



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 11:46 AM UTC

PDB ID : 6SWA / pdb_00006swa
EMDB ID : EMD-10321
Title : Mus musculus brain neocortex ribosome 60S bound to Ebp1
Authors : Kraushar, M.L.; Sprink, T.
Deposited on : 2019-09-20
Resolution : 3.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.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

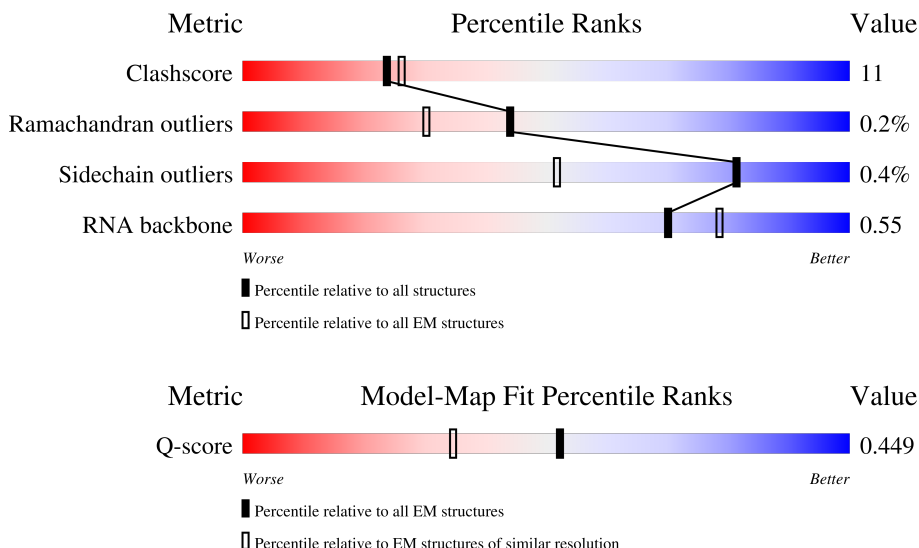
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.10 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	14724 (2.60 - 3.60)

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	A	252	7% 73% 27%
2	B	394	6% 75% 24%
3	C	363	9% 78% 22%

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Mol	Chain	Length	Quality of chain
4	D	294	
5	E	194	
6	F	234	
7	G	234	
8	H	191	
9	I	211	
10	J	169	
11	K	205	
12	L	139	
13	M	203	
14	N	195	
15	O	153	
16	P	185	
17	Q	175	
18	R	157	
19	S	101	
20	T	129	
21	U	62	
22	V	118	
23	W	127	
24	X	134	
25	Y	147	
26	Z	68	
27	a	97	
28	b	106	

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Mol	Chain	Length	Quality of chain
29	c	129	
30	d	109	
31	e	114	
32	f	122	
33	g	98	
34	h	84	
35	i	69	
36	j	50	
37	k	50	
38	l	25	
39	m	105	
40	n	91	
41	o	184	
42	p	122	
43	q	3612	
44	r	157	
45	s	119	
46	t	353	

2 Entry composition

There are 48 unique types of molecules in this entry. The entry contains 138160 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 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	252	Total	C	N	O	S	0	0
			1930	1209	395	320	6		

- Molecule 2 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	394	Total	C	N	O	S	0	0
			3178	2024	597	543	14		

- Molecule 3 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	363	Total	C	N	O	S	0	0
			2897	1822	578	482	15		

- Molecule 4 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	294	Total	C	N	O	S	0	0
			2395	1509	442	430	14		

- Molecule 5 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	194	Total	C	N	O	S	0	0
			1576	1008	296	270	2		

- Molecule 6 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	234	Total	C	N	O	S	0	0
			1947	1251	375	313	8		

- Molecule 7 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	234	Total	C	N	O	S	0	0
			1879	1197	361	317	4		

- Molecule 8 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	191	Total	C	N	O	S	0	0
			1527	960	285	276	6		

- Molecule 9 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	208	Total	C	N	O	S	0	0
			1692	1074	327	278	13		

- Molecule 10 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	169	Total	C	N	O	S	0	0
			1353	855	252	240	6		

- Molecule 11 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	205	Total	C	N	O	S	0	0
			1660	1038	342	276	4		

- Molecule 12 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	139	Total	C	N	O	S	0	0
			1143	732	221	183	7		

- Molecule 13 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 14 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	195	Total	C	N	O	S	0	0
			1599	1029	314	250	6		

- Molecule 15 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	153	Total	C	N	O	S	0	0
			1242	777	241	215	9		

- Molecule 16 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	185	Total	C	N	O	S	0	0
			1504	941	312	247	4		

- Molecule 17 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	175	Total	C	N	O	S	0	0
			1447	920	283	233	11		

- Molecule 18 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	157	Total	C	N	O	S	0	0
			1284	815	251	213	5		

- Molecule 19 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	101	Total	C	N	O	S	0	0
			826	529	145	150	2		

- Molecule 20 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	129	Total	C	N	O	S	0	0
			969	613	182	169	5		

- Molecule 21 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	62	Total	C	N	O	S	0	0
			520	332	102	84	2		

- Molecule 22 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	118	Total	C	N	O	S	0	0
			966	618	181	166	1		

- Molecule 23 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	127	Total	C	N	O	S	0	0
			1064	668	216	177	3		

- Molecule 24 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	134	Total	C	N	O	S	0	0
			1103	712	207	181	3		

- Molecule 25 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	147	Total	C	N	O	S	0	0
			1164	736	239	185	4		

- Molecule 26 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	68	Total	C	N	O	S	0	0
			558	344	122	90	2		

- Molecule 27 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	97	Total	C	N	O	S	0	0
			753	478	133	135	7		

- Molecule 28 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	b	106	Total	C	N	O	S	0	0
			879	555	170	152	2		

- Molecule 29 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	129	Total	C	N	O	S	0	0
			1064	673	220	166	5		

- Molecule 30 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 31 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e	114	Total	C	N	O	S	0	0
			906	565	187	148	6		

- Molecule 32 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	122	Total	C	N	O	S	0	0
			1015	643	204	167	1		

- Molecule 33 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	98	Total	C	N	O	S	0	0
			802	499	168	130	5		

- Molecule 34 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	84	Total	C	N	O	S	0	0
			689	423	152	109	5		

- Molecule 35 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	69	Total	C	N	O	S	0	0
			568	365	103	99	1		

- Molecule 36 is a protein called Ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	50	Total	C	N	O	S	0	0
			443	281	98	63	1		

- Molecule 37 is a protein called 60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	k	50	Total	C	N	O	S	0	0
			411	254	87	64	6		

- Molecule 38 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	25	Total	C	N	O	S	0	0
			240	145	64	28	3		

- Molecule 39 is a protein called Ribosomal protein L36A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	m	105	Total	C	N	O	S	0	0
			863	542	175	140	6		

- Molecule 40 is a protein called Ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 41 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o	184	Total	C	N	O	S	0	0
			1542	955	332	246	9		

- Molecule 42 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	122	Total	C	N	O	S	0	0
			980	606	204	165	5		

- Molecule 43 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	3612	Total	C	N	O	P	0	0
			77430	34484	14158	25176	3612		

- Molecule 44 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	r	157	Total	C	N	O	P	0	0
			3337	1489	587	1104	157		

- Molecule 45 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	s	119	Total	C	N	O	P	0	0
			2541	1132	454	836	119		

- Molecule 46 is a protein called Proliferation-associated protein 2G4.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	t	353	Total	C	N	O	S	0	0
			2739	1729	470	523	17		

- Molecule 47 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
47	B	1	Total	Mg	0
			1	1	
47	K	1	Total	Mg	0
			1	1	
47	M	1	Total	Mg	0
			1	1	
47	P	1	Total	Mg	0
			1	1	
47	W	1	Total	Mg	0
			1	1	
47	b	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
47	c	1	Total 1	Mg 1	0
47	l	1	Total 1	Mg 1	0
47	q	223	Total 223	Mg 223	0
47	r	7	Total 7	Mg 7	0
47	s	9	Total 9	Mg 9	0

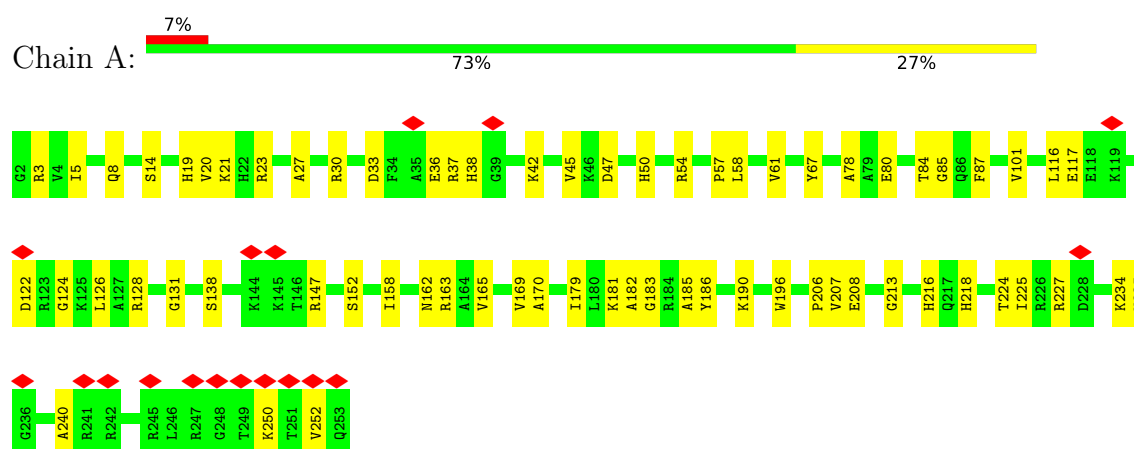
- Molecule 48 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
48	h	1	Total 1	Zn 1	0
48	m	1	Total 1	Zn 1	0
48	n	1	Total 1	Zn 1	0

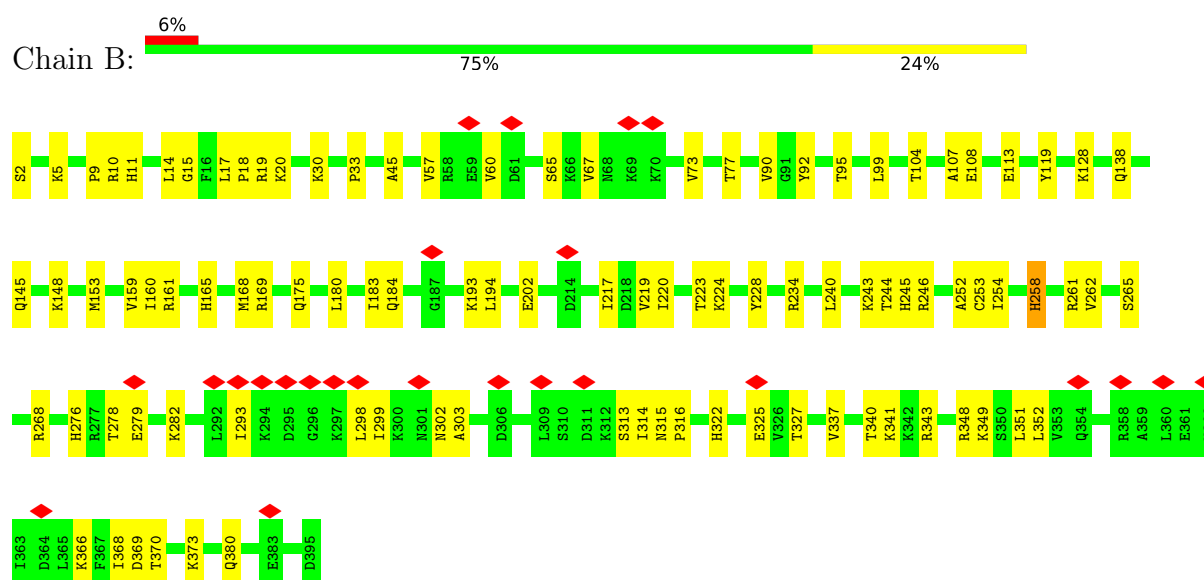
3 Residue-property plots

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.

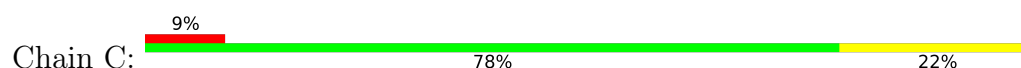
• Molecule 1: 60S ribosomal protein L8

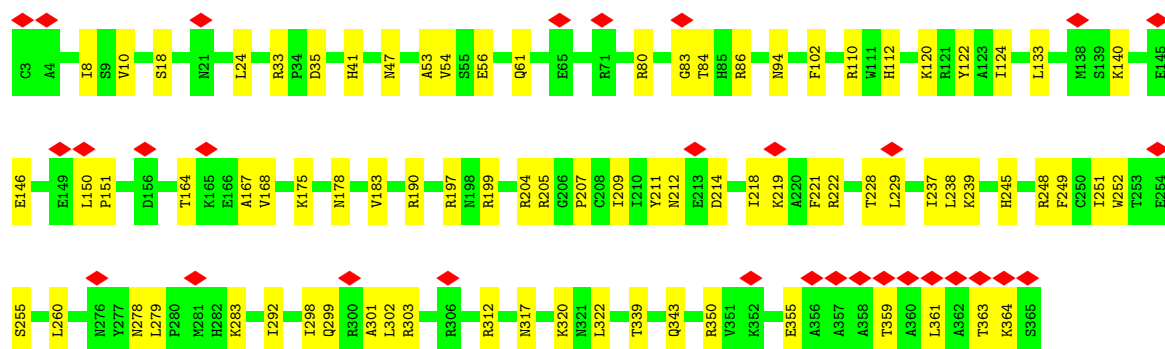


• Molecule 2: 60S ribosomal protein L3

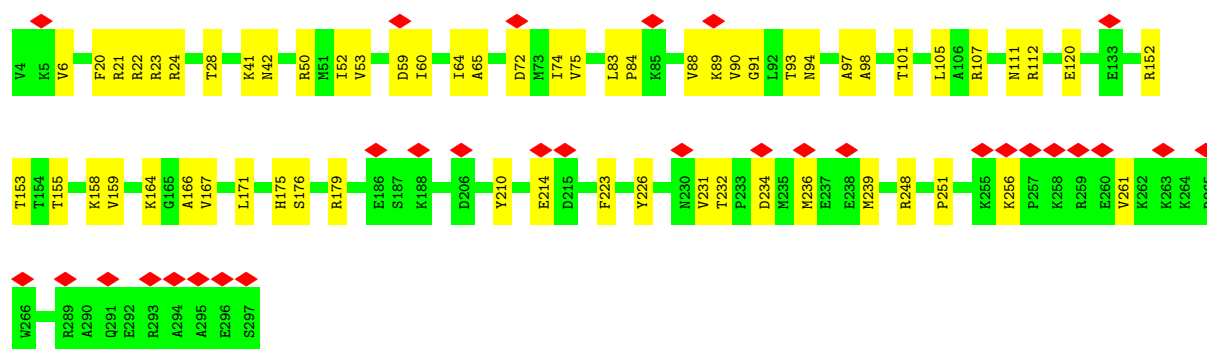
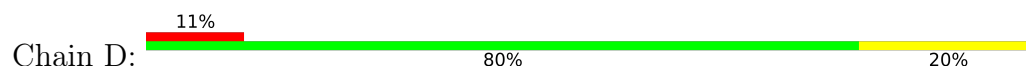


• Molecule 3: 60S ribosomal protein L4

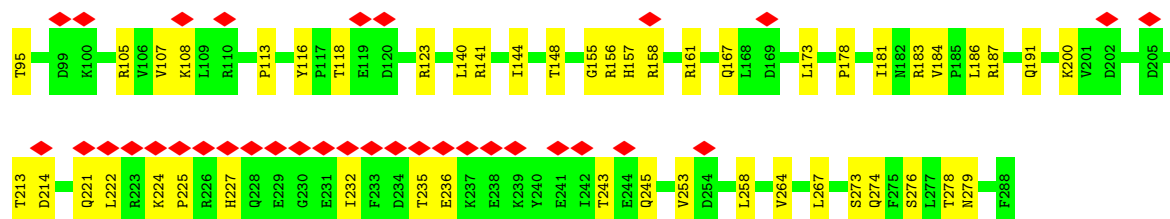
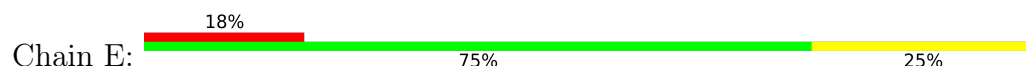




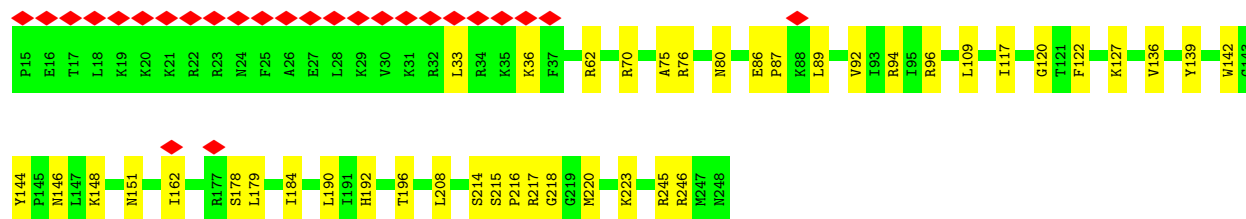
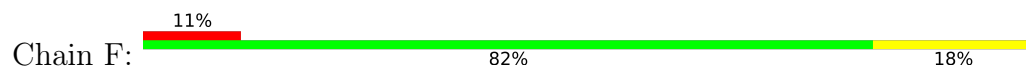
• Molecule 4: 60S ribosomal protein L5



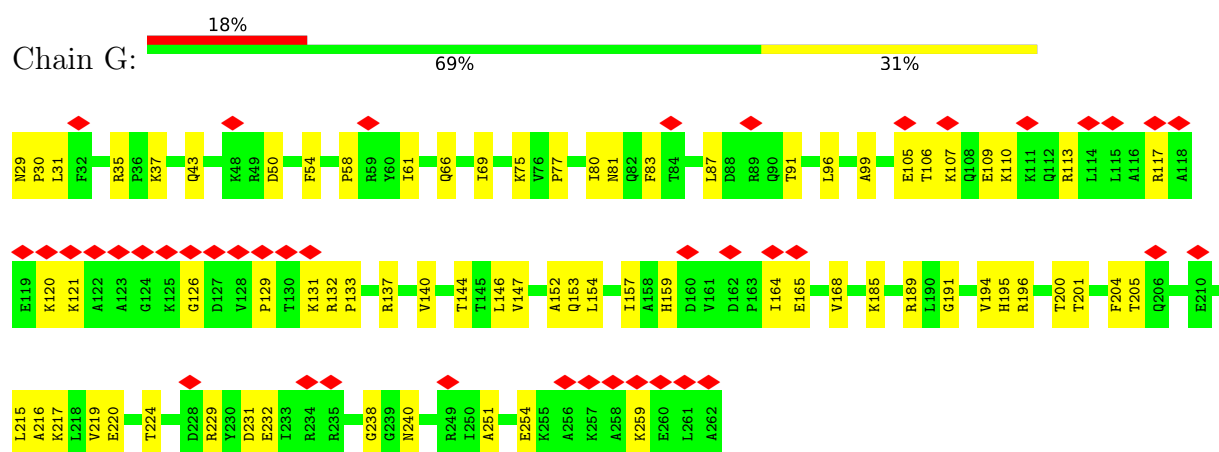
• Molecule 5: 60S ribosomal protein L6



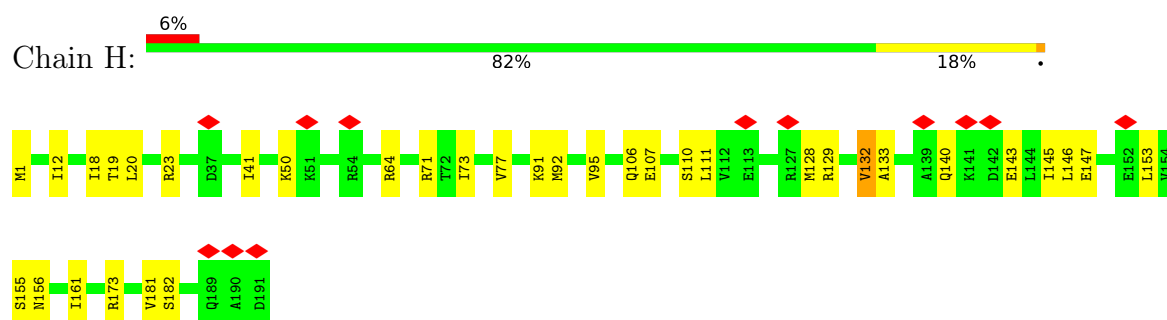
• Molecule 6: 60S ribosomal protein L7



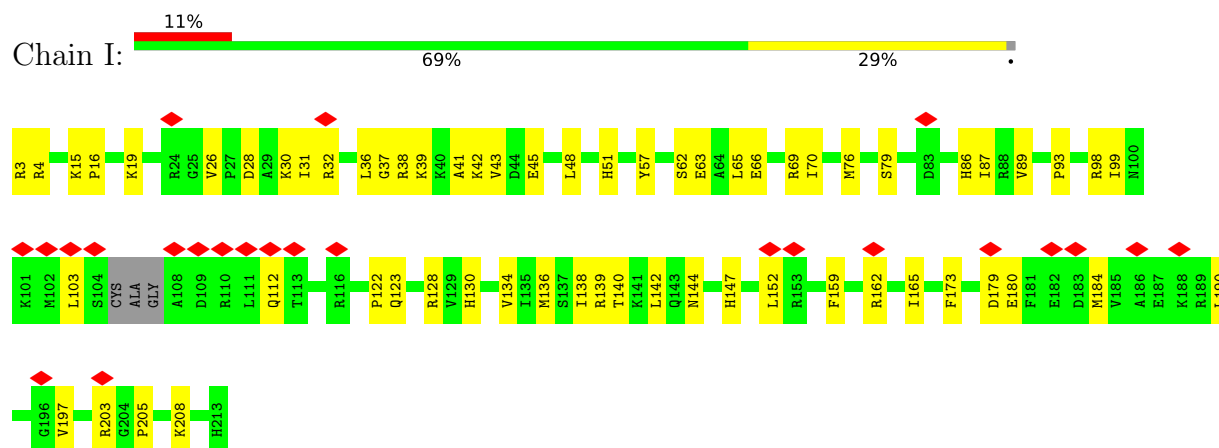
• Molecule 7: 60S ribosomal protein L7a



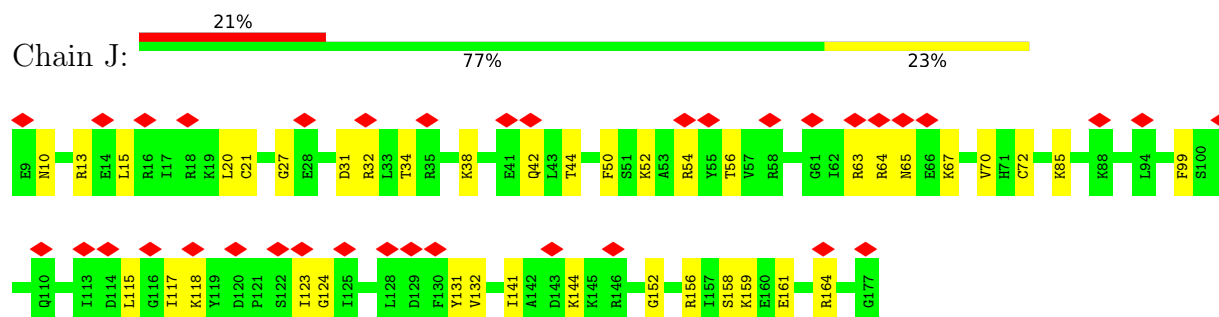
• Molecule 8: 60S ribosomal protein L9



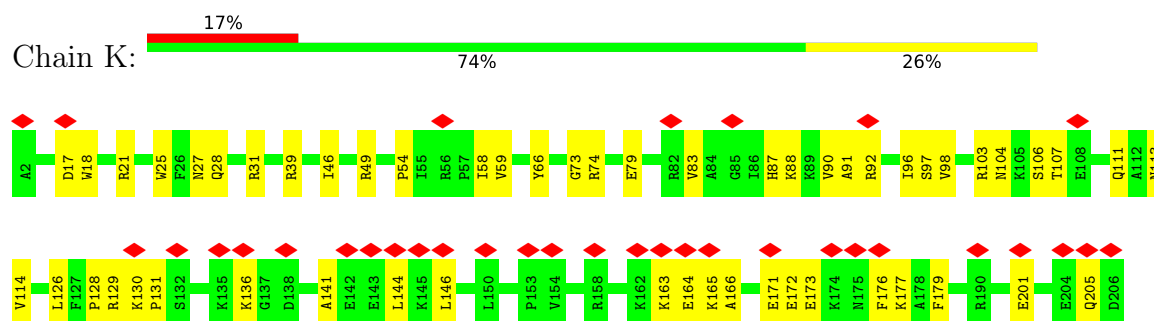
• Molecule 9: 60S ribosomal protein L10



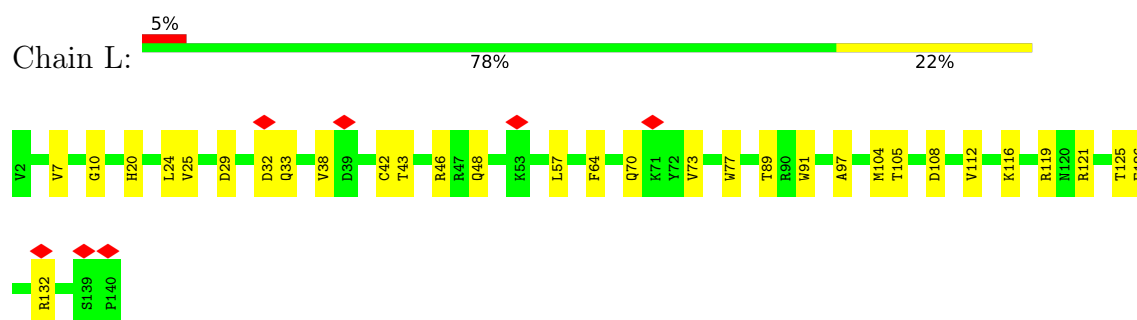
• Molecule 10: 60S ribosomal protein L11



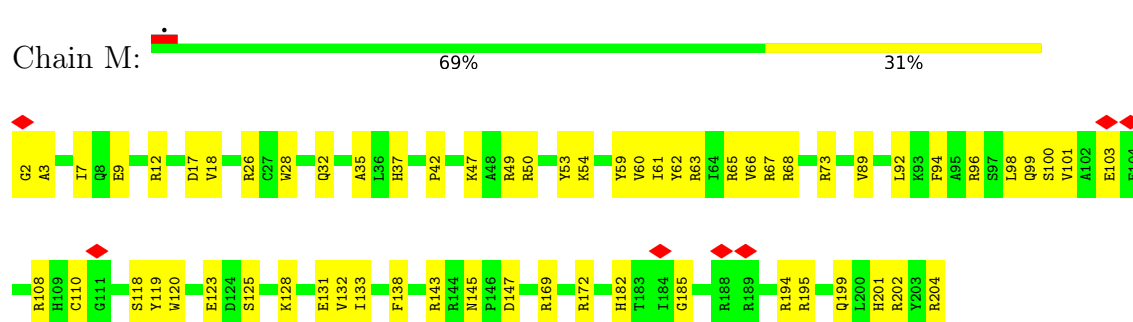
- Molecule 11: 60S ribosomal protein L13



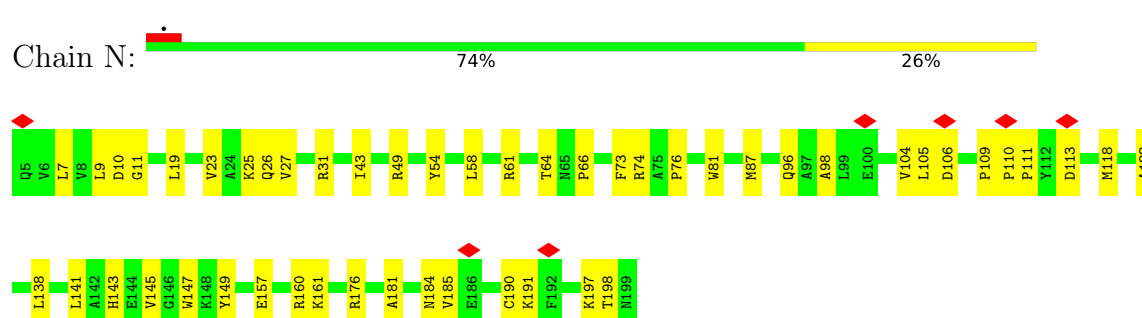
- Molecule 12: 60S ribosomal protein L14



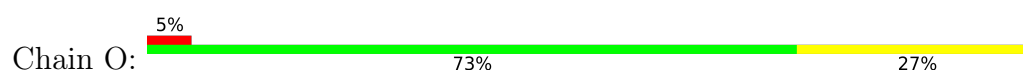
- Molecule 13: 60S ribosomal protein L15

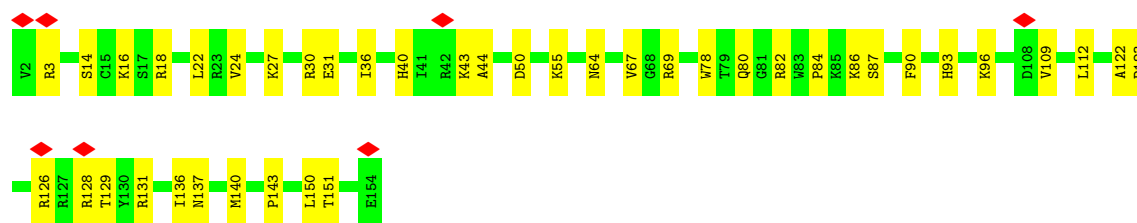


- Molecule 14: 60S ribosomal protein L13a

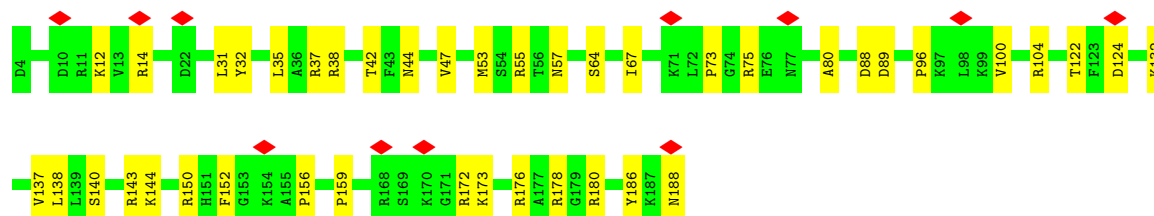
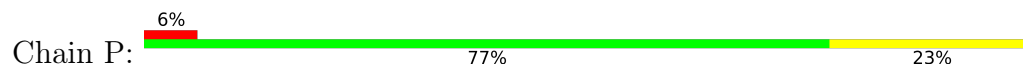


- Molecule 15: 60S ribosomal protein L17

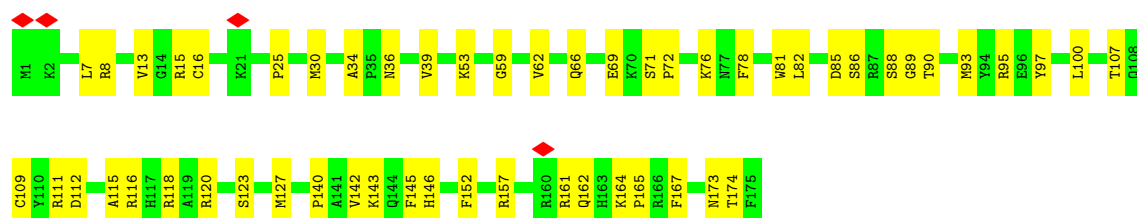




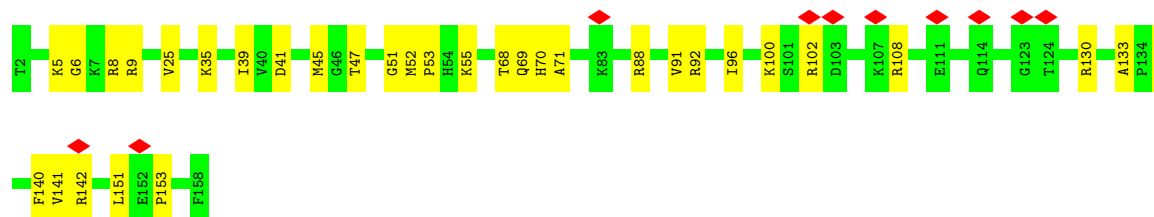
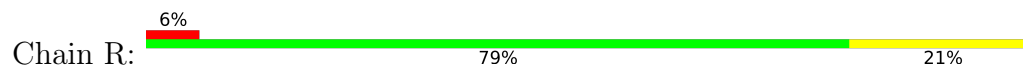
- Molecule 16: 60S ribosomal protein L18



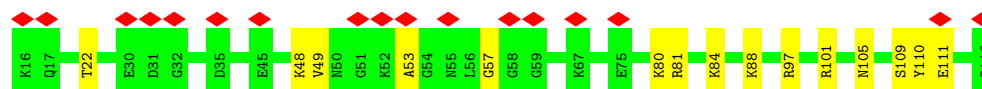
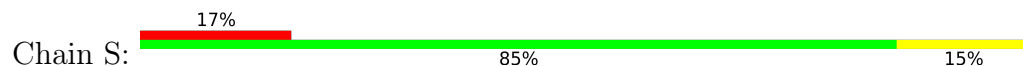
- Molecule 17: 60S ribosomal protein L18a



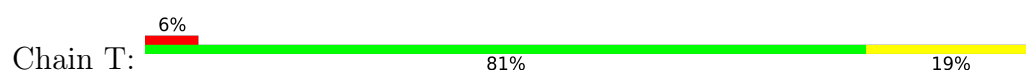
- Molecule 18: 60S ribosomal protein L21



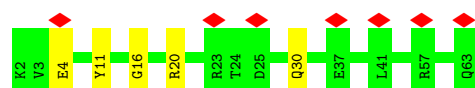
- Molecule 19: 60S ribosomal protein L22



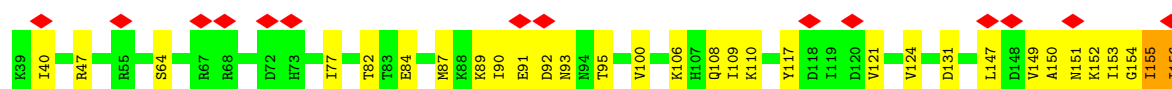
- Molecule 20: 60S ribosomal protein L23



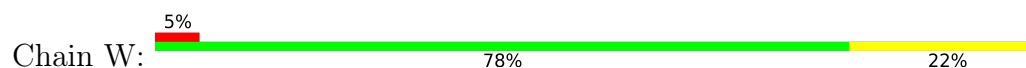
- Molecule 21: 60S ribosomal protein L24



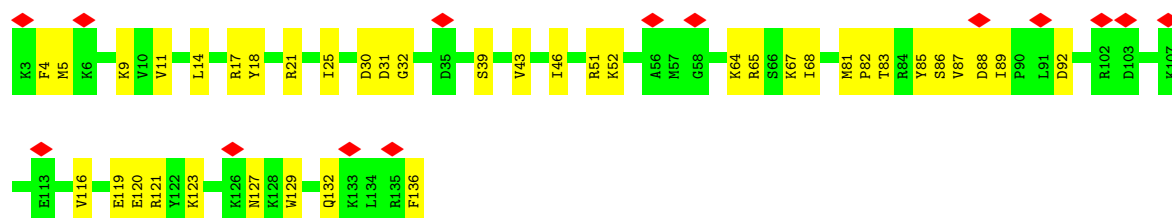
- Molecule 22: 60S ribosomal protein L23a



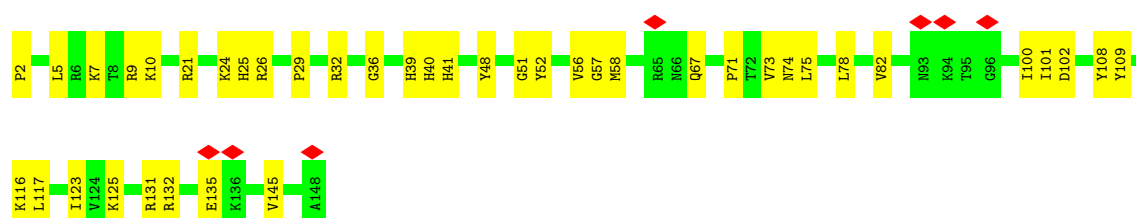
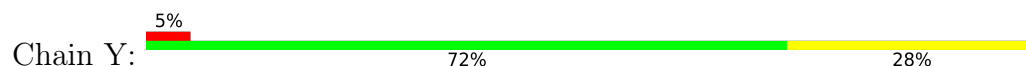
- Molecule 23: Ribosomal protein L26



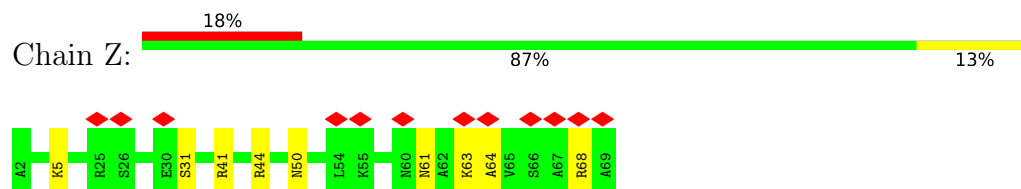
- Molecule 24: 60S ribosomal protein L27



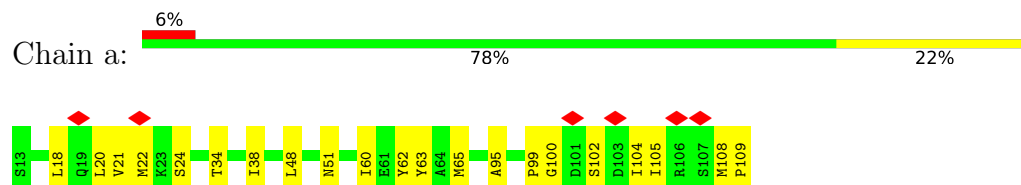
- Molecule 25: 60S ribosomal protein L27a



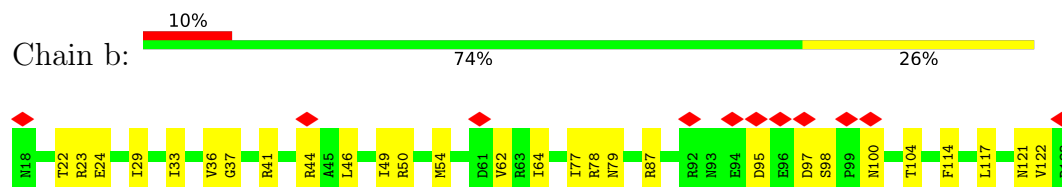
- Molecule 26: 60S ribosomal protein L29



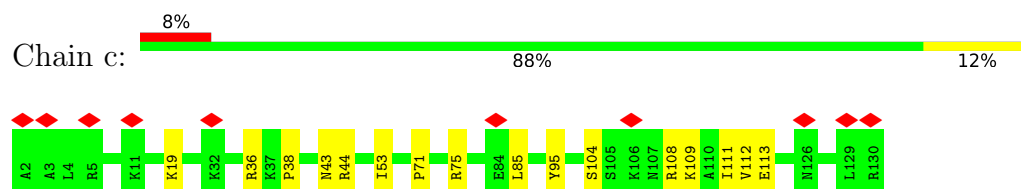
- Molecule 27: 60S ribosomal protein L30



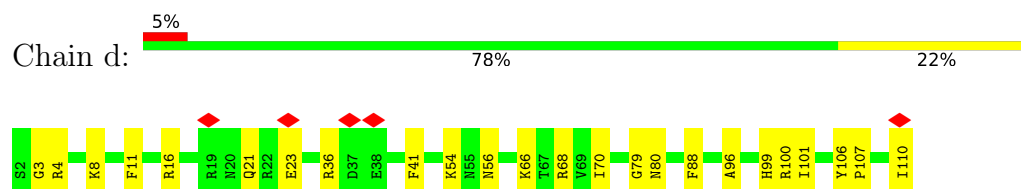
- Molecule 28: 60S ribosomal protein L31



