2.48	0.48
52:5:937:G:H2'	52:5:938:U:C6	2.48	0.48
52:5:967:C:N4	52:5:968:G:O6	2.45	0.48
52:5:1081:U:N3	52:5:1085:G:OP2	2.42	0.48
5:B:33:TRP:HH2	5:B:62:GLN:H	1.61	0.48
11:H:110:LYS:HG2	52:5:1107:U:O2	2.13	0.48
17:N:36:LEU:HD23	17:N:53:LEU:HB2	1.96	0.48
22:S:21:ASN:HD22	52:5:319:U:H5''	1.78	0.48
25:b:192:LEU:HD21	38:o:13:VAL:HB	1.94	0.48
25:b:225:GLN:NE2	38:o:82:HIS:O	2.46	0.48
26:c:46:ARG:HD2	26:c:50:HIS:CD2	2.47	0.48
28:e:120:ILE:HG12	28:e:126:VAL:HG11	1.96	0.48
33:j:25:LEU:HD21	50:3:2570:U:H5'	1.95	0.48
34:k:13:ARG:NH1	50:3:695:G:H1'	2.29	0.48
39:p:49:ARG:NE	50:3:1029:A:OP1	2.32	0.48
50:3:137:U:H2'	50:3:138:U:H6	1.78	0.48
50:3:248:A:H62	50:3:258:G:H21	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:251:G:H4'	50:3:424:G:C2	2.48	0.48
50:3:1354:U:H2'	50:3:1355:C:H6	1.78	0.48
50:3:1693:U:H2'	50:3:1694:A:C8	2.41	0.48
50:3:2135:C:H2'	50:3:2136:A:H8	1.78	0.48
50:3:2853:U:O2	50:3:2870:U:H1'	2.13	0.48
52:5:214:U:H2'	52:5:215:C:O4'	2.14	0.48
52:5:279:C:H2'	52:5:280:G:C8	2.47	0.48
52:5:1109:U:H2'	52:5:1110:C:C6	2.48	0.48
52:5:1213:A:H2	52:5:1216:G:N2	2.09	0.48
52:5:1267:G:H2'	52:5:1268:G:C8	2.48	0.48
53:8:70:G:H2'	53:8:71:A:N7	2.28	0.48
5:B:153:LYS:HZ3	5:B:172:ILE:HD13	1.79	0.48
21:R:81:LYS:HD3	52:5:1201:C:H1'	1.95	0.48
36:m:28:TYR:HE2	36:m:72:LEU:HD13	1.77	0.48
39:p:65:ASN:HB2	39:p:75:TYR:HB2	1.94	0.48
50:3:264:G:H21	50:3:643:A:H1'	1.78	0.48
50:3:968:U:H4'	50:3:969:A:O4'	2.13	0.48
50:3:1074:A:H2	50:3:1152:U:H3	1.60	0.48
50:3:1413:A:H2	50:3:1430:U:H3	1.61	0.48
50:3:1850:C:H2'	50:3:1851:U:C6	2.48	0.48
52:5:350:G:O2'	52:5:385:A:OP1	2.31	0.48
52:5:402:G:H2'	52:5:403:A:C8	2.49	0.48
52:5:646:A:H2'	52:5:647:U:C6	2.48	0.48
52:5:1070:G:O2'	52:5:1071:A:O4'	2.23	0.48
8:E:36:GLN:NE2	8:E:61:LYS:O	2.43	0.48
9:F:114:THR:OG1	9:F:117:GLU:OE1	2.31	0.48
10:G:13:ASP:OD2	52:5:871:U:O2'	2.28	0.48
11:H:13:LYS:HG3	52:5:1347:U:OP1	2.14	0.48
11:H:108:ARG:NH1	11:H:112:VAL:HB	2.29	0.48
12:I:23:LEU:O	12:I:27:THR:HG23	2.14	0.48
14:K:70:LEU:HB2	14:K:72:ASN:OD1	2.14	0.48
14:K:82:GLY:N	52:5:520:C:OP1	2.47	0.48
16:M:18:VAL:HG12	52:5:974:C:C4	2.47	0.48
17:N:55:ALA:HB2	52:5:578:C:H4'	1.93	0.48
26:c:97:ARG:HD3	50:3:622:U:H4'	1.95	0.48
31:h:89:ALA:HA	31:h:132:GLY:HA2	1.94	0.48
32:i:94:ASP:OD2	50:3:2745:G:N2	2.46	0.48
38:o:32:ASN:HB2	38:o:91:LYS:HE2	1.95	0.48
39:p:79:ILE:HA	39:p:82:LEU:HB2	1.95	0.48
44:u:93:THR:HG21	50:3:893:A:H4'	1.96	0.48
50:3:14:U:H2'	50:3:2634:C:H4'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:54:A:H2'	50:3:55:A:C8	2.48	0.48
50:3:1009:A:P	50:3:1219:U:H1'	2.53	0.48
50:3:1288:C:H2'	50:3:1289:G:H8	1.79	0.48
50:3:1437:A:H2'	50:3:1438:G:H8	1.78	0.48
50:3:1606:A:H2'	50:3:1607:G:H8	1.79	0.48
50:3:2036:G:H2'	50:3:2038:A:OP1	2.14	0.48
50:3:2106:G:H22	50:3:2198:G:H22	1.61	0.48
50:3:2757:A:OP2	50:3:2758:A:O2'	2.24	0.48
52:5:24:C:H2'	52:5:25:U:C6	2.48	0.48
52:5:494:A:H5''	52:5:496:A:H62	1.78	0.48
52:5:513:G:H2'	52:5:514:U:C6	2.48	0.48
52:5:711:G:O2'	52:5:774:A:N6	2.47	0.48
52:5:1127:A:O2'	52:5:1128:G:H5''	2.13	0.48
52:5:1279:G:O2'	52:5:1280:A:H8	1.96	0.48
52:5:1402:U:H3'	52:5:1403:A:N7	2.28	0.48
4:A:99:ILE:HG23	4:A:233:ALA:HB2	1.95	0.48
4:A:222:PRO:HA	4:A:225:THR:HG22	1.95	0.48
7:D:70:ILE:HG22	7:D:92:VAL:HG12	1.94	0.48
11:H:75:THR:HB	52:5:1347:U:H5''	1.94	0.48
20:Q:70:ILE:O	52:5:716:C:O2'	2.26	0.48
25:b:50:THR:HG21	25:b:90:PHE:HB2	1.93	0.48
32:i:71:LYS:NZ	50:3:1176:U:OP2	2.34	0.48
33:j:25:LEU:HB2	33:j:59:ARG:HH12	1.79	0.48
35:l:18:GLU:HB3	51:4:77:G:H5'	1.94	0.48
39:p:65:ASN:HA	39:p:68:LEU:HD12	1.95	0.48
50:3:153:U:H2'	50:3:154:U:C6	2.49	0.48
50:3:597:C:H2'	50:3:598:G:C8	2.49	0.48
50:3:1007:C:H1'	50:3:1019:A:C2	2.48	0.48
50:3:1198:G:H2'	50:3:1199:A:C8	2.49	0.48
50:3:1245:G:N1	50:3:1264:U:N3	2.61	0.48
50:3:1290:G:H2'	50:3:1291:C:C6	2.48	0.48
52:5:829:G:C2	52:5:849:A:N1	2.82	0.48
52:5:886:A:C6	52:5:901:A:H1'	2.48	0.48
52:5:943:C:O2'	52:5:1339:U:O4	2.30	0.48
52:5:982:A:H2'	52:5:983:G:C8	2.48	0.48
52:5:1289:U:N3	52:5:1293:A:N6	2.47	0.48
4:A:178:VAL:N	4:A:199:VAL:O	2.47	0.48
6:C:117:VAL:HG13	6:C:122:VAL:HB	1.95	0.48
8:E:5:ILE:HD11	8:E:62:PHE:CE1	2.49	0.48
25:b:126:TRP:CD1	25:b:164:LYS:HB3	2.49	0.48
28:e:34:ILE:HD12	28:e:140:SER:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:112:TYR:HB3	50:3:2675:C:O2	2.14	0.48
30:g:40:ILE:HB	30:g:99:VAL:HB	1.94	0.48
34:k:122:LYS:HG3	34:k:124:LEU:HG	1.95	0.48
39:p:48:ASP:O	39:p:52:LYS:HG2	2.13	0.48
50:3:234:G:H2'	50:3:235:U:C6	2.49	0.48
50:3:323:A:H2'	50:3:324:C:H6	1.78	0.48
50:3:514:A:H61	50:3:535:G:H4'	1.78	0.48
50:3:562:C:C4	50:3:2787:U:H2'	2.48	0.48
50:3:1070:U:H2'	50:3:1071:G:C8	2.43	0.48
50:3:1730:C:H2'	50:3:1731:G:O4'	2.13	0.48
50:3:1777:G:H2'	50:3:1778:G:H8	1.78	0.48
50:3:1991:U:H2'	50:3:1992:C:C6	2.49	0.48
50:3:2190:G:N1	50:3:2191:G:C6	2.81	0.48
50:3:2790:A:H2'	50:3:2791:U:C6	2.49	0.48
50:3:2892:U:H2'	50:3:2893:C:C6	2.49	0.48
51:4:22:G:C2'	51:4:25:A:H61	2.26	0.48
52:5:209:A:H3'	52:5:210:G:C8	2.48	0.48
52:5:410:A:N6	52:5:425:G:C6	2.82	0.48
52:5:471:A:H2'	52:5:472:G:H8	1.78	0.48
52:5:896:G:H4'	52:5:1488:A:OP1	2.13	0.48
5:B:149:ALA:HB1	5:B:205:ILE:HD11	1.95	0.48
6:C:67:THR:HG23	6:C:70:GLN:H	1.79	0.48
6:C:172:LYS:H	6:C:172:LYS:HD2	1.79	0.48
9:F:70:PRO:HD2	9:F:95:LYS:HB3	1.96	0.48
14:K:59:ASN:HD22	14:K:102:ASP:CG	2.22	0.48
25:b:67:GLN:O	25:b:71:GLU:HG2	2.14	0.48
35:l:120:ARG:HH11	50:3:2490:A:H61	1.61	0.48
38:o:26:SER:N	50:3:2871:G:O6	2.47	0.48
39:p:90:ASN:HB2	40:q:39:LEU:HD23	1.95	0.48
50:3:189:U:H4'	50:3:222:A:H4'	1.95	0.48
50:3:785:A:H4'	50:3:1651:C:C2	2.48	0.48
50:3:1135:C:H2'	50:3:1136:U:C6	2.48	0.48
50:3:1558:A:OP2	50:3:1571:G:N2	2.46	0.48
50:3:1691:U:O4	50:3:1692:A:N6	2.47	0.48
50:3:1942:G:H3'	50:3:1969:C:H42	1.77	0.48
50:3:2463:G:H2'	50:3:2464:C:C6	2.49	0.48
50:3:2493:G:H2'	50:3:2494:C:C6	2.49	0.48
52:5:693:A:H2	52:5:782:G:H21	1.62	0.48
52:5:765:A:H3'	52:5:766:G:C8	2.46	0.48
52:5:1487:U:H2'	52:5:1488:A:C8	2.48	0.48
4:A:122:THR:HA	4:A:125:ILE:HG12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:27:HIS:HA	16:M:36:HIS:HA	1.96	0.48
9:F:37:LEU:O	9:F:41:ILE:HG12	2.13	0.48
10:G:31:MET:SD	10:G:73:ASN:HB3	2.54	0.48
13:J:110:PRO:HA	52:5:672:A:C2	2.49	0.48
18:O:51:GLU:HA	18:O:54:ASN:HB2	1.96	0.48
32:i:67:LEU:HB3	32:i:71:LYS:HB2	1.96	0.48
34:k:35:GLY:HA2	50:3:978:G:H5''	1.96	0.48
39:p:60:TRP:CD2	39:p:93:VAL:HB	2.49	0.48
39:p:79:ILE:HB	50:3:1187:C:H4'	1.96	0.48
41:r:125:VAL:O	41:r:128:ARG:HG2	2.13	0.48
42:s:56:ASN:HD21	50:3:1426:C:H5''	1.79	0.48
45:v:5:ASP:OD1	45:v:8:THR:OG1	2.26	0.48
50:3:30:A:O2'	50:3:615:G:O2'	2.31	0.48
50:3:60:G:H2'	50:3:61:U:C6	2.48	0.48
50:3:591:G:H2'	50:3:592:G:H8	1.79	0.48
50:3:1150:U:H1'	50:3:1151:U:H5	1.77	0.48
50:3:1217:G:OP1	50:3:1217:G:H3'	2.14	0.48
50:3:1293:U:H2'	50:3:1294:G:O4'	2.13	0.48
50:3:1826:A:H1'	50:3:1828:A:N6	2.28	0.48
50:3:2071:C:O2'	50:3:2259:G:N2	2.37	0.48
50:3:2100:G:H2'	50:3:2101:A:H8	1.78	0.48
50:3:2149:U:H5''	50:3:2150:C:H5	1.77	0.48
52:5:129:U:N3	52:5:200:G:N7	2.62	0.48
52:5:130:G:N1	52:5:165:A:C6	2.81	0.48
52:5:159:U:O4'	52:5:199:A:N6	2.47	0.48
52:5:391:C:H2'	52:5:392:A:C8	2.48	0.48
52:5:709:A:C6	52:5:710:G:C6	3.01	0.48
52:5:958:G:H2'	52:5:959:A:C8	2.49	0.48
52:5:1141:U:O2'	52:5:1142:G:O5'	2.32	0.48
52:5:1380:G:C6	52:5:1381:U:H5	2.31	0.48
1:0:16:HIS:HB2	1:0:44:VAL:HG13	1.95	0.48
9:F:94:ARG:HG3	52:5:1351:U:H4'	1.95	0.48
11:H:69:VAL:HG11	11:H:81:ILE:HG22	1.96	0.48
12:I:56:THR:HB	52:5:970:A:H62	1.79	0.48
15:L:109:ARG:NH2	52:5:1281:U:O2'	2.45	0.48
18:O:13:ILE:HB	18:O:30:ILE:O	2.14	0.48
20:Q:70:ILE:HG13	20:Q:94:ARG:HH22	1.79	0.48
24:a:67:ARG:HG3	24:a:96:VAL:HG21	1.95	0.48
29:f:98:ILE:HG13	29:f:110:LYS:HG3	1.96	0.48
34:k:84:LYS:NZ	50:3:690:U:O2	2.47	0.48
46:w:108:ALA:HB1	50:3:1545:A:H2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:111:G:H2'	50:3:112:A:C8	2.48	0.48
50:3:520:C:H2'	50:3:521:C:C6	2.49	0.48
50:3:1243:A:H2'	50:3:1244:A:H8	1.79	0.48
50:3:1510:A:H2	50:3:1530:G:H22	1.62	0.48
50:3:2516:G:H2'	50:3:2517:A:H8	1.79	0.48
50:3:2548:G:H1'	50:3:2748:A:C2	2.48	0.48
50:3:2892:U:H2'	50:3:2893:C:H6	1.78	0.48
52:5:89:G:H4'	52:5:160:A:H5'	1.96	0.48
52:5:466:U:H3'	52:5:467:G:H8	1.79	0.48
52:5:1306:A:H2'	52:5:1307:A:O4'	2.14	0.48
52:5:1359:C:H2'	52:5:1360:G:C8	2.49	0.48
8:E:71:ASP:O	8:E:75:THR:HG22	2.14	0.48
10:G:64:SER:OG	10:G:66:THR:OG1	2.29	0.48
15:L:101:ARG:NH1	15:L:104:THR:HG22	2.29	0.48
19:P:15:SER:OG	52:5:272:G:OP1	2.31	0.48
28:e:37:LYS:O	28:e:71:TYR:OH	2.30	0.48
35:l:82:ARG:NH1	50:3:2504:C:OP2	2.47	0.48
36:m:16:MET:HE1	36:m:19:ARG:HH11	1.79	0.48
49:z:31:LYS:HD3	49:z:48:LYS:HD2	1.95	0.48
50:3:60:G:H2'	50:3:61:U:H6	1.79	0.48
50:3:265:G:H2'	50:3:266:A:H8	1.78	0.48
50:3:1000:U:O2'	50:3:2281:A:N3	2.46	0.48
50:3:1005:G:H2'	50:3:1006:U:C6	2.48	0.48
50:3:1298:A:H2'	50:3:1299:A:C8	2.48	0.48
50:3:1318:U:H2'	50:3:1319:C:C5	2.49	0.48
50:3:1505:G:H2'	50:3:1506:U:C6	2.49	0.48
50:3:1757:G:H2'	50:3:1758:C:O4'	2.14	0.48
50:3:1797:C:H3'	50:3:1798:A:H8	1.78	0.48
50:3:2179:A:N3	50:3:2180:U:N3	2.61	0.48
50:3:2311:G:H2'	50:3:2312:G:H8	1.78	0.48
52:5:44:C:H2'	52:5:45:A:C8	2.49	0.48
52:5:73:G:H2'	52:5:74:U:H6	1.79	0.48
52:5:373:A:H2'	52:5:374:G:H8	1.77	0.48
52:5:611:A:H2'	52:5:612:G:H8	1.79	0.48
52:5:1363:U:H2'	52:5:1364:C:C6	2.49	0.48
53:8:30:G:H2'	53:8:31:G:H8	1.78	0.48
2:1:28:HIS:ND1	2:1:29:LEU:HG	2.29	0.47
17:N:20:GLY:O	17:N:25:GLN:NE2	2.46	0.47
18:O:21:LYS:HE2	52:5:97:G:OP1	2.14	0.47
20:Q:84:ARG:O	20:Q:88:LYS:HG2	2.14	0.47
24:a:73:ARG:HD3	24:a:109:ILE:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:7:GLN:HG2	29:f:58:TYR:CD1	2.48	0.47
29:f:110:LYS:HG2	50:3:2227:U:H5'	1.96	0.47
32:i:80:HIS:HD1	50:3:1166:G:H5'	1.78	0.47
33:j:28:THR:O	50:3:2682:A:O2'	2.17	0.47
38:o:33:VAL:HG12	38:o:88:ILE:HG23	1.96	0.47
45:v:14:TYR:HD2	45:v:28:LYS:HG2	1.78	0.47
50:3:162:G:N1	50:3:169:U:OP2	2.35	0.47
50:3:420:A:N7	50:3:425:U:O4	2.47	0.47
50:3:512:G:H1'	50:3:516:A:N6	2.28	0.47
50:3:754:U:H2'	50:3:755:C:H6	1.78	0.47
50:3:765:A:OP2	50:3:1782:U:O2'	2.25	0.47
50:3:875:G:H2'	50:3:876:A:H8	1.79	0.47
50:3:1097:G:H2'	50:3:1098:G:C8	2.49	0.47
50:3:1416:G:H2'	50:3:1417:G:C8	2.49	0.47
50:3:1416:G:H2'	50:3:1417:G:H8	1.79	0.47
50:3:1452:G:H2'	50:3:1453:U:C6	2.49	0.47
50:3:1641:A:OP2	50:3:1656:A:N6	2.29	0.47
50:3:1762:A:N6	50:3:2702:G:C2	2.77	0.47
50:3:1844:C:H1'	50:3:1935:A:H1'	1.95	0.47
50:3:1883:A:C2	50:3:1884:A:C8	3.02	0.47
50:3:2175:U:O2	50:3:2179:A:C5	2.67	0.47
50:3:2299:U:H2'	50:3:2300:A:C8	2.49	0.47
50:3:2534:G:H1'	50:3:2750:A:H4'	1.95	0.47
50:3:2695:U:O2	50:3:2730:G:N2	2.45	0.47
52:5:497:A:H1'	52:5:498:G:C8	2.49	0.47
52:5:882:U:H3'	52:5:883:A:H8	1.79	0.47
52:5:988:G:H5''	52:5:991:A:H62	1.78	0.47
52:5:1484:C:H2'	52:5:1485:C:H6	1.79	0.47
3:2:4:ARG:NH2	3:2:6:SER:O	2.46	0.47
6:C:33:THR:HB	6:C:40:ASN:HB3	1.95	0.47
8:E:70:LYS:HB3	8:E:74:ARG:NH1	2.28	0.47
13:J:110:PRO:HG2	23:T:32:HIS:CD2	2.49	0.47
20:Q:92:ARG:NH1	52:5:733:A:OP1	2.48	0.47
36:m:61:ARG:HD3	50:3:2714:G:H1'	1.96	0.47
41:r:122:LYS:O	41:r:126:LYS:HG2	2.14	0.47
45:v:43:GLY:HA3	50:3:168:A:H2	1.79	0.47
50:3:271:G:H2'	50:3:272:C:H6	1.79	0.47
50:3:306:G:H2'	50:3:307:C:C6	2.49	0.47
50:3:558:C:H4'	50:3:574:G:H21	1.79	0.47
50:3:707:C:H5''	50:3:836:G:N1	2.28	0.47
50:3:804:U:H2'	50:3:805:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:865:A:N7	50:3:2452:G:N2	2.62	0.47
50:3:912:A:H2'	50:3:913:U:C6	2.49	0.47
50:3:1083:A:H2'	50:3:1084:C:C6	2.49	0.47
50:3:1463:G:H21	50:3:1504:G:H4'	1.79	0.47
50:3:1871:U:H3'	50:3:1872:U:C6	2.49	0.47
50:3:1913:G:C8	50:3:1936:G:H2'	2.49	0.47
50:3:2244:U:H2'	50:3:2245:G:O4'	2.14	0.47
50:3:2476:A:OP2	50:3:2484:A:N6	2.47	0.47
52:5:242:A:N6	52:5:277:G:C2	2.83	0.47
52:5:462:G:H1'	52:5:465:A:N7	2.30	0.47
52:5:941:A:H4'	52:5:1307:A:O2'	2.14	0.47
52:5:1066:U:O2'	52:5:1092:A:N6	2.47	0.47
52:5:1125:C:O2'	52:5:1255:A:N6	2.47	0.47
53:8:71:A:O2'	53:8:72:C:OP1	2.28	0.47
2:1:33:LYS:HE3	2:1:41:LEU:HD12	1.97	0.47
10:G:36:ILE:HG21	52:5:586:G:O2'	2.15	0.47
10:G:92:LYS:HB2	10:G:95:LEU:HB3	1.96	0.47
24:a:152:LEU:HD22	24:a:190:ARG:CZ	2.44	0.47
36:m:50:THR:HB	36:m:97:TYR:HE1	1.78	0.47
39:p:91:ARG:HD3	50:3:1033:A:H5''	1.95	0.47
40:q:70:VAL:HG21	50:3:1028:C:H5''	1.96	0.47
48:y:40:HIS:NE2	50:3:2887:A:O3'	2.43	0.47
50:3:718:U:H2'	50:3:719:G:H8	1.79	0.47
50:3:802:U:H2'	50:3:803:G:H8	1.78	0.47
50:3:921:C:H42	50:3:928:G:H1	1.62	0.47
50:3:1169:A:N6	50:3:2497:U:O5'	2.47	0.47
50:3:1238:A:H2'	50:3:1239:G:C8	2.48	0.47
50:3:1303:U:H3	50:3:1324:A:H1'	1.78	0.47
50:3:1485:A:H61	50:3:2711:C:H42	1.62	0.47
50:3:1780:A:H5''	50:3:1797:C:H42	1.79	0.47
50:3:2460:C:H2'	50:3:2461:A:O4'	2.14	0.47
50:3:2663:G:N2	50:3:2673:A:O5'	2.40	0.47
51:4:35:C:O2	51:4:46:C:O2'	2.33	0.47
52:5:34:A:C8	52:5:394:U:H5''	2.48	0.47
52:5:296:A:N6	52:5:555:G:OP1	2.35	0.47
52:5:649:U:H1'	52:5:650:A:H8	1.79	0.47
52:5:669:U:H2'	52:5:670:G:C8	2.49	0.47
52:5:753:C:H2'	52:5:754:U:H6	1.76	0.47
52:5:822:A:H2'	52:5:823:C:C6	2.50	0.47
52:5:1153:G:H21	52:5:1155:A:H8	1.60	0.47
52:5:1329:G:H2'	52:5:1330:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:20:LEU:HD12	4:A:231:LEU:HD23	1.96	0.47
7:D:205:PRO:HG3	10:G:111:LEU:HD11	1.96	0.47
7:D:207:ARG:HH22	10:G:79:ARG:NH2	2.12	0.47
9:F:35:LYS:CD	52:5:1348:G:H5''	2.45	0.47
24:a:51:GLY:HA3	50:3:808:U:H5'	1.95	0.47
25:b:128:PHE:HZ	25:b:164:LYS:HB2	1.79	0.47
28:e:127:LYS:NZ	28:e:128:VAL:O	2.48	0.47
32:i:80:HIS:CD2	32:i:87:ILE:HG13	2.50	0.47
36:m:54:VAL:HB	36:m:59:ASN:HD21	1.80	0.47
38:o:33:VAL:O	38:o:48:PHE:N	2.47	0.47
41:r:9:ARG:NH1	41:r:82:MET:SD	2.85	0.47
45:v:21:SER:HB3	45:v:23:THR:HG23	1.96	0.47
50:3:271:G:H2'	50:3:272:C:C6	2.49	0.47
50:3:299:A:H2'	50:3:300:G:H8	1.79	0.47
50:3:326:A:H2'	50:3:327:U:C6	2.49	0.47
50:3:562:C:N4	50:3:2785:G:O2'	2.47	0.47
50:3:604:A:O2'	50:3:608:A:N6	2.47	0.47
50:3:872:C:OP1	50:3:970:U:H4'	2.14	0.47
50:3:1260:U:C2	50:3:1261:U:C5	3.03	0.47
50:3:1337:G:O6	50:3:1640:G:N2	2.47	0.47
50:3:1362:C:H2'	50:3:1363:C:H6	1.79	0.47
50:3:1441:A:H2'	50:3:1442:G:O4'	2.15	0.47
50:3:1784:U:H2'	50:3:1785:U:C6	2.50	0.47
50:3:2016:G:H2'	50:3:2017:G:H8	1.80	0.47
50:3:2289:C:H2'	50:3:2290:G:H8	1.79	0.47
50:3:2353:G:H4'	50:3:2354:A:H3'	1.95	0.47
52:5:1130:G:H2'	52:5:1131:A:C8	2.49	0.47
52:5:1482:A:H2'	52:5:1483:C:C6	2.49	0.47
6:C:147:LYS:HA	52:5:488:U:H4'	1.96	0.47
20:Q:61:LYS:HE3	20:Q:64:LEU:HD23	1.95	0.47
25:b:79:LYS:HE3	38:o:3:LYS:HB2	1.97	0.47
26:c:159:PHE:CE1	26:c:198:LEU:HD12	2.50	0.47
38:o:23:PRO:O	38:o:55:ARG:NH2	2.35	0.47
38:o:97:ARG:HH22	50:3:2854:A:H5''	1.77	0.47
39:p:61:ILE:HG23	39:p:75:TYR:CZ	2.49	0.47
50:3:597:C:N4	50:3:611:A:N1	2.63	0.47
50:3:699:U:H2'	50:3:700:U:C6	2.50	0.47
50:3:739:G:O3'	50:3:761:G:N2	2.42	0.47
50:3:1186:A:H2'	50:3:1187:C:H6	1.79	0.47
50:3:1638:C:O2'	50:3:1644:A:N6	2.48	0.47
50:3:1701:G:H22	50:3:2001:C:N4	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1819:G:H2'	50:3:1820:U:H6	1.78	0.47
50:3:2005:G:H2'	50:3:2006:C:C6	2.49	0.47
50:3:2413:G:H1'	50:3:2420:A:N6	2.29	0.47
50:3:2782:A:H2'	50:3:2783:A:C8	2.49	0.47
52:5:13:U:H3	52:5:23:G:H1	1.62	0.47
52:5:507:A:C4	52:5:542:G:H1'	2.50	0.47
52:5:814:C:N4	52:5:816:A:N3	2.63	0.47
52:5:1044:G:H4'	52:5:1045:C:H5'	1.96	0.47
52:5:1265:U:H2'	52:5:1266:U:C6	2.50	0.47
52:5:1376:G:O6	52:5:1479:G:N2	2.47	0.47
52:5:1482:A:H2'	52:5:1483:C:H6	1.80	0.47
6:C:113:ALA:O	6:C:117:VAL:HG23	2.13	0.47
9:F:92:GLN:O	9:F:96:ILE:HG12	2.15	0.47
10:G:67:LYS:HG3	52:5:648:C:H1'	1.96	0.47
24:a:69:ILE:HD13	24:a:92:ARG:HH11	1.79	0.47
43:t:41:LYS:HD2	43:t:65:GLN:O	2.15	0.47
46:w:3:VAL:HG22	50:3:79:U:H5''	1.97	0.47
50:3:812:G:H2'	50:3:813:G:C8	2.50	0.47
50:3:840:G:H1	50:3:863:U:H4'	1.78	0.47
50:3:841:C:OP1	50:3:865:A:O2'	2.32	0.47
50:3:1257:G:H2'	50:3:1258:C:H6	1.79	0.47
50:3:1741:G:H2'	50:3:1742:C:C6	2.49	0.47
50:3:2110:U:H2'	50:3:2111:U:H5''	1.95	0.47
50:3:2129:U:H2'	50:3:2130:A:C8	2.50	0.47
52:5:262:G:H1'	52:5:264:C:OP2	2.14	0.47
52:5:290:G:O6	52:5:299:U:O2	2.33	0.47
52:5:586:G:N2	52:5:650:A:N7	2.62	0.47
52:5:962:G:H3'	52:5:963:U:H2'	1.96	0.47
52:5:1127:A:O2'	52:5:1128:G:H8	1.98	0.47
52:5:1188:A:O2'	52:5:1190:G:N7	2.45	0.47
3:2:34:GLN:HE21	50:3:2485:U:H2'	1.79	0.47
6:C:34:ILE:HD11	6:C:42:PHE:HD1	1.79	0.47
8:E:89:ASN:CG	8:E:90:LEU:H	2.23	0.47
8:E:92:ARG:NH2	20:Q:92:ARG:HH12	2.13	0.47
9:F:56:LYS:HZ2	9:F:58:LEU:H	1.63	0.47
10:G:95:LEU:HD13	14:K:4:ILE:HG12	1.95	0.47
14:K:86:ASN:H	14:K:112:ARG:HH22	1.61	0.47
14:K:101:LYS:HD3	52:5:907:A:OP2	2.14	0.47
17:N:53:LEU:HD21	50:3:750:A:N1	2.29	0.47
25:b:19:THR:HG21	25:b:219:PRO:HB2	1.97	0.47
25:b:53:SER:HB2	25:b:78:THR:OG1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:122:ALA:HB1	25:b:126:TRP:HD1	1.80	0.47
27:d:88:LYS:HE2	27:d:90:THR:HG22	1.97	0.47
28:e:44:LEU:HB2	28:e:46:PHE:CZ	2.49	0.47
28:e:101:VAL:HG23	28:e:128:VAL:HG23	1.97	0.47
28:e:141:LYS:HD3	50:3:2754:U:H4'	1.97	0.47
29:f:114:LYS:NZ	50:3:2205:U:H5''	2.29	0.47
30:g:35:ILE:O	30:g:38:THR:HB	2.15	0.47
34:k:81:ASN:OD1	34:k:82:LEU:N	2.48	0.47
39:p:93:VAL:HG13	39:p:94:LEU:HD13	1.97	0.47
40:q:36:ASP:OD1	40:q:54:ARG:NH2	2.48	0.47
41:r:125:VAL:HA	41:r:128:ARG:NE	2.30	0.47
50:3:137:U:H2'	50:3:138:U:C6	2.50	0.47
50:3:276:A:N6	50:3:293:G:O2'	2.48	0.47
50:3:427:A:H1'	50:3:447:G:H1'	1.96	0.47
50:3:483:A:N1	50:3:490:A:O2'	2.41	0.47
50:3:610:G:H4'	50:3:1285:U:H1'	1.96	0.47
50:3:887:A:C2	50:3:888:A:N7	2.83	0.47
50:3:1111:C:H2'	50:3:1112:A:C8	2.50	0.47
50:3:1351:G:N2	50:3:1650:A:H61	2.07	0.47
50:3:1865:A:H5'	50:3:2197:U:H5'	1.96	0.47
50:3:2120:G:H3'	50:3:2121:A:H8	1.79	0.47
50:3:2125:U:O4	50:3:2150:C:O2'	2.33	0.47
50:3:2202:U:H2'	50:3:2203:U:C5	2.50	0.47
50:3:2338:G:O6	50:3:2339:G:O6	2.33	0.47
50:3:2548:G:H1'	50:3:2748:A:N3	2.30	0.47
50:3:2727:G:H4'	50:3:2850:G:H4'	1.96	0.47
50:3:2828:C:H3'	50:3:2829:G:N2	2.28	0.47
51:4:105:A:C2	51:4:106:A:N7	2.82	0.47
52:5:308:C:H2'	52:5:309:A:H8	1.79	0.47
52:5:356:G:H2'	52:5:357:G:H8	1.78	0.47
52:5:408:U:O2'	52:5:421:G:OP1	2.21	0.47
52:5:583:G:O2'	52:5:873:U:OP1	2.32	0.47
52:5:591:A:H2'	52:5:592:A:C8	2.50	0.47
52:5:673:A:H2'	52:5:674:U:C6	2.44	0.47
52:5:812:A:H5''	52:5:814:C:N4	2.30	0.47
52:5:851:U:H2'	52:5:852:G:O4'	2.14	0.47
52:5:960:C:H4'	52:5:961:G:H5''	1.95	0.47
52:5:970:A:N6	52:5:1342:C:O2'	2.47	0.47
52:5:1328:C:H2'	52:5:1329:G:H8	1.80	0.47
52:5:1396:U:H3	52:5:1454:G:H1	1.61	0.47
2:1:39:ARG:NH1	50:3:2356:U:OP2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:48:LEU:HD21	10:G:141:VAL:HG21	1.96	0.47
22:S:5:LYS:HB3	52:5:62:G:C8	2.49	0.47
24:a:235:PRO:HG2	50:3:827:G:N1	2.29	0.47
32:i:52:ASP:OD1	32:i:121:TRP:NE1	2.47	0.47
32:i:57:LEU:HB3	32:i:125:VAL:HA	1.97	0.47
45:v:14:TYR:CD2	45:v:28:LYS:HG2	2.50	0.47
46:w:11:SER:O	46:w:61:ARG:NH2	2.45	0.47
47:x:12:VAL:H	47:x:26:GLU:HA	1.78	0.47
50:3:164:A:O2'	50:3:2215:C:O2	2.31	0.47
50:3:710:A:H3'	50:3:711:A:H8	1.79	0.47
50:3:895:G:H4'	50:3:896:U:H5'	1.97	0.47
50:3:1342:C:H2'	50:3:1343:C:C6	2.50	0.47
50:3:1755:A:H2'	50:3:1756:A:C8	2.50	0.47
50:3:2021:A:O2'	50:3:2022:A:O4'	2.23	0.47
50:3:2074:G:HO2'	50:3:2076:G:H8	1.62	0.47
50:3:2651:G:C6	50:3:2780:U:N3	2.81	0.47
50:3:2700:C:H2'	50:3:2701:A:C8	2.50	0.47
50:3:2706:U:H2'	50:3:2707:A:O4'	2.14	0.47
52:5:546:G:H2'	52:5:547:C:C6	2.50	0.47
52:5:988:G:N2	52:5:990:C:H42	2.12	0.47
52:5:1222:U:C2	52:5:1264:G:O6	2.66	0.47
52:5:1267:G:H2'	52:5:1268:G:H8	1.79	0.47
52:5:1319:U:H5''	52:5:1322:U:H1'	1.96	0.47
52:5:1475:A:H5''	52:5:1483:C:H5''	1.96	0.47
52:5:1485:C:H2'	52:5:1486:C:C6	2.50	0.47
4:A:86:GLY:HA3	4:A:96:VAL:HG21	1.96	0.47
4:A:95:LEU:HD13	4:A:229:MET:HG3	1.97	0.47
9:F:2:ARG:HG2	52:5:927:C:N4	2.30	0.47
9:F:55:GLU:HG3	9:F:60:VAL:HB	1.96	0.47
11:H:12:ARG:NH1	11:H:111:ARG:HH21	2.12	0.47
13:J:25:VAL:HG22	13:J:63:VAL:HG21	1.96	0.47
20:Q:65:SER:OG	20:Q:69:LYS:O	2.24	0.47
25:b:68:GLY:HA3	50:3:2795:C:H5'	1.97	0.47
29:f:58:TYR:O	29:f:62:LYS:HG2	2.14	0.47
50:3:670:G:H2'	50:3:671:C:H6	1.80	0.47
50:3:812:G:H2'	50:3:813:G:H8	1.79	0.47
50:3:1954:C:H2'	50:3:1955:G:C8	2.50	0.47
50:3:2055:A:H2'	50:3:2056:A:O4'	2.15	0.47
50:3:2063:G:H2'	50:3:2064:G:C8	2.49	0.47
50:3:2079:G:H2'	50:3:2080:C:H6	1.80	0.47
50:3:2103:C:H2'	50:3:2104:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2170:A:N3	50:3:2180:U:O2'	2.43	0.47
52:5:39:G:H4'	52:5:496:A:H4'	1.95	0.47
52:5:712:A:H5''	52:5:802:C:H1'	1.97	0.47
52:5:956:U:H2'	52:5:957:C:C6	2.50	0.47
52:5:1415:G:H2'	52:5:1416:U:H6	1.78	0.47
5:B:4:LYS:HE3	52:5:1166:A:H5''	1.96	0.47
6:C:3:TYR:CD1	6:C:111:ARG:HD2	2.50	0.47
6:C:103:ARG:HB3	6:C:164:SER:OG	2.15	0.47
13:J:80:LYS:CG	13:J:108:PRO:HD3	2.44	0.47
16:M:41:ARG:H	16:M:41:ARG:HD3	1.79	0.47
17:N:34:LYS:HE2	17:N:82:LEU:HG	1.96	0.47
21:R:55:LYS:HG2	21:R:56:THR:H	1.79	0.47
24:a:228:VAL:HG21	50:3:817:A:C5	2.50	0.47
24:a:266:LYS:NZ	50:3:1805:U:OP1	2.47	0.47
27:d:35:VAL:HG21	50:3:2322:G:H5'	1.95	0.47
27:d:132:ILE:O	27:d:151:GLY:CA	2.51	0.47
30:g:124:GLU:HA	30:g:127:ALA:HB3	1.95	0.47
32:i:10:GLU:HG2	32:i:48:THR:HG21	1.96	0.47
41:r:96:ILE:HG13	50:3:2019:G:H4'	1.96	0.47
44:u:53:ARG:NH1	50:3:2371:U:O2'	2.47	0.47
50:3:73:A:OP1	50:3:113:U:O2'	2.30	0.47
50:3:1866:G:N1	50:3:1891:A:H8	2.04	0.47
50:3:2088:U:H2'	50:3:2089:A:H8	1.79	0.47
50:3:2239:U:H2'	50:3:2240:U:H6	1.78	0.47
50:3:2862:U:O2'	50:3:2863:G:O5'	2.24	0.47
52:5:366:C:H41	52:5:384:G:N2	2.12	0.47
52:5:611:A:H2'	52:5:612:G:C8	2.50	0.47
52:5:703:A:H2'	52:5:704:U:H5'	1.97	0.47
52:5:859:A:H4'	52:5:1070:G:H1	1.80	0.47
52:5:986:U:H1'	52:5:988:G:C8	2.46	0.47
52:5:1277:C:H3'	52:5:1278:G:C8	2.49	0.47
52:5:1498:G:H2'	52:5:1499:G:C8	2.50	0.47
6:C:101:VAL:HG21	6:C:122:VAL:HG21	1.98	0.46
7:D:100:LYS:HD2	7:D:126:LEU:HB3	1.96	0.46
7:D:137:TYR:OH	7:D:203:LEU:O	2.25	0.46
8:E:69:THR:HG21	52:5:734:A:H4'	1.96	0.46
10:G:100:PRO:HA	52:5:597:C:H5''	1.97	0.46
11:H:98:LYS:NZ	52:5:1152:G:OP2	2.37	0.46
13:J:15:HIS:HA	13:J:78:PHE:O	2.15	0.46
14:K:64:LYS:HB2	14:K:80:ILE:HD12	1.98	0.46
16:M:7:LYS:O	16:M:11:THR:HG23	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:264:GLY:O	50:3:1850:C:O2'	2.28	0.46
30:g:33:SER:HA	50:3:1090:G:H4'	1.97	0.46
44:u:41:ASP:OD1	44:u:82:LYS:HA	2.14	0.46
50:3:406:C:N4	50:3:440:C:OP2	2.35	0.46
50:3:847:C:H2'	50:3:848:U:C6	2.50	0.46
50:3:912:A:H61	50:3:939:U:H3	1.64	0.46
50:3:1002:A:H1'	50:3:2275:A:C5	2.50	0.46
50:3:1675:A:H2'	50:3:1676:G:O4'	2.15	0.46
50:3:1834:U:H4'	50:3:1978:U:H5''	1.97	0.46
50:3:2289:C:H2'	50:3:2290:G:C8	2.50	0.46
50:3:2534:G:C2	50:3:2546:U:C2	3.03	0.46
52:5:305:A:H2'	52:5:306:G:C8	2.50	0.46
52:5:444:G:N2	52:5:485:C:N3	2.63	0.46
52:5:563:U:O5'	52:5:564:G:H2'	2.16	0.46
52:5:982:A:H2'	52:5:983:G:H8	1.79	0.46
52:5:1077:U:O2'	52:5:1363:U:O2'	2.15	0.46
5:B:37:ASP:OD2	5:B:38:GLU:N	2.48	0.46
6:C:118:ASN:HB3	52:5:399:C:H4'	1.97	0.46
7:D:152:LYS:O	7:D:179:TYR:HB2	2.16	0.46
13:J:105:GLU:HG3	23:T:5:GLU:HB2	1.96	0.46
15:L:103:ARG:HH11	52:5:1198:C:H5''	1.79	0.46
17:N:57:VAL:O	17:N:61:LYS:HG2	2.16	0.46
18:O:12:ARG:HA	18:O:32:HIS:HA	1.97	0.46
18:O:60:THR:HG21	52:5:372:G:H5''	1.97	0.46
22:S:5:LYS:HB2	52:5:62:G:H5''	1.97	0.46
35:l:114:MET:O	35:l:118:LEU:HG	2.16	0.46
50:3:33:C:H2'	50:3:34:C:C6	2.50	0.46
50:3:164:A:C8	50:3:165:U:H2'	2.50	0.46
50:3:341:G:N2	50:3:343:A:H3'	2.30	0.46
50:3:460:G:H2'	50:3:461:C:O4'	2.15	0.46
50:3:689:U:O2'	50:3:690:U:OP1	2.31	0.46
50:3:847:C:H2'	50:3:848:U:H6	1.80	0.46
50:3:1532:A:H3'	50:3:1533:U:C6	2.50	0.46
50:3:1780:A:C8	50:3:1836:A:H1'	2.50	0.46
50:3:2045:C:H2'	50:3:2046:G:H8	1.79	0.46
50:3:2461:A:H4'	50:3:2580:A:H1'	1.96	0.46
50:3:2670:A:H3'	50:3:2671:G:H8	1.80	0.46
51:4:53:U:O2'	51:4:55:A:N6	2.48	0.46
52:5:386:U:H2'	52:5:387:G:C8	2.50	0.46
52:5:587:A:O2'	52:5:588:U:H5'	2.15	0.46
52:5:741:C:O2'	52:5:832:G:N2	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1342:C:N4	52:5:1343:G:O6	2.48	0.46
4:A:108:ILE:HG23	4:A:165:GLY:HA3	1.96	0.46
6:C:59:ARG:NH1	6:C:190:GLY:O	2.48	0.46
6:C:122:VAL:HG13	6:C:142:VAL:HG13	1.97	0.46
6:C:123:LEU:HD23	6:C:143:ARG:HH11	1.79	0.46
8:E:13:LEU:HB3	8:E:17:GLN:HG2	1.97	0.46
24:a:163:SER:OG	50:3:1825:U:H5'	2.16	0.46
27:d:26:MET:HG2	51:4:52:G:H21	1.80	0.46
27:d:37:ASN:HB2	27:d:88:LYS:HD2	1.96	0.46
33:j:88:LYS:HG3	33:j:90:ASP:OD1	2.14	0.46
37:n:34:LYS:HA	37:n:39:ILE:HG13	1.97	0.46
50:3:227:A:N3	50:3:456:G:N2	2.63	0.46
