



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 02:24 AM UTC

PDB ID : 6I7O / pdb_00006i7o
EMDB ID : EMD-4427
Title : The structure of a di-ribosome (disome) as a unit for RQC and NGD quality control pathways recognition.
Authors : Tesina, P.; Cheng, J.; Becker, T.; Beckmann, R.
Deposited on : 2018-11-16
Resolution : 5.30 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:

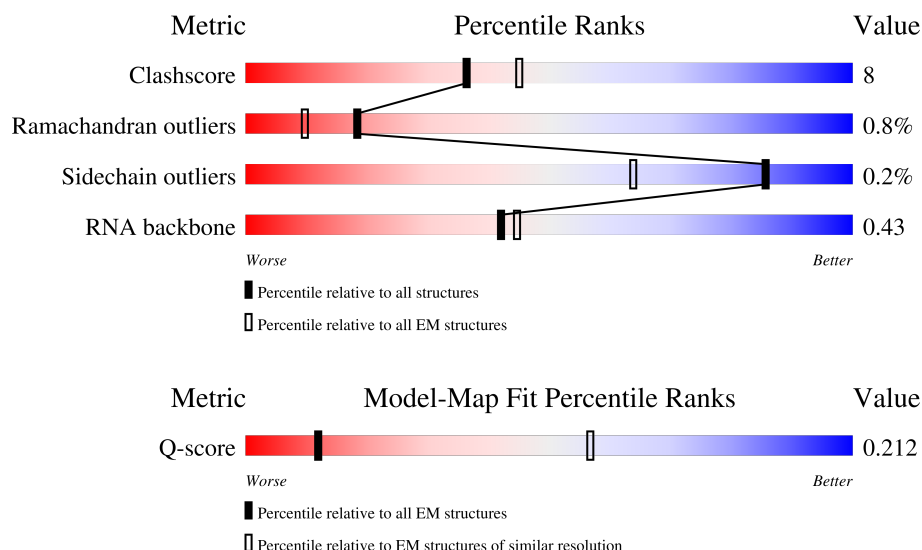
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 5.30 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	625 (4.80 - 5.80)

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	BQ	3396	
1	YQ	3396	
2	BR	121	

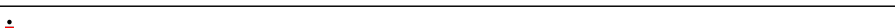
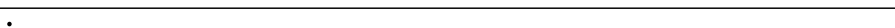
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Mol	Chain	Length	Quality of chain
2	YR	121	
3	BS	157	
3	YS	157	
4	AW	252	
4	XW	252	
5	BA	386	
5	YA	386	
6	BE	361	
6	YE	361	
7	BI	294	
7	YI	294	
8	BM	176	
8	YM	176	
9	BO	223	
9	YO	223	
10	AA	231	
10	XA	231	
11	AD	190	
11	XD	190	
12	BD	221	
12	YD	221	
13	AG	169	
13	XG	169	
14	AJ	194	
14	XJ	194	

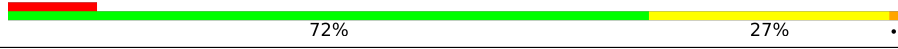
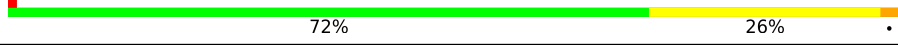
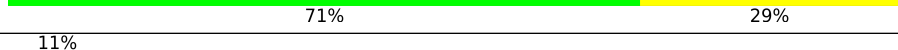
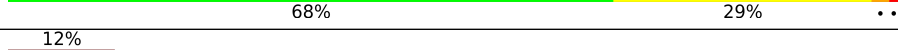
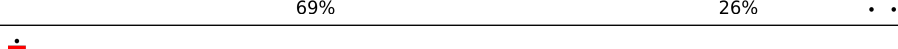
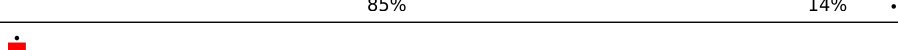
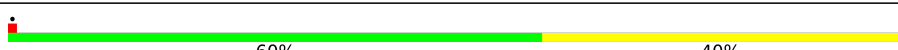
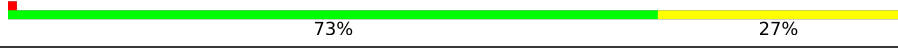
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Mol	Chain	Length	Quality of chain
15	AM	137	
15	XM	137	
16	AQ	203	
16	XQ	203	
17	AU	197	
17	XU	197	
18	2	1800	
18	2b	1800	
19	P	206	
19	Pb	206	
20	Q	216	
20	Qb	216	
21	R	217	
21	Rb	217	
22	A	223	
22	Ab	223	
23	S	260	
23	Sb	260	
24	B	206	
24	Bb	206	
25	T	218	
25	Tb	218	
26	U	185	
26	Ub	185	
27	V	200	

