



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 01:07 PM UTC

PDB ID : 7PIR / pdb_00007pir
EMDB ID : EMD-13448
Title : 70S ribosome with A*- and P/E-site tRNAs in pseudouridimycin-treated
Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-08-23
Resolution : 12.10 Å(reported)
Based on initial models : 4V7C, 7OOD, 7OOC

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:

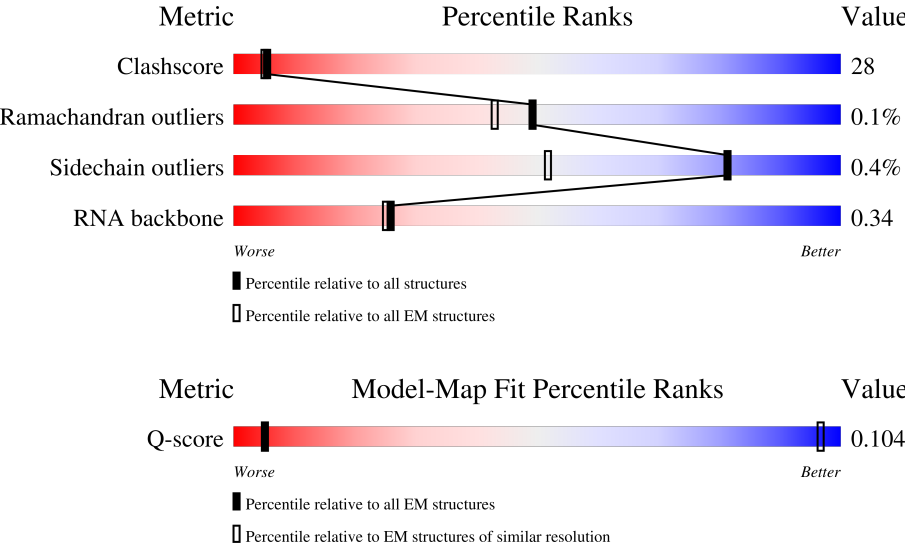
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 12.10 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	85 (11.60 - 12.60)

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	6	76	

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Mol	Chain	Length	Quality of chain
53	8	76	22% 54% 22%

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 146081 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	0	0
			1396	899	247	250		

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
30	g	122	Total	C	N	O	S	0
			921	586	162	170	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	0
			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	0
			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	0
			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	0	0
			1153	731	226	196		

- 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	6	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		
53	8	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

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.

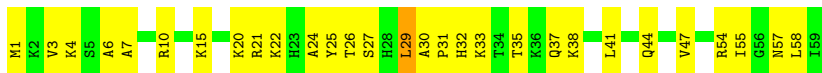
• Molecule 1: 50S ribosomal protein L34

Chain 0: 



• Molecule 2: 50S ribosomal protein L35

Chain 1: 



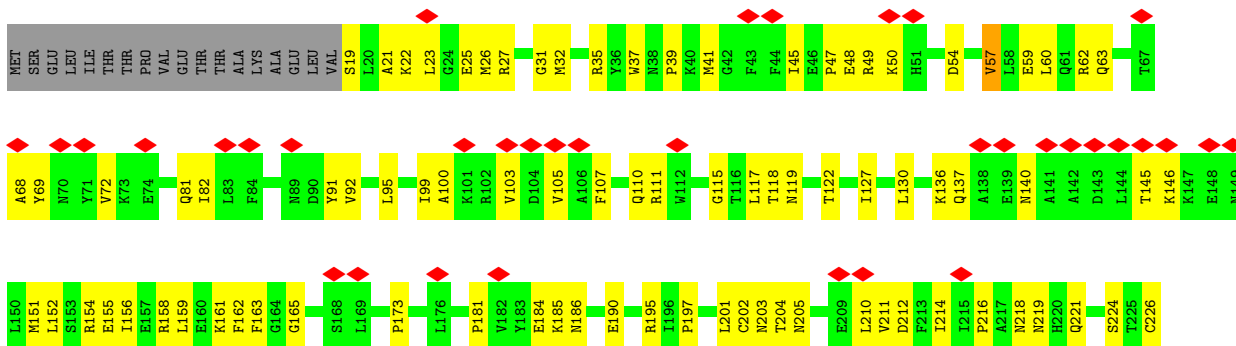
• Molecule 3: 50S ribosomal protein L36

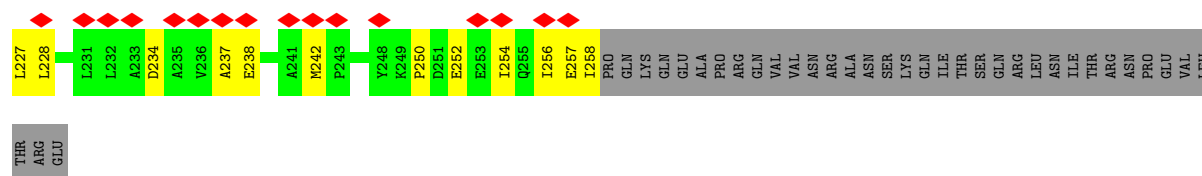
Chain 2: 



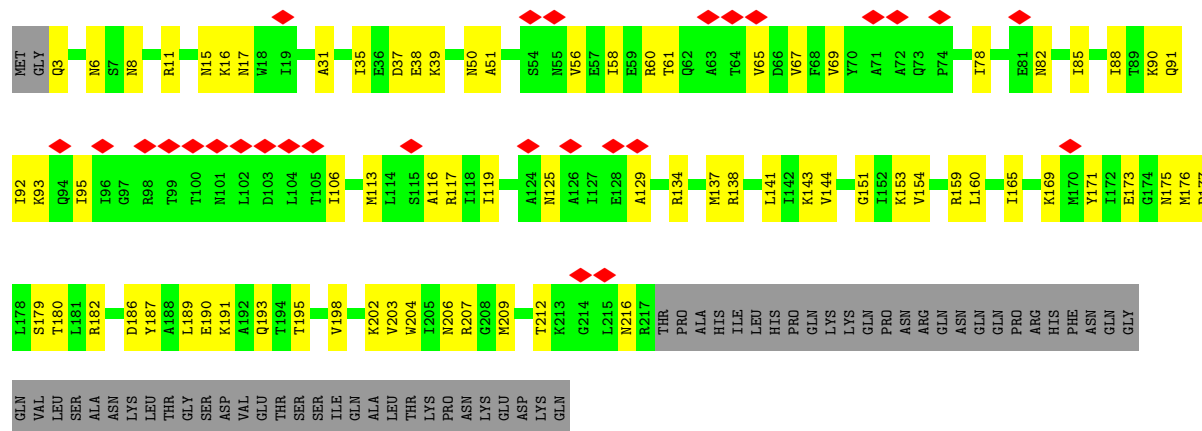
• Molecule 4: 30S ribosomal protein S2

Chain A: 

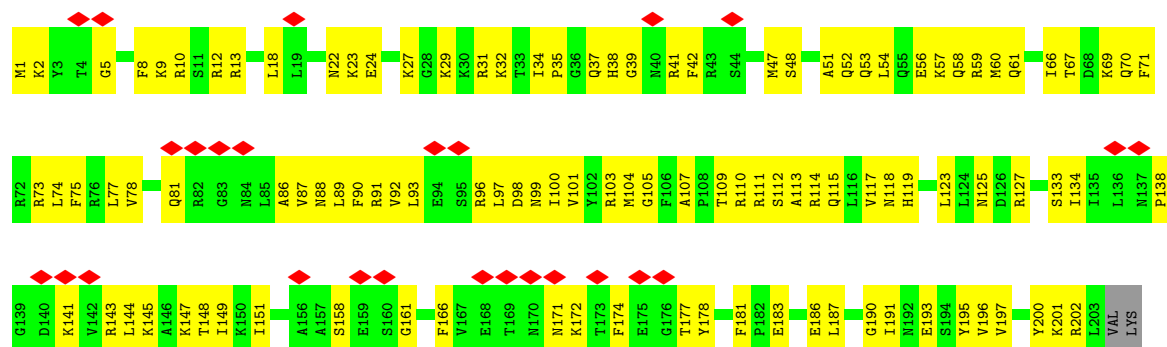




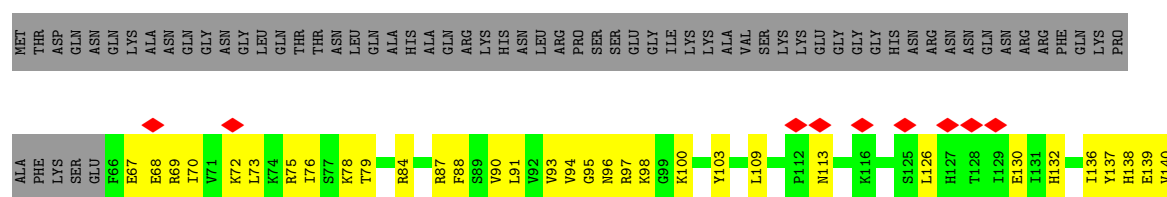
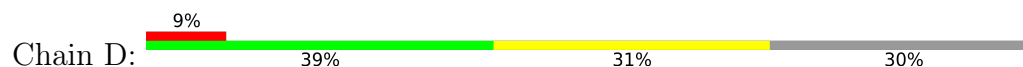
• Molecule 5: 30S ribosomal protein S3

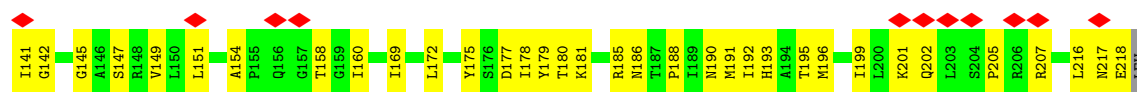


• Molecule 6: 30S ribosomal protein S4

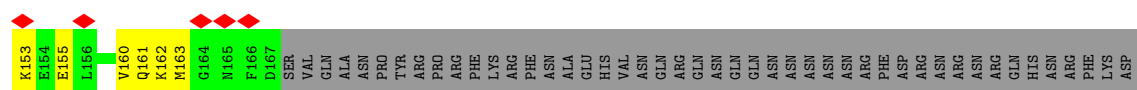
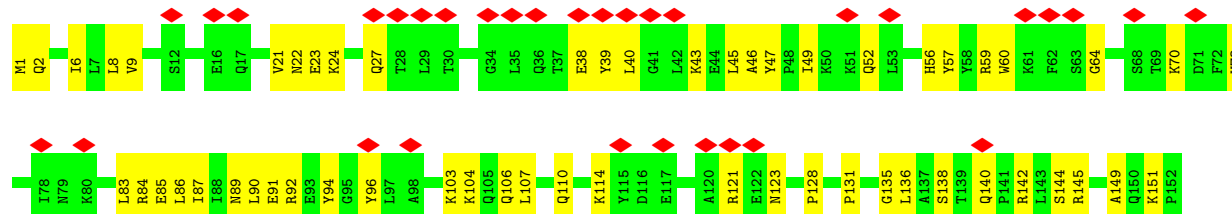


• Molecule 7: 30S ribosomal protein S5



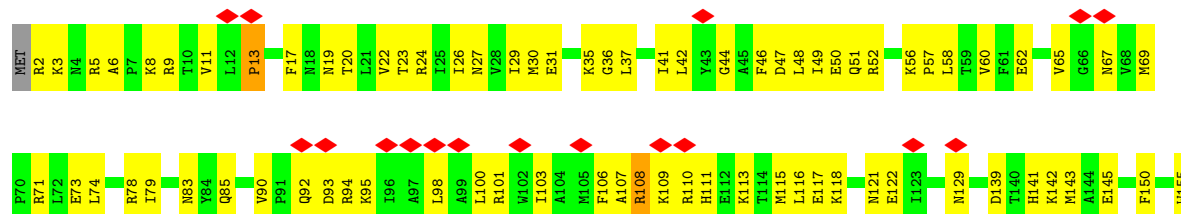


• Molecule 8: 30S ribosomal protein S6

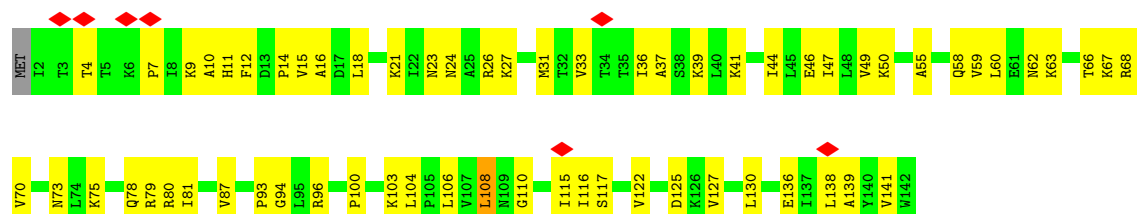


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• Molecule 9: 30S ribosomal protein S7



• Molecule 10: 30S ribosomal protein S8

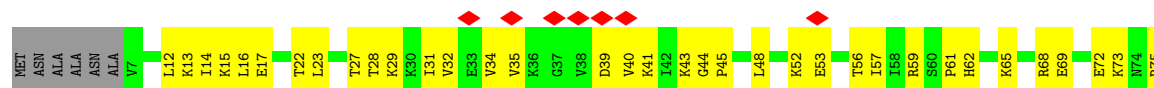


• Molecule 11: 30S ribosomal protein S9

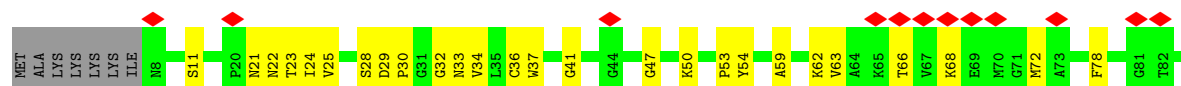




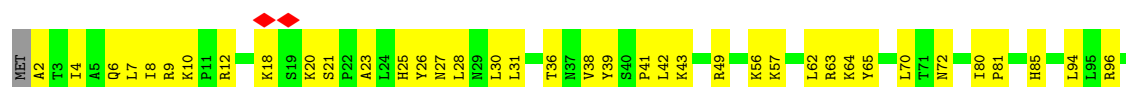
- Molecule 12: 30S ribosomal protein S10



- Molecule 13: 30S ribosomal protein S11



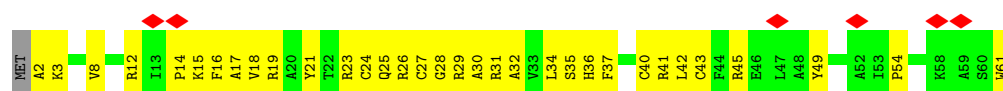
- Molecule 14: 30S ribosomal protein S12

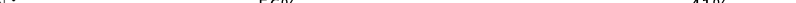


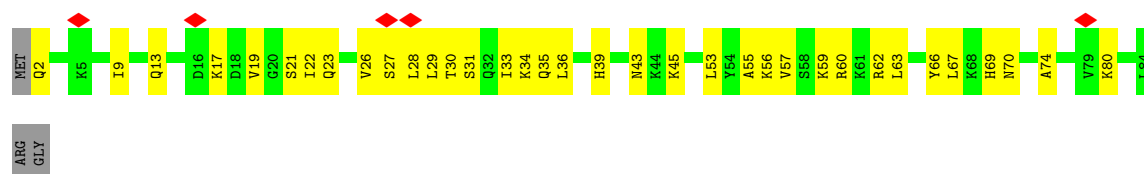
- Molecule 15: 30S ribosomal protein S13

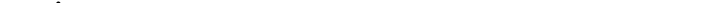


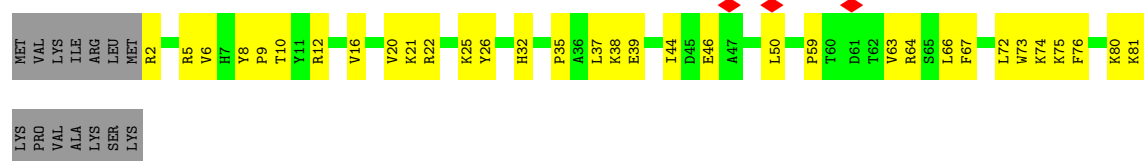
- Molecule 16: 30S ribosomal protein S14 type Z

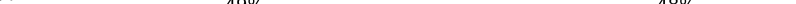


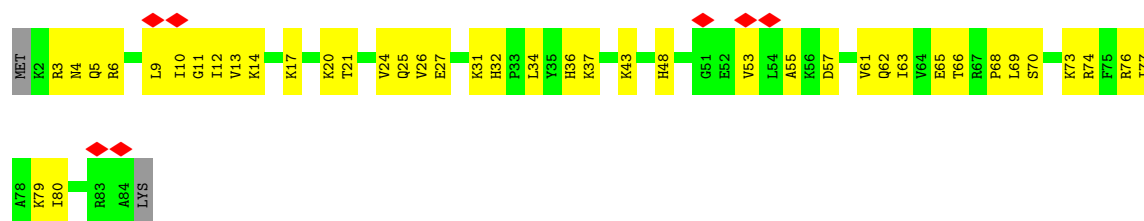
- Chain N:  6% 56% 41%



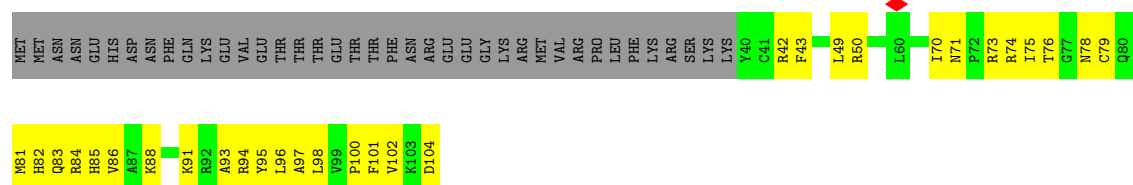
- Chain 0: 



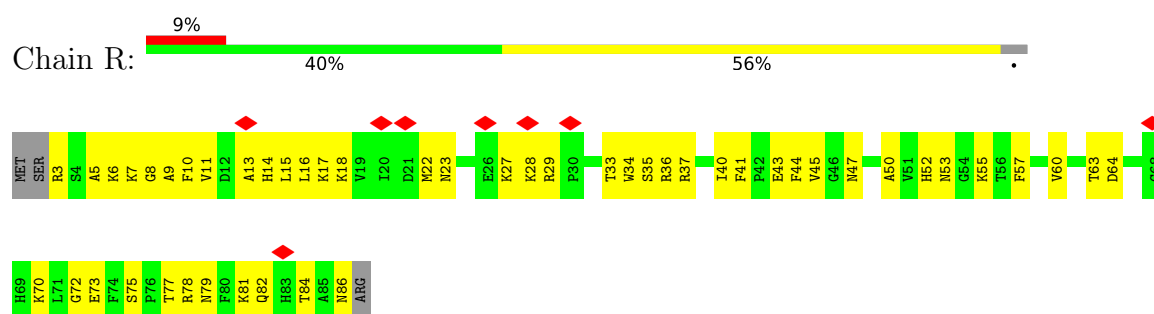
- Chain P: 



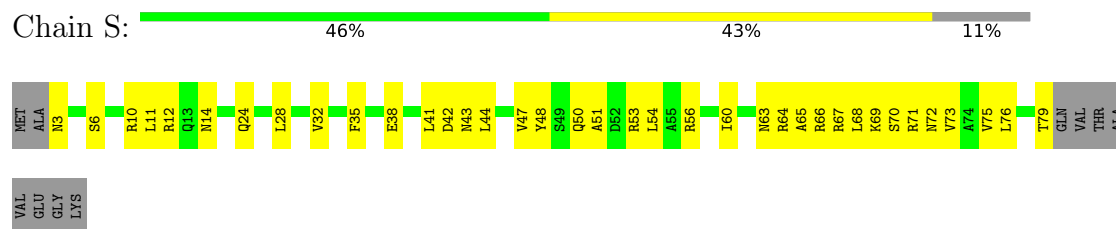
- Chain Q:



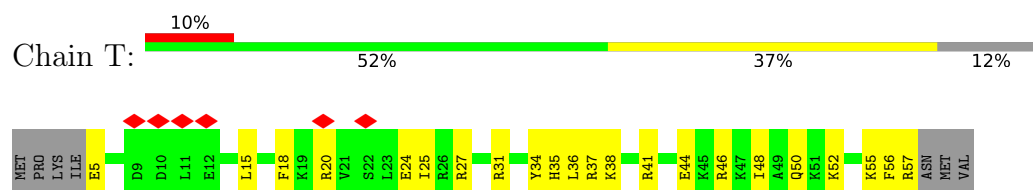
- Molecule 21: 30S ribosomal protein S19



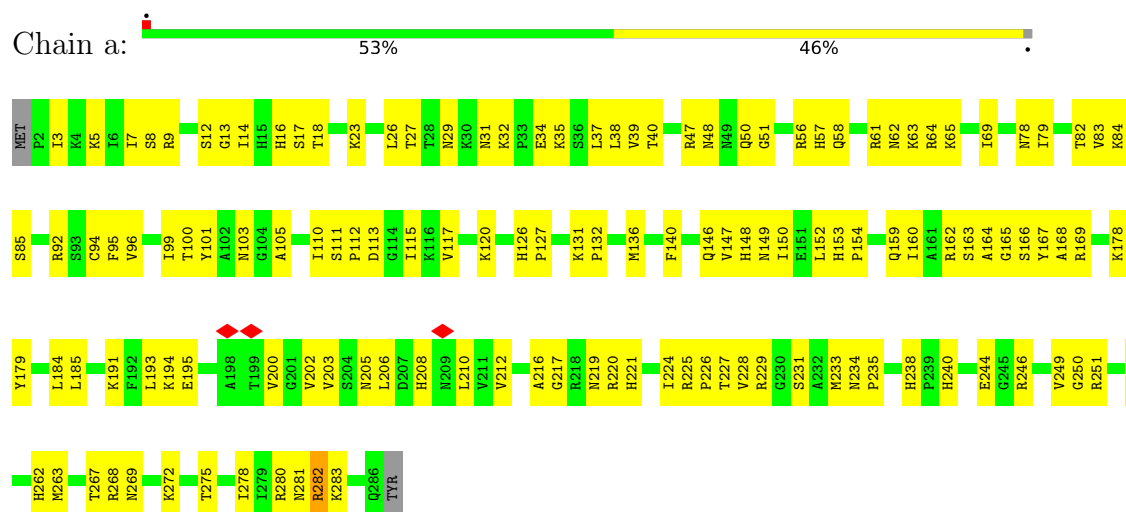
- Molecule 22: 30S ribosomal protein S20



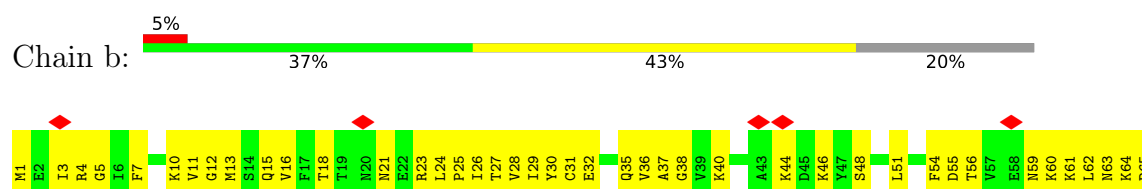
- Molecule 23: 30S ribosomal protein S21



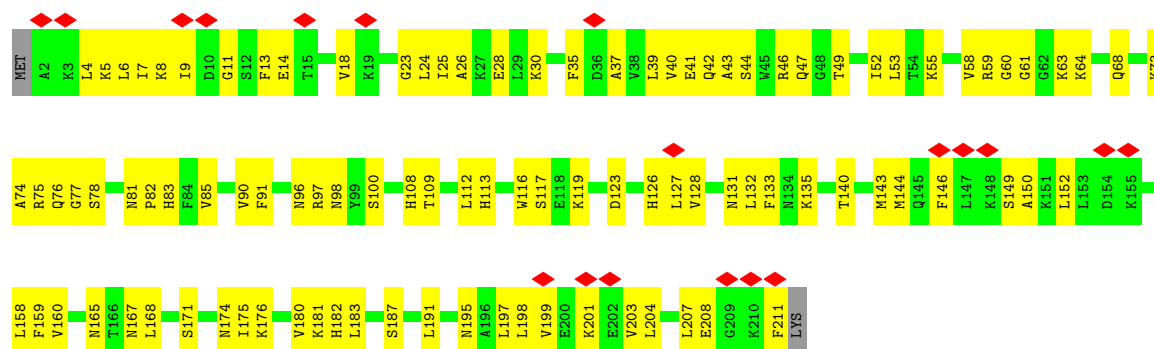
- Molecule 24: 50S ribosomal protein L2



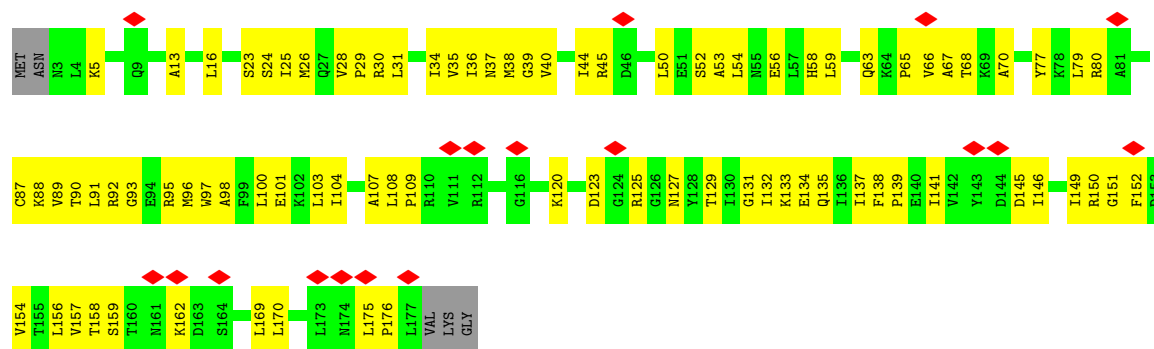
- Molecule 25: 50S ribosomal protein L3



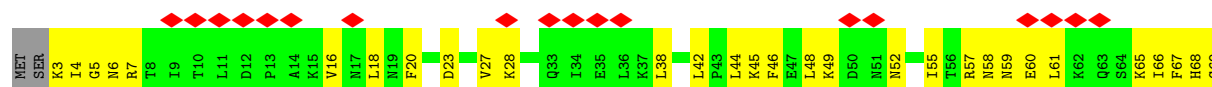
- Molecule 26: 50S ribosomal protein L4

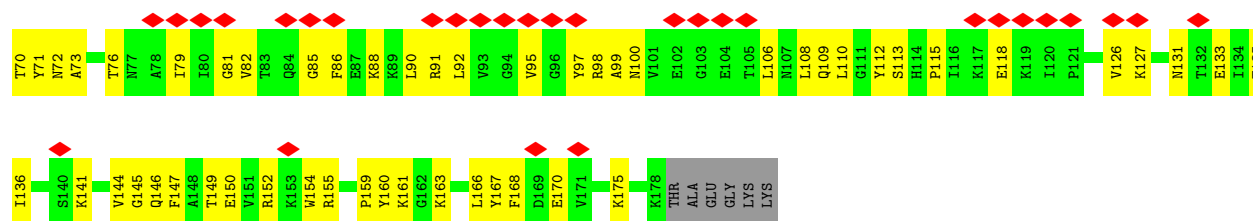


- Molecule 27: 50S ribosomal protein L5

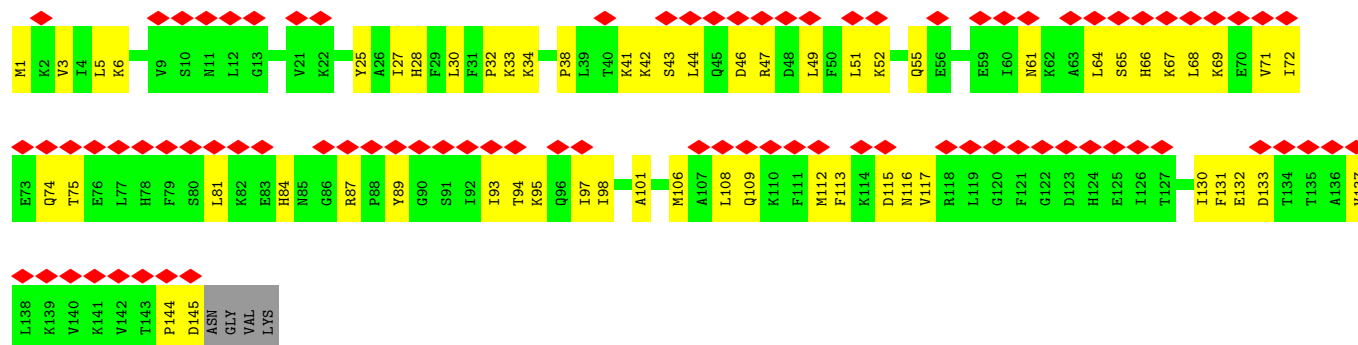


- Molecule 28: 50S ribosomal protein L6

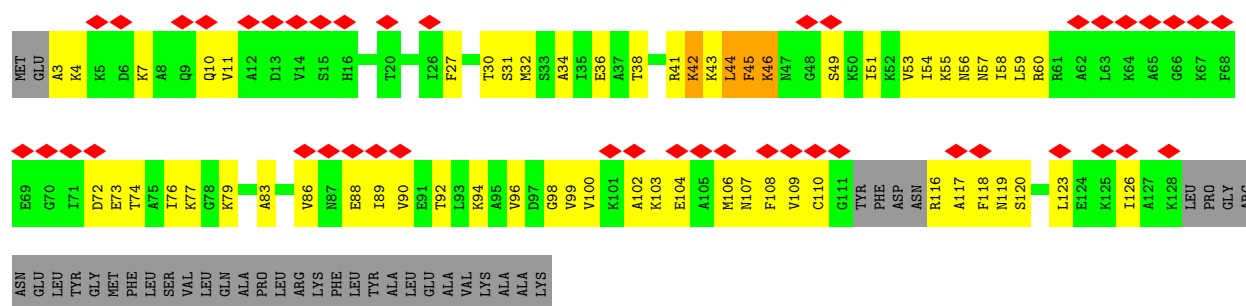




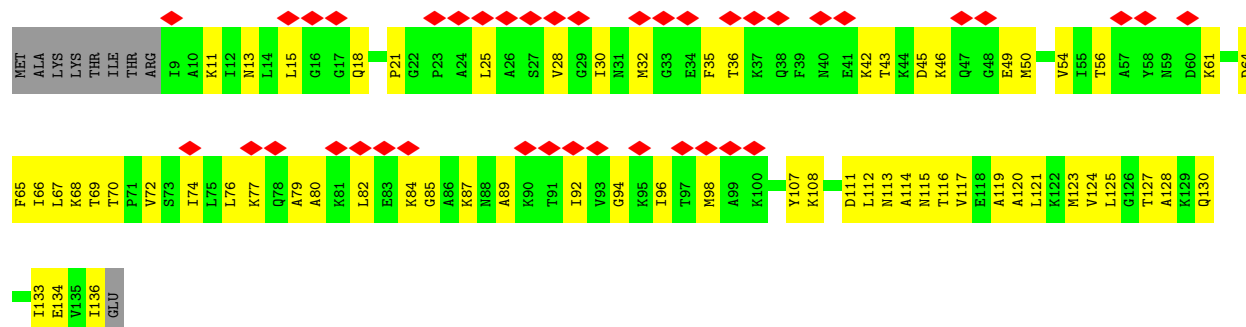
• Molecule 29: 50S ribosomal protein L9



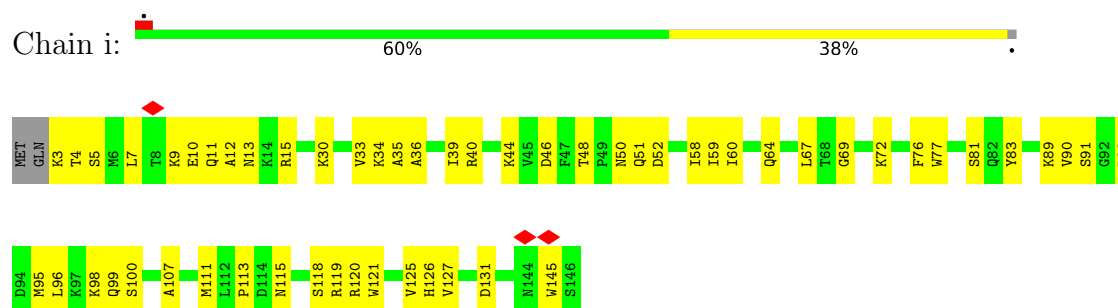
• Molecule 30: 50S ribosomal protein L10



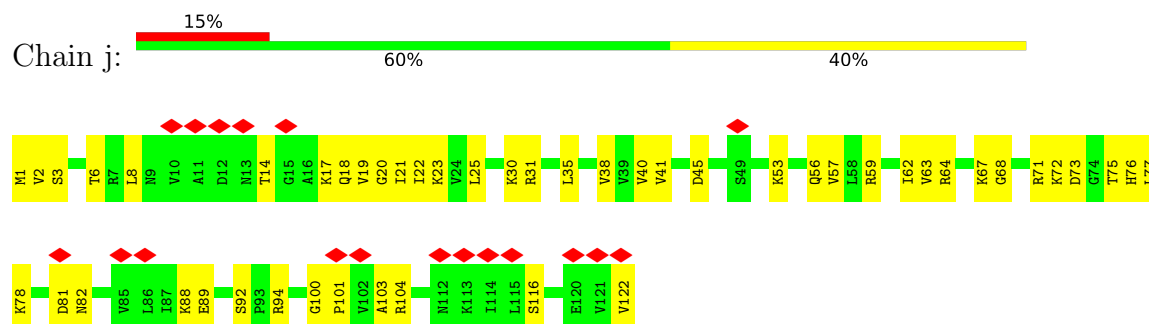
• Molecule 31: 50S ribosomal protein L11



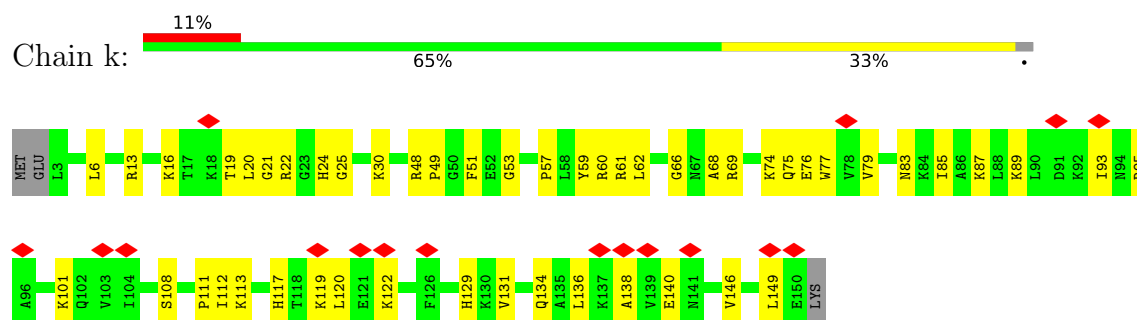
- Molecule 32: 50S ribosomal protein L13



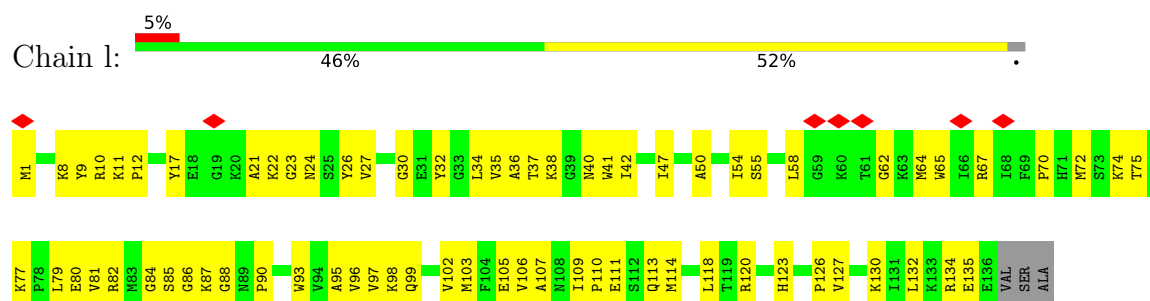
- Molecule 33: 50S ribosomal protein L14



- Molecule 34: 50S ribosomal protein L15

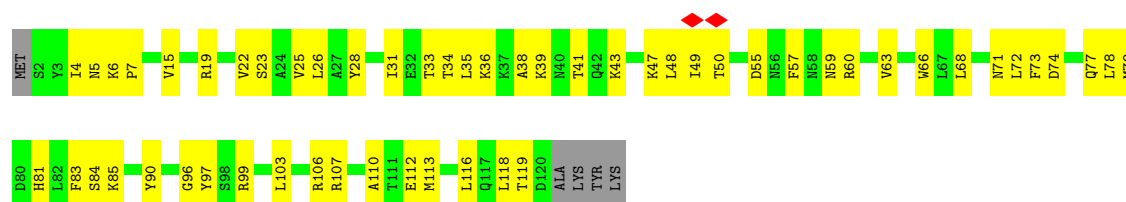


- Molecule 35: 50S ribosomal protein L16

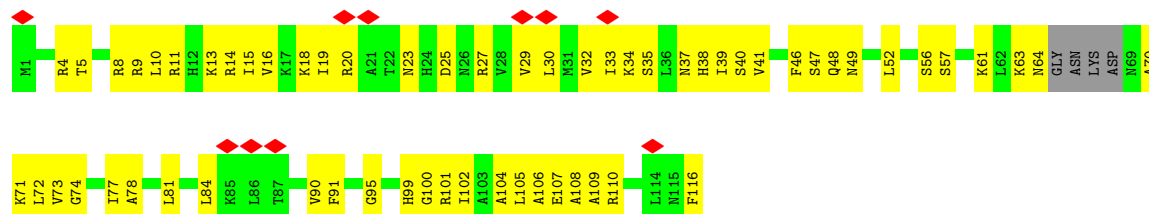
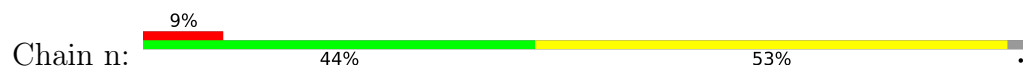


- Molecule 36: 50S ribosomal protein L17

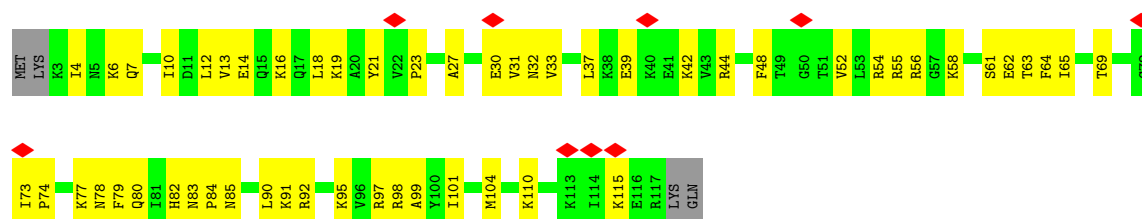




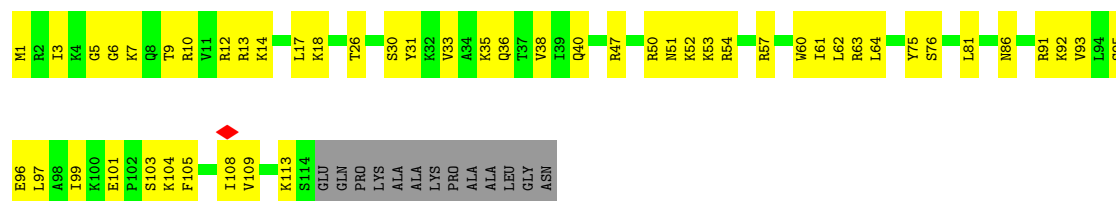
• Molecule 37: 50S ribosomal protein L18



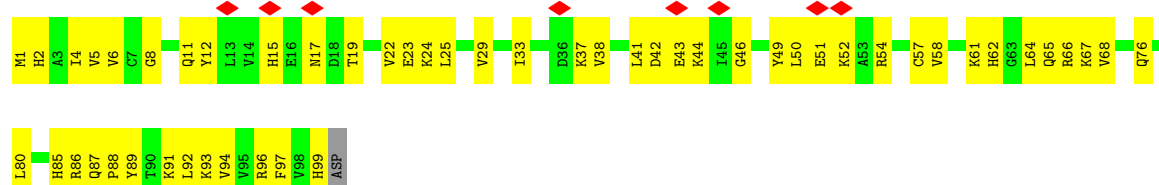
• Molecule 38: 50S ribosomal protein L19



• Molecule 39: 50S ribosomal protein L20

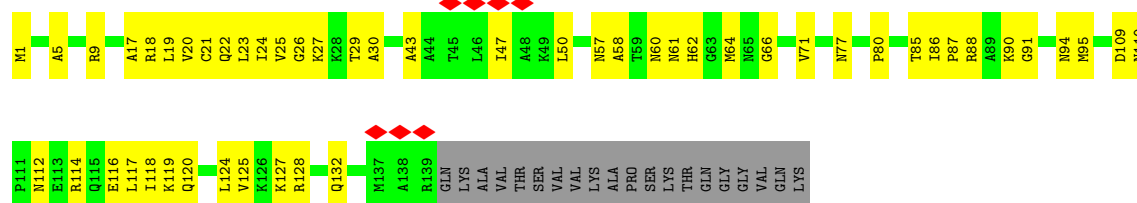


• Molecule 40: 50S ribosomal protein L21



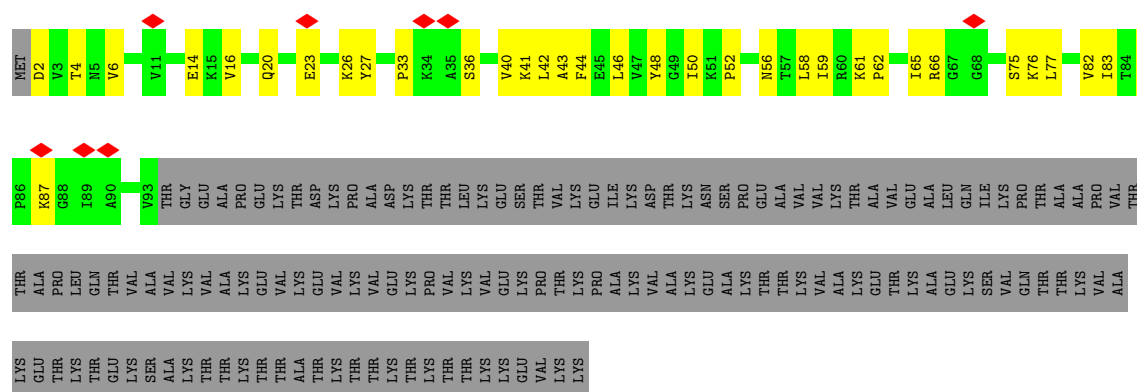
- Molecule 41: 50S ribosomal protein L22

Chain r:



- Molecule 42: 50S ribosomal protein L23

Chain s:



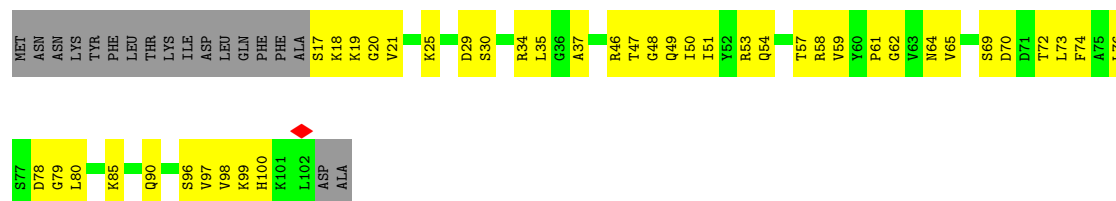
- Molecule 43: 50S ribosomal protein L24

Chain t:



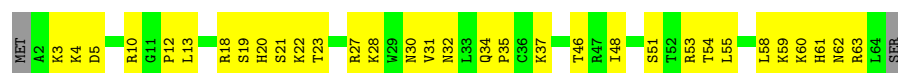
- Molecule 44: 50S ribosomal protein L27

Chain u:



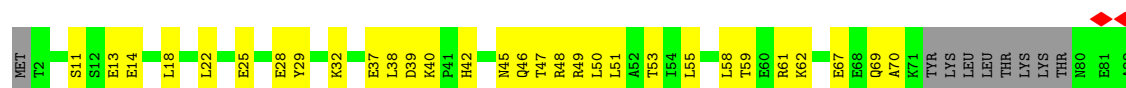
- Molecule 45: 50S ribosomal protein L28

Chain v: 



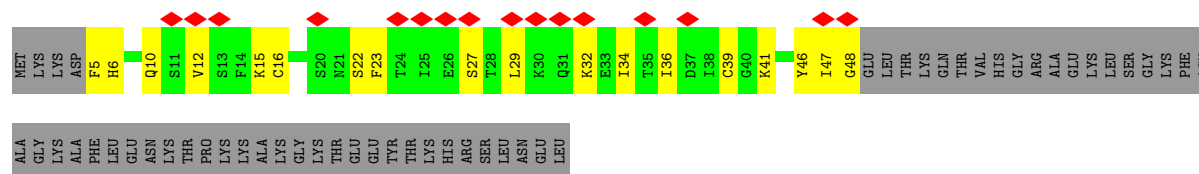
• Molecule 46: 50S ribosomal protein L29

Chain w: 



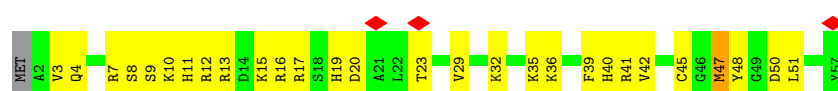
• Molecule 47: 50S ribosomal protein L31

Chain x: 

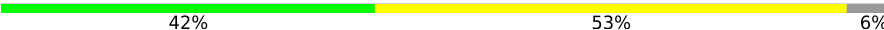


• Molecule 48: 50S ribosomal protein L32

Chain y: 

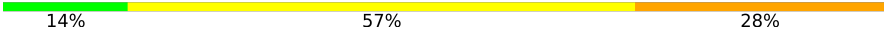


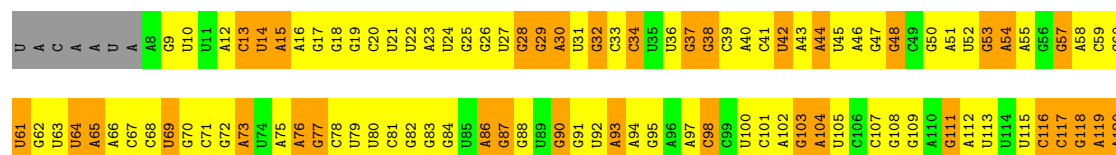
• Molecule 49: 50S ribosomal protein L33 1

Chain z: 



• Molecule 50: 23S ribosomal RNA

Chain 3: 



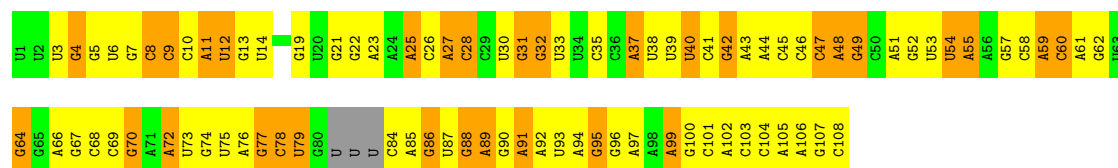
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A1067	G1068	U1005	U1006	A942	A878	A816	A747	G686	A623	C562	G501	A436	U373	U312	A248	G188	G123
G1069	U1070	U1006	U1007	A944	A881	A818	C752	G687	U624	A563	A502	A437	A374	G313	G249	U189	A124
A1070	G1071	U1008	U1009	U945	A882	U819	C758	U688	A626	G503	G504	A438	U375	G314	U250	G190	G125
G1072	A1073	A1009	A1010	A946	A883	U820	C759	U689	U627	C565	G505	U439	U376	G315	G251	G191	C126
A1073	G1074	U1011	U1012	A947	A884	U821	C759	U690	U628	G566	G505	C440	U377	C316	G252	U192	A127
G1075	U1076	U1012	U1013	A948	A885	C822	C760	G691	A628	U567	A508	U441	G378	U317	C253	G193	A128
A1076	G1077	U1014	U1015	A949	A886	A828	C761	U692	G629	U568	G509	C442	U379	U318	C254	A194	U129
U1078	A1079	U1016	U1017	A950	U887	A829	C762	U693	G633	U569	G510	C443	A380	G319	A255	A195	C130
G1080	A1081	U1018	U1019	U951	A888	A830	C763	U694	G634	U571	U511	C444	A381	G319	G256	G196	C131
A1082	U1083	U1020	U1021	C958	U889	C827	C764	U695	G635	A572	U512	C445	U382	A322	C257	G197	G132
A1083	C1021	C1021	C1021	C959	U890	G827	C765	U696	U636	A573	A513	C446	U383	A323	G258	G198	G133
C1084	A1085	U1024	U1025	A960	A897	G836	C766	U697	U637	G574	A514	C447	U386	C324	A259	A199	U134
G1086	A1087	U1026	U1027	A961	A898	A837	C767	U698	A638	G575	A515	C448	U387	G325	A260	A200	A135
A1088	U1089	U1028	U1029	U966	A899	U838	C768	U699	A639	A576	C521	C449	U388	U327	G261	C202	G136
G1090	A1091	U1030	U1031	U967	A900	U839	C769	U700	G639	U583	C522	C450	U389	U328	G262	G208	U137
A1092	U1093	U1032	U1033	U970	C906	U845	C770	U701	U640	G584	A516	C451	U390	A329	C263	A203	U138
G1094	U1095	U1034	U1035	U971	U909	U846	C771	U702	U641	U585	A518	C452	U391	A330	G264	U204	G139
U1096	G1097	U1036	U1037	C972	G910	C847	C772	U703	A642	G586	A519	C453	U392	A331	G265	C205	G140
A1098	U1099	U1038	U1039	U973	U911	U848	C773	U704	A643	U587	C520	C454	U393	A332	A266	U206	A141
G1100	U1101	U1040	U1041	U974	U912	U849	C774	U705	A644	U588	C521	C455	U394	A333	A267	A208	A142
A1102	G1103	U1042	U1043	C975	U913	U850	C775	U706	C645	U589	C522	C456	U395	A334	G270	G209	C144
U1104	A1105	U1044	U1045	U976	U914	U851	C776	U707	A646	U590	A517	C457	U396	A335	G271	U210	A145
G1106	U1107	U1046	U1047	U977	U915	U852	C777	U708	G647	U591	A518	C458	U397	A336	C272	A211	G146
A1108	G1109	U1048	U1049	U978	U916	U853	C778	U709	G648	U592	A519	C459	U398	C337	C273	G212	C147
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G1115	U1116	U1054	U1055	G982	C919	U856	C781	U712	A651	U595	C522	C462	U401	U339	A276	A215	G151
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A1120	G1121	U1060	U1061	A985	C922	U859	C784	U715	U654	U598	A531	C465	U404	U342	U278	A217	U155
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						U883	C809	U740	U681	U623	A556	C490	U429	U367	U305	G242	C182
						U884	C810	U741	U682	U624	A557	C491	U430	U368	G306	G243	A183
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G2017	G1957		A1828	G1763	C1697	A1637		G1507	A1443	U1380	U1318	U1254	U1192	A1130
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G2019	U1959	G1895	G1830	G1765	A1699	C1639		U1509	U1445	A1382	C1320	A1256	U1194	C1132
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U2048	C1988	C1927	A1861	A1798	G1729	G1667		G1542	C1474	C1411	A1350	U1285	A1222	A1161
A2049	U1989		A1862	A1799	C1730	G1668		U1543	C1475	A1412	G1351	G1286	C1223	A1162
G2050	C1990	U1930	G1863		G1731	A1669		G1544	C1476	A1413	G1352	C1287	G1224	G1163
	U1991	C1931	A1864		A1732	U1670		A1545	A1477	C1414	G1353	C1288	A1225	U1164
C2054	C1992	C1932	A1865		G1733	C1671		U1546		A1415	G1354	G1289	G1226	U1165
A2055	U1993	U1933	A1866	U1803	A1734	C1672		U1547	A1480		G1355		G1227	G1166
A2056	U1994	A1934	G1867	A1804	A1735	G1673		U1548	U1481	U1419	G1356		G1228	U1167
C2057	G1995	A1935	G1868	G1806	G1736	A1674		U1549	U1482	A1420	U1357	G1294	U1229	A1168
G2058	A1996	G1936	G1869	C1807	G1737	A1675		G1550	G1483	A1421	C1358	A1295	U1230	A1169
G2059	C1997	G1937	G1870	C1808	G1738	G1676		U1551	A1484	U1422	C1359	G1296	G1231	C1170
G2060	U1998	U1938	U1871	A1809	G1739	G1677		C1552	U1485	A1423	U1360	U1297	U1232	G1171
A2061	C1999	A1939	U1872	U1810	G1741	U1678		G1553	U1486	U1424	U1361	A1298		G1172
C2062	U2000	G1940	A1873	A1811	G1742	U1679		A1554	U1487	U1425	C1362		U1235	G1173
G2063	C2001	C1941	C1874	C1812	U1743	G1681		G1555	U1488	C1426	C1363	G1301	G1236	G1174
G2064	U2002	G1942	C1875	C1813	U1744	G1682		A1558		U1427	A1364	C1302	G1237	C1175
A2065	C2003	A1943	C1876	G1814	U1745	A1683		U1559	G1492	U1428	G1365	U1303	U1238	U1176
A2066	G2004	A1944	C1877	U1815	A1746	A1684		G	U1493	G1429	G1366	G1304	G1239	G1177
A2067	G2005	A1945	A1878	A1816	G1747	G1685		A	U1494	U1430	G1367	U1240	A1178	A1178
G2068	G2006	U1946	A1879	U1817	U1748	G1686		G	A1495	C1431	U1368	G1306	U1241	G1179
A2069	U2007	U1947	G1880	G1818	G1752	G1687		U	A1497	U1433	A1370	A1308	G1242	U1180
G2070	C2008	C1948	C1881	G1819	A1752	A1688		U	U1498	U1434	G1371	A1309	A1243	A1181
C2071	U2009	G1949	G1882	U1820	G1752	A1689		G	C1499	A1435	U1372	U1310	A1244	U1182
C2072	A2010	U1950	A1883	G1821	A1756	C1690		A	A1500	C1436	C1373	G1311	U1246	

U2882	A2883	C2884	U2885	A2886	U2887	U2888	U2889	A2890	C2891	U2892	C2893	U2894	A2895	C2896	U2897	U2898	A2899	C2899	U2900	U	A	U	U	C	G	A	
G2817	C2818	C2819	G2820	U2821	C2822	A2823	A2824	C2825	U2826	C2827	C2828	C2829	A2830	U2831	C2832	U2833	C2834	U2835	U2836	U2837	A2838	A	U	U	C	G	A
U2690	C2691	U2692	U2693	A2694	U2695	C2696	C2697	U2698	C2699	C2700	U2701	C2702	U2703	U2704	U2705	U2706	U2707	U2708	U2709	U2710	U2711	U2712	U2713	U2714	U2715	U2716	U2717
C2753	U2754	G2755	A2756	U2757	C2758	U2759	C2760	A2761	U2762	U2763	U2764	A2765	A2766	U2767	U2768	U2769	U2770	U2771	A2772	A2773	A2774	U2775	U2776	A2777	U2778	U2779	U2780
U2830	G2831	C2832	C2833	U2834	C2835	U2836	A2837	U2838	C2839	A2840	A2841	C2842	A2843	U2844	U2845	C2846	A2847	A2848	U2849	U2850	U2851	U2852	U2853	U2854	U2855	U2856	U2857
C2567	U2568	A2569	U2570	U2571	C2572	C2573	U2574	U2575	U2576	U2577	U2578	U2579	U2580	U2581	U2582	U2583	U2584	U2585	U2586	U2587	U2588	U2589	U2590	U2591	U2592	U2593	U2594
A2505	C2506	U2507	C2508	U2509	C2510	U2511	U2512	U2513	C2514	U2515	U2516	U2517	U2518	U2519	U2520	U2521	U2522	U2523	U2524	U2525	U2526	U2527	U2528	U2529	U2530	U2531	U2532
G2444	C2445	U2446	A2447	U2448	U2449	C2450	C2451	U2452	U2453	U2454	U2455	U2456	U2457	U2458	U2459	U2460	U2461	U2462	U2463	U2464	U2465	U2466	U2467	U2468	U2469	U2470	U2471
A2384	C2385	U2386	U2387	C2388	U2389	C2390	C2391	U2392	C2393	A2394	U2395	U2396	C2397	U2398	U2399	U2400	U2401	C2402	C2403	U2404	U2405	U2406	U2407	U2408	U2409	U2410	U2411
U2328	A2329	U2330	C2331	U2332	U2333	U2334	U2335	U2336	U2337	U2338	U2339	U2340	U2341	U2342	U2343	U2344	U2345	U2346	U2347	U2348	U2349	U2350	U2351	U2352	U2353	U2354	U2355
C2261	C2262	U2263	G2264	U2265	C2266	C2267	C2268	C2269	U2270	C2271	C2272	U2273	A2274	U2275	U2276	U2277	U2278	U2279	U2280	U2281	U2282	C2283	U2284	U2285	U2286	U2287	U2288
U2200	G2201	U2202	U2203	C2204	U2205	A2206	U2207	U2208	U2209	C2210	U2211	U2212	U2213	A2214	U2215	U2216	U2217	U2218	U2219	U2220	U2221	U2222	C2223	U2224	U2225	U2226	U2227
A2136	C2137	U2138	C2139	U2140	A2141	U2142	C2143	C2144	U2145	A2146	U2147	U2148	U2149	C2150	U2151	C2152	U2153	A2154	U2155	U2156	A2157	C2158	U2159	U2160	U2161	U2162	U2163
C2073	G2074	U2075	C2076	U2077	A2078	C2079	U2080	U2081	U2082	U2083	U2084	C2085	U2086	U2087	U2088	C2089	U2090	C2091	U2092	U2093	A2094	U2095	U2096	U2097	U2098	U2099	U2100
C2108	A2109	U2110	U2111	C2112	U2113	C2114	A2115	U2116	U2117	U2118	A2119	C2120	U2121	U2122	A2123	U2124	U2125	U2126	U2127	U2128	U2129	U2130	U2131	U2132	U2133	U2134	U2135

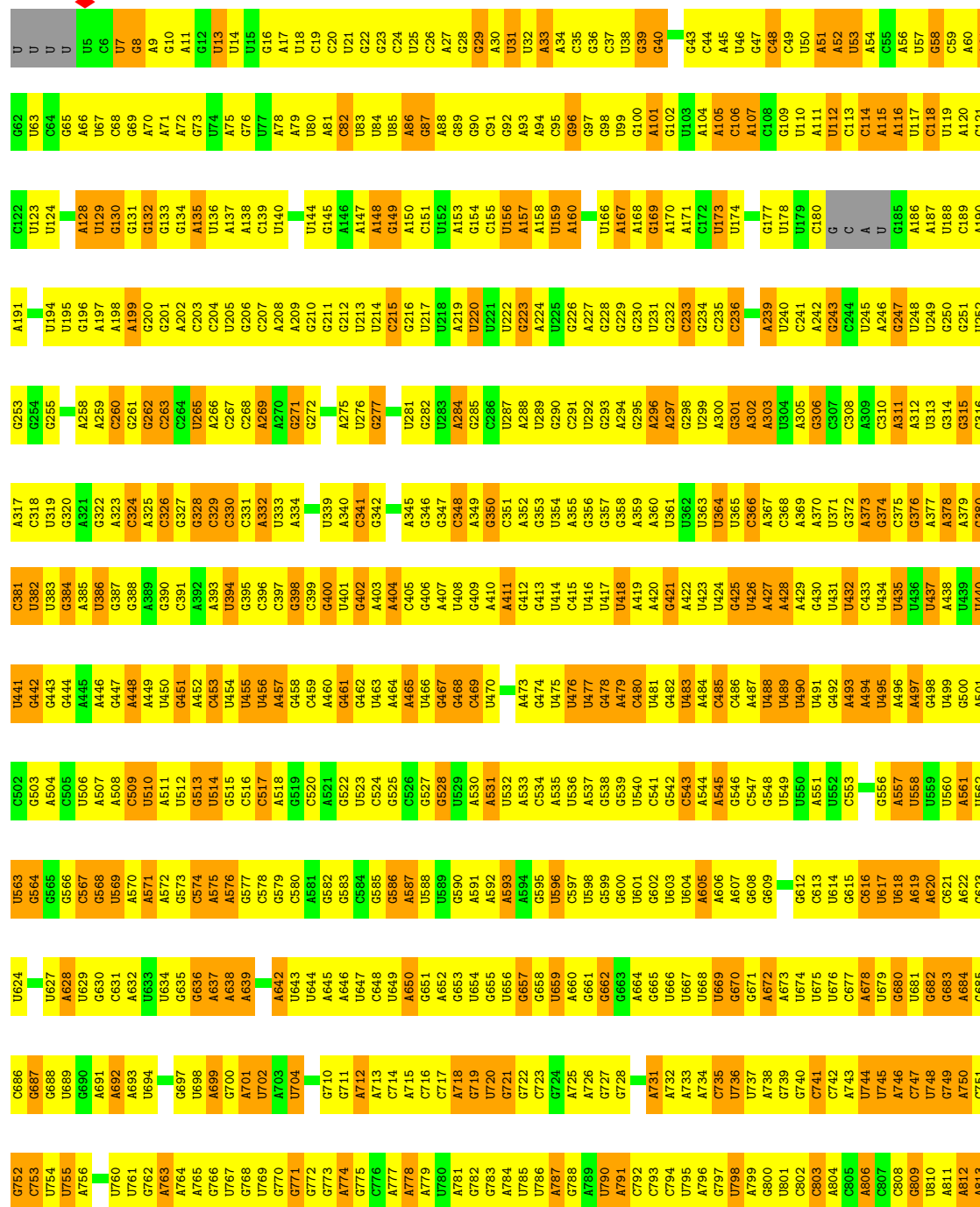
• Molecule 51: 5S ribosomal RNA

Chain 4: 17% 51% 30% .

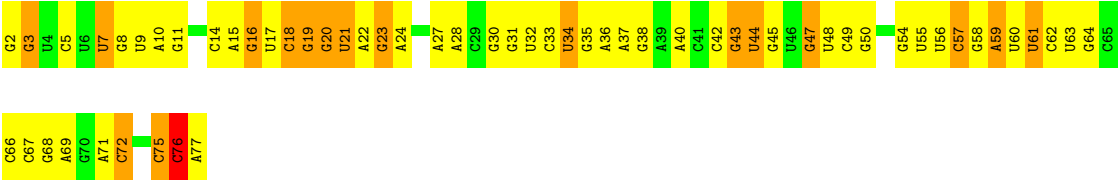


• Molecule 52: 16S ribosomal RNA

Chain 5: 14% 57% 27% .



Chain 8: 22% 54% 22% .



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	940	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	0.996	Depositor
Minimum map value	-0.271	Depositor
Average map value	0.021	Depositor
Map value standard deviation	0.095	Depositor
Recommended contour level	0.29	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	0.12	0/383	0.49	0/504
2	1	0.40	0/484	0.76	1/637 (0.2%)
3	2	0.16	0/306	0.49	0/401
4	A	0.20	0/1954	0.49	0/2642
5	B	0.16	0/1721	0.46	0/2323
6	C	0.28	0/1691	0.59	1/2267 (0.0%)
7	D	0.22	0/1188	0.54	0/1593
8	E	0.18	0/1384	0.46	0/1867
9	F	0.24	0/1266	0.68	5/1700 (0.3%)
10	G	0.25	0/1126	0.57	0/1517
11	H	0.25	0/1044	0.53	1/1395 (0.1%)
12	I	0.23	0/820	0.56	0/1103
13	J	0.19	0/844	0.45	0/1136
14	K	0.27	0/1094	0.63	1/1468 (0.1%)
15	L	0.18	0/962	0.50	0/1289
16	M	0.17	0/483	0.57	0/643
17	N	0.21	0/679	0.55	0/907
18	O	0.18	0/659	0.49	0/885
19	P	0.15	0/684	0.42	0/913
20	Q	0.17	0/545	0.51	0/730
21	R	0.20	0/698	0.55	0/936
22	S	0.14	0/631	0.41	0/838
23	T	0.15	0/475	0.41	0/621
24	a	0.18	0/2267	0.49	0/3044
25	b	0.19	0/1795	0.49	0/2412
26	c	0.24	0/1671	0.53	0/2246
27	d	0.22	0/1409	0.56	0/1894
28	e	0.18	0/1420	0.52	0/1912
29	f	0.18	0/1183	0.49	0/1587
30	g	0.43	0/927	0.75	0/1236
31	h	0.20	0/968	0.60	0/1298
32	i	0.16	0/1186	0.46	0/1592
33	j	0.16	0/953	0.48	0/1275
34	k	0.16	0/1170	0.48	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	l	0.20	0/1104	0.54	0/1481
36	m	0.19	0/973	0.47	0/1309
37	n	0.16	0/897	0.47	0/1198
38	o	0.16	0/948	0.49	0/1262
39	p	0.15	0/961	0.41	0/1278
40	q	0.20	0/828	0.54	0/1111
41	r	0.17	0/1077	0.52	0/1441
42	s	0.18	0/732	0.51	0/988
43	t	0.18	0/879	0.55	0/1165
44	u	0.16	0/665	0.45	0/884
45	v	0.18	0/519	0.44	0/695
46	w	0.14	0/826	0.45	0/1104
47	x	0.21	0/353	0.45	0/474
48	y	0.35	0/457	0.64	0/601
49	z	0.18	0/412	0.43	0/547
50	3	0.26	6/69073 (0.0%)	0.31	0/107710
51	4	0.13	0/2505	0.33	0/3902
52	5	0.12	0/35768	0.30	1/55764 (0.0%)
53	6	0.67	3/1808 (0.2%)	0.57	8/2817 (0.3%)
53	8	0.66	3/1808 (0.2%)	0.57	8/2817 (0.3%)
All	All	0.24	12/158663 (0.0%)	0.38	26/236918 (0.0%)

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	3	2440	A	C5-C6	27.65	1.96	1.41
50	3	2440	A	C6-N1	25.83	1.87	1.35
50	3	2440	A	C2-N3	25.61	1.84	1.33
50	3	2440	A	N3-C4	25.36	1.85	1.34
53	6	76	C	C1'-N1	23.93	1.84	1.48
53	8	76	C	C1'-N1	23.91	1.84	1.48
50	3	2440	A	N1-C2	23.41	1.81	1.34
50	3	2440	A	C5-C4	20.66	1.80	1.38
53	6	76	C	N1-C2	10.39	1.60	1.40
53	8	76	C	N1-C2	10.35	1.60	1.40
53	6	76	C	N1-C6	8.26	1.53	1.37
53	8	76	C	N1-C6	8.19	1.53	1.37

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	6	76	C	C6-N1-C2	-12.78	81.87	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	8	76	C	C6-N1-C2	-12.76	81.93	120.20
53	8	76	C	N1-C1'-C2'	10.25	127.38	112.00
53	6	76	C	N1-C1'-C2'	10.23	127.34	112.00
53	6	76	C	C5-C6-N1	9.65	149.94	121.00
53	8	76	C	C5-C6-N1	9.62	149.87	121.00
53	8	76	C	N3-C2-O2	-8.07	97.69	121.90
53	6	76	C	N3-C2-O2	-8.04	97.77	121.90
9	F	108	ARG	NE-CZ-NH1	-7.84	113.66	121.50
14	K	122	LYS	N-CA-C	-7.68	104.52	114.04
53	6	76	C	C2-N1-C1'	7.05	139.95	118.80
53	8	76	C	C2-N1-C1'	7.04	139.91	118.80
2	1	27	SER	N-CA-C	-6.44	102.63	112.99
9	F	108	ARG	NE-CZ-NH2	6.13	124.72	119.20
11	H	95	GLU	N-CA-C	-6.06	104.79	111.82
6	C	81	GLN	CA-CB-CG	5.83	125.77	114.10
53	8	76	C	O4'-C1'-N1	5.75	117.12	108.50
53	6	76	C	O4'-C1'-N1	5.72	117.08	108.50
53	6	76	C	C6-N1-C1'	5.71	137.93	120.80
53	8	76	C	C6-N1-C1'	5.71	137.92	120.80
9	F	108	ARG	CD-NE-CZ	-5.54	116.65	124.40
52	5	736	U	N1-C1'-C2'	5.17	119.75	112.00
53	8	76	C	N1-C2-N3	5.11	134.53	119.20
53	6	76	C	N1-C2-N3	5.10	134.51	119.20
9	F	13	PRO	CA-C-N	5.09	127.58	120.65
9	F	13	PRO	C-N-CA	5.09	127.58	120.65

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	19	0
2	1	477	0	530	36	0
3	2	304	0	350	19	0
4	A	1921	0	1973	76	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	B	1698	0	1768	65	0
6	C	1660	0	1719	115	0
7	D	1173	0	1267	63	0
8	E	1362	0	1377	61	0
9	F	1246	0	1308	91	0
10	G	1110	0	1226	60	0
11	H	1028	0	1094	69	0
12	I	809	0	894	47	0
13	J	829	0	855	45	0
14	K	1076	0	1170	55	0
15	L	951	0	1014	52	0
16	M	474	0	509	43	0
17	N	673	0	730	34	0
18	O	646	0	677	34	0
19	P	675	0	728	38	0
20	Q	535	0	562	31	0
21	R	682	0	691	52	0
22	S	629	0	681	40	0
23	T	471	0	522	24	0
24	a	2225	0	2301	146	0
25	b	1762	0	1808	118	0
26	c	1644	0	1731	89	0
27	d	1388	0	1469	78	0
28	e	1396	0	1481	77	0
29	f	1160	0	1172	50	0
30	g	921	0	985	50	0
31	h	959	0	1039	68	0
32	i	1164	0	1192	50	0
33	j	944	0	1019	45	0
34	k	1153	0	1256	49	0
35	l	1079	0	1134	64	0
36	m	958	0	1011	43	0
37	n	889	0	952	67	0
38	o	938	0	1008	64	0
39	p	947	0	1028	57	0
40	q	811	0	858	50	0
41	r	1068	0	1150	50	0
42	s	720	0	803	28	0
43	t	872	0	972	53	0
44	u	657	0	695	47	0
45	v	513	0	560	46	0
46	w	818	0	870	38	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
47	x	344	0	333	14	0
48	y	452	0	472	31	0
49	z	408	0	440	27	0
50	3	61664	0	30954	2985	0
51	4	2239	0	1137	104	0
52	5	31943	0	16058	1677	0
53	6	1618	0	821	42	0
53	8	1618	0	821	82	0
All	All	146081	0	99604	6503	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 28.