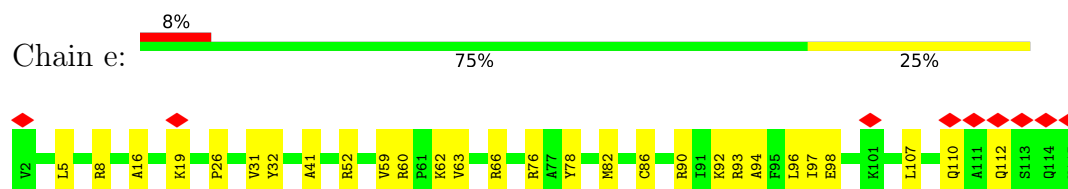
- Molecule 29: 60S ribosomal protein L32



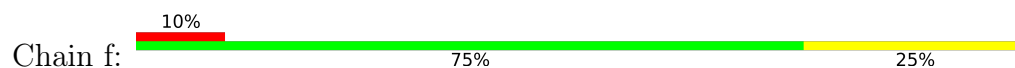
- Molecule 30: 60S ribosomal protein L35a

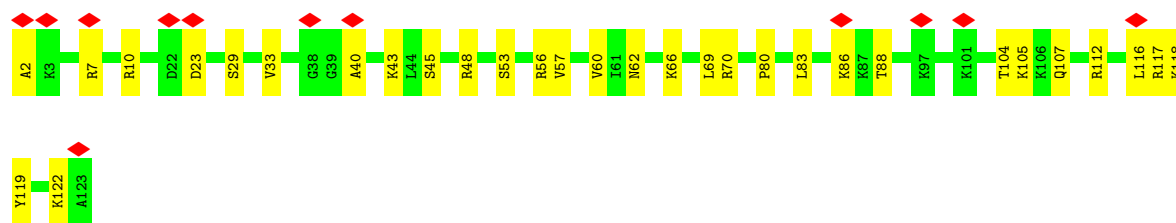


- Molecule 31: 60S ribosomal protein L34

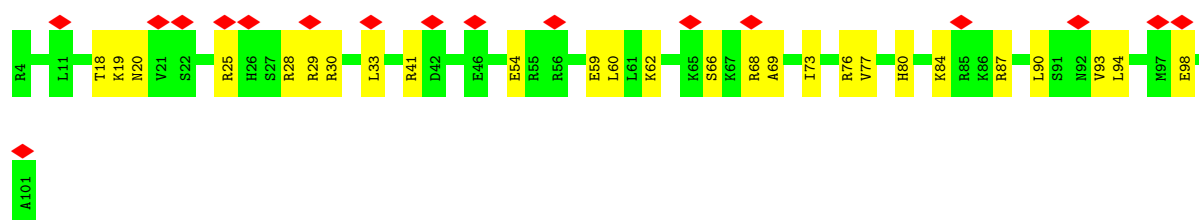
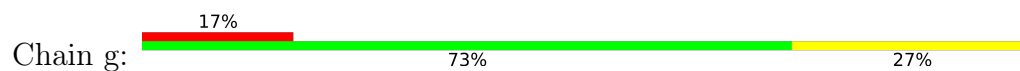


- Molecule 32: 60S ribosomal protein L35

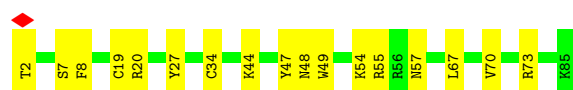
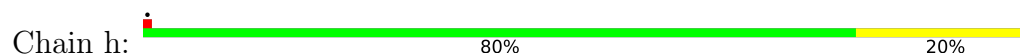




- Molecule 33: 60S ribosomal protein L36



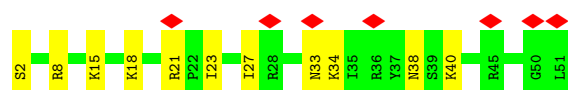
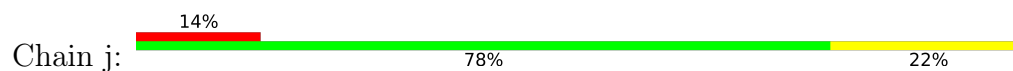
- Molecule 34: 60S ribosomal protein L37



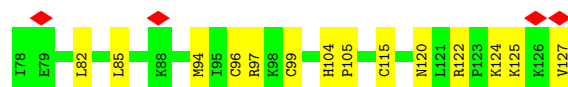
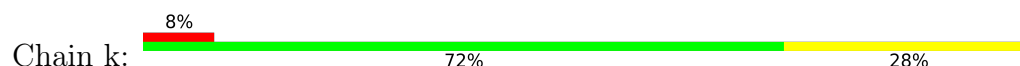
- Molecule 35: 60S ribosomal protein L38



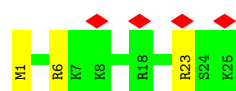
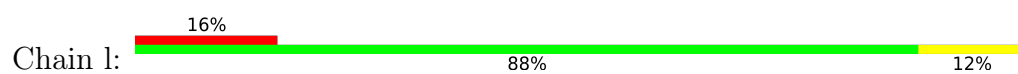
- Molecule 36: Ribosomal protein L39



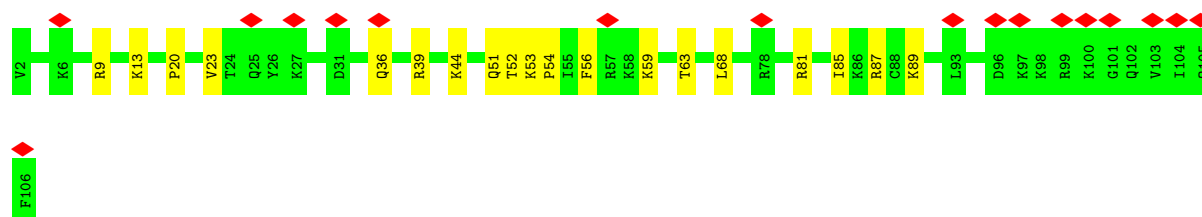
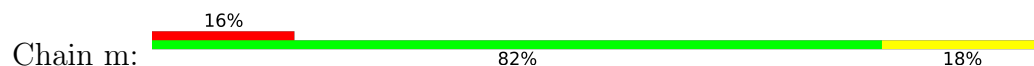
- Molecule 37: 60S ribosomal protein L40



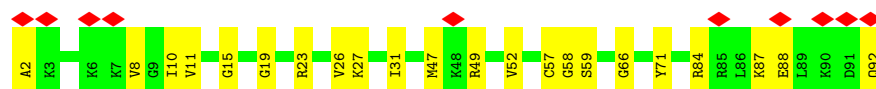
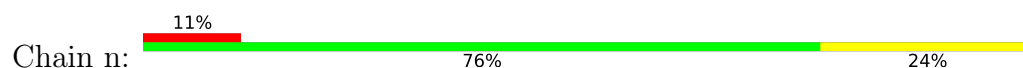
- Molecule 38: 60S ribosomal protein L41



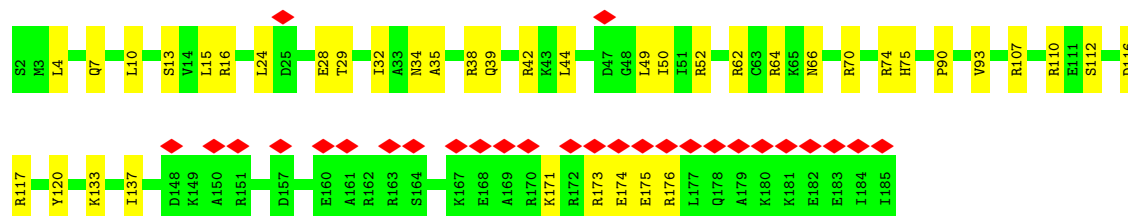
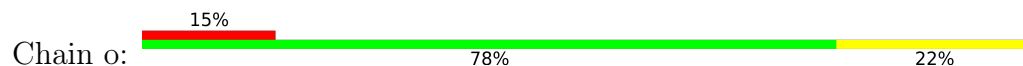
• Molecule 39: Ribosomal protein L36A



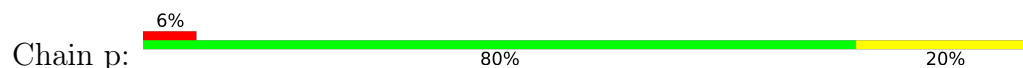
• Molecule 40: Ribosomal protein L37a



• Molecule 41: 60S ribosomal protein L19



• Molecule 42: 60S ribosomal protein L28



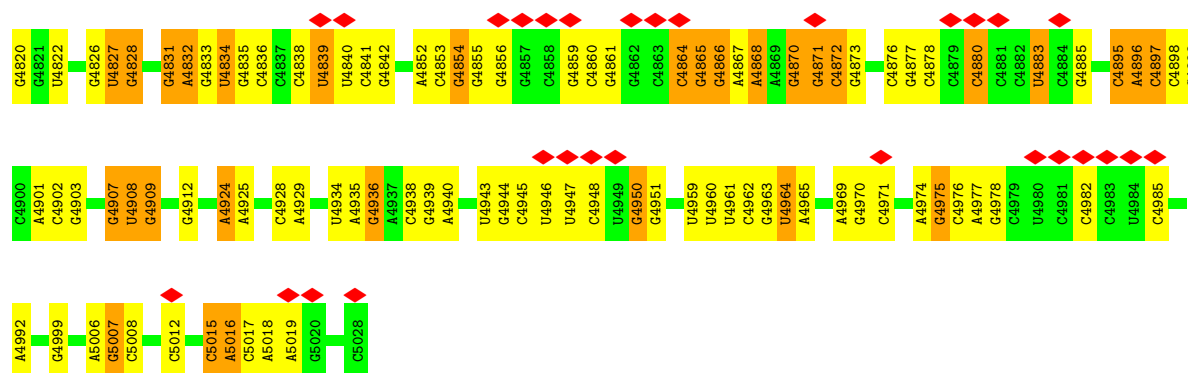
• Molecule 43: 28S ribosomal RNA



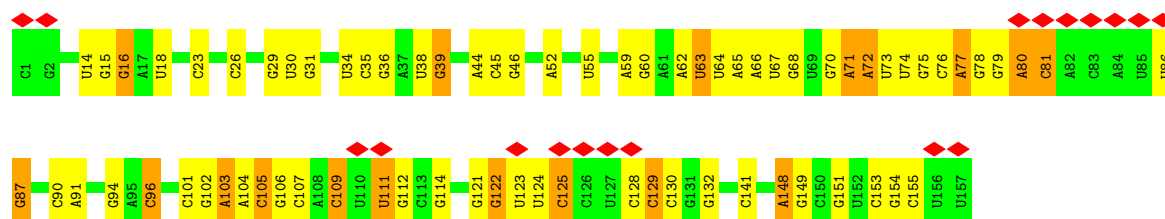


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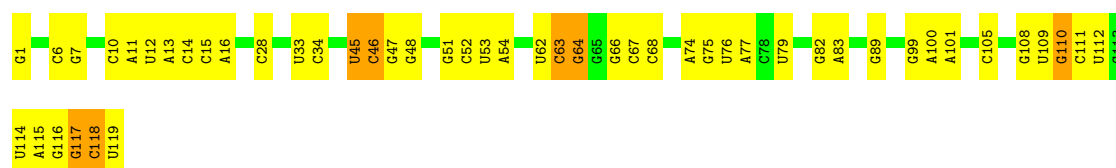
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C4723	A4246	A4246	U4247	U4247	U4247	A4132	G4049	A3934	G3868	A3784	A3682	A3579
U4724	U4247	U4247	C4248	C4248	C4248	G4135	G4050	A3935	G3871	U3785	U3683	G3580
C4725	A4248	A4248	U4249	U4249	U4249	U4136	U4051	U3936	A3872	G3786	U3684	A3581
U4726	C4249	C4249	C4250	C4250	C4250	G4145	G4052	A3937	A3876	C3787	A3689	A3582
G4727	U4251	U4251	U4251	U4251	U4251	G4146	G4053	A3938	A3877	C3788	A3690	G3588
C4728	U4252	U4252	U4252	U4252	U4252	C4147	G4054	G3939	A3878	U3789	A3691	C3589
U4729	G4253	G4253	U4253	U4253	U4253	G4148	G4055	U3940	A3879	G3791	A3692	G3590
G4730	C4254	C4254	U4254	U4254	U4254	A4149	G4056	G3941	C3880	C3794	U3692	A3592
C4731	U4255	U4255	U4255	U4255	U4255	U4150	G4057	G3942	C3881	A3795	G3693	G3596
U4732	A4256	A4256	U4256	U4256	U4256	U4151	U4058	A3943	A3882	A3796	A3694	C3597
A4733	G4257	G4257	G4257	G4257	G4257	U4152	G4059	A3944	G3883	G3798	A3695	G3597
U4734	U4258	U4258	U4258	U4258	U4258	G4153	G4060	G3945	A3884			
C4735	C4259	C4259	U4259	U4259	U4259	A4154	G4061	G3946				
G4736	A4260	A4260	U4260	U4260	U4260	G4155	G4062	C3947				
U4737	U4261	U4261	U4261	U4261	U4261	A4156	G4063	C3948				
C4738	G4262	G4262	U4262	U4262	U4262	U4157	G4064	G4004				
U4739	C4263	C4263	U4263	U4263	U4263	G4158	G4065					
G4740	U4264	U4264	U4264	U4264	U4264	A4159	G4066					
C4741	A4265	A4265	U4265	U4265	U4265	U4160	G4067					
U4742	G4266	G4266	U4266	U4266	U4266	U4161	G4068					
C4743	U4267	U4267	U4267	U4267	U4267	U4162	G4069					
G4744	C4268	C4268	U4268	U4268	U4268	U4163	C4070					
U4745	A4269	A4269	U4269	U4269	U4269	U4164	G4071					
C4746	G4270	G4270	U4270	U4270	U4270	U4165	G4072					
U4747	U4271	U4271	U4271	U4271	U4271	U4166	G4073					
C4748	C4272	C4272	U4272	U4272	U4272	U4167	G4074					
G4749	U4273	U4273	U4273	U4273	U4273	U4168	G4075					
U4750	G4274	G4274	U4274	U4274	U4274	U4169	G4076					
C4751	C4275	C4275	U4275	U4275	U4275	U4170	G4077					
G4752	U4276	U4276	U4276	U4276	U4276	U4171	G4078					
U4753	A4277	A4277	U4277	U4277	U4277	U4172	G4079					
C4754	G4278	G4278	U4278	U4278	U4278	U4173	G4080					
U4755	C4279	C4279	U4279	U4279	U4279	U4174	G4081					
G4756	U4280	U4280	U4280	U4280	U4280	U4175	G4082					
C4757	A4281	A4281	U4281	U4281	U4281	U4176	G4083					
U4758	G4282	G4282	U4282	U4282	U4282	U4177	G4084					
C4759	U4283	U4283	U4283	U4283	U4283	U4178	G4085					
G4760	A4284	A4284	U4284	U4284	U4284	U4179	G4086					
U4761	C4285	C4285	U4285	U4285	U4285	U4180	G4087					
C4762	U4286	U4286	U4286	U4286	U4286	U4181	G4088					
G4763	A4287	A4287	U4287	U4287	U4287	U4182	G4089					
U4764	G4288	G4288	U4288	U4288	U4288	U4183	G4090					
C4765	U4289	U4289	U4289	U4289	U4289	U4184	G4091					
G4766	A4290	A4290	U4290	U4290	U4290	U4185	G4092					
U4767	C4291	C4291	U4291	U4291	U4291	U4186	G4093					
C4768	U4292	U4292	U4292	U4292	U4292	U4187	G4094					
G4769	G4293	G4293	U4293	U4293	U4293	U4188	C4095					
U4770	C4294	C4294	U4294	U4294	U4294	U4189	G4096					
C4771	U4295	U4295	U4295	U4295	U4295	U4190	G4097					
G4772	A4296	A4296	U4296	U4296	U4296	U4191	G4098					
U4773	G4297	G4297	U4297	U4297	U4297	U4192	G4099					
C4774	U4298	U4298	U4298	U4298	U4298	U4193	G4100					
G4775	A4299	A4299	U4299	U4299	U4299	U4194	G4101					
U4776	C4300	C4300	U4300	U4300	U4300	U4195	G4102					
C4777	U4301	U4301	U4301	U4301	U4301	U4196	G4103					
G4778	G4302	G4302	U4302	U4302	U4302	U4197	G4104					
U4779	C4303	C4303	U4303	U4303	U4303	U4198	G4105					
C4780	U4304	U4304	U4304	U4304	U4304	U4199	G4106					
G4781	A4305	A4305	U4305	U4305	U4305	U4200	C4027					
U4782	C4306	C4306	U4306	U4306	U4306	U4201	U4028					
C4783	U4307	U4307	U4307	U4307	U4307	U4202	C4029					
G4784	A4308	A4308	U4308	U4308	U4308	U4203	U4030					
U4785	C4309	C4309	U4309	U4309	U4309	U4204	G4031					
C4786	U4310	U4310	U4310	U4310	U4310	U4205	G4032					
G4787	A4311	A4311	U4311	U4311	U4311	U4206	U4033					
U4788	C4312	C4312	U4312	U4312	U4312	U4207	U4034					
C4789	U4313	U4313	U4313	U4313	U4313	U4208	G4035					
G4790	A4314	A4314	U4314	U4314	U4314	U4209	U4036					
U4791	C4315	C4315	U4315	U4315	U4315	U4210	U4037					
C4792	U4316	U4316	U4316	U4316	U4316	U4211	U4038					
G4793	A4317	A4317	U4317	U4317								



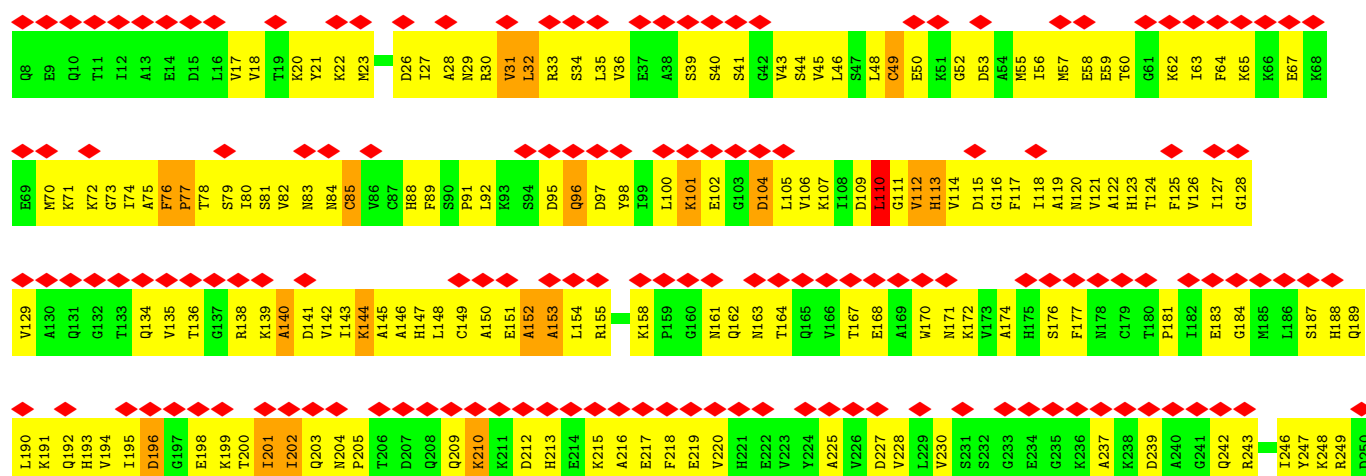
• Molecule 44: 5.8S ribosomal RNA

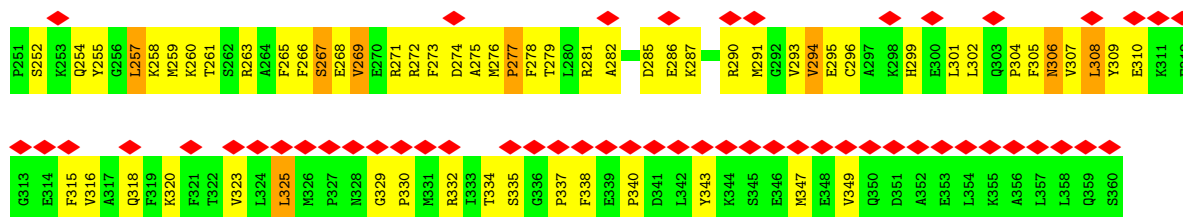


• Molecule 45: 5S ribosomal RNA



• Molecule 46: Proliferation-associated protein 2G4





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	208206	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 ($e^-/\text{\AA}^2$)	31.78	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	31000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	20.986	Depositor
Minimum map value	-10.475	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.898	Depositor
Recommended contour level	4	Depositor
Map size (Å)	477.612, 477.612, 477.612	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3267, 1.3267, 1.3267	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG

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	A	0.12	0/1968	0.33	0/2639
2	B	0.11	0/3245	0.32	0/4343
3	C	0.10	0/2951	0.32	0/3961
4	D	0.10	0/2440	0.30	0/3266
5	E	0.13	0/1607	0.33	0/2159
6	F	0.11	0/1983	0.33	0/2641
7	G	0.15	0/1913	0.40	1/2577 (0.0%)
8	H	0.16	0/1545	0.39	0/2076
9	I	0.11	0/1730	0.30	0/2311
10	J	0.12	0/1376	0.35	0/1841
11	K	0.13	0/1691	0.36	0/2264
12	L	0.12	0/1165	0.33	0/1558
13	M	0.11	0/1746	0.31	0/2338
14	N	0.12	0/1629	0.33	0/2178
15	O	0.11	0/1268	0.33	0/1700
16	P	0.12	0/1528	0.32	0/2038
17	Q	0.12	0/1486	0.32	0/1994
18	R	0.11	0/1312	0.30	0/1752
19	S	0.12	0/840	0.32	0/1126
20	T	0.11	0/983	0.29	0/1319
21	U	0.10	0/533	0.29	0/710
22	V	0.11	0/983	0.32	0/1323
23	W	0.18	0/1081	0.37	0/1439
24	X	0.11	0/1126	0.31	0/1502
25	Y	0.10	0/1193	0.31	0/1593
26	Z	0.09	0/568	0.31	0/750
27	a	0.10	0/764	0.27	0/1026
28	b	0.12	0/894	0.36	0/1204
29	c	0.11	0/1082	0.33	0/1443
30	d	0.11	0/895	0.32	0/1198
31	e	0.11	0/916	0.35	0/1221
32	f	0.10	0/1023	0.29	0/1350

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
33	g	0.10	0/813	0.31	0/1078
34	h	0.17	0/703	0.38	0/929
35	i	0.09	0/574	0.30	0/760
36	j	0.11	0/453	0.35	0/599
37	k	0.28	0/417	0.54	0/553
38	l	0.13	0/241	0.38	0/305
39	m	0.10	0/877	0.33	0/1156
40	n	0.11	0/718	0.28	0/953
41	o	0.11	0/1558	0.33	0/2059
42	p	0.13	0/995	0.39	0/1333
43	q	0.08	0/86618	0.19	0/135116
44	r	0.08	0/3726	0.19	0/5804
45	s	0.09	0/2839	0.21	0/4425
46	t	0.33	0/2786	0.80	9/3753 (0.2%)
All	All	0.11	0/148782	0.27	10/219663 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	1

There are no bond length outliers.

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	140	ALA	N-CA-C	-7.95	102.62	111.28
46	t	76	PHE	CA-C-N	7.82	129.61	119.84
46	t	76	PHE	C-N-CA	7.82	129.61	119.84
46	t	212	ASP	N-CA-C	-6.75	104.52	112.89
46	t	136	THR	CB-CA-C	-5.91	107.01	114.40
46	t	246	ILE	N-CA-C	5.58	116.44	107.73
7	G	191	GLY	N-CA-C	5.37	119.17	112.73
46	t	269	VAL	N-CA-C	5.12	115.85	110.62
46	t	202	ILE	N-CA-C	5.06	116.09	109.21
46	t	144	LYS	N-CA-C	-5.00	105.54	111.69

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	258	HIS	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1930	0	2030	53	0
2	B	3178	0	3318	78	0
3	C	2897	0	3076	60	0
4	D	2395	0	2424	42	0
5	E	1576	0	1683	36	0
6	F	1947	0	2092	34	0
7	G	1879	0	2012	56	0
8	H	1527	0	1607	35	0
9	I	1692	0	1744	42	0
10	J	1353	0	1386	23	0
11	K	1660	0	1762	50	0
12	L	1143	0	1219	26	0
13	M	1701	0	1749	51	0
14	N	1599	0	1749	36	0
15	O	1242	0	1272	28	0
16	P	1504	0	1627	35	0
17	Q	1447	0	1491	45	0
18	R	1284	0	1351	30	0
19	S	826	0	852	11	0
20	T	969	0	1031	18	0
21	U	520	0	529	4	0
22	V	966	0	1040	71	0
23	W	1064	0	1145	23	0
24	X	1103	0	1179	25	0
25	Y	1164	0	1213	35	0
26	Z	558	0	590	8	0
27	a	753	0	790	13	0
28	b	879	0	924	16	0
29	c	1064	0	1160	13	0
30	d	876	0	912	19	0
31	e	906	0	997	21	0
32	f	1015	0	1156	28	0
33	g	802	0	865	19	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	h	689	0	718	16	0
35	i	568	0	635	11	0
36	j	443	0	483	10	0
37	k	411	0	443	13	0
38	l	240	0	289	2	0
39	m	863	0	930	17	0
40	n	708	0	758	16	0
41	o	1542	0	1698	38	0
42	p	980	0	1039	19	0
43	q	77430	0	39111	1160	0
44	r	3337	0	1692	54	0
45	s	2541	0	1285	40	0
46	t	2739	0	2731	530	0
47	B	1	0	0	0	0
47	K	1	0	0	0	0
47	M	1	0	0	0	0
47	P	1	0	0	0	0
47	W	1	0	0	0	0
47	b	1	0	0	0	0
47	c	1	0	0	0	0
47	l	1	0	0	0	0
47	q	223	0	0	0	0
47	r	7	0	0	0	0
47	s	9	0	0	0	0
48	h	1	0	0	0	0
48	m	1	0	0	0	0
48	n	1	0	0	0	0
All	All	138160	0	99787	2539	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 11.