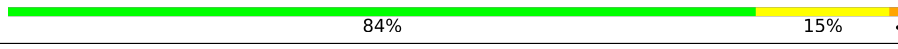
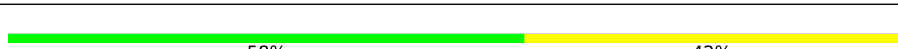
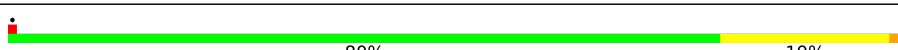
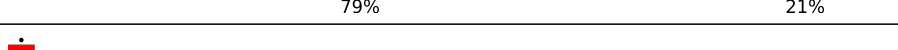
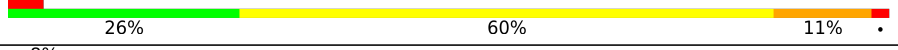
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Mol	Chain	Length	Quality of chain
27	Vb	200	
28	W	185	
28	Wb	185	
29	C	92	
29	Cb	92	
30	X	146	
30	Xb	146	
31	D	124	
31	Db	124	
32	Y	150	
32	Yb	150	
33	Z	128	
33	Zb	128	
34	E	119	
34	Eb	119	
35	F	141	
35	Fb	141	
36	G	125	
36	Gb	125	
37	H	145	
37	Hb	145	
38	I	143	
38	Ib	143	
39	J	101	
39	Jb	101	

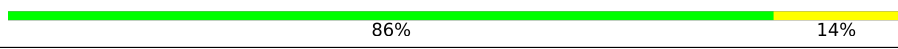
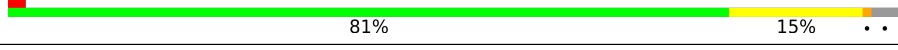
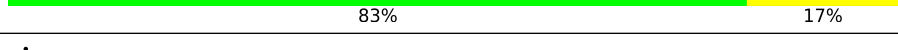
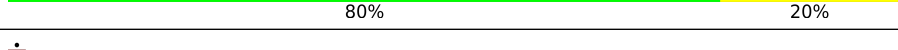
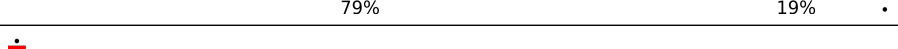
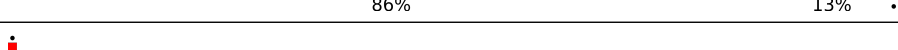
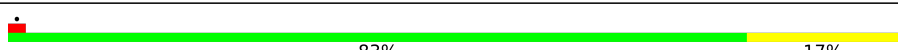
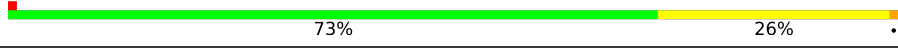
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Mol	Chain	Length	Quality of chain
40	a	87	
40	ab	87	
41	b	129	
41	bb	129	
42	c	144	
42	cb	144	
43	d	134	
43	db	134	
44	K	69	
44	Kb	69	
45	e	97	
45	eb	97	
46	f	81	
46	fb	81	
47	L	63	
47	Lb	63	
48	M	53	
48	Mb	53	
49	g	60	
49	gb	60	
50	N	73	
50	Nb	73	
51	O	313	
51	Ob	313	
52	AX	184	

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Mol	Chain	Length	Quality of chain
52	XX	184	
53	BB	185	
53	YB	185	
54	BF	188	
54	YF	188	
55	BH	172	
55	YH	172	
56	BJ	159	
56	YJ	159	
57	BL	98	
57	YL	98	
58	AB	134	
58	XB	134	
59	AE	135	
59	XE	135	
60	AH	120	
60	XH	120	
61	AK	124	
61	XK	124	
62	AN	135	
62	XN	135	
63	AR	148	
63	XR	148	
64	AV	58	
64	XV	58	