All (6503) 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)
50:3:2440:A:C5	53:8:76:C:H1'	1.42	1.54
50:3:2440:A:C5	50:3:2440:A:C6	1.96	1.54
50:3:2440:A:C5	50:3:2440:A:C4	1.80	1.53
50:3:2440:A:C2	50:3:2440:A:N1	1.81	1.49
50:3:2440:A:C4	50:3:2440:A:N3	1.85	1.43
50:3:2440:A:C2	50:3:2440:A:N3	1.84	1.42
50:3:2440:A:C6	50:3:2440:A:N1	1.87	1.41
53:8:76:C:N1	53:8:76:C:C1'	1.84	1.39
53:6:76:C:N1	53:6:76:C:C1'	1.84	1.38
50:3:2440:A:C6	53:8:76:C:N1	1.94	1.36
50:3:2440:A:C4	53:8:76:C:N1	1.96	1.33
50:3:2440:A:C5	53:8:76:C:N1	1.98	1.31
50:3:2440:A:C6	53:8:76:C:C1'	2.13	1.31
50:3:2440:A:C2	53:8:76:C:C6	2.18	1.30
50:3:2440:A:C6	53:8:76:C:H1'	1.66	1.29
50:3:2440:A:C5	53:8:76:C:C1'	2.15	1.29
50:3:2440:A:C6	53:8:76:C:C2	2.18	1.29
50:3:2440:A:N3	53:8:76:C:C6	2.00	1.29
50:3:2440:A:C2	53:8:76:C:N1	2.04	1.26
50:3:2440:A:N1	53:8:76:C:N1	1.84	1.23
50:3:2440:A:C5	53:8:76:C:C2	2.29	1.21
50:3:2440:A:C4	53:8:76:C:C1'	2.24	1.19
52:5:580:C:N4	52:5:756:A:H62	1.41	1.17
52:5:1006:A:N6	52:5:1015:U:C2	2.11	1.17
50:3:900:G:N2	50:3:903:A:H61	1.45	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1932:C:N4	50:3:1936:G:H22	1.46	1.13
50:3:1932:C:H42	50:3:1936:G:N2	1.46	1.13
50:3:2440:A:C2	53:8:76:C:C1'	2.31	1.12
50:3:2440:A:N3	53:8:76:C:N1	1.98	1.11
52:5:764:A:H62	52:5:809:G:N2	1.49	1.10
25:b:40:LYS:O	25:b:48:SER:HA	1.49	1.09
52:5:580:C:H42	52:5:756:A:N6	1.50	1.09
52:5:764:A:N6	52:5:809:G:H21	1.53	1.06
50:3:341:G:N2	50:3:364:A:H61	1.55	1.04
42:s:26:LYS:HA	42:s:83:ILE:O	1.56	1.04
50:3:2440:A:N1	53:8:76:C:C1'	2.21	1.04
50:3:341:G:H21	50:3:364:A:N6	1.56	1.02
50:3:720:A:N6	50:3:812:G:H21	1.55	1.02
50:3:992:G:H21	50:3:996:A:H62	1.05	1.01
52:5:69:G:N2	52:5:137:A:N1	2.08	1.01
50:3:301:G:N2	50:3:405:C:O2	1.94	1.00
50:3:900:G:H21	50:3:903:A:H61	1.03	1.00
50:3:1093:U:H3	50:3:1115:G:H1	1.07	1.00
50:3:2440:A:N3	53:8:76:C:C1'	2.24	1.00
50:3:2223:C:N4	50:3:2224:A:N6	2.10	0.99
52:5:136:U:H3	52:5:157:A:N6	1.59	0.98
50:3:2440:A:N3	53:8:76:C:H6	1.46	0.98
50:3:133:G:H1	50:3:150:U:H3	1.00	0.98
50:3:2440:A:C6	53:8:76:C:O2	2.15	0.97
50:3:900:G:H21	50:3:903:A:N6	1.63	0.97
52:5:514:U:H3	52:5:531:A:H62	1.04	0.97
52:5:1134:C:O2	52:5:1156:G:N2	1.98	0.97
52:5:291:C:N4	52:5:299:U:H3	1.63	0.96
9:F:108:ARG:HH12	9:F:115:MET:HB2	1.30	0.96
30:g:116:ARG:HE	30:g:117:ALA:H	1.11	0.96
50:3:2465:U:H3	50:3:2502:G:H1	1.07	0.95
50:3:161:U:H3	50:3:171:G:H1	0.96	0.95
50:3:302:G:N2	50:3:404:C:O2	1.99	0.95
50:3:276:A:H61	50:3:293:G:H1'	1.30	0.95
50:3:742:G:H1	50:3:759:U:H3	1.13	0.94
50:3:224:G:H21	50:3:465:A:N6	1.64	0.94
50:3:2440:A:C2	53:8:76:C:H6	1.83	0.94
50:3:677:U:H3	50:3:682:A:N6	1.66	0.94
50:3:1122:G:N2	50:3:1137:C:O2	2.02	0.93
50:3:80:U:H3	50:3:109:G:H1	1.01	0.93
50:3:2753:C:H42	50:3:2768:U:H3	1.07	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:590:G:H1	52:5:644:U:H3	0.96	0.92
11:H:10:GLY:HA2	11:H:83:LEU:HD22	1.50	0.92
50:3:2661:U:H3	50:3:2675:C:H42	0.92	0.92
13:J:33:ASN:HA	52:5:680:G:H21	1.32	0.91
52:5:253:G:H1	52:5:265:U:H3	1.15	0.91
50:3:2695:U:H3	50:3:2730:G:H1	1.04	0.91
50:3:2440:A:N3	53:8:76:C:O4'	2.04	0.91
50:3:37:G:N2	50:3:481:C:O2	2.02	0.91
50:3:341:G:H21	50:3:364:A:H61	0.97	0.91
52:5:1413:G:H1	52:5:1438:U:H3	1.19	0.91
50:3:720:A:H61	50:3:812:G:N2	1.68	0.91
50:3:2440:A:C4	53:8:76:C:C6	2.59	0.91
50:3:108:G:N2	50:3:380:A:C6	2.38	0.91
50:3:136:G:N2	50:3:147:C:O2	2.04	0.91
50:3:61:U:H3	50:3:70:G:H1	1.18	0.90
50:3:224:G:N2	50:3:465:A:H62	1.67	0.90
50:3:1779:G:N2	50:3:1986:C:O2	2.04	0.90
50:3:2440:A:C4	53:8:76:C:O4'	2.24	0.90
52:5:136:U:H3	52:5:157:A:H62	0.91	0.90
52:5:1487:U:H3	52:5:1498:G:H1	1.20	0.90
52:5:829:G:H1	52:5:848:U:H3	0.94	0.90
50:3:1957:G:N2	50:3:1964:C:C2	2.40	0.90
50:3:2092:U:H3	50:3:2242:G:H1	0.90	0.90
50:3:1294:G:H1'	50:3:2022:A:H61	1.35	0.90
50:3:2440:A:N1	53:8:76:C:C2'	2.35	0.90
52:5:69:G:H21	52:5:137:A:N6	1.69	0.90
9:F:108:ARG:NH1	9:F:115:MET:HB2	1.85	0.89
50:3:521:C:O2	50:3:530:G:N2	2.05	0.89
50:3:1946:U:H3	50:3:1974:U:HO2'	1.17	0.89
52:5:291:C:H42	52:5:299:U:H3	0.93	0.89
50:3:720:A:H61	50:3:812:G:H21	1.13	0.89
52:5:144:U:H3	52:5:149:G:H1	0.93	0.89
50:3:2460:C:N4	50:3:2512:U:N3	2.21	0.89
50:3:2516:G:O6	50:3:2588:U:O4	1.91	0.89
52:5:660:A:H2	52:5:739:G:H1	1.12	0.89
50:3:2088:U:H3	50:3:2247:G:H1	0.90	0.89
25:b:180:ARG:HH12	50:3:2737:G:H4'	1.35	0.88
50:3:1803:U:H3	50:3:1830:G:H1	1.21	0.88
50:3:192:U:H3	50:3:212:G:H1	0.90	0.88
50:3:1777:G:N2	50:3:1793:A:C5	2.41	0.88
52:5:453:C:H42	52:5:475:U:H3	1.21	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:96:ARG:NH1	52:5:399:C:OP1	2.05	0.87
52:5:1216:G:N2	52:5:1270:C:O2	2.07	0.87
50:3:2440:A:N1	53:8:76:C:H2'	1.88	0.87
50:3:2706:U:H3	50:3:2717:G:H1	0.92	0.87
50:3:2460:C:N4	50:3:2512:U:H3	1.72	0.87
50:3:2661:U:H3	50:3:2675:C:N4	1.71	0.87
16:M:24:CYS:HB2	16:M:40:CYS:H	1.40	0.87
50:3:1876:G:N2	50:3:1879:A:C5	2.43	0.87
10:G:127:VAL:HG23	10:G:130:LEU:HD23	1.56	0.86
50:3:2271:C:O2	50:3:2285:G:N2	2.07	0.86
50:3:2223:C:N4	50:3:2224:A:H62	1.72	0.86
50:3:2396:A:N7	50:3:2397:G:C6	2.43	0.86
52:5:1106:U:H3	52:5:1160:G:H1	1.21	0.86
50:3:1725:G:N2	50:3:1985:A:OP1	2.09	0.86
50:3:2440:A:C6	53:8:76:C:C2'	2.58	0.86
50:3:2753:C:N4	50:3:2768:U:H3	1.72	0.86
21:R:41:PHE:H	21:R:44:PHE:HD2	1.22	0.86
12:I:12:LEU:HB3	12:I:82:LEU:O	1.76	0.86
50:3:1027:U:H3	50:3:1198:G:H1	0.88	0.86
52:5:136:U:O4	52:5:157:A:N7	2.08	0.86
34:k:24:HIS:HB3	40:q:80:LEU:HD13	1.56	0.85
50:3:2303:U:H3	50:3:2345:G:H1	1.24	0.85
6:C:18:LEU:HB3	6:C:23:LYS:HE3	1.57	0.85
24:a:269:ASN:HB3	24:a:272:LYS:HE2	1.58	0.85
52:5:580:C:H42	52:5:756:A:H62	0.85	0.85
14:K:81:PRO:HD3	14:K:110:ILE:HB	1.59	0.85
50:3:2655:U:H3	50:3:2681:G:H1	1.22	0.85
50:3:413:G:H1	50:3:435:U:H3	0.85	0.85
50:3:2405:G:H1	50:3:2427:U:H3	1.22	0.85
52:5:1136:G:H8	52:5:1157:G:H22	1.21	0.85
50:3:108:G:N2	50:3:380:A:N6	2.25	0.85
6:C:1:MET:HA	52:5:401:U:H3	1.42	0.84
52:5:63:U:H3	52:5:90:G:H1	1.20	0.84
50:3:1122:G:N1	50:3:1137:C:N3	2.25	0.84
50:3:2099:U:O4	50:3:2235:A:N7	2.11	0.84
52:5:13:U:H3	52:5:24:C:N4	1.76	0.84
52:5:655:G:O6	52:5:744:U:C2	2.29	0.84
50:3:2135:C:H2'	50:3:2136:A:H8	1.43	0.84
2:1:6:ALA:O	2:1:10:ARG:NH1	2.10	0.83
32:i:93:ARG:NH1	50:3:2746:A:O2'	2.10	0.83
52:5:1006:A:N6	52:5:1015:U:N3	2.25	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:743:G:N2	50:3:758:C:O2	2.10	0.83
50:3:677:U:N3	50:3:682:A:N6	2.25	0.83
52:5:655:G:C6	52:5:744:U:O2	2.31	0.83
50:3:1121:A:H1'	50:3:1138:A:H2	1.42	0.83
27:d:23:SER:HB2	51:4:54:U:H5'	1.61	0.83
50:3:1494:U:H3	50:3:1550:G:H1	1.25	0.83
38:o:92:ARG:HD3	38:o:115:LYS:HB2	1.61	0.82
43:t:70:PHE:HE2	43:t:72:SER:HB3	1.43	0.82
52:5:459:C:O2	52:5:468:G:N2	2.12	0.82
52:5:458:G:N2	52:5:469:C:O2	2.10	0.82
44:u:90:GLN:NE2	51:4:10:C:OP1	2.12	0.82
50:3:1957:G:N2	50:3:1964:C:O2	2.13	0.81
25:b:174:VAL:HG23	25:b:198:ALA:HB1	1.62	0.81
50:3:1311:G:H21	50:3:1357:U:H3	1.27	0.81
50:3:432:G:N2	50:3:2239:U:O2'	2.14	0.81
50:3:2683:G:H2'	50:3:2684:G:C8	2.16	0.81
31:h:128:ALA:HB1	31:h:133:ILE:HG13	1.63	0.81
50:3:1762:A:H61	50:3:2702:G:H21	1.27	0.81
41:r:87:PRO:HB2	50:3:1301:G:H22	1.46	0.81
52:5:1136:G:N7	52:5:1157:G:N1	2.28	0.81
52:5:213:U:HO2'	52:5:467:G:HO2'	1.20	0.81
45:v:32:ASN:HB2	50:3:433:A:H5''	1.62	0.81
50:3:710:A:N7	50:3:838:U:C2	2.48	0.81
50:3:1385:U:H3	50:3:1402:G:H1	1.27	0.81
52:5:458:G:N1	52:5:469:C:N3	2.28	0.80
26:c:174:ASN:HB3	26:c:175:ILE:HD12	1.63	0.80
32:i:93:ARG:HH12	50:3:2746:A:HO2'	1.28	0.80
36:m:50:THR:HG21	50:3:2844:U:H5''	1.61	0.80
52:5:596:U:O2	52:5:639:A:N6	2.14	0.80
52:5:69:G:N2	52:5:137:A:C6	2.49	0.80
50:3:1422:U:H4'	50:3:1637:A:H4'	1.63	0.80
52:5:1325:U:H3	52:5:1346:G:H1	0.84	0.80
50:3:1261:U:H2'	50:3:1262:G:H8	1.46	0.80
50:3:2330:A:H2'	50:3:2331:G:H8	1.46	0.80
50:3:224:G:N2	50:3:465:A:N6	2.26	0.80
50:3:2359:G:H22	50:3:2373:G:H2'	1.46	0.80
49:z:22:PHE:O	50:3:2294:A:N6	2.14	0.80
50:3:2525:C:N4	50:3:2550:A:N7	2.30	0.80
52:5:212:G:N2	52:5:466:U:O2	2.14	0.80
52:5:536:U:H2'	52:5:537:A:H8	1.45	0.79
50:3:100:U:H4'	50:3:104:A:H1'	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:992:G:H21	50:3:996:A:N6	1.78	0.79
52:5:317:A:H2	52:5:328:G:H1	1.26	0.79
2:1:10:ARG:NE	34:k:59:TYR:O	2.15	0.79
6:C:34:ILE:HB	6:C:39:GLY:HA2	1.64	0.79
6:C:69:LYS:HD2	52:5:544:A:H5''	1.63	0.79
50:3:2271:C:N3	50:3:2285:G:N1	2.29	0.79
4:A:41:MET:HB3	4:A:45:ILE:HD12	1.65	0.79
52:5:665:G:N1	52:5:735:C:N3	2.31	0.79
19:P:74:ARG:HB3	52:5:230:G:H4'	1.63	0.79
41:r:128:ARG:HG2	50:3:1262:G:H1'	1.63	0.79
25:b:27:THR:HG21	25:b:197:ILE:HG12	1.63	0.79
39:p:91:ARG:HD3	40:q:11:GLN:HB2	1.65	0.79
50:3:1600:A:O2'	50:3:1602:G:N2	2.16	0.79
52:5:138:A:N6	52:5:156:U:N3	2.29	0.79
35:l:77:LYS:NZ	35:l:84:GLY:O	2.16	0.79
52:5:227:A:H2'	52:5:228:G:H8	1.47	0.79
50:3:1473:C:O2	50:3:1492:G:N2	2.14	0.79
50:3:1876:G:N2	50:3:1879:A:C6	2.50	0.79
52:5:138:A:N6	52:5:156:U:C2	2.50	0.79
22:S:70:SER:HA	22:S:73:VAL:HG12	1.64	0.78
50:3:501:G:N2	50:3:823:A:N7	2.31	0.78
50:3:2570:U:O2	50:3:2574:A:N7	2.16	0.78
52:5:69:G:H21	52:5:137:A:H61	1.29	0.78
52:5:169:G:N2	52:5:219:A:O2'	2.16	0.78
50:3:641:U:H2'	50:3:642:A:H8	1.48	0.78
50:3:1495:A:H61	50:3:1547:G:H2'	1.47	0.78
15:L:34:LEU:HD23	15:L:39:ILE:HD12	1.66	0.78
50:3:992:G:N2	50:3:996:A:H62	1.79	0.78
50:3:2689:C:O2	50:3:2691:C:N4	2.17	0.78
50:3:1664:A:H2'	50:3:1665:G:C8	2.18	0.78
52:5:69:G:N2	52:5:137:A:N6	2.31	0.78
9:F:29:ILE:HD11	9:F:108:ARG:HE	1.49	0.78
50:3:2695:U:O2	50:3:2730:G:N2	2.17	0.78
52:5:1313:A:H1'	53:8:31:G:H21	1.47	0.78
23:T:46:ARG:O	23:T:50:GLN:NE2	2.17	0.78
38:o:58:LYS:H	50:3:2849:G:H5''	1.49	0.78
50:3:1005:G:N2	50:3:1021:C:OP2	2.16	0.78
50:3:2515:C:H2'	50:3:2516:G:H8	1.49	0.78
41:r:1:MET:HE1	41:r:109:ASP:HB3	1.65	0.78
50:3:2828:C:H3'	50:3:2829:G:H21	1.47	0.78
52:5:69:G:N2	52:5:137:A:H61	1.82	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:8:76:C:H1'	53:8:76:C:N1	1.98	0.78
9:F:139:ASP:HA	9:F:142:LYS:HG2	1.66	0.77
50:3:333:A:H62	50:3:373:U:H3	1.33	0.77
50:3:340:U:N3	50:3:344:A:C8	2.52	0.77
50:3:2096:U:H3	50:3:2238:G:H1	0.83	0.77
10:G:68:ARG:HH21	52:5:650:A:H61	1.31	0.77
50:3:2797:C:O2	50:3:2897:G:N2	2.18	0.77
6:C:66:ILE:HG22	6:C:96:ARG:HD2	1.66	0.77
48:y:39:PHE:HD2	50:3:2819:C:H1'	1.49	0.77
44:u:85:LYS:NZ	50:3:893:A:OP1	2.16	0.77
31:h:13:ASN:ND2	50:3:1096:U:O2'	2.17	0.77
50:3:2466:G:H1	50:3:2498:G:HO2'	1.32	0.77
52:5:452:A:N6	52:5:476:U:O2	2.17	0.77
4:A:111:ARG:NH1	52:5:1091:C:OP1	2.17	0.77
29:f:32:PRO:HD3	29:f:109:GLN:HE22	1.50	0.77
21:R:84:THR:HG22	21:R:86:ASN:H	1.48	0.77
31:h:113:ASN:HD21	50:3:1092:A:H2	1.33	0.77
39:p:36:GLN:HE21	50:3:1282:G:H22	1.33	0.77
50:3:1348:C:H5''	50:3:1349:C:H5'	1.65	0.77
7:D:67:GLU:HB2	7:D:69:ARG:HH21	1.50	0.77
27:d:120:LYS:HG2	50:3:2311:G:H5''	1.65	0.77
50:3:1693:U:H2'	50:3:1694:A:H8	1.48	0.77
52:5:1345:G:H2'	52:5:1346:G:H8	1.50	0.77
32:i:72:LYS:HD3	32:i:93:ARG:HB3	1.67	0.77
52:5:614:U:H2'	52:5:615:G:H8	1.48	0.77
52:5:660:A:N1	52:5:739:G:O6	2.17	0.77
12:I:69:GLU:HG2	16:M:45:ARG:HE	1.48	0.77
43:t:1:MET:N	43:t:100:LYS:O	2.18	0.77
50:3:1098:G:O6	50:3:1110:C:N4	2.12	0.76
50:3:1327:G:H3'	50:3:1661:A:H62	1.50	0.76
2:1:38:LYS:NZ	50:3:2427:U:OP1	2.16	0.76
5:B:125:ASN:O	5:B:129:ALA:HB2	1.86	0.76
50:3:2197:U:H2'	50:3:2198:G:C8	2.21	0.76
52:5:91:C:O2	52:5:374:G:O2'	2.03	0.76
25:b:40:LYS:HG2	25:b:51:LEU:HD11	1.65	0.76
50:3:2217:G:C6	50:3:2224:A:N1	2.54	0.76
50:3:1447:A:OP2	50:3:1611:C:N4	2.19	0.76
50:3:2551:G:N2	50:3:2654:U:O3'	2.17	0.76
52:5:1039:G:N2	52:5:1184:C:O2	2.13	0.76
52:5:1228:C:O2	52:5:1329:G:O2'	2.04	0.76
9:F:67:ASN:ND2	9:F:129:ASN:OD1	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:643:A:N6	50:3:655:G:H21	1.84	0.76
50:3:1743:U:O2	50:3:2863:G:N2	2.15	0.76
50:3:1979:G:C6	50:3:1980:G:O6	2.39	0.76
50:3:2849:G:O6	50:3:2875:U:C2	2.38	0.76
24:a:48:ASN:ND2	50:3:1813:C:O2	2.19	0.76
50:3:245:U:O2	50:3:246:G:N2	2.18	0.76
52:5:599:G:O6	52:5:634:U:C4	2.39	0.76
52:5:936:G:H4'	52:5:1324:A:H4'	1.67	0.75
50:3:710:A:N7	50:3:838:U:O2	2.19	0.75
50:3:1940:G:H1	50:3:1974:U:H3	1.34	0.75
50:3:2299:U:H3	50:3:2349:G:H1	1.31	0.75
52:5:56:A:OP2	52:5:348:C:N4	2.19	0.75
52:5:670:G:H2'	52:5:671:G:H8	1.52	0.75
10:G:24:ASN:OD1	52:5:868:G:N2	2.19	0.75
50:3:2635:G:O2'	50:3:2789:A:N6	2.18	0.75
52:5:1006:A:C6	52:5:1015:U:C2	2.75	0.75
52:5:1290:G:H22	52:5:1293:A:H5'	1.51	0.75
50:3:299:A:N6	50:3:440:C:O2'	2.19	0.75
52:5:665:G:N2	52:5:735:C:O2	2.19	0.75
15:L:26:GLY:H	52:5:1303:A:H5''	1.52	0.75
46:w:67:GLU:OE2	50:3:136:G:N2	2.18	0.75
52:5:727:G:H21	52:5:762:G:H5'	1.51	0.75
52:5:1150:G:H2'	52:5:1151:A:C8	2.21	0.75
50:3:1619:A:H2'	50:3:1620:A:H8	1.51	0.75
50:3:2440:A:C5	53:8:76:C:O2	2.38	0.75
24:a:9:ARG:HB3	50:3:763:G:H21	1.52	0.75
50:3:1071:G:H1	50:3:1154:U:H3	1.32	0.75
50:3:2214:A:N6	50:3:2227:U:O2	2.19	0.75
7:D:193:HIS:NE2	52:5:1069:U:O2'	2.19	0.75
38:o:92:ARG:CD	38:o:115:LYS:HB2	2.17	0.75
26:c:140:THR:HA	26:c:143:MET:HG2	1.69	0.75
43:t:70:PHE:CE2	43:t:72:SER:HB3	2.22	0.75
50:3:334:A:O2'	50:3:352:C:O2	2.04	0.75
50:3:710:A:C8	50:3:838:U:N3	2.54	0.75
50:3:2143:G:H1	50:3:2162:U:H3	0.81	0.75
50:3:2176:G:N2	50:3:2179:A:OP2	2.20	0.75
50:3:517:G:H1	50:3:544:U:H3	1.35	0.74
9:F:46:PHE:HD1	9:F:57:PRO:HB3	1.51	0.74
14:K:42:LEU:HD13	14:K:94:LEU:HD13	1.68	0.74
17:N:9:ILE:HD11	17:N:28:LEU:HD12	1.69	0.74
21:R:3:ARG:HB2	21:R:9:ALA:HA	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:939:G:O2'	52:5:1313:A:N6	2.21	0.74
25:b:120:THR:HA	50:3:1689:A:H4'	1.67	0.74
26:c:42:GLN:O	50:3:479:A:N6	2.20	0.74
50:3:1516:G:H2'	50:3:1517:G:C8	2.22	0.74
52:5:1075:G:H1'	52:5:1094:C:H41	1.51	0.74
1:0:42:LEU:HD12	50:3:127:A:H61	1.51	0.74
9:F:115:MET:HG2	52:5:1215:U:OP1	1.87	0.74
45:v:4:LYS:NZ	45:v:12:PRO:HD3	2.02	0.74
50:3:1372:U:OP1	50:3:1373:C:N4	2.21	0.74
50:3:1388:G:O6	50:3:1399:G:N2	2.19	0.74
52:5:13:U:O2	52:5:24:C:N3	2.19	0.74
2:1:4:LYS:HG3	2:1:7:ALA:H	1.53	0.74
10:G:27:LYS:HE3	52:5:855:G:H4'	1.69	0.74
31:h:92:ILE:HA	31:h:133:ILE:HG22	1.70	0.74
38:o:92:ARG:HD3	38:o:115:LYS:CB	2.17	0.74
50:3:1473:C:N3	50:3:1492:G:N1	2.30	0.74
52:5:22:G:O2'	52:5:908:A:N6	2.18	0.74
4:A:81:GLN:HB3	4:A:173:PRO:HA	1.69	0.74
24:a:220:ARG:NH2	50:3:799:A:N3	2.35	0.74
44:u:18:LYS:NZ	50:3:2261:G:OP2	2.20	0.74
35:l:35:VAL:HB	35:l:130:LYS:HB2	1.70	0.74
50:3:18:G:H2'	50:3:19:G:C8	2.23	0.74
50:3:2887:A:H5'	50:3:2888:U:H5''	1.70	0.74
27:d:35:VAL:HG23	27:d:90:THR:HG22	1.70	0.74
50:3:1014:G:O6	50:3:1021:C:N4	2.21	0.74
50:3:1053:C:O2'	50:3:1155:G:N2	2.14	0.74
50:3:2726:G:N2	50:3:2850:G:O2'	2.20	0.74
8:E:151:LYS:HD2	8:E:153:LYS:HE3	1.70	0.74
27:d:127:ASN:ND2	50:3:2322:G:N3	2.36	0.74
50:3:1415:A:O2'	50:3:1550:G:N2	2.21	0.74
52:5:1410:A:N6	52:5:1441:C:O2	2.19	0.74
24:a:148:HIS:HB3	24:a:167:TYR:HA	1.68	0.73
50:3:2589:G:N2	50:3:2589:G:OP2	2.21	0.73
21:R:78:ARG:NH1	52:5:1198:C:OP1	2.20	0.73
24:a:56:ARG:HE	24:a:225:ARG:HH12	1.34	0.73
50:3:675:U:H3	50:3:685:G:H1	1.37	0.73
50:3:896:U:H3	50:3:954:A:H62	1.34	0.73
52:5:1495:C:H2'	52:5:1496:G:H8	1.53	0.73
12:I:98:ILE:HG12	12:I:104:LEU:HD12	1.69	0.73
14:K:128:SER:HA	52:5:36:G:H1'	1.68	0.73
36:m:118:LEU:HG	36:m:119:THR:HG23	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:764:G:H8	50:3:799:A:H5''	1.53	0.73
50:3:2136:A:O2'	50:3:2140:G:OP1	2.06	0.73
53:6:76:C:N1	53:6:76:C:H1'	1.98	0.73
26:c:90:VAL:HG23	50:3:836:G:H1	1.52	0.73
27:d:123:ASP:OD2	50:3:2322:G:N2	2.22	0.73
50:3:810:G:N2	50:3:828:A:O2'	2.22	0.73
50:3:1091:G:N1	50:3:1137:C:OP2	2.20	0.73
50:3:2826:G:O2'	50:3:2829:G:N1	2.20	0.73
52:5:1287:G:N1	52:5:1298:U:N3	2.35	0.73
6:C:48:SER:H	6:C:51:ALA:HB3	1.54	0.73
26:c:61:GLY:H	50:3:504:G:H5''	1.52	0.73
50:3:1370:A:H2	50:3:1424:U:H2'	1.53	0.73
50:3:1662:G:H2'	50:3:1663:G:C8	2.23	0.73
6:C:10:ARG:NH1	52:5:541:C:OP1	2.22	0.73
22:S:51:ALA:HB1	22:S:65:ALA:HB1	1.71	0.73
50:3:484:U:H3	50:3:615:G:H21	1.37	0.73
50:3:995:A:N3	50:3:2465:U:O2'	2.21	0.73
50:3:1612:U:H2'	50:3:1613:A:H8	1.53	0.73
50:3:2267:G:N2	50:3:2397:G:OP1	2.21	0.73
52:5:43:G:N2	52:5:620:A:O2'	2.21	0.73
22:S:24:GLN:OE1	22:S:50:GLN:NE2	2.21	0.73
25:b:173:LYS:HZ3	50:3:2781:C:H5''	1.51	0.73
30:g:123:LEU:HA	30:g:126:ILE:HG22	1.69	0.73
50:3:1503:A:N6	50:3:1540:G:O2'	2.20	0.73
50:3:2273:U:H1'	50:3:2282:A:H61	1.54	0.73
19:P:66:THR:HG21	19:P:76:ARG:HB3	1.70	0.73
50:3:67:C:O2'	50:3:492:C:N3	2.21	0.73
50:3:80:U:O4	50:3:109:G:O6	2.07	0.73
50:3:725:G:N2	50:3:807:U:O2	2.22	0.73
50:3:856:A:H61	50:3:1008:A:H2'	1.54	0.73
50:3:1388:G:H22	50:3:2222:C:H42	1.34	0.73
52:5:1151:A:H2'	52:5:1152:G:C8	2.24	0.73
8:E:6:ILE:HB	8:E:86:LEU:HB2	1.69	0.72
31:h:112:LEU:HD12	31:h:114:ALA:HB2	1.71	0.72
50:3:1954:C:H2'	50:3:1955:G:C8	2.24	0.72
52:5:568:G:H5'	52:5:817:U:H5'	1.71	0.72
52:5:694:U:H1'	52:5:782:G:H21	1.54	0.72
52:5:887:C:N3	52:5:888:A:N6	2.36	0.72
52:5:1495:C:H2'	52:5:1496:G:C8	2.23	0.72
4:A:25:GLU:HA	4:A:252:GLU:HG3	1.70	0.72
37:n:19:ILE:HG23	37:n:90:VAL:HG13	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2068:G:H8	50:3:2510:G:H5'	1.52	0.72
10:G:7:PRO:HA	10:G:67:LYS:HE3	1.70	0.72
50:3:628:A:H2'	50:3:629:G:H8	1.53	0.72
50:3:1091:G:H21	50:3:1138:A:H62	1.35	0.72
50:3:1779:G:N2	50:3:1780:A:O2'	2.23	0.72
50:3:2460:C:N3	50:3:2512:U:O2	2.23	0.72
52:5:21:U:H4'	52:5:571:A:H61	1.53	0.72
25:b:24:LEU:HD12	25:b:25:PRO:HD2	1.71	0.72
25:b:225:GLN:HG2	38:o:85:ASN:H	1.53	0.72
42:s:16:VAL:O	42:s:20:GLN:HB3	1.89	0.72
50:3:2551:G:H2'	50:3:2552:G:C8	2.23	0.72
37:n:61:LYS:HE3	37:n:72:LEU:HG	1.70	0.72
50:3:217:A:H2'	50:3:218:G:C8	2.24	0.72
50:3:2217:G:N7	50:3:2218:U:H2'	2.05	0.72
50:3:2733:A:O2'	50:3:2735:G:OP2	2.08	0.72
52:5:660:A:H2	52:5:739:G:N1	1.88	0.72
27:d:133:LYS:HD3	50:3:2313:U:H1'	1.72	0.72
29:f:116:ASN:ND2	50:3:2230:A:OP2	2.23	0.72
32:i:11:GLN:OE1	32:i:51:GLN:NE2	2.23	0.72
50:3:1932:C:H42	50:3:1936:G:H22	0.74	0.72
50:3:2481:U:OP1	50:3:2537:G:N2	2.23	0.72
52:5:1228:C:H2'	52:5:1229:A:H8	1.55	0.72
14:K:127:ARG:N	52:5:500:G:OP1	2.22	0.72
24:a:101:TYR:HB2	24:a:105:ALA:HB3	1.71	0.72
35:l:86:GLY:HA2	50:3:2284:G:H5'	1.72	0.72
50:3:86:A:N1	50:3:100:U:O2'	2.22	0.72
50:3:340:U:C2	50:3:344:A:N7	2.58	0.72
50:3:1202:A:H2'	50:3:1203:G:H8	1.53	0.72
50:3:2440:A:C4	53:8:76:C:H1'	2.23	0.72
52:5:52:A:N7	52:5:99:U:O2'	2.21	0.72
50:3:862:U:H5'	50:3:863:U:H5'	1.71	0.72
50:3:1001:C:O2'	50:3:2280:U:O2'	2.07	0.72
50:3:1603:A:H2'	50:3:1604:A:C8	2.25	0.72
52:5:432:U:H2'	52:5:433:C:H6	1.53	0.72
52:5:753:C:O2'	52:5:819:G:N2	2.23	0.72
52:5:883:A:N6	52:5:902:A:N7	2.38	0.72
6:C:123:LEU:HB2	6:C:145:LYS:HG3	1.70	0.72
38:o:80:GLN:HB2	38:o:83:ASN:HB2	1.72	0.72
50:3:823:A:OP1	50:3:826:C:N4	2.23	0.72
52:5:1072:G:H2'	52:5:1073:A:H8	1.55	0.72
8:E:131:PRO:HD2	52:5:841:C:H42	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:110:ARG:HH22	9:F:122:GLU:HB2	1.55	0.71
11:H:12:ARG:HG3	11:H:76:GLY:HA2	1.72	0.71
50:3:2359:G:N2	50:3:2374:A:C8	2.56	0.71
12:I:14:ILE:HG23	12:I:80:MET:HB2	1.72	0.71
50:3:511:U:C2	50:3:515:A:N7	2.59	0.71
50:3:2849:G:H2'	50:3:2850:G:H8	1.54	0.71
52:5:288:A:O2'	52:5:607:A:N6	2.21	0.71
52:5:945:U:H3	52:5:1206:G:H1	1.37	0.71
35:l:106:VAL:HG23	35:l:114:MET:HG3	1.72	0.71
50:3:431:U:O2'	50:3:433:A:N7	2.24	0.71
50:3:1101:U:N3	50:3:1104:A:OP1	2.22	0.71
50:3:1408:G:H2'	50:3:1409:G:H8	1.55	0.71
51:4:101:C:H2'	51:4:102:A:H8	1.55	0.71
3:2:19:ARG:HH21	50:3:2763:C:H3'	1.54	0.71
6:C:86:ALA:HA	6:C:193:GLU:HG3	1.72	0.71
34:k:13:ARG:HG3	50:3:695:G:H21	1.53	0.71
50:3:912:A:N6	50:3:940:A:N1	2.37	0.71
50:3:1056:A:H8	50:3:1157:G:H4'	1.56	0.71
30:g:38:THR:OG1	31:h:113:ASN:OD1	2.03	0.71
50:3:539:U:H4'	50:3:540:A:H5'	1.72	0.71
50:3:918:G:O2'	53:6:57:C:N3	2.22	0.71
50:3:1698:A:H61	50:3:2003:C:N4	1.88	0.71
50:3:2396:A:H62	50:3:2397:G:H1	1.39	0.71
52:5:1147:U:OP1	52:5:1157:G:O2'	2.07	0.71
22:S:54:LEU:HD22	22:S:60:ILE:HG13	1.72	0.71
31:h:121:LEU:HD22	31:h:136:ILE:HG12	1.71	0.71
35:l:87:LYS:HG3	50:3:991:G:H5''	1.70	0.71
50:3:343:A:N3	50:3:363:G:O2'	2.23	0.71
50:3:1932:C:N3	50:3:1936:G:N1	2.31	0.71
50:3:2599:C:H2'	50:3:2600:G:C8	2.25	0.71
8:E:73:LYS:HZ2	52:5:733:A:H2	1.36	0.71
9:F:108:ARG:HH12	9:F:115:MET:CB	2.03	0.71
52:5:63:U:O4	52:5:90:G:O6	2.09	0.71
31:h:77:LYS:HA	31:h:82:LEU:HB2	1.72	0.71
50:3:1961:A:H5''	50:3:2558:G:H21	1.56	0.71
52:5:658:G:N2	52:5:833:G:O2'	2.23	0.71
11:H:78:ALA:HB1	11:H:82:ARG:HH11	1.54	0.71
14:K:64:LYS:HB3	14:K:80:ILE:HD12	1.73	0.71
50:3:1076:U:O2	50:3:1149:G:N2	2.24	0.71
50:3:1508:G:N2	50:3:1531:C:O2	2.23	0.71
52:5:660:A:C2	52:5:739:G:N1	2.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1322:U:C2	52:5:1349:A:N7	2.58	0.71
50:3:1976:A:O2'	50:3:1979:G:N3	2.20	0.71
52:5:459:C:N3	52:5:468:G:N1	2.39	0.71
52:5:1057:C:HO2'	52:5:1361:G:HO2'	1.33	0.71
25:b:99:GLN:HG3	25:b:184:PHE:HB3	1.71	0.70
38:o:95:LYS:NZ	50:3:1759:C:OP1	2.24	0.70
38:o:99:ALA:HB2	50:3:2852:G:H2'	1.73	0.70
50:3:2101:A:H1'	50:3:2206:A:H61	1.55	0.70
50:3:2374:A:H3'	50:3:2375:A:H8	1.55	0.70
52:5:1230:G:OP2	52:5:1254:A:N6	2.24	0.70
53:6:10:A:H61	53:6:24:A:H62	1.37	0.70
8:E:73:LYS:HA	8:E:85:GLU:HG3	1.73	0.70
50:3:677:U:C2	50:3:682:A:N6	2.59	0.70
50:3:1837:C:H2'	50:3:1838:A:H8	1.54	0.70
6:C:119:HIS:ND1	52:5:434:U:O2'	2.22	0.70
50:3:622:U:H2'	50:3:623:A:H8	1.56	0.70
50:3:815:G:O2'	50:3:818:A:N6	2.24	0.70
16:M:19:ARG:NH2	52:5:1194:A:OP2	2.25	0.70
25:b:176:VAL:HG13	50:3:2737:G:H21	1.55	0.70
34:k:79:VAL:HG12	34:k:113:LYS:HB3	1.73	0.70
50:3:325:G:H1	50:3:383:U:H3	1.39	0.70
50:3:2353:G:O6	50:3:2379:G:O6	2.09	0.70
52:5:453:C:N4	52:5:475:U:H3	1.89	0.70
50:3:2177:G:H1'	53:8:57:C:H5''	1.72	0.70
52:5:305:A:O2'	52:5:605:A:N1	2.25	0.70
26:c:90:VAL:HG21	50:3:707:C:H5''	1.73	0.70
37:n:101:ARG:NH2	51:4:48:A:OP2	2.24	0.70
50:3:247:U:N3	50:3:259:A:C8	2.59	0.70
50:3:1014:G:O2'	50:3:1038:G:O2'	2.08	0.70
50:3:2223:C:C4	50:3:2224:A:N6	2.55	0.70
50:3:2645:U:N3	50:3:2784:A:C8	2.59	0.70
50:3:2849:G:O6	50:3:2875:U:O2	2.08	0.70
50:3:2654:U:O4	50:3:2683:G:N2	2.24	0.70
52:5:671:G:O6	52:5:713:A:N1	2.24	0.70
53:8:11:G:O6	53:8:45:G:N2	2.25	0.70
5:B:153:LYS:HB3	5:B:204:TRP:HB2	1.73	0.70
25:b:176:VAL:HG12	25:b:179:LEU:HD11	1.74	0.70
50:3:187:C:H2'	50:3:188:G:H8	1.57	0.70
50:3:677:U:H3	50:3:682:A:H62	1.29	0.70
50:3:1923:A:N6	52:5:1384:A:OP1	2.25	0.70
50:3:2653:G:OP2	50:3:2653:G:N2	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:13:U:N3	52:5:24:C:N4	2.38	0.70
4:A:19:SER:HB2	4:A:22:LYS:HG2	1.73	0.70
11:H:83:LEU:HD11	11:H:108:ARG:HA	1.72	0.70
15:L:97:VAL:N	52:5:1282:U:OP1	2.24	0.70
50:3:1379:C:HO2'	50:3:1605:A:HO2'	1.40	0.70
50:3:1450:G:O2'	50:3:1517:G:N2	2.25	0.70
50:3:1762:A:H61	50:3:2702:G:N2	1.89	0.70
52:5:1216:G:H2'	52:5:1217:G:H8	1.57	0.70
50:3:955:A:H1'	51:4:77:G:H21	1.56	0.70
52:5:1037:A:N6	52:5:1188:A:N1	2.33	0.70
24:a:112:PRO:HA	24:a:203:VAL:HA	1.73	0.69
25:b:178:ASN:HB2	50:3:2738:U:H4'	1.72	0.69
50:3:226:A:H8	50:3:456:G:H4'	1.56	0.69
50:3:704:G:N2	50:3:707:C:OP1	2.24	0.69
51:4:32:G:N7	51:4:42:G:O2'	2.25	0.69
52:5:1216:G:H2'	52:5:1217:G:C8	2.26	0.69
8:E:1:MET:HE2	8:E:91:GLU:HG3	1.74	0.69
49:z:9:LEU:HD22	49:z:32:LEU:HD22	1.74	0.69
50:3:244:G:N2	50:3:262:G:O6	2.25	0.69
50:3:2458:A:N6	50:3:2509:C:C2	2.60	0.69
52:5:583:G:N1	52:5:754:U:N3	2.39	0.69
53:6:11:G:O6	53:6:45:G:N2	2.25	0.69
11:H:69:VAL:HG11	11:H:77:GLN:HE21	1.57	0.69
11:H:73:GLY:HA3	52:5:1346:G:H4'	1.73	0.69
24:a:56:ARG:HH22	50:3:817:A:H61	1.38	0.69
43:t:90:LYS:NZ	43:t:104:PHE:O	2.24	0.69
50:3:305:U:O2	50:3:399:G:O6	2.10	0.69
50:3:1096:U:N3	50:3:1103:G:O2'	2.25	0.69
52:5:1122:U:O2	52:5:1123:G:N2	2.26	0.69
28:e:98:ARG:HH22	28:e:100:ASN:HB3	1.58	0.69
50:3:433:A:O2'	50:3:2238:G:N2	2.25	0.69
52:5:1195:G:H2'	52:5:1196:G:H8	1.56	0.69
52:5:1321:G:N2	52:5:1349:A:OP2	2.19	0.69
4:A:181:PRO:HB2	4:A:210:LEU:HD23	1.75	0.69
19:P:9:LEU:HD21	19:P:63:ILE:H	1.57	0.69
21:R:23:ASN:HA	21:R:27:LYS:HG2	1.74	0.69
21:R:79:ASN:HB2	52:5:953:A:H62	1.58	0.69
25:b:23:ARG:H	33:j:73:ASP:HA	1.57	0.69
36:m:106:ARG:HD3	50:3:1315:A:C8	2.28	0.69
50:3:274:A:OP2	50:3:294:G:N1	2.23	0.69
50:3:843:G:O4'	50:3:2067:A:N6	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2088:U:O4	50:3:2247:G:O6	2.10	0.69
50:3:2241:A:H2'	50:3:2242:G:H8	1.57	0.69
9:F:11:VAL:HG23	9:F:23:THR:HB	1.74	0.69
13:J:25:VAL:HG21	13:J:63:VAL:HG21	1.73	0.69
14:K:94:LEU:HB2	14:K:111:VAL:HG21	1.72	0.69
27:d:54:LEU:HG	27:d:65:PRO:HB2	1.74	0.69
50:3:603:G:H1	50:3:2506:C:H4'	1.56	0.69
50:3:720:A:N6	50:3:812:G:N2	2.32	0.69
50:3:2333:G:N1	50:3:2334:U:O2	2.26	0.69
52:5:28:G:H2'	52:5:29:G:C8	2.27	0.69
52:5:315:G:H4'	52:5:1442:A:H4'	1.75	0.69
52:5:591:A:H2'	52:5:592:A:H8	1.57	0.69
52:5:1011:A:N3	52:5:1193:U:O2'	2.25	0.69
52:5:1333:C:H4'	52:5:1336:C:H41	1.57	0.69
53:8:10:A:H61	53:8:24:A:H62	1.37	0.69
12:I:52:LYS:HD3	12:I:72:GLU:OE2	1.92	0.69
18:O:12:ARG:NH2	52:5:606:A:N3	2.39	0.69
25:b:15:GLN:NE2	38:o:61:SER:HA	2.07	0.69
43:t:91:TYR:N	50:3:332:G:OP1	2.19	0.69
52:5:1068:G:N2	52:5:1071:A:N7	2.40	0.69
52:5:1390:G:N2	52:5:1460:U:O2	2.25	0.69
15:L:14:ARG:NH2	52:5:1276:U:O4	2.25	0.69
21:R:34:TRP:HB2	21:R:52:HIS:H	1.58	0.69
26:c:24:LEU:HD13	26:c:116:TRP:HE1	1.54	0.69
30:g:116:ARG:HE	30:g:117:ALA:N	1.89	0.69
50:3:302:G:N2	50:3:404:C:C2	2.61	0.69
50:3:1406:A:O2'	50:3:1408:G:N7	2.26	0.69
50:3:1870:G:O2'	50:3:2419:A:O2'	2.11	0.69
52:5:1115:G:N2	52:5:1116:U:O4	2.25	0.69
5:B:154:VAL:HG12	5:B:203:VAL:HG22	1.74	0.69
25:b:117:ARG:NH1	50:3:2688:C:OP2	2.25	0.69
28:e:65:LYS:HG2	50:3:2757:A:H4'	1.73	0.69
39:p:64:LEU:HD11	39:p:95:SER:HB2	1.75	0.69
50:3:1070:U:H2'	50:3:1071:G:C8	2.28	0.69
50:3:2332:U:O2'	50:3:2393:C:N4	2.26	0.69
52:5:28:G:H21	52:5:292:U:H4'	1.56	0.69
2:1:25:TYR:HA	50:3:2400:A:H5''	1.74	0.69
5:B:160:LEU:HG	5:B:165:ILE:HD12	1.74	0.69
25:b:168:HIS:NE2	50:3:2826:G:OP1	2.26	0.69
37:n:8:ARG:NE	51:4:45:C:OP1	2.26	0.69
39:p:7:LYS:HB2	50:3:31:U:H4'	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:263:C:O2	50:3:657:A:O2'	2.11	0.69
50:3:643:A:H62	50:3:655:G:N2	1.91	0.69
52:5:56:A:N6	52:5:353:G:O2'	2.26	0.69
52:5:765:A:N3	52:5:1487:U:O2'	2.26	0.69
15:L:53:PHE:O	15:L:56:ILE:HB	1.92	0.68
24:a:228:VAL:HG21	50:3:817:A:H62	1.57	0.68
50:3:1387:A:H62	50:3:1400:U:H3	1.39	0.68
50:3:1583:G:O2'	50:3:1584:U:O5'	2.11	0.68
50:3:1954:C:H2'	50:3:1955:G:H8	1.56	0.68
50:3:2530:U:O2	50:3:2551:G:N2	2.19	0.68
52:5:403:A:H2'	52:5:404:A:C8	2.28	0.68
52:5:649:U:O2'	52:5:651:G:OP2	2.11	0.68
52:5:747:C:H2'	52:5:748:U:C6	2.28	0.68
52:5:1417:U:H2'	52:5:1418:G:H8	1.57	0.68
5:B:180:THR:HG22	5:B:182:ARG:H	1.57	0.68
13:J:33:ASN:ND2	52:5:680:G:N3	2.37	0.68
31:h:113:ASN:ND2	50:3:1116:U:O2	2.23	0.68
35:l:8:LYS:HG2	35:l:9:TYR:HD1	1.59	0.68
50:3:1170:C:N4	50:3:1173:G:OP2	2.22	0.68
50:3:1954:C:O2	52:5:1458:A:O2'	2.11	0.68
52:5:830:U:O2	52:5:847:G:N2	2.23	0.68
52:5:879:G:H2'	52:5:880:G:H8	1.58	0.68
6:C:138:PRO:HA	6:C:178:TYR:HB3	1.75	0.68
7:D:185:ARG:NH1	52:5:21:U:O4	2.25	0.68
20:Q:96:LEU:HB3	20:Q:98:LEU:HD23	1.74	0.68
32:i:5:SER:N	50:3:1031:U:O2'	2.25	0.68
53:8:67:C:H2'	53:8:68:G:H8	1.58	0.68
24:a:61:ARG:HB3	24:a:64:ARG:HH12	1.58	0.68
50:3:2202:U:H2'	50:3:2203:U:C6	2.28	0.68
52:5:798:U:H2'	52:5:799:A:C8	2.29	0.68
21:R:14:HIS:HD1	52:5:1010:A:H4'	1.56	0.68
43:t:2:GLN:O	43:t:102:ARG:NH1	2.26	0.68
46:w:13:GLU:OE2	46:w:69:GLN:NE2	2.27	0.68
50:3:493:A:N7	50:3:508:A:N6	2.40	0.68
50:3:665:C:H1'	50:3:675:U:H1'	1.74	0.68
50:3:779:C:H5''	50:3:1692:A:H4'	1.76	0.68
50:3:1869:G:O6	50:3:1887:U:O4	2.12	0.68
50:3:2524:U:H2'	50:3:2525:C:C6	2.29	0.68
2:l:24:ALA:HB2	34:k:62:LEU:HD23	1.74	0.68
33:j:57:VAL:HG11	50:3:2569:A:H5'	1.76	0.68
50:3:643:A:N6	50:3:655:G:N2	2.42	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1006:U:O2	50:3:1020:G:O2'	2.09	0.68
13:J:121:ARG:HH11	52:5:792:C:H5''	1.58	0.68
15:L:91:HIS:NE2	52:5:1283:G:OP1	2.26	0.68
28:e:69:GLY:HA3	50:3:2756:A:H4'	1.75	0.68
50:3:622:U:H2'	50:3:623:A:C8	2.28	0.68
50:3:2308:U:H2'	50:3:2309:A:H8	1.59	0.68
50:3:2584:G:O2'	50:3:2587:U:OP2	2.06	0.68
52:5:674:U:H3	52:5:710:G:H22	1.42	0.68
6:C:96:ARG:HH22	6:C:114:ARG:HD3	1.58	0.68
7:D:70:ILE:HA	7:D:93:VAL:H	1.57	0.68
32:i:3:LYS:N	40:q:12:TYR:HH	1.92	0.68
43:t:72:SER:OG	50:3:361:G:N2	2.27	0.68
50:3:9:G:N2	50:3:2900:U:O2	2.26	0.68
50:3:854:A:OP2	50:3:1218:G:N2	2.27	0.68
52:5:808:C:H4'	52:5:895:A:H61	1.58	0.68
8:E:52:GLN:HB2	8:E:83:LEU:HD21	1.76	0.68
50:3:1699:A:N6	50:3:1999:G:OP1	2.27	0.68
50:3:1779:G:H2'	50:3:1780:A:H4'	1.76	0.68
52:5:47:G:O2'	52:5:361:U:O2'	2.11	0.68
52:5:1261:A:H2'	52:5:1262:A:C8	2.28	0.68
50:3:2471:U:H2'	50:3:2472:G:H8	1.58	0.68
4:A:201:LEU:HD13	4:A:228:LEU:HD22	1.76	0.67
33:j:31:ARG:HE	50:3:2683:G:H5''	1.58	0.67
44:u:61:PRO:HB3	44:u:73:LEU:HD11	1.76	0.67
50:3:224:G:N1	50:3:464:A:OP2	2.21	0.67
50:3:663:A:O2'	50:3:672:G:N2	2.27	0.67
50:3:1114:C:N4	50:3:1123:A:OP1	2.28	0.67
52:5:712:A:H2'	52:5:713:A:C8	2.29	0.67
52:5:773:G:O2'	52:5:775:G:N7	2.27	0.67
6:C:27:LYS:NZ	52:5:406:G:OP2	2.27	0.67
29:f:131:PHE:CE2	29:f:133:ASP:HB2	2.30	0.67
50:3:572:G:H21	50:3:589:A:H62	1.41	0.67
50:3:855:A:O2'	50:3:871:G:N2	2.27	0.67
50:3:1096:U:H3	50:3:1103:G:HO2'	1.43	0.67
50:3:1662:G:N2	50:3:2706:U:O2'	2.26	0.67
52:5:16:G:N2	52:5:1071:A:O2'	2.27	0.67
52:5:287:U:O4	52:5:301:G:O2'	2.12	0.67
24:a:65:LYS:N	50:3:1602:G:OP1	2.26	0.67
50:3:81:C:H2'	50:3:82:G:H8	1.57	0.67
50:3:535:G:N2	50:3:537:A:H3'	2.09	0.67
50:3:546:U:O2'	50:3:1245:G:N2	2.14	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:822:C:H5'	50:3:823:A:H4'	1.75	0.67
50:3:2666:C:N3	50:3:2671:G:N1	2.39	0.67
50:3:2772:A:N7	50:3:2774:A:N6	2.42	0.67
52:5:945:U:H2'	52:5:946:G:H8	1.60	0.67
24:a:178:LYS:HA	24:a:194:LYS:HE2	1.74	0.67
24:a:268:ARG:NH1	24:a:275:THR:OG1	2.27	0.67
27:d:132:ILE:O	27:d:151:GLY:HA3	1.93	0.67
39:p:99:ILE:HA	39:p:105:PHE:HB2	1.75	0.67
50:3:1009:A:O2'	50:3:1217:G:N2	2.27	0.67
52:5:1197:G:N7	52:5:1296:C:N4	2.42	0.67
6:C:88:ASN:OD1	6:C:91:ARG:NH1	2.27	0.67
34:k:53:GLY:O	50:3:866:G:N2	2.27	0.67
50:3:450:C:H4'	50:3:1885:G:H21	1.57	0.67
50:3:1509:U:O4	50:3:1510:A:N6	2.26	0.67
50:3:2217:G:N1	50:3:2224:A:C6	2.62	0.67
50:3:2515:C:O2'	53:6:76:C:N3	2.28	0.67
51:4:32:G:H21	51:4:35:C:H42	1.40	0.67
53:6:67:C:H2'	53:6:68:G:H8	1.58	0.67
7:D:95:GLY:HA3	7:D:172:LEU:HB3	1.76	0.67
9:F:46:PHE:CD1	9:F:57:PRO:HB3	2.30	0.67
24:a:231:SER:OG	50:3:1833:G:OP1	2.11	0.67
50:3:603:G:N1	50:3:2507:C:OP1	2.28	0.67
50:3:604:A:H5'	50:3:2037:A:H62	1.59	0.67
52:5:421:G:H2'	52:5:422:A:H8	1.58	0.67
52:5:1049:G:O6	52:5:1174:U:O2	2.12	0.67
53:8:67:C:H2'	53:8:68:G:C8	2.30	0.67
13:J:115:LYS:HD2	23:T:35:HIS:HD2	1.58	0.67
41:r:116:GLU:HA	41:r:119:LYS:HD2	1.76	0.67
45:v:18:ARG:NH2	50:3:419:A:OP1	2.28	0.67
50:3:227:A:O2'	50:3:456:G:N2	2.28	0.67
50:3:1445:U:O2'	50:3:1621:U:O2'	2.12	0.67
50:3:2321:C:H2'	50:3:2322:G:C8	2.29	0.67
50:3:2816:A:H2'	50:3:2817:G:H8	1.58	0.67
4:A:41:MET:HG3	4:A:204:THR:HA	1.76	0.67
9:F:107:ALA:HA	9:F:122:GLU:HG2	1.75	0.67
50:3:81:C:H2'	50:3:82:G:C8	2.30	0.67
50:3:116:C:O2	50:3:128:A:O2'	2.12	0.67
50:3:1093:U:O2	50:3:1115:G:N2	2.25	0.67
50:3:1308:A:H2'	50:3:1309:G:H8	1.60	0.67
50:3:1867:G:O6	50:3:1889:U:C2	2.48	0.67
50:3:2603:G:N2	50:3:2606:A:OP2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:6:67:C:H2'	53:6:68:G:C8	2.30	0.67
11:H:108:ARG:HD2	52:5:1108:A:H4'	1.77	0.67
16:M:29:ARG:HG2	16:M:41:ARG:HH12	1.60	0.67
24:a:282:ARG:HH22	50:3:1805:U:H3'	1.60	0.67
35:l:80:GLU:HA	50:3:2503:G:H5'	1.76	0.67
39:p:30:SER:HB3	39:p:33:VAL:HG12	1.77	0.67
40:q:42:ASP:HB3	40:q:44:LYS:HE2	1.76	0.67
50:3:362:U:H1'	50:3:366:A:H62	1.60	0.67
50:3:1507:G:O2'	50:3:1508:G:OP1	2.12	0.67
50:3:2090:G:O6	50:3:2244:U:O2	2.13	0.67
52:5:1322:U:O2	52:5:1349:A:N7	2.27	0.67
38:o:58:LYS:HB2	38:o:61:SER:HB2	1.76	0.67
52:5:290:G:O6	52:5:300:A:N6	2.28	0.67
7:D:186:ASN:ND2	52:5:11:A:OP2	2.24	0.66
9:F:90:VAL:O	9:F:95:LYS:NZ	2.28	0.66
10:G:78:GLN:O	10:G:80:ARG:NH2	2.28	0.66
26:c:165:ASN:HD22	26:c:168:LEU:HG	1.60	0.66
39:p:51:ASN:OD1	39:p:54:ARG:NH2	2.27	0.66
50:3:1837:C:H2'	50:3:1838:A:C8	2.31	0.66
52:5:1392:A:O2'	52:5:1458:A:N6	2.28	0.66
1:0:16:HIS:CG	50:3:501:G:H5'	2.29	0.66
6:C:73:ARG:NH1	52:5:619:A:N3	2.43	0.66
13:J:32:GLY:O	52:5:680:G:N2	2.29	0.66
14:K:38:VAL:HG13	52:5:359:A:H62	1.60	0.66
21:R:81:LYS:HE2	21:R:84:THR:HB	1.76	0.66
25:b:13:MET:HG3	25:b:27:THR:HG22	1.75	0.66
50:3:628:A:H2'	50:3:629:G:C8	2.30	0.66
50:3:1809:A:N3	50:3:1826:A:N6	2.43	0.66
50:3:2099:U:OP1	50:3:2207:A:O2'	2.12	0.66
52:5:36:G:H21	52:5:499:U:H4'	1.59	0.66
52:5:764:A:H2'	52:5:765:A:H8	1.60	0.66
13:J:28:SER:HA	13:J:34:VAL:HA	1.75	0.66
24:a:219:ASN:HB3	24:a:224:ILE:HB	1.75	0.66
32:i:50:ASN:OD1	32:i:51:GLN:NE2	2.28	0.66
50:3:1098:G:N1	50:3:1110:C:N3	2.42	0.66
50:3:1806:G:N1	50:3:1826:A:OP2	2.21	0.66
50:3:2308:U:H2'	50:3:2309:A:C8	2.30	0.66
50:3:2687:A:H2'	50:3:2688:C:C6	2.30	0.66
52:5:413:G:N2	52:5:423:U:O2	2.27	0.66
7:D:139:GLU:HA	7:D:151:LEU:O	1.96	0.66
35:l:120:ARG:NH2	50:3:2475:C:O2'	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:18:LYS:NZ	50:3:22:U:OP1	2.24	0.66
50:3:72:G:N2	50:3:73:A:N1	2.39	0.66
50:3:1790:U:O2'	50:3:2615:G:N3	2.28	0.66
52:5:376:G:N2	52:5:379:A:OP2	2.20	0.66
41:r:57:ASN:O	41:r:61:ASN:N	2.25	0.66
49:z:32:LEU:HB2	49:z:49:GLU:HG3	1.76	0.66
50:3:31:U:H2'	50:3:32:G:C8	2.30	0.66
50:3:1956:G:H2'	50:3:1957:G:C8	2.30	0.66
50:3:2135:C:H2'	50:3:2136:A:C8	2.28	0.66
50:3:2604:U:O2'	50:3:2605:G:O5'	2.14	0.66
32:i:3:LYS:N	40:q:12:TYR:OH	2.28	0.66
41:r:23:LEU:HD13	48:y:23:THR:HA	1.77	0.66
50:3:195:A:OP2	50:3:208:A:N6	2.22	0.66
50:3:368:C:OP2	50:3:369:C:N4	2.29	0.66
50:3:898:A:H2'	50:3:899:A:C8	2.31	0.66
50:3:2483:C:N3	50:3:2537:G:C2	2.63	0.66
50:3:2536:U:O2	50:3:2543:G:O6	2.13	0.66
12:I:61:PRO:HA	16:M:42:LEU:HD11	1.77	0.66
50:3:299:A:H2'	50:3:300:G:H8	1.61	0.66
50:3:2122:G:N2	50:3:2126:A:O5'	2.29	0.66
50:3:2515:C:H41	50:3:2584:G:H1	1.42	0.66
52:5:677:C:H2'	52:5:678:A:C8	2.31	0.66
52:5:766:G:H4'	52:5:1488:A:H4'	1.76	0.66
5:B:17:ASN:ND2	5:B:216:ASN:OD1	2.28	0.66
16:M:2:ALA:N	52:5:1041:G:OP1	2.29	0.66
25:b:125:ARG:NH2	50:3:2628:U:O2'	2.29	0.66
28:e:7:ARG:NH2	50:3:2759:G:O6	2.29	0.66
52:5:499:U:H2'	52:5:500:G:C8	2.31	0.66
52:5:583:G:N2	52:5:872:C:O2'	2.29	0.66
52:5:941:A:O2'	52:5:1307:A:N3	2.24	0.66
52:5:1370:C:H5''	52:5:1377:C:H1'	1.76	0.66
7:D:130:GLU:O	7:D:175:TYR:OH	2.14	0.66
24:a:281:ASN:ND2	50:3:1806:G:OP2	2.29	0.66
50:3:434:G:O2'	50:3:2096:U:O2'	2.13	0.66
50:3:996:A:N3	50:3:2503:G:N2	2.42	0.66
50:3:1380:U:O2'	50:3:1604:A:N3	2.23	0.66
50:3:2330:A:H2'	50:3:2331:G:C8	2.27	0.66
51:4:31:G:H2'	51:4:32:G:C8	2.31	0.66
52:5:25:U:O2'	52:5:522:G:N3	2.28	0.66
52:5:105:A:O2'	52:5:107:A:N7	2.29	0.66
52:5:570:A:N7	52:5:571:A:N6	2.41	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:818:A:H2'	52:5:819:G:C8	2.31	0.66
52:5:1320:A:N6	52:5:1350:A:OP2	2.28	0.66
4:A:47:PRO:O	4:A:49:ARG:NH2	2.29	0.66
11:H:113:LYS:HA	52:5:1321:G:H2'	1.77	0.66
25:b:148:GLN:HA	50:3:2059:G:H5''	1.76	0.66
31:h:21:PRO:HG2	50:3:1103:G:H1	1.59	0.66
31:h:28:VAL:HG23	31:h:61:LYS:HG2	1.76	0.66
43:t:9:LYS:HG2	43:t:77:PHE:HD2	1.61	0.66
50:3:1698:A:N6	50:3:2003:C:C4	2.63	0.66
50:3:2072:C:H1'	50:3:2457:U:H3	1.62	0.66
50:3:2599:C:H2'	50:3:2600:G:H8	1.61	0.66
52:5:1006:A:C6	52:5:1015:U:N3	2.64	0.66
6:C:9:LYS:HE3	6:C:35:PRO:HB2	1.78	0.65
21:R:36:ARG:HH11	21:R:72:GLY:HA2	1.62	0.65
28:e:7:ARG:NH1	50:3:1145:G:N3	2.45	0.65
50:3:1793:A:H62	50:3:1990:C:H1'	1.61	0.65
6:C:144:LEU:HD12	6:C:174:PHE:HB3	1.78	0.65
46:w:42:HIS:HD1	50:3:97:A:HO2'	1.40	0.65
50:3:841:C:O2	50:3:2452:G:O2'	2.11	0.65
50:3:1340:U:O2'	50:3:1342:C:N4	2.28	0.65
50:3:2169:G:H5''	50:3:2170:A:H3'	1.78	0.65
52:5:580:C:N4	52:5:756:A:N6	2.21	0.65
12:I:61:PRO:HG3	52:5:1049:G:H22	1.61	0.65
31:h:43:THR:HA	31:h:46:LYS:HE2	1.77	0.65
39:p:105:PHE:HA	39:p:108:ILE:HD12	1.78	0.65
43:t:106:LYS:NZ	50:3:335:G:OP2	2.24	0.65
50:3:746:G:H2'	50:3:747:A:H8	1.60	0.65
50:3:1663:G:N3	50:3:2706:U:H4'	2.11	0.65
52:5:85:U:O2'	52:5:87:G:N7	2.27	0.65
52:5:935:U:O2'	52:5:1323:A:N3	2.29	0.65
20:Q:100:PRO:HG2	20:Q:104:ASP:H	1.61	0.65
34:k:95:ARG:NH2	34:k:108:SER:OG	2.30	0.65
46:w:42:HIS:ND1	50:3:97:A:O2'	2.26	0.65
50:3:700:U:H2'	50:3:701:A:H8	1.62	0.65
50:3:711:A:O2'	50:3:2450:C:O2	2.14	0.65
50:3:1436:C:H2'	50:3:1437:A:C8	2.32	0.65
50:3:2297:G:O6	50:3:2351:U:O2	2.14	0.65
50:3:2336:A:H2'	50:3:2337:U:H6	1.61	0.65
7:D:67:GLU:HB2	7:D:69:ARG:NH2	2.10	0.65
14:K:63:ARG:HH22	52:5:520:C:H41	1.44	0.65
26:c:165:ASN:HD21	26:c:167:ASN:HB2	1.59	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:j:104:ARG:NH2	38:o:39:GLU:OE2	2.30	0.65
45:v:34:GLN:OE1	50:3:2236:G:N2	2.30	0.65
50:3:785:A:OP1	50:3:1649:C:N4	2.30	0.65
50:3:1063:A:N6	50:3:1161:A:OP1	2.29	0.65
50:3:1590:U:H2'	50:3:1591:C:C6	2.31	0.65
52:5:250:G:H2'	52:5:251:G:C8	2.30	0.65
52:5:250:G:H2'	52:5:251:G:H8	1.62	0.65
52:5:1136:G:C8	52:5:1157:G:N2	2.56	0.65
9:F:69:MET:SD	9:F:95:LYS:HD3	2.37	0.65
50:3:530:G:H2'	50:3:531:G:C8	2.31	0.65
50:3:1091:G:N2	50:3:1138:A:H62	1.95	0.65
7:D:149:VAL:HG21	7:D:195:THR:HG22	1.79	0.65
7:D:180:THR:O	52:5:8:G:O2'	2.15	0.65
28:e:65:LYS:O	28:e:68:HIS:ND1	2.27	0.65
32:i:67:LEU:HD13	32:i:72:LYS:HG2	1.78	0.65
39:p:6:GLY:HA2	50:3:616:G:H5''	1.78	0.65
50:3:107:C:O2	50:3:328:A:O2'	2.15	0.65
50:3:519:A:N6	50:3:532:A:O2'	2.30	0.65
50:3:591:G:H2'	50:3:592:G:H8	1.62	0.65
50:3:900:G:N2	50:3:903:A:N6	2.26	0.65
50:3:1496:A:H61	50:3:1547:G:H1'	1.62	0.65
50:3:1721:G:N1	50:3:1734:A:OP1	2.30	0.65
50:3:1814:G:H2'	50:3:1815:U:H2'	1.78	0.65
52:5:61:A:O2'	52:5:92:G:N2	2.29	0.65
52:5:605:A:H2'	52:5:606:A:H8	1.61	0.65
52:5:1414:U:H2'	52:5:1415:G:C8	2.32	0.65
7:D:138:HIS:HB2	10:G:108:LEU:HB3	1.78	0.65
15:L:28:SER:OG	52:5:1302:C:OP1	2.14	0.65
16:M:23:ARG:HD2	16:M:28:GLY:HA2	1.78	0.65
25:b:208:ARG:NH2	50:3:2781:C:OP1	2.23	0.65
50:3:196:G:O2'	50:3:837:A:N3	2.30	0.65
50:3:710:A:N3	50:3:2451:C:O2'	2.29	0.65
50:3:1121:A:H1'	50:3:1138:A:C2	2.29	0.65
50:3:2331:G:N2	50:3:2345:G:O4'	2.30	0.65
52:5:762:G:N1	52:5:809:G:O2'	2.29	0.65
52:5:1225:A:H2	52:5:1345:G:H1'	1.61	0.65
7:D:79:THR:HA	7:D:84:ARG:HG2	1.79	0.65
9:F:108:ARG:NH2	9:F:115:MET:SD	2.70	0.65
10:G:62:ASN:HB3	10:G:66:THR:HB	1.79	0.65
28:e:175:LYS:NZ	50:3:2538:A:N7	2.39	0.65
50:3:1462:A:H61	50:3:1592:A:H61	1.43	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2058:G:N2	50:3:2059:G:O6	2.29	0.65
25:b:64:LYS:HA	25:b:67:GLN:HB3	1.79	0.65
26:c:144:MET:HE3	50:3:354:C:H42	1.62	0.65
50:3:237:A:H2'	50:3:238:U:C6	2.32	0.65
50:3:614:C:H2'	50:3:615:G:C8	2.32	0.65
50:3:725:G:H1	50:3:807:U:H3	1.44	0.65
50:3:1303:U:O4	50:3:1678:U:O2'	2.15	0.65
50:3:2224:A:H2'	50:3:2225:G:C8	2.31	0.65
50:3:2471:U:H2'	50:3:2472:G:C8	2.31	0.65
52:5:135:A:H61	52:5:158:A:H62	1.43	0.65
52:5:514:U:H3	52:5:531:A:N6	1.86	0.65
52:5:1417:U:H2'	52:5:1418:G:C8	2.31	0.65
24:a:281:ASN:OD1	24:a:282:ARG:NH1	2.30	0.64
35:l:111:GLU:HA	35:l:114:MET:HE2	1.79	0.64
50:3:1940:G:O6	50:3:1974:U:O4	2.16	0.64
50:3:1966:G:N2	52:5:1458:A:O2'	2.30	0.64
50:3:2068:G:C8	50:3:2510:G:H5''	2.30	0.64
50:3:2745:G:H2'	50:3:2746:A:H8	1.62	0.64
52:5:506:U:O4	52:5:522:G:C6	2.50	0.64
4:A:151:MET:SD	52:5:1087:C:H4'	2.37	0.64
11:H:71:GLY:HA2	52:5:1225:A:H4'	1.78	0.64
18:O:26:TYR:H	52:5:306:G:H5'	1.62	0.64
37:n:5:THR:OG1	51:4:28:C:OP1	2.14	0.64
50:3:2813:A:OP2	50:3:2894:G:N2	2.30	0.64
52:5:1432:A:H2'	52:5:1433:G:C8	2.32	0.64
8:E:47:TYR:OH	20:Q:94:ARG:O	2.12	0.64
16:M:12:ARG:HH12	52:5:989:A:H1'	1.62	0.64
45:v:27:ARG:NH1	45:v:28:LYS:O	2.30	0.64
50:3:203:A:H61	50:3:2441:A:H2'	1.61	0.64
50:3:299:A:H2'	50:3:300:G:C8	2.32	0.64
50:3:574:G:H1	50:3:587:U:H3	1.43	0.64
50:3:700:U:H2'	50:3:701:A:C8	2.32	0.64
50:3:1294:G:N1	50:3:2021:A:OP2	2.29	0.64
50:3:2666:C:N4	50:3:2671:G:O6	2.20	0.64
52:5:317:A:N1	52:5:328:G:O6	2.30	0.64
52:5:655:G:O6	52:5:744:U:O2	2.11	0.64
52:5:822:A:H2'	52:5:823:C:C6	2.33	0.64
52:5:1228:C:H2'	52:5:1229:A:C8	2.32	0.64
52:5:1287:G:O6	52:5:1298:U:O4	2.14	0.64
9:F:37:LEU:HG	52:5:1215:U:H1'	1.79	0.64
16:M:19:ARG:HG3	52:5:975:C:C6	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:83:VAL:HG22	24:a:99:ILE:HG22	1.78	0.64
24:a:251:ARG:NH1	50:3:2082:U:OP1	2.31	0.64
26:c:96:ASN:OD1	50:3:622:U:O2'	2.15	0.64
50:3:976:C:H2'	50:3:977:A:H4'	1.79	0.64
52:5:1444:G:H2'	52:5:1445:G:C8	2.32	0.64
6:C:53:GLN:HA	6:C:195:TYR:HB3	1.80	0.64
25:b:124:LYS:NZ	50:3:2005:G:OP1	2.27	0.64
30:g:36:GLU:OE1	30:g:103:LYS:NZ	2.27	0.64
31:h:15:LEU:H	31:h:18:GLN:HE21	1.42	0.64
45:v:30:ASN:O	50:3:432:G:O2'	2.15	0.64
50:3:997:G:H22	50:3:2036:G:P	2.20	0.64
50:3:2483:C:C2	50:3:2537:G:N1	2.65	0.64
52:5:833:G:H1	52:5:844:U:H3	1.45	0.64
11:H:128:GLN:HG2	52:5:1316:C:H1'	1.78	0.64
25:b:176:VAL:HG23	25:b:198:ALA:HB2	1.78	0.64
42:s:87:LYS:HD3	46:w:90:HIS:CD2	2.32	0.64
50:3:31:U:H2'	50:3:32:G:H8	1.62	0.64
50:3:293:G:H2'	50:3:294:G:C4	2.32	0.64
50:3:665:C:O2	50:3:675:U:O2'	2.14	0.64
52:5:597:C:N3	52:5:637:A:N6	2.44	0.64
52:5:710:G:H2'	52:5:711:G:C8	2.32	0.64
52:5:714:C:H2'	52:5:731:A:H8	1.62	0.64
52:5:1389:U:H2'	52:5:1390:G:H8	1.62	0.64
6:C:12:ARG:HD3	6:C:31:ARG:HE	1.62	0.64
41:r:114:ARG:NH2	50:3:555:A:N3	2.46	0.64
45:v:58:LEU:O	45:v:62:ASN:N	2.29	0.64
48:y:13:ARG:NH1	50:3:553:A:OP1	2.30	0.64
50:3:2400:A:N7	50:3:2432:C:N4	2.45	0.64
52:5:28:G:N2	52:5:292:U:O2'	2.31	0.64
24:a:63:LYS:HE2	50:3:728:A:H5''	1.78	0.64
29:f:109:GLN:HB3	29:f:112:MET:HE2	1.80	0.64
39:p:53:LYS:HG2	50:3:1031:U:H5''	1.80	0.64
50:3:975:G:N2	50:3:1222:A:O2'	2.30	0.64
50:3:1960:A:O2'	50:3:2567:C:O2	2.14	0.64
50:3:2828:C:OP2	50:3:2829:G:N2	2.31	0.64
52:5:1041:G:H2'	52:5:1042:G:C8	2.32	0.64
52:5:1213:A:N7	52:5:1275:U:O2	2.31	0.64
52:5:1290:G:N1	52:5:1293:A:OP2	2.26	0.64
52:5:1316:C:N3	52:5:1317:A:N6	2.40	0.64
2:1:22:LYS:NZ	50:3:2425:C:OP1	2.31	0.64
33:j:6:THR:O	33:j:20:GLY:HA2	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2114:C:H2'	50:3:2115:A:C8	2.32	0.64
52:5:1156:G:H1'	52:5:1157:G:C5	2.33	0.64
9:F:109:LYS:HG3	9:F:110:ARG:HD3	1.79	0.64
50:3:393:C:H2'	50:3:394:C:C6	2.32	0.64
9:F:24:ARG:HB3	9:F:100:LEU:HD13	1.80	0.63
25:b:227:GLU:HG2	38:o:19:LYS:HB3	1.78	0.63
26:c:7:ILE:HA	26:c:13:PHE:HA	1.80	0.63
40:q:23:GLU:OE2	40:q:87:GLN:NE2	2.32	0.63
50:3:84:G:O6	50:3:103:G:O2'	2.16	0.63
50:3:312:U:H2'	50:3:313:G:C8	2.34	0.63
50:3:1027:U:O2	50:3:1198:G:N2	2.24	0.63
50:3:2146:A:H2'	50:3:2147:G:C8	2.33	0.63
52:5:397:C:H2'	52:5:398:G:C8	2.33	0.63
52:5:499:U:H2'	52:5:500:G:H8	1.62	0.63
6:C:119:HIS:HD1	52:5:434:U:HO2'	1.40	0.63
14:K:9:ARG:HE	52:5:874:C:H5''	1.63	0.63
20:Q:43:PHE:HB2	20:Q:78:ASN:HB3	1.79	0.63
22:S:35:PHE:HZ	22:S:76:LEU:HB2	1.62	0.63
50:3:522:C:H2'	50:3:523:A:H8	1.62	0.63
50:3:774:A:N3	50:3:775:C:N4	2.45	0.63
50:3:1006:U:H2'	50:3:1007:C:C6	2.33	0.63
50:3:1736:G:H4'	52:5:1448:A:H4'	1.80	0.63
52:5:205:U:O2	52:5:210:G:O6	2.16	0.63
52:5:818:A:H2'	52:5:819:G:H8	1.62	0.63
52:5:1138:U:N3	52:5:1149:G:N1	2.46	0.63
52:5:1379:C:O2	52:5:1494:A:O2'	2.14	0.63
20:Q:88:LYS:NZ	52:5:662:G:OP1	2.29	0.63
26:c:131:ASN:OD1	26:c:135:LYS:NZ	2.30	0.63
50:3:1555:G:O6	50:3:1576:G:N2	2.31	0.63
52:5:829:G:N2	52:5:848:U:O2	2.26	0.63
52:5:1212:C:O2'	52:5:1274:G:N2	2.29	0.63
52:5:1230:G:O2'	52:5:1233:G:N3	2.23	0.63
11:H:13:LYS:HB2	11:H:76:GLY:HA3	1.79	0.63
25:b:13:MET:CG	25:b:27:THR:HG22	2.29	0.63
25:b:82:GLN:NE2	50:3:2644:U:OP1	2.30	0.63
27:d:152:PHE:HB3	27:d:154:VAL:HG13	1.81	0.63
42:s:6:VAL:HG21	42:s:40:VAL:HA	1.79	0.63
50:3:601:U:O2'	50:3:603:G:N7	2.30	0.63
50:3:881:A:H4'	50:3:882:C:OP1	1.98	0.63
50:3:1133:A:H3'	50:3:1134:G:H8	1.63	0.63
50:3:1386:G:N1	50:3:1400:U:OP2	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1999:G:H4'	50:3:2001:C:H41	1.63	0.63
50:3:2458:A:N6	50:3:2509:C:O2	2.32	0.63
52:5:1345:G:H2'	52:5:1346:G:C8	2.33	0.63
21:R:81:LYS:HE3	52:5:950:C:H1'	1.80	0.63
26:c:63:LYS:NZ	50:3:832:C:OP1	2.30	0.63
26:c:82:PRO:HG3	26:c:90:VAL:HB	1.79	0.63
37:n:63:LYS:HE2	51:4:49:G:H3'	1.81	0.63
50:3:1413:A:O2'	50:3:1424:U:O2	2.15	0.63
50:3:1776:G:H2'	50:3:1777:G:H8	1.63	0.63
50:3:2588:U:OP2	50:3:2589:G:N1	2.31	0.63
50:3:2655:U:O2	50:3:2681:G:N2	2.27	0.63
52:5:320:G:N1	52:5:323:A:OP2	2.32	0.63
52:5:918:A:O2'	52:5:1374:C:OP2	2.15	0.63
14:K:96:ARG:NH1	52:5:35:C:O2'	2.32	0.63
17:N:39:HIS:O	17:N:43:ASN:N	2.25	0.63
27:d:59:LEU:HB2	27:d:141:ILE:HD12	1.81	0.63
50:3:301:G:N2	50:3:405:C:C2	2.66	0.63
50:3:1235:U:O4	50:3:1271:A:N6	2.25	0.63
50:3:1798:A:H61	50:3:1835:G:H1'	1.62	0.63
51:4:32:G:H21	51:4:35:C:N4	1.95	0.63
52:5:313:U:OP2	52:5:349:A:N6	2.31	0.63
52:5:1139:A:H2'	52:5:1140:A:C8	2.34	0.63
30:g:38:THR:HG23	31:h:113:ASN:HA	1.80	0.63
43:t:4:ILE:HG22	43:t:27:ILE:HG22	1.79	0.63
50:3:1062:A:H2'	50:3:1063:A:H8	1.62	0.63
50:3:1633:C:N3	50:3:1634:A:N6	2.46	0.63
50:3:1639:C:O2'	50:3:1642:G:N2	2.31	0.63
50:3:1766:A:N6	50:3:2704:U:O2'	2.32	0.63
50:3:2424:C:H2'	50:3:2425:C:C6	2.34	0.63
11:H:87:ARG:HH12	52:5:1109:U:H5''	1.63	0.63
12:I:91:ASP:O	12:I:95:ARG:NH1	2.32	0.63
29:f:116:ASN:ND2	50:3:2229:C:O5'	2.31	0.63
50:3:1701:G:N1	50:3:1999:G:OP2	2.29	0.63
50:3:2340:U:O2'	50:3:2343:A:O2'	2.13	0.63
50:3:2676:G:H2'	50:3:2677:A:H8	1.64	0.63
50:3:2797:C:C2	50:3:2897:G:N2	2.67	0.63
52:5:380:G:H2'	52:5:381:C:C6	2.33	0.63
52:5:499:U:H3	52:5:542:G:H1	1.47	0.63
52:5:939:G:OP2	52:5:941:A:N6	2.32	0.63
53:8:9:U:H5'	53:8:50:G:H5'	1.81	0.63
6:C:5:GLY:O	6:C:111:ARG:NH2	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:21:ASN:HD22	38:o:84:PRO:HB2	1.64	0.63
50:3:1223:C:H2'	50:3:1224:G:H8	1.62	0.63
50:3:1446:G:N2	50:3:1614:G:N7	2.47	0.63
50:3:2170:A:OP2	50:3:2174:G:N2	2.32	0.63
50:3:2640:A:H2'	50:3:2641:A:H8	1.64	0.63
51:4:70:G:N2	51:4:94:A:OP2	2.23	0.63
52:5:882:U:H4'	52:5:1463:A:H4'	1.81	0.63
53:6:9:U:H5'	53:6:50:G:H5'	1.81	0.63
16:M:32:ALA:HB2	52:5:969:A:H5'	1.80	0.62
21:R:29:ARG:NH1	21:R:45:VAL:O	2.32	0.62
29:f:108:LEU:HD22	29:f:130:ILE:HG12	1.81	0.62
50:3:108:G:C2	50:3:380:A:N6	2.67	0.62
50:3:576:A:N6	50:3:586:G:O6	2.32	0.62
50:3:625:G:H1	50:3:700:U:H3	1.47	0.62
50:3:898:A:H2'	50:3:899:A:H8	1.63	0.62
50:3:1777:G:H2'	50:3:1778:G:H8	1.62	0.62
50:3:2150:C:H2'	50:3:2151:G:C8	2.33	0.62
52:5:149:G:H2'	52:5:150:A:C8	2.34	0.62
52:5:212:G:O3'	52:5:461:G:N2	2.32	0.62
52:5:1055:G:H1	52:5:1167:C:H41	1.47	0.62
6:C:118:ASN:ND2	52:5:400:G:O5'	2.32	0.62
17:N:33:ILE:HG12	17:N:60:ARG:HH12	1.64	0.62
24:a:38:LEU:HB2	24:a:65:LYS:HD3	1.80	0.62
26:c:37:ALA:O	26:c:41:GLU:HG2	1.98	0.62
50:3:29:G:OP1	50:3:1289:G:O2'	2.16	0.62
50:3:50:G:H22	50:3:179:A:H2'	1.64	0.62
50:3:327:U:OP2	50:3:379:A:N6	2.32	0.62
50:3:682:A:N6	50:3:2357:G:O2'	2.32	0.62
50:3:997:G:OP1	50:3:2464:C:O2'	2.16	0.62
50:3:1971:G:O2'	50:3:1974:U:OP2	2.17	0.62
50:3:2440:A:C4	53:8:76:C:C2	2.86	0.62
50:3:2497:U:O2'	50:3:2526:A:N6	2.32	0.62
52:5:109:G:N2	52:5:233:C:O2	2.31	0.62
52:5:1059:G:O5'	52:5:1362:G:O2'	2.16	0.62
52:5:1394:G:N1	52:5:1456:U:N3	2.47	0.62
11:H:44:LYS:HB2	11:H:46:VAL:HG12	1.81	0.62
12:I:43:LYS:HE2	52:5:1116:U:H5'	1.81	0.62
28:e:126:VAL:HG22	28:e:136:ILE:HG23	1.80	0.62
38:o:99:ALA:N	50:3:2852:G:OP2	2.32	0.62
50:3:177:U:H2'	50:3:178:A:C8	2.34	0.62
50:3:1386:G:O2'	50:3:1401:A:N6	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1414:C:H2'	50:3:1415:A:C8	2.34	0.62
50:3:1730:C:H2'	50:3:1731:G:O4'	1.99	0.62
50:3:2530:U:H1'	50:3:2655:U:H5''	1.80	0.62