All (2539) 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)
46:t:82:VAL:HG11	46:t:98:TYR:CE2	1.25	1.59
22:V:156:ILE:HD11	46:t:290:ARG:C	1.17	1.55
22:V:156:ILE:CD1	46:t:290:ARG:C	1.83	1.50
46:t:118:ILE:HD11	46:t:276:MET:SD	1.52	1.47
46:t:82:VAL:CG1	46:t:98:TYR:HE2	1.26	1.45
46:t:26:ASP:O	46:t:30:ARG:CG	1.69	1.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:156:ILE:HD11	46:t:291:MET:N	1.32	1.39
22:V:151:ASN:ND2	46:t:287:LYS:HG2	1.11	1.38
46:t:40:SER:O	46:t:127:ILE:HD12	1.23	1.31
46:t:140:ALA:HA	46:t:143:ILE:CG2	1.58	1.31
46:t:20:LYS:NZ	46:t:115:ASP:OD2	1.67	1.27
46:t:102:GLU:OE2	46:t:128:GLY:HA3	1.27	1.27
46:t:40:SER:C	46:t:127:ILE:HD12	1.60	1.26
22:V:91:GLU:OE1	46:t:259:MET:HE2	1.32	1.25
22:V:151:ASN:ND2	46:t:287:LYS:CG	1.99	1.23
46:t:189:GLN:NE2	46:t:191:LYS:HE3	1.53	1.22
46:t:184:GLY:HA2	46:t:209:GLN:OE1	1.40	1.22
22:V:156:ILE:HD12	46:t:290:ARG:O	1.39	1.21
46:t:139:LYS:O	46:t:143:ILE:HG22	1.36	1.21
22:V:91:GLU:OE1	46:t:259:MET:CE	1.90	1.19
46:t:273:PHE:HZ	46:t:282:ALA:CB	1.55	1.19
46:t:27:ILE:O	46:t:31:VAL:HG13	1.38	1.19
46:t:50:GLU:O	46:t:53:ASP:OD1	1.57	1.18
46:t:118:ILE:CD1	46:t:276:MET:SD	2.31	1.18
43:q:2687:U:O2	46:t:257:LEU:HD12	1.43	1.17
46:t:21:TYR:OH	46:t:117:PHE:HD1	1.26	1.17
46:t:82:VAL:CG1	46:t:98:TYR:CE2	2.10	1.17
46:t:27:ILE:HD13	46:t:59:GLU:O	1.42	1.17
46:t:268:GLU:HG3	46:t:271:ARG:HH12	1.02	1.17
46:t:34:SER:OG	46:t:55:MET:HE3	1.47	1.14
46:t:140:ALA:CA	46:t:143:ILE:CG2	2.26	1.13
46:t:163:ASN:HB2	46:t:201:ILE:HG23	1.19	1.12
22:V:156:ILE:HD13	46:t:291:MET:HA	1.28	1.12
46:t:82:VAL:HG11	46:t:98:TYR:CZ	1.85	1.10
46:t:88:HIS:ND1	46:t:305:PHE:HB3	1.66	1.10
22:V:156:ILE:HG13	46:t:290:ARG:HB3	1.32	1.10
46:t:203:GLN:HE22	46:t:228:VAL:HA	0.96	1.09
46:t:202:ILE:HD11	46:t:209:GLN:OE1	1.55	1.06
37:k:99:CYS:HB3	37:k:115:CYS:SG	1.96	1.06
46:t:29:ASN:HD21	46:t:334:THR:HA	1.00	1.06
46:t:189:GLN:HE21	46:t:191:LYS:HE3	0.90	1.06
46:t:40:SER:O	46:t:127:ILE:CD1	2.06	1.04
46:t:140:ALA:HA	46:t:143:ILE:HG21	1.37	1.04
46:t:196:ASP:OD2	46:t:248:LYS:CE	2.05	1.04
46:t:205:PRO:HG2	46:t:210:LYS:HG3	1.40	1.04
46:t:118:ILE:HD13	46:t:195:ILE:HD11	1.36	1.03
46:t:203:GLN:NE2	46:t:228:VAL:HA	1.73	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:156:ILE:CD1	46:t:290:ARG:O	1.95	1.02
46:t:148:LEU:CD1	46:t:177:PHE:HE2	1.71	1.01
46:t:82:VAL:CB	46:t:98:TYR:HE2	1.73	1.01
46:t:139:LYS:HG2	46:t:315:PHE:CD2	1.95	1.01
46:t:45:VAL:O	46:t:49:CYS:SG	2.18	1.00
41:o:34:ASN:HD22	46:t:254:GLN:NE2	1.60	1.00
46:t:31:VAL:HG23	46:t:32:LEU:N	1.73	1.00
46:t:273:PHE:CZ	46:t:282:ALA:CB	2.45	1.00
22:V:151:ASN:HD22	46:t:287:LYS:CG	1.68	0.99
22:V:156:ILE:CD1	46:t:291:MET:N	2.09	0.99
46:t:171:ASN:O	46:t:174:ALA:HB3	1.63	0.98
46:t:101:LYS:N	46:t:104:ASP:OD2	1.97	0.98
46:t:44:SER:OG	46:t:97:ASP:OD2	1.82	0.98
46:t:95:ASP:O	46:t:96:GLN:O	1.82	0.98
46:t:31:VAL:CG2	46:t:32:LEU:H	1.77	0.97
46:t:26:ASP:C	46:t:30:ARG:HG3	1.90	0.97
43:q:455:G:H1	43:q:687:A:H2	1.05	0.97
46:t:140:ALA:CA	46:t:143:ILE:HG22	1.92	0.96
46:t:20:LYS:NZ	46:t:70:MET:CE	2.27	0.96
46:t:272:ARG:NH2	46:t:282:ALA:HB1	1.79	0.96
46:t:21:TYR:CE1	46:t:117:PHE:CD1	2.53	0.96
46:t:147:HIS:CE1	46:t:338:PHE:CD2	2.53	0.96
46:t:20:LYS:NZ	46:t:70:MET:HE1	1.81	0.95
46:t:148:LEU:HD12	46:t:177:PHE:HE2	1.30	0.95
46:t:205:PRO:CG	46:t:210:LYS:HG3	1.96	0.95
46:t:26:ASP:O	46:t:30:ARG:HG3	0.77	0.94
22:V:151:ASN:HB2	46:t:287:LYS:HZ2	1.31	0.94
46:t:27:ILE:CD1	46:t:59:GLU:O	2.15	0.94
46:t:31:VAL:CG2	46:t:32:LEU:N	2.31	0.94
46:t:20:LYS:CE	46:t:70:MET:HE1	1.98	0.93
43:q:976:U:H3	43:q:1047:G:H1	1.16	0.93
46:t:148:LEU:HD11	46:t:177:PHE:CE2	2.04	0.93
46:t:189:GLN:HE21	46:t:191:LYS:CE	1.82	0.92
46:t:102:GLU:OE2	46:t:128:GLY:CA	2.17	0.92
46:t:148:LEU:CD1	46:t:177:PHE:CE2	2.52	0.92
46:t:102:GLU:OE1	46:t:127:ILE:HG22	1.69	0.92
46:t:209:GLN:O	46:t:213:HIS:HB2	1.67	0.92
46:t:102:GLU:CD	46:t:128:GLY:HA3	1.95	0.92
46:t:308:LEU:H	46:t:308:LEU:HD22	1.35	0.91
46:t:147:HIS:NE2	46:t:151:GLU:OE2	2.03	0.91
46:t:35:LEU:HD21	46:t:52:GLY:HA2	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:156:ILE:HD13	46:t:291:MET:CA	2.00	0.90
46:t:29:ASN:ND2	46:t:334:THR:HA	1.84	0.90
46:t:57:MET:CE	46:t:74:ILE:HG12	2.02	0.90
46:t:92:LEU:HB3	46:t:286:GLU:OE2	1.72	0.90
46:t:57:MET:CE	46:t:74:ILE:CG1	2.50	0.90
22:V:156:ILE:CD1	46:t:291:MET:CA	2.50	0.89
46:t:139:LYS:C	46:t:143:ILE:HG22	1.97	0.89
46:t:215:LYS:HD3	46:t:215:LYS:H	1.36	0.89
46:t:202:ILE:CD1	46:t:209:GLN:HB3	2.01	0.89
46:t:139:LYS:O	46:t:143:ILE:CG2	2.21	0.88
46:t:75:ALA:HA	46:t:276:MET:CE	2.04	0.88
37:k:99:CYS:CB	37:k:115:CYS:SG	2.62	0.88
46:t:88:HIS:ND1	46:t:305:PHE:CB	2.36	0.88
46:t:273:PHE:HZ	46:t:282:ALA:HB1	1.39	0.88
37:k:97:ARG:NH1	37:k:120:ASN:OD1	2.07	0.88
46:t:138:ARG:O	46:t:142:VAL:N	2.06	0.88
46:t:268:GLU:HG3	46:t:271:ARG:NH1	1.87	0.88
46:t:139:LYS:HD3	46:t:315:PHE:CE2	2.09	0.87
46:t:57:MET:HE3	46:t:74:ILE:CG1	2.03	0.87
46:t:20:LYS:HZ3	46:t:115:ASP:CG	1.82	0.87
46:t:255:TYR:CE2	46:t:299:HIS:CD2	2.62	0.87
43:q:224:A:N6	43:q:237:G:C2	2.43	0.86
34:h:2:THR:N	43:q:3613:A:HO2'	1.73	0.86
46:t:141:ASP:O	46:t:145:ALA:N	2.09	0.86
34:h:48:ASN:OD1	34:h:54:LYS:NZ	2.09	0.86
46:t:21:TYR:HE1	46:t:117:PHE:CD1	1.94	0.86
8:H:129:ARG:HH21	8:H:153:LEU:CD2	1.89	0.85
46:t:28:ALA:O	46:t:31:VAL:HG22	1.74	0.85
46:t:143:ILE:HD11	46:t:343:TYR:CZ	2.10	0.85
43:q:224:A:N6	43:q:237:G:N2	2.24	0.85
46:t:202:ILE:HD13	46:t:209:GLN:HB3	1.55	0.85
22:V:156:ILE:CD1	46:t:291:MET:HA	2.05	0.85
46:t:40:SER:CA	46:t:127:ILE:HD12	2.07	0.85
22:V:151:ASN:HD21	46:t:287:LYS:HG2	1.40	0.84
46:t:70:MET:HB3	46:t:72:LYS:HZ2	1.42	0.84
46:t:143:ILE:HD13	46:t:343:TYR:CE1	2.13	0.84
46:t:188:HIS:HA	46:t:200:THR:HG22	1.57	0.84
46:t:21:TYR:CZ	46:t:117:PHE:CD1	2.66	0.84
43:q:2552:A:H62	43:q:2740:U:H3	1.26	0.83
46:t:23:MET:HE1	46:t:114:VAL:HG21	1.60	0.83
46:t:138:ARG:O	46:t:142:VAL:HG22	1.78	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:40:SER:CA	46:t:127:ILE:CD1	2.56	0.83
46:t:57:MET:HE1	46:t:74:ILE:HG12	1.59	0.83
46:t:138:ARG:HA	46:t:141:ASP:CB	2.07	0.83
46:t:83:ASN:O	46:t:316:VAL:HG22	1.78	0.83
46:t:203:GLN:HE22	46:t:228:VAL:CA	1.89	0.83
41:o:34:ASN:ND2	46:t:254:GLN:NE2	2.25	0.82
46:t:40:SER:C	46:t:127:ILE:CD1	2.51	0.82
22:V:156:ILE:HD11	46:t:290:ARG:CA	2.09	0.82
46:t:84:ASN:OD1	46:t:310:GLU:O	1.96	0.82
46:t:189:GLN:NE2	46:t:191:LYS:CE	2.40	0.82
46:t:75:ALA:HB2	46:t:112:VAL:C	2.03	0.82
22:V:156:ILE:CG1	46:t:290:ARG:HB3	2.09	0.82
1:A:117:GLU:HG2	1:A:124:GLY:H	1.44	0.82
8:H:128:MET:HB3	8:H:132:VAL:CG2	2.09	0.82
41:o:133:LYS:H	41:o:137:ILE:HD11	1.45	0.81
46:t:27:ILE:HA	46:t:30:ARG:HE	1.45	0.81
46:t:20:LYS:HE2	46:t:64:PHE:CE2	2.15	0.81
46:t:34:SER:OG	46:t:55:MET:CE	2.29	0.81
46:t:81:SER:HB2	46:t:107:LYS:HE2	1.61	0.80
12:L:91:TRP:HE1	43:q:4827:U:H3'	1.45	0.80
2:B:224:LYS:HG2	2:B:340:THR:HG22	1.64	0.80
13:M:73:ARG:HB2	13:M:89:VAL:HG23	1.64	0.80
46:t:21:TYR:OH	46:t:117:PHE:CD1	2.11	0.80
46:t:237:ALA:HB1	46:t:308:LEU:HB3	1.61	0.80
46:t:170:TRP:CZ3	46:t:203:GLN:HG2	2.17	0.80
46:t:138:ARG:HA	46:t:141:ASP:HB3	1.64	0.80
46:t:293:VAL:O	46:t:296:CYS:N	2.16	0.79
46:t:82:VAL:CB	46:t:98:TYR:CE2	2.57	0.79
46:t:147:HIS:CE1	46:t:338:PHE:CE2	2.70	0.79
43:q:4264:U:OP2	43:q:4265:C:N4	2.15	0.79
46:t:65:LYS:CE	46:t:65:LYS:HA	2.12	0.79
22:V:156:ILE:HG13	46:t:290:ARG:CB	2.12	0.79
46:t:65:LYS:HA	46:t:65:LYS:HE3	1.62	0.79
22:V:156:ILE:O	46:t:291:MET:HG2	1.83	0.79
46:t:196:ASP:OD2	46:t:248:LYS:HE3	1.81	0.78
37:k:99:CYS:CB	37:k:115:CYS:HG	1.95	0.78
46:t:163:ASN:CB	46:t:201:ILE:HG23	2.09	0.78
46:t:268:GLU:CG	46:t:271:ARG:HH12	1.90	0.78
46:t:162:GLN:HA	46:t:217:GLU:HG3	1.65	0.78
46:t:31:VAL:HG23	46:t:32:LEU:H	1.39	0.78
46:t:105:LEU:HD12	46:t:125:PHE:O	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:b:36:VAL:HG11	28:b:44:ARG:HG2	1.65	0.77
46:t:57:MET:N	46:t:57:MET:HE2	1.99	0.77
46:t:140:ALA:HA	46:t:143:ILE:HG23	1.65	0.77
46:t:161:ASN:O	46:t:217:GLU:HB3	1.83	0.77
2:B:153:MET:HG2	2:B:194:LEU:HD11	1.66	0.77
46:t:40:SER:HA	46:t:127:ILE:CD1	2.15	0.77
46:t:88:HIS:O	46:t:307:VAL:HG12	1.84	0.77
41:o:39:GLN:NE2	46:t:263:ARG:NH1	2.33	0.77
46:t:82:VAL:HG21	46:t:98:TYR:CE2	2.19	0.77
46:t:148:LEU:HD11	46:t:177:PHE:CZ	2.21	0.77
46:t:116:GLY:O	46:t:192:GLN:HA	1.84	0.76
43:q:2687:U:C2	46:t:257:LEU:HD12	2.21	0.76
46:t:163:ASN:HD21	46:t:216:ALA:H	1.33	0.76
46:t:196:ASP:OD2	46:t:248:LYS:NZ	2.18	0.76
43:q:698:C:H42	43:q:1273:G:H1	1.31	0.76
43:q:4716:G:O6	43:q:4717:G:N2	2.18	0.76
46:t:21:TYR:CZ	46:t:117:PHE:HD1	2.03	0.76
46:t:85:CYS:HB2	46:t:309:TYR:CE1	2.21	0.76
46:t:249:ARG:HA	46:t:302:LEU:HD23	1.68	0.76
46:t:73:GLY:O	46:t:113:HIS:ND1	2.20	0.75
46:t:215:LYS:HD3	46:t:215:LYS:N	2.00	0.75
46:t:291:MET:C	46:t:291:MET:HE3	2.12	0.75
2:B:60:VAL:HG21	2:B:67:VAL:HG12	1.69	0.75
46:t:140:ALA:O	46:t:144:LYS:N	2.18	0.75
43:q:742:G:N2	43:q:743:G:N7	2.34	0.75
46:t:20:LYS:HZ1	46:t:70:MET:CE	1.95	0.75
46:t:20:LYS:HE2	46:t:70:MET:HE1	1.68	0.75
46:t:140:ALA:O	46:t:143:ILE:HG23	1.86	0.75
46:t:20:LYS:HZ1	46:t:70:MET:HE3	1.51	0.75
46:t:29:ASN:OD1	46:t:335:SER:O	2.05	0.75
46:t:135:VAL:HG21	46:t:343:TYR:HD1	1.52	0.75
46:t:293:VAL:O	46:t:295:GLU:N	2.20	0.75
46:t:20:LYS:NZ	46:t:70:MET:HE3	2.01	0.75
46:t:145:ALA:HA	46:t:177:PHE:CE2	2.22	0.75
22:V:151:ASN:HD21	46:t:287:LYS:CB	2.01	0.74
46:t:176:SER:O	46:t:347:MET:SD	2.45	0.74
46:t:268:GLU:HA	46:t:271:ARG:HH11	1.52	0.74
46:t:50:GLU:C	46:t:53:ASP:OD1	2.31	0.74
40:n:10:ILE:HG13	43:q:1536:A:H4'	1.69	0.74
22:V:91:GLU:CD	46:t:259:MET:CE	2.61	0.74
46:t:135:VAL:HG21	46:t:343:TYR:CD1	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1086:C:H5''	43:q:1087:C:H5	1.51	0.74
46:t:140:ALA:C	46:t:143:ILE:HG22	2.13	0.74
46:t:110:LEU:C	46:t:110:LEU:HD12	2.13	0.73
46:t:196:ASP:OD1	46:t:196:ASP:N	2.18	0.73
46:t:75:ALA:H	46:t:112:VAL:HA	1.53	0.73
46:t:152:ALA:O	46:t:154:LEU:N	2.22	0.73
46:t:118:ILE:CD1	46:t:195:ILE:HD11	2.17	0.73
46:t:152:ALA:O	46:t:155:ARG:N	2.21	0.73
43:q:3917:G:H1	43:q:4037:U:H3	1.34	0.73
46:t:70:MET:HB3	46:t:72:LYS:NZ	2.03	0.73
46:t:79:SER:OG	46:t:89:PHE:O	2.06	0.73
43:q:2536:G:H1	43:q:2549:U:H3	1.36	0.73
46:t:184:GLY:CA	46:t:209:GLN:OE1	2.31	0.73
46:t:20:LYS:NZ	46:t:115:ASP:CG	2.44	0.73
46:t:140:ALA:C	46:t:143:ILE:CG2	2.60	0.73
43:q:2448:C:N4	43:q:2450:G:N7	2.37	0.72
8:H:129:ARG:HH21	8:H:153:LEU:HD22	1.54	0.72
11:K:163:LYS:HE2	43:q:503:A:H4'	1.71	0.72
46:t:31:VAL:O	46:t:34:SER:N	2.21	0.72
46:t:95:ASP:OD1	46:t:243:ARG:NH2	2.22	0.72
6:F:89:LEU:HD11	6:F:122:PHE:HB3	1.70	0.72
46:t:139:LYS:CG	46:t:315:PHE:CD2	2.71	0.72
11:K:130:LYS:HE3	11:K:131:PRO:HD2	1.71	0.72
22:V:156:ILE:HD13	22:V:156:ILE:O	1.89	0.72
43:q:2580:A:N6	43:q:2723:A:OP2	2.23	0.72
46:t:170:TRP:CE3	46:t:203:GLN:HG2	2.25	0.72
41:o:39:GLN:CD	46:t:263:ARG:NH1	2.48	0.72
43:q:4707:G:H22	43:q:4912:G:H1	1.36	0.72
46:t:143:ILE:CD1	46:t:343:TYR:CE1	2.72	0.72
46:t:145:ALA:HA	46:t:177:PHE:CD2	2.24	0.72
46:t:191:LYS:HG3	46:t:194:VAL:HB	1.72	0.72
46:t:57:MET:HE1	46:t:74:ILE:CG1	2.17	0.71
46:t:272:ARG:NH2	46:t:282:ALA:O	2.22	0.71
46:t:273:PHE:CZ	46:t:282:ALA:HB3	2.23	0.71
22:V:91:GLU:CD	46:t:259:MET:HE1	2.15	0.71
43:q:67:C:OP2	43:q:306:G:N2	2.23	0.71
46:t:67:GLU:OE1	46:t:67:GLU:N	2.19	0.71
46:t:43:VAL:HG11	46:t:48:LEU:HD21	1.72	0.71
46:t:163:ASN:ND2	46:t:216:ALA:H	1.88	0.71
8:H:129:ARG:HD3	8:H:153:LEU:HD22	1.72	0.71
43:q:1615:G:O6	43:q:3889:G:O2'	2.07	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:161:ARG:HH21	17:Q:164:LYS:HG2	1.56	0.71
43:q:944:G:N2	43:q:2056:G:O2'	2.23	0.71
46:t:27:ILE:HA	46:t:30:ARG:NE	2.05	0.70
46:t:75:ALA:HA	46:t:276:MET:HE1	1.72	0.70
46:t:274:ASP:CG	46:t:275:ALA:H	1.99	0.70
11:K:18:TRP:NE1	43:q:1498:G:O2'	2.24	0.70
22:V:151:ASN:HB2	46:t:287:LYS:NZ	2.05	0.70
45:s:75:G:N2	45:s:100:A:OP2	2.25	0.70
46:t:268:GLU:HA	46:t:271:ARG:NH1	2.06	0.70
10:J:42:GLN:HE22	10:J:117:ILE:HD13	1.57	0.70
46:t:23:MET:CE	46:t:114:VAL:HG21	2.21	0.70
26:Z:5:LYS:NZ	43:q:1854:A:OP2	2.24	0.70
43:q:1320:A:H62	43:q:2325:C:H5	1.40	0.70
1:A:208:GLU:HG2	43:q:1611:G:H1	1.54	0.70
17:Q:34:ALA:HB1	17:Q:39:VAL:HG13	1.72	0.70
42:p:90:LEU:HD11	42:p:111:ILE:HG23	1.72	0.70
46:t:105:LEU:HD13	46:t:126:VAL:HG22	1.74	0.70
46:t:184:GLY:HA2	46:t:209:GLN:CD	2.17	0.70
46:t:122:ALA:HB3	46:t:320:LYS:H	1.54	0.70
22:V:149:VAL:O	22:V:153:ILE:HG12	1.91	0.69
22:V:156:ILE:HD13	22:V:156:ILE:C	2.16	0.69
6:F:76:ARG:HH11	43:q:719:U:H5''	1.58	0.69
22:V:91:GLU:OE2	46:t:291:MET:HE2	1.91	0.69
22:V:91:GLU:OE2	46:t:261:THR:HG21	1.92	0.69
43:q:196:G:N2	43:q:206:U:OP1	2.25	0.69
46:t:57:MET:CE	46:t:74:ILE:HG13	2.22	0.69
46:t:138:ARG:CA	46:t:141:ASP:HB3	2.22	0.69
7:G:185:LYS:HE2	44:r:153:C:H5''	1.73	0.69
8:H:41:ILE:HG13	8:H:73:ILE:HD11	1.74	0.69
43:q:216:G:H1	43:q:233:G:H22	1.38	0.69
16:P:55:ARG:HH22	43:q:1335:C:H41	1.40	0.69
8:H:129:ARG:NH2	8:H:153:LEU:CD2	2.56	0.69
43:q:2372:C:OP2	43:q:2373:G:N2	2.26	0.69
46:t:149:CYS:HB2	46:t:228:VAL:HG21	1.75	0.69
22:V:151:ASN:ND2	46:t:287:LYS:CB	2.56	0.69
22:V:151:ASN:CB	46:t:287:LYS:HZ2	2.04	0.69
32:f:66:LYS:HG3	44:r:96:C:H5'	1.74	0.69
46:t:63:ILE:HG13	46:t:64:PHE:HD1	1.58	0.69
46:t:152:ALA:O	46:t:153:ALA:C	2.35	0.69
43:q:3703:A:H2'	43:q:3704:A:H8	1.58	0.69
7:G:194:VAL:O	7:G:196:ARG:NH1	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:920:G:N2	43:q:925:C:O2'	2.26	0.68
43:q:2687:U:O2	46:t:257:LEU:CD1	2.34	0.68
17:Q:143:LYS:HA	17:Q:146:HIS:HD1	1.56	0.68
43:q:159:A:H61	43:q:268:C:H42	1.38	0.68
44:r:122:G:N2	44:r:129:C:O2'	2.26	0.68
4:D:91:GLY:O	4:D:94:ASN:ND2	2.26	0.68
43:q:455:G:O6	43:q:687:A:N1	2.26	0.68
46:t:20:LYS:HG2	46:t:64:PHE:CZ	2.29	0.68
2:B:322:HIS:HE2	43:q:5007:G:HO2'	1.42	0.68
23:W:66:GLN:HB3	23:W:84:ARG:HH21	1.57	0.68
43:q:1784:A:H5''	43:q:1785:G:H5'	1.76	0.68
46:t:139:LYS:CD	46:t:315:PHE:CE2	2.77	0.68
46:t:138:ARG:HA	46:t:141:ASP:HB2	1.74	0.68
43:q:4503:G:N2	43:q:4506:A:OP2	2.26	0.68
46:t:75:ALA:N	46:t:112:VAL:HA	2.08	0.68
46:t:143:ILE:CD1	46:t:343:TYR:CZ	2.77	0.68
46:t:151:GLU:HB3	46:t:155:ARG:HH12	1.59	0.68
4:D:94:ASN:OD1	4:D:97:ALA:N	2.25	0.67
22:V:151:ASN:HD21	46:t:287:LYS:HA	1.59	0.67
46:t:31:VAL:HG22	46:t:32:LEU:H	1.57	0.67
46:t:138:ARG:O	46:t:141:ASP:HB3	1.94	0.67
43:q:317:C:H2'	43:q:318:A:H8	1.60	0.67
46:t:20:LYS:HZ3	46:t:70:MET:CE	1.99	0.67
2:B:65:SER:HB2	43:q:4578:A:H4'	1.76	0.67
43:q:40:G:N3	43:q:3885:U:N3	2.42	0.67
9:I:203:ARG:NH1	45:s:105:C:OP2	2.27	0.67
41:o:62:ARG:NH1	43:q:4607:C:OP2	2.27	0.67
42:p:67:ARG:NH2	43:q:475:G:OP2	2.28	0.67
43:q:1309:A:OP2	43:q:4407:U:O2'	2.13	0.67
46:t:21:TYR:CE1	46:t:117:PHE:CG	2.83	0.67
46:t:196:ASP:CG	46:t:248:LYS:CE	2.68	0.67
46:t:293:VAL:O	46:t:294:VAL:C	2.38	0.67
15:O:67:VAL:HG22	15:O:82:ARG:HH21	1.59	0.67
46:t:217:GLU:OE1	46:t:217:GLU:N	2.28	0.67
3:C:84:THR:HG22	3:C:86:ARG:H	1.58	0.66
43:q:1256:G:OP2	43:q:1256:G:N2	2.26	0.66
5:E:113:PRO:HG2	5:E:116:TYR:HE1	1.60	0.66
43:q:1315:C:H2'	43:q:1316:A:H8	1.61	0.66
43:q:4499:C:H2'	43:q:4500:G:H8	1.59	0.66
4:D:24:ARG:NH1	45:s:14:C:OP1	2.29	0.66
43:q:455:G:N1	43:q:687:A:C2	2.55	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1544:G:N2	43:q:1547:A:OP2	2.26	0.66
46:t:82:VAL:CG2	46:t:98:TYR:CE2	2.78	0.66
46:t:183:GLU:HG3	46:t:204:ASN:O	1.96	0.66
18:R:8:ARG:NH1	43:q:4295:C:O2	2.28	0.66
22:V:151:ASN:HD21	46:t:287:LYS:CG	1.98	0.66
43:q:1997:C:H2'	43:q:1998:A:H8	1.61	0.66
1:A:80:GLU:HG3	40:n:66:GLY:HA2	1.77	0.66
46:t:149:CYS:CB	46:t:228:VAL:HG21	2.26	0.66
1:A:117:GLU:HB3	1:A:122:ASP:HB3	1.77	0.66
14:N:7:LEU:HD11	14:N:31:ARG:HH21	1.60	0.66
46:t:150:ALA:O	46:t:154:LEU:HB2	1.96	0.66
3:C:350:ARG:HD3	43:q:714:A:H5'	1.77	0.66
46:t:95:ASP:C	46:t:96:GLN:O	2.39	0.66
15:O:129:THR:HA	43:q:2400:G:H1	1.61	0.66
46:t:205:PRO:HG3	46:t:210:LYS:HG3	1.78	0.66
6:F:245:ARG:NH2	43:q:930:A:OP1	2.29	0.66
17:Q:93:MET:HG3	43:q:1933:G:H4'	1.78	0.66
46:t:281:ARG:NH1	46:t:281:ARG:HB2	2.11	0.65
6:F:76:ARG:NH1	43:q:720:G:OP2	2.30	0.65
46:t:109:ASP:O	46:t:110:LEU:HB3	1.96	0.65
11:K:128:PRO:HB3	11:K:136:LYS:HE3	1.78	0.65
13:M:28:TRP:O	13:M:32:GLN:NE2	2.29	0.65
46:t:46:LEU:HD22	46:t:92:LEU:O	1.96	0.65
5:E:213:THR:HG22	5:E:214:ASP:H	1.62	0.65
14:N:143:HIS:HA	14:N:147:TRP:HB3	1.77	0.65
16:P:159:PRO:HA	16:P:188:ASN:HB3	1.79	0.65
41:o:107:ARG:HH21	43:q:2644:U:H5'	1.61	0.65
9:I:28:ASP:HB3	9:I:32:ARG:HH22	1.61	0.65
9:I:103:LEU:HD22	9:I:112:GLN:HB2	1.77	0.65
43:q:1812:G:H2'	43:q:1813:G:C8	2.32	0.65
43:q:1812:G:H2'	43:q:1813:G:H8	1.62	0.65
43:q:2001:U:H2'	43:q:2002:G:H8	1.62	0.65
46:t:46:LEU:HA	46:t:49:CYS:SG	2.36	0.65
46:t:49:CYS:O	46:t:53:ASP:CG	2.40	0.65
43:q:455:G:N1	43:q:687:A:H2	1.88	0.65
43:q:726:G:N2	43:q:916:A:N7	2.44	0.65
43:q:1228:C:N4	43:q:1229:G:O6	2.30	0.65
43:q:2499:C:H2'	43:q:2500:G:H8	1.62	0.65
4:D:52:ILE:HD13	45:s:6:C:H4'	1.77	0.65
12:L:97:ALA:HA	14:N:198:THR:HG21	1.78	0.65
14:N:87:MET:SD	43:q:1893:G:N2	2.70	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:r:102:G:OP2	44:r:104:A:O2'	2.14	0.65
46:t:59:GLU:HA	46:t:62:LYS:NZ	2.12	0.64
2:B:175:GLN:HG3	43:q:4943:U:H4'	1.78	0.64
46:t:30:ARG:HH22	46:t:59:GLU:CD	2.04	0.64
46:t:189:GLN:OE1	46:t:199:LYS:HG2	1.97	0.64
46:t:272:ARG:HH21	46:t:282:ALA:HB1	1.63	0.64
4:D:236:MET:HA	4:D:239:MET:HG2	1.79	0.64
43:q:413:A:N3	43:q:1315:C:O2'	2.30	0.64
43:q:736:G:OP2	43:q:903:C:N4	2.30	0.64
46:t:142:VAL:HA	46:t:145:ALA:HB3	1.79	0.64
3:C:190:ARG:NH1	43:q:2274:C:OP1	2.30	0.64
43:q:3660:G:O2'	43:q:3789:U:OP2	2.16	0.64
46:t:273:PHE:CZ	46:t:282:ALA:HB1	2.25	0.64
25:Y:67:GLN:NE2	43:q:70:A:OP1	2.30	0.64
46:t:40:SER:HA	46:t:127:ILE:HD13	1.80	0.64
14:N:81:TRP:HB2	14:N:104:VAL:HG21	1.79	0.64
20:T:50:ASN:ND2	43:q:4419:U:OP1	2.31	0.64
43:q:113:A:H62	43:q:155:A:H2	1.44	0.64
46:t:248:LYS:HG2	46:t:248:LYS:O	1.97	0.64
9:I:36:LEU:HD21	9:I:69:ARG:HH11	1.63	0.64
4:D:120:GLU:O	4:D:248:ARG:NH2	2.29	0.64
13:M:67:ARG:NH2	43:q:3644:C:OP2	2.31	0.63
43:q:2386:G:OP2	43:q:2386:G:N2	2.30	0.63
46:t:102:GLU:OE1	46:t:102:GLU:HA	1.98	0.63
9:I:76:MET:HE3	9:I:138:ILE:HG21	1.80	0.63
43:q:1284:C:N4	43:q:2294:G:OP1	2.31	0.63
9:I:79:SER:HB3	9:I:147:HIS:HD2	1.64	0.63
43:q:4073:G:N2	43:q:4075:G:OP1	2.32	0.63
46:t:17:VAL:O	46:t:21:TYR:HD1	1.81	0.63
46:t:147:HIS:CG	46:t:338:PHE:CZ	2.87	0.63
11:K:201:GLU:O	11:K:205:GLN:NE2	2.32	0.63
13:M:12:ARG:NH2	43:q:272:G:OP1	2.31	0.63
43:q:1059:C:H42	43:q:1218:G:H1	1.45	0.63
43:q:4545:C:O2'	43:q:4680:G:N2	2.31	0.63
46:t:44:SER:OG	46:t:97:ASP:CG	2.41	0.63
24:X:51:ARG:HB2	24:X:65:ARG:HD2	1.79	0.63
43:q:4:G:H2'	43:q:5:A:H8	1.64	0.63
43:q:1725:A:N1	43:q:1771:C:O2'	2.32	0.63
43:q:2541:G:N2	43:q:2544:A:OP2	2.25	0.63
7:G:43:GLN:O	43:q:4093:G:N2	2.32	0.63
43:q:224:A:C6	43:q:237:G:N2	2.67	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:171:ASN:O	46:t:174:ALA:CB	2.43	0.63
34:h:27:TYR:HA	34:h:34:CYS:HA	1.81	0.63
22:V:150:ALA:O	22:V:155:ILE:O	2.16	0.62
23:W:57:VAL:HA	23:W:104:VAL:HG23	1.80	0.62
25:Y:100:ILE:HG12	25:Y:123:ILE:HB	1.81	0.62
28:b:46:LEU:HA	28:b:49:ILE:HD12	1.81	0.62
43:q:2474:U:H2'	43:q:2475:G:H8	1.64	0.62
46:t:88:HIS:CE1	46:t:305:PHE:CD2	2.87	0.62
1:A:158:ILE:HD12	1:A:162:ASN:HD21	1.64	0.62
4:D:176:SER:HB3	43:q:4285:A:H4'	1.81	0.62
25:Y:39:HIS:O	25:Y:40:HIS:ND1	2.32	0.62
20:T:15:ARG:NH1	20:T:16:ILE:O	2.32	0.62
46:t:129:VAL:HG23	46:t:129:VAL:O	2.00	0.62
46:t:196:ASP:CG	46:t:248:LYS:NZ	2.57	0.62
9:I:48:LEU:HD23	9:I:142:LEU:HD12	1.80	0.62
13:M:182:HIS:NE2	43:q:291:U:O2	2.28	0.62
16:P:172:ARG:HD2	25:Y:57:GLY:HA3	1.81	0.62
2:B:10:ARG:NH1	2:B:11:HIS:O	2.32	0.62
9:I:39:LYS:HB3	43:q:1732:G:H5'	1.81	0.62
22:V:151:ASN:HD21	46:t:287:LYS:CA	2.13	0.62
40:n:15:GLY:O	40:n:23:ARG:NH1	2.33	0.62
2:B:315:ASN:ND2	2:B:325:GLU:OE2	2.32	0.62
3:C:218:ILE:O	3:C:222:ARG:HB3	2.00	0.62
6:F:80:ASN:ND2	18:R:141:VAL:O	2.33	0.62
10:J:64:ARG:NH1	10:J:65:ASN:OD1	2.33	0.62
22:V:156:ILE:HD11	46:t:290:ARG:CB	2.29	0.62
42:p:66:ARG:NH1	43:q:473:G:OP1	2.32	0.62
43:q:289:A:N6	43:q:4323:U:O2'	2.32	0.62
46:t:196:ASP:CG	46:t:248:LYS:HE2	2.25	0.62
4:D:6:VAL:HG13	43:q:1760:C:H5''	1.81	0.62
43:q:2853:U:O4	43:q:3794:G:O2'	2.17	0.62
46:t:205:PRO:CB	46:t:209:GLN:HB2	2.30	0.62
43:q:1887:U:H2'	43:q:1888:A:H8	1.64	0.62
43:q:3844:G:H2'	43:q:3845:G:C8	2.35	0.62
46:t:141:ASP:O	46:t:145:ALA:CB	2.47	0.62
2:B:17:LEU:HD23	2:B:18:PRO:HD3	1.82	0.62
43:q:4867:A:N6	43:q:4870:G:O6	2.33	0.62
46:t:35:LEU:HD21	46:t:52:GLY:CA	2.28	0.62
46:t:255:TYR:CZ	46:t:299:HIS:CE1	2.87	0.62
7:G:194:VAL:O	7:G:194:VAL:HG12	2.00	0.61
12:L:70:GLN:HA	12:L:73:VAL:HG12	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1831:A:N3	43:q:2262:G:O2'	2.33	0.61
46:t:215:LYS:H	46:t:215:LYS:CD	2.12	0.61
8:H:173:ARG:HH22	37:k:127:VAL:HG12	1.64	0.61
25:Y:58:MET:HE1	43:q:4314:U:H1'	1.82	0.61
9:I:51:HIS:HD2	9:I:134:VAL:HG11	1.66	0.61
15:O:3:ARG:O	15:O:18:ARG:NH2	2.34	0.61
29:c:19:LYS:NZ	43:q:2297:G:O6	2.33	0.61
39:m:81:ARG:HH12	43:q:4256:C:H4'	1.66	0.61
43:q:2637:G:N2	43:q:2637:G:OP2	2.34	0.61
46:t:43:VAL:CG1	46:t:48:LEU:HD21	2.31	0.61
42:p:98:ARG:HH21	42:p:107:ARG:HH12	1.49	0.61
43:q:2618:U:O2'	43:q:2673:G:N1	2.26	0.61
46:t:148:LEU:HD12	46:t:177:PHE:CE2	2.23	0.61
23:W:4:ASN:HB3	23:W:7:VAL:HG12	1.83	0.61
23:W:75:ARG:HB2	44:r:73:U:OP1	2.01	0.61
46:t:21:TYR:HE1	46:t:117:PHE:CG	2.18	0.61
12:L:24:LEU:H	12:L:43:THR:HG21	1.66	0.61
24:X:83:THR:HG22	24:X:85:TYR:H	1.65	0.61
44:r:71:A:H4'	44:r:72:A:H5'	1.82	0.61
13:M:53:TYR:HB2	13:M:133:ILE:HD13	1.82	0.61
46:t:95:ASP:O	46:t:96:GLN:C	2.44	0.61
46:t:154:LEU:HD23	46:t:154:LEU:O	2.01	0.61
46:t:308:LEU:HD22	46:t:308:LEU:N	2.11	0.61
5:E:276:SER:HB2	30:d:3:GLY:HA3	1.83	0.61
14:N:58:LEU:HD21	14:N:74:ARG:HH12	1.66	0.61
32:f:2:ALA:N	44:r:80:A:HO2'	1.99	0.61
43:q:1876:G:O2'	43:q:1888:A:N3	2.32	0.61
46:t:140:ALA:O	46:t:143:ILE:CG2	2.49	0.61
43:q:1912:C:N4	43:q:2021:A:O2'	2.34	0.60
46:t:139:LYS:HD3	46:t:315:PHE:CZ	2.35	0.60
13:M:42:PRO:HG3	13:M:61:ILE:HG13	1.82	0.60
15:O:50:ASP:HB3	15:O:55:LYS:HB2	1.82	0.60
43:q:149:U:H1'	43:q:150:G:N2	2.16	0.60
43:q:2059:C:H2'	43:q:2060:G:H8	1.64	0.60
43:q:3841:C:H2'	43:q:3842:A:H8	1.67	0.60
46:t:75:ALA:O	46:t:276:MET:HE3	2.00	0.60
46:t:255:TYR:CZ	46:t:299:HIS:NE2	2.69	0.60
2:B:316:PRO:HA	2:B:370:THR:HB	1.83	0.60
3:C:183:VAL:HG22	3:C:204:ARG:HG3	1.83	0.60
43:q:1080:C:H2'	43:q:1081:G:C8	2.36	0.60
43:q:4730:G:H1	43:q:4822:U:H3	1.48	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4841:C:H2'	43:q:4842:G:H8	1.64	0.60
11:K:92:ARG:HH21	11:K:98:VAL:HB	1.67	0.60
41:o:62:ARG:NH2	43:q:4608:U:OP2	2.34	0.60
42:p:98:ARG:NH1	43:q:951:A:O2'	2.35	0.60
43:q:901:U:O2'	43:q:902:A:O5'	2.18	0.60
46:t:48:LEU:HD11	46:t:100:LEU:HD11	1.82	0.60
18:R:8:ARG:NH2	18:R:52:MET:SD	2.74	0.60
41:o:74:ARG:HH21	43:q:2870:U:H5''	1.63	0.60
43:q:3688:A:OP2	43:q:3706:G:N2	2.34	0.60
46:t:63:ILE:HG23	46:t:72:LYS:HD2	1.83	0.60
46:t:205:PRO:HB2	46:t:209:GLN:HB2	1.82	0.60
43:q:419:U:H2'	43:q:420:A:H8	1.67	0.60
46:t:65:LYS:HE3	46:t:65:LYS:CA	2.25	0.60
46:t:306:ASN:OD1	46:t:306:ASN:N	2.27	0.60
6:F:190:LEU:HD21	6:F:208:LEU:HD21	1.83	0.60
10:J:34:THR:O	10:J:38:LYS:HG2	2.01	0.60
39:m:63:THR:O	39:m:87:ARG:NH1	2.34	0.60
46:t:147:HIS:CD2	46:t:338:PHE:CE2	2.90	0.60
46:t:307:VAL:HG23	46:t:307:VAL:O	2.01	0.60
3:C:80:ARG:NH2	43:q:1627:C:OP1	2.35	0.60
46:t:20:LYS:CE	46:t:64:PHE:CE2	2.84	0.60
2:B:303:ALA:HA	2:B:368:ILE:HD12	1.84	0.60
22:V:156:ILE:CG1	46:t:290:ARG:CB	2.75	0.60
43:q:2274:C:H2'	43:q:2275:G:H8	1.67	0.60
46:t:88:HIS:CE1	46:t:305:PHE:HB3	2.34	0.60
14:N:176:ARG:NH1	43:q:4730:G:OP1	2.35	0.59
32:f:7:ARG:HB3	44:r:86:U:H3	1.67	0.59
46:t:141:ASP:O	46:t:145:ALA:HB2	2.02	0.59
39:m:9:ARG:HA	39:m:20:PRO:HA	1.83	0.59
43:q:1505:A:N3	43:q:4351:C:O2'	2.34	0.59
46:t:147:HIS:CD2	46:t:151:GLU:OE2	2.54	0.59
46:t:196:ASP:OD2	46:t:248:LYS:HE2	1.99	0.59
13:M:67:ARG:HE	43:q:2437:C:H5''	1.67	0.59
37:k:122:ARG:NH2	43:q:4435:A:O2'	2.35	0.59
13:M:65:ARG:NH2	43:q:2436:G:OP1	2.35	0.59
42:p:46:ARG:NH1	43:q:660:C:OP1	2.34	0.59
46:t:67:GLU:H	46:t:67:GLU:CD	2.09	0.59
10:J:52:LYS:HB3	10:J:67:LYS:HA	1.84	0.59
11:K:28:GLN:NE2	43:q:1343:G:OP2	2.34	0.59
43:q:439:U:O2	43:q:2292:A:O2'	2.20	0.59
43:q:708:U:H3	43:q:938:G:H1	1.51	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1906:G:H1	43:q:2040:C:H42	1.51	0.59
43:q:2245:C:O2	43:q:2247:A:N6	2.36	0.59
46:t:72:LYS:HG2	46:t:114:VAL:HG23	1.85	0.59
1:A:50:HIS:HD2	43:q:2720:U:H2'	1.66	0.59
43:q:1961:U:O2'	43:q:1963:G:OP1	2.21	0.59
46:t:59:GLU:HA	46:t:59:GLU:OE1	2.03	0.59
43:q:1663:G:H2'	43:q:1664:A:H8	1.68	0.59
43:q:3923:A:H2'	43:q:3924:G:H8	1.68	0.59
44:r:67:U:H2'	44:r:68:G:H8	1.68	0.59
46:t:35:LEU:O	46:t:39:SER:OG	2.19	0.59
46:t:152:ALA:C	46:t:154:LEU:N	2.60	0.59
39:m:39:ARG:HH11	43:q:289:A:H5'	1.67	0.59
41:o:64:ARG:NH2	43:q:2596:G:OP1	2.31	0.59
11:K:74:ARG:HH12	43:q:76:A:H8	1.50	0.59
23:W:126:ARG:NH2	43:q:194:A:OP1	2.36	0.59
24:X:25:ILE:HA	24:X:43:VAL:HG12	1.84	0.59
25:Y:132:ARG:NH2	43:q:1450:C:OP1	2.36	0.59
31:e:41:ALA:O	31:e:52:ARG:NH1	2.33	0.59
43:q:193:C:O2	43:q:218:C:O2'	2.20	0.59
44:r:55:U:H3	44:r:62:A:H2	1.51	0.59
46:t:105:LEU:HD13	46:t:126:VAL:CG2	2.33	0.59
8:H:133:ALA:HB3	8:H:147:GLU:OE1	2.02	0.58
26:Z:61:ASN:ND2	43:q:1793:G:O2'	2.35	0.58
43:q:123:C:H42	43:q:144:A:H61	1.49	0.58
43:q:4208:G:H2'	43:q:4209:G:H8	1.67	0.58
1:A:117:GLU:O	1:A:162:ASN:ND2	2.35	0.58
17:Q:7:LEU:HD23	17:Q:107:THR:HG22	1.84	0.58
22:V:156:ILE:CD1	46:t:290:ARG:CB	2.81	0.58
41:o:7:GLN:NE2	41:o:35:ALA:O	2.33	0.58
43:q:4964:U:H3	43:q:4999:G:H5'	1.68	0.58
46:t:122:ALA:HB3	46:t:320:LYS:N	2.18	0.58
46:t:198:GLU:O	46:t:200:THR:HG23	2.03	0.58
3:C:322:LEU:H	43:q:1264:G:H8	1.51	0.58
17:Q:8:ARG:HB3	17:Q:66:GLN:HE22	1.68	0.58
2:B:279:GLU:HG2	2:B:282:LYS:HD3	1.85	0.58
3:C:219:LYS:HA	3:C:222:ARG:HE	1.67	0.58
22:V:92:ASP:OD1	46:t:260:LYS:HE2	2.03	0.58
46:t:147:HIS:NE2	46:t:338:PHE:CE2	2.71	0.58
11:K:59:VAL:HG21	11:K:73:GLY:HA3	1.85	0.58
19:S:84:LYS:NZ	43:q:2601:G:OP2	2.37	0.58
19:S:105:ASN:HB2	19:S:111:GLU:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:10:LYS:NZ	43:q:2266:G:O6	2.32	0.58
34:h:2:THR:N	43:q:3613:A:O2'	2.36	0.58
43:q:3667:C:N4	43:q:3668:U:O4	2.37	0.58
5:E:183:ARG:NH1	43:q:4896:A:OP1	2.37	0.58
8:H:23:ARG:HH21	43:q:4725:U:H2'	1.69	0.58
29:c:104:SER:HB3	43:q:2282:C:H5'	1.86	0.58
43:q:4201:A:H2'	43:q:4202:G:H8	1.68	0.58
12:L:7:VAL:HG12	12:L:57:LEU:HD21	1.84	0.58
43:q:1965:A:H2'	43:q:1992:C:H5''	1.86	0.58
43:q:2575:G:H2'	43:q:2576:G:H8	1.69	0.58
20:T:21:PRO:HA	20:T:54:ALA:HA	1.86	0.58
22:V:151:ASN:CB	46:t:287:LYS:NZ	2.65	0.58
4:D:261:VAL:HG21	45:s:119:U:H3'	1.85	0.58
7:G:35:ARG:HH22	24:X:52:LYS:HE3	1.68	0.58
16:P:37:ARG:HD3	43:q:2067:G:OP2	2.04	0.58
16:P:173:LYS:NZ	43:q:88:A:OP2	2.36	0.58
27:a:99:PRO:HG3	27:a:105:ILE:HG12	1.86	0.58
29:c:36:ARG:NH1	43:q:1643:C:OP1	2.37	0.58
43:q:2652:G:H5''	43:q:2653:A:H3'	1.85	0.58
43:q:3861:A:N6	43:q:4533:A:O4'	2.36	0.58
45:s:13:A:H1'	45:s:110:G:C8	2.38	0.58
46:t:266:PHE:O	46:t:267:SER:C	2.45	0.58
20:T:15:ARG:HH21	43:q:4632:C:H1'	1.68	0.58
43:q:4556:U:H2'	43:q:4557:G:H8	1.69	0.58
43:q:4876:C:H2'	43:q:4877:G:C8	2.38	0.58
45:s:1:G:H1	45:s:119:U:H3	1.51	0.58
34:h:47:TYR:HB3	34:h:49:TRP:CD1	2.39	0.57
7:G:154:LEU:HD12	7:G:219:VAL:HG12	1.85	0.57
43:q:4058:C:H2'	43:q:4059:G:H8	1.69	0.57
46:t:154:LEU:HD23	46:t:154:LEU:C	2.29	0.57
5:E:227:HIS:O	43:q:447:G:N2	2.37	0.57
24:X:120:GLU:HA	24:X:123:LYS:NZ	2.20	0.57
43:q:4684:G:OP2	43:q:4684:G:N2	2.37	0.57
46:t:239:ASP:OD1	46:t:308:LEU:CD1	2.53	0.57
46:t:274:ASP:CG	46:t:275:ALA:N	2.62	0.57
15:O:40:HIS:HD2	15:O:43:LYS:HD3	1.69	0.57
26:Z:44:ARG:HH22	43:q:1474:G:H5'	1.70	0.57
41:o:34:ASN:HD22	46:t:254:GLN:HE22	1.47	0.57
43:q:2811:A:H2'	43:q:2812:A:H8	1.70	0.57
44:r:30:U:H2'	44:r:31:G:H8	1.69	0.57
46:t:272:ARG:NH1	46:t:282:ALA:O	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:19:ARG:NH2	43:q:4585:G:OP1	2.36	0.57
5:E:118:THR:HA	42:p:112:ARG:HD2	1.86	0.57
5:E:274:GLN:O	43:q:4839:U:O2'	2.22	0.57
11:K:59:VAL:HG13	43:q:74:G:H5''	1.86	0.57
13:M:49:ARG:NH1	43:q:150:G:OP1	2.37	0.57
33:g:66:SER:OG	33:g:87:ARG:NH2	2.38	0.57
43:q:189:G:H22	43:q:244:G:H22	1.51	0.57
43:q:194:A:O2'	43:q:217:C:O2	2.22	0.57
46:t:163:ASN:O	46:t:167:THR:HG23	2.05	0.57
46:t:202:ILE:HD13	46:t:205:PRO:HB3	1.85	0.57
1:A:179:ILE:HB	43:q:3624:A:H4'	1.87	0.57
4:D:90:VAL:HG11	4:D:231:VAL:HG21	1.85	0.57
17:Q:115:ALA:O	17:Q:118:ARG:NH1	2.38	0.57
24:X:116:VAL:HA	24:X:119:GLU:HG3	1.86	0.57
25:Y:75:LEU:HD12	25:Y:117:LEU:HD11	1.85	0.57
2:B:220:ILE:HD11	2:B:348:ARG:HH21	1.69	0.57
4:D:75:VAL:HB	4:D:112:ARG:HH22	1.69	0.57
43:q:2824:A:H61	43:q:3814:C:H42	1.52	0.57
2:B:228:TYR:O	43:q:2814:A:O2'	2.22	0.57
11:K:88:LYS:HD2	43:q:157:G:H21	1.68	0.57
25:Y:71:PRO:HD2	25:Y:109:TYR:HD2	1.69	0.57
43:q:2297:G:N2	43:q:2300:G:OP2	2.25	0.57
43:q:2642:G:H2'	43:q:2643:G:C8	2.39	0.57
46:t:31:VAL:O	46:t:32:LEU:C	2.47	0.57
46:t:104:ASP:OD1	46:t:104:ASP:N	2.38	0.57
46:t:239:ASP:OD1	46:t:308:LEU:HD13	2.05	0.57
35:i:5:ILE:HG21	35:i:11:PHE:HB3	1.87	0.57
43:q:1243:G:H2'	43:q:1244:G:C8	2.40	0.57
43:q:1316:A:H2'	43:q:1317:A:H8	1.69	0.57
43:q:3624:A:C2	43:q:3663:A:H4'	2.40	0.57
43:q:3819:U:H2'	43:q:3820:A:H8	1.69	0.57
43:q:4059:G:H2'	43:q:4060:G:H8	1.69	0.57
46:t:114:VAL:HG13	46:t:114:VAL:O	2.05	0.57
22:V:91:GLU:CD	46:t:261:THR:HG21	2.29	0.57
23:W:2:LYS:HD2	23:W:7:VAL:HG13	1.87	0.57
41:o:15:LEU:HD13	41:o:52:ARG:HB2	1.85	0.57
43:q:1417:G:H2'	43:q:1418:G:C8	2.40	0.57
43:q:2401:C:HO2'	43:q:3828:G:HO2'	1.49	0.57
46:t:140:ALA:C	46:t:143:ILE:HG23	2.29	0.57
46:t:293:VAL:HG12	46:t:294:VAL:N	2.19	0.57
14:N:54:TYR:OH	14:N:73:PHE:O	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:15:ARG:HH21	18:R:141:VAL:HG12	1.70	0.56
43:q:446:A:O2'	43:q:1276:G:N2	2.37	0.56
46:t:81:SER:CB	46:t:107:LYS:HE2	2.34	0.56
11:K:91:ALA:HB1	11:K:96:ILE:HB	1.87	0.56
16:P:180:ARG:NH2	43:q:1479:A:OP1	2.38	0.56
43:q:85:G:O2'	43:q:97:G:O6	2.21	0.56
15:O:112:LEU:HD22	15:O:150:LEU:HB3	1.87	0.56
16:P:138:LEU:HD23	43:q:1410:A:H2	1.69	0.56
22:V:156:ILE:O	46:t:291:MET:HA	2.05	0.56
41:o:117:ARG:NH2	43:q:2639:A:OP1	2.38	0.56
43:q:2547:C:H2'	43:q:2548:G:H8	1.68	0.56
43:q:2578:G:N2	43:q:2726:U:O4	2.38	0.56
46:t:118:ILE:HG22	46:t:119:ALA:N	2.19	0.56
46:t:308:LEU:H	46:t:308:LEU:CD2	2.12	0.56
2:B:95:THR:HG22	43:q:4868:A:H4'	1.86	0.56
2:B:223:THR:O	2:B:343:ARG:NH1	2.39	0.56
14:N:109:PRO:HB2	14:N:111:PRO:HD2	1.88	0.56
21:U:11:TYR:OH	43:q:4999:G:N2	2.39	0.56
43:q:1614:A:H1'	43:q:3612:U:H1'	1.86	0.56
43:q:1897:G:N3	43:q:2048:C:O2'	2.36	0.56
43:q:1914:G:H2'	43:q:1915:A:C8	2.40	0.56
43:q:2869:C:H42	43:q:3582:A:H61	1.54	0.56
46:t:140:ALA:N	46:t:143:ILE:HG22	2.20	0.56
46:t:209:GLN:O	46:t:213:HIS:CB	2.48	0.56
8:H:129:ARG:NE	8:H:156:ASN:HD22	2.03	0.56
43:q:1072:G:H2'	43:q:1073:G:C8	2.40	0.56
46:t:57:MET:HE3	46:t:74:ILE:CD1	2.36	0.56
46:t:281:ARG:CB	46:t:281:ARG:HH11	2.19	0.56
7:G:66:GLN:HA	7:G:69:ILE:HD13	1.87	0.56
22:V:91:GLU:CD	46:t:261:THR:CG2	2.79	0.56
43:q:1374:A:N3	43:q:4326:G:O2'	2.35	0.56
43:q:189:G:H1	43:q:244:G:H22	1.52	0.56
43:q:2717:C:H42	43:q:2721:G:H1	1.53	0.56
43:q:3832:A:H2'	43:q:3833:A:H8	1.70	0.56
46:t:82:VAL:HG11	46:t:98:TYR:OH	2.05	0.56
46:t:139:LYS:HA	46:t:142:VAL:CG2	2.36	0.56
8:H:155:SER:HG	43:q:4650:C:HO2'	1.50	0.56
11:K:46:ILE:HG13	11:K:49:ARG:HB2	1.87	0.56
12:L:33:GLN:HB3	17:Q:145:PHE:HZ	1.70	0.56
19:S:81:ARG:NH2	43:q:2600:A:N7	2.53	0.56
31:e:82:MET:HE1	31:e:90:ARG:HD2	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:j:2:SER:N	43:q:2386:G:O6	2.38	0.56
43:q:183:G:N2	43:q:241:G:N7	2.54	0.56
46:t:56:ILE:HG21	46:t:112:VAL:HG13	1.88	0.56
46:t:135:VAL:CG2	46:t:343:TYR:HD1	2.16	0.56
22:V:156:ILE:HD12	46:t:290:ARG:C	1.86	0.56
40:n:19:GLY:O	40:n:23:ARG:NE	2.39	0.56
43:q:220:G:O2'	43:q:239:U:O2	2.23	0.56
46:t:118:ILE:CG2	46:t:119:ALA:N	2.68	0.56
3:C:312:ARG:HB2	43:q:2253:C:H5''	1.88	0.55
16:P:53:MET:HB3	16:P:57:ASN:HB2	1.87	0.55
25:Y:131:ARG:O	25:Y:135:GLU:HG2	2.06	0.55
39:m:13:LYS:NZ	43:q:4256:C:O2'	2.38	0.55
43:q:944:G:N2	43:q:2056:G:HO2'	2.03	0.55
43:q:1080:C:H2'	43:q:1081:G:H8	1.70	0.55
43:q:1315:C:H2'	43:q:1316:A:C8	2.39	0.55
2:B:20:LYS:HB2	43:q:4530:A:P	2.46	0.55
3:C:10:VAL:HG23	3:C:18:SER:HB2	1.88	0.55
3:C:199:ARG:NH1	43:q:2274:C:OP1	2.39	0.55
27:a:38:ILE:HG21	27:a:63:TYR:HB3	1.87	0.55
30:d:4:ARG:NH1	43:q:4715:U:OP1	2.39	0.55
40:n:84:ARG:O	40:n:88:GLU:HG2	2.06	0.55
43:q:2809:G:H2'	43:q:2810:G:H8	1.70	0.55
11:K:165:LYS:HG3	11:K:166:ALA:H	1.71	0.55
39:m:52:THR:HG22	43:q:43:U:H4'	1.88	0.55
42:p:103:ARG:HE	42:p:106:LEU:HD21	1.72	0.55
43:q:65:A:H61	43:q:75:G:H1'	1.71	0.55
43:q:1988:G:H21	43:q:1993:A:H62	1.55	0.55
43:q:2431:G:H21	43:q:2486:A:H62	1.55	0.55
43:q:4692:C:H1'	43:q:4693:G:H2'	1.89	0.55
1:A:14:SER:OG	43:q:1610:C:OP1	2.24	0.55
2:B:45:ALA:H	2:B:183:ILE:HG23	1.72	0.55
17:Q:95:ARG:NH2	17:Q:112:ASP:OD2	2.39	0.55
17:Q:164:LYS:HB3	17:Q:165:PRO:HD3	1.88	0.55
30:d:68:ARG:NH1	43:q:436:G:OP1	2.36	0.55
31:e:112:GLN:NE2	43:q:4066:C:O3'	2.35	0.55
32:f:105:LYS:HD3	43:q:152:C:H4'	1.87	0.55
43:q:217:C:H42	43:q:232:A:H61	1.54	0.55
43:q:2061:U:H2'	43:q:2062:C:C6	2.41	0.55
43:q:4834:U:H2'	43:q:4835:G:H8	1.71	0.55
46:t:75:ALA:HA	46:t:276:MET:HE2	1.88	0.55
46:t:170:TRP:CZ3	46:t:203:GLN:CG	2.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:205:PRO:HG3	46:t:210:LYS:CG	2.36	0.55
2:B:99:LEU:HB2	43:q:4544:C:H4'	1.88	0.55
2:B:261:ARG:HB2	14:N:64:THR:HG21	1.87	0.55
4:D:53:VAL:HB	4:D:159:VAL:HG12	1.88	0.55
4:D:158:LYS:HE3	45:s:46:C:H5''	1.87	0.55
5:E:140:LEU:HD21	5:E:167:GLN:HE21	1.72	0.55
18:R:100:LYS:HB2	43:q:1712:U:H4'	1.87	0.55
46:t:20:LYS:HZ3	46:t:115:ASP:CB	2.20	0.55
46:t:43:VAL:O	46:t:100:LEU:HG	2.06	0.55
9:I:19:LYS:HG3	9:I:26:VAL:HG11	1.89	0.55
40:n:87:LYS:HG3	40:n:92:GLN:HG2	1.89	0.55
7:G:50:ASP:HA	22:V:40:ILE:HG23	1.87	0.55
33:g:80:HIS:O	33:g:84:LYS:HG2	2.05	0.55
43:q:1304:G:O4'	43:q:1872:A:N6	2.40	0.55
46:t:190:LEU:HD23	46:t:190:LEU:C	2.31	0.55
6:F:109:LEU:HG	6:F:136:VAL:HG21	1.89	0.55
7:G:105:GLU:HG2	7:G:109:GLU:HG3	1.88	0.55
27:a:48:LEU:HD21	27:a:60:ILE:HG21	1.88	0.55
43:q:2026:G:O6	43:q:3841:C:O2'	2.23	0.55
43:q:4200:G:H2'	43:q:4201:A:H8	1.71	0.55
43:q:4834:U:H2'	43:q:4835:G:C8	2.41	0.55
46:t:242:GLN:HB3	46:t:307:VAL:HG21	1.89	0.55
2:B:220:ILE:HG23	2:B:278:THR:HG22	1.89	0.55
11:K:17:ASP:O	11:K:21:ARG:NH1	2.39	0.55
43:q:459:G:H2'	43:q:460:A:C8	2.41	0.55
43:q:2756:G:H5''	43:q:2757:G:H5'	1.88	0.55
46:t:32:LEU:O	46:t:36:VAL:HG23	2.07	0.55
46:t:274:ASP:OD1	46:t:275:ALA:N	2.38	0.55
6:F:127:LYS:HB2	18:R:133:ALA:HB3	1.89	0.55
31:e:26:PRO:HD2	43:q:2500:G:H4'	1.89	0.55
32:f:104:THR:HG23	32:f:107:GLN:H	1.71	0.55
32:f:112:ARG:NH1	43:q:259:U:O2	2.37	0.55
43:q:2500:G:H2'	43:q:2501:G:H8	1.73	0.55
46:t:89:PHE:CD1	46:t:89:PHE:C	2.85	0.55
14:N:49:ARG:HH22	43:q:1913:A:H8	1.55	0.54
22:V:151:ASN:HD22	46:t:287:LYS:HG2	0.73	0.54
24:X:4:PHE:O	24:X:9:LYS:NZ	2.36	0.54
37:k:124:LYS:NZ	43:q:4435:A:OP1	2.37	0.54
43:q:4354:G:N2	43:q:4357:U:O2	2.37	0.54
43:q:4600:U:H2'	43:q:4601:G:C8	2.42	0.54
43:q:4841:C:H2'	43:q:4842:G:C8	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:32:ASP:O	12:L:33:GLN:HG3	2.07	0.54
43:q:2365:U:H2'	43:q:2366:G:H8	1.71	0.54
43:q:2493:G:O2'	43:q:2722:A:N6	2.40	0.54
43:q:3851:G:HO2'	43:q:3852:G:H8	1.54	0.54
2:B:10:ARG:NH2	2:B:265:SER:O	2.41	0.54
2:B:11:HIS:NE2	43:q:4420:C:OP1	2.41	0.54
6:F:146:ASN:HD21	43:q:930:A:H5''	1.72	0.54
8:H:129:ARG:HD3	8:H:153:LEU:CD2	2.38	0.54
43:q:1523:C:H1'	43:q:2427:G:H21	1.72	0.54
43:q:2637:G:O2'	43:q:2654:G:N2	2.40	0.54
9:I:15:LYS:NZ	43:q:4174:A:OP2	2.30	0.54
15:O:27:LYS:O	15:O:31:GLU:HG2	2.07	0.54
43:q:227:G:N3	43:q:234:G:N2	2.55	0.54
43:q:319:U:H2'	43:q:320:C:C6	2.43	0.54
43:q:462:U:H3	43:q:681:A:H2	1.55	0.54
43:q:1360:G:H4'	43:q:1361:C:H3'	1.89	0.54
43:q:1756:C:H2'	43:q:1757:A:H8	1.72	0.54
43:q:4601:G:H1	43:q:4622:G:H22	1.54	0.54
46:t:82:VAL:HG21	46:t:98:TYR:CD2	2.41	0.54
8:H:129:ARG:NH2	8:H:153:LEU:HD21	2.22	0.54
27:a:104:ILE:HG23	27:a:105:ILE:HG23	1.90	0.54
28:b:23:ARG:HG2	28:b:121:ASN:HB3	1.89	0.54
35:i:52:LYS:HA	35:i:55:LYS:HE2	1.88	0.54
43:q:454:C:H2'	43:q:455:G:H8	1.71	0.54
43:q:1194:G:H2'	43:q:1195:G:C8	2.42	0.54
43:q:3826:C:H2'	43:q:3827:A:H8	1.72	0.54
43:q:4201:A:H2'	43:q:4202:G:C8	2.42	0.54
46:t:34:SER:HB2	46:t:55:MET:HE1	1.89	0.54
3:C:178:ASN:OD1	43:q:2279:A:N6	2.41	0.54
4:D:179:ARG:NH2	43:q:4285:A:OP1	2.41	0.54
5:E:178:PRO:HB3	5:E:258:LEU:HD11	1.90	0.54
8:H:129:ARG:CD	8:H:156:ASN:HD22	2.20	0.54
11:K:126:LEU:HA	32:f:119:TYR:HA	1.88	0.54
25:Y:7:LYS:NZ	43:q:2263:G:OP1	2.41	0.54
43:q:178:C:N4	43:q:179:G:O6	2.41	0.54
43:q:451:G:H1	43:q:691:G:H1	1.53	0.54
43:q:1913:A:H61	43:q:2037:G:H22	1.56	0.54
3:C:317:ASN:HD22	3:C:320:LYS:HG2	1.72	0.54
7:G:152:ALA:HA	7:G:205:THR:HG22	1.88	0.54
18:R:25:VAL:HG23	18:R:45:MET:HE1	1.90	0.54
24:X:88:ASP:O	24:X:121:ARG:NH2	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:29:ARG:NH1	43:q:270:C:N3	2.55	0.54
43:q:56:A:H2'	43:q:57:G:C8	2.43	0.54
43:q:1303:U:O2'	43:q:1872:A:N1	2.40	0.54
43:q:4031:G:H2'	43:q:4032:A:C8	2.42	0.54
46:t:138:ARG:C	46:t:141:ASP:HB3	2.33	0.54
1:A:21:LYS:HG2	43:q:1523:C:H5''	1.90	0.54
1:A:45:VAL:HG12	1:A:61:VAL:HG22	1.89	0.54
3:C:150:LEU:HB3	3:C:151:PRO:HD3	1.90	0.54
17:Q:15:ARG:HB2	17:Q:25:PRO:HB2	1.90	0.54
17:Q:85:ASP:HB3	17:Q:123:SER:HB2	1.88	0.54
40:n:2:ALA:N	43:q:1551:U:O4	2.40	0.54
41:o:44:LEU:HD22	41:o:49:LEU:HD12	1.89	0.54
43:q:1324:U:H2'	43:q:1325:A:H8	1.72	0.54
43:q:2687:U:C2	46:t:257:LEU:CD1	2.90	0.54
43:q:3694:A:H2'	43:q:3695:A:H8	1.73	0.54
45:s:12:U:O3'	45:s:109:U:O2'	2.23	0.54
45:s:117:G:H2'	45:s:118:C:C6	2.43	0.54
46:t:46:LEU:HD12	46:t:46:LEU:O	2.08	0.54
46:t:124:THR:OG1	46:t:318:GLN:O	2.26	0.54
2:B:2:SER:OG	43:q:4479:A:OP2	2.25	0.54
3:C:53:ALA:O	44:r:26:C:O2'	2.25	0.54
5:E:156:ARG:NH2	43:q:4897:C:OP2	2.40	0.54
13:M:172:ARG:HG2	43:q:29:G:H5''	1.89	0.54
41:o:4:LEU:HD11	41:o:29:THR:HG23	1.90	0.54
43:q:2066:G:H2'	43:q:2067:G:H8	1.73	0.54
43:q:2547:C:H2'	43:q:2548:G:C8	2.43	0.54
43:q:4499:C:H2'	43:q:4500:G:C8	2.42	0.54