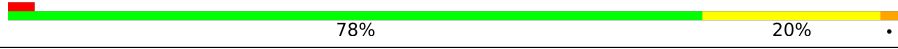
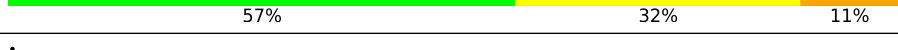
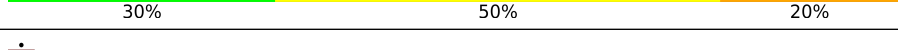
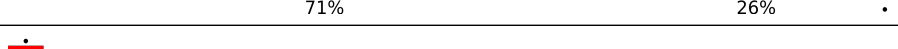
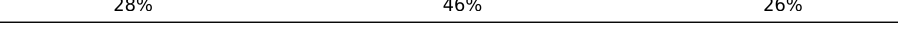
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Mol	Chain	Length	Quality of chain
65	AY	100	
65	XY	100	
66	BC	109	
66	YC	109	
67	BG	127	
67	YG	127	
68	BK	106	
68	YK	106	
69	BN	112	
69	YN	112	
70	BP	119	
70	YP	119	
71	AC	99	
71	XC	99	
72	AF	82	
72	XF	82	
73	AI	77	
73	XI	77	
74	AL	50	
74	XL	50	
75	AO	52	
75	XO	52	
76	AS	25	
76	XS	25	
77	AP	105	

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Mol	Chain	Length	Quality of chain
77	XP	105	
78	AT	91	
78	XT	91	
79	BU	312	
79	YU	312	
80	n	76	
81	m	75	
82	nb	76	
83	mb	77	
84	l	57	

2 Entry composition [i](#)

There are 85 unique types of molecules in this entry. The entry contains 405889 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 RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	BQ	3127	Total	C	N	O	P	0	0
			66891	29878	12066	21820	3127		
1	YQ	3127	Total	C	N	O	P	0	0
			66891	29878	12066	21820	3127		

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	BR	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		
2	YR	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	BS	157	Total	C	N	O	P	0	0
			3333	1491	584	1101	157		
3	YS	157	Total	C	N	O	P	0	0
			3333	1491	584	1101	157		

- Molecule 4 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AW	252	Total	C	N	O	S	0	0
			1912	1190	388	333	1		
4	XW	252	Total	C	N	O	S	0	0
			1912	1190	388	333	1		

- Molecule 5 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	BA	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		
5	YA	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 6 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	BE	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		
6	YE	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	BI	294	Total	C	N	O	S	0	0
			2359	1489	412	456	2		
7	YI	294	Total	C	N	O	S	0	0
			2359	1489	412	456	2		

- Molecule 8 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	BM	157	Total	C	N	O	S	0	0
			1248	806	224	217	1		
8	YM	157	Total	C	N	O	S	0	0
			1248	806	224	217	1		

- Molecule 9 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	BO	223	Total	C	N	O	S	0	0
			1791	1155	325	310	1		
9	YO	223	Total	C	N	O	S	0	0
			1791	1155	325	310	1		

- Molecule 10 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AA	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	XA	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

- Molecule 11 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AD	190	Total	C	N	O	S	0	0
			1510	957	273	276	4		
11	XD	190	Total	C	N	O	S	0	0
			1510	957	273	276	4		

- Molecule 12 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	BD	209	Total	C	N	O	S	0	0
			1696	1077	321	293	5		
12	YD	209	Total	C	N	O	S	0	0
			1696	1077	321	293	5		

- Molecule 13 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AG	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		
13	XG	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	AJ	194	Total	C	N	O	0	0
			1548	965	316	267		
14	XJ	194	Total	C	N	O	0	0
			1548	965	316	267		

- Molecule 15 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	AM	137	Total	C	N	O	0	0
			1059	678	200	179		
15	XM	137	Total	C	N	O	0	0
			1059	678	200	179		

- Molecule 16 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AQ	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		
16	XQ	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 17 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AU	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		
17	XU	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 18 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	2	1758	Total	C	N	O	P	0	0
			37455	16745	6624	12328	1758		
18	2b	1758	Total	C	N	O	P	0	0
			37455	16745	6624	12328	1758		

- Molecule 19 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	206	Total	C	N	O	S	0	0
			1583	1017	281	283	2		
19	Pb	206	Total	C	N	O	S	0	0
			1583	1017	281	283	2		

- Molecule 20 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	216	Total	C	N	O	S	0	0
			1722	1091	312	315	4		
20	Qb	216	Total	C	N	O	S	0	0
			1722	1091	312	315	4		