50:3:2838:G:H1'	50:3:2887:A:H61	1.65	0.62
52:5:29:G:N2	52:5:291:C:O2'	2.22	0.62
52:5:149:G:H2'	52:5:150:A:H8	1.64	0.62
52:5:297:A:H2'	52:5:298:G:C8	2.33	0.62
52:5:1320:A:H62	52:5:1349:A:H3'	1.62	0.62
26:c:30:LYS:HD2	50:3:633:G:H5''	1.80	0.62
32:i:58:ILE:HG22	32:i:126:HIS:HB2	1.81	0.62
50:3:34:C:N4	50:3:483:A:OP2	2.32	0.62
50:3:145:A:H2'	50:3:146:G:H8	1.64	0.62
50:3:322:A:H2'	50:3:323:A:C8	2.33	0.62
50:3:590:U:H2'	50:3:591:G:C8	2.34	0.62
50:3:668:A:H2'	50:3:669:A:C4	2.35	0.62
50:3:1007:C:O2'	50:3:1019:A:N3	2.33	0.62
50:3:2039:G:O5'	50:3:2462:G:O2'	2.16	0.62
50:3:2475:C:N4	50:3:2492:G:O6	2.32	0.62
52:5:1138:U:O2	52:5:1149:G:C2	2.53	0.62
1:0:39:ARG:HH21	1:0:41:GLN:HG2	1.63	0.62
8:E:89:ASN:ND2	8:E:91:GLU:OE2	2.33	0.62
41:r:128:ARG:NH2	50:3:1248:A:N3	2.46	0.62
50:3:153:U:H2'	50:3:154:U:C6	2.34	0.62
50:3:1698:A:N6	50:3:2003:C:N4	2.47	0.62
52:5:649:U:O4	52:5:749:G:O2'	2.16	0.62
52:5:1072:G:H2'	52:5:1073:A:C8	2.34	0.62
11:H:18:LYS:NZ	52:5:1124:U:O4'	2.31	0.62
18:O:5:ARG:HB3	18:O:8:TYR:HB3	1.82	0.62
18:O:37:LEU:HG	18:O:39:GLU:H	1.63	0.62
23:T:37:ARG:NH1	52:5:1502:G:N7	2.48	0.62
38:o:37:LEU:HB3	38:o:44:ARG:HB3	1.79	0.62
41:r:57:ASN:OD1	50:3:529:G:N2	2.32	0.62
50:3:601:U:H1'	50:3:2037:A:H61	1.64	0.62
50:3:2483:C:C2	50:3:2537:G:C6	2.87	0.62
50:3:2706:U:H2'	50:3:2707:A:C8	2.35	0.62
50:3:2814:A:N6	50:3:2894:G:O2'	2.32	0.62
51:4:105:A:H2'	51:4:106:A:H8	1.63	0.62
52:5:762:G:H1	52:5:809:G:HO2'	1.46	0.62
52:5:1129:C:H2'	52:5:1130:G:C8	2.34	0.62
19:P:74:ARG:HH21	52:5:230:G:H5''	1.64	0.62
21:R:78:ARG:NH1	52:5:1296:C:OP1	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:204:LEU:O	26:c:207:LEU:HB2	2.00	0.62
37:n:61:LYS:HD3	37:n:73:VAL:HG12	1.82	0.62
50:3:13:C:C4	50:3:14:U:H1'	2.35	0.62
50:3:1547:G:H3'	50:3:1548:A:H2'	1.82	0.62
50:3:2305:C:H3'	50:3:2326:G:H22	1.63	0.62
2:1:31:PRO:HG2	2:1:32:HIS:CE1	2.35	0.62
6:C:158:SER:HB2	6:C:171:ASN:HB3	1.82	0.62
7:D:95:GLY:N	7:D:172:LEU:HD13	2.15	0.62
21:R:22:MET:HE2	21:R:28:LYS:HE2	1.79	0.62
41:r:61:ASN:ND2	50:3:530:G:N3	2.48	0.62
48:y:9:SER:OG	50:3:2028:G:OP1	2.17	0.62
49:z:39:SER:HA	49:z:42:ARG:HD2	1.82	0.62
50:3:1206:U:O2	50:3:1208:A:N6	2.32	0.62
50:3:1366:G:H2'	50:3:1367:G:H8	1.64	0.62
50:3:2336:A:H2'	50:3:2337:U:C6	2.34	0.62
52:5:674:U:O2	52:5:774:A:O2'	2.17	0.62
53:8:23:G:N7	53:8:47:G:N2	2.41	0.62
11:H:108:ARG:HD3	11:H:110:LYS:H	1.64	0.62
24:a:65:LYS:HE2	50:3:1603:A:H5''	1.81	0.62
27:d:5:LYS:HD2	27:d:97:TRP:CD1	2.34	0.62
32:i:77:TRP:HE3	32:i:90:VAL:HG13	1.65	0.62
37:n:32:VAL:HG11	37:n:102:ILE:HG13	1.82	0.62
45:v:55:LEU:HG	45:v:59:LYS:HE3	1.81	0.62
48:y:41:ARG:NH2	50:3:2820:G:OP1	2.29	0.62
50:3:901:C:N3	50:3:946:A:N6	2.48	0.62
50:3:2066:A:N7	50:3:2510:G:O2'	2.33	0.62
50:3:2353:G:N7	50:3:2379:G:N1	2.45	0.62
52:5:397:C:H2'	52:5:398:G:H8	1.63	0.62
52:5:1051:U:H2'	52:5:1052:G:H8	1.64	0.62
52:5:1344:C:H2'	52:5:1345:G:C8	2.34	0.62
1:0:24:THR:HG23	1:0:27:GLY:H	1.64	0.62
2:1:25:TYR:HB3	2:1:33:LYS:HE3	1.80	0.62
6:C:89:LEU:HA	6:C:92:VAL:HG12	1.81	0.62
7:D:67:GLU:CB	7:D:69:ARG:HH21	2.13	0.62
41:r:132:GLN:NE2	50:3:1260:U:O2	2.20	0.62
45:v:22:LYS:HB2	53:8:77:A:H1'	1.80	0.62
50:3:522:C:H2'	50:3:523:A:C8	2.35	0.62
50:3:1007:C:OP1	50:3:1025:G:N1	2.27	0.62
50:3:1090:G:H3'	50:3:1091:G:H8	1.65	0.62
50:3:1463:G:N1	50:3:1464:G:O6	2.33	0.62
50:3:1845:C:H5'	50:3:1906:G:H1	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2036:G:N1	50:3:2040:A:OP2	2.32	0.62
50:3:2581:C:N4	53:6:77:A:N3	2.48	0.62
17:N:43:ASN:HD21	52:5:665:G:H21	1.48	0.61
25:b:60:LYS:NZ	50:3:2837:U:O2	2.32	0.61
26:c:158:LEU:HD21	26:c:181:LYS:HB2	1.82	0.61
30:g:57:ASN:HA	30:g:60:ARG:HG2	1.82	0.61
50:3:1025:G:H5''	50:3:1192:U:H5'	1.82	0.61
50:3:1725:G:O6	50:3:1731:G:N2	2.32	0.61
50:3:2217:G:C6	50:3:2224:A:C6	2.87	0.61
52:5:133:G:N3	52:5:1422:A:O2'	2.32	0.61
52:5:572:A:O2'	52:5:876:C:O2	2.18	0.61
52:5:591:A:H2'	52:5:592:A:C8	2.34	0.61
52:5:688:G:N2	52:5:693:A:OP2	2.27	0.61
52:5:831:C:H2'	52:5:832:G:C8	2.34	0.61
6:C:12:ARG:HH21	6:C:31:ARG:HG2	1.64	0.61
17:N:62:ARG:HD3	52:5:751:C:O3'	2.00	0.61
24:a:57:HIS:NE2	50:3:1831:G:OP2	2.33	0.61
24:a:267:THR:OG1	50:3:1804:A:O2'	2.13	0.61
26:c:203:VAL:O	26:c:207:LEU:N	2.33	0.61
31:h:56:THR:OG1	31:h:64:ASP:OD2	2.18	0.61
37:n:39:ILE:HD13	37:n:101:ARG:HD3	1.82	0.61
39:p:47:ARG:NH2	50:3:593:C:O2	2.32	0.61
45:v:19:SER:HG	50:3:2087:G:HO2'	1.39	0.61
48:y:4:GLN:NE2	50:3:1293:U:O2	2.33	0.61
50:3:437:A:O2'	50:3:438:A:O5'	2.17	0.61
50:3:1311:G:N1	50:3:1314:A:OP2	2.33	0.61
50:3:1494:U:O4	50:3:1550:G:O6	2.18	0.61
50:3:2306:A:N6	50:3:2326:G:O2'	2.33	0.61
50:3:2645:U:H3'	50:3:2646:G:C8	2.35	0.61
52:5:326:C:N4	52:5:350:G:O4'	2.33	0.61
52:5:979:C:N4	52:5:1197:G:O6	2.33	0.61
11:H:52:GLN:HE21	11:H:82:ARG:HH21	1.45	0.61
11:H:86:VAL:HA	11:H:89:LEU:HD12	1.82	0.61
19:P:20:LYS:NZ	52:5:251:G:OP1	2.33	0.61
21:R:41:PHE:N	21:R:44:PHE:HD2	1.95	0.61
27:d:16:LEU:HD13	27:d:29:PRO:HD2	1.82	0.61
28:e:159:PRO:HB2	28:e:175:LYS:HE2	1.82	0.61
41:r:85:THR:HG22	41:r:95:MET:HE1	1.83	0.61
50:3:639:G:N3	50:3:692:U:O2'	2.33	0.61
50:3:1836:A:H3'	50:3:1837:C:H5	1.65	0.61
50:3:1836:A:H3'	50:3:1837:C:C5	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2080:C:H2'	50:3:2081:U:H6	1.65	0.61
50:3:2351:U:HO2'	50:3:2381:G:HO2'	1.48	0.61
52:5:114:C:H5'	52:5:115:A:H5'	1.82	0.61
6:C:202:ARG:HH22	52:5:28:G:H1'	1.65	0.61
11:H:18:LYS:HD3	52:5:1124:U:H5'	1.81	0.61
16:M:45:ARG:NH1	16:M:49:TYR:OH	2.33	0.61
36:m:73:PHE:HB3	36:m:78:LEU:HG	1.83	0.61
50:3:82:G:H2'	50:3:83:G:H8	1.66	0.61
50:3:162:G:N1	50:3:169:U:OP2	2.31	0.61
50:3:638:A:N6	50:3:660:U:C2	2.69	0.61
50:3:1229:U:H2'	50:3:1230:U:C6	2.35	0.61
50:3:1329:U:H5	50:3:1675:A:H61	1.47	0.61
50:3:1869:G:H1	50:3:1887:U:H3	0.78	0.61
50:3:2457:U:OP2	50:3:2505:A:O2'	2.17	0.61
50:3:2706:U:O4	50:3:2717:G:O6	2.18	0.61
52:5:609:G:O6	52:5:627:U:O2	2.19	0.61
52:5:747:C:H2'	52:5:748:U:H6	1.66	0.61
52:5:777:A:N6	52:5:798:U:OP2	2.33	0.61
52:5:1297:G:O2'	52:5:1336:C:O2	2.18	0.61
16:M:14:PRO:HB3	16:M:19:ARG:HE	1.66	0.61
16:M:18:VAL:HG21	52:5:1292:A:H62	1.66	0.61
20:Q:93:ALA:HA	20:Q:96:LEU:HB2	1.82	0.61
21:R:15:LEU:HD21	21:R:35:SER:HB3	1.81	0.61
21:R:37:ARG:HH21	52:5:1291:C:H42	1.47	0.61
34:k:117:HIS:HB3	50:3:673:A:H5''	1.82	0.61
35:l:82:ARG:NH2	44:u:17:SER:OG	2.33	0.61
50:3:142:A:H1'	50:3:1437:A:H1'	1.81	0.61
50:3:1227:C:H2'	50:3:1228:G:H8	1.65	0.61
50:3:2195:U:H2'	50:3:2196:G:C8	2.35	0.61
52:5:546:G:H2'	52:5:547:C:C6	2.35	0.61
52:5:836:C:H2'	52:5:837:G:C4	2.36	0.61
13:J:47:GLY:H	13:J:50:LYS:HE3	1.66	0.61
28:e:166:LEU:HD12	28:e:170:GLU:HB3	1.82	0.61
41:r:9:ARG:HD3	41:r:80:PRO:HG2	1.82	0.61
52:5:26:C:H2'	52:5:27:A:C8	2.36	0.61
52:5:762:G:O2'	52:5:811:A:N6	2.33	0.61
52:5:859:A:N3	52:5:913:A:O2'	2.34	0.61
15:L:105:ASN:ND2	52:5:944:A:N7	2.37	0.61
32:i:10:GLU:HB2	32:i:13:ASN:HB3	1.82	0.61
50:3:359:G:H2'	50:3:360:G:C8	2.36	0.61
50:3:1363:C:H2'	50:3:1364:A:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2376:C:H2'	50:3:2377:A:C8	2.35	0.61
9:F:8:LYS:NZ	9:F:93:ASP:OD2	2.34	0.61
19:P:5:GLN:NE2	19:P:65:GLU:OE2	2.32	0.61
20:Q:94:ARG:NH2	20:Q:101:PHE:O	2.34	0.61
24:a:233:MET:SD	24:a:234:ASN:N	2.74	0.61
27:d:170:LEU:HD13	27:d:175:LEU:HD22	1.83	0.61
50:3:511:U:O2	50:3:515:A:C5	2.54	0.61
50:3:1308:A:H2'	50:3:1309:G:C8	2.35	0.61
50:3:2109:A:N1	50:3:2196:G:C6	2.69	0.61
50:3:2259:G:H2'	50:3:2260:G:C8	2.36	0.61
50:3:2381:G:H2'	50:3:2382:A:H8	1.65	0.61
50:3:2609:C:N4	50:3:2611:G:O6	2.34	0.61
52:5:453:C:N3	52:5:475:U:O2	2.33	0.61
52:5:514:U:O4	52:5:531:A:N7	2.33	0.61
52:5:612:G:N1	52:5:624:U:N3	2.48	0.61
52:5:777:A:H2	52:5:800:G:C4	2.19	0.61
53:6:23:G:N7	53:6:47:G:N2	2.41	0.61
10:G:10:ALA:H	52:5:651:G:H4'	1.64	0.61
10:G:27:LYS:O	52:5:854:A:O2'	2.19	0.61
37:n:74:GLY:H	37:n:105:LEU:HD22	1.64	0.61
41:r:77:ASN:CG	50:3:25:G:H21	2.09	0.61
50:3:1117:U:H2'	50:3:1118:U:O4'	2.00	0.61
50:3:2689:C:O2'	50:3:2732:A:N6	2.32	0.61
50:3:2704:U:H2'	50:3:2705:G:H8	1.66	0.61
51:4:69:C:O2	51:4:96:G:N2	2.34	0.61
52:5:134:G:H1	52:5:160:A:H2	1.44	0.61
52:5:369:A:H61	52:5:387:G:H1'	1.66	0.61
52:5:556:G:H3'	52:5:557:A:H2'	1.83	0.61
22:S:6:SER:HB3	52:5:92:G:H1	1.65	0.61
47:x:32:LYS:HA	47:x:32:LYS:HE3	1.82	0.61
50:3:1803:U:O2	50:3:1830:G:N2	2.27	0.61
50:3:2143:G:O6	50:3:2162:U:O4	2.19	0.61
50:3:2849:G:H2'	50:3:2850:G:C8	2.36	0.61
52:5:575:A:H2'	52:5:576:A:C8	2.36	0.61
52:5:1194:A:H2'	52:5:1195:G:C8	2.35	0.61
52:5:1195:G:H2'	52:5:1196:G:C8	2.35	0.61
2:1:31:PRO:HB3	49:z:6:SER:HB2	1.83	0.60
6:C:59:ARG:HH12	6:C:190:GLY:HA3	1.66	0.60
14:K:56:LYS:NZ	14:K:102:ASP:OD1	2.34	0.60
15:L:107:ARG:HD3	15:L:113:ARG:HD2	1.83	0.60
24:a:152:LEU:HD11	50:3:1807:C:H5'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:36:VAL:HG12	25:b:38:GLY:H	1.64	0.60
28:e:55:ILE:HD11	28:e:72:ASN:HD22	1.66	0.60
50:3:2355:C:H2'	50:3:2356:U:C6	2.36	0.60
50:3:2640:A:H2'	50:3:2641:A:C8	2.36	0.60
52:5:331:C:H2'	52:5:332:A:H8	1.64	0.60
52:5:606:A:H3'	52:5:607:A:H8	1.66	0.60
52:5:955:U:H4'	52:5:956:U:H5''	1.83	0.60
6:C:119:HIS:O	6:C:147:LYS:NZ	2.32	0.60
10:G:31:MET:O	10:G:73:ASN:ND2	2.34	0.60
17:N:66:TYR:HA	17:N:69:HIS:CE1	2.36	0.60
30:g:118:PHE:HD2	30:g:123:LEU:HD12	1.65	0.60
50:3:161:U:O2	50:3:171:G:N2	2.28	0.60
50:3:408:G:OP2	50:3:459:A:N6	2.33	0.60
50:3:500:U:O5'	50:3:500:U:H6	1.85	0.60
50:3:672:G:H4'	50:3:674:G:H4'	1.83	0.60
50:3:712:A:H2'	50:3:713:C:C6	2.36	0.60
50:3:2077:A:H2'	50:3:2078:A:H8	1.66	0.60
50:3:2241:A:H2'	50:3:2242:G:C8	2.36	0.60
50:3:2794:U:H2'	50:3:2795:C:H6	1.66	0.60
50:3:2826:G:HO2'	50:3:2829:G:H1	1.48	0.60
50:3:2861:G:O2'	50:3:2864:A:N6	2.33	0.60
52:5:767:U:H2'	52:5:768:G:C8	2.36	0.60
52:5:1274:G:N2	52:5:1275:U:O4	2.34	0.60
52:5:1393:A:N6	52:5:1457:G:O2'	2.34	0.60
8:E:94:TYR:OH	20:Q:50:ARG:NH1	2.34	0.60
9:F:49:ILE:HG21	9:F:60:VAL:HG11	1.83	0.60
18:O:22:ARG:HH12	52:5:387:G:H5'	1.66	0.60
25:b:54:PHE:HE1	25:b:82:GLN:HB2	1.66	0.60
50:3:187:C:H2'	50:3:188:G:C8	2.36	0.60
50:3:401:G:O2'	50:3:402:A:OP1	2.15	0.60
50:3:1861:A:O2'	50:3:2240:U:O2	2.19	0.60
50:3:2691:C:H42	50:3:2735:G:N2	1.99	0.60
51:4:12:U:OP2	51:4:68:C:O2'	2.17	0.60
52:5:144:U:H2'	52:5:145:G:H8	1.66	0.60
6:C:8:PHE:HE2	6:C:27:LYS:HE2	1.66	0.60
22:S:28:LEU:HD13	22:S:50:GLN:HB3	1.84	0.60
25:b:130:ILE:HG23	25:b:142:ARG:HB2	1.82	0.60
27:d:129:THR:HG21	50:3:2311:G:N3	2.16	0.60
33:j:22:ILE:HG12	50:3:1959:A:C6	2.36	0.60
43:t:90:LYS:HB2	43:t:92:VAL:HG13	1.82	0.60
50:3:21:U:H1'	50:3:586:G:H4'	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:614:C:H2'	50:3:615:G:H8	1.66	0.60
50:3:1335:A:OP2	50:3:1640:G:N2	2.26	0.60
50:3:1949:C:N4	50:3:1972:C:OP2	2.33	0.60
50:3:2145:A:H2'	50:3:2146:A:C8	2.36	0.60
50:3:2274:A:N6	50:3:2281:A:OP2	2.33	0.60
50:3:2355:C:H5''	50:3:2390:G:H4'	1.82	0.60
50:3:2521:A:H2'	50:3:2522:U:C6	2.36	0.60
52:5:768:G:O6	52:5:806:A:N6	2.34	0.60
52:5:981:U:H2'	52:5:982:A:H8	1.66	0.60
4:A:115:GLY:O	4:A:122:THR:OG1	2.18	0.60
11:H:128:GLN:N	52:5:1208:G:OP1	2.32	0.60
25:b:76:LYS:HD2	25:b:77:PRO:HD2	1.82	0.60
29:f:28:HIS:HA	29:f:34:LYS:HB2	1.82	0.60
33:j:3:SER:O	33:j:6:THR:OG1	2.19	0.60
44:u:58:ARG:NH2	44:u:58:ARG:O	2.34	0.60
48:y:35:LYS:HD3	48:y:45:CYS:HB2	1.83	0.60
48:y:42:VAL:HA	48:y:48:TYR:HA	1.82	0.60
50:3:48:G:OP1	50:3:219:G:H5''	2.02	0.60
50:3:453:U:H2'	50:3:454:G:C8	2.36	0.60
50:3:1762:A:N6	50:3:2702:G:H21	1.99	0.60
50:3:1962:U:H5'	50:3:2565:G:H21	1.65	0.60
50:3:2419:A:H2'	50:3:2420:A:C8	2.37	0.60
52:5:1477:A:N7	52:5:1480:G:N2	2.49	0.60
5:B:175:ASN:O	5:B:176:MET:HE2	2.02	0.60
6:C:18:LEU:H	6:C:23:LYS:HG3	1.66	0.60
12:I:59:ARG:NH2	52:5:1052:G:OP1	2.35	0.60
13:J:111:HIS:HD1	52:5:714:C:HO2'	1.42	0.60
20:Q:84:ARG:NH1	52:5:721:G:N3	2.50	0.60
45:v:10:ARG:HG3	45:v:31:VAL:HG11	1.82	0.60
50:3:84:G:OP1	50:3:329:G:O2'	2.20	0.60
50:3:1480:A:O2'	50:3:2710:G:N7	2.34	0.60
50:3:1775:G:N2	50:3:1964:C:O2'	2.35	0.60
50:3:2077:A:H2'	50:3:2078:A:C8	2.35	0.60
50:3:2551:G:C8	50:3:2774:A:H4'	2.37	0.60
51:4:72:A:H62	51:4:93:U:H3	1.50	0.60
26:c:76:GLN:NE2	50:3:1286:G:O2'	2.34	0.60
32:i:60:ILE:HG13	32:i:131:ASP:HA	1.84	0.60
36:m:36:LYS:HG2	50:3:1685:G:O2'	2.02	0.60
50:3:517:G:O4'	50:3:541:G:N2	2.35	0.60
50:3:1338:G:H1	50:3:1638:C:H42	1.49	0.60
50:3:2309:A:H2'	50:3:2310:C:C6	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2683:G:N2	50:3:2740:U:O2	2.34	0.60
52:5:205:U:H2'	52:5:206:G:C8	2.37	0.60
52:5:600:G:H2'	52:5:601:U:H6	1.67	0.60
53:8:10:A:N6	53:8:24:A:H62	2.00	0.60
14:K:25:HIS:HB3	14:K:39:TYR:HA	1.82	0.60
21:R:11:VAL:HG22	21:R:13:ALA:H	1.67	0.60
24:a:268:ARG:NH1	24:a:269:ASN:O	2.35	0.60
28:e:38:LEU:HB3	28:e:42:LEU:HD21	1.84	0.60
43:t:90:LYS:HB3	43:t:105:LYS:HE2	1.82	0.60
50:3:918:G:O6	50:3:934:C:N4	2.35	0.60
50:3:1229:U:H2'	50:3:1230:U:H6	1.65	0.60
50:3:1343:C:H2'	50:3:1344:U:C6	2.36	0.60
50:3:1643:A:H1'	50:3:1650:A:H4'	1.82	0.60
50:3:2306:A:H8	50:3:2326:G:H21	1.49	0.60
52:5:762:G:N2	52:5:810:U:OP2	2.27	0.60
52:5:988:G:H2'	52:5:990:C:H41	1.67	0.60
14:K:20:LYS:NZ	52:5:522:G:O2'	2.35	0.60
24:a:56:ARG:HH21	24:a:225:ARG:HH22	1.48	0.60
24:a:225:ARG:NH2	50:3:816:A:OP2	2.34	0.60
41:r:110:ASN:ND2	41:r:112:ASN:HB2	2.16	0.60
46:w:49:ARG:O	46:w:53:THR:HG23	2.02	0.60
50:3:625:G:H2'	50:3:626:A:H8	1.67	0.60
50:3:633:G:O6	50:3:692:U:O4	2.18	0.60
50:3:1860:A:N3	50:3:2241:A:O2'	2.32	0.60
50:3:2440:A:N1	53:8:76:C:C2	2.69	0.60
50:3:2816:A:H2'	50:3:2817:G:C8	2.36	0.60
52:5:206:G:O2'	52:5:209:A:N6	2.34	0.60
52:5:424:U:OP2	52:5:425:G:O2'	2.19	0.60
52:5:561:A:H2'	52:5:561:A:N3	2.16	0.60
52:5:670:G:H2'	52:5:671:G:C8	2.34	0.60
52:5:711:G:H2'	52:5:712:A:C8	2.36	0.60
52:5:1229:A:H2'	52:5:1230:G:C8	2.35	0.60
7:D:100:LYS:HE2	7:D:126:LEU:HB3	1.84	0.60
9:F:74:LEU:HB3	9:F:85:GLN:HB3	1.84	0.60
9:F:115:MET:HA	9:F:118:LYS:HG2	1.82	0.60
16:M:29:ARG:NH1	52:5:978:A:N7	2.49	0.60
25:b:212:LYS:O	50:3:2741:A:N6	2.35	0.60
35:l:126:PRO:HD3	50:3:2493:G:H4'	1.83	0.60
50:3:450:C:H2'	50:3:451:A:H8	1.66	0.60
50:3:793:C:H2'	50:3:794:G:C8	2.37	0.60
52:5:177:G:N2	52:5:188:U:O2	2.29	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:368:C:N4	52:5:384:G:OP2	2.27	0.60
52:5:1138:U:C2	52:5:1149:G:N1	2.69	0.60
52:5:1224:C:H42	52:5:1262:A:H8	1.39	0.60
5:B:88:ILE:HA	5:B:91:GLN:HG2	1.84	0.59
44:u:78:ASP:OD1	44:u:79:GLY:N	2.35	0.59
50:3:410:G:H4'	50:3:411:U:O5'	2.00	0.59
50:3:2396:A:N6	50:3:2397:G:H1	2.00	0.59
51:4:103:C:H2'	51:4:104:C:C5	2.37	0.59
52:5:844:U:H2'	52:5:845:C:C6	2.37	0.59
31:h:69:THR:HB	31:h:107:TYR:CZ	2.37	0.59
34:k:16:LYS:HD2	50:3:1225:A:H62	1.66	0.59
42:s:23:GLU:OE2	50:3:1427:C:O2'	2.20	0.59
50:3:136:G:N1	50:3:147:C:N3	2.32	0.59
50:3:368:C:OP1	50:3:370:C:N4	2.34	0.59
50:3:999:U:O2'	50:3:2258:G:O6	2.19	0.59
50:3:2516:G:H1	50:3:2588:U:H3	1.48	0.59
52:5:366:C:H2'	52:5:367:A:C8	2.37	0.59
52:5:383:U:H2'	52:5:385:A:C8	2.38	0.59
52:5:536:U:H2'	52:5:537:A:C8	2.33	0.59
52:5:920:G:O2'	52:5:922:G:OP1	2.18	0.59
52:5:1051:U:H2'	52:5:1052:G:C8	2.37	0.59
6:C:98:ASP:OD1	6:C:99:ASN:N	2.35	0.59
10:G:127:VAL:HA	10:G:130:LEU:HB3	1.84	0.59
18:O:16:VAL:HG11	52:5:372:G:H4'	1.83	0.59
24:a:23:LYS:NZ	24:a:29:ASN:OD1	2.35	0.59
34:k:19:THR:HG22	34:k:21:GLY:H	1.65	0.59
38:o:91:LYS:O	38:o:92:ARG:HG3	2.02	0.59
45:v:35:PRO:HG2	50:3:2208:U:H5''	1.83	0.59
50:3:340:U:O2	50:3:344:A:N7	2.35	0.59
50:3:341:G:N2	50:3:364:A:N6	2.30	0.59
50:3:488:G:H2'	50:3:489:A:C8	2.36	0.59
50:3:1414:C:O2'	50:3:1495:A:N3	2.36	0.59
50:3:1476:C:O2	50:3:1554:A:O2'	2.19	0.59
50:3:1552:C:O2	50:3:1579:G:N2	2.35	0.59
50:3:2530:U:O4	50:3:2551:G:O6	2.20	0.59
52:5:940:G:N2	52:5:1308:G:O2'	2.36	0.59
52:5:1012:A:H3'	52:5:1013:C:C6	2.37	0.59
52:5:1215:U:H3'	52:5:1216:G:C8	2.37	0.59
52:5:1225:A:H2'	52:5:1226:A:C8	2.36	0.59
6:C:38:HIS:CE1	52:5:539:G:H21	2.21	0.59
15:L:14:ARG:HH11	15:L:41:PRO:HB3	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:18:THR:HA	25:b:222:LEU:HA	1.84	0.59
25:b:111:SER:OG	25:b:173:LYS:NZ	2.26	0.59
30:g:32:MET:HE2	50:3:1119:A:H62	1.66	0.59
30:g:56:ASN:N	50:3:1142:G:OP1	2.36	0.59
50:3:25:G:H2'	50:3:26:G:C8	2.37	0.59
50:3:53:G:H5''	50:3:54:A:H5'	1.85	0.59
50:3:502:A:O2'	50:3:717:U:O2	2.19	0.59
50:3:947:A:N6	50:3:2285:G:O2'	2.35	0.59
50:3:1809:A:OP2	50:3:1821:G:N2	2.35	0.59
52:5:771:G:H3'	52:5:772:G:H8	1.66	0.59
52:5:1049:G:O6	52:5:1174:U:C2	2.55	0.59
53:6:10:A:N6	53:6:24:A:H62	1.99	0.59
53:8:30:G:H2'	53:8:31:G:C8	2.36	0.59
4:A:48:GLU:HB3	4:A:54:ASP:OD1	2.02	0.59
26:c:187:SER:OG	50:3:650:G:N2	2.36	0.59
38:o:13:VAL:HG23	38:o:14:GLU:HG3	1.83	0.59
50:3:597:C:H2'	50:3:598:G:C8	2.38	0.59
50:3:914:G:N2	50:3:937:A:OP2	2.35	0.59
50:3:1336:A:H61	50:3:1640:G:H2'	1.66	0.59
50:3:1873:A:H2'	50:3:1874:G:O4'	2.03	0.59
50:3:1979:G:H2'	50:3:1980:G:C8	2.37	0.59
50:3:2350:C:H2'	50:3:2351:U:O4'	2.02	0.59
50:3:2399:G:H1	50:3:2435:C:H4'	1.67	0.59
52:5:435:U:O2'	52:5:437:U:O4	2.21	0.59
52:5:606:A:H3'	52:5:607:A:C8	2.38	0.59
53:6:30:G:H2'	53:6:31:G:C8	2.36	0.59
6:C:24:GLU:O	6:C:32:LYS:NZ	2.35	0.59
15:L:31:GLN:HA	15:L:34:LEU:HD12	1.84	0.59
27:d:58:HIS:HE1	47:x:6:HIS:HA	1.68	0.59
50:3:352:C:H2'	50:3:353:G:C8	2.37	0.59
50:3:535:G:H22	50:3:537:A:H3'	1.66	0.59
50:3:2195:U:H2'	50:3:2196:G:H8	1.67	0.59
50:3:2199:C:H2'	50:3:2200:U:C2	2.37	0.59
50:3:2567:C:H2'	50:3:2568:G:C8	2.38	0.59
50:3:2725:G:H2'	50:3:2726:G:C8	2.38	0.59
52:5:812:A:O2'	52:5:1501:G:N3	2.35	0.59
52:5:831:C:H2'	52:5:832:G:H8	1.67	0.59
52:5:1133:A:O3'	52:5:1156:G:N2	2.36	0.59
52:5:1405:U:H2'	52:5:1406:U:C6	2.38	0.59
1:0:2:LYS:NZ	1:0:6:GLN:OE1	2.35	0.59
11:H:69:VAL:HG11	11:H:77:GLN:NE2	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:64:ARG:HB3	50:3:1601:A:H5''	1.84	0.59
32:i:59:ILE:HB	32:i:127:VAL:HA	1.84	0.59
37:n:20:ARG:NH2	37:n:25:ASP:O	2.35	0.59
50:3:590:U:H2'	50:3:591:G:H8	1.67	0.59
50:3:1701:G:O2'	50:3:1998:U:O4	2.19	0.59
50:3:2590:G:H3'	50:3:2591:G:H8	1.67	0.59
52:5:967:C:N4	52:5:968:G:O6	2.36	0.59
52:5:1141:U:H1'	52:5:1142:G:N7	2.18	0.59
3:2:26:ILE:HD12	3:2:33:LYS:HD2	1.85	0.59
15:L:109:ARG:NH2	52:5:1281:U:O2'	2.36	0.59
17:N:29:LEU:HB3	17:N:60:ARG:NH1	2.18	0.59
18:O:73:TRP:HA	18:O:76:PHE:HB3	1.85	0.59
39:p:57:ARG:NH2	50:3:1189:G:OP2	2.35	0.59
45:v:59:LYS:NZ	50:3:2098:U:OP1	2.35	0.59
50:3:2378:G:H2'	50:3:2379:G:C8	2.37	0.59
52:5:29:G:H2'	52:5:30:A:C8	2.37	0.59
52:5:590:G:O6	52:5:644:U:O4	2.21	0.59
24:a:159:GLN:O	50:3:1825:U:O2'	2.20	0.59
24:a:163:SER:N	50:3:1826:A:OP1	2.35	0.59
25:b:97:THR:OG1	25:b:99:GLN:OE1	2.21	0.59
40:q:76:GLN:NE2	50:3:605:A:OP2	2.36	0.59
50:3:70:G:H2'	50:3:71:C:O4'	2.03	0.59
50:3:129:U:H2'	50:3:130:C:C6	2.37	0.59
50:3:308:A:N1	50:3:311:G:N2	2.51	0.59
50:3:432:G:O2'	50:3:2238:G:O2'	2.19	0.59
50:3:1377:A:H3'	50:3:1378:C:H5'	1.83	0.59
52:5:1287:G:N2	52:5:1298:U:O2	2.35	0.59
24:a:79:ILE:HG23	24:a:101:TYR:HB3	1.85	0.59
28:e:4:ILE:O	28:e:72:ASN:ND2	2.35	0.59
31:h:130:GLN:HB2	50:3:1112:A:N6	2.18	0.59
35:l:35:VAL:HG22	35:l:102:VAL:HG22	1.85	0.59
36:m:31:ILE:HG13	50:3:1306:G:H4'	1.83	0.59
48:y:12:ARG:HH12	50:3:2029:U:H2'	1.67	0.59
50:3:48:G:OP1	50:3:219:G:H8	1.86	0.59
50:3:86:A:N6	50:3:101:C:O4'	2.36	0.59
50:3:353:G:H2'	50:3:354:C:C6	2.37	0.59
50:3:532:A:H2'	50:3:533:G:H8	1.68	0.59
50:3:641:U:C2	50:3:656:G:H1'	2.38	0.59
50:3:1310:U:O2	50:3:1314:A:N7	2.36	0.59
50:3:2267:G:H2'	50:3:2268:C:C6	2.37	0.59
50:3:2331:G:H2'	50:3:2332:U:O4'	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2667:G:N2	50:3:2670:A:OP2	2.27	0.59
50:3:2797:C:O2	50:3:2897:G:C2	2.55	0.59
52:5:232:G:N2	52:5:632:A:OP1	2.36	0.59
52:5:732:A:H2'	52:5:733:A:H8	1.67	0.59
15:L:87:ARG:O	15:L:91:HIS:ND1	2.36	0.58
38:o:54:ARG:HH12	50:3:2727:G:H5'	1.68	0.58
50:3:604:A:H4'	50:3:606:G:N7	2.17	0.58
50:3:1265:G:H2'	50:3:1266:G:C4	2.38	0.58
50:3:1391:U:H4'	50:3:1817:A:H4'	1.85	0.58
50:3:1634:A:H2'	50:3:1635:G:C8	2.38	0.58
50:3:1686:U:H3'	50:3:1687:G:C8	2.38	0.58
50:3:1851:U:H2'	50:3:1852:G:H8	1.67	0.58
50:3:2310:C:H2'	50:3:2311:G:C8	2.38	0.58
50:3:2444:G:N2	50:3:2606:A:N3	2.48	0.58
50:3:2547:C:H2'	50:3:2548:G:C8	2.37	0.58
52:5:316:G:H2'	52:5:317:A:C8	2.37	0.58
53:8:7:U:H2'	53:8:8:G:C8	2.38	0.58
25:b:10:LYS:HD2	25:b:201:GLU:HA	1.85	0.58
35:l:67:ARG:NH1	50:3:909:U:O2	2.35	0.58
40:q:12:TYR:CZ	40:q:22:VAL:HG12	2.38	0.58
50:3:512:G:N2	50:3:515:A:O4'	2.36	0.58
50:3:612:G:H5''	50:3:2024:C:H3'	1.85	0.58
50:3:675:U:O4	50:3:685:G:O6	2.21	0.58
50:3:816:A:H2'	50:3:1784:U:H1'	1.84	0.58
50:3:1114:C:H41	50:3:1123:A:P	2.26	0.58
50:3:1219:U:H2'	50:3:1220:A:H8	1.66	0.58
50:3:1363:C:H2'	50:3:1364:A:C8	2.38	0.58
50:3:1963:U:OP2	50:3:2559:C:O2'	2.19	0.58
50:3:2244:U:H2'	50:3:2245:G:C4	2.38	0.58
51:4:5:G:H1	51:4:104:C:H42	1.51	0.58
52:5:86:A:O2'	52:5:139:C:OP1	2.21	0.58
52:5:91:C:H1'	52:5:375:C:H5'	1.84	0.58
52:5:478:G:N3	52:5:479:A:N6	2.50	0.58
52:5:981:U:H2'	52:5:982:A:C8	2.38	0.58
52:5:1103:C:H41	52:5:1163:A:H2	1.51	0.58
52:5:1325:U:O4	52:5:1346:G:O6	2.21	0.58
52:5:1409:A:H2'	52:5:1410:A:C8	2.38	0.58
18:O:2:ARG:NH1	52:5:388:G:OP2	2.36	0.58
31:h:76:LEU:HA	31:h:79:ALA:HB3	1.85	0.58
49:z:23:LYS:O	49:z:26:LYS:NZ	2.37	0.58
50:3:1056:A:C8	50:3:1157:G:H4'	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2160:U:H2'	50:3:2161:G:C8	2.39	0.58
50:3:2440:A:C2	53:8:76:C:C2'	2.86	0.58
50:3:2486:A:O2'	50:3:2544:G:N2	2.36	0.58
52:5:133:G:H2'	52:5:134:G:C8	2.38	0.58
52:5:1366:U:H2'	52:5:1367:G:C8	2.38	0.58
52:5:1369:A:N6	52:5:1475:A:O2'	2.36	0.58
13:J:118:LYS:HE2	13:J:121:ARG:HH12	1.67	0.58
15:L:66:GLU:HG3	15:L:70:ARG:NH1	2.18	0.58
24:a:249:VAL:HG11	50:3:1909:C:H5''	1.85	0.58
25:b:3:ILE:HG12	25:b:211:LYS:HE3	1.86	0.58
27:d:134:GLU:HA	27:d:149:ILE:HD11	1.85	0.58
37:n:95:GLY:HA3	51:4:45:C:H5''	1.86	0.58
40:q:57:CYS:HB3	40:q:92:LEU:HD12	1.86	0.58
40:q:96:ARG:HE	40:q:97:PHE:H	1.49	0.58
50:3:195:A:O2'	50:3:713:C:O2	2.21	0.58
50:3:1053:C:H2'	50:3:1054:U:C6	2.38	0.58
50:3:2041:C:O2'	50:3:2042:A:O4'	2.15	0.58
50:3:2526:A:H3'	50:3:2527:U:H5'	1.86	0.58
50:3:2848:A:H2'	50:3:2849:G:H8	1.68	0.58
50:3:2872:A:H2'	50:3:2873:G:C8	2.38	0.58
52:5:57:U:H3	52:5:364:U:H2'	1.69	0.58
52:5:567:C:H1'	52:5:572:A:H2'	1.85	0.58
52:5:837:G:H2'	52:5:838:A:H3'	1.86	0.58
14:K:6:GLN:OE1	52:5:876:C:N4	2.36	0.58
21:R:37:ARG:HA	52:5:1292:A:C2	2.38	0.58
35:l:79:LEU:O	35:l:80:GLU:HG2	2.04	0.58
35:l:126:PRO:HB3	50:3:2494:C:H5'	1.85	0.58
50:3:1100:U:O4	50:3:1105:A:N7	2.37	0.58
50:3:2054:C:O2'	50:3:2827:A:N1	2.34	0.58
50:3:2533:A:H2'	50:3:2534:G:C8	2.39	0.58
50:3:2547:C:O2	50:3:2749:A:O2'	2.19	0.58
52:5:293:G:N2	52:5:296:A:OP2	2.36	0.58
52:5:1269:U:O2'	52:5:1276:U:O4	2.19	0.58
6:C:201:LYS:HA	52:5:9:A:H62	1.69	0.58
10:G:39:LYS:NZ	52:5:587:A:O5'	2.37	0.58
19:P:13:VAL:HA	19:P:24:VAL:HA	1.86	0.58
21:R:15:LEU:HD22	21:R:33:THR:HB	1.85	0.58
24:a:166:SER:HA	24:a:185:LEU:HD12	1.84	0.58
30:g:44:LEU:HG	30:g:49:SER:HB3	1.85	0.58
30:g:98:GLY:O	30:g:102:ALA:N	2.31	0.58
50:3:82:G:H2'	50:3:83:G:C8	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:766:C:H2'	50:3:767:C:H6	1.67	0.58
50:3:815:G:H2'	50:3:817:A:C6	2.39	0.58
50:3:818:A:H4'	50:3:2596:A:H4'	1.85	0.58
50:3:1672:C:O2'	50:3:2717:G:N2	2.37	0.58
50:3:1994:U:H2'	50:3:1995:G:H8	1.69	0.58
50:3:2832:G:H2'	50:3:2833:A:C8	2.39	0.58
52:5:576:A:H2'	52:5:577:G:H8	1.68	0.58
52:5:711:G:H1'	52:5:774:A:C8	2.37	0.58
52:5:732:A:H2'	52:5:733:A:C8	2.39	0.58
52:5:1058:A:H2'	52:5:1084:A:H5''	1.84	0.58
52:5:1062:C:H2'	52:5:1063:G:H8	1.68	0.58
52:5:1096:A:H2'	52:5:1097:G:H8	1.66	0.58
52:5:1214:A:N1	52:5:1270:C:H2'	2.19	0.58
8:E:121:ARG:HE	8:E:123:ASN:HB3	1.69	0.58
46:w:86:ALA:O	46:w:90:HIS:ND1	2.37	0.58
50:3:225:A:N7	50:3:463:U:O2	2.36	0.58
50:3:325:G:H2'	50:3:326:A:C8	2.38	0.58
50:3:896:U:H2'	50:3:897:A:C8	2.39	0.58
50:3:2476:A:H2'	50:3:2484:A:C6	2.38	0.58
52:5:754:U:H1'	52:5:873:U:H1'	1.86	0.58
52:5:1118:A:H62	52:5:1123:G:N2	2.02	0.58
52:5:1145:A:H8	52:5:1146:A:C8	2.21	0.58
52:5:1499:G:H2'	52:5:1500:G:H8	1.68	0.58
21:R:29:ARG:HB3	21:R:47:ASN:HA	1.85	0.58
28:e:16:VAL:HA	28:e:28:LYS:O	2.03	0.58
29:f:1:MET:N	45:v:62:ASN:OD1	2.37	0.58
43:t:71:LEU:HA	43:t:74:LEU:HG	1.86	0.58
50:3:144:C:H2'	50:3:145:A:C8	2.38	0.58
50:3:196:G:O6	50:3:207:C:O2'	2.21	0.58
50:3:401:G:H3'	50:3:402:A:H5''	1.84	0.58
50:3:665:C:H2'	50:3:666:G:C8	2.38	0.58
50:3:878:A:H62	50:3:969:A:H5''	1.68	0.58
50:3:892:G:H2'	50:3:893:A:O4'	2.03	0.58
50:3:1374:U:O2	50:3:1635:G:N2	2.37	0.58
50:3:2892:U:H2'	50:3:2893:C:C6	2.39	0.58
52:5:1236:A:N6	52:5:1249:G:O2'	2.37	0.58
25:b:147:VAL:HG12	50:3:2520:C:H1'	1.86	0.58
30:g:3:ALA:N	50:3:1078:C:O3'	2.36	0.58
34:k:22:ARG:HD2	50:3:1280:G:H8	1.68	0.58
37:n:10:LEU:HA	37:n:13:LYS:HD2	1.84	0.58
38:o:69:THR:HG22	38:o:74:PRO:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:58:ALA:HA	41:r:62:HIS:HB2	1.84	0.58
42:s:14:GLU:OE2	50:3:1421:A:N6	2.34	0.58
45:v:20:HIS:ND1	50:3:2087:G:OP1	2.37	0.58
50:3:267:A:O2'	50:3:465:A:O2'	2.15	0.58
50:3:481:C:N4	50:3:482:G:O6	2.37	0.58
50:3:872:C:N3	50:3:977:A:N6	2.52	0.58
50:3:1296:G:N1	50:3:2020:A:OP2	2.29	0.58
50:3:1838:A:H2'	50:3:1839:C:C6	2.39	0.58
50:3:2396:A:N7	50:3:2397:G:O6	2.37	0.58
50:3:2425:C:H2'	50:3:2426:A:H8	1.69	0.58
50:3:2440:A:N1	53:8:76:C:C6	2.71	0.58
50:3:2630:U:O2'	50:3:2829:G:N7	2.28	0.58
52:5:664:A:H2'	52:5:665:G:C8	2.39	0.58
52:5:1129:C:H2'	52:5:1130:G:H8	1.68	0.58
5:B:182:ARG:HD2	5:B:212:THR:HA	1.86	0.58
7:D:95:GLY:C	7:D:172:LEU:HD22	2.29	0.58
25:b:26:ILE:HD13	25:b:194:SER:HA	1.84	0.58
28:e:4:ILE:HG12	50:3:2759:G:H1'	1.85	0.58
50:3:179:A:O2'	50:3:180:A:O5'	2.21	0.58
50:3:205:C:O2'	50:3:424:G:N1	2.37	0.58
50:3:388:U:H2'	50:3:389:C:C6	2.39	0.58
50:3:984:C:H2'	50:3:985:A:C8	2.39	0.58
50:3:2141:A:H2'	50:3:2142:U:H6	1.69	0.58
50:3:2645:U:C2	50:3:2784:A:N7	2.72	0.58
52:5:506:U:C4	52:5:522:G:C6	2.92	0.58
52:5:769:U:H2'	52:5:770:G:C8	2.39	0.58
52:5:830:U:H3	52:5:847:G:H1	1.52	0.58
53:6:7:U:H2'	53:6:8:G:C8	2.38	0.58
9:F:115:MET:HB3	52:5:1214:A:H5'	1.85	0.57
15:L:81:SER:O	15:L:92:ARG:NH2	2.37	0.57
17:N:33:ILE:CG1	17:N:60:ARG:HH12	2.17	0.57
17:N:36:LEU:O	17:N:39:HIS:HB3	2.03	0.57
27:d:52:SER:OG	27:d:150:ARG:NH1	2.37	0.57
28:e:109:GLN:HG3	28:e:115:PRO:HG3	1.86	0.57
29:f:61:ASN:OD1	29:f:131:PHE:HE1	1.86	0.57
50:3:591:G:H2'	50:3:592:G:C8	2.39	0.57
50:3:2479:A:N6	50:3:2484:A:O2'	2.37	0.57
50:3:2538:A:O2'	50:3:2542:A:N6	2.36	0.57
52:5:106:C:H42	52:5:111:A:N6	2.01	0.57
52:5:441:U:H2'	52:5:442:G:C8	2.39	0.57
52:5:557:A:H4'	52:5:558:U:H5''	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:70:LYS:HA	8:E:73:LYS:HE2	1.85	0.57
19:P:61:VAL:HG12	19:P:80:ILE:HG22	1.85	0.57
24:a:31:ASN:HD21	50:3:1602:G:P	2.27	0.57
24:a:147:VAL:O	24:a:168:ALA:N	2.35	0.57
29:f:38:PRO:O	29:f:41:LYS:NZ	2.36	0.57
43:t:76:LEU:HD23	43:t:89:ILE:HD11	1.85	0.57
50:3:450:C:O2'	50:3:1885:G:N2	2.38	0.57
50:3:1630:A:H2'	50:3:1631:A:C8	2.39	0.57
50:3:2376:C:H2'	50:3:2377:A:H8	1.68	0.57
52:5:30:A:H2'	52:5:31:U:C2	2.39	0.57
52:5:622:A:H2'	52:5:623:G:C8	2.39	0.57
52:5:1068:G:H2'	52:5:1070:G:N7	2.18	0.57
5:B:202:LYS:NZ	52:5:1049:G:OP1	2.36	0.57
7:D:75:ARG:HA	7:D:88:PHE:HB2	1.84	0.57
8:E:136:LEU:HB2	52:5:835:G:H1'	1.86	0.57
14:K:8:ILE:HD11	19:P:37:LYS:HG3	1.87	0.57
24:a:85:SER:HA	24:a:117:VAL:HG13	1.84	0.57
50:3:610:G:H2'	50:3:611:A:C8	2.39	0.57
50:3:858:A:H2'	50:3:859:G:H8	1.68	0.57
50:3:1766:A:H5'	50:3:2723:C:H4'	1.86	0.57
50:3:2597:A:H2'	50:3:2598:C:H6	1.69	0.57
52:5:957:C:H2'	52:5:958:G:C8	2.39	0.57
52:5:1224:C:N3	52:5:1262:A:N7	2.52	0.57
52:5:1487:U:O2	52:5:1498:G:N2	2.25	0.57
11:H:116:LYS:HG3	52:5:1343:G:H5''	1.86	0.57
28:e:6:ASN:HD21	28:e:57:ARG:CZ	2.17	0.57
35:l:17:TYR:HB3	35:l:41:TRP:CD1	2.40	0.57
43:t:105:LYS:HG3	50:3:333:A:H5''	1.85	0.57
44:u:69:SER:OG	50:3:2372:C:OP1	2.22	0.57
50:3:395:U:H2'	50:3:396:A:C5	2.39	0.57
50:3:1430:U:H4'	50:3:1547:G:H4'	1.85	0.57
50:3:1453:U:H2'	50:3:1454:G:C5	2.38	0.57
50:3:1676:G:H2'	50:3:1677:G:C8	2.39	0.57
50:3:2499:U:H1'	50:3:2577:G:H4'	1.86	0.57
50:3:2687:A:H2'	50:3:2688:C:H6	1.67	0.57
52:5:1059:G:H4'	52:5:1362:G:H4'	1.85	0.57
52:5:1127:A:O2'	52:5:1128:G:H5''	2.04	0.57
52:5:1244:A:H1'	52:5:1300:C:H1'	1.86	0.57
52:5:1360:G:H2'	52:5:1361:G:C8	2.39	0.57
52:5:1384:A:H2'	52:5:1385:A:H8	1.70	0.57
8:E:145:ARG:NH1	10:G:63:LYS:O	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:12:LEU:HD23	12:I:82:LEU:HB2	1.86	0.57
18:O:64:ARG:O	18:O:67:PHE:HB2	2.05	0.57
21:R:73:GLU:OE1	52:5:1294:U:O2'	2.20	0.57
27:d:38:MET:SD	27:d:39:GLY:N	2.78	0.57
35:l:109:ILE:HG23	35:l:113:GLN:HB3	1.86	0.57
50:3:990:G:H2'	50:3:991:G:C8	2.39	0.57
50:3:1179:G:OP2	50:3:1179:G:H8	1.88	0.57
50:3:1382:A:OP2	50:3:1405:G:N2	2.31	0.57
50:3:1887:U:H2'	50:3:1888:U:C6	2.40	0.57
50:3:2032:G:H2'	50:3:2033:G:C8	2.40	0.57
50:3:2483:C:N3	50:3:2537:G:N1	2.52	0.57
51:4:66:A:H3'	51:4:67:G:C8	2.40	0.57
51:4:92:A:O2'	51:4:93:U:O4'	2.20	0.57
52:5:314:G:H2'	52:5:315:G:C8	2.40	0.57
52:5:356:G:H2'	52:5:357:G:C8	2.40	0.57
9:F:71:ARG:HB2	9:F:141:HIS:HE1	1.68	0.57
10:G:116:ILE:HA	10:G:136:GLU:O	2.04	0.57
25:b:155:SER:OG	50:3:2039:G:N2	2.37	0.57
29:f:94:THR:O	29:f:98:ILE:HG12	2.03	0.57
40:q:38:VAL:HG22	40:q:41:LEU:HD11	1.87	0.57
50:3:1072:A:H2'	50:3:1073:A:H8	1.70	0.57
50:3:1164:A:O2'	50:3:2523:C:O2	2.23	0.57
50:3:1467:U:H3	50:3:1587:U:H3	1.52	0.57
50:3:1524:C:H2'	50:3:1525:G:H8	1.69	0.57
50:3:2080:C:H2'	50:3:2081:U:C6	2.40	0.57
50:3:2140:G:C4	50:3:2165:A:N6	2.73	0.57
50:3:2267:G:H2'	50:3:2268:C:H6	1.69	0.57
50:3:2334:U:C2	50:3:2396:A:N6	2.71	0.57
50:3:2597:A:H2'	50:3:2598:C:C6	2.40	0.57
50:3:2668:A:O2'	50:3:2669:G:O5'	2.18	0.57
52:5:316:G:H2'	52:5:317:A:H8	1.70	0.57
52:5:721:G:H2'	52:5:722:G:C8	2.40	0.57
52:5:872:C:H2'	52:5:873:U:C6	2.39	0.57
52:5:1133:A:H1'	52:5:1156:G:N1	2.19	0.57
52:5:1330:A:H2'	52:5:1331:A:C8	2.39	0.57
5:B:187:TYR:HB2	5:B:204:TRP:CD1	2.40	0.57
13:J:114:CYS:SG	52:5:674:U:H1'	2.44	0.57
14:K:10:LYS:NZ	52:5:875:G:OP2	2.37	0.57
26:c:78:SER:O	26:c:81:ASN:ND2	2.37	0.57
32:i:12:ALA:H	32:i:51:GLN:HG2	1.70	0.57
34:k:24:HIS:CB	40:q:80:LEU:HD13	2.32	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:62:LEU:HD13	50:3:1045:A:H5'	1.87	0.57
39:p:109:VAL:O	39:p:113:LYS:NZ	2.36	0.57
50:3:130:C:H2'	50:3:131:C:C6	2.39	0.57
50:3:355:A:C4	50:3:375:U:H4'	2.40	0.57
50:3:534:U:H3'	50:3:535:G:C8	2.40	0.57
50:3:1092:A:OP2	50:3:1124:G:N2	2.32	0.57
50:3:2223:C:H42	50:3:2224:A:N6	2.02	0.57
51:4:31:G:H2'	51:4:32:G:H8	1.69	0.57
16:M:18:VAL:HG13	52:5:973:A:N7	2.19	0.57
24:a:69:ILE:HD11	24:a:96:VAL:HG12	1.86	0.57
24:a:229:ARG:NH2	50:3:1834:U:OP2	2.37	0.57
29:f:81:LEU:O	29:f:145:ASP:N	2.37	0.57
44:u:64:ASN:ND2	44:u:97:VAL:O	2.37	0.57
50:3:666:G:N2	50:3:669:A:OP2	2.33	0.57
50:3:1408:G:H2'	50:3:1409:G:C8	2.39	0.57
50:3:1957:G:N1	50:3:1964:C:N3	2.53	0.57
50:3:2062:C:O2	50:3:2580:A:N6	2.38	0.57
50:3:2094:A:H2'	50:3:2095:A:H8	1.70	0.57
52:5:738:A:H2'	52:5:739:G:C8	2.40	0.57
5:B:186:ASP:HB2	5:B:207:ARG:HD3	1.87	0.57
10:G:23:ASN:O	10:G:27:LYS:HG2	2.05	0.57
32:i:7:LEU:HD22	39:p:60:TRP:HE1	1.70	0.57
35:l:50:ALA:O	35:l:54:ILE:HG12	2.05	0.57
50:3:560:U:H5'	50:3:589:A:H5'	1.86	0.57
50:3:977:A:H3'	50:3:978:G:H8	1.70	0.57
50:3:1008:A:C8	50:3:1009:A:H2'	2.40	0.57
50:3:2626:A:H2'	50:3:2627:U:O4'	2.05	0.57
50:3:2797:C:N3	50:3:2897:G:N1	2.52	0.57
52:5:310:C:O2'	52:5:349:A:N1	2.36	0.57
52:5:353:G:H2'	52:5:354:U:C6	2.40	0.57
52:5:442:G:H2'	52:5:443:G:C8	2.40	0.57
52:5:515:G:N1	52:5:531:A:OP1	2.36	0.57
52:5:763:A:OP2	52:5:809:G:N2	2.38	0.57
52:5:787:A:C2	52:5:1472:G:H5'	2.40	0.57
52:5:871:U:H2'	52:5:872:C:C6	2.39	0.57
53:6:36:A:H2'	53:6:37:A:H8	1.70	0.57
1:0:36:LYS:HD3	50:3:185:U:H3	1.69	0.57
12:I:48:LEU:HD12	12:I:77:LYS:HG2	1.85	0.57
25:b:37:ALA:HB3	25:b:51:LEU:HB2	1.87	0.57
30:g:54:ILE:HG13	30:g:55:LYS:H	1.70	0.57
41:r:60:ASN:ND2	50:3:522:C:O4'	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:v:4:LYS:HZ2	45:v:12:PRO:HD3	1.68	0.57
50:3:264:G:H21	50:3:643:A:H1'	1.70	0.57
50:3:573:A:H3'	50:3:574:G:H8	1.70	0.57
50:3:2299:U:O2	50:3:2382:A:O2'	2.22	0.57
51:4:61:A:H2'	51:4:62:G:C8	2.40	0.57
52:5:517:C:N4	52:5:527:G:O2'	2.29	0.57
52:5:665:G:O6	52:5:735:C:N4	2.32	0.57
52:5:687:G:H21	52:5:694:U:H5	1.51	0.57
2:1:55:ILE:HD11	34:k:57:PRO:HB3	1.87	0.56
2:1:57:ASN:ND2	34:k:49:PRO:O	2.38	0.56
4:A:23:LEU:HD13	4:A:62:ARG:HH12	1.70	0.56
4:A:31:GLY:O	4:A:32:MET:HE2	2.05	0.56
6:C:54:LEU:O	6:C:58:GLN:HG2	2.05	0.56
8:E:86:LEU:HD11	20:Q:96:LEU:HD11	1.86	0.56
9:F:111:HIS:CE1	52:5:1213:A:H5''	2.40	0.56
25:b:63:ASN:ND2	50:3:2815:G:OP1	2.29	0.56
28:e:81:GLY:HA2	28:e:85:GLY:HA2	1.87	0.56
32:i:120:ARG:NH1	50:3:563:A:OP1	2.38	0.56
37:n:63:LYS:NZ	51:4:48:A:O2'	2.34	0.56
50:3:2200:U:C2	50:3:2201:G:H8	2.23	0.56
52:5:22:G:H21	52:5:908:A:H8	1.51	0.56
52:5:97:G:N2	52:5:350:G:OP2	2.38	0.56
52:5:845:C:H2'	52:5:846:G:C8	2.40	0.56
52:5:1006:A:C6	52:5:1015:U:O2	2.58	0.56
24:a:244:GLU:OE2	50:3:2598:C:N4	2.37	0.56
50:3:51:A:C8	50:3:121:U:N3	2.73	0.56
50:3:220:A:H2'	50:3:221:A:C8	2.40	0.56
50:3:882:C:H3'	50:3:883:A:H8	1.70	0.56
51:4:32:G:N2	51:4:35:C:H42	2.03	0.56
52:5:983:G:HO2'	52:5:1012:A:H62	1.52	0.56
52:5:1223:A:H2'	52:5:1224:C:C6	2.40	0.56
52:5:1261:A:H2	52:5:1345:G:H21	1.53	0.56
52:5:1316:C:H2'	52:5:1317:A:C8	2.40	0.56
1:0:45:SER:O	50:3:126:C:O2'	2.22	0.56
4:A:68:ALA:O	4:A:72:VAL:HG22	2.05	0.56
4:A:117:LEU:N	4:A:190:GLU:OE1	2.38	0.56
6:C:12:ARG:HD3	6:C:31:ARG:NE	2.20	0.56
9:F:52:ARG:HH22	9:F:117:GLU:HG3	1.70	0.56
11:H:57:THR:HG21	11:H:89:LEU:HD13	1.87	0.56
12:I:16:LEU:HA	12:I:103:THR:O	2.06	0.56
14:K:80:ILE:HG21	14:K:85:HIS:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:O:80:LYS:HD2	52:5:123:U:H4'	1.86	0.56
19:P:9:LEU:HD12	19:P:26:VAL:HG11	1.86	0.56
22:S:60:ILE:HG23	22:S:64:ARG:HH21	1.70	0.56
24:a:147:VAL:HA	24:a:200:VAL:HA	1.86	0.56
24:a:168:ALA:HB2	24:a:184:LEU:HD23	1.87	0.56
34:k:30:LYS:NZ	50:3:844:G:OP2	2.34	0.56
35:l:11:LYS:HE2	35:l:90:PRO:HD3	1.87	0.56
35:l:30:GLY:O	35:l:134:ARG:NH1	2.38	0.56
37:n:71:LYS:HB2	37:n:108:ALA:HB2	1.87	0.56
39:p:101:GLU:HB3	39:p:104:LYS:HD3	1.87	0.56
50:3:28:G:O2'	50:3:549:A:N6	2.39	0.56
50:3:132:G:H2'	50:3:133:G:H8	1.70	0.56
50:3:302:G:N1	50:3:404:C:N3	2.53	0.56
50:3:450:C:H2'	50:3:451:A:C8	2.39	0.56
50:3:618:G:H22	50:3:1283:A:H5'	1.68	0.56
50:3:641:U:H2'	50:3:642:A:C8	2.36	0.56
50:3:736:G:H4'	50:3:1666:A:H1'	1.86	0.56
50:3:1083:A:OP2	50:3:1145:G:N1	2.39	0.56
50:3:1362:C:H2'	50:3:1363:C:C6	2.40	0.56
50:3:1415:A:H5'	50:3:1495:A:H1'	1.88	0.56
50:3:1716:A:H1'	50:3:1764:U:C2	2.40	0.56
50:3:1797:C:OP2	50:3:1835:G:N2	2.39	0.56
50:3:1938:U:H2'	50:3:1939:A:C8	2.40	0.56
50:3:1955:G:H1'	52:5:1393:A:H61	1.69	0.56
52:5:110:U:H4'	52:5:630:G:H21	1.70	0.56
52:5:293:G:N2	52:5:295:G:H3'	2.21	0.56
52:5:421:G:H2'	52:5:422:A:C8	2.39	0.56
52:5:499:U:O2	52:5:542:G:N2	2.38	0.56
52:5:614:U:H2'	52:5:615:G:C8	2.36	0.56
52:5:1214:A:N7	52:5:1273:A:N6	2.54	0.56
53:8:36:A:H2'	53:8:37:A:H8	1.70	0.56
8:E:128:PRO:HB3	52:5:841:C:H1'	1.88	0.56
17:N:45:LYS:HB2	52:5:665:G:H4'	1.88	0.56
18:O:21:LYS:NZ	52:5:386:U:OP1	2.39	0.56
35:l:32:TYR:HB2	35:l:114:MET:HG2	1.87	0.56
40:q:6:VAL:HG22	40:q:11:GLN:HG2	1.86	0.56
43:t:57:LYS:NZ	43:t:59:SER:O	2.28	0.56
50:3:616:G:H2'	50:3:617:C:O4'	2.06	0.56
50:3:799:A:O2'	50:3:1783:G:O2'	2.21	0.56
50:3:1093:U:O4	50:3:1115:G:O6	2.22	0.56
50:3:1165:U:H3	50:3:2032:G:H5''	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1287:C:H2'	50:3:1288:C:O4'	2.04	0.56
50:3:1520:A:H2'	50:3:1521:A:H8	1.70	0.56
50:3:1665:G:H1'	50:3:1669:A:H62	1.69	0.56
50:3:1756:A:H2'	50:3:1757:G:C8	2.40	0.56
50:3:2033:G:H2'	50:3:2034:G:C8	2.41	0.56
50:3:2096:U:O4	50:3:2238:G:O6	2.24	0.56
50:3:2470:C:H2'	50:3:2471:U:C6	2.41	0.56
50:3:2598:C:H2'	50:3:2599:C:C6	2.40	0.56
50:3:2822:C:H2'	50:3:2823:A:C8	2.41	0.56
52:5:374:G:H2'	52:5:375:C:C6	2.39	0.56
52:5:976:U:H2'	52:5:977:U:C5	2.40	0.56
6:C:27:LYS:O	52:5:409:G:N2	2.38	0.56
24:a:272:LYS:HD3	50:3:1809:A:H4'	1.88	0.56
26:c:24:LEU:HD21	26:c:207:LEU:HB3	1.88	0.56
27:d:91:LEU:H	27:d:91:LEU:HD23	1.71	0.56
32:i:64:GLN:HA	32:i:96:LEU:HD22	1.88	0.56
37:n:110:ARG:NH2	50:3:2384:A:O2'	2.36	0.56
39:p:81:LEU:HD13	39:p:113:LYS:HE3	1.86	0.56
41:r:64:MET:HG2	41:r:66:GLY:H	1.71	0.56
43:t:90:LYS:N	43:t:103:VAL:O	2.37	0.56
44:u:21:VAL:O	50:3:2263:G:N2	2.34	0.56
45:v:53:ARG:NH2	50:3:436:G:O6	2.38	0.56
46:w:70:ALA:HA	50:3:138:U:H4'	1.87	0.56
50:3:325:G:N2	50:3:383:U:O2	2.32	0.56
50:3:1957:G:C2	50:3:1964:C:C2	2.94	0.56
50:3:2383:G:N2	50:3:2385:A:H3'	2.19	0.56
50:3:2755:G:C6	50:3:2763:C:H5''	2.40	0.56
52:5:448:A:H1'	52:5:477:U:C4	2.41	0.56
52:5:636:G:H2'	52:5:637:A:C8	2.40	0.56
52:5:1113:U:H2'	52:5:1114:A:C8	2.41	0.56
52:5:1193:U:H2'	52:5:1194:A:H8	1.70	0.56
52:5:1220:A:N6	52:5:1267:G:O6	2.38	0.56
9:F:22:VAL:O	9:F:26:ILE:HG13	2.05	0.56
16:M:27:CYS:SG	16:M:43:CYS:HB2	2.45	0.56
25:b:84:ILE:HD11	25:b:206:LEU:HD11	1.87	0.56
25:b:115:LYS:O	25:b:171:HIS:N	2.39	0.56
25:b:130:ILE:HG12	25:b:142:ARG:HD2	1.88	0.56
26:c:77:GLY:HA3	50:3:709:G:H5''	1.87	0.56
29:f:131:PHE:HE2	29:f:133:ASP:HB2	1.69	0.56
48:y:16:ARG:HH12	50:3:1294:G:H5''	1.70	0.56
50:3:413:G:N2	50:3:435:U:O2	2.29	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:734:A:H2'	50:3:735:G:O4'	2.04	0.56
50:3:1615:G:C2	50:3:1616:G:H1'	2.41	0.56
50:3:2552:G:H2'	50:3:2553:G:H8	1.70	0.56
51:4:66:A:H3'	51:4:67:G:H8	1.70	0.56
52:5:53:U:H2'	52:5:54:A:C8	2.41	0.56
52:5:678:A:H2'	52:5:679:U:C6	2.40	0.56
4:A:59:GLU:HA	4:A:62:ARG:HE	1.69	0.56
4:A:237:ALA:HA	4:A:242:MET:HE3	1.88	0.56
6:C:1:MET:HA	52:5:401:U:N3	2.17	0.56
12:I:59:ARG:HB3	52:5:1051:U:H4'	1.87	0.56
25:b:16:VAL:HB	25:b:26:ILE:HG13	1.86	0.56
26:c:43:ALA:HA	26:c:46:ARG:HE	1.70	0.56
27:d:107:ALA:HA	27:d:137:ILE:HG13	1.87	0.56
35:l:35:VAL:HG21	35:l:132:LEU:HD12	1.87	0.56
35:l:82:ARG:NH1	50:3:2504:C:OP1	2.38	0.56
36:m:5:ASN:HA	50:3:1302:C:H4'	1.88	0.56
36:m:81:HIS:CE1	36:m:85:LYS:HD2	2.40	0.56
36:m:107:ARG:HD2	50:3:1314:A:H4'	1.87	0.56
41:r:94:ASN:ND2	50:3:2020:A:N3	2.53	0.56
42:s:50:ILE:HD11	46:w:83:ALA:HB3	1.88	0.56
50:3:64:U:H3	50:3:76:A:HO2'	1.46	0.56
50:3:244:G:H2'	50:3:245:U:C5	2.40	0.56
50:3:2353:G:H1'	50:3:2389:A:H2'	1.88	0.56
51:4:75:U:H3'	51:4:88:G:H22	1.70	0.56
52:5:265:U:H2'	52:5:266:A:C8	2.40	0.56
52:5:975:C:H3'	52:5:976:U:C5	2.40	0.56
3:2:5:ALA:O	50:3:1065:G:N2	2.39	0.56
25:b:135:HIS:ND1	50:3:1705:U:H1'	2.21	0.56
50:3:59:C:H2'	50:3:60:G:C8	2.41	0.56
50:3:234:G:H2'	50:3:235:U:C6	2.40	0.56
50:3:793:C:H2'	50:3:794:G:H8	1.71	0.56
50:3:1122:G:O6	50:3:1137:C:N4	2.38	0.56
50:3:1693:U:H2'	50:3:1694:A:C8	2.36	0.56
50:3:1932:C:O2	50:3:1936:G:O6	2.22	0.56
50:3:2061:A:OP1	50:3:2062:C:O2'	2.16	0.56
52:5:331:C:H2'	52:5:332:A:C8	2.41	0.56
52:5:490:U:H2'	52:5:491:U:C6	2.41	0.56
52:5:902:A:H2	52:5:1389:U:H4'	1.71	0.56
52:5:1014:A:H3'	52:5:1015:U:H5''	1.87	0.56
6:C:111:ARG:NH1	52:5:404:A:OP1	2.39	0.56
24:a:163:SER:OG	24:a:164:ALA:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:106:ARG:NH2	36:m:113:MET:SD	2.79	0.56
45:v:61:HIS:NE2	50:3:410:G:OP2	2.38	0.56
50:3:121:U:H4'	50:3:122:G:H5''	1.87	0.56
50:3:2848:A:H2'	50:3:2849:G:C8	2.41	0.56
52:5:132:G:H2'	52:5:133:G:C8	2.41	0.56
52:5:688:G:H4'	52:5:794:C:H4'	1.88	0.56
52:5:701:A:H2'	52:5:702:U:O4'	2.06	0.56
16:M:17:ALA:O	52:5:1334:A:N6	2.36	0.56
20:Q:74:ARG:HH21	52:5:719:G:H4'	1.71	0.56
22:S:66:ARG:HA	22:S:69:LYS:HG2	1.88	0.56
25:b:107:TYR:HD2	25:b:215:GLY:HA2	1.71	0.56
27:d:30:ARG:O	27:d:159:SER:N	2.39	0.56
50:3:90:G:H2'	50:3:91:G:C8	2.41	0.56
50:3:532:A:H2'	50:3:533:G:C8	2.41	0.56
50:3:548:A:O2'	50:3:1247:C:OP1	2.23	0.56
50:3:603:G:N2	50:3:2037:A:O4'	2.39	0.56
50:3:1179:G:H2'	50:3:1180:U:C6	2.41	0.56
50:3:1523:C:H2'	50:3:1524:C:C6	2.41	0.56
50:3:1834:U:O2'	50:3:1977:A:N3	2.33	0.56
50:3:1938:U:H2'	50:3:1939:A:H8	1.70	0.56
50:3:2552:G:H2'	50:3:2553:G:C8	2.41	0.56
52:5:358:G:N2	52:5:361:U:OP2	2.37	0.56
52:5:452:A:H3'	52:5:453:C:H5'	1.88	0.56
52:5:497:A:H1'	52:5:498:G:C8	2.41	0.56
52:5:512:U:H2'	52:5:513:G:C8	2.41	0.56
52:5:935:U:H2'	52:5:936:G:O4'	2.06	0.56
52:5:1197:G:H2'	52:5:1198:C:C6	2.41	0.56
5:B:50:ASN:OD1	5:B:51:ALA:N	2.38	0.55
5:B:179:SER:HB3	52:5:1100:C:OP2	2.06	0.55
6:C:38:HIS:ND1	52:5:509:C:O4'	2.32	0.55
7:D:160:ILE:CD1	7:D:178:ILE:H	2.18	0.55
7:D:205:PRO:HB3	7:D:218:GLU:HG2	1.88	0.55
8:E:110:GLN:NE2	52:5:839:U:O4'	2.39	0.55
17:N:2:GLN:O	17:N:35:GLN:NE2	2.39	0.55
17:N:17:LYS:HZ3	17:N:19:VAL:HG13	1.71	0.55
18:O:22:ARG:NH1	52:5:386:U:O2'	2.39	0.55
22:S:44:LEU:HD22	22:S:76:LEU:HD13	1.88	0.55
24:a:94:CYS:SG	24:a:95:PHE:N	2.80	0.55
25:b:60:LYS:HG3	25:b:61:LYS:HG3	1.88	0.55
36:m:84:SER:OG	36:m:85:LYS:NZ	2.38	0.55
37:n:10:LEU:HD21	50:3:2342:U:H3	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:o:91:LYS:O	38:o:92:ARG:CG	2.54	0.55
39:p:1:MET:HE1	50:3:1230:U:O2	2.07	0.55
41:r:21:CYS:O	41:r:24:ILE:HG22	2.05	0.55
43:t:14:THR:HG21	50:3:345:A:H62	1.71	0.55
45:v:34:GLN:NE2	50:3:2237:U:O2	2.37	0.55
50:3:139:G:H2'	50:3:140:G:C8	2.40	0.55
50:3:153:U:H2'	50:3:154:U:H6	1.70	0.55
50:3:251:G:O2'	50:3:254:G:O6	2.16	0.55
50:3:573:A:OP2	50:3:588:G:N2	2.39	0.55
50:3:633:G:H1	50:3:692:U:H3	1.54	0.55
50:3:906:G:H1	50:3:945:U:H3	1.54	0.55
50:3:1800:C:O2'	50:3:1907:A:N1	2.34	0.55
50:3:2071:C:H2'	50:3:2072:C:H6	1.70	0.55
50:3:2107:A:N1	50:3:2198:G:O6	2.39	0.55
50:3:2331:G:N2	50:3:2344:A:O2'	2.39	0.55
52:5:245:U:O2	52:5:271:G:O6	2.24	0.55
52:5:253:G:O6	52:5:265:U:O4	2.24	0.55
6:C:98:ASP:HB2	6:C:113:ALA:HB1	1.86	0.55
13:J:68:LYS:HB2	13:J:98:LEU:HD22	1.89	0.55
14:K:123:ARG:HH21	52:5:535:A:H5''	1.71	0.55
22:S:32:VAL:HG13	22:S:72:ASN:HD21	1.72	0.55
31:h:21:PRO:O	50:3:1103:G:N1	2.39	0.55
46:w:58:LEU:O	46:w:62:LYS:N	2.24	0.55
50:3:78:C:H2'	50:3:79:U:H6	1.72	0.55
50:3:198:G:N3	50:3:255:A:O2'	2.36	0.55
50:3:648:G:OP1	50:3:648:G:N2	2.19	0.55
50:3:703:A:H5'	50:3:704:G:H5''	1.88	0.55
50:3:900:G:H2'	50:3:901:C:C6	2.41	0.55
50:3:2072:C:H5''	50:3:2260:G:H1'	1.88	0.55
50:3:2893:C:H2'	50:3:2894:G:O4'	2.06	0.55
52:5:497:A:O4'	52:5:545:A:N6	2.39	0.55
52:5:673:A:N1	52:5:711:G:O6	2.39	0.55
52:5:1262:A:H2'	52:5:1263:A:C8	2.41	0.55
5:B:61:THR:OG1	12:I:100:VAL:O	2.24	0.55
6:C:29:LYS:HD3	6:C:31:ARG:HB3	1.88	0.55
6:C:125:ASN:HB2	6:C:127:ARG:HH11	1.71	0.55
10:G:39:LYS:NZ	52:5:588:U:OP2	2.36	0.55
15:L:14:ARG:NH2	52:5:1269:U:O2'	2.39	0.55
24:a:7:ILE:HG22	24:a:9:ARG:HG2	1.87	0.55
27:d:37:ASN:OD1	27:d:88:LYS:NZ	2.38	0.55
50:3:877:G:H2'	50:3:878:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1010:G:H22	50:3:1025:G:H1'	1.72	0.55
52:5:135:A:H61	52:5:158:A:N6	2.04	0.55
52:5:721:G:H2'	52:5:722:G:H8	1.72	0.55
52:5:1067:C:H2'	52:5:1068:G:C8	2.40	0.55
52:5:1385:A:H2'	52:5:1386:C:C6	2.41	0.55
9:F:3:LYS:HB2	52:5:930:A:H61	1.72	0.55
9:F:139:ASP:O	9:F:143:MET:HG3	2.06	0.55
11:H:12:ARG:NH1	52:5:1321:G:O6	2.38	0.55
22:S:12:ARG:NH2	52:5:88:A:OP1	2.37	0.55
24:a:5:LYS:HG2	24:a:18:THR:HG22	1.89	0.55
25:b:158:ARG:HA	50:3:2059:G:N3	2.21	0.55
35:l:12:PRO:HA	50:3:947:A:H62	1.72	0.55
50:3:239:U:O2'	50:3:466:A:N6	2.39	0.55
50:3:606:G:N1	50:3:2036:G:O2'	2.40	0.55
50:3:742:G:N2	50:3:759:U:O2	2.29	0.55
50:3:1230:U:H2'	50:3:1231:G:C8	2.41	0.55
50:3:1777:G:H2'	50:3:1778:G:C8	2.40	0.55
50:3:2111:U:H3	50:3:2194:G:H1'	1.71	0.55
50:3:2273:U:H2'	50:3:2274:A:C5	2.41	0.55
50:3:2781:C:H2'	50:3:2782:A:C8	2.40	0.55
52:5:227:A:H2'	52:5:228:G:C8	2.35	0.55
52:5:330:C:O2	52:5:1409:A:O2'	2.21	0.55
52:5:1313:A:H2	53:8:30:G:H21	1.54	0.55
7:D:191:MET:O	7:D:195:THR:HG23	2.07	0.55
11:H:33:ASN:HA	52:5:1121:U:H3	1.71	0.55
14:K:123:ARG:NH2	52:5:535:A:OP1	2.38	0.55
45:v:51:SER:HB3	45:v:54:THR:HG22	1.89	0.55
50:3:247:U:C2	50:3:259:A:N7	2.75	0.55
50:3:482:G:H21	50:3:490:A:H2	1.53	0.55
50:3:562:C:N4	50:3:2785:G:O2'	2.37	0.55
50:3:746:G:H2'	50:3:747:A:C8	2.39	0.55
50:3:2071:C:O3'	50:3:2259:G:N2	2.40	0.55
52:5:1237:G:O6	52:5:1248:U:O2	2.25	0.55
52:5:1407:A:O2'	52:5:1442:A:N1	2.32	0.55
4:A:201:LEU:HD21	4:A:219:ASN:HB3	1.88	0.55
6:C:38:HIS:HE1	52:5:539:G:H21	1.53	0.55
6:C:200:TYR:O	52:5:9:A:N6	2.40	0.55
10:G:11:HIS:O	52:5:651:G:O2'	2.23	0.55
14:K:2:ALA:HB1	14:K:6:GLN:HE21	1.70	0.55
14:K:124:ARG:O	14:K:127:ARG:NE	2.39	0.55
15:L:95:LEU:HD13	15:L:102:THR:HG21	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N:70:ASN:ND2	52:5:750:A:OP1	2.39	0.55
26:c:8:LYS:HG3	26:c:14:GLU:HG2	1.89	0.55
31:h:130:GLN:HB2	50:3:1112:A:C6	2.41	0.55
35:l:22:LYS:HG2	50:3:945:U:OP1	2.06	0.55
35:l:65:TRP:HE1	50:3:910:G:H4'	1.71	0.55
40:q:1:MET:HG2	40:q:2:HIS:CD2	2.41	0.55
47:x:10:GLN:HB2	47:x:29:LEU:HD13	1.89	0.55
50:3:1543:U:H2'	50:3:1544:G:C8	2.42	0.55
50:3:1868:A:H2'	50:3:1869:G:H8	1.71	0.55
50:3:2225:G:H2'	50:3:2226:U:C6	2.42	0.55
52:5:412:G:H2'	52:5:413:G:H8	1.71	0.55
52:5:802:C:H2'	52:5:803:C:C6	2.42	0.55
52:5:1130:G:H2'	52:5:1131:A:H8	1.70	0.55
52:5:1499:G:H2'	52:5:1500:G:C8	2.41	0.55
8:E:45:LEU:HD23	20:Q:97:ALA:HB3	1.89	0.55
11:H:86:VAL:HB	11:H:100:LEU:HD13	1.87	0.55
12:I:13:LYS:NZ	52:5:1117:U:OP1	2.39	0.55
13:J:22:ASN:HD21	52:5:686:C:H5''	1.70	0.55
15:L:51:GLU:O	15:L:54:VAL:HG12	2.06	0.55
22:S:75:VAL:O	22:S:79:THR:OG1	2.19	0.55
25:b:120:THR:HB	25:b:124:LYS:HB3	1.89	0.55
39:p:14:LYS:NZ	50:3:549:A:O2'	2.39	0.55
39:p:61:ILE:HG23	39:p:75:TYR:CZ	2.42	0.55
50:3:134:U:H2'	50:3:135:A:H8	1.72	0.55
50:3:1056:A:H61	50:3:1177:A:H61	1.55	0.55
52:5:376:G:O2'	52:5:378:A:N6	2.24	0.55
52:5:1138:U:O4	52:5:1139:A:N6	2.40	0.55
52:5:1245:A:H2'	52:5:1246:A:C8	2.42	0.55
8:E:38:GLU:HB2	8:E:59:ARG:HB3	1.87	0.55
8:E:39:TYR:OH	8:E:56:HIS:ND1	2.36	0.55
16:M:29:ARG:HB3	16:M:41:ARG:HH22	1.72	0.55
24:a:208:HIS:NE2	50:3:1828:A:OP1	2.35	0.55
32:i:69:GLY:HA3	50:3:1176:U:C4	2.41	0.55
43:t:44:ARG:NH2	50:3:515:A:O3'	2.40	0.55
44:u:50:ILE:HA	44:u:74:PHE:HA	1.89	0.55
50:3:200:A:O2'	50:3:201:A:O5'	2.25	0.55
50:3:1295:A:N6	50:3:2021:A:OP2	2.39	0.55
50:3:1536:C:H2'	50:3:1537:A:H8	1.72	0.55
50:3:1708:G:H22	50:3:1998:U:H3	1.55	0.55
51:4:6:U:H2'	51:4:7:G:C8	2.42	0.55
52:5:204:C:H1'	52:5:466:U:H1'	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:8:27:A:H61	53:8:45:G:H1'	1.72	0.55
8:E:49:ILE:HB	8:E:83:LEU:HD23	1.88	0.55
8:E:92:ARG:HH12	20:Q:85:HIS:CG	2.24	0.55
17:N:23:GLN:NE2	17:N:67:LEU:HD21	2.21	0.55
21:R:16:LEU:HD13	21:R:44:PHE:CZ	2.42	0.55
25:b:32:GLU:HG2	25:b:55:ASP:HA	1.89	0.55
27:d:26:MET:HE1	51:4:28:C:O2	2.07	0.55
28:e:67:PHE:HA	28:e:70:THR:HB	1.89	0.55
42:s:59:ILE:HD12	50:3:1635:G:H5'	1.87	0.55
50:3:297:G:N7	50:3:457:U:H2'	2.21	0.55
50:3:877:G:H2'	50:3:878:A:H8	1.72	0.55
50:3:1293:U:H3'	50:3:1294:G:C8	2.42	0.55
50:3:1765:G:H21	50:3:1766:A:H62	1.53	0.55
50:3:2427:U:H2'	50:3:2428:C:C6	2.41	0.55
50:3:2533:A:O2'	50:3:2750:A:O2'	2.22	0.55
50:3:2584:G:H5'	50:3:2586:G:C8	2.42	0.55
51:4:54:U:H4'	51:4:55:A:O5'	2.07	0.55
52:5:97:G:H1	52:5:311:A:H2	1.55	0.55
52:5:635:G:H2'	52:5:636:G:O4'	2.07	0.55
52:5:999:C:H4'	52:5:1000:A:H5'	1.88	0.55
52:5:1043:U:N3	52:5:1181:G:O6	2.40	0.55
52:5:1338:A:H2'	52:5:1340:G:C8	2.41	0.55
52:5:1437:A:H2'	52:5:1438:U:C6	2.42	0.55
15:L:10:PRO:HD2	15:L:15:ILE:HD12	1.88	0.55
25:b:70:PHE:CD1	25:b:75:LEU:HD23	2.42	0.55
26:c:133:PHE:CD1	26:c:168:LEU:HD11	2.42	0.55
27:d:37:ASN:OD1	27:d:38:MET:N	2.40	0.55
27:d:92:ARG:HG2	51:4:43:A:H5''	1.89	0.55
28:e:55:ILE:HD11	28:e:72:ASN:ND2	2.21	0.55
30:g:3:ALA:O	30:g:7:LYS:NZ	2.37	0.55
34:k:22:ARG:NH2	50:3:620:G:OP2	2.32	0.55