46:t:59:GLU:HA	46:t:62:LYS:HZ2	1.72	0.54
3:C:54:VAL:HG23	3:C:56:GLU:H	1.72	0.53
22:V:93:ASN:HB3	22:V:95:THR:HG22	1.90	0.53
31:e:63:VAL:HG13	31:e:66:ARG:HH21	1.72	0.53
43:q:4436:A:OP2	43:q:4438:C:N4	2.42	0.53
46:t:265:PHE:C	46:t:265:PHE:CD1	2.85	0.53
6:F:92:VAL:HG12	6:F:142:TRP:HB3	1.91	0.53
11:K:49:ARG:NH2	32:f:117:ARG:O	2.41	0.53
12:L:46:ARG:NH1	43:q:924:U:OP1	2.40	0.53
28:b:29:ILE:O	28:b:33:ILE:HG12	2.08	0.53
32:f:62:ASN:ND2	44:r:60:G:O6	2.39	0.53
34:h:47:TYR:HB3	34:h:49:TRP:NE1	2.24	0.53
43:q:67:C:N4	43:q:319:U:O2'	2.38	0.53
43:q:468:C:H2'	43:q:469:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1826:U:H2'	43:q:1827:G:H8	1.73	0.53
16:P:122:THR:OG1	16:P:124:ASP:OD1	2.22	0.53
20:T:120:PRO:HA	20:T:138:SER:HB3	1.90	0.53
31:e:93:ARG:O	31:e:97:ILE:HG13	2.08	0.53
35:i:26:LYS:HE2	43:q:2674:A:H5''	1.90	0.53
42:p:22:LYS:NZ	43:q:2268:C:O2'	2.41	0.53
43:q:420:A:H2'	43:q:421:A:H8	1.72	0.53
43:q:2390:C:H2'	43:q:2391:A:H8	1.73	0.53
43:q:4078:G:H21	43:q:4079:C:H41	1.55	0.53
43:q:4265:C:N4	43:q:4267:G:O6	2.41	0.53
46:t:177:PHE:HA	46:t:347:MET:HE1	1.89	0.53
4:D:42:ASN:ND2	18:R:69:GLN:OE1	2.42	0.53
6:F:75:ALA:HB2	18:R:140:PHE:HE2	1.73	0.53
10:J:85:LYS:NZ	10:J:115:LEU:O	2.39	0.53
23:W:8:THR:O	43:q:223:G:N2	2.41	0.53
30:d:21:GLN:NE2	43:q:1292:C:O2'	2.41	0.53
33:g:33:LEU:N	43:q:303:C:OP2	2.39	0.53
36:j:21:ARG:NH1	44:r:52:A:OP1	2.41	0.53
43:q:1460:C:H2'	43:q:1461:G:H8	1.72	0.53
43:q:2688:U:O4	46:t:271:ARG:HD2	2.08	0.53
43:q:3588:G:O2'	43:q:3591:G:N7	2.41	0.53
46:t:76:PHE:N	46:t:111:GLY:O	2.38	0.53
11:K:103:ARG:NH1	43:q:75:G:O6	2.41	0.53
25:Y:29:PRO:HA	43:q:1636:G:H5''	1.90	0.53
43:q:140:U:H2'	43:q:141:G:H8	1.73	0.53
43:q:1156:G:H2'	43:q:1157:G:C8	2.44	0.53
43:q:1249:G:O2'	43:q:1250:C:O4'	2.26	0.53
43:q:3737:A:OP2	43:q:3738:C:N4	2.41	0.53
43:q:3784:A:N3	43:q:4500:G:O2'	2.41	0.53
45:s:76:U:H2'	45:s:77:A:H8	1.73	0.53
46:t:17:VAL:O	46:t:21:TYR:CD1	2.61	0.53
46:t:272:ARG:HH22	46:t:282:ALA:HB1	1.65	0.53
2:B:128:LYS:HG3	43:q:4924:A:H5'	1.91	0.53
2:B:252:ALA:HB1	43:q:4486:G:C2	2.43	0.53
11:K:39:ARG:NH1	43:q:1345:G:OP1	2.37	0.53
12:L:89:THR:HG23	12:L:91:TRP:H	1.74	0.53
13:M:201:HIS:O	13:M:204:ARG:NH1	2.37	0.53
29:c:108:ARG:O	29:c:112:VAL:HG23	2.08	0.53
41:o:39:GLN:NE2	46:t:263:ARG:HH12	2.07	0.53
43:q:2060:G:H2'	43:q:2061:U:C6	2.44	0.53
43:q:4548:G:O6	43:q:4679:A:N6	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:2390:C:H2'	43:q:2391:A:C8	2.44	0.53
43:q:2531:G:N2	43:q:2746:U:O4	2.42	0.53
46:t:57:MET:HE3	46:t:74:ILE:HD11	1.91	0.53
2:B:243:LYS:NZ	43:q:1573:U:OP2	2.42	0.53
4:D:155:THR:HG22	4:D:179:ARG:HD3	1.91	0.53
25:Y:74:ASN:HD21	43:q:1370:A:H62	1.57	0.53
35:i:17:ARG:NH1	35:i:19:ASP:OD1	2.42	0.53
43:q:4402:G:H2'	43:q:4403:A:H8	1.73	0.53
43:q:4722:G:H2'	43:q:4723:G:C8	2.44	0.53
46:t:181:PRO:HG2	46:t:204:ASN:CB	2.39	0.53
46:t:296:CYS:O	46:t:301:LEU:HB2	2.08	0.53
8:H:129:ARG:HD2	8:H:156:ASN:HD22	1.73	0.53
13:M:37:HIS:HE1	13:M:63:ARG:HH11	1.56	0.53
29:c:71:PRO:HG2	43:q:2295:G:H5''	1.90	0.53
43:q:495:C:H5''	43:q:498:G:H5'	1.90	0.53
43:q:2465:G:H2'	43:q:2466:G:C8	2.44	0.53
43:q:4115:C:H2'	43:q:4116:G:H8	1.73	0.53
46:t:26:ASP:O	46:t:30:ARG:CD	2.54	0.53
1:A:131:GLY:H	1:A:169:VAL:HB	1.74	0.53
2:B:108:GLU:OE2	2:B:138:GLN:NE2	2.42	0.53
2:B:145:GLN:O	2:B:148:LYS:HG2	2.08	0.53
4:D:83:LEU:HB3	4:D:88:VAL:HB	1.90	0.53
7:G:215:LEU:O	7:G:219:VAL:HG13	2.08	0.53
9:I:98:ARG:NH2	43:q:1845:G:OP1	2.42	0.53
10:J:99:PHE:O	10:J:159:LYS:NZ	2.43	0.53
22:V:64:SER:HB2	32:f:69:LEU:HD23	1.91	0.53
36:j:27:ILE:O	36:j:33:ASN:ND2	2.42	0.53
43:q:209:A:H2'	43:q:210:G:C8	2.44	0.53
43:q:1073:G:H2'	43:q:1074:C:C6	2.44	0.53
46:t:20:LYS:CG	46:t:64:PHE:CZ	2.91	0.53
46:t:126:VAL:O	46:t:129:VAL:HG13	2.09	0.53
2:B:168:MET:HE2	2:B:175:GLN:HB3	1.90	0.52
15:O:64:ASN:ND2	15:O:80:GLN:OE1	2.40	0.52
17:Q:81:TRP:HB3	17:Q:127:MET:HE3	1.90	0.52
24:X:92:ASP:OD1	24:X:92:ASP:N	2.40	0.52
43:q:500:C:H2'	43:q:501:G:C8	2.43	0.52
43:q:701:G:H2'	43:q:702:A:C8	2.44	0.52
43:q:3656:C:H2'	43:q:3657:G:H8	1.74	0.52
46:t:101:LYS:HD3	46:t:104:ASP:OD1	2.09	0.52
46:t:140:ALA:CA	46:t:143:ILE:HG23	2.25	0.52
9:I:37:GLY:HA3	9:I:86:HIS:HA	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:f:48:ARG:NH1	44:r:63:U:OP1	2.43	0.52
41:o:10:LEU:HD11	41:o:38:ARG:HG2	1.91	0.52
43:q:1564:U:H2'	43:q:1565:A:H8	1.73	0.52
43:q:1960:A:N6	43:q:1969:G:O6	2.42	0.52
43:q:2623:G:H2'	43:q:2624:G:H8	1.74	0.52
43:q:2728:C:H2'	43:q:2729:G:H8	1.74	0.52
43:q:3574:G:H2'	43:q:3575:A:C2	2.44	0.52
45:s:45:U:H2'	45:s:46:C:C5	2.44	0.52
46:t:46:LEU:CA	46:t:49:CYS:SG	2.96	0.52
3:C:133:LEU:HD23	42:p:6:GLN:HE21	1.74	0.52
11:K:107:THR:HG1	33:g:18:THR:HG1	1.57	0.52
11:K:164:GLU:OE1	25:Y:125:LYS:NZ	2.40	0.52
14:N:190:CYS:SG	14:N:191:LYS:N	2.82	0.52
43:q:3912:G:H2'	43:q:3913:A:H8	1.74	0.52
9:I:162:ARG:HH22	17:Q:88:SER:HB2	1.74	0.52
13:M:120:TRP:NE1	13:M:123:GLU:OE1	2.43	0.52
13:M:138:PHE:HA	13:M:143:ARG:HD2	1.91	0.52
16:P:67:ILE:HD12	16:P:96:PRO:HD2	1.92	0.52
43:q:4:G:H2'	43:q:5:A:C8	2.44	0.52
43:q:66:A:O2'	43:q:320:C:O2	2.23	0.52
43:q:363:G:N2	43:q:366:A:OP2	2.32	0.52
43:q:2868:G:H21	43:q:4992:A:H8	1.57	0.52
43:q:3581:A:H2'	43:q:3582:A:H8	1.73	0.52
43:q:4950:G:H2'	43:q:4951:G:C8	2.44	0.52
46:t:18:VAL:O	46:t:22:LYS:HG2	2.09	0.52
46:t:203:GLN:NE2	46:t:227:ASP:O	2.42	0.52
3:C:239:LYS:O	3:C:248:ARG:NH1	2.37	0.52
6:F:70:ARG:NH1	43:q:1192:U:OP2	2.43	0.52
32:f:45:SER:HB2	44:r:78:G:H21	1.74	0.52
43:q:450:C:H2'	43:q:451:G:C8	2.45	0.52
43:q:661:G:H2'	43:q:662:A:C8	2.45	0.52
43:q:1811:G:H2'	43:q:1812:G:C8	2.44	0.52
43:q:2059:C:H2'	43:q:2060:G:C8	2.44	0.52
43:q:2314:C:H2'	43:q:2315:G:H8	1.75	0.52
43:q:2464:U:H2'	43:q:2465:G:C8	2.45	0.52
43:q:4872:C:H2'	43:q:4873:G:C8	2.45	0.52
46:t:162:GLN:HA	46:t:217:GLU:CG	2.39	0.52
1:A:27:ALA:HB3	1:A:128:ARG:HH21	1.74	0.52
24:X:18:TYR:HB3	24:X:21:ARG:HG3	1.90	0.52
29:c:75:ARG:HB2	29:c:95:TYR:HD1	1.73	0.52
43:q:1835:G:N2	43:q:4356:A:O4'	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4531:U:OP1	43:q:4940:A:O2'	2.27	0.52
43:q:4717:G:N2	43:q:4835:G:O6	2.42	0.52
45:s:46:C:H3'	45:s:47:G:H21	1.74	0.52
1:A:57:PRO:HG2	1:A:78:ALA:HB3	1.92	0.52
7:G:164:ILE:HG22	7:G:168:VAL:HG13	1.92	0.52
43:q:704:C:H2'	43:q:705:G:H8	1.75	0.52
43:q:1244:G:H2'	43:q:1245:G:C8	2.45	0.52
43:q:1651:A:N3	43:q:1833:U:O2'	2.37	0.52
44:r:67:U:H2'	44:r:68:G:C8	2.45	0.52
45:s:13:A:OP2	45:s:66:G:N2	2.26	0.52
2:B:258:HIS:ND1	43:q:4480:A:OP2	2.32	0.52
6:F:216:PRO:HG3	6:F:220:MET:HG3	1.90	0.52
7:G:200:THR:HG22	7:G:201:THR:HG23	1.92	0.52
9:I:152:LEU:HB3	9:I:165:ILE:HD12	1.92	0.52
10:J:21:CYS:SG	10:J:131:TYR:HB3	2.50	0.52
17:Q:72:PRO:HG2	43:q:722:G:H21	1.75	0.52
22:V:117:TYR:CE1	22:V:153:ILE:HG21	2.45	0.52
28:b:114:PHE:HA	28:b:117:LEU:HD12	1.90	0.52
43:q:3923:A:H2'	43:q:3924:G:C8	2.45	0.52
43:q:4059:G:H2'	43:q:4060:G:C8	2.45	0.52
46:t:139:LYS:O	46:t:143:ILE:N	2.39	0.52
12:L:116:LYS:NZ	43:q:4836:C:OP2	2.35	0.52
22:V:156:ILE:CD1	46:t:290:ARG:HB3	2.39	0.52
32:f:29:SER:O	32:f:33:VAL:HG23	2.10	0.52
43:q:211:G:N2	43:q:211:G:OP2	2.43	0.52
43:q:404:A:O2'	43:q:408:C:O2'	2.21	0.52
43:q:2436:G:N3	43:q:3643:G:N2	2.57	0.52
43:q:2737:G:H1'	43:q:2745:A:H1'	1.92	0.52
46:t:181:PRO:HG2	46:t:204:ASN:HB2	1.92	0.52
46:t:281:ARG:NH1	46:t:281:ARG:CB	2.73	0.52
2:B:10:ARG:HE	2:B:14:LEU:HD21	1.75	0.52
18:R:51:GLY:HA3	18:R:92:ARG:HG3	1.92	0.52
35:i:28:ASN:HB2	35:i:31:ASN:HB2	1.92	0.52
43:q:633:U:H4'	43:q:634:C:H5'	1.92	0.52
43:q:671:C:H2'	43:q:672:G:C8	2.44	0.52
43:q:3582:A:H2	43:q:4974:A:H8	1.58	0.52
43:q:4036:U:H2'	43:q:4037:U:H6	1.74	0.52
43:q:4602:C:N3	43:q:4622:G:N2	2.58	0.52
43:q:4715:U:H2'	43:q:4716:G:C8	2.45	0.52
46:t:20:LYS:HG2	46:t:64:PHE:CE1	2.45	0.52
3:C:86:ARG:HD2	43:q:370:A:H4'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:28:THR:O	43:q:4242:A:N6	2.28	0.51
7:G:165:GLU:OE2	13:M:26:ARG:NH2	2.32	0.51
10:J:152:GLY:O	10:J:156:ARG:NE	2.40	0.51
15:O:14:SER:HB3	15:O:151:THR:HG22	1.92	0.51
24:X:136:PHE:O	43:q:4091:G:O2'	2.27	0.51
43:q:25:A:N3	43:q:333:C:O2'	2.41	0.51
43:q:462:U:H2'	43:q:463:C:C6	2.45	0.51
43:q:2438:G:N2	43:q:2441:C:OP2	2.42	0.51
43:q:4672:C:H2'	43:q:4673:C:C6	2.46	0.51
42:p:87:ARG:NH2	43:q:453:C:OP1	2.44	0.51
43:q:2499:C:H2'	43:q:2500:G:C8	2.44	0.51
45:s:114:U:H2'	45:s:115:A:H8	1.74	0.51
6:F:33:LEU:HG	6:F:36:LYS:HE3	1.93	0.51
12:L:121:ARG:O	12:L:125:THR:HG23	2.10	0.51
41:o:110:ARG:HH12	43:q:2644:U:P	2.33	0.51
43:q:246:C:H2'	43:q:247:C:H6	1.74	0.51
43:q:317:C:H2'	43:q:318:A:C8	2.44	0.51
43:q:463:C:H2'	43:q:464:A:C8	2.45	0.51
43:q:2374:A:N3	43:q:2785:A:O2'	2.40	0.51
43:q:4255:U:H2'	43:q:4256:C:H5''	1.93	0.51
43:q:4642:G:H2'	43:q:4643:A:C8	2.45	0.51
43:q:4865:G:O2'	43:q:4866:G:OP1	2.27	0.51
46:t:100:LEU:HA	46:t:104:ASP:OD2	2.11	0.51
46:t:104:ASP:O	46:t:106:VAL:HG23	2.09	0.51
46:t:116:GLY:O	46:t:193:HIS:N	2.42	0.51
6:F:162:ILE:HG23	6:F:178:SER:HB2	1.92	0.51
7:G:120:LYS:HZ3	7:G:129:PRO:HG2	1.75	0.51
13:M:169:ARG:NH1	43:q:63:G:OP1	2.39	0.51
22:V:147:LEU:HD11	46:t:291:MET:HG3	1.91	0.51
28:b:37:GLY:O	28:b:41:ARG:HG3	2.09	0.51
43:q:943:A:H4'	43:q:944:G:C4	2.46	0.51
43:q:1828:C:H2'	43:q:1829:C:C6	2.46	0.51
43:q:2354:A:H2'	43:q:2355:A:C8	2.45	0.51
43:q:4200:G:H2'	43:q:4201:A:C8	2.45	0.51
46:t:21:TYR:CE1	46:t:117:PHE:HB3	2.45	0.51
46:t:27:ILE:HG23	46:t:59:GLU:HB3	1.93	0.51
7:G:83:PHE:HB3	7:G:159:HIS:HB2	1.92	0.51
25:Y:26:ARG:NH1	43:q:1637:C:OP2	2.43	0.51
31:e:82:MET:HB3	31:e:86:CYS:SG	2.51	0.51
43:q:434:U:H2'	43:q:435:G:C8	2.46	0.51
43:q:434:U:H2'	43:q:435:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:45:VAL:C	46:t:49:CYS:SG	2.92	0.51
1:A:33:ASP:N	1:A:33:ASP:OD1	2.44	0.51
6:F:218:GLY:H	6:F:246:ARG:HD2	1.76	0.51
8:H:129:ARG:NE	8:H:156:ASN:ND2	2.58	0.51
22:V:131:ASP:HB2	36:j:18:LYS:HE3	1.93	0.51
23:W:26:ARG:HG2	23:W:78:TYR:HE1	1.76	0.51
39:m:44:LYS:HG2	39:m:52:THR:HG21	1.92	0.51
43:q:1455:U:H2'	43:q:1456:C:C6	2.46	0.51
43:q:2500:G:H2'	43:q:2501:G:C8	2.45	0.51
43:q:2623:G:H2'	43:q:2624:G:C8	2.45	0.51
44:r:70:G:H22	44:r:87:G:H1'	1.75	0.51
46:t:147:HIS:CG	46:t:338:PHE:CE2	2.99	0.51
46:t:255:TYR:CZ	46:t:299:HIS:CD2	2.99	0.51
13:M:172:ARG:NH2	43:q:61:A:O2'	2.36	0.51
32:f:56:ARG:O	32:f:60:VAL:HG23	2.11	0.51
36:j:40:LYS:NZ	43:q:359:U:O2'	2.39	0.51
39:m:68:LEU:HD11	39:m:85:ILE:HD11	1.93	0.51
43:q:493:G:N2	43:q:650:C:N3	2.59	0.51
43:q:3612:U:H5'	43:q:3613:A:H5''	1.93	0.51
46:t:41:SER:HA	46:t:100:LEU:O	2.10	0.51
3:C:212:ASN:HD21	3:C:255:SER:HB2	1.74	0.51
12:L:104:MET:HE2	14:N:197:LYS:HB3	1.91	0.51
41:o:173:ARG:HA	41:o:176:ARG:HH21	1.76	0.51
43:q:2393:G:H2'	43:q:2394:U:H6	1.76	0.51
43:q:4854:G:N2	43:q:4883:U:O2	2.39	0.51
46:t:81:SER:HB2	46:t:107:LYS:CE	2.39	0.51
11:K:79:GLU:O	11:K:83:VAL:HG23	2.11	0.51
34:h:19:CYS:SG	34:h:20:ARG:N	2.84	0.51
34:h:47:TYR:CG	34:h:49:TRP:NE1	2.79	0.51
43:q:65:A:N6	43:q:75:G:H1'	2.26	0.51
43:q:458:G:H2'	43:q:459:G:C8	2.46	0.51
6:F:151:ASN:ND2	43:q:931:A:N1	2.59	0.51
9:I:57:TYR:HD1	9:I:130:HIS:HA	1.75	0.51
23:W:15:ARG:NH1	43:q:226:G:OP1	2.39	0.51
43:q:2354:A:H2'	43:q:2355:A:H8	1.76	0.51
43:q:2535:G:H2'	43:q:2536:G:H8	1.76	0.51
43:q:4115:C:H2'	43:q:4116:G:C8	2.45	0.51
46:t:293:VAL:C	46:t:295:GLU:N	2.69	0.51
1:A:80:GLU:HB2	1:A:170:ALA:HA	1.94	0.50
43:q:457:A:H61	43:q:685:C:H42	1.58	0.50
43:q:1246:A:H2'	43:q:1247:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4366:U:O2'	43:q:4368:U:O4	2.24	0.50
1:A:54:ARG:NH2	43:q:3651:U:OP1	2.45	0.50
5:E:186:LEU:HD11	5:E:253:VAL:HG21	1.93	0.50
6:F:216:PRO:O	43:q:1886:U:O2'	2.28	0.50
8:H:106:GLN:HB3	8:H:111:LEU:HB3	1.93	0.50
14:N:19:LEU:O	14:N:23:VAL:HG23	2.11	0.50
17:Q:118:ARG:O	17:Q:120:ARG:NH1	2.44	0.50
42:p:18:ILE:HG13	42:p:25:TYR:HB2	1.93	0.50
43:q:248:C:H2'	43:q:249:G:H8	1.76	0.50
43:q:4263:U:OP2	43:q:4267:G:N1	2.43	0.50
3:C:237:ILE:HD12	3:C:237:ILE:H	1.75	0.50
4:D:223:PHE:HB3	4:D:226:TYR:HB2	1.93	0.50
17:Q:69:GLU:HG3	17:Q:71:SER:H	1.76	0.50
32:f:80:PRO:HD2	32:f:83:LEU:HD12	1.93	0.50
43:q:7:C:H2'	43:q:8:U:C6	2.46	0.50
43:q:1818:A:H2'	43:q:1819:A:H8	1.76	0.50
43:q:2532:A:N6	43:q:2744:A:OP2	2.44	0.50
43:q:3898:U:H2'	43:q:3899:A:H8	1.74	0.50
43:q:4058:C:H2'	43:q:4059:G:C8	2.46	0.50
46:t:88:HIS:HE1	46:t:305:PHE:CD2	2.26	0.50
46:t:100:LEU:C	46:t:104:ASP:OD2	2.53	0.50
39:m:51:GLN:NE2	39:m:53:LYS:O	2.35	0.50
43:q:187:G:H2'	43:q:188:G:H8	1.76	0.50
43:q:707:C:H2'	43:q:708:U:C6	2.46	0.50
43:q:1745:C:OP2	43:q:1746:G:N1	2.44	0.50
6:F:62:ARG:NH1	43:q:932:U:OP2	2.38	0.50
8:H:19:THR:CG2	8:H:20:LEU:N	2.74	0.50
17:Q:13:VAL:HG23	17:Q:62:VAL:HB	1.92	0.50
43:q:2575:G:H2'	43:q:2576:G:C8	2.47	0.50
43:q:4063:G:OP2	43:q:4063:G:N2	2.36	0.50
46:t:162:GLN:CA	46:t:217:GLU:HG3	2.39	0.50
1:A:20:VAL:HG23	1:A:23:ARG:HG3	1.94	0.50
1:A:234:LYS:NZ	43:q:3637:C:OP1	2.43	0.50
3:C:355:GLU:O	3:C:359:THR:HG23	2.11	0.50
15:O:126:ARG:HG2	15:O:140:MET:HG2	1.92	0.50
29:c:36:ARG:NH2	43:q:2301:G:OP1	2.44	0.50
43:q:2590:A:H2'	43:q:2591:G:C8	2.47	0.50
43:q:3681:G:N2	43:q:3681:G:OP2	2.45	0.50
43:q:3692:U:H2'	43:q:3693:G:H8	1.77	0.50
43:q:4597:A:H2	43:q:4625:G:H21	1.60	0.50
46:t:85:CYS:O	46:t:107:LYS:NZ	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:205:PRO:CG	46:t:210:LYS:CG	2.79	0.50
9:I:99:ILE:HB	9:I:123:GLN:HB2	1.94	0.50
13:M:35:ALA:HA	13:M:65:ARG:HG2	1.94	0.50
38:l:1:MET:HE3	38:l:6:ARG:HG2	1.94	0.50
43:q:224:A:N1	43:q:237:G:N3	2.60	0.50
43:q:966:C:O2'	43:q:968:C:OP2	2.17	0.50
43:q:3665:U:H2'	43:q:3666:U:C6	2.46	0.50
46:t:154:LEU:HD11	46:t:332:ARG:HD2	1.93	0.50
1:A:36:GLU:OE1	1:A:163:ARG:NH1	2.45	0.50
8:H:12:ILE:CD1	8:H:18:ILE:HG21	2.41	0.50
27:a:48:LEU:HD11	27:a:60:ILE:HD12	1.93	0.50
42:p:108:MET:SD	43:q:949:C:O2'	2.70	0.50
43:q:127:G:H1	43:q:140:U:H3	1.58	0.50
43:q:454:C:H2'	43:q:455:G:C8	2.47	0.50
43:q:1391:G:O2'	43:q:1394:C:N3	2.45	0.50
43:q:2590:A:H5'	43:q:2667:G:H4'	1.94	0.50
43:q:4154:A:H2'	43:q:4155:C:H6	1.77	0.50
46:t:116:GLY:O	46:t:192:GLN:CA	2.56	0.50
2:B:240:LEU:HB3	2:B:244:THR:HG21	1.94	0.50
8:H:19:THR:HG22	8:H:20:LEU:N	2.25	0.50
14:N:26:GLN:HG3	17:Q:167:PHE:HZ	1.77	0.50
16:P:42:THR:OG1	43:q:1411:U:H5''	2.12	0.50
43:q:1658:C:O2	43:q:4153:G:O2'	2.30	0.50
43:q:3882:C:H2'	43:q:3883:U:H6	1.77	0.50
43:q:4489:G:OP2	43:q:4489:G:N2	2.34	0.50
43:q:4710:U:H3	43:q:4909:G:H1	1.60	0.50
2:B:369:ASP:HA	2:B:380:GLN:HE22	1.77	0.49
4:D:111:ASN:HD22	4:D:251:PRO:HG2	1.77	0.49
5:E:158:ARG:HB3	43:q:4903:G:N2	2.26	0.49
18:R:88:ARG:HH22	26:Z:31:SER:HB3	1.76	0.49
22:V:156:ILE:O	46:t:291:MET:CG	2.58	0.49
24:X:81:MET:HE1	31:e:96:LEU:HD11	1.94	0.49
45:s:46:C:H3'	45:s:47:G:N2	2.27	0.49
8:H:173:ARG:HH12	37:k:127:VAL:HB	1.77	0.49
12:L:91:TRP:NE1	43:q:4827:U:H3'	2.21	0.49
15:O:128:ARG:O	43:q:2400:G:N2	2.45	0.49
38:l:23:ARG:NH2	43:q:3753:C:OP2	2.44	0.49
43:q:190:G:H22	43:q:243:G:H22	1.58	0.49
43:q:294:A:H2'	43:q:295:G:H8	1.76	0.49
43:q:1895:C:H5''	43:q:1896:C:H2'	1.94	0.49
46:t:146:ALA:HB2	46:t:230:VAL:HB	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:92:TYR:HB2	2:B:159:VAL:HB	1.94	0.49
2:B:370:THR:H	2:B:380:GLN:HE22	1.60	0.49
7:G:216:ALA:HA	7:G:219:VAL:HG22	1.93	0.49
11:K:176:PHE:HD2	11:K:177:LYS:HG2	1.75	0.49
20:T:43:LYS:HD3	43:q:4470:C:H5''	1.94	0.49
43:q:441:C:N4	43:q:442:G:O6	2.45	0.49
43:q:1187:C:H2'	43:q:1188:G:C8	2.48	0.49
43:q:2252:G:H2'	43:q:2253:C:C6	2.47	0.49
43:q:2876:G:H2'	43:q:2877:G:H8	1.77	0.49
43:q:3913:A:H2'	43:q:3914:A:H8	1.77	0.49
44:r:76:C:H2'	44:r:77:A:C8	2.47	0.49
46:t:105:LEU:CD1	46:t:126:VAL:HG22	2.39	0.49
46:t:116:GLY:O	46:t:192:GLN:CG	2.61	0.49
46:t:170:TRP:HZ3	46:t:203:GLN:HG2	1.73	0.49
5:E:183:ARG:HG2	43:q:4896:A:H5''	1.93	0.49
7:G:37:LYS:NZ	43:q:4095:C:OP1	2.45	0.49
9:I:30:LYS:HG2	9:I:63:GLU:HA	1.95	0.49
9:I:42:LYS:H	9:I:45:GLU:HG3	1.78	0.49
17:Q:76:LYS:NZ	17:Q:100:LEU:O	2.42	0.49
29:c:75:ARG:HB2	29:c:95:TYR:CD1	2.47	0.49
37:k:94:MET:HG2	37:k:105:PRO:HA	1.95	0.49
41:o:120:TYR:OH	43:q:2644:U:OP2	2.26	0.49
42:p:87:ARG:NH1	43:q:682:U:OP1	2.46	0.49
43:q:1157:G:H2'	43:q:1158:A:C8	2.48	0.49
43:q:3578:U:H2'	43:q:3579:A:C8	2.47	0.49
46:t:164:THR:O	46:t:168:GLU:HG2	2.12	0.49
18:R:68:THR:HG21	43:q:4275:A:O2'	2.13	0.49
19:S:101:ARG:HH22	43:q:2681:C:H5''	1.78	0.49
24:X:5:MET:HE3	24:X:82:PRO:HB3	1.95	0.49
33:g:73:ILE:O	33:g:77:VAL:HG22	2.13	0.49
36:j:8:ARG:NH1	44:r:111:U:OP2	2.46	0.49
43:q:1290:A:H2'	43:q:1291:C:C6	2.47	0.49
43:q:2066:G:H2'	43:q:2067:G:C8	2.48	0.49
46:t:219:GLU:O	46:t:325:LEU:HD12	2.12	0.49
2:B:57:VAL:HG22	2:B:73:VAL:HG22	1.94	0.49
10:J:158:SER:OG	10:J:159:LYS:N	2.45	0.49
11:K:49:ARG:HH22	32:f:116:LEU:HG	1.77	0.49
11:K:87:HIS:HB3	11:K:90:VAL:HG12	1.95	0.49
23:W:87:ARG:NH2	43:q:398:U:O3'	2.45	0.49
34:h:44:LYS:NZ	34:h:57:ASN:HB3	2.28	0.49
43:q:241:G:OP1	43:q:241:G:N2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1855:A:O4'	43:q:4175:A:N6	2.45	0.49
43:q:2447:U:H5	43:q:2485:G:H2'	1.77	0.49
43:q:2505:C:C5	46:t:258:LYS:NZ	2.77	0.49
45:s:82:G:H2'	45:s:83:A:C8	2.48	0.49
46:t:34:SER:CB	46:t:55:MET:CE	2.90	0.49
46:t:266:PHE:O	46:t:269:VAL:N	2.44	0.49
5:E:148:THR:OG1	5:E:200:LYS:NZ	2.45	0.49
8:H:107:GLU:O	8:H:110:SER:OG	2.29	0.49
9:I:87:ILE:HG22	9:I:138:ILE:HG23	1.95	0.49
22:V:89:LYS:HE2	22:V:93:ASN:HD22	1.77	0.49
28:b:24:GLU:OE2	28:b:87:ARG:NH2	2.40	0.49
43:q:1276:G:N2	43:q:1276:G:OP2	2.20	0.49
43:q:1619:A:OP1	43:q:1622:C:N4	2.33	0.49
43:q:2353:A:H2'	43:q:2354:A:H8	1.78	0.49
43:q:2783:C:H2'	43:q:2784:C:C6	2.47	0.49
13:M:145:ASN:HD21	13:M:147:ASP:HB3	1.78	0.49
24:X:87:VAL:HG12	24:X:89:ILE:HG12	1.94	0.49
43:q:275:U:H2'	43:q:276:C:H6	1.78	0.49
43:q:2341:U:H2'	43:q:2342:A:H8	1.78	0.49
43:q:2462:G:H22	43:q:2474:U:H3	1.60	0.49
43:q:2687:U:H3'	46:t:267:SER:OG	2.12	0.49
43:q:3606:A:C8	43:q:3663:A:H1'	2.48	0.49
5:E:95:THR:OG1	5:E:107:VAL:O	2.30	0.49
7:G:157:ILE:HA	7:G:201:THR:HG22	1.95	0.49
9:I:43:VAL:HG11	9:I:197:VAL:HG23	1.95	0.49
14:N:181:ALA:O	14:N:185:VAL:HG22	2.13	0.49
16:P:80:ALA:HB3	16:P:100:VAL:HG23	1.95	0.49
16:P:178:ARG:N	25:Y:51:GLY:HA2	2.28	0.49
20:T:48:ARG:NH1	43:q:4583:C:OP1	2.45	0.49
36:j:23:ILE:HG12	36:j:38:ASN:HB2	1.94	0.49
43:q:190:G:N2	43:q:243:G:H22	2.11	0.49
43:q:452:C:H42	43:q:690:C:H42	1.60	0.49
43:q:942:G:O2'	43:q:944:G:N2	2.46	0.49
43:q:1370:A:N6	43:q:1380:A:OP2	2.44	0.49
43:q:1706:G:N2	43:q:1857:U:OP1	2.40	0.49
46:t:39:SER:C	46:t:127:ILE:HD11	2.37	0.49
46:t:154:LEU:C	46:t:154:LEU:CD2	2.86	0.49
46:t:291:MET:C	46:t:291:MET:CE	2.85	0.49
4:D:107:ARG:HB3	4:D:251:PRO:HB3	1.94	0.49
43:q:189:G:H22	43:q:244:G:N2	2.09	0.49
43:q:3816:A:H4'	43:q:4630:U:H4'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:37:ARG:HG3	1:A:38:HIS:ND1	2.28	0.48
43:q:1644:C:H2'	43:q:1645:C:H6	1.78	0.48
43:q:2589:G:H2'	43:q:2590:A:H8	1.78	0.48
43:q:2757:G:H22	44:r:112:G:H5''	1.78	0.48
43:q:3819:U:H2'	43:q:3820:A:C8	2.47	0.48
43:q:4410:G:H5''	43:q:4411:A:H5''	1.94	0.48
9:I:66:GLU:O	9:I:70:ILE:HG12	2.12	0.48
13:M:3:ALA:O	13:M:7:ILE:HG12	2.13	0.48
14:N:61:ARG:HD2	14:N:66:PRO:HB3	1.95	0.48
22:V:156:ILE:CD1	22:V:156:ILE:C	2.86	0.48
39:m:56:PHE:HE2	39:m:59:LYS:HD2	1.78	0.48
43:q:4327:C:H2'	43:q:4328:A:H8	1.78	0.48
46:t:60:THR:CG2	46:t:72:LYS:HB3	2.43	0.48
46:t:255:TYR:OH	46:t:299:HIS:NE2	2.45	0.48
3:C:292:ILE:HG21	16:P:31:LEU:HD11	1.94	0.48
40:n:23:ARG:HA	40:n:26:VAL:HG12	1.96	0.48
43:q:1281:C:H2'	43:q:1282:G:H8	1.78	0.48
43:q:2288:G:O2'	44:r:18:U:O2	2.30	0.48
43:q:3570:A:H2'	43:q:3571:G:C8	2.48	0.48
43:q:3841:C:H2'	43:q:3842:A:C8	2.48	0.48
43:q:4650:C:H2'	43:q:4651:U:C6	2.48	0.48
46:t:58:GLU:HA	46:t:58:GLU:OE2	2.12	0.48
46:t:158:LYS:HE2	46:t:161:ASN:HD21	1.77	0.48
46:t:176:SER:O	46:t:347:MET:CE	2.61	0.48
46:t:249:ARG:CA	46:t:302:LEU:HD23	2.42	0.48
1:A:101:VAL:HB	1:A:165:VAL:HG12	1.95	0.48
5:E:156:ARG:NH1	43:q:4898:C:OP1	2.46	0.48
5:E:178:PRO:HG2	5:E:181:ILE:HD12	1.95	0.48
14:N:105:LEU:HD23	14:N:109:PRO:HG2	1.96	0.48
18:R:41:ASP:OD2	43:q:1713:C:O2'	2.27	0.48
22:V:47:ARG:NH2	43:q:2453:G:OP2	2.37	0.48
23:W:11:ARG:NH1	43:q:225:C:OP1	2.46	0.48
37:k:125:LYS:HB2	43:q:4436:A:H5'	1.95	0.48
43:q:267:U:H2'	43:q:268:C:C6	2.48	0.48
43:q:365:A:N3	43:q:1513:U:O2'	2.42	0.48
43:q:1166:C:H2'	43:q:1167:A:C8	2.49	0.48
46:t:32:LEU:HD11	46:t:123:HIS:HB2	1.94	0.48
46:t:190:LEU:C	46:t:190:LEU:CD2	2.85	0.48
2:B:90:VAL:HG13	2:B:104:THR:HG22	1.95	0.48
2:B:246:ARG:NH1	43:q:4485:A:O3'	2.47	0.48
9:I:79:SER:HB3	9:I:147:HIS:CD2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:50:ARG:HA	43:q:113:A:H1'	1.94	0.48
41:o:107:ARG:NH2	43:q:2645:U:OP1	2.47	0.48
43:q:188:G:H2'	43:q:189:G:H8	1.79	0.48
43:q:216:G:H22	43:q:233:G:N2	2.11	0.48
43:q:286:G:H21	43:q:288:G:H22	1.60	0.48
43:q:402:A:H4'	43:q:403:G:H3'	1.94	0.48
43:q:463:C:H2'	43:q:464:A:H8	1.78	0.48
43:q:1187:C:H2'	43:q:1188:G:H8	1.78	0.48
43:q:1223:G:N2	43:q:1224:C:O2	2.45	0.48
43:q:1583:A:OP2	43:q:3614:A:N6	2.47	0.48
43:q:1738:U:H2'	43:q:1739:U:H6	1.78	0.48
43:q:2836:A:H2'	43:q:2837:A:O4'	2.13	0.48
44:r:101:C:O3'	44:r:109:C:N4	2.46	0.48
1:A:224:THR:HG22	1:A:240:ALA:HB3	1.93	0.48
4:D:21:ARG:HA	4:D:24:ARG:HE	1.78	0.48
5:E:187:ARG:HE	43:q:4899:G:H5''	1.79	0.48
14:N:110:PRO:HA	14:N:113:ASP:OD2	2.14	0.48
25:Y:125:LYS:HG2	25:Y:145:VAL:HB	1.96	0.48
30:d:70:ILE:HG22	30:d:88:PHE:HD2	1.79	0.48
41:o:66:ASN:O	41:o:70:ARG:HG2	2.12	0.48
41:o:75:HIS:ND1	43:q:2868:G:OP1	2.46	0.48
42:p:52:GLU:HB3	42:p:61:VAL:HG23	1.96	0.48
43:q:204:G:N3	43:q:228:U:O2'	2.45	0.48
43:q:2286:A:H4'	43:q:2312:G:H21	1.79	0.48
43:q:2518:C:H2'	43:q:2519:C:C6	2.49	0.48
43:q:2587:G:H2'	43:q:2588:G:H8	1.78	0.48
43:q:4030:U:H2'	43:q:4031:G:C8	2.48	0.48
43:q:4422:U:H3	43:q:4478:G:H1	1.61	0.48
46:t:118:ILE:HD13	46:t:276:MET:SD	2.43	0.48
6:F:87:PRO:HG2	6:F:144:TYR:CD2	2.49	0.48
9:I:62:SER:HA	9:I:65:LEU:HD12	1.95	0.48
12:L:42:CYS:HG	12:L:77:TRP:CD1	2.32	0.48
29:c:53:ILE:HG22	43:q:431:G:H5'	1.95	0.48
43:q:472:G:H2'	43:q:473:G:C8	2.49	0.48
43:q:1281:C:H2'	43:q:1282:G:C8	2.49	0.48
43:q:1598:U:H2'	43:q:1599:G:H8	1.79	0.48
43:q:1791:C:H2'	43:q:1792:G:H8	1.79	0.48
43:q:2617:G:O2'	43:q:2618:U:O4'	2.26	0.48
43:q:4604:U:H2'	43:q:4605:G:H8	1.78	0.48
43:q:4732:U:H2'	43:q:4733:C:O4'	2.13	0.48
46:t:57:MET:HE3	46:t:74:ILE:HG12	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:t:202:ILE:CD1	46:t:205:PRO:HB3	2.44	0.48
46:t:273:PHE:CD2	46:t:278:PHE:HB2	2.49	0.48
5:E:108:LYS:NZ	43:q:953:A:O5'	2.41	0.48
8:H:146:LEU:HD21	8:H:161:ILE:HD12	1.93	0.48
10:J:27:GLY:HA2	43:q:4219:A:H2	1.78	0.48
23:W:74:TYR:OH	44:r:75:G:OP2	2.30	0.48
33:g:30:ARG:NH1	43:q:321:U:O2'	2.47	0.48
41:o:171:LYS:O	41:o:174:GLU:HG3	2.12	0.48
43:q:444:G:H1'	43:q:445:C:C6	2.49	0.48
43:q:1316:A:H2'	43:q:1317:A:C8	2.47	0.48
43:q:1811:G:N1	43:q:1812:G:O6	2.47	0.48
43:q:1846:G:N2	43:q:1849:A:OP2	2.30	0.48
43:q:3742:C:H2'	43:q:3743:U:C6	2.48	0.48
7:G:231:ASP:N	7:G:231:ASP:OD1	2.46	0.48
11:K:49:ARG:HE	32:f:118:LYS:HD3	1.78	0.48
11:K:164:GLU:HG2	25:Y:100:ILE:HD12	1.95	0.48
12:L:33:GLN:HB3	17:Q:145:PHE:CZ	2.48	0.48
17:Q:16:CYS:HA	17:Q:59:GLY:HA2	1.96	0.48
25:Y:36:GLY:O	25:Y:41:HIS:HB2	2.13	0.48
31:e:97:ILE:HD12	43:q:4091:G:N7	2.28	0.48
43:q:262:G:H2'	43:q:263:G:H8	1.79	0.48
43:q:3612:U:OP2	43:q:3617:A:N6	2.47	0.48
43:q:3736:G:H2'	43:q:3737:A:H2	1.79	0.48
46:t:31:VAL:O	46:t:33:ARG:N	2.47	0.48
4:D:23:ARG:NH2	43:q:4242:A:OP2	2.35	0.48
7:G:251:ALA:O	7:G:254:GLU:HG3	2.14	0.48
16:P:140:SER:OG	43:q:1440:C:O2	2.30	0.48
17:Q:85:ASP:HA	17:Q:90:THR:HA	1.95	0.48
32:f:40:ALA:HB1	32:f:43:LYS:HD3	1.96	0.48
43:q:2728:C:H2'	43:q:2729:G:C8	2.49	0.48
43:q:3578:U:H2'	43:q:3579:A:H8	1.79	0.48
43:q:4067:G:O6	43:q:4068:A:N6	2.47	0.48
43:q:4181:A:H2'	43:q:4182:A:C8	2.49	0.48
46:t:144:LYS:NZ	46:t:340:PRO:O	2.47	0.48
7:G:132:ARG:HH11	7:G:133:PRO:HD2	1.79	0.47
7:G:140:VAL:HG12	43:q:148:G:H5'	1.96	0.47
8:H:91:LYS:HG2	8:H:145:ILE:HG22	1.96	0.47
11:K:107:THR:O	11:K:111:GLN:HG2	2.14	0.47
24:X:11:VAL:HG22	24:X:82:PRO:HA	1.96	0.47
30:d:54:LYS:O	30:d:66:LYS:NZ	2.34	0.47
33:g:59:GLU:HA	33:g:62:LYS:HZ3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:68:ARG:HE	43:q:3693:G:P	2.36	0.47
39:m:54:PRO:HB3	43:q:4341:A:C8	2.49	0.47
43:q:140:U:H2'	43:q:141:G:C8	2.49	0.47
43:q:1365:G:H2'	43:q:1366:G:H8	1.79	0.47
43:q:1930:U:H5	43:q:2015:G:H1	1.61	0.47
43:q:2416:C:H41	43:q:2507:G:N2	2.12	0.47
43:q:2633:C:H2'	43:q:2634:C:H6	1.78	0.47
43:q:4150:U:H2'	43:q:4151:U:C6	2.49	0.47
45:s:63:C:H5'	45:s:64:G:H5''	1.96	0.47
46:t:196:ASP:CG	46:t:248:LYS:HZ3	2.21	0.47
3:C:164:THR:O	3:C:168:VAL:HG23	2.13	0.47
8:H:129:ARG:HD2	8:H:156:ASN:ND2	2.30	0.47
13:M:66:VAL:HG21	13:M:98:LEU:HB3	1.95	0.47
25:Y:36:GLY:HA3	25:Y:40:HIS:CE1	2.49	0.47
31:e:94:ALA:O	31:e:98:GLU:HG2	2.13	0.47
43:q:82:U:O2	43:q:101:A:N6	2.36	0.47
43:q:4964:U:H4'	43:q:4965:A:H5'	1.94	0.47
45:s:114:U:H2'	45:s:115:A:C8	2.49	0.47
2:B:352:LEU:HD11	43:q:4639:U:H1'	1.96	0.47
3:C:35:ASP:N	3:C:35:ASP:OD1	2.46	0.47
5:E:221:GLN:HE22	5:E:235:THR:HB	1.79	0.47
8:H:128:MET:HB3	8:H:132:VAL:HG22	1.92	0.47
30:d:23:GLU:OE2	43:q:432:G:N2	2.30	0.47
30:d:106:TYR:HB2	30:d:107:PRO:HD3	1.96	0.47
43:q:455:G:C6	43:q:687:A:N1	2.83	0.47
44:r:44:A:H2'	44:r:45:C:C6	2.49	0.47
45:s:15:C:H2'	45:s:16:A:C8	2.48	0.47
45:s:67:C:H2'	45:s:68:C:C6	2.48	0.47
46:t:60:THR:HG22	46:t:72:LYS:HB3	1.95	0.47
46:t:89:PHE:CE1	46:t:91:PRO:HD3	2.49	0.47
46:t:92:LEU:HD23	46:t:281:ARG:HG3	1.97	0.47
46:t:285:ASP:OD1	46:t:285:ASP:N	2.40	0.47
8:H:50:LYS:NZ	43:q:748:G:OP1	2.38	0.47
12:L:25:VAL:HB	12:L:38:VAL:HB	1.96	0.47
43:q:1791:C:H2'	43:q:1792:G:C8	2.49	0.47
43:q:1874:C:O2'	43:q:1917:C:N3	2.48	0.47
43:q:2353:A:H2'	43:q:2354:A:C8	2.49	0.47
43:q:3576:C:O2'	43:q:3577:U:H5''	2.13	0.47
46:t:67:GLU:HB2	46:t:70:MET:HB2	1.97	0.47
3:C:361:LEU:HA	3:C:364:LYS:HE3	1.96	0.47
7:G:50:ASP:N	7:G:50:ASP:OD1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:99:GLN:O	13:M:103:GLU:HG3	2.15	0.47
17:Q:15:ARG:HD2	17:Q:25:PRO:HD2	1.95	0.47
17:Q:95:ARG:NE	17:Q:97:TYR:OH	2.46	0.47
18:R:70:HIS:NE2	43:q:4289:C:OP1	2.47	0.47
20:T:115:SER:O	20:T:135:ASN:ND2	2.47	0.47
40:n:57:CYS:SG	40:n:58:GLY:N	2.87	0.47
41:o:16:ARG:NH2	43:q:2502:G:OP1	2.32	0.47
43:q:656:C:H2'	43:q:657:C:C6	2.50	0.47
43:q:708:U:O4	43:q:938:G:O6	2.32	0.47
43:q:2534:G:H2'	43:q:2535:G:H8	1.79	0.47
43:q:4679:A:H2'	43:q:4680:G:O4'	2.15	0.47
43:q:5017:C:H2'	43:q:5018:A:C8	2.50	0.47
46:t:26:ASP:HB3	46:t:30:ARG:HD3	1.96	0.47
46:t:27:ILE:O	46:t:31:VAL:CG1	2.33	0.47
46:t:272:ARG:CZ	46:t:282:ALA:O	2.63	0.47
7:G:107:LYS:NZ	43:q:122:U:O4	2.48	0.47
9:I:184:MET:HE3	9:I:190:LEU:HD11	1.95	0.47
31:e:16:ALA:HA	31:e:19:LYS:HE2	1.95	0.47
32:f:10:ARG:NH2	44:r:65:A:O2'	2.48	0.47
33:g:25:ARG:NH2	43:q:320:C:OP1	2.47	0.47
43:q:379:A:H4'	43:q:380:A:H5'	1.96	0.47
43:q:717:G:H1	43:q:927:C:H42	1.62	0.47
43:q:3579:A:H2'	43:q:3580:G:C8	2.49	0.47
2:B:234:ARG:NH2	2:B:268:ARG:O	2.42	0.47
5:E:183:ARG:HH12	43:q:4895:C:H3'	1.79	0.47
6:F:148:LYS:HD3	6:F:245:ARG:HH21	1.78	0.47
7:G:220:GLU:O	7:G:224:THR:HG23	2.14	0.47
8:H:73:ILE:O	8:H:77:VAL:HG23	2.15	0.47
10:J:56:THR:HG23	10:J:63:ARG:HA	1.97	0.47
11:K:46:ILE:HG13	11:K:49:ARG:HD3	1.97	0.47
13:M:9:GLU:OE1	33:g:41:ARG:NH1	2.48	0.47
14:N:9:LEU:HD23	14:N:118:MET:HB2	1.97	0.47
14:N:96:GLN:NE2	43:q:426:U:O4	2.48	0.47
15:O:36:ILE:HD11	15:O:44:ALA:HA	1.96	0.47
22:V:77:ILE:HA	22:V:100:VAL:HG12	1.96	0.47
23:W:46:SER:OG	43:q:236:C:OP1	2.30	0.47
23:W:55:VAL:HG22	23:W:104:VAL:HG22	1.97	0.47
43:q:375:U:H2'	43:q:376:G:O4'	2.14	0.47
43:q:1166:C:H2'	43:q:1167:A:H8	1.79	0.47
43:q:1182:G:H2'	43:q:1183:G:C8	2.50	0.47
43:q:1298:C:N4	43:q:1299:G:O6	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1437:G:H2'	43:q:1438:G:C8	2.49	0.47
43:q:1627:C:H2'	43:q:1628:A:C8	2.50	0.47
43:q:1768:A:O2'	43:q:1770:A:OP2	2.23	0.47
43:q:1827:G:H2'	43:q:1828:C:C6	2.50	0.47
43:q:2344:C:H5'	43:q:2345:A:H5''	1.95	0.47
43:q:2876:G:H2'	43:q:2877:G:C8	2.50	0.47
43:q:3838:A:H2'	43:q:3839:G:C8	2.50	0.47
43:q:3882:C:H2'	43:q:3883:U:C6	2.50	0.47
43:q:3888:A:H2'	43:q:3889:G:H8	1.78	0.47
43:q:4036:U:H2'	43:q:4037:U:C6	2.50	0.47
43:q:4147:G:H2'	43:q:4148:A:H8	1.80	0.47
43:q:4199:C:H5''	43:q:4289:C:H1'	1.96	0.47
43:q:4835:G:H2'	43:q:4836:C:C6	2.49	0.47
45:s:15:C:H2'	45:s:16:A:H8	1.79	0.47
46:t:27:ILE:HG23	46:t:59:GLU:CB	2.45	0.47
46:t:45:VAL:HG13	46:t:80:ILE:HB	1.97	0.47
46:t:347:MET:HE3	46:t:347:MET:HB3	1.72	0.47
1:A:45:VAL:HG23	1:A:85:GLY:H	1.79	0.47
1:A:152:SER:OG	43:q:3632:G:N7	2.48	0.47
3:C:359:THR:O	3:C:363:THR:OG1	2.25	0.47
5:E:141:ARG:HG3	5:E:191:GLN:HE21	1.78	0.47
24:X:14:LEU:HD21	31:e:92:LYS:HD3	1.95	0.47
43:q:419:U:H2'	43:q:420:A:C8	2.49	0.47
43:q:425:G:C8	43:q:3859:G:H2'	2.50	0.47
43:q:643:A:H2'	43:q:644:C:C6	2.50	0.47
43:q:1199:C:H2'	43:q:1200:G:C8	2.50	0.47
43:q:1663:G:H2'	43:q:1664:A:C8	2.49	0.47
43:q:2724:A:H2'	43:q:2725:A:H8	1.79	0.47
43:q:4264:U:O4	43:q:4270:C:N4	2.47	0.47
43:q:4826:G:H4'	43:q:4828:G:H4'	1.96	0.47
45:s:62:U:O2'	45:s:64:G:O4'	2.32	0.47
46:t:139:LYS:HA	46:t:142:VAL:HG22	1.95	0.47
4:D:50:ARG:NH1	4:D:72:ASP:OD2	2.47	0.47
13:M:63:ARG:NH2	13:M:131:GLU:OE2	2.48	0.47
13:M:108:ARG:NH2	43:q:54:G:O2'	2.30	0.47
16:P:176:ARG:HB2	25:Y:56:VAL:HG21	1.97	0.47
26:Z:50:ASN:HD21	43:q:1809:C:H1'	1.79	0.47
39:m:39:ARG:NH1	43:q:289:A:N3	2.63	0.47
43:q:438:G:H2'	43:q:439:U:C6	2.49	0.47
43:q:2590:A:H2'	43:q:2591:G:H8	1.80	0.47
43:q:3842:A:H2'	43:q:3843:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:3913:A:H2'	43:q:3914:A:C8	2.50	0.47
43:q:4831:G:C5	43:q:4834:U:H4'	2.49	0.47
43:q:4976:C:H2'	43:q:4977:A:C8	2.50	0.47
46:t:217:GLU:N	46:t:217:GLU:CD	2.73	0.47
2:B:373:LYS:HD2	43:q:4589:U:H4'	1.95	0.47
3:C:41:HIS:HD2	3:C:238:LEU:HD23	1.80	0.47
6:F:192:HIS:O	6:F:196:THR:OG1	2.26	0.47
12:L:29:ASP:OD1	12:L:29:ASP:N	2.48	0.47
16:P:150:ARG:NH2	43:q:1480:G:OP1	2.48	0.47
43:q:216:G:H22	43:q:233:G:H22	1.63	0.47
43:q:267:U:H2'	43:q:268:C:H6	1.80	0.47
43:q:1648:C:O2'	43:q:1670:G:OP1	2.26	0.47
43:q:3904:G:H2'	43:q:3905:G:H8	1.80	0.47
43:q:4306:U:H3	43:q:4330:G:H1	1.62	0.47
2:B:165:HIS:HB3	2:B:180:LEU:HD23	1.96	0.46
3:C:110:ARG:NH1	43:q:1490:A:OP1	2.36	0.46
7:G:99:ALA:HB2	7:G:204:PHE:HZ	1.80	0.46
15:O:131:ARG:HG3	15:O:137:ASN:OD1	2.14	0.46
24:X:129:TRP:HA	24:X:132:GLN:HG2	1.98	0.46
43:q:747:G:H2'	43:q:748:G:H8	1.79	0.46
43:q:940:C:H2'	43:q:941:C:C6	2.50	0.46
43:q:3624:A:N1	43:q:3663:A:H4'	2.30	0.46
46:t:75:ALA:HB2	46:t:112:VAL:O	2.14	0.46
10:J:123:ILE:HG13	10:J:124:GLY:N	2.31	0.46
13:M:98:LEU:HA	13:M:101:VAL:HG12	1.97	0.46
14:N:104:VAL:C	14:N:105:LEU:HD12	2.39	0.46
23:W:74:TYR:HB3	23:W:79:VAL:HG12	1.97	0.46
43:q:667:C:H2'	43:q:668:C:C6	2.49	0.46
43:q:1147:G:H2'	43:q:1148:G:C8	2.50	0.46
43:q:1777:A:N3	45:s:79:U:O2'	2.46	0.46
43:q:2061:U:H2'	43:q:2062:C:H6	1.80	0.46
43:q:2601:G:H2'	43:q:2602:A:H8	1.80	0.46
43:q:2863:G:H2'	43:q:2864:A:H8	1.80	0.46
46:t:70:MET:O	46:t:72:LYS:NZ	2.37	0.46
46:t:139:LYS:CG	46:t:315:PHE:CE2	2.98	0.46
1:A:179:ILE:HG21	1:A:185:ALA:HB2	1.97	0.46
10:J:161:GLU:OE2	10:J:164:ARG:NH1	2.48	0.46
15:O:80:GLN:NE2	43:q:3863:U:O2'	2.48	0.46
43:q:716:G:H2'	43:q:717:G:C8	2.51	0.46
43:q:1084:C:OP2	43:q:1150:C:H5''	2.15	0.46
43:q:1975:C:H2'	43:q:1976:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:2340:G:O2'	43:q:3830:G:O6	2.25	0.46
43:q:2434:G:H1'	43:q:2450:G:C4	2.50	0.46
43:q:4856:G:H1	43:q:4880:C:H41	1.64	0.46
3:C:94:ASN:ND2	3:C:102:PHE:HB2	2.30	0.46
13:M:62:TYR:HE2	13:M:110:CYS:SG	2.37	0.46
13:M:118:SER:HB3	13:M:132:VAL:HG12	1.97	0.46
13:M:125:SER:OG	43:q:4136:U:O2	2.32	0.46
17:Q:53:LYS:NZ	45:s:74:A:N3	2.61	0.46
24:X:17:ARG:NH1	24:X:18:TYR:OH	2.48	0.46
27:a:51:ASN:O	43:q:2653:A:N6	2.48	0.46
43:q:187:G:H2'	43:q:188:G:C8	2.50	0.46
43:q:733:G:H2'	43:q:734:G:C8	2.51	0.46
43:q:926:G:H2'	43:q:927:C:H5'	1.97	0.46
43:q:1395:G:H2'	43:q:1396:C:C6	2.50	0.46
43:q:1460:C:H2'	43:q:1461:G:C8	2.50	0.46
43:q:3926:G:N1	43:q:3927:G:O6	2.49	0.46
43:q:4236:A:H2'	43:q:4237:G:C8	2.51	0.46
43:q:4726:A:H61	43:q:4826:G:H22	1.61	0.46
43:q:5015:C:H2'	43:q:5016:A:C8	2.51	0.46
3:C:47:ASN:ND2	43:q:1356:A:OP1	2.48	0.46
9:I:66:GLU:O	9:I:69:ARG:HG3	2.16	0.46
10:J:20:LEU:HD13	10:J:132:VAL:HG22	1.97	0.46
11:K:54:PRO:HB3	11:K:97:SER:HB3	1.97	0.46
14:N:27:VAL:HG12	14:N:98:ALA:HB1	1.97	0.46
16:P:143:ARG:NH1	43:q:1674:C:O3'	2.47	0.46
16:P:152:PHE:CZ	43:q:1828:C:H4'	2.50	0.46
43:q:1072:G:H2'	43:q:1073:G:H8	1.80	0.46
43:q:2838:G:O2'	43:q:3808:C:O2'	2.30	0.46
45:s:76:U:H2'	45:s:77:A:C8	2.49	0.46
46:t:116:GLY:O	46:t:192:GLN:HG2	2.16	0.46
1:A:3:ARG:HH21	43:q:1615:G:H21	1.64	0.46
2:B:160:ILE:HD12	2:B:193:LYS:HB2	1.98	0.46
6:F:94:ARG:HD3	6:F:117:ILE:HA	1.98	0.46
14:N:10:ASP:OD1	14:N:11:GLY:N	2.49	0.46
14:N:149:TYR:OH	43:q:4546:A:OP1	2.29	0.46
15:O:131:ARG:NH2	43:q:3831:A:N3	2.63	0.46
27:a:18:LEU:O	27:a:22:MET:HG2	2.16	0.46
30:d:99:HIS:CE1	43:q:4712:G:H5''	2.50	0.46
43:q:20:U:H3'	43:q:21:G:C8	2.50	0.46
43:q:651:C:H2'	43:q:652:C:C6	2.51	0.46
43:q:1868:G:H21	43:q:1919:C:H42	1.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4909:G:H2'	43:q:4909:G:N3	2.31	0.46
46:t:46:LEU:HB3	46:t:97:ASP:OD2	2.15	0.46
46:t:88:HIS:CE1	46:t:305:PHE:CG	3.04	0.46
2:B:217:ILE:HG22	2:B:282:LYS:O	2.16	0.46
3:C:167:ALA:HB1	3:C:221:PHE:HE1	1.80	0.46
5:E:105:ARG:HH12	43:q:677:G:H21	1.62	0.46
23:W:87:ARG:NH2	43:q:398:U:O2'	2.49	0.46
43:q:1733:A:H2'	43:q:1734:G:C8	2.51	0.46
12:L:112:VAL:HG23	14:N:197:LYS:HD2	1.98	0.46
43:q:19:G:H2'	43:q:20:U:C6	2.50	0.46
43:q:3661:U:H2'	43:q:3662:G:O4'	2.15	0.46
43:q:4333:G:H2'	43:q:4334:U:C6	2.51	0.46
43:q:4865:G:O6	43:q:4871:G:N2	2.48	0.46
45:s:13:A:H1'	45:s:110:G:N7	2.31	0.46
46:t:202:ILE:HD11	46:t:209:GLN:HB3	1.90	0.46
4:D:166:ALA:HB1	4:D:171:LEU:HD12	1.98	0.46
6:F:80:ASN:HD21	18:R:142:ARG:HA	1.81	0.46
15:O:84:PRO:HB2	15:O:87:SER:OG	2.14	0.46
17:Q:82:LEU:HB2	17:Q:93:MET:HB3	1.98	0.46
20:T:48:ARG:HB3	20:T:51:ARG:HD2	1.97	0.46
23:W:18:HIS:O	23:W:78:TYR:OH	2.25	0.46
32:f:53:SER:O	32:f:57:VAL:HG23	2.16	0.46
41:o:39:GLN:CD	46:t:263:ARG:HH12	2.24	0.46
43:q:500:C:H2'	43:q:501:G:H8	1.81	0.46
43:q:725:G:N2	43:q:917:G:H1	2.13	0.46
43:q:1414:C:H42	43:q:1435:A:H61	1.64	0.46
43:q:1599:G:H1'	43:q:2492:A:N6	2.31	0.46
46:t:176:SER:OG	46:t:349:VAL:HA	2.15	0.46
17:Q:86:SER:OG	17:Q:89:GLY:O	2.26	0.46
28:b:62:VAL:HG22	28:b:104:THR:HB	1.98	0.46
43:q:192:C:H42	43:q:240:A:H61	1.63	0.46
43:q:2621:A:N6	43:q:2622:G:O6	2.49	0.46
43:q:3871:G:OP1	43:q:3872:A:O2'	2.22	0.46
44:r:148:A:H2'	44:r:149:G:C8	2.51	0.46
2:B:107:ALA:HB1	2:B:202:GLU:HG3	1.98	0.45
3:C:94:ASN:ND2	43:q:1502:C:H4'	2.31	0.45
8:H:71:ARG:HG2	43:q:4653:A:H4'	1.97	0.45
17:Q:76:LYS:HE2	17:Q:78:PHE:HZ	1.81	0.45
25:Y:102:ASP:H	43:q:503:A:H2	1.64	0.45
33:g:60:LEU:HB3	33:g:69:ALA:HB2	1.97	0.45
43:q:1551:U:H2'	43:q:1552:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:2341:U:H2'	43:q:2342:A:C8	2.51	0.45
43:q:4265:C:C4	43:q:4267:G:C6	3.04	0.45
46:t:20:LYS:HE2	46:t:64:PHE:CZ	2.50	0.45
4:D:210:TYR:O	4:D:214:GLU:HG2	2.17	0.45
7:G:81:ASN:HD21	7:G:238:GLY:HA3	1.81	0.45
7:G:106:THR:O	7:G:110:LYS:HB2	2.16	0.45
9:I:139:ARG:HD2	9:I:173:PHE:CE2	2.51	0.45
15:O:24:VAL:HG12	15:O:86:LYS:HG2	1.98	0.45
30:d:8:LYS:HB3	30:d:100:ARG:NH1	2.31	0.45
30:d:96:ALA:HA	30:d:99:HIS:HD2	1.82	0.45
43:q:2552:A:N7	43:q:2740:U:O4	2.49	0.45
43:q:2562:C:H2'	43:q:2563:G:H8	1.81	0.45
43:q:4209:G:H2'	43:q:4210:A:H8	1.80	0.45
45:s:28:C:H1'	45:s:54:A:H61	1.80	0.45
46:t:176:SER:O	46:t:347:MET:HE1	2.16	0.45
2:B:113:GLU:OE2	2:B:168:MET:N	2.49	0.45
3:C:8:ILE:HD11	3:C:24:LEU:HD13	1.99	0.45
7:G:75:LYS:HG2	7:G:240:ASN:HB2	1.99	0.45
7:G:121:LYS:NZ	7:G:126:GLY:O	2.40	0.45
15:O:122:ALA:HB3	15:O:143:PRO:HG2	1.98	0.45
36:j:15:LYS:HD2	44:r:45:C:P	2.57	0.45
43:q:11:G:H2'	43:q:12:A:C8	2.51	0.45
43:q:341:A:H2'	43:q:342:G:C8	2.51	0.45
43:q:411:G:N2	44:r:16:G:N3	2.63	0.45
43:q:704:C:H2'	43:q:705:G:C8	2.51	0.45
43:q:1379:G:HO2'	43:q:1450:C:HO2'	1.64	0.45
43:q:1595:A:N7	43:q:3609:G:H1'	2.31	0.45
43:q:2500:G:H5'	43:q:2619:G:H1'	1.98	0.45
46:t:199:LYS:C	46:t:200:THR:HG23	2.41	0.45
2:B:5:LYS:NZ	43:q:4418:C:OP2	2.50	0.45
9:I:38:ARG:HG3	9:I:41:ALA:HB2	1.99	0.45
25:Y:2:PRO:HB2	25:Y:5:LEU:HB2	1.99	0.45
27:a:34:THR:HG22	27:a:95:ALA:HB2	1.99	0.45
43:q:176:G:H2'	43:q:177:C:C6	2.52	0.45
43:q:423:A:H2'	43:q:424:G:C8	2.51	0.45
43:q:1431:G:H21	43:q:1432:C:N4	2.15	0.45
43:q:4098:G:O6	43:q:4118:G:N2	2.49	0.45
43:q:4647:U:H2'	43:q:4648:G:C8	2.52	0.45
46:t:107:LYS:HD3	46:t:316:VAL:HG23	1.99	0.45
46:t:111:GLY:CA	46:t:120:ASN:HA	2.46	0.45
3:C:146:GLU:HB2	3:C:175:LYS:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:197:ARG:NH2	43:q:345:C:OP2	2.50	0.45
13:M:94:PHE:CE2	13:M:96:ARG:HB2	2.52	0.45
43:q:2576:G:H1	43:q:2727:C:H5	1.65	0.45
43:q:3623:A:N6	43:q:3662:G:O2'	2.50	0.45
43:q:3912:G:H2'	43:q:3913:A:C8	2.50	0.45
43:q:3918:A:H2'	43:q:3919:C:C6	2.52	0.45
43:q:4475:A:H2'	43:q:4476:G:C8	2.52	0.45
46:t:26:ASP:C	46:t:30:ARG:CG	2.69	0.45
46:t:62:LYS:HA	46:t:65:LYS:HD3	1.99	0.45
46:t:164:THR:HG23	46:t:210:LYS:NZ	2.31	0.45
1:A:3:ARG:HH21	43:q:1615:G:N2	2.14	0.45
5:E:113:PRO:HB3	43:q:452:C:O2'	2.17	0.45
8:H:182:SER:HB3	37:k:85:LEU:HD11	1.99	0.45
9:I:36:LEU:HD22	9:I:87:ILE:HD11	1.98	0.45
23:W:11:ARG:HG3	43:q:225:C:H5''	1.99	0.45
30:d:16:ARG:HB3	30:d:21:GLN:HG2	1.99	0.45
34:h:70:VAL:HA	34:h:73:ARG:HG2	1.99	0.45
41:o:13:SER:OG	41:o:38:ARG:NH2	2.47	0.45
43:q:1057:G:H2'	43:q:1058:G:H8	1.81	0.45
43:q:1225:G:OP2	43:q:1225:G:N2	2.44	0.45
43:q:1333:C:H2'	43:q:1334:G:C8	2.51	0.45
43:q:1334:G:H2'	43:q:1335:C:C6	2.52	0.45
43:q:1859:G:H2'	43:q:1860:C:C6	2.52	0.45
43:q:2701:G:H2'	43:q:2702:U:C6	2.51	0.45
43:q:4236:A:H2'	43:q:4237:G:H8	1.80	0.45
43:q:4397:U:H2'	43:q:4398:U:C2	2.51	0.45
43:q:4722:G:H21	43:q:4727:G:H4'	1.80	0.45
2:B:258:HIS:HE1	43:q:4480:A:C8	2.34	0.45
5:E:161:ARG:NH1	5:E:273:SER:OG	2.49	0.45
7:G:77:PRO:HD2	7:G:80:ILE:HD12	1.99	0.45
12:L:126:GLU:OE2	14:N:184:ASN:ND2	2.50	0.45
22:V:82:THR:HA	22:V:87:MET:HE3	1.98	0.45
28:b:46:LEU:HD22	28:b:64:ILE:HD12	1.98	0.45
30:d:4:ARG:HD3	43:q:4714:U:H3'	1.98	0.45
39:m:36:GLN:OE1	39:m:39:ARG:NH2	2.50	0.45