50:3:229:C:O2'	50:3:261:A:O5'	2.29	0.46
50:3:696:U:H2'	50:3:697:U:C6	2.51	0.46
50:3:1063:A:N6	50:3:1161:A:OP1	2.48	0.46
50:3:1396:A:H2'	50:3:1397:G:C8	2.50	0.46
50:3:1437:A:H2'	50:3:1438:G:C8	2.50	0.46
50:3:2150:C:O5'	50:3:2150:C:H6	1.97	0.46
50:3:2167:G:H2'	50:3:2168:C:C6	2.51	0.46
50:3:2287:G:O2'	50:3:2335:A:O2'	2.16	0.46
50:3:2807:G:OP2	50:3:2898:A:O2'	2.34	0.46
52:5:41:C:H2'	52:5:42:G:C8	2.39	0.46
52:5:97:G:OP1	52:5:385:A:O2'	2.27	0.46
52:5:178:U:H2'	52:5:179:U:C6	2.51	0.46
52:5:194:U:H2'	52:5:195:U:C6	2.51	0.46
52:5:514:U:H3'	52:5:515:G:H8	1.79	0.46
52:5:737:U:O3'	52:5:738:A:H8	1.98	0.46
52:5:930:A:O2'	52:5:1359:C:H1'	2.14	0.46
52:5:1041:G:H2'	52:5:1042:G:H8	1.80	0.46
52:5:1044:G:H21	52:5:1047:U:H3'	1.80	0.46
52:5:1367:G:H2'	52:5:1368:U:C6	2.51	0.46
4:A:29:HIS:HE1	4:A:58:LEU:HD23	1.80	0.46
7:D:68:GLU:HA	7:D:94:VAL:HG22	1.96	0.46
8:E:85:GLU:OE1	8:E:85:GLU:N	2.48	0.46
14:K:42:LEU:HD13	14:K:94:LEU:HD11	1.97	0.46
15:L:20:THR:HG22	15:L:27:LEU:HA	1.97	0.46
29:f:103:THR:OG1	50:3:166:A:OP1	2.32	0.46
42:s:7:LEU:HB3	46:w:31:PHE:CE1	2.51	0.46
50:3:322:A:H2'	50:3:323:A:H8	1.80	0.46
50:3:616:G:H2'	50:3:617:C:H6	1.79	0.46
50:3:696:U:H2'	50:3:697:U:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1062:A:N6	50:3:1161:A:OP1	2.48	0.46
50:3:1173:G:C2	50:3:1174:G:H1'	2.50	0.46
50:3:1555:G:H22	50:3:1576:G:H1'	1.79	0.46
50:3:2223:C:H2'	50:3:2224:A:C8	2.50	0.46
50:3:2424:C:H2'	50:3:2425:C:C6	2.50	0.46
50:3:2755:G:H2'	50:3:2756:A:C8	2.51	0.46
52:5:213:U:C2	52:5:214:U:C5	3.04	0.46
52:5:292:U:H2'	52:5:293:G:C8	2.51	0.46
52:5:461:G:C8	52:5:462:G:C8	3.04	0.46
52:5:571:A:O2'	52:5:879:G:O3'	2.32	0.46
52:5:1003:G:C6	52:5:1018:U:N3	2.84	0.46
52:5:1289:U:H2'	52:5:1290:G:C8	2.51	0.46
53:8:33:C:H42	53:8:40:A:N6	2.14	0.46
1:0:21:ARG:HD2	1:0:43:THR:HG22	1.98	0.46
2:1:36:LYS:NZ	50:3:2371:U:OP2	2.48	0.46
6:C:198:GLU:HG2	7:D:160:ILE:HG23	1.97	0.46
17:N:39:HIS:CE1	52:5:736:U:O2	2.68	0.46
29:f:57:HIS:HA	29:f:60:ILE:HG12	1.96	0.46
32:i:8:THR:OG1	32:i:11:GLN:NE2	2.48	0.46
39:p:75:TYR:O	39:p:79:ILE:HG12	2.15	0.46
46:w:48:ARG:NH2	50:3:75:A:H3'	2.30	0.46
48:y:32:LYS:HB2	48:y:50:ASP:CG	2.40	0.46
50:3:1379:C:O2'	50:3:1605:A:N3	2.36	0.46
50:3:1551:U:H2'	50:3:1552:C:C6	2.51	0.46
50:3:1845:C:C4	50:3:1908:A:N6	2.84	0.46
50:3:1881:C:H2'	50:3:1882:G:O4'	2.15	0.46
50:3:1927:C:H2'	50:3:1928:G:C8	2.51	0.46
50:3:2068:G:O2'	50:3:2071:C:N4	2.48	0.46
50:3:2522:U:H2'	50:3:2523:C:O4'	2.16	0.46
50:3:2758:A:O3'	50:3:2760:C:N4	2.44	0.46
52:5:56:A:H61	52:5:353:G:H1'	1.79	0.46
52:5:82:C:H2'	52:5:83:U:C6	2.50	0.46
52:5:94:A:H61	52:5:320:G:H1'	1.79	0.46
52:5:308:C:C2	52:5:309:A:C8	3.04	0.46
52:5:350:G:N2	52:5:351:C:N4	2.62	0.46
52:5:747:C:H2'	52:5:748:U:C5	2.43	0.46
52:5:806:A:H2'	52:5:807:C:C6	2.50	0.46
52:5:925:C:O2'	52:5:1079:G:OP2	2.33	0.46
52:5:974:C:O2'	52:5:1195:G:N7	2.47	0.46
52:5:1096:A:H2'	52:5:1097:G:H8	1.80	0.46
52:5:1328:C:H2'	52:5:1329:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:8:12:C:H2'	53:8:13:U:C6	2.50	0.46
11:H:117:LYS:HB2	11:H:120:LEU:HD12	1.97	0.46
12:I:55:ILE:HG12	16:M:37:PHE:CE1	2.50	0.46
13:J:21:ASN:HA	13:J:51:LYS:HG2	1.98	0.46
14:K:49:ARG:NH2	52:5:1386:C:H4'	2.30	0.46
23:T:48:ILE:O	23:T:52:LYS:HG2	2.15	0.46
25:b:27:THR:OG1	25:b:193:VAL:HB	2.15	0.46
28:e:167:TYR:HB3	28:e:169:ASP:OD1	2.15	0.46
35:l:120:ARG:NH1	50:3:2490:A:H61	2.14	0.46
37:n:3:THR:HG23	37:n:4:ARG:H	1.80	0.46
38:o:21:TYR:CZ	38:o:23:PRO:HG3	2.51	0.46
48:y:51:LEU:O	48:y:53:VAL:HG22	2.16	0.46
50:3:283:A:N7	50:3:286:A:C6	2.84	0.46
50:3:443:C:H2'	50:3:444:C:H6	1.80	0.46
50:3:566:G:OP1	50:3:594:G:N2	2.48	0.46
50:3:613:C:H2'	50:3:614:C:C6	2.50	0.46
50:3:645:C:H2'	50:3:646:A:H8	1.81	0.46
50:3:993:A:H61	50:3:2502:G:N2	2.14	0.46
50:3:1007:C:H1'	50:3:1019:A:H2	1.81	0.46
50:3:1454:G:H21	50:3:1608:C:H42	1.63	0.46
50:3:1671:C:H4'	50:3:2719:A:O2'	2.16	0.46
50:3:1859:U:OP2	50:3:1892:A:H5''	2.16	0.46
50:3:2143:G:C2	50:3:2163:U:C2	3.04	0.46
50:3:2248:C:H2'	50:3:2249:A:C8	2.49	0.46
50:3:2409:U:O2'	50:3:2411:C:OP2	2.25	0.46
50:3:2794:U:H2'	50:3:2795:C:C5	2.51	0.46
50:3:2841:A:H2'	50:3:2842:G:H8	1.80	0.46
51:4:58:C:H2'	51:4:59:A:C8	2.50	0.46
52:5:250:G:H2'	52:5:251:G:H8	1.77	0.46
52:5:388:G:OP1	52:5:447:G:N2	2.34	0.46
52:5:393:A:H4'	52:5:394:U:C5	2.50	0.46
52:5:534:C:H2'	52:5:535:A:H8	1.78	0.46
52:5:621:C:H2'	52:5:622:A:C8	2.51	0.46
52:5:1128:G:H2'	52:5:1129:C:C6	2.51	0.46
52:5:1144:A:H8	52:5:1145:A:C8	2.33	0.46
52:5:1290:G:H2'	52:5:1292:A:OP2	2.15	0.46
52:5:1367:G:N2	52:5:1477:A:O4'	2.49	0.46
11:H:117:LYS:HA	16:M:61:TRP:CH2	2.50	0.46
13:J:36:CYS:SG	13:J:37:TRP:N	2.89	0.46
14:K:72:ASN:HD21	14:K:74:PHE:HB2	1.79	0.46
17:N:39:HIS:CE1	52:5:664:A:H2	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:37:ARG:HB2	52:5:1292:A:H1'	1.96	0.46
24:a:255:ARG:HE	24:a:261:ARG:HB2	1.81	0.46
26:c:116:TRP:CD1	26:c:207:LEU:HD11	2.50	0.46
28:e:37:LYS:HB3	50:3:2767:G:H4'	1.97	0.46
37:n:98:TYR:CE2	37:n:103:ALA:HA	2.50	0.46
38:o:32:ASN:HA	38:o:49:THR:HA	1.98	0.46
49:z:37:PHE:CD2	50:3:2356:U:H1'	2.50	0.46
50:3:188:G:H2'	50:3:189:U:H6	1.80	0.46
50:3:323:A:H2'	50:3:324:C:C6	2.50	0.46
50:3:405:C:H2'	50:3:406:C:C6	2.50	0.46
50:3:816:A:O2'	50:3:1796:A:O4'	2.31	0.46
50:3:1242:G:C2	50:3:1266:G:C2	3.03	0.46
50:3:1285:U:H5'	50:3:2067:A:N6	2.31	0.46
50:3:1464:G:H2'	50:3:1465:U:C6	2.51	0.46
50:3:2407:G:H2'	50:3:2408:G:H8	1.79	0.46
50:3:2409:U:H4'	50:3:2410:C:H6	1.80	0.46
50:3:2666:C:N4	50:3:2667:G:O6	2.49	0.46
50:3:2673:A:H2'	50:3:2674:C:C6	2.51	0.46
50:3:2770:U:H2'	50:3:2771:G:C8	2.50	0.46
50:3:2814:A:H62	50:3:2894:G:H21	1.64	0.46
52:5:279:C:H2'	52:5:280:G:H8	1.81	0.46
52:5:357:G:H2'	52:5:358:G:C8	2.51	0.46
52:5:409:G:H2'	52:5:422:A:OP2	2.15	0.46
52:5:502:C:H2'	52:5:509:C:H6	1.78	0.46
52:5:1066:U:HO2'	52:5:1092:A:N6	2.14	0.46
52:5:1369:A:N6	52:5:1475:A:O2'	2.49	0.46
52:5:1484:C:H2'	52:5:1485:C:C6	2.51	0.46
7:D:163:GLY:O	7:D:167:ARG:N	2.36	0.46
11:H:127:PRO:O	11:H:128:GLN:HG3	2.15	0.46
15:L:86:TRP:HZ3	15:L:97:VAL:HG13	1.81	0.46
16:M:45:ARG:NH1	16:M:49:TYR:OH	2.47	0.46
19:P:81:ILE:HG22	19:P:82:GLU:HG2	1.98	0.46
22:S:54:LEU:HB3	22:S:60:ILE:HG13	1.97	0.46
22:S:73:VAL:HG22	52:5:173:U:H5'	1.98	0.46
26:c:43:ALA:HB2	50:3:479:A:H62	1.80	0.46
39:p:92:LYS:NZ	50:3:1033:A:O5'	2.48	0.46
40:q:28:PRO:HG2	40:q:31:LYS:HB3	1.96	0.46
49:z:2:ALA:HB1	50:3:2398:U:C4	2.50	0.46
50:3:32:G:H2'	50:3:33:C:C6	2.50	0.46
50:3:381:A:H2'	50:3:382:U:C6	2.51	0.46
50:3:465:A:H2'	50:3:466:A:C4	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1045:A:H4'	50:3:1046:A:OP1	2.16	0.46
50:3:2534:G:N1	50:3:2545:U:N3	2.64	0.46
50:3:2733:A:C8	50:3:2735:G:C6	3.04	0.46
50:3:2883:A:H62	50:3:2886:A:N6	2.14	0.46
52:5:581:A:N6	52:5:755:U:O2'	2.48	0.46
52:5:718:A:H4'	52:5:719:G:N3	2.31	0.46
52:5:1056:U:O4'	52:5:1165:G:N2	2.49	0.46
3:2:31:LYS:HD2	28:e:175:LYS:NZ	2.31	0.46
6:C:76:ARG:HG3	6:C:203:LEU:HD13	1.98	0.46
12:I:48:LEU:HD12	12:I:77:LYS:HG2	1.97	0.46
15:L:29:ARG:NH1	15:L:60:ALA:O	2.49	0.46
15:L:86:TRP:CD1	21:R:77:THR:H	2.26	0.46
15:L:103:ARG:NH1	52:5:955:U:O2'	2.41	0.46
33:j:22:ILE:HD12	50:3:1959:A:N6	2.31	0.46
41:r:136:LYS:HB3	41:r:137:MET:HE2	1.98	0.46
43:t:15:GLY:HA2	50:3:343:A:O2'	2.16	0.46
50:3:495:U:H3	50:3:506:A:H62	1.64	0.46
50:3:638:A:C6	50:3:661:G:N1	2.84	0.46
50:3:798:G:O2'	50:3:799:A:H3'	2.16	0.46
50:3:823:A:OP1	50:3:826:C:N4	2.49	0.46
50:3:895:G:N2	50:3:953:G:H2'	2.31	0.46
50:3:1327:G:H2'	50:3:1661:A:N6	2.31	0.46
50:3:1358:C:H2'	50:3:1359:C:C6	2.51	0.46
50:3:1446:G:O6	50:3:1612:U:H5''	2.16	0.46
50:3:1836:A:P	50:3:1837:C:H41	2.38	0.46
50:3:1941:C:H2'	50:3:1942:G:C8	2.51	0.46
50:3:2024:C:O2'	50:3:2026:A:OP2	2.23	0.46
50:3:2054:C:H2'	50:3:2055:A:C8	2.51	0.46
50:3:2066:A:C4	50:3:2511:A:H2'	2.51	0.46
50:3:2394:A:H2'	50:3:2395:U:C6	2.51	0.46
52:5:116:A:H5''	52:5:186:A:H5'	1.98	0.46
52:5:720:U:O2	52:5:829:G:O2'	2.34	0.46
52:5:890:U:H2'	52:5:891:C:H6	1.80	0.46
52:5:972:A:O2'	52:5:1198:C:N4	2.49	0.46
52:5:1058:A:OP1	52:5:1083:A:O2'	2.30	0.46
3:2:29:THR:HG22	3:2:31:LYS:H	1.81	0.46
5:B:27:HIS:NE2	52:5:1230:G:OP1	2.48	0.46
11:H:30:ILE:HG22	11:H:32:VAL:HG23	1.98	0.46
15:L:101:ARG:NH1	15:L:103:ARG:HB2	2.31	0.46
25:b:17:PHE:CZ	38:o:80:GLN:HG2	2.46	0.46
26:c:147:LEU:HD12	26:c:175:ILE:HD13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:2:LYS:H	29:f:29:PHE:HE1	1.63	0.46
29:f:115:ASP:N	29:f:115:ASP:OD1	2.49	0.46
33:j:70:GLN:NE2	50:3:2691:C:O2	2.43	0.46
35:l:9:TYR:HB2	35:l:12:PRO:HG3	1.97	0.46
35:l:119:THR:HG22	35:l:129:TRP:CE2	2.51	0.46
41:r:108:SER:HB2	41:r:113:GLU:HG3	1.97	0.46
41:r:115:GLN:O	41:r:119:LYS:HG2	2.16	0.46
43:t:100:LYS:HE3	50:3:330:A:H4'	1.98	0.46
50:3:152:A:H2'	50:3:153:U:C6	2.50	0.46
50:3:170:A:H2	50:3:2217:G:H4'	1.81	0.46
50:3:339:U:H2'	50:3:340:U:C5	2.51	0.46
50:3:659:C:H2'	50:3:660:U:C2	2.51	0.46
50:3:1862:A:N6	50:3:1863:G:O6	2.49	0.46
50:3:2150:C:H2'	50:3:2151:G:N9	2.31	0.46
50:3:2328:A:H2'	50:3:2341:G:C2	2.50	0.46
50:3:2351:U:O2'	50:3:2381:G:O2'	2.21	0.46
51:4:105:A:H2'	51:4:105:A:N3	2.31	0.46
52:5:101:A:H62	52:5:309:A:H2	1.64	0.46
52:5:931:C:O2'	52:5:1357:C:N3	2.49	0.46
52:5:1145:A:H2'	52:5:1146:A:O4'	2.16	0.46
52:5:1293:A:H4'	52:5:1294:U:C5	2.51	0.46
52:5:1487:U:O2	52:5:1498:G:N2	2.48	0.46
5:B:153:LYS:NZ	5:B:172:ILE:HD13	2.31	0.45
9:F:26:ILE:HD11	9:F:42:LEU:HD22	1.97	0.45
17:N:64:LEU:HB3	17:N:68:LYS:NZ	2.32	0.45
24:a:148:HIS:ND1	24:a:199:THR:O	2.49	0.45
34:k:69:ARG:HG3	34:k:72:PHE:HB2	1.97	0.45
44:u:77:SER:HB2	44:u:99:LYS:HE3	1.99	0.45
49:z:4:LYS:HZ3	50:3:2428:C:H4'	1.81	0.45
50:3:29:G:C2	50:3:547:G:H1'	2.51	0.45
50:3:231:A:H61	50:3:454:G:N2	2.14	0.45
50:3:274:A:N6	50:3:296:U:O4	2.44	0.45
50:3:445:C:H2'	50:3:446:A:H8	1.81	0.45
50:3:558:C:H4'	50:3:574:G:N2	2.30	0.45
50:3:579:U:C2	50:3:582:A:C8	3.04	0.45
50:3:772:C:H2'	50:3:773:G:H8	1.81	0.45
50:3:1440:U:H2'	50:3:1441:A:O4'	2.14	0.45
50:3:1489:G:H2'	50:3:1490:G:H8	1.80	0.45
50:3:1529:U:H2'	50:3:1530:G:C5	2.50	0.45
50:3:1721:G:H2'	50:3:1722:U:C6	2.51	0.45
50:3:1967:U:H2'	50:3:1968:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1983:U:O2'	50:3:1984:A:N7	2.49	0.45
50:3:2623:U:H2'	50:3:2624:C:H6	1.81	0.45
50:3:2629:G:H2'	50:3:2630:U:C6	2.52	0.45
50:3:2689:C:O2	50:3:2733:A:N6	2.49	0.45
52:5:570:A:H4'	52:5:911:G:O2'	2.16	0.45
52:5:863:A:H5''	52:5:864:U:H5'	1.96	0.45
52:5:916:U:H2'	52:5:917:G:H8	1.76	0.45
52:5:922:G:O2'	52:5:1507:U:O2	2.34	0.45
52:5:943:C:H2'	52:5:944:A:C8	2.48	0.45
52:5:1043:U:H3	52:5:1181:G:H1	1.62	0.45
52:5:1128:G:H2'	52:5:1129:C:H6	1.81	0.45
2:1:27:SER:HB2	34:k:63:PRO:HB3	1.97	0.45
5:B:17:ASN:HD22	5:B:216:ASN:HA	1.80	0.45
5:B:48:TYR:HB3	5:B:51:ALA:HB2	1.99	0.45
19:P:67:ARG:NH2	19:P:68:PRO:O	2.49	0.45
20:Q:94:ARG:HG3	20:Q:99:VAL:HG23	1.99	0.45
24:a:14:ILE:HD12	24:a:16:HIS:CE1	2.51	0.45
26:c:83:HIS:HB3	50:3:1284:A:N6	2.31	0.45
35:l:40:ASN:CG	35:l:41:TRP:H	2.24	0.45
40:q:32:GLU:HG2	40:q:58:VAL:HB	1.98	0.45
41:r:41:LYS:HD3	50:3:2016:G:H5''	1.98	0.45
50:3:82:G:H2'	50:3:83:G:H8	1.81	0.45
50:3:106:C:H2'	50:3:107:C:C6	2.51	0.45
50:3:200:A:H61	50:3:866:G:H21	1.65	0.45
50:3:294:G:H4'	50:3:301:G:H4'	1.97	0.45
50:3:496:A:N6	50:3:505:G:C2	2.82	0.45
50:3:958:C:H2'	50:3:959:C:C6	2.51	0.45
50:3:1063:A:N6	50:3:1160:G:H2'	2.31	0.45
50:3:1168:A:C2	50:3:1172:G:H5'	2.51	0.45
50:3:1596:U:H2'	50:3:1597:U:H6	1.80	0.45
50:3:1884:A:H2'	50:3:1884:A:N3	2.31	0.45
50:3:2100:G:N2	50:3:2206:A:N1	2.64	0.45
50:3:2143:G:C6	50:3:2163:U:N3	2.82	0.45
50:3:2557:G:H2'	50:3:2558:G:H8	1.81	0.45
50:3:2645:U:H3'	50:3:2646:G:C8	2.49	0.45
52:5:87:G:H1'	52:5:137:A:C2	2.51	0.45
52:5:367:A:N6	52:5:384:G:OP2	2.49	0.45
52:5:391:C:H2'	52:5:392:A:H8	1.80	0.45
52:5:766:G:H5''	52:5:799:A:H2	1.81	0.45
52:5:811:A:H5''	52:5:813:A:N7	2.31	0.45
52:5:1002:A:H3'	52:5:1003:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:126:ALA:HB1	5:B:131:VAL:HG11	1.98	0.45
6:C:194:SER:O	6:C:198:GLU:HG3	2.16	0.45
10:G:49:VAL:HG21	10:G:57:PHE:CD1	2.51	0.45
12:I:46:LEU:HD12	12:I:46:LEU:HA	1.74	0.45
15:L:86:TRP:CE3	52:5:1295:U:H4'	2.52	0.45
15:L:107:ARG:NH2	52:5:943:C:OP2	2.49	0.45
28:e:5:GLY:HA3	28:e:68:HIS:CE1	2.51	0.45
34:k:72:PHE:HA	50:3:2414:U:C6	2.51	0.45
34:k:134:GLN:HB2	50:3:673:A:OP1	2.16	0.45
36:m:53:LYS:HE3	36:m:53:LYS:HB2	1.71	0.45
38:o:26:SER:OG	50:3:2852:G:O2'	2.17	0.45
38:o:54:ARG:HH21	38:o:56:ARG:HB2	1.81	0.45
41:r:125:VAL:O	41:r:129:VAL:HG23	2.16	0.45
48:y:52:ARG:HD3	48:y:52:ARG:HA	1.68	0.45
50:3:683:G:H21	50:3:2358:U:H4'	1.81	0.45
50:3:790:U:H2'	50:3:791:A:C8	2.51	0.45
50:3:881:A:O2'	50:3:966:U:O4	2.33	0.45
50:3:1083:A:C2	50:3:1148:U:H1'	2.48	0.45
50:3:1467:U:H5''	50:3:1584:U:H3	1.81	0.45
50:3:1856:G:C8	53:8:71:A:H2'	2.51	0.45
50:3:1887:U:H2'	50:3:1888:U:C5	2.52	0.45
50:3:2529:C:O2'	50:3:2572:A:N3	2.36	0.45
50:3:2694:A:N6	50:3:2732:A:N1	2.64	0.45
52:5:21:U:C2	52:5:22:G:C8	3.05	0.45
52:5:55:C:H5	52:5:348:C:H3'	1.82	0.45
52:5:210:G:C4	52:5:211:G:C8	3.05	0.45
52:5:761:U:H2'	52:5:762:G:C8	2.41	0.45
52:5:974:C:H1'	52:5:1195:G:OP2	2.17	0.45
52:5:999:C:H1'	52:5:1000:A:C5	2.51	0.45
52:5:1034:G:H2'	52:5:1035:A:C8	2.51	0.45
52:5:1274:G:N2	52:5:1275:U:O4	2.49	0.45
1:0:36:LYS:HB3	50:3:185:U:C4	2.51	0.45
3:2:14:CYS:SG	3:2:25:VAL:HB	2.56	0.45
4:A:19:SER:OG	4:A:20:LEU:N	2.49	0.45
6:C:149:ILE:O	6:C:155:LYS:NZ	2.49	0.45
6:C:166:PHE:CD2	6:C:167:VAL:HG13	2.52	0.45
7:D:138:HIS:CE1	7:D:202:GLN:HB2	2.51	0.45
7:D:191:MET:HE2	7:D:191:MET:HB3	1.80	0.45
14:K:107:ARG:HH12	52:5:906:C:H5	1.65	0.45
25:b:171:HIS:CG	50:3:2825:A:H5''	2.52	0.45
34:k:40:LYS:HE3	50:3:867:G:H5''	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:l:10:ARG:HH22	44:u:25:LYS:HE2	1.82	0.45
41:r:42:LYS:HG2	41:r:42:LYS:O	2.16	0.45
42:s:19:ASN:HB3	42:s:26:LYS:O	2.17	0.45
44:u:89:LYS:HZ2	50:3:951:C:HO2'	1.58	0.45
50:3:48:G:N2	50:3:184:A:OP1	2.50	0.45
50:3:1105:A:O2'	50:3:1106:G:OP1	2.32	0.45
50:3:1555:G:H2'	50:3:1556:U:C6	2.52	0.45
50:3:1596:U:H2'	50:3:1597:U:C6	2.51	0.45
50:3:1626:C:H2'	50:3:1627:U:C6	2.51	0.45
50:3:1861:A:H3'	50:3:1862:A:H8	1.81	0.45
50:3:1862:A:O2'	50:3:2095:A:O2'	2.20	0.45
50:3:2081:U:H2'	50:3:2082:U:H6	1.81	0.45
50:3:2552:G:N3	50:3:2654:U:H4'	2.31	0.45
51:4:37:A:H2'	51:4:38:U:C6	2.51	0.45
52:5:60:A:O2'	52:5:96:G:N2	2.43	0.45
52:5:445:A:H3'	52:5:446:A:H8	1.81	0.45
52:5:641:U:C2	52:5:642:A:C8	3.04	0.45
52:5:1198:C:OP2	52:5:1296:C:N4	2.48	0.45
3:2:2:LYS:HD2	3:2:34:GLN:HG2	1.97	0.45
5:B:5:VAL:HG11	52:5:1164:U:H5''	1.98	0.45
5:B:87:LYS:O	5:B:90:LYS:HG2	2.16	0.45
9:F:24:ARG:NH1	9:F:96:ILE:HG13	2.31	0.45
11:H:116:LYS:HG3	11:H:123:ALA:HA	1.98	0.45
17:N:58:SER:OG	52:5:579:G:H4'	2.17	0.45
23:T:52:LYS:HB3	23:T:52:LYS:HE3	1.84	0.45
24:a:44:HIS:HB3	24:a:47:ARG:HB2	1.98	0.45
25:b:147:VAL:N	50:3:2059:G:OP1	2.44	0.45
27:d:50:LEU:HD11	27:d:85:ILE:HA	1.97	0.45
28:e:159:PRO:HD3	50:3:2538:A:N6	2.31	0.45
33:j:30:LYS:HD3	50:3:2682:A:H4'	1.97	0.45
39:p:27:ARG:HD3	39:p:37:THR:HG21	1.99	0.45
50:3:155:A:C6	50:3:178:A:N1	2.85	0.45
50:3:301:G:H2'	50:3:302:G:H8	1.80	0.45
50:3:761:G:O2'	50:3:762:A:N7	2.36	0.45
50:3:854:A:H2	50:3:978:G:N3	2.15	0.45
50:3:854:A:H5'	50:3:1009:A:C6	2.52	0.45
50:3:1412:A:H61	50:3:1632:C:H41	1.65	0.45
50:3:1414:C:H2'	50:3:1415:A:C8	2.51	0.45
50:3:1793:A:OP2	50:3:1795:C:N4	2.50	0.45
50:3:2350:C:O2'	50:3:2382:A:H5''	2.17	0.45
50:3:2464:C:H2'	50:3:2465:U:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:69:G:H21	52:5:137:A:N6	2.15	0.45
52:5:143:U:H2'	52:5:144:U:C6	2.51	0.45
52:5:356:G:H2'	52:5:357:G:C8	2.51	0.45
52:5:361:U:O3'	52:5:362:U:H6	2.00	0.45
52:5:427:A:H2'	52:5:428:A:H5'	1.98	0.45
52:5:946:G:H2'	52:5:947:U:C6	2.52	0.45
52:5:1226:A:N7	52:5:1227:A:C8	2.84	0.45
52:5:1366:U:H2'	52:5:1367:G:C8	2.52	0.45
4:A:115:GLY:O	4:A:119:ASN:ND2	2.49	0.45
4:A:121:LYS:HD3	4:A:121:LYS:N	2.32	0.45
10:G:54:LEU:HA	10:G:75:LYS:H	1.81	0.45
24:a:26:LEU:HD13	24:a:88:TYR:HB3	1.99	0.45
24:a:183:GLN:NE2	24:a:184:LEU:O	2.50	0.45
40:q:79:HIS:CG	50:3:1218:G:H4'	2.51	0.45
50:3:411:U:H1'	50:3:459:A:C2	2.52	0.45
50:3:428:U:H2'	50:3:429:U:C6	2.52	0.45
50:3:663:A:O4'	50:3:687:G:O2'	2.34	0.45
50:3:752:C:H3'	50:3:753:A:H8	1.81	0.45
50:3:840:G:N2	50:3:863:U:O3'	2.49	0.45
50:3:840:G:C5	50:3:2075:U:H5'	2.52	0.45
50:3:897:A:H62	50:3:953:G:H21	1.65	0.45
50:3:982:G:O6	50:3:983:A:N6	2.49	0.45
50:3:1085:A:N1	50:3:2759:G:H2'	2.30	0.45
50:3:1351:G:H2'	50:3:1352:G:C8	2.52	0.45
50:3:1494:U:O2	50:3:1550:G:O6	2.35	0.45
50:3:1726:U:O2'	50:3:1729:G:O6	2.28	0.45
50:3:1766:A:H2'	50:3:1767:A:C5	2.52	0.45
50:3:1937:G:N2	50:3:1938:U:O4	2.33	0.45
50:3:1943:A:N6	50:3:1970:C:O2	2.49	0.45
50:3:2406:U:H2'	50:3:2407:G:C8	2.51	0.45
50:3:2474:C:H2'	50:3:2475:C:C6	2.51	0.45
50:3:2854:A:H3'	50:3:2855:A:C8	2.52	0.45
51:4:44:A:H3'	51:4:45:C:H6	1.82	0.45
52:5:145:G:O6	52:5:149:G:N1	2.50	0.45
52:5:843:C:H2'	52:5:844:U:C6	2.52	0.45
52:5:856:U:H2'	52:5:857:U:C6	2.52	0.45
52:5:980:C:H2'	52:5:981:U:C2	2.52	0.45
52:5:1389:U:O2	52:5:1461:G:O6	2.34	0.45
52:5:1440:U:H2'	52:5:1441:C:C6	2.51	0.45
6:C:73:ARG:NH1	52:5:398:G:OP1	2.49	0.45
9:F:3:LYS:HE3	9:F:3:LYS:HB2	1.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:21:ASN:HB3	52:5:688:G:C8	2.52	0.45
20:Q:81:MET:HG3	52:5:660:A:H5''	1.99	0.45
25:b:60:LYS:HG2	25:b:61:LYS:HE3	1.97	0.45
26:c:52:ILE:HD13	26:c:89:ILE:HG13	1.99	0.45
26:c:76:GLN:OE1	26:c:81:ASN:ND2	2.50	0.45
28:e:17:ASN:OD1	28:e:28:LYS:HB3	2.17	0.45
37:n:44:TRP:HZ3	37:n:49:ASN:HA	1.81	0.45
37:n:116:PHE:HB2	50:3:2385:A:N3	2.32	0.45
38:o:34:ALA:HB3	38:o:87:SER:OG	2.17	0.45
41:r:124:LEU:HG	41:r:128:ARG:NH2	2.31	0.45
50:3:58:A:H2'	50:3:59:C:H6	1.82	0.45
50:3:58:A:H1'	50:3:128:A:C4	2.51	0.45
50:3:116:C:H2'	50:3:117:C:H6	1.82	0.45
50:3:231:A:H61	50:3:454:G:H21	1.65	0.45
50:3:325:G:H2'	50:3:326:A:C8	2.52	0.45
50:3:402:A:O2'	50:3:404:C:O5'	2.35	0.45
50:3:522:C:H2'	50:3:523:A:C8	2.52	0.45
50:3:574:G:H2'	50:3:575:C:C6	2.52	0.45
50:3:1028:C:H2'	50:3:1029:A:H8	1.82	0.45
50:3:1845:C:N3	50:3:1848:U:O4	2.49	0.45
50:3:2237:U:H2'	50:3:2238:G:C8	2.49	0.45
50:3:2281:A:H2'	50:3:2282:A:C8	2.51	0.45
51:4:54:U:H4'	51:4:55:A:O5'	2.16	0.45
52:5:37:C:H2'	52:5:38:U:O4'	2.17	0.45
52:5:312:A:H4'	52:5:349:A:N6	2.32	0.45
52:5:789:A:H61	52:5:1471:C:HO2'	1.61	0.45
52:5:1062:C:H2'	52:5:1063:G:H8	1.78	0.45
52:5:1446:A:H2'	52:5:1447:U:C6	2.52	0.45
5:B:155:LEU:HD11	5:B:202:LYS:HD3	1.99	0.45
11:H:16:SER:OG	11:H:70:LYS:HG3	2.17	0.45
14:K:99:ARG:HH12	52:5:24:C:H4'	1.82	0.45
15:L:16:GLU:HA	15:L:30:SER:HB2	1.99	0.45
18:O:12:ARG:HH22	52:5:606:A:H1'	1.81	0.45
24:a:31:ASN:HB3	50:3:1599:C:H42	1.82	0.45
25:b:150:GLY:N	50:3:2579:U:O2'	2.50	0.45
26:c:115:VAL:HG13	26:c:191:LEU:HD22	1.98	0.45
28:e:25:ILE:HD11	28:e:46:PHE:CE2	2.52	0.45
36:m:9:LYS:HE3	36:m:14:ARG:NH2	2.32	0.45
41:r:57:ASN:HB3	41:r:61:ASN:ND2	2.31	0.45
41:r:69:LEU:HD13	41:r:107:LEU:HB3	1.99	0.45
41:r:88:ARG:H	50:3:1648:A:H61	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:128:ARG:HH12	50:3:1248:A:H2'	1.81	0.45
43:t:12:VAL:HG23	43:t:39:LEU:HD13	1.99	0.45
50:3:199:A:P	50:3:200:A:H4'	2.57	0.45
50:3:421:A:H2	50:3:427:A:H62	1.65	0.45
50:3:434:G:H5''	50:3:2097:A:O4'	2.16	0.45
50:3:852:C:H1'	50:3:874:U:H5''	1.98	0.45
50:3:1348:C:OP2	50:3:1357:U:H5''	2.16	0.45
50:3:1370:A:O2'	50:3:1371:G:H5''	2.17	0.45
50:3:1604:A:H2'	50:3:1605:A:C8	2.52	0.45
50:3:2122:G:H1	50:3:2124:A:H2'	1.82	0.45
50:3:2129:U:H2'	50:3:2130:A:H8	1.82	0.45
50:3:2336:A:H2'	50:3:2337:U:H6	1.82	0.45
50:3:2478:G:H2'	50:3:2479:A:H8	1.82	0.45
51:4:22:G:O2'	51:4:25:A:N6	2.50	0.45
52:5:15:U:H2'	52:5:17:A:N7	2.32	0.45
52:5:318:C:H2'	52:5:319:U:C6	2.52	0.45
52:5:348:C:N4	52:5:353:G:H22	2.14	0.45
52:5:470:U:H2'	52:5:471:A:O4'	2.17	0.45
52:5:598:U:O2	52:5:636:G:C2	2.70	0.45
52:5:649:U:H1'	52:5:650:A:H2'	1.98	0.45
52:5:799:A:H3'	52:5:800:G:H8	1.82	0.45
52:5:862:C:H3'	52:5:863:A:H8	1.80	0.45
52:5:1133:A:O2'	52:5:1155:A:N1	2.47	0.45
52:5:1328:C:C2	52:5:1329:G:C8	3.05	0.45
53:8:30:G:H2'	53:8:31:G:C8	2.52	0.45
6:C:167:VAL:HG12	6:C:178:TYR:HA	1.97	0.45
9:F:2:ARG:NH2	52:5:1359:C:H42	2.14	0.45
16:M:2:ALA:HB1	16:M:5:SER:HB3	1.99	0.45
21:R:15:LEU:CD1	52:5:1010:A:H5'	2.47	0.45
24:a:100:THR:HG23	24:a:106:LYS:HG2	1.99	0.45
25:b:147:VAL:HG22	50:3:2058:G:H4'	1.99	0.45
28:e:25:ILE:HD13	28:e:75:ILE:HD11	1.99	0.45
29:f:1:MET:HB2	45:v:59:LYS:HG2	1.99	0.45
42:s:53:LEU:HB3	42:s:84:THR:O	2.16	0.45
50:3:149:A:H2'	50:3:150:U:C6	2.51	0.45
50:3:491:A:H2	50:3:509:G:H5'	1.81	0.45
50:3:500:U:O4	50:3:719:G:O2'	2.34	0.45
50:3:671:C:H2'	50:3:672:G:C8	2.51	0.45
50:3:733:C:H4'	50:3:769:A:N1	2.31	0.45
50:3:758:C:H2'	50:3:759:U:C5	2.52	0.45
50:3:1197:G:H2'	50:3:1198:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1383:G:H2'	50:3:1384:C:C6	2.52	0.45
50:3:1605:A:H2'	50:3:1606:A:C8	2.52	0.45
50:3:1859:U:H3	50:3:1895:G:H2'	1.82	0.45
50:3:2116:U:OP1	50:3:2156:G:N2	2.42	0.45
50:3:2349:G:H2'	50:3:2350:C:O4'	2.17	0.45
50:3:2646:G:O2'	50:3:2647:A:N7	2.49	0.45
50:3:2657:C:H2'	50:3:2658:U:C6	2.52	0.45
52:5:19:C:H2'	52:5:20:C:C6	2.51	0.45
52:5:31:U:H3	52:5:551:A:H2	1.65	0.45
52:5:52:A:N1	52:5:101:A:N6	2.65	0.45
52:5:96:G:H22	52:5:326:C:H41	1.63	0.45
52:5:144:U:H2'	52:5:145:G:N7	2.31	0.45
52:5:157:A:H2'	52:5:158:A:C8	2.52	0.45
52:5:259:A:H2'	52:5:260:C:C5	2.52	0.45
52:5:462:G:N3	52:5:463:U:H1'	2.32	0.45
52:5:571:A:H1'	52:5:879:G:H4'	1.99	0.45
52:5:571:A:H2'	52:5:877:C:O2'	2.17	0.45
52:5:579:G:H1	52:5:756:A:P	2.40	0.45
52:5:611:A:H2	52:5:625:U:H3	1.63	0.45
52:5:812:A:O2'	52:5:1501:G:N3	2.48	0.45
52:5:934:G:N3	52:5:1350:A:H2	2.15	0.45
52:5:973:A:H5'	52:5:1297:G:H5'	1.98	0.45
52:5:987:U:O2	52:5:1035:A:N6	2.50	0.45
52:5:1216:G:O2'	52:5:1217:G:H5'	2.17	0.45
52:5:1322:U:H2'	52:5:1323:A:H8	1.82	0.45
1:0:8:SER:H	50:3:721:G:N2	2.15	0.45
1:0:11:LYS:HD3	50:3:806:A:P	2.57	0.45
5:B:179:SER:HB3	52:5:1101:A:H62	1.82	0.45
5:B:187:TYR:HB2	5:B:204:TRP:CD1	2.52	0.45
8:E:92:ARG:HH12	20:Q:85:HIS:HA	1.82	0.45
9:F:90:VAL:HG21	9:F:94:ARG:HD3	1.98	0.45
14:K:4:ILE:O	14:K:8:ILE:N	2.50	0.45
25:b:212:LYS:HD2	50:3:2741:A:H62	1.81	0.45
27:d:148:ARG:HB3	27:d:150:ARG:HH21	1.81	0.45
28:e:23:ASP:O	28:e:24:HIS:ND1	2.50	0.45
34:k:30:LYS:NZ	50:3:844:G:O5'	2.44	0.45
49:z:31:LYS:HA	49:z:49:GLU:HB3	1.98	0.45
50:3:278:U:H2'	50:3:279:U:C6	2.51	0.45
50:3:336:C:H2'	50:3:337:U:H6	1.79	0.45
50:3:453:U:H2'	50:3:454:G:C8	2.52	0.45
50:3:572:G:H21	50:3:589:A:H62	1.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:755:C:H2'	50:3:756:A:C8	2.51	0.45
50:3:788:G:H2'	50:3:789:A:H8	1.82	0.45
50:3:1094:G:C5	50:3:1095:U:C4	3.05	0.45
50:3:1297:U:HO2'	50:3:1298:A:P	2.37	0.45
50:3:1449:G:H1'	50:3:1520:A:N6	2.32	0.45
50:3:1499:C:H2'	50:3:1500:A:C8	2.51	0.45
50:3:1509:U:H3	50:3:1531:C:H42	1.64	0.45
50:3:1790:U:H1'	50:3:2615:G:N2	2.32	0.45
50:3:2127:G:C6	50:3:2187:C:N4	2.84	0.45
51:4:12:U:H1'	51:4:97:A:H1'	1.98	0.45
52:5:130:G:C6	52:5:165:A:C6	3.04	0.45
52:5:145:G:N2	52:5:148:A:C6	2.85	0.45
52:5:662:G:O6	52:5:721:G:C6	2.70	0.45
52:5:707:G:H2'	52:5:708:A:C8	2.51	0.45
52:5:806:A:H2'	52:5:807:C:H6	1.82	0.45
52:5:909:A:H2'	52:5:911:G:H5''	1.99	0.45
52:5:978:A:H2'	52:5:978:A:N3	2.32	0.45
52:5:1324:A:H2'	52:5:1325:U:O4'	2.17	0.45
52:5:1341:U:H2'	52:5:1342:C:C6	2.52	0.45
5:B:4:LYS:NZ	52:5:1167:C:OP1	2.49	0.44
10:G:41:LYS:O	10:G:44:ILE:HG22	2.17	0.44
10:G:97:ILE:HG12	19:P:36:HIS:CG	2.51	0.44
14:K:65:TYR:CD2	14:K:77:LEU:HD23	2.52	0.44
25:b:54:PHE:O	25:b:78:THR:HB	2.16	0.44
26:c:107:ALA:HB2	50:3:633:G:H1'	1.99	0.44
38:o:54:ARG:NH2	38:o:56:ARG:HB2	2.32	0.44
48:y:27:LEU:HD23	48:y:27:LEU:HA	1.87	0.44
50:3:71:C:O2	50:3:75:A:O2'	2.35	0.44
50:3:427:A:N3	50:3:427:A:H2'	2.32	0.44
50:3:550:A:H2	50:3:1291:C:H1'	1.81	0.44
50:3:669:A:O2'	50:3:2412:A:H5'	2.17	0.44
50:3:758:C:H2'	50:3:759:U:C6	2.52	0.44
50:3:794:G:H2'	50:3:795:G:H8	1.82	0.44
50:3:914:G:H5'	50:3:932:U:C5	2.52	0.44
50:3:1208:A:H2'	50:3:1209:U:H4'	1.97	0.44
50:3:1336:A:H2'	50:3:1337:G:O4'	2.17	0.44
50:3:1354:U:H2'	50:3:1355:C:C6	2.52	0.44
50:3:1445:U:H1'	50:3:1621:U:O2	2.17	0.44
50:3:1449:G:C2	50:3:1450:G:C8	3.05	0.44
50:3:1489:G:H2'	50:3:1490:G:C8	2.52	0.44
50:3:1490:G:H2'	50:3:1491:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1491:G:HO2'	50:3:1553:G:HO2'	1.65	0.44
50:3:1995:G:H2'	50:3:1996:A:C8	2.51	0.44
50:3:2609:C:N4	50:3:2611:G:O6	2.50	0.44