44:u:48:GLY:O	50:3:2361:G:N2	2.38	0.55
45:v:32:ASN:OD1	45:v:34:GLN:NE2	2.40	0.55
50:3:548:A:H61	50:3:1289:G:H21	1.55	0.55
50:3:596:G:OP2	50:3:605:A:O2'	2.21	0.55
50:3:880:C:O2'	50:3:881:A:N7	2.40	0.55
50:3:990:G:H2'	50:3:991:G:H8	1.71	0.55
50:3:1343:C:H2'	50:3:1344:U:H6	1.72	0.55
50:3:1888:U:H2'	50:3:1889:U:C6	2.42	0.55
52:5:462:G:H2'	52:5:463:U:H5'	1.89	0.55
52:5:949:G:H2'	52:5:950:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1076:U:H3'	52:5:1077:U:C6	2.41	0.55
52:5:1076:U:H3'	52:5:1077:U:H6	1.72	0.55
19:P:70:SER:HA	52:5:262:G:H5'	1.88	0.54
32:i:115:ASN:HB2	32:i:118:SER:H	1.72	0.54
45:v:30:ASN:HB2	50:3:2238:G:H5''	1.89	0.54
50:3:296:U:H3'	50:3:457:U:H5''	1.90	0.54
50:3:360:G:H2'	50:3:361:G:O4'	2.07	0.54
50:3:713:C:H2'	50:3:714:G:C8	2.42	0.54
50:3:2701:A:H2'	50:3:2702:G:H8	1.72	0.54
52:5:830:U:H2'	52:5:831:C:C6	2.42	0.54
52:5:948:U:H2'	52:5:949:G:H8	1.71	0.54
53:6:43:G:O2'	53:6:44:U:OP1	2.23	0.54
2:1:20:LYS:NZ	50:3:667:A:OP2	2.40	0.54
11:H:50:MET:SD	11:H:81:ILE:HD11	2.46	0.54
21:R:37:ARG:HH12	52:5:1194:A:H5''	1.72	0.54
26:c:5:LYS:HA	26:c:18:VAL:HG22	1.88	0.54
35:l:77:LYS:HB2	35:l:88:GLY:HA2	1.89	0.54
37:n:30:LEU:HD13	37:n:81:LEU:HD11	1.89	0.54
37:n:52:LEU:HD13	37:n:84:LEU:HD13	1.89	0.54
40:q:8:GLY:O	40:q:37:LYS:NZ	2.38	0.54
50:3:27:U:H2'	50:3:28:G:N9	2.22	0.54
50:3:142:A:H2'	50:3:143:A:C8	2.42	0.54
50:3:243:U:O3'	50:3:658:G:O2'	2.25	0.54
50:3:332:G:O2'	50:3:356:A:N6	2.22	0.54
50:3:1061:A:H2'	50:3:1062:A:C8	2.41	0.54
50:3:1446:G:N2	50:3:1613:A:OP2	2.37	0.54
50:3:2125:U:O2'	50:3:2127:G:OP1	2.24	0.54
50:3:2515:C:N4	50:3:2584:G:H1	2.03	0.54
51:4:32:G:H2'	51:4:42:G:N7	2.21	0.54
52:5:73:G:N1	52:5:83:U:N3	2.55	0.54
52:5:660:A:H2'	52:5:661:G:C8	2.42	0.54
2:1:21:ARG:HH11	2:1:47:VAL:HA	1.73	0.54
29:f:74:GLN:HG3	29:f:75:THR:HG23	1.89	0.54
30:g:53:VAL:HB	50:3:1119:A:C6	2.42	0.54
40:q:29:VAL:HG22	40:q:62:HIS:HB3	1.89	0.54
43:t:85:THR:HG22	43:t:106:LYS:HB2	1.89	0.54
48:y:40:HIS:CE1	50:3:2820:G:H1'	2.42	0.54
50:3:406:C:H2'	50:3:407:U:C6	2.43	0.54
50:3:491:A:O2'	50:3:492:C:H5''	2.07	0.54
50:3:905:U:N3	50:3:946:A:N1	2.56	0.54
50:3:1053:C:HO2'	50:3:1155:G:H21	1.49	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1262:G:H2'	50:3:1263:G:C8	2.41	0.54
50:3:1445:U:HO2'	50:3:1621:U:HO2'	1.52	0.54
50:3:1779:G:H21	50:3:1780:A:HO2'	1.50	0.54
50:3:2364:A:O2'	50:3:2369:G:N2	2.33	0.54
50:3:2420:A:H2'	50:3:2421:U:O4'	2.07	0.54
52:5:316:G:O2'	52:5:1410:A:N3	2.40	0.54
52:5:791:A:O2'	52:5:1481:U:O4	2.25	0.54
52:5:918:A:H2'	52:5:919:C:C6	2.42	0.54
52:5:1300:C:H2'	52:5:1301:U:C6	2.43	0.54
52:5:1314:A:H4'	53:8:32:U:H4'	1.88	0.54
4:A:22:LYS:NZ	4:A:250:PRO:O	2.40	0.54
13:J:111:HIS:ND1	52:5:714:C:O2'	2.31	0.54
19:P:32:HIS:CE1	19:P:34:LEU:HB3	2.42	0.54
24:a:50:GLN:HE22	50:3:1818:G:H21	1.55	0.54
26:c:47:GLN:HB3	26:c:49:THR:HG23	1.89	0.54
26:c:73:LYS:HG3	26:c:74:ALA:H	1.72	0.54
31:h:74:ILE:HA	31:h:77:LYS:HE3	1.88	0.54
35:l:37:THR:HA	35:l:130:LYS:HE3	1.89	0.54
38:o:18:LEU:HA	38:o:82:HIS:HB3	1.89	0.54
38:o:56:ARG:NH1	50:3:2691:C:OP1	2.41	0.54
50:3:625:G:H2'	50:3:626:A:C8	2.42	0.54
50:3:718:U:H2'	50:3:719:G:C8	2.42	0.54
50:3:988:G:H2'	50:3:989:G:O4'	2.08	0.54
50:3:1107:C:H42	50:3:1135:C:H41	1.54	0.54
50:3:1262:G:H3'	50:3:1263:G:H8	1.72	0.54
50:3:2100:G:H2'	50:3:2101:A:C8	2.43	0.54
50:3:2363:C:H2'	50:3:2364:A:O4'	2.08	0.54
52:5:106:C:OP2	52:5:235:C:N4	2.41	0.54
52:5:1281:U:H2'	52:5:1282:U:O4'	2.07	0.54
4:A:218:ASN:HD21	4:A:221:GLN:HG2	1.72	0.54
5:B:16:LYS:HA	5:B:207:ARG:HH22	1.73	0.54
7:D:141:ILE:HD12	7:D:149:VAL:O	2.07	0.54
7:D:181:LYS:NZ	52:5:9:A:OP1	2.41	0.54
9:F:27:ASN:O	52:5:1349:A:O2'	2.23	0.54
22:S:3:ASN:HA	52:5:327:G:H2'	1.87	0.54
27:d:89:VAL:HG12	27:d:91:LEU:HD22	1.89	0.54
28:e:20:PHE:HE2	28:e:48:LEU:HB2	1.72	0.54
34:k:57:PRO:O	34:k:61:ARG:NE	2.41	0.54
43:t:41:LYS:HB3	43:t:64:GLN:HB3	1.89	0.54
50:3:249:G:O2'	50:3:422:A:N1	2.29	0.54
50:3:1219:U:H2'	50:3:1220:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1286:G:H2'	50:3:1287:C:C6	2.42	0.54
50:3:1950:U:H4'	50:3:1951:A:H2'	1.88	0.54
50:3:2476:A:O2'	50:3:2489:G:N2	2.39	0.54
50:3:2482:U:N3	50:3:2483:C:N3	2.54	0.54
52:5:314:G:H2'	52:5:315:G:H8	1.71	0.54
52:5:454:U:H2'	52:5:455:U:C6	2.42	0.54
52:5:938:U:H5''	52:5:1209:C:H41	1.71	0.54
52:5:1057:C:N4	52:5:1165:G:O2'	2.40	0.54
52:5:1153:G:H22	52:5:1156:G:H2'	1.72	0.54
52:5:1188:A:H4'	52:5:1189:U:OP1	2.07	0.54
52:5:1321:G:N2	52:5:1322:U:O4	2.36	0.54
53:6:27:A:H61	53:6:45:G:H1'	1.72	0.54
14:K:127:ARG:HA	14:K:132:ALA:HB3	1.90	0.54
15:L:43:LYS:NZ	52:5:1270:C:OP2	2.40	0.54
25:b:10:LYS:HA	25:b:29:ILE:HG23	1.89	0.54
25:b:184:PHE:HD1	25:b:191:VAL:HG12	1.73	0.54
31:h:94:GLY:H	31:h:133:ILE:HG21	1.73	0.54
31:h:125:LEU:HD13	31:h:134:GLU:HG2	1.89	0.54
33:j:59:ARG:NH1	33:j:89:GLU:OE1	2.40	0.54
44:u:46:ARG:NH1	50:3:2362:A:O5'	2.40	0.54
44:u:57:THR:OG1	50:3:2344:A:N6	2.40	0.54
50:3:64:U:H5'	50:3:95:G:H22	1.73	0.54
50:3:334:A:H8	50:3:334:A:OP2	1.90	0.54
50:3:899:A:N3	51:4:90:G:O2'	2.41	0.54
50:3:1380:U:H2'	50:3:1406:A:H62	1.71	0.54
50:3:1492:G:O2'	50:3:1579:G:O2'	2.11	0.54
52:5:40:G:O2'	52:5:437:U:O2'	2.21	0.54
52:5:1068:G:N1	52:5:1071:A:OP2	2.39	0.54
52:5:1325:U:O2	52:5:1346:G:N2	2.24	0.54
6:C:133:SER:O	6:C:133:SER:OG	2.23	0.54
11:H:126:ALA:HB3	52:5:1317:A:H5'	1.89	0.54
18:O:67:PHE:HB3	18:O:72:LEU:HB3	1.88	0.54
25:b:46:LYS:NZ	50:3:2645:U:H1'	2.22	0.54
25:b:65:PRO:O	50:3:2794:U:O2'	2.22	0.54
26:c:175:ILE:HG22	26:c:176:LYS:N	2.21	0.54
31:h:42:LYS:HB3	31:h:67:LEU:HD22	1.89	0.54
40:q:58:VAL:N	40:q:93:LYS:O	2.40	0.54
50:3:684:A:O4'	50:3:2359:G:H5''	2.08	0.54
50:3:766:C:H2'	50:3:767:C:C6	2.42	0.54
50:3:984:C:H1'	50:3:1020:G:H2'	1.89	0.54
50:3:2598:C:H2'	50:3:2599:C:H6	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2676:G:H2'	50:3:2677:A:C8	2.43	0.54
50:3:2681:G:H2'	50:3:2682:A:C8	2.43	0.54
50:3:2862:U:H3'	50:3:2863:G:H8	1.70	0.54
52:5:71:A:H2'	52:5:72:A:C8	2.42	0.54
52:5:169:G:H21	52:5:219:A:HO2'	1.56	0.54
52:5:294:A:H2'	52:5:295:G:C4	2.43	0.54
52:5:423:U:H2'	52:5:424:U:C6	2.43	0.54
21:R:44:PHE:HA	21:R:47:ASN:OD1	2.08	0.54
24:a:35:LYS:HD3	50:3:1604:A:H5''	1.90	0.54
30:g:42:LYS:HA	31:h:115:ASN:HD21	1.73	0.54
39:p:50:ARG:NH2	50:3:1026:A:O2'	2.40	0.54
39:p:52:LYS:NZ	50:3:571:A:OP1	2.38	0.54
50:3:353:G:O6	50:3:357:A:N7	2.41	0.54
50:3:453:U:H2'	50:3:454:G:H8	1.72	0.54
50:3:501:G:O2'	50:3:502:A:O4'	2.25	0.54
50:3:1709:C:H2'	50:3:1710:A:C8	2.43	0.54
52:5:84:U:H2'	52:5:85:U:O4'	2.08	0.54
52:5:506:U:C4	52:5:522:G:O6	2.61	0.54
52:5:842:C:H2'	52:5:843:C:C6	2.43	0.54
52:5:1036:C:N4	52:5:1186:U:O2	2.40	0.54
53:8:43:G:O2'	53:8:44:U:OP1	2.23	0.54
7:D:190:ASN:HD22	52:5:20:C:P	2.30	0.54
9:F:41:ILE:HG13	52:5:1215:U:H5'	1.89	0.54
11:H:13:LYS:HD2	11:H:112:VAL:HA	1.90	0.54
27:d:77:TYR:O	27:d:80:ARG:NH2	2.36	0.54
27:d:139:PRO:HG3	47:x:36:ILE:HD12	1.89	0.54
36:m:22:VAL:HA	36:m:25:VAL:HG12	1.90	0.54
42:s:76:LYS:HD2	50:3:60:G:P	2.48	0.54
50:3:180:A:H3'	50:3:181:G:H8	1.73	0.54
50:3:740:A:H2'	50:3:741:A:C8	2.43	0.54
50:3:857:U:H2'	50:3:858:A:C8	2.43	0.54
50:3:2755:G:O6	50:3:2762:U:H3'	2.08	0.54
51:4:26:C:H2'	51:4:27:A:C8	2.42	0.54
52:5:73:G:O6	52:5:83:U:O4	2.25	0.54
52:5:317:A:N7	52:5:324:C:O2'	2.39	0.54
52:5:401:U:H5''	52:5:493:A:H2	1.72	0.54
52:5:660:A:N1	52:5:739:G:C6	2.76	0.54
52:5:880:G:H2'	52:5:881:G:C8	2.43	0.54
52:5:1010:A:H2'	52:5:1011:A:C8	2.43	0.54
52:5:1113:U:N3	52:5:1128:G:O6	2.41	0.54
8:E:123:ASN:ND2	52:5:838:A:N1	2.54	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:108:PRO:HA	52:5:673:A:H5''	1.90	0.54
14:K:123:ARG:NH2	52:5:535:A:H5''	2.23	0.54
15:L:23:PHE:HA	52:5:1304:U:H5''	1.90	0.54
17:N:26:VAL:HA	17:N:29:LEU:HD12	1.88	0.54
18:O:73:TRP:HB3	52:5:470:U:H5''	1.88	0.54
25:b:21:ASN:ND2	38:o:85:ASN:OD1	2.39	0.54
25:b:59:ASN:HD21	25:b:67:GLN:HG3	1.73	0.54
25:b:148:GLN:HB3	50:3:2583:U:H4'	1.89	0.54
30:g:79:LYS:HD3	50:3:1141:U:H1'	1.90	0.54
50:3:452:U:H2'	50:3:453:U:O4'	2.09	0.54
50:3:518:A:H5''	50:3:519:A:H5'	1.89	0.54
50:3:865:A:N6	50:3:2453:G:H21	2.06	0.54
50:3:1231:G:H2'	50:3:1232:U:C6	2.43	0.54
50:3:1553:G:N1	50:3:1577:A:OP2	2.41	0.54
50:3:1695:G:H2'	50:3:1696:C:C6	2.43	0.54
50:3:2258:G:N2	50:3:2283:C:O2'	2.29	0.54
51:4:3:U:N3	51:4:4:G:O6	2.40	0.54
51:4:4:G:H2'	51:4:5:G:C8	2.42	0.54
52:5:98:G:H1'	52:5:350:G:H5'	1.89	0.54
52:5:600:G:H2'	52:5:601:U:C6	2.43	0.54
52:5:697:G:N2	52:5:698:U:O4	2.40	0.54
52:5:1196:G:H3'	52:5:1296:C:C5	2.43	0.54
7:D:76:ILE:HG12	7:D:88:PHE:HA	1.90	0.53
12:I:56:THR:H	52:5:970:A:N6	2.06	0.53
12:I:65:LYS:HD2	52:5:967:C:OP2	2.07	0.53
15:L:56:ILE:HG23	15:L:60:ALA:HB3	1.90	0.53
24:a:147:VAL:HG12	24:a:200:VAL:HG12	1.90	0.53
44:u:46:ARG:N	44:u:49:GLN:OE1	2.36	0.53
50:3:67:C:H2'	50:3:68:C:C6	2.42	0.53
50:3:180:A:H8	50:3:181:G:C8	2.25	0.53
50:3:408:G:O2'	50:3:460:G:OP1	2.24	0.53
50:3:876:A:H2'	50:3:877:G:C8	2.43	0.53
50:3:1188:C:H2'	50:3:1189:G:C8	2.43	0.53
50:3:1243:A:H2'	50:3:1244:A:C8	2.43	0.53
50:3:1450:G:H21	50:3:1523:C:H1'	1.73	0.53
50:3:1641:A:H1'	50:3:1655:U:C4	2.42	0.53
50:3:1844:C:O2'	50:3:1934:A:H1'	2.08	0.53
50:3:2006:C:O2'	50:3:2695:U:O2	2.25	0.53
50:3:2488:C:H3'	50:3:2489:G:H8	1.73	0.53
52:5:302:A:H5'	52:5:303:A:C8	2.43	0.53
52:5:351:C:H1'	52:5:384:G:H1'	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:881:G:O2'	52:5:1464:G:OP1	2.25	0.53
52:5:979:C:H2'	52:5:980:C:C6	2.43	0.53
52:5:1215:U:H3'	52:5:1216:G:H8	1.72	0.53
52:5:1297:G:O2'	52:5:1336:C:H1'	2.07	0.53
11:H:99:ILE:O	11:H:102:SER:OG	2.20	0.53
12:I:45:PRO:HA	12:I:80:MET:HE1	1.90	0.53
15:L:11:ASN:HA	15:L:46:LYS:HB3	1.89	0.53
18:O:20:VAL:HG21	18:O:25:LYS:H	1.73	0.53
24:a:250:GLY:HA2	50:3:2605:G:H5''	1.90	0.53
27:d:50:LEU:HD23	27:d:67:ALA:HB1	1.90	0.53
50:3:568:G:H2'	50:3:569:U:H6	1.71	0.53
50:3:899:A:H2'	50:3:900:G:C8	2.43	0.53
50:3:1666:A:H2'	50:3:1667:G:C8	2.42	0.53
50:3:2299:U:O2	50:3:2349:G:N2	2.39	0.53
52:5:21:U:H4'	52:5:571:A:N6	2.23	0.53
52:5:166:U:H2'	52:5:167:A:H4'	1.90	0.53
52:5:261:G:H3'	52:5:263:C:H41	1.74	0.53
52:5:1049:G:C6	52:5:1174:U:O2	2.61	0.53
7:D:69:ARG:NH2	7:D:172:LEU:HD21	2.23	0.53
14:K:127:ARG:C	14:K:129:ALA:H	2.16	0.53
24:a:238:HIS:CE1	24:a:240:HIS:HB2	2.43	0.53
31:h:111:ASP:OD2	50:3:1094:G:H4'	2.08	0.53
35:l:82:ARG:HG3	44:u:18:LYS:HA	1.90	0.53
48:y:4:GLN:HA	50:3:2623:U:C2	2.44	0.53
49:z:5:ARG:CZ	50:3:2291:U:H5'	2.38	0.53
50:3:25:G:H2'	50:3:26:G:H8	1.73	0.53
50:3:192:U:O2	50:3:212:G:N2	2.32	0.53
50:3:326:A:H2'	50:3:327:U:C6	2.43	0.53
50:3:653:G:H2'	50:3:654:G:H8	1.73	0.53
50:3:727:C:H2'	50:3:728:A:C8	2.43	0.53
50:3:731:A:H2'	50:3:732:G:C8	2.43	0.53
50:3:1505:G:O2'	50:3:1591:C:O2'	2.26	0.53
50:3:1734:A:N6	52:5:1450:C:OP1	2.42	0.53
50:3:1761:C:H2'	50:3:1762:A:C8	2.43	0.53
50:3:1999:G:O2'	50:3:2004:G:O6	2.26	0.53
50:3:2605:G:O2'	50:3:2606:A:O4'	2.17	0.53
50:3:2766:A:H2'	50:3:2767:G:O4'	2.07	0.53
51:4:99:A:H2'	51:4:100:G:C8	2.42	0.53
52:5:104:A:OP2	52:5:284:A:N6	2.41	0.53
52:5:144:U:O2	52:5:149:G:N2	2.30	0.53
52:5:228:G:H2'	52:5:229:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:291:C:N3	52:5:299:U:O2	2.41	0.53
52:5:407:A:N6	52:5:425:G:O4'	2.41	0.53
52:5:649:U:H1'	52:5:650:A:C8	2.43	0.53
52:5:659:U:O2	52:5:740:G:N2	2.41	0.53
52:5:787:A:C2	53:8:38:G:H1'	2.43	0.53
52:5:1087:C:H1'	52:5:1145:A:H4'	1.89	0.53
3:2:4:ARG:NH2	50:3:2474:C:OP2	2.41	0.53
5:B:58:ILE:HG23	5:B:67:VAL:HG22	1.90	0.53
6:C:73:ARG:HH22	52:5:620:A:H5'	1.73	0.53
21:R:79:ASN:OD1	21:R:82:GLN:NE2	2.39	0.53
28:e:4:ILE:HG22	28:e:72:ASN:CG	2.33	0.53
48:y:16:ARG:NH1	50:3:1294:G:H5''	2.24	0.53
50:3:186:A:N1	50:3:219:G:C6	2.77	0.53
50:3:977:A:H3'	50:3:978:G:C8	2.44	0.53
50:3:1202:A:H2'	50:3:1203:G:C8	2.39	0.53
50:3:1345:G:H2'	50:3:1346:G:C8	2.44	0.53
50:3:1524:C:H2'	50:3:1525:G:C8	2.43	0.53
50:3:1536:C:H2'	50:3:1537:A:C8	2.43	0.53
50:3:2193:U:H2'	50:3:2194:G:O4'	2.08	0.53
50:3:2531:C:O2	50:3:2772:A:O2'	2.24	0.53
52:5:130:G:H2'	52:5:131:G:H8	1.73	0.53
52:5:593:A:O2'	52:5:638:A:N6	2.41	0.53
52:5:918:A:O2'	52:5:919:C:O4'	2.26	0.53
4:A:26:MET:HA	4:A:227:LEU:HD13	1.90	0.53
6:C:66:ILE:CG2	6:C:96:ARG:HD2	2.37	0.53
18:O:10:THR:HB	18:O:32:HIS:HE2	1.74	0.53
26:c:85:VAL:HG13	50:3:616:G:H21	1.74	0.53
26:c:97:ARG:NH1	50:3:1277:A:O5'	2.42	0.53
34:k:131:VAL:HG11	34:k:136:LEU:HD13	1.91	0.53
43:t:45:HIS:HD2	50:3:533:G:H21	1.56	0.53
50:3:334:A:H2	50:3:353:G:H21	1.55	0.53
50:3:1887:U:O2'	50:3:1888:U:H5'	2.08	0.53
50:3:2203:U:H2'	50:3:2204:C:H6	1.72	0.53
50:3:2403:C:H2'	50:3:2404:G:H8	1.73	0.53
52:5:415:C:O2'	52:5:510:U:O2'	2.23	0.53
52:5:630:G:H2'	52:5:631:C:C6	2.44	0.53
52:5:1322:U:N3	52:5:1349:A:C8	2.76	0.53
52:5:1414:U:H2'	52:5:1415:G:H8	1.72	0.53
7:D:140:VAL:HG13	7:D:151:LEU:HD13	1.90	0.53
15:L:104:THR:HG23	15:L:113:ARG:HH11	1.72	0.53
32:i:50:ASN:ND2	50:3:589:A:N1	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:j:63:VAL:HG23	33:j:64:ARG:HG3	1.90	0.53
36:m:60:ARG:NE	50:3:1482:U:O4'	2.39	0.53
43:t:102:ARG:HH21	43:t:111:LEU:HG	1.73	0.53
50:3:400:A:H2'	50:3:401:G:C8	2.44	0.53
50:3:1227:C:H2'	50:3:1228:G:C8	2.43	0.53
50:3:1451:A:H2'	50:3:1452:G:H8	1.73	0.53
50:3:2079:G:H2'	50:3:2080:C:C6	2.43	0.53
52:5:767:U:H2'	52:5:768:G:H8	1.72	0.53
52:5:774:A:H2'	52:5:775:G:O4'	2.09	0.53
52:5:1208:G:H2'	52:5:1209:C:O4'	2.09	0.53
52:5:1224:C:N4	52:5:1262:A:C8	2.56	0.53
52:5:1300:C:H2'	52:5:1301:U:H6	1.72	0.53
52:5:1389:U:H2'	52:5:1390:G:C8	2.44	0.53
24:a:244:GLU:HB3	50:3:2608:A:H62	1.73	0.53
30:g:27:PHE:HE2	30:g:96:VAL:HG13	1.74	0.53
31:h:112:LEU:HB2	31:h:114:ALA:H	1.73	0.53
38:o:64:PHE:CE1	38:o:79:PHE:HB2	2.43	0.53
50:3:552:C:H2'	50:3:553:A:C8	2.43	0.53
50:3:1824:G:H2'	50:3:1825:U:H5'	1.91	0.53
50:3:2057:C:N4	50:3:2058:G:O6	2.42	0.53
52:5:89:G:H4'	52:5:160:A:H5'	1.91	0.53
52:5:297:A:N1	52:5:298:G:C6	2.77	0.53
6:C:69:LYS:N	52:5:544:A:OP1	2.29	0.53
10:G:79:ARG:HE	10:G:81:ILE:HD12	1.73	0.53
13:J:37:TRP:NE1	52:5:682:G:O2'	2.41	0.53
22:S:63:ASN:ND2	52:5:259:A:O4'	2.39	0.53
24:a:179:TYR:HB3	24:a:191:LYS:HB3	1.90	0.53
31:h:32:MET:O	31:h:36:THR:OG1	2.27	0.53
37:n:16:VAL:HA	37:n:19:ILE:HD12	1.90	0.53
42:s:33:PRO:HB3	42:s:77:LEU:HD22	1.91	0.53
50:3:214:C:H2'	50:3:215:A:C8	2.43	0.53
50:3:218:G:H1'	50:3:221:A:H5'	1.91	0.53
50:3:372:G:H3'	50:3:373:U:H6	1.73	0.53
50:3:664:G:H2'	50:3:665:C:H6	1.73	0.53
50:3:707:C:OP1	50:3:836:G:N2	2.41	0.53
50:3:733:C:H5''	50:3:734:A:H5'	1.90	0.53
50:3:1520:A:H2'	50:3:1521:A:C8	2.44	0.53
50:3:2032:G:H2'	50:3:2033:G:H8	1.74	0.53
50:3:2264:G:H2'	50:3:2265:U:C6	2.44	0.53
52:5:662:G:O6	52:5:721:G:O6	2.27	0.53
52:5:1184:C:H2'	52:5:1185:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1219:C:H2'	52:5:1220:A:C8	2.42	0.53
52:5:1394:G:O6	52:5:1456:U:O4	2.27	0.53
11:H:7:TYR:OH	52:5:1124:U:OP1	2.26	0.53
18:O:46:GLU:HG3	18:O:72:LEU:HD12	1.90	0.53
32:i:5:SER:HB2	39:p:91:ARG:NE	2.24	0.53
39:p:13:ARG:NH1	50:3:616:G:OP2	2.38	0.53
46:w:39:ASP:O	46:w:40:LYS:HE2	2.09	0.53
50:3:51:A:H4'	50:3:52:U:H5''	1.91	0.53
50:3:92:U:P	50:3:93:A:H3'	2.49	0.53
50:3:129:U:H2'	50:3:130:C:H6	1.74	0.53
50:3:686:C:N4	50:3:687:G:O6	2.42	0.53
50:3:1162:A:N6	50:3:2496:G:H21	2.07	0.53
50:3:1959:A:H61	50:3:2568:G:H21	1.56	0.53
50:3:2071:C:H2'	50:3:2072:C:C6	2.44	0.53
52:5:438:A:C6	52:5:492:G:N1	2.76	0.53
52:5:507:A:H2	52:5:542:G:H1'	1.73	0.53
52:5:612:G:N1	52:5:624:U:C2	2.76	0.53
52:5:646:A:H2'	52:5:647:U:C6	2.44	0.53
52:5:658:G:O2'	52:5:834:G:OP1	2.25	0.53
8:E:161:GLN:H	10:G:80:ARG:HH12	1.56	0.53
9:F:30:MET:SD	52:5:1348:G:O2'	2.66	0.53
13:J:33:ASN:HA	52:5:680:G:N2	2.13	0.53
17:N:23:GLN:NE2	17:N:74:ALA:O	2.42	0.53
24:a:206:LEU:HA	50:3:1827:U:H3	1.73	0.53
26:c:108:HIS:CE1	26:c:112:LEU:HD11	2.44	0.53
36:m:36:LYS:HA	36:m:39:LYS:HE2	1.91	0.53
36:m:55:ASP:OD1	36:m:60:ARG:HD3	2.09	0.53
37:n:41:VAL:HG22	37:n:77:ILE:HD13	1.91	0.53
39:p:76:SER:N	50:3:1047:A:OP1	2.40	0.53
42:s:2:ASP:N	42:s:46:LEU:HD11	2.23	0.53
47:x:12:VAL:HB	47:x:27:SER:HB2	1.90	0.53
50:3:499:G:O2'	50:3:501:G:O6	2.24	0.53
50:3:683:G:H21	50:3:2359:G:P	2.31	0.53
50:3:711:A:O2'	50:3:2076:G:N2	2.42	0.53
50:3:1039:G:H21	50:3:1046:A:H1'	1.74	0.53
50:3:2020:A:H2'	50:3:2021:A:O4'	2.09	0.53
50:3:2065:A:N6	50:3:2511:A:O2'	2.41	0.53
50:3:2210:G:H2'	50:3:2212:U:H5	1.72	0.53
52:5:200:G:H2'	52:5:201:G:H8	1.74	0.53
52:5:631:C:H2'	52:5:632:A:C8	2.43	0.53
52:5:1261:A:H2'	52:5:1262:A:H8	1.70	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:1:MET:HE2	52:5:544:A:H61	1.75	0.52
12:I:16:LEU:HB3	12:I:104:LEU:HD23	1.91	0.52
14:K:120:VAL:HG22	14:K:122:LYS:H	1.74	0.52
25:b:163:LYS:NZ	50:3:2520:C:O3'	2.40	0.52
30:g:99:VAL:HG13	30:g:106:MET:HE1	1.91	0.52
33:j:77:LEU:HD13	38:o:77:LYS:HD3	1.91	0.52
34:k:119:LYS:NZ	34:k:138:ALA:O	2.40	0.52
37:n:74:GLY:N	37:n:105:LEU:HD22	2.25	0.52
39:p:10:ARG:HG3	50:3:616:G:OP1	2.09	0.52
39:p:75:TYR:OH	39:p:92:LYS:NZ	2.29	0.52
42:s:56:ASN:ND2	50:3:1371:G:OP1	2.42	0.52
44:u:53:ARG:NH2	50:3:2371:U:O2	2.42	0.52
46:w:11:SER:OG	46:w:61:ARG:NH2	2.42	0.52
49:z:4:LYS:HG3	50:3:2429:G:OP1	2.09	0.52
50:3:76:A:H4'	50:3:77:G:O5'	2.08	0.52
50:3:160:A:H2'	50:3:161:U:H6	1.73	0.52
50:3:167:A:H3'	50:3:168:A:H8	1.74	0.52
50:3:235:U:H2'	50:3:236:G:O4'	2.08	0.52
50:3:536:A:H2'	50:3:537:A:C8	2.44	0.52
50:3:1298:A:N3	50:3:2020:A:N6	2.57	0.52
50:3:1348:C:O2'	50:3:1350:A:N7	2.41	0.52
50:3:1777:G:O2'	50:3:1945:A:OP1	2.22	0.52
50:3:2066:A:N6	50:3:2511:A:OP2	2.42	0.52
50:3:2203:U:H2'	50:3:2204:C:C6	2.44	0.52
50:3:2350:C:O2'	50:3:2382:A:H5''	2.09	0.52
50:3:2427:U:H2'	50:3:2428:C:H6	1.71	0.52
52:5:512:U:H2'	52:5:513:G:N7	2.24	0.52
52:5:578:C:H2'	52:5:579:G:C8	2.43	0.52
52:5:659:U:H4'	52:5:833:G:H5''	1.91	0.52
52:5:1008:G:H3'	52:5:1009:G:C8	2.44	0.52
52:5:1367:G:O2'	52:5:1477:A:OP2	2.27	0.52
24:a:3:ILE:HD13	24:a:210:LEU:HB3	1.91	0.52
26:c:128:VAL:HG21	26:c:198:LEU:HD13	1.91	0.52
48:y:29:VAL:HG22	48:y:36:LYS:HG3	1.92	0.52
50:3:132:G:H2'	50:3:133:G:C8	2.44	0.52
50:3:572:G:N2	50:3:589:A:H62	2.08	0.52
50:3:1082:A:C6	50:3:1145:G:H2'	2.44	0.52
50:3:1414:C:H2'	50:3:1415:A:H8	1.74	0.52
50:3:1553:G:H2'	50:3:1576:G:C2	2.44	0.52
50:3:1826:A:H4'	50:3:1827:U:H5''	1.90	0.52
50:3:1845:C:H5''	50:3:1846:A:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2090:G:O6	50:3:2245:G:N2	2.42	0.52
50:3:2199:C:H2'	50:3:2200:U:N1	2.24	0.52
50:3:2302:C:H2'	50:3:2303:U:H6	1.73	0.52
50:3:2305:C:N4	50:3:2326:G:H2'	2.23	0.52
50:3:2459:A:N6	50:3:2460:C:H41	2.07	0.52
50:3:2658:U:H2'	50:3:2659:U:C6	2.45	0.52
50:3:2733:A:O2'	50:3:2734:C:O5'	2.27	0.52
52:5:717:C:H2'	52:5:718:A:N7	2.23	0.52
52:5:1142:G:C6	52:5:1146:A:N1	2.77	0.52
52:5:1306:A:H2'	52:5:1307:A:H8	1.74	0.52
52:5:1472:G:N2	52:5:1494:A:H1'	2.25	0.52
9:F:78:ARG:HB2	52:5:1357:C:H5'	1.90	0.52
9:F:145:GLU:OE2	13:J:54:TYR:OH	2.24	0.52
22:S:63:ASN:ND2	52:5:258:A:O3'	2.43	0.52
25:b:1:MET:HG2	25:b:211:LYS:HE2	1.91	0.52
30:g:99:VAL:HA	30:g:102:ALA:HB3	1.91	0.52
32:i:76:PHE:HB3	32:i:89:LYS:HB3	1.92	0.52
34:k:66:GLY:HA3	50:3:2424:C:OP1	2.08	0.52
34:k:129:HIS:HA	34:k:149:LEU:HB2	1.91	0.52
35:l:11:LYS:HB2	50:3:2285:G:O3'	2.10	0.52
42:s:61:LYS:HD2	42:s:62:PRO:HD2	1.91	0.52
44:u:57:THR:H	50:3:2338:G:H21	1.57	0.52
50:3:29:G:H21	50:3:548:A:H8	1.57	0.52
50:3:32:G:H2'	50:3:33:C:C6	2.44	0.52
50:3:203:A:N6	50:3:2441:A:H2'	2.23	0.52
50:3:606:G:H5''	50:3:608:A:H62	1.73	0.52
50:3:1260:U:H2'	50:3:1261:U:C6	2.44	0.52
50:3:1461:A:H2'	50:3:1462:A:C8	2.44	0.52
50:3:1604:A:H2'	50:3:1605:A:C8	2.43	0.52
50:3:1779:G:N2	50:3:1780:A:HO2'	2.06	0.52
50:3:1972:C:H42	50:3:2610:A:H61	1.56	0.52
50:3:2085:C:H2'	50:3:2086:U:C6	2.44	0.52
50:3:2411:C:H2'	50:3:2412:A:H8	1.74	0.52
50:3:2732:A:H2'	50:3:2733:A:C8	2.45	0.52
50:3:2745:G:H2'	50:3:2746:A:C8	2.44	0.52
52:5:293:G:C6	52:5:297:A:N6	2.77	0.52
52:5:397:C:N4	52:5:546:G:OP1	2.41	0.52
52:5:651:G:N1	52:5:750:A:O4'	2.42	0.52
52:5:1347:U:H2'	52:5:1348:G:O4'	2.10	0.52
5:B:3:GLN:OE1	52:5:1055:G:N2	2.42	0.52
5:B:15:ASN:O	5:B:207:ARG:NH1	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:90:LYS:O	5:B:93:LYS:HB3	2.10	0.52
6:C:58:GLN:NE2	52:5:543:C:OP2	2.43	0.52
8:E:94:TYR:HA	20:Q:81:MET:HE1	1.91	0.52
9:F:94:ARG:HH12	52:5:933:A:H4'	1.74	0.52
10:G:26:ARG:HE	10:G:27:LYS:HD3	1.74	0.52
23:T:55:LYS:HB2	52:5:1509:A:H4'	1.89	0.52
31:h:61:LYS:HZ1	31:h:65:PHE:HB2	1.74	0.52
37:n:49:ASN:ND2	51:4:7:G:N3	2.51	0.52
50:3:680:A:N1	50:3:2377:A:H1'	2.25	0.52
50:3:1437:A:H2'	50:3:1438:G:C8	2.45	0.52
50:3:1738:G:H2'	50:3:1739:G:C8	2.45	0.52
50:3:1738:G:H2'	50:3:1739:G:H8	1.74	0.52
51:4:64:G:H1'	51:4:97:A:H62	1.75	0.52
52:5:60:A:H5''	52:5:383:U:H4'	1.90	0.52
52:5:313:U:P	52:5:349:A:H62	2.32	0.52
52:5:677:C:H2'	52:5:678:A:H8	1.72	0.52
52:5:980:C:N4	52:5:1196:G:O6	2.42	0.52
52:5:988:G:H2'	52:5:988:G:N3	2.24	0.52
52:5:1332:U:H3	52:5:1338:A:H61	1.56	0.52
4:A:136:LYS:O	4:A:140:ASN:N	2.23	0.52
13:J:118:LYS:HB3	52:5:777:A:H4'	1.92	0.52
17:N:63:LEU:HD23	52:5:751:C:H1'	1.92	0.52
25:b:65:PRO:HG2	50:3:2641:A:H1'	1.91	0.52
32:i:119:ARG:NH2	50:3:562:C:O2	2.43	0.52
44:u:65:VAL:HB	44:u:73:LEU:HD12	1.92	0.52
46:w:48:ARG:NH1	50:3:76:A:OP2	2.41	0.52
50:3:1051:U:H2'	50:3:1052:A:C8	2.43	0.52
50:3:1519:A:H8	50:3:1520:A:C8	2.27	0.52
50:3:2058:G:O6	50:3:2622:A:O2'	2.26	0.52
50:3:2173:G:H3'	50:3:2174:G:C8	2.45	0.52
50:3:2221:U:H5''	50:3:2222:C:H5	1.75	0.52
50:3:2458:A:N7	50:3:2509:C:C4	2.78	0.52
50:3:2696:G:N1	50:3:2728:U:OP2	2.38	0.52
52:5:123:U:H2'	52:5:124:U:C6	2.44	0.52
52:5:130:G:H2'	52:5:131:G:C8	2.45	0.52
52:5:145:G:N1	52:5:148:A:OP2	2.35	0.52
52:5:333:U:O4	52:5:334:A:N6	2.43	0.52
52:5:511:A:H2'	52:5:512:U:C6	2.44	0.52
52:5:1070:G:O2'	52:5:1071:A:O4'	2.21	0.52
52:5:1289:U:H2'	52:5:1290:G:C8	2.45	0.52
14:K:57:LYS:NZ	52:5:1467:A:OP1	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:35:PHE:O	26:c:39:LEU:HG	2.10	0.52
26:c:165:ASN:ND2	26:c:167:ASN:HB2	2.23	0.52
28:e:20:PHE:CE2	28:e:48:LEU:HB2	2.45	0.52
30:g:107:ASN:OD1	30:g:108:PHE:N	2.42	0.52
31:h:120:ALA:HA	31:h:123:MET:HG2	1.91	0.52
35:l:38:LYS:H	35:l:127:VAL:HG13	1.74	0.52
37:n:99:HIS:NE2	51:4:35:C:O2	2.40	0.52
40:q:2:HIS:HE1	40:q:43:GLU:H	1.58	0.52
41:r:19:LEU:HD21	48:y:17:ARG:HD3	1.92	0.52
50:3:1154:U:H2'	50:3:1155:G:C8	2.45	0.52
50:3:1957:G:C2	50:3:1964:C:O2	2.62	0.52
50:3:2721:C:O2'	50:3:2723:C:OP2	2.25	0.52
51:4:96:G:H2'	51:4:97:A:H8	1.74	0.52
52:5:153:A:H2'	52:5:154:G:H8	1.73	0.52
52:5:365:U:O2	52:5:388:G:O6	2.26	0.52
52:5:473:A:H2'	52:5:474:G:C8	2.44	0.52
53:6:3:G:H1	53:6:72:C:H41	1.56	0.52
3:2:24:ARG:HG2	3:2:35:ARG:HB2	1.92	0.52
8:E:46:ALA:N	20:Q:97:ALA:O	2.37	0.52
18:O:64:ARG:HB3	18:O:73:TRP:HZ2	1.74	0.52
27:d:146:ILE:HG21	27:d:150:ARG:HD2	1.92	0.52
28:e:146:GLN:NE2	28:e:150:GLU:OE2	2.36	0.52
41:r:24:ILE:HG13	41:r:71:VAL:HG21	1.92	0.52
43:t:8:ASP:H	43:t:24:VAL:HG12	1.75	0.52
43:t:42:VAL:HG21	50:3:514:A:H2	1.75	0.52
43:t:91:TYR:CE1	43:t:102:ARG:HG2	2.45	0.52
50:3:297:G:H1	50:3:440:C:H6	1.57	0.52
50:3:1213:U:H2'	50:3:1214:U:C6	2.45	0.52
50:3:1337:G:HO2'	50:3:1645:C:HO2'	1.52	0.52
50:3:1694:A:H2'	50:3:1695:G:C8	2.45	0.52
50:3:2073:C:H2'	50:3:2074:G:C8	2.44	0.52
50:3:2193:U:H3'	50:3:2194:G:C8	2.45	0.52
50:3:2266:C:H3'	50:3:2267:G:C5'	2.40	0.52
52:5:133:G:H21	52:5:1422:A:H1'	1.74	0.52
52:5:395:G:H2'	52:5:396:C:C6	2.45	0.52
52:5:1361:G:H2'	52:5:1362:G:H8	1.74	0.52
52:5:1385:A:H2'	52:5:1386:C:H6	1.75	0.52
9:F:73:GLU:HB2	9:F:90:VAL:HA	1.91	0.52
11:H:95:GLU:H	11:H:95:GLU:CD	2.17	0.52
12:I:43:LYS:HG3	52:5:1115:G:H4'	1.91	0.52
16:M:23:ARG:HH22	52:5:976:U:H4'	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Q:83:GLN:OE1	52:5:717:C:O2'	2.25	0.52
33:j:6:THR:OG1	50:3:1700:G:O2'	2.28	0.52
33:j:116:SER:OG	52:5:339:U:O4	2.26	0.52
43:t:90:LYS:HD3	43:t:105:LYS:HD3	1.92	0.52
50:3:10:U:O2	50:3:2899:C:O2'	2.26	0.52
50:3:226:A:C2	50:3:237:A:H5''	2.45	0.52
50:3:628:A:H1'	50:3:975:G:H5''	1.91	0.52
50:3:762:A:H2'	50:3:763:G:C4	2.45	0.52
50:3:1054:U:H4'	50:3:1055:A:OP1	2.09	0.52
50:3:2062:C:N4	50:3:2508:U:O4'	2.43	0.52
50:3:2248:C:H2'	50:3:2249:A:C8	2.45	0.52
51:4:70:G:H1'	51:4:94:A:H62	1.75	0.52
51:4:77:G:N3	51:4:78:C:H1'	2.25	0.52
52:5:87:G:O2'	52:5:137:A:N3	2.40	0.52
52:5:291:C:N4	52:5:299:U:N3	2.31	0.52
52:5:350:G:N2	52:5:384:G:O2'	2.39	0.52
52:5:1418:G:H2'	52:5:1419:C:C6	2.45	0.52
53:8:3:G:H1	53:8:72:C:H41	1.56	0.52
2:1:4:LYS:HD2	2:1:6:ALA:HB3	1.91	0.52
4:A:91:TYR:HD1	4:A:258:ILE:H	1.58	0.52
7:D:158:THR:HG1	7:D:179:TYR:HH	1.55	0.52
20:Q:79:CYS:SG	20:Q:82:HIS:ND1	2.79	0.52
24:a:148:HIS:ND1	24:a:149:ASN:OD1	2.40	0.52
24:a:244:GLU:OE1	50:3:2609:C:N4	2.42	0.52
26:c:98:ASN:ND2	26:c:100:SER:OG	2.43	0.52
27:d:103:LEU:HD22	27:d:138:PHE:HZ	1.75	0.52
28:e:167:TYR:HD2	28:e:170:GLU:HB2	1.75	0.52
33:j:31:ARG:NE	50:3:2683:G:H5''	2.25	0.52
50:3:674:G:O2'	50:3:675:U:H5'	2.10	0.52
50:3:1092:A:H62	50:3:1121:A:H2'	1.75	0.52
50:3:1217:G:H2'	50:3:1218:G:O4'	2.10	0.52
50:3:1381:A:H8	50:3:1405:G:N2	2.07	0.52
50:3:2079:G:H2'	50:3:2080:C:H6	1.74	0.52
50:3:2753:C:N4	50:3:2767:G:O6	2.43	0.52
52:5:725:A:H2'	52:5:726:A:H8	1.74	0.52
6:C:13:ARG:HH12	52:5:540:U:H4'	1.74	0.52
6:C:87:VAL:HA	6:C:90:PHE:HB3	1.93	0.52
10:G:15:VAL:HG11	10:G:93:PRO:HD3	1.92	0.52
22:S:28:LEU:HD11	22:S:47:VAL:HG13	1.91	0.52
50:3:317:U:H2'	50:3:318:U:C6	2.44	0.52
50:3:772:C:H2'	50:3:773:G:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:974:C:H2'	50:3:975:G:H8	1.75	0.52
50:3:2090:G:C6	50:3:2244:U:O2	2.63	0.52
52:5:503:G:H2'	52:5:504:A:C8	2.45	0.52
52:5:1353:C:H3'	52:5:1354:G:C8	2.45	0.52
9:F:13:PRO:HG3	9:F:20:THR:HB	1.91	0.51
16:M:41:ARG:HG2	16:M:42:LEU:HD22	1.92	0.51
24:a:82:THR:HG23	24:a:120:LYS:HE3	1.91	0.51
24:a:94:CYS:SG	24:a:111:SER:OG	2.67	0.51
26:c:53:LEU:HB3	26:c:58:VAL:HG22	1.92	0.51
27:d:56:GLU:HB3	27:d:145:ASP:CG	2.35	0.51
27:d:100:LEU:O	27:d:104:ILE:HG12	2.10	0.51
32:i:3:LYS:HG3	32:i:4:THR:HG23	1.91	0.51
37:n:11:ARG:HD2	37:n:95:GLY:HA2	1.91	0.51
41:r:91:GLY:HA2	50:3:1648:A:C5	2.44	0.51
42:s:42:LEU:HD21	50:3:146:G:H4'	1.92	0.51
44:u:34:ARG:NH1	50:3:2279:G:O2'	2.42	0.51
50:3:464:A:H2'	50:3:465:A:O4'	2.09	0.51
50:3:1097:G:H2'	50:3:1098:G:C8	2.45	0.51
50:3:1246:U:N3	50:3:1263:G:N1	2.58	0.51
50:3:1347:A:H2'	50:3:1348:C:O4'	2.11	0.51
50:3:1402:G:H2'	50:3:1403:G:C8	2.44	0.51
50:3:1454:G:H2'	50:3:1455:A:C8	2.45	0.51
50:3:2117:G:O2'	50:3:2125:U:O2	2.27	0.51
50:3:2416:U:H2'	50:3:2417:G:H8	1.75	0.51
51:4:22:G:N1	51:4:57:G:O6	2.43	0.51
52:5:47:G:N2	52:5:391:C:O2	2.42	0.51
52:5:70:A:H2'	52:5:71:A:C8	2.45	0.51
52:5:211:G:H2'	52:5:212:G:H8	1.75	0.51
52:5:443:G:H3'	52:5:444:G:H8	1.75	0.51
52:5:736:U:H2'	52:5:737:U:O4'	2.10	0.51
52:5:836:C:H2'	52:5:837:G:C5	2.44	0.51
52:5:861:A:O2'	52:5:867:A:N6	2.36	0.51
2:1:15:LYS:HB3	50:3:664:G:H5''	1.90	0.51
4:A:130:LEU:HD12	4:A:159:LEU:HB3	1.91	0.51
4:A:234:ASP:HA	4:A:237:ALA:HB2	1.92	0.51
6:C:144:LEU:HD13	6:C:148:THR:HG21	1.92	0.51
12:I:22:THR:HG23	12:I:23:LEU:HD12	1.91	0.51
14:K:122:LYS:HD2	14:K:123:ARG:HD2	1.92	0.51
18:O:59:PRO:HG2	18:O:64:ARG:HH12	1.76	0.51
24:a:50:GLN:HE22	50:3:1818:G:N2	2.09	0.51
27:d:90:THR:O	27:d:92:ARG:NH2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:5:LEU:HA	29:f:34:LYS:HE2	1.92	0.51
33:j:68:GLY:HA3	33:j:78:LYS:HA	1.93	0.51
37:n:18:LYS:HD2	50:3:2300:A:H5'	1.91	0.51
50:3:122:G:H2'	50:3:123:G:H8	1.75	0.51
50:3:714:G:H2'	50:3:715:G:C8	2.46	0.51
50:3:1502:A:O2'	50:3:1541:A:N6	2.43	0.51
50:3:2663:G:N1	50:3:2673:A:OP2	2.44	0.51
50:3:2828:C:H3'	50:3:2829:G:N2	2.19	0.51
52:5:68:C:H1'	52:5:158:A:H1'	1.92	0.51
52:5:373:A:H2'	52:5:374:G:C8	2.45	0.51
52:5:1142:G:N1	52:5:1146:A:C6	2.78	0.51
5:B:31:ALA:HB2	16:M:37:PHE:HA	1.92	0.51
5:B:159:ARG:NH2	52:5:1046:A:N3	2.58	0.51
11:H:41:PHE:HD1	11:H:74:PHE:HB2	1.75	0.51
13:J:68:LYS:HA	13:J:72:MET:HB3	1.91	0.51
17:N:55:ALA:HA	52:5:578:C:O2'	2.09	0.51
19:P:10:ILE:O	19:P:10:ILE:HG13	2.10	0.51
21:R:53:ASN:O	52:5:1196:G:H1'	2.10	0.51
30:g:7:LYS:HE3	30:g:55:LYS:HG2	1.91	0.51
32:i:15:ARG:O	32:i:44:LYS:NZ	2.43	0.51
34:k:68:ALA:N	50:3:667:A:O2'	2.37	0.51
50:3:387:U:H2'	50:3:388:U:C6	2.46	0.51
50:3:539:U:O2'	50:3:547:G:OP2	2.26	0.51
50:3:608:A:H5'	50:3:2062:C:H5	1.75	0.51
50:3:645:C:H2'	50:3:646:A:H8	1.75	0.51
50:3:1063:A:H61	50:3:1160:G:H2'	1.75	0.51
50:3:2440:A:N6	53:8:76:C:O2	2.43	0.51
52:5:230:G:H2'	52:5:231:U:O4'	2.10	0.51
52:5:585:G:H3'	52:5:642:A:OP1	2.10	0.51
1:0:1:MET:O	50:3:1654:G:O2'	2.27	0.51
8:E:155:GLU:H	10:G:75:LYS:HE2	1.75	0.51
15:L:119:LYS:H	15:L:120:LYS:HZ3	1.58	0.51
16:M:3:LYS:HB3	52:5:1039:G:H5''	1.92	0.51
19:P:48:HIS:NE2	19:P:69:LEU:HD23	2.25	0.51
23:T:34:TYR:HE1	23:T:36:LEU:HD13	1.75	0.51
28:e:92:LEU:HD22	28:e:108:LEU:HD23	1.92	0.51
38:o:54:ARG:NH2	50:3:2726:G:O3'	2.41	0.51
40:q:46:GLY:HA3	40:q:50:LEU:HB2	1.92	0.51
49:z:36:LYS:HB2	49:z:47:HIS:ND1	2.25	0.51
50:3:60:G:H2'	50:3:61:U:C6	2.46	0.51
50:3:1261:U:H2'	50:3:1262:G:C8	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1348:C:O2	50:3:1359:C:N4	2.42	0.51
50:3:1829:U:H2'	50:3:1830:G:H8	1.76	0.51
50:3:1931:C:H2'	50:3:1932:C:C6	2.45	0.51
50:3:2122:G:O2'	50:3:2179:A:N6	2.43	0.51
50:3:2551:G:H4'	50:3:2653:G:C6	2.46	0.51
50:3:2885:U:H2'	50:3:2886:A:C8	2.45	0.51
52:5:438:A:N6	52:5:492:G:N1	2.58	0.51
52:5:887:C:H2'	52:5:888:A:C8	2.46	0.51
52:5:937:G:N2	52:5:1315:U:O2	2.44	0.51
52:5:1229:A:H2'	52:5:1230:G:H8	1.76	0.51
7:D:147:SER:HB2	7:D:191:MET:SD	2.50	0.51
10:G:100:PRO:HD2	10:G:103:LYS:HD3	1.91	0.51
15:L:95:LEU:HD21	15:L:110:LYS:HE2	1.92	0.51
24:a:238:HIS:CE1	24:a:240:HIS:HD2	2.29	0.51
26:c:8:LYS:HA	26:c:132:LEU:HD13	1.93	0.51
45:v:10:ARG:NH2	50:3:433:A:OP2	2.44	0.51
50:3:163:A:N6	50:3:170:A:H1'	2.26	0.51
50:3:210:U:C2	50:3:211:A:C8	2.99	0.51
50:3:230:G:H1'	50:3:232:A:H61	1.76	0.51
50:3:1072:A:H2'	50:3:1073:A:C8	2.46	0.51
50:3:1789:C:O2	50:3:2616:G:O2'	2.22	0.51
50:3:1943:A:OP2	50:3:1969:C:N4	2.39	0.51
50:3:1976:A:H2'	50:3:1979:G:H21	1.75	0.51
50:3:2058:G:H22	50:3:2625:U:H3	1.58	0.51
50:3:2114:C:H2'	50:3:2115:A:H8	1.74	0.51
50:3:2675:C:H2'	50:3:2676:G:C8	2.45	0.51
52:5:10:G:H2'	52:5:11:A:C8	2.44	0.51
52:5:10:G:H2'	52:5:11:A:H8	1.74	0.51
52:5:329:C:N3	52:5:330:C:N4	2.59	0.51
52:5:731:A:H2'	52:5:732:A:C8	2.46	0.51
52:5:1002:A:H3'	52:5:1003:G:C8	2.45	0.51
52:5:1397:G:H2'	52:5:1398:G:C8	2.46	0.51
53:8:30:G:H2'	53:8:31:G:H8	1.75	0.51
3:2:27:CYS:O	3:2:30:GLN:NE2	2.43	0.51
24:a:162:ARG:N	50:3:1826:A:OP1	2.43	0.51
27:d:13:ALA:O	27:d:28:VAL:HG11	2.10	0.51
37:n:102:ILE:H	37:n:102:ILE:HD12	1.74	0.51
45:v:20:HIS:HD2	53:8:77:A:H3'	1.76	0.51
46:w:45:ASN:HD22	50:3:63:U:H6	1.57	0.51
50:3:61:U:O4	50:3:70:G:O6	2.29	0.51
50:3:495:U:H2'	50:3:496:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:683:G:N2	50:3:2358:U:O3'	2.41	0.51
50:3:775:C:OP1	50:3:1791:A:O2'	2.22	0.51
50:3:1624:A:H2'	50:3:1625:G:H8	1.76	0.51
50:3:1805:U:O2'	50:3:1810:A:O4'	2.27	0.51
50:3:2416:U:H2'	50:3:2417:G:C8	2.45	0.51
50:3:2436:G:H4'	50:3:2437:G:C4	2.46	0.51
50:3:2528:C:P	50:3:2549:A:H62	2.34	0.51
50:3:2555:U:H2'	50:3:2556:C:C6	2.46	0.51
50:3:2644:U:H2'	50:3:2645:U:H6	1.75	0.51
50:3:2689:C:H1'	50:3:2691:C:H41	1.75	0.51
52:5:204:C:H2'	52:5:205:U:C6	2.46	0.51
52:5:466:U:H3'	52:5:467:G:C8	2.46	0.51
52:5:680:G:H1	52:5:704:U:H3	1.58	0.51
52:5:879:G:H2'	52:5:880:G:C8	2.44	0.51
52:5:919:C:N4	52:5:1367:G:O6	2.44	0.51
52:5:1039:G:N1	52:5:1184:C:N3	2.41	0.51
5:B:113:MET:HB2	5:B:119:ILE:HD11	1.93	0.51
6:C:100:ILE:HD12	6:C:103:ARG:HB3	1.91	0.51
6:C:112:SER:HB2	52:5:403:A:H4'	1.93	0.51
14:K:120:VAL:HG22	14:K:123:ARG:H	1.76	0.51
18:O:46:GLU:HA	18:O:72:LEU:HD12	1.91	0.51
37:n:4:ARG:HG3	51:4:44:A:H5''	1.92	0.51
39:p:61:ILE:HG22	50:3:1046:A:OP1	2.11	0.51
42:s:41:LYS:HA	42:s:52:PRO:HG2	1.92	0.51
44:u:37:ALA:H	50:3:2277:A:H1'	1.76	0.51
46:w:42:HIS:CG	50:3:97:A:HO2'	2.24	0.51
50:3:194:A:N6	50:3:211:A:H1'	2.26	0.51
50:3:266:A:N3	50:3:466:A:O2'	2.32	0.51
50:3:413:G:O6	50:3:435:U:O4	2.28	0.51
50:3:720:A:N7	50:3:808:U:H2'	2.25	0.51
50:3:897:A:H2'	50:3:898:A:O4'	2.11	0.51
50:3:1046:A:O2'	50:3:1187:C:O2	2.27	0.51
50:3:1466:U:O5'	50:3:1542:G:O2'	2.29	0.51
50:3:1546:U:H3'	50:3:1547:G:H8	1.76	0.51
50:3:1669:A:C2	50:3:1768:G:H1'	2.46	0.51
50:3:1743:U:H2'	50:3:1744:U:H6	1.76	0.51
50:3:2121:A:H62	50:3:2122:G:H21	1.59	0.51
50:3:2440:A:H2	53:8:75:C:C4	2.29	0.51
52:5:118:C:H2'	52:5:119:U:C6	2.45	0.51
52:5:1379:C:H2'	52:5:1380:G:C8	2.44	0.51
6:C:2:LYS:NZ	6:C:67:THR:HG21	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:133:SER:O	52:5:618:U:N3	2.44	0.51
11:H:15:SER:OG	11:H:72:GLY:HA3	2.10	0.51
22:S:60:ILE:HG23	22:S:64:ARG:HD2	1.93	0.51
25:b:12:GLY:HA3	38:o:10:ILE:HD11	1.93	0.51
28:e:126:VAL:HG21	28:e:147:PHE:HE2	1.75	0.51
41:r:124:LEU:O	41:r:128:ARG:HG3	2.11	0.51
43:t:15:GLY:C	50:3:343:A:H4'	2.35	0.51
50:3:81:C:O2	50:3:380:A:C2	2.64	0.51
50:3:1169:A:H4'	50:3:1170:C:H5'	1.93	0.51
50:3:2527:U:N3	50:3:2550:A:OP2	2.35	0.51
51:4:77:G:C5	51:4:78:C:C2	2.99	0.51
52:5:233:C:H2'	52:5:234:G:C4	2.46	0.51
52:5:775:G:H22	52:5:801:U:H1'	1.75	0.51
53:8:63:U:H2'	53:8:64:G:H8	1.76	0.51
6:C:115:GLN:HE22	52:5:402:G:N2	2.09	0.51
8:E:8:LEU:HD12	8:E:84:ARG:H	1.76	0.51
11:H:114:GLU:HB2	52:5:1321:G:H3'	1.92	0.51
19:P:32:HIS:N	19:P:37:LYS:O	2.31	0.51
21:R:77:THR:HB	52:5:1196:G:H5''	1.93	0.51
25:b:31:CYS:HB3	25:b:189:MET:HB3	1.92	0.51
25:b:56:THR:HA	25:b:78:THR:HA	1.92	0.51
26:c:58:VAL:HG12	26:c:59:ARG:HG2	1.92	0.51
35:l:114:MET:O	35:l:118:LEU:HG	2.11	0.51
37:n:38:HIS:NE2	51:4:25:A:H5''	2.26	0.51
39:p:60:TRP:CD2	39:p:93:VAL:HB	2.46	0.51
41:r:117:LEU:HD21	50:3:23:A:O2'	2.11	0.51
44:u:62:GLY:HA3	44:u:96:SER:HB2	1.93	0.51
50:3:353:G:H2'	50:3:354:C:N1	2.24	0.51
50:3:874:U:H3	50:3:975:G:H1	1.59	0.51
50:3:1095:U:C4	50:3:1123:A:N7	2.79	0.51
50:3:1484:G:H2'	50:3:1485:A:C8	2.46	0.51
50:3:1521:A:H1'	50:3:1612:U:H1'	1.93	0.51
50:3:1705:U:OP1	50:3:2517:A:O2'	2.29	0.51
50:3:1851:U:H2'	50:3:1852:G:C8	2.46	0.51
50:3:2134:G:H2'	50:3:2135:C:C6	2.46	0.51
50:3:2681:G:H2'	50:3:2682:A:H8	1.75	0.51
50:3:2755:G:N2	50:3:2765:A:H62	2.09	0.51
51:4:11:A:O2'	51:4:13:G:H2'	2.09	0.51
51:4:60:C:H2'	51:4:61:A:C8	2.45	0.51
51:4:69:C:H2'	51:4:70:G:H8	1.76	0.51
52:5:95:C:OP2	52:5:311:A:N6	2.33	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:734:A:H2'	52:5:735:C:C6	2.45	0.51
1:0:35:ARG:HH12	50:3:55:A:H2	1.59	0.51
8:E:22:ASN:HB3	8:E:60:TRP:CZ2	2.46	0.51
12:I:73:LYS:NZ	16:M:54:PRO:O	2.43	0.51
19:P:12:ILE:N	19:P:25:GLN:O	2.44	0.51
26:c:127:LEU:HD13	26:c:201:LYS:HA	1.91	0.51
27:d:68:THR:OG1	27:d:88:LYS:HG2	2.11	0.51
36:m:110:ALA:O	50:3:2015:C:O2'	2.22	0.51
38:o:56:ARG:HD2	38:o:63:THR:HG22	1.93	0.51
41:r:43:ALA:O	41:r:47:ILE:HG13	2.10	0.51
43:t:48:LYS:HA	43:t:51:THR:HG22	1.93	0.51
50:3:30:A:N6	50:3:547:G:N3	2.55	0.51
50:3:70:G:N2	50:3:76:A:O5'	2.44	0.51
50:3:227:A:H61	50:3:412:A:H4'	1.75	0.51
50:3:568:G:H2'	50:3:569:U:C6	2.46	0.51
50:3:603:G:N1	50:3:2506:C:H4'	2.25	0.51
50:3:867:G:H2'	50:3:868:C:C6	2.46	0.51
50:3:1048:A:O2'	50:3:1049:U:OP1	2.26	0.51
50:3:1120:A:O2'	50:3:1139:C:O2	2.26	0.51
50:3:1193:U:H2'	50:3:1194:U:H6	1.75	0.51
50:3:1793:A:H2	50:3:1945:A:H5''	1.76	0.51
50:3:2515:C:O2'	53:6:76:C:O2	2.27	0.51
50:3:2517:A:H2'	50:3:2518:C:H6	1.76	0.51
50:3:2683:G:N1	50:3:2740:U:N3	2.58	0.51
50:3:2736:U:HO2'	50:3:2737:G:H8	1.60	0.51
52:5:420:A:H3'	52:5:421:G:H8	1.76	0.51
52:5:458:G:O6	52:5:469:C:N4	2.32	0.51
52:5:578:C:H2'	52:5:579:G:H8	1.76	0.51
52:5:684:A:N6	52:5:698:U:O4'	2.44	0.51
4:A:22:LYS:HE2	4:A:250:PRO:HA	1.93	0.50
14:K:38:VAL:HG21	52:5:360:A:H61	1.76	0.50
14:K:63:ARG:HB2	14:K:103:LEU:HD21	1.92	0.50
29:f:1:MET:N	45:v:59:LYS:O	2.40	0.50
31:h:77:LYS:O	31:h:82:LEU:N	2.44	0.50
33:j:100:GLY:HA2	38:o:73:ILE:HD13	1.93	0.50
39:p:35:LYS:HA	39:p:38:VAL:HG22	1.92	0.50
40:q:6:VAL:HB	40:q:37:LYS:HB2	1.92	0.50
43:t:41:LYS:O	43:t:64:GLN:NE2	2.44	0.50
49:z:19:TYR:OH	49:z:37:PHE:O	2.29	0.50
50:3:697:U:H2'	50:3:698:A:H8	1.76	0.50
50:3:764:G:C8	50:3:799:A:H5''	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1398:C:H2'	50:3:1399:G:C8	2.47	0.50
50:3:1440:U:H2'	50:3:1441:A:O4'	2.11	0.50
50:3:1588:A:H2'	50:3:1589:A:C5	2.46	0.50
50:3:2291:U:H2'	50:3:2292:A:C8	2.46	0.50
50:3:2307:G:H2'	50:3:2308:U:C6	2.46	0.50
50:3:2403:C:H2'	50:3:2404:G:C8	2.46	0.50
50:3:2651:G:H2'	50:3:2652:U:C6	2.46	0.50
50:3:2705:G:H2'	50:3:2706:U:C6	2.46	0.50
52:5:775:G:N2	52:5:800:G:H22	2.09	0.50
52:5:1435:G:H2'	52:5:1436:C:C6	2.47	0.50
6:C:37:GLN:CD	52:5:538:G:H21	2.19	0.50
6:C:151:ILE:HD12	52:5:434:U:H5''	1.93	0.50
7:D:72:LYS:HE3	7:D:188:PRO:HG2	1.93	0.50
11:H:76:GLY:N	52:5:1347:U:OP1	2.44	0.50
11:H:125:ARG:NH2	52:5:1323:A:OP2	2.41	0.50
13:J:115:LYS:HD2	23:T:35:HIS:CD2	2.44	0.50
24:a:34:GLU:OE1	24:a:37:LEU:N	2.42	0.50
25:b:55:ASP:OD2	25:b:80:HIS:ND1	2.41	0.50
37:n:71:LYS:HB3	37:n:104:ALA:HB1	1.93	0.50
44:u:64:ASN:O	44:u:76:LEU:N	2.45	0.50
50:3:199:A:H61	50:3:202:C:H3'	1.77	0.50
50:3:1068:U:O2'	50:3:1070:U:OP2	2.27	0.50
50:3:1244:A:N6	50:3:1265:G:H1'	2.26	0.50
50:3:2033:G:H2'	50:3:2034:G:H8	1.75	0.50
50:3:2380:U:H2'	50:3:2381:G:C8	2.46	0.50
51:4:21:G:H2'	51:4:22:G:C8	2.46	0.50
52:5:219:A:H2'	52:5:220:U:C6	2.46	0.50
52:5:401:U:H5''	52:5:493:A:C2	2.45	0.50
52:5:813:A:OP1	52:5:1501:G:O2'	2.28	0.50
52:5:820:A:H2'	52:5:821:U:O4'	2.12	0.50
52:5:1062:C:H2'	52:5:1063:G:C8	2.46	0.50
52:5:1341:U:H2'	52:5:1342:C:H6	1.76	0.50
24:a:165:GLY:H	24:a:203:VAL:HB	1.75	0.50
24:a:238:HIS:NE2	24:a:257:PRO:HA	2.26	0.50
35:l:77:LYS:NZ	35:l:85:SER:OG	2.38	0.50
40:q:24:LYS:HD2	40:q:88:PRO:HB2	1.93	0.50
45:v:13:LEU:HD21	50:3:418:G:H21	1.76	0.50
46:w:46:GLN:NE2	50:3:63:U:O4	2.44	0.50
49:z:15:ARG:O	50:3:2407:G:O2'	2.29	0.50
50:3:155:A:H2'	50:3:156:A:C8	2.47	0.50
50:3:1112:A:H2'	50:3:1113:U:H5'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1737:G:H2'	50:3:1738:G:C8	2.46	0.50
50:3:1987:C:O2'	50:3:1989:U:H5'	2.11	0.50
50:3:2120:G:O6	50:3:2176:G:O2'	2.29	0.50
52:5:410:A:N6	52:5:428:A:O2'	2.45	0.50
52:5:542:G:N2	52:5:547:C:O2'	2.44	0.50
52:5:1093:A:H2'	52:5:1094:C:C6	2.46	0.50
52:5:1122:U:O2'	52:5:1123:G:N3	2.40	0.50
53:6:15:A:C2	53:6:16:G:H1'	2.47	0.50
6:C:8:PHE:HB2	52:5:426:U:H5'	1.93	0.50
7:D:100:LYS:HB3	7:D:126:LEU:HD22	1.94	0.50
9:F:5:ARG:NH1	9:F:6:ALA:O	2.45	0.50
23:T:37:ARG:NH2	52:5:1501:G:OP2	2.45	0.50
40:q:33:ILE:HG22	40:q:57:CYS:O	2.11	0.50
50:3:333:A:N7	50:3:373:U:O4	2.44	0.50
50:3:660:U:O2	50:3:692:U:H4'	2.11	0.50
50:3:763:G:O2'	50:3:765:A:O4'	2.29	0.50
50:3:1007:C:H2'	50:3:1008:A:O4'	2.10	0.50
50:3:1410:A:H2'	50:3:1411:C:O4'	2.11	0.50
50:3:1495:A:H2'	50:3:1496:A:C8	2.46	0.50
50:3:2094:A:H2'	50:3:2095:A:C8	2.46	0.50
50:3:2100:G:H2'	50:3:2101:A:H8	1.75	0.50
50:3:2425:C:H2'	50:3:2426:A:C8	2.46	0.50
50:3:2457:U:H1'	50:3:2509:C:H41	1.77	0.50
50:3:2746:A:C2	50:3:2747:U:H1'	2.47	0.50
50:3:2823:A:O2'	50:3:2825:A:OP2	2.22	0.50
51:4:43:A:H3'	51:4:44:A:H8	1.77	0.50
52:5:420:A:H5''	52:5:421:G:N7	2.26	0.50
52:5:580:C:C4	52:5:756:A:N6	2.76	0.50
52:5:688:G:H1'	52:5:693:A:H62	1.75	0.50
52:5:799:A:C6	52:5:800:G:H1'	2.47	0.50
52:5:977:U:H1'	52:5:979:C:H41	1.76	0.50
52:5:1138:U:N3	52:5:1149:G:C6	2.79	0.50
52:5:1176:A:H4'	52:5:1177:U:H5''	1.94	0.50
5:B:92:ILE:HA	5:B:95:ILE:HG22	1.93	0.50
25:b:148:GLN:HE21	50:3:2060:G:P	2.34	0.50
26:c:109:THR:HB	26:c:211:PHE:HB3	1.93	0.50
27:d:135:GLN:OE1	27:d:149:ILE:HA	2.11	0.50
35:l:26:TYR:HB2	35:l:135:GLU:HB3	1.93	0.50
50:3:1574:G:H2'	50:3:1575:C:C6	2.45	0.50
50:3:1633:C:H2'	50:3:1634:A:C8	2.47	0.50
50:3:1711:A:H2'	50:3:1712:A:O4'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2061:A:H5''	50:3:2062:C:H4'	1.93	0.50
51:4:96:G:H2'	51:4:97:A:C8	2.46	0.50
52:5:144:U:H2'	52:5:145:G:C8	2.45	0.50
4:A:197:PRO:HG3	8:E:163:MET:HG3	1.93	0.50
5:B:6:ASN:HB2	52:5:1051:U:OP2	2.12	0.50
12:I:40:VAL:HG22	12:I:41:LYS:H	1.77	0.50
15:L:9:ILE:HG12	15:L:15:ILE:HD11	1.94	0.50
28:e:4:ILE:HG22	28:e:72:ASN:HB3	1.93	0.50
28:e:58:ASN:OD1	28:e:59:ASN:N	2.44	0.50
28:e:113:SER:HB2	50:3:2661:U:H2'	1.94	0.50
30:g:103:LYS:HG2	30:g:104:GLU:H	1.76	0.50
34:k:16:LYS:NZ	50:3:1224:G:N7	2.59	0.50
36:m:26:LEU:HD23	36:m:78:LEU:HB3	1.93	0.50
44:u:18:LYS:HE3	50:3:2262:C:N4	2.27	0.50
50:3:209:G:H1'	50:3:210:U:H5	1.76	0.50
50:3:758:C:H2'	50:3:759:U:C6	2.46	0.50
50:3:1619:A:H2'	50:3:1620:A:C8	2.41	0.50
50:3:1726:U:H4'	50:3:1984:A:H4'	1.94	0.50
50:3:2068:G:N7	50:3:2511:A:H5''	2.26	0.50
50:3:2208:U:O4	50:3:2232:G:N2	2.45	0.50
50:3:2270:U:H4'	50:3:2336:A:C2	2.47	0.50
50:3:2737:G:C2	50:3:2738:U:C4	3.00	0.50
50:3:2782:A:H2'	50:3:2783:A:C8	2.46	0.50
52:5:1454:G:H2'	52:5:1455:G:C8	2.47	0.50
6:C:91:ARG:HD2	6:C:181:PHE:CG	2.47	0.50
9:F:31:GLU:OE1	52:5:1215:U:O2'	2.23	0.50
12:I:35:VAL:HG12	12:I:93:LEU:HD21	1.94	0.50
17:N:29:LEU:HD11	17:N:59:LYS:HZ3	1.77	0.50
17:N:43:ASN:ND2	52:5:665:G:N3	2.60	0.50
25:b:11:VAL:HG22	25:b:30:TYR:H	1.76	0.50
36:m:43:LYS:O	36:m:47:LYS:HG3	2.12	0.50
38:o:101:ILE:HD12	38:o:104:MET:HG2	1.94	0.50
48:y:19:HIS:NE2	50:3:2632:C:O2	2.44	0.50
50:3:601:U:H2'	50:3:603:G:OP2	2.11	0.50
50:3:853:G:N1	50:3:1219:U:OP2	2.43	0.50
50:3:2023:U:H2'	50:3:2024:C:C6	2.47	0.50
50:3:2151:G:O2'	50:3:2154:A:N6	2.44	0.50
50:3:2259:G:H5''	50:3:2457:U:H4'	1.93	0.50
50:3:2333:G:H2'	50:3:2334:U:H5'	1.93	0.50
52:5:390:G:H2'	52:5:391:C:O4'	2.11	0.50
52:5:770:G:O6	52:5:804:A:N6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1135:U:H5''	52:5:1157:G:N3	2.27	0.50
11:H:49:ASP:CG	11:H:52:GLN:HG2	2.37	0.50
13:J:59:ALA:O	13:J:63:VAL:HG22	2.12	0.50
13:J:113:GLY:HA2	52:5:712:A:C2	2.47	0.50
18:O:35:PRO:HB2	52:5:447:G:H4'	1.92	0.50
24:a:84:LYS:NZ	50:3:1526:U:OP1	2.45	0.50
27:d:176:PRO:HB3	47:x:48:GLY:HA3	1.93	0.50
28:e:145:GLY:HA3	50:3:2753:C:O2'	2.12	0.50
32:i:35:ALA:O	32:i:39:ILE:HG12	2.11	0.50
41:r:24:ILE:HD12	41:r:27:LYS:HD2	1.92	0.50
44:u:98:VAL:O	44:u:100:HIS:ND1	2.45	0.50
50:3:236:G:N2	50:3:456:G:OP1	2.45	0.50
50:3:318:U:H2'	50:3:319:G:C8	2.47	0.50
50:3:353:G:N1	50:3:357:A:C8	2.75	0.50
50:3:608:A:H5'	50:3:2062:C:C5	2.47	0.50
50:3:896:U:O2'	50:3:2275:A:H5''	2.12	0.50
50:3:951:C:N4	51:4:91:A:H5''	2.27	0.50
50:3:1216:U:H4'	50:3:1218:G:OP2	2.12	0.50
50:3:1294:G:N3	50:3:2022:A:N6	2.59	0.50
50:3:2327:U:H4'	50:3:2328:A:H5'	1.93	0.50
50:3:2411:C:H2'	50:3:2412:A:C8	2.47	0.50
50:3:2690:U:H2'	50:3:2691:C:C6	2.47	0.50
52:5:837:G:H1'	52:5:840:C:H41	1.77	0.50
52:5:1384:A:H2'	52:5:1385:A:C8	2.46	0.50
52:5:1438:U:H2'	52:5:1439:G:C8	2.47	0.50
53:6:30:G:H2'	53:6:31:G:H8	1.75	0.50
6:C:75:PHE:HZ	6:C:197:VAL:HG12	1.75	0.50
8:E:151:LYS:HE3	10:G:49:VAL:HG13	1.94	0.50
9:F:94:ARG:HH11	9:F:98:LEU:HD21	1.75	0.50
26:c:11:GLY:O	26:c:150:ALA:HA	2.12	0.50
35:l:58:LEU:HD12	35:l:113:GLN:HG3	1.93	0.50
36:m:36:LYS:NZ	36:m:112:GLU:O	2.43	0.50
50:3:407:U:H3'	50:3:440:C:H41	1.77	0.50
50:3:697:U:H2'	50:3:698:A:C8	2.47	0.50
50:3:911:U:H2'	50:3:912:A:C8	2.47	0.50
50:3:1144:C:H3'	50:3:1145:G:C8	2.47	0.50
50:3:1317:C:H4'	50:3:1358:C:O4'	2.11	0.50
50:3:1535:A:H8	50:3:1536:C:C6	2.30	0.50
50:3:2109:A:C6	50:3:2196:G:C6	3.00	0.50
52:5:21:U:H2'	52:5:22:G:O4'	2.12	0.50
52:5:260:C:H2'	52:5:261:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:412:G:H2'	52:5:413:G:C8	2.47	0.50
52:5:845:C:H2'	52:5:846:G:H8	1.77	0.50
52:5:885:U:H2'	52:5:886:A:C8	2.46	0.50
52:5:975:C:O2	52:5:975:C:H2'	2.11	0.50
52:5:1215:U:O2'	52:5:1216:G:O5'	2.30	0.50
53:8:15:A:C2	53:8:16:G:H1'	2.47	0.50
5:B:78:ILE:HD11	5:B:106:ILE:HD13	1.93	0.49
9:F:106:PHE:HB3	9:F:109:LYS:HZ1	1.76	0.49
9:F:113:LYS:HB2	52:5:1271:U:H1'	1.93	0.49
24:a:39:VAL:HG12	24:a:40:THR:H	1.77	0.49
28:e:149:THR:HG22	28:e:152:ARG:HE	1.75	0.49
34:k:95:ARG:HH11	34:k:112:ILE:HG13	1.76	0.49
35:l:42:ILE:HD12	35:l:47:ILE:HG12	1.93	0.49
39:p:1:MET:HB3	50:3:480:C:H5'	1.94	0.49
49:z:12:ASN:HA	49:z:15:ARG:HH21	1.77	0.49
50:3:983:A:H2'	50:3:984:C:C6	2.47	0.49
50:3:1927:C:O2'	52:5:1492:G:O6	2.24	0.49
50:3:2572:A:N1	50:3:2655:U:H4'	2.26	0.49
50:3:2654:U:C4	50:3:2683:G:N2	2.80	0.49
51:4:11:A:N6	51:4:67:G:O2'	2.45	0.49
51:4:77:G:N2	51:4:87:U:O2	2.39	0.49
52:5:367:A:H2'	52:5:368:C:C6	2.47	0.49
52:5:1009:G:O2'	52:5:1011:A:N7	2.37	0.49
52:5:1101:A:H2'	52:5:1102:A:O4'	2.12	0.49
52:5:1306:A:H2'	52:5:1307:A:O4'	2.11	0.49
10:G:55:ALA:HB2	10:G:75:LYS:HB2	1.93	0.49
16:M:21:TYR:OH	16:M:23:ARG:NH1	2.45	0.49
24:a:227:THR:N	50:3:1797:C:OP1	2.45	0.49
25:b:68:GLY:HA2	25:b:71:GLU:HG2	1.93	0.49
27:d:34:ILE:HG12	27:d:156:LEU:HD22	1.94	0.49
27:d:92:ARG:H	27:d:95:ARG:NH2	2.09	0.49
29:f:47:ARG:NH1	29:f:51:LEU:HD13	2.27	0.49
32:i:95:MET:HE3	32:i:100:SER:HA	1.94	0.49
32:i:113:PRO:O	32:i:118:SER:OG	2.25	0.49
42:s:44:PHE:O	42:s:48:TYR:HB2	2.11	0.49
45:v:37:LYS:NZ	50:3:2207:A:OP1	2.45	0.49
50:3:42:U:H2'	50:3:43:A:H8	1.78	0.49
50:3:266:A:H5'	50:3:644:C:H4'	1.94	0.49
50:3:617:C:H2'	50:3:618:G:C8	2.47	0.49
50:3:709:G:H21	50:3:2452:G:H4'	1.77	0.49
50:3:808:U:O2	50:3:813:G:O2'	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:899:A:O2'	51:4:90:G:N2	2.37	0.49
50:3:1097:G:C8	50:3:1123:A:C8	3.00	0.49
50:3:1112:A:H2'	50:3:1112:A:N3	2.27	0.49
50:3:1862:A:O2'	50:3:2095:A:O2'	2.14	0.49
50:3:1932:C:H2'	50:3:1933:U:O4'	2.12	0.49
50:3:2059:G:H2'	50:3:2060:G:C8	2.47	0.49
50:3:2163:U:H2'	50:3:2164:G:O4'	2.11	0.49
50:3:2210:G:O2'	50:3:2212:U:OP2	2.23	0.49
50:3:2324:A:H2'	50:3:2325:U:O4'	2.12	0.49
50:3:2488:C:H2'	50:3:2489:G:O4'	2.12	0.49
50:3:2661:U:C2	50:3:2676:G:N1	2.80	0.49
50:3:2858:A:H2'	50:3:2859:U:C6	2.47	0.49
52:5:583:G:C2	52:5:754:U:O2	2.65	0.49
53:6:16:G:H22	53:6:60:U:H3	1.60	0.49
53:6:63:U:H2'	53:6:64:G:H8	1.76	0.49
9:F:11:VAL:HG22	9:F:27:ASN:HD21	1.77	0.49
9:F:35:LYS:H	52:5:1348:G:H4'	1.77	0.49
27:d:66:VAL:HG21	51:4:40:U:O4	2.11	0.49
28:e:166:LEU:HG	28:e:168:PHE:H	1.77	0.49
38:o:32:ASN:HB2	38:o:91:LYS:HE3	1.94	0.49
39:p:92:LYS:HG2	50:3:1033:A:H5''	1.94	0.49
39:p:103:SER:O	39:p:103:SER:OG	2.29	0.49
50:3:431:U:H1'	50:3:432:G:N7	2.27	0.49
50:3:665:C:H2'	50:3:666:G:H8	1.76	0.49
50:3:1027:U:O4	50:3:1198:G:O6	2.31	0.49
50:3:1780:A:H2'	50:3:1781:C:O4'	2.13	0.49
50:3:1910:G:OP1	50:3:1978:U:N3	2.45	0.49
50:3:1962:U:H5'	50:3:2565:G:N2	2.27	0.49
50:3:1972:C:H5'	50:3:1973:U:H2'	1.93	0.49
50:3:2385:A:H2'	50:3:2386:A:C8	2.47	0.49
50:3:2661:U:OP2	50:3:2662:A:O2'	2.25	0.49
52:5:22:G:H2'	52:5:23:G:C8	2.47	0.49
52:5:281:U:H2'	52:5:282:G:C8	2.48	0.49
52:5:382:U:H2'	52:5:383:U:C6	2.47	0.49
52:5:693:A:H2	52:5:783:G:N3	2.10	0.49
52:5:849:A:H2'	52:5:850:G:C8	2.47	0.49
52:5:909:A:OP2	52:5:909:A:H8	1.95	0.49
52:5:931:C:O2	52:5:1355:U:N3	2.40	0.49
52:5:935:U:H3'	52:5:936:G:C8	2.47	0.49
52:5:1242:U:O4	52:5:1301:U:O2'	2.25	0.49
52:5:1323:A:H2'	52:5:1324:A:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1332:U:H3	52:5:1338:A:N6	2.11	0.49
10:G:117:SER:OG	52:5:639:A:N3	2.31	0.49
26:c:28:GLU:HB2	26:c:30:LYS:HE2	1.93	0.49
34:k:74:LYS:HE3	34:k:76:GLU:HG3	1.94	0.49
46:w:37:GLU:HG2	46:w:37:GLU:O	2.11	0.49
46:w:38:LEU:HD23	46:w:40:LYS:H	1.77	0.49
50:3:111:G:H2'	50:3:112:A:C8	2.47	0.49
50:3:226:A:O2'	50:3:456:G:O2'	2.27	0.49
50:3:858:A:H2'	50:3:859:G:C8	2.46	0.49
50:3:1746:U:C5	50:3:1747:G:H1'	2.48	0.49
50:3:2068:G:O2'	50:3:2069:A:OP2	2.29	0.49
50:3:2658:U:H2'	50:3:2659:U:H6	1.76	0.49
52:5:288:A:H62	52:5:301:G:H21	1.61	0.49
52:5:612:G:O6	52:5:624:U:C4	2.65	0.49
52:5:673:A:H2	52:5:711:G:H1	1.60	0.49
52:5:760:U:H2'	52:5:761:U:C6	2.48	0.49