43:q:1575:A:H2'	43:q:1576:C:O4'	2.16	0.45
43:q:2452:A:N6	43:q:2485:G:O6	2.50	0.45
43:q:3757:U:OP1	43:q:4512:G:O2'	2.24	0.45
44:r:80:A:H5'	44:r:81:C:OP2	2.17	0.45
2:B:15:GLY:O	43:q:4549:G:N2	2.40	0.45
7:G:117:ARG:HA	7:G:120:LYS:HE3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:117:ARG:HG2	7:G:120:LYS:NZ	2.32	0.45
13:M:60:VAL:HG21	44:r:141:C:H5''	1.98	0.45
15:O:69:ARG:HD2	43:q:4939:G:H1'	1.99	0.45
19:S:84:LYS:HB2	19:S:110:TYR:OH	2.16	0.45
24:X:64:LYS:HA	24:X:67:LYS:HD3	1.98	0.45
25:Y:116:LYS:HE3	43:q:1402:G:C8	2.52	0.45
32:f:23:ASP:N	32:f:23:ASP:OD1	2.50	0.45
41:o:70:ARG:HE	41:o:75:HIS:HB2	1.82	0.45
43:q:1287:C:H2'	43:q:1288:C:C6	2.52	0.45
43:q:2466:G:H1'	44:r:125:C:H41	1.82	0.45
43:q:4014:U:H2'	43:q:4015:G:C8	2.52	0.45
43:q:4235:A:H2'	43:q:4236:A:C8	2.51	0.45
2:B:9:PRO:HG3	43:q:4453:G:H5'	1.99	0.45
4:D:232:THR:OG1	4:D:234:ASP:OD1	2.25	0.45
6:F:92:VAL:O	6:F:120:GLY:HA2	2.16	0.45
10:J:10:ASN:HB2	10:J:13:ARG:HB2	1.99	0.45
17:Q:157:ARG:NE	43:q:4827:U:O4	2.49	0.45
22:V:87:MET:HE1	22:V:155:ILE:HB	1.98	0.45
36:j:23:ILE:HG23	36:j:27:ILE:HD11	1.99	0.45
39:m:23:VAL:HG13	39:m:68:LEU:HB3	1.98	0.45
43:q:204:G:H1'	43:q:228:U:C2	2.52	0.45
43:q:414:A:H61	44:r:15:G:H1'	1.82	0.45
43:q:664:C:H2'	43:q:665:G:H8	1.81	0.45
43:q:1275:C:H2'	43:q:1276:G:N3	2.31	0.45
43:q:2589:G:H2'	43:q:2590:A:C8	2.52	0.45
43:q:3705:U:H2'	43:q:3706:G:O4'	2.15	0.45
43:q:4199:C:H2'	43:q:4200:G:C8	2.52	0.45
43:q:4249:G:H2'	43:q:4250:C:C6	2.52	0.45
43:q:4327:C:H2'	43:q:4328:A:C8	2.52	0.45
43:q:4540:G:H2'	43:q:4541:U:C6	2.52	0.45
46:t:111:GLY:HA3	46:t:120:ASN:HA	1.98	0.45
46:t:187:SER:OG	46:t:225:ALA:O	2.34	0.45
46:t:198:GLU:CD	46:t:198:GLU:C	2.85	0.45
1:A:27:ALA:HB2	1:A:58:LEU:HD11	1.99	0.45
2:B:161:ARG:HG2	2:B:184:GLN:HA	1.99	0.45
3:C:205:ARG:HG2	43:q:2276:G:H5'	1.99	0.45
11:K:141:ALA:HB3	11:K:144:LEU:HA	1.97	0.45
29:c:85:LEU:HD22	29:c:111:ILE:HG23	1.99	0.45
34:h:48:ASN:HB2	43:q:52:G:OP2	2.17	0.45
43:q:262:G:C2	43:q:263:G:C5	3.05	0.45
43:q:4421:U:H2'	43:q:4422:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:r:66:A:H2'	44:r:67:U:C6	2.52	0.45
46:t:67:GLU:CB	46:t:70:MET:HB2	2.46	0.45
46:t:170:TRP:HZ3	46:t:203:GLN:CG	2.29	0.45
7:G:58:PRO:HD2	7:G:61:ILE:HG13	2.00	0.44
9:I:31:ILE:HD11	9:I:93:PRO:HD3	1.98	0.44
12:L:7:VAL:HG22	17:Q:152:PHE:O	2.17	0.44
24:X:46:ILE:HD11	24:X:68:ILE:HB	1.99	0.44
33:g:94:LEU:O	33:g:98:GLU:HB2	2.17	0.44
41:o:39:GLN:NE2	46:t:263:ARG:HH11	2.14	0.44
43:q:47:A:H5'	43:q:49:U:H1'	1.99	0.44
43:q:268:C:H2'	43:q:269:C:C6	2.52	0.44
43:q:301:A:O2'	43:q:302:G:O4'	2.34	0.44
43:q:1988:G:N2	43:q:1993:A:H62	2.13	0.44
43:q:2570:A:H2'	43:q:2571:U:H6	1.82	0.44
43:q:2814:A:H2'	43:q:2815:A:H8	1.82	0.44
43:q:2856:G:N2	43:q:3795:A:O2'	2.50	0.44
43:q:4396:C:H2'	43:q:4397:U:C6	2.52	0.44
43:q:4500:G:H2'	43:q:4501:U:C6	2.52	0.44
43:q:4555:C:H2'	43:q:4556:U:H6	1.82	0.44
2:B:77:THR:HG21	2:B:337:VAL:HG12	1.99	0.44
2:B:245:HIS:CD2	2:B:246:ARG:HD2	2.52	0.44
3:C:110:ARG:NH2	13:M:204:ARG:OXT	2.34	0.44
4:D:20:PHE:HD1	45:s:10:C:C4	2.35	0.44
10:J:123:ILE:HG13	10:J:124:GLY:H	1.83	0.44
17:Q:36:ASN:OD1	17:Q:39:VAL:HG12	2.17	0.44
17:Q:173:ASN:HA	43:q:4724:A:C2	2.53	0.44
43:q:652:C:H2'	43:q:653:G:C8	2.52	0.44
43:q:2722:A:H2'	43:q:2723:A:C8	2.52	0.44
43:q:4008:C:H2'	43:q:4009:G:H8	1.82	0.44
43:q:4976:C:H2'	43:q:4977:A:H8	1.82	0.44
46:t:189:GLN:HB2	46:t:199:LYS:HB2	1.98	0.44
1:A:19:HIS:ND1	1:A:190:LYS:O	2.39	0.44
2:B:119:TYR:HE1	43:q:4925:A:H5''	1.83	0.44
11:K:31:ARG:NH2	43:q:332:A:OP1	2.50	0.44
16:P:55:ARG:HH22	43:q:1335:C:N4	2.12	0.44
37:k:104:HIS:CD2	37:k:104:HIS:H	2.33	0.44
43:q:20:U:P	44:r:36:G:H1	2.40	0.44
43:q:362:C:N4	43:q:363:G:O6	2.50	0.44
43:q:1328:A:H2'	43:q:1329:C:C6	2.52	0.44
43:q:1714:C:N4	43:q:1715:G:O6	2.51	0.44
43:q:2576:G:H2'	43:q:2577:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4216:G:H2'	43:q:4216:G:N3	2.33	0.44
43:q:4414:U:OP2	43:q:4484:G:N1	2.38	0.44
2:B:302:ASN:HB3	2:B:314:ILE:HG12	1.99	0.44
6:F:179:LEU:HG	6:F:184:ILE:HD12	1.98	0.44
14:N:76:PRO:HG2	14:N:106:ASP:OD1	2.18	0.44
15:O:16:LYS:HG3	43:q:394:A:H5''	1.99	0.44
15:O:96:LYS:HB2	15:O:96:LYS:HE3	1.79	0.44
17:Q:127:MET:HA	18:R:153:PRO:HG2	1.99	0.44
21:U:16:GLY:O	43:q:4590:U:O2'	2.31	0.44
43:q:305:G:H2'	43:q:306:G:H8	1.82	0.44
43:q:315:U:H2'	43:q:316:C:C6	2.52	0.44
43:q:3655:G:H2'	43:q:3656:C:C6	2.53	0.44
43:q:3770:A:N6	43:q:3771:A:N1	2.66	0.44
43:q:4666:C:H2'	43:q:4667:A:C8	2.52	0.44
43:q:4898:C:H5'	43:q:4899:G:H5''	2.00	0.44
43:q:4977:A:H2'	43:q:4978:G:H8	1.83	0.44
17:Q:30:MET:HG2	18:R:151:LEU:HB2	2.00	0.44
22:V:82:THR:O	22:V:82:THR:HG22	2.17	0.44
22:V:110:LYS:HG3	22:V:121:VAL:HB	2.00	0.44
39:m:89:LYS:HG3	43:q:4191:U:H5'	1.99	0.44
43:q:123:C:H2'	43:q:124:C:C6	2.53	0.44
43:q:160:A:H2'	43:q:161:G:C8	2.53	0.44
43:q:1761:U:H2'	43:q:1762:A:C8	2.53	0.44
43:q:1788:G:H2'	43:q:1789:C:C6	2.52	0.44
45:s:114:U:C2	45:s:115:A:N7	2.86	0.44
13:M:17:ASP:N	13:M:17:ASP:OD1	2.51	0.44
15:O:78:TRP:CD1	15:O:80:GLN:H	2.36	0.44
16:P:12:LYS:HG2	43:q:2063:G:H5''	1.99	0.44
27:a:18:LEU:HA	27:a:21:VAL:HG12	1.98	0.44
43:q:940:C:H2'	43:q:941:C:H6	1.83	0.44
43:q:1644:C:H2'	43:q:1645:C:C6	2.52	0.44
43:q:1853:G:O2'	43:q:4181:A:N3	2.40	0.44
43:q:2811:A:H2'	43:q:2812:A:C8	2.51	0.44
43:q:3579:A:H2'	43:q:3580:G:H8	1.82	0.44
43:q:3881:C:H2'	43:q:3882:C:C6	2.53	0.44
44:r:14:U:H2'	44:r:15:G:O4'	2.17	0.44
46:t:147:HIS:ND1	46:t:338:PHE:CE2	2.85	0.44
46:t:151:GLU:HB3	46:t:155:ARG:NH1	2.31	0.44
46:t:266:PHE:C	46:t:268:GLU:N	2.76	0.44
3:C:278:ASN:OD1	3:C:279:LEU:N	2.50	0.44
10:J:31:ASP:OD1	10:J:32:ARG:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:75:ARG:HD2	16:P:137:VAL:HG21	2.00	0.44
43:q:1425:C:H5''	43:q:1426:A:OP1	2.18	0.44
44:r:105:C:H4'	44:r:106:G:H5''	1.98	0.44
19:S:22:THR:O	19:S:109:SER:HA	2.18	0.44
41:o:112:SER:O	41:o:112:SER:OG	2.30	0.44
43:q:263:G:H2'	43:q:264:U:C6	2.53	0.44
43:q:417:G:H2'	43:q:418:U:C6	2.52	0.44
43:q:1527:G:H2'	43:q:1528:C:C6	2.52	0.44
43:q:3895:C:H2'	43:q:3896:U:C6	2.51	0.44
43:q:4827:U:H4'	43:q:4828:G:H5''	2.00	0.44
45:s:52:C:O2'	45:s:54:A:N7	2.49	0.44
46:t:41:SER:HB2	46:t:127:ILE:CG2	2.48	0.44
46:t:265:PHE:CE1	46:t:269:VAL:HG21	2.53	0.44
1:A:138:SER:HB3	1:A:147:ARG:HB3	2.00	0.44
1:A:207:VAL:HG21	43:q:1615:G:C6	2.52	0.44
2:B:30:LYS:HG3	43:q:4678:C:OP2	2.18	0.44
3:C:298:ILE:HD12	16:P:35:LEU:HD21	2.00	0.44
5:E:278:THR:OG1	5:E:279:ASN:N	2.51	0.44
9:I:86:HIS:HB3	9:I:139:ARG:HG2	1.99	0.44
11:K:25:TRP:HE1	13:M:199:GLN:NE2	2.16	0.44
21:U:4:GLU:HG3	21:U:30:GLN:HG2	2.00	0.44
29:c:38:PRO:HB2	29:c:43:ASN:HD22	1.83	0.44
33:g:54:GLU:HG2	33:g:90:LEU:HD21	2.00	0.44
43:q:894:C:H2'	43:q:895:G:C8	2.52	0.44
43:q:4078:G:N2	43:q:4079:C:H41	2.16	0.44
43:q:4864:C:O2'	43:q:4866:G:N7	2.51	0.44
46:t:67:GLU:N	46:t:67:GLU:CD	2.73	0.44
1:A:5:ILE:HG13	1:A:8:GLN:H	1.82	0.43
3:C:317:ASN:ND2	3:C:320:LYS:HG2	2.33	0.43
3:C:320:LYS:HD2	3:C:320:LYS:HA	1.66	0.43
6:F:217:ARG:HD3	43:q:708:U:OP1	2.18	0.43
11:K:144:LEU:HD21	32:f:122:LYS:O	2.16	0.43
15:O:30:ARG:NH2	43:q:418:U:OP1	2.48	0.43
17:Q:142:VAL:HG12	17:Q:146:HIS:HE1	1.83	0.43
18:R:35:LYS:NZ	43:q:1806:G:OP1	2.37	0.43
18:R:39:ILE:HD12	18:R:102:ARG:HD3	2.00	0.43
28:b:50:ARG:O	28:b:54:MET:HG2	2.17	0.43
31:e:8:ARG:HH11	31:e:31:VAL:HG21	1.83	0.43
33:g:19:LYS:HE2	33:g:19:LYS:HB3	1.78	0.43
43:q:468:C:H2'	43:q:469:G:C8	2.51	0.43
43:q:1621:U:N3	43:q:1625:A:O2'	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:1733:A:H2'	43:q:1734:G:H8	1.81	0.43
43:q:2474:U:H2'	43:q:2475:G:C8	2.48	0.43
43:q:2830:G:H2'	43:q:2831:U:O4'	2.18	0.43
43:q:3632:G:H4'	43:q:3633:A:H5'	1.98	0.43
43:q:4558:C:H2'	43:q:4559:U:C6	2.52	0.43
43:q:4860:C:H2'	43:q:4861:G:H8	1.83	0.43
43:q:4960:U:H2'	43:q:4961:U:C6	2.53	0.43
46:t:71:LYS:C	46:t:113:HIS:NE2	2.76	0.43
46:t:135:VAL:HG23	46:t:135:VAL:O	2.18	0.43
46:t:255:TYR:OH	46:t:299:HIS:CE1	2.71	0.43
2:B:293:ILE:HG12	2:B:299:ILE:HD11	1.98	0.43
2:B:325:GLU:HB3	2:B:327:THR:HG23	2.00	0.43
3:C:339:THR:O	3:C:343:GLN:HG2	2.18	0.43
4:D:256:LYS:NZ	45:s:116:G:H5''	2.32	0.43
5:E:144:ILE:HG21	5:E:173:LEU:HD21	2.00	0.43
6:F:96:ARG:HD3	6:F:223:LYS:HE3	2.00	0.43
22:V:106:LYS:NZ	22:V:124:VAL:O	2.49	0.43
32:f:70:ARG:NH2	44:r:96:C:OP1	2.51	0.43
35:i:23:VAL:HG22	35:i:36:VAL:HG22	2.01	0.43
43:q:189:G:H2'	43:q:190:G:C8	2.53	0.43
43:q:345:C:O2'	43:q:349:A:N3	2.50	0.43
43:q:420:A:H2'	43:q:421:A:C8	2.53	0.43
43:q:494:G:O2'	43:q:498:G:H5''	2.18	0.43
43:q:2392:U:H2'	43:q:2393:G:H8	1.83	0.43
43:q:2517:U:H2'	43:q:2518:C:H6	1.83	0.43
43:q:4018:A:H1'	43:q:4019:U:C5	2.54	0.43
43:q:4384:A:H2	43:q:4389:G:H1	1.66	0.43
43:q:4500:G:H2'	43:q:4501:U:H6	1.83	0.43
43:q:4907:G:H5''	43:q:4908:U:H3'	1.99	0.43
15:O:128:ARG:HB2	15:O:136:ILE:HG23	2.01	0.43
16:P:44:ASN:HA	16:P:47:VAL:HG12	2.00	0.43
35:i:19:ASP:O	35:i:38:CYS:HA	2.18	0.43
43:q:63:G:O2'	43:q:76:A:N3	2.46	0.43
43:q:1147:G:H2'	43:q:1148:G:H8	1.82	0.43
43:q:1311:G:H2'	43:q:1312:G:C8	2.54	0.43
43:q:1963:G:N2	43:q:1990:A:O2'	2.40	0.43
43:q:2443:C:H2'	43:q:2444:C:C6	2.53	0.43
43:q:3932:G:N1	43:q:3934:A:H2'	2.33	0.43
43:q:4324:A:H2'	43:q:4325:A:H8	1.83	0.43
43:q:4485:A:H5'	43:q:4486:G:H5'	2.00	0.43
44:r:153:C:H2'	44:r:154:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:s:110:G:H2'	45:s:111:C:C6	2.54	0.43
46:t:266:PHE:O	46:t:268:GLU:N	2.51	0.43
1:A:67:TYR:OH	43:q:4057:G:N7	2.42	0.43
2:B:33:PRO:HA	2:B:351:LEU:HG	2.00	0.43
3:C:83:GLY:O	43:q:361:C:O2'	2.31	0.43
3:C:228:THR:OG1	3:C:248:ARG:NH2	2.47	0.43
9:I:43:VAL:HA	9:I:139:ARG:HH22	1.83	0.43
10:J:44:THR:HG21	10:J:72:CYS:SG	2.58	0.43
10:J:54:ARG:NH2	43:q:4206:A:OP1	2.40	0.43
15:O:109:VAL:HA	15:O:112:LEU:HD12	2.01	0.43
22:V:153:ILE:O	22:V:153:ILE:HG13	2.18	0.43
33:g:28:ARG:NH2	43:q:320:C:OP2	2.51	0.43
41:o:90:PRO:HB2	41:o:93:VAL:HG12	2.00	0.43
43:q:339:C:H2'	43:q:340:G:C8	2.53	0.43
43:q:1677:U:O2'	43:q:1701:A:N1	2.52	0.43
43:q:3692:U:H2'	43:q:3693:G:C8	2.52	0.43
43:q:3694:A:H2'	43:q:3695:A:C8	2.52	0.43
43:q:4010:C:OP1	43:q:4018:A:O2'	2.27	0.43
43:q:4154:A:H2'	43:q:4155:C:C6	2.52	0.43
43:q:4854:G:H22	43:q:4883:U:H1'	1.83	0.43
46:t:56:ILE:C	46:t:57:MET:HE2	2.44	0.43
2:B:194:LEU:HD23	2:B:194:LEU:HA	1.86	0.43
3:C:56:GLU:HG2	3:C:56:GLU:O	2.18	0.43
4:D:164:LYS:HA	4:D:167:VAL:HG12	2.01	0.43
6:F:136:VAL:HG22	6:F:139:TYR:HB2	2.01	0.43
7:G:132:ARG:HD2	7:G:133:PRO:HD2	2.00	0.43
16:P:14:ARG:NH1	43:q:2064:C:OP1	2.52	0.43
18:R:5:LYS:HA	18:R:9:ARG:HH21	1.83	0.43
19:S:80:LYS:HG2	19:S:110:TYR:CZ	2.54	0.43
22:V:84:GLU:CD	22:V:84:GLU:H	2.27	0.43
28:b:95:ASP:HB3	28:b:97:ASP:OD1	2.19	0.43
43:q:20:U:H3'	43:q:21:G:H8	1.82	0.43
43:q:630:G:H2'	43:q:631:G:C8	2.53	0.43
43:q:1646:U:H2'	43:q:1647:C:H6	1.84	0.43
43:q:3592:A:C8	43:q:4604:U:H1'	2.53	0.43
3:C:207:PRO:HB3	3:C:249:PHE:CD2	2.53	0.43
3:C:211:TYR:HE2	3:C:214:ASP:HB2	1.83	0.43
3:C:303:ARG:O	16:P:38:ARG:NH2	2.34	0.43
4:D:65:ALA:HB2	4:D:74:ILE:HG12	2.01	0.43
4:D:152:ARG:NH1	4:D:153:THR:O	2.51	0.43
10:J:118:LYS:HD3	10:J:118:LYS:HA	1.92	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:20:LEU:HD12	27:a:102:SER:HB2	2.01	0.43
43:q:112:C:H2'	43:q:113:A:H8	1.83	0.43
43:q:452:C:H2'	43:q:453:C:C6	2.54	0.43
43:q:1796:C:H2'	43:q:1798:C:H5	1.82	0.43
43:q:2632:C:H2'	43:q:2633:C:H6	1.83	0.43
43:q:4723:G:N2	43:q:4727:G:O4'	2.52	0.43
46:t:105:LEU:CD1	46:t:126:VAL:CG2	2.96	0.43
1:A:117:GLU:HB2	1:A:162:ASN:HB2	2.01	0.43
2:B:113:GLU:OE2	2:B:169:ARG:N	2.48	0.43
3:C:301:ALA:HB1	16:P:132:LYS:HE2	2.01	0.43
5:E:264:VAL:HB	5:E:267:LEU:HB2	2.00	0.43
11:K:27:ASN:HB3	44:r:29:G:H5''	2.01	0.43
25:Y:24:LYS:HD3	25:Y:26:ARG:HH21	1.82	0.43
43:q:1378:U:H2'	43:q:1379:G:O4'	2.19	0.43
43:q:2595:C:H2'	43:q:2596:G:H8	1.83	0.43
43:q:4372:G:C6	43:q:4395:G:C6	3.06	0.43
45:s:100:A:H2'	45:s:101:A:C8	2.53	0.43
2:B:160:ILE:HD12	2:B:193:LYS:HE3	2.01	0.43
3:C:112:HIS:CD2	13:M:202:ARG:HB3	2.53	0.43
4:D:64:ILE:HG13	4:D:105:LEU:HD21	2.01	0.43
5:E:123:ARG:O	43:q:946:G:O2'	2.34	0.43
6:F:214:SER:OG	6:F:215:SER:N	2.52	0.43
13:M:54:LYS:H	13:M:59:TYR:HD2	1.63	0.43
15:O:22:LEU:HB2	15:O:90:PHE:HE2	1.83	0.43
22:V:108:GLN:NE2	44:r:132:G:OP1	2.52	0.43
40:n:10:ILE:H	40:n:10:ILE:HD12	1.83	0.43
41:o:24:LEU:HD13	41:o:50:ILE:HG12	2.01	0.43
43:q:224:A:C6	43:q:237:G:C2	3.07	0.43
43:q:262:G:H2'	43:q:263:G:C8	2.54	0.43
43:q:1324:U:H2'	43:q:1325:A:C8	2.53	0.43
43:q:1599:G:H1'	43:q:2492:A:H61	1.84	0.43
43:q:1721:G:H2'	43:q:1722:C:C6	2.53	0.43
43:q:2060:G:H2'	43:q:2061:U:H6	1.81	0.43
43:q:3810:G:N2	43:q:3814:C:O2'	2.51	0.43
43:q:3864:C:H2'	43:q:3865:A:C8	2.53	0.43
43:q:4275:A:H2'	43:q:4276:C:O4'	2.19	0.43
43:q:4604:U:H2'	43:q:4605:G:C8	2.53	0.43
43:q:4727:G:H2'	43:q:4728:C:H6	1.84	0.43
43:q:4832:A:H1'	43:q:4834:U:C2	2.54	0.43
45:s:13:A:H5''	45:s:14:C:H5	1.84	0.43
46:t:147:HIS:CE1	46:t:338:PHE:CG	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:30:ARG:NH2	1:A:33:ASP:OD1	2.44	0.43
7:G:96:LEU:HD21	7:G:189:ARG:HG2	2.00	0.43
7:G:259:LYS:HD3	7:G:259:LYS:HA	1.75	0.43
9:I:205:PRO:HG2	9:I:208:LYS:HD3	2.01	0.43
18:R:47:THR:O	43:q:4244:A:N6	2.51	0.43
27:a:24:SER:OG	27:a:100:GLY:HA3	2.19	0.43
34:h:8:PHE:HD2	43:q:2772:G:H4'	1.84	0.43
39:m:81:ARG:HH22	43:q:4256:C:H4'	1.84	0.43
43:q:3619:A:H1'	43:q:3756:A:H61	1.83	0.43
43:q:4420:C:H2'	43:q:4421:U:C6	2.54	0.43
43:q:4451:G:N3	43:q:4670:A:H2'	2.34	0.43
43:q:4613:A:H2'	43:q:4614:G:O4'	2.18	0.43
46:t:36:VAL:HG13	46:t:125:PHE:CE2	2.54	0.43
46:t:123:HIS:CE1	46:t:337:PRO:HD2	2.54	0.43
2:B:20:LYS:HB3	43:q:4529:G:H5''	2.01	0.43
10:J:50:PHE:CD1	10:J:70:VAL:HG12	2.54	0.43
13:M:37:HIS:CE1	13:M:63:ARG:HB3	2.54	0.43
16:P:186:TYR:CG	43:q:4269:A:H4'	2.54	0.43
23:W:34:LEU:HD23	23:W:106:ILE:HB	2.00	0.43
25:Y:25:HIS:CG	43:q:1321:G:H22	2.37	0.43
25:Y:32:ARG:NH1	43:q:1498:G:OP1	2.51	0.43
26:Z:41:ARG:HG3	26:Z:44:ARG:HH21	1.83	0.43
26:Z:63:LYS:O	26:Z:63:LYS:NZ	2.52	0.43
31:e:63:VAL:HG13	31:e:66:ARG:HE	1.83	0.43
43:q:462:U:H5	43:q:678:C:H42	1.67	0.43
43:q:1329:C:H2'	43:q:1330:G:H8	1.84	0.43
43:q:1388:C:H2'	43:q:1389:G:C8	2.54	0.43
43:q:2633:C:H2'	43:q:2634:C:C6	2.53	0.43
6:F:217:ARG:H	6:F:246:ARG:HB3	1.84	0.42
7:G:29:ASN:N	7:G:30:PRO:HD2	2.34	0.42
7:G:69:ILE:HD12	7:G:69:ILE:H	1.83	0.42
11:K:74:ARG:NH1	43:q:76:A:H8	2.17	0.42
11:K:179:PHE:HZ	43:q:1378:U:H5''	1.84	0.42
16:P:73:PRO:O	43:q:1438:G:O2'	2.31	0.42
16:P:104:ARG:NE	43:q:1335:C:OP2	2.34	0.42
16:P:156:PRO:HG2	25:Y:48:TYR:HA	1.99	0.42
31:e:78:TYR:CG	31:e:82:MET:HE2	2.53	0.42
43:q:252:G:H2'	43:q:253:C:O4'	2.18	0.42
43:q:1548:C:H2'	43:q:1549:U:C6	2.54	0.42
43:q:4944:G:H2'	43:q:4945:C:C6	2.54	0.42
46:t:162:GLN:CB	46:t:217:GLU:HG3	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:33:ARG:HG3	3:C:122:TYR:HE1	1.84	0.42
11:K:59:VAL:HG13	43:q:74:G:C5'	2.50	0.42
13:M:96:ARG:HB3	13:M:100:SER:OG	2.19	0.42
18:R:68:THR:OG1	18:R:69:GLN:N	2.52	0.42
43:q:442:G:H2'	43:q:443:C:C6	2.54	0.42
43:q:1292:C:H2'	43:q:1293:C:C6	2.54	0.42
43:q:1636:G:N2	43:q:1660:C:OP1	2.52	0.42
43:q:2252:G:H2'	43:q:2253:C:H6	1.82	0.42
43:q:2391:A:H2'	43:q:2392:U:C6	2.54	0.42
43:q:2601:G:H4'	43:q:2680:U:H4'	2.01	0.42
43:q:4465:A:H2'	43:q:4466:C:C6	2.54	0.42
46:t:147:HIS:ND1	46:t:338:PHE:CZ	2.87	0.42
3:C:120:LYS:O	3:C:124:ILE:HG13	2.19	0.42
11:K:66:TYR:OH	43:q:1365:G:OP1	2.32	0.42
18:R:91:VAL:HG21	18:R:96:ILE:HD11	2.00	0.42
20:T:85:ARG:NH2	43:q:2826:G:OP1	2.52	0.42
22:V:156:ILE:CD1	46:t:290:ARG:CA	2.82	0.42
25:Y:116:LYS:HA	43:q:1402:G:C6	2.54	0.42
26:Z:64:ALA:O	26:Z:68:ARG:HG3	2.19	0.42
30:d:36:ARG:NH1	30:d:79:GLY:O	2.49	0.42
43:q:2722:A:H2'	43:q:2723:A:H8	1.83	0.42
43:q:2877:G:H2'	43:q:2878:C:H6	1.84	0.42
43:q:2877:G:H2'	43:q:2878:C:C6	2.53	0.42
43:q:3898:U:H2'	43:q:3899:A:C8	2.54	0.42
43:q:4856:G:H2'	43:q:4856:G:N3	2.35	0.42
44:r:102:G:P	44:r:109:C:H41	2.42	0.42
45:s:77:A:H62	45:s:99:G:H21	1.67	0.42
2:B:302:ASN:HB2	2:B:313:SER:HA	2.01	0.42
3:C:140:LYS:HZ3	3:C:245:HIS:HB2	1.85	0.42
5:E:113:PRO:HG2	5:E:116:TYR:CE1	2.47	0.42
8:H:140:GLN:HB3	8:H:143:GLU:OE2	2.19	0.42
12:L:132:ARG:HH12	43:q:4853:C:H4'	1.85	0.42
13:M:185:GLY:H	13:M:194:ARG:HH22	1.68	0.42
14:N:157:GLU:HA	14:N:160:ARG:HG2	2.02	0.42
43:q:136:G:H2'	43:q:137:G:C8	2.54	0.42
43:q:435:G:H2'	43:q:436:G:H8	1.84	0.42
43:q:678:C:H1'	43:q:680:C:N4	2.34	0.42
46:t:49:CYS:O	46:t:53:ASP:OD2	2.37	0.42
7:G:131:LYS:HA	7:G:131:LYS:HD2	1.89	0.42
12:L:119:ARG:HD2	14:N:191:LYS:HG3	2.02	0.42
13:M:2:GLY:N	43:q:116:G:OP2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:47:LYS:HD2	13:M:50:ARG:HD2	2.02	0.42
17:Q:107:THR:O	17:Q:111:ARG:HG2	2.19	0.42
18:R:6:GLY:O	18:R:55:LYS:NZ	2.46	0.42
23:W:30:MET:SD	23:W:78:TYR:HA	2.59	0.42
34:h:2:THR:O	34:h:7:SER:OG	2.24	0.42
43:q:1183:G:H2'	43:q:1184:U:C6	2.55	0.42
43:q:1521:G:O6	43:q:1602:U:O2	2.38	0.42
43:q:1893:G:H2'	43:q:1894:C:C6	2.55	0.42
43:q:2361:A:H2'	43:q:2362:C:C6	2.54	0.42
43:q:2447:U:C5	43:q:2485:G:H2'	2.54	0.42
43:q:2619:G:H2'	43:q:2620:A:C8	2.55	0.42
43:q:2857:G:OP2	43:q:2858:A:O2'	2.26	0.42
43:q:3755:A:O2'	43:q:3756:A:H3'	2.20	0.42
43:q:3904:G:H2'	43:q:3905:G:C8	2.54	0.42
43:q:4585:G:H2'	43:q:4586:A:O4'	2.20	0.42
46:t:167:THR:CG2	46:t:201:ILE:HG22	2.49	0.42
46:t:171:ASN:HB2	46:t:172:LYS:NZ	2.34	0.42
1:A:54:ARG:NH1	1:A:58:LEU:HD21	2.34	0.42
1:A:183:GLY:HA2	43:q:1595:A:H5'	2.02	0.42
1:A:186:TYR:HB2	1:A:196:TRP:CZ3	2.55	0.42
7:G:144:THR:HA	7:G:147:VAL:HG12	2.02	0.42
9:I:3:ARG:NH1	9:I:4:ARG:O	2.53	0.42
13:M:195:ARG:HD2	43:q:98:A:H5'	2.01	0.42
17:Q:82:LEU:HD21	17:Q:109:CYS:SG	2.59	0.42
19:S:48:LYS:HG2	19:S:53:ALA:HA	2.01	0.42
20:T:20:LEU:O	20:T:55:ALA:N	2.44	0.42
25:Y:9:ARG:HD2	43:q:2323:U:C4	2.55	0.42
43:q:339:C:H2'	43:q:340:G:H8	1.84	0.42
43:q:418:U:H2'	43:q:419:U:C6	2.54	0.42
43:q:637:C:H2'	43:q:638:G:C8	2.55	0.42
43:q:894:C:H2'	43:q:895:G:H8	1.84	0.42
43:q:1073:G:H2'	43:q:1074:C:H6	1.85	0.42
43:q:1246:A:H2'	43:q:1247:C:H6	1.84	0.42
43:q:2487:U:H2'	43:q:2488:C:H6	1.84	0.42
43:q:2627:G:H2'	43:q:2628:G:H8	1.85	0.42
43:q:3766:A:H2'	43:q:3767:U:C6	2.55	0.42
43:q:3881:C:H2'	43:q:3882:C:H6	1.84	0.42
43:q:4265:C:O3'	43:q:4266:A:H2'	2.20	0.42
43:q:4706:A:H2'	43:q:4707:G:C8	2.54	0.42
46:t:88:HIS:HB2	46:t:306:ASN:O	2.20	0.42
46:t:273:PHE:HZ	46:t:282:ALA:HB2	1.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:51:HIS:CD2	9:I:134:VAL:HG11	2.51	0.42
11:K:58:ILE:H	11:K:113:ASN:HD21	1.66	0.42
19:S:80:LYS:HG2	19:S:110:TYR:OH	2.20	0.42
25:Y:82:VAL:HG11	25:Y:101:ILE:HG12	2.02	0.42
41:o:171:LYS:HG2	41:o:175:GLU:OE1	2.19	0.42
43:q:34:A:H2'	43:q:35:U:C6	2.54	0.42
43:q:498:G:N2	43:q:648:C:O2	2.28	0.42
43:q:1575:A:H5''	43:q:2818:U:H5''	2.02	0.42
43:q:1851:C:H2'	43:q:1852:A:H8	1.84	0.42
43:q:2465:G:H2'	43:q:2466:G:H8	1.83	0.42
43:q:4546:A:H2'	43:q:4547:U:O4'	2.19	0.42
44:r:64:U:C2	44:r:65:A:C8	3.08	0.42
46:t:273:PHE:CZ	46:t:282:ALA:HB2	2.48	0.42
1:A:181:LYS:HD2	43:q:1559:G:C8	2.55	0.42
4:D:22:ARG:NH2	45:s:6:C:OP2	2.53	0.42
9:I:65:LEU:HD23	9:I:159:PHE:CZ	2.55	0.42
9:I:98:ARG:HA	9:I:122:PRO:HA	2.01	0.42
10:J:15:LEU:HD11	10:J:161:GLU:HG3	2.00	0.42
11:K:126:LEU:HD12	11:K:136:LYS:HD3	2.02	0.42
20:T:73:ARG:HG2	20:T:74:LYS:HG3	2.01	0.42
33:g:76:ARG:HD3	33:g:76:ARG:HA	1.89	0.42
43:q:1278:C:H4'	43:q:1279:G:H5'	2.01	0.42
43:q:1628:A:H2'	43:q:1629:U:C6	2.55	0.42
43:q:1923:A:H2'	43:q:1924:A:C8	2.54	0.42
43:q:2365:U:H2'	43:q:2366:G:C8	2.53	0.42
43:q:3663:A:C5	43:q:3664:U:C5	3.07	0.42
43:q:4819:G:H2'	43:q:4820:G:H8	1.85	0.42
43:q:4961:U:H2'	43:q:4962:C:C6	2.55	0.42
1:A:227:ARG:HH22	43:q:3636:G:H5''	1.84	0.42
2:B:298:LEU:HD12	2:B:298:LEU:HA	1.92	0.42
3:C:299:GLN:HA	3:C:302:LEU:HG	2.02	0.42
8:H:64:ARG:NH1	43:q:1930:U:OP1	2.53	0.42
11:K:144:LEU:C	11:K:146:LEU:H	2.28	0.42
12:L:105:THR:HG23	12:L:108:ASP:H	1.85	0.42
17:Q:111:ARG:HD2	43:q:2042:U:O2	2.20	0.42
18:R:53:PRO:HB3	18:R:91:VAL:HG11	2.02	0.42
22:V:87:MET:HA	22:V:90:ILE:HG12	2.02	0.42
23:W:51:LYS:HB2	44:r:72:A:OP2	2.19	0.42
24:X:31:ASP:OD1	24:X:32:GLY:N	2.53	0.42
25:Y:73:VAL:HB	25:Y:108:TYR:CG	2.55	0.42
31:e:107:LEU:HA	31:e:110:GLN:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:i:42:LEU:HD22	43:q:2515:A:H5'	2.02	0.42
42:p:15:SER:OG	42:p:16:PHE:N	2.53	0.42
43:q:480:C:N4	43:q:482:G:O6	2.49	0.42
43:q:715:C:H2'	43:q:716:G:H8	1.83	0.42
43:q:2274:C:H2'	43:q:2275:G:C8	2.51	0.42
43:q:2457:C:H2'	43:q:2458:G:O4'	2.19	0.42
43:q:4597:A:P	43:q:4625:G:H22	2.43	0.42
46:t:30:ARG:HH21	46:t:59:GLU:HB3	1.85	0.42
46:t:259:MET:HE2	46:t:259:MET:HB3	1.87	0.42
1:A:207:VAL:HG21	43:q:1615:G:C5	2.55	0.42
7:G:31:LEU:HD12	7:G:31:LEU:O	2.19	0.42
9:I:16:PRO:HD3	9:I:128:ARG:NH1	2.35	0.42
19:S:49:VAL:HG21	19:S:57:GLY:HA3	2.02	0.42
20:T:65:VAL:O	20:T:73:ARG:HG3	2.20	0.42
24:X:30:ASP:O	24:X:39:SER:OG	2.25	0.42
28:b:22:THR:HG23	28:b:122:VAL:HG23	2.01	0.42
43:q:127:G:H2'	43:q:128:C:C6	2.55	0.42
43:q:318:A:H2'	43:q:319:U:C6	2.54	0.42
43:q:438:G:H2'	43:q:439:U:H6	1.84	0.42
43:q:681:A:H2'	43:q:682:U:C6	2.55	0.42
43:q:1493:U:H2'	43:q:1494:G:H8	1.84	0.42
43:q:2436:G:H2'	43:q:2437:C:C6	2.55	0.42
43:q:3766:A:H2'	43:q:3767:U:H6	1.85	0.42
43:q:4935:A:H2'	43:q:4936:G:O4'	2.19	0.42
43:q:4959:U:H2'	43:q:4960:U:O4'	2.20	0.42
46:t:56:ILE:CG2	46:t:112:VAL:CG1	2.98	0.42
5:E:221:GLN:NE2	5:E:222:LEU:O	2.53	0.41
6:F:86:GLU:HB2	18:R:135:PRO:HB2	2.01	0.41
11:K:171:GLU:HG2	11:K:172:GLU:N	2.34	0.41
25:Y:52:TYR:OH	43:q:94:A:OP1	2.26	0.41
43:q:296:C:H2'	43:q:297:C:C6	2.54	0.41
43:q:1402:G:O2'	43:q:1403:A:H5'	2.19	0.41
43:q:1723:G:N3	43:q:1763:U:H5'	2.35	0.41
43:q:1954:G:OP2	43:q:1955:U:H3'	2.20	0.41
43:q:2373:G:H8	43:q:2799:C:H41	1.67	0.41
43:q:3688:A:H2'	43:q:3689:A:H8	1.85	0.41
43:q:3940:G:H2'	43:q:3941:G:C8	2.55	0.41
46:t:276:MET:O	46:t:277:PRO:C	2.63	0.41
1:A:225:ILE:HD12	1:A:235:VAL:H	1.84	0.41
2:B:254:ILE:HG21	2:B:262:VAL:HG22	2.02	0.41
6:F:218:GLY:H	6:F:246:ARG:HH11	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:113:ARG:NH1	43:q:119:G:N7	2.68	0.41
9:I:89:VAL:HG22	9:I:136:MET:HG2	2.02	0.41
13:M:68:ARG:HH21	13:M:128:LYS:HE2	1.85	0.41
17:Q:157:ARG:O	17:Q:174:THR:HG23	2.19	0.41
18:R:71:ALA:HA	18:R:92:ARG:HA	2.02	0.41
34:h:67:LEU:HD12	34:h:70:VAL:HG11	2.02	0.41
43:q:35:U:H4'	43:q:1507:A:H2	1.84	0.41
43:q:473:G:H22	43:q:669:G:N2	2.17	0.41
43:q:1259:C:H2'	43:q:1260:G:C8	2.55	0.41
43:q:1603:A:H2'	43:q:1604:U:C6	2.54	0.41
43:q:2570:A:H2'	43:q:2571:U:C6	2.55	0.41
43:q:3707:A:H2'	43:q:3708:A:H8	1.85	0.41
46:t:76:PHE:HA	46:t:77:PRO:HD2	1.79	0.41
46:t:199:LYS:C	46:t:200:THR:CG2	2.93	0.41
46:t:247:TYR:HB3	46:t:302:LEU:HB3	2.01	0.41
3:C:61:GLN:NE2	34:h:55:ARG:HH22	2.18	0.41
4:D:93:THR:O	4:D:93:THR:HG22	2.20	0.41
11:K:49:ARG:HE	32:f:118:LYS:HA	1.84	0.41
12:L:20:HIS:NE2	43:q:924:U:OP2	2.42	0.41
15:O:123:PRO:HD3	44:r:14:U:H5''	2.02	0.41
17:Q:112:ASP:OD1	17:Q:116:ARG:NH1	2.53	0.41
20:T:96:LEU:HB3	21:U:20:ARG:HB2	2.02	0.41
23:W:54:GLU:HB2	23:W:108:ARG:HB3	2.03	0.41
28:b:41:ARG:HD3	28:b:78:ARG:HA	2.01	0.41
28:b:79:ASN:ND2	43:q:4598:U:O4	2.53	0.41
30:d:8:LYS:HB3	30:d:100:ARG:HH11	1.86	0.41
43:q:152:C:H2'	43:q:153:G:O4'	2.20	0.41
43:q:482:G:H2'	43:q:483:C:C6	2.55	0.41
43:q:1180:C:N4	43:q:1181:G:O6	2.52	0.41
43:q:1487:C:H2'	43:q:1488:G:C8	2.55	0.41
43:q:1559:G:H3'	43:q:1559:G:N3	2.35	0.41
43:q:2499:C:H5	43:q:2514:G:H1	1.68	0.41
43:q:3623:A:H2'	43:q:3624:A:C8	2.54	0.41
43:q:3678:U:H2'	43:q:3679:C:C6	2.55	0.41
43:q:4718:C:H42	43:q:4873:G:H5'	1.84	0.41
43:q:4928:C:C2	43:q:4929:A:C8	3.09	0.41
44:r:101:C:H2'	44:r:102:G:O4'	2.20	0.41
46:t:273:PHE:CE2	46:t:282:ALA:HB3	2.55	0.41
1:A:116:LEU:HD11	1:A:126:LEU:HD12	2.01	0.41
3:C:283:LYS:HE3	3:C:283:LYS:HB2	1.92	0.41
4:D:256:LYS:HZ2	45:s:116:G:H5''	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:173:GLU:HA	11:K:176:PHE:HB2	2.01	0.41
12:L:20:HIS:CD2	12:L:48:GLN:HE22	2.38	0.41
14:N:74:ARG:N	43:q:4547:U:OP1	2.54	0.41
28:b:98:SER:OG	28:b:100:ASN:OD1	2.24	0.41
35:i:33:LYS:HG2	35:i:46:VAL:HG12	2.03	0.41
40:n:59:SER:O	43:q:2631:G:N2	2.53	0.41
41:o:42:ARG:NH2	43:q:2503:U:OP1	2.53	0.41
43:q:243:G:H2'	43:q:244:G:H8	1.86	0.41
43:q:665:G:H2'	43:q:666:G:H8	1.85	0.41
43:q:1330:G:H2'	43:q:1331:U:C6	2.55	0.41
43:q:1375:A:H2'	43:q:1376:G:C8	2.56	0.41
43:q:1959:C:N4	43:q:1970:G:O6	2.53	0.41
43:q:2462:G:H1	43:q:2474:U:H3	1.67	0.41
43:q:3707:A:H2'	43:q:3708:A:C8	2.55	0.41
43:q:4344:G:H2'	43:q:4345:U:C6	2.54	0.41
43:q:4469:A:H2'	43:q:4470:C:C6	2.55	0.41
43:q:4555:C:H2'	43:q:4556:U:C6	2.55	0.41
43:q:4936:G:H2'	43:q:4938:C:OP2	2.20	0.41
43:q:4969:A:H2'	43:q:4970:G:C8	2.56	0.41
46:t:17:VAL:HG13	46:t:21:TYR:HE1	1.85	0.41
46:t:139:LYS:CD	46:t:315:PHE:CD2	3.04	0.41
5:E:232:ILE:HG12	5:E:236:GLU:OE2	2.21	0.41
11:K:104:ASN:O	33:g:20:ASN:ND2	2.44	0.41
13:M:2:GLY:N	43:q:115:C:OP1	2.53	0.41
17:Q:76:LYS:HE2	17:Q:78:PHE:CZ	2.55	0.41
18:R:108:ARG:HD2	18:R:130:ARG:HD3	2.02	0.41
22:V:100:VAL:HG21	22:V:109:ILE:HD11	2.02	0.41
31:e:5:LEU:HD11	31:e:32:TYR:CE1	2.56	0.41
43:q:15:A:H2'	43:q:16:G:C8	2.55	0.41
43:q:443:C:N3	43:q:444:G:N1	2.69	0.41
43:q:2561:A:N1	43:q:2660:G:O2'	2.49	0.41
43:q:2815:A:C2	43:q:3866:G:H4'	2.56	0.41
43:q:2840:C:H2'	43:q:2841:G:O4'	2.21	0.41
43:q:3848:A:O2'	43:q:4362:G:N2	2.42	0.41
43:q:4113:G:H2'	43:q:4114:G:H8	1.85	0.41
43:q:4289:C:H2'	43:q:4290:G:C8	2.55	0.41
43:q:4563:U:H2'	43:q:4564:A:H8	1.86	0.41
5:E:157:HIS:CE1	5:E:184:VAL:HG12	2.55	0.41
7:G:54:PHE:HZ	43:q:4058:C:C5	2.38	0.41
7:G:81:ASN:ND2	7:G:238:GLY:HA3	2.35	0.41
11:K:106:SER:HB3	43:q:73:A:OP1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:32:TYR:HD1	16:P:35:LEU:HD12	1.86	0.41
16:P:64:SER:OG	16:P:89:ASP:OD2	2.32	0.41
30:d:11:PHE:HB2	30:d:101:ILE:CD1	2.50	0.41
30:d:41:PHE:HD1	30:d:110:ILE:HD11	1.86	0.41
31:e:62:LYS:NZ	43:q:2726:U:O2'	2.53	0.41
34:h:47:TYR:CB	34:h:49:TRP:NE1	2.83	0.41
41:o:28:GLU:HG3	41:o:49:LEU:HD22	2.03	0.41
42:p:32:LEU:O	42:p:113:ARG:HD2	2.20	0.41
43:q:312:A:H2'	43:q:313:A:C8	2.56	0.41
43:q:1054:C:H3'	43:q:1055:C:H3'	2.02	0.41
43:q:1268:U:O2'	43:q:1269:C:O4'	2.32	0.41
43:q:2870:U:O2'	43:q:4975:G:H1'	2.20	0.41
43:q:3916:A:H2'	43:q:3917:G:H8	1.84	0.41
43:q:4031:G:H2'	43:q:4032:A:H8	1.83	0.41
43:q:4601:G:H22	43:q:4622:G:N2	2.19	0.41
44:r:154:G:H2'	44:r:155:C:C6	2.56	0.41
46:t:276:MET:HE3	46:t:276:MET:HB3	1.86	0.41
1:A:30:ARG:NH2	1:A:36:GLU:HB2	2.36	0.41
2:B:253:CYS:SG	43:q:4483:U:H1'	2.60	0.41
4:D:59:ASP:OD1	4:D:60:ILE:N	2.53	0.41
4:D:98:ALA:HA	4:D:101:THR:HG22	2.03	0.41
8:H:95:VAL:HG22	37:k:82:LEU:HB3	2.03	0.41
9:I:179:ASP:OD1	9:I:180:GLU:N	2.53	0.41
11:K:129:ARG:O	11:K:130:LYS:HD2	2.21	0.41
14:N:122:ALA:HA	17:Q:162:GLN:HB3	2.02	0.41
16:P:88:ASP:OD1	16:P:89:ASP:N	2.53	0.41
27:a:108:MET:HB3	27:a:109:PRO:HD3	2.03	0.41
28:b:77:ILE:HG13	28:b:78:ARG:N	2.35	0.41
33:g:90:LEU:HA	33:g:93:VAL:HG12	2.02	0.41
39:m:39:ARG:HD2	43:q:289:A:H5'	2.03	0.41
41:o:116:ASP:OD1	41:o:116:ASP:N	2.42	0.41
43:q:158:G:H2'	43:q:159:A:C8	2.56	0.41
43:q:160:A:H2'	43:q:161:G:H8	1.85	0.41
43:q:2873:A:H2'	43:q:2874:A:C8	2.56	0.41
43:q:4038:U:H2'	43:q:4039:U:C6	2.56	0.41
43:q:4063:G:H21	43:q:4063:G:P	2.43	0.41
43:q:4723:G:N2	43:q:4726:A:O2'	2.51	0.41
45:s:100:A:H2'	45:s:101:A:H8	1.86	0.41
46:t:46:LEU:C	46:t:49:CYS:SG	3.03	0.41
46:t:255:TYR:CE2	46:t:299:HIS:NE2	2.89	0.41
46:t:291:MET:O	46:t:291:MET:SD	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:258:HIS:HE1	43:q:4480:A:N7	2.17	0.41
4:D:41:LYS:HB2	18:R:68:THR:O	2.20	0.41
5:E:155:GLY:O	5:E:158:ARG:HD3	2.20	0.41
7:G:35:ARG:HH12	24:X:52:LYS:HE3	1.86	0.41
7:G:87:LEU:HB3	7:G:91:THR:OG1	2.21	0.41
7:G:137:ARG:HG3	7:G:146:LEU:HD11	2.02	0.41
7:G:153:GLN:N	7:G:204:PHE:O	2.50	0.41
7:G:159:HIS:HD1	7:G:185:LYS:HA	1.86	0.41
13:M:47:LYS:HA	13:M:50:ARG:HG2	2.01	0.41
13:M:73:ARG:HH11	13:M:92:LEU:HD11	1.86	0.41
14:N:43:ILE:HD11	14:N:138:LEU:HD13	2.02	0.41
14:N:157:GLU:HG3	14:N:161:LYS:HE3	2.03	0.41
30:d:56:ASN:OD1	30:d:56:ASN:N	2.52	0.41
31:e:59:VAL:HG22	31:e:60:ARG:H	1.86	0.41
43:q:188:G:H2'	43:q:189:G:C8	2.54	0.41
43:q:439:U:H2'	43:q:440:C:O4'	2.21	0.41
43:q:1542:A:H2'	43:q:1543:G:H8	1.86	0.41
43:q:1549:U:H2'	43:q:1550:C:C6	2.56	0.41
43:q:2447:U:H1'	43:q:2448:C:C6	2.56	0.41
43:q:2576:G:H2'	43:q:2577:A:H8	1.85	0.41
43:q:3688:A:H2'	43:q:3689:A:C8	2.56	0.41
43:q:3842:A:H2'	43:q:3843:A:H8	1.85	0.41
43:q:4835:G:H2'	43:q:4836:C:H6	1.86	0.41
46:t:27:ILE:CA	46:t:30:ARG:HE	2.25	0.41
46:t:273:PHE:CD2	46:t:278:PHE:CB	3.04	0.41
1:A:47:ASP:HA	1:A:84:THR:HG22	2.03	0.41
1:A:181:LYS:NZ	43:q:1559:G:OP2	2.53	0.41
1:A:182:ALA:HB1	1:A:196:TRP:HH2	1.85	0.41
1:A:206:PRO:HG3	1:A:213:GLY:HA3	2.03	0.41
2:B:224:LYS:HG3	43:q:4587:C:OP1	2.21	0.41
2:B:315:ASN:N	2:B:315:ASN:OD1	2.52	0.41
6:F:223:LYS:NZ	43:q:1876:G:O3'	2.54	0.41
7:G:66:GLN:HG3	13:M:28:TRP:HH2	1.86	0.41
7:G:77:PRO:HG2	13:M:18:VAL:HA	2.03	0.41
7:G:229:ARG:HG2	7:G:232:GLU:HB2	2.03	0.41
8:H:1:MET:HE1	17:Q:140:PRO:HB2	2.03	0.41
9:I:140:THR:HB	9:I:144:ASN:HD22	1.85	0.41
20:T:42:VAL:HA	20:T:61:VAL:HG12	2.03	0.41
23:W:76:LYS:HD2	44:r:74:U:OP1	2.21	0.41
31:e:112:GLN:HE22	43:q:4067:G:P	2.44	0.41
32:f:86:LYS:NZ	44:r:39:G:OP1	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:n:47:MET:HE2	40:n:71:TYR:HE1	1.86	0.41
40:n:52:VAL:HG21	43:q:2718:C:H4'	2.02	0.41
41:o:32:ILE:HD13	41:o:44:LEU:HD13	2.03	0.41
43:q:83:C:H2'	43:q:99:A:N6	2.36	0.41
43:q:165:C:H2'	43:q:166:A:C8	2.56	0.41
43:q:201:U:H3	43:q:205:A:H2	1.69	0.41
43:q:312:A:H2'	43:q:313:A:H8	1.86	0.41
43:q:637:C:H2'	43:q:638:G:H8	1.85	0.41
43:q:747:G:H2'	43:q:748:G:C8	2.56	0.41
43:q:1149:G:H1'	43:q:1150:C:O3'	2.21	0.41
43:q:1603:A:H5''	43:q:2430:A:H5'	2.02	0.41
43:q:1637:C:O2	43:q:4352:A:O2'	2.39	0.41
43:q:1799:U:H2'	43:q:1800:G:O4'	2.21	0.41
43:q:1812:G:C2	43:q:1813:G:C5	3.09	0.41
43:q:2062:C:H2'	43:q:2063:G:C8	2.56	0.41
43:q:2662:C:H2'	43:q:2663:C:C6	2.56	0.41
43:q:3783:C:H5''	43:q:3784:A:H2'	2.02	0.41
43:q:4118:G:H5''	43:q:4119:A:H2'	2.02	0.41
43:q:4215:A:H5'	43:q:4216:G:C8	2.55	0.41
43:q:4525:U:H2'	43:q:4526:A:H8	1.85	0.41
43:q:4866:G:O2'	43:q:4867:A:H5'	2.21	0.41
43:q:4977:A:H2'	43:q:4978:G:C8	2.55	0.41
44:r:45:C:H2'	44:r:46:G:C8	2.56	0.41
46:t:17:VAL:CG1	46:t:117:PHE:CZ	3.04	0.41
46:t:85:CYS:CB	46:t:309:TYR:CE1	2.99	0.41
46:t:88:HIS:CE1	46:t:305:PHE:CB	3.02	0.41
46:t:89:PHE:CZ	46:t:91:PRO:HG3	2.56	0.41
46:t:123:HIS:HD2	46:t:125:PHE:HD2	1.69	0.41
46:t:144:LYS:CE	46:t:343:TYR:O	2.69	0.41
1:A:42:LYS:HE2	1:A:87:PHE:CG	2.56	0.41
3:C:221:PHE:HB3	3:C:229:LEU:HD21	2.02	0.41
4:D:84:PRO:HB3	4:D:89:LYS:HD3	2.02	0.41
4:D:167:VAL:HG21	4:D:175:HIS:HE1	1.85	0.41
7:G:217:LYS:HD3	7:G:217:LYS:HA	1.82	0.41
12:L:10:GLY:HA2	12:L:64:PHE:CD2	2.55	0.41
13:M:119:TYR:OH	13:M:131:GLU:OE1	2.36	0.41
14:N:141:LEU:O	14:N:145:VAL:HG22	2.20	0.41
20:T:85:ARG:H	20:T:101:ASN:ND2	2.19	0.41
20:T:115:SER:OG	20:T:116:ALA:N	2.54	0.41
22:V:152:LYS:HA	22:V:152:LYS:HD2	1.81	0.41
36:j:34:LYS:HE2	36:j:34:LYS:HB3	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:895:G:H2'	43:q:896:A:H8	1.85	0.41
43:q:1298:C:H2'	43:q:1299:G:H8	1.85	0.41
43:q:1648:C:H2'	43:q:1649:G:O4'	2.21	0.41
43:q:4246:C:H2'	43:q:4247:U:C6	2.56	0.41
43:q:4248:C:H2'	43:q:4249:G:C8	2.56	0.41
43:q:4600:U:H2'	43:q:4601:G:H8	1.85	0.41
43:q:4661:U:H4'	43:q:4662:A:OP1	2.21	0.41
46:t:45:VAL:HG23	46:t:98:TYR:O	2.21	0.41
46:t:82:VAL:HB	46:t:98:TYR:CE2	2.52	0.41
46:t:121:VAL:HB	46:t:334:THR:HB	2.02	0.41
2:B:234:ARG:NH2	43:q:4528:U:O2'	2.44	0.40
3:C:252:TRP:CZ3	3:C:260:LEU:HD11	2.56	0.40
5:E:224:LYS:HB3	5:E:225:PRO:HD3	2.03	0.40
5:E:243:THR:C	5:E:245:GLN:H	2.29	0.40
31:e:76:ARG:NH1	43:q:2562:C:OP2	2.43	0.40
40:n:8:VAL:HG23	40:n:11:VAL:HG23	2.03	0.40
42:p:37:SER:HA	43:q:2246:U:H5'	2.03	0.40
43:q:664:C:H2'	43:q:665:G:C8	2.56	0.40
43:q:941:C:H2'	43:q:942:G:C8	2.56	0.40
43:q:965:G:H2'	43:q:966:C:C6	2.56	0.40
43:q:1540:A:H2'	43:q:1541:G:C8	2.57	0.40
43:q:1857:U:H2'	43:q:1858:G:C8	2.56	0.40
43:q:3701:U:H2'	43:q:3702:C:C6	2.56	0.40
43:q:3895:C:H2'	43:q:3896:U:H6	1.84	0.40
43:q:4060:G:H2'	43:q:4061:G:C8	2.56	0.40
43:q:4071:C:H2'	43:q:4072:C:C6	2.56	0.40
43:q:4439:A:C2	43:q:4440:G:C8	3.10	0.40
45:s:7:G:H1	45:s:112:U:H3	1.67	0.40
46:t:17:VAL:HG13	46:t:117:PHE:CZ	2.57	0.40
2:B:341:LYS:NZ	43:q:4588:A:H5''	2.35	0.40
4:D:179:ARG:HD3	4:D:179:ARG:HA	1.92	0.40
11:K:111:GLN:HA	11:K:114:VAL:HG12	2.04	0.40
25:Y:75:LEU:HD13	25:Y:78:LEU:HD22	2.02	0.40
35:i:61:PRO:HA	35:i:62:PRO:HD3	1.92	0.40
40:n:49:ARG:HH21	40:n:52:VAL:HA	1.85	0.40
43:q:313:A:H1'	43:q:3697:A:N3	2.36	0.40
43:q:427:A:H2'	43:q:428:A:C8	2.56	0.40
43:q:1910:A:H2'	43:q:1910:A:N3	2.35	0.40
43:q:2065:C:H42	43:q:2251:C:N4	2.19	0.40
43:q:2602:A:H2'	43:q:2603:G:H8	1.86	0.40
43:q:4006:G:H2'	43:q:4007:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:q:4083:C:O2'	43:q:4084:G:H8	2.05	0.40
43:q:4436:A:H2'	43:q:4438:C:O5'	2.21	0.40
46:t:17:VAL:CG1	46:t:117:PHE:CE1	3.05	0.40
46:t:17:VAL:CG1	46:t:21:TYR:CE1	3.04	0.40
1:A:216:HIS:HB2	1:A:218:HIS:HD2	1.86	0.40
2:B:348:ARG:HG2	2:B:349:LYS:O	2.22	0.40
2:B:366:LYS:HE2	2:B:366:LYS:HB3	1.93	0.40
9:I:152:LEU:HD12	9:I:165:ILE:HG23	2.02	0.40
14:N:25:LYS:HD2	14:N:25:LYS:HA	1.88	0.40
19:S:88:LYS:HE2	19:S:97:ARG:HH12	1.87	0.40
24:X:116:VAL:O	24:X:120:GLU:HG2	2.21	0.40
27:a:62:TYR:O	27:a:65:MET:HG3	2.21	0.40
32:f:112:ARG:NH1	43:q:170:C:N3	2.69	0.40
40:n:27:LYS:O	40:n:31:ILE:HG13	2.21	0.40
42:p:100:ASN:HD21	43:q:473:G:H21	1.68	0.40
43:q:189:G:N2	43:q:244:G:H22	2.19	0.40
43:q:1059:C:H2'	43:q:1060:C:C6	2.56	0.40
43:q:1548:C:H2'	43:q:1549:U:H6	1.87	0.40
43:q:2035:U:H4'	43:q:2037:G:C4	2.57	0.40
43:q:2401:C:H2'	43:q:2402:A:C8	2.55	0.40
43:q:2586:C:H2'	43:q:2587:G:C8	2.57	0.40
43:q:2634:C:C2	43:q:2635:U:C5	3.10	0.40
43:q:2724:A:H2'	43:q:2725:A:C8	2.56	0.40
43:q:3790:G:H2'	43:q:3791:G:H8	1.86	0.40
46:t:102:GLU:OE1	46:t:128:GLY:HA3	2.20	0.40
8:H:92:MET:HG2	8:H:181:VAL:HG22	2.03	0.40
11:K:49:ARG:NE	32:f:118:LYS:HD3	2.36	0.40
15:O:93:HIS:HA	15:O:96:LYS:HE2	2.03	0.40
24:X:86:SER:O	24:X:127:ASN:ND2	2.54	0.40
29:c:109:LYS:O	29:c:113:GLU:HG3	2.22	0.40
30:d:80:ASN:ND2	43:q:2046:G:O2'	2.53	0.40
32:f:88:THR:HG1	44:r:36:G:P	2.45	0.40
35:i:22:SER:HB3	35:i:37:ARG:HB3	2.03	0.40
43:q:177:C:H2'	43:q:178:C:C6	2.57	0.40
43:q:217:C:H2'	43:q:218:C:C6	2.56	0.40
43:q:892:C:H2'	43:q:893:C:C6	2.56	0.40
43:q:1307:A:H8	43:q:1307:A:OP2	2.04	0.40
43:q:2272:U:H2'	43:q:2273:G:C8	2.56	0.40
43:q:2684:A:N6	43:q:2690:G:O6	2.54	0.40
43:q:4225:C:H2'	43:q:4226:G:O4'	2.21	0.40
43:q:4962:C:H2'	43:q:4963:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:r:66:A:H2'	44:r:67:U:H6	1.85	0.40
44:r:90:C:H2'	44:r:91:A:C8	2.56	0.40
46:t:46:LEU:HD12	46:t:46:LEU:C	2.46	0.40
1:A:182:ALA:HB2	43:q:3623:A:O2'	2.22	0.40
1:A:250:LYS:HD2	1:A:252:VAL:H	1.86	0.40
2:B:219:VAL:HG11	2:B:337:VAL:CG2	2.52	0.40
2:B:276:HIS:ND1	43:q:4678:C:OP1	2.55	0.40
3:C:209:ILE:HG13	3:C:251:ILE:HB	2.04	0.40
7:G:106:THR:CG2	7:G:195:HIS:CE1	3.04	0.40
10:J:141:ILE:HA	10:J:144:LYS:HE2	2.03	0.40
16:P:144:LYS:HB2	43:q:1442:C:H5''	2.04	0.40
18:R:8:ARG:NH2	43:q:4295:C:O2'	2.54	0.40
20:T:112:MET:HE3	20:T:112:MET:HB3	1.93	0.40
25:Y:21:ARG:NH1	43:q:1300:U:OP1	2.53	0.40
29:c:44:ARG:NH2	43:q:1298:C:OP1	2.55	0.40
43:q:382:A:H1'	43:q:397:G:N2	2.37	0.40
43:q:458:G:H2'	43:q:459:G:H8	1.86	0.40
43:q:710:C:H2'	43:q:711:G:H8	1.87	0.40
43:q:1485:A:H4'	43:q:1486:G:H5'	2.03	0.40
43:q:1492:G:H2'	43:q:1493:U:C6	2.57	0.40
43:q:1546:A:H2'	43:q:1547:A:C8	2.56	0.40
43:q:1575:A:H4'	43:q:2818:U:H4'	2.03	0.40
43:q:1972:A:H2'	43:q:1973:U:C6	2.57	0.40
43:q:2614:U:H2'	43:q:2615:U:C6	2.56	0.40
43:q:2635:U:C4	43:q:2636:G:C6	3.09	0.40
43:q:3787:A:H2'	43:q:3790:G:H21	1.86	0.40
43:q:4250:C:O2'	43:q:4283:U:OP1	2.39	0.40
43:q:4326:G:C2	43:q:4327:C:C5	3.10	0.40
44:r:103:A:C8	44:r:104:A:C8	3.10	0.40
46:t:33:ARG:NH1	46:t:335:SER:O	2.54	0.40
46:t:305:PHE:N	46:t:305:PHE:CD1	2.89	0.40
46:t:329:GLY:HA2	46:t:330:PRO:HD3	1.90	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	250/252 (99%)	234 (94%)	16 (6%)	0	100	100
2	B	392/394 (100%)	377 (96%)	15 (4%)	0	100	100
3	C	361/363 (99%)	344 (95%)	17 (5%)	0	100	100
4	D	292/294 (99%)	283 (97%)	9 (3%)	0	100	100
5	E	192/194 (99%)	178 (93%)	14 (7%)	0	100	100
6	F	232/234 (99%)	223 (96%)	9 (4%)	0	100	100
7	G	232/234 (99%)	228 (98%)	4 (2%)	0	100	100
8	H	189/191 (99%)	181 (96%)	8 (4%)	0	100	100
9	I	204/211 (97%)	200 (98%)	4 (2%)	0	100	100
10	J	167/169 (99%)	161 (96%)	6 (4%)	0	100	100
11	K	203/205 (99%)	185 (91%)	18 (9%)	0	100	100
12	L	137/139 (99%)	128 (93%)	9 (7%)	0	100	100
13	M	201/203 (99%)	197 (98%)	4 (2%)	0	100	100
14	N	193/195 (99%)	186 (96%)	7 (4%)	0	100	100
15	O	151/153 (99%)	147 (97%)	4 (3%)	0	100	100
16	P	183/185 (99%)	173 (94%)	10 (6%)	0	100	100
17	Q	173/175 (99%)	166 (96%)	7 (4%)	0	100	100
18	R	155/157 (99%)	149 (96%)	6 (4%)	0	100	100
19	S	99/101 (98%)	96 (97%)	3 (3%)	0	100	100
20	T	127/129 (98%)	127 (100%)	0	0	100	100
21	U	60/62 (97%)	60 (100%)	0	0	100	100
22	V	116/118 (98%)	113 (97%)	2 (2%)	1 (1%)	14	44
23	W	125/127 (98%)	124 (99%)	1 (1%)	0	100	100
24	X	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
25	Y	145/147 (99%)	140 (97%)	5 (3%)	0	100	100
26	Z	66/68 (97%)	61 (92%)	5 (8%)	0	100	100
27	a	95/97 (98%)	95 (100%)	0	0	100	100
28	b	104/106 (98%)	101 (97%)	3 (3%)	0	100	100
29	c	127/129 (98%)	121 (95%)	6 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	d	107/109 (98%)	105 (98%)	2 (2%)	0	100	100
31	e	112/114 (98%)	108 (96%)	4 (4%)	0	100	100
32	f	120/122 (98%)	117 (98%)	3 (2%)	0	100	100
33	g	96/98 (98%)	91 (95%)	5 (5%)	0	100	100
34	h	82/84 (98%)	79 (96%)	3 (4%)	0	100	100
35	i	67/69 (97%)	65 (97%)	2 (3%)	0	100	100
36	j	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
37	k	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
38	l	23/25 (92%)	23 (100%)	0	0	100	100
39	m	103/105 (98%)	95 (92%)	8 (8%)	0	100	100
40	n	89/91 (98%)	87 (98%)	2 (2%)	0	100	100
41	o	182/184 (99%)	181 (100%)	1 (0%)	0	100	100
42	p	120/122 (98%)	110 (92%)	10 (8%)	0	100	100
46	t	351/353 (99%)	296 (84%)	43 (12%)	12 (3%)	3	16
All	All	6651/6742 (99%)	6356 (96%)	282 (4%)	13 (0%)	44	73