50:3:2706:U:OP2	50:3:2707:A:N6	2.50	0.44
52:5:87:G:H2'	52:5:88:A:H8	1.82	0.44
52:5:457:A:H2'	52:5:458:G:C8	2.51	0.44
52:5:880:G:O2'	52:5:909:A:O3'	2.35	0.44
52:5:988:G:O2'	52:5:989:A:N7	2.45	0.44
52:5:1267:G:C2	52:5:1268:G:C5	3.05	0.44
52:5:1474:A:OP2	52:5:1479:G:O2'	2.23	0.44
5:B:64:THR:HA	5:B:100:THR:HG23	1.98	0.44
5:B:113:MET:N	5:B:113:MET:SD	2.90	0.44
16:M:42:LEU:HD12	16:M:45:ARG:HB3	1.99	0.44
17:N:67:LEU:HA	17:N:67:LEU:HD12	1.86	0.44
17:N:67:LEU:HG	17:N:75:TYR:HB3	1.99	0.44
25:b:10:LYS:HD3	25:b:199:GLY:HA3	1.99	0.44
26:c:85:VAL:HG21	50:3:484:U:H1'	2.00	0.44
31:h:125:LEU:HB2	31:h:135:VAL:HB	1.98	0.44
38:o:97:ARG:HD3	50:3:2866:A:H5''	1.99	0.44
39:p:52:LYS:HE3	50:3:1031:U:P	2.57	0.44
42:s:26:LYS:HD3	50:3:1426:C:O2'	2.17	0.44
50:3:184:A:O2'	50:3:186:A:OP2	2.35	0.44
50:3:195:A:H2'	50:3:196:G:C8	2.49	0.44
50:3:225:A:C6	50:3:463:U:N3	2.86	0.44
50:3:604:A:H1'	50:3:606:G:C8	2.52	0.44
50:3:614:C:H2'	50:3:615:G:H8	1.80	0.44
50:3:769:A:N6	50:3:796:A:O2'	2.49	0.44
50:3:1683:G:O6	50:3:1684:A:N6	2.51	0.44
50:3:1766:A:N6	50:3:2705:G:H1'	2.32	0.44
50:3:2058:G:N2	50:3:2625:U:H3	2.07	0.44
50:3:2322:G:H2'	50:3:2323:U:H6	1.80	0.44
50:3:2456:A:H5'	50:3:2506:C:P	2.57	0.44
50:3:2774:A:N3	50:3:2774:A:H2'	2.33	0.44
52:5:530:A:H61	52:5:1046:A:H1'	1.82	0.44
52:5:765:A:O2'	52:5:1487:U:O2	2.34	0.44
5:B:114:LEU:HD13	5:B:207:ARG:HB3	1.99	0.44
11:H:77:GLN:O	11:H:81:ILE:HG23	2.18	0.44
13:J:77:LEU:HB2	13:J:103:ILE:HA	2.00	0.44
13:J:80:LYS:HD2	52:5:704:U:OP1	2.17	0.44
15:L:35:LYS:HZ1	52:5:1242:U:P	2.41	0.44
19:P:10:ILE:HD11	19:P:28:SER:HA	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:22:MET:SD	21:R:28:LYS:HD3	2.57	0.44
25:b:19:THR:O	25:b:22:GLU:HG2	2.18	0.44
26:c:28:GLU:HA	26:c:30:LYS:HE2	2.00	0.44
32:i:40:ARG:CZ	50:3:1043:C:H5''	2.47	0.44
33:j:76:HIS:CE1	50:3:2692:U:H1'	2.51	0.44
35:l:44:ALA:HB2	35:l:70:PRO:HG3	1.98	0.44
37:n:96:SER:HB3	51:4:46:C:OP1	2.16	0.44
39:p:54:ARG:HH11	50:3:1013:G:H5'	1.82	0.44
42:s:44:PHE:HZ	42:s:91:ILE:HD13	1.83	0.44
46:w:53:THR:HG22	50:3:79:U:H5'	2.00	0.44
50:3:79:U:H2'	50:3:80:U:H6	1.82	0.44
50:3:177:U:O4	50:3:178:A:N6	2.50	0.44
50:3:317:U:H2'	50:3:318:U:C6	2.52	0.44
50:3:727:C:H2'	50:3:728:A:C8	2.52	0.44
50:3:964:A:H2'	50:3:965:U:O4'	2.17	0.44
50:3:1096:U:O4'	50:3:1105:A:H1'	2.17	0.44
50:3:1144:C:H3'	50:3:1145:G:C8	2.52	0.44
50:3:1159:C:N4	50:3:1160:G:O6	2.50	0.44
50:3:1341:U:H2'	50:3:1644:A:C6	2.53	0.44
50:3:1463:G:H2'	50:3:1464:G:C8	2.52	0.44
50:3:1812:C:H2'	50:3:1813:C:C6	2.53	0.44
50:3:2025:C:H2'	50:3:2026:A:C8	2.45	0.44
50:3:2070:C:N3	50:3:2071:C:C5	2.86	0.44
50:3:2106:G:N2	50:3:2198:G:H22	2.15	0.44
50:3:2166:U:H2'	50:3:2167:G:O4'	2.16	0.44
50:3:2291:U:H1'	50:3:2397:G:C2	2.52	0.44
50:3:2505:A:H4'	50:3:2506:C:O5'	2.17	0.44
52:5:507:A:C5	52:5:542:G:H1'	2.52	0.44
52:5:860:C:C4	52:5:861:A:H1'	2.53	0.44
52:5:1066:U:H2'	52:5:1067:C:C6	2.53	0.44
53:8:64:G:H2'	53:8:65:C:C6	2.52	0.44
6:C:103:ARG:HG3	6:C:166:PHE:HZ	1.82	0.44
6:C:153:ILE:HG12	52:5:404:A:C5	2.53	0.44
9:F:110:ARG:O	9:F:118:LYS:NZ	2.47	0.44
16:M:48:ALA:HB1	16:M:56:VAL:HG22	1.99	0.44
17:N:39:HIS:ND1	52:5:736:U:O2	2.51	0.44
20:Q:60:LEU:HD23	20:Q:86:VAL:HG22	2.00	0.44
26:c:118:GLU:OE1	34:k:3:LEU:N	2.50	0.44
30:g:3:ALA:O	30:g:7:LYS:N	2.42	0.44
34:k:84:LYS:HB2	50:3:637:U:C4	2.53	0.44
41:r:77:ASN:HB3	50:3:26:G:H1'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:w:3:VAL:O	46:w:6:GLU:HG2	2.17	0.44
48:y:4:GLN:HA	50:3:2623:U:C4	2.52	0.44
50:3:142:A:H2'	50:3:143:A:C8	2.53	0.44
50:3:219:G:H1'	50:3:220:A:H4'	2.00	0.44
50:3:378:G:H2'	50:3:379:A:C8	2.52	0.44
50:3:440:C:H1'	50:3:442:G:C5	2.53	0.44
50:3:2309:A:OP1	50:3:2317:A:H1'	2.18	0.44
52:5:46:U:OP1	52:5:303:A:O2'	2.35	0.44
52:5:213:U:H2'	52:5:214:U:C6	2.53	0.44
52:5:264:C:H2'	52:5:265:U:C6	2.53	0.44
52:5:333:U:H2'	52:5:334:A:C8	2.51	0.44
52:5:353:G:O2'	52:5:354:U:O4'	2.33	0.44
52:5:378:A:H4'	52:5:453:C:O3'	2.17	0.44
52:5:811:A:H2'	52:5:812:A:H3'	1.98	0.44
52:5:984:A:HO2'	52:5:1013:C:HO2'	1.56	0.44
52:5:1043:U:C4	52:5:1181:G:O6	2.70	0.44
52:5:1226:A:N3	52:5:1344:C:O2'	2.48	0.44
2:1:38:LYS:NZ	49:z:20:LEU:H	2.15	0.44
4:A:52:ASN:ND2	52:5:842:C:OP2	2.41	0.44
5:B:26:SER:OG	52:5:1230:G:OP1	2.36	0.44
9:F:26:ILE:HG22	9:F:35:LYS:HG2	2.00	0.44
17:N:5:LYS:HG3	52:5:655:G:OP1	2.17	0.44
27:d:64:LYS:HD2	27:d:65:PRO:HD2	2.00	0.44
28:e:21:GLN:N	28:e:24:HIS:O	2.51	0.44
28:e:95:VAL:HG23	28:e:163:LYS:NZ	2.33	0.44
32:i:24:ALA:HA	32:i:64:GLN:HB2	1.99	0.44
34:k:74:LYS:HD3	34:k:74:LYS:HA	1.58	0.44
37:n:79:ASP:O	37:n:83:LYS:N	2.51	0.44
42:s:58:LEU:HD12	50:3:1368:U:H2'	2.00	0.44
50:3:378:G:N2	50:3:379:A:H62	2.16	0.44
50:3:401:G:O2'	50:3:402:A:OP1	2.29	0.44
50:3:439:U:O2	50:3:440:C:N4	2.51	0.44
50:3:561:A:H1'	50:3:2050:G:H21	1.82	0.44
50:3:775:C:H2'	50:3:776:U:C6	2.52	0.44
50:3:1132:C:H3'	50:3:1133:A:H8	1.82	0.44
50:3:1192:U:H2'	50:3:1193:U:C6	2.52	0.44
50:3:1465:U:H3	50:3:1590:U:H3	1.65	0.44
50:3:1490:G:H2'	50:3:1491:G:H8	1.81	0.44
50:3:1553:G:N2	50:3:1578:A:H62	2.14	0.44
50:3:1912:C:O2'	50:3:1936:G:O3'	2.35	0.44
50:3:2640:A:O2'	50:3:2815:G:O2'	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2759:G:H21	50:3:2759:G:P	2.39	0.44
52:5:441:U:H2'	52:5:442:G:O4'	2.17	0.44
52:5:607:A:H5'	52:5:624:U:OP2	2.18	0.44
52:5:790:U:H3	52:5:1493:A:N6	2.15	0.44
52:5:947:U:H2'	52:5:948:U:C6	2.52	0.44
52:5:1194:A:H2'	52:5:1195:G:H8	1.83	0.44
52:5:1400:A:O2'	52:5:1401:A:O4'	2.31	0.44
4:A:155:GLU:O	4:A:159:LEU:HG	2.17	0.44
5:B:191:LYS:HD2	52:5:1048:G:H21	1.83	0.44
6:C:12:ARG:HH22	52:5:423:U:P	2.38	0.44
6:C:121:HIS:NE2	52:5:434:U:O2'	2.37	0.44
7:D:203:LEU:HD21	10:G:142:TRP:HE1	1.83	0.44
12:I:49:PRO:HG3	52:5:1255:A:N3	2.31	0.44
17:N:26:VAL:HG21	17:N:78:LEU:HD21	1.99	0.44
22:S:10:ARG:O	22:S:14:ASN:ND2	2.50	0.44
24:a:228:VAL:HG11	50:3:817:A:C4	2.53	0.44
26:c:160:VAL:HB	26:c:199:VAL:HA	2.00	0.44
27:d:18:LYS:HD3	27:d:18:LYS:HA	1.64	0.44
31:h:13:ASN:HA	31:h:52:PRO:HA	1.99	0.44
34:k:48:ARG:HH12	50:3:199:A:H5'	1.82	0.44
36:m:67:LEU:HD13	36:m:78:LEU:HD23	1.99	0.44
36:m:103:LEU:HD11	36:m:115:ILE:HB	1.99	0.44
40:q:90:THR:HG22	40:q:92:LEU:HD22	2.00	0.44
41:r:116:GLU:O	41:r:120:GLN:HG3	2.18	0.44
50:3:32:G:N3	50:3:1244:A:H2	2.16	0.44
50:3:164:A:O2'	50:3:2225:G:N2	2.50	0.44
50:3:194:A:H3'	50:3:208:A:N6	2.32	0.44
50:3:469:C:O2'	50:3:470:U:O4'	2.22	0.44
50:3:533:G:H2'	50:3:534:U:H6	1.81	0.44
50:3:590:U:H2'	50:3:591:G:H8	1.81	0.44
50:3:622:U:H2'	50:3:623:A:C8	2.53	0.44
50:3:743:G:N2	50:3:759:U:C4	2.86	0.44
50:3:786:A:O2'	50:3:1788:A:N1	2.50	0.44
50:3:874:U:H2'	50:3:875:G:C8	2.52	0.44
50:3:1087:C:O2	50:3:1087:C:H2'	2.17	0.44
50:3:1285:U:OP2	50:3:2067:A:N6	2.50	0.44
50:3:2240:U:H2'	50:3:2241:A:O4'	2.18	0.44
51:4:36:C:N3	51:4:37:A:N6	2.66	0.44
52:5:60:A:C5'	52:5:383:U:H4'	2.48	0.44
52:5:90:G:H2'	52:5:91:C:C6	2.52	0.44
52:5:353:G:H2'	52:5:354:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:372:G:O6	52:5:383:U:C4	2.71	0.44
52:5:724:G:H2'	52:5:726:A:OP2	2.18	0.44
2:1:5:SER:HB3	50:3:257:C:N4	2.32	0.44
8:E:69:THR:HG23	8:E:87:ILE:HD12	1.99	0.44
10:G:11:HIS:NE2	52:5:821:U:O2	2.51	0.44
13:J:11:SER:OG	13:J:12:GLY:N	2.51	0.44
17:N:62:ARG:HB3	52:5:752:G:OP2	2.17	0.44
18:O:50:LEU:HD21	18:O:75:LYS:HZ2	1.82	0.44
19:P:61:VAL:HB	19:P:77:ILE:HD11	1.99	0.44
22:S:34:ASN:HA	22:S:37:LYS:HD2	2.00	0.44
32:i:14:LYS:NZ	50:3:573:A:O2'	2.51	0.44
37:n:14:ARG:HG3	50:3:2343:A:P	2.57	0.44
41:r:2:ILE:HG22	41:r:4:PHE:HB3	2.00	0.44
46:w:11:SER:OG	46:w:61:ARG:NH2	2.51	0.44
50:3:161:U:H2'	50:3:162:G:O4'	2.16	0.44
50:3:217:A:H2'	50:3:218:G:H8	1.79	0.44
50:3:280:A:H61	50:3:290:A:N6	2.15	0.44
50:3:612:G:H2'	50:3:613:C:C6	2.52	0.44
50:3:674:G:H2'	50:3:675:U:H6	1.81	0.44
50:3:1090:G:O6	50:3:1091:G:N2	2.51	0.44
50:3:1133:A:H3'	50:3:1134:G:H8	1.83	0.44
50:3:1235:U:H3'	50:3:1236:G:H5''	2.00	0.44
50:3:1248:A:C6	50:3:1262:G:O6	2.71	0.44
50:3:1323:A:H2'	50:3:1324:A:C8	2.52	0.44
50:3:1346:G:H2'	50:3:1347:A:C8	2.53	0.44
50:3:1445:U:H3	50:3:1615:G:N2	2.01	0.44
50:3:1818:G:H2'	50:3:1819:G:O4'	2.17	0.44
50:3:1860:A:N3	50:3:2241:A:H1'	2.33	0.44
50:3:2372:C:H2'	50:3:2373:G:O4'	2.18	0.44
50:3:2687:A:H2'	50:3:2688:C:C6	2.52	0.44
50:3:2775:C:H2'	50:3:2776:U:H6	1.80	0.44
52:5:96:G:N2	52:5:326:C:H41	2.16	0.44
52:5:112:U:H2'	52:5:230:G:H22	1.83	0.44
52:5:130:G:C6	52:5:165:A:N6	2.85	0.44
52:5:258:A:H8	52:5:259:A:C2	2.36	0.44
52:5:315:G:H2'	52:5:316:G:C8	2.53	0.44
52:5:1219:C:N4	52:5:1220:A:H62	2.16	0.44
5:B:90:LYS:O	5:B:94:GLN:HG2	2.18	0.44
6:C:109:THR:O	6:C:113:ALA:N	2.44	0.44
6:C:202:ARG:HG3	52:5:28:G:O2'	2.18	0.44
13:J:110:PRO:HA	52:5:672:A:H2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:14:ARG:NH2	52:5:1268:G:H21	2.16	0.44
24:a:184:LEU:HD11	24:a:192:PHE:HE1	1.82	0.44
24:a:235:PRO:HG2	50:3:827:G:C6	2.53	0.44
25:b:115:LYS:HB3	25:b:117:ARG:HH11	1.82	0.44
42:s:25:LYS:HE3	42:s:25:LYS:HB3	1.69	0.44
43:t:78:ASP:HB2	43:t:104:PHE:CE2	2.53	0.44
50:3:313:G:H2'	50:3:314:G:C1'	2.47	0.44
50:3:450:C:H2'	50:3:451:A:C8	2.53	0.44
50:3:563:A:N7	50:3:2049:A:H2'	2.32	0.44
50:3:723:U:H4'	50:3:1787:A:H61	1.83	0.44
50:3:1439:U:H2'	50:3:1440:U:C6	2.53	0.44
50:3:1646:G:H2'	50:3:1647:A:C8	2.53	0.44
50:3:2009:U:H2'	50:3:2010:A:C8	2.52	0.44
50:3:2102:U:H2'	50:3:2103:C:H6	1.82	0.44
50:3:2414:U:P	50:3:2419:A:H61	2.41	0.44
50:3:2511:A:O2'	50:3:2512:U:H5''	2.17	0.44
50:3:2522:U:H2'	50:3:2523:C:C6	2.53	0.44
50:3:2611:G:H2'	50:3:2612:G:H8	1.83	0.44
50:3:2712:C:H2'	50:3:2713:A:C8	2.50	0.44
51:4:7:G:H2'	51:4:8:C:C6	2.53	0.44
52:5:297:A:H2'	52:5:298:G:C8	2.53	0.44
52:5:326:C:N3	52:5:350:G:C8	2.86	0.44
52:5:772:G:H21	52:5:774:A:H62	1.66	0.44
52:5:820:A:H2'	52:5:821:U:C6	2.53	0.44
52:5:826:G:H2'	52:5:827:C:O4'	2.16	0.44
52:5:1118:A:H5'	52:5:1255:A:O2'	2.17	0.44
52:5:1154:A:H2'	52:5:1155:A:C8	2.52	0.44
52:5:1406:U:O2	52:5:1445:G:C2	2.71	0.44
52:5:1432:A:H2'	52:5:1433:G:C8	2.53	0.44
6:C:100:ILE:O	6:C:104:MET:HG2	2.18	0.44
14:K:95:LEU:C	14:K:111:VAL:HG23	2.43	0.44
24:a:256:THR:O	24:a:258:TRP:N	2.43	0.44
28:e:91:ARG:HG2	28:e:166:LEU:HD12	1.99	0.44
34:k:37:LYS:HG2	50:3:601:U:OP1	2.17	0.44
36:m:65:LYS:HG2	50:3:2716:U:H5'	1.99	0.44
39:p:15:LYS:O	39:p:19:GLN:HG2	2.18	0.44
46:w:33:LEU:HD13	46:w:38:LEU:HD23	2.00	0.44
50:3:27:U:C4	50:3:28:G:C5	3.05	0.44
50:3:78:C:H2'	50:3:79:U:H6	1.83	0.44
50:3:139:G:H2'	50:3:140:G:O4'	2.18	0.44
50:3:316:C:H2'	50:3:317:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:609:U:H2'	50:3:610:G:C8	2.53	0.44
50:3:795:G:H5'	50:3:1783:G:OP1	2.18	0.44
50:3:817:A:H8	50:3:817:A:OP1	2.01	0.44
50:3:869:U:H2'	50:3:870:A:H8	1.83	0.44
50:3:1065:G:H2'	50:3:1066:G:C8	2.52	0.44
50:3:1294:G:O6	50:3:1295:A:N6	2.50	0.44
50:3:1446:G:H1	50:3:1612:U:H3'	1.83	0.44
50:3:1873:A:C6	50:3:1883:A:C8	3.06	0.44
50:3:2072:C:C2	50:3:2073:C:C5	3.06	0.44
50:3:2347:G:H2'	50:3:2348:U:C6	2.53	0.44
50:3:2350:C:O2	50:3:2382:A:H4'	2.18	0.44
50:3:2565:G:C2	50:3:2566:C:C5	3.06	0.44
50:3:2615:G:O6	50:3:2616:G:N2	2.51	0.44
50:3:2785:G:OP2	50:3:2789:A:O2'	2.34	0.44
50:3:2844:U:C2	50:3:2845:U:C5	3.06	0.44
52:5:60:A:H2	52:5:327:G:H1'	1.83	0.44
52:5:97:G:O2'	52:5:385:A:OP1	2.36	0.44
52:5:145:G:N2	52:5:148:A:C5	2.86	0.44
52:5:567:C:H2'	52:5:573:G:C8	2.53	0.44
52:5:574:C:H3'	52:5:575:A:H3'	2.00	0.44
52:5:648:C:H2'	52:5:649:U:C6	2.53	0.44
52:5:653:G:H2'	52:5:654:U:H6	1.82	0.44
52:5:972:A:N6	52:5:1338:A:OP2	2.33	0.44
52:5:1162:G:H2'	52:5:1163:A:C8	2.53	0.44
52:5:1187:U:H4'	52:5:1188:A:N7	2.33	0.44
4:A:64:SER:OG	4:A:215:ILE:HG23	2.17	0.43
4:A:169:LEU:HD23	4:A:169:LEU:H	1.82	0.43
5:B:116:ALA:HB1	5:B:203:VAL:HG13	1.99	0.43
6:C:2:LYS:NZ	52:5:545:A:OP1	2.51	0.43
7:D:101:ILE:N	7:D:127:HIS:O	2.50	0.43
12:I:12:LEU:HD21	12:I:106:PHE:HB2	1.99	0.43
12:I:29:LYS:HD3	52:5:1113:U:H1'	2.00	0.43
25:b:108:VAL:HB	25:b:208:ARG:O	2.18	0.43
28:e:97:TYR:OH	50:3:2666:C:H5'	2.18	0.43
37:n:30:LEU:HD22	37:n:91:PHE:CE1	2.52	0.43
41:r:124:LEU:O	41:r:128:ARG:NH2	2.51	0.43
50:3:393:C:N3	50:3:394:C:N4	2.65	0.43
50:3:498:C:H2'	50:3:499:G:C8	2.53	0.43
50:3:534:U:H3	50:3:538:A:N6	1.99	0.43
50:3:682:A:C5	50:3:683:G:N7	2.86	0.43
50:3:818:A:O2'	50:3:820:U:O5'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1202:A:H2'	50:3:1203:G:O4'	2.18	0.43
50:3:1778:G:C2	50:3:1779:G:C4	3.05	0.43
50:3:1874:G:O6	50:3:1882:G:N2	2.50	0.43
50:3:2137:A:H4'	50:3:2165:A:N6	2.33	0.43
50:3:2419:A:H2'	50:3:2420:A:C8	2.53	0.43
50:3:2484:A:H2'	50:3:2485:U:C6	2.53	0.43
50:3:2733:A:O2'	50:3:2734:C:H3'	2.18	0.43
50:3:2844:U:H2'	50:3:2845:U:H6	1.83	0.43
51:4:66:A:C5	51:4:67:G:C8	3.06	0.43
51:4:72:A:N6	51:4:92:A:N1	2.66	0.43
52:5:67:U:H2'	52:5:68:C:H6	1.82	0.43
52:5:67:U:H5''	52:5:201:G:H1'	1.99	0.43
52:5:370:A:H2'	52:5:371:U:O4'	2.17	0.43
52:5:547:C:H2'	52:5:548:G:N7	2.33	0.43
52:5:780:U:H2'	52:5:781:A:C8	2.53	0.43
52:5:781:A:H2'	52:5:782:G:C8	2.53	0.43
52:5:1389:U:H2'	52:5:1390:G:H8	1.81	0.43
52:5:1448:A:C2	52:5:1449:G:O6	2.71	0.43
53:8:19:G:H2'	53:8:19:G:N3	2.33	0.43
4:A:184:GLU:O	4:A:188:VAL:HG22	2.17	0.43
10:G:12:PHE:N	52:5:821:U:O2'	2.50	0.43
10:G:92:LYS:HE3	52:5:871:U:H5''	2.00	0.43
12:I:30:LYS:NZ	12:I:98:ILE:HA	2.34	0.43
16:M:3:LYS:HB3	52:5:1039:G:H5''	2.00	0.43
25:b:196:ALA:HB3	50:3:2687:A:H2	1.83	0.43
32:i:52:ASP:CG	32:i:121:TRP:HE1	2.25	0.43
35:l:13:HIS:N	50:3:947:A:H62	2.14	0.43
35:l:133:LYS:HD2	35:l:133:LYS:HA	1.78	0.43
39:p:22:GLY:N	50:3:21:U:OP1	2.51	0.43
40:q:86:ARG:HD3	50:3:1253:G:H5'	2.00	0.43
43:t:37:GLU:HA	43:t:66:GLU:OE2	2.18	0.43
43:t:94:ASP:OD2	43:t:100:LYS:NZ	2.51	0.43
50:3:224:G:H1'	50:3:238:U:H4'	2.00	0.43
50:3:308:A:H1'	50:3:397:G:N2	2.33	0.43
50:3:442:G:O6	50:3:457:U:C2	2.71	0.43
50:3:545:C:H2'	50:3:546:U:H5'	1.99	0.43
50:3:1033:A:H2'	50:3:1034:A:H8	1.82	0.43
50:3:1603:A:H2'	50:3:1604:A:C8	2.53	0.43
50:3:1766:A:H2'	50:3:1767:A:C4	2.53	0.43
50:3:1964:C:H2'	50:3:1965:C:C6	2.53	0.43
50:3:2624:C:H2'	50:3:2625:U:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2848:A:C8	50:3:2878:G:N2	2.87	0.43
51:4:91:A:H2'	51:4:92:A:H8	1.83	0.43
51:4:106:A:H2'	51:4:106:A:N3	2.32	0.43
52:5:824:U:H2'	52:5:864:U:H3	1.83	0.43
52:5:1225:A:C6	52:5:1261:A:C5	3.07	0.43
52:5:1290:G:H1'	52:5:1334:A:C2	2.53	0.43
52:5:1368:U:H2'	52:5:1370:C:C6	2.53	0.43
1:0:34:ARG:NH2	1:0:41:GLN:O	2.47	0.43
7:D:170:ILE:HG13	7:D:178:ILE:HG21	2.00	0.43
20:Q:58:GLU:O	20:Q:62:ARG:HG2	2.17	0.43
21:R:48:THR:HG22	21:R:61:TYR:HA	2.00	0.43
35:l:118:LEU:HD12	35:l:131:ILE:HD12	2.00	0.43
37:n:29:VAL:HG21	37:n:46:PHE:CZ	2.53	0.43
50:3:484:U:H3	50:3:615:G:N2	2.16	0.43
50:3:768:G:H1	50:3:796:A:H2'	1.82	0.43
50:3:1001:C:N4	50:3:1002:A:H62	2.16	0.43
50:3:1047:A:H1'	50:3:1048:A:C8	2.54	0.43
50:3:1968:C:H2'	50:3:1969:C:O4'	2.18	0.43
50:3:2071:C:C2	50:3:2072:C:C5	3.06	0.43
50:3:2176:G:N2	50:3:2179:A:OP2	2.52	0.43
50:3:2190:G:C2	50:3:2191:G:C6	3.06	0.43
50:3:2542:A:H2'	50:3:2543:G:O4'	2.18	0.43
50:3:2603:G:H21	50:3:2605:G:H8	1.66	0.43
50:3:2737:G:H2'	50:3:2738:U:C6	2.53	0.43
50:3:2839:A:H61	50:3:2884:C:H41	1.66	0.43
52:5:108:C:H4'	52:5:307:C:O2	2.18	0.43
52:5:445:A:C8	52:5:484:A:C6	3.06	0.43
52:5:503:G:H5'	52:5:532:U:N3	2.33	0.43
52:5:518:A:H61	52:5:531:A:H61	1.66	0.43
52:5:536:U:H2'	52:5:537:A:H8	1.82	0.43
52:5:665:G:H2'	52:5:666:U:C6	2.53	0.43
52:5:854:A:H2'	52:5:855:G:O4'	2.18	0.43
52:5:995:U:H3	52:5:1031:A:H61	1.66	0.43
52:5:1000:A:H2'	52:5:1001:A:C4	2.54	0.43
52:5:1124:U:P	52:5:1125:C:H41	2.42	0.43
52:5:1289:U:C2	52:5:1293:A:N6	2.87	0.43
1:0:9:LYS:NZ	50:3:1337:G:H5''	2.33	0.43
1:0:19:LEU:HD13	50:3:127:A:H5'	2.00	0.43
10:G:104:LEU:HD22	10:G:116:ILE:HD13	1.98	0.43
11:H:12:ARG:CZ	11:H:13:LYS:HE3	2.49	0.43
12:I:51:LYS:HA	52:5:1228:C:P	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:123:ARG:NE	52:5:535:A:OP1	2.50	0.43
21:R:34:TRP:CE3	21:R:52:HIS:HB2	2.53	0.43
22:S:53:ARG:O	22:S:56:ARG:HB3	2.18	0.43
27:d:40:VAL:H	27:d:85:ILE:HD12	1.83	0.43
30:g:11:VAL:HA	30:g:62:ALA:HB2	1.98	0.43
34:k:90:LEU:O	34:k:93:ILE:HG12	2.19	0.43
35:l:27:VAL:HG12	35:l:102:VAL:HG11	1.99	0.43
41:r:72:PHE:CD2	41:r:106:LYS:HD2	2.54	0.43
42:s:50:ILE:HG13	42:s:91:ILE:HG22	2.01	0.43
43:t:44:ARG:HB2	43:t:65:GLN:HG2	2.00	0.43
45:v:34:GLN:NE2	50:3:2237:U:O2	2.39	0.43
50:3:142:A:N6	50:3:1629:U:O2'	2.48	0.43
50:3:386:U:H2'	50:3:387:U:H5	1.82	0.43
50:3:431:U:H1'	50:3:432:G:N7	2.33	0.43
50:3:569:U:H2'	50:3:570:C:C6	2.52	0.43
50:3:580:U:C5	50:3:1250:A:H3'	2.53	0.43
50:3:1362:C:C2	50:3:1363:C:C5	3.06	0.43
50:3:1370:A:O2'	50:3:1372:U:OP2	2.34	0.43
50:3:1423:A:H2'	50:3:1426:C:H41	1.83	0.43
50:3:1830:G:H2'	50:3:1831:G:C8	2.53	0.43
50:3:2142:U:H1'	50:3:2167:G:H4'	2.00	0.43
50:3:2388:C:H2'	50:3:2389:A:H8	1.83	0.43
50:3:2438:A:H2	50:3:2439:U:C5	2.37	0.43
50:3:2696:G:O2'	50:3:2877:A:N6	2.49	0.43
50:3:2696:G:N1	50:3:2728:U:OP2	2.40	0.43
50:3:2728:U:O2'	50:3:2848:A:N1	2.49	0.43
50:3:2776:U:H2'	50:3:2777:A:O4'	2.18	0.43
50:3:2870:U:H4'	50:3:2871:G:H4'	2.00	0.43
50:3:2898:A:N3	50:3:2898:A:H2'	2.33	0.43
52:5:20:C:C2	52:5:21:U:C5	3.06	0.43
52:5:447:G:N1	52:5:481:U:O4	2.52	0.43
52:5:824:U:H2'	52:5:864:U:N3	2.33	0.43
52:5:1099:G:O3'	52:5:1165:G:H5'	2.18	0.43
52:5:1146:A:H2'	52:5:1147:U:C6	2.53	0.43
52:5:1154:A:H2'	52:5:1155:A:C5	2.54	0.43
52:5:1280:A:H2'	52:5:1281:U:O4'	2.18	0.43
10:G:46:GLU:O	10:G:50:LYS:HG3	2.19	0.43
10:G:107:VAL:HG12	10:G:108:LEU:CD2	2.49	0.43
11:H:35:ARG:HD2	52:5:1223:A:H4'	2.00	0.43
14:K:15:LYS:O	14:K:16:LYS:HG2	2.18	0.43
14:K:16:LYS:HE3	14:K:16:LYS:HB3	1.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:K:16:LYS:HE3	14:K:17:VAL:H	1.84	0.43
15:L:23:PHE:CD1	52:5:1304:U:H5''	2.53	0.43
15:L:29:ARG:NH1	15:L:64:LYS:O	2.39	0.43
24:a:20:ILE:HD13	24:a:205:ASN:HD21	1.82	0.43
24:a:80:GLU:HG2	24:a:122:LEU:HB2	1.99	0.43
24:a:116:LYS:HA	24:a:116:LYS:HD2	1.72	0.43
24:a:282:ARG:NH2	50:3:1805:U:OP2	2.51	0.43
26:c:29:LEU:HA	26:c:114:THR:HB	2.00	0.43
26:c:147:LEU:HD13	26:c:178:VAL:HG11	2.01	0.43
27:d:34:ILE:O	27:d:91:LEU:HD23	2.18	0.43
29:f:68:LEU:O	29:f:72:ILE:HG13	2.18	0.43
31:h:91:THR:O	31:h:132:GLY:HA3	2.18	0.43
37:n:56:SER:OG	37:n:57:SER:N	2.52	0.43
48:y:47:MET:HE3	48:y:47:MET:HB3	1.78	0.43
50:3:47:G:H5''	50:3:48:G:OP1	2.18	0.43
50:3:81:C:H2'	50:3:82:G:H8	1.82	0.43
50:3:196:G:N2	50:3:835:U:OP1	2.52	0.43
50:3:299:A:H2'	50:3:300:G:C8	2.53	0.43
50:3:503:G:H2'	50:3:504:G:O4'	2.18	0.43
50:3:687:G:H2'	50:3:688:U:O4'	2.18	0.43
50:3:1550:G:H2'	50:3:1551:U:O4'	2.19	0.43
50:3:1818:G:H5'	50:3:2223:C:P	2.59	0.43
50:3:2022:A:H8	50:3:2023:U:C6	2.36	0.43
50:3:2607:G:H2'	50:3:2608:A:C8	2.53	0.43
50:3:2660:C:H2'	50:3:2661:U:O4'	2.18	0.43
51:4:4:G:H2'	51:4:5:G:C8	2.53	0.43
52:5:167:A:N1	52:5:219:A:H1'	2.33	0.43
52:5:372:G:O6	52:5:383:U:O4	2.36	0.43
52:5:674:U:H3	52:5:710:G:N2	2.11	0.43
2:1:28:HIS:O	2:1:29:LEU:HD23	2.18	0.43
2:1:40:HIS:NE2	50:3:2373:G:O6	2.51	0.43
15:L:86:TRP:CZ3	52:5:1295:U:H4'	2.53	0.43
15:L:105:ASN:OD1	15:L:107:ARG:NH2	2.52	0.43
20:Q:93:ALA:O	20:Q:97:ALA:N	2.50	0.43
22:S:71:ARG:O	22:S:75:VAL:HG23	2.18	0.43
24:a:73:ARG:HA	24:a:73:ARG:HD2	1.81	0.43
26:c:92:GLY:C	50:3:1278:G:H5'	2.43	0.43
27:d:125:ARG:NH1	50:3:2324:A:H1'	2.34	0.43
36:m:22:VAL:HG12	36:m:41:THR:HG23	2.01	0.43
37:n:112:ARG:HA	37:n:112:ARG:HD2	1.83	0.43
39:p:84:LYS:HB3	39:p:84:LYS:HE3	1.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:67:GLY:N	50:3:1364:A:OP1	2.52	0.43
48:y:30:CYS:HB3	48:y:33:CYS:O	2.19	0.43
50:3:127:A:O2'	50:3:128:A:O4'	2.24	0.43
50:3:370:C:H2'	50:3:371:C:C6	2.53	0.43
50:3:549:A:N3	50:3:614:C:O2'	2.38	0.43
50:3:668:A:H2'	50:3:669:A:C8	2.53	0.43
50:3:714:G:H5'	50:3:2250:G:H5''	2.01	0.43
50:3:854:A:H2'	50:3:855:A:O4'	2.18	0.43
50:3:886:U:C2	50:3:887:A:C8	3.06	0.43
50:3:914:G:H5'	50:3:932:U:H5	1.82	0.43
50:3:947:A:H1'	50:3:2273:U:H5'	1.99	0.43
50:3:1155:G:H2'	50:3:1156:C:C6	2.54	0.43
50:3:1767:A:H2'	50:3:1768:G:N9	2.34	0.43
50:3:1797:C:C2	50:3:1798:A:C8	3.06	0.43
50:3:1837:C:N4	50:3:1838:A:H62	2.17	0.43
50:3:2144:C:H41	50:3:2145:A:N6	2.17	0.43
50:3:2328:A:C5	50:3:2341:G:H1'	2.54	0.43
50:3:2505:A:H4'	50:3:2506:C:H6	1.83	0.43
52:5:7:U:H4'	52:5:294:A:H1'	2.00	0.43
52:5:204:C:H2'	52:5:205:U:C6	2.52	0.43
52:5:398:G:H2'	52:5:399:C:C6	2.53	0.43
52:5:501:A:O2'	52:5:502:C:H5'	2.19	0.43
52:5:612:G:N2	52:5:624:U:O2	2.36	0.43
52:5:849:A:H2'	52:5:850:G:H8	1.84	0.43
52:5:956:U:H5	52:5:1198:C:H1'	1.83	0.43
52:5:957:C:H2'	52:5:958:G:H8	1.83	0.43
6:C:194:SER:HA	6:C:197:VAL:HG12	2.01	0.43
7:D:212:ARG:NH1	10:G:111:LEU:O	2.52	0.43
12:I:8:LYS:O	12:I:90:ILE:HD13	2.19	0.43
14:K:12:ARG:NH2	52:5:561:A:O2'	2.51	0.43
15:L:56:ILE:O	15:L:59:VAL:HG12	2.18	0.43
21:R:21:ASP:O	21:R:25:GLN:HG3	2.19	0.43
23:T:45:LYS:HA	23:T:45:LYS:HD3	1.74	0.43
26:c:151:LYS:HD2	26:c:151:LYS:HA	1.72	0.43
28:e:3:LYS:HE3	50:3:1147:G:H5'	2.01	0.43
35:l:21:ALA:O	50:3:899:A:H5''	2.19	0.43
36:m:103:LEU:HD21	36:m:115:ILE:HG22	2.00	0.43
37:n:37:ASN:HA	51:4:50:C:C5	2.53	0.43
50:3:111:G:H2'	50:3:112:A:H8	1.83	0.43
50:3:135:A:H2'	50:3:136:G:C8	2.51	0.43
50:3:154:U:H2'	50:3:155:A:H8	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:165:U:O2'	50:3:168:A:N6	2.51	0.43
50:3:600:U:H3'	50:3:601:U:O4'	2.19	0.43
50:3:728:A:C2'	50:3:729:U:H5'	2.49	0.43
50:3:736:G:H2'	50:3:737:U:O4'	2.18	0.43
50:3:840:G:H21	50:3:864:A:H5'	1.82	0.43
50:3:1054:U:O2'	50:3:1056:A:N7	2.51	0.43
50:3:1645:C:H2'	50:3:1646:G:C8	2.54	0.43
50:3:1948:C:H3'	50:3:1949:C:C6	2.54	0.43
50:3:2107:A:N6	50:3:2195:U:O4	2.52	0.43
50:3:2243:G:H2'	50:3:2244:U:C6	2.53	0.43
50:3:2254:G:N1	50:3:2434:A:O4'	2.52	0.43
50:3:2328:A:C6	50:3:2341:G:H1'	2.54	0.43
50:3:2516:G:H2'	50:3:2517:A:C8	2.54	0.43
50:3:2705:G:H2'	50:3:2706:U:C6	2.54	0.43
50:3:2726:G:H2'	50:3:2727:G:O4'	2.19	0.43
50:3:2828:C:H2'	50:3:2829:G:O4'	2.18	0.43
50:3:2858:A:H2'	50:3:2859:U:H6	1.83	0.43
50:3:2891:C:H2'	50:3:2892:U:C6	2.54	0.43
52:5:197:A:H1'	52:5:218:U:H1'	2.01	0.43
52:5:211:G:C2	52:5:212:G:N7	2.87	0.43
52:5:290:G:H5'	52:5:303:A:N6	2.33	0.43
52:5:402:G:C5	52:5:493:A:H2'	2.53	0.43
52:5:445:A:C2	52:5:446:A:H1'	2.54	0.43
52:5:526:C:N4	52:5:527:G:O6	2.52	0.43
52:5:1284:A:N6	52:5:1302:C:N3	2.67	0.43
52:5:1286:G:H2'	52:5:1287:G:C8	2.51	0.43
52:5:1327:G:H2'	52:5:1328:C:C6	2.53	0.43
52:5:1414:U:H2'	52:5:1415:G:C8	2.54	0.43
52:5:1432:A:H2'	52:5:1433:G:H8	1.84	0.43
6:C:193:GLU:OE1	6:C:193:GLU:N	2.51	0.43
13:J:67:VAL:HA	13:J:70:MET:HB2	2.00	0.43
17:N:57:VAL:HG23	17:N:60:ARG:HH11	1.84	0.43
32:i:87:ILE:HD12	32:i:87:ILE:H	1.83	0.43
40:q:7:CYS:HB2	40:q:22:VAL:HG21	2.00	0.43
40:q:14:VAL:HG21	40:q:20:PHE:CD1	2.54	0.43
40:q:47:ALA:HB3	40:q:48:PRO:HD3	2.00	0.43
44:u:57:THR:H	50:3:2339:G:H1'	1.83	0.43
48:y:4:GLN:HE21	50:3:2023:U:H3	1.65	0.43
50:3:49:C:H2'	50:3:50:G:C8	2.53	0.43
50:3:360:G:H2'	50:3:361:G:C8	2.54	0.43
50:3:729:U:H2'	50:3:730:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1162:A:N6	50:3:2496:G:N3	2.57	0.43
50:3:1338:G:N2	50:3:1339:U:H1'	2.34	0.43
50:3:1471:A:H61	50:3:1581:U:H3	1.66	0.43
50:3:1544:G:C6	50:3:1545:A:C5	3.06	0.43
50:3:2671:G:H3'	50:3:2672:G:H8	1.84	0.43
52:5:388:G:O2'	52:5:480:C:O2'	2.22	0.43
52:5:412:G:N2	52:5:424:U:O2	2.51	0.43
52:5:672:A:H2'	52:5:672:A:N3	2.34	0.43
52:5:1055:G:H5'	52:5:1057:C:H5'	1.99	0.43
52:5:1083:A:H3'	52:5:1084:A:H8	1.82	0.43
52:5:1345:G:C2	52:5:1346:G:N7	2.86	0.43
4:A:120:PHE:O	4:A:124:SER:N	2.43	0.43
5:B:187:TYR:OH	5:B:189:LEU:HB3	2.19	0.43
5:B:187:TYR:CE1	5:B:202:LYS:HB3	2.54	0.43
6:C:118:ASN:OD1	6:C:119:HIS:N	2.52	0.43
10:G:67:LYS:HA	52:5:650:A:N6	2.34	0.43
13:J:111:HIS:O	13:J:112:ASN:C	2.62	0.43
16:M:9:LYS:HG3	52:5:1192:C:OP1	2.19	0.43
19:P:44:LYS:HE2	19:P:44:LYS:HB3	1.80	0.43
21:R:26:GLU:CD	21:R:27:LYS:H	2.27	0.43
25:b:151:ARG:HG3	50:3:2060:G:H5''	2.01	0.43
25:b:158:ARG:HA	50:3:2059:G:C2	2.53	0.43
26:c:74:ALA:N	50:3:1286:G:OP1	2.52	0.43
28:e:157:PRO:HA	28:e:163:LYS:O	2.18	0.43
32:i:30:LYS:NZ	50:3:1178:A:N7	2.66	0.43
33:j:88:LYS:HB3	33:j:94:ARG:HG2	2.00	0.43
35:l:103:MET:HE2	35:l:103:MET:HB3	1.96	0.43
40:q:22:VAL:HG22	40:q:23:GLU:N	2.34	0.43
40:q:79:HIS:HB3	50:3:1219:U:H5'	2.01	0.43
44:u:42:GLY:HA3	50:3:961:U:H1'	1.99	0.43
50:3:452:U:H2'	50:3:453:U:O4'	2.18	0.43
50:3:1010:G:N1	50:3:1025:G:H1'	2.34	0.43
50:3:1053:C:H5''	50:3:1071:G:H1'	2.01	0.43
50:3:1616:G:H2'	50:3:1617:U:C6	2.54	0.43
50:3:1673:U:P	50:3:2717:G:H21	2.42	0.43