- Molecule 21 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	R	217	Total	C	N	O	S	0	0
			1635	1047	289	297	2		
21	Rb	217	Total	C	N	O	S	0	0
			1635	1047	289	297	2		

- Molecule 22 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	A	223	Total	C	N	O	S	0	0
			1734	1101	313	314	6		
22	Ab	223	Total	C	N	O	S	0	0
			1734	1101	313	314	6		

- Molecule 23 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	S	260	Total	C	N	O	S	0	0
			2068	1316	389	360	3		
23	Sb	260	Total	C	N	O	S	0	0
			2068	1316	389	360	3		

- Molecule 24 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	B	206	Total	C	N	O	S	0	0
			1609	1007	300	299	3		
24	Bb	206	Total	C	N	O	S	0	0
			1609	1007	300	299	3		

- Molecule 25 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	T	218	Total	C	N	O	S	0	0
			1755	1102	337	313	3		
25	Tb	218	Total	C	N	O	S	0	0
			1755	1102	337	313	3		

- Molecule 26 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	U	185	Total	C	N	O		0	0
			1486	954	266	266			

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Mol	Chain	Residues	Atoms				AltConf	Trace
26	Ub	185	Total	C	N	O	0	0
			1486	954	266	266		

- Molecule 27 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	V	188	Total	C	N	O	S	0	0
			1489	925	298	264	2		
27	Vb	188	Total	C	N	O	S	0	0
			1489	925	298	264	2		

- Molecule 28 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	W	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		
28	Wb	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		

- Molecule 29 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	C	92	Total	C	N	O	S	0	0
			741	478	121	140	2		
29	Cb	92	Total	C	N	O	S	0	0
			741	478	121	140	2		

- Molecule 30 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	X	146	Total	C	N	O	S	0	0
			1168	747	221	197	3		
30	Xb	146	Total	C	N	O	S	0	0
			1168	747	221	197	3		

- Molecule 31 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	D	124	Total	C	N	O	S	0	0
			890	560	156	172	2		
31	Db	124	Total	C	N	O	S	0	0
			890	560	156	172	2		

- Molecule 32 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Y	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		
32	Yb	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 33 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Z	128	Total	C	N	O	S	0	0
			949	582	188	176	3		
33	Zb	128	Total	C	N	O	S	0	0
			949	582	188	176	3		

- Molecule 34 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	E	119	Total	C	N	O	S	0	0
			939	595	176	161	7		
34	Eb	119	Total	C	N	O	S	0	0
			939	595	176	161	7		

- Molecule 35 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	F	141	Total	C	N	O	0	0
			1105	708	203	194		
35	Fb	141	Total	C	N	O	0	0
			1105	708	203	194		

- Molecule 36 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	G	125	Total	C	N	O	S	0	0
			1001	625	188	186	2		
36	Gb	125	Total	C	N	O	S	0	0
			1001	625	188	186	2		

- Molecule 37 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	H	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		
37	Hb	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		

- Molecule 38 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	I	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		
38	Ib	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		

- Molecule 39 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	J	101	Total	C	N	O	S	0	0
			805	512	145	147	1		
39	Jb	101	Total	C	N	O	S	0	0
			805	512	145	147	1		

- Molecule 40 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	a	87	Total	C	N	O	S	0	0
			684	420	125	137	2		
40	ab	87	Total	C	N	O	S	0	0
			684	420	125	137	2		

- Molecule 41 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	b	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		
41	bb	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 42 is a protein called 40S ribosomal protein S23-A.

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

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

- Molecule 43 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	d	134	Total	C	N	O		0	0
			1073	676	208	189			
43	db	134	Total	C	N	O		0	0
			1073	676	208	189			

- Molecule 44 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	K	69	Total	C	N	O		0	0
			558	357	103	98			
44	Kb	69	Total	C	N	O		0	0
			558	357	103	98			

- Molecule 45 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	e	97	Total	C	N	O	S	0	0
			769	475	160	129	5		
45	eb	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 46 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	f	81	Total	C	N	O	S	0	0
			610	382	110	113	5		
46	fb	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 47 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	L	63	Total	C	N	O	S	0	0
			497	306	99	91	1		
47	Lb	63	Total	C	N	O	S	0	0
			497	306	99	91	1		

- Molecule 48 is a protein called 40S ribosomal protein S29-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	M	53	Total	C	N	O	S	0	0
			442	274	92	72	4		
48	Mb	53	Total	C	N	O	S	0	0
			442	274	92	72	4		