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
46	t	96	GLN
46	t	153	ALA
46	t	294	VAL
46	t	32	LEU
46	t	152	ALA
46	t	78	THR
46	t	110	LEU
46	t	252	SER
46	t	77	PRO
46	t	304	PRO
46	t	267	SER
22	V	154	GLY
46	t	277	PRO

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	A	194/194 (100%)	194 (100%)	0	100	100
2	B	342/342 (100%)	342 (100%)	0	100	100
3	C	305/305 (100%)	305 (100%)	0	100	100
4	D	247/247 (100%)	247 (100%)	0	100	100
5	E	176/176 (100%)	176 (100%)	0	100	100
6	F	204/204 (100%)	204 (100%)	0	100	100
7	G	199/199 (100%)	199 (100%)	0	100	100
8	H	170/170 (100%)	169 (99%)	1 (1%)	78	83
9	I	178/179 (99%)	178 (100%)	0	100	100
10	J	142/142 (100%)	142 (100%)	0	100	100
11	K	172/172 (100%)	172 (100%)	0	100	100
12	L	118/118 (100%)	118 (100%)	0	100	100
13	M	171/171 (100%)	171 (100%)	0	100	100
14	N	168/168 (100%)	168 (100%)	0	100	100
15	O	134/134 (100%)	134 (100%)	0	100	100
16	P	163/163 (100%)	163 (100%)	0	100	100
17	Q	155/155 (100%)	155 (100%)	0	100	100
18	R	137/137 (100%)	137 (100%)	0	100	100
19	S	91/91 (100%)	91 (100%)	0	100	100
20	T	100/100 (100%)	100 (100%)	0	100	100
21	U	54/54 (100%)	54 (100%)	0	100	100
22	V	106/106 (100%)	104 (98%)	2 (2%)	50	73
23	W	119/119 (100%)	118 (99%)	1 (1%)	73	81
24	X	117/117 (100%)	117 (100%)	0	100	100
25	Y	120/120 (100%)	120 (100%)	0	100	100
26	Z	58/58 (100%)	58 (100%)	0	100	100
27	a	82/82 (100%)	82 (100%)	0	100	100
28	b	97/97 (100%)	97 (100%)	0	100	100
29	c	115/115 (100%)	115 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	d	88/88 (100%)	88 (100%)	0	100	100
31	e	98/98 (100%)	98 (100%)	0	100	100
32	f	109/109 (100%)	109 (100%)	0	100	100
33	g	85/85 (100%)	85 (100%)	0	100	100
34	h	71/71 (100%)	71 (100%)	0	100	100
35	i	64/64 (100%)	64 (100%)	0	100	100
36	j	47/47 (100%)	47 (100%)	0	100	100
37	k	46/46 (100%)	45 (98%)	1 (2%)	45	71
38	l	24/24 (100%)	24 (100%)	0	100	100
39	m	93/93 (100%)	93 (100%)	0	100	100
40	n	74/74 (100%)	74 (100%)	0	100	100
41	o	163/163 (100%)	163 (100%)	0	100	100
42	p	106/106 (100%)	106 (100%)	0	100	100
46	t	297/302 (98%)	277 (93%)	20 (7%)	15	43
All	All	5799/5805 (100%)	5774 (100%)	25 (0%)	81	86