50:3:2300:A:H5'	50:3:2386:A:H61	1.83	0.43
50:3:2399:G:O6	50:3:2433:A:H5''	2.19	0.43
50:3:2513:G:N2	50:3:2514:U:O4	2.35	0.43
50:3:2515:C:H2'	50:3:2516:G:C8	2.53	0.43
50:3:2631:G:H4'	50:3:2829:G:N7	2.34	0.43
50:3:2770:U:H2'	50:3:2771:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2849:G:O6	50:3:2875:U:N3	2.51	0.43
52:5:11:A:H2'	52:5:12:G:C8	2.53	0.43
52:5:336:U:C2	52:5:346:G:N2	2.87	0.43
52:5:626:G:H2'	52:5:627:U:C6	2.54	0.43
52:5:692:A:H2'	52:5:693:A:O4'	2.19	0.43
52:5:693:A:H2	52:5:782:G:N2	2.16	0.43
52:5:736:U:H2'	52:5:737:U:O4'	2.18	0.43
52:5:979:C:H2'	52:5:980:C:C6	2.53	0.43
52:5:1362:G:H2'	52:5:1363:U:H6	1.83	0.43
52:5:1370:C:H5'	52:5:1376:G:H21	1.83	0.43
52:5:1417:U:O2	52:5:1435:G:N2	2.51	0.43
5:B:154:VAL:HG22	5:B:203:VAL:HG23	2.01	0.43
6:C:74:LEU:HA	6:C:77:LEU:HD12	2.01	0.43
6:C:134:ILE:HA	52:5:618:U:H1'	2.00	0.43
10:G:131:LYS:O	10:G:133:ILE:HG12	2.18	0.43
12:I:43:LYS:HD3	52:5:1116:U:H5'	2.01	0.43
13:J:114:CYS:SG	52:5:775:G:N2	2.91	0.43
17:N:51:ARG:NE	52:5:577:G:O2'	2.35	0.43
18:O:80:LYS:HB2	18:O:80:LYS:HE2	1.87	0.43
24:a:269:ASN:HB3	24:a:272:LYS:NZ	2.34	0.43
28:e:61:LEU:HD11	50:3:1053:C:OP1	2.19	0.43
35:l:74:LYS:HB2	35:l:94:VAL:HG11	2.00	0.43
37:n:3:THR:HG23	37:n:4:ARG:N	2.33	0.43
42:s:13:THR:HG22	42:s:16:VAL:HG23	2.00	0.43
46:w:22:LEU:HA	46:w:25:GLU:HG2	2.00	0.43
49:z:23:LYS:HD3	49:z:49:GLU:OE1	2.18	0.43
50:3:8:A:H2'	50:3:9:G:N7	2.34	0.43
50:3:24:U:N3	50:3:25:G:N7	2.67	0.43
50:3:29:G:H21	50:3:30:A:N6	2.16	0.43
50:3:474:U:H2'	50:3:475:A:C8	2.54	0.43
50:3:706:C:H2'	50:3:707:C:C6	2.54	0.43
50:3:767:C:H2'	50:3:768:G:O4'	2.18	0.43
50:3:989:G:N1	50:3:1000:U:N3	2.67	0.43
50:3:1007:C:H4'	50:3:1019:A:O2'	2.19	0.43
50:3:1028:C:C2	50:3:1029:A:C8	3.07	0.43
50:3:1171:G:H2'	50:3:1172:G:C8	2.54	0.43
50:3:1215:G:N3	50:3:1215:G:H2'	2.34	0.43
50:3:1240:U:O2	50:3:1267:A:N6	2.52	0.43
50:3:1701:G:H21	50:3:1703:A:H61	1.66	0.43
50:3:1867:G:H2'	50:3:1868:A:O4'	2.19	0.43
50:3:2067:A:OP2	50:3:2510:G:O2'	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2359:G:O3'	50:3:2360:A:H8	2.01	0.43
50:3:2694:A:H2'	50:3:2695:U:C6	2.53	0.43
52:5:27:A:H61	52:5:556:G:H1'	1.84	0.43
52:5:502:C:H2'	52:5:509:C:H2'	2.00	0.43
52:5:643:U:H2'	52:5:644:U:C6	2.54	0.43
52:5:762:G:N2	52:5:810:U:H5''	2.34	0.43
52:5:829:G:C2	52:5:830:U:C5	3.07	0.43
52:5:920:G:N2	52:5:1477:A:O3'	2.43	0.43
4:A:93:LYS:HB2	4:A:93:LYS:HE3	1.68	0.42
5:B:11:ARG:HD2	5:B:185:ILE:H	1.82	0.42
5:B:176:MET:O	52:5:1098:C:H5''	2.20	0.42
6:C:187:LEU:HB3	6:C:188:PRO:HD2	2.01	0.42
9:F:93:ASP:OD1	9:F:94:ARG:N	2.52	0.42
11:H:121:TYR:CE2	11:H:127:PRO:HG3	2.54	0.42
12:I:18:SER:HB2	12:I:24:LEU:HB2	2.01	0.42
13:J:34:VAL:HG22	52:5:681:U:O2	2.18	0.42
15:L:87:ARG:HH11	15:L:97:VAL:HG12	1.84	0.42
20:Q:78:ASN:ND2	20:Q:83:GLN:HB2	2.34	0.42
22:S:23:GLY:O	22:S:27:LYS:HG3	2.19	0.42
25:b:128:PHE:CE2	25:b:144:GLN:HB2	2.54	0.42
28:e:4:ILE:HD13	28:e:73:ALA:HB2	2.00	0.42
28:e:12:ASP:HB2	28:e:16:VAL:HB	2.00	0.42
34:k:42:ARG:HD3	50:3:842:U:H5	1.84	0.42
36:m:85:LYS:HE3	36:m:85:LYS:HB3	1.91	0.42
37:n:76:ASP:O	37:n:79:ASP:HB2	2.19	0.42
39:p:42:ALA:HB1	40:q:71:ILE:HD13	2.00	0.42
43:t:45:HIS:CD2	50:3:533:G:H21	2.38	0.42
43:t:71:LEU:HD13	43:t:74:LEU:HD22	2.01	0.42
50:3:34:C:H2'	50:3:35:U:C6	2.54	0.42
50:3:105:U:H2'	50:3:106:C:H5'	2.01	0.42
50:3:110:A:OP1	50:3:382:U:O2'	2.37	0.42
50:3:142:A:H2'	50:3:143:A:H8	1.83	0.42
50:3:445:C:H2'	50:3:446:A:C8	2.54	0.42
50:3:451:A:N6	50:3:2417:G:C6	2.87	0.42
50:3:794:G:H2'	50:3:795:G:C8	2.53	0.42
50:3:804:U:H2'	50:3:805:G:H8	1.84	0.42
50:3:2190:G:H2'	50:3:2191:G:H8	1.77	0.42
50:3:2257:U:N3	50:3:2261:G:OP2	2.50	0.42
50:3:2518:C:C4	50:3:2519:U:C4	3.06	0.42
50:3:2781:C:C2	50:3:2782:A:C2	3.07	0.42
52:5:370:A:N1	52:5:387:G:H1'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:468:G:H2'	52:5:469:C:C5	2.54	0.42
52:5:879:G:H2'	52:5:880:G:C8	2.48	0.42
52:5:949:G:H21	52:5:1202:A:H62	1.66	0.42
52:5:1141:U:O2'	52:5:1142:G:O4'	2.37	0.42
52:5:1146:A:H2'	52:5:1147:U:H6	1.84	0.42
52:5:1298:U:H4'	52:5:1337:U:H5'	2.01	0.42
3:2:31:LYS:HE3	3:2:31:LYS:HB3	1.82	0.42
4:A:22:LYS:HD2	4:A:250:PRO:HA	2.01	0.42
4:A:71:TYR:OH	4:A:197:PRO:HG2	2.18	0.42
5:B:65:VAL:HG23	5:B:100:THR:HG21	1.99	0.42
6:C:38:HIS:CD2	52:5:510:U:H4'	2.55	0.42
6:C:119:HIS:HE1	52:5:493:A:H61	1.68	0.42
10:G:22:ILE:HD12	10:G:87:VAL:HG21	2.01	0.42
13:J:60:ALA:HB1	13:J:93:PHE:CE1	2.54	0.42
25:b:152:GLY:H	50:3:2060:G:H4'	1.85	0.42
25:b:212:LYS:HG2	50:3:2779:C:H5'	2.01	0.42
36:m:26:LEU:HD21	36:m:82:LEU:HD13	2.01	0.42
43:t:33:GLN:NE2	50:3:514:A:O3'	2.51	0.42
50:3:73:A:O5'	50:3:74:U:H2'	2.19	0.42
50:3:136:G:C6	50:3:148:U:N3	2.84	0.42
50:3:598:G:H2'	50:3:599:U:C6	2.53	0.42
50:3:639:G:H2'	50:3:640:U:O4'	2.18	0.42
50:3:641:U:O2	50:3:657:A:C5	2.72	0.42
50:3:813:G:N1	50:3:822:C:N3	2.66	0.42
50:3:884:A:C6	50:3:885:A:H1'	2.53	0.42
50:3:899:A:N6	50:3:949:C:N3	2.66	0.42
50:3:969:A:O2'	50:3:970:U:H5'	2.20	0.42
50:3:1048:A:HO2'	50:3:1049:U:P	2.39	0.42
50:3:1106:G:H21	50:3:1107:C:N4	2.17	0.42
50:3:1119:A:C2	50:3:1140:U:H1'	2.55	0.42
50:3:1520:A:N3	50:3:1613:A:H1'	2.35	0.42
50:3:2392:U:H5''	50:3:2394:A:OP1	2.19	0.42
50:3:2732:A:H2'	50:3:2733:A:H8	1.81	0.42
50:3:2853:U:O2'	50:3:2867:U:OP1	2.30	0.42
52:5:568:G:O2'	52:5:816:A:H2'	2.18	0.42
52:5:687:G:H2'	52:5:688:G:C8	2.54	0.42
52:5:887:C:H41	52:5:900:G:N2	2.17	0.42
52:5:904:C:H2'	52:5:905:U:C6	2.54	0.42
52:5:1423:C:H2'	52:5:1424:C:C6	2.54	0.42
1:0:11:LYS:HD3	50:3:806:A:OP1	2.19	0.42
5:B:83:LYS:HG3	5:B:84:ASN:N	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:103:ARG:HD2	6:C:164:SER:HB3	2.00	0.42
8:E:96:TYR:H	52:5:659:U:P	2.43	0.42
10:G:60:LEU:HD12	10:G:69:ILE:HD11	2.01	0.42
12:I:77:LYS:HE3	12:I:77:LYS:HB2	1.90	0.42
15:L:54:VAL:HA	15:L:57:ARG:HG2	2.02	0.42
22:S:35:PHE:HE1	22:S:72:ASN:HB3	1.84	0.42
24:a:160:ILE:HG23	50:3:1806:G:C2	2.53	0.42
26:c:42:GLN:HB3	50:3:479:A:N1	2.33	0.42
26:c:139:LYS:HA	26:c:139:LYS:HD3	1.78	0.42
28:e:145:GLY:HA3	50:3:2753:C:H1'	2.02	0.42
28:e:146:GLN:O	28:e:150:GLU:HG3	2.19	0.42
28:e:163:LYS:HD2	50:3:2666:C:H5''	2.02	0.42
40:q:23:GLU:HG3	50:3:1029:A:H2	1.84	0.42
41:r:72:PHE:HE1	41:r:114:ARG:HA	1.82	0.42
41:r:132:GLN:HG2	50:3:580:U:H4'	2.01	0.42
43:t:40:ASN:O	43:t:67:ALA:N	2.43	0.42
50:3:108:G:N2	50:3:380:A:N1	2.67	0.42
50:3:414:C:H2'	50:3:415:U:O4'	2.19	0.42
50:3:599:U:H2'	50:3:600:U:C6	2.54	0.42
50:3:652:U:H2'	50:3:653:G:C8	2.54	0.42
50:3:954:A:C4	50:3:955:A:C8	3.06	0.42
50:3:1079:U:O2'	50:3:1146:A:N6	2.46	0.42
50:3:1143:U:H2'	50:3:1144:C:C5	2.54	0.42
50:3:1460:G:H2'	50:3:1461:A:C8	2.51	0.42
50:3:1504:G:N3	50:3:1591:C:O2'	2.52	0.42
50:3:1658:U:H2'	50:3:1659:C:C6	2.54	0.42
50:3:1808:C:O2'	50:3:1809:A:H5'	2.20	0.42
50:3:1924:U:H3'	50:3:1925:A:H8	1.85	0.42
50:3:2115:A:N3	50:3:2149:U:O2'	2.49	0.42
50:3:2214:A:H2'	50:3:2215:C:C6	2.54	0.42
50:3:2273:U:OP2	50:3:2274:A:O2'	2.32	0.42
50:3:2537:G:H5''	50:3:2538:A:H5''	2.02	0.42
50:3:2551:G:H4'	50:3:2653:G:O6	2.18	0.42
50:3:2694:A:H2'	50:3:2695:U:O4'	2.19	0.42
51:4:64:G:C6	51:4:97:A:C8	3.08	0.42
51:4:76:A:C6	51:4:89:A:C8	3.07	0.42
51:4:77:G:H2'	51:4:78:C:O4'	2.19	0.42
52:5:361:U:H5''	52:5:362:U:H5'	2.02	0.42
52:5:457:A:C6	52:5:471:A:C2	3.07	0.42
52:5:637:A:N7	52:5:638:A:N6	2.66	0.42
52:5:1001:A:N6	52:5:1018:U:H3'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1147:U:H2'	52:5:1148:U:C6	2.55	0.42
52:5:1230:G:H2'	52:5:1233:G:H21	1.83	0.42
10:G:67:LYS:HA	52:5:650:A:H62	1.85	0.42
19:P:48:HIS:CE1	19:P:69:LEU:HB2	2.54	0.42
21:R:58:ILE:O	21:R:58:ILE:HG13	2.19	0.42
24:a:131:LYS:HB2	24:a:134:PHE:CD2	2.55	0.42
24:a:272:LYS:HA	50:3:1808:C:C4	2.54	0.42
25:b:34:ASN:HD22	25:b:54:PHE:HB3	1.84	0.42
35:l:11:LYS:HB2	35:l:11:LYS:HE2	1.87	0.42
35:l:58:LEU:HG	35:l:109:ILE:HD13	2.02	0.42
41:r:29:THR:HA	41:r:32:ALA:HB3	2.01	0.42
50:3:170:A:H2'	50:3:171:G:H8	1.82	0.42
50:3:240:C:H2'	50:3:241:C:H6	1.85	0.42
50:3:311:G:O2'	50:3:312:U:OP1	2.35	0.42
50:3:628:A:O4'	50:3:975:G:H5''	2.20	0.42
50:3:684:A:H2'	50:3:685:G:C8	2.48	0.42
50:3:1611:C:H2'	50:3:1612:U:C6	2.54	0.42
50:3:1670:U:O2'	50:3:1767:A:O2'	2.37	0.42
50:3:1765:G:N2	50:3:2704:U:H5'	2.34	0.42
50:3:1822:A:H5'	50:3:1824:G:O4'	2.19	0.42
50:3:2066:A:H1'	50:3:2511:A:N3	2.34	0.42
50:3:2225:G:H2'	50:3:2226:U:C6	2.54	0.42
50:3:2388:C:H2'	50:3:2389:A:C8	2.54	0.42
50:3:2728:U:H4'	50:3:2849:G:N3	2.35	0.42
51:4:103:C:H2'	51:4:104:C:N1	2.34	0.42
52:5:28:G:H2'	52:5:29:G:H8	1.84	0.42
52:5:335:C:H2'	52:5:336:U:C6	2.54	0.42
52:5:420:A:H5''	52:5:421:G:C8	2.37	0.42
6:C:151:ILE:HD12	52:5:433:C:H4'	2.01	0.42
7:D:83:GLY:O	52:5:1373:A:N6	2.29	0.42
10:G:88:LYS:HB3	10:G:88:LYS:HE3	1.66	0.42
11:H:50:MET:HB2	11:H:81:ILE:HD11	2.02	0.42
12:I:85:VAL:O	12:I:85:VAL:HG12	2.19	0.42
15:L:97:VAL:H	52:5:1282:U:C5'	2.33	0.42
18:O:25:LYS:HB2	52:5:306:G:H4'	2.01	0.42
21:R:81:LYS:HE3	52:5:1202:A:N7	2.35	0.42
22:S:44:LEU:HD22	22:S:76:LEU:HD13	2.02	0.42
24:a:151:GLU:OE1	24:a:157:GLY:N	2.53	0.42
25:b:115:LYS:HG3	25:b:200:PRO:HB3	2.00	0.42
32:i:17:GLN:HB2	32:i:55:ASP:CG	2.45	0.42
32:i:46:ASP:OD1	32:i:47:PHE:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:l:68:ILE:HG23	35:l:103:MET:HA	2.01	0.42
36:m:106:ARG:NH1	50:3:1683:G:O2'	2.52	0.42
37:n:77:ILE:HD12	37:n:77:ILE:HA	1.91	0.42
38:o:14:GLU:OE2	38:o:59:GLY:HA3	2.19	0.42
41:r:129:VAL:HG22	50:3:579:U:H3'	2.00	0.42
42:s:7:LEU:HD12	46:w:31:PHE:HZ	1.84	0.42
42:s:56:ASN:HB2	42:s:82:VAL:HB	2.01	0.42
50:3:107:C:H2'	50:3:108:G:H8	1.84	0.42
50:3:181:G:H2'	50:3:182:C:O4'	2.20	0.42
50:3:246:G:N2	50:3:259:A:O5'	2.38	0.42
50:3:253:C:H4'	50:3:254:G:C8	2.55	0.42
50:3:371:C:H3'	50:3:372:G:C8	2.54	0.42
50:3:393:C:C2	50:3:394:C:N4	2.88	0.42
50:3:993:A:H61	50:3:2502:G:H21	1.68	0.42
50:3:1017:A:H2	50:3:2033:G:N2	2.17	0.42
50:3:1070:U:O4	50:3:1155:G:O6	2.38	0.42
50:3:1354:U:H5'	50:3:2017:G:H21	1.84	0.42
50:3:1388:G:H22	50:3:2222:C:H42	1.67	0.42
50:3:1447:A:C6	50:3:1613:A:C6	3.07	0.42
50:3:1463:G:N2	50:3:1504:G:O2'	2.52	0.42
50:3:1833:G:H2'	50:3:1834:U:C6	2.54	0.42
50:3:2231:A:H3'	50:3:2232:G:H8	1.80	0.42
50:3:2242:G:O2'	53:8:74:A:H3'	2.18	0.42
50:3:2268:C:O2	50:3:2396:A:O2'	2.34	0.42
50:3:2515:C:H2'	50:3:2516:G:O4'	2.19	0.42
50:3:2552:G:N2	50:3:2654:U:O2'	2.38	0.42
52:5:404:A:N6	52:5:432:U:O2	2.53	0.42
52:5:847:G:H2'	52:5:848:U:C6	2.54	0.42
52:5:1203:A:C2	52:5:1204:A:C5	3.07	0.42
52:5:1208:G:O2'	52:5:1340:G:O3'	2.38	0.42
52:5:1338:A:C8	52:5:1340:G:C6	3.08	0.42
52:5:1444:G:H2'	52:5:1445:G:C8	2.53	0.42
52:5:1485:C:C2	52:5:1486:C:C5	3.07	0.42
6:C:98:ASP:OD1	6:C:99:ASN:N	2.52	0.42
7:D:146:ALA:HB2	52:5:858:A:H5'	2.02	0.42
9:F:26:ILE:HG13	9:F:39:GLN:OE1	2.20	0.42
11:H:54:LEU:HB3	11:H:59:LEU:HA	2.00	0.42
14:K:77:LEU:HB3	14:K:106:VAL:HG22	2.00	0.42
19:P:67:ARG:HA	19:P:68:PRO:HD3	1.86	0.42
24:a:38:LEU:HD23	24:a:38:LEU:HA	1.91	0.42
25:b:72:LYS:HE2	50:3:2794:U:H5''	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:200:GLU:O	26:c:203:VAL:HG22	2.20	0.42
27:d:54:LEU:HA	27:d:87:CYS:SG	2.60	0.42
27:d:76:THR:HG23	27:d:77:TYR:CD2	2.54	0.42
34:k:22:ARG:HA	50:3:846:U:H2'	2.02	0.42
35:l:70:PRO:HB2	35:l:93:TRP:HB3	2.02	0.42
41:r:118:ILE:HG21	50:3:556:U:H1'	2.01	0.42
42:s:58:LEU:HD23	42:s:80:LEU:O	2.19	0.42
42:s:61:LYS:HB2	50:3:1340:U:O4	2.19	0.42
48:y:10:LYS:HB2	48:y:10:LYS:HE3	1.65	0.42
50:3:123:G:O2'	50:3:1403:G:H4'	2.19	0.42
50:3:410:G:N2	50:3:411:U:O4	2.30	0.42
50:3:759:U:C2'	50:3:760:G:H5'	2.49	0.42
50:3:803:G:H4'	50:3:1656:A:H4'	2.01	0.42
50:3:957:G:H21	50:3:2278:G:N2	2.18	0.42
50:3:958:C:H1'	50:3:2277:A:H62	1.84	0.42
50:3:1057:G:N2	50:3:1058:U:O4	2.52	0.42
50:3:1097:G:H2'	50:3:1098:G:H8	1.83	0.42
50:3:1154:U:H2'	50:3:1155:G:C8	2.54	0.42
50:3:1210:A:H2'	50:3:1211:U:C6	2.55	0.42
50:3:1851:U:H2'	50:3:1852:G:C8	2.54	0.42
50:3:2551:G:H21	50:3:2654:U:H5''	1.84	0.42
50:3:2886:A:H2'	50:3:2887:A:O4'	2.19	0.42
50:3:2891:C:H2'	50:3:2892:U:H6	1.84	0.42
50:3:2897:G:O2'	50:3:2898:A:O5'	2.38	0.42
52:5:68:C:OP1	52:5:201:G:H4'	2.20	0.42
52:5:369:A:H1'	52:5:448:A:H62	1.84	0.42
52:5:512:U:C2	52:5:513:G:C8	3.07	0.42
52:5:673:A:N1	52:5:712:A:N6	2.68	0.42
52:5:704:U:H2'	52:5:705:A:C8	2.55	0.42
52:5:779:A:OP1	52:5:1496:G:N2	2.52	0.42
52:5:1145:A:H3'	52:5:1146:A:H8	1.85	0.42
3:2:4:ARG:HH22	3:2:8:LYS:NZ	2.16	0.42
4:A:82:ILE:HG22	4:A:175:LEU:HB3	2.02	0.42
5:B:32:LYS:HD3	5:B:33:TRP:HD1	1.84	0.42
5:B:92:ILE:HA	5:B:95:ILE:HG22	2.00	0.42
6:C:106:PHE:HE2	6:C:142:VAL:HG12	1.84	0.42
13:J:115:LYS:HE3	52:5:776:C:O2'	2.19	0.42
14:K:77:LEU:HB2	14:K:105:GLY:O	2.19	0.42
24:a:54:THR:HG21	50:3:1819:G:H21	1.84	0.42
24:a:92:ARG:HH21	24:a:162:ARG:HG3	1.85	0.42
27:d:121:SER:HA	50:3:2311:G:H4'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:163:LYS:HA	28:e:163:LYS:HD3	1.89	0.42
28:e:167:TYR:O	28:e:168:PHE:HB2	2.19	0.42
33:j:64:ARG:HD2	33:j:83:ALA:HB3	2.01	0.42
35:l:123:HIS:O	50:3:2492:G:N2	2.51	0.42
37:n:106:ALA:HB1	37:n:116:PHE:HE2	1.83	0.42
41:r:9:ARG:HD3	41:r:9:ARG:O	2.20	0.42
41:r:72:PHE:HD2	41:r:106:LYS:HD2	1.84	0.42
41:r:99:ARG:NE	50:3:1292:A:OP1	2.52	0.42
48:y:12:ARG:HH11	50:3:2028:G:P	2.43	0.42
50:3:215:A:H2'	50:3:216:C:C6	2.54	0.42
50:3:245:U:O2	50:3:246:G:N2	2.53	0.42
50:3:291:G:H5''	50:3:293:G:O6	2.19	0.42
50:3:315:A:O2'	50:3:316:C:OP1	2.31	0.42
50:3:598:G:C6	50:3:610:G:O6	2.73	0.42
50:3:870:A:O4'	50:3:2366:A:O2'	2.35	0.42
50:3:1066:G:H2'	50:3:1067:A:C8	2.55	0.42
50:3:1416:G:O2'	50:3:1551:U:H4'	2.19	0.42
50:3:2073:C:H2'	50:3:2074:G:O4'	2.19	0.42
50:3:2079:G:H2'	50:3:2080:C:C6	2.55	0.42
50:3:2857:C:H41	50:3:2858:A:N6	2.18	0.42
52:5:859:A:H8	52:5:859:A:O5'	2.03	0.42
52:5:916:U:H5'	52:5:1072:G:O2'	2.19	0.42
52:5:1034:G:H2'	52:5:1035:A:H8	1.85	0.42
52:5:1272:C:H1'	52:5:1273:A:N1	2.34	0.42
52:5:1389:U:C2	52:5:1390:G:C8	3.08	0.42
53:8:50:G:H2'	53:8:51:G:C8	2.55	0.42
18:O:55:LYS:C	52:5:223:G:H21	2.28	0.42
21:R:5:ALA:HB1	52:5:1287:G:O5'	2.20	0.42
24:a:26:LEU:HD23	24:a:86:ILE:HG22	2.02	0.42
24:a:188:GLU:OE2	24:a:282:ARG:NE	2.47	0.42
25:b:105:GLY:HA2	25:b:181:ILE:O	2.19	0.42
26:c:24:LEU:O	26:c:113:HIS:NE2	2.53	0.42
33:j:58:LEU:HD12	33:j:86:LEU:HD21	2.01	0.42
34:k:77:TRP:CZ2	34:k:130:LYS:HE3	2.55	0.42
36:m:68:LEU:HD23	36:m:68:LEU:HA	1.90	0.42
38:o:94:GLY:HA2	38:o:115:LYS:HD2	2.01	0.42
39:p:74:THR:O	39:p:78:PHE:N	2.49	0.42
39:p:92:LYS:HG3	39:p:92:LYS:H	1.57	0.42
40:q:81:LYS:HG3	50:3:1218:G:H5''	2.01	0.42
41:r:49:LYS:HE2	41:r:49:LYS:HB2	1.87	0.42
45:v:52:THR:HA	45:v:55:LEU:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:19:TYR:CZ	50:3:2356:U:H5'	2.54	0.42
50:3:339:U:H2'	50:3:340:U:C6	2.55	0.42
50:3:351:G:H2'	50:3:352:C:H6	1.85	0.42
50:3:536:A:H61	50:3:1266:G:H8	1.67	0.42
50:3:633:G:H2'	50:3:634:C:C6	2.55	0.42
50:3:856:A:H3'	50:3:982:G:C8	2.54	0.42
50:3:1016:A:N1	50:3:2033:G:N2	2.64	0.42
50:3:1106:G:O2'	50:3:1132:C:O5'	2.38	0.42
50:3:1260:U:H2'	50:3:1261:U:C6	2.54	0.42
50:3:2081:U:H2'	50:3:2082:U:C6	2.55	0.42
50:3:2151:G:H4'	50:3:2152:C:C5	2.54	0.42
50:3:2305:C:H5'	50:3:2326:G:N2	2.25	0.42
50:3:2656:G:H2'	50:3:2657:C:H6	1.85	0.42
52:5:30:A:H2'	52:5:31:U:C6	2.55	0.42
52:5:81:A:H2'	52:5:82:C:C6	2.54	0.42
52:5:306:G:H2'	52:5:307:C:C6	2.55	0.42
52:5:379:A:H2'	52:5:380:G:O4'	2.20	0.42
52:5:382:U:H2'	52:5:383:U:C6	2.55	0.42
52:5:410:A:N6	52:5:427:A:N6	2.39	0.42
52:5:609:G:H2'	52:5:609:G:N3	2.35	0.42
52:5:885:U:H2'	52:5:885:U:O2	2.19	0.42
52:5:913:A:H2'	52:5:914:A:C8	2.55	0.42
52:5:1251:G:N3	52:5:1257:C:H1'	2.34	0.42
52:5:1484:C:OP1	52:5:1495:C:H5'	2.20	0.42
4:A:91:TYR:CE1	4:A:222:PRO:HB3	2.54	0.42
5:B:8:ASN:HB3	16:M:49:TYR:O	2.19	0.42
5:B:121:ARG:NH2	5:B:190:GLU:OE2	2.53	0.42
9:F:30:MET:SD	9:F:33:GLY:HA2	2.60	0.42
9:F:64:ALA:O	9:F:68:VAL:HG22	2.20	0.42
21:R:52:HIS:NE2	52:5:981:U:O2	2.51	0.42
25:b:146:SER:HB2	50:3:2586:G:C6	2.54	0.42
26:c:82:PRO:HA	26:c:88:GLY:O	2.20	0.42
27:d:136:ILE:HB	27:d:143:TYR:HA	2.01	0.42
28:e:46:PHE:HA	28:e:55:ILE:HG22	2.02	0.42
28:e:111:GLY:HA2	50:3:2665:A:O2'	2.19	0.42
32:i:71:LYS:NZ	50:3:1175:C:O5'	2.50	0.42
38:o:93:ARG:NH1	50:3:2853:U:O4	2.53	0.42
43:t:11:VAL:HG13	43:t:77:PHE:HB2	2.02	0.42
44:u:46:ARG:HD2	50:3:2361:G:H4'	2.01	0.42
46:w:32:LYS:HB2	46:w:38:LEU:HD13	2.01	0.42
48:y:4:GLN:NE2	50:3:1294:G:H1'	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:54:A:H2'	50:3:55:A:H8	1.85	0.42
50:3:338:G:H2'	50:3:339:U:C6	2.55	0.42
50:3:383:U:H2'	50:3:384:G:C8	2.54	0.42
50:3:528:U:H2'	50:3:529:G:H8	1.80	0.42
50:3:618:G:C2	50:3:1286:G:C6	3.07	0.42
50:3:685:G:H2'	50:3:686:C:C6	2.55	0.42
50:3:766:C:H2'	50:3:767:C:C6	2.54	0.42
50:3:797:U:O2	50:3:798:G:N1	2.53	0.42
50:3:840:G:N7	50:3:2075:U:H5'	2.35	0.42
50:3:1310:U:H3'	50:3:1311:G:H8	1.84	0.42
50:3:1917:G:H2'	50:3:1918:U:C6	2.55	0.42
50:3:2011:G:C4	50:3:2012:A:C8	3.08	0.42
50:3:2218:U:C2	50:3:2220:A:H2'	2.54	0.42
50:3:2221:U:O2'	50:3:2222:C:H5'	2.20	0.42
50:3:2356:U:H2'	50:3:2357:G:C8	2.55	0.42
50:3:2461:A:H2'	50:3:2462:G:H8	1.84	0.42
50:3:2651:G:C2	50:3:2780:U:C2	3.08	0.42
50:3:2849:G:H2'	50:3:2850:G:C8	2.55	0.42
52:5:375:C:H2'	52:5:376:G:C8	2.54	0.42
52:5:514:U:H2'	52:5:515:G:O4'	2.20	0.42
52:5:801:U:OP2	52:5:802:C:N4	2.51	0.42
52:5:962:G:OP2	52:5:962:G:H8	2.02	0.42
52:5:1369:A:O2'	52:5:1476:C:O2	2.37	0.42
52:5:1392:A:H2'	52:5:1457:G:N2	2.35	0.42
52:5:1406:U:N3	52:5:1445:G:C6	2.88	0.42
52:5:1498:G:C2	52:5:1499:G:C5	3.08	0.42
2:1:27:SER:HB3	50:3:2401:U:H5''	2.01	0.42
7:D:97:ARG:HD3	7:D:97:ARG:HA	1.89	0.42
17:N:23:GLN:H	17:N:23:GLN:CD	2.26	0.42
24:a:49:ASN:OD1	50:3:1818:G:N2	2.47	0.42
32:i:15:ARG:C	32:i:16:ARG:HD3	2.45	0.42
35:l:55:SER:O	35:l:59:GLY:N	2.53	0.42
35:l:65:TRP:HB2	35:l:105:GLU:CG	2.48	0.42
35:l:83:MET:HG3	50:3:996:A:H61	1.84	0.42
35:l:123:HIS:ND1	50:3:2475:C:O4'	2.51	0.42
41:r:16:LYS:HG2	41:r:41:LYS:NZ	2.35	0.42
42:s:13:THR:HG23	42:s:16:VAL:H	1.85	0.42
50:3:231:A:N6	50:3:454:G:H21	2.18	0.42
50:3:1210:A:P	50:3:1210:A:H8	2.42	0.42
50:3:1294:G:H2'	50:3:2021:A:H62	1.83	0.42
50:3:2038:A:OP2	50:3:2507:C:H1'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2300:A:H4'	50:3:2385:A:H62	1.84	0.42
50:3:2583:U:O2'	50:3:2584:G:OP1	2.35	0.42
50:3:2854:A:C6	50:3:2873:G:H4'	2.55	0.42
52:5:308:C:H2'	52:5:309:A:C8	2.53	0.42
52:5:321:A:H8	52:5:321:A:OP1	2.03	0.42
52:5:441:U:H2'	52:5:442:G:C8	2.55	0.42
52:5:675:U:H2'	52:5:676:U:C6	2.55	0.42
52:5:817:U:H4'	52:5:818:A:OP2	2.20	0.42
52:5:876:C:H2'	52:5:877:C:C6	2.54	0.42
52:5:927:C:H2'	52:5:928:G:C8	2.54	0.42
4:A:117:LEU:HB3	4:A:194:LEU:HD11	2.02	0.41
5:B:60:ARG:HA	5:B:64:THR:O	2.20	0.41
6:C:151:ILE:HD11	52:5:434:U:H5'	2.00	0.41
7:D:185:ARG:NE	52:5:22:G:O6	2.53	0.41
8:E:92:ARG:HH22	20:Q:88:LYS:HB2	1.85	0.41
11:H:86:VAL:O	11:H:90:LEU:HG	2.20	0.41
15:L:119:LYS:HB3	52:5:949:G:O2'	2.18	0.41
18:O:27:ILE:HD13	18:O:52:TRP:NE1	2.35	0.41
24:a:217:GLY:HA2	24:a:220:ARG:HH11	1.84	0.41
25:b:146:SER:HB2	50:3:2586:G:O6	2.20	0.41
28:e:156:LYS:HE3	50:3:2534:G:H5''	2.01	0.41
39:p:54:ARG:HH22	50:3:1191:A:H8	1.67	0.41
42:s:60:ARG:HH11	50:3:1367:G:H3'	1.85	0.41
50:3:170:A:C2	50:3:2217:G:H4'	2.55	0.41
50:3:211:A:O3'	50:3:833:C:O2'	2.38	0.41
50:3:264:G:H21	50:3:642:A:H2	1.68	0.41
50:3:359:G:C6	50:3:372:G:N2	2.88	0.41
50:3:729:U:H2'	50:3:730:G:C8	2.55	0.41
50:3:873:G:N2	50:3:1221:G:O2'	2.52	0.41
50:3:1302:C:C6	50:3:1652:A:H5'	2.55	0.41
50:3:1380:U:H3	50:3:1406:A:H62	1.67	0.41
50:3:1994:U:H2'	50:3:1995:G:C8	2.55	0.41
50:3:2474:C:H2'	50:3:2475:C:C5	2.55	0.41
51:4:21:G:H2'	51:4:22:G:C8	2.55	0.41
51:4:72:A:H2'	51:4:73:U:H6	1.85	0.41
51:4:89:A:C2	51:4:90:G:C8	3.08	0.41
51:4:92:A:C2'	51:4:93:U:H5'	2.50	0.41
52:5:20:C:H2'	52:5:21:U:C6	2.55	0.41
52:5:367:A:H2'	52:5:368:C:O4'	2.19	0.41
52:5:461:G:N7	52:5:462:G:C8	2.88	0.41
52:5:468:G:H2'	52:5:469:C:H5	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:545:A:H2	52:5:546:G:H21	1.67	0.41
52:5:598:U:C2	52:5:636:G:N1	2.88	0.41
52:5:661:G:N2	52:5:723:C:HO2'	2.10	0.41
52:5:716:C:H2'	52:5:717:C:O4'	2.20	0.41
52:5:758:G:O2'	52:5:759:C:H5'	2.20	0.41
52:5:945:U:O2	52:5:966:A:H5'	2.20	0.41
52:5:1088:C:H2'	52:5:1089:C:C6	2.55	0.41
52:5:1110:C:H2'	52:5:1111:G:C8	2.55	0.41
52:5:1466:U:H2'	52:5:1468:A:N6	2.34	0.41
11:H:21:LEU:HD11	11:H:85:ILE:HA	2.02	0.41
13:J:13:ILE:HG21	13:J:78:PHE:CD2	2.55	0.41
16:M:5:SER:OG	52:5:1192:C:OP2	2.28	0.41
17:N:62:ARG:NH2	52:5:579:G:H5''	2.35	0.41
23:T:41:ARG:HH22	52:5:718:A:H2	1.66	0.41
27:d:170:LEU:HB3	27:d:177:LEU:HD21	2.02	0.41
29:f:12:LEU:HD21	50:3:2102:U:C5'	2.50	0.41
34:k:22:ARG:NH2	50:3:620:G:OP2	2.40	0.41
39:p:58:SER:HA	39:p:61:ILE:HG12	2.03	0.41
40:q:50:LEU:HG	40:q:53:ALA:HB3	2.02	0.41
43:t:90:LYS:HA	43:t:105:LYS:HE3	2.01	0.41
50:3:15:A:H1'	50:3:17:G:C5	2.56	0.41
50:3:188:G:H2'	50:3:189:U:C6	2.55	0.41
50:3:393:C:H2'	50:3:394:C:C5	2.55	0.41
50:3:448:A:N7	50:3:2420:A:H1'	2.36	0.41
50:3:509:G:H2'	50:3:510:G:H8	1.85	0.41
50:3:1094:G:H2'	50:3:1095:U:H5	1.85	0.41
50:3:1293:U:H3'	50:3:1294:G:C8	2.55	0.41
50:3:1715:A:H2'	50:3:1716:A:C8	2.55	0.41
50:3:1742:C:H2'	50:3:1743:U:C6	2.55	0.41
50:3:2812:U:O2'	50:3:2813:A:H5''	2.19	0.41
52:5:353:G:H8	52:5:353:G:OP2	2.03	0.41
52:5:471:A:H2'	52:5:472:G:C8	2.55	0.41
52:5:775:G:H2'	52:5:776:C:C6	2.56	0.41
52:5:915:U:H2'	52:5:916:U:H5	1.85	0.41
52:5:949:G:H2'	52:5:950:C:O4'	2.20	0.41
52:5:1104:C:C2	52:5:1105:C:C5	3.08	0.41
52:5:1234:C:O2'	52:5:1258:U:O2	2.36	0.41
52:5:1354:G:H2'	52:5:1355:U:C6	2.55	0.41
10:G:125:ASP:O	10:G:129:ARG:HG3	2.20	0.41
11:H:112:VAL:H	52:5:1321:G:H5''	1.85	0.41
11:H:115:ARG:NH1	52:5:1345:G:OP2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:80:LYS:HG3	13:J:108:PRO:HD3	2.03	0.41
24:a:15:HIS:HE1	50:3:764:G:N2	2.19	0.41
34:k:133:LYS:N	50:3:672:G:OP1	2.46	0.41
39:p:20:ALA:HB3	39:p:34:ALA:HB1	2.02	0.41
48:y:39:PHE:CE2	48:y:40:HIS:CE1	3.09	0.41
50:3:312:U:H2'	50:3:313:G:C8	2.55	0.41
50:3:591:G:H2'	50:3:592:G:C8	2.55	0.41
50:3:900:G:H5'	51:4:90:G:H21	1.84	0.41
50:3:1010:G:O3'	50:3:1011:A:H8	2.04	0.41
50:3:1060:G:H1	50:3:1175:C:N4	2.18	0.41
50:3:1337:G:H21	50:3:1645:C:H5'	1.85	0.41
50:3:1366:G:H2'	50:3:1367:G:H8	1.85	0.41
50:3:1466:U:H2'	50:3:1467:U:H4'	2.02	0.41
50:3:1518:C:C2	50:3:1519:A:C8	3.08	0.41
50:3:1759:C:H2'	50:3:1760:G:O4'	2.19	0.41
50:3:1990:C:H4'	50:3:2614:U:H4'	2.02	0.41
50:3:2340:U:H1'	50:3:2344:A:N7	2.35	0.41
50:3:2781:C:H2'	50:3:2782:A:N3	2.35	0.41
50:3:2834:C:O2	50:3:2887:A:H2	2.03	0.41
51:4:76:A:N6	51:4:77:G:C2	2.88	0.41
52:5:435:U:H3'	52:5:487:A:H62	1.85	0.41
52:5:758:G:H2'	52:5:759:C:C6	2.55	0.41
52:5:812:A:H5''	52:5:814:C:H41	1.84	0.41
52:5:1058:A:H2'	52:5:1084:A:H4'	2.02	0.41
6:C:13:ARG:O	6:C:43:ARG:NH2	2.52	0.41
8:E:104:LYS:HA	8:E:104:LYS:HD3	1.80	0.41
14:K:56:LYS:HE3	52:5:906:C:H5''	2.02	0.41
14:K:97:GLY:N	52:5:550:U:H4'	2.36	0.41
15:L:43:LYS:HB2	52:5:1269:U:H5''	2.03	0.41
16:M:3:LYS:H	52:5:1039:G:H5''	1.85	0.41
26:c:50:HIS:ND1	26:c:93:PRO:HB3	2.35	0.41
26:c:52:ILE:HD12	50:3:1278:G:C2	2.55	0.41
26:c:119:LYS:HD3	26:c:119:LYS:HA	1.83	0.41
32:i:40:ARG:NH2	50:3:1043:C:OP1	2.51	0.41
32:i:71:LYS:HG3	50:3:1176:U:C5	2.55	0.41
34:k:103:VAL:HG21	50:3:637:U:H1'	2.02	0.41
50:3:76:A:O2'	50:3:90:G:N7	2.47	0.41
50:3:83:G:H2'	50:3:84:G:C8	2.55	0.41
50:3:107:C:H2'	50:3:108:G:C8	2.56	0.41
50:3:124:A:H2'	50:3:125:G:H8	1.85	0.41
50:3:159:G:H2'	50:3:160:A:C8	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:266:A:H2	50:3:466:A:N3	2.19	0.41
50:3:322:A:H2'	50:3:323:A:C8	2.55	0.41
50:3:576:A:N1	50:3:586:G:C6	2.88	0.41
50:3:621:U:H2'	50:3:622:U:C6	2.56	0.41
50:3:723:U:H4'	50:3:1787:A:N6	2.36	0.41
50:3:1078:C:H2'	50:3:1079:U:O4'	2.21	0.41
50:3:1695:G:H2'	50:3:1696:C:C6	2.55	0.41
50:3:1699:A:H8	50:3:1699:A:OP2	2.04	0.41
50:3:2161:G:C2	50:3:2162:U:C5	3.09	0.41
50:3:2171:A:C5	50:3:2172:A:C8	3.08	0.41
50:3:2300:A:H2'	50:3:2301:C:H6	1.85	0.41
50:3:2855:A:H2'	50:3:2856:G:N9	2.34	0.41
51:4:40:U:O2'	51:4:41:C:H5'	2.20	0.41
52:5:287:U:H2'	52:5:288:A:H8	1.85	0.41
52:5:359:A:H2'	52:5:360:A:C8	2.56	0.41
52:5:380:G:H2'	52:5:381:C:C6	2.55	0.41
52:5:581:A:H3'	52:5:582:G:H8	1.85	0.41
52:5:586:G:H21	52:5:650:A:N6	2.18	0.41
52:5:653:G:O2'	52:5:654:U:H5'	2.21	0.41
52:5:936:G:OP1	52:5:1324:A:O2'	2.32	0.41
52:5:1436:C:H2'	52:5:1437:A:C8	2.55	0.41
52:5:1489:C:H2'	52:5:1490:G:C8	2.54	0.41
53:8:43:G:H2'	53:8:44:U:H5''	2.02	0.41
5:B:4:LYS:HB3	52:5:1166:A:H5''	2.02	0.41
10:G:18:LEU:HB2	10:G:35:THR:HG21	2.03	0.41