52:5:764:A:H62	52:5:809:G:H21	0.69	0.49
52:5:1074:U:O2'	52:5:1093:A:N7	2.37	0.49
52:5:1084:A:C4	52:5:1086:U:H5'	2.48	0.49
53:8:16:G:H22	53:8:60:U:H3	1.60	0.49
4:A:92:VAL:HA	4:A:95:LEU:HD12	1.94	0.49
7:D:72:LYS:HB3	7:D:91:LEU:HB2	1.93	0.49
14:K:127:ARG:HD2	52:5:499:U:H5''	1.95	0.49
15:L:53:PHE:HA	15:L:56:ILE:HD12	1.95	0.49
24:a:8:SER:OG	50:3:764:G:OP1	2.22	0.49
24:a:262:HIS:CE1	24:a:263:MET:HG2	2.47	0.49
28:e:113:SER:OG	50:3:2675:C:N3	2.45	0.49
50:3:14:U:O2	50:3:14:U:H2'	2.13	0.49
50:3:263:C:H2'	50:3:264:G:C8	2.47	0.49
50:3:379:A:O2'	50:3:382:U:O4	2.30	0.49
50:3:509:G:H2'	50:3:510:G:C8	2.48	0.49
50:3:596:G:H2'	50:3:597:C:H6	1.78	0.49
50:3:895:G:H21	50:3:953:G:H2'	1.77	0.49
50:3:1946:U:N3	50:3:1974:U:O2'	2.24	0.49
50:3:2295:A:C5	50:3:2297:G:C8	3.00	0.49
50:3:2824:A:N6	50:3:2840:U:O3'	2.46	0.49
51:4:67:G:H2'	51:4:68:C:C6	2.47	0.49
52:5:63:U:O2	52:5:90:G:N2	2.46	0.49
52:5:599:G:O6	52:5:634:U:O4	2.30	0.49
52:5:1235:C:O2	52:5:1249:G:N2	2.45	0.49
52:5:1379:C:H6	52:5:1379:C:O5'	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:18:LEU:N	6:C:23:LYS:HG3	2.27	0.49
13:J:24:ILE:HG21	52:5:702:U:H2'	1.94	0.49
16:M:61:TRP:NE1	52:5:1162:G:O4'	2.46	0.49
27:d:63:GLN:HG2	27:d:89:VAL:HG13	1.95	0.49
32:i:98:LYS:HG3	32:i:99:GLN:H	1.76	0.49
33:j:103:ALA:HA	33:j:122:VAL:HB	1.93	0.49
38:o:30:GLU:OE2	38:o:91:LYS:HG3	2.13	0.49
38:o:97:ARG:HB2	50:3:1760:G:H5''	1.94	0.49
42:s:59:ILE:HG13	50:3:1635:G:OP1	2.12	0.49
50:3:31:U:O2	50:3:1245:G:O2'	2.20	0.49
50:3:108:G:H21	50:3:380:A:N6	2.07	0.49
50:3:575:C:H2'	50:3:576:A:C8	2.48	0.49
50:3:603:G:O4'	50:3:1019:A:N6	2.44	0.49
50:3:1599:C:H1'	50:3:1600:A:H2'	1.93	0.49
50:3:2018:U:H2'	50:3:2019:G:C8	2.47	0.49
50:3:2792:C:H2'	50:3:2793:U:H6	1.77	0.49
52:5:711:G:H2'	52:5:712:A:H8	1.78	0.49
52:5:917:G:H21	52:5:1373:A:H8	1.59	0.49
52:5:1031:A:H2'	52:5:1032:G:C8	2.48	0.49
52:5:1317:A:H2'	52:5:1318:C:C6	2.47	0.49
52:5:1376:G:O6	52:5:1479:G:N2	2.46	0.49
3:2:7:VAL:HG23	3:2:37:GLY:HA3	1.95	0.49
6:C:151:ILE:HG23	52:5:434:U:H5'	1.95	0.49
10:G:14:PRO:HA	10:G:36:ILE:HD11	1.94	0.49
17:N:22:ILE:H	17:N:22:ILE:HD12	1.77	0.49
23:T:31:ARG:O	23:T:41:ARG:NH1	2.46	0.49
28:e:3:LYS:HZ1	50:3:2757:A:H5''	1.78	0.49
38:o:19:LYS:NZ	38:o:83:ASN:O	2.44	0.49
42:s:27:TYR:CD1	42:s:85:LEU:HD12	2.47	0.49
49:z:11:CYS:HA	49:z:47:HIS:CD2	2.48	0.49
50:3:32:G:H2'	50:3:33:C:H6	1.77	0.49
50:3:653:G:H2'	50:3:654:G:C8	2.48	0.49
50:3:1097:G:C8	50:3:1123:A:H8	2.30	0.49
50:3:1254:U:H2'	50:3:1255:G:C5	2.48	0.49
50:3:1700:G:O6	50:3:1701:G:N2	2.45	0.49
50:3:1926:A:N3	52:5:1492:G:N2	2.60	0.49
50:3:2313:U:H2'	50:3:2314:U:C6	2.47	0.49
50:3:2405:G:H2'	50:3:2406:U:C6	2.47	0.49
51:4:85:A:H3'	51:4:86:G:C8	2.48	0.49
52:5:27:A:H61	52:5:556:G:H1'	1.76	0.49
52:5:211:G:H2'	52:5:212:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:430:G:H2'	52:5:431:U:C6	2.48	0.49
52:5:788:G:N2	52:5:1493:A:N1	2.60	0.49
52:5:1394:G:H2'	52:5:1395:C:C6	2.48	0.49
4:A:154:ARG:NH1	52:5:1145:A:H5'	2.27	0.49
8:E:142:ARG:NH2	10:G:4:THR:OG1	2.44	0.49
12:I:43:LYS:HD3	12:I:81:ILE:HB	1.93	0.49
13:J:29:ASP:HB2	13:J:33:ASN:HB2	1.95	0.49
23:T:56:PHE:O	23:T:57:ARG:NH2	2.46	0.49
24:a:69:ILE:HG21	24:a:92:ARG:HH12	1.78	0.49
25:b:174:VAL:HG21	50:3:2687:A:H5''	1.94	0.49
27:d:38:MET:HE2	27:d:53:ALA:HB1	1.94	0.49
29:f:94:THR:O	29:f:97:ILE:HG22	2.12	0.49
50:3:375:U:H2'	50:3:376:U:C6	2.48	0.49
50:3:451:A:H61	50:3:2416:U:H3	1.60	0.49
50:3:930:C:H2'	50:3:931:G:C8	2.48	0.49
50:3:1010:G:HO2'	50:3:1011:A:P	2.35	0.49
50:3:1860:A:H3'	50:3:1895:G:H22	1.76	0.49
52:5:110:U:OP1	52:5:604:U:H4'	2.12	0.49
52:5:189:C:H2'	52:5:190:A:H8	1.77	0.49
52:5:509:C:N3	52:5:539:G:N2	2.60	0.49
52:5:1008:G:O6	52:5:1014:A:N6	2.46	0.49
52:5:1065:G:H2'	52:5:1066:U:C6	2.47	0.49
52:5:1142:G:N2	52:5:1144:A:H3'	2.28	0.49
52:5:1277:C:OP1	52:5:1279:G:N2	2.45	0.49
52:5:1424:C:H2'	52:5:1425:A:O4'	2.12	0.49
5:B:141:LEU:HA	5:B:144:VAL:HG12	1.94	0.49
8:E:140:GLN:HE22	52:5:745:U:H5'	1.78	0.49
8:E:160:VAL:HA	10:G:80:ARG:NH1	2.27	0.49
9:F:69:MET:O	9:F:71:ARG:NH2	2.46	0.49
9:F:115:MET:HA	9:F:118:LYS:NZ	2.27	0.49
10:G:37:ALA:HB3	10:G:68:ARG:HB3	1.95	0.49
12:I:34:VAL:HG12	12:I:93:LEU:HD22	1.95	0.49
23:T:48:ILE:HG22	23:T:52:LYS:HE2	1.94	0.49
25:b:40:LYS:HA	25:b:44:LYS:HD3	1.94	0.49
36:m:74:ASP:HB3	36:m:77:GLN:HG3	1.95	0.49
38:o:98:ARG:HH21	50:3:2701:A:H1'	1.78	0.49
40:q:66:ARG:HG2	50:3:583:U:C5	2.47	0.49
48:y:50:ASP:HB2	50:3:2889:U:O2	2.13	0.49
50:3:84:G:N2	50:3:104:A:OP2	2.45	0.49
50:3:651:A:H2'	50:3:652:U:O4'	2.13	0.49
50:3:1475:C:H2'	50:3:1476:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1501:U:O2	50:3:1542:G:O6	2.31	0.49
50:3:1838:A:H2'	50:3:1839:C:H6	1.75	0.49
50:3:1868:A:H2'	50:3:1869:G:C8	2.48	0.49
52:5:748:U:O2'	52:5:749:G:OP1	2.29	0.49
52:5:1204:A:H2'	52:5:1205:C:C6	2.47	0.49
4:A:107:PHE:H	4:A:165:GLY:HA3	1.77	0.49
6:C:105:GLY:HA3	6:C:161:GLY:HA2	1.95	0.49
27:d:58:HIS:CE1	47:x:6:HIS:HA	2.48	0.49
28:e:98:ARG:NH1	28:e:109:GLN:OE1	2.44	0.49
29:f:27:ILE:HB	29:f:33:LYS:HD2	1.94	0.49
30:g:10:GLN:NE2	30:g:58:ILE:HG12	2.28	0.49
49:z:34:LEU:HD22	50:3:2352:U:H2'	1.95	0.49
50:3:558:C:O2	50:3:587:U:O2'	2.30	0.49
50:3:664:G:H2'	50:3:665:C:C6	2.48	0.49
50:3:678:U:N3	50:3:681:A:OP2	2.45	0.49
50:3:997:G:N2	50:3:2036:G:OP1	2.45	0.49
50:3:1345:G:H2'	50:3:1346:G:H8	1.76	0.49
50:3:1671:C:H2'	50:3:1672:C:C6	2.48	0.49
50:3:1777:G:N2	50:3:1793:A:C6	2.81	0.49
50:3:1943:A:N7	50:3:1950:U:N3	2.61	0.49
50:3:2109:A:C6	50:3:2196:G:N1	2.80	0.49
50:3:2217:G:C5	50:3:2218:U:H2'	2.48	0.49
50:3:2428:C:H2'	50:3:2429:G:C8	2.48	0.49
52:5:170:A:N6	52:5:196:G:O6	2.45	0.49
52:5:1363:U:H2'	52:5:1364:C:C6	2.48	0.49
52:5:1401:A:N1	52:5:1449:G:O6	2.46	0.49
3:2:8:LYS:NZ	50:3:1065:G:O2'	2.46	0.48
7:D:185:ARG:HB2	52:5:21:U:OP2	2.13	0.48
16:M:18:VAL:HG13	52:5:973:A:C8	2.48	0.48
22:S:48:TYR:CE1	22:S:69:LYS:HB2	2.48	0.48
24:a:31:ASN:OD1	24:a:32:LYS:N	2.42	0.48
24:a:165:GLY:HA3	50:3:1827:U:C4	2.48	0.48
25:b:129:LYS:HB3	50:3:2004:G:OP1	2.13	0.48
27:d:91:LEU:O	27:d:92:ARG:HD3	2.13	0.48
35:l:40:ASN:H	35:l:97:VAL:HB	1.78	0.48
35:l:109:ILE:HG22	35:l:114:MET:SD	2.53	0.48
46:w:48:ARG:O	46:w:51:LEU:HG	2.13	0.48
50:3:117:C:H1'	50:3:128:A:H1'	1.94	0.48
50:3:134:U:H2'	50:3:135:A:C8	2.48	0.48
50:3:206:U:H2'	50:3:207:C:C6	2.48	0.48
50:3:882:C:H3'	50:3:883:A:C8	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1056:A:H61	50:3:1177:A:N6	2.11	0.48
50:3:1446:G:O2'	50:3:1613:A:N6	2.46	0.48
50:3:1841:U:O5'	50:3:1842:G:H5'	2.13	0.48
50:3:2158:C:H2'	50:3:2159:U:C6	2.48	0.48
50:3:2565:G:H2'	50:3:2566:C:C6	2.48	0.48
50:3:2840:U:H2'	50:3:2841:A:C8	2.48	0.48
52:5:70:A:H2'	52:5:71:A:H8	1.77	0.48
52:5:116:A:N6	52:5:229:G:N3	2.61	0.48
52:5:189:C:H2'	52:5:190:A:C8	2.47	0.48
53:6:18:C:H5''	53:6:19:G:H5''	1.95	0.48
4:A:154:ARG:NH1	52:5:1087:C:O2'	2.43	0.48
15:L:107:ARG:HH11	52:5:943:C:H5	1.60	0.48
18:O:67:PHE:CG	18:O:72:LEU:HD13	2.48	0.48
25:b:63:ASN:O	25:b:67:GLN:N	2.39	0.48
26:c:90:VAL:HG23	50:3:836:G:N1	2.24	0.48
50:3:54:A:H62	50:3:120:A:H62	1.58	0.48
50:3:134:U:C2	50:3:135:A:C8	3.01	0.48
50:3:252:G:H5'	50:3:254:G:C6	2.48	0.48
50:3:276:A:O2'	50:3:405:C:O2	2.29	0.48
50:3:482:G:H5''	50:3:485:A:H1'	1.95	0.48
50:3:524:G:N2	50:3:526:G:H3'	2.28	0.48
50:3:1196:U:H2'	50:3:1197:G:C8	2.47	0.48
50:3:1394:A:H3'	50:3:1395:A:C8	2.48	0.48
50:3:1553:G:H1'	50:3:1577:A:H62	1.78	0.48
50:3:2356:U:H2'	50:3:2357:G:C8	2.47	0.48
50:3:2487:U:OP1	50:3:2545:U:O2'	2.19	0.48
50:3:2729:A:H2'	50:3:2730:G:O4'	2.13	0.48
52:5:369:A:O2'	52:5:448:A:N6	2.33	0.48
52:5:598:U:O2	52:5:636:G:C2	2.66	0.48
52:5:1156:G:H1'	52:5:1157:G:C4	2.48	0.48
3:2:35:ARG:NH2	50:3:2750:A:OP2	2.46	0.48
22:S:53:ARG:HA	22:S:56:ARG:HD3	1.94	0.48
26:c:160:VAL:HB	26:c:199:VAL:HA	1.95	0.48
28:e:86:PHE:HE2	28:e:88:LYS:HE2	1.77	0.48
28:e:91:ARG:HB2	28:e:166:LEU:HB3	1.95	0.48
28:e:112:TYR:HB3	50:3:2675:C:H1'	1.95	0.48
31:h:92:ILE:HG12	31:h:133:ILE:HA	1.96	0.48
33:j:1:MET:HG3	33:j:2:VAL:HG23	1.95	0.48
41:r:18:ARG:HG3	50:3:553:A:H4'	1.96	0.48
44:u:29:ASP:OD1	44:u:30:SER:N	2.47	0.48
50:3:70:G:N2	50:3:76:A:O4'	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:128:A:H5''	50:3:129:U:O4'	2.13	0.48
50:3:694:U:H2'	50:3:695:G:C8	2.47	0.48
50:3:1158:C:H2'	50:3:1159:C:H6	1.78	0.48
50:3:1669:A:H2	50:3:1768:G:H1'	1.79	0.48
50:3:2122:G:H2'	50:3:2124:A:N7	2.27	0.48
50:3:2157:A:C6	50:3:2158:C:N4	2.82	0.48
50:3:2217:G:O6	50:3:2224:A:N6	2.47	0.48
50:3:2297:G:O6	50:3:2351:U:C2	2.66	0.48
50:3:2316:G:N2	50:3:2319:A:OP2	2.46	0.48
50:3:2406:U:H2'	50:3:2407:G:C8	2.48	0.48
50:3:2657:C:H2'	50:3:2658:U:H6	1.78	0.48
52:5:615:G:N2	52:5:616:C:O2	2.47	0.48
52:5:784:A:H2	52:5:792:C:H41	1.61	0.48
52:5:1142:G:N2	52:5:1144:A:H8	2.12	0.48
52:5:1217:G:H2'	52:5:1218:C:H6	1.77	0.48
4:A:21:ALA:HA	4:A:62:ARG:HB2	1.95	0.48
4:A:136:LYS:HE2	4:A:140:ASN:HB2	1.95	0.48
17:N:57:VAL:O	17:N:60:ARG:HG2	2.13	0.48
19:P:4:ASN:HA	52:5:113:C:H4'	1.95	0.48
19:P:25:GLN:HE22	19:P:27:GLU:CD	2.21	0.48
23:T:50:GLN:OE1	52:5:719:G:H5'	2.13	0.48
30:g:72:ASP:OD1	30:g:73:GLU:N	2.46	0.48
50:3:205:C:O2	50:3:205:C:H2'	2.13	0.48
50:3:306:G:H2'	50:3:307:C:C6	2.48	0.48
50:3:341:G:H22	50:3:344:A:P	2.36	0.48
50:3:425:U:H4'	50:3:426:U:OP2	2.13	0.48
50:3:799:A:C8	50:3:1783:G:H1'	2.48	0.48
50:3:910:G:H1	50:3:941:C:H42	1.62	0.48
50:3:976:C:O2'	50:3:1222:A:H5'	2.14	0.48
50:3:1036:A:H2'	50:3:1037:A:C8	2.48	0.48
50:3:1441:A:H2	50:3:1623:U:H3	1.60	0.48
50:3:2133:A:N7	50:3:2172:A:H5'	2.28	0.48
50:3:2335:A:H3'	50:3:2336:A:C8	2.48	0.48
50:3:2480:G:N2	50:3:2537:G:O6	2.46	0.48
52:5:290:G:H2'	52:5:291:C:C6	2.47	0.48
52:5:451:G:H2'	52:5:452:A:C8	2.48	0.48
52:5:629:U:H2'	52:5:630:G:C8	2.49	0.48
52:5:682:G:H2'	52:5:683:G:C4	2.48	0.48
52:5:765:A:H5'	52:5:1499:G:H1'	1.96	0.48
52:5:935:U:H3'	52:5:936:G:H8	1.78	0.48
52:5:978:A:H1'	52:5:1040:U:O2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1091:C:N4	52:5:1094:C:OP1	2.46	0.48
52:5:1432:A:H2'	52:5:1433:G:H8	1.77	0.48
53:8:18:C:H5''	53:8:19:G:H5''	1.95	0.48
4:A:110:GLN:HG3	4:A:161:LYS:HD3	1.96	0.48
6:C:60:MET:HE1	6:C:196:VAL:HB	1.96	0.48
11:H:12:ARG:HD3	11:H:109:ASP:OD2	2.14	0.48
13:J:87:ASP:OD1	13:J:88:THR:N	2.46	0.48
16:M:19:ARG:HH12	52:5:1193:U:P	2.37	0.48
26:c:55:LYS:HB3	50:3:836:G:C5	2.48	0.48
31:h:87:LYS:HB3	50:3:1099:C:H1'	1.96	0.48
35:l:41:TRP:CD1	35:l:72:MET:HE1	2.49	0.48
38:o:21:TYR:HD2	38:o:23:PRO:HB3	1.78	0.48
50:3:204:U:O4	50:3:254:G:N2	2.45	0.48
50:3:276:A:O2'	50:3:301:G:N2	2.47	0.48
50:3:718:U:H2'	50:3:719:G:H8	1.77	0.48
50:3:891:G:H2'	50:3:892:G:C8	2.49	0.48
50:3:1215:G:H2'	50:3:1216:U:C6	2.48	0.48
50:3:1297:U:H3	50:3:2020:A:H62	1.59	0.48
50:3:1334:U:H1'	50:3:1656:A:H61	1.78	0.48
50:3:1608:C:H2'	50:3:1609:U:C5	2.49	0.48
50:3:1878:A:H3'	50:3:1879:A:C8	2.48	0.48
50:3:1912:C:O2'	50:3:1936:G:H1'	2.13	0.48
50:3:2829:G:N2	50:3:2829:G:OP2	2.45	0.48
50:3:2832:G:H2'	50:3:2833:A:H8	1.77	0.48
51:4:51:A:H2'	51:4:52:G:O4'	2.14	0.48
51:4:73:U:H2'	51:4:74:G:O4'	2.14	0.48
52:5:46:U:H2'	52:5:47:G:O4'	2.14	0.48
52:5:50:U:O2	52:5:358:G:H1'	2.13	0.48
52:5:169:G:O2'	52:5:220:U:O2'	2.21	0.48
52:5:438:A:N6	52:5:492:G:H1	2.11	0.48
52:5:612:G:N2	52:5:624:U:O2	2.47	0.48
52:5:649:U:H1'	52:5:650:A:H8	1.79	0.48
52:5:1217:G:H2'	52:5:1218:C:C6	2.48	0.48
52:5:1288:C:N4	52:5:1298:U:H3	2.11	0.48
52:5:1294:U:H2'	52:5:1295:U:C6	2.48	0.48
6:C:202:ARG:HH21	52:5:292:U:H5''	1.78	0.48
8:E:138:SER:HB3	52:5:743:A:H5'	1.96	0.48
10:G:117:SER:HB2	10:G:122:VAL:HG12	1.95	0.48
18:O:21:LYS:NZ	52:5:97:G:OP1	2.31	0.48
24:a:217:GLY:HA3	50:3:799:A:O5'	2.14	0.48
25:b:55:ASP:HB2	25:b:79:LYS:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:103:LEU:HD12	36:m:113:MET:HB3	1.95	0.48
45:v:4:LYS:HZ1	45:v:12:PRO:HD3	1.74	0.48
50:3:733:C:H4'	50:3:769:A:H61	1.79	0.48
50:3:735:G:O2'	50:3:1666:A:O2'	2.31	0.48
50:3:868:C:H2'	50:3:869:U:C6	2.48	0.48
50:3:1450:G:H1	50:3:1610:U:H3	1.61	0.48
50:3:1589:A:C8	50:3:1590:U:C4	3.01	0.48
50:3:1819:G:H2'	50:3:1820:U:H6	1.79	0.48
50:3:1953:U:H2'	50:3:1954:C:O4'	2.14	0.48
50:3:2018:U:H2'	50:3:2019:G:O4'	2.14	0.48
50:3:2074:G:O2'	50:3:2076:G:O4'	2.29	0.48
50:3:2294:A:H5''	50:3:2295:A:O4'	2.13	0.48
50:3:2690:U:H2'	50:3:2691:C:O4'	2.13	0.48
50:3:2815:G:O6	50:3:2894:G:N2	2.46	0.48
52:5:7:U:O2'	52:5:294:A:N3	2.47	0.48
52:5:215:C:N4	52:5:216:G:O6	2.46	0.48
52:5:710:G:O2'	52:5:774:A:OP1	2.27	0.48
52:5:829:G:O6	52:5:848:U:O4	2.31	0.48
52:5:982:A:H61	52:5:1193:U:H3	1.60	0.48
52:5:1100:C:H2'	52:5:1101:A:O4'	2.13	0.48
52:5:1374:C:H4'	52:5:1375:C:H5''	1.95	0.48
52:5:1446:A:O2'	52:5:1447:U:O4'	2.22	0.48
53:6:2:G:H2'	53:6:3:G:C8	2.48	0.48
1:0:29:LYS:HA	1:0:32:LYS:HG2	1.96	0.48
6:C:98:ASP:HA	6:C:117:VAL:HG21	1.95	0.48
9:F:58:LEU:O	9:F:62:GLU:HG2	2.14	0.48
13:J:41:GLY:C	52:5:685:G:H5'	2.39	0.48
17:N:17:LYS:NZ	17:N:19:VAL:HG13	2.29	0.48
20:Q:42:ARG:HB2	20:Q:76:THR:HB	1.95	0.48
24:a:78:ASN:CG	29:f:87:ARG:HD3	2.39	0.48
24:a:159:GLN:HA	24:a:162:ARG:HD3	1.94	0.48
24:a:233:MET:HE1	24:a:238:HIS:CB	2.44	0.48
37:n:101:ARG:NH1	51:4:47:C:OP2	2.46	0.48
41:r:116:GLU:O	41:r:120:GLN:HG3	2.13	0.48
50:3:122:G:H2'	50:3:123:G:C8	2.49	0.48
50:3:438:A:O2'	50:3:439:U:O4'	2.23	0.48
50:3:732:G:H2'	50:3:733:C:C6	2.49	0.48
50:3:894:G:N3	50:3:2276:A:H2'	2.28	0.48
50:3:1274:A:H2'	50:3:1275:C:C6	2.49	0.48
50:3:1445:U:H2'	50:3:1446:G:C8	2.49	0.48
50:3:1460:G:H2'	50:3:1461:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1475:C:H2'	50:3:1476:C:H6	1.79	0.48
50:3:1687:G:H1'	50:3:2012:A:H61	1.79	0.48
50:3:1886:C:H2'	50:3:1887:U:H6	1.78	0.48
50:3:2735:G:H2'	50:3:2736:U:C6	2.49	0.48
52:5:378:A:O2'	52:5:379:A:O4'	2.24	0.48
52:5:432:U:H2'	52:5:433:C:C6	2.42	0.48
52:5:910:C:N3	52:5:1378:C:H4'	2.28	0.48
4:A:111:ARG:HD2	4:A:184:GLU:HA	1.96	0.48
16:M:61:TRP:HD1	52:5:1161:G:H21	1.59	0.48
24:a:17:SER:HA	24:a:212:VAL:HB	1.96	0.48
24:a:131:LYS:HG2	24:a:132:PRO:HD2	1.95	0.48
24:a:234:ASN:OD1	24:a:235:PRO:HD2	2.13	0.48
25:b:56:THR:HG22	25:b:78:THR:HG22	1.96	0.48
26:c:140:THR:HB	26:c:174:ASN:HB2	1.96	0.48
28:e:99:ALA:HB1	28:e:106:LEU:HD11	1.95	0.48
30:g:27:PHE:HE1	30:g:108:PHE:HA	1.78	0.48
36:m:59:ASN:O	36:m:63:VAL:HG23	2.13	0.48
37:n:19:ILE:HG23	37:n:90:VAL:CG1	2.42	0.48
45:v:20:HIS:NE2	53:8:77:A:OP2	2.47	0.48
48:y:7:ARG:HG3	50:3:1293:U:H1'	1.96	0.48
50:3:117:C:H3'	50:3:118:G:H8	1.78	0.48
50:3:896:U:H4'	50:3:2275:A:OP1	2.13	0.48
50:3:991:G:H2'	50:3:992:G:C8	2.49	0.48
50:3:1089:A:H2'	50:3:1090:G:H8	1.78	0.48
50:3:1193:U:H2'	50:3:1194:U:C6	2.49	0.48
50:3:1399:G:O2'	50:3:2222:C:O4'	2.31	0.48
50:3:1949:C:P	50:3:1950:U:H2'	2.54	0.48
50:3:2013:C:H5''	50:3:2055:A:H4'	1.95	0.48
50:3:2353:G:H4'	50:3:2354:A:H5''	1.95	0.48
50:3:2428:C:H2'	50:3:2429:G:H8	1.78	0.48
50:3:2506:C:HO2'	50:3:2507:C:P	2.33	0.48
50:3:2701:A:H2'	50:3:2702:G:C8	2.49	0.48
51:4:76:A:C4	51:4:77:G:C8	3.02	0.48
52:5:239:A:H62	52:5:277:G:H1'	1.78	0.48
52:5:249:U:H5'	52:5:271:G:H21	1.77	0.48
52:5:289:U:H5'	52:5:608:G:N3	2.27	0.48
52:5:779:A:C6	52:5:798:U:C2	3.01	0.48
52:5:1301:U:H2'	52:5:1302:C:C6	2.48	0.48
5:B:193:GLN:HE22	52:5:1180:U:H4'	1.78	0.48
13:J:34:VAL:HG22	52:5:681:U:O2	2.14	0.48
22:S:35:PHE:HD1	22:S:43:ASN:HB3	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:126:HIS:HB2	29:f:87:ARG:HH11	1.79	0.48
28:e:149:THR:HA	28:e:152:ARG:HG2	1.96	0.48
37:n:116:PHE:HD2	50:3:2385:A:H1'	1.78	0.48
43:t:10:VAL:HG23	43:t:74:LEU:HD13	1.96	0.48
50:3:341:G:N1	50:3:344:A:OP2	2.45	0.48
50:3:351:G:H2'	50:3:352:C:C6	2.49	0.48
50:3:451:A:H2'	50:3:452:U:C6	2.49	0.48
50:3:487:C:N4	50:3:490:A:OP2	2.37	0.48
50:3:1358:C:H2'	50:3:1359:C:C6	2.49	0.48
50:3:1387:A:N7	50:3:1400:U:O4	2.46	0.48
50:3:1607:G:H2'	50:3:1608:C:O4'	2.14	0.48
50:3:1723:A:H2'	50:3:1724:A:C8	2.49	0.48
50:3:1961:A:H61	50:3:1993:U:H5'	1.79	0.48
50:3:2072:C:H2'	50:3:2073:C:H6	1.79	0.48
50:3:2394:A:H2'	50:3:2395:U:C6	2.48	0.48
50:3:2513:G:N3	50:3:2584:G:H8	2.12	0.48
50:3:2548:G:H2'	50:3:2549:A:O4'	2.13	0.48
50:3:2631:G:H2'	50:3:2632:C:C6	2.48	0.48
50:3:2753:C:N3	50:3:2768:U:O2	2.46	0.48
50:3:2792:C:H2'	50:3:2793:U:C6	2.49	0.48
52:5:375:C:N4	52:5:376:G:N7	2.62	0.48
52:5:384:G:H8	52:5:384:G:OP1	1.97	0.48
52:5:567:C:H5''	52:5:568:G:OP1	2.12	0.48
52:5:1174:U:O2'	52:5:1177:U:OP2	2.29	0.48
4:A:234:ASP:HA	4:A:237:ALA:CB	2.43	0.48
7:D:103:TYR:CE1	7:D:192:ILE:HG21	2.49	0.48
12:I:35:VAL:HB	12:I:39:ASP:HB3	1.95	0.48
12:I:105:ARG:NH2	52:5:1254:A:O5'	2.46	0.48
14:K:7:LEU:HG	14:K:12:ARG:HE	1.79	0.48
18:O:44:ILE:HG22	18:O:46:GLU:HB2	1.96	0.48
18:O:73:TRP:HB2	52:5:470:U:O3'	2.14	0.48
28:e:18:LEU:HB2	28:e:27:VAL:HG22	1.95	0.48
37:n:34:LYS:HG2	37:n:101:ARG:HD2	1.96	0.48
37:n:57:SER:OG	51:4:25:A:OP1	2.21	0.48
43:t:46:LYS:HB2	43:t:60:THR:HG21	1.96	0.48
50:3:121:U:C2	50:3:152:A:C6	3.02	0.48
50:3:238:U:H2'	50:3:239:U:O4'	2.14	0.48
50:3:335:G:H5'	50:3:368:C:H2'	1.95	0.48
50:3:341:G:N2	50:3:343:A:H3'	2.29	0.48
50:3:580:U:O2'	50:3:1251:G:OP1	2.32	0.48
50:3:714:G:H2'	50:3:715:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:777:C:H2'	50:3:778:U:C6	2.49	0.48
50:3:959:C:H2'	50:3:960:A:C8	2.48	0.48
50:3:1063:A:H2'	50:3:1064:A:C8	2.49	0.48
50:3:1306:G:H2'	50:3:1307:G:H8	1.78	0.48
50:3:1335:A:C4	50:3:1336:A:C8	3.01	0.48
50:3:1431:A:H2'	50:3:1432:C:C6	2.49	0.48
50:3:1876:G:C2	50:3:1879:A:N6	2.82	0.48
50:3:2705:G:H2'	50:3:2706:U:H6	1.78	0.48
50:3:2737:G:N1	50:3:2738:U:C4	2.82	0.48
51:4:61:A:H2'	51:4:62:G:H8	1.79	0.48
52:5:604:U:H1'	52:5:630:G:C2	2.49	0.48
52:5:1262:A:H2'	52:5:1263:A:H8	1.79	0.48
52:5:1386:C:H2'	52:5:1387:U:C6	2.49	0.48
1:0:36:LYS:HD3	50:3:185:U:N3	2.28	0.47
5:B:202:LYS:HD3	52:5:1049:G:H5''	1.95	0.47
6:C:41:ARG:NH2	6:C:42:PHE:O	2.47	0.47
6:C:86:ALA:CA	6:C:193:GLU:HG3	2.40	0.47
6:C:96:ARG:NH2	6:C:98:ASP:CG	2.72	0.47
14:K:128:SER:HB2	52:5:500:G:H5'	1.96	0.47
21:R:23:ASN:ND2	21:R:43:GLU:OE2	2.47	0.47
24:a:240:HIS:CE1	24:a:251:ARG:HG2	2.49	0.47
27:d:28:VAL:HG23	27:d:30:ARG:HG3	1.95	0.47
31:h:54:VAL:HB	31:h:66:ILE:HG22	1.96	0.47
34:k:48:ARG:HB2	34:k:51:PHE:HB2	1.95	0.47
35:l:96:VAL:HG21	35:l:98:LYS:HE3	1.95	0.47
41:r:110:ASN:C	41:r:112:ASN:H	2.22	0.47
46:w:104:LYS:HD3	50:3:1430:U:H5''	1.95	0.47
50:3:65:A:H3'	50:3:66:A:H8	1.79	0.47
50:3:511:U:N3	50:3:515:A:C8	2.82	0.47
50:3:613:C:H2'	50:3:614:C:C6	2.48	0.47
50:3:621:U:O2'	50:3:622:U:H5'	2.13	0.47
50:3:627:U:H2'	50:3:628:A:C8	2.48	0.47
50:3:637:U:H4'	50:3:638:A:N3	2.29	0.47
50:3:1010:G:O4'	50:3:1217:G:H1'	2.14	0.47
50:3:1028:C:H2'	50:3:1029:A:C8	2.49	0.47
50:3:1096:U:O4	50:3:1131:A:H1'	2.14	0.47
50:3:1237:G:H2'	50:3:1238:A:C8	2.49	0.47
50:3:1640:G:O2'	50:3:1642:G:O6	2.25	0.47
50:3:1792:A:H4'	50:3:1989:U:H4'	1.95	0.47
50:3:1860:A:H3'	50:3:1895:G:N2	2.29	0.47
50:3:2160:U:H2'	50:3:2161:G:H8	1.76	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:85:A:H3'	51:4:86:G:H8	1.79	0.47
52:5:82:C:H2'	52:5:83:U:H6	1.79	0.47
52:5:170:A:C2	52:5:171:A:N7	2.82	0.47
52:5:888:A:H2'	52:5:889:U:C6	2.49	0.47
52:5:1002:A:H3'	52:5:1003:G:H8	1.79	0.47
4:A:161:LYS:NZ	52:5:1089:C:OP1	2.31	0.47
10:G:9:LYS:HA	52:5:651:G:H5'	1.97	0.47
10:G:94:GLY:HA3	52:5:872:C:H5''	1.96	0.47
11:H:12:ARG:O	11:H:15:SER:HB2	2.14	0.47
12:I:86:ASN:OD1	12:I:87:GLN:N	2.47	0.47
19:P:61:VAL:HB	19:P:77:ILE:HD11	1.95	0.47
22:S:64:ARG:NH1	52:5:258:A:OP1	2.47	0.47
28:e:4:ILE:HG22	28:e:72:ASN:CB	2.44	0.47
29:f:33:LYS:HG2	29:f:132:GLU:HG3	1.94	0.47
29:f:130:ILE:H	29:f:130:ILE:HD12	1.79	0.47
33:j:40:VAL:HG21	50:3:2569:A:H4'	1.97	0.47
33:j:101:PRO:HB2	33:j:122:VAL:HG23	1.96	0.47
37:n:27:ARG:HH12	50:3:2386:A:H4'	1.79	0.47
41:r:61:ASN:O	50:3:531:G:O2'	2.29	0.47
48:y:11:HIS:O	48:y:15:LYS:HG2	2.14	0.47
50:3:87:G:H2'	50:3:88:G:H8	1.79	0.47
50:3:158:U:H2'	50:3:159:G:C8	2.49	0.47
50:3:386:U:H2'	50:3:387:U:H6	1.79	0.47
50:3:1337:G:H2'	50:3:1338:G:H8	1.79	0.47
50:3:1338:G:H2'	50:3:1339:U:O4'	2.14	0.47
50:3:1464:G:H2'	50:3:1465:U:C6	2.49	0.47
50:3:1966:G:H2'	50:3:1967:U:C6	2.49	0.47
50:3:2072:C:H2'	50:3:2073:C:C6	2.49	0.47
50:3:2149:U:H3	50:3:2156:G:H1	1.62	0.47
50:3:2399:G:H22	50:3:2435:C:H4'	1.79	0.47
50:3:2543:G:H2'	50:3:2544:G:C8	2.49	0.47
50:3:2753:C:H2'	50:3:2754:U:C6	2.49	0.47
50:3:2856:G:H2'	50:3:2857:C:C6	2.49	0.47
52:5:226:G:H2'	52:5:227:A:C8	2.49	0.47
52:5:412:G:H1	52:5:424:U:H3	1.61	0.47
52:5:585:G:N2	52:5:751:C:OP2	2.41	0.47
52:5:598:U:C2	52:5:636:G:N1	2.82	0.47
4:A:39:PRO:HD3	52:5:826:G:H1'	1.96	0.47
4:A:130:LEU:HD13	4:A:163:PHE:HB2	1.96	0.47
6:C:103:ARG:HE	6:C:166:PHE:HZ	1.61	0.47
12:I:89:ALA:O	12:I:93:LEU:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:22:ASN:OD1	13:J:23:THR:N	2.48	0.47
15:L:16:GLU:OE1	15:L:34:LEU:HD13	2.14	0.47
22:S:51:ALA:HB2	22:S:68:LEU:HD11	1.96	0.47
34:k:120:LEU:HD11	34:k:122:LYS:HE2	1.96	0.47
37:n:61:LYS:HG2	37:n:72:LEU:HD23	1.96	0.47
39:p:54:ARG:NH1	50:3:1013:G:H5'	2.29	0.47
47:x:5:PHE:CG	47:x:6:HIS:N	2.83	0.47
49:z:31:LYS:HB2	49:z:49:GLU:HB2	1.96	0.47
50:3:508:A:O2'	50:3:509:G:OP1	2.27	0.47
50:3:1354:U:H3	50:3:2017:G:H1'	1.78	0.47
50:3:1575:C:H2'	50:3:1576:G:O4'	2.14	0.47
50:3:2078:A:H2'	50:3:2079:G:C8	2.49	0.47
50:3:2266:C:H2'	50:3:2434:A:H4'	1.96	0.47
50:3:2407:G:H2'	50:3:2408:G:C8	2.49	0.47
50:3:2439:U:H3'	50:3:2441:A:OP2	2.15	0.47
50:3:2497:U:H2'	50:3:2498:G:O4'	2.14	0.47
52:5:91:C:H2'	52:5:92:G:C8	2.49	0.47
52:5:206:G:N2	52:5:209:A:OP2	2.46	0.47
52:5:249:U:H2'	52:5:250:G:H8	1.79	0.47
52:5:373:A:H2'	52:5:374:G:N7	2.29	0.47
52:5:398:G:H2'	52:5:399:C:O4'	2.14	0.47
52:5:425:G:H5'	52:5:427:A:H8	1.78	0.47
52:5:582:G:H2'	52:5:583:G:C8	2.50	0.47
52:5:779:A:N6	52:5:798:U:C2	2.82	0.47
52:5:842:C:H2'	52:5:843:C:H6	1.77	0.47
52:5:948:U:H2'	52:5:949:G:C8	2.49	0.47
52:5:1394:G:N2	52:5:1456:U:O2	2.48	0.47
52:5:1395:C:H2'	52:5:1396:U:O4'	2.14	0.47
53:6:60:U:H2'	53:6:61:U:C4	2.49	0.47
4:A:256:ILE:HG13	4:A:257:GLU:H	1.79	0.47
6:C:8:PHE:CE2	6:C:27:LYS:HE2	2.48	0.47
6:C:107:ALA:O	6:C:109:THR:N	2.47	0.47
7:D:69:ARG:CZ	7:D:97:ARG:HH11	2.27	0.47
19:P:53:VAL:HG13	19:P:77:ILE:HG23	1.96	0.47
25:b:150:GLY:HA2	25:b:156:ALA:H	1.79	0.47
28:e:99:ALA:N	28:e:131:ASN:O	2.46	0.47
36:m:33:THR:OG1	36:m:34:THR:N	2.48	0.47
37:n:99:HIS:CG	37:n:100:GLY:N	2.81	0.47
43:t:12:VAL:HG11	43:t:17:ASN:HB2	1.96	0.47
50:3:608:A:OP2	50:3:2507:C:O2'	2.29	0.47
50:3:664:G:C6	50:3:672:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:666:G:O2'	50:3:668:A:N6	2.34	0.47
50:3:856:A:H61	50:3:1008:A:C2'	2.26	0.47
50:3:1025:G:H4'	50:3:1026:A:H5'	1.96	0.47
50:3:1603:A:H2'	50:3:1604:A:H8	1.79	0.47
50:3:1867:G:C6	50:3:1889:U:O2	2.68	0.47
50:3:2298:G:H2'	50:3:2299:U:C6	2.50	0.47
50:3:2643:A:H2'	50:3:2644:U:O4'	2.15	0.47
51:4:59:A:H2'	51:4:60:C:C6	2.49	0.47
52:5:82:C:H2'	52:5:83:U:C6	2.50	0.47
52:5:194:U:H2'	52:5:195:U:O4'	2.15	0.47
52:5:293:G:H22	52:5:295:G:H3'	1.79	0.47
52:5:317:A:H2'	52:5:318:C:C6	2.49	0.47
52:5:400:G:N2	52:5:497:A:OP2	2.47	0.47
52:5:438:A:N1	52:5:492:G:C2	2.81	0.47
52:5:734:A:H2'	52:5:735:C:H6	1.79	0.47
52:5:953:A:H8	52:5:954:A:N7	2.12	0.47
52:5:1138:U:O2	52:5:1149:G:N2	2.47	0.47
52:5:1233:G:H2'	52:5:1234:C:C6	2.50	0.47
53:8:18:C:H4'	53:8:59:A:H2	1.78	0.47
11:H:12:ARG:HG2	11:H:79:GLY:HA3	1.96	0.47
11:H:49:ASP:OD1	11:H:52:GLN:HG2	2.14	0.47
15:L:107:ARG:HB3	52:5:942:G:P	2.55	0.47
19:P:36:HIS:HE2	52:5:297:A:P	2.38	0.47
21:R:40:ILE:HA	21:R:44:PHE:CD2	2.50	0.47
36:m:60:ARG:HD2	36:m:79:MET:SD	2.54	0.47
40:q:2:HIS:HA	40:q:15:HIS:HA	1.95	0.47
49:z:26:LYS:HD3	50:3:2292:A:OP1	2.14	0.47
50:3:333:A:O2'	50:3:334:A:H5'	2.14	0.47
50:3:626:A:H2'	50:3:627:U:C6	2.50	0.47
50:3:1062:A:H2'	50:3:1063:A:C8	2.45	0.47
50:3:1222:A:H2'	50:3:1223:C:C2	2.50	0.47
50:3:1346:G:H2'	50:3:1347:A:C8	2.50	0.47
50:3:1849:G:C2'	50:3:1850:C:H5'	2.45	0.47
50:3:2344:A:O2'	50:3:2345:G:H5'	2.14	0.47
50:3:2568:G:H2'	50:3:2569:A:O4'	2.13	0.47
50:3:2649:G:H2'	50:3:2650:A:C8	2.50	0.47
50:3:2704:U:H2'	50:3:2705:G:C8	2.49	0.47
52:5:69:G:H2'	52:5:70:A:O4'	2.15	0.47
52:5:711:G:N2	52:5:774:A:N3	2.60	0.47
52:5:1225:A:H2'	52:5:1226:A:H8	1.77	0.47
53:6:18:C:H4'	53:6:59:A:H2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:8:2:G:H2'	53:8:3:G:C8	2.48	0.47
2:1:30:ALA:N	50:3:2428:C:OP2	2.45	0.47
9:F:94:ARG:HD2	9:F:94:ARG:HA	1.76	0.47
9:F:110:ARG:HH12	9:F:122:GLU:HB2	1.79	0.47
11:H:52:GLN:N	11:H:53:PRO:HD2	2.30	0.47
12:I:12:LEU:CB	12:I:82:LEU:O	2.56	0.47
19:P:43:LYS:HE3	52:5:232:G:H4'	1.95	0.47
22:S:71:ARG:NH2	52:5:255:G:OP2	2.48	0.47
25:b:62:LEU:HD21	25:b:70:PHE:CD2	2.49	0.47
26:c:55:LYS:HD2	50:3:836:G:C4	2.50	0.47
31:h:111:ASP:O	50:3:1093:U:O2'	2.33	0.47
31:h:120:ALA:O	31:h:124:VAL:HG23	2.15	0.47
40:q:87:GLN:NE2	50:3:1197:G:N3	2.61	0.47
43:t:9:LYS:HZ1	43:t:21:SER:HB3	1.80	0.47
49:z:16:GLU:CD	50:3:2407:G:H21	2.23	0.47
50:3:47:G:N3	50:3:471:A:N6	2.63	0.47
50:3:131:C:H5'	50:3:1376:G:H21	1.80	0.47
50:3:226:A:C8	50:3:456:G:H4'	2.45	0.47
50:3:235:U:H3'	50:3:236:G:C8	2.49	0.47
50:3:618:G:OP2	50:3:1281:A:N6	2.48	0.47
50:3:682:A:H2'	50:3:683:G:O4'	2.14	0.47
50:3:745:U:H2'	50:3:746:G:C8	2.48	0.47
50:3:1483:G:H2'	50:3:1484:G:C8	2.50	0.47
50:3:1690:C:H2'	50:3:1691:U:H6	1.78	0.47
50:3:1853:G:O2'	50:3:1854:A:O4'	2.24	0.47
50:3:2820:G:C2	50:3:2821:U:C4	3.03	0.47
52:5:169:G:C2	52:5:170:A:C8	3.02	0.47
52:5:940:G:H1	52:5:1211:A:H61	1.62	0.47
52:5:1111:G:H2'	52:5:1112:U:C6	2.49	0.47
52:5:1219:C:H2'	52:5:1220:A:H8	1.80	0.47
52:5:1341:U:H2'	52:5:1342:C:C6	2.49	0.47
52:5:1401:A:C2	52:5:1449:G:N1	2.82	0.47
1:0:32:LYS:HZ3	1:0:36:LYS:HE3	1.79	0.47
4:A:197:PRO:HA	4:A:212:ASP:OD2	2.15	0.47
5:B:11:ARG:HG3	5:B:16:LYS:HE3	1.97	0.47
5:B:116:ALA:HB1	5:B:203:VAL:HB	1.96	0.47
6:C:74:LEU:O	6:C:78:VAL:HG22	2.15	0.47
6:C:114:ARG:NE	52:5:400:G:OP1	2.47	0.47
9:F:78:ARG:H	52:5:1356:U:HO2'	1.63	0.47
10:G:16:ALA:HB1	52:5:870:A:C2	2.50	0.47
12:I:44:GLY:HA3	52:5:1114:A:H4'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:119:ARG:O	13:J:121:ARG:NH2	2.47	0.47
14:K:18:LYS:HE2	52:5:906:C:H41	1.79	0.47
19:P:36:HIS:NE2	52:5:296:A:O3'	2.47	0.47
22:S:14:ASN:HD22	52:5:319:U:H1'	1.79	0.47
22:S:48:TYR:HE1	22:S:69:LYS:HB2	1.80	0.47
22:S:67:ARG:HD2	52:5:259:A:H5''	1.95	0.47
24:a:127:PRO:HA	24:a:136:MET:HE1	1.95	0.47
25:b:27:THR:CG2	25:b:197:ILE:HG12	2.39	0.47
27:d:127:ASN:HA	27:d:157:VAL:HG12	1.95	0.47
33:j:21:ILE:HA	33:j:41:VAL:HG12	1.97	0.47
33:j:22:ILE:HG23	33:j:40:VAL:HG13	1.97	0.47
37:n:64:ASN:ND2	37:n:101:ARG:HE	2.13	0.47
37:n:91:PHE:HE2	37:n:102:ILE:HG22	1.78	0.47
38:o:30:GLU:CD	38:o:91:LYS:HG3	2.39	0.47
40:q:12:TYR:CE2	40:q:22:VAL:HG12	2.50	0.47
44:u:53:ARG:NH1	50:3:2371:U:O2'	2.47	0.47
50:3:51:A:C8	50:3:121:U:C2	3.02	0.47
50:3:87:G:H2'	50:3:88:G:C8	2.49	0.47
50:3:97:A:H2'	50:3:98:C:O4'	2.14	0.47
50:3:186:A:H2'	50:3:187:C:C6	2.49	0.47
50:3:192:U:O4	50:3:212:G:O6	2.32	0.47
50:3:353:G:N1	50:3:367:G:C2	2.83	0.47
50:3:395:U:H2'	50:3:396:A:C4	2.48	0.47
50:3:486:G:N1	50:3:490:A:OP1	2.46	0.47
50:3:621:U:H2'	50:3:622:U:C6	2.49	0.47
50:3:670:G:H2'	50:3:671:C:C6	2.49	0.47
50:3:850:G:H2'	50:3:851:U:C6	2.50	0.47
50:3:897:A:H2	51:4:76:A:H2	1.63	0.47
50:3:931:G:H2'	50:3:932:U:H4'	1.96	0.47
50:3:1010:G:O2'	50:3:1011:A:OP2	2.22	0.47
50:3:1643:A:H62	50:3:1681:G:H5'	1.80	0.47
50:3:1860:A:H2'	50:3:1861:A:O4'	2.15	0.47
50:3:1942:G:H4'	50:3:1944:A:H1'	1.97	0.47
50:3:1994:U:H2'	50:3:1995:G:C8	2.50	0.47
50:3:2017:G:H2'	50:3:2018:U:C6	2.48	0.47
50:3:2209:U:H2'	50:3:2210:G:C8	2.50	0.47
50:3:2381:G:H2'	50:3:2382:A:C8	2.48	0.47
50:3:2526:A:H2'	50:3:2526:A:N3	2.30	0.47
50:3:2604:U:HO2'	50:3:2605:G:P	2.38	0.47
50:3:2694:A:N6	50:3:2732:A:N1	2.63	0.47
51:4:26:C:H2'	51:4:27:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:51:A:H4'	52:5:52:A:H3'	1.97	0.47
52:5:420:A:C4	52:5:421:G:C8	3.02	0.47
52:5:617:U:O4	52:5:619:A:N6	2.47	0.47
52:5:727:G:N2	52:5:761:U:O2'	2.48	0.47
52:5:755:U:H2'	52:5:756:A:H8	1.79	0.47
52:5:935:U:O2	52:5:1323:A:O2'	2.31	0.47
52:5:1204:A:O2'	52:5:1205:C:H5'	2.14	0.47
52:5:1451:A:H2'	52:5:1452:C:C6	2.50	0.47
4:A:152:LEU:HA	4:A:155:GLU:HG2	1.97	0.47
5:B:134:ARG:O	5:B:138:ARG:HG2	2.15	0.47
5:B:151:GLY:CA	5:B:173:GLU:O	2.63	0.47
6:C:31:ARG:NH2	52:5:423:U:OP2	2.47	0.47
9:F:56:LYS:O	9:F:60:VAL:HG12	2.15	0.47
10:G:79:ARG:H	10:G:79:ARG:HD3	1.80	0.47
12:I:86:ASN:H	12:I:89:ALA:HB3	1.80	0.47
14:K:128:SER:HB3	52:5:548:G:H1'	1.97	0.47
19:P:3:ARG:HB3	52:5:180:C:H4'	1.96	0.47
30:g:76:ILE:HG12	30:g:77:LYS:H	1.78	0.47
34:k:119:LYS:HD2	34:k:138:ALA:HB1	1.97	0.47
37:n:101:ARG:O	37:n:105:LEU:HG	2.15	0.47
38:o:6:LYS:O	50:3:2880:A:H5'	2.14	0.47
48:y:8:SER:HB2	50:3:1293:U:O3'	2.15	0.47
49:z:37:PHE:HA	49:z:44:VAL:HA	1.95	0.47
50:3:245:U:H1'	50:3:246:G:H21	1.79	0.47
50:3:743:G:N1	50:3:758:C:N3	2.46	0.47
50:3:855:A:N6	50:3:1009:A:OP1	2.48	0.47
50:3:1095:U:N3	50:3:1123:A:C8	2.83	0.47
50:3:1370:A:C2	50:3:1424:U:H2'	2.41	0.47
50:3:1433:U:H2'	50:3:1434:U:C6	2.50	0.47
50:3:1760:G:N1	50:3:1762:A:H3'	2.30	0.47
50:3:1811:A:C2	50:3:1821:G:H1'	2.50	0.47
50:3:2451:C:H2'	50:3:2452:G:C8	2.49	0.47
50:3:2480:G:N2	50:3:2487:U:O4	2.48	0.47
50:3:2688:C:H2'	50:3:2689:C:O4'	2.14	0.47
50:3:2755:G:H21	50:3:2765:A:H62	1.62	0.47
50:3:2821:U:H2'	50:3:2822:C:O4'	2.14	0.47
50:3:2879:U:H2'	50:3:2880:A:C8	2.49	0.47
52:5:27:A:N6	52:5:556:G:H1'	2.29	0.47
52:5:101:A:H2'	52:5:102:G:C8	2.50	0.47
52:5:209:A:H2'	52:5:210:G:O4'	2.15	0.47
52:5:385:A:H3'	52:5:386:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:569:U:H5''	52:5:570:A:OP2	2.14	0.47
52:5:651:G:C2	52:5:652:A:H1'	2.49	0.47
52:5:1096:A:H2'	52:5:1097:G:C8	2.49	0.47
52:5:1214:A:H1'	52:5:1216:G:C4	2.50	0.47
53:6:19:G:N2	53:6:55:U:O2	2.48	0.47
2:1:35:THR:HA	2:1:38:LYS:HB2	1.96	0.47
3:2:6:SER:OG	50:3:1065:G:N3	2.48	0.47
5:B:151:GLY:HA3	5:B:173:GLU:O	2.15	0.47
7:D:93:VAL:HG11	7:D:169:ILE:HG12	1.97	0.47
11:H:86:VAL:HG11	11:H:105:LEU:HD23	1.97	0.47
11:H:121:TYR:HE2	52:5:1208:G:H4'	1.80	0.47
19:P:6:ARG:HH21	19:P:62:GLN:HG2	1.80	0.47
22:S:11:LEU:HD12	22:S:14:ASN:HD21	1.80	0.47
24:a:69:ILE:HG21	24:a:92:ARG:NH1	2.30	0.47
26:c:6:LEU:HG	26:c:127:LEU:HB2	1.96	0.47
36:m:23:SER:HB3	36:m:68:LEU:HB2	1.95	0.47
37:n:35:SER:OG	37:n:38:HIS:O	2.23	0.47
39:p:13:ARG:O	39:p:17:LEU:HG	2.15	0.47
39:p:62:LEU:HB2	50:3:1045:A:H5'	1.97	0.47
43:t:32:GLN:OE1	43:t:71:LEU:HD12	2.15	0.47
43:t:49:ASP:HB3	50:3:520:C:OP1	2.15	0.47
50:3:913:U:H2'	50:3:914:G:C8	2.50	0.47
50:3:1094:G:C5	50:3:1095:U:C4	3.02	0.47
50:3:1354:U:H2'	50:3:1355:C:O4'	2.15	0.47
50:3:2169:G:H1'	50:3:2173:G:N1	2.29	0.47
50:3:2216:U:H2'	50:3:2217:G:C8	2.50	0.47
50:3:2749:A:H62	50:3:2771:G:N2	2.13	0.47
52:5:597:C:H2'	52:5:598:U:O4'	2.15	0.47
52:5:1130:G:H2'	52:5:1131:A:C8	2.50	0.47
53:8:3:G:H1	53:8:72:C:N4	2.13	0.47
53:8:19:G:N2	53:8:55:U:O2	2.48	0.47
53:8:28:A:H2	53:8:45:G:C8	2.33	0.47
2:1:54:ARG:NH1	50:3:868:C:O2'	2.48	0.47
5:B:16:LYS:HE2	5:B:187:TYR:H	1.80	0.47
7:D:196:MET:HA	7:D:199:ILE:HG22	1.96	0.47
9:F:71:ARG:HB2	9:F:141:HIS:CE1	2.50	0.47
11:H:114:GLU:H	52:5:1321:G:H3'	1.80	0.47
12:I:52:LYS:HG2	12:I:53:GLU:N	2.30	0.47
25:b:229:ALA:HB1	38:o:90:LEU:HB3	1.97	0.47
30:g:53:VAL:HB	50:3:1119:A:C5	2.49	0.47
38:o:23:PRO:C	38:o:55:ARG:HH22	2.23	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:q:2:HIS:CE1	40:q:43:GLU:H	2.33	0.47
42:s:65:ILE:HG22	42:s:66:ARG:HG2	1.97	0.47
44:u:18:LYS:HE2	44:u:18:LYS:HB3	1.71	0.47
46:w:91:LEU:O	46:w:95:LYS:HG2	2.15	0.47
49:z:8:ARG:HB3	49:z:17:ILE:HG23	1.96	0.47
49:z:16:GLU:HB2	49:z:40:ARG:HH11	1.79	0.47
50:3:53:G:H1	50:3:121:U:HO2'	1.59	0.47
50:3:359:G:H2'	50:3:360:G:H8	1.80	0.47
50:3:486:G:H22	50:3:490:A:P	2.37	0.47
50:3:1054:U:H5'	50:3:1155:G:N2	2.30	0.47
50:3:1264:U:H2'	50:3:1265:G:C8	2.49	0.47
50:3:1388:G:N1	50:3:2222:C:N3	2.59	0.47
50:3:1458:A:H1'	50:3:1600:A:H61	1.79	0.47
50:3:1757:G:N3	50:3:2864:A:H2	2.12	0.47
50:3:2384:A:H2'	50:3:2385:A:C4	2.49	0.47
50:3:2822:C:H2'	50:3:2823:A:H8	1.79	0.47
52:5:201:G:H2'	52:5:202:A:C8	2.50	0.47
52:5:213:U:O2'	52:5:467:G:O2'	2.08	0.47
52:5:411:A:H62	52:5:427:A:N6	2.13	0.47
52:5:931:C:H2'	52:5:932:A:C8	2.50	0.47
52:5:1045:C:OP1	53:6:35:G:H5'	2.14	0.47
4:A:103:VAL:HG12	4:A:242:MET:SD	2.55	0.46
8:E:8:LEU:HD12	8:E:83:LEU:HB2	1.96	0.46
18:O:2:ARG:HG3	18:O:9:PRO:HA	1.97	0.46
24:a:82:THR:N	24:a:100:THR:O	2.44	0.46
26:c:174:ASN:O	26:c:174:ASN:OD1	2.33	0.46
28:e:73:ALA:CB	50:3:2755:G:H5''	2.45	0.46
32:i:34:LYS:HD3	32:i:34:LYS:HA	1.69	0.46
37:n:29:VAL:HG21	37:n:46:PHE:CE2	2.49	0.46
39:p:54:ARG:NH2	50:3:1191:A:N7	2.63	0.46
43:t:3:ARG:NH2	50:3:370:C:H4'	2.30	0.46
46:w:45:ASN:O	46:w:49:ARG:HG2	2.15	0.46
50:3:40:A:H2'	50:3:41:C:H6	1.80	0.46
50:3:263:C:H2'	50:3:264:G:H8	1.80	0.46
50:3:372:G:H2'	50:3:373:U:H5'	1.96	0.46
50:3:585:U:H2'	50:3:586:G:H8	1.79	0.46
50:3:764:G:H5'	50:3:765:A:H5''	1.95	0.46
50:3:768:G:H3'	50:3:796:A:H61	1.80	0.46
50:3:850:G:O2'	50:3:1201:A:O4'	2.33	0.46
50:3:1182:U:H2'	50:3:1183:A:C8	2.49	0.46
50:3:1386:G:O6	50:3:1399:G:H3'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1446:G:H1	50:3:1612:U:H3'	1.79	0.46
50:3:1744:U:H2'	50:3:1745:A:C8	2.49	0.46
50:3:2026:A:H2'	50:3:2027:G:C8	2.51	0.46
50:3:2394:A:O2'	50:3:2395:U:O4'	2.20	0.46
50:3:2528:C:H41	50:3:2550:A:N6	2.13	0.46
50:3:2684:G:H2'	50:3:2685:A:C8	2.50	0.46
52:5:348:C:H4'	52:5:350:G:OP1	2.15	0.46
52:5:802:C:O2'	52:5:803:C:H5'	2.15	0.46
52:5:812:A:N1	52:5:1504:G:H2'	2.30	0.46
52:5:972:A:O2'	52:5:973:A:O3'	2.34	0.46
52:5:1088:C:H2'	52:5:1089:C:C6	2.49	0.46
52:5:1142:G:H1	52:5:1146:A:N6	2.13	0.46
52:5:1184:C:O2'	52:5:1185:C:H5'	2.14	0.46
52:5:1320:A:N6	52:5:1349:A:H3'	2.30	0.46
53:8:60:U:H2'	53:8:61:U:C4	2.49	0.46
2:1:37:GLN:HE21	50:3:2371:U:P	2.37	0.46
4:A:82:ILE:HB	4:A:105:VAL:HG11	1.98	0.46
6:C:47:MET:HE3	6:C:48:SER:N	2.29	0.46
9:F:27:ASN:ND2	52:5:1350:A:OP1	2.49	0.46
10:G:46:GLU:OE1	10:G:50:LYS:NZ	2.40	0.46
10:G:87:VAL:HG22	10:G:141:VAL:HG13	1.97	0.46
11:H:16:SER:OG	52:5:1125:C:OP1	2.16	0.46
20:Q:95:TYR:OH	52:5:669:U:O2	2.30	0.46
21:R:50:ALA:HB1	21:R:57:PHE:HB2	1.97	0.46
25:b:125:ARG:HH12	50:3:2629:G:P	2.38	0.46
27:d:40:VAL:HG11	27:d:150:ARG:NH2	2.30	0.46
29:f:95:LYS:HE3	50:3:2214:A:H2	1.79	0.46
32:i:131:ASP:N	32:i:131:ASP:OD1	2.47	0.46
37:n:34:LYS:HB2	37:n:102:ILE:HD11	1.95	0.46
37:n:63:LYS:HE2	51:4:49:G:H5''	1.96	0.46
40:q:1:MET:H2	40:q:97:PHE:HZ	1.63	0.46
41:r:25:VAL:HA	41:r:71:VAL:HB	1.96	0.46
50:3:332:G:N1	50:3:373:U:OP2	2.47	0.46
50:3:652:U:H2'	50:3:653:G:C8	2.50	0.46
50:3:1430:U:O2'	50:3:1547:G:O2'	2.29	0.46
50:3:1598:U:C2	50:3:1599:C:H5	2.33	0.46
50:3:1884:A:C4	50:3:1885:G:C8	3.04	0.46
50:3:2272:C:H3'	50:3:2273:U:C5	2.50	0.46
50:3:2506:C:H2'	50:3:2507:C:C6	2.50	0.46
50:3:2797:C:H4'	50:3:2895:A:C2	2.50	0.46
52:5:53:U:H3	52:5:54:A:H62	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:113:C:H42	52:5:229:G:H1	1.63	0.46
52:5:232:G:N3	52:5:232:G:H2'	2.30	0.46
52:5:239:A:N6	52:5:277:G:H1'	2.29	0.46
52:5:446:A:H2'	52:5:447:G:O4'	2.15	0.46
52:5:574:C:H5'	52:5:576:A:OP1	2.15	0.46
52:5:879:G:P	52:5:879:G:H8	2.38	0.46
52:5:1314:A:H5'	53:8:32:U:O2'	2.15	0.46
53:8:16:G:N1	53:8:60:U:O2	2.49	0.46
53:8:68:G:H2'	53:8:69:A:O4'	2.16	0.46
5:B:191:LYS:NZ	52:5:1049:G:O2'	2.48	0.46
6:C:58:GLN:HA	6:C:61:GLN:HG2	1.98	0.46
8:E:107:LEU:O	8:E:110:GLN:HB2	2.15	0.46
12:I:27:THR:OG1	12:I:99:PRO:HG2	2.14	0.46
13:J:21:ASN:ND2	52:5:689:U:OP2	2.49	0.46
15:L:101:ARG:NH2	52:5:946:G:OP2	2.47	0.46
21:R:6:LYS:HE2	52:5:1289:U:O4	2.15	0.46
22:S:63:ASN:OD1	52:5:259:A:H5'	2.15	0.46
24:a:56:ARG:HB3	50:3:1831:G:OP1	2.15	0.46
26:c:83:HIS:C	50:3:1286:G:H21	2.22	0.46
26:c:97:ARG:NH2	50:3:622:U:H5''	2.30	0.46
27:d:38:MET:HE3	27:d:87:CYS:H	1.80	0.46
36:m:71:ASN:OD1	36:m:72:LEU:N	2.48	0.46
39:p:12:ARG:HH12	50:3:1280:G:H4'	1.79	0.46
39:p:36:GLN:HG3	50:3:1282:G:H1	1.80	0.46
43:t:88:LYS:HD3	43:t:88:LYS:HA	1.70	0.46
50:3:86:A:N3	50:3:87:G:H1'	2.30	0.46
50:3:164:A:H2	50:3:2225:G:H1'	1.79	0.46
50:3:247:U:O2	50:3:259:A:N7	2.49	0.46
50:3:250:U:C2	50:3:251:G:C8	3.04	0.46
50:3:536:A:H2'	50:3:537:A:N9	2.30	0.46
50:3:699:U:H4'	50:3:976:C:H5''	1.98	0.46
50:3:918:G:O3'	53:6:20:G:N1	2.48	0.46
50:3:1306:G:H2'	50:3:1307:G:C8	2.50	0.46
50:3:1340:U:H3	50:3:1367:G:H22	1.64	0.46
50:3:1523:C:H2'	50:3:1524:C:O4'	2.15	0.46
50:3:1670:U:H4'	50:3:1768:G:H5'	1.97	0.46
50:3:1778:G:C4	50:3:1779:G:C8	3.03	0.46
50:3:1864:A:H2	50:3:1893:C:N4	2.13	0.46
50:3:1886:C:C2	50:3:1887:U:C5	3.03	0.46
50:3:1919:A:H1'	52:5:1469:G:H21	1.81	0.46
50:3:2359:G:O2'	50:3:2374:A:N6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2527:U:H1'	50:3:2549:A:N7	2.30	0.46
50:3:2638:G:H1'	50:3:2897:G:H1'	1.97	0.46
50:3:2803:G:H3'	50:3:2805:A:N1	2.31	0.46
50:3:2824:A:H61	50:3:2840:U:H5''	1.80	0.46
51:4:5:G:N2	51:4:104:C:N3	2.49	0.46
52:5:113:C:N4	52:5:230:G:O6	2.49	0.46
52:5:573:G:O4'	52:5:875:G:N2	2.48	0.46
52:5:742:C:H2'	52:5:743:A:C8	2.51	0.46
52:5:800:G:N3	52:5:800:G:H2'	2.29	0.46
52:5:1226:A:H2'	52:5:1227:A:O4'	2.15	0.46
52:5:1245:A:H5'	52:5:1288:C:H5'	1.97	0.46
6:C:89:LEU:O	6:C:93:LEU:HG	2.15	0.46
9:F:108:ARG:HH12	9:F:115:MET:CG	2.27	0.46
9:F:110:ARG:NH1	9:F:118:LYS:O	2.48	0.46
25:b:110:VAL:HG11	25:b:197:ILE:HD12	1.98	0.46
25:b:151:ARG:HG3	50:3:2580:A:C5	2.50	0.46
26:c:26:ALA:HA	26:c:113:HIS:CD2	2.51	0.46
27:d:91:LEU:HD12	27:d:95:ARG:HB2	1.96	0.46
31:h:112:LEU:HD22	50:3:1115:G:N2	2.30	0.46
33:j:104:ARG:NH2	38:o:37:LEU:HD21	2.31	0.46
34:k:95:ARG:HE	34:k:112:ILE:HD11	1.79	0.46
43:t:28:MET:HE3	43:t:30:ALA:HB3	1.96	0.46
50:3:143:A:H1'	50:3:1436:C:H4'	1.97	0.46
50:3:1708:G:H1'	50:3:1711:A:N6	2.31	0.46
50:3:1885:G:H2'	50:3:1886:C:C6	2.51	0.46
50:3:1979:G:N1	50:3:1980:G:C6	2.84	0.46
50:3:2251:U:O2'	50:3:2442:A:N1	2.40	0.46
50:3:2396:A:N6	50:3:2397:G:N1	2.63	0.46
50:3:2405:G:H2'	50:3:2406:U:H6	1.80	0.46
50:3:2649:G:H2'	50:3:2650:A:H8	1.80	0.46
50:3:2797:C:C2	50:3:2897:G:C2	3.03	0.46
52:5:300:A:H2'	52:5:301:G:O4'	2.16	0.46
52:5:399:C:N4	52:5:545:A:OP1	2.49	0.46
52:5:595:G:C2'	52:5:596:U:H5'	2.45	0.46
52:5:859:A:H2'	52:5:860:C:C6	2.50	0.46
52:5:1139:A:H2'	52:5:1140:A:H8	1.79	0.46
52:5:1245:A:H2'	52:5:1246:A:H8	1.79	0.46
52:5:1355:U:O2	52:5:1357:C:N4	2.49	0.46
53:6:28:A:H2	53:6:45:G:C8	2.33	0.46
2:1:20:LYS:HD2	2:1:44:GLN:HG3	1.97	0.46
5:B:11:ARG:HB2	5:B:15:ASN:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:56:VAL:HG12	5:B:69:VAL:HA	1.97	0.46
13:J:28:SER:OG	13:J:34:VAL:HG12	2.14	0.46
21:R:5:ALA:HB1	52:5:1286:G:N7	2.31	0.46
29:f:43:SER:H	29:f:46:ASP:HB2	1.80	0.46
31:h:13:ASN:ND2	31:h:50:MET:HE2	2.31	0.46
33:j:76:HIS:H	38:o:78:ASN:HB3	1.80	0.46
35:l:70:PRO:HB3	35:l:95:ALA:HB2	1.97	0.46
42:s:65:ILE:HD11	42:s:75:SER:HB3	1.96	0.46
49:z:37:PHE:CE2	50:3:2379:G:H1'	2.51	0.46
50:3:54:A:C2	50:3:182:C:H1'	2.50	0.46
50:3:73:A:C6	50:3:115:U:H1'	2.51	0.46
50:3:604:A:O2'	50:3:608:A:N6	2.48	0.46
50:3:648:G:O2'	50:3:650:G:OP2	2.33	0.46
50:3:1427:C:H2'	50:3:1428:U:C5	2.51	0.46
50:3:1672:C:H5'	50:3:2718:C:O2'	2.15	0.46
50:3:1867:G:O6	50:3:1889:U:O2	2.33	0.46
50:3:1963:U:P	50:3:1963:U:H6	2.38	0.46
50:3:1971:G:HO2'	50:3:1973:U:HO2'	1.49	0.46
50:3:2078:A:H2'	50:3:2079:G:H8	1.81	0.46
50:3:2372:C:H2'	50:3:2373:G:O4'	2.15	0.46
52:5:90:G:H2'	52:5:91:C:C6	2.50	0.46
52:5:258:A:H2'	52:5:259:A:C4	2.51	0.46
52:5:410:A:H8	52:5:425:G:N1	2.13	0.46
52:5:456:U:H2'	52:5:457:A:N7	2.31	0.46
52:5:543:C:H2'	52:5:544:A:O4'	2.16	0.46
52:5:596:U:H2'	52:5:597:C:C6	2.50	0.46
52:5:950:C:H2'	52:5:951:U:C6	2.51	0.46
52:5:956:U:H2'	52:5:957:C:O4'	2.15	0.46
52:5:998:G:N2	52:5:1029:C:O2	2.48	0.46
52:5:1226:A:N3	52:5:1344:C:O2'	2.38	0.46
52:5:1277:C:H2'	52:5:1278:G:O4'	2.15	0.46
53:6:68:G:H2'	53:6:69:A:O4'	2.16	0.46
1:0:6:GLN:HB2	50:3:721:G:H21	1.79	0.46
3:2:23:VAL:O	3:2:36:GLN:N	2.48	0.46
6:C:127:ARG:HD2	52:5:617:U:H5'	1.97	0.46
18:O:38:LYS:HD3	52:5:446:A:H4'	1.98	0.46
20:Q:73:ARG:HH21	52:5:719:G:H8	1.63	0.46
25:b:4:ARG:NH1	25:b:88:THR:H	2.13	0.46
26:c:191:LEU:HD12	26:c:197:LEU:HD21	1.97	0.46
34:k:140:GLU:OE2	34:k:146:VAL:HG22	2.15	0.46
37:n:64:ASN:ND2	37:n:70:ALA:HB3	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:16:VAL:O	42:s:20:GLN:CB	2.59	0.46
43:t:40:ASN:HB3	43:t:67:ALA:H	1.81	0.46
47:x:41:LYS:HD3	47:x:47:ILE:HG23	1.97	0.46
50:3:229:C:O2'	50:3:261:A:OP1	2.33	0.46
50:3:1240:U:H5''	50:3:1241:U:H2'	1.96	0.46
50:3:1499:C:H2'	50:3:1500:A:C8	2.51	0.46
50:3:1927:C:H4'	52:5:1492:G:C5	2.51	0.46
50:3:2141:A:H2'	50:3:2142:U:C6	2.49	0.46
50:3:2413:G:O3'	50:3:2419:A:N6	2.49	0.46
50:3:2536:U:O2	50:3:2543:G:C6	2.68	0.46
50:3:2851:U:O2	50:3:2851:U:H2'	2.16	0.46
51:4:4:G:H5''	51:4:26:C:H1'	1.98	0.46
52:5:201:G:H2'	52:5:202:A:H8	1.81	0.46
52:5:298:G:H2'	52:5:299:U:C6	2.51	0.46
52:5:407:A:N6	52:5:426:U:O4'	2.49	0.46
52:5:676:U:H2'	52:5:677:C:H6	1.80	0.46
52:5:698:U:H5''	52:5:699:A:H2'	1.97	0.46
52:5:809:G:OP1	52:5:896:G:N2	2.42	0.46
52:5:885:U:O2	52:5:901:A:N7	2.47	0.46
52:5:910:C:OP2	52:5:910:C:H4'	2.16	0.46
52:5:1016:A:H2'	52:5:1017:A:C8	2.51	0.46
52:5:1413:G:O6	52:5:1438:U:O4	2.33	0.46
2:1:6:ALA:HB2	50:3:253:C:H1'	1.98	0.46
8:E:43:LYS:HB2	8:E:57:TYR:CE1	2.51	0.46
8:E:73:LYS:HE3	52:5:668:U:H1'	1.98	0.46
12:I:62:HIS:ND1	52:5:1174:U:H4'	2.31	0.46
13:J:25:VAL:HG13	13:J:63:VAL:HG11	1.97	0.46
23:T:36:LEU:HD11	23:T:41:ARG:HE	1.80	0.46
24:a:56:ARG:HH22	50:3:817:A:N6	2.12	0.46
28:e:45:LYS:HD3	28:e:58:ASN:HB3	1.97	0.46
33:j:8:LEU:HD23	33:j:19:VAL:O	2.15	0.46
34:k:69:ARG:HD3	34:k:75:GLN:HG2	1.98	0.46
37:n:10:LEU:HG	37:n:14:ARG:HH11	1.81	0.46
43:t:44:ARG:HE	43:t:46:LYS:CG	2.27	0.46
50:3:929:G:N3	50:3:929:G:H2'	2.30	0.46
50:3:1033:A:H2'	50:3:1034:A:C8	2.51	0.46
50:3:2297:G:H2'	50:3:2298:G:C8	2.51	0.46
50:3:2646:G:OP2	50:3:2646:G:H8	1.99	0.46
50:3:2726:G:H2'	50:3:2727:G:C8	2.51	0.46
51:4:43:A:H2'	51:4:44:A:O4'	2.15	0.46
52:5:76:G:N2	52:5:78:A:H3'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:171:A:N6	52:5:195:U:O2	2.48	0.46
52:5:345:A:H2'	52:5:346:G:C8	2.50	0.46
52:5:790:U:H1'	52:5:1491:A:H1'	1.96	0.46
52:5:803:C:H2'	52:5:804:A:C8	2.50	0.46
52:5:949:G:N2	52:5:1202:A:H62	2.13	0.46
52:5:1053:U:OP2	52:5:1165:G:N1	2.49	0.46
52:5:1091:C:C2	52:5:1093:A:H5'	2.50	0.46
52:5:1138:U:C2	52:5:1149:G:C2	3.03	0.46
52:5:1382:C:H2'	52:5:1383:A:H8	1.81	0.46
52:5:1401:A:N1	52:5:1449:G:C6	2.83	0.46
53:6:59:A:H1'	53:6:61:U:OP2	2.16	0.46
5:B:8:ASN:HB3	16:M:49:TYR:HB3	1.97	0.46
6:C:53:GLN:O	6:C:57:LYS:HG3	2.16	0.46
7:D:140:VAL:HG11	7:D:202:GLN:HB3	1.97	0.46
10:G:18:LEU:HD13	10:G:41:LYS:HD3	1.97	0.46
10:G:21:LYS:HB3	10:G:33:VAL:HG11	1.98	0.46
11:H:63:PHE:HZ	11:H:92:PHE:CD2	2.33	0.46
14:K:30:LEU:O	14:K:31:LEU:HG	2.16	0.46
15:L:113:ARG:HH12	52:5:1204:A:H3'	1.80	0.46
20:Q:102:VAL:HG11	52:5:672:A:H1'	1.98	0.46
24:a:39:VAL:HG12	24:a:40:THR:N	2.30	0.46
24:a:165:GLY:N	24:a:203:VAL:HB	2.31	0.46
29:f:93:ILE:HD12	29:f:117:VAL:HG12	1.97	0.46
31:h:76:LEU:HD12	31:h:79:ALA:HB3	1.98	0.46
44:u:80:LEU:HG	44:u:100:HIS:HB2	1.98	0.46
45:v:46:THR:O	45:v:48:ILE:HG23	2.15	0.46
46:w:85:ASN:HA	46:w:88:LYS:HD2	1.98	0.46
50:3:33:C:H5'	50:3:1269:C:OP1	2.16	0.46
50:3:42:U:H2'	50:3:43:A:C8	2.51	0.46
50:3:122:G:C6	50:3:132:G:C4	3.03	0.46
50:3:167:A:C2	50:3:168:A:H1'	2.51	0.46
50:3:353:G:C6	50:3:357:A:N7	2.84	0.46
50:3:726:U:H2'	50:3:727:C:C6	2.51	0.46
50:3:1026:A:H5''	50:3:1192:U:H5''	1.97	0.46
50:3:1447:A:N3	50:3:1448:U:H2'	2.31	0.46
50:3:1471:A:H2'	50:3:1472:C:C6	2.51	0.46
50:3:1481:U:N3	50:3:1486:U:OP2	2.32	0.46
50:3:1808:C:N4	50:3:2210:G:H4'	2.31	0.46
50:3:2107:A:C2	50:3:2198:G:N1	2.83	0.46
52:5:479:A:C2	52:5:480:C:H1'	2.50	0.46
52:5:787:A:N6	52:5:1472:G:O3'	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:896:G:H4'	52:5:1488:A:OP1	2.16	0.46
52:5:974:C:H4'	52:5:1296:C:C5	2.50	0.46
52:5:1351:U:H2'	52:5:1352:A:C8	2.51	0.46
52:5:1406:U:H2'	52:5:1407:A:C8	2.51	0.46
1:0:25:ALA:O	1:0:29:LYS:HG2	2.16	0.46
9:F:26:ILE:HG22	9:F:35:LYS:HG2	1.97	0.46
10:G:12:PHE:HE2	52:5:585:G:H1'	1.81	0.46
11:H:117:LYS:HB2	11:H:120:LEU:HD12	1.98	0.46
14:K:49:ARG:HH11	14:K:65:TYR:HE2	1.64	0.46
15:L:101:ARG:HG2	52:5:945:U:OP2	2.16	0.46
21:R:3:ARG:HH21	21:R:8:GLY:HA2	1.81	0.46
25:b:5:GLY:HA3	25:b:207:ILE:O	2.15	0.46
26:c:159:PHE:HB2	26:c:180:VAL:HG23	1.97	0.46
29:f:72:ILE:HG21	29:f:137:VAL:O	2.16	0.46
40:q:87:GLN:OE1	50:3:1197:G:N2	2.37	0.46
50:3:160:A:H2'	50:3:161:U:C6	2.50	0.46
50:3:596:G:H2'	50:3:597:C:C6	2.51	0.46
50:3:682:A:H61	50:3:2357:G:HO2'	1.63	0.46
50:3:778:U:H2'	50:3:779:C:C6	2.51	0.46
50:3:813:G:H2'	50:3:814:U:O4'	2.16	0.46
50:3:1038:G:H2'	50:3:1039:G:C8	2.51	0.46
50:3:1094:G:H2'	50:3:1095:U:H5	1.81	0.46
50:3:1237:G:H2'	50:3:1238:A:H8	1.81	0.46
50:3:1344:U:H2'	50:3:1345:G:C8	2.51	0.46
50:3:1375:G:C2	50:3:1376:G:N7	2.83	0.46
50:3:1457:A:N1	50:3:1599:C:N4	2.64	0.46
50:3:1474:C:H2'	50:3:1475:C:H6	1.81	0.46
50:3:2010:A:H2'	50:3:2011:G:O4'	2.16	0.46
50:3:2038:A:OP2	50:3:2462:G:N2	2.49	0.46
50:3:2126:A:O2'	50:3:2178:A:N6	2.48	0.46
50:3:2819:C:H2'	50:3:2820:G:O4'	2.15	0.46
52:5:214:U:H2'	52:5:215:C:C6	2.51	0.46
52:5:672:A:C4	52:5:673:A:C8	3.04	0.46
52:5:833:G:H2'	52:5:834:G:H8	1.81	0.46
52:5:1058:A:N3	52:5:1059:G:H1'	2.31	0.46
52:5:1148:U:H2'	52:5:1149:G:H8	1.81	0.46
52:5:1297:G:H2'	52:5:1298:U:O4'	2.16	0.46
1:0:22:MET:HE3	1:0:28:ARG:HG2	1.98	0.46
4:A:211:VAL:HG13	4:A:214:ILE:HG22	1.98	0.46
6:C:60:MET:HG2	6:C:191:ILE:HD12	1.98	0.46
8:E:9:VAL:HG12	8:E:56:HIS:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:106:LEU:HB3	10:G:110:GLY:HA2	1.98	0.46
21:R:81:LYS:HG3	21:R:84:THR:H	1.81	0.46
23:T:44:GLU:O	23:T:48:ILE:HG12	2.15	0.46
24:a:62:ASN:H	24:a:64:ARG:NH2	2.14	0.46
29:f:61:ASN:OD1	29:f:131:PHE:CE1	2.69	0.46
33:j:53:LYS:H	33:j:56:GLN:CD	2.24	0.46
37:n:106:ALA:HB1	37:n:116:PHE:CE1	2.51	0.46
39:p:9:THR:OG1	50:3:616:G:OP1	2.33	0.46
49:z:42:ARG:HG3	50:3:679:A:C8	2.51	0.46
50:3:30:A:N1	50:3:547:G:H1'	2.30	0.46
50:3:905:U:H3	50:3:946:A:H61	1.63	0.46
50:3:1228:G:H2'	50:3:1229:U:H6	1.80	0.46
50:3:1383:G:C6	50:3:1405:G:C2	3.04	0.46
50:3:1503:A:H3'	50:3:1504:G:C8	2.52	0.46
50:3:1630:A:H2'	50:3:1631:A:H8	1.80	0.46
50:3:1688:A:OP2	50:3:1690:C:N4	2.49	0.46
50:3:2644:U:H2'	50:3:2645:U:C6	2.51	0.46
50:3:2695:U:O4	50:3:2730:G:O6	2.34	0.46
52:5:407:A:N7	52:5:409:G:N2	2.59	0.46
52:5:657:G:H2'	52:5:658:G:O4'	2.16	0.46
52:5:764:A:H2'	52:5:765:A:C8	2.45	0.46
52:5:916:U:H2'	52:5:917:G:C8	2.50	0.46
52:5:969:A:H2	52:5:972:A:H61	1.62	0.46
52:5:1407:A:C2	52:5:1442:A:C5	3.04	0.46
4:A:27:ARG:HD2	4:A:254:ILE:HG12	1.97	0.45
4:A:117:LEU:HB2	4:A:190:GLU:HB3	1.98	0.45
6:C:69:LYS:NZ	52:5:397:C:H3'	2.32	0.45
7:D:96:ASN:ND2	7:D:98:LYS:HB2	2.31	0.45
7:D:207:ARG:HD2	7:D:207:ARG:HA	1.71	0.45
9:F:36:GLY:HA2	11:H:44:LYS:NZ	2.32	0.45
11:H:121:TYR:CE2	52:5:1208:G:H4'	2.51	0.45
13:J:62:LYS:O	13:J:66:THR:HG23	2.16	0.45
17:N:33:ILE:HD12	17:N:53:LEU:HA	1.97	0.45
19:P:11:GLY:HA2	19:P:26:VAL:HG22	1.98	0.45
21:R:55:LYS:N	52:5:953:A:H1'	2.31	0.45
24:a:94:CYS:HB3	24:a:110:ILE:HD11	1.98	0.45
24:a:238:HIS:CE1	24:a:240:HIS:CD2	3.04	0.45
27:d:170:LEU:HD13	27:d:175:LEU:HB3	1.97	0.45
29:f:67:LYS:HE2	29:f:71:VAL:HG21	1.98	0.45
30:g:59:LEU:HD12	30:g:59:LEU:HA	1.79	0.45
30:g:89:ILE:HD12	30:g:92:THR:HB	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:h:116:THR:HG23	31:h:119:ALA:H	1.82	0.45
37:n:56:SER:OG	37:n:57:SER:N	2.49	0.45