All (25) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
8	H	132	VAL
22	V	155	ILE
22	V	156	ILE
23	W	73	VAL
37	k	96	CYS
46	t	31	VAL
46	t	49	CYS
46	t	85	CYS
46	t	101	LYS
46	t	104	ASP
46	t	110	LEU
46	t	112	VAL
46	t	113	HIS
46	t	134	GLN
46	t	196	ASP
46	t	201	ILE
46	t	210	LYS
46	t	218	PHE

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Mol	Chain	Res	Type
46	t	220	VAL
46	t	257	LEU
46	t	279	THR
46	t	306	ASN
46	t	308	LEU
46	t	323	VAL
46	t	325	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (96) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	50	HIS
2	B	165	HIS
2	B	167	GLN
2	B	175	GLN
2	B	179	HIS
2	B	245	HIS
2	B	380	GLN
3	C	43	ASN
3	C	282	HIS
3	C	317	ASN
3	C	346	ASN
4	D	57	ASN
4	D	111	ASN
4	D	244	HIS
4	D	275	GLN
5	E	128	HIS
5	E	167	GLN
5	E	190	HIS
5	E	191	GLN
5	E	221	GLN
6	F	24	ASN
6	F	126	ASN
6	F	163	ASN
6	F	192	HIS
6	F	241	ASN
7	G	149	ASN
8	H	8	GLN
8	H	40	HIS
8	H	156	ASN
8	H	189	GLN
9	I	14	ASN

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Mol	Chain	Res	Type
9	I	51	HIS
9	I	144	ASN
10	J	42	GLN
11	K	19	GLN
11	K	113	ASN
11	K	188	ASN
12	L	48	GLN
13	M	37	HIS
13	M	86	HIS
13	M	87	HIS
13	M	145	ASN
13	M	196	ASN
13	M	199	GLN
13	M	201	HIS
14	N	90	HIS
15	O	21	ASN
15	O	40	HIS
15	O	56	GLN
16	P	7	HIS
16	P	77	ASN
17	Q	50	GLN
17	Q	66	GLN
17	Q	77	ASN
17	Q	108	GLN
18	R	98	HIS
18	R	144	ASN
19	S	44	GLN
20	T	101	ASN
22	V	151	ASN
23	W	18	HIS
23	W	20	ASN
23	W	61	HIS
23	W	96	HIS
24	X	79	HIS
25	Y	25	HIS
25	Y	74	ASN
26	Z	49	HIS
26	Z	50	ASN
26	Z	61	ASN
28	b	18	ASN
28	b	34	HIS
28	b	79	ASN

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Mol	Chain	Res	Type
29	c	107	ASN
30	d	21	GLN
30	d	80	ASN
30	d	99	HIS
31	e	112	GLN
32	f	63	GLN
33	g	26	HIS
33	g	92	ASN
34	h	57	ASN
36	j	17	GLN
36	j	25	GLN
36	j	43	HIS
37	k	84	GLN
37	k	104	HIS
41	o	39	GLN
41	o	118	HIS
42	p	6	GLN
42	p	100	ASN
46	t	88	HIS
46	t	96	GLN
46	t	161	ASN
46	t	193	HIS
46	t	254	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
43	q	3600/3612 (99%)	569 (15%)	0
44	r	156/157 (99%)	33 (21%)	0
45	s	118/119 (99%)	15 (12%)	0
All	All	3874/3888 (99%)	617 (15%)	0

All (617) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
43	q	8	U
43	q	9	C
43	q	10	A
43	q	25	A
43	q	32	G
43	q	39	A

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Mol	Chain	Res	Type
43	q	42	A
43	q	48	G
43	q	59	A
43	q	65	A
43	q	66	A
43	q	71	C
43	q	72	C
43	q	76	A
43	q	82	U
43	q	91	G
43	q	101	A
43	q	108	A
43	q	119	G
43	q	132	G
43	q	134	G
43	q	135	G
43	q	136	G
43	q	137	G
43	q	143	G
43	q	149	U
43	q	155	A
43	q	157	G
43	q	173	G
43	q	174	G
43	q	176	G
43	q	181	U
43	q	182	C
43	q	183	G
43	q	184	U
43	q	185	G
43	q	196	G
43	q	197	U
43	q	206	U
43	q	209	A
43	q	213	C
43	q	214	C
43	q	215	A
43	q	223	G
43	q	229	G
43	q	230	U
43	q	231	G
43	q	250	G

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Mol	Chain	Res	Type
43	q	253	C
43	q	260	C
43	q	275	U
43	q	289	A
43	q	291	U
43	q	300	A
43	q	304	G
43	q	309	G
43	q	310	U
43	q	311	A
43	q	323	A
43	q	330	A
43	q	334	C
43	q	351	U
43	q	367	G
43	q	370	A
43	q	380	A
43	q	381	G
43	q	390	A
43	q	406	G
43	q	407	G
43	q	425	G
43	q	426	U
43	q	446	A
43	q	447	G
43	q	448	U
43	q	449	C
43	q	458	G
43	q	461	U
43	q	481	G
43	q	484	C
43	q	492	C
43	q	494	G
43	q	496	C
43	q	497	C
43	q	498	G
43	q	499	G
43	q	505	C
43	q	507	U
43	q	509	C
43	q	634	C
43	q	643	A

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Mol	Chain	Res	Type
43	q	649	C
43	q	658	G
43	q	661	G
43	q	678	C
43	q	680	C
43	q	691	G
43	q	695	C
43	q	698	C
43	q	719	U
43	q	721	G
43	q	727	C
43	q	738	A
43	q	739	G
43	q	902	A
43	q	905	G
43	q	906	C
43	q	907	C
43	q	911	C
43	q	917	G
43	q	918	C
43	q	919	A
43	q	920	G
43	q	923	C
43	q	924	U
43	q	925	C
43	q	927	C
43	q	929	G
43	q	932	U
43	q	933	C
43	q	938	G
43	q	947	A
43	q	948	G
43	q	949	C
43	q	950	G
43	q	951	A
43	q	952	G
43	q	954	C
43	q	955	C
43	q	956	C
43	q	968	C
43	q	969	U
43	q	1055	C