16:M:39:VAL:HG11	16:M:44:PHE:HD1	1.85	0.41
22:S:14:ASN:HB2	52:5:319:U:H1'	2.03	0.41
24:a:92:ARG:NH2	24:a:110:ILE:HD11	2.35	0.41
24:a:152:LEU:HD22	24:a:190:ARG:NH1	2.36	0.41
25:b:155:SER:HA	50:3:1165:U:C5	2.55	0.41
32:i:47:PHE:HB3	39:p:63:ARG:HD3	2.01	0.41
33:j:91:LYS:HB3	33:j:111:TYR:HA	2.03	0.41
35:l:46:ALA:HB1	35:l:125:LEU:HD23	2.02	0.41
37:n:34:LYS:NZ	51:4:47:C:OP1	2.53	0.41
40:q:41:LEU:HB3	40:q:50:LEU:HD23	2.03	0.41
46:w:49:ARG:HA	46:w:52:ALA:HB3	2.02	0.41
50:3:52:U:O2'	50:3:53:G:H5'	2.20	0.41
50:3:82:G:H2'	50:3:83:G:C8	2.55	0.41
50:3:101:C:H4'	50:3:103:G:C4	2.55	0.41
50:3:200:A:H61	50:3:866:G:N2	2.19	0.41
50:3:201:A:H1'	50:3:2075:U:H2'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:227:A:O2'	50:3:456:G:N3	2.42	0.41
50:3:603:G:H1'	50:3:1019:A:C6	2.56	0.41
50:3:645:C:H2'	50:3:646:A:C8	2.55	0.41
50:3:722:C:N4	50:3:823:A:N7	2.68	0.41
50:3:723:U:H2'	50:3:724:A:C8	2.55	0.41
50:3:1010:G:C5	50:3:1217:G:C6	3.08	0.41
50:3:1072:A:H2'	50:3:1073:A:C8	2.55	0.41
50:3:1145:G:H1'	50:3:1146:A:C8	2.55	0.41
50:3:1243:A:H2'	50:3:1244:A:C8	2.56	0.41
50:3:1299:A:N6	50:3:2019:G:N3	2.68	0.41
50:3:1626:C:H2'	50:3:1627:U:H6	1.85	0.41
50:3:1818:G:H5'	50:3:2223:C:OP2	2.21	0.41
51:4:91:A:H2'	51:4:92:A:C8	2.56	0.41
52:5:40:G:H2'	52:5:41:C:C6	2.55	0.41
52:5:129:U:H4'	52:5:198:A:C6	2.55	0.41
52:5:136:U:N3	52:5:157:A:N6	2.37	0.41
52:5:211:G:H2'	52:5:212:G:C8	2.47	0.41
52:5:212:G:N2	52:5:466:U:H3	2.18	0.41
52:5:425:G:C2	52:5:427:A:N6	2.89	0.41
52:5:689:U:O2	52:5:692:A:N7	2.53	0.41
52:5:738:A:H2'	52:5:739:G:O4'	2.20	0.41
52:5:757:G:C2	52:5:758:G:H1'	2.55	0.41
52:5:765:A:C4'	52:5:1498:G:H21	2.28	0.41
52:5:925:C:H4'	52:5:1079:G:OP1	2.20	0.41
52:5:988:G:H5''	52:5:991:A:N6	2.36	0.41
52:5:1195:G:H2'	52:5:1196:G:H8	1.85	0.41
52:5:1300:C:C2	52:5:1301:U:H5	2.38	0.41
4:A:71:TYR:O	4:A:75:VAL:HG23	2.20	0.41
4:A:136:LYS:O	4:A:140:ASN:N	2.46	0.41
5:B:88:ILE:O	5:B:92:ILE:HG12	2.21	0.41
6:C:82:ARG:HD3	52:5:6:C:H5''	2.03	0.41
13:J:15:HIS:HD1	13:J:78:PHE:HB2	1.85	0.41
13:J:120:PRO:HA	52:5:793:C:H5''	2.02	0.41
16:M:61:TRP:HZ3	52:5:1343:G:H5'	1.86	0.41
20:Q:94:ARG:HB3	20:Q:101:PHE:CE1	2.55	0.41
25:b:36:VAL:HG12	25:b:38:GLY:H	1.86	0.41
25:b:40:LYS:HD2	25:b:45:ASP:OD2	2.20	0.41
29:f:88:PRO:HA	29:f:121:PHE:HB3	2.03	0.41
31:h:71:PRO:HB2	50:3:1097:G:H5''	2.02	0.41
32:i:94:ASP:CG	50:3:2745:G:H21	2.28	0.41
32:i:120:ARG:O	32:i:123:THR:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:59:TYR:CE2	50:3:254:G:H4'	2.56	0.41
35:l:57:CYS:HB3	35:l:120:ARG:NH2	2.36	0.41
37:n:2:LYS:C	37:n:7:GLN:HB2	2.45	0.41
39:p:23:SER:OG	39:p:27:ARG:HD2	2.20	0.41
39:p:53:LYS:HE3	50:3:1032:A:C8	2.55	0.41
44:u:39:LYS:HB3	44:u:43:GLN:HG2	2.03	0.41
44:u:99:LYS:HE2	44:u:99:LYS:HB3	1.90	0.41
46:w:17:LYS:HA	46:w:20:ILE:HG12	2.03	0.41
50:3:51:A:O4'	50:3:119:A:N6	2.53	0.41
50:3:283:A:N6	50:3:285:U:O5'	2.53	0.41
50:3:563:A:N3	50:3:563:A:H3'	2.35	0.41
50:3:700:U:H2'	50:3:701:A:H8	1.85	0.41
50:3:720:A:N3	50:3:724:A:N6	2.68	0.41
50:3:722:C:H2'	50:3:723:U:O4'	2.20	0.41
50:3:772:C:H2'	50:3:773:G:C8	2.55	0.41
50:3:867:G:O2'	50:3:868:C:H5'	2.20	0.41
50:3:1238:A:H2'	50:3:1239:G:H8	1.85	0.41
50:3:1261:U:C2	50:3:1262:G:N7	2.89	0.41
50:3:1500:A:N1	50:3:1544:G:C6	2.89	0.41
50:3:1733:G:N2	50:3:1735:A:OP1	2.53	0.41
50:3:2067:A:H4'	50:3:2510:G:H4'	2.02	0.41
50:3:2688:C:H2'	50:3:2689:C:C6	2.55	0.41
50:3:2744:A:H2'	50:3:2745:G:C8	2.54	0.41
52:5:259:A:H2'	52:5:260:C:H5	1.84	0.41
52:5:325:A:O2'	52:5:327:G:OP2	2.25	0.41
52:5:425:G:H5'	52:5:427:A:H1'	2.02	0.41
52:5:445:A:H5''	52:5:483:U:O4	2.20	0.41
52:5:763:A:H3'	52:5:764:A:C8	2.55	0.41
52:5:1132:G:H2'	52:5:1133:A:H2'	2.03	0.41
2:1:5:SER:HB2	50:3:250:U:O4	2.21	0.41
3:2:2:LYS:O	3:2:35:ARG:HD3	2.21	0.41
4:A:151:MET:HA	4:A:154:ARG:HE	1.86	0.41
5:B:11:ARG:CZ	5:B:185:ILE:HD12	2.50	0.41
6:C:97:LEU:HB3	6:C:132:PRO:HA	2.03	0.41
8:E:138:SER:HA	52:5:743:A:H5''	2.03	0.41
11:H:7:TYR:CE2	11:H:18:LYS:HG2	2.54	0.41
14:K:38:VAL:HG11	52:5:50:U:C6	2.55	0.41
14:K:62:LEU:N	52:5:517:C:H5''	2.36	0.41
15:L:24:GLY:O	15:L:25:ILE:HD13	2.21	0.41
17:N:13:GLN:HB3	17:N:18:ASP:OD1	2.20	0.41
24:a:138:LEU:HD11	24:a:182:LEU:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:167:TYR:CZ	50:3:2753:C:H5'	2.56	0.41
34:k:48:ARG:HH22	50:3:199:A:H5''	1.85	0.41
35:l:71:HIS:NE2	50:3:945:U:H1'	2.35	0.41
50:3:206:U:H4'	50:3:257:C:H5'	2.03	0.41
50:3:225:A:N7	50:3:463:U:C4	2.88	0.41
50:3:230:G:HO2'	50:3:261:A:HO2'	1.62	0.41
50:3:571:A:H3'	50:3:572:G:H8	1.85	0.41
50:3:729:U:H5''	50:3:1603:A:C2	2.55	0.41
50:3:740:A:OP2	50:3:760:G:N1	2.52	0.41
50:3:806:A:H2'	50:3:807:U:C6	2.55	0.41
50:3:870:A:H2'	50:3:871:G:C8	2.55	0.41
50:3:891:G:H2'	50:3:892:G:C8	2.55	0.41
50:3:1215:G:H2'	50:3:1216:U:H5'	2.00	0.41
50:3:1220:A:H2'	50:3:1221:G:O4'	2.20	0.41
50:3:1383:G:H2'	50:3:1384:C:H6	1.86	0.41
50:3:1429:G:H2'	50:3:1430:U:O4'	2.21	0.41
50:3:1584:U:H5'	50:3:1585:A:OP1	2.20	0.41
50:3:1692:A:N1	50:3:2010:A:N6	2.68	0.41
50:3:1795:C:C2	50:3:1796:A:C8	3.09	0.41
50:3:2044:C:H2'	50:3:2045:C:C6	2.56	0.41
50:3:2076:G:H2'	50:3:2077:A:O4'	2.21	0.41
50:3:2641:A:H2'	50:3:2642:G:C8	2.56	0.41
50:3:2666:C:H2'	50:3:2667:G:C8	2.55	0.41
52:5:8:G:H5'	52:5:294:A:C8	2.54	0.41
52:5:87:G:H1'	52:5:137:A:H2	1.85	0.41
52:5:260:C:H2'	52:5:261:G:O4'	2.21	0.41
52:5:646:A:H2'	52:5:647:U:N1	2.35	0.41
52:5:788:G:N2	52:5:1471:C:H4'	2.36	0.41
52:5:882:U:OP2	52:5:883:A:H3'	2.21	0.41
52:5:974:C:N4	52:5:1334:A:H62	2.14	0.41
52:5:1014:A:H2'	52:5:1015:U:O4'	2.21	0.41
52:5:1042:G:H2'	52:5:1043:U:C6	2.55	0.41
52:5:1462:G:H2'	52:5:1463:A:C8	2.55	0.41
2:1:29:LEU:HD13	49:z:2:ALA:N	2.35	0.41
3:2:10:ILE:HB	3:2:32:HIS:HB3	2.03	0.41
10:G:118:THR:OG1	10:G:123:MET:SD	2.74	0.41
11:H:111:ARG:HA	52:5:1321:G:O5'	2.20	0.41
13:J:28:SER:HA	13:J:34:VAL:HA	2.02	0.41
18:O:54:ASN:ND2	18:O:79:SER:O	2.46	0.41
18:O:67:PHE:CG	18:O:72:LEU:HD22	2.55	0.41
20:Q:56:ASP:OD1	20:Q:56:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:4:ARG:HB3	25:b:101:LEU:HD22	2.02	0.41
26:c:49:THR:HA	50:3:478:G:H21	1.85	0.41
27:d:65:PRO:HA	27:d:89:VAL:HG22	2.03	0.41
34:k:61:ARG:NH1	50:3:2436:G:O2'	2.54	0.41
34:k:95:ARG:NH1	34:k:127:GLU:HB3	2.36	0.41
41:r:6:LYS:HE2	50:3:543:U:C4	2.56	0.41
42:s:13:THR:HB	50:3:1366:G:H4'	2.02	0.41
45:v:18:ARG:HD3	45:v:22:LYS:HD2	2.03	0.41
49:z:5:ARG:NH1	49:z:22:PHE:O	2.53	0.41
49:z:11:CYS:HB3	49:z:14:CYS:SG	2.60	0.41
50:3:57:G:H2'	50:3:58:A:H8	1.84	0.41
50:3:234:G:H21	50:3:262:G:P	2.43	0.41
50:3:867:G:H2'	50:3:868:C:C6	2.55	0.41
50:3:957:G:C6	50:3:958:C:N4	2.89	0.41
50:3:1231:G:H2'	50:3:1232:U:C6	2.54	0.41
50:3:1361:U:H2'	50:3:1362:C:H6	1.86	0.41
50:3:1446:G:O5'	50:3:1446:G:H8	2.03	0.41
50:3:1722:U:H2'	50:3:1732:A:C6	2.56	0.41
50:3:1886:C:H2'	50:3:1887:U:O4'	2.20	0.41
50:3:1964:C:C2	50:3:1965:C:C5	3.09	0.41
50:3:2064:G:OP2	50:3:2064:G:H8	2.04	0.41
50:3:2378:G:H2'	50:3:2379:G:O4'	2.21	0.41
50:3:2537:G:OP2	50:3:2538:A:H8	2.03	0.41
50:3:2651:G:N1	50:3:2780:U:C4	2.89	0.41
50:3:2795:C:HO2'	50:3:2814:A:H4'	1.85	0.41
52:5:43:G:H2'	52:5:44:C:O4'	2.21	0.41
52:5:124:U:H3'	52:5:125:A:H8	1.84	0.41
52:5:517:C:N4	52:5:527:G:O2'	2.52	0.41
52:5:719:G:H2'	52:5:721:G:H1'	2.03	0.41
52:5:725:A:H2'	52:5:726:A:C8	2.55	0.41
52:5:799:A:H2'	52:5:800:G:O4'	2.21	0.41
52:5:968:G:OP2	52:5:969:A:H3'	2.21	0.41
52:5:1390:G:H2'	52:5:1391:A:C8	2.55	0.41
52:5:1402:U:H5''	52:5:1403:A:OP2	2.20	0.41
4:A:25:GLU:HA	4:A:251:ASP:HA	2.03	0.41
5:B:13:GLY:HA2	5:B:18:TRP:CH2	2.56	0.41
5:B:20:SER:HA	5:B:58:ILE:HB	2.02	0.41
5:B:117:ARG:NH2	5:B:190:GLU:OE1	2.54	0.41
6:C:3:TYR:OH	52:5:400:G:OP1	2.39	0.41
6:C:69:LYS:HG3	52:5:544:A:OP1	2.21	0.41
7:D:73:LEU:H	7:D:73:LEU:HD23	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:56:LEU:HD12	11:H:57:THR:HG23	2.02	0.41
12:I:29:LYS:HB3	12:I:29:LYS:HE3	1.84	0.41
12:I:65:LYS:HB2	52:5:967:C:O3'	2.20	0.41
12:I:65:LYS:HG3	12:I:68:ARG:HH21	1.86	0.41
14:K:70:LEU:HG	14:K:95:LEU:HD12	2.02	0.41
14:K:107:ARG:HG2	52:5:905:U:OP1	2.21	0.41
16:M:19:ARG:NH1	52:5:975:C:H4'	2.36	0.41
17:N:20:GLY:N	52:5:747:C:O2'	2.51	0.41
17:N:65:LYS:HE2	17:N:65:LYS:HB3	1.92	0.41
18:O:64:ARG:HA	18:O:67:PHE:HB2	2.03	0.41
20:Q:92:ARG:HG3	52:5:732:A:O2'	2.20	0.41
24:a:31:ASN:OD1	24:a:88:TYR:OH	2.17	0.41
24:a:68:ILE:O	24:a:108:TYR:HB2	2.21	0.41
25:b:21:ASN:OD1	38:o:85:ASN:ND2	2.53	0.41
26:c:78:SER:O	26:c:81:ASN:ND2	2.54	0.41
26:c:193:LEU:HA	34:k:5:GLN:OE1	2.20	0.41
27:d:123:ASP:CG	27:d:127:ASN:HB2	2.46	0.41
28:e:7:ARG:O	28:e:9:ILE:HG13	2.20	0.41
32:i:74:ASN:HD22	50:3:1057:G:H8	1.69	0.41
33:j:28:THR:HG22	50:3:2571:U:H1'	2.02	0.41
33:j:36:GLY:H	33:j:106:LEU:HD23	1.85	0.41
35:l:85:SER:H	50:3:2283:C:H1'	1.86	0.41
36:m:22:VAL:HA	36:m:25:VAL:HG12	2.03	0.41
40:q:42:ASP:O	40:q:43:GLU:HG3	2.21	0.41
40:q:42:ASP:C	40:q:43:GLU:HG3	2.46	0.41
49:z:24:ASN:ND2	50:3:2293:C:H5''	2.35	0.41
50:3:33:C:H5''	50:3:1269:C:OP1	2.21	0.41
50:3:252:G:H1'	50:3:2439:U:O2'	2.21	0.41
50:3:272:C:H2'	50:3:273:C:H5''	2.02	0.41
50:3:697:U:C2	50:3:698:A:N7	2.89	0.41
50:3:736:G:H1'	50:3:1666:A:C2	2.52	0.41
50:3:830:A:H2'	50:3:831:U:O4'	2.21	0.41
50:3:854:A:N6	50:3:1220:A:H1'	2.36	0.41
50:3:866:G:H2'	50:3:867:G:H8	1.86	0.41
50:3:919:C:H2'	50:3:920:G:H8	1.86	0.41
50:3:1017:A:C5	50:3:2035:U:H1'	2.55	0.41
50:3:1193:U:H2'	50:3:1194:U:O4'	2.21	0.41
50:3:1233:A:N6	50:3:1274:A:N1	2.69	0.41
50:3:1259:A:C4	50:3:1260:U:C5	3.08	0.41
50:3:1292:A:H2'	50:3:1292:A:N3	2.36	0.41
50:3:1322:A:N3	50:3:1322:A:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1745:A:H2'	50:3:1746:U:C6	2.56	0.41
50:3:2173:G:C4	50:3:2174:G:C8	3.09	0.41
50:3:2328:A:N3	50:3:2330:A:N6	2.69	0.41
50:3:2528:C:H2'	50:3:2529:C:H6	1.84	0.41
50:3:2677:A:H2'	50:3:2678:A:H8	1.84	0.41
50:3:2728:U:O2	50:3:2728:U:H2'	2.20	0.41
50:3:2847:C:H2'	50:3:2848:A:H8	1.85	0.41
51:4:18:U:H2'	51:4:19:G:C8	2.56	0.41
51:4:69:C:H2'	51:4:70:G:O4'	2.21	0.41
52:5:66:A:O4'	52:5:202:A:H1'	2.20	0.41
52:5:199:A:H2	52:5:216:G:H21	1.68	0.41
52:5:288:A:H5''	52:5:629:U:N3	2.28	0.41
52:5:435:U:H3'	52:5:487:A:N6	2.36	0.41
52:5:717:C:H3'	52:5:718:A:C8	2.56	0.41
52:5:902:A:N6	52:5:1462:G:H21	2.14	0.41
52:5:1015:U:H2'	52:5:1016:A:C8	2.55	0.41
52:5:1109:U:H2'	52:5:1110:C:H6	1.86	0.41
52:5:1209:C:H2'	52:5:1210:U:O4'	2.21	0.41
52:5:1238:C:H2'	52:5:1239:U:C6	2.56	0.41
52:5:1383:A:H2'	52:5:1384:A:O4'	2.21	0.41
52:5:1472:G:H2'	52:5:1473:U:C2	2.56	0.41
52:5:1488:A:C6	52:5:1498:G:C6	3.08	0.41
2:1:35:THR:HA	2:1:38:LYS:HE3	2.03	0.41
5:B:111:SER:O	5:B:114:LEU:HG	2.20	0.41
8:E:35:LEU:HB2	8:E:60:TRP:CD1	2.56	0.41
9:F:99:ALA:O	9:F:103:ILE:HG12	2.20	0.41
10:G:101:PHE:CE1	10:G:132:LYS:HA	2.55	0.41
11:H:87:ARG:CZ	52:5:1109:U:H4'	2.51	0.41
16:M:35:SER:OG	52:5:1332:U:OP1	2.38	0.41
20:Q:42:ARG:HG3	20:Q:62:ARG:HG3	2.01	0.41
23:T:41:ARG:HH12	52:5:718:A:H2	1.68	0.41
24:a:224:ILE:H	24:a:224:ILE:HD12	1.86	0.41
25:b:114:SER:HB3	25:b:170:GLY:HA2	2.03	0.41
25:b:119:PHE:N	50:3:2827:A:H5'	2.34	0.41
28:e:61:LEU:HD12	28:e:61:LEU:HA	1.88	0.41
32:i:108:VAL:HG21	32:i:125:VAL:HG11	2.03	0.41
32:i:119:ARG:HD3	50:3:563:A:N6	2.35	0.41
42:s:14:GLU:HA	42:s:17:TYR:CD2	2.56	0.41
46:w:28:GLU:HB3	46:w:32:LYS:NZ	2.36	0.41
48:y:40:HIS:HE1	50:3:2835:G:N2	2.19	0.41
50:3:131:C:O4'	50:3:1377:A:H4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:250:U:H2'	50:3:251:G:C8	2.56	0.41
50:3:341:G:H22	50:3:343:A:H3'	1.84	0.41
50:3:500:U:O5'	50:3:500:U:H6	2.04	0.41
50:3:866:G:H2'	50:3:867:G:C8	2.56	0.41
50:3:1503:A:H3'	50:3:1504:G:C8	2.56	0.41
50:3:1776:G:H2'	50:3:1777:G:N7	2.36	0.41
50:3:1785:U:O4	50:3:1791:A:H1'	2.21	0.41
50:3:2305:C:H2'	50:3:2306:A:O4'	2.21	0.41
50:3:2374:A:H3'	50:3:2375:A:H8	1.86	0.41
50:3:2436:G:H4'	50:3:2437:G:C5	2.56	0.41
50:3:2472:G:H2'	50:3:2473:C:O4'	2.21	0.41
50:3:2737:G:H2'	50:3:2738:U:H6	1.86	0.41
51:4:68:C:H2'	51:4:69:C:H6	1.85	0.41
52:5:510:U:H2'	52:5:511:A:C8	2.56	0.41
52:5:698:U:H5''	52:5:699:A:H2'	2.03	0.41
52:5:849:A:H2'	52:5:850:G:C8	2.56	0.41
52:5:868:G:H2'	52:5:869:U:C6	2.55	0.41
52:5:888:A:H2'	52:5:889:U:C6	2.56	0.41
52:5:1059:G:O5'	52:5:1362:G:H1'	2.20	0.41
52:5:1262:A:N1	52:5:1346:G:H1'	2.36	0.41
52:5:1425:A:O2'	52:5:1428:A:N6	2.54	0.41
5:B:33:TRP:CG	5:B:60:ARG:HE	2.39	0.40
8:E:101:ASN:N	8:E:102:PRO:HD2	2.36	0.40
9:F:115:MET:O	9:F:119:ILE:HG22	2.21	0.40
14:K:134:LYS:HB2	52:5:37:C:O2'	2.21	0.40
16:M:24:CYS:HA	16:M:38:GLY:O	2.21	0.40
23:T:52:LYS:O	23:T:57:ARG:N	2.54	0.40
24:a:26:LEU:HD21	24:a:95:PHE:CG	2.55	0.40
24:a:65:LYS:N	50:3:1602:G:OP1	2.50	0.40
25:b:23:ARG:HD2	25:b:24:LEU:N	2.36	0.40
29:f:70:GLU:O	29:f:74:GLN:HG2	2.21	0.40
34:k:39:GLN:NE2	34:k:47:THR:HG23	2.31	0.40
34:k:66:GLY:C	34:k:67:ASN:HD22	2.28	0.40
39:p:47:ARG:HH21	39:p:48:ASP:CG	2.29	0.40
43:t:78:ASP:HB2	43:t:104:PHE:HE2	1.86	0.40
50:3:64:U:H4'	50:3:65:A:C8	2.56	0.40
50:3:70:G:N2	50:3:76:A:O5'	2.54	0.40
50:3:227:A:H62	50:3:412:A:H1'	1.86	0.40
50:3:325:G:O2'	50:3:326:A:H5'	2.20	0.40
50:3:596:G:H2'	50:3:597:C:H6	1.85	0.40
50:3:683:G:C2	50:3:684:A:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:810:G:C2	50:3:812:G:C6	3.09	0.40
50:3:897:A:H2'	50:3:898:A:O4'	2.21	0.40
50:3:1197:G:H2'	50:3:1198:G:C8	2.56	0.40
50:3:1555:G:N2	50:3:1576:G:H1'	2.36	0.40
50:3:1797:C:H3'	50:3:1798:A:C8	2.56	0.40
50:3:1814:G:N2	50:3:1817:A:OP2	2.27	0.40
50:3:1836:A:H3'	50:3:1837:C:H5	1.84	0.40
50:3:1883:A:N1	50:3:1884:A:C8	2.89	0.40
50:3:1899:C:H2'	50:3:1900:C:C6	2.56	0.40
50:3:2271:C:H2'	50:3:2272:C:O4'	2.21	0.40
50:3:2321:C:N4	50:3:2322:G:O6	2.54	0.40
50:3:2468:U:H2'	50:3:2469:A:C8	2.54	0.40
50:3:2755:G:H3'	50:3:2762:U:O4	2.21	0.40
51:4:3:U:H5''	51:4:21:G:H21	1.85	0.40
52:5:108:C:H2'	52:5:109:G:C8	2.44	0.40
52:5:139:C:H2'	52:5:140:U:C6	2.56	0.40
52:5:323:A:H1'	52:5:325:A:O4'	2.21	0.40
52:5:369:A:O2'	52:5:448:A:N7	2.53	0.40
52:5:372:G:H2'	52:5:373:A:H8	1.81	0.40
52:5:514:U:H3'	52:5:515:G:C8	2.56	0.40
52:5:682:G:H2'	52:5:683:G:C8	2.56	0.40
52:5:954:A:H1'	52:5:1196:G:H21	1.86	0.40
52:5:1011:A:C6	52:5:1012:A:C6	3.09	0.40
52:5:1087:C:H2'	52:5:1088:C:H6	1.85	0.40
52:5:1119:C:H3'	52:5:1120:A:C8	2.56	0.40
52:5:1149:G:H2'	52:5:1150:G:H8	1.85	0.40
52:5:1258:U:H2'	52:5:1259:G:C8	2.57	0.40
2:1:24:ALA:HB2	34:k:62:LEU:HD23	2.03	0.40
4:A:189:ALA:O	4:A:193:ILE:HG12	2.21	0.40
5:B:115:SER:C	5:B:205:ILE:HG21	2.47	0.40
6:C:25:PHE:C	6:C:27:LYS:H	2.29	0.40
7:D:100:LYS:HD3	7:D:128:THR:OG1	2.22	0.40
8:E:30:THR:OG1	8:E:31:ASN:N	2.55	0.40
14:K:78:THR:HG22	14:K:108:TYR:CB	2.52	0.40
15:L:101:ARG:HH11	15:L:104:THR:HG22	1.85	0.40
16:M:5:SER:HB2	52:5:1191:U:P	2.61	0.40
20:Q:95:TYR:CD1	52:5:732:A:H1'	2.57	0.40
21:R:66:MET:HB2	21:R:69:HIS:HB2	2.03	0.40
22:S:35:PHE:HZ	22:S:76:LEU:HB2	1.87	0.40
24:a:252:ASP:HB2	50:3:1908:A:N3	2.36	0.40
26:c:24:LEU:O	26:c:117:SER:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:153:LEU:HA	26:c:177:ASN:CG	2.46	0.40
29:f:33:LYS:HD3	29:f:33:LYS:HA	1.82	0.40
32:i:102:LYS:NZ	50:3:2647:A:O3'	2.42	0.40
36:m:42:GLN:NE2	36:m:98:SER:O	2.43	0.40
37:n:11:ARG:HH12	37:n:96:SER:HA	1.86	0.40
39:p:73:MET:HE2	39:p:73:MET:HB3	1.98	0.40
39:p:111:LYS:HE3	39:p:111:LYS:HB2	1.90	0.40
40:q:22:VAL:HG22	40:q:23:GLU:H	1.86	0.40
40:q:23:GLU:OE1	40:q:87:GLN:NE2	2.54	0.40
50:3:33:C:H2'	50:3:34:C:H6	1.85	0.40
50:3:64:U:H5'	50:3:96:A:N1	2.37	0.40
50:3:200:A:O2'	50:3:201:A:H5'	2.21	0.40
50:3:231:A:N3	50:3:232:A:H2'	2.36	0.40
50:3:417:G:H2'	50:3:418:G:C8	2.56	0.40
50:3:636:U:H4'	50:3:637:U:H5''	2.04	0.40
50:3:1302:C:C5	50:3:1652:A:H5'	2.56	0.40
50:3:1351:G:H2'	50:3:1352:G:H8	1.87	0.40
50:3:1457:A:H2'	50:3:1458:A:C8	2.55	0.40
50:3:1713:U:H2'	50:3:1714:U:C6	2.56	0.40
50:3:1989:U:H2'	50:3:1990:C:O4'	2.21	0.40
50:3:2064:G:H2'	50:3:2065:A:C8	2.57	0.40
50:3:2149:U:H5'	50:3:2190:G:H1'	2.03	0.40
50:3:2405:G:H2'	50:3:2406:U:C5	2.56	0.40
50:3:2501:U:C2	50:3:2502:G:C8	3.10	0.40
50:3:2706:U:C4	50:3:2717:G:O6	2.74	0.40
51:4:101:C:N3	51:4:102:A:N6	2.69	0.40
52:5:92:G:O2'	52:5:95:C:O2	2.23	0.40
52:5:225:U:H2'	52:5:226:G:O4'	2.22	0.40
52:5:267:C:H2'	52:5:268:C:C6	2.56	0.40
52:5:288:A:C5	52:5:289:U:H1'	2.56	0.40
52:5:410:A:H2	52:5:411:A:C8	2.39	0.40
52:5:459:C:H2'	52:5:460:A:H8	1.84	0.40
52:5:939:G:N2	52:5:1312:G:H8	2.18	0.40
52:5:954:A:H2'	52:5:955:U:H4'	2.03	0.40
52:5:1329:G:C2	52:5:1330:A:C4	3.08	0.40
52:5:1424:C:H2'	52:5:1425:A:O4'	2.21	0.40
7:D:76:ILE:HD12	52:5:1071:A:O3'	2.20	0.40
7:D:137:TYR:C	7:D:153:PRO:HG3	2.46	0.40
11:H:9:LEU:HD11	11:H:11:ARG:HE	1.87	0.40
12:I:63:VAL:HG23	12:I:63:VAL:O	2.22	0.40
15:L:102:THR:H	52:5:1200:G:P	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:114:LYS:O	52:5:1203:A:H5'	2.21	0.40
21:R:81:LYS:HE2	52:5:950:C:O2	2.20	0.40
22:S:5:LYS:HE3	52:5:62:G:C8	2.56	0.40
24:a:63:LYS:NZ	50:3:728:A:H5''	2.36	0.40
26:c:9:ILE:HD12	26:c:9:ILE:HA	1.91	0.40
26:c:108:HIS:NE2	50:3:651:A:O2'	2.42	0.40
32:i:37:ASP:CG	32:i:42:LYS:HD3	2.46	0.40
32:i:119:ARG:HH21	50:3:2788:U:H5	1.69	0.40
40:q:66:ARG:HH22	50:3:1251:G:H5''	1.85	0.40
50:3:325:G:H2'	50:3:326:A:H8	1.86	0.40
50:3:732:G:H8	50:3:732:G:O5'	2.05	0.40
50:3:1138:A:H2'	50:3:1138:A:N3	2.36	0.40
50:3:1220:A:H3'	50:3:1221:G:H8	1.86	0.40
50:3:1311:G:N2	50:3:1357:U:H3	2.19	0.40
50:3:1706:C:O4'	50:3:2561:G:H4'	2.21	0.40
50:3:2098:U:OP2	50:3:2099:U:H3'	2.21	0.40
50:3:2141:A:N7	50:3:2164:G:C2	2.89	0.40
50:3:2151:G:H1'	50:3:2155:G:N2	2.36	0.40
50:3:2176:G:H2'	50:3:2178:A:OP2	2.21	0.40
50:3:2640:A:H2'	50:3:2641:A:C8	2.56	0.40
50:3:2849:G:C6	50:3:2850:G:C6	3.09	0.40
52:5:65:G:N1	52:5:70:A:N1	2.69	0.40
52:5:91:C:H5''	52:5:121:C:H5'	2.02	0.40
52:5:115:A:N6	52:5:179:U:O2	2.55	0.40
52:5:164:C:H2'	52:5:165:A:H8	1.86	0.40
52:5:345:A:H2'	52:5:346:G:C8	2.56	0.40
52:5:683:G:N2	52:5:701:A:C5	2.89	0.40
52:5:858:A:H2'	52:5:859:A:C8	2.56	0.40
52:5:956:U:OP2	52:5:1197:G:N2	2.34	0.40
52:5:1013:C:N4	52:5:1014:A:H62	2.18	0.40
52:5:1054:C:O2'	52:5:1361:G:O5'	2.39	0.40
52:5:1134:C:N4	52:5:1136:G:C8	2.89	0.40
52:5:1455:G:H2'	52:5:1456:U:C6	2.57	0.40
8:E:3:TYR:HE1	8:E:66:ASN:HA	1.87	0.40
9:F:101:ARG:HG2	52:5:934:G:H4'	2.04	0.40
15:L:56:ILE:HA	15:L:59:VAL:HG12	2.03	0.40
16:M:6:LEU:HB3	16:M:23:ARG:CZ	2.51	0.40
25:b:14:SER:OG	38:o:10:ILE:HG23	2.21	0.40
26:c:182:HIS:CG	26:c:183:LEU:N	2.90	0.40
27:d:29:PRO:HG3	27:d:165:GLU:HG3	2.03	0.40
28:e:75:ILE:O	28:e:79:ILE:HG13	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:31:PHE:CE1	29:f:111:PHE:HB3	2.57	0.40
37:n:11:ARG:O	37:n:15:ILE:HG12	2.22	0.40
38:o:102:SER:HB2	50:3:1761:C:O2'	2.22	0.40
50:3:333:A:N6	50:3:356:A:H1'	2.37	0.40
50:3:495:U:H2'	50:3:496:A:O4'	2.21	0.40
50:3:533:G:H2'	50:3:534:U:C6	2.57	0.40
50:3:697:U:C2	50:3:698:A:C8	3.10	0.40
50:3:728:A:O2'	50:3:729:U:H5'	2.22	0.40
50:3:942:A:H2'	50:3:943:A:O4'	2.22	0.40
50:3:1326:C:H2'	50:3:1327:G:O4'	2.21	0.40
50:3:1358:C:H2'	50:3:1359:C:H6	1.87	0.40
50:3:1450:G:H1'	50:3:1517:G:H21	1.85	0.40
50:3:1737:G:C2	50:3:1738:G:C5	3.10	0.40
50:3:1766:A:H4'	50:3:2720:C:OP1	2.20	0.40
50:3:1798:A:N6	50:3:1835:G:N3	2.60	0.40
50:3:2371:U:H2'	50:3:2372:C:C6	2.56	0.40
50:3:2691:C:N4	50:3:2735:G:H21	2.14	0.40
50:3:2842:G:H2'	50:3:2843:G:H8	1.87	0.40
50:3:2844:U:H2'	50:3:2845:U:C6	2.56	0.40
51:4:5:G:H2'	51:4:6:U:O4'	2.22	0.40
52:5:359:A:H8	52:5:359:A:P	2.45	0.40
52:5:367:A:H2	52:5:370:A:N6	2.20	0.40
52:5:388:G:H2'	52:5:389:A:C8	2.57	0.40
52:5:461:G:C8	52:5:462:G:H8	2.40	0.40
52:5:717:C:P	52:5:718:A:H2'	2.61	0.40
52:5:829:G:C6	52:5:849:A:N6	2.89	0.40
52:5:931:C:O2	52:5:932:A:C8	2.74	0.40
52:5:975:C:O2'	52:5:976:U:OP1	2.37	0.40
52:5:982:A:N6	52:5:1194:A:C6	2.89	0.40
52:5:1323:A:C4	52:5:1349:A:N6	2.90	0.40
1:0:39:ARG:HD2	1:0:39:ARG:HA	1.87	0.40
2:1:6:ALA:HB1	2:1:10:ARG:HH21	1.87	0.40
2:1:14:THR:OG1	2:1:17:GLY:O	2.39	0.40
4:A:111:ARG:HG2	52:5:1091:C:P	2.61	0.40
6:C:112:SER:HA	6:C:115:GLN:HB3	2.04	0.40
6:C:130:ASP:HB2	52:5:436:U:H4'	2.02	0.40
7:D:126:LEU:HD23	7:D:126:LEU:HA	1.99	0.40
8:E:5:ILE:HG23	8:E:87:ILE:HG12	2.03	0.40
11:H:10:GLY:HA2	11:H:83:LEU:HG	2.03	0.40
12:I:104:LEU:HD23	12:I:104:LEU:H	1.85	0.40
13:J:12:GLY:HA2	13:J:30:PRO:HD3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:69:LEU:HD11	52:5:1302:C:O2'	2.22	0.40
17:N:62:ARG:HA	17:N:65:LYS:HE2	2.04	0.40
20:Q:42:ARG:HH12	20:Q:58:GLU:CD	2.27	0.40
24:a:21:ASP:HB3	24:a:23:LYS:HG2	2.04	0.40
24:a:190:ARG:NH1	24:a:190:ARG:HB3	2.37	0.40
25:b:70:PHE:HZ	25:b:81:LEU:HD11	1.86	0.40
26:c:76:GLN:OE1	26:c:83:HIS:NE2	2.48	0.40
26:c:93:PRO:HG3	50:3:1278:G:C8	2.57	0.40
26:c:112:LEU:HG	26:c:116:TRP:CD1	2.56	0.40
33:j:78:LYS:NZ	50:3:2692:U:O2'	2.43	0.40
38:o:59:GLY:O	38:o:62:GLU:HG3	2.21	0.40
40:q:32:GLU:HA	40:q:58:VAL:HA	2.04	0.40
48:y:27:LEU:HD13	48:y:36:LYS:HE2	2.04	0.40
50:3:186:A:H2'	50:3:186:A:N3	2.36	0.40
50:3:546:U:H5''	50:3:1265:G:C5'	2.52	0.40
50:3:550:A:C2	50:3:1291:C:H1'	2.57	0.40
50:3:682:A:C4	50:3:683:G:C8	3.10	0.40
50:3:720:A:C2	50:3:822:C:H1'	2.57	0.40
50:3:727:C:H2'	50:3:728:A:H8	1.87	0.40
50:3:809:A:N1	50:3:822:C:O2'	2.44	0.40
50:3:953:G:O2'	51:4:89:A:O2'	2.37	0.40
50:3:956:U:O4	50:3:2276:A:H8	2.05	0.40
50:3:973:U:H2'	50:3:974:C:O4'	2.22	0.40
50:3:1158:C:H2'	50:3:1159:C:C6	2.57	0.40
50:3:1166:G:H21	50:3:1167:U:H5	1.68	0.40
50:3:1227:C:O2	50:3:1256:A:H2'	2.21	0.40
50:3:1230:U:C2	50:3:1231:G:C8	3.09	0.40
50:3:1259:A:N3	50:3:1259:A:H2'	2.37	0.40
50:3:1317:C:OP1	50:3:1681:G:N1	2.55	0.40
50:3:1342:C:H2'	50:3:1343:C:H6	1.87	0.40
50:3:1534:A:O2'	50:3:1536:C:N4	2.55	0.40
50:3:1695:G:H21	50:3:2695:U:H4'	1.86	0.40
50:3:1777:G:C6	50:3:1778:G:C6	3.10	0.40
50:3:2116:U:P	50:3:2156:G:H21	2.42	0.40
50:3:2257:U:C5	50:3:2260:G:H5''	2.56	0.40
50:3:2560:U:OP2	50:3:2561:G:H5''	2.21	0.40
50:3:2644:U:O2	50:3:2645:U:H5	2.04	0.40
52:5:435:U:O2'	52:5:437:U:O4	2.39	0.40
52:5:509:C:O2'	52:5:532:U:H1'	2.21	0.40
52:5:883:A:N6	52:5:902:A:OP2	2.54	0.40
52:5:1054:C:H3'	52:5:1055:G:C8	2.57	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	45/48 (94%)	41 (91%)	4 (9%)	0	100	100
2	1	57/59 (97%)	55 (96%)	2 (4%)	0	100	100
3	2	35/37 (95%)	32 (91%)	3 (9%)	0	100	100
4	A	238/294 (81%)	216 (91%)	22 (9%)	0	100	100
5	B	213/273 (78%)	201 (94%)	12 (6%)	0	100	100
6	C	201/205 (98%)	182 (90%)	18 (9%)	1 (0%)	24	63
7	D	151/219 (69%)	140 (93%)	11 (7%)	0	100	100
8	E	165/215 (77%)	149 (90%)	16 (10%)	0	100	100
9	F	152/155 (98%)	134 (88%)	16 (10%)	2 (1%)	9	42
10	G	139/142 (98%)	128 (92%)	11 (8%)	0	100	100
11	H	126/132 (96%)	110 (87%)	16 (13%)	0	100	100
12	I	99/108 (92%)	82 (83%)	17 (17%)	0	100	100
13	J	112/121 (93%)	107 (96%)	5 (4%)	0	100	100
14	K	134/139 (96%)	118 (88%)	16 (12%)	0	100	100
15	L	116/124 (94%)	107 (92%)	9 (8%)	0	100	100
16	M	58/61 (95%)	49 (84%)	9 (16%)	0	100	100
17	N	81/86 (94%)	78 (96%)	3 (4%)	0	100	100
18	O	78/94 (83%)	70 (90%)	8 (10%)	0	100	100
19	P	81/85 (95%)	74 (91%)	7 (9%)	0	100	100
20	Q	63/104 (61%)	54 (86%)	9 (14%)	0	100	100
21	R	82/87 (94%)	72 (88%)	10 (12%)	0	100	100
22	S	75/87 (86%)	73 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	T	51/60 (85%)	50 (98%)	1 (2%)	0	100	100
24	a	283/287 (99%)	257 (91%)	26 (9%)	0	100	100
25	b	227/287 (79%)	203 (89%)	24 (11%)	0	100	100
26	c	208/212 (98%)	194 (93%)	14 (7%)	0	100	100
27	d	173/180 (96%)	164 (95%)	9 (5%)	0	100	100
28	e	174/184 (95%)	167 (96%)	7 (4%)	0	100	100
29	f	143/149 (96%)	127 (89%)	16 (11%)	0	100	100
30	g	124/161 (77%)	114 (92%)	10 (8%)	0	100	100
31	h	126/137 (92%)	119 (94%)	7 (6%)	0	100	100
32	i	142/146 (97%)	132 (93%)	10 (7%)	0	100	100
33	j	120/122 (98%)	115 (96%)	5 (4%)	0	100	100
34	k	146/151 (97%)	133 (91%)	13 (9%)	0	100	100
35	l	134/139 (96%)	126 (94%)	8 (6%)	0	100	100
36	m	117/124 (94%)	108 (92%)	9 (8%)	0	100	100
37	n	108/116 (93%)	100 (93%)	8 (7%)	0	100	100
38	o	113/119 (95%)	109 (96%)	4 (4%)	0	100	100
39	p	112/127 (88%)	110 (98%)	2 (2%)	0	100	100
40	q	97/100 (97%)	87 (90%)	10 (10%)	0	100	100
41	r	137/159 (86%)	128 (93%)	9 (7%)	0	100	100
42	s	90/237 (38%)	83 (92%)	7 (8%)	0	100	100
43	t	109/111 (98%)	102 (94%)	7 (6%)	0	100	100
44	u	84/104 (81%)	75 (89%)	9 (11%)	0	100	100
45	v	61/65 (94%)	59 (97%)	2 (3%)	0	100	100
46	w	96/111 (86%)	91 (95%)	5 (5%)	0	100	100
47	x	42/97 (43%)	37 (88%)	5 (12%)	0	100	100
48	y	54/57 (95%)	51 (94%)	3 (6%)	0	100	100
49	z	48/53 (91%)	44 (92%)	4 (8%)	0	100	100
All	All	5820/6670 (87%)	5357 (92%)	460 (8%)	3 (0%)	49	83