38:o:30:GLU:OE2	38:o:92:ARG:HB2	2.16	0.45
38:o:92:ARG:HD3	38:o:115:LYS:HB3	1.95	0.45
41:r:86:ILE:HG23	41:r:88:ARG:HG3	1.97	0.45
49:z:24:ASN:HD21	49:z:27:LYS:HE3	1.81	0.45
50:3:226:A:O2'	50:3:228:A:O5'	2.34	0.45
50:3:244:G:O2'	50:3:261:A:N1	2.48	0.45
50:3:348:A:H2'	50:3:349:G:C8	2.51	0.45
50:3:634:C:H2'	50:3:635:G:O4'	2.16	0.45
50:3:715:G:H2'	50:3:716:G:H8	1.81	0.45
50:3:790:U:H2'	50:3:791:A:C8	2.51	0.45
50:3:1098:G:H2'	50:3:1099:C:C6	2.52	0.45
50:3:1215:G:O2'	50:3:1216:U:H5'	2.16	0.45
50:3:1264:U:O2'	50:3:1265:G:H5'	2.17	0.45
50:3:1315:A:C5	50:3:1316:U:H5	2.34	0.45
50:3:1499:C:H2'	50:3:1500:A:H8	1.81	0.45
50:3:1845:C:H5'	50:3:1906:G:N1	2.30	0.45
50:3:2237:U:H2'	50:3:2238:G:C8	2.51	0.45
50:3:2332:U:O2'	50:3:2339:G:N1	2.49	0.45
50:3:2553:G:H2'	50:3:2554:U:C6	2.51	0.45
52:5:167:A:N3	52:5:167:A:H2'	2.31	0.45
52:5:394:U:H2'	52:5:395:G:C8	2.52	0.45
52:5:765:A:C2	52:5:766:G:H1'	2.51	0.45
52:5:936:G:N2	52:5:1316:C:H42	2.13	0.45
52:5:1474:A:H3'	52:5:1475:A:H8	1.81	0.45
7:D:160:ILE:HD12	7:D:178:ILE:H	1.80	0.45
8:E:40:LEU:HD12	8:E:57:TYR:HB3	1.97	0.45
9:F:101:ARG:NH1	52:5:934:G:O2'	2.48	0.45
17:N:29:LEU:HD11	17:N:59:LYS:NZ	2.31	0.45
23:T:35:HIS:CE1	52:5:1499:G:OP2	2.69	0.45
27:d:92:ARG:NE	51:4:43:A:O4'	2.49	0.45
27:d:131:GLY:HA3	50:3:2312:G:O3'	2.17	0.45
27:d:146:ILE:HG12	27:d:150:ARG:NE	2.31	0.45
33:j:3:SER:HB2	50:3:1700:G:H21	1.81	0.45
37:n:46:PHE:O	37:n:47:SER:OG	2.33	0.45
40:q:68:VAL:HB	40:q:85:HIS:O	2.16	0.45
45:v:23:THR:HA	50:3:204:U:H4'	1.98	0.45
46:w:105:ARG:HH11	50:3:1431:A:H4'	1.81	0.45
50:3:21:U:H2'	50:3:22:U:O4'	2.16	0.45
50:3:598:G:H2'	50:3:599:U:C6	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:782:U:C5	50:3:2621:U:H2'	2.51	0.45
50:3:1331:G:H2'	50:3:1332:A:C8	2.50	0.45
50:3:1367:G:H21	50:3:1637:A:H1'	1.81	0.45
50:3:1394:A:H3'	50:3:1395:A:H8	1.80	0.45
50:3:1413:A:H1'	50:3:1414:C:C6	2.51	0.45
50:3:2011:G:C2	50:3:2012:A:H1'	2.51	0.45
50:3:2139:C:HO2'	50:3:2140:G:P	2.40	0.45
50:3:2500:U:H2'	50:3:2501:U:C6	2.51	0.45
50:3:2521:A:H2'	50:3:2522:U:H6	1.80	0.45
50:3:2679:G:H2'	50:3:2680:C:C6	2.51	0.45
51:4:3:U:OP1	51:4:59:A:H1'	2.16	0.45
52:5:18:U:H1'	52:5:1070:G:H1'	1.99	0.45
52:5:20:C:O2'	52:5:570:A:N1	2.41	0.45
52:5:601:U:H2'	52:5:602:G:C8	2.51	0.45
53:6:16:G:N1	53:6:60:U:O2	2.49	0.45
7:D:78:LYS:NZ	52:5:1073:A:OP1	2.37	0.45
9:F:48:LEU:HG	9:F:116:LEU:HB3	1.98	0.45
9:F:78:ARG:N	52:5:1356:U:O2'	2.47	0.45
11:H:58:ASP:OD1	11:H:58:ASP:N	2.49	0.45
24:a:164:ALA:HB1	24:a:205:ASN:HB3	1.97	0.45
24:a:217:GLY:O	24:a:221:HIS:ND1	2.35	0.45
24:a:246:ARG:NH1	50:3:1835:G:OP2	2.50	0.45
24:a:262:HIS:O	50:3:1803:U:O2'	2.34	0.45
27:d:91:LEU:HD12	27:d:95:ARG:CB	2.46	0.45
28:e:73:ALA:HB1	50:3:2755:G:H5''	1.98	0.45
31:h:30:ILE:HB	31:h:61:LYS:HG3	1.99	0.45
36:m:49:ILE:HD13	36:m:90:TYR:HE2	1.82	0.45
38:o:33:VAL:HB	38:o:48:PHE:HB3	1.98	0.45
39:p:57:ARG:HA	39:p:60:TRP:CE3	2.51	0.45
40:q:67:LYS:HE2	50:3:1253:G:C8	2.51	0.45
46:w:53:THR:HG22	50:3:78:C:O3'	2.16	0.45
50:3:226:A:H1'	50:3:228:A:O4'	2.16	0.45
50:3:468:A:H2'	50:3:469:C:O4'	2.17	0.45
50:3:684:A:H2'	50:3:685:G:O4'	2.16	0.45
50:3:901:C:N4	50:3:946:A:N7	2.65	0.45
50:3:996:A:O2'	50:3:997:G:OP1	2.32	0.45
50:3:1163:G:H22	50:3:2576:A:H2	1.65	0.45
50:3:1758:C:H2'	50:3:1759:C:O4'	2.15	0.45
50:3:1886:C:H2'	50:3:1887:U:C6	2.51	0.45
50:3:2007:U:H5'	50:3:2730:G:H21	1.80	0.45
52:5:148:A:C8	52:5:149:G:H1'	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:531:A:O2'	52:5:533:A:OP2	2.33	0.45
52:5:676:U:H2'	52:5:677:C:C6	2.51	0.45
52:5:765:A:O2'	52:5:1498:G:N2	2.48	0.45
52:5:882:U:H2'	52:5:903:A:H61	1.80	0.45
52:5:929:C:H5''	52:5:931:C:H41	1.81	0.45
52:5:936:G:H21	52:5:1317:A:H61	1.64	0.45
52:5:1321:G:H1'	52:5:1322:U:H5	1.81	0.45
52:5:1359:C:N4	52:5:1360:G:O6	2.49	0.45
6:C:22:ASN:ND2	52:5:405:C:OP1	2.49	0.45
17:N:9:ILE:O	17:N:13:GLN:HG3	2.16	0.45
21:R:17:LYS:HB3	21:R:18:LYS:HZ2	1.80	0.45
23:T:46:ARG:HD3	52:5:719:G:OP2	2.17	0.45
24:a:13:GLY:HA3	50:3:1781:C:O2	2.16	0.45
24:a:38:LEU:HB3	24:a:65:LYS:HB3	1.98	0.45
25:b:10:LYS:NZ	25:b:198:ALA:O	2.40	0.45
27:d:53:ALA:HB2	27:d:150:ARG:HH11	1.81	0.45
27:d:70:ALA:HB1	27:d:79:LEU:HB3	1.98	0.45
34:k:134:GLN:HB2	50:3:673:A:OP1	2.17	0.45
36:m:15:VAL:O	36:m:19:ARG:HG3	2.16	0.45
38:o:92:ARG:HD2	38:o:115:LYS:HB2	1.95	0.45
38:o:110:LYS:HE3	52:5:1408:A:OP1	2.17	0.45
40:q:5:VAL:HG22	40:q:38:VAL:HG23	1.99	0.45
40:q:91:LYS:HE2	40:q:91:LYS:HB3	1.73	0.45
41:r:110:ASN:CG	41:r:112:ASN:HB2	2.41	0.45
50:3:20:C:O2'	50:3:587:U:H5''	2.17	0.45
50:3:257:C:H2'	50:3:258:G:H8	1.82	0.45
50:3:709:G:N2	50:3:2452:G:H4'	2.30	0.45
50:3:763:G:HO2'	50:3:765:A:H8	1.64	0.45
50:3:884:A:H2	50:3:966:U:H3	1.64	0.45
50:3:1089:A:H2'	50:3:1090:G:C8	2.52	0.45
50:3:1179:G:H2'	50:3:1180:U:H6	1.81	0.45
50:3:1228:G:H2'	50:3:1229:U:C6	2.51	0.45
50:3:1361:U:H2'	50:3:1362:C:C6	2.51	0.45
50:3:1609:U:H2'	50:3:1610:U:C6	2.52	0.45
50:3:2400:A:H2'	50:3:2401:U:C6	2.51	0.45
50:3:2505:A:H4'	50:3:2506:C:O5'	2.17	0.45
52:5:223:G:H3'	52:5:224:A:H8	1.82	0.45
52:5:1183:C:H2'	52:5:1184:C:H6	1.82	0.45
52:5:1377:C:H2'	52:5:1378:C:O4'	2.16	0.45
4:A:218:ASN:HB3	4:A:224:SER:OG	2.15	0.45
5:B:206:ASN:ND2	5:B:209:MET:SD	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:34:ILE:HB	6:C:39:GLY:CA	2.43	0.45
8:E:114:LYS:HD3	8:E:114:LYS:HA	1.78	0.45
8:E:162:LYS:NZ	10:G:80:ARG:HH11	2.15	0.45
9:F:150:PHE:HB3	9:F:155:TRP:HH2	1.82	0.45
10:G:104:LEU:HD22	10:G:116:ILE:HG12	1.98	0.45
24:a:153:HIS:NE2	50:3:2229:C:O2	2.46	0.45
25:b:46:LYS:HZ2	50:3:2645:U:H1'	1.81	0.45
25:b:112:ALA:HB2	25:b:205:VAL:HG22	1.98	0.45
31:h:61:LYS:HD2	31:h:61:LYS:HA	1.75	0.45
34:k:61:ARG:NH1	50:3:2437:G:O6	2.47	0.45
34:k:83:ASN:O	34:k:87:LYS:HG3	2.16	0.45
35:l:11:LYS:O	50:3:947:A:N6	2.50	0.45
35:l:34:LEU:HG	35:l:103:MET:HE3	1.98	0.45
38:o:110:LYS:HB3	52:5:1407:A:H5''	1.99	0.45
39:p:86:ASN:ND2	39:p:113:LYS:O	2.39	0.45
49:z:42:ARG:HH12	50:3:2377:A:H2	1.63	0.45
50:3:278:U:H2'	50:3:279:U:H6	1.81	0.45
50:3:731:A:H2'	50:3:732:G:H8	1.81	0.45
50:3:1057:G:H1'	50:3:1058:U:H5	1.82	0.45
50:3:1611:C:H2'	50:3:1612:U:C2	2.51	0.45
50:3:1791:A:H5'	50:3:1792:A:C4	2.52	0.45
50:3:1930:U:H2'	50:3:1931:C:C6	2.51	0.45
50:3:2551:G:H2'	50:3:2552:G:H8	1.78	0.45
50:3:2601:U:H2'	50:3:2602:C:C6	2.51	0.45
50:3:2842:G:H2'	50:3:2843:G:H8	1.82	0.45
52:5:134:G:H21	52:5:1422:A:H2	1.64	0.45
52:5:202:A:H2'	52:5:203:C:C6	2.52	0.45
52:5:403:A:H2'	52:5:404:A:H8	1.80	0.45
52:5:1057:C:O2'	52:5:1361:G:O2'	2.12	0.45
52:5:1477:A:H3'	52:5:1478:A:H3'	1.98	0.45
3:2:5:ALA:HB3	50:3:2474:C:H5'	1.98	0.45
7:D:145:GLY:O	7:D:190:ASN:ND2	2.50	0.45
9:F:44:GLY:O	9:F:48:LEU:HD23	2.16	0.45
10:G:60:LEU:HB2	10:G:69:ILE:HG13	1.99	0.45
25:b:64:LYS:CB	50:3:2814:A:H5''	2.47	0.45
30:g:100:VAL:HA	30:g:106:MET:HE2	1.98	0.45
31:h:49:GLU:HB3	31:h:70:THR:HG21	1.98	0.45
34:k:30:LYS:HA	50:3:845:U:C5	2.51	0.45
45:v:60:LYS:HE2	50:3:410:G:C8	2.52	0.45
47:x:41:LYS:HD2	47:x:46:TYR:HB3	1.97	0.45
50:3:112:A:H2'	50:3:113:U:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:245:U:N3	50:3:259:A:H5''	2.32	0.45
50:3:564:A:N3	50:3:565:C:N4	2.64	0.45
50:3:633:G:O6	50:3:692:U:C4	2.69	0.45
50:3:1007:C:H4'	50:3:1019:A:O2'	2.17	0.45
50:3:1240:U:H5'	50:3:1267:A:H61	1.82	0.45
50:3:1316:U:H1'	50:3:1356:G:H21	1.80	0.45
50:3:1674:A:C2	50:3:1675:A:C8	3.05	0.45
50:3:2297:G:H2'	50:3:2298:G:O4'	2.16	0.45
50:3:2440:A:C6	53:8:76:C:H2'	2.48	0.45
50:3:2646:G:H1	50:3:2783:A:H2'	1.81	0.45
52:5:247:G:O2'	52:5:265:U:OP2	2.30	0.45
52:5:796:A:C6	52:5:797:G:C6	3.05	0.45
52:5:892:G:H2'	52:5:894:A:OP2	2.17	0.45
52:5:1209:C:H2'	52:5:1210:U:C6	2.51	0.45
53:6:3:G:H1	53:6:72:C:N4	2.13	0.45
4:A:137:GLN:HG3	4:A:156:ILE:HG21	1.98	0.45
4:A:203:ASN:HB2	4:A:205:ASN:OD1	2.17	0.45
5:B:35:ILE:O	5:B:39:LYS:HG2	2.17	0.45
5:B:175:ASN:C	5:B:177:PRO:HD3	2.41	0.45
9:F:47:ASP:O	9:F:50:GLU:HB2	2.17	0.45
9:F:110:ARG:NH2	9:F:122:GLU:HB2	2.29	0.45
15:L:17:ILE:HG21	52:5:1276:U:C6	2.51	0.45
17:N:31:SER:HA	17:N:34:LYS:HD2	1.97	0.45
19:P:79:LYS:HA	19:P:79:LYS:HD2	1.76	0.45
25:b:70:PHE:O	25:b:74:ASN:N	2.49	0.45
25:b:99:GLN:HE21	25:b:184:PHE:HB3	1.82	0.45
26:c:41:GLU:O	26:c:44:SER:OG	2.27	0.45
35:l:79:LEU:HD12	50:3:2467:A:C4	2.51	0.45
41:r:5:ALA:HB1	41:r:50:LEU:HG	1.99	0.45
44:u:53:ARG:HG2	44:u:72:THR:HB	1.98	0.45
50:3:15:A:H1'	50:3:17:G:C5	2.51	0.45
50:3:23:A:H2'	50:3:24:U:C6	2.52	0.45
50:3:57:G:H2'	50:3:58:A:C8	2.52	0.45
50:3:78:C:H2'	50:3:79:U:C6	2.51	0.45
50:3:301:G:C2	50:3:405:C:O2	2.66	0.45
50:3:865:A:N6	50:3:2454:G:H1'	2.32	0.45
50:3:1335:A:C8	50:3:1656:A:C5	3.05	0.45
50:3:2136:A:H5''	50:3:2139:C:N3	2.31	0.45
50:3:2198:G:H2'	50:3:2199:C:C6	2.52	0.45
50:3:2309:A:C6	50:3:2324:A:N1	2.85	0.45
50:3:2392:U:H3'	50:3:2393:C:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2476:A:P	50:3:2484:A:H61	2.40	0.45
50:3:2603:G:H2'	50:3:2604:U:H3'	1.97	0.45
50:3:2655:U:H2'	50:3:2656:G:H8	1.81	0.45
50:3:2881:A:H2'	50:3:2882:U:C6	2.51	0.45
52:5:95:C:H2'	52:5:96:G:H8	1.81	0.45
52:5:451:G:H2'	52:5:452:A:H8	1.81	0.45
52:5:492:G:O2'	52:5:494:A:H1'	2.17	0.45
52:5:1341:U:C2	52:5:1342:C:C5	3.04	0.45
52:5:1507:U:H2'	52:5:1508:C:O4'	2.17	0.45
53:6:2:G:H2'	53:6:3:G:H8	1.81	0.45
53:8:2:G:H2'	53:8:3:G:H8	1.81	0.45
4:A:59:GLU:HA	4:A:62:ARG:NE	2.30	0.45
8:E:21:VAL:HG13	8:E:24:LYS:HZ1	1.82	0.45
17:N:62:ARG:HH11	52:5:579:G:H5''	1.81	0.45
36:m:19:ARG:NH1	36:m:68:LEU:HD21	2.32	0.45
37:n:37:ASN:O	37:n:63:LYS:HG3	2.16	0.45
40:q:4:ILE:O	40:q:38:VAL:HA	2.17	0.45
50:3:266:A:H2'	50:3:267:A:C8	2.52	0.45
50:3:564:A:O2'	50:3:2030:A:N7	2.45	0.45
50:3:569:U:H2'	50:3:570:C:C6	2.52	0.45
50:3:850:G:H2'	50:3:851:U:H6	1.80	0.45
50:3:915:A:OP2	50:3:936:G:N2	2.49	0.45
50:3:1777:G:H1	50:3:1989:U:H3	1.65	0.45
50:3:2399:G:N1	50:3:2435:C:H4'	2.31	0.45
50:3:2526:A:O2'	50:3:2575:G:N2	2.50	0.45
50:3:2623:U:H2'	50:3:2624:C:C6	2.52	0.45
50:3:2786:A:O2'	50:3:2789:A:OP1	2.32	0.45
51:4:67:G:H2'	51:4:68:C:H6	1.81	0.45
51:4:95:G:H2'	51:4:96:G:C8	2.51	0.45
52:5:440:U:C2	52:5:489:U:C4	3.04	0.45
52:5:524:C:H2'	52:5:525:G:O4'	2.17	0.45
52:5:574:C:N4	52:5:755:U:H5'	2.31	0.45
52:5:931:C:C2	52:5:932:A:C8	3.05	0.45
52:5:945:U:O2'	52:5:946:G:H5'	2.17	0.45
52:5:1136:G:N7	52:5:1157:G:C2	2.84	0.45
52:5:1147:U:H2'	52:5:1148:U:C6	2.51	0.45
52:5:1213:A:H2	52:5:1216:G:H21	1.65	0.45
6:C:67:THR:O	6:C:71:PHE:N	2.44	0.45
7:D:145:GLY:HA3	7:D:190:ASN:HD21	1.82	0.45
9:F:2:ARG:HD2	52:5:1355:U:H2'	1.99	0.45
9:F:47:ASP:O	9:F:51:GLN:OE1	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:109:ILE:HD12	23:T:25:ILE:HD12	1.99	0.45
20:Q:70:ILE:HG13	52:5:716:C:O2	2.17	0.45
21:R:14:HIS:NE2	21:R:37:ARG:HB2	2.32	0.45
25:b:64:LYS:HG2	50:3:2795:C:H4'	1.99	0.45
25:b:99:GLN:HG2	25:b:186:GLU:HB3	1.99	0.45
25:b:145:GLY:HA2	50:3:2586:G:H1'	1.99	0.45
26:c:24:LEU:O	26:c:117:SER:OG	2.26	0.45
27:d:91:LEU:C	27:d:92:ARG:HD3	2.41	0.45
27:d:101:GLU:OE2	47:x:23:PHE:HB3	2.17	0.45
28:e:4:ILE:HD11	50:3:2759:G:H4'	1.99	0.45
31:h:121:LEU:HD13	31:h:136:ILE:HD11	1.98	0.45
38:o:65:ILE:HG12	38:o:78:ASN:HB2	1.99	0.45
41:r:9:ARG:HA	41:r:9:ARG:HD2	1.82	0.45
44:u:25:LYS:HG2	50:3:2286:A:C8	2.52	0.45
46:w:49:ARG:NH1	50:3:77:G:O3'	2.49	0.45
46:w:55:LEU:HD23	46:w:58:LEU:HD21	1.99	0.45
50:3:73:A:H5''	50:3:75:A:N9	2.32	0.45
50:3:192:U:H2'	50:3:193:G:O4'	2.16	0.45
50:3:291:G:H2'	50:3:292:G:C8	2.52	0.45
50:3:334:A:H2	50:3:353:G:N2	2.15	0.45
50:3:380:A:H3'	50:3:381:A:H8	1.81	0.45
50:3:589:A:H2'	50:3:590:U:O4'	2.16	0.45
50:3:771:C:H2'	50:3:772:C:C6	2.51	0.45
50:3:803:G:H2'	50:3:804:U:C6	2.52	0.45
50:3:841:C:OP1	50:3:865:A:O2'	2.33	0.45
50:3:901:C:H1'	50:3:903:A:N6	2.32	0.45
50:3:1438:G:H2'	50:3:1439:U:O4'	2.16	0.45
50:3:2054:C:H2'	50:3:2055:A:C8	2.52	0.45
50:3:2191:G:H2'	50:3:2192:U:C6	2.51	0.45
50:3:2278:G:H2'	50:3:2279:G:O4'	2.16	0.45
50:3:2528:C:H2'	50:3:2529:C:C6	2.52	0.45
50:3:2746:A:H61	50:3:2774:A:N6	2.15	0.45
51:4:14:U:O4	51:4:67:G:N2	2.50	0.45
52:5:203:C:H2'	52:5:204:C:C6	2.52	0.45
52:5:206:G:N2	52:5:210:G:N7	2.64	0.45
52:5:986:U:H4'	52:5:988:G:OP1	2.17	0.45
52:5:1328:C:H2'	52:5:1329:G:C8	2.52	0.45
52:5:1335:G:H2'	52:5:1336:C:C6	2.52	0.45
52:5:1431:A:H3'	52:5:1432:A:H8	1.82	0.45
53:8:18:C:H5'	53:8:61:U:C4	2.52	0.45
5:B:198:VAL:HG21	52:5:1179:A:N3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:115:GLN:NE2	52:5:434:U:O2	2.50	0.45
11:H:119:GLY:N	52:5:1342:C:OP1	2.49	0.45
14:K:43:LYS:HE3	14:K:70:LEU:HB3	1.99	0.45
18:O:63:VAL:O	18:O:66:LEU:HB2	2.17	0.45
19:P:13:VAL:HG23	19:P:24:VAL:HG22	1.98	0.45
19:P:68:PRO:HB3	19:P:74:ARG:HD2	1.99	0.45
26:c:175:ILE:HG22	26:c:176:LYS:H	1.80	0.45
27:d:36:ILE:HB	27:d:89:VAL:HB	1.99	0.45
29:f:81:LEU:HB2	29:f:144:PRO:HA	1.99	0.45
36:m:57:PHE:HA	36:m:60:ARG:HG3	1.98	0.45
41:r:127:LYS:HG3	50:3:1262:G:O2'	2.17	0.45
42:s:4:THR:HA	42:s:43:ALA:HB1	1.99	0.45
50:3:154:U:H2'	50:3:155:A:C8	2.51	0.45
50:3:728:A:H2'	50:3:729:U:C6	2.52	0.45
50:3:1076:U:O2	50:3:1149:G:C2	2.70	0.45
50:3:1605:A:H2'	50:3:1606:A:H8	1.81	0.45
50:3:1870:G:H2'	50:3:1871:U:C6	2.51	0.45
50:3:2096:U:H2'	50:3:2097:A:C8	2.52	0.45
50:3:2208:U:H2'	50:3:2209:U:C6	2.52	0.45
50:3:2445:C:H2'	50:3:2446:U:C6	2.52	0.45
50:3:2446:U:H5'	50:3:2607:G:H4'	1.98	0.45
50:3:2657:C:H2'	50:3:2658:U:C6	2.52	0.45
52:5:173:U:H2'	52:5:174:U:C6	2.52	0.45
52:5:249:U:H2'	52:5:250:G:C8	2.52	0.45
52:5:488:U:N3	52:5:491:U:OP2	2.50	0.45
52:5:636:G:H2'	52:5:637:A:H8	1.81	0.45
52:5:1425:A:H2'	52:5:1427:U:O2	2.17	0.45
2:1:7:ALA:O	2:1:10:ARG:HD3	2.16	0.44
4:A:35:ARG:HB3	52:5:828:U:OP1	2.18	0.44
4:A:146:LYS:HE3	52:5:1136:G:H4'	1.99	0.44
7:D:79:THR:HG23	52:5:1373:A:H62	1.82	0.44
8:E:142:ARG:CZ	8:E:144:SER:HB2	2.47	0.44
8:E:149:ALA:HB2	10:G:58:GLN:HG3	1.98	0.44
9:F:20:THR:O	9:F:23:THR:OG1	2.26	0.44
10:G:47:ILE:HD13	10:G:115:ILE:HD12	1.99	0.44
11:H:12:ARG:HA	11:H:108:ARG:HH22	1.81	0.44
12:I:14:ILE:HD11	12:I:104:LEU:HD22	1.99	0.44
21:R:10:PHE:HD2	52:5:1292:A:H4'	1.83	0.44
24:a:153:HIS:ND1	24:a:154:PRO:O	2.50	0.44
26:c:146:PHE:O	26:c:150:ALA:N	2.48	0.44
31:h:124:VAL:HA	31:h:127:THR:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:89:LYS:O	34:k:101:LYS:NZ	2.50	0.44
40:q:42:ASP:HB2	40:q:99:HIS:HB3	1.98	0.44
41:r:125:VAL:HA	41:r:128:ARG:HD3	1.98	0.44
44:u:30:SER:HB3	50:3:2270:U:H5	1.81	0.44
50:3:46:A:H2'	50:3:47:G:O4'	2.16	0.44
50:3:209:G:H4'	50:3:210:U:H5'	1.99	0.44
50:3:853:G:N1	50:3:1218:G:H2'	2.32	0.44
50:3:966:U:H2'	50:3:967:U:C6	2.51	0.44
50:3:1373:C:H2'	50:3:1374:U:C6	2.52	0.44
50:3:1588:A:H2'	50:3:1589:A:C8	2.52	0.44
50:3:1781:C:H4'	50:3:1986:C:O2'	2.16	0.44
50:3:2418:G:H3'	50:3:2419:A:H8	1.82	0.44
50:3:2718:C:H2'	50:3:2719:A:H8	1.82	0.44
52:5:38:U:H2'	52:5:39:G:H8	1.82	0.44
52:5:46:U:OP1	52:5:303:A:O2'	2.35	0.44
52:5:134:G:O6	52:5:160:A:N1	2.51	0.44
52:5:153:A:H2'	52:5:154:G:C8	2.50	0.44
52:5:174:U:C2	52:5:191:A:H2	2.35	0.44
52:5:673:A:H2'	52:5:674:U:H6	1.82	0.44
52:5:920:G:H4'	52:5:921:G:C8	2.51	0.44
52:5:1132:G:O2'	52:5:1155:A:N1	2.46	0.44
52:5:1158:A:H4'	52:5:1159:A:OP2	2.17	0.44
52:5:1476:C:OP2	52:5:1479:G:H2'	2.17	0.44
53:8:59:A:H1'	53:8:61:U:OP2	2.16	0.44
7:D:76:ILE:HA	52:5:17:A:H4'	2.00	0.44
9:F:94:ARG:NH1	9:F:98:LEU:HD21	2.32	0.44
14:K:27:ASN:OD1	14:K:36:THR:OG1	2.30	0.44
15:L:102:THR:HG22	15:L:106:ALA:HB2	1.99	0.44
18:O:6:VAL:HG23	52:5:44:C:H5''	1.98	0.44
24:a:219:ASN:HD21	50:3:1798:A:H5'	1.81	0.44
25:b:7:PHE:CD2	25:b:206:LEU:HD13	2.52	0.44
25:b:35:GLN:HG2	25:b:75:LEU:HD12	1.99	0.44
27:d:25:ILE:HD11	51:4:51:A:C2	2.52	0.44
34:k:77:TRP:CD1	34:k:111:PRO:HB2	2.52	0.44
39:p:62:LEU:HB2	50:3:1045:A:H4'	1.99	0.44
50:3:84:G:H21	50:3:105:U:H5	1.65	0.44
50:3:339:U:H2'	50:3:340:U:C6	2.51	0.44
50:3:443:C:H2'	50:3:444:C:C6	2.53	0.44
50:3:500:U:N3	50:3:823:A:C6	2.79	0.44
50:3:550:A:C2'	50:3:551:C:H5'	2.48	0.44
50:3:714:G:P	50:3:811:G:H22	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1067:A:H2	50:3:1157:G:H1	1.56	0.44
50:3:1091:G:H2'	50:3:1137:C:H41	1.82	0.44
50:3:1319:C:H2'	50:3:1320:C:C6	2.52	0.44
50:3:1392:G:H4'	50:3:1816:A:N3	2.31	0.44
50:3:1501:U:H2'	50:3:1502:A:C8	2.52	0.44
50:3:1663:G:N7	50:3:1664:A:C5	2.85	0.44
50:3:1734:A:H3'	50:3:1735:A:H8	1.82	0.44
50:3:1861:A:H3'	50:3:1862:A:C8	2.52	0.44
50:3:2195:U:O4	50:3:2196:G:O6	2.34	0.44
52:5:59:C:O2'	52:5:384:G:OP1	2.34	0.44
52:5:106:C:N4	52:5:111:A:H61	2.15	0.44
52:5:628:A:H3'	52:5:629:U:C6	2.52	0.44
52:5:720:U:H2'	52:5:829:G:H21	1.83	0.44
52:5:884:G:H22	52:5:901:A:P	2.39	0.44
52:5:1238:C:H2'	52:5:1239:U:C6	2.53	0.44
2:1:30:ALA:H	50:3:2428:C:P	2.39	0.44
3:2:18:LYS:HG2	3:2:23:VAL:HG12	1.98	0.44
8:E:135:GLY:HA2	52:5:835:G:N3	2.33	0.44
11:H:109:ASP:OD1	11:H:109:ASP:N	2.49	0.44
13:J:105:GLU:HG2	23:T:18:PHE:HE1	1.82	0.44
14:K:2:ALA:HB1	14:K:6:GLN:NE2	2.31	0.44
16:M:24:CYS:HB2	16:M:40:CYS:N	2.21	0.44
25:b:30:TYR:CE1	38:o:4:ILE:HB	2.52	0.44
25:b:173:LYS:NZ	50:3:2781:C:H5''	2.28	0.44
26:c:75:ARG:NH2	50:3:842:U:O2	2.33	0.44
28:e:7:ARG:HH11	50:3:1145:G:H1'	1.81	0.44
30:g:4:LYS:HE3	50:3:1081:A:O2'	2.16	0.44
37:n:32:VAL:CG1	37:n:102:ILE:HG13	2.46	0.44
40:q:17:ASN:H	40:q:94:VAL:HG13	1.83	0.44
46:w:29:TYR:HE2	46:w:47:THR:HG21	1.82	0.44
50:3:724:A:N6	50:3:725:G:O6	2.51	0.44
50:3:864:A:H8	50:3:2256:C:H5'	1.82	0.44
50:3:865:A:H61	50:3:2453:G:H21	1.64	0.44
50:3:1054:U:H2'	50:3:1055:A:C4	2.53	0.44
50:3:1231:G:O2'	50:3:1232:U:H5'	2.17	0.44
50:3:1624:A:H2'	50:3:1625:G:C8	2.51	0.44
50:3:2072:C:C2	50:3:2073:C:C5	3.06	0.44
50:3:2127:G:O6	50:3:2187:C:N4	2.50	0.44
50:3:2525:C:N4	50:3:2550:A:H62	2.15	0.44
50:3:2581:C:O2	53:6:76:C:O2'	2.30	0.44
50:3:2634:C:H2'	50:3:2635:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2647:A:H2'	50:3:2648:A:O4'	2.17	0.44
50:3:2861:G:N2	50:3:2864:A:OP2	2.51	0.44
51:4:42:G:N3	51:4:45:C:N4	2.51	0.44
51:4:75:U:H2'	51:4:76:A:C8	2.52	0.44
52:5:44:C:H2'	52:5:45:A:C8	2.52	0.44
52:5:207:C:H3'	52:5:208:A:H8	1.81	0.44
52:5:267:C:H2'	52:5:268:C:C6	2.52	0.44
52:5:297:A:C6	52:5:298:G:O6	2.70	0.44
52:5:656:U:H2'	52:5:657:G:C8	2.52	0.44
52:5:740:G:H2'	52:5:741:C:C6	2.52	0.44
52:5:746:A:H2'	52:5:747:C:C6	2.52	0.44
52:5:874:C:H2'	52:5:875:G:C8	2.53	0.44
52:5:1133:A:H1'	52:5:1156:G:H1	1.80	0.44
52:5:1418:G:H2'	52:5:1419:C:H6	1.79	0.44
9:F:108:ARG:CZ	9:F:115:MET:SD	3.05	0.44
15:L:86:TRP:HE1	21:R:78:ARG:HD2	1.81	0.44
24:a:56:ARG:NH2	50:3:815:G:N7	2.65	0.44
24:a:146:GLN:HG3	24:a:169:ARG:HD3	2.00	0.44
25:b:176:VAL:HG13	50:3:2737:G:N2	2.28	0.44
26:c:140:THR:OG1	50:3:354:C:C2	2.70	0.44
29:f:112:MET:HE1	29:f:130:ILE:N	2.32	0.44
36:m:60:ARG:HA	36:m:83:PHE:HE2	1.82	0.44
37:n:78:ALA:HB2	37:n:109:ALA:HA	2.00	0.44
45:v:5:ASP:OD1	45:v:5:ASP:N	2.50	0.44
50:3:116:C:H2'	50:3:117:C:O4'	2.18	0.44
50:3:121:U:H4'	50:3:122:G:C5'	2.47	0.44
50:3:342:G:H1'	50:3:536:A:OP1	2.17	0.44
50:3:679:A:N1	50:3:2377:A:O2'	2.40	0.44
50:3:1063:A:N7	50:3:1161:A:N6	2.66	0.44
50:3:1641:A:H5''	50:3:1642:G:N7	2.33	0.44
50:3:1818:G:H2'	50:3:1819:G:O4'	2.16	0.44
50:3:2237:U:H2'	50:3:2238:G:H8	1.82	0.44
50:3:2374:A:H3'	50:3:2375:A:C8	2.44	0.44
50:3:2399:G:N3	50:3:2432:C:N4	2.66	0.44
50:3:2823:A:H1'	50:3:2824:A:H8	1.83	0.44
52:5:931:C:H2'	52:5:932:A:H8	1.81	0.44
52:5:977:U:H1'	52:5:979:C:N4	2.32	0.44
52:5:1287:G:C2	52:5:1299:C:C2	3.05	0.44
52:5:1293:A:C8	52:5:1297:G:O6	2.70	0.44
10:G:12:PHE:CE1	52:5:750:A:H1'	2.53	0.44
15:L:44:ARG:HG3	52:5:1270:C:H5''	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:23:ARG:HH21	16:M:30:ALA:HB2	1.83	0.44
22:S:10:ARG:NH2	52:5:91:C:OP2	2.50	0.44
27:d:24:SER:HB2	51:4:53:U:H1'	2.00	0.44
27:d:92:ARG:HA	27:d:96:MET:HE3	2.00	0.44
27:d:93:GLY:H	27:d:95:ARG:HH21	1.66	0.44
28:e:66:ILE:HG23	50:3:2756:A:N3	2.33	0.44
29:f:51:LEU:O	29:f:55:GLN:HG2	2.18	0.44
29:f:65:SER:O	29:f:68:LEU:HG	2.17	0.44
32:i:7:LEU:HD22	39:p:60:TRP:NE1	2.33	0.44
35:l:82:ARG:CG	44:u:18:LYS:HA	2.48	0.44
40:q:19:THR:HA	40:q:93:LYS:HB3	1.99	0.44
40:q:49:TYR:O	40:q:51:GLU:HG2	2.16	0.44
43:t:28:MET:HE2	43:t:31:ARG:HD3	1.99	0.44
50:3:9:G:H2'	50:3:10:U:C6	2.52	0.44
50:3:178:A:H2'	50:3:179:A:C8	2.52	0.44
50:3:462:C:H2'	50:3:463:U:O4'	2.17	0.44
50:3:617:C:H2'	50:3:618:G:H8	1.83	0.44
50:3:618:G:O6	50:3:1281:A:H1'	2.18	0.44
50:3:723:U:C2	50:3:724:A:C8	3.06	0.44
50:3:911:U:H2'	50:3:912:A:H8	1.82	0.44
50:3:1227:C:O2	50:3:1256:A:H2'	2.18	0.44
50:3:1336:A:H62	50:3:1640:G:H21	1.65	0.44
50:3:1482:U:O2'	50:3:1483:G:H3'	2.17	0.44
50:3:1824:G:H21	50:3:1828:A:H1'	1.82	0.44
50:3:1829:U:H2'	50:3:1830:G:C8	2.53	0.44
50:3:2233:A:H4'	50:3:2234:C:H5'	1.99	0.44
50:3:2421:U:H2'	50:3:2422:G:O4'	2.18	0.44
50:3:2533:A:H2'	50:3:2534:G:H8	1.81	0.44
50:3:2661:U:O2	50:3:2676:G:C2	2.70	0.44
50:3:2846:A:H2'	50:3:2847:C:H6	1.83	0.44
52:5:259:A:H2'	52:5:260:C:C6	2.53	0.44
52:5:428:A:C2	52:5:429:A:C8	3.06	0.44
52:5:440:U:C2	52:5:490:U:C4	3.06	0.44
52:5:830:U:H2'	52:5:831:C:H6	1.81	0.44
52:5:833:G:H2'	52:5:834:G:C8	2.52	0.44
52:5:939:G:C6	52:5:1311:G:C8	3.05	0.44
52:5:973:A:C4	52:5:1293:A:H2	2.36	0.44
52:5:1137:C:N4	52:5:1149:G:O6	2.51	0.44
52:5:1362:G:H2'	52:5:1363:U:H6	1.82	0.44
9:F:110:ARG:HH11	9:F:121:ASN:HB3	1.82	0.44
10:G:138:LEU:HD12	10:G:139:ALA:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:108:ARG:HD3	11:H:110:LYS:N	2.30	0.44
12:I:57:ILE:HB	12:I:69:GLU:OE2	2.18	0.44
15:L:42:ASP:OD1	15:L:48:LEU:HB2	2.17	0.44
16:M:31:ARG:HG3	52:5:969:A:C5	2.53	0.44
18:O:50:LEU:HD11	18:O:75:LYS:HG3	2.00	0.44
21:R:60:VAL:HG11	21:R:75:SER:HA	1.98	0.44
28:e:92:LEU:HG	28:e:97:TYR:HB3	2.00	0.44
36:m:48:LEU:HD21	36:m:66:TRP:CD1	2.53	0.44
38:o:92:ARG:CD	38:o:115:LYS:CB	2.87	0.44
45:v:20:HIS:HB3	50:3:2086:U:O3'	2.18	0.44
50:3:39:C:H2'	50:3:40:A:C8	2.52	0.44
50:3:54:A:OP2	50:3:54:A:C8	2.71	0.44
50:3:343:A:H2'	50:3:364:A:N1	2.32	0.44
50:3:597:C:O2'	50:3:1283:A:N6	2.47	0.44
50:3:1208:A:H61	50:3:1210:A:N6	2.16	0.44
50:3:1266:G:H1'	50:3:1267:A:C8	2.53	0.44
50:3:1298:A:H1'	50:3:2621:U:N3	2.33	0.44
50:3:1393:A:H3'	50:3:1394:A:C8	2.52	0.44
50:3:1432:C:H5'	50:3:1497:A:O2'	2.18	0.44
50:3:2084:A:H2'	50:3:2085:C:C6	2.52	0.44
50:3:2200:U:H2'	50:3:2201:G:O4'	2.17	0.44
50:3:2454:G:C6	50:3:2509:C:H2'	2.53	0.44
50:3:2562:U:H4'	53:6:76:C:N4	2.32	0.44
50:3:2633:C:H2'	50:3:2634:C:C6	2.53	0.44
50:3:2736:U:O2'	50:3:2737:G:H8	2.01	0.44
50:3:2794:U:H2'	50:3:2795:C:C6	2.48	0.44
52:5:269:A:N3	52:5:269:A:H2'	2.33	0.44
52:5:815:G:O2'	52:5:817:U:H2'	2.18	0.44
52:5:883:A:N1	52:5:901:A:H5''	2.33	0.44
3:2:24:ARG:HA	3:2:35:ARG:HA	2.00	0.44
8:E:87:ILE:O	52:5:734:A:H5'	2.18	0.44
9:F:11:VAL:HG22	9:F:27:ASN:ND2	2.32	0.44
9:F:109:LYS:O	9:F:118:LYS:HD3	2.17	0.44
17:N:56:LYS:HB3	17:N:60:ARG:HH11	1.82	0.44
19:P:24:VAL:HG21	19:P:63:ILE:HD11	2.00	0.44
22:S:12:ARG:HH22	52:5:88:A:P	2.40	0.44
24:a:216:ALA:HB2	50:3:1797:C:H4'	1.99	0.44
26:c:23:GLY:HA3	26:c:208:GLU:HG2	2.00	0.44
28:e:160:TYR:CZ	28:e:175:LYS:HE3	2.52	0.44
29:f:25:TYR:OH	50:3:2207:A:H5'	2.18	0.44
44:u:70:ASP:HA	50:3:2394:A:H4'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:565:C:N4	50:3:2030:A:OP2	2.51	0.44
50:3:788:G:H2'	50:3:789:A:C8	2.53	0.44
50:3:984:C:O2'	50:3:1021:C:OP1	2.28	0.44
50:3:1051:U:H3	50:3:1052:A:H62	1.65	0.44
50:3:1326:C:N4	50:3:1677:G:H1	2.15	0.44
50:3:1661:A:H2'	50:3:1662:G:C8	2.53	0.44
50:3:1690:C:H2'	50:3:1691:U:C6	2.53	0.44
50:3:1933:U:O3'	50:3:1934:A:H8	2.01	0.44
50:3:1986:C:H2'	50:3:1987:C:C6	2.51	0.44
50:3:2408:G:C2'	50:3:2409:U:H5'	2.47	0.44
50:3:2534:G:H2'	50:3:2535:C:H6	1.83	0.44
50:3:2661:U:O4	50:3:2662:A:N6	2.51	0.44
50:3:2737:G:C2	50:3:2738:U:C5	3.06	0.44
52:5:215:C:H2'	52:5:216:G:H8	1.82	0.44
52:5:415:C:H5''	52:5:511:A:H1'	1.99	0.44
52:5:483:U:H2'	52:5:484:A:H5'	2.00	0.44
52:5:722:G:H2'	52:5:723:C:C6	2.52	0.44
52:5:737:U:H2'	52:5:738:A:C8	2.53	0.44
52:5:932:A:H2'	52:5:933:A:H8	1.82	0.44
52:5:1225:A:C8	52:5:1261:A:C8	3.05	0.44
52:5:1320:A:H4'	52:5:1321:G:H4'	1.99	0.44
52:5:1491:A:H2'	52:5:1493:A:OP1	2.17	0.44
5:B:8:ASN:HA	5:B:16:LYS:HZ1	1.83	0.44
15:L:55:ALA:O	15:L:59:VAL:HG22	2.18	0.44
18:O:74:LYS:HD2	18:O:74:LYS:HA	1.77	0.44
25:b:23:ARG:HG2	25:b:24:LEU:N	2.33	0.44
28:e:27:VAL:HG12	28:e:82:VAL:HG11	1.98	0.44
30:g:45:PHE:HB3	30:g:46:LYS:H	1.58	0.44
30:g:119:ASN:OD1	30:g:120:SER:N	2.50	0.44
35:l:65:TRP:HB2	35:l:105:GLU:CG	2.48	0.44
43:t:50:GLN:HG2	50:3:520:C:OP1	2.17	0.44
45:v:21:SER:HA	53:8:77:A:C8	2.52	0.44
47:x:12:VAL:HG11	47:x:34:ILE:HG13	1.99	0.44
50:3:73:A:H5''	50:3:75:A:C8	2.53	0.44
50:3:191:G:C2	50:3:192:U:C5	3.06	0.44
50:3:334:A:H4'	50:3:352:C:O2'	2.18	0.44
50:3:449:C:H2'	50:3:450:C:C6	2.53	0.44
50:3:645:C:H2'	50:3:646:A:C8	2.51	0.44
50:3:878:A:N6	50:3:969:A:H5''	2.32	0.44
50:3:901:C:O2	50:3:903:A:N6	2.51	0.44
50:3:1075:G:N2	50:3:1150:U:O2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1097:G:N2	50:3:1112:A:N7	2.66	0.44
50:3:1133:A:H3'	50:3:1134:G:C8	2.48	0.44
50:3:1797:C:H3'	50:3:1798:A:H8	1.83	0.44
50:3:1870:G:O3'	50:3:2419:A:H4'	2.18	0.44
50:3:2011:G:H3'	50:3:2012:A:H8	1.82	0.44
50:3:2364:A:HO2'	50:3:2369:G:H22	1.59	0.44
50:3:2646:G:N1	50:3:2783:A:H2'	2.33	0.44
52:5:997:G:C2	52:5:1030:G:C2	3.06	0.44
52:5:1193:U:H2'	52:5:1194:A:C8	2.52	0.44
52:5:1298:U:H5''	52:5:1337:U:C6	2.53	0.44
52:5:1322:U:O2	52:5:1349:A:C5	2.70	0.44
53:6:33:C:H42	53:6:40:A:H61	1.65	0.44
5:B:195:THR:O	52:5:1181:G:O2'	2.35	0.44
7:D:142:GLY:HA2	7:D:201:LYS:NZ	2.32	0.44
7:D:154:ALA:HB3	7:D:177:ASP:O	2.18	0.44
7:D:185:ARG:NH1	52:5:22:G:O6	2.51	0.44
9:F:13:PRO:HA	9:F:23:THR:HG21	2.00	0.44
14:K:43:LYS:HA	52:5:359:A:OP1	2.18	0.44
23:T:24:GLU:HA	23:T:27:ARG:HG2	1.99	0.44
25:b:225:GLN:HB3	38:o:19:LYS:HE2	1.99	0.44
29:f:41:LYS:O	29:f:46:ASP:HB3	2.18	0.44
50:3:276:A:O3'	50:3:405:C:H1'	2.18	0.44
50:3:598:G:C6	50:3:610:G:N1	2.86	0.44
50:3:616:G:N2	50:3:1288:C:H1'	2.32	0.44
50:3:633:G:H2'	50:3:634:C:O4'	2.18	0.44
50:3:715:G:H2'	50:3:716:G:C8	2.53	0.44
50:3:720:A:H1'	50:3:808:U:C4	2.53	0.44
50:3:1158:C:H2'	50:3:1159:C:C6	2.52	0.44
50:3:1263:G:C8	50:3:1264:U:C5	3.05	0.44
50:3:2031:C:H2'	50:3:2032:G:H8	1.82	0.44
50:3:2060:G:H2'	50:3:2061:A:O4'	2.18	0.44
50:3:2223:C:H2'	50:3:2224:A:C8	2.53	0.44
50:3:2465:U:O2	50:3:2502:G:N2	2.48	0.44
50:3:2557:G:H2'	50:3:2558:G:C8	2.53	0.44
50:3:2629:G:H2'	50:3:2630:U:C6	2.53	0.44
50:3:2695:U:H3'	50:3:2696:G:C8	2.52	0.44
50:3:2842:G:C4	50:3:2843:G:C8	3.06	0.44
52:5:35:C:H2'	52:5:36:G:C8	2.53	0.44
52:5:251:G:H2'	52:5:252:U:C6	2.53	0.44
52:5:429:A:C4	52:5:430:G:C8	3.06	0.44
52:5:655:G:C6	52:5:744:U:C2	2.96	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:799:A:H3'	52:5:800:G:H8	1.82	0.44
1:0:46:SER:HB3	50:3:127:A:H62	1.84	0.43
4:A:195:ARG:NE	8:E:163:MET:HE1	2.32	0.43
6:C:149:ILE:HG23	6:C:174:PHE:CE1	2.53	0.43
10:G:125:ASP:OD1	10:G:125:ASP:N	2.50	0.43
13:J:11:SER:O	13:J:30:PRO:HD3	2.18	0.43
15:L:10:PRO:HB2	15:L:13:LYS:HB3	1.98	0.43
24:a:12:SER:HB2	50:3:1782:U:H5'	1.99	0.43
24:a:56:ARG:NE	24:a:225:ARG:HH12	2.11	0.43
27:d:125:ARG:HG2	50:3:2309:A:H2	1.82	0.43
29:f:93:ILE:HD11	50:3:2228:U:H5''	2.00	0.43
30:g:41:ARG:HG3	31:h:115:ASN:OD1	2.18	0.43
31:h:80:ALA:HA	31:h:96:ILE:HA	1.99	0.43
32:i:121:TRP:O	32:i:125:VAL:HG23	2.18	0.43
33:j:25:LEU:HB2	33:j:38:VAL:O	2.18	0.43
35:l:24:ASN:OD1	50:3:943:A:O2'	2.35	0.43
37:n:23:ASN:OD1	37:n:27:ARG:NE	2.51	0.43
37:n:38:HIS:HA	37:n:64:ASN:H	1.83	0.43
41:r:64:MET:HG2	41:r:66:GLY:N	2.32	0.43
42:s:36:SER:OG	50:3:1633:C:OP1	2.36	0.43
45:v:22:LYS:HE2	53:8:77:A:H1'	1.99	0.43
50:3:59:C:H2'	50:3:60:G:H8	1.81	0.43
50:3:501:G:N2	50:3:719:G:O2'	2.39	0.43
50:3:1049:U:H2'	50:3:1050:A:O4'	2.16	0.43
50:3:1194:U:H2'	50:3:1195:A:H5'	2.00	0.43
50:3:1312:A:C6	50:3:1313:G:C6	3.06	0.43
50:3:1428:U:H2'	50:3:1429:G:O4'	2.18	0.43
50:3:1784:U:O5'	50:3:1784:U:H6	2.01	0.43
50:3:1810:A:H8	50:3:1810:A:O5'	2.01	0.43
50:3:1871:U:H3	50:3:1885:G:H1	1.61	0.43
51:4:42:G:H4'	51:4:43:A:H5'	1.99	0.43
52:5:367:A:N1	52:5:387:G:C2	2.85	0.43
52:5:376:G:N2	52:5:378:A:H8	2.14	0.43
52:5:622:A:H2'	52:5:623:G:H8	1.82	0.43
52:5:916:U:C2	52:5:917:G:C8	3.06	0.43
52:5:1287:G:O6	52:5:1298:U:C4	2.71	0.43
52:5:1321:G:O2'	52:5:1348:G:N1	2.46	0.43
8:E:96:TYR:N	52:5:659:U:OP1	2.50	0.43
16:M:34:LEU:HD22	16:M:36:HIS:HD2	1.83	0.43
20:Q:49:LEU:HD11	20:Q:81:MET:HG2	2.00	0.43
28:e:72:ASN:O	28:e:76:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:90:LEU:HD13	28:e:167:TYR:HA	2.00	0.43
29:f:25:TYR:CZ	50:3:2207:A:H5'	2.53	0.43
30:g:27:PHE:CE1	30:g:108:PHE:HA	2.53	0.43
30:g:94:LYS:HE3	30:g:94:LYS:HB3	1.92	0.43
31:h:72:VAL:HG22	31:h:76:LEU:HB2	1.99	0.43
37:n:104:ALA:O	37:n:108:ALA:N	2.42	0.43
43:t:44:ARG:HE	43:t:46:LYS:HG2	1.83	0.43
50:3:188:G:H4'	50:3:221:A:H2	1.83	0.43
50:3:353:G:H2'	50:3:354:C:C2	2.52	0.43
50:3:602:U:H1'	50:3:983:A:H1'	1.99	0.43
50:3:880:C:H4'	50:3:881:A:C5	2.53	0.43
50:3:1336:A:H61	50:3:1640:G:C2'	2.31	0.43
50:3:1387:A:N6	50:3:1400:U:H3	2.10	0.43
50:3:1474:C:H2'	50:3:1475:C:C6	2.53	0.43
50:3:1646:G:H2'	50:3:1647:A:O4'	2.19	0.43
50:3:1762:A:N1	50:3:2724:U:H1'	2.33	0.43
50:3:2067:A:N3	50:3:2453:G:H5'	2.34	0.43
50:3:2100:G:C6	50:3:2233:A:C8	3.06	0.43
50:3:2408:G:H2'	50:3:2409:U:H5'	2.01	0.43
50:3:2412:A:N1	50:3:2420:A:N6	2.65	0.43
52:5:498:G:H2'	52:5:499:U:C6	2.53	0.43
52:5:515:G:H21	52:5:527:G:H4'	1.84	0.43
52:5:612:G:C6	52:5:624:U:N3	2.85	0.43
52:5:698:U:H3'	52:5:699:A:H8	1.83	0.43
52:5:852:G:N2	52:5:853:A:N7	2.65	0.43
52:5:915:U:C2	52:5:916:U:C5	3.06	0.43
52:5:1158:A:H5'	52:5:1159:A:H5''	2.00	0.43
15:L:107:ARG:NH1	52:5:943:C:H41	2.16	0.43
16:M:45:ARG:NH1	52:5:1051:U:H5''	2.33	0.43
18:O:16:VAL:HG13	18:O:21:LYS:O	2.17	0.43
25:b:184:PHE:CD1	25:b:191:VAL:HG12	2.53	0.43
28:e:66:ILE:HG22	28:e:67:PHE:CD1	2.54	0.43
45:v:10:ARG:NH2	50:3:432:G:OP2	2.48	0.43
50:3:337:U:H2'	50:3:338:G:C8	2.53	0.43
50:3:764:G:H4'	50:3:798:G:P	2.58	0.43
50:3:1255:G:H2'	50:3:1256:A:C4	2.54	0.43
50:3:1328:A:H5'	50:3:1668:G:H4'	1.99	0.43
50:3:1343:C:H1'	50:3:1420:A:O2'	2.18	0.43
50:3:1551:U:H2'	50:3:1552:C:O4'	2.18	0.43
50:3:2047:U:H2'	50:3:2048:U:O4'	2.18	0.43
50:3:2303:U:H2'	50:3:2304:U:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2667:G:N2	50:3:2669:G:H8	2.17	0.43
52:5:26:C:H5	52:5:557:A:H61	1.66	0.43
52:5:159:U:H3'	52:5:160:A:C8	2.53	0.43
52:5:655:G:H2'	52:5:656:U:H6	1.84	0.43
52:5:973:A:C4	52:5:1293:A:C2	3.06	0.43
52:5:1078:G:OP1	52:5:1363:U:O2'	2.36	0.43
52:5:1117:U:O2'	52:5:1255:A:O2'	2.34	0.43
52:5:1362:G:H2'	52:5:1363:U:C6	2.53	0.43
53:8:33:C:H42	53:8:40:A:H61	1.65	0.43
4:A:115:GLY:H	52:5:1092:A:H2	1.64	0.43
9:F:24:ARG:HE	9:F:100:LEU:HD12	1.84	0.43
24:a:233:MET:HG2	50:3:817:A:C2	2.54	0.43
28:e:23:ASP:OD1	28:e:23:ASP:N	2.51	0.43
31:h:89:ALA:HA	31:h:130:GLN:O	2.17	0.43
33:j:18:GLN:HB2	33:j:45:ASP:HB2	2.00	0.43
35:l:1:MET:HE1	35:l:93:TRP:H	1.83	0.43
46:w:53:THR:HA	50:3:79:U:H5'	2.01	0.43
50:3:44:A:H2'	50:3:45:U:C6	2.53	0.43
50:3:286:A:OP1	50:3:287:G:N2	2.52	0.43
50:3:287:G:H3'	50:3:288:A:H8	1.82	0.43
50:3:1588:A:H2'	50:3:1589:A:N7	2.32	0.43
50:3:1664:A:H2'	50:3:1665:G:N9	2.34	0.43
50:3:1853:G:N2	50:3:1902:C:C2	2.86	0.43
50:3:1922:U:H5	52:5:1384:A:H4'	1.84	0.43
50:3:2127:G:C6	50:3:2187:C:N4	2.86	0.43
50:3:2684:G:O2'	50:3:2685:A:H5'	2.18	0.43
51:4:58:C:H2'	51:4:59:A:H8	1.83	0.43
52:5:39:G:H5''	52:5:40:G:OP2	2.18	0.43
52:5:167:A:H2	52:5:168:A:H62	1.67	0.43
52:5:275:A:H5'	52:5:277:G:O4'	2.19	0.43
52:5:680:G:H2'	52:5:681:U:O4'	2.19	0.43
52:5:1208:G:N2	52:5:1339:U:O2'	2.44	0.43
52:5:1390:G:C2	52:5:1460:U:O2	2.71	0.43
52:5:1401:A:H2'	52:5:1402:U:C6	2.53	0.43
2:1:10:ARG:HH21	34:k:60:ARG:HA	1.83	0.43
2:1:57:ASN:OD1	2:1:58:LEU:N	2.52	0.43
4:A:57:VAL:HB	4:A:59:GLU:OE1	2.18	0.43
4:A:60:LEU:HA	4:A:63:GLN:HG2	2.00	0.43
5:B:60:ARG:HG2	5:B:65:VAL:HG13	2.01	0.43
11:H:95:GLU:OE1	11:H:95:GLU:N	2.51	0.43
20:Q:71:ASN:OD1	20:Q:75:ILE:HB	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:37:ARG:HG2	52:5:1292:A:C6	2.54	0.43
24:a:280:ARG:HH12	24:a:283:LYS:N	2.16	0.43
27:d:53:ALA:O	27:d:56:GLU:HG2	2.18	0.43
32:i:10:GLU:N	32:i:48:THR:OG1	2.52	0.43
33:j:72:LYS:HD2	50:3:2736:U:H3'	2.00	0.43
34:k:60:ARG:NH1	50:3:2401:U:O2	2.51	0.43
35:l:21:ALA:HB2	35:l:99:GLN:O	2.18	0.43
37:n:107:GLU:O	37:n:110:ARG:HB2	2.18	0.43
40:q:65:GLN:HG3	40:q:89:TYR:HB3	1.99	0.43
48:y:19:HIS:HD2	50:3:2632:C:H1'	1.84	0.43
50:3:45:U:H2'	50:3:46:A:O4'	2.19	0.43
50:3:219:G:H21	50:3:220:A:H1'	1.83	0.43
50:3:512:G:N2	50:3:515:A:N3	2.67	0.43
50:3:710:A:H8	50:3:838:U:N3	2.15	0.43
50:3:712:A:H2'	50:3:713:C:H6	1.81	0.43
50:3:1101:U:O2'	50:3:1108:A:N6	2.51	0.43
50:3:1379:C:H2'	50:3:1380:U:C6	2.53	0.43
50:3:1450:G:N2	50:3:1610:U:O2	2.36	0.43
50:3:1778:G:H2'	50:3:1779:G:O4'	2.19	0.43
50:3:1934:A:O2'	50:3:1935:A:O4'	2.34	0.43
50:3:2069:A:OP2	50:3:2071:C:N4	2.51	0.43
50:3:2480:G:H2'	50:3:2537:G:H22	1.84	0.43
50:3:2506:C:H2'	50:3:2507:C:H6	1.83	0.43
50:3:2663:G:O2'	50:3:2672:G:O6	2.20	0.43
50:3:2777:A:H3'	50:3:2778:U:H5'	2.01	0.43
51:4:37:A:O2'	51:4:38:U:O4'	2.24	0.43
51:4:58:C:H2'	51:4:59:A:C8	2.53	0.43
52:5:40:G:OP1	52:5:496:A:O2'	2.36	0.43
52:5:87:G:H1'	52:5:137:A:H2	1.83	0.43
52:5:497:A:O3'	52:5:498:G:H8	2.00	0.43
52:5:608:G:C2	52:5:609:G:N7	2.86	0.43
52:5:1082:U:O2'	52:5:1084:A:N7	2.46	0.43
52:5:1369:A:H2'	52:5:1476:C:O2'	2.18	0.43
52:5:1471:C:N4	52:5:1472:G:O6	2.52	0.43
2:1:31:PRO:HG2	2:1:32:HIS:ND1	2.34	0.43
2:1:54:ARG:HH22	50:3:2366:A:H2	1.67	0.43
7:D:68:GLU:HG2	7:D:94:VAL:HG22	2.00	0.43
7:D:216:LEU:HG	7:D:217:ASN:H	1.82	0.43
8:E:92:ARG:HG3	8:E:94:TYR:CD1	2.53	0.43
9:F:69:MET:HE1	9:F:71:ARG:HD2	1.99	0.43
13:J:111:HIS:HB3	52:5:714:C:O3'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:107:ARG:HD2	52:5:942:G:OP2	2.17	0.43
19:P:14:LYS:HA	19:P:14:LYS:HD2	1.91	0.43
19:P:31:LYS:HD3	19:P:31:LYS:HA	1.76	0.43
20:Q:91:LYS:NZ	52:5:718:A:H61	2.17	0.43
26:c:152:LEU:HD13	26:c:198:LEU:HD11	2.01	0.43
27:d:29:PRO:O	27:d:169:LEU:HD13	2.18	0.43
27:d:31:LEU:HA	27:d:158:THR:HA	2.00	0.43
30:g:51:ILE:HD13	30:g:83:ALA:HB2	2.00	0.43
31:h:45:ASP:C	31:h:46:LYS:HD3	2.44	0.43
32:i:111:MET:HG3	50:3:1173:G:N3	2.34	0.43
33:j:88:LYS:NZ	33:j:92:SER:O	2.51	0.43
37:n:33:ILE:HB	37:n:40:SER:HB2	2.00	0.43
38:o:55:ARG:NH2	38:o:62:GLU:OE2	2.27	0.43
45:v:19:SER:OG	50:3:2087:G:O2'	2.19	0.43
46:w:22:LEU:HA	46:w:25:GLU:HG2	2.00	0.43
50:3:38:G:H1'	50:3:486:G:H21	1.84	0.43
50:3:241:C:H2'	50:3:242:G:C8	2.54	0.43
50:3:521:C:H2'	50:3:522:C:C6	2.53	0.43
50:3:734:A:C8	50:3:769:A:C5	3.06	0.43
50:3:910:G:H2'	50:3:911:U:C6	2.53	0.43
50:3:976:C:C2'	50:3:977:A:H4'	2.48	0.43
50:3:1036:A:H2'	50:3:1037:A:H8	1.84	0.43
50:3:1320:C:H2'	50:3:1321:C:C6	2.53	0.43
50:3:1768:G:H2'	50:3:1769:A:C8	2.53	0.43
50:3:1820:U:O2'	50:3:1821:G:OP1	2.34	0.43
50:3:1878:A:H3'	50:3:1879:A:H8	1.82	0.43
50:3:2111:U:N3	50:3:2194:G:H1'	2.33	0.43
50:3:2308:U:N3	50:3:2325:U:O2	2.51	0.43
50:3:2386:A:O5'	50:3:2386:A:H8	2.00	0.43
50:3:2482:U:OP2	50:3:2483:C:N4	2.31	0.43
50:3:2666:C:N4	50:3:2667:G:O6	2.52	0.43
52:5:18:U:H2'	52:5:19:C:C6	2.54	0.43
52:5:599:G:C6	52:5:634:U:N3	2.86	0.43
52:5:1111:G:H2'	52:5:1112:U:H6	1.84	0.43
52:5:1188:A:N3	52:5:1189:U:H3'	2.33	0.43
52:5:1272:C:O2'	52:5:1273:A:OP2	2.33	0.43
52:5:1493:A:H2'	52:5:1494:A:C4	2.54	0.43
11:H:74:PHE:CZ	52:5:1347:U:H4'	2.53	0.43
24:a:115:ILE:O	24:a:115:ILE:HG13	2.18	0.43
28:e:91:ARG:HD3	28:e:133:GLU:HA	2.00	0.43
28:e:110:LEU:HB3	28:e:155:ARG:HH21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:g:4:LYS:HD3	50:3:1079:U:H5''	2.01	0.43
30:g:59:LEU:HB3	30:g:74:THR:O	2.18	0.43
31:h:123:MET:HB2	50:3:1094:G:H21	1.83	0.43
33:j:35:LEU:HD23	33:j:62:ILE:HG13	2.00	0.43
38:o:23:PRO:O	38:o:55:ARG:NH2	2.44	0.43
39:p:9:THR:HG22	39:p:12:ARG:HH11	1.84	0.43
40:q:44:LYS:NZ	40:q:52:LYS:HE2	2.32	0.43
44:u:20:GLY:N	50:3:2262:C:H42	2.17	0.43
45:v:61:HIS:HB3	45:v:63:ARG:HE	1.83	0.43
50:3:137:U:H3	50:3:146:G:H1	1.67	0.43
50:3:219:G:N2	50:3:220:A:N3	2.67	0.43
50:3:291:G:H2'	50:3:292:G:H8	1.84	0.43
50:3:341:G:C2	50:3:364:A:N6	2.80	0.43
50:3:602:U:H4'	50:3:982:G:H21	1.83	0.43
50:3:618:G:C2	50:3:1286:G:C6	3.06	0.43
50:3:853:G:H1	50:3:1218:G:H2'	1.83	0.43
50:3:1041:C:H2'	50:3:1042:C:H6	1.82	0.43
50:3:1385:U:H2'	50:3:1386:G:O4'	2.19	0.43
50:3:1400:U:H2'	50:3:1401:A:O4'	2.19	0.43
50:3:1426:C:H2'	50:3:1427:C:C6	2.53	0.43
50:3:1675:A:C4	50:3:1676:G:C8	3.07	0.43
50:3:2005:G:N2	50:3:2694:A:O2'	2.52	0.43
50:3:2307:G:H2'	50:3:2308:U:H6	1.82	0.43
50:3:2534:G:H1	50:3:2545:U:H3	1.67	0.43
50:3:2636:U:H5''	50:3:2637:A:H5''	2.00	0.43
50:3:2661:U:C2	50:3:2676:G:C2	3.06	0.43
52:5:233:C:H2'	52:5:234:G:C5	2.53	0.43
52:5:573:G:O2'	52:5:818:A:H5'	2.18	0.43
52:5:637:A:H2'	52:5:638:A:C8	2.53	0.43
52:5:666:U:H2'	52:5:667:U:C6	2.53	0.43
52:5:713:A:H2'	52:5:714:C:C6	2.54	0.43
52:5:752:G:H3'	52:5:752:G:OP2	2.18	0.43
52:5:1241:G:N1	52:5:1244:A:OP2	2.45	0.43
52:5:1412:C:H2'	52:5:1413:G:H8	1.84	0.43
52:5:1443:A:H3'	52:5:1444:G:C8	2.53	0.43
4:A:91:TYR:CE2	4:A:226:CYS:HB3	2.54	0.43
5:B:180:THR:HG23	5:B:182:ARG:HE	1.84	0.43
6:C:1:MET:HB2	52:5:544:A:N6	2.33	0.43
6:C:99:ASN:ND2	6:C:110:ARG:HH11	2.17	0.43
17:N:30:THR:HB	17:N:34:LYS:NZ	2.34	0.43
19:P:21:THR:OG1	52:5:250:G:H4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:T:31:ARG:HB3	23:T:41:ARG:CZ	2.48	0.43
24:a:150:ILE:HG13	24:a:160:ILE:HB	2.00	0.43
26:c:37:ALA:O	26:c:40:VAL:HG12	2.19	0.43
29:f:115:ASP:OD1	29:f:115:ASP:N	2.52	0.43
31:h:112:LEU:CB	31:h:114:ALA:H	2.31	0.43
45:v:13:LEU:HD23	50:3:417:G:N2	2.34	0.43
50:3:118:G:H2'	50:3:120:A:N7	2.33	0.43
50:3:188:G:H4'	50:3:221:A:C2	2.54	0.43
50:3:592:G:H2'	50:3:593:C:O4'	2.19	0.43
50:3:650:G:C6	50:3:651:A:C6	3.06	0.43
50:3:953:G:H5'	51:4:90:G:H5'	2.01	0.43
50:3:1047:A:H1'	50:3:1048:A:C8	2.54	0.43
50:3:1063:A:N6	50:3:1160:G:H2'	2.33	0.43
50:3:1119:A:N3	50:3:1140:U:O2'	2.51	0.43
50:3:1187:C:H2'	50:3:1188:C:C6	2.54	0.43
50:3:1358:C:H2'	50:3:1359:C:H6	1.83	0.43
50:3:1427:C:H2'	50:3:1428:U:C6	2.54	0.43
50:3:1683:G:C6	50:3:2016:G:C6	3.07	0.43
50:3:1864:A:H2	50:3:1893:C:H42	1.66	0.43
50:3:1873:A:C8	50:3:1883:A:C6	3.06	0.43
50:3:2202:U:H2'	50:3:2203:U:H6	1.79	0.43
50:3:2206:A:O2'	50:3:2233:A:N6	2.51	0.43
50:3:2275:A:OP2	50:3:2276:A:H5''	2.19	0.43
50:3:2306:A:H1'	50:3:2330:A:H5'	2.01	0.43
50:3:2375:A:C2	50:3:2376:C:C5	3.07	0.43
50:3:2591:G:N2	50:3:2592:U:O4	2.45	0.43
50:3:2744:A:H2'	50:3:2745:G:C8	2.54	0.43
50:3:2847:C:C2	50:3:2848:A:C8	3.06	0.43
52:5:67:U:H4'	52:5:159:U:C4	2.53	0.43
52:5:376:G:H21	52:5:378:A:H8	1.66	0.43
52:5:461:G:OP2	52:5:463:U:N3	2.51	0.43
52:5:478:G:H21	52:5:479:A:H61	1.67	0.43
52:5:741:C:H2'	52:5:742:C:C6	2.54	0.43
52:5:748:U:HO2'	52:5:749:G:P	2.41	0.43
52:5:903:A:H1'	52:5:1389:U:H5'	2.01	0.43
52:5:944:A:H4'	52:5:1337:U:O2'	2.18	0.43
52:5:1210:U:H2'	52:5:1211:A:C8	2.54	0.43
52:5:1213:A:N3	52:5:1213:A:H2'	2.34	0.43
53:6:18:C:H5'	53:6:61:U:C4	2.52	0.43
4:A:158:ARG:HE	4:A:162:PHE:HE2	1.67	0.43
5:B:82:ASN:HB3	5:B:85:ILE:HG22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:23:GLU:O	8:E:27:GLN:HG2	2.19	0.43
9:F:17:PHE:HB3	9:F:19:ASN:ND2	2.34	0.43
21:R:27:LYS:NZ	21:R:47:ASN:HD21	2.17	0.43
24:a:47:ARG:CZ	50:3:725:G:H21	2.32	0.43
25:b:81:LEU:HD12	25:b:81:LEU:O	2.19	0.43
27:d:30:ARG:NH1	51:4:30:U:OP1	2.52	0.43
28:e:161:LYS:HD3	28:e:163:LYS:HG3	2.01	0.43
29:f:41:LYS:HG3	29:f:42:LYS:HG3	2.00	0.43
30:g:34:ALA:HB1	50:3:1121:A:H62	1.84	0.43
30:g:96:VAL:O	30:g:100:VAL:HG23	2.19	0.43
37:n:9:ARG:HD2	51:4:5:G:H5''	2.00	0.43
42:s:87:LYS:HD3	46:w:90:HIS:NE2	2.33	0.43
45:v:58:LEU:HA	45:v:61:HIS:HB2	2.01	0.43
47:x:16:CYS:HB2	47:x:39:CYS:HB3	2.00	0.43
50:3:20:C:H2'	50:3:21:U:C6	2.54	0.43
50:3:204:U:OP2	50:3:205:C:N4	2.50	0.43
50:3:371:C:H2'	50:3:372:G:O4'	2.19	0.43
50:3:585:U:H2'	50:3:586:G:C8	2.53	0.43
50:3:598:G:H2'	50:3:599:U:H6	1.84	0.43
50:3:769:A:C5	50:3:770:A:C8	3.07	0.43
50:3:952:U:H3'	50:3:953:G:H8	1.83	0.43
50:3:1165:U:N3	50:3:2032:G:H5''	2.33	0.43
50:3:1430:U:H3'	50:3:1431:A:H5''	2.00	0.43
50:3:1460:G:H21	50:3:1596:U:H1'	1.84	0.43
50:3:1723:A:H2'	50:3:1724:A:H8	1.84	0.43
50:3:1797:C:H3'	50:3:1798:A:C8	2.53	0.43
50:3:1937:G:H4'	50:3:1938:U:H5'	2.00	0.43
50:3:1999:G:H4'	50:3:2001:C:N4	2.32	0.43
50:3:2006:C:H2'	50:3:2007:U:C6	2.53	0.43
50:3:2126:A:N6	50:3:2176:G:O2'	2.52	0.43
50:3:2161:G:H2'	50:3:2161:G:N3	2.33	0.43
50:3:2356:U:H2'	50:3:2357:G:H8	1.83	0.43
50:3:2683:G:N1	50:3:2740:U:C2	2.81	0.43
52:5:212:G:H1'	52:5:465:A:H61	1.84	0.43
52:5:394:U:H2'	52:5:395:G:H8	1.83	0.43
52:5:492:G:H21	52:5:495:U:H3	1.66	0.43
52:5:497:A:H4'	52:5:498:G:H5'	2.01	0.43
52:5:498:G:H2'	52:5:499:U:H6	1.84	0.43
52:5:527:G:H5'	52:5:528:G:OP2	2.19	0.43
52:5:613:C:H2'	52:5:614:U:C6	2.53	0.43
52:5:796:A:H2'	52:5:797:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:850:G:H2'	52:5:851:U:C6	2.54	0.43
1:0:22:MET:CE	1:0:28:ARG:HG2	2.49	0.43
5:B:169:LYS:HB3	5:B:171:TYR:CE1	2.54	0.43
14:K:12:ARG:NH2	52:5:878:U:O4	2.52	0.43
15:L:108:THR:HG23	15:L:109:ARG:HG2	2.00	0.43
16:M:24:CYS:HB3	16:M:27:CYS:HB2	2.01	0.43
24:a:51:GLY:HA3	50:3:808:U:H5'	2.01	0.43
25:b:113:ILE:O	25:b:199:GLY:HA3	2.19	0.43
26:c:11:GLY:HA3	26:c:149:SER:HB3	2.00	0.43
26:c:182:HIS:CG	26:c:183:LEU:H	2.36	0.43
27:d:88:LYS:HD3	27:d:88:LYS:HA	1.70	0.43
28:e:79:ILE:HA	28:e:82:VAL:HG12	2.01	0.43
31:h:72:VAL:O	31:h:72:VAL:HG13	2.19	0.43
32:i:72:LYS:HB3	32:i:93:ARG:H	1.84	0.43
33:j:14:THR:HG22	33:j:94:ARG:HD2	2.00	0.43
39:p:3:ILE:HB	50:3:1279:U:H4'	2.00	0.43
40:q:8:GLY:H	40:q:25:LEU:HD11	1.84	0.43
46:w:22:LEU:HD22	46:w:51:LEU:HB3	2.00	0.43
46:w:104:LYS:O	50:3:1546:U:O2'	2.35	0.43
49:z:36:LYS:HA	50:3:2353:G:OP2	2.18	0.43
50:3:270:G:H2'	50:3:271:G:O4'	2.19	0.43
50:3:326:A:H2'	50:3:327:U:H6	1.82	0.43
50:3:405:C:H2'	50:3:406:C:C6	2.53	0.43
50:3:409:A:N1	50:3:437:A:H3'	2.34	0.43
50:3:883:A:N3	50:3:969:A:N6	2.67	0.43
50:3:954:A:N7	50:3:2276:A:N6	2.67	0.43
50:3:1091:G:O2'	50:3:1138:A:N1	2.50	0.43
50:3:1380:U:O2	50:3:1408:G:C2	2.72	0.43
50:3:1441:A:H2'	50:3:1442:G:C8	2.54	0.43
50:3:1507:G:O2'	50:3:1508:G:P	2.77	0.43
50:3:1874:G:H2'	50:3:1875:C:C6	2.53	0.43
50:3:2587:U:H2'	50:3:2588:U:C6	2.54	0.43
50:3:2638:G:C2	50:3:2639:G:C5	3.06	0.43
50:3:2698:U:OP1	50:3:2877:A:N6	2.48	0.43
50:3:2701:A:C6	50:3:2725:G:C6	3.07	0.43
50:3:2752:G:C6	50:3:2769:G:C5	3.07	0.43
51:4:64:G:H1'	51:4:97:A:N6	2.34	0.43
52:5:37:C:H2'	52:5:38:U:C6	2.53	0.43
52:5:932:A:H2'	52:5:933:A:C8	2.54	0.43
52:5:966:A:H5''	52:5:1206:G:H21	1.83	0.43
52:5:1048:G:H2'	52:5:1049:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1119:C:H3'	52:5:1120:A:C8	2.54	0.43
52:5:1438:U:H2'	52:5:1439:G:H8	1.84	0.43
2:1:37:GLN:O	2:1:41:LEU:HG	2.19	0.42
2:1:41:LEU:HD21	50:3:2370:G:OP1	2.19	0.42
6:C:70:GLN:O	6:C:74:LEU:HG	2.19	0.42
8:E:40:LEU:HD21	8:E:59:ARG:HB2	2.01	0.42
9:F:50:GLU:OE2	9:F:57:PRO:HD3	2.19	0.42
12:I:15:LYS:H	12:I:105:ARG:HB3	1.83	0.42
21:R:63:THR:OG1	21:R:64:ASP:N	2.51	0.42
24:a:58:GLN:NE2	50:3:1829:U:H5''	2.34	0.42
24:a:127:PRO:HD3	24:a:140:PHE:CE2	2.54	0.42
25:b:81:LEU:HD12	50:3:2643:A:H5''	2.01	0.42
25:b:105:GLY:HA3	25:b:218:LYS:H	1.84	0.42
26:c:140:THR:OG1	50:3:354:C:C4	2.70	0.42
27:d:44:ILE:HG13	27:d:45:ARG:HG2	2.00	0.42
33:j:30:LYS:HD3	50:3:2682:A:H4'	1.99	0.42
33:j:40:VAL:HG11	50:3:2569:A:O2'	2.19	0.42
36:m:6:LYS:HG2	36:m:7:PRO:HD2	2.01	0.42
37:n:91:PHE:CE2	37:n:106:ALA:HB2	2.54	0.42
38:o:7:GLN:HG3	50:3:2879:U:H5''	2.00	0.42
38:o:52:VAL:HG13	38:o:64:PHE:HB2	2.00	0.42
44:u:57:THR:O	50:3:2339:G:O2'	2.33	0.42
46:w:59:THR:OG1	50:3:112:A:O2'	2.30	0.42
50:3:533:G:H2'	50:3:534:U:H6	1.83	0.42
50:3:730:G:H2'	50:3:731:A:C8	2.53	0.42
50:3:1042:C:C2	50:3:1173:G:N2	2.87	0.42
50:3:1439:U:H2'	50:3:1440:U:H6	1.84	0.42
50:3:1868:A:H61	50:3:1889:U:H3	1.67	0.42
50:3:1896:A:H61	50:3:2242:G:H1'	1.83	0.42
50:3:2035:U:H2'	50:3:2036:G:O4'	2.19	0.42
50:3:2557:G:H2'	50:3:2558:G:H8	1.84	0.42
50:3:2632:C:H2'	50:3:2633:C:C6	2.53	0.42
50:3:2638:G:C2	50:3:2897:G:C2	3.06	0.42
50:3:2694:A:N6	50:3:2732:A:C6	2.87	0.42
52:5:34:A:H5'	52:5:360:A:O2'	2.19	0.42
52:5:573:G:C2	52:5:875:G:C2	3.07	0.42
52:5:593:A:N6	52:5:638:A:H2'	2.33	0.42
52:5:602:G:H2'	52:5:603:U:O4'	2.19	0.42
52:5:672:A:H3'	52:5:673:A:H8	1.84	0.42
52:5:799:A:C8	52:5:800:G:C8	3.06	0.42
52:5:1065:G:H2'	52:5:1066:U:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1145:A:C8	52:5:1146:A:C8	3.05	0.42
52:5:1364:C:H2'	52:5:1365:U:O4'	2.18	0.42
52:5:1456:U:H2'	52:5:1457:G:H8	1.83	0.42
2:1:57:ASN:HB2	34:k:49:PRO:HB2	2.01	0.42
7:D:113:ASN:ND2	52:5:1063:G:OP1	2.52	0.42
11:H:118:PHE:HB2	12:I:68:ARG:HB2	2.01	0.42
13:J:36:CYS:SG	13:J:37:TRP:N	2.92	0.42
14:K:62:LEU:N	52:5:518:A:OP1	2.49	0.42
15:L:107:ARG:HB2	52:5:943:C:OP2	2.19	0.42
21:R:35:SER:HA	52:5:1195:G:H5'	2.00	0.42
23:T:20:ARG:O	23:T:24:GLU:HG2	2.19	0.42
25:b:109:ASP:OD1	25:b:110:VAL:N	2.52	0.42
28:e:68:HIS:CG	28:e:69:GLY:N	2.87	0.42
31:h:30:ILE:HD11	31:h:35:PHE:CD2	2.54	0.42
32:i:72:LYS:HB3	32:i:93:ARG:N	2.34	0.42
35:l:81:VAL:HG23	44:u:19:LYS:HD2	2.01	0.42
43:t:100:LYS:HD2	50:3:330:A:O3'	2.19	0.42
45:v:3:LYS:HG3	50:3:1392:G:H5''	2.01	0.42
45:v:63:ARG:HA	45:v:63:ARG:HD3	1.91	0.42
50:3:161:U:H2'	50:3:162:G:O4'	2.19	0.42
50:3:252:G:C5	50:3:254:G:N2	2.87	0.42
50:3:595:U:H2'	50:3:605:A:H1'	2.00	0.42
50:3:615:G:H2'	50:3:616:G:C8	2.54	0.42
50:3:771:C:H2'	50:3:772:C:H6	1.83	0.42
50:3:794:G:H2'	50:3:795:G:C8	2.54	0.42
50:3:914:G:H5'	50:3:915:A:OP1	2.19	0.42
50:3:1132:C:H2'	50:3:1133:A:O4'	2.19	0.42
50:3:1368:U:H4'	50:3:1422:U:H1'	2.01	0.42
50:3:1439:U:H2'	50:3:1440:U:C6	2.53	0.42
50:3:1467:U:H5	50:3:1584:U:C5	2.38	0.42
50:3:1581:U:H2'	50:3:1582:G:C8	2.54	0.42
50:3:1846:A:C6	50:3:1934:A:C2	3.07	0.42
50:3:1858:U:H2'	50:3:1859:U:C6	2.54	0.42
50:3:1941:C:H4'	50:3:1981:U:H4'	2.01	0.42
50:3:1943:A:C2	50:3:1947:U:C4	3.07	0.42
50:3:2100:G:N7	50:3:2233:A:H2'	2.34	0.42
50:3:2297:G:H2'	50:3:2298:G:H8	1.84	0.42
50:3:2332:U:H5''	50:3:2333:G:O3'	2.20	0.42
50:3:2422:G:C2'	50:3:2423:G:H5'	2.48	0.42
50:3:2466:G:O2'	50:3:2469:A:N6	2.52	0.42
50:3:2473:C:H2'	50:3:2474:C:H6	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2522:U:H2'	50:3:2523:C:O4'	2.19	0.42
50:3:2697:C:OP2	50:3:2699:C:N4	2.49	0.42
52:5:94:A:N6	52:5:322:G:N7	2.67	0.42
52:5:136:U:C4	52:5:157:A:N7	2.84	0.42
52:5:213:U:H2'	52:5:214:U:O4'	2.19	0.42
52:5:513:G:H2'	52:5:514:U:C6	2.54	0.42
52:5:566:G:H21	52:5:572:A:H1'	1.84	0.42
52:5:1278:G:O6	52:5:1279:G:N2	2.51	0.42
52:5:1287:G:H2'	52:5:1288:C:C6	2.53	0.42
52:5:1402:U:H2'	52:5:1403:A:C8	2.54	0.42
52:5:1480:G:H5''	52:5:1481:U:H3'	2.00	0.42
3:2:31:LYS:NZ	50:3:2537:G:N7	2.59	0.42
5:B:154:VAL:HG23	5:B:171:TYR:HB2	2.01	0.42
5:B:169:LYS:HB3	5:B:171:TYR:CZ	2.55	0.42
6:C:47:MET:HE1	6:C:52:GLN:HG3	2.01	0.42
6:C:97:LEU:O	6:C:101:VAL:HG23	2.19	0.42
6:C:143:ARG:HD3	6:C:143:ARG:H	1.84	0.42
7:D:181:LYS:HB2	52:5:8:G:H1'	2.01	0.42
14:K:126:GLN:HG3	52:5:501:A:OP2	2.19	0.42
14:K:132:ALA:O	52:5:36:G:O2'	2.28	0.42
24:a:126:HIS:O	24:a:136:MET:HE1	2.19	0.42
25:b:64:LYS:HB3	50:3:2814:A:H5''	2.01	0.42
32:i:30:LYS:HA	32:i:33:VAL:HG22	2.00	0.42
41:r:87:PRO:HA	50:3:1648:A:C2	2.55	0.42
41:r:112:ASN:HB3	41:r:116:GLU:CD	2.44	0.42
43:t:43:THR:O	50:3:516:A:O2'	2.27	0.42
48:y:12:ARG:HG2	50:3:2028:G:OP1	2.19	0.42
50:3:29:G:H5''	50:3:484:U:H5	1.85	0.42
50:3:60:G:H2'	50:3:61:U:H6	1.82	0.42
50:3:495:U:H2'	50:3:496:A:C8	2.53	0.42