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Mol	Chain	Res	Type
43	q	1056	G
43	q	1085	U
43	q	1086	C
43	q	1087	C
43	q	1149	G
43	q	1150	C
43	q	1151	G
43	q	1162	U
43	q	1165	C
43	q	1181	G
43	q	1192	U
43	q	1193	C
43	q	1196	G
43	q	1197	C
43	q	1201	G
43	q	1220	C
43	q	1221	A
43	q	1222	C
43	q	1223	G
43	q	1226	C
43	q	1229	G
43	q	1250	C
43	q	1251	G
43	q	1259	C
43	q	1263	C
43	q	1264	G
43	q	1268	U
43	q	1269	C
43	q	1271	G
43	q	1277	A
43	q	1278	C
43	q	1301	C
43	q	1309	A
43	q	1322	U
43	q	1337	A
43	q	1341	G
43	q	1343	G
43	q	1349	G
43	q	1351	A
43	q	1353	G
43	q	1362	C
43	q	1364	U

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Mol	Chain	Res	Type
43	q	1370	A
43	q	1381	A
43	q	1391	G
43	q	1392	C
43	q	1393	U
43	q	1403	A
43	q	1420	C
43	q	1424	C
43	q	1426	A
43	q	1427	G
43	q	1428	U
43	q	1430	C
43	q	1432	C
43	q	1439	G
43	q	1440	C
43	q	1457	G
43	q	1464	G
43	q	1465	C
43	q	1466	G
43	q	1468	C
43	q	1479	A
43	q	1480	G
43	q	1483	C
43	q	1485	A
43	q	1499	G
43	q	1500	A
43	q	1516	A
43	q	1521	G
43	q	1556	G
43	q	1559	G
43	q	1560	U
43	q	1573	U
43	q	1578	U
43	q	1595	A
43	q	1606	G
43	q	1607	G
43	q	1613	A
43	q	1615	G
43	q	1616	A
43	q	1623	G
43	q	1636	G
43	q	1643	C

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Mol	Chain	Res	Type
43	q	1652	G
43	q	1673	G
43	q	1679	G
43	q	1701	A
43	q	1713	C
43	q	1723	G
43	q	1736	U
43	q	1747	A
43	q	1748	A
43	q	1750	C
43	q	1751	G
43	q	1769	A
43	q	1776	A
43	q	1786	A
43	q	1797	G
43	q	1804	U
43	q	1814	G
43	q	1815	U
43	q	1816	G
43	q	1823	G
43	q	1835	G
43	q	1836	G
43	q	1850	G
43	q	1862	C
43	q	1872	A
43	q	1873	A
43	q	1897	G
43	q	1898	A
43	q	1900	G
43	q	1902	C
43	q	1903	G
43	q	1910	A
43	q	1928	U
43	q	1929	G
43	q	1936	G
43	q	1940	U
43	q	1941	A
43	q	1942	G
43	q	1943	A
43	q	1955	U
43	q	1956	G
43	q	1961	U

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Mol	Chain	Res	Type
43	q	1962	G
43	q	1963	G
43	q	1964	A
43	q	1965	A
43	q	1967	U
43	q	1968	C
43	q	1973	U
43	q	1979	A
43	q	1983	A
43	q	1985	U
43	q	2007	A
43	q	2015	G
43	q	2024	A
43	q	2029	U
43	q	2033	G
43	q	2036	G
43	q	2037	G
43	q	2043	C
43	q	2050	A
43	q	2246	U
43	q	2279	A
43	q	2280	G
43	q	2285	G
43	q	2292	A
43	q	2299	G
43	q	2310	G
43	q	2327	G
43	q	2329	U
43	q	2330	C
43	q	2339	A
43	q	2340	G
43	q	2361	A
43	q	2374	A
43	q	2377	U
43	q	2381	G
43	q	2389	C
43	q	2399	A
43	q	2400	G
43	q	2401	C
43	q	2420	C
43	q	2426	U
43	q	2442	G

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Mol	Chain	Res	Type
43	q	2450	G
43	q	2467	C
43	q	2468	C
43	q	2482	G
43	q	2484	C
43	q	2485	G
43	q	2492	A
43	q	2524	U
43	q	2525	G
43	q	2526	G
43	q	2532	A
43	q	2565	G
43	q	2566	A
43	q	2568	C
43	q	2570	A
43	q	2580	A
43	q	2585	G
43	q	2606	C
43	q	2617	G
43	q	2632	C
43	q	2648	C
43	q	2666	U
43	q	2675	A
43	q	2676	A
43	q	2683	C
43	q	2686	C
43	q	2687	U
43	q	2688	U
43	q	2692	U
43	q	2693	G
43	q	2694	G
43	q	2697	U
43	q	2698	C
43	q	2700	G
43	q	2705	G
43	q	2706	C
43	q	2719	U
43	q	2720	U
43	q	2726	U
43	q	2732	G
43	q	2733	G
43	q	2741	G

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Mol	Chain	Res	Type
43	q	2742	U
43	q	2748	U
43	q	2766	A
43	q	2767	U
43	q	2769	U
43	q	2773	C
43	q	2775	G
43	q	2776	C
43	q	2778	G
43	q	2785	A
43	q	2793	C
43	q	2804	A
43	q	2805	U
43	q	2806	G
43	q	2860	A
43	q	2871	C
43	q	2879	U
43	q	3574	G
43	q	3589	C
43	q	3591	G
43	q	3596	G
43	q	3597	G
43	q	3606	A
43	q	3612	U
43	q	3616	U
43	q	3619	A
43	q	3633	A
43	q	3643	G
43	q	3663	A
43	q	3669	G
43	q	3707	A
43	q	3724	G
43	q	3734	A
43	q	3748	G
43	q	3751	G
43	q	3754	A
43	q	3781	C
43	q	3782	G
43	q	3785	U
43	q	3788	A
43	q	3789	U
43	q	3790	G

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Mol	Chain	Res	Type
43	q	3795	A
43	q	3798	G
43	q	3799	A
43	q	3809	U
43	q	3811	U
43	q	3847	A
43	q	3848	A
43	q	3849	C
43	q	3850	G
43	q	3852	G
43	q	3860	G
43	q	3866	G
43	q	3868	G
43	q	3872	A
43	q	3876	A
43	q	3877	A
43	q	3878	G
43	q	3879	A
43	q	3886	U
43	q	3907	A
43	q	3909	G
43	q	3910	G
43	q	3929	G
43	q	3943	A
43	q	3944	G
43	q	4017	A
43	q	4018	A
43	q	4019	U
43	q	4020	A
43	q	4046	G
43	q	4051	G
43	q	4054	G
43	q	4060	G
43	q	4062	G
43	q	4067	G
43	q	4079	C
43	q	4084	G
43	q	4085	C
43	q	4088	C
43	q	4109	G
43	q	4110	C
43	q	4124	C

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Mol	Chain	Res	Type
43	q	4126	C
43	q	4132	A
43	q	4135	G
43	q	4145	G
43	q	4146	G
43	q	4153	G
43	q	4165	A
43	q	4174	A
43	q	4176	A
43	q	4187	G
43	q	4188	G
43	q	4191	U
43	q	4195	A
43	q	4196	A
43	q	4213	A
43	q	4216	G
43	q	4228	G
43	q	4230	A
43	q	4235	A
43	q	4236	A
43	q	4243	A
43	q	4250	C
43	q	4252	U
43	q	4256	C
43	q	4264	U
43	q	4266	A
43	q	4267	G
43	q	4268	U
43	q	4276	C
43	q	4285	A
43	q	4292	G
43	q	4294	C
43	q	4311	C
43	q	4316	U
43	q	4330	G
43	q	4333	G
43	q	4338	A
43	q	4339	G
43	q	4340	A
43	q	4342	A
43	q	4349	C
43	q	4355	G

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Mol	Chain	Res	Type
43	q	4356	A
43	q	4358	A
43	q	4360	C
43	q	4384	A
43	q	4398	U
43	q	4406	C
43	q	4414	U
43	q	4426	A
43	q	4428	C
43	q	4437	G
43	q	4450	A
43	q	4455	U
43	q	4462	U
43	q	4474	U
43	q	4475	A
43	q	4480	A
43	q	4482	G
43	q	4485	A
43	q	4486	G
43	q	4510	A
43	q	4522	C
43	q	4532	G
43	q	4551	A
43	q	4552	A
43	q	4568	G
43	q	4586	A
43	q	4598	U
43	q	4599	G
43	q	4614	G
43	q	4620	G
43	q	4621	G
43	q	4629	C
43	q	4632	C
43	q	4640	G
43	q	4641	G
43	q	4653	A
43	q	4662	A
43	q	4671	U
43	q	4681	G
43	q	4693	G
43	q	4694	G
43	q	4695	C

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Mol	Chain	Res	Type
43	q	4696	A
43	q	4703	C
43	q	4704	G
43	q	4715	U
43	q	4718	C
43	q	4720	U
43	q	4726	A
43	q	4732	U
43	q	4827	U
43	q	4828	G
43	q	4831	G
43	q	4832	A
43	q	4833	G
43	q	4834	U
43	q	4838	C
43	q	4839	U
43	q	4840	U
43	q	4852	A
43	q	4854	G
43	q	4855	G
43	q	4859	G
43	q	4864	C
43	q	4865	G
43	q	4866	G
43	q	4868	A
43	q	4870	G
43	q	4871	G
43	q	4872	C
43	q	4878	C
43	q	4880	C
43	q	4883	U
43	q	4885	G
43	q	4895	C
43	q	4896	A
43	q	4897	C
43	q	4901	A
43	q	4902	C
43	q	4907	G
43	q	4908	U
43	q	4909	G
43	q	4924	A
43	q	4934	U

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Mol	Chain	Res	Type
43	q	4936	G
43	q	4946	U
43	q	4947	U
43	q	4948	C
43	q	4950	G
43	q	4964	U
43	q	4971	C
43	q	4975	G
43	q	4982	C
43	q	4985	C
43	q	5006	A
43	q	5007	G
43	q	5008	C
43	q	5012	C
43	q	5015	C
43	q	5016	A
43	q	5019	A
44	r	16	G
44	r	23	C
44	r	34	U
44	r	35	C
44	r	38	U
44	r	39	G
44	r	59	A
44	r	63	U
44	r	71	A
44	r	72	A
44	r	77	A
44	r	79	G
44	r	80	A
44	r	81	C
44	r	87	G
44	r	94	G
44	r	96	C
44	r	103	A
44	r	105	C
44	r	107	C
44	r	109	C
44	r	111	U
44	r	114	G
44	r	121	G
44	r	122	G

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Mol	Chain	Res	Type
44	r	123	U
44	r	124	U
44	r	125	C
44	r	128	C
44	r	129	C
44	r	130	C
44	r	148	A
44	r	151	G
45	s	11	A
45	s	33	U
45	s	34	C
45	s	45	U
45	s	46	C
45	s	48	G
45	s	51	G
45	s	53	U
45	s	63	C
45	s	64	G
45	s	89	G
45	s	108	G
45	s	110	G
45	s	117	G
45	s	118	C

There are no RNA pucker outliers to report.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 250 ligands modelled in this entry, 250 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
43	q	11

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	q	4734:C	O3'	4818:G	P	19.70
1	q	3948:C	O3'	4004:G	P	18.35
1	q	1202:G	O3'	1216:G	P	17.70
1	q	517:C	O3'	629:G	P	17.04
1	q	2881:G	O3'	3569:C	P	16.97
1	q	1233:C	O3'	1243:G	P	16.89
1	q	750:G	O3'	890:C	P	16.67
1	q	976:U	O3'	1047:G	P	16.21
1	q	1089:A	O3'	1145:G	P	15.46
1	q	1680:C	O3'	1699:C	P	15.19
1	q	2068:C	O3'	2245:C	P	13.94

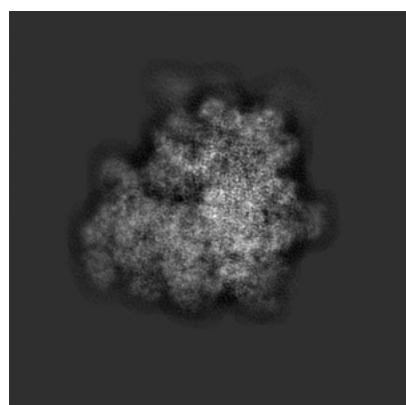
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10321. These allow visual inspection of the internal detail of the map and identification of artifacts.

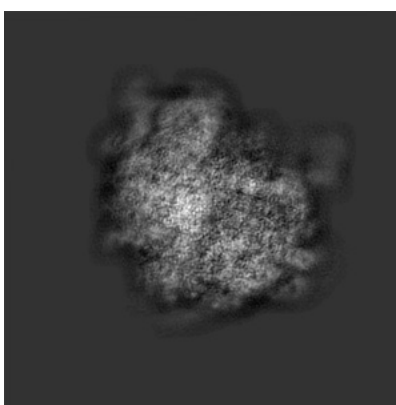
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

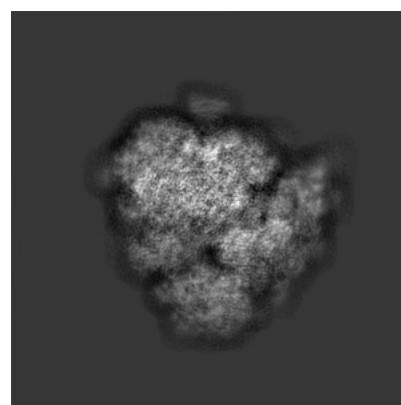
6.1.1 Primary map



X



Y

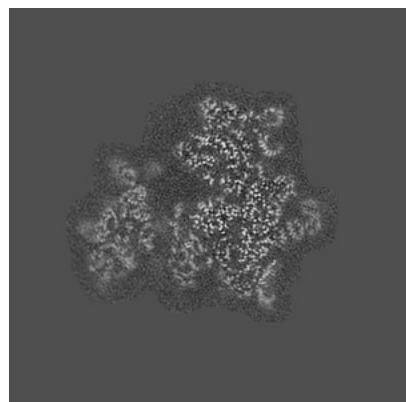


Z

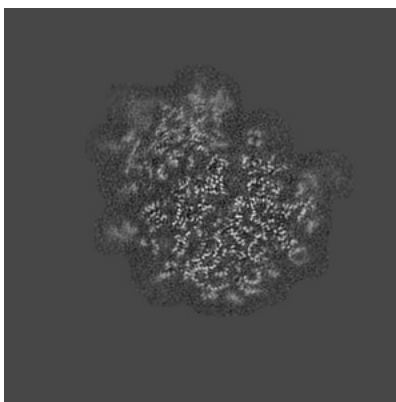
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

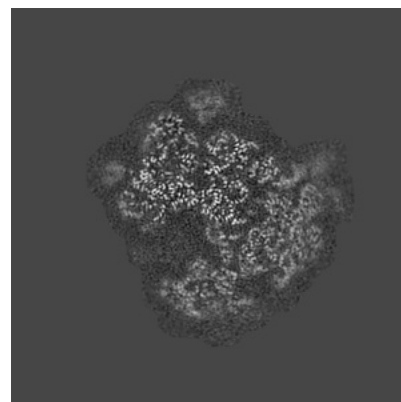
6.2.1 Primary map



X Index: 180



Y Index: 180

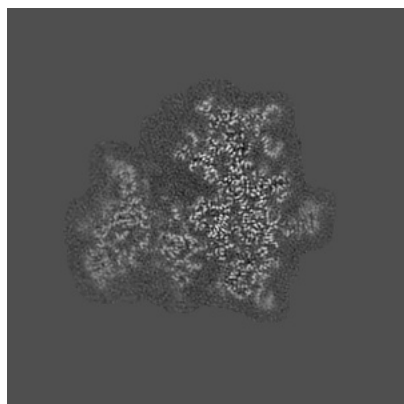


Z Index: 180

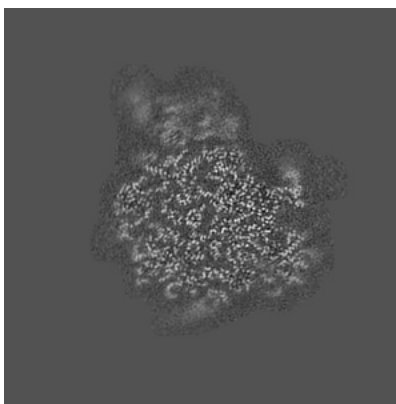
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

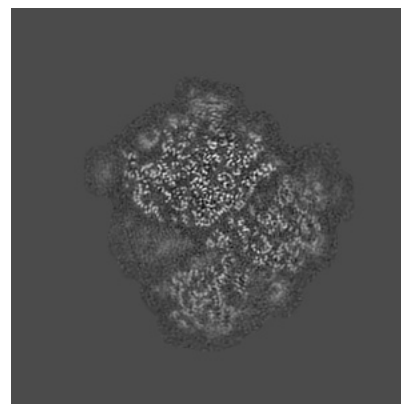
6.3.1 Primary map



X Index: 184



Y Index: 206

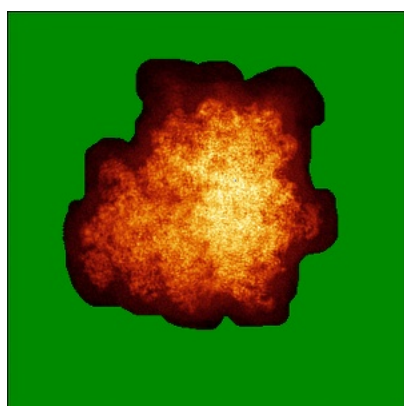


Z Index: 165

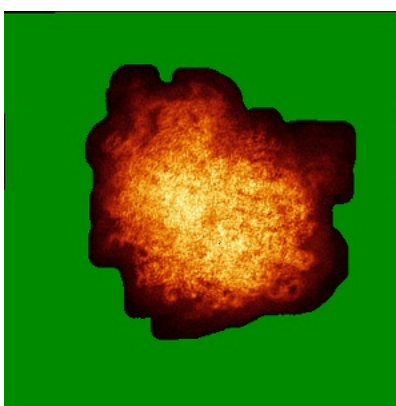
The images above show the largest variance slices of the map in three orthogonal directions.

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

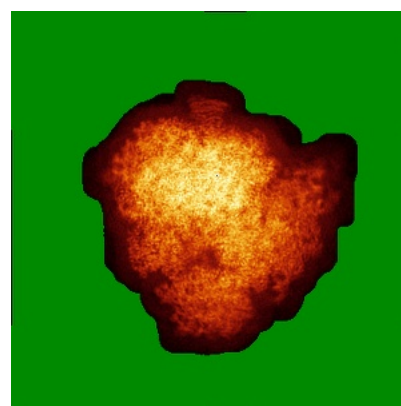
6.4.1 Primary map



X



Y



Z

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 4.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

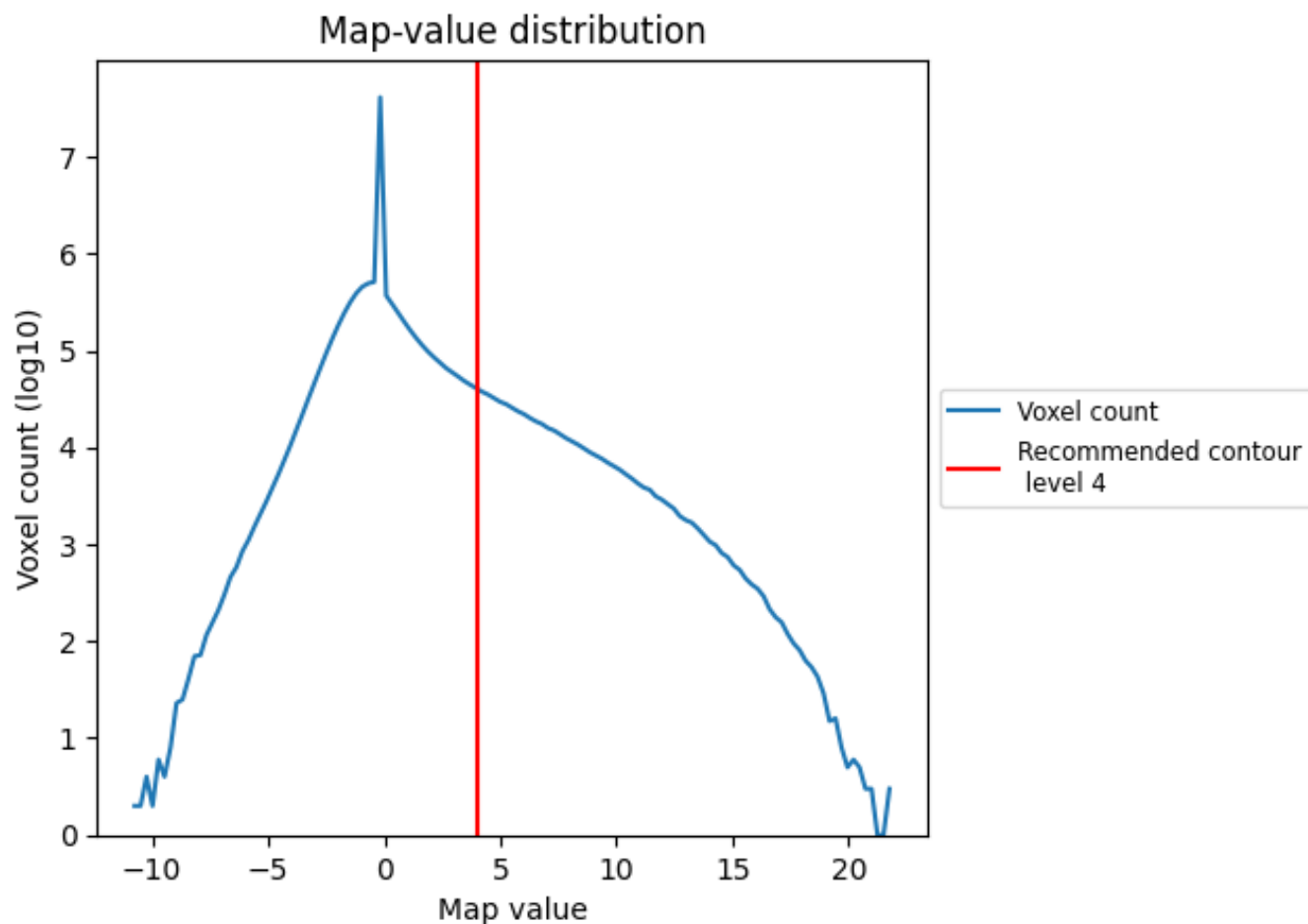
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

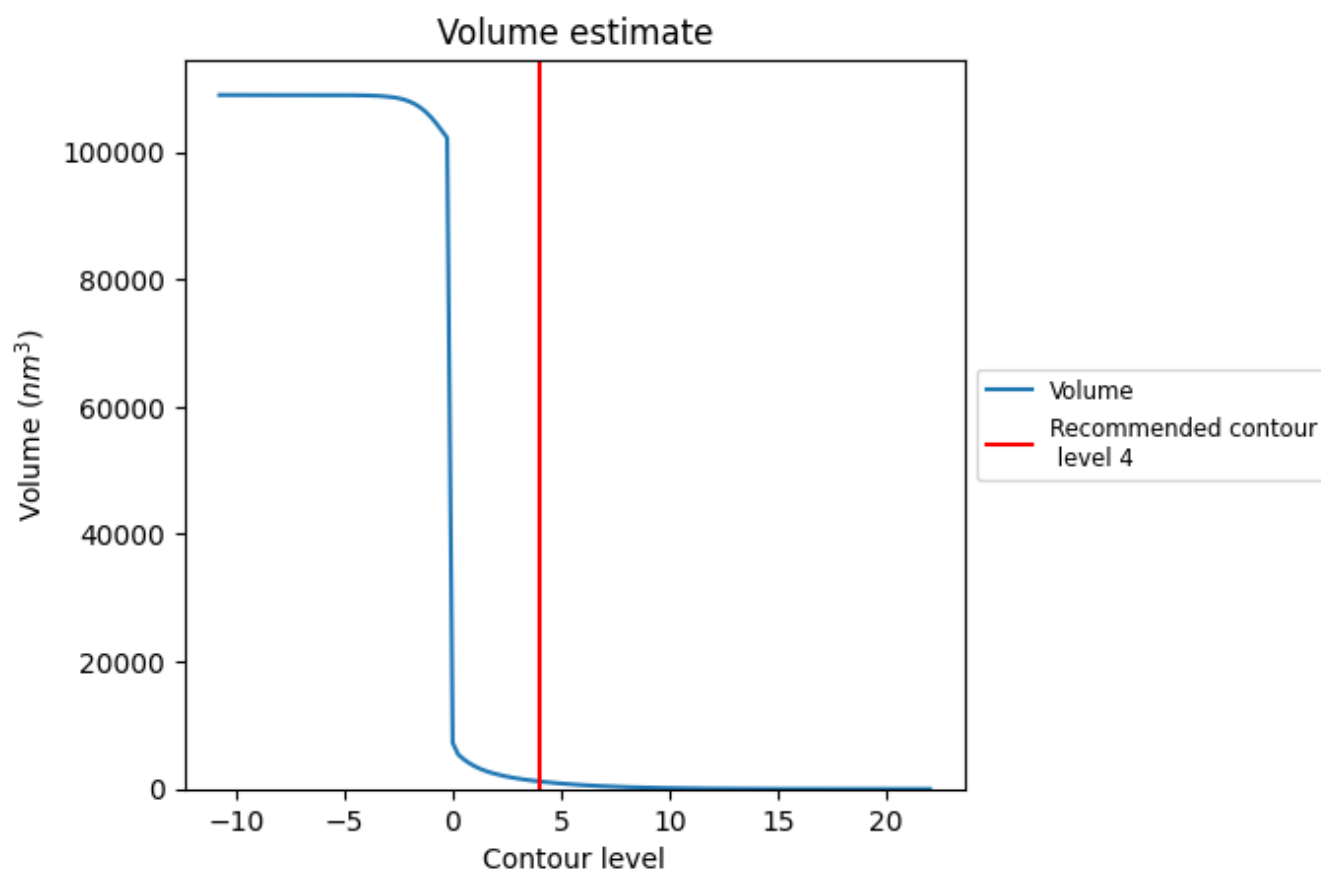
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

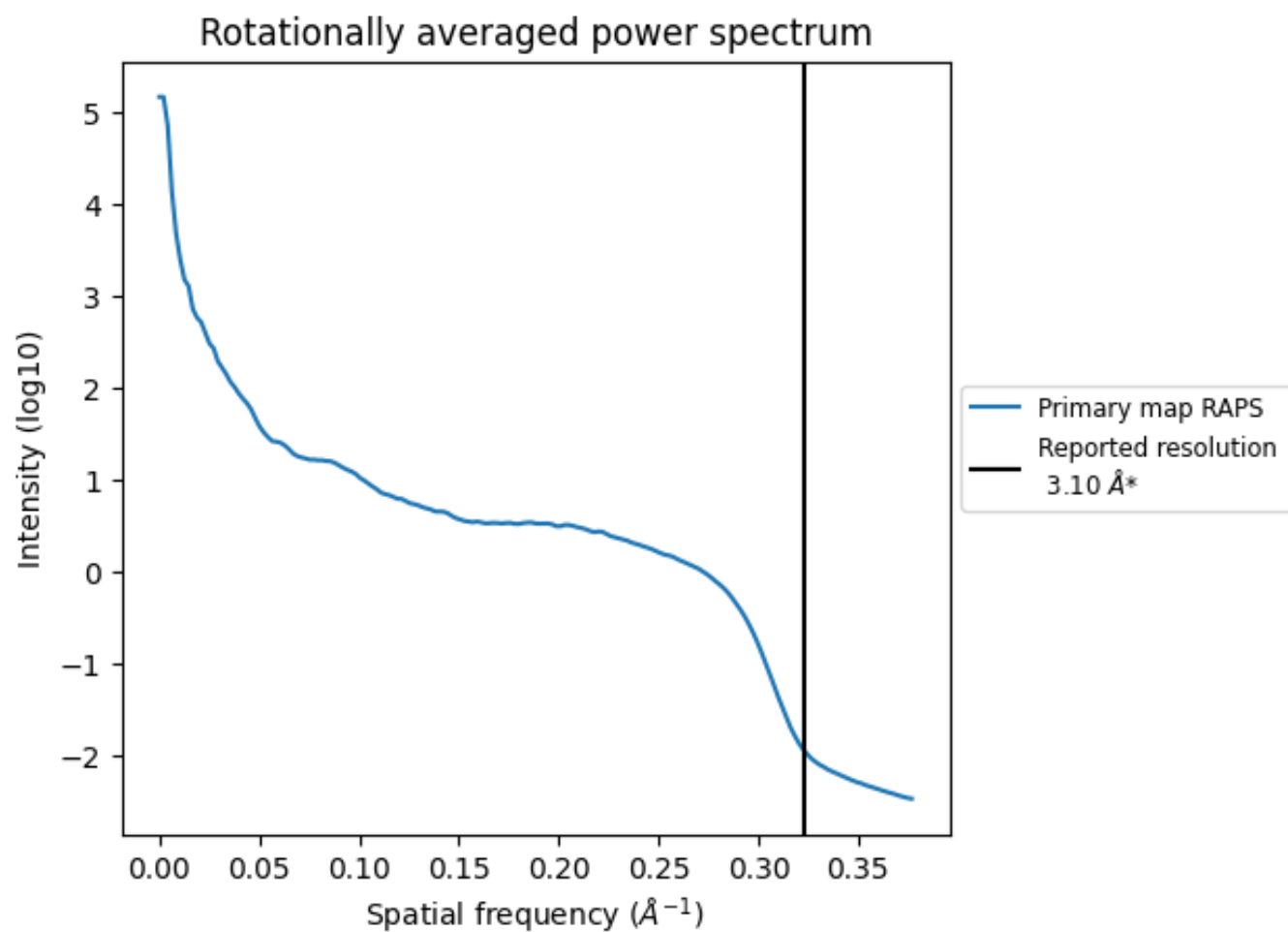
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1181 nm³; this corresponds to an approximate mass of 1066 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 0.323 Å⁻¹

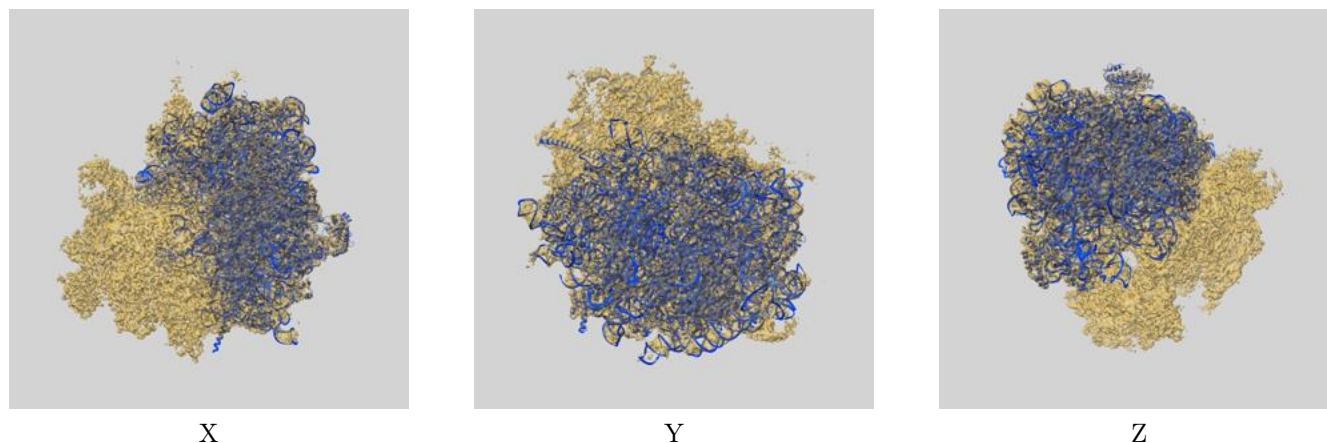
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

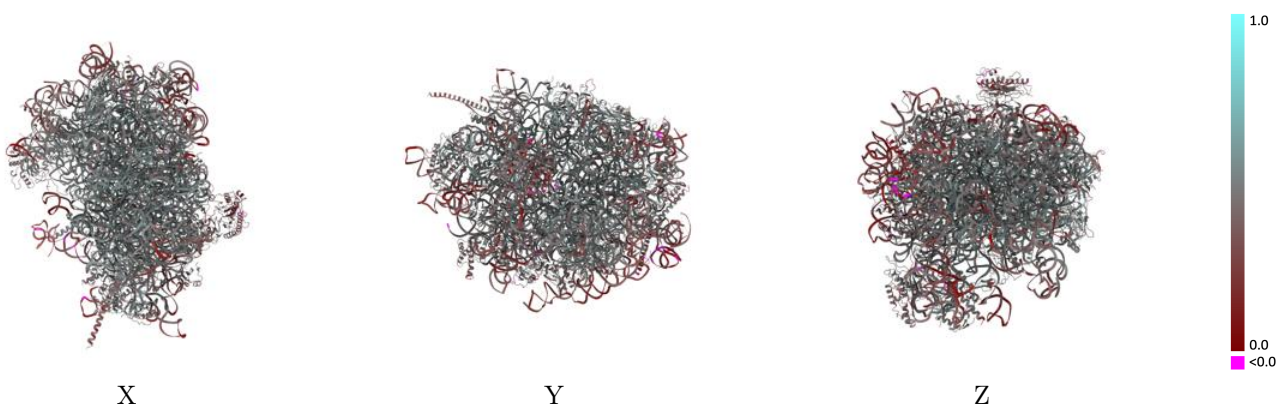
This section contains information regarding the fit between EMDB map EMD-10321 and PDB model 6SWA. Per-residue inclusion information can be found in section [3](#) on page [13](#).

9.1 Map-model overlay [i](#)



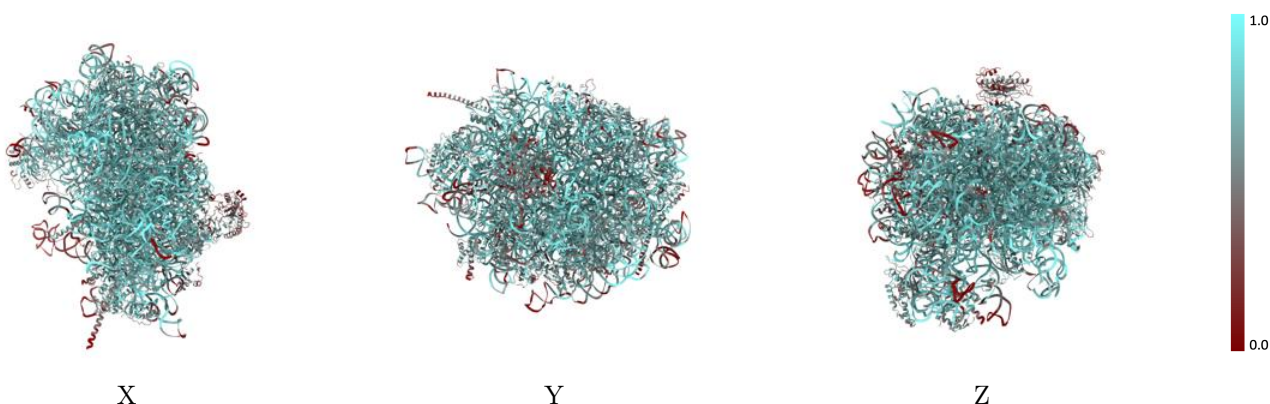
The images above show the 3D surface view of the map at the recommended contour level 4.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



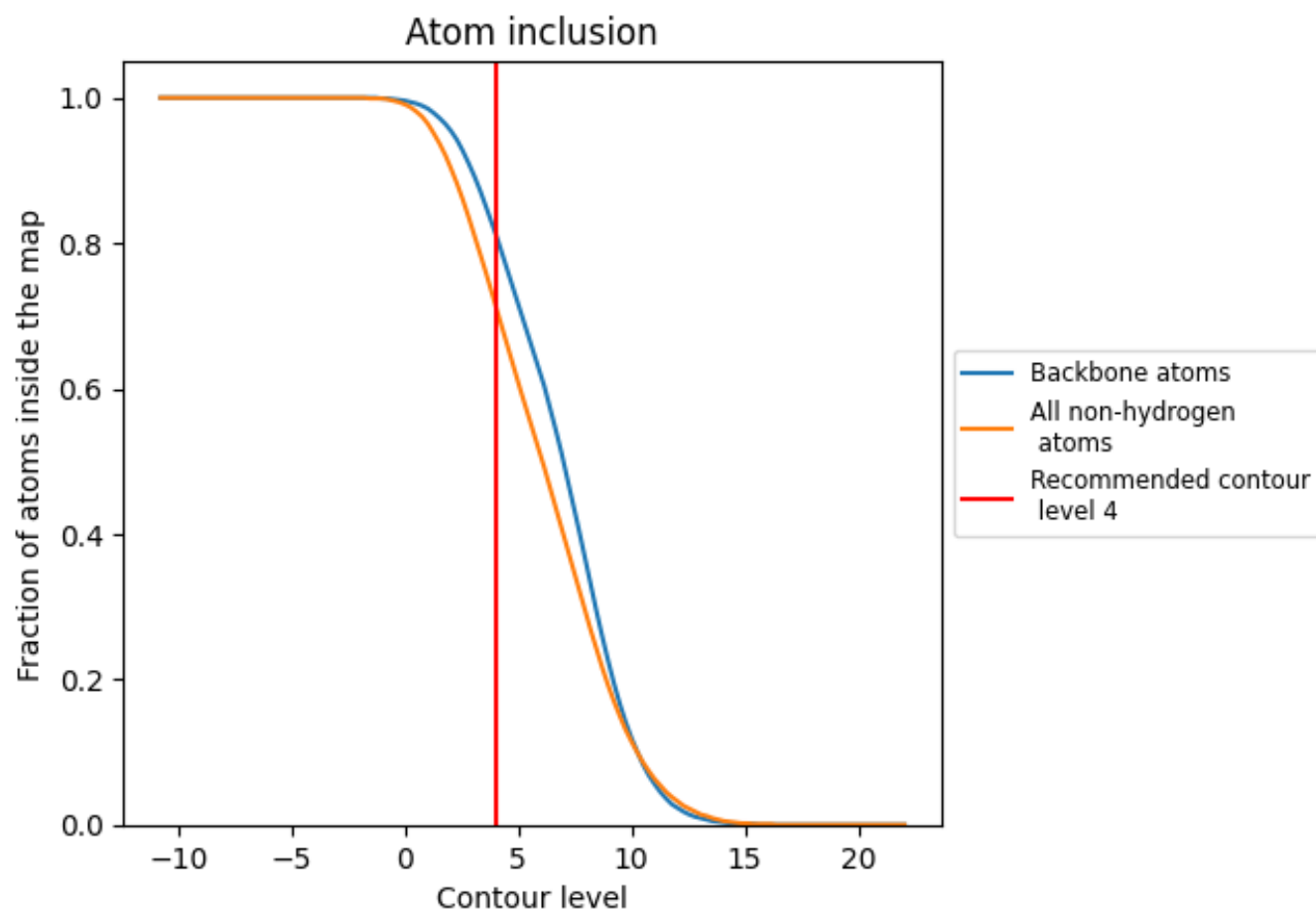
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (4).

9.4 Atom inclusion [i](#)



At the recommended contour level, 81% of all backbone atoms, 72% 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 (4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7150	 0.4490
A	 0.6640	 0.5130
B	 0.6900	 0.4960
C	 0.6600	 0.4890
D	 0.6310	 0.4440
E	 0.5980	 0.4340
F	 0.6440	 0.4610
G	 0.5700	 0.4360
H	 0.6740	 0.4930
I	 0.6630	 0.4830
J	 0.5720	 0.4320
K	 0.6130	 0.4400
L	 0.7090	 0.4760
M	 0.7010	 0.5120
N	 0.7220	 0.5030
O	 0.6950	 0.5040
P	 0.6710	 0.4920
Q	 0.7170	 0.5030
R	 0.6710	 0.4940
S	 0.5740	 0.4270
T	 0.6640	 0.5130
U	 0.6590	 0.5030
V	 0.6290	 0.4860
W	 0.6840	 0.4920
X	 0.6310	 0.4690
Y	 0.6960	 0.4970
Z	 0.5870	 0.4410
a	 0.6520	 0.4680
b	 0.6630	 0.5010
c	 0.6650	 0.5090
d	 0.7400	 0.5250
e	 0.6580	 0.4800
f	 0.6120	 0.4600
g	 0.6070	 0.4410
h	 0.7280	 0.5100



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Chain	Atom inclusion	Q-score
i	 0.5360	 0.4350
j	 0.6470	 0.4920
k	 0.6950	 0.5210
l	 0.5590	 0.4800
m	 0.6160	 0.4820
n	 0.6390	 0.4910
o	 0.6180	 0.4670
p	 0.6970	 0.4760
q	 0.7610	 0.4320
r	 0.7550	 0.4330
s	 0.8480	 0.4600
t	 0.3540	 0.3660