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	F	113	LYS

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Mol	Chain	Res	Type
6	C	146	ALA
9	F	114	THR

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	40/41 (98%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	34 (97%)	1 (3%)	37	58
4	A	212/262 (81%)	212 (100%)	0	100	100
5	B	180/232 (78%)	180 (100%)	0	100	100
6	C	181/183 (99%)	181 (100%)	0	100	100
7	D	123/178 (69%)	123 (100%)	0	100	100
8	E	150/196 (76%)	150 (100%)	0	100	100
9	F	131/132 (99%)	131 (100%)	0	100	100
10	G	123/124 (99%)	123 (100%)	0	100	100
11	H	111/115 (96%)	111 (100%)	0	100	100
12	I	95/99 (96%)	95 (100%)	0	100	100
13	J	91/97 (94%)	91 (100%)	0	100	100
14	K	117/120 (98%)	112 (96%)	5 (4%)	26	47
15	L	100/105 (95%)	100 (100%)	0	100	100
16	M	47/48 (98%)	47 (100%)	0	100	100
17	N	76/78 (97%)	76 (100%)	0	100	100
18	O	69/82 (84%)	69 (100%)	0	100	100
19	P	73/75 (97%)	72 (99%)	1 (1%)	59	72
20	Q	56/94 (60%)	56 (100%)	0	100	100
21	R	74/77 (96%)	74 (100%)	0	100	100
22	S	70/77 (91%)	70 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	T	49/56 (88%)	49 (100%)	0	100	100
24	a	241/243 (99%)	241 (100%)	0	100	100
25	b	186/233 (80%)	186 (100%)	0	100	100
26	c	182/184 (99%)	182 (100%)	0	100	100
27	d	150/154 (97%)	150 (100%)	0	100	100
28	e	153/159 (96%)	153 (100%)	0	100	100
29	f	123/134 (92%)	123 (100%)	0	100	100
30	g	101/129 (78%)	90 (89%)	11 (11%)	6	21
31	h	102/110 (93%)	102 (100%)	0	100	100
32	i	126/128 (98%)	126 (100%)	0	100	100
33	j	103/103 (100%)	103 (100%)	0	100	100
34	k	123/126 (98%)	123 (100%)	0	100	100
35	l	113/115 (98%)	113 (100%)	0	100	100
36	m	105/109 (96%)	105 (100%)	0	100	100
37	n	96/99 (97%)	96 (100%)	0	100	100
38	o	101/105 (96%)	101 (100%)	0	100	100
39	p	100/108 (93%)	100 (100%)	0	100	100
40	q	90/91 (99%)	90 (100%)	0	100	100
41	r	116/132 (88%)	116 (100%)	0	100	100
42	s	82/208 (39%)	82 (100%)	0	100	100
43	t	96/96 (100%)	96 (100%)	0	100	100
44	u	69/85 (81%)	69 (100%)	0	100	100
45	v	58/60 (97%)	58 (100%)	0	100	100
46	w	87/98 (89%)	87 (100%)	0	100	100
47	x	41/86 (48%)	41 (100%)	0	100	100
48	y	48/49 (98%)	44 (92%)	4 (8%)	10	30
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5093/5751 (89%)	5071 (100%)	22 (0%)	81	84

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	2	21	GLN

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Mol	Chain	Res	Type
14	K	116	ASP
14	K	117	THR
14	K	118	VAL
14	K	120	VAL
14	K	121	GLU
19	P	5	GLN
30	g	26	ILE
30	g	28	ASP
30	g	29	TYR
30	g	42	LYS
30	g	46	LYS
30	g	69	GLU
30	g	84	VAL
30	g	86	VAL
30	g	89	ILE
30	g	115	ASN
30	g	116	ARG
48	y	47	MET
48	y	48	TYR
48	y	51	LEU
48	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	32	HIS
3	2	21	GLN
3	2	34	GLN
4	A	51	HIS
4	A	66	GLN
4	A	203	ASN
5	B	42	ASN
6	C	58	GLN
6	C	61	GLN
6	C	99	ASN
6	C	115	GLN
6	C	119	HIS
7	D	127	HIS
7	D	138	HIS
7	D	190	ASN
8	E	25	GLN
9	F	111	HIS