50:3:779:C:H2'	50:3:780:G:O4'	2.18	0.42
50:3:804:U:H2'	50:3:805:G:C8	2.54	0.42
50:3:930:C:H2'	50:3:931:G:H8	1.84	0.42
50:3:1223:C:H2'	50:3:1224:G:C8	2.50	0.42
50:3:1313:G:C6	50:3:1357:U:C2	3.07	0.42
50:3:1316:U:O2'	50:3:1356:G:H1'	2.20	0.42
50:3:1462:A:N6	50:3:1592:A:H61	2.13	0.42
50:3:1724:A:H61	50:3:1731:G:H2'	1.84	0.42
50:3:1898:G:HO2'	50:3:2243:G:HO2'	1.37	0.42
50:3:1941:C:H2'	50:3:1942:G:O4'	2.19	0.42
50:3:2072:C:H1'	50:3:2457:U:N3	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2452:G:H2'	50:3:2453:G:O4'	2.19	0.42
50:3:2517:A:H2'	50:3:2518:C:C6	2.54	0.42
50:3:2662:A:H1'	50:3:2664:U:C6	2.54	0.42
50:3:2749:A:H62	50:3:2771:G:H21	1.68	0.42
50:3:2848:A:H1'	50:3:2878:G:N2	2.34	0.42
51:4:8:C:H2'	51:4:9:C:C6	2.54	0.42
51:4:79:U:O2'	51:4:84:C:O2	2.33	0.42
52:5:370:A:N1	52:5:386:U:O2'	2.45	0.42
52:5:648:C:H2'	52:5:649:U:C6	2.54	0.42
52:5:886:A:H2'	52:5:887:C:O4'	2.19	0.42
52:5:1225:A:C2	52:5:1345:G:H1'	2.49	0.42
5:B:179:SER:C	52:5:1102:A:H61	2.27	0.42
6:C:57:LYS:HB3	6:C:57:LYS:HE2	1.76	0.42
6:C:96:ARG:NH2	6:C:98:ASP:OD2	2.53	0.42
6:C:141:LYS:HE3	6:C:177:THR:HG21	2.01	0.42
9:F:78:ARG:HG2	9:F:83:ASN:HB3	2.01	0.42
9:F:101:ARG:NH2	52:5:933:A:O2'	2.52	0.42
16:M:15:LYS:HG3	16:M:16:PHE:CD2	2.55	0.42
26:c:108:HIS:CE1	50:3:652:U:H4'	2.54	0.42
31:h:11:LYS:N	50:3:1132:C:O2	2.48	0.42
32:i:36:ALA:O	32:i:40:ARG:HB2	2.19	0.42
32:i:81:SER:O	32:i:83:TYR:N	2.51	0.42
33:j:71:ARG:HB3	33:j:75:THR:OG1	2.18	0.42
35:l:109:ILE:HG12	35:l:110:PRO:HD2	2.01	0.42
35:l:123:HIS:CE1	50:3:2475:C:H5''	2.53	0.42
38:o:31:VAL:HG12	38:o:90:LEU:HA	2.02	0.42
39:p:60:TRP:CZ3	50:3:1032:A:H5'	2.54	0.42
41:r:17:ALA:HA	41:r:20:VAL:HG12	2.00	0.42
48:y:47:MET:HE3	48:y:47:MET:HB3	1.77	0.42
50:3:300:G:H2'	50:3:301:G:C8	2.54	0.42
50:3:342:G:H8	50:3:342:G:OP1	2.02	0.42
50:3:456:G:C6	50:3:457:U:C4	3.07	0.42
50:3:517:G:C6	50:3:542:A:H1'	2.53	0.42
50:3:533:G:H2'	50:3:534:U:C6	2.55	0.42
50:3:713:C:H2'	50:3:714:G:H8	1.82	0.42
50:3:1071:G:H2'	50:3:1072:A:H8	1.85	0.42
50:3:1327:G:H21	50:3:1675:A:H62	1.66	0.42
50:3:1473:C:H2'	50:3:1474:C:C6	2.55	0.42
50:3:1484:G:H1	50:3:2712:C:N4	2.17	0.42
50:3:1725:G:H2'	50:3:1726:U:O4'	2.18	0.42
50:3:1810:A:H61	50:3:1821:G:C2'	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2205:U:C2	50:3:2232:G:C2	3.08	0.42
50:3:2338:G:H2'	50:3:2339:G:C8	2.54	0.42
50:3:2418:G:C2	50:3:2419:A:H1'	2.54	0.42
50:3:2487:U:H4'	50:3:2544:G:O2'	2.20	0.42
50:3:2838:G:H1'	50:3:2887:A:N6	2.31	0.42
52:5:28:G:C2	52:5:29:G:C6	3.07	0.42
52:5:112:U:H2'	52:5:113:C:C6	2.54	0.42
52:5:150:A:H2'	52:5:151:C:H6	1.84	0.42
52:5:203:C:H2'	52:5:204:C:H6	1.84	0.42
52:5:385:A:H3'	52:5:386:U:C5	2.54	0.42
52:5:416:U:H2'	52:5:418:U:O4	2.20	0.42
52:5:444:G:H1'	52:5:484:A:H61	1.84	0.42
52:5:583:G:N2	52:5:754:U:O2	2.53	0.42
52:5:784:A:H2'	52:5:785:U:C6	2.54	0.42
52:5:837:G:H21	52:5:841:C:H41	1.66	0.42
52:5:918:A:OP2	52:5:918:A:H8	2.02	0.42
52:5:935:U:H1'	52:5:1349:A:C2	2.54	0.42
52:5:1081:U:H4'	52:5:1145:A:C4	2.54	0.42
52:5:1145:A:H3'	52:5:1146:A:H8	1.85	0.42
52:5:1196:G:C2	52:5:1197:G:C5	3.07	0.42
52:5:1327:G:H2'	52:5:1328:C:C6	2.55	0.42
4:A:32:MET:HG3	4:A:54:ASP:HB2	2.01	0.42
4:A:35:ARG:HH11	4:A:50:LYS:HD2	1.84	0.42
9:F:92:GLN:O	9:F:95:LYS:HB2	2.20	0.42
13:J:53:PRO:HB2	13:J:88:THR:HG21	2.00	0.42
15:L:100:GLN:OE1	52:5:944:A:H5''	2.18	0.42
21:R:82:GLN:OE1	52:5:951:U:O2'	2.37	0.42
22:S:38:GLU:O	22:S:38:GLU:HG2	2.19	0.42
26:c:176:LYS:HE2	26:c:176:LYS:HB2	1.90	0.42
30:g:7:LYS:O	30:g:11:VAL:HG23	2.20	0.42
30:g:27:PHE:HA	30:g:109:VAL:HB	2.01	0.42
31:h:15:LEU:HB2	31:h:18:GLN:HG3	2.01	0.42
35:l:9:TYR:HE2	50:3:2286:A:H1'	1.84	0.42
40:q:87:GLN:CD	50:3:1197:G:H21	2.24	0.42
41:r:1:MET:SD	41:r:64:MET:HE2	2.60	0.42
42:s:56:ASN:HB3	50:3:1370:A:H5''	2.02	0.42
44:u:18:LYS:HE3	50:3:2262:C:H41	1.84	0.42
48:y:11:HIS:HB2	50:3:2028:G:OP1	2.20	0.42
50:3:293:G:H2'	50:3:294:G:C5	2.54	0.42
50:3:454:G:O2'	50:3:455:G:H5'	2.19	0.42
50:3:512:G:N1	50:3:514:A:O3'	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:514:A:C6	50:3:516:A:C6	3.08	0.42
50:3:625:G:N2	50:3:700:U:O2	2.33	0.42
50:3:736:G:H1'	50:3:1666:A:N3	2.35	0.42
50:3:964:A:H2'	50:3:965:U:C6	2.54	0.42
50:3:1487:U:H2'	50:3:1488:U:C6	2.54	0.42
50:3:1515:A:H2	50:3:1516:G:C8	2.37	0.42
50:3:1691:U:H2'	50:3:1692:A:C8	2.55	0.42
50:3:1846:A:H2'	50:3:1847:G:H8	1.84	0.42
50:3:1959:A:N7	50:3:1960:A:C4	2.87	0.42
50:3:1975:G:H4'	50:3:1980:G:H5'	2.01	0.42
50:3:2030:A:H4'	50:3:2625:U:O3'	2.19	0.42
50:3:2475:C:H2'	50:3:2476:A:C8	2.55	0.42
50:3:2659:U:H2'	50:3:2660:C:C6	2.55	0.42
50:3:2784:A:O2'	50:3:2790:A:N7	2.50	0.42
52:5:67:U:H4'	52:5:159:U:N3	2.35	0.42
52:5:678:A:H2'	52:5:679:U:H6	1.82	0.42
52:5:779:A:H62	52:5:797:G:H21	1.67	0.42
52:5:971:A:O2'	52:5:1336:C:N4	2.52	0.42
52:5:1071:A:H5''	52:5:1072:G:OP2	2.19	0.42
52:5:1203:A:N1	52:5:1204:A:N6	2.66	0.42
52:5:1376:G:H2'	52:5:1377:C:C6	2.54	0.42
52:5:1394:G:N2	52:5:1457:G:H1'	2.35	0.42
4:A:186:ASN:HD22	4:A:186:ASN:C	2.26	0.42
6:C:29:LYS:HB3	52:5:409:G:N7	2.35	0.42
7:D:76:ILE:HG22	52:5:17:A:O3'	2.20	0.42
9:F:94:ARG:HH22	52:5:1353:C:H41	1.67	0.42
10:G:21:LYS:HB3	10:G:33:VAL:CG1	2.50	0.42
11:H:94:PRO:O	11:H:97:LYS:HB3	2.20	0.42
11:H:112:VAL:O	52:5:1321:G:H5''	2.19	0.42
12:I:31:ILE:O	12:I:35:VAL:HG22	2.19	0.42
22:S:41:LEU:HD23	22:S:76:LEU:HD11	2.02	0.42
26:c:4:LEU:HG	26:c:5:LYS:H	1.84	0.42
26:c:119:LYS:NZ	26:c:195:ASN:OD1	2.51	0.42
29:f:61:ASN:O	29:f:64:LEU:HG	2.19	0.42
31:h:25:LEU:O	31:h:30:ILE:HG23	2.20	0.42
31:h:113:ASN:HB3	50:3:1117:U:H1'	2.02	0.42
33:j:6:THR:HG23	50:3:1700:G:H4'	2.00	0.42
37:n:15:ILE:O	37:n:19:ILE:HG13	2.20	0.42
46:w:28:GLU:O	46:w:32:LYS:HG3	2.20	0.42
48:y:39:PHE:CD2	50:3:2819:C:H1'	2.40	0.42
50:3:192:U:H3'	50:3:193:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:524:G:N2	50:3:527:A:OP2	2.38	0.42
50:3:889:G:H2'	50:3:890:U:C6	2.54	0.42
50:3:956:U:C4	50:3:957:G:C5	3.07	0.42
50:3:1133:A:C2	50:3:1134:G:H1'	2.55	0.42
50:3:1288:C:H2'	50:3:1289:G:N7	2.34	0.42
50:3:1327:G:H3'	50:3:1661:A:N6	2.27	0.42
50:3:1372:U:H5''	50:3:1373:C:H5	1.84	0.42
50:3:1454:G:O4'	50:3:1606:A:N6	2.51	0.42
50:3:1553:G:OP2	50:3:1576:G:N1	2.48	0.42
50:3:1872:U:O2'	50:3:1882:G:N2	2.52	0.42
50:3:1932:C:N4	50:3:1936:G:N2	2.27	0.42
50:3:1979:G:O6	50:3:1980:G:O6	2.37	0.42
50:3:2090:G:O6	50:3:2244:U:C2	2.72	0.42
50:3:2143:G:N2	50:3:2162:U:O2	2.36	0.42
50:3:2243:G:C2'	50:3:2244:U:H5'	2.50	0.42
50:3:2516:G:H4'	50:3:2563:U:H5'	2.01	0.42
50:3:2560:U:H2'	50:3:2562:U:OP2	2.18	0.42
50:3:2764:U:H1'	50:3:2765:A:H5''	2.01	0.42
51:4:76:A:H2'	51:4:76:A:N3	2.35	0.42
52:5:136:U:C2	52:5:137:A:C8	3.08	0.42
52:5:169:G:N2	52:5:219:A:HO2'	2.09	0.42
52:5:331:C:H1'	52:5:1409:A:H1'	2.01	0.42
52:5:345:A:H2'	52:5:346:G:H8	1.83	0.42
52:5:778:A:O2'	52:5:1497:U:O2	2.37	0.42
52:5:852:G:H1	52:5:863:A:H2'	1.84	0.42
52:5:988:G:N2	52:5:991:A:C6	2.88	0.42
52:5:1194:A:H2'	52:5:1195:G:H8	1.82	0.42
4:A:145:THR:HG22	4:A:146:LYS:H	1.85	0.42
5:B:207:ARG:HE	5:B:207:ARG:HB2	1.71	0.42
6:C:144:LEU:HB3	6:C:148:THR:HG21	2.00	0.42
7:D:73:LEU:HG	7:D:90:VAL:HG12	2.02	0.42
9:F:42:LEU:HG	9:F:46:PHE:CE2	2.54	0.42
9:F:74:LEU:HD22	9:F:85:GLN:HB2	2.02	0.42
10:G:59:VAL:HG22	10:G:70:VAL:HG12	2.02	0.42
20:Q:91:LYS:CB	52:5:732:A:H5'	2.49	0.42
24:a:26:LEU:HD12	24:a:26:LEU:HA	1.87	0.42
24:a:282:ARG:C	24:a:283:LYS:HD3	2.44	0.42
25:b:28:VAL:HG12	25:b:192:LEU:HG	2.02	0.42
28:e:136:ILE:HG22	28:e:144:VAL:HG23	2.01	0.42
32:i:7:LEU:HD11	39:p:63:ARG:NH1	2.34	0.42
35:l:23:GLY:HA3	50:3:944:U:O3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:o:27:ALA:HB3	38:o:99:ALA:O	2.19	0.42
40:q:54:ARG:O	40:q:97:PHE:HB2	2.20	0.42
41:r:26:GLY:N	41:r:71:VAL:O	2.50	0.42
50:3:230:G:H1'	50:3:232:A:N6	2.33	0.42
50:3:427:A:O2'	50:3:446:A:OP1	2.27	0.42
50:3:429:U:O2'	50:3:430:U:H5'	2.20	0.42
50:3:723:U:H1'	50:3:821:C:O2'	2.20	0.42
50:3:960:A:H2'	50:3:961:U:O4'	2.20	0.42
50:3:1094:G:H2'	50:3:1095:U:C5	2.55	0.42
50:3:1094:G:OP2	50:3:1095:U:H3'	2.19	0.42
50:3:1284:A:H5''	50:3:1285:U:H5''	2.01	0.42
50:3:1377:A:H3'	50:3:1378:C:C5'	2.48	0.42
50:3:1741:G:H2'	50:3:1742:C:C6	2.55	0.42
50:3:1806:G:H5'	50:3:1826:A:N6	2.34	0.42
50:3:1822:A:O4'	50:3:1824:G:H8	2.03	0.42
50:3:2307:G:C6	50:3:2326:G:C2	3.08	0.42
50:3:2421:U:H2'	50:3:2422:G:C1'	2.50	0.42
50:3:2454:G:HO2'	50:3:2456:A:HO2'	1.68	0.42
50:3:2755:G:H2'	50:3:2765:A:H61	1.84	0.42
52:5:10:G:O6	52:5:556:G:O2'	2.37	0.42
52:5:96:G:N2	52:5:350:G:H1'	2.35	0.42
52:5:129:U:H5'	52:5:130:G:H5'	2.02	0.42
52:5:134:G:H2'	52:5:135:A:O4'	2.20	0.42
52:5:460:A:O2'	52:5:461:G:N7	2.50	0.42
52:5:694:U:N3	52:5:795:U:O4'	2.52	0.42
52:5:771:G:H3'	52:5:772:G:C8	2.51	0.42
52:5:1043:U:H3	52:5:1182:C:N4	2.17	0.42
52:5:1066:U:H2'	52:5:1067:C:C6	2.55	0.42
52:5:1128:G:H2'	52:5:1129:C:O4'	2.20	0.42
52:5:1267:G:H2'	52:5:1268:G:C8	2.53	0.42
5:B:16:LYS:HA	5:B:207:ARG:NH2	2.35	0.42
7:D:190:ASN:ND2	52:5:20:C:OP1	2.41	0.42
10:G:96:ARG:NH1	52:5:585:G:OP1	2.50	0.42
13:J:24:ILE:HD13	52:5:702:U:H2'	2.02	0.42
17:N:22:ILE:HG23	17:N:63:LEU:HD22	2.01	0.42
21:R:7:LYS:HG2	21:R:8:GLY:H	1.85	0.42
22:S:67:ARG:HD2	52:5:259:A:C5'	2.50	0.42
24:a:78:ASN:OD1	29:f:87:ARG:NH2	2.53	0.42
27:d:38:MET:SD	27:d:40:VAL:HG23	2.60	0.42
28:e:57:ARG:NH1	28:e:60:GLU:OE1	2.52	0.42
31:h:98:MET:SD	31:h:98:MET:N	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:i:52:ASP:CG	32:i:121:TRP:HE1	2.28	0.42
33:j:104:ARG:NE	38:o:37:LEU:HD11	2.35	0.42
34:k:25:GLY:HA3	40:q:80:LEU:O	2.20	0.42
35:l:55:SER:HA	35:l:64:MET:HE1	2.02	0.42
35:l:65:TRP:HB2	35:l:105:GLU:HG3	2.01	0.42
36:m:96:GLY:H	50:3:2843:G:H1'	1.85	0.42
45:v:13:LEU:HD23	50:3:417:G:H22	1.85	0.42
46:w:50:LEU:O	46:w:53:THR:OG1	2.31	0.42
50:3:133:G:H2'	50:3:134:U:C6	2.54	0.42
50:3:484:U:H3	50:3:615:G:N2	2.13	0.42
50:3:760:G:H2'	50:3:761:G:C4	2.55	0.42
50:3:863:U:H4'	50:3:866:G:N1	2.34	0.42
50:3:948:A:O2'	50:3:2271:C:O2'	2.34	0.42
50:3:1467:U:C4	50:3:1588:A:C2	3.08	0.42
50:3:1472:C:H2'	50:3:1473:C:H6	1.84	0.42
50:3:1812:C:H2'	50:3:1813:C:C6	2.54	0.42
50:3:1897:A:H3'	50:3:1898:G:H8	1.85	0.42
50:3:2122:G:N1	50:3:2126:A:OP2	2.52	0.42
50:3:2349:G:H2'	50:3:2350:C:C6	2.55	0.42
50:3:2551:G:H4'	50:3:2653:G:C5	2.55	0.42
50:3:2551:G:H21	50:3:2654:U:C3'	2.28	0.42
50:3:2821:U:O2'	50:3:2841:A:H1'	2.19	0.42
52:5:233:C:H2'	52:5:234:G:C8	2.54	0.42
52:5:421:G:C2	52:5:422:A:C5	3.08	0.42
52:5:642:A:OP2	52:5:642:A:H8	2.02	0.42
52:5:647:U:H2'	52:5:648:C:C6	2.55	0.42
52:5:674:U:H2'	52:5:675:U:H6	1.85	0.42
52:5:904:C:H2'	52:5:905:U:O4'	2.20	0.42
52:5:1113:U:H2'	52:5:1114:A:N9	2.35	0.42
52:5:1196:G:O2'	52:5:1197:G:H5'	2.20	0.42
52:5:1427:U:H4'	52:5:1428:A:H5'	2.02	0.42
52:5:1452:C:H2'	52:5:1453:C:O4'	2.20	0.42
7:D:172:LEU:HD23	7:D:172:LEU:HA	1.49	0.42
8:E:103:LYS:O	8:E:106:GLN:HB2	2.20	0.42
14:K:41:PRO:HG3	52:5:33:A:H2	1.84	0.42
14:K:62:LEU:HG	52:5:518:A:OP1	2.20	0.42
15:L:72:GLU:O	15:L:75:LEU:HG	2.20	0.42
24:a:65:LYS:NZ	50:3:1604:A:OP1	2.53	0.42
24:a:221:HIS:HB3	50:3:1600:A:O4'	2.20	0.42
26:c:168:LEU:O	26:c:171:SER:HB2	2.19	0.42
29:f:6:LYS:H	29:f:34:LYS:HE2	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:g:126:ILE:HD12	30:g:126:ILE:HA	1.87	0.42
31:h:84:LYS:HD3	31:h:85:GLY:O	2.20	0.42
36:m:4:ILE:HD12	50:3:1302:C:H1'	2.02	0.42
37:n:81:LEU:HA	37:n:84:LEU:HD12	2.01	0.42
48:y:4:GLN:HB3	50:3:2623:U:H1'	2.01	0.42
48:y:17:ARG:HA	48:y:20:ASP:HB2	2.00	0.42
50:3:44:A:H2'	50:3:45:U:H6	1.85	0.42
50:3:135:A:C4	50:3:136:G:C8	3.08	0.42
50:3:166:A:H2'	50:3:167:A:C8	2.55	0.42
50:3:346:G:H5'	50:3:365:U:O2'	2.19	0.42
50:3:402:A:O2'	50:3:403:U:O5'	2.38	0.42
50:3:415:U:H2'	50:3:416:C:C6	2.55	0.42
50:3:551:C:H2'	50:3:552:C:O4'	2.20	0.42
50:3:1167:U:H3'	50:3:1168:A:H5''	2.01	0.42
50:3:1601:A:O4'	50:3:1602:G:N2	2.53	0.42
50:3:1645:C:H2'	50:3:1646:G:C8	2.54	0.42
50:3:1687:G:H1'	50:3:2012:A:N6	2.35	0.42
50:3:1876:G:N2	50:3:1879:A:N7	2.68	0.42
50:3:2006:C:H1'	50:3:2695:U:H1'	2.01	0.42
50:3:2029:U:O2'	50:3:2624:C:O2'	2.37	0.42
50:3:2109:A:N6	50:3:2196:G:O6	2.53	0.42
50:3:2115:A:O2'	50:3:2149:U:O2'	2.37	0.42
50:3:2242:G:C2	50:3:2243:G:C5	3.08	0.42
50:3:2687:A:C6	50:3:2737:G:O6	2.73	0.42
50:3:2706:U:H2'	50:3:2707:A:H8	1.83	0.42
50:3:2823:A:N1	50:3:2832:G:C6	2.88	0.42
51:4:76:A:C5	51:4:89:A:C8	3.07	0.42
52:5:106:C:H42	52:5:111:A:H61	1.68	0.42
52:5:138:A:C6	52:5:156:U:N3	2.88	0.42
52:5:242:A:O3'	52:5:243:G:H4'	2.19	0.42
52:5:330:C:H2'	52:5:331:C:C6	2.55	0.42
52:5:365:U:P	52:5:384:G:H22	2.42	0.42
52:5:608:G:N3	52:5:608:G:H2'	2.34	0.42
52:5:781:A:N6	52:5:796:A:N6	2.68	0.42
52:5:818:A:OP2	52:5:818:A:H8	2.02	0.42
52:5:828:U:H2'	52:5:829:G:O4'	2.19	0.42
52:5:835:G:C6	52:5:836:C:N3	2.88	0.42
52:5:963:U:H3	52:5:1170:C:H1'	1.85	0.42
52:5:1334:A:H2'	52:5:1334:A:N3	2.34	0.42
7:D:136:ILE:HG13	7:D:137:TYR:H	1.85	0.42
9:F:9:ARG:HD2	52:5:1320:A:C4	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:73:GLU:OE2	52:5:1353:C:H1'	2.20	0.42
11:H:73:GLY:HA2	52:5:1224:C:O2	2.20	0.42
14:K:23:ALA:HA	14:K:26:TYR:HE1	1.85	0.42
14:K:28:LEU:HB2	14:K:72:ASN:HB3	2.02	0.42
15:L:90:ARG:HB3	15:L:97:VAL:HA	2.02	0.42
28:e:141:LYS:HD3	50:3:2754:U:H4'	2.01	0.42
31:h:120:ALA:O	31:h:123:MET:HG2	2.20	0.42
32:i:48:THR:HG21	32:i:51:GLN:HE21	1.85	0.42
34:k:24:HIS:HB2	40:q:80:LEU:HD22	2.02	0.42
36:m:28:TYR:OH	50:3:1321:C:O2	2.33	0.42
44:u:18:LYS:HE2	50:3:2261:G:N7	2.34	0.42
46:w:14:GLU:O	46:w:18:LEU:HG	2.20	0.42
50:3:13:C:H5''	50:3:2804:C:O2	2.18	0.42
50:3:65:A:H3'	50:3:66:A:C8	2.55	0.42
50:3:69:U:H2'	50:3:70:G:C8	2.55	0.42
50:3:82:G:C4	50:3:108:G:N2	2.88	0.42
50:3:189:U:H2'	50:3:190:G:C8	2.55	0.42
50:3:222:A:H2'	50:3:223:A:C8	2.55	0.42
50:3:308:A:H2'	50:3:309:A:O4'	2.20	0.42
50:3:363:G:C4	50:3:513:A:C8	3.08	0.42
50:3:373:U:H2'	50:3:374:A:C8	2.54	0.42
50:3:674:G:H2'	50:3:675:U:C6	2.54	0.42
50:3:1087:C:H2'	50:3:1088:A:H8	1.85	0.42
50:3:1166:G:H4'	50:3:1167:U:H5'	2.01	0.42
50:3:1476:C:H1'	50:3:1554:A:H1'	2.02	0.42
50:3:1500:A:H2'	50:3:1501:U:O4'	2.20	0.42
50:3:1745:A:H2'	50:3:1746:U:C6	2.55	0.42
50:3:1834:U:O2'	50:3:1979:G:N7	2.53	0.42
50:3:2035:U:O4	50:3:2040:A:N7	2.53	0.42
50:3:2265:U:H2'	50:3:2266:C:C6	2.55	0.42
50:3:2271:C:N4	50:3:2285:G:O6	2.38	0.42
50:3:2594:C:H2'	50:3:2595:A:C8	2.55	0.42
50:3:2747:U:O2	50:3:2772:A:N7	2.53	0.42
50:3:2765:A:H2'	50:3:2765:A:N3	2.34	0.42
50:3:2862:U:H3'	50:3:2863:G:C8	2.53	0.42
52:5:454:U:O2	52:5:474:G:N2	2.53	0.42
52:5:862:C:H3'	52:5:863:A:H8	1.84	0.42
52:5:984:A:O3'	52:5:1013:C:O2'	2.37	0.42
52:5:1105:C:H2'	52:5:1106:U:H6	1.85	0.42
4:A:212:ASP:O	8:E:160:VAL:HG12	2.20	0.41
5:B:165:ILE:HG23	5:B:165:ILE:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:73:ARG:O	6:C:77:LEU:HG	2.20	0.41
11:H:64:ASP:N	11:H:64:ASP:OD1	2.53	0.41
14:K:101:LYS:HE2	52:5:523:U:H5''	2.01	0.41
16:M:18:VAL:HG22	52:5:973:A:H62	1.85	0.41
17:N:29:LEU:O	17:N:33:ILE:HG12	2.19	0.41
19:P:13:VAL:HG13	19:P:57:ASP:HA	2.02	0.41
21:R:10:PHE:CD2	52:5:1292:A:H4'	2.55	0.41
24:a:167:TYR:CG	24:a:202:VAL:HG12	2.55	0.41
26:c:52:ILE:HG12	26:c:53:LEU:H	1.85	0.41
27:d:77:TYR:OH	50:3:2316:G:O6	2.32	0.41
29:f:66:HIS:HA	29:f:69:LYS:HE3	2.02	0.41
29:f:113:PHE:CE2	29:f:116:ASN:HA	2.55	0.41
30:g:54:ILE:HG12	30:g:58:ILE:HG21	2.01	0.41
30:g:55:LYS:HG3	30:g:56:ASN:H	1.84	0.41
33:j:67:LYS:HE2	50:3:1698:A:O2'	2.20	0.41
41:r:18:ARG:O	41:r:22:GLN:HG2	2.20	0.41
44:u:74:PHE:CE2	50:3:2373:G:H4'	2.55	0.41
47:x:15:LYS:HD3	47:x:22:SER:HB2	2.02	0.41
50:3:229:C:H3'	50:3:230:G:H8	1.85	0.41
50:3:603:G:O4'	50:3:1019:A:C6	2.73	0.41
50:3:986:G:H2'	50:3:987:U:C6	2.55	0.41
50:3:1037:A:H3'	50:3:1038:G:H8	1.85	0.41
50:3:1122:G:N2	50:3:1137:C:C2	2.82	0.41
50:3:1154:U:H2'	50:3:1155:G:H8	1.83	0.41
50:3:1166:G:H22	50:3:2047:U:H1'	1.85	0.41
50:3:1779:G:N2	50:3:1985:A:N1	2.68	0.41
50:3:1819:G:H2'	50:3:1820:U:C6	2.55	0.41
50:3:1961:A:N3	50:3:2559:C:H4'	2.35	0.41
50:3:2058:G:H2'	50:3:2622:A:N6	2.35	0.41
50:3:2387:U:H2'	50:3:2388:C:C6	2.55	0.41
50:3:2455:G:H4'	50:3:2456:A:H3'	2.02	0.41
50:3:2488:C:H3'	50:3:2489:G:C8	2.52	0.41
50:3:2655:U:OP1	50:3:2773:A:H8	2.03	0.41
51:4:75:U:H2'	51:4:76:A:H8	1.83	0.41
52:5:80:U:H2'	52:5:81:A:C8	2.55	0.41
52:5:357:G:H2'	52:5:358:G:O4'	2.20	0.41
52:5:748:U:H2'	52:5:749:G:C8	2.56	0.41
52:5:811:A:H5'	52:5:1486:C:H4'	2.01	0.41
52:5:1067:C:H2'	52:5:1068:G:H8	1.85	0.41
52:5:1248:U:H2'	52:5:1249:G:C8	2.55	0.41
52:5:1284:A:H2'	52:5:1285:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1487:U:H2'	52:5:1488:A:C8	2.54	0.41
3:2:10:ILE:HB	50:3:2485:U:O4	2.19	0.41
5:B:117:ARG:HG3	5:B:190:GLU:OE2	2.20	0.41
7:D:132:HIS:HB2	7:D:137:TYR:CE1	2.55	0.41
8:E:1:MET:HE1	8:E:90:LEU:HB3	2.01	0.41
11:H:49:ASP:O	11:H:82:ARG:NH2	2.34	0.41
14:K:25:HIS:CE1	52:5:551:A:H4'	2.54	0.41
14:K:113:GLY:O	14:K:133:LYS:NZ	2.33	0.41
19:P:48:HIS:HB3	19:P:73:LYS:HD3	2.02	0.41
24:a:26:LEU:HG	24:a:27:THR:H	1.84	0.41
29:f:101:ALA:HB1	29:f:106:MET:SD	2.60	0.41
30:g:42:LYS:HE2	30:g:42:LYS:HB2	1.68	0.41
33:j:17:LYS:HG2	33:j:18:GLN:OE1	2.21	0.41
35:l:10:ARG:HB3	50:3:2286:A:OP1	2.21	0.41
35:l:74:LYS:NZ	35:l:75:THR:O	2.53	0.41
39:p:26:THR:HG23	48:y:10:LYS:NZ	2.34	0.41
48:y:32:LYS:HD3	48:y:50:ASP:O	2.21	0.41
50:3:19:G:H2'	50:3:20:C:H6	1.85	0.41
50:3:351:G:H2'	50:3:352:C:H6	1.83	0.41
50:3:674:G:C6	50:3:687:G:N1	2.88	0.41
50:3:717:U:H2'	50:3:718:U:C6	2.55	0.41
50:3:728:A:C2	50:3:805:G:C2	3.07	0.41
50:3:826:C:H1'	50:3:828:A:H1'	2.02	0.41
50:3:850:G:O6	50:3:1223:C:N4	2.52	0.41
50:3:856:A:H5''	50:3:857:U:O4'	2.20	0.41
50:3:1040:U:H1'	50:3:1046:A:H2'	2.01	0.41
50:3:1066:G:H2'	50:3:1067:A:C8	2.55	0.41
50:3:1096:U:H4'	50:3:1097:G:OP2	2.21	0.41
50:3:1266:G:H1'	50:3:1267:A:N7	2.35	0.41
50:3:1605:A:H2'	50:3:1606:A:C8	2.55	0.41
50:3:2071:C:O2'	50:3:2259:G:N3	2.52	0.41
50:3:2134:G:H2'	50:3:2135:C:H6	1.85	0.41
50:3:2413:G:N1	50:3:2419:A:OP2	2.52	0.41
50:3:2467:A:C5	50:3:2468:U:C5	3.08	0.41
50:3:2803:G:H5''	50:3:2805:A:H61	1.85	0.41
52:5:48:C:H5''	52:5:361:U:C2	2.55	0.41
52:5:235:C:H5''	52:5:236:C:OP1	2.19	0.41
52:5:879:G:H1'	52:5:908:A:N6	2.35	0.41
52:5:882:U:H3'	52:5:883:A:H8	1.86	0.41
52:5:940:G:C4	52:5:941:A:C8	3.08	0.41
52:5:951:U:H2'	52:5:952:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1268:G:H2'	52:5:1269:U:O4'	2.20	0.41
53:6:16:G:N2	53:6:60:U:H3	2.18	0.41
1:0:8:SER:O	1:0:12:ARG:HG2	2.19	0.41
5:B:37:ASP:HB2	5:B:60:ARG:HH11	1.85	0.41
6:C:101:VAL:HA	6:C:104:MET:HE2	2.01	0.41
10:G:79:ARG:HG2	10:G:81:ILE:HG13	2.02	0.41
13:J:113:GLY:HA2	52:5:712:A:H2	1.84	0.41
16:M:25:GLN:H	16:M:25:GLN:CD	2.28	0.41
16:M:29:ARG:HH11	16:M:31:ARG:NH2	2.18	0.41
17:N:21:SER:HA	52:5:748:U:H1'	2.00	0.41
20:Q:104:ASP:OD1	23:T:5:GLU:N	2.54	0.41
24:a:127:PRO:HD3	24:a:140:PHE:CD2	2.55	0.41
24:a:281:ASN:C	24:a:283:LYS:H	2.28	0.41
26:c:123:ASP:O	26:c:126:HIS:ND1	2.53	0.41
27:d:34:ILE:HG22	27:d:91:LEU:HD21	2.01	0.41
28:e:61:LEU:HD12	28:e:61:LEU:HA	1.92	0.41
32:i:107:ALA:O	50:3:1173:G:O2'	2.38	0.41
34:k:20:LEU:HD12	50:3:620:G:C2	2.55	0.41
35:l:62:GLY:HA2	35:l:107:ALA:O	2.19	0.41
36:m:107:ARG:HD2	50:3:1314:A:C4'	2.50	0.41
37:n:91:PHE:CD2	37:n:106:ALA:HB2	2.55	0.41
44:u:35:LEU:O	50:3:2278:G:H1'	2.19	0.41
48:y:12:ARG:NH2	50:3:2624:C:H4'	2.35	0.41
50:3:359:G:C6	50:3:372:G:C5	3.09	0.41
50:3:438:A:H8	50:3:438:A:OP2	2.02	0.41
50:3:716:G:H2'	50:3:717:U:C6	2.55	0.41
50:3:767:C:H2'	50:3:768:G:O4'	2.20	0.41
50:3:1107:C:N4	50:3:1135:C:H41	2.18	0.41
50:3:1162:A:O2'	50:3:2525:C:O3'	2.37	0.41
50:3:1640:G:H4'	50:3:1642:G:C5	2.56	0.41
50:3:1675:A:H3'	50:3:1676:G:H8	1.85	0.41
50:3:1699:A:H2'	50:3:1700:G:C8	2.55	0.41
50:3:2266:C:H3'	50:3:2267:G:H5'	2.02	0.41
50:3:2277:A:H2'	50:3:2278:G:O4'	2.21	0.41
50:3:2294:A:H4'	50:3:2295:A:C4	2.55	0.41
50:3:2748:A:H2'	50:3:2749:A:C8	2.55	0.41
52:5:68:C:OP1	52:5:201:G:O2'	2.22	0.41
52:5:357:G:H2'	52:5:358:G:C8	2.54	0.41
52:5:485:C:H2'	52:5:486:C:C6	2.56	0.41
52:5:566:G:N2	52:5:572:A:H1'	2.36	0.41
52:5:644:U:O4	52:5:645:A:N6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:842:C:C2	52:5:843:C:C5	3.08	0.41
52:5:937:G:H2'	52:5:938:U:H6	1.86	0.41
52:5:1145:A:H3'	52:5:1146:A:C8	2.55	0.41
4:A:195:ARG:HG3	8:E:163:MET:SD	2.60	0.41
11:H:124:ARG:NH1	52:5:1322:U:H5''	2.36	0.41
15:L:103:ARG:HA	52:5:1203:A:N7	2.35	0.41
17:N:27:SER:HA	17:N:80:LYS:HG2	2.01	0.41
18:O:81:LYS:HE2	18:O:81:LYS:HB2	1.83	0.41
21:R:27:LYS:HE2	21:R:27:LYS:HB3	1.91	0.41
21:R:41:PHE:N	21:R:44:PHE:CD2	2.80	0.41
22:S:14:ASN:HB2	52:5:319:U:H4'	2.02	0.41
24:a:40:THR:OG1	50:3:1604:A:H5'	2.20	0.41
28:e:46:PHE:HZ	28:e:71:TYR:HB3	1.86	0.41
31:h:11:LYS:HZ2	50:3:1096:U:H6	1.68	0.41
32:i:91:SER:O	32:i:95:MET:HB2	2.20	0.41
33:j:76:HIS:N	38:o:78:ASN:HB3	2.35	0.41
33:j:81:ASP:OD1	33:j:82:ASN:N	2.53	0.41
34:k:16:LYS:HD2	50:3:1225:A:N6	2.33	0.41
34:k:22:ARG:HA	50:3:846:U:H2'	2.03	0.41
35:l:27:VAL:HG22	35:l:135:GLU:H	1.85	0.41
37:n:38:HIS:CE1	51:4:25:A:H5''	2.56	0.41
38:o:12:LEU:O	38:o:16:LYS:NZ	2.46	0.41
41:r:118:ILE:HD11	50:3:556:U:H1'	2.02	0.41
43:t:45:HIS:HB2	50:3:518:A:H4'	2.03	0.41
43:t:90:LYS:HB3	43:t:105:LYS:HG2	2.01	0.41
50:3:62:G:O2'	50:3:65:A:OP2	2.29	0.41
50:3:250:U:H3	50:3:256:G:H1	1.67	0.41
50:3:666:G:N2	50:3:668:A:H3'	2.35	0.41
50:3:1465:U:H4'	50:3:1466:U:OP1	2.20	0.41
50:3:1507:G:H1'	50:3:1508:G:OP2	2.20	0.41
50:3:1509:U:H1'	50:3:1535:A:C6	2.56	0.41
50:3:1558:A:H5''	50:3:1570:A:O5'	2.20	0.41
50:3:1775:G:H2'	50:3:1776:G:O4'	2.21	0.41
50:3:2121:A:H62	50:3:2122:G:N2	2.19	0.41
50:3:2124:A:O2'	50:3:2126:A:OP2	2.32	0.41
50:3:2229:C:H2'	50:3:2230:A:C8	2.55	0.41
50:3:2305:C:C2	50:3:2328:A:C2	3.09	0.41
50:3:2471:U:C2	50:3:2496:G:N2	2.88	0.41
50:3:2519:U:H2'	50:3:2520:C:C6	2.55	0.41
50:3:2779:C:H2'	50:3:2780:U:C6	2.56	0.41
50:3:2785:G:H1'	50:3:2787:U:H5	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:45:C:H3'	51:4:46:C:C6	2.55	0.41
52:5:23:G:O2'	52:5:907:A:N1	2.44	0.41
52:5:104:A:N7	52:5:236:C:N4	2.68	0.41
52:5:157:A:H2'	52:5:158:A:C8	2.54	0.41
52:5:756:A:H2'	52:5:756:A:N3	2.35	0.41
52:5:1329:G:H2'	52:5:1330:A:C8	2.55	0.41
53:6:58:G:O2'	53:6:59:A:OP2	2.35	0.41
2:1:25:TYR:HD1	50:3:2400:A:H5''	1.84	0.41
3:2:25:VAL:HG13	3:2:34:GLN:H	1.86	0.41
4:A:99:ILE:O	4:A:103:VAL:HG22	2.20	0.41
4:A:100:ALA:HA	4:A:103:VAL:HG22	2.03	0.41
5:B:179:SER:HA	52:5:1164:U:C2	2.56	0.41
6:C:186:GLU:HG3	6:C:187:LEU:HG	2.02	0.41
7:D:185:ARG:HG2	52:5:20:C:OP2	2.19	0.41
21:R:70:LYS:NZ	52:5:1292:A:O2'	2.45	0.41
22:S:63:ASN:CG	52:5:259:A:H5'	2.45	0.41
24:a:226:PRO:HB3	50:3:1797:C:H5'	2.02	0.41
28:e:18:LEU:HG	28:e:20:PHE:CZ	2.56	0.41
34:k:68:ALA:H	50:3:667:A:HO2'	1.64	0.41
40:q:67:LYS:NZ	50:3:1253:G:H3'	2.35	0.41
50:3:154:U:H2'	50:3:155:A:O4'	2.20	0.41
50:3:388:U:H2'	50:3:389:C:H6	1.85	0.41
50:3:666:G:H4'	50:3:676:U:O2'	2.20	0.41
50:3:1003:U:H2'	50:3:1004:U:C6	2.56	0.41
50:3:1307:G:H2'	50:3:1308:A:C8	2.55	0.41
50:3:1419:U:N3	50:3:1422:U:OP2	2.52	0.41
50:3:1605:A:N3	50:3:1606:A:C8	2.89	0.41
50:3:1955:G:H2'	50:3:1956:G:H8	1.85	0.41
50:3:2073:C:H2'	50:3:2074:G:H8	1.84	0.41
52:5:329:C:H2'	52:5:330:C:C5	2.55	0.41
52:5:661:G:N2	52:5:723:C:O2'	2.36	0.41
52:5:1048:G:H2'	52:5:1049:G:C8	2.56	0.41
52:5:1287:G:C6	52:5:1299:C:C4	3.08	0.41
2:1:38:LYS:HE3	49:z:20:LEU:HD12	2.03	0.41
8:E:104:LYS:O	8:E:107:LEU:HB2	2.21	0.41
10:G:9:LYS:NZ	52:5:652:A:OP2	2.33	0.41
10:G:117:SER:OG	52:5:639:A:H1'	2.20	0.41
11:H:20:TYR:HB2	11:H:66:ASN:HB3	2.03	0.41
11:H:100:LEU:O	11:H:105:LEU:HB2	2.20	0.41
12:I:44:GLY:O	12:I:80:MET:HE1	2.20	0.41
22:S:10:ARG:NH1	52:5:92:G:N7	2.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:150:ILE:O	24:a:160:ILE:N	2.48	0.41
25:b:4:ARG:HH22	25:b:89:GLY:H	1.67	0.41
25:b:65:PRO:HD3	50:3:2814:A:H4'	2.02	0.41
25:b:164:LYS:HD3	25:b:164:LYS:HA	1.76	0.41
30:g:55:LYS:HA	50:3:1141:U:O3'	2.21	0.41
31:h:107:TYR:CE2	31:h:108:LYS:HE2	2.55	0.41
31:h:113:ASN:HB3	50:3:1117:U:C1'	2.50	0.41
37:n:46:PHE:C	37:n:48:GLN:H	2.29	0.41
39:p:5:GLY:O	39:p:9:THR:OG1	2.19	0.41
39:p:17:LEU:HD21	39:p:31:TYR:CD1	2.56	0.41
39:p:93:VAL:O	39:p:97:LEU:HG	2.20	0.41
40:q:64:LEU:HB3	40:q:86:ARG:HB3	2.02	0.41
42:s:41:LYS:HE2	42:s:41:LYS:HB3	1.83	0.41
42:s:56:ASN:HB2	42:s:82:VAL:CG1	2.51	0.41
42:s:58:LEU:HD12	42:s:59:ILE:H	1.86	0.41
44:u:47:THR:OG1	50:3:2374:A:O2'	2.30	0.41
50:3:335:G:O2'	50:3:336:C:O5'	2.37	0.41
50:3:611:A:OP1	50:3:1285:U:O2'	2.38	0.41
50:3:720:A:C6	50:3:812:G:N2	2.86	0.41
50:3:1001:C:H1'	50:3:2281:A:C4	2.55	0.41
50:3:1063:A:N3	50:3:2494:C:O2'	2.47	0.41
50:3:1076:U:H3	50:3:1149:G:H1	1.69	0.41
50:3:1246:U:O4	50:3:1263:G:O6	2.38	0.41
50:3:1451:A:H2'	50:3:1452:G:C8	2.54	0.41
50:3:1806:G:H22	50:3:1826:A:P	2.44	0.41
50:3:1817:A:H3'	50:3:1818:G:C8	2.56	0.41
50:3:1836:A:C8	50:3:1984:A:N6	2.89	0.41
50:3:2034:G:H2'	50:3:2035:U:H6	1.86	0.41
50:3:2174:G:H2'	50:3:2175:U:O4'	2.20	0.41
50:3:2720:C:P	50:3:2720:C:H6	2.43	0.41
51:4:51:A:H2'	51:4:52:G:C8	2.54	0.41
52:5:20:C:H2'	52:5:21:U:H6	1.85	0.41
52:5:332:A:H4'	52:5:1443:A:C2	2.56	0.41
52:5:351:C:H2'	52:5:352:A:O4'	2.20	0.41
52:5:915:U:H1'	52:5:1071:A:C5	2.56	0.41
52:5:1415:G:H2'	52:5:1416:U:C6	2.55	0.41
53:8:66:C:H2'	53:8:67:C:C6	2.56	0.41
4:A:54:ASP:OD2	4:A:204:THR:HG21	2.21	0.41
4:A:127:ILE:HD12	4:A:127:ILE:HA	1.88	0.41
4:A:185:LYS:NZ	52:5:1092:A:O5'	2.45	0.41
6:C:13:ARG:NH2	52:5:541:C:H5'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:160:ILE:HG23	7:D:160:ILE:O	2.20	0.41
11:H:73:GLY:CA	52:5:1346:G:H4'	2.47	0.41
16:M:8:VAL:HG21	52:5:989:A:N3	2.36	0.41
24:a:35:LYS:HB3	50:3:1454:G:C6	2.55	0.41
26:c:133:PHE:CG	26:c:168:LEU:HD11	2.56	0.41
33:j:8:LEU:HB2	33:j:82:ASN:O	2.20	0.41
33:j:17:LYS:N	33:j:45:ASP:O	2.42	0.41
43:t:51:THR:O	43:t:58:GLN:NE2	2.54	0.41
44:u:74:PHE:CE2	50:3:2374:A:H5'	2.56	0.41
50:3:51:A:N7	50:3:121:U:C4	2.89	0.41
50:3:135:A:H2'	50:3:136:G:H8	1.85	0.41
50:3:140:G:N1	50:3:143:A:OP2	2.50	0.41
50:3:249:G:C2	50:3:250:U:C5	3.09	0.41
50:3:376:U:H2'	50:3:377:U:C6	2.55	0.41
50:3:488:G:N2	50:3:494:G:O4'	2.53	0.41
50:3:501:G:C8	50:3:502:A:C6	3.08	0.41
50:3:511:U:O2	50:3:515:A:N7	2.54	0.41
50:3:890:U:H2'	50:3:891:G:C8	2.55	0.41
50:3:1090:G:H2'	50:3:1091:G:O4'	2.20	0.41
50:3:1227:C:C2	50:3:1228:G:C8	3.08	0.41
50:3:1685:G:C5	50:3:1686:U:C4	3.08	0.41
50:3:1697:C:N4	50:3:1999:G:O2'	2.54	0.41
50:3:2890:G:H2'	50:3:2891:C:C6	2.55	0.41
51:4:70:G:O2'	51:4:94:A:N6	2.53	0.41
52:5:168:A:H3'	52:5:169:G:H8	1.84	0.41
52:5:354:U:H2'	52:5:355:A:H8	1.84	0.41
52:5:441:U:N3	52:5:489:U:C4	2.87	0.41
52:5:688:G:N2	52:5:692:A:H3'	2.36	0.41
52:5:713:A:H2'	52:5:714:C:H6	1.86	0.41
52:5:975:C:H3'	52:5:976:U:H5	1.83	0.41
52:5:983:G:H1'	52:5:1011:A:H61	1.85	0.41
52:5:1044:G:N7	52:5:1175:C:H5''	2.35	0.41
52:5:1079:G:C6	52:5:1080:G:C6	3.07	0.41
52:5:1094:C:H2'	52:5:1095:G:O4'	2.21	0.41
52:5:1140:A:H3'	52:5:1141:U:C5'	2.51	0.41
52:5:1264:G:H2'	52:5:1265:U:O4'	2.20	0.41
52:5:1267:G:H2'	52:5:1268:G:H8	1.86	0.41
52:5:1267:G:C2	52:5:1268:G:C5	3.08	0.41
52:5:1297:G:O6	52:5:1298:U:C4	2.73	0.41
52:5:1473:U:H1'	52:5:1474:A:N7	2.36	0.41
5:B:189:LEU:HD22	52:5:1049:G:O3'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:172:LYS:HA	6:C:172:LYS:HD2	1.65	0.41
7:D:87:ARG:HG3	7:D:109:LEU:HD22	2.02	0.41
10:G:66:THR:O	52:5:649:U:H4'	2.21	0.41
11:H:116:LYS:CG	52:5:1343:G:H5''	2.49	0.41
13:J:22:ASN:ND2	52:5:686:C:H5''	2.35	0.41
14:K:38:VAL:O	52:5:359:A:N6	2.54	0.41
20:Q:49:LEU:HD12	20:Q:49:LEU:HA	1.82	0.41
23:T:38:LYS:HD3	52:5:1500:G:H5''	2.03	0.41
24:a:206:LEU:HA	50:3:1827:U:N3	2.34	0.41
26:c:203:VAL:HG12	26:c:207:LEU:HG	2.02	0.41
27:d:108:LEU:HB3	27:d:109:PRO:HD3	2.02	0.41
28:e:146:GLN:NE2	50:3:2752:G:N3	2.68	0.41
39:p:33:VAL:HA	39:p:36:GLN:CD	2.46	0.41
41:r:90:LYS:NZ	50:3:783:G:O6	2.44	0.41
41:r:91:GLY:HA3	50:3:786:A:C4	2.55	0.41
44:u:98:VAL:HB	44:u:100:HIS:HE1	1.85	0.41
50:3:546:U:H3'	50:3:547:G:H8	1.86	0.41
50:3:862:U:H4'	50:3:863:U:C6	2.56	0.41
50:3:863:U:H4'	50:3:866:G:C2	2.56	0.41
50:3:883:A:H3'	50:3:884:A:H8	1.86	0.41
50:3:1035:U:H3'	50:3:1189:G:O6	2.21	0.41
50:3:1061:A:O2'	50:3:1062:A:O4'	2.18	0.41
50:3:1470:C:H3'	50:3:1471:A:C8	2.56	0.41
50:3:1581:U:H2'	50:3:1582:G:N7	2.35	0.41
50:3:1741:G:H2'	50:3:1742:C:H6	1.85	0.41
50:3:1793:A:O2'	50:3:1945:A:N6	2.53	0.41
50:3:2292:A:H2'	50:3:2293:C:O4'	2.20	0.41
50:3:2305:C:H42	50:3:2326:G:H2'	1.84	0.41
50:3:2351:U:O2'	50:3:2381:G:O2'	2.25	0.41
50:3:2752:G:C5	50:3:2769:G:C6	3.09	0.41
50:3:2888:U:O2'	50:3:2890:G:O4'	2.35	0.41
52:5:80:U:H2'	52:5:81:A:H8	1.86	0.41
52:5:248:U:O2	52:5:248:U:H2'	2.21	0.41
52:5:317:A:N1	52:5:328:G:C6	2.88	0.41
52:5:500:G:C6	52:5:542:G:C6	3.09	0.41
52:5:520:C:H4'	52:5:535:A:OP1	2.20	0.41
52:5:671:G:O6	52:5:713:A:C6	2.74	0.41
52:5:674:U:H2'	52:5:675:U:C6	2.55	0.41
52:5:1048:G:C4	52:5:1049:G:C8	3.09	0.41
52:5:1105:C:H2'	52:5:1106:U:C6	2.56	0.41
52:5:1306:A:H2'	52:5:1307:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:35:ARG:NH1	4:A:50:LYS:HD2	2.36	0.41
4:A:69:TYR:OH	4:A:238:GLU:OE1	2.37	0.41
4:A:202:CYS:O	4:A:216:PRO:HA	2.21	0.41
5:B:179:SER:HB2	52:5:1102:A:N6	2.36	0.41
5:B:198:VAL:HG23	52:5:1180:U:O2'	2.21	0.41
6:C:58:GLN:NE2	52:5:542:G:OP1	2.53	0.41
6:C:91:ARG:HD2	6:C:181:PHE:HB3	2.03	0.41
8:E:103:LYS:O	8:E:107:LEU:N	2.46	0.41
10:G:44:ILE:HA	10:G:47:ILE:HG22	2.01	0.41
13:J:78:PHE:HB3	13:J:106:LYS:HG3	2.03	0.41
14:K:21:SER:O	14:K:21:SER:OG	2.38	0.41
15:L:43:LYS:HD2	52:5:1270:C:OP1	2.20	0.41
19:P:17:LYS:HE3	52:5:271:G:O5'	2.21	0.41
20:Q:82:HIS:O	20:Q:86:VAL:HG23	2.21	0.41
24:a:16:HIS:CD2	50:3:1837:C:H5'	2.56	0.41
24:a:84:LYS:NZ	50:3:1526:U:H5''	2.36	0.41
24:a:193:LEU:HG	24:a:195:GLU:HG2	2.02	0.41
26:c:60:GLY:HA3	50:3:505:G:OP2	2.21	0.41
26:c:64:LYS:HG2	26:c:77:GLY:HA2	2.02	0.41
26:c:91:PHE:HZ	50:3:706:C:H4'	1.84	0.41
26:c:144:MET:HE3	50:3:354:C:N4	2.33	0.41
28:e:118:GLU:HB2	28:e:154:TRP:HZ2	1.85	0.41
29:f:44:LEU:H	29:f:44:LEU:HD12	1.86	0.41
31:h:25:LEU:HB3	31:h:32:MET:SD	2.60	0.41
33:j:23:LYS:HA	33:j:23:LYS:HD3	1.91	0.41
34:k:6:LEU:HD22	50:3:1235:U:O2	2.21	0.41
34:k:85:ILE:HD11	34:k:93:ILE:HG21	2.03	0.41
35:l:77:LYS:HE3	35:l:81:VAL:HG21	2.03	0.41
36:m:38:ALA:HA	36:m:41:THR:OG1	2.20	0.41
39:p:36:GLN:O	39:p:40:GLN:HG2	2.21	0.41
39:p:105:PHE:O	39:p:109:VAL:HG23	2.21	0.41
40:q:2:HIS:HB3	40:q:15:HIS:CE1	2.56	0.41
40:q:61:LYS:HG2	40:q:91:LYS:HE2	2.02	0.41
48:y:3:VAL:HG21	50:3:2022:A:C8	2.55	0.41
50:3:79:U:C2	50:3:80:U:C5	3.09	0.41
50:3:277:C:H2'	50:3:278:U:C6	2.55	0.41
50:3:366:A:C4	50:3:369:C:N4	2.89	0.41
50:3:379:A:O2'	50:3:381:A:N6	2.54	0.41
50:3:513:A:C2'	50:3:514:A:H5'	2.50	0.41
50:3:603:G:H21	50:3:2037:A:H5'	1.85	0.41
50:3:674:G:O6	50:3:687:G:N1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:743:G:H2'	50:3:744:U:C6	2.56	0.41
50:3:765:A:C2	50:3:766:C:C5	3.09	0.41
50:3:860:C:H2'	50:3:861:U:O4'	2.21	0.41
50:3:1087:C:H2'	50:3:1088:A:C8	2.56	0.41
50:3:1098:G:H2'	50:3:1099:C:C5	2.56	0.41
50:3:1162:A:H1'	50:3:2526:A:OP1	2.21	0.41
50:3:1221:G:H2'	50:3:1222:A:C8	2.54	0.41
50:3:1380:U:H2'	50:3:1406:A:N6	2.36	0.41
50:3:1407:U:O2'	50:3:1408:G:H8	2.03	0.41
50:3:1432:C:H2'	50:3:1433:U:O4'	2.20	0.41
50:3:1503:A:N3	50:3:1503:A:H2'	2.36	0.41
50:3:1658:U:H2'	50:3:1659:C:C6	2.56	0.41
50:3:1697:C:C2	50:3:1999:G:N7	2.89	0.41
50:3:1777:G:N2	50:3:1793:A:N7	2.67	0.41
50:3:1780:A:C5'	50:3:1796:A:H61	2.34	0.41
50:3:1795:C:H2'	50:3:1796:A:O4'	2.21	0.41
50:3:1848:U:C2	50:3:1849:G:C8	3.09	0.41
50:3:1861:A:H3'	50:3:1862:A:H8	1.86	0.41
50:3:1919:A:H62	50:3:1924:U:H3	1.68	0.41
50:3:1927:C:H4'	52:5:1492:G:C6	2.56	0.41
50:3:2084:A:H2'	50:3:2085:C:H6	1.86	0.41
50:3:2192:U:H2'	50:3:2193:U:C6	2.56	0.41
50:3:2297:G:H5''	50:3:2391:G:H21	1.86	0.41
50:3:2475:C:H2'	50:3:2476:A:O4'	2.21	0.41
50:3:2512:U:H1'	50:3:2580:A:C2	2.56	0.41
50:3:2534:G:H2'	50:3:2535:C:C6	2.55	0.41
50:3:2682:A:H2'	50:3:2683:G:C8	2.56	0.41
50:3:2832:G:C2	50:3:2833:A:C5	3.09	0.41
50:3:2839:A:H2	50:3:2841:A:N6	2.18	0.41
50:3:2881:A:C8	50:3:2881:A:OP2	2.73	0.41
51:4:77:G:H1	51:4:87:U:H3	1.68	0.41
52:5:58:G:H1	52:5:352:A:H2	1.69	0.41
52:5:63:U:O2'	52:5:380:G:N2	2.54	0.41
52:5:135:A:N6	52:5:157:A:N7	2.68	0.41
52:5:204:C:H2'	52:5:205:U:H6	1.86	0.41
52:5:215:C:H2'	52:5:216:G:C8	2.55	0.41
52:5:340:A:H5''	52:5:341:C:C5	2.55	0.41
52:5:447:G:C6	52:5:478:G:C6	3.08	0.41
52:5:460:A:H2'	52:5:462:G:O6	2.20	0.41
52:5:498:G:O2'	52:5:546:G:N2	2.54	0.41
52:5:599:G:N1	52:5:634:U:N3	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:718:A:H8	52:5:718:A:OP1	2.03	0.41
52:5:781:A:C6	52:5:782:G:C5	3.09	0.41
52:5:944:A:H2	52:5:966:A:N7	2.19	0.41
52:5:1006:A:N1	52:5:1015:U:O2	2.54	0.41
52:5:1149:G:H3'	52:5:1150:G:C8	2.56	0.41
52:5:1182:C:H2'	52:5:1183:C:C6	2.55	0.41
52:5:1214:A:H1'	52:5:1216:G:C5	2.56	0.41
52:5:1330:A:H2'	52:5:1331:A:H8	1.82	0.41
52:5:1380:G:H21	52:5:1493:A:H1'	1.85	0.41
53:8:20:G:O2'	53:8:21:U:O4'	2.36	0.41
3:2:8:LYS:O	3:2:10:ILE:HG23	2.21	0.41
5:B:143:LYS:HE2	5:B:143:LYS:HB3	1.80	0.41
6:C:134:ILE:HG13	52:5:618:U:C4	2.56	0.41
7:D:185:ARG:HG2	52:5:20:C:P	2.61	0.41
9:F:65:VAL:HG12	9:F:103:ILE:HG13	2.02	0.41
9:F:79:ILE:HG22	9:F:79:ILE:O	2.21	0.41
12:I:28:THR:O	12:I:32:VAL:HG23	2.21	0.41
12:I:73:LYS:HD2	12:I:73:LYS:HA	1.76	0.41
16:M:35:SER:HB3	52:5:1332:U:H5''	2.03	0.41
22:S:42:ASP:OD1	22:S:43:ASN:N	2.53	0.41
23:T:36:LEU:HD21	23:T:41:ARG:HH11	1.86	0.41
25:b:103:GLN:HG2	25:b:106:GLU:HB2	2.02	0.41
26:c:6:LEU:HD21	26:c:201:LYS:HB2	2.03	0.41
28:e:49:LYS:CG	28:e:52:ASN:HB3	2.51	0.41
29:f:49:LEU:O	29:f:52:LYS:HG3	2.20	0.41
31:h:68:LYS:HG3	50:3:1094:G:OP1	2.20	0.41
36:m:48:LEU:HD21	36:m:66:TRP:HD1	1.85	0.41
38:o:101:ILE:HG22	50:3:1761:C:H5'	2.01	0.41
43:t:44:ARG:NH2	50:3:517:G:H5'	2.36	0.41
50:3:170:A:H2	50:3:2217:G:H1'	1.85	0.41
50:3:389:C:H2'	50:3:390:A:O4'	2.21	0.41
50:3:638:A:H8	50:3:691:G:H21	1.67	0.41
50:3:730:G:H2'	50:3:731:A:H8	1.86	0.41
50:3:1084:C:H2'	50:3:1085:A:O4'	2.21	0.41
50:3:1546:U:C4	50:3:1547:G:C5	3.09	0.41
50:3:1701:G:H1	50:3:1998:U:H3'	1.86	0.41
50:3:1719:C:H2'	50:3:1720:C:O4'	2.21	0.41
50:3:1737:G:H2'	50:3:1738:G:H8	1.85	0.41
50:3:1843:C:H2'	50:3:1844:C:O4'	2.21	0.41
50:3:1846:A:C4	50:3:1847:G:C8	3.09	0.41
50:3:1955:G:H2'	50:3:1956:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1997:C:H2'	50:3:1998:U:C6	2.56	0.41
50:3:2458:A:C8	50:3:2509:C:N4	2.89	0.41
50:3:2478:G:H2'	50:3:2479:A:H8	1.86	0.41
50:3:2483:C:O2	50:3:2537:G:C6	2.73	0.41
50:3:2537:G:H5''	50:3:2538:A:OP1	2.21	0.41
50:3:2755:G:H22	50:3:2764:U:P	2.44	0.41
50:3:2777:A:H2'	50:3:2777:A:N3	2.36	0.41
52:5:8:G:C4	52:5:294:A:N6	2.89	0.41
52:5:16:G:H2'	52:5:17:A:O4'	2.20	0.41
52:5:20:C:H2'	52:5:21:U:C6	2.56	0.41
52:5:94:A:N3	52:5:94:A:H2'	2.36	0.41
52:5:302:A:C8	52:5:303:A:C8	3.09	0.41
52:5:755:U:H1'	52:5:874:C:H4'	2.03	0.41
52:5:1075:G:O2'	52:5:1095:G:N7	2.49	0.41
52:5:1254:A:O2'	52:5:1257:C:N4	2.54	0.41
52:5:1409:A:H2'	52:5:1410:A:H8	1.83	0.41
1:0:32:LYS:O	1:0:36:LYS:HE2	2.21	0.40
9:F:56:LYS:HD2	9:F:57:PRO:HD2	2.03	0.40
10:G:36:ILE:HA	10:G:69:ILE:HG22	2.04	0.40
11:H:35:ARG:HH11	11:H:40:TYR:HE2	1.68	0.40
12:I:29:LYS:O	12:I:32:VAL:N	2.54	0.40
19:P:55:ALA:HB2	19:P:77:ILE:HD13	2.03	0.40
20:Q:84:ARG:NH1	52:5:719:G:O6	2.54	0.40
24:a:113:ASP:HB2	24:a:202:VAL:HG23	2.03	0.40
24:a:185:LEU:HD23	24:a:185:LEU:HA	1.84	0.40
24:a:268:ARG:NH2	24:a:278:ILE:HD11	2.37	0.40
28:e:95:VAL:HG11	50:3:2666:C:OP1	2.21	0.40
29:f:3:VAL:O	29:f:42:LYS:NZ	2.54	0.40
36:m:79:MET:SD	36:m:83:PHE:CE2	3.13	0.40
44:u:54:GLN:NE2	44:u:59:VAL:O	2.54	0.40
49:z:8:ARG:HA	49:z:20:LEU:HD23	2.03	0.40
50:3:232:A:C5	50:3:234:G:C5	3.08	0.40
50:3:302:G:C2	50:3:404:C:O2	2.72	0.40
50:3:363:G:H8	50:3:363:G:OP1	2.03	0.40
50:3:426:U:O2	50:3:426:U:H2'	2.20	0.40
50:3:497:C:H2'	50:3:498:C:H6	1.86	0.40
50:3:497:C:H2'	50:3:498:C:C6	2.56	0.40
50:3:538:A:C6	50:3:540:A:C6	3.09	0.40
50:3:567:U:H4'	50:3:568:G:C8	2.55	0.40
50:3:786:A:O2'	50:3:1788:A:N6	2.54	0.40
50:3:1199:A:H2'	50:3:1200:U:O4'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1694:A:N6	50:3:2008:A:N1	2.68	0.40
50:3:1943:A:N7	50:3:1952:G:C8	2.90	0.40
50:3:1984:A:H3'	50:3:1985:A:H8	1.85	0.40
50:3:2061:A:N6	50:3:2585:A:C2	2.88	0.40
50:3:2106:G:H2'	50:3:2107:A:O4'	2.21	0.40
50:3:2201:G:H2'	50:3:2201:G:N3	2.36	0.40
50:3:2208:U:H2'	50:3:2209:U:H6	1.86	0.40
50:3:2259:G:N7	50:3:2458:A:O2'	2.53	0.40
50:3:2521:A:H2'	50:3:2522:U:C5	2.56	0.40
50:3:2665:A:C8	50:3:2666:C:C5	3.09	0.40
50:3:2667:G:H3'	50:3:2668:A:H5''	2.03	0.40
50:3:2774:A:C2'	50:3:2775:C:H5'	2.51	0.40
51:4:89:A:C5	51:4:90:G:C8	3.09	0.40
52:5:168:A:C4	52:5:169:G:C8	3.08	0.40
52:5:681:U:C2	52:5:682:G:C6	3.09	0.40
52:5:765:A:H3'	52:5:766:G:H8	1.85	0.40
52:5:1263:A:H3'	52:5:1264:G:H8	1.86	0.40
52:5:1283:G:H2'	52:5:1284:A:C8	2.56	0.40
53:8:34:U:O2'	53:8:36:A:N7	2.45	0.40
2:1:29:LEU:HD11	50:3:2399:G:H2'	2.03	0.40
3:2:19:ARG:HD3	50:3:2763:C:N3	2.37	0.40
4:A:37:TRP:HB3	4:A:205:ASN:HA	2.02	0.40
5:B:35:ILE:O	5:B:38:GLU:HG2	2.21	0.40
6:C:12:ARG:NH2	6:C:31:ARG:HG2	2.32	0.40
8:E:43:LYS:HB2	8:E:57:TYR:CD1	2.56	0.40
14:K:4:ILE:O	14:K:8:ILE:HG13	2.20	0.40
19:P:68:PRO:HG2	52:5:261:G:H1'	2.03	0.40
20:Q:70:ILE:HG13	52:5:716:C:C2	2.56	0.40
24:a:14:ILE:HG12	50:3:1984:A:H2	1.86	0.40
24:a:32:LYS:HE2	24:a:32:LYS:HB2	1.88	0.40
26:c:68:GLN:HE22	26:c:75:ARG:HE	1.70	0.40
28:e:127:LYS:HG3	28:e:135:THR:HB	2.02	0.40
29:f:84:HIS:HB3	29:f:89:TYR:CE2	2.56	0.40
31:h:21:PRO:HG2	50:3:1103:G:H22	1.85	0.40
35:l:36:ALA:HB1	35:l:127:VAL:HG11	2.03	0.40
36:m:31:ILE:CG2	36:m:116:LEU:HB3	2.51	0.40
37:n:11:ARG:O	37:n:14:ARG:HG2	2.21	0.40
37:n:90:VAL:HB	50:3:2386:A:H1'	2.03	0.40
38:o:42:LYS:HE2	52:5:145:G:O2'	2.20	0.40
40:q:58:VAL:HG12	40:q:93:LYS:O	2.22	0.40
43:t:16:LYS:HE2	50:3:342:G:O2'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:t:28:MET:HG3	43:t:31:ARG:HG2	2.01	0.40
50:3:119:A:O5'	50:3:120:A:H8	2.04	0.40
50:3:411:U:H1'	50:3:459:A:N3	2.36	0.40
50:3:448:A:C2	50:3:1887:U:H1'	2.56	0.40
50:3:587:U:H2'	50:3:588:G:O4'	2.21	0.40
50:3:717:U:N3	50:3:831:U:O2	2.54	0.40
50:3:1099:C:C4	50:3:1100:U:C4	3.08	0.40
50:3:1126:G:N1	50:3:1136:U:C2	2.89	0.40
50:3:1347:A:N3	50:3:1349:C:N4	2.70	0.40
50:3:1389:G:H2'	50:3:1390:C:H6	1.87	0.40
50:3:1470:C:H2'	50:3:1471:A:O4'	2.21	0.40
50:3:1775:G:O6	50:3:1992:C:N4	2.54	0.40
50:3:1910:G:H2'	50:3:1911:G:C8	2.55	0.40
50:3:1979:G:C6	50:3:1980:G:C6	3.08	0.40
50:3:1985:A:H2'	50:3:1986:C:O4'	2.21	0.40
50:3:2127:G:C6	50:3:2187:C:C4	3.09	0.40
50:3:2270:U:H4'	50:3:2336:A:H2	1.84	0.40
50:3:2337:U:H2'	50:3:2338:G:C8	2.55	0.40
50:3:2661:U:H1'	50:3:2676:G:N2	2.36	0.40
52:5:409:G:H5''	52:5:422:A:OP2	2.21	0.40
52:5:535:A:H2'	52:5:536:U:C6	2.56	0.40
52:5:586:G:H3'	52:5:587:A:C8	2.55	0.40
52:5:617:U:H2'	52:5:618:U:H5	1.86	0.40
52:5:742:C:O2'	52:5:833:G:N2	2.48	0.40
52:5:1036:C:H2'	52:5:1037:A:C8	2.57	0.40
52:5:1118:A:C8	52:5:1119:C:H1'	2.56	0.40
52:5:1224:C:C4	52:5:1262:A:N7	2.88	0.40
52:5:1243:A:H2'	52:5:1244:A:C8	2.56	0.40
52:5:1244:A:O2'	52:5:1299:C:O2	2.38	0.40
52:5:1285:G:H2'	52:5:1286:G:C8	2.57	0.40
52:5:1491:A:H2'	52:5:1493:A:P	2.61	0.40
2:1:21:ARG:NH2	50:3:2369:G:O5'	2.55	0.40
4:A:118:THR:HG23	4:A:119:ASN:HD22	1.87	0.40
9:F:94:ARG:NH2	52:5:1353:C:H41	2.18	0.40
15:L:23:PHE:HB3	15:L:70:ARG:NH2	2.36	0.40
16:M:19:ARG:HD3	52:5:974:C:H5	1.86	0.40
21:R:45:VAL:HA	21:R:63:THR:HA	2.03	0.40
22:S:56:ARG:NH2	52:5:197:A:H5''	2.36	0.40
24:a:35:LYS:HB2	50:3:1455:A:N1	2.36	0.40
24:a:169:ARG:HH12	52:5:710:G:P	2.45	0.40
25:b:91:GLU:HG3	25:b:92:MET:H	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:42:LEU:C	28:e:44:LEU:H	2.29	0.40
29:f:30:LEU:HD21	45:v:37:LYS:HD2	2.02	0.40
32:i:15:ARG:NH2	32:i:46:ASP:HB3	2.36	0.40
36:m:97:TYR:O	36:m:99:ARG:NH1	2.54	0.40
38:o:21:TYR:O	38:o:21:TYR:CG	2.74	0.40
43:t:90:LYS:C	43:t:92:VAL:H	2.29	0.40
44:u:51:ILE:HD13	44:u:51:ILE:HA	1.96	0.40
50:3:784:A:H4'	50:3:1301:G:N3	2.37	0.40
50:3:1048:A:O2'	50:3:1049:U:P	2.79	0.40
50:3:1100:U:C2	50:3:1109:G:N1	2.89	0.40
50:3:1231:G:H2'	50:3:1232:U:H6	1.86	0.40
50:3:1354:U:N3	50:3:2017:G:H1'	2.36	0.40
50:3:1369:U:O2'	50:3:1426:C:OP1	2.40	0.40
50:3:1455:A:N7	50:3:1604:A:N7	2.70	0.40
50:3:1809:A:H2'	50:3:1810:A:O4'	2.20	0.40
50:3:2059:G:O6	50:3:2626:A:C5	2.75	0.40
50:3:2515:C:H2'	50:3:2516:G:C8	2.40	0.40
50:3:2725:G:H2'	50:3:2726:G:N9	2.37	0.40
50:3:2733:A:H2	50:3:2734:C:H2'	1.86	0.40
50:3:2745:G:C2	50:3:2746:A:N7	2.90	0.40
52:5:145:G:H22	52:5:147:A:H3'	1.85	0.40
52:5:341:C:H4'	52:5:342:G:H5''	2.03	0.40
52:5:359:A:OP1	52:5:359:A:H8	2.04	0.40
52:5:575:A:C6	52:5:762:G:C2	3.10	0.40
52:5:946:G:H2'	52:5:947:U:C6	2.57	0.40
52:5:1339:U:H5''	52:5:1340:G:C8	2.56	0.40
52:5:1387:U:H2'	52:5:1388:A:O4'	2.22	0.40
2:1:1:MET:O	2:1:3:VAL:HG23	2.22	0.40
6:C:2:LYS:NZ	6:C:69:LYS:HD3	2.36	0.40
6:C:56:GLU:HG2	6:C:195:TYR:HB2	2.02	0.40
6:C:183:GLU:N	6:C:186:GLU:OE2	2.36	0.40
9:F:44:GLY:O	9:F:47:ASP:HB2	2.22	0.40
10:G:23:ASN:HB2	52:5:869:U:O2'	2.21	0.40
12:I:17:GLU:OE1	12:I:75:ARG:NH2	2.52	0.40
13:J:91:ARG:NH1	23:T:15:LEU:HD11	2.36	0.40
16:M:26:ARG:NH1	52:5:1177:U:O2	2.54	0.40
22:S:60:ILE:HA	22:S:64:ARG:NH2	2.35	0.40
26:c:25:ILE:O	26:c:113:HIS:NE2	2.54	0.40
26:c:74:ALA:HB2	50:3:1286:G:H4'	2.03	0.40
27:d:53:ALA:HA	27:d:56:GLU:HG2	2.03	0.40
28:e:3:LYS:HB2	28:e:3:LYS:HE3	1.96	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:e:5:GLY:HA2	28:e:72:ASN:HD22	1.85	0.40
28:e:44:LEU:HB3	28:e:46:PHE:HE1	1.87	0.40
31:h:117:VAL:O	31:h:121:LEU:HG	2.21	0.40
32:i:9:LYS:HB2	32:i:48:THR:OG1	2.21	0.40
34:k:61:ARG:C	50:3:2401:U:H5'	2.46	0.40
35:l:79:LEU:HB3	35:l:80:GLU:H	1.78	0.40
36:m:35:LEU:HA	36:m:38:ALA:HB3	2.03	0.40
41:r:61:ASN:HB3	50:3:531:G:H1'	2.03	0.40
46:w:101:SER:HA	50:3:1431:A:OP2	2.21	0.40
50:3:136:G:N3	50:3:136:G:H2'	2.36	0.40
50:3:314:G:O2'	50:3:315:A:H2'	2.21	0.40
50:3:335:G:C6	50:3:351:G:C5	3.08	0.40
50:3:465:A:C4	50:3:466:A:H2	2.39	0.40
50:3:615:G:C2	50:3:1289:G:C6	3.10	0.40
50:3:736:G:H1'	50:3:1666:A:C2	2.56	0.40
50:3:899:A:H2	50:3:951:C:H41	1.70	0.40
50:3:944:U:H2'	50:3:945:U:C6	2.56	0.40
50:3:1327:G:N2	50:3:1674:A:N7	2.69	0.40
50:3:1716:A:H1'	50:3:1764:U:O2	2.21	0.40
50:3:1791:A:H5'	50:3:1792:A:N3	2.36	0.40
50:3:1807:C:H42	50:3:1824:G:H1	1.68	0.40
50:3:1848:U:C4	50:3:1849:G:C5	3.09	0.40
50:3:2359:G:N2	50:3:2373:G:H2'	2.26	0.40
50:3:2548:G:O2'	50:3:2748:A:H1'	2.21	0.40
52:5:76:G:N2	52:5:79:A:OP2	2.47	0.40
52:5:106:C:H41	52:5:231:U:H2'	1.86	0.40
52:5:128:A:O2'	52:5:198:A:N6	2.53	0.40
52:5:132:G:H2'	52:5:133:G:H8	1.85	0.40
52:5:259:A:H2'	52:5:260:C:H6	1.86	0.40
52:5:753:C:H2'	52:5:754:U:C6	2.57	0.40
52:5:778:A:H2'	52:5:779:A:O4'	2.21	0.40
52:5:785:U:H2'	52:5:786:U:O4'	2.21	0.40
52:5:1047:U:H2'	52:5:1048:G:H8	1.86	0.40
52:5:1117:U:HO2'	52:5:1255:A:HO2'	1.62	0.40
52:5:1370:C:C4'	52:5:1376:G:H21	2.35	0.40
52:5:1419:C:H2'	52:5:1420:U:C6	2.56	0.40
5:B:3:GLN:HA	52:5:1165:G:C6	2.56	0.40
5:B:137:MET:HG3	5:B:138:ARG:NH2	2.36	0.40
8:E:1:MET:N	8:E:64:GLY:O	2.39	0.40
9:F:48:LEU:O	9:F:52:ARG:HD3	2.22	0.40
15:L:29:ARG:HD3	52:5:1303:A:H5'	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:O:5:ARG:HH12	52:5:620:A:H62	1.70	0.40
24:a:103:ASN:HA	50:3:1515:A:C6	2.56	0.40
25:b:109:ASP:CG	25:b:177:GLN:HG2	2.46	0.40
25:b:133:LEU:HB3	50:3:2000:U:H5''	2.02	0.40
26:c:4:LEU:O	26:c:18:VAL:N	2.55	0.40
26:c:9:ILE:HB	26:c:132:LEU:HB3	2.04	0.40
27:d:95:ARG:HA	27:d:98:ALA:HB3	2.03	0.40
27:d:162:LYS:HD2	27:d:162:LYS:O	2.20	0.40
32:i:30:LYS:HB2	32:i:145:TRP:HZ3	1.87	0.40
32:i:107:ALA:HA	50:3:1173:G:O3'	2.22	0.40
33:j:17:LYS:NZ	52:5:1446:A:H5''	2.36	0.40
35:l:42:ILE:HG13	35:l:47:ILE:HD11	2.03	0.40
39:p:93:VAL:O	39:p:96:GLU:HG2	2.22	0.40
41:r:29:THR:HG23	41:r:30:ALA:N	2.37	0.40
44:u:64:ASN:HD21	44:u:99:LYS:HG3	1.87	0.40
45:v:22:LYS:O	45:v:22:LYS:HG2	2.21	0.40
50:3:30:A:H2'	50:3:31:U:N1	2.37	0.40
50:3:226:A:N6	50:3:236:G:H1'	2.37	0.40
50:3:666:G:N1	50:3:670:G:O6	2.55	0.40
50:3:863:U:O2'	50:3:864:A:O4'	2.35	0.40
50:3:1017:A:N3	50:3:2034:G:N2	2.65	0.40
50:3:1097:G:H3'	50:3:1098:G:H8	1.85	0.40
50:3:1175:C:H5''	50:3:1176:U:OP2	2.22	0.40
50:3:1245:G:C6	50:3:1246:U:C4	3.09	0.40
50:3:1408:G:N3	50:3:1409:G:C8	2.89	0.40
50:3:1699:A:H2	50:3:2002:U:H3	1.69	0.40
50:3:1949:C:OP2	50:3:1950:U:H2'	2.22	0.40
50:3:1957:G:H1	50:3:1963:U:H3	1.70	0.40
50:3:2382:A:H2'	50:3:2383:G:C8	2.56	0.40
50:3:2545:U:H2'	50:3:2546:U:C6	2.57	0.40
50:3:2656:G:C6	50:3:2681:G:C2	3.09	0.40
51:4:106:A:C4	51:4:107:G:C8	3.10	0.40
52:5:83:U:H2'	52:5:84:U:C6	2.56	0.40
52:5:199:A:H61	52:5:217:U:H4'	1.87	0.40
52:5:202:A:H2'	52:5:203:C:H6	1.85	0.40
52:5:288:A:H2'	52:5:289:U:O4'	2.21	0.40
52:5:413:G:C2	52:5:423:U:O2	2.74	0.40
52:5:563:U:H3'	52:5:564:G:H2'	2.03	0.40
52:5:574:C:H5	52:5:818:A:H1'	1.86	0.40
52:5:868:G:H2'	52:5:869:U:O4'	2.20	0.40
52:5:883:A:C2	52:5:901:A:H5''	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/48 (94%)	42 (93%)	3 (7%)	0	100	100
2	1	57/59 (97%)	51 (90%)	5 (9%)	1 (2%)	6	34
3	2	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
4	A	238/294 (81%)	217 (91%)	21 (9%)	0	100	100
5	B	213/273 (78%)	191 (90%)	22 (10%)	0	100	100
6	C	201/205 (98%)	186 (92%)	15 (8%)	0	100	100
7	D	151/219 (69%)	144 (95%)	7 (5%)	0	100	100
8	E	165/215 (77%)	149 (90%)	16 (10%)	0	100	100
9	F	152/155 (98%)	144 (95%)	8 (5%)	0	100	100
10	G	139/142 (98%)	120 (86%)	19 (14%)	0	100	100
11	H	126/132 (96%)	113 (90%)	13 (10%)	0	100	100
12	I	99/108 (92%)	92 (93%)	7 (7%)	0	100	100
13	J	112/121 (93%)	107 (96%)	5 (4%)	0	100	100
14	K	134/139 (96%)	117 (87%)	17 (13%)	0	100	100
15	L	116/124 (94%)	106 (91%)	10 (9%)	0	100	100
16	M	58/61 (95%)	55 (95%)	3 (5%)	0	100	100
17	N	81/86 (94%)	72 (89%)	9 (11%)	0	100	100
18	O	78/94 (83%)	71 (91%)	7 (9%)	0	100	100
19	P	81/85 (95%)	76 (94%)	5 (6%)	0	100	100
20	Q	63/104 (61%)	51 (81%)	12 (19%)	0	100	100
21	R	82/87 (94%)	71 (87%)	11 (13%)	0	100	100
22	S	75/87 (86%)	75 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	T	51/60 (85%)	51 (100%)	0	0	100	100
24	a	283/287 (99%)	252 (89%)	30 (11%)	1 (0%)	30	67
25	b	227/287 (79%)	210 (92%)	17 (8%)	0	100	100
26	c	208/212 (98%)	194 (93%)	14 (7%)	0	100	100
27	d	173/180 (96%)	149 (86%)	24 (14%)	0	100	100
28	e	174/184 (95%)	159 (91%)	15 (9%)	0	100	100
29	f	143/149 (96%)	132 (92%)	11 (8%)	0	100	100
30	g	118/161 (73%)	108 (92%)	9 (8%)	1 (1%)	16	54
31	h	126/137 (92%)	107 (85%)	19 (15%)	0	100	100
32	i	142/146 (97%)	136 (96%)	6 (4%)	0	100	100
33	j	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
34	k	146/151 (97%)	136 (93%)	10 (7%)	0	100	100
35	l	134/139 (96%)	122 (91%)	12 (9%)	0	100	100
36	m	117/124 (94%)	110 (94%)	7 (6%)	0	100	100
37	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
38	o	113/119 (95%)	105 (93%)	8 (7%)	0	100	100
39	p	112/127 (88%)	108 (96%)	4 (4%)	0	100	100
40	q	97/100 (97%)	85 (88%)	12 (12%)	0	100	100
41	r	137/159 (86%)	126 (92%)	11 (8%)	0	100	100
42	s	90/237 (38%)	82 (91%)	8 (9%)	0	100	100
43	t	109/111 (98%)	100 (92%)	9 (8%)	0	100	100
44	u	84/104 (81%)	78 (93%)	6 (7%)	0	100	100
45	v	61/65 (94%)	58 (95%)	3 (5%)	0	100	100
46	w	96/111 (86%)	92 (96%)	4 (4%)	0	100	100
47	x	42/97 (43%)	38 (90%)	4 (10%)	0	100	100
48	y	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
49	z	48/53 (91%)	47 (98%)	1 (2%)	0	100	100
All	All	5814/6670 (87%)	5329 (92%)	482 (8%)	3 (0%)	49	83