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Mol	Chain	Res	Type
10	G	73	ASN
10	G	78	GLN
11	H	66	ASN
13	J	22	ASN
13	J	104	ASN
14	K	25	HIS
14	K	86	ASN
15	L	76	ASN
15	L	100	GLN
16	M	25	GLN
17	N	43	ASN
17	N	70	ASN
18	O	32	HIS
20	Q	71	ASN
20	Q	80	GLN
20	Q	82	HIS
20	Q	83	GLN
22	S	21	ASN
22	S	36	HIS
23	T	32	HIS
23	T	50	GLN
24	a	15	HIS
24	a	159	GLN
24	a	209	ASN
24	a	238	HIS
24	a	240	HIS
25	b	73	ASN
25	b	100	ASN
25	b	127	ASN
25	b	168	HIS
25	b	188	ASN
26	c	68	GLN
26	c	134	ASN
26	c	177	ASN
28	e	21	GLN
28	e	54	GLN
28	e	63	GLN
28	e	72	ASN
29	f	54	GLN
29	f	55	GLN
29	f	61	ASN
29	f	100	GLN

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Mol	Chain	Res	Type
32	i	74	ASN
33	j	18	GLN
34	k	39	GLN
34	k	117	HIS
34	k	125	HIS
35	l	113	GLN
36	m	58	ASN
36	m	59	ASN
37	n	12	HIS
40	q	65	GLN
41	r	60	ASN
41	r	65	ASN
41	r	121	GLN
41	r	133	GLN
43	t	64	GLN
43	t	109	ASN
44	u	31	HIS
45	v	20	HIS
46	w	46	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	934 (32%)	32 (1%)
51	4	103/108 (95%)	40 (38%)	1 (0%)
52	5	1490/1520 (98%)	459 (30%)	10 (0%)
53	8	72/76 (94%)	34 (47%)	2 (2%)
All	All	4540/4611 (98%)	1467 (32%)	45 (0%)

All (1467) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	9	G
50	3	11	U
50	3	12	A
50	3	14	U
50	3	15	A
50	3	16	A
50	3	28	G
50	3	29	G
50	3	36	U

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Mol	Chain	Res	Type
50	3	38	G
50	3	40	A
50	3	43	A
50	3	48	G
50	3	52	U
50	3	53	G
50	3	65	A
50	3	73	A
50	3	76	A
50	3	77	G
50	3	82	G
50	3	85	U
50	3	87	G
50	3	90	G
50	3	94	A
50	3	98	C
50	3	102	A
50	3	104	A
50	3	115	U
50	3	119	A
50	3	121	U
50	3	122	G
50	3	124	A
50	3	126	C
50	3	127	A
50	3	129	U
50	3	130	C
50	3	132	G
50	3	135	A
50	3	136	G
50	3	137	U
50	3	141	A
50	3	144	C
50	3	152	A
50	3	157	U
50	3	163	A
50	3	165	U
50	3	169	U
50	3	170	A
50	3	179	A
50	3	180	A
50	3	183	A

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Mol	Chain	Res	Type
50	3	184	A
50	3	185	U
50	3	186	A
50	3	187	C
50	3	194	A
50	3	200	A
50	3	203	A
50	3	208	A
50	3	219	G
50	3	220	A
50	3	226	A
50	3	230	G
50	3	232	A
50	3	233	U
50	3	234	G
50	3	251	G
50	3	252	G
50	3	253	C
50	3	254	G
50	3	265	G
50	3	269	A
50	3	273	C
50	3	274	A
50	3	275	A
50	3	276	A
50	3	277	C
50	3	283	A
50	3	284	U
50	3	285	U
50	3	287	G
50	3	288	A
50	3	290	A
50	3	293	G
50	3	296	U
50	3	297	G
50	3	299	A
50	3	305	U
50	3	309	A
50	3	310	U
50	3	312	U
50	3	313	G
50	3	314	G

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Mol	Chain	Res	Type
50	3	315	A
50	3	316	C
50	3	318	U
50	3	319	G
50	3	320	A
50	3	326	A
50	3	328	A
50	3	329	G
50	3	332	G
50	3	333	A
50	3	335	G
50	3	336	C
50	3	343	A
50	3	345	A
50	3	347	C
50	3	351	G
50	3	354	C
50	3	356	A
50	3	357	A
50	3	363	G
50	3	364	A
50	3	367	G
50	3	392	A
50	3	395	U
50	3	396	A
50	3	397	G
50	3	402	A
50	3	403	U
50	3	404	C
50	3	409	A
50	3	411	U
50	3	416	C
50	3	417	G
50	3	422	A
50	3	424	G
50	3	425	U
50	3	426	U
50	3	431	U
50	3	432	G
50	3	435	U
50	3	436	G
50	3	437	A

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Mol	Chain	Res	Type
50	3	440	C
50	3	441	U
50	3	442	G
50	3	447	G
50	3	449	C
50	3	450	C
50	3	451	A
50	3	455	G
50	3	460	G
50	3	461	C
50	3	465	A
50	3	466	A
50	3	467	U
50	3	470	U
50	3	471	A
50	3	479	A
50	3	482	G
50	3	483	A
50	3	484	U
50	3	485	A
50	3	487	C
50	3	488	G
50	3	489	A
50	3	490	A
50	3	491	A
50	3	494	G
50	3	495	U
50	3	496	A
50	3	500	U
50	3	501	G
50	3	509	G
50	3	513	A
50	3	514	A
50	3	515	A
50	3	517	G
50	3	518	A
50	3	527	A
50	3	539	U
50	3	541	G
50	3	543	U
50	3	545	C
50	3	561	A

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Mol	Chain	Res	Type
50	3	562	C
50	3	563	A
50	3	566	G
50	3	567	U
50	3	568	G
50	3	569	U
50	3	581	A
50	3	583	U
50	3	596	G
50	3	598	G
50	3	599	U
50	3	601	U
50	3	603	G
50	3	605	A
50	3	606	G
50	3	608	A
50	3	609	U
50	3	610	G
50	3	614	C
50	3	616	G
50	3	620	G
50	3	623	A
50	3	636	U
50	3	637	U
50	3	641	U
50	3	648	G
50	3	649	A
50	3	656	G
50	3	658	G
50	3	661	G
50	3	663	A
50	3	664	G
50	3	667	A
50	3	670	G
50	3	673	A
50	3	681	A
50	3	682	A
50	3	683	G
50	3	689	U
50	3	690	U
50	3	691	G
50	3	694	U

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Mol	Chain	Res	Type
50	3	705	A
50	3	706	C
50	3	708	C
50	3	712	A
50	3	717	U
50	3	720	A
50	3	721	G
50	3	724	A
50	3	729	U
50	3	737	U
50	3	745	U
50	3	749	U
50	3	752	C
50	3	760	G
50	3	763	G
50	3	765	A
50	3	774	A
50	3	775	C
50	3	781	U
50	3	782	U
50	3	783	G
50	3	784	A
50	3	786	A
50	3	787	C
50	3	792	G
50	3	797	U
50	3	798	G
50	3	810	G
50	3	811	G
50	3	812	G
50	3	817	A
50	3	818	A
50	3	819	U
50	3	820	U
50	3	822	C
50	3	823	A
50	3	824	A
50	3	825	U
50	3	826	C
50	3	827	G
50	3	828	A
50	3	836	G

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Mol	Chain	Res	Type
50	3	837	A
50	3	840	G
50	3	841	C
50	3	847	C
50	3	854	A
50	3	863	U
50	3	866	G
50	3	868	C
50	3	870	A
50	3	873	G
50	3	881	A
50	3	882	C
50	3	883	A
50	3	885	A
50	3	892	G
50	3	895	G
50	3	896	U
50	3	902	U
50	3	903	A
50	3	912	A
50	3	917	G
50	3	929	G
50	3	932	U
50	3	933	A
50	3	936	G
50	3	944	U
50	3	947	A
50	3	948	A
50	3	949	C
50	3	950	U
50	3	951	C
50	3	954	A
50	3	957	G
50	3	958	C
50	3	969	A
50	3	971	U
50	3	975	G
50	3	976	C
50	3	981	A
50	3	983	A
50	3	989	G
50	3	994	U

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Mol	Chain	Res	Type
50	3	995	A
50	3	997	G
50	3	998	C
50	3	1001	C
50	3	1005	G
50	3	1008	A
50	3	1009	A
50	3	1010	G
50	3	1016	A
50	3	1026	A
50	3	1027	U
50	3	1032	A
50	3	1033	A
50	3	1045	A
50	3	1046	A
50	3	1048	A
50	3	1049	U
50	3	1050	A
50	3	1052	A
50	3	1053	C
50	3	1055	A
50	3	1057	G
50	3	1061	A
50	3	1062	A
50	3	1063	A
50	3	1065	G
50	3	1068	U
50	3	1069	G
50	3	1075	G
50	3	1080	A
50	3	1081	A
50	3	1082	A
50	3	1083	A
50	3	1088	A
50	3	1089	A
50	3	1092	A
50	3	1093	U
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1100	U
50	3	1102	A

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Mol	Chain	Res	Type
50	3	1104	A
50	3	1105	A
50	3	1106	G
50	3	1113	U
50	3	1122	G
50	3	1123	A
50	3	1124	G
50	3	1125	U
50	3	1129	U
50	3	1132	C
50	3	1139	C
50	3	1141	U
50	3	1146	A
50	3	1147	G
50	3	1148	U
50	3	1149	G
50	3	1151	U
50	3	1153	U
50	3	1157	G
50	3	1162	A
50	3	1165	U
50	3	1166	G
50	3	1167	U
50	3	1168	A
50	3	1170	C
50	3	1171	G
50	3	1176	U
50	3	1177	A
50	3	1186	A
50	3	1191	A
50	3	1204	A
50	3	1208	A
50	3	1209	U
50	3	1210	A
50	3	1212	C
50	3	1215	G
50	3	1216	U
50	3	1217	G
50	3	1229	U
50	3	1233	A
50	3	1234	U
50	3	1235	U

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Mol	Chain	Res	Type
50	3	1236	G
50	3	1241	U
50	3	1242	G
50	3	1243	A
50	3	1250	A
50	3	1251	G
50	3	1253	G
50	3	1256	A
50	3	1257	G
50	3	1259	A
50	3	1265	G
50	3	1266	G
50	3	1268	U
50	3	1274	A
50	3	1277	A
50	3	1281	A
50	3	1283	A
50	3	1284	A
50	3	1285	U
50	3	1286	G
50	3	1287	C
50	3	1298	A
50	3	1303	U
50	3	1304	U
50	3	1317	C
50	3	1320	C
50	3	1323	A
50	3	1325	C
50	3	1326	C
50	3	1328	A
50	3	1329	U
50	3	1330	U
50	3	1334	U
50	3	1339	U
50	3	1340	U
50	3	1342	C
50	3	1343	C
50	3	1349	C
50	3	1353	G
50	3	1357	U
50	3	1360	U
50	3	1369	U

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Mol	Chain	Res	Type
50	3	1371	G
50	3	1373	C
50	3	1375	G
50	3	1376	G
50	3	1378	C
50	3	1380	U
50	3	1388	G
50	3	1393	A
50	3	1402	G
50	3	1406	A
50	3	1407	U
50	3	1412	A
50	3	1413	A
50	3	1415	A
50	3	1420	A
50	3	1421	A
50	3	1422	U
50	3	1426	C
50	3	1431	A
50	3	1432	C
50	3	1435	A
50	3	1437	A
50	3	1444	C
50	3	1445	U
50	3	1456	C
50	3	1457	A
50	3	1461	A
50	3	1463	G
50	3	1464	G
50	3	1466	U
50	3	1467	U
50	3	1469	C
50	3	1478	U
50	3	1480	A
50	3	1481	U
50	3	1482	U
50	3	1483	G
50	3	1485	A
50	3	1486	U
50	3	1487	U
50	3	1493	A
50	3	1497	A

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Mol	Chain	Res	Type
50	3	1498	U
50	3	1502	A
50	3	1503	A
50	3	1504	G
50	3	1508	G
50	3	1510	A
50	3	1513	A
50	3	1514	U
50	3	1518	C
50	3	1522	U
50	3	1523	C
50	3	1528	G
50	3	1532	A
50	3	1534	A
50	3	1537	A
50	3	1542	G
50	3	1544	G
50	3	1546	U
50	3	1548	A
50	3	1549	U
50	3	1571	G
50	3	1579	G
50	3	1581	U
50	3	1584	U
50	3	1585	A
50	3	1586	U
50	3	1587	U
50	3	1588	A
50	3	1589	A
50	3	1590	U
50	3	1591	C
50	3	1592	A
50	3	1594	G
50	3	1600	A
50	3	1603	A
50	3	1609	U
50	3	1612	U
50	3	1616	G
50	3	1618	U
50	3	1619	A
50	3	1623	U
50	3	1632	C

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Mol	Chain	Res	Type
50	3	1637	A
50	3	1640	G
50	3	1641	A
50	3	1642	G
50	3	1643	A
50	3	1644	A
50	3	1651	C
50	3	1656	A
50	3	1660	A
50	3	1661	A
50	3	1668	G
50	3	1670	U
50	3	1680	A
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1687	G
50	3	1695	G
50	3	1699	A
50	3	1703	A
50	3	1706	C
50	3	1707	U
50	3	1708	G
50	3	1709	C
50	3	1716	A
50	3	1717	C
50	3	1720	C
50	3	1721	G
50	3	1727	U
50	3	1732	A
50	3	1733	G
50	3	1737	G
50	3	1741	G
50	3	1744	U
50	3	1747	G
50	3	1748	U
50	3	1758	C
50	3	1762	A
50	3	1763	G
50	3	1764	U
50	3	1765	G
50	3	1766	A

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Mol	Chain	Res	Type
50	3	1767	A
50	3	1769	A
50	3	1770	A
50	3	1771	C
50	3	1774	G
50	3	1776	G
50	3	1777	G
50	3	1780	A
50	3	1783	G
50	3	1786	U
50	3	1787	A
50	3	1788	A
50	3	1790	U
50	3	1791	A
50	3	1793	A
50	3	1796	A
50	3	1801	U
50	3	1807	C
50	3	1808	C
50	3	1817	A
50	3	1821	G
50	3	1823	U
50	3	1824	G
50	3	1828	A
50	3	1834	U
50	3	1836	A
50	3	1837	C
50	3	1840	C
50	3	1842	G
50	3	1843	C
50	3	1846	A
50	3	1849	G
50	3	1851	U
50	3	1862	A
50	3	1865	A
50	3	1866	G
50	3	1868	A
50	3	1869	G
50	3	1870	G
50	3	1881	C
50	3	1884	A
50	3	1885	G

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Mol	Chain	Res	Type
50	3	1888	U
50	3	1890	U
50	3	1891	A
50	3	1899	C
50	3	1901	C
50	3	1907	A
50	3	1908	A
50	3	1910	G
50	3	1913	G
50	3	1914	G
50	3	1920	A
50	3	1921	C
50	3	1936	G
50	3	1937	G
50	3	1938	U
50	3	1943	A
50	3	1945	A
50	3	1948	C
50	3	1949	C
50	3	1952	G
50	3	1961	A
50	3	1962	U
50	3	1970	C
50	3	1971	G
50	3	1972	C
50	3	1974	U
50	3	1977	A
50	3	1979	G
50	3	1982	G
50	3	1987	C
50	3	1988	A
50	3	1991	U
50	3	1998	U
50	3	1999	G
50	3	2000	U
50	3	2004	G
50	3	2009	U
50	3	2011	G
50	3	2013	C
50	3	2018	U
50	3	2020	A
50	3	2027	G

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Mol	Chain	Res	Type
50	3	2028	G
50	3	2030	A
50	3	2037	A
50	3	2038	A
50	3	2039	G
50	3	2040	A
50	3	2041	C
50	3	2043	C
50	3	2050	G
50	3	2053	G
50	3	2057	C
50	3	2061	A
50	3	2062	C
50	3	2063	G
50	3	2064	G
50	3	2066	A
50	3	2067	A
50	3	2068	G
50	3	2069	A
50	3	2070	C
50	3	2075	U
50	3	2076	G
50	3	2077	A
50	3	2083	U
50	3	2087	G
50	3	2094	A
50	3	2099	U
50	3	2100	G
50	3	2102	U
50	3	2106	G
50	3	2107	A
50	3	2109	A
50	3	2110	U
50	3	2111	U
50	3	2112	A
50	3	2114	C
50	3	2115	A
50	3	2116	U
50	3	2117	G
50	3	2120	G
50	3	2123	A
50	3	2124	A

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Mol	Chain	Res	Type
50	3	2125	U
50	3	2126	A
50	3	2131	G
50	3	2132	G
50	3	2133	A
50	3	2138	U
50	3	2139	C
50	3	2140	G
50	3	2141	A
50	3	2144	C
50	3	2145	A
50	3	2146	A
50	3	2149	U
50	3	2153	U
50	3	2154	A
50	3	2156	G
50	3	2161	G
50	3	2165	A
50	3	2169	G
50	3	2178	A
50	3	2180	U
50	3	2181	A
50	3	2187	C
50	3	2193	U
50	3	2194	G
50	3	2195	U
50	3	2196	G
50	3	2198	G
50	3	2200	U
50	3	2202	U
50	3	2206	A
50	3	2207	A
50	3	2211	G
50	3	2212	U
50	3	2218	U
50	3	2220	A
50	3	2221	U
50	3	2222	C
50	3	2223	C
50	3	2226	U
50	3	2231	A
50	3	2233	A

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Mol	Chain	Res	Type
50	3	2238	G
50	3	2242	G
50	3	2246	G
50	3	2247	G
50	3	2250	G
50	3	2251	U
50	3	2254	G
50	3	2258	G
50	3	2272	C
50	3	2276	A
50	3	2277	A
50	3	2286	A
50	3	2290	G
50	3	2291	U
50	3	2293	C
50	3	2295	A
50	3	2297	G
50	3	2305	C
50	3	2310	C
50	3	2311	G
50	3	2313	U
50	3	2315	G
50	3	2316	G
50	3	2317	A
50	3	2319	A
50	3	2320	U
50	3	2333	G
50	3	2341	G
50	3	2342	U
50	3	2343	A
50	3	2344	A
50	3	2349	G
50	3	2355	C
50	3	2357	G
50	3	2358	U
50	3	2362	A
50	3	2365	U
50	3	2370	G
50	3	2380	U
50	3	2391	G
50	3	2393	C
50	3	2396	A

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Mol	Chain	Res	Type
50	3	2397	G
50	3	2398	U
50	3	2404	G
50	3	2406	U
50	3	2410	C
50	3	2412	A
50	3	2414	U
50	3	2417	G
50	3	2422	G
50	3	2431	U
50	3	2432	C
50	3	2433	A
50	3	2436	G
50	3	2437	G
50	3	2438	A
50	3	2440	A
50	3	2443	A
50	3	2444	G
50	3	2449	U
50	3	2453	G
50	3	2455	G
50	3	2456	A
50	3	2466	G
50	3	2470	C
50	3	2474	C
50	3	2477	A
50	3	2481	U
50	3	2484	A
50	3	2486	A
50	3	2488	C
50	3	2492	G
50	3	2495	A
50	3	2497	U
50	3	2499	U
50	3	2506	C
50	3	2507	C
50	3	2509	C
50	3	2511	A
50	3	2512	U
50	3	2513	G
50	3	2521	A
50	3	2524	U

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Mol	Chain	Res	Type
50	3	2526	A
50	3	2527	U
50	3	2528	C
50	3	2530	U
50	3	2535	C
50	3	2537	G
50	3	2538	A
50	3	2543	G
50	3	2544	G
50	3	2546	U
50	3	2551	G
50	3	2555	U
50	3	2557	G
50	3	2561	G
50	3	2574	A
50	3	2575	G
50	3	2580	A
50	3	2581	C
50	3	2584	G
50	3	2585	A
50	3	2586	G
50	3	2591	G
50	3	2593	U
50	3	2594	C
50	3	2595	A
50	3	2604	U
50	3	2605	G
50	3	2610	A
50	3	2611	G
50	3	2618	C
50	3	2619	C
50	3	2622	A
50	3	2632	C
50	3	2637	A
50	3	2638	G
50	3	2642	G
50	3	2647	A
50	3	2653	G
50	3	2654	U
50	3	2662	A
50	3	2663	G
50	3	2666	C

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Mol	Chain	Res	Type
50	3	2668	A
50	3	2669	G
50	3	2673	A
50	3	2681	G
50	3	2689	C
50	3	2690	U
50	3	2691	C
50	3	2693	U
50	3	2694	A
50	3	2697	C
50	3	2698	U
50	3	2705	G
50	3	2708	G
50	3	2717	G
50	3	2721	C
50	3	2722	G
50	3	2723	C
50	3	2730	G
50	3	2734	C
50	3	2735	G
50	3	2737	G
50	3	2739	C
50	3	2740	U
50	3	2744	A
50	3	2747	U
50	3	2752	G
50	3	2753	C
50	3	2756	A
50	3	2758	A
50	3	2760	C
50	3	2763	C
50	3	2765	A
50	3	2769	G
50	3	2772	A
50	3	2773	A
50	3	2774	A
50	3	2775	C
50	3	2777	A
50	3	2781	C
50	3	2782	A
50	3	2785	G
50	3	2786	A

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Mol	Chain	Res	Type
50	3	2787	U
50	3	2799	U
50	3	2800	U
50	3	2803	G
50	3	2804	C
50	3	2805	A
50	3	2806	A
50	3	2807	G
50	3	2811	G
50	3	2813	A
50	3	2821	U
50	3	2822	C
50	3	2824	A
50	3	2825	A
50	3	2828	C
50	3	2831	U
50	3	2837	U
50	3	2840	U
50	3	2847	C
50	3	2849	G
50	3	2852	G
50	3	2858	A
50	3	2862	U
50	3	2863	G
50	3	2865	U
50	3	2868	G
50	3	2870	U
50	3	2871	G
50	3	2874	C
50	3	2876	G
50	3	2878	G
50	3	2881	A
50	3	2883	A
50	3	2884	C
50	3	2887	A
50	3	2888	U
50	3	2889	U
50	3	2890	G
50	3	2895	A
50	3	2896	G
50	3	2897	G
50	3	2898	A

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Mol	Chain	Res	Type
50	3	2899	C
51	4	7	G
51	4	10	C
51	4	11	A
51	4	12	U
51	4	16	G
51	4	22	G
51	4	23	A
51	4	25	A
51	4	27	A
51	4	28	C
51	4	31	G
51	4	36	C
51	4	39	U
51	4	40	U
51	4	41	C
51	4	42	G
51	4	47	C
51	4	48	A
51	4	49	G
51	4	51	A
51	4	54	U
51	4	55	A
51	4	60	C
51	4	64	G
51	4	65	G
51	4	71	A
51	4	72	A
51	4	80	G
51	4	86	G
51	4	88	G
51	4	89	A
51	4	91	A
51	4	92	A
51	4	93	U
51	4	98	A
51	4	99	A
51	4	102	A
51	4	106	A
51	4	107	G
51	4	108	C
52	5	8	G

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Mol	Chain	Res	Type
52	5	10	G
52	5	15	U
52	5	21	U
52	5	24	C
52	5	28	G
52	5	29	G
52	5	32	U
52	5	33	A
52	5	34	A
52	5	40	G
52	5	48	C
52	5	49	C
52	5	50	U
52	5	51	A
52	5	52	A
52	5	61	A
52	5	62	G
52	5	66	A
52	5	70	A
52	5	74	U
52	5	80	U
52	5	85	U
52	5	86	A
52	5	87	G
52	5	93	A
52	5	95	C
52	5	96	G
52	5	101	A
52	5	104	A
52	5	106	C
52	5	107	A
52	5	114	C
52	5	115	A
52	5	117	U
52	5	128	A
52	5	129	U
52	5	131	G
52	5	138	A
52	5	141	A
52	5	146	A
52	5	148	A
52	5	149	G

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Mol	Chain	Res	Type
52	5	160	A
52	5	163	G
52	5	167	A
52	5	169	G
52	5	174	U
52	5	180	C
52	5	190	A
52	5	194	U
52	5	197	A
52	5	199	A
52	5	200	G
52	5	201	G
52	5	218	U
52	5	220	U
52	5	236	C
52	5	239	A
52	5	240	U
52	5	241	C
52	5	243	G
52	5	247	G
52	5	249	U
52	5	259	A
52	5	260	C
52	5	262	G
52	5	263	C
52	5	269	A
52	5	276	U
52	5	277	G
52	5	280	G
52	5	285	G
52	5	294	A
52	5	297	A
52	5	302	A
52	5	307	C
52	5	311	A
52	5	317	A
52	5	323	A
52	5	324	C
52	5	325	A
52	5	326	C
52	5	328	G
52	5	342	G

Continued on next page...

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Mol	Chain	Res	Type
52	5	346	G
52	5	347	G
52	5	348	C
52	5	350	G
52	5	352	A
52	5	353	G
52	5	357	G
52	5	362	U
52	5	363	U
52	5	364	U
52	5	368	C
52	5	369	A
52	5	374	G
52	5	377	A
52	5	378	A
52	5	379	A
52	5	380	G
52	5	382	U
52	5	384	G
52	5	388	G
52	5	393	A
52	5	394	U
52	5	400	G
52	5	401	U
52	5	402	G
52	5	408	U
52	5	409	G
52	5	410	A
52	5	411	A
52	5	417	U
52	5	418	U
52	5	419	A
52	5	420	A
52	5	421	G
52	5	423	U
52	5	426	U
52	5	433	C
52	5	436	U
52	5	440	U
52	5	441	U
52	5	448	A
52	5	449	A

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Mol	Chain	Res	Type
52	5	450	U
52	5	451	G
52	5	452	A
52	5	453	C
52	5	455	U
52	5	456	U
52	5	457	A
52	5	463	U
52	5	464	A
52	5	467	G
52	5	469	C
52	5	473	A
52	5	476	U
52	5	478	G
52	5	479	A
52	5	481	U
52	5	482	G
52	5	483	U
52	5	487	A
52	5	488	U
52	5	489	U
52	5	494	A
52	5	495	U
52	5	496	A
52	5	503	G
52	5	507	A
52	5	508	A
52	5	509	C
52	5	516	C
52	5	517	C
52	5	523	U
52	5	526	C
52	5	528	G
52	5	529	U
52	5	530	A
52	5	531	A
52	5	532	U
52	5	533	A
52	5	534	C
52	5	537	A
52	5	542	G
52	5	544	A

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Mol	Chain	Res	Type
52	5	545	A
52	5	548	G
52	5	552	U
52	5	560	U
52	5	561	A
52	5	562	U
52	5	563	U
52	5	565	G
52	5	568	G
52	5	570	A
52	5	571	A
52	5	572	A
52	5	573	G
52	5	574	C
52	5	575	A
52	5	583	G
52	5	586	G
52	5	588	U
52	5	595	G
52	5	596	U
52	5	610	C
52	5	615	G
52	5	619	A
52	5	628	A
52	5	630	G
52	5	638	A
52	5	639	A
52	5	645	A
52	5	647	U
52	5	648	C
52	5	650	A
52	5	651	G
52	5	653	G
52	5	654	U
52	5	658	G
52	5	664	A
52	5	673	A
52	5	680	G
52	5	683	G
52	5	684	A
52	5	687	G
52	5	689	U

Continued on next page...

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Mol	Chain	Res	Type
52	5	699	A
52	5	700	G
52	5	704	U
52	5	715	A
52	5	716	C
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	731	A
52	5	742	C
52	5	744	U
52	5	745	U
52	5	746	A
52	5	749	G
52	5	752	G
52	5	759	C
52	5	763	A
52	5	765	A
52	5	767	U
52	5	770	G
52	5	772	G
52	5	774	A
52	5	778	A
52	5	779	A
52	5	781	A
52	5	784	A
52	5	787	A
52	5	789	A
52	5	791	A
52	5	794	C
52	5	796	A
52	5	802	C
52	5	806	A
52	5	808	C
52	5	810	U
52	5	813	A
52	5	814	C
52	5	815	G
52	5	816	A
52	5	818	A
52	5	819	G

Continued on next page...

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Mol	Chain	Res	Type
52	5	825	A
52	5	829	G
52	5	836	C
52	5	837	G
52	5	838	A
52	5	842	C
52	5	862	C
52	5	870	A
52	5	872	C
52	5	877	C
52	5	879	G
52	5	882	U
52	5	883	A
52	5	886	A
52	5	896	G
52	5	902	A
52	5	907	A
52	5	908	A
52	5	910	C
52	5	911	G
52	5	918	A
52	5	921	G
52	5	922	G
52	5	929	C
52	5	930	A
52	5	936	G
52	5	937	G
52	5	944	A
52	5	949	G
52	5	953	A
52	5	954	A
52	5	955	U
52	5	956	U
52	5	962	G
52	5	963	U
52	5	964	A
52	5	965	C
52	5	966	A
52	5	969	A
52	5	970	A
52	5	971	A
52	5	972	A

Continued on next page...

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Mol	Chain	Res	Type
52	5	976	U
52	5	978	A
52	5	979	C
52	5	981	U
52	5	984	A
52	5	985	C
52	5	986	U
52	5	987	U
52	5	988	G
52	5	998	G
52	5	1000	A
52	5	1003	G
52	5	1005	U
52	5	1006	A
52	5	1013	C
52	5	1014	A
52	5	1016	A
52	5	1017	A
52	5	1018	U
52	5	1031	A
52	5	1033	U
52	5	1040	U
52	5	1044	G
52	5	1045	C
52	5	1047	U
52	5	1056	U
52	5	1061	U
52	5	1069	U
52	5	1070	G
52	5	1072	G
52	5	1074	U
52	5	1085	G
52	5	1086	U
52	5	1089	C
52	5	1092	A
52	5	1093	A
52	5	1095	G
52	5	1113	U
52	5	1119	C
52	5	1120	A
52	5	1121	U
52	5	1122	U

Continued on next page...

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Mol	Chain	Res	Type
52	5	1123	G
52	5	1124	U
52	5	1125	C
52	5	1126	U
52	5	1133	A
52	5	1134	C
52	5	1135	U
52	5	1142	G
52	5	1143	C
52	5	1144	A
52	5	1154	A
52	5	1155	A
52	5	1158	A
52	5	1159	A
52	5	1160	G
52	5	1165	G
52	5	1166	A
52	5	1168	G
52	5	1171	A
52	5	1172	A
52	5	1173	A
52	5	1175	C
52	5	1176	A
52	5	1177	U
52	5	1180	U
52	5	1185	C
52	5	1186	U
52	5	1188	A
52	5	1189	U
52	5	1190	G
52	5	1192	C
52	5	1194	A
52	5	1200	G
52	5	1201	C
52	5	1208	G
52	5	1211	A
52	5	1215	U
52	5	1217	G
52	5	1223	A
52	5	1225	A
52	5	1227	A
52	5	1231	U

Continued on next page...

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Mol	Chain	Res	Type
52	5	1232	C
52	5	1235	C
52	5	1242	U
52	5	1243	A
52	5	1245	A
52	5	1247	G
52	5	1248	U
52	5	1255	A
52	5	1257	C
52	5	1260	U
52	5	1261	A
52	5	1271	U
52	5	1272	C
52	5	1273	A
52	5	1274	G
52	5	1276	U
52	5	1279	G
52	5	1283	G
52	5	1291	C
52	5	1293	A
52	5	1294	U
52	5	1296	C
52	5	1297	G
52	5	1304	U
52	5	1305	G
52	5	1306	A
52	5	1312	G
52	5	1321	G
52	5	1322	U
52	5	1323	A
52	5	1331	A
52	5	1337	U
52	5	1338	A
52	5	1343	G
52	5	1344	C
52	5	1346	G
52	5	1352	A
52	5	1354	G
52	5	1369	A
52	5	1373	A
52	5	1374	C
52	5	1375	C

Continued on next page...

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Mol	Chain	Res	Type
52	5	1380	G
52	5	1381	U
52	5	1382	C
52	5	1397	G
52	5	1400	A
52	5	1402	U
52	5	1403	A
52	5	1404	U
52	5	1405	U
52	5	1411	A
52	5	1417	U
52	5	1418	G
52	5	1422	A
52	5	1423	C
52	5	1427	U
52	5	1429	G
52	5	1431	A
52	5	1442	A
52	5	1446	A
52	5	1448	A
52	5	1449	G
52	5	1458	A
52	5	1460	U
52	5	1465	U
52	5	1467	A
52	5	1468	A
52	5	1471	C
52	5	1473	U
52	5	1477	A
52	5	1478	A
52	5	1480	G
52	5	1481	U
52	5	1482	A
52	5	1484	C
52	5	1494	A
52	5	1504	G
52	5	1505	G
52	5	1509	A
53	8	3	G
53	8	4	U
53	8	5	C
53	8	6	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
53	8	7	U
53	8	9	U
53	8	10	A
53	8	12	C
53	8	14	C
53	8	17	U
53	8	18	C
53	8	19	G
53	8	20	G
53	8	22	A
53	8	24	A
53	8	32	U
53	8	34	U
53	8	35	G
53	8	42	C
53	8	43	G
53	8	44	U
53	8	47	G
53	8	49	C
53	8	53	A
53	8	54	G
53	8	57	C
53	8	58	G
53	8	59	A
53	8	60	U
53	8	68	G
53	8	70	G
53	8	71	A
53	8	72	C
53	8	73	C

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	3	284	U
50	3	311	G
50	3	315	A
50	3	395	U
50	3	410	G
50	3	425	U
50	3	493	A
50	3	500	U

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Mol	Chain	Res	Type
50	3	508	A
50	3	513	A
50	3	688	U
50	3	689	U
50	3	1045	A
50	3	1048	A
50	3	1095	U
50	3	1096	U
50	3	1124	G
50	3	1209	U
50	3	1297	U
50	3	1465	U
50	3	1587	U
50	3	1686	U
50	3	1820	U
50	3	1822	A
50	3	2116	U
50	3	2140	G
50	3	2583	U
50	3	2590	G
50	3	2668	A
50	3	2764	U
50	3	2862	U
50	3	2897	G
51	4	54	U
52	5	387	G
52	5	448	A
52	5	529	U
52	5	595	G
52	5	748	U
52	5	962	G
52	5	975	C
52	5	1133	A
52	5	1445	G
52	5	1457	G
53	8	16	G
53	8	71	A

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

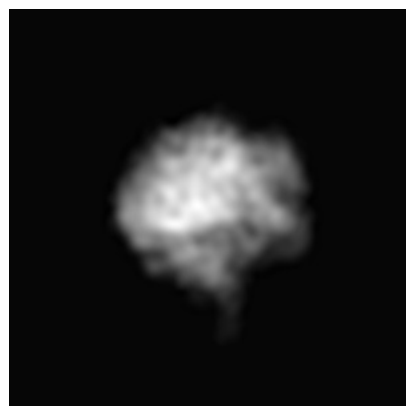
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13282. These allow visual inspection of the internal detail of the map and identification of artifacts.