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	1	26	THR

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Mol	Chain	Res	Type
30	g	31	SER
24	a	282	ARG

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%)	50 (98%)	1 (2%)	48	66
3	2	35/35 (100%)	35 (100%)	0	100	100
4	A	212/262 (81%)	211 (100%)	1 (0%)	81	83
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%)	149 (99%)	1 (1%)	76	81
9	F	131/132 (99%)	131 (100%)	0	100	100
10	G	123/124 (99%)	122 (99%)	1 (1%)	73	80
11	H	111/115 (96%)	110 (99%)	1 (1%)	70	79
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%)	113 (97%)	4 (3%)	32	54
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%)	73 (100%)	0	100	100
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	97/129 (75%)	87 (90%)	10 (10%)	7	23
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%)	46 (96%)	2 (4%)	26	48
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5089/5751 (88%)	5068 (100%)	21 (0%)	81	84

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	1	29	LEU

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Mol	Chain	Res	Type
4	A	57	VAL
8	E	2	GLN
10	G	108	LEU
11	H	95	GLU
14	K	118	VAL
14	K	120	VAL
14	K	121	GLU
14	K	122	LYS
30	g	30	THR
30	g	42	LYS
30	g	43	LYS
30	g	44	LEU
30	g	45	PHE
30	g	46	LYS
30	g	86	VAL
30	g	88	GLU
30	g	90	VAL
30	g	110	CYS
48	y	47	MET
48	y	51	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (98) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	28	HIS
3	2	32	HIS
4	A	38	ASN
4	A	51	HIS
4	A	70	ASN
4	A	174	ASN
4	A	207	ASN
4	A	255	GLN
5	B	55	ASN
5	B	107	ASN
5	B	175	ASN
6	C	61	GLN
6	C	115	GLN
6	C	121	HIS
6	C	171	ASN
8	E	20	GLN
9	F	19	ASN
9	F	67	ASN

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Mol	Chain	Res	Type
9	F	129	ASN
9	F	141	HIS
9	F	147	ASN
9	F	152	HIS
10	G	11	HIS
10	G	73	ASN
11	H	52	GLN
15	L	31	GLN
15	L	79	HIS
17	N	23	GLN
17	N	43	ASN
18	O	34	ASN
18	O	69	GLN
19	P	25	GLN
19	P	49	ASN
21	R	53	ASN
22	S	18	ASN
23	T	8	ASN
23	T	35	HIS
24	a	15	HIS
24	a	48	ASN
24	a	50	GLN
24	a	126	HIS
24	a	159	GLN
24	a	173	GLN
24	a	183	GLN
24	a	219	ASN
24	a	238	HIS
24	a	262	HIS
25	b	59	ASN
25	b	67	GLN
25	b	73	ASN
25	b	82	GLN
25	b	94	GLN
25	b	135	HIS
25	b	171	HIS
26	c	31	GLN
26	c	108	HIS
26	c	130	GLN
26	c	165	ASN
26	c	170	GLN
26	c	174	ASN

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Mol	Chain	Res	Type
27	d	9	GLN
27	d	17	GLN
27	d	83	GLN
28	e	72	ASN
29	f	7	GLN
29	f	116	ASN
29	f	124	HIS
30	g	10	GLN
30	g	47	ASN
31	h	88	ASN
31	h	115	ASN
31	h	130	GLN
32	i	17	GLN
32	i	51	GLN
32	i	79	HIS
32	i	82	GLN
33	j	9	ASN
34	k	109	GLN
35	l	113	GLN
36	m	20	GLN
36	m	58	ASN
36	m	81	HIS
37	n	48	GLN
38	o	7	GLN
39	p	36	GLN
39	p	80	ASN
39	p	106	ASN
40	q	76	GLN
40	q	79	HIS
42	s	5	ASN
45	v	30	ASN
46	w	64	ASN
46	w	94	ASN
48	y	5	GLN
48	y	11	HIS
49	z	18	ASN
49	z	24	ASN
49	z	28	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	1032 (35%)	34 (1%)
51	4	103/108 (95%)	38 (36%)	2 (1%)
52	5	1490/1520 (98%)	509 (34%)	13 (0%)
53	6	75/76 (98%)	30 (40%)	6 (8%)
53	8	75/76 (98%)	30 (40%)	6 (8%)
All	All	4618/4687 (98%)	1639 (35%)	61 (1%)

All (1639) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	12	A
50	3	13	C
50	3	14	U
50	3	15	A
50	3	16	A
50	3	28	G
50	3	29	G
50	3	30	A
50	3	32	G
50	3	34	C
50	3	36	U
50	3	37	G
50	3	38	G
50	3	42	U
50	3	44	A
50	3	48	G
50	3	53	G
50	3	54	A
50	3	57	G
50	3	61	U
50	3	64	U
50	3	65	A
50	3	69	U
50	3	73	A
50	3	76	A
50	3	77	G
50	3	86	A
50	3	87	G
50	3	90	G
50	3	93	A
50	3	94	A
50	3	98	C
50	3	102	A

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Mol	Chain	Res	Type
50	3	103	G
50	3	104	A
50	3	111	G
50	3	116	C
50	3	117	C
50	3	118	G
50	3	119	A
50	3	120	A
50	3	121	U
50	3	122	G
50	3	124	A
50	3	127	A
50	3	129	U
50	3	132	G
50	3	136	G
50	3	141	A
50	3	147	C
50	3	163	A
50	3	165	U
50	3	169	U
50	3	180	A
50	3	181	G
50	3	184	A
50	3	185	U
50	3	186	A
50	3	188	G
50	3	199	A
50	3	200	A
50	3	201	A
50	3	204	U
50	3	205	C
50	3	206	U
50	3	208	A
50	3	209	G
50	3	213	C
50	3	217	A
50	3	219	G
50	3	220	A
50	3	225	A
50	3	226	A
50	3	227	A
50	3	228	A

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Mol	Chain	Res	Type
50	3	232	A
50	3	233	U
50	3	234	G
50	3	236	G
50	3	237	A
50	3	246	G
50	3	249	G
50	3	252	G
50	3	253	C
50	3	254	G
50	3	256	G
50	3	261	A
50	3	266	A
50	3	270	G
50	3	273	C
50	3	276	A
50	3	277	C
50	3	281	U
50	3	284	U
50	3	285	U
50	3	286	A
50	3	287	G
50	3	291	G
50	3	293	G
50	3	294	G
50	3	295	U
50	3	296	U
50	3	297	G
50	3	298	U
50	3	299	A
50	3	310	U
50	3	311	G
50	3	312	U
50	3	314	G
50	3	315	A
50	3	319	G
50	3	325	G
50	3	329	G
50	3	331	A
50	3	333	A
50	3	334	A
50	3	336	C

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Mol	Chain	Res	Type
50	3	345	A
50	3	351	G
50	3	357	A
50	3	358	A
50	3	359	G
50	3	362	U
50	3	363	G
50	3	364	A
50	3	367	G
50	3	369	C
50	3	372	G
50	3	373	U
50	3	375	U
50	3	387	U
50	3	391	U
50	3	396	A
50	3	399	G
50	3	401	G
50	3	402	A
50	3	403	U
50	3	408	G
50	3	409	A
50	3	410	G
50	3	411	U
50	3	414	C
50	3	416	C
50	3	418	G
50	3	422	A
50	3	423	C
50	3	424	G
50	3	425	U
50	3	426	U
50	3	430	U
50	3	431	U
50	3	432	G
50	3	434	G
50	3	437	A
50	3	438	A
50	3	439	U
50	3	442	G
50	3	447	G
50	3	455	G

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Mol	Chain	Res	Type
50	3	457	U
50	3	460	G
50	3	466	A
50	3	478	G
50	3	479	A
50	3	482	G
50	3	484	U
50	3	485	A
50	3	486	G
50	3	488	G
50	3	490	A
50	3	491	A
50	3	493	A
50	3	494	G
50	3	495	U
50	3	500	U
50	3	501	G
50	3	502	A
50	3	509	G
50	3	511	U
50	3	512	G
50	3	514	A
50	3	515	A
50	3	517	G
50	3	522	C
50	3	531	G
50	3	532	A
50	3	539	U
50	3	540	A
50	3	543	U
50	3	544	U
50	3	546	U
50	3	548	A
50	3	551	C
50	3	561	A
50	3	562	C
50	3	566	G
50	3	567	U
50	3	568	G
50	3	572	G
50	3	579	U
50	3	582	A

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Mol	Chain	Res	Type
50	3	583	U
50	3	584	G
50	3	589	A
50	3	592	G
50	3	595	U
50	3	596	G
50	3	601	U
50	3	602	U
50	3	605	A
50	3	606	G
50	3	607	U
50	3	612	G
50	3	619	A
50	3	622	U
50	3	625	G
50	3	628	A
50	3	636	U
50	3	637	U
50	3	641	U
50	3	648	G
50	3	649	A
50	3	650	G
50	3	656	G
50	3	663	A
50	3	673	A
50	3	675	U
50	3	679	A
50	3	681	A
50	3	685	G
50	3	686	C
50	3	689	U
50	3	690	U
50	3	691	G
50	3	703	A
50	3	705	A
50	3	706	C
50	3	712	A
50	3	717	U
50	3	721	G
50	3	722	C
50	3	730	G
50	3	734	A

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Mol	Chain	Res	Type
50	3	735	G
50	3	739	G
50	3	752	C
50	3	760	G
50	3	761	G
50	3	763	G
50	3	765	A
50	3	766	C
50	3	769	A
50	3	781	U
50	3	782	U
50	3	783	G
50	3	784	A
50	3	792	G
50	3	798	G
50	3	799	A
50	3	810	G
50	3	811	G
50	3	817	A
50	3	818	A
50	3	819	U
50	3	820	U
50	3	823	A
50	3	824	A
50	3	825	U
50	3	827	G
50	3	828	A
50	3	829	A
50	3	836	G
50	3	839	A
50	3	840	G
50	3	842	U
50	3	843	G
50	3	844	G
50	3	846	U
50	3	847	C
50	3	854	A
50	3	862	U
50	3	863	U
50	3	864	A
50	3	865	A
50	3	882	C

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Mol	Chain	Res	Type
50	3	883	A
50	3	885	A
50	3	887	A
50	3	894	G
50	3	895	G
50	3	899	A
50	3	902	U
50	3	903	A
50	3	906	G
50	3	914	G
50	3	915	A
50	3	920	G
50	3	930	C
50	3	932	U
50	3	936	G
50	3	937	A
50	3	944	U
50	3	945	U
50	3	946	A
50	3	947	A
50	3	949	C
50	3	951	C
50	3	952	U
50	3	953	G
50	3	954	A
50	3	958	C
50	3	959	C
50	3	968	U
50	3	970	U
50	3	972	C
50	3	975	G
50	3	977	A
50	3	978	G
50	3	981	A
50	3	982	G
50	3	988	G
50	3	990	G
50	3	993	A
50	3	994	U
50	3	995	A
50	3	997	G
50	3	998	C

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Mol	Chain	Res	Type
50	3	1000	U
50	3	1005	G
50	3	1006	U
50	3	1008	A
50	3	1009	A
50	3	1011	A
50	3	1016	A
50	3	1019	A
50	3	1020	G
50	3	1021	C
50	3	1024	A
50	3	1026	A
50	3	1027	U
50	3	1032	A
50	3	1035	U
50	3	1041	C
50	3	1044	C
50	3	1045	A
50	3	1049	U
50	3	1052	A
50	3	1055	A
50	3	1056	A
50	3	1057	G
50	3	1061	A
50	3	1063	A
50	3	1067	A
50	3	1068	U
50	3	1069	G
50	3	1076	U
50	3	1080	A
50	3	1081	A
50	3	1082	A
50	3	1089	A
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1102	A
50	3	1105	A
50	3	1106	G
50	3	1107	C
50	3	1108	A
50	3	1111	C

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Mol	Chain	Res	Type
50	3	1112	A
50	3	1113	U
50	3	1114	C
50	3	1115	G
50	3	1119	A
50	3	1122	G
50	3	1123	A
50	3	1124	G
50	3	1125	U
50	3	1126	G
50	3	1128	G
50	3	1129	U
50	3	1130	A
50	3	1131	A
50	3	1132	C
50	3	1138	A
50	3	1141	U
50	3	1146	A
50	3	1147	G
50	3	1148	U
50	3	1151	U
50	3	1157	G
50	3	1161	A
50	3	1162	A
50	3	1165	U
50	3	1168	A
50	3	1170	C
50	3	1171	G
50	3	1174	G
50	3	1175	C
50	3	1176	U
50	3	1177	A
50	3	1178	A
50	3	1179	G
50	3	1181	A
50	3	1186	A
50	3	1188	C
50	3	1190	A
50	3	1191	A
50	3	1192	U
50	3	1195	A
50	3	1200	U

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Mol	Chain	Res	Type
50	3	1201	A
50	3	1202	A
50	3	1204	A
50	3	1208	A
50	3	1209	U
50	3	1210	A
50	3	1212	C
50	3	1213	U
50	3	1216	U
50	3	1217	G
50	3	1221	G
50	3	1232	U
50	3	1236	G
50	3	1241	U
50	3	1242	G
50	3	1244	A
50	3	1251	G
50	3	1253	G
50	3	1256	A
50	3	1257	G
50	3	1259	A
50	3	1260	U
50	3	1265	G
50	3	1266	G
50	3	1268	U
50	3	1274	A
50	3	1280	G
50	3	1281	A
50	3	1282	G
50	3	1283	A
50	3	1285	U
50	3	1286	G
50	3	1295	A
50	3	1296	G
50	3	1297	U
50	3	1298	A
50	3	1301	G
50	3	1302	C
50	3	1304	U
50	3	1305	G
50	3	1315	A
50	3	1316	U

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Mol	Chain	Res	Type
50	3	1317	C
50	3	1318	U
50	3	1322	A
50	3	1328	A
50	3	1329	U
50	3	1338	G
50	3	1340	U
50	3	1342	C
50	3	1343	C
50	3	1349	C
50	3	1350	A
50	3	1351	G
50	3	1353	G
50	3	1356	G
50	3	1357	U
50	3	1360	U
50	3	1361	U
50	3	1364	A
50	3	1366	G
50	3	1369	U
50	3	1371	G
50	3	1373	C
50	3	1375	G
50	3	1378	C
50	3	1379	C
50	3	1388	G
50	3	1389	G
50	3	1390	C
50	3	1393	A
50	3	1401	A
50	3	1406	A
50	3	1407	U
50	3	1412	A
50	3	1415	A
50	3	1421	A
50	3	1422	U
50	3	1423	A
50	3	1424	U
50	3	1425	U
50	3	1426	C
50	3	1431	A
50	3	1435	A

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Mol	Chain	Res	Type
50	3	1436	C
50	3	1437	A
50	3	1440	U
50	3	1444	C
50	3	1445	U
50	3	1447	A
50	3	1448	U
50	3	1449	G
50	3	1454	G
50	3	1455	A
50	3	1456	C
50	3	1463	G
50	3	1466	U
50	3	1467	U
50	3	1477	A
50	3	1480	A
50	3	1482	U
50	3	1483	G
50	3	1485	A
50	3	1486	U
50	3	1487	U
50	3	1503	A
50	3	1504	G
50	3	1505	G
50	3	1507	G
50	3	1508	G
50	3	1509	U
50	3	1514	U
50	3	1515	A
50	3	1518	C
50	3	1523	C
50	3	1532	A
50	3	1533	U
50	3	1534	A
50	3	1535	A
50	3	1539	U
50	3	1540	G
50	3	1541	A
50	3	1546	U
50	3	1550	G
50	3	1558	A
50	3	1559	A

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Mol	Chain	Res	Type
50	3	1571	G
50	3	1577	A
50	3	1581	U
50	3	1582	G
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	1592	A
50	3	1594	G
50	3	1600	A
50	3	1601	A
50	3	1602	G
50	3	1607	G
50	3	1612	U
50	3	1615	G
50	3	1617	U
50	3	1618	U
50	3	1619	A
50	3	1636	U
50	3	1637	A
50	3	1641	A
50	3	1642	G
50	3	1643	A
50	3	1644	A
50	3	1646	G
50	3	1648	A
50	3	1650	A
50	3	1651	C
50	3	1652	A
50	3	1656	A
50	3	1661	A
50	3	1664	A
50	3	1668	G
50	3	1669	A
50	3	1673	U
50	3	1676	G
50	3	1678	U
50	3	1679	U
50	3	1680	A

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Mol	Chain	Res	Type
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1687	G
50	3	1689	A
50	3	1692	A
50	3	1695	G
50	3	1697	C
50	3	1698	A
50	3	1699	A
50	3	1701	G
50	3	1704	C
50	3	1707	U
50	3	1708	G
50	3	1711	A
50	3	1714	U
50	3	1715	A
50	3	1716	A
50	3	1720	C
50	3	1722	U
50	3	1727	U
50	3	1728	A
50	3	1729	G
50	3	1730	C
50	3	1733	G
50	3	1734	A
50	3	1735	A
50	3	1737	G
50	3	1741	G
50	3	1747	G
50	3	1748	U
50	3	1752	A
50	3	1758	C
50	3	1763	G
50	3	1764	U
50	3	1765	G
50	3	1766	A
50	3	1768	G
50	3	1770	A
50	3	1771	C
50	3	1780	A
50	3	1784	U

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Mol	Chain	Res	Type
50	3	1788	A
50	3	1789	C
50	3	1790	U
50	3	1791	A
50	3	1792	A
50	3	1793	A
50	3	1794	A
50	3	1805	U
50	3	1807	C
50	3	1808	C
50	3	1809	A
50	3	1815	U
50	3	1816	A
50	3	1817	A
50	3	1821	G
50	3	1823	U
50	3	1824	G
50	3	1826	A
50	3	1827	U
50	3	1828	A
50	3	1836	A
50	3	1837	C
50	3	1840	C
50	3	1841	U
50	3	1842	G
50	3	1845	C
50	3	1850	C
50	3	1865	A
50	3	1866	G
50	3	1868	A
50	3	1873	A
50	3	1876	G
50	3	1877	C
50	3	1879	A
50	3	1880	G
50	3	1882	G
50	3	1887	U
50	3	1888	U
50	3	1895	G
50	3	1900	C
50	3	1901	C
50	3	1904	G

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Mol	Chain	Res	Type
50	3	1907	A
50	3	1908	A
50	3	1913	G
50	3	1919	A
50	3	1920	A
50	3	1921	C
50	3	1926	A
50	3	1927	C
50	3	1934	A
50	3	1936	G
50	3	1937	G
50	3	1938	U
50	3	1945	A
50	3	1947	U
50	3	1950	U
50	3	1951	A
50	3	1952	G
50	3	1953	U
50	3	1958	U
50	3	1959	A
50	3	1962	U
50	3	1963	U
50	3	1973	U
50	3	1974	U
50	3	1977	A
50	3	1978	U
50	3	1979	G
50	3	1980	G
50	3	1982	G
50	3	1988	A
50	3	1989	U
50	3	1996	A
50	3	1998	U
50	3	1999	G
50	3	2000	U
50	3	2010	A
50	3	2012	A
50	3	2020	A
50	3	2022	A
50	3	2025	C
50	3	2028	G
50	3	2030	A

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Mol	Chain	Res	Type
50	3	2038	A
50	3	2039	G
50	3	2040	A
50	3	2041	C
50	3	2043	C
50	3	2044	C
50	3	2045	C
50	3	2048	U
50	3	2049	A
50	3	2050	G
50	3	2056	A
50	3	2057	C
50	3	2059	G
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	2070	C
50	3	2075	U
50	3	2076	G
50	3	2077	A
50	3	2084	A
50	3	2086	U
50	3	2087	G
50	3	2094	A
50	3	2099	U
50	3	2100	G
50	3	2103	C
50	3	2104	A
50	3	2107	A
50	3	2109	A
50	3	2111	U
50	3	2112	A
50	3	2115	A
50	3	2116	U
50	3	2118	U
50	3	2123	A
50	3	2124	A
50	3	2126	A
50	3	2127	G

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Mol	Chain	Res	Type
50	3	2132	G
50	3	2133	A
50	3	2138	U
50	3	2139	C
50	3	2140	G
50	3	2145	A
50	3	2153	U
50	3	2154	A
50	3	2158	C
50	3	2162	U
50	3	2165	A
50	3	2166	U
50	3	2169	G
50	3	2170	A
50	3	2171	A
50	3	2172	A
50	3	2175	U
50	3	2176	G
50	3	2177	G
50	3	2179	A
50	3	2180	U
50	3	2184	A
50	3	2187	C
50	3	2189	U
50	3	2193	U
50	3	2194	G
50	3	2195	U
50	3	2197	U
50	3	2198	G
50	3	2200	U
50	3	2202	U
50	3	2212	U
50	3	2218	U
50	3	2219	U
50	3	2220	A
50	3	2221	U
50	3	2222	C
50	3	2223	C
50	3	2224	A
50	3	2227	U
50	3	2231	A
50	3	2233	A

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Mol	Chain	Res	Type
50	3	2235	A
50	3	2242	G
50	3	2244	U
50	3	2245	G
50	3	2246	G
50	3	2247	G
50	3	2251	U
50	3	2254	G
50	3	2257	U
50	3	2258	G
50	3	2259	G
50	3	2267	G
50	3	2273	U
50	3	2274	A
50	3	2275	A
50	3	2276	A
50	3	2277	A
50	3	2280	U
50	3	2283	C
50	3	2290	G
50	3	2291	U
50	3	2293	C
50	3	2294	A
50	3	2295	A
50	3	2296	A
50	3	2297	G
50	3	2300	A
50	3	2305	C
50	3	2309	A
50	3	2310	C
50	3	2313	U
50	3	2315	G
50	3	2316	G
50	3	2317	A
50	3	2320	U
50	3	2327	U
50	3	2328	A
50	3	2333	G
50	3	2336	A
50	3	2341	G
50	3	2342	U
50	3	2343	A

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Mol	Chain	Res	Type
50	3	2344	A
50	3	2345	G
50	3	2346	G
50	3	2352	U
50	3	2355	C
50	3	2358	U
50	3	2362	A
50	3	2368	A
50	3	2369	G
50	3	2380	U
50	3	2381	G
50	3	2387	U
50	3	2391	G
50	3	2393	C
50	3	2397	G
50	3	2398	U
50	3	2400	A
50	3	2409	U
50	3	2410	C
50	3	2415	A
50	3	2416	U
50	3	2418	G
50	3	2422	G
50	3	2423	G
50	3	2424	C
50	3	2430	C
50	3	2433	A
50	3	2434	A
50	3	2435	C
50	3	2436	G
50	3	2437	G
50	3	2438	A
50	3	2439	U
50	3	2440	A
50	3	2447	A
50	3	2448	C
50	3	2449	U
50	3	2453	G
50	3	2456	A
50	3	2457	U
50	3	2458	A
50	3	2466	G

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Mol	Chain	Res	Type
50	3	2475	C
50	3	2483	C
50	3	2484	A
50	3	2486	A
50	3	2488	C
50	3	2492	G
50	3	2502	G
50	3	2504	C
50	3	2505	A
50	3	2506	C
50	3	2507	C
50	3	2509	C
50	3	2510	G
50	3	2511	A
50	3	2512	U
50	3	2514	U
50	3	2515	C
50	3	2517	A
50	3	2520	C
50	3	2521	A
50	3	2526	A
50	3	2527	U
50	3	2533	A
50	3	2537	G
50	3	2538	A
50	3	2543	G
50	3	2544	G
50	3	2551	G
50	3	2555	U
50	3	2564	C
50	3	2565	G
50	3	2570	U
50	3	2571	U
50	3	2574	A
50	3	2575	G
50	3	2577	G
50	3	2580	A
50	3	2582	G
50	3	2584	G
50	3	2585	A
50	3	2586	G
50	3	2591	G

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Mol	Chain	Res	Type
50	3	2592	U
50	3	2595	A
50	3	2596	A
50	3	2597	A
50	3	2604	U
50	3	2605	G
50	3	2607	G
50	3	2610	A
50	3	2611	G
50	3	2614	U
50	3	2619	C
50	3	2621	U
50	3	2622	A
50	3	2626	A
50	3	2628	U
50	3	2629	G
50	3	2636	U
50	3	2637	A
50	3	2638	G
50	3	2643	A
50	3	2644	U
50	3	2646	G
50	3	2647	A
50	3	2654	U
50	3	2655	U
50	3	2663	G
50	3	2664	U
50	3	2668	A
50	3	2669	G
50	3	2670	A
50	3	2681	G
50	3	2682	A
50	3	2685	A
50	3	2689	C
50	3	2690	U
50	3	2692	U
50	3	2693	U
50	3	2694	A
50	3	2697	C
50	3	2698	U
50	3	2699	C
50	3	2700	C

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Mol	Chain	Res	Type
50	3	2710	G
50	3	2715	C
50	3	2721	C
50	3	2722	G
50	3	2726	G
50	3	2729	A
50	3	2732	A
50	3	2733	A
50	3	2734	C
50	3	2737	G
50	3	2739	C
50	3	2741	A
50	3	2744	A
50	3	2747	U
50	3	2748	A
50	3	2750	A
50	3	2751	C
50	3	2752	G
50	3	2753	C
50	3	2754	U
50	3	2756	A
50	3	2760	C
50	3	2765	A
50	3	2769	G
50	3	2773	A
50	3	2775	C
50	3	2777	A
50	3	2778	U
50	3	2785	G
50	3	2786	A
50	3	2789	A
50	3	2790	A
50	3	2803	G
50	3	2804	C
50	3	2805	A
50	3	2806	A
50	3	2807	G
50	3	2808	A
50	3	2809	A
50	3	2810	A
50	3	2811	G
50	3	2812	U

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Mol	Chain	Res	Type
50	3	2813	A
50	3	2815	G
50	3	2820	G
50	3	2821	U
50	3	2822	C
50	3	2823	A
50	3	2825	A
50	3	2828	C
50	3	2830	A
50	3	2838	G
50	3	2839	A
50	3	2840	U
50	3	2841	A
50	3	2851	U
50	3	2852	G
50	3	2854	A
50	3	2860	A
50	3	2865	U
50	3	2870	U
50	3	2871	G
50	3	2872	A
50	3	2876	G
50	3	2877	A
50	3	2878	G
50	3	2881	A
50	3	2884	C
50	3	2888	U
50	3	2890	G
50	3	2891	C
50	3	2895	A
50	3	2897	G
50	3	2898	A
50	3	2899	C
51	4	4	G
51	4	8	C
51	4	9	C
51	4	11	A
51	4	12	U
51	4	19	G
51	4	23	A
51	4	25	A
51	4	27	A

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Mol	Chain	Res	Type
51	4	28	C
51	4	31	G
51	4	32	G
51	4	33	U
51	4	37	A
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	54	U
51	4	55	A
51	4	59	A
51	4	60	C
51	4	64	G
51	4	70	G
51	4	72	A
51	4	77	G
51	4	78	C
51	4	79	U
51	4	86	G
51	4	88	G
51	4	89	A
51	4	91	A
51	4	95	G
51	4	99	A
51	4	108	C
52	5	7	U
52	5	8	G
52	5	13	U
52	5	14	U
52	5	29	G
52	5	31	U
52	5	32	U
52	5	33	A
52	5	40	G
52	5	48	C
52	5	49	C
52	5	51	A
52	5	52	A

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Mol	Chain	Res	Type
52	5	53	U
52	5	58	G
52	5	61	A
52	5	65	G
52	5	66	A
52	5	75	A
52	5	82	C
52	5	86	A
52	5	87	G
52	5	93	A
52	5	96	G
52	5	100	G
52	5	101	A
52	5	105	A
52	5	106	C
52	5	107	A
52	5	112	U
52	5	114	C
52	5	115	A
52	5	116	A
52	5	117	U
52	5	118	C
52	5	120	A
52	5	121	C
52	5	128	A
52	5	129	U
52	5	130	G
52	5	132	G
52	5	135	A
52	5	140	U
52	5	148	A
52	5	149	G
52	5	155	C
52	5	156	U
52	5	157	A
52	5	159	U
52	5	160	A
52	5	167	A
52	5	169	G
52	5	173	U
52	5	178	U
52	5	186	A

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Mol	Chain	Res	Type
52	5	187	A
52	5	199	A
52	5	215	C
52	5	220	U
52	5	222	U
52	5	223	G
52	5	233	C
52	5	236	C
52	5	239	A
52	5	240	U
52	5	241	C
52	5	243	G
52	5	246	A
52	5	247	G
52	5	260	C
52	5	262	G
52	5	263	C
52	5	265	U
52	5	269	A
52	5	271	G
52	5	272	G
52	5	276	U
52	5	277	G
52	5	284	A
52	5	285	G
52	5	296	A
52	5	297	A
52	5	301	G
52	5	302	A
52	5	303	A
52	5	306	G
52	5	308	C
52	5	311	A
52	5	312	A
52	5	315	G
52	5	324	C
52	5	325	A
52	5	326	C
52	5	328	G
52	5	329	C
52	5	330	C
52	5	332	A

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Mol	Chain	Res	Type
52	5	341	C
52	5	347	G
52	5	348	C
52	5	350	G
52	5	363	U
52	5	364	U
52	5	366	C
52	5	371	U
52	5	373	A
52	5	374	G
52	5	376	G
52	5	377	A
52	5	378	A
52	5	380	G
52	5	381	C
52	5	382	U
52	5	384	G
52	5	386	U
52	5	393	A
52	5	394	U
52	5	398	G
52	5	400	G
52	5	402	G
52	5	404	A
52	5	408	U
52	5	411	A
52	5	414	U
52	5	417	U
52	5	418	U
52	5	419	A
52	5	421	G
52	5	425	G
52	5	426	U
52	5	427	A
52	5	428	A
52	5	432	U
52	5	435	U
52	5	437	U
52	5	440	U
52	5	441	U
52	5	442	G
52	5	449	A

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Mol	Chain	Res	Type
52	5	450	U
52	5	451	G
52	5	453	C
52	5	455	U
52	5	456	U
52	5	457	A
52	5	461	G
52	5	464	A
52	5	465	A
52	5	467	G
52	5	468	G
52	5	469	C
52	5	476	U
52	5	477	U
52	5	478	G
52	5	479	A
52	5	480	C
52	5	481	U
52	5	482	G
52	5	483	U
52	5	485	C
52	5	487	A
52	5	488	U
52	5	489	U
52	5	490	U
52	5	493	A
52	5	494	A
52	5	495	U
52	5	497	A
52	5	508	A
52	5	509	C
52	5	510	U
52	5	513	G
52	5	514	U
52	5	516	C
52	5	517	C
52	5	528	G
52	5	530	A
52	5	531	A
52	5	532	U
52	5	534	C
52	5	543	C

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Mol	Chain	Res	Type
52	5	545	A
52	5	549	U
52	5	553	C
52	5	557	A
52	5	558	U
52	5	560	U
52	5	561	A
52	5	562	U
52	5	563	U
52	5	564	G
52	5	567	C
52	5	568	G
52	5	569	U
52	5	571	A
52	5	574	C
52	5	575	A
52	5	576	A
52	5	586	G
52	5	587	A
52	5	593	A
52	5	596	U
52	5	605	A
52	5	616	C
52	5	617	U
52	5	618	U
52	5	619	A
52	5	620	A
52	5	621	C
52	5	628	A
52	5	636	G
52	5	637	A
52	5	638	A
52	5	639	A
52	5	642	A
52	5	643	U
52	5	650	A
52	5	653	G
52	5	654	U
52	5	657	G
52	5	659	U
52	5	662	G
52	5	669	U

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Mol	Chain	Res	Type
52	5	670	G
52	5	672	A
52	5	678	A
52	5	680	G
52	5	682	G
52	5	683	G
52	5	684	A
52	5	687	G
52	5	691	A
52	5	692	A
52	5	699	A
52	5	700	G
52	5	701	A
52	5	702	U
52	5	704	U
52	5	712	A
52	5	715	A
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	728	G
52	5	731	A
52	5	735	C
52	5	741	C
52	5	744	U
52	5	745	U
52	5	746	A
52	5	747	C
52	5	749	G
52	5	750	A
52	5	752	G
52	5	753	C
52	5	755	U
52	5	763	A
52	5	771	G
52	5	774	A
52	5	778	A
52	5	787	A
52	5	790	U
52	5	791	A
52	5	793	C

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Mol	Chain	Res	Type
52	5	798	U
52	5	803	C
52	5	806	A
52	5	809	G
52	5	812	A
52	5	813	A
52	5	814	C
52	5	815	G
52	5	816	A
52	5	818	A
52	5	823	C
52	5	825	A
52	5	829	G
52	5	830	U
52	5	835	G
52	5	836	C
52	5	838	A
52	5	839	U
52	5	851	U
52	5	866	A
52	5	867	A
52	5	870	A
52	5	871	U
52	5	882	U
52	5	883	A
52	5	888	A
52	5	894	A
52	5	907	A
52	5	908	A
52	5	909	A
52	5	910	C
52	5	911	G
52	5	912	G
52	5	915	U
52	5	918	A
52	5	921	G
52	5	922	G
52	5	927	C
52	5	929	C
52	5	930	A
52	5	934	G
52	5	937	G

Continued on next page...

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Mol	Chain	Res	Type
52	5	940	G
52	5	943	C
52	5	946	G
52	5	947	U
52	5	953	A
52	5	955	U
52	5	958	G
52	5	959	A
52	5	963	U
52	5	964	A
52	5	966	A
52	5	969	A
52	5	970	A
52	5	971	A
52	5	972	A
52	5	973	A
52	5	975	C
52	5	976	U
52	5	981	U
52	5	985	C
52	5	987	U
52	5	988	G
52	5	989	A
52	5	991	A
52	5	996	U
52	5	999	C
52	5	1000	A
52	5	1001	A
52	5	1002	A
52	5	1003	G
52	5	1006	A
52	5	1010	A
52	5	1013	C
52	5	1014	A
52	5	1015	U
52	5	1018	U
52	5	1032	G
52	5	1034	G
52	5	1035	A
52	5	1044	G
52	5	1045	C
52	5	1046	A

Continued on next page...

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Mol	Chain	Res	Type
52	5	1047	U
52	5	1055	G
52	5	1056	U
52	5	1058	A
52	5	1069	U
52	5	1070	G
52	5	1072	G
52	5	1076	U
52	5	1078	G
52	5	1080	G
52	5	1082	U
52	5	1085	G
52	5	1086	U
52	5	1087	C
52	5	1088	C
52	5	1089	C
52	5	1092	A
52	5	1115	G
52	5	1119	C
52	5	1121	U
52	5	1122	U
52	5	1123	G
52	5	1124	U
52	5	1125	C
52	5	1127	A
52	5	1134	C
52	5	1135	U
52	5	1136	G
52	5	1141	U
52	5	1142	G
52	5	1144	A
52	5	1150	G
52	5	1154	A
52	5	1155	A
52	5	1156	G
52	5	1158	A
52	5	1159	A
52	5	1164	U
52	5	1165	G
52	5	1166	A
52	5	1169	U
52	5	1171	A

Continued on next page...

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Mol	Chain	Res	Type
52	5	1172	A
52	5	1175	C
52	5	1176	A
52	5	1180	U
52	5	1182	C
52	5	1185	C
52	5	1187	U
52	5	1188	A
52	5	1189	U
52	5	1190	G
52	5	1196	G
52	5	1197	G
52	5	1200	G
52	5	1202	A
52	5	1203	A
52	5	1205	C
52	5	1208	G
52	5	1210	U
52	5	1211	A
52	5	1213	A
52	5	1214	A
52	5	1215	U
52	5	1216	G
52	5	1225	A
52	5	1231	U
52	5	1232	C
52	5	1233	G
52	5	1235	C
52	5	1238	C
52	5	1241	G
52	5	1246	A
52	5	1251	G
52	5	1254	A
52	5	1255	A
52	5	1260	U
52	5	1261	A
52	5	1267	G
52	5	1271	U
52	5	1272	C
52	5	1273	A
52	5	1276	U
52	5	1279	G

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Mol	Chain	Res	Type
52	5	1293	A
52	5	1296	C
52	5	1297	G
52	5	1298	U
52	5	1305	G
52	5	1306	A
52	5	1308	G
52	5	1310	C
52	5	1312	G
52	5	1313	A
52	5	1315	U
52	5	1317	A
52	5	1318	C
52	5	1319	U
52	5	1320	A
52	5	1322	U
52	5	1324	A
52	5	1325	U
52	5	1327	G
52	5	1331	A
52	5	1334	A
52	5	1335	G
52	5	1337	U
52	5	1338	A
52	5	1340	G
52	5	1343	G
52	5	1344	C
52	5	1346	G
52	5	1347	U
52	5	1352	A
52	5	1353	C
52	5	1354	G
52	5	1356	U
52	5	1357	C
52	5	1360	G
52	5	1369	A
52	5	1372	C
52	5	1374	C
52	5	1375	C
52	5	1376	G
52	5	1384	A
52	5	1393	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
52	5	1394	G
52	5	1397	G
52	5	1400	A
52	5	1405	U
52	5	1406	U
52	5	1408	A
52	5	1417	U
52	5	1421	A
52	5	1423	C
52	5	1427	U
52	5	1428	A
52	5	1429	G
52	5	1443	A
52	5	1444	G
52	5	1446	A
52	5	1450	C
52	5	1458	A
52	5	1459	U
52	5	1466	U
52	5	1467	A
52	5	1469	G
52	5	1472	G
52	5	1474	A
52	5	1475	A
52	5	1477	A
52	5	1478	A
52	5	1480	G
52	5	1482	A
52	5	1492	G
52	5	1493	A
52	5	1494	A
52	5	1495	C
52	5	1504	G
52	5	1505	G
53	6	3	G
53	6	5	C
53	6	7	U
53	6	14	C
53	6	17	U
53	6	18	C
53	6	19	G
53	6	20	G

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Mol	Chain	Res	Type
53	6	21	U
53	6	22	A
53	6	23	G
53	6	34	U
53	6	35	G
53	6	42	C
53	6	43	G
53	6	44	U
53	6	47	G
53	6	48	U
53	6	49	C
53	6	54	G
53	6	56	U
53	6	57	C
53	6	58	G
53	6	59	A
53	6	61	U
53	6	62	C
53	6	71	A
53	6	72	C
53	6	75	C
53	6	76	C
53	8	3	G
53	8	5	C
53	8	7	U
53	8	14	C
53	8	17	U
53	8	18	C
53	8	19	G
53	8	20	G
53	8	21	U
53	8	22	A
53	8	23	G
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	48	U
53	8	49	C
53	8	54	G

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Mol	Chain	Res	Type
53	8	56	U
53	8	57	C
53	8	58	G
53	8	59	A
53	8	61	U
53	8	62	C
53	8	71	A
53	8	72	C
53	8	75	C
53	8	76	C

All (61) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	3	76	A
50	3	296	U
50	3	311	G
50	3	366	A
50	3	410	G
50	3	425	U
50	3	500	U
50	3	508	A
50	3	514	A
50	3	881	A
50	3	996	A
50	3	1048	A
50	3	1054	U
50	3	1096	U
50	3	1209	U
50	3	1297	U
50	3	1355	C
50	3	1454	G
50	3	1465	U
50	3	1507	G
50	3	1583	G
50	3	1588	A
50	3	1747	G
50	3	1820	U
50	3	1936	G
50	3	2139	C
50	3	2332	U
50	3	2397	G

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Mol	Chain	Res	Type
50	3	2504	C
50	3	2506	C
50	3	2604	U
50	3	2668	A
50	3	2764	U
50	3	2897	G
51	4	54	U
51	4	59	A
52	5	31	U
52	5	39	G
52	5	48	C
52	5	448	A
52	5	619	A
52	5	683	G
52	5	748	U
52	5	1135	U
52	5	1143	C
52	5	1158	A
52	5	1188	A
52	5	1323	A
52	5	1355	U
53	6	16	G
53	6	18	C
53	6	34	U
53	6	43	G
53	6	56	U
53	6	58	G
53	8	16	G
53	8	18	C
53	8	34	U
53	8	43	G
53	8	56	U
53	8	58	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

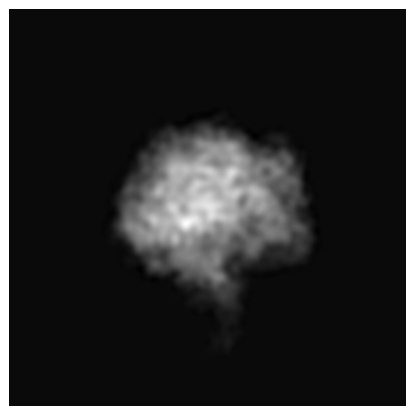
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13448. These allow visual inspection of the internal detail of the map and identification of artifacts.

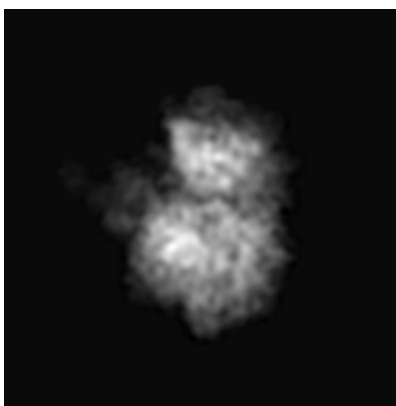
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

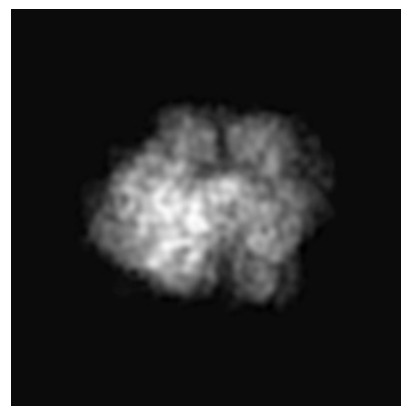
6.1.1 Primary map



X

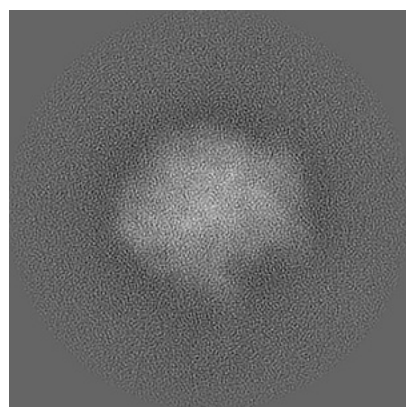


Y

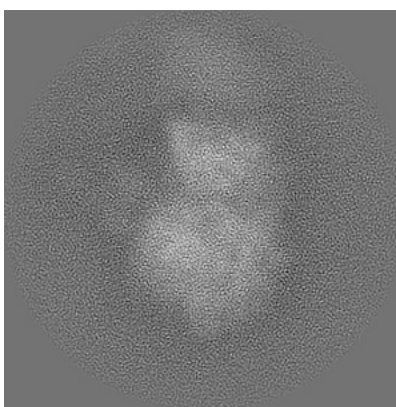


Z

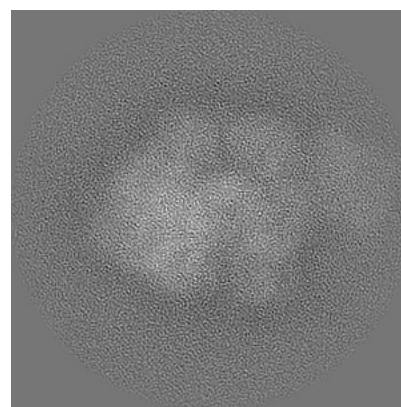
6.1.2 Raw map



X



Y

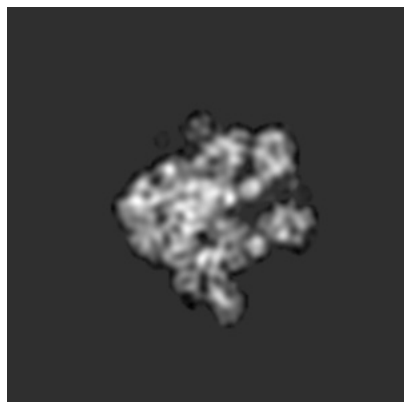


Z

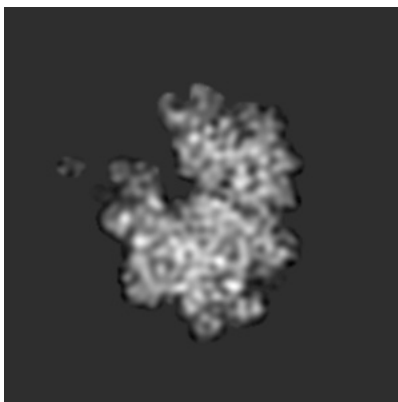
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

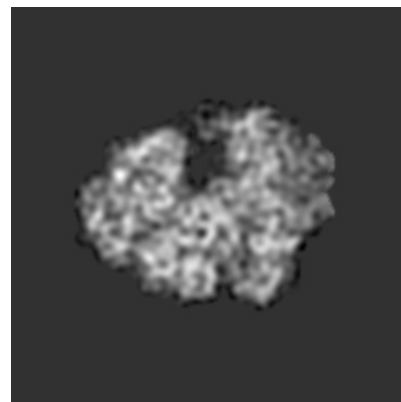
6.2.1 Primary map



X Index: 128

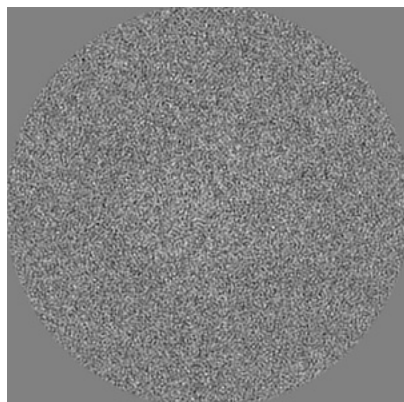


Y Index: 128

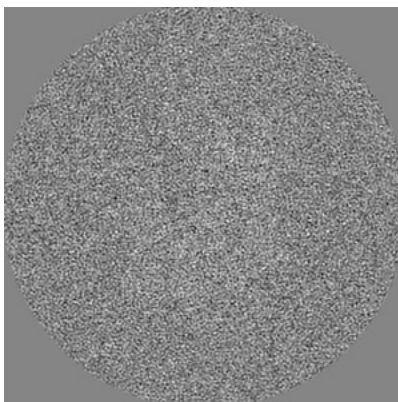


Z Index: 128

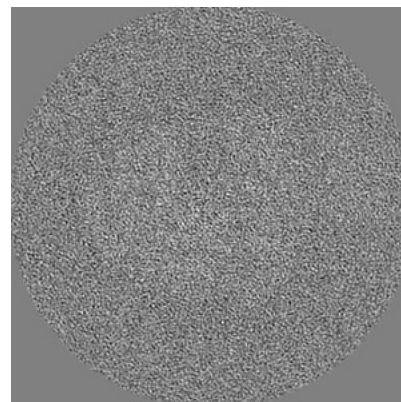
6.2.2 Raw map



X Index: 128



Y Index: 128

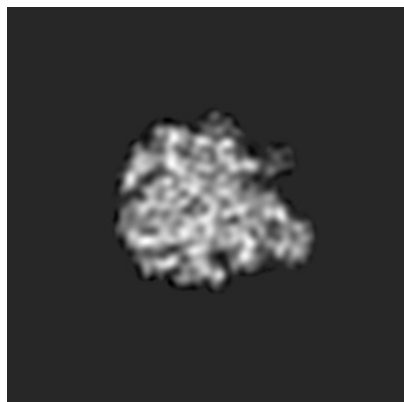


Z Index: 128

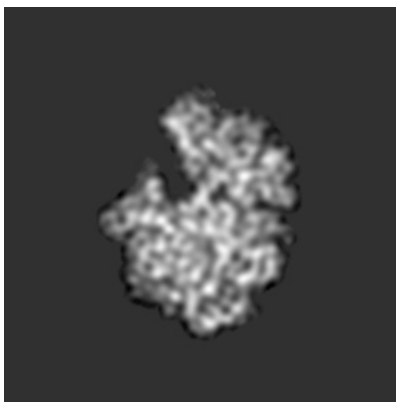
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

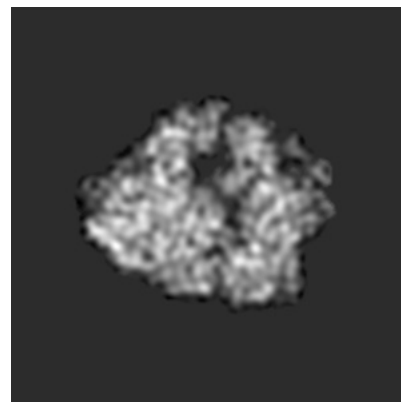
6.3.1 Primary map



X Index: 102

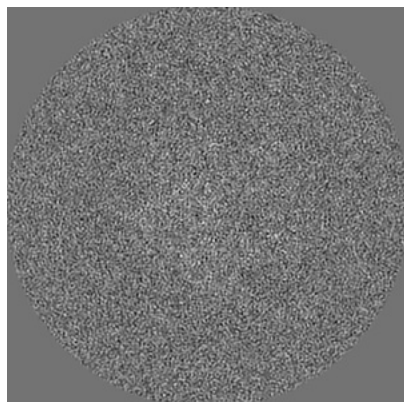


Y Index: 120

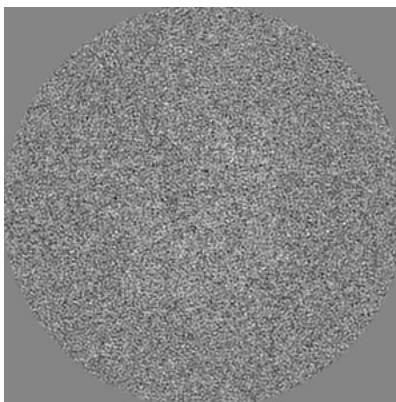


Z Index: 121

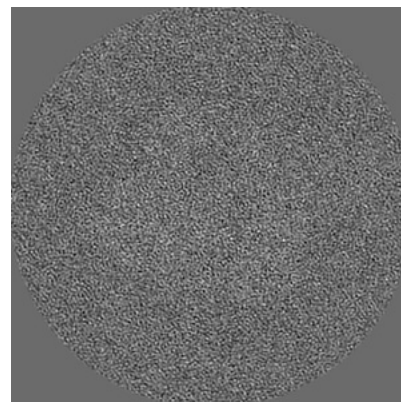
6.3.2 Raw map



X Index: 119



Y Index: 128



Z Index: 119

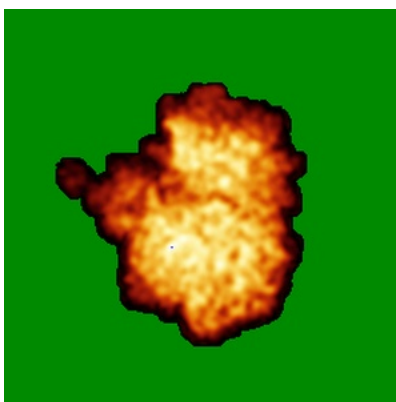
The images above show the largest variance slices of the map in three orthogonal directions.

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

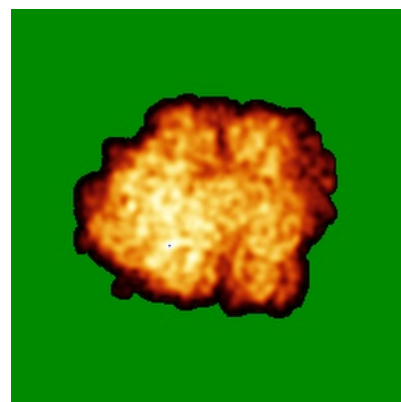
6.4.1 Primary map



X

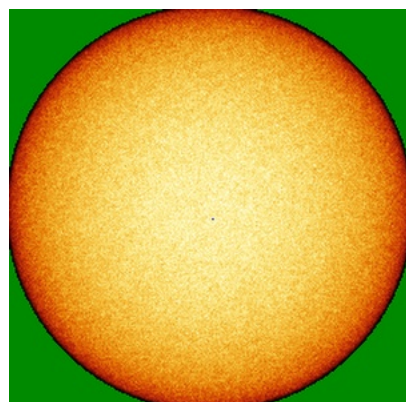


Y

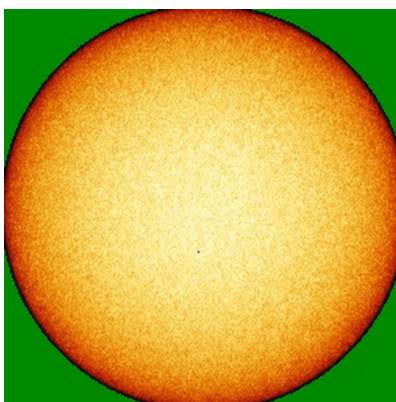


Z

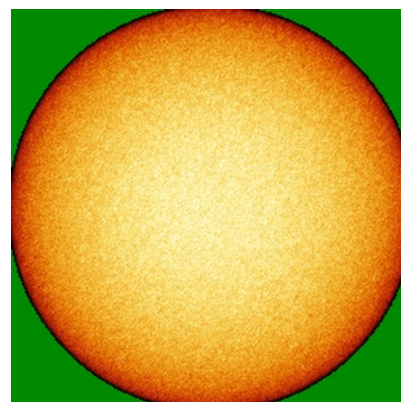
6.4.2 Raw map



X



Y

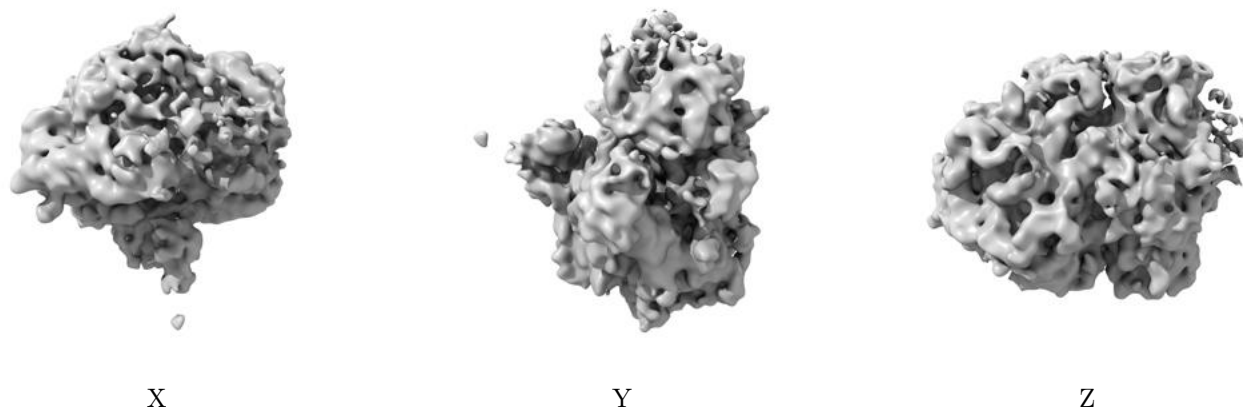


Z

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.

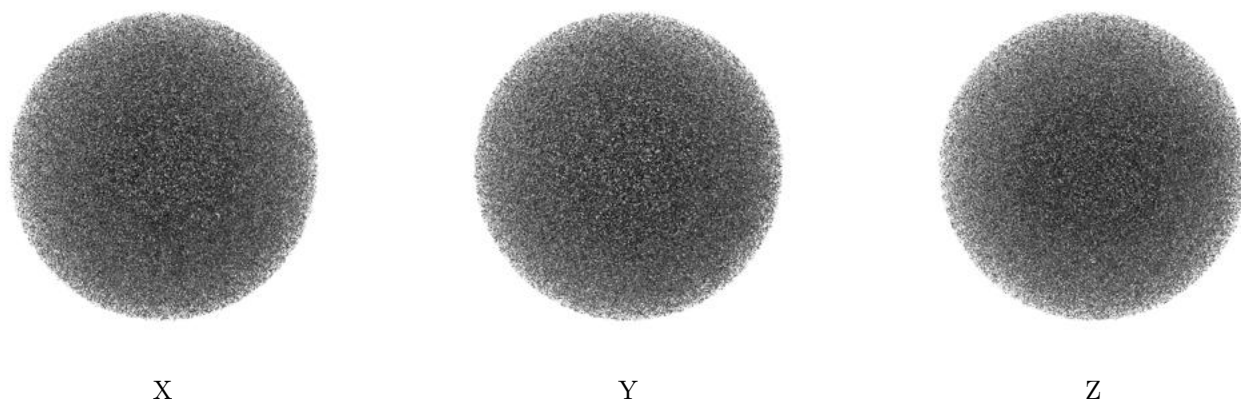
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.29. 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



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.

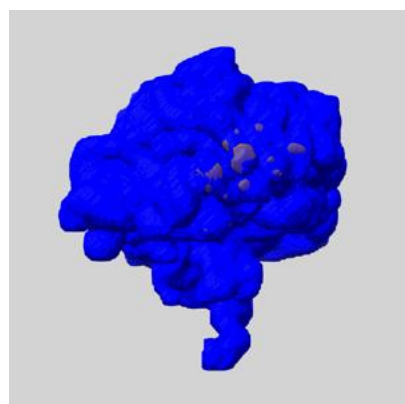
6.6 Mask visualisation [i](#)

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

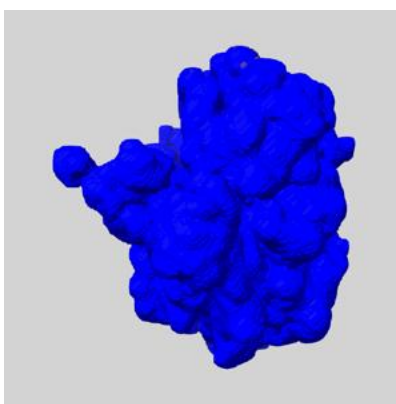
A mask typically either:

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

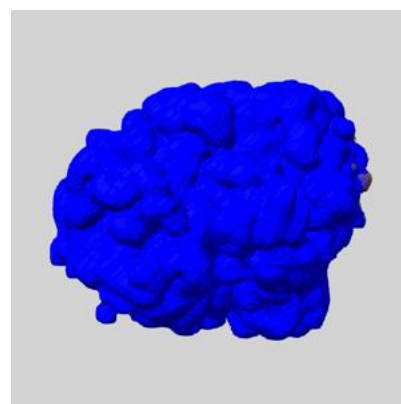
6.6.1 emd_13448_msk_1.map [i](#)



X



Y

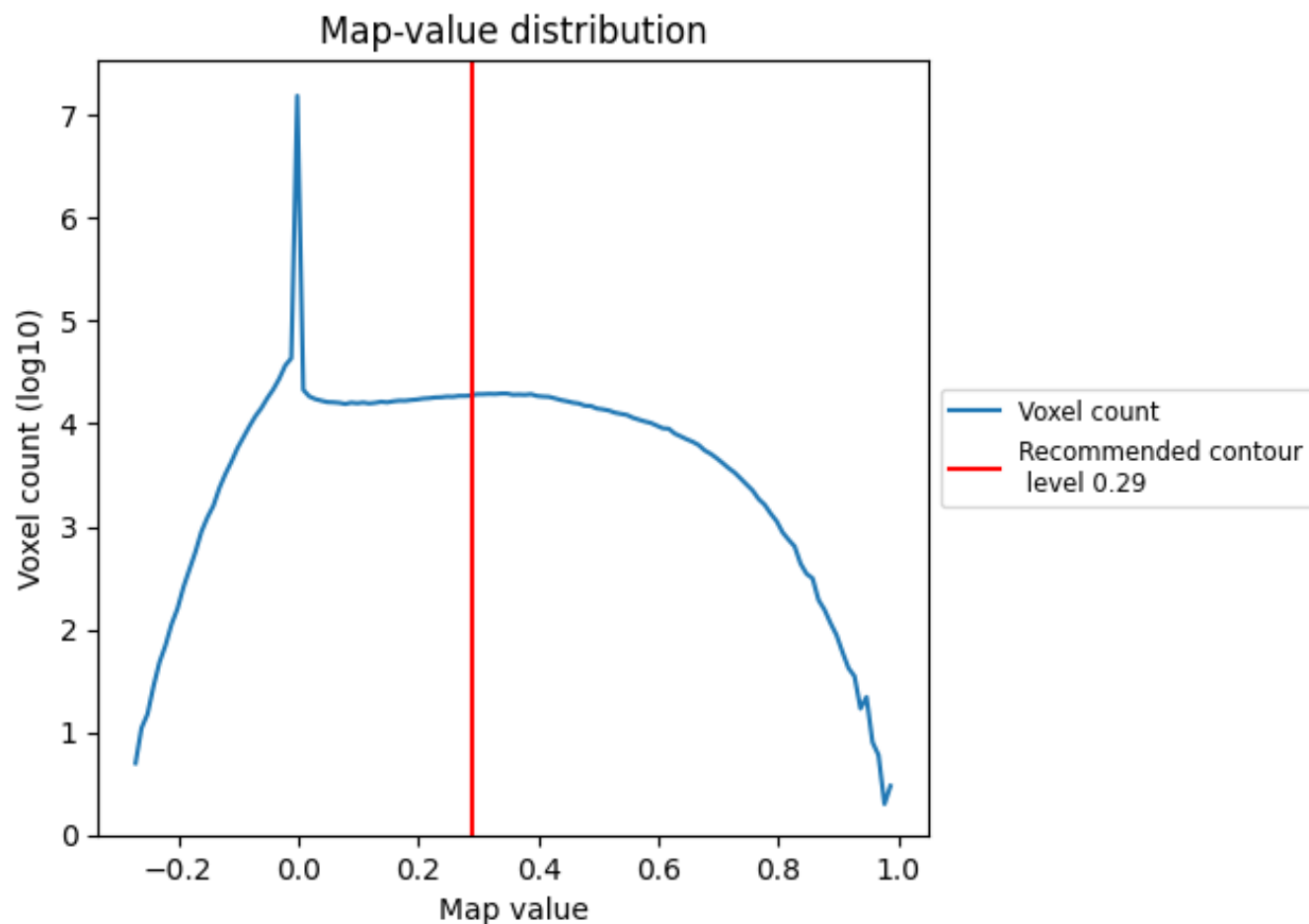


Z

7 Map analysis [i](#)

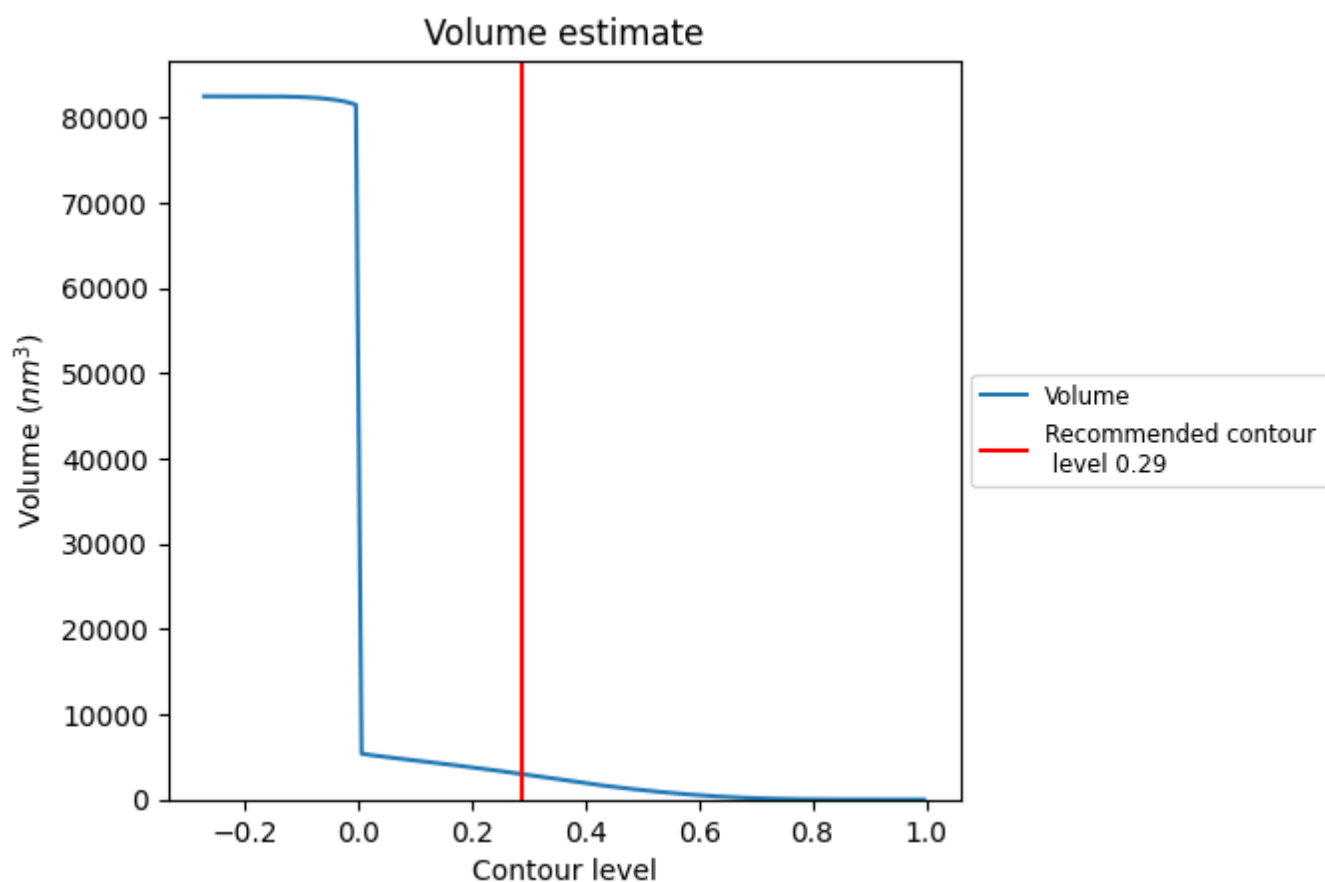
This section contains the results of statistical analysis of the map.

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.

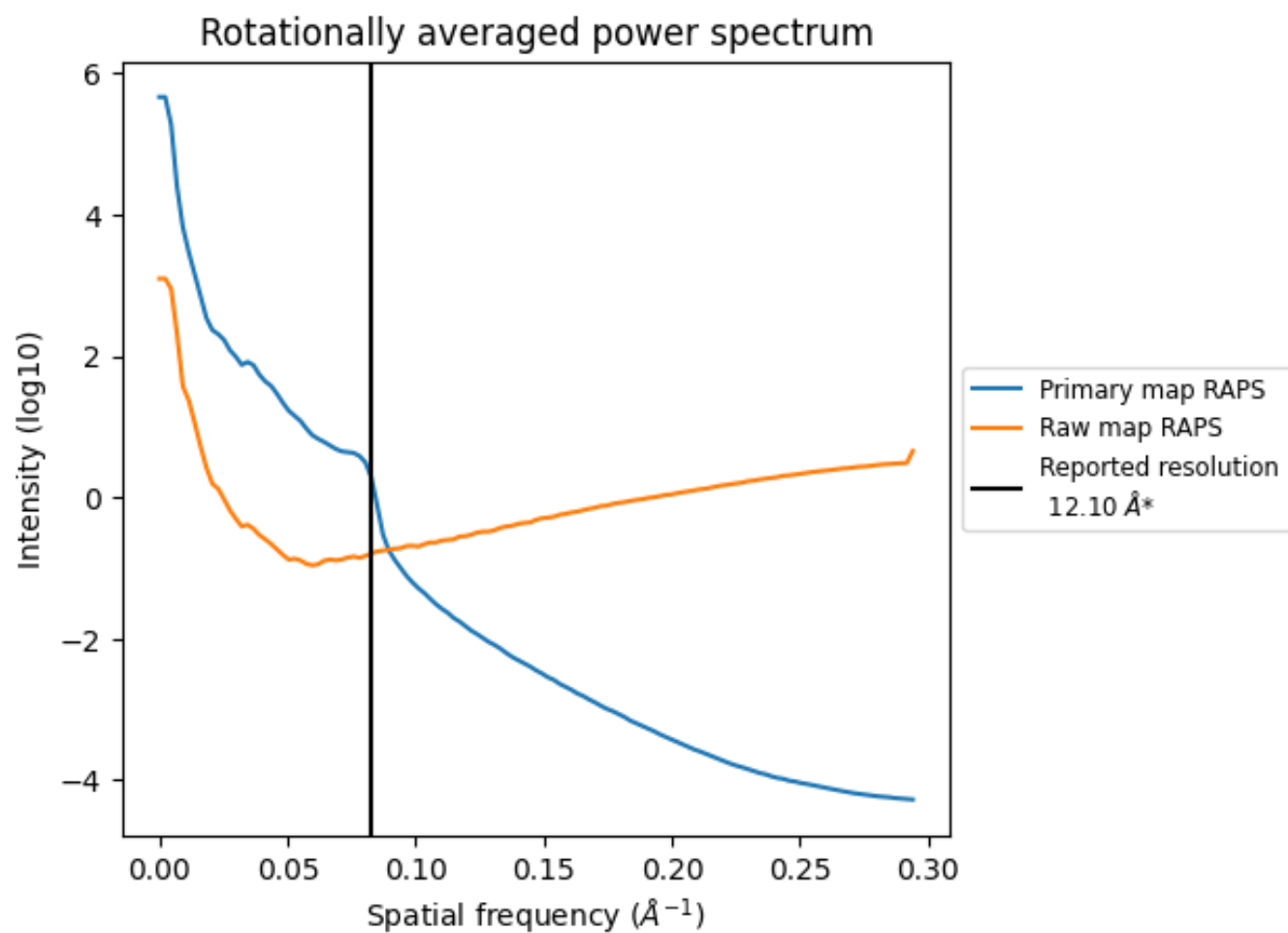
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2982 nm³; this corresponds to an approximate mass of 2693 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

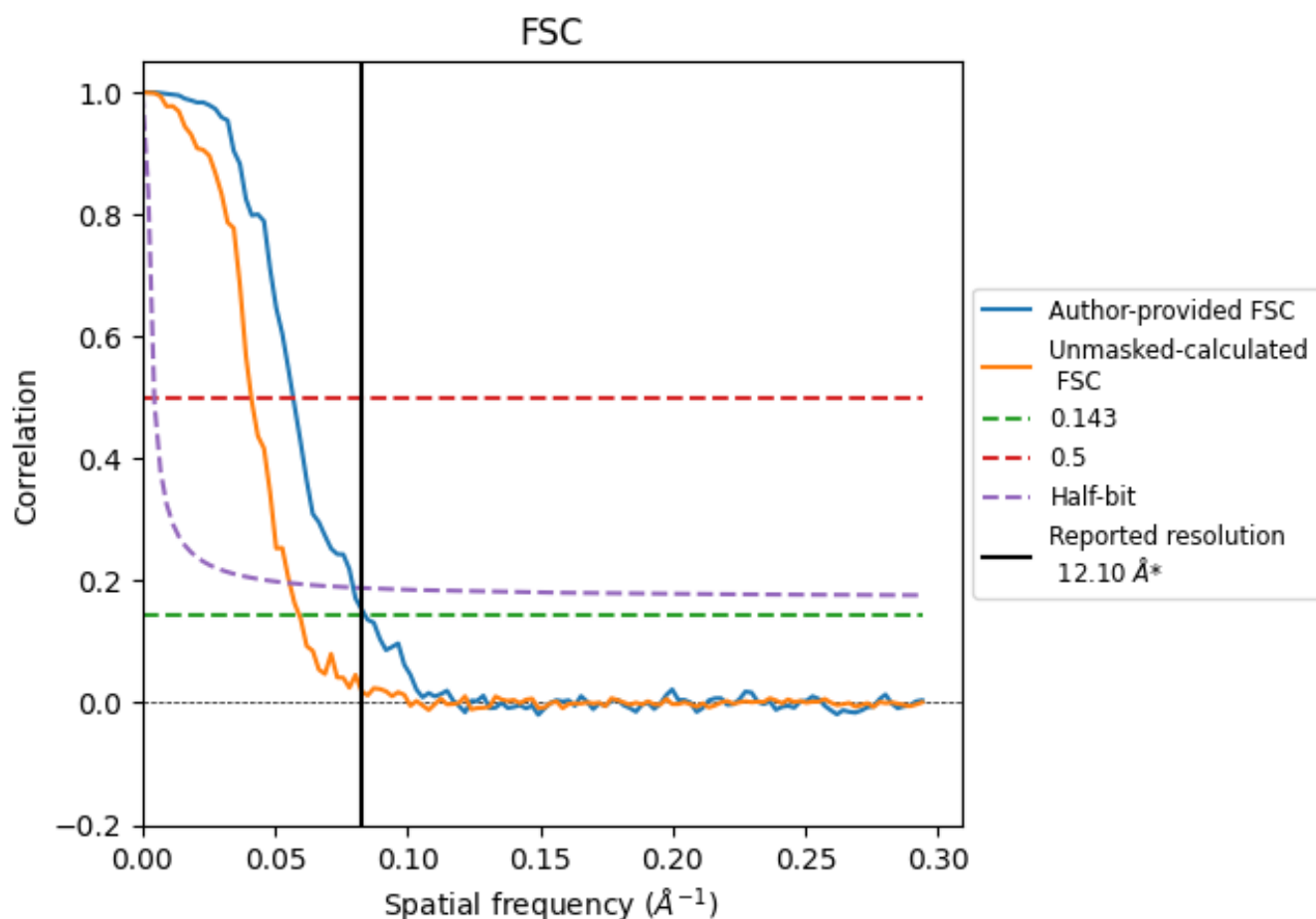


*Reported resolution corresponds to spatial frequency of 0.083 Å⁻¹

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 0.083 Å⁻¹

8.2 Resolution estimates [i](#)

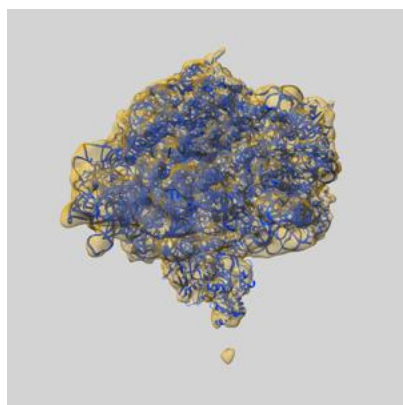
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	12.10	-	-
Author-provided FSC curve	11.90	17.57	12.56
Unmasked-calculated*	16.86	24.33	17.99

*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 16.86 differs from the reported value 12.1 by more than 10 %

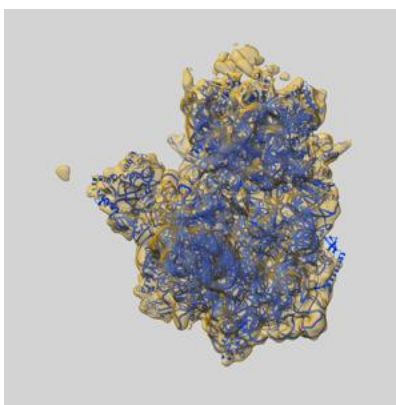
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-13448 and PDB model 7PIR. Per-residue inclusion information can be found in [section 3](#) on [page 14](#).

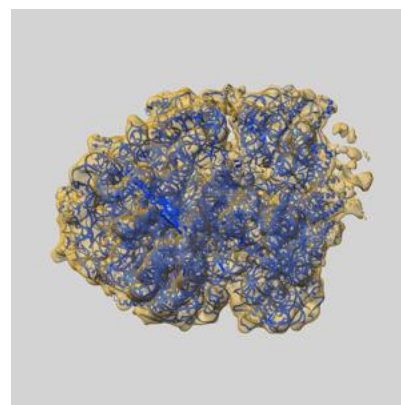
9.1 Map-model overlay [i](#)



X



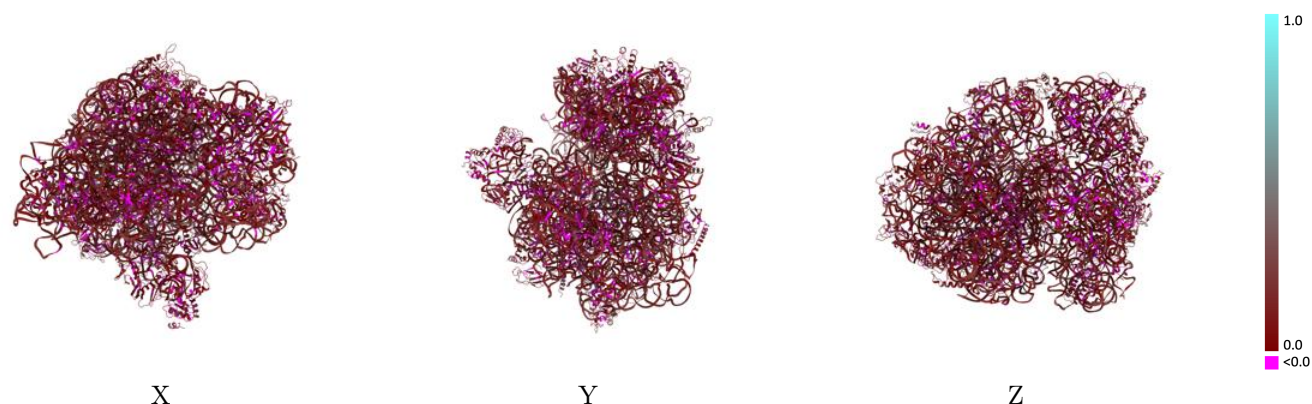
Y



Z

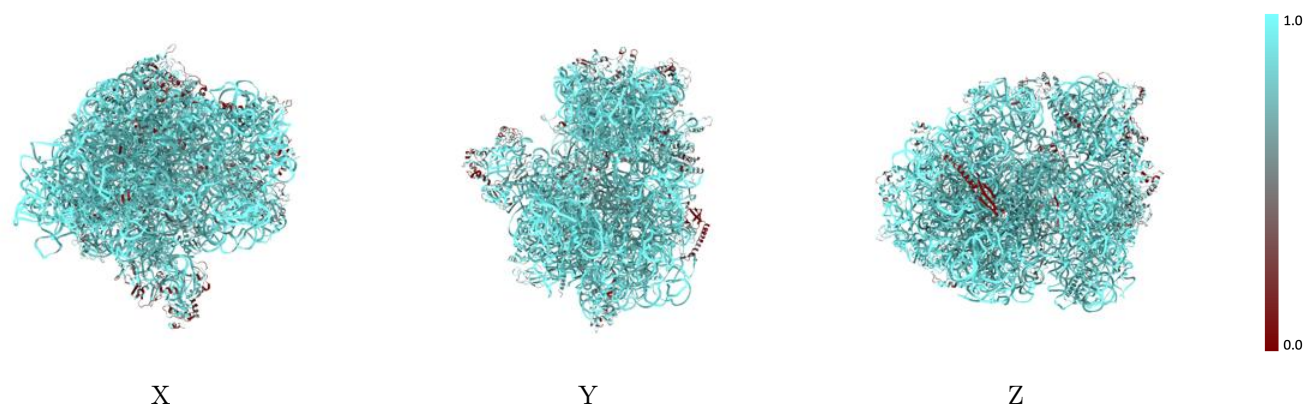
The images above show the 3D surface view of the map at the recommended contour level 0.29 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



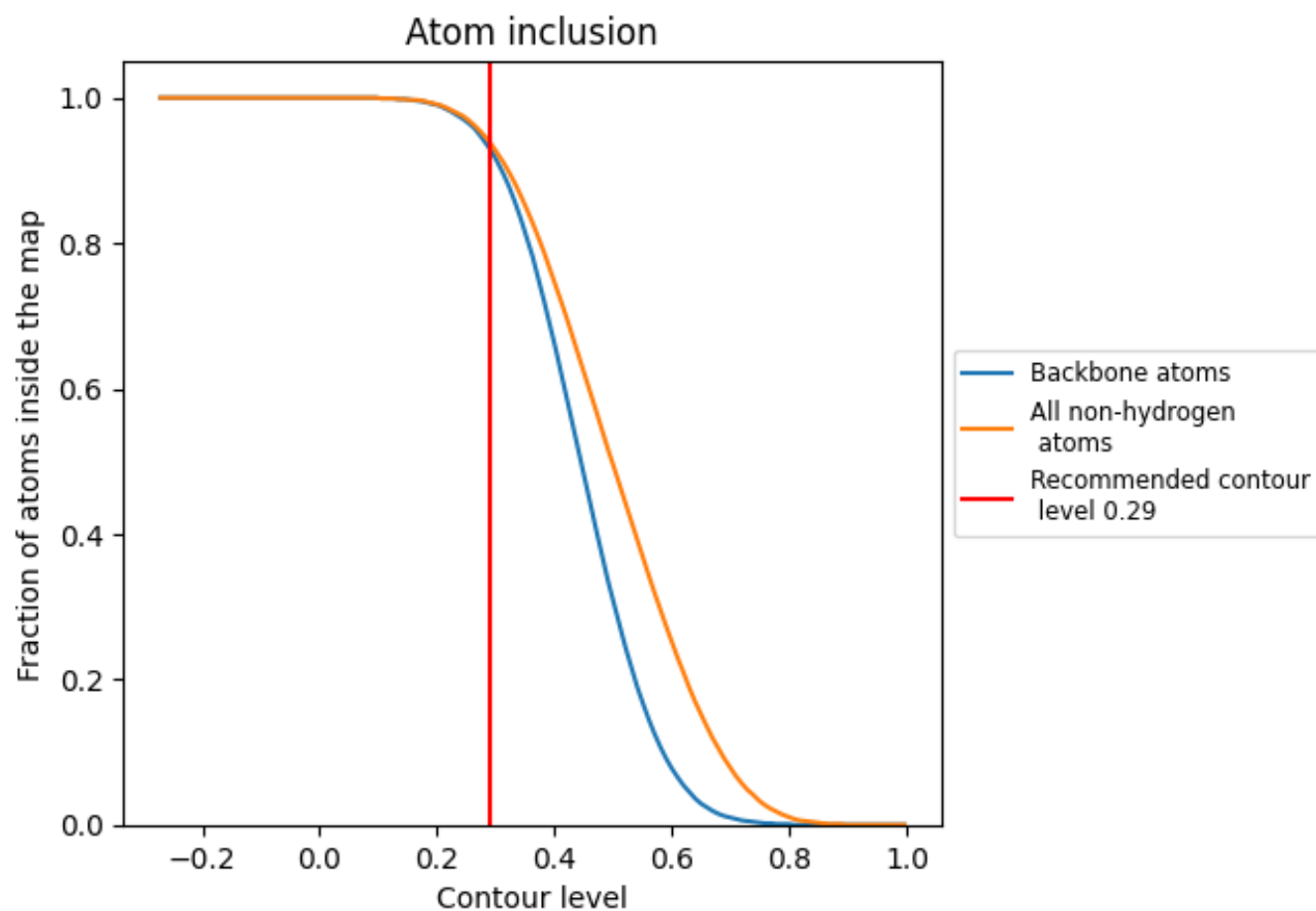
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.29).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.29) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9390	 0.1040
0	 0.9970	 0.0760
1	 0.9940	 0.0650
2	 0.9730	 0.0330
3	 0.9880	 0.1150
4	 0.9930	 0.1240
5	 0.9870	 0.1150
6	 0.8280	 0.0820
8	 0.9730	 0.1300
A	 0.7070	 0.0950
B	 0.7870	 0.1110
C	 0.8430	 0.0710
D	 0.8190	 0.0700
E	 0.7080	 0.1080
F	 0.8140	 0.0850
G	 0.8850	 0.0850
H	 0.8290	 0.0670
I	 0.7510	 0.0790
J	 0.7770	 0.0670
K	 0.9490	 0.0650
L	 0.8190	 0.1010
M	 0.8660	 0.0000
N	 0.8850	 0.0830
O	 0.9520	 0.0750
P	 0.8720	 0.0900
Q	 0.9480	 0.0820
R	 0.8730	 0.0450
S	 0.9670	 0.0810
T	 0.8330	 0.1340
a	 0.9640	 0.0590
b	 0.9050	 0.0570
c	 0.8680	 0.0860
d	 0.8180	 0.0980
e	 0.6750	 0.0810
f	 0.3770	 0.0870



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Chain	Atom inclusion	Q-score
g	 0.5870	 0.0770
h	 0.6360	 0.0830
i	 0.9520	 0.0890
j	 0.8160	 0.0710
k	 0.8470	 0.0660
l	 0.9310	 0.0650
m	 0.9740	 0.0550
n	 0.8640	 0.0760
o	 0.8670	 0.0860
p	 0.9650	 0.0720
q	 0.8560	 0.0730
r	 0.9320	 0.0880
s	 0.8770	 0.0840
t	 0.8210	 0.0900
u	 0.9660	 0.0550
v	 0.9900	 0.0910
w	 0.8930	 0.1320
x	 0.5600	 0.1150
y	 0.9080	 0.0450
z	 0.9850	 0.0550