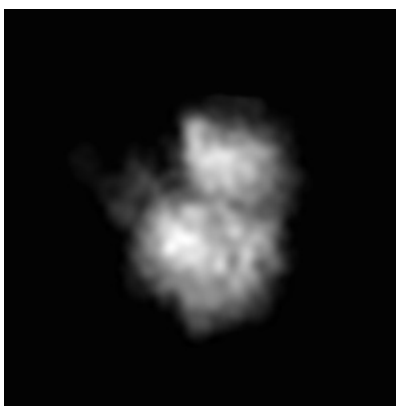
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

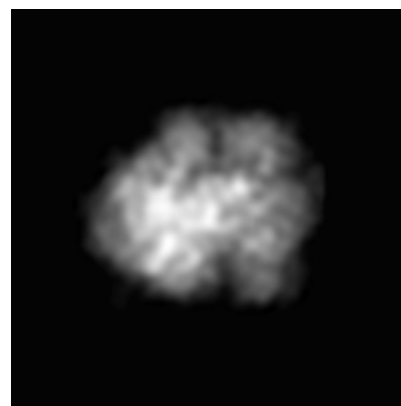
6.1.1 Primary map



X

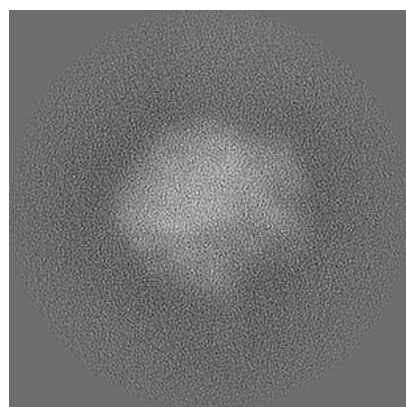


Y

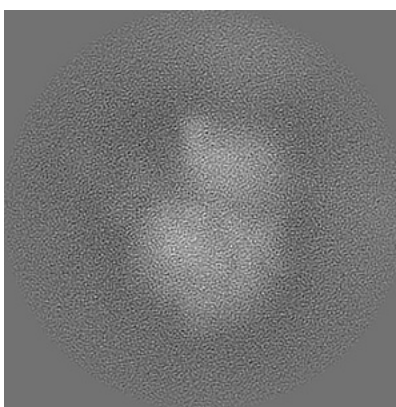


Z

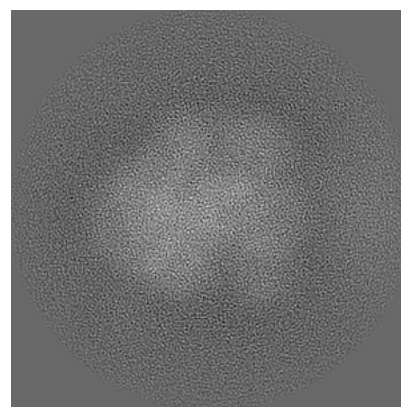
6.1.2 Raw map



X



Y

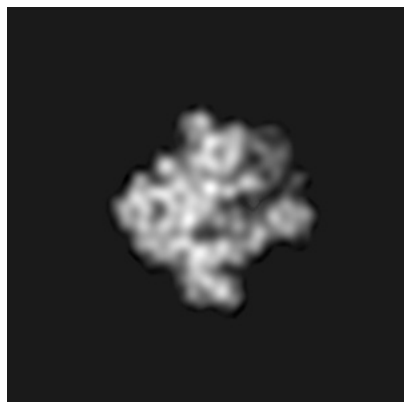


Z

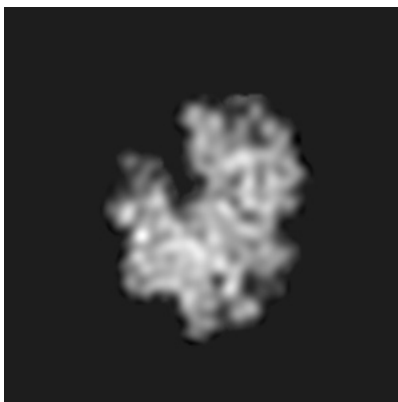
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

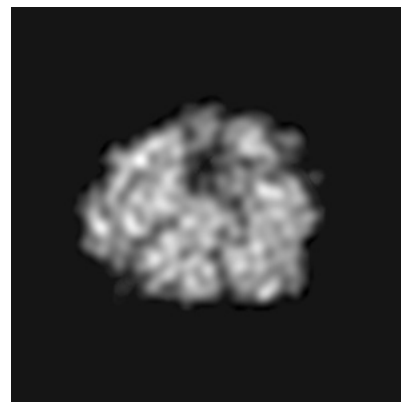
6.2.1 Primary map



X Index: 128

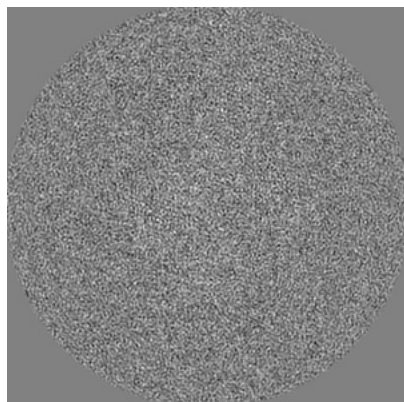


Y Index: 128

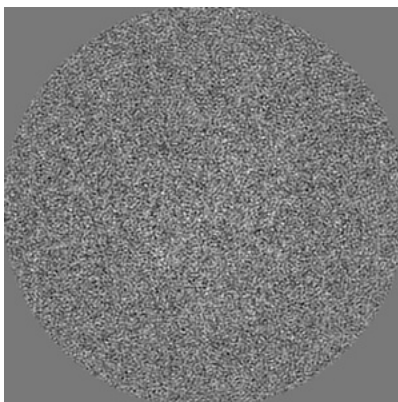


Z Index: 128

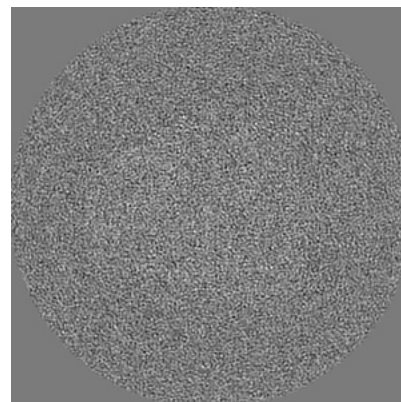
6.2.2 Raw map



X Index: 128



Y Index: 128



Z Index: 128

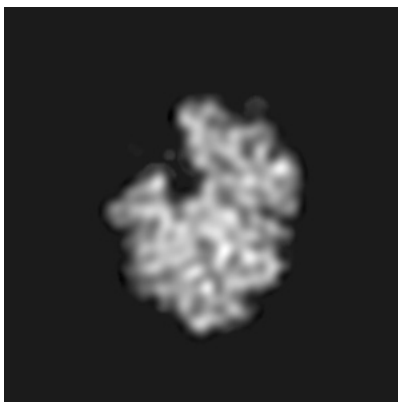
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

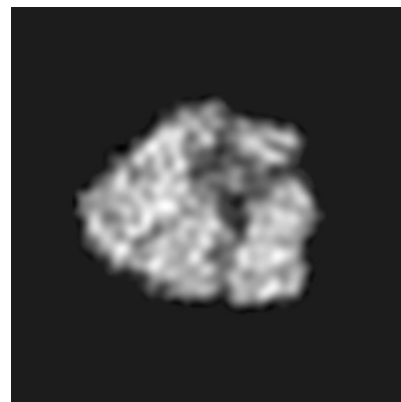
6.3.1 Primary map



X Index: 100

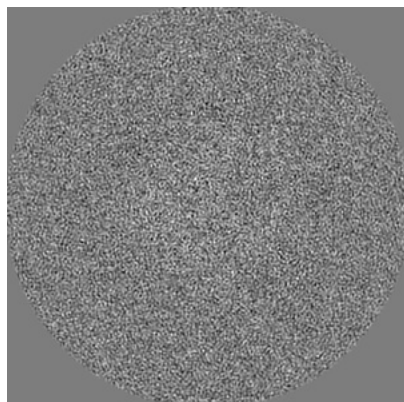


Y Index: 119

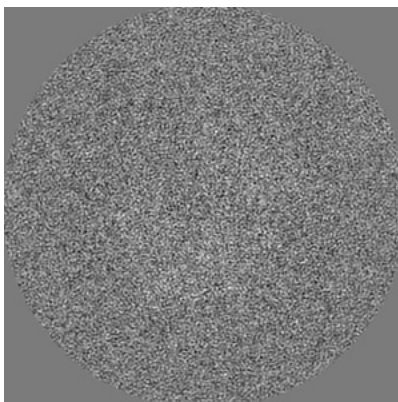


Z Index: 123

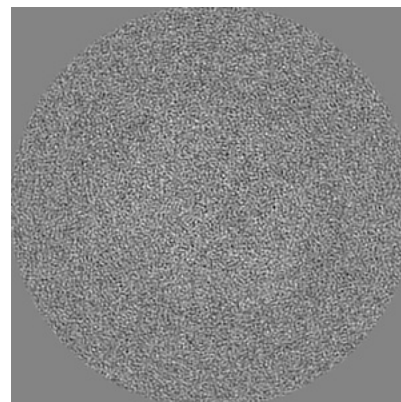
6.3.2 Raw map



X Index: 127



Y Index: 129



Z Index: 122

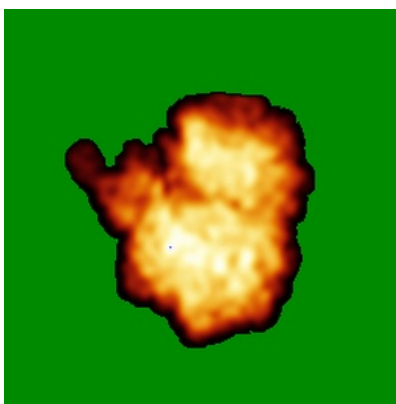
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



X

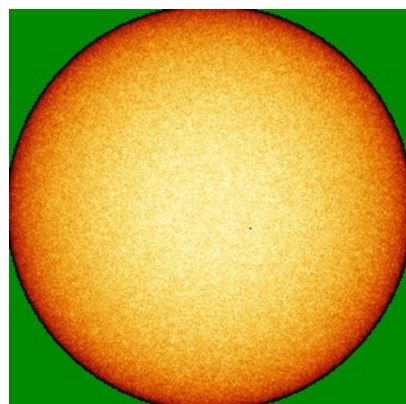


Y

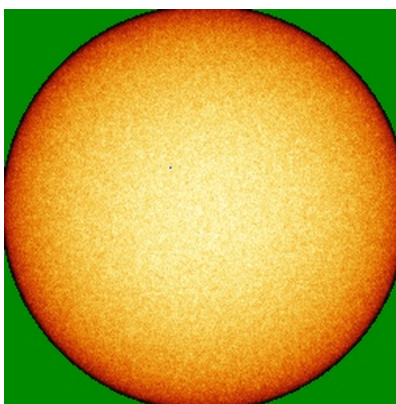


Z

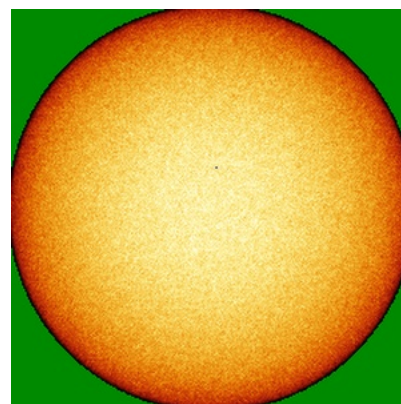
6.4.2 Raw map



X



Y

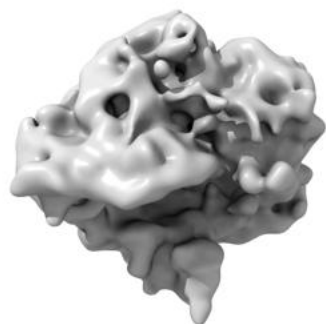


Z

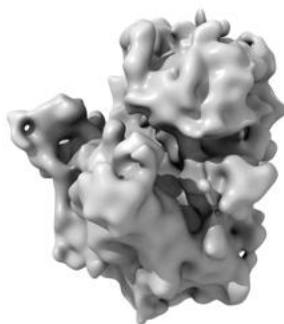
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

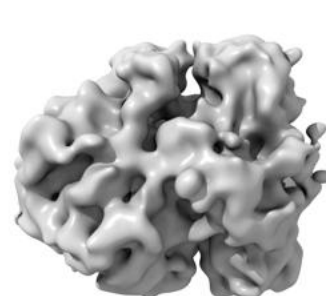
6.5.1 Primary map



X



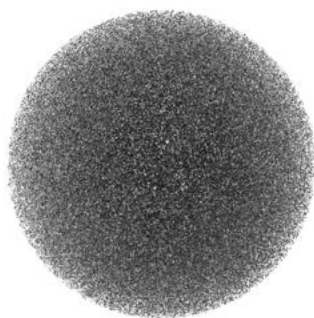
Y



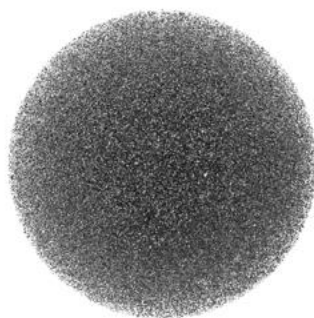
Z

The images above show the 3D surface view of the map at the recommended contour level 0.35. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

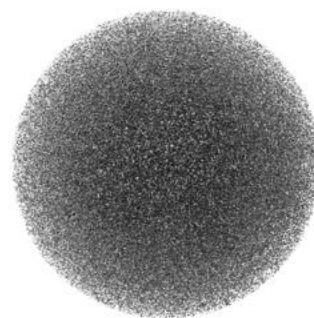
6.5.2 Raw map



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.

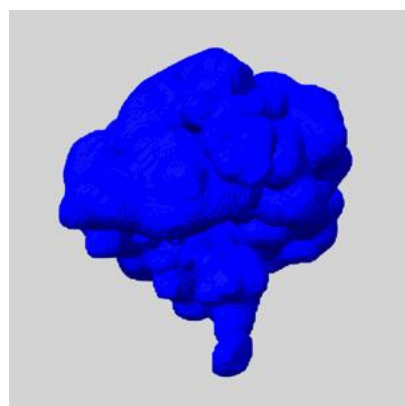
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

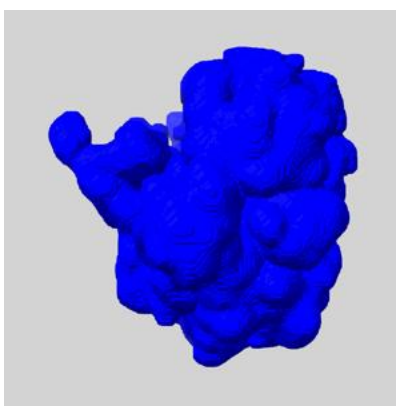
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

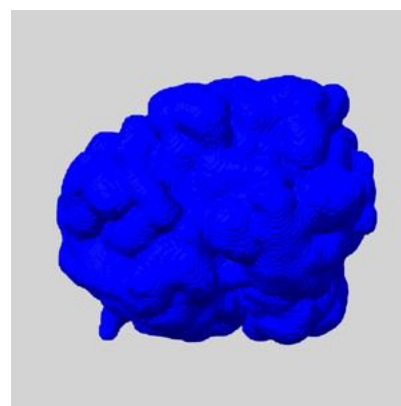
6.6.1 emd_13282_msk_1.map [i](#)



X



Y

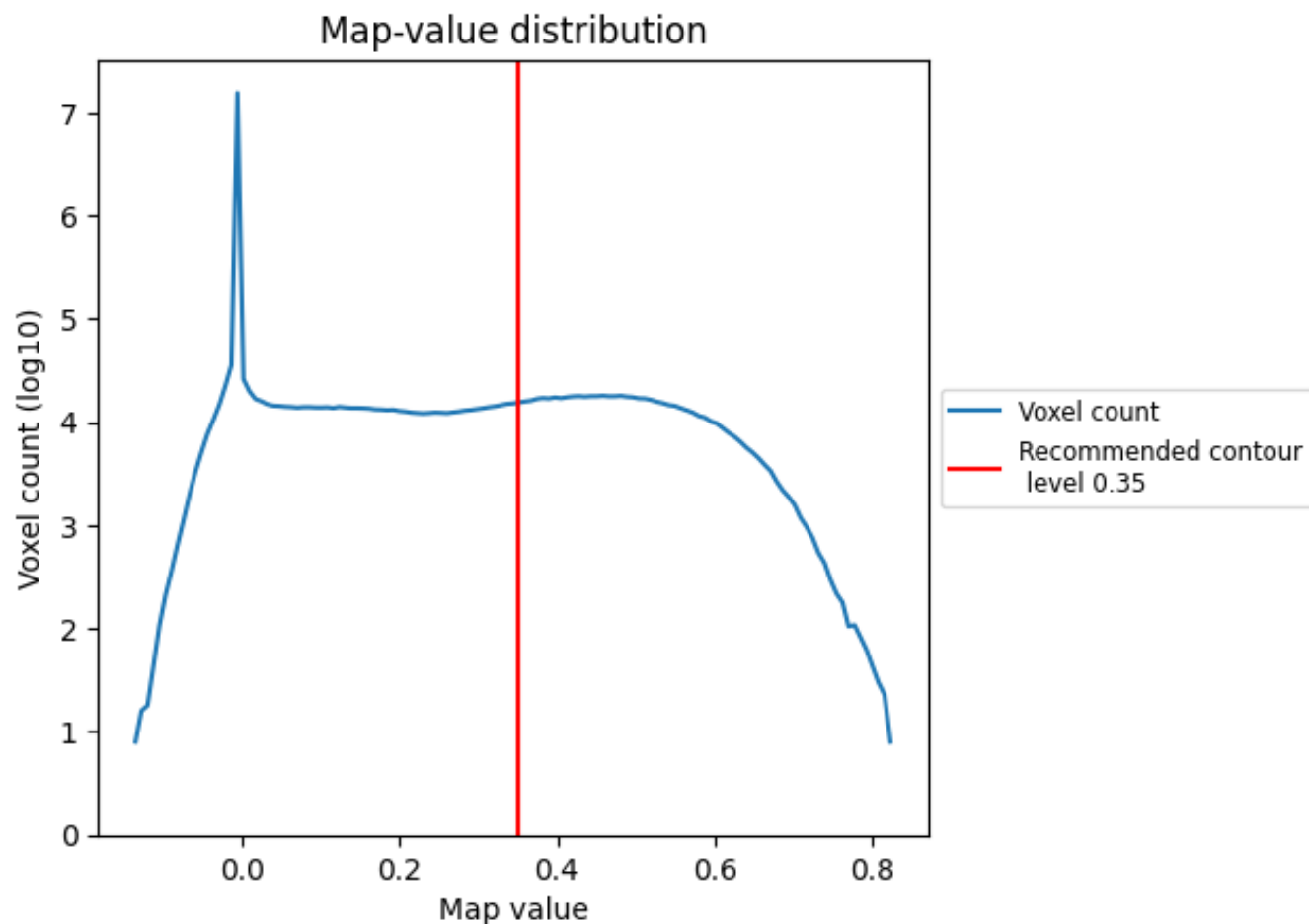


Z

7 Map analysis [i](#)

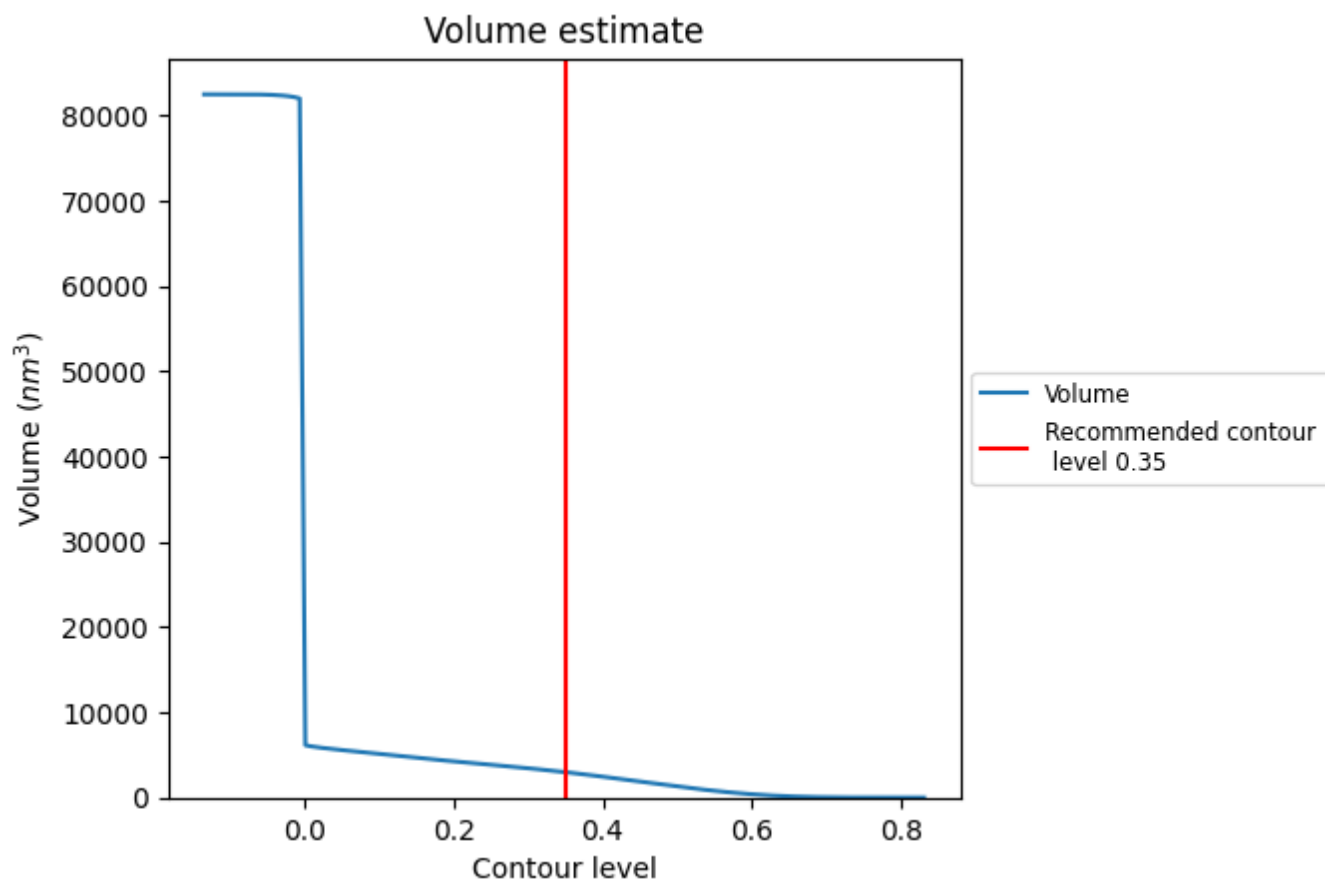
This section contains the results of statistical analysis of the map.

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.

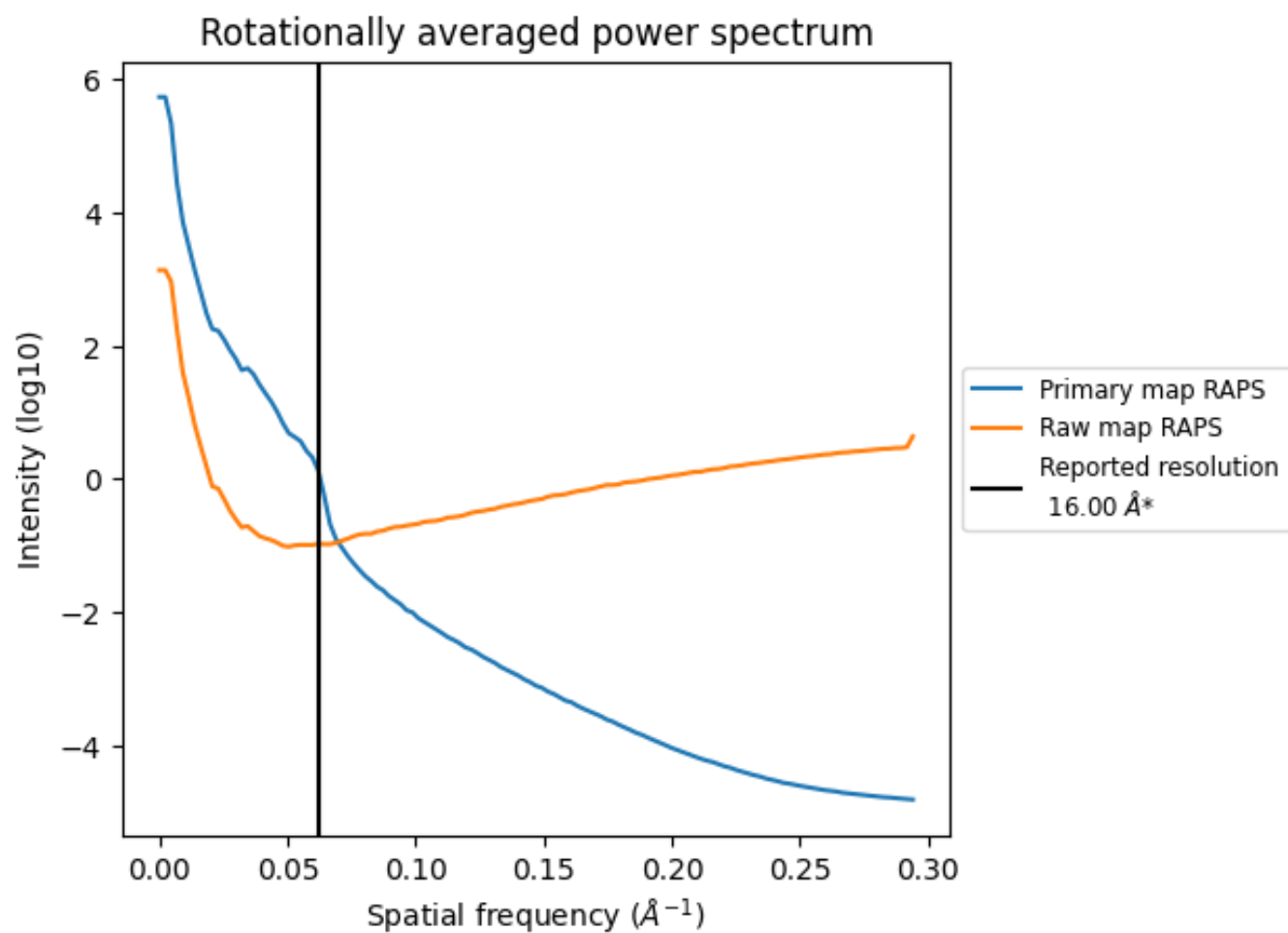
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2979 nm³; this corresponds to an approximate mass of 2691 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

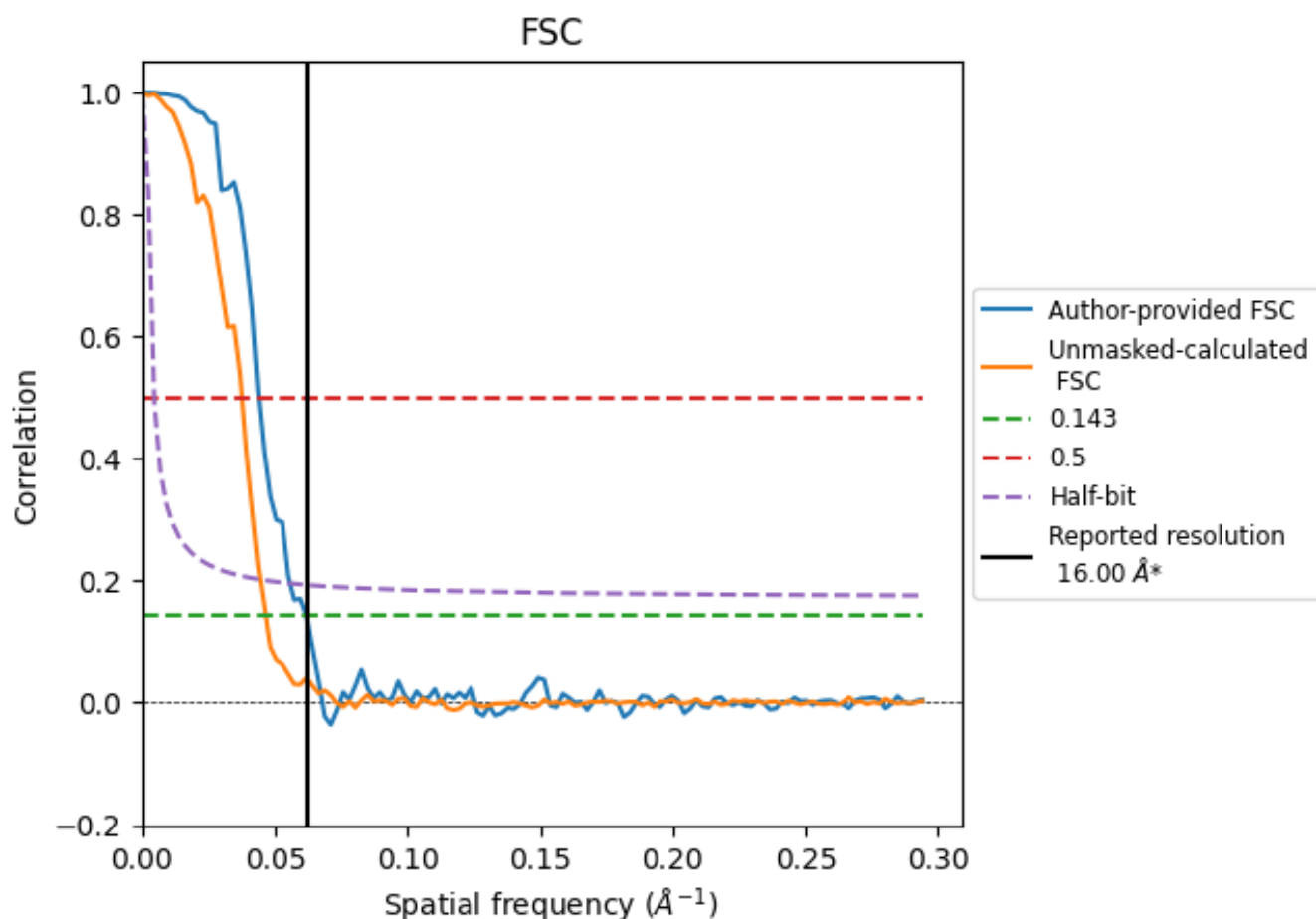


*Reported resolution corresponds to spatial frequency of 0.062 Å⁻¹

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 0.062 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

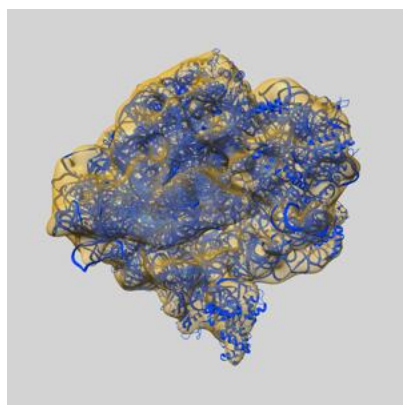
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	16.00	-	-
Author-provided FSC curve	16.10	22.78	17.89
Unmasked-calculated*	21.51	26.67	22.52

*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 21.51 differs from the reported value 16.0 by more than 10 %

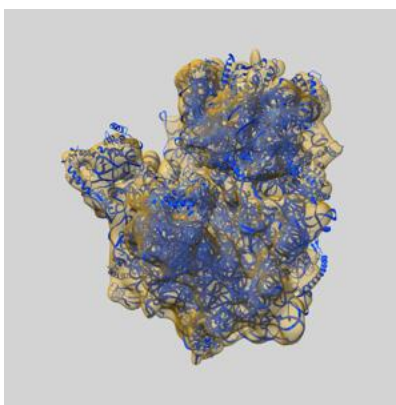
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-13282 and PDB model 7PAS. Per-residue inclusion information can be found in section [3](#) on page [13](#).

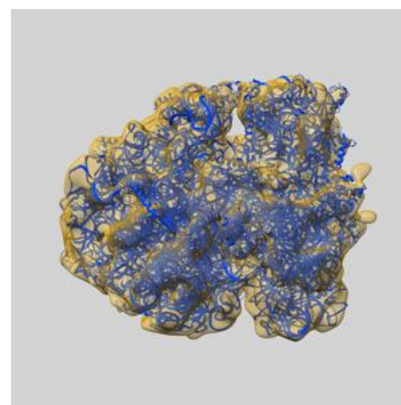
9.1 Map-model overlay [i](#)



X



Y



Z

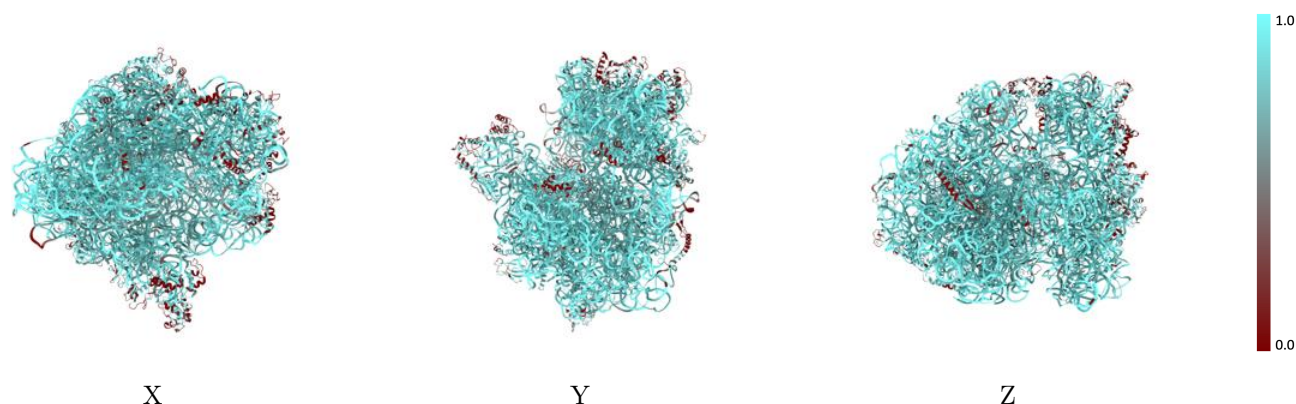
The images above show the 3D surface view of the map at the recommended contour level 0.35 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



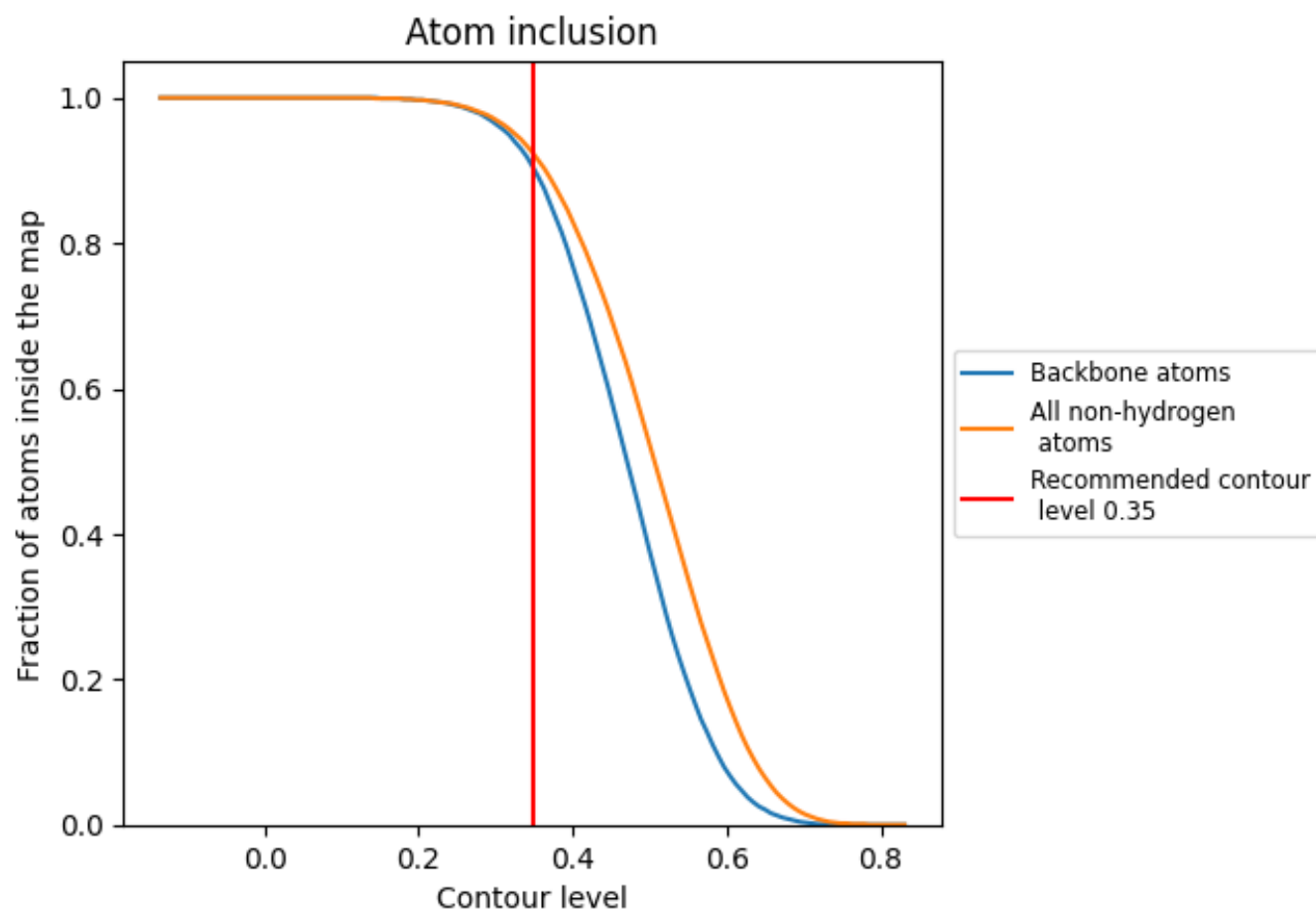
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.35).

9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 92% 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 (0.35) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9220	 0.0690
0	 1.0000	 0.0170
1	 0.9980	 -0.0070
2	 0.9760	 -0.0040
3	 0.9810	 0.0810
4	 0.9680	 0.0870
5	 0.9720	 0.0790
8	 0.9040	 0.0960
A	 0.6370	 0.0660
B	 0.6700	 0.0430
C	 0.8310	 0.0380
D	 0.8540	 0.0470
E	 0.7020	 0.0820
F	 0.7380	 0.0690
G	 0.7710	 0.0490
H	 0.7590	 0.0530
I	 0.6870	 0.0310
J	 0.8210	 0.0360
K	 0.9650	 0.0310
L	 0.6400	 0.0550
M	 0.9580	 0.0350
N	 0.8910	 0.0570
O	 0.9670	 0.0150
P	 0.8620	 0.0570
Q	 0.9830	 0.0510
R	 0.8630	 0.0550
S	 0.9610	 0.0260
T	 0.7920	 0.0260
a	 0.9690	 0.0320
b	 0.8860	 0.0290
c	 0.8760	 0.0510
d	 0.6580	 0.0580
e	 0.7030	 0.0550
f	 0.4190	 0.0600
g	 0.5290	 0.0730



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Chain	Atom inclusion	Q-score
h	 0.3770	 0.0690
i	 0.9090	 0.0240
j	 0.8900	 0.0310
k	 0.9350	 0.0220
l	 0.9450	 0.0400
m	 0.9630	 0.0060
n	 0.9020	 0.0280
o	 0.8260	 0.0430
p	 0.8800	 0.0110
q	 0.8010	 0.0620
r	 0.9420	 0.0490
s	 0.9630	 0.0250
t	 0.6280	 0.0520
u	 0.9700	 0.0190
v	 0.9620	 0.0080
w	 0.8000	 0.0620
x	 0.3940	 0.1020
y	 0.8890	 0.0230
z	 1.0000	 0.0840