- Molecule 49 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	g	60	Total	C	N	O	S	0	0
			475	299	98	77	1		
49	gb	60	Total	C	N	O	S	0	0
			475	299	98	77	1		

- Molecule 50 is a protein called Ubiquitin-40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	N	73	Total	C	N	O	S	0	0
			556	352	105	95	4		
50	Nb	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
N	97	ALA	LYS	conflict	UNP P05759
Nb	97	ALA	LYS	conflict	UNP P05759

- Molecule 51 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	O	313	Total	C	N	O	S	0	0
			2403	1521	411	463	8		
51	Ob	313	Total	C	N	O	S	0	0
			2403	1521	411	463	8		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	161	ALA	LYS	conflict	UNP P38011
Ob	161	ALA	LYS	conflict	UNP P38011

- Molecule 52 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	AX	175	Total	C	N	O	0	0
			1378	856	273	249		
52	XX	175	Total	C	N	O	0	0
			1378	856	273	249		

- Molecule 53 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 54 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	BF	183	Total	C	N	O	0	0
			1482	911	320	251		
54	YF	188	Total	C	N	O	0	0
			1522	935	326	261		

- Molecule 55 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BH	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		
55	YH	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 56 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BJ	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		
56	YJ	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 57 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
57	BL	98	Total	C	N	O	0	0
			778	505	127	146		
57	YL	98	Total	C	N	O	0	0
			778	505	127	146		

- Molecule 58 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AB	134	Total	C	N	O	S	0	0
			993	623	187	176	7		
58	XB	134	Total	C	N	O	S	0	0
			993	623	187	176	7		

- Molecule 59 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AE	135	Total	C	N	O	S	0	0
			1089	682	219	187	1		
59	XE	135	Total	C	N	O	S	0	0
			1089	682	219	187	1		

- Molecule 60 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AH	120	Total	C	N	O	S	0	0
			959	617	168	172	2		
60	XH	120	Total	C	N	O	S	0	0
			959	617	168	172	2		

- Molecule 61 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
61	AK	124	Total	C	N	O	0	0
			976	614	190	172		
61	XK	124	Total	C	N	O	0	0
			976	614	190	172		

- Molecule 62 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
62	AN	135	Total	C	N	O	0	0
			1092	710	202	180		

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Mol	Chain	Residues	Atoms				AltConf	Trace
62	XN	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 63 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AR	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		
63	XR	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 64 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
64	AV	58	Total	C	N	O	0	0
			462	289	100	73		
64	XV	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 65 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AY	100	Total	C	N	O	S	0	0
			767	492	128	146	1		
65	XY	100	Total	C	N	O	S	0	0
			767	492	128	146	1		

- Molecule 66 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BC	109	Total	C	N	O	S	0	0
			883	559	167	156	1		
66	YC	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 67 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BG	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		
67	YG	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 68 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BK	106	Total	C	N	O	S	0	0
			850	540	165	144	1		
68	YK	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 69 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BN	112	Total	C	N	O	S	0	0
			880	545	179	152	4		
69	YN	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 70 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BP	119	Total	C	N	O	S	0	0
			965	612	185	167	1		
70	YP	119	Total	C	N	O	S	0	0
			965	612	185	167	1		

- Molecule 71 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	AC	99	Total	C	N	O	S	0	0
			770	481	156	131	2		
71	XC	99	Total	C	N	O	S	0	0
			770	481	156	131	2		

- Molecule 72 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	AF	82	Total	C	N	O	S	0	0
			650	396	142	107	5		
72	XF	82	Total	C	N	O	S	0	0
			650	396	142	107	5		

- Molecule 73 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
73	AI	77	Total	C	N	O	0	0
			608	388	114	106		
73	XI	77	Total	C	N	O	0	0
			608	388	114	106		

- Molecule 74 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AL	50	Total	C	N	O	S	0	0
			436	272	97	65	2		
74	XL	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 75 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	AO	52	Total	C	N	O	S	0	0
			417	259	86	67	5		
75	XO	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 76 is a protein called 60S ribosomal protein L41-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AS	25	Total	C	N	O	S	0	0
			233	142	63	27	1		
76	XS	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 77 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AP	105	Total	C	N	O	S	0	0
			847	534	170	138	5		
77	XP	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 78 is a protein called 60S ribosomal protein L43-A.

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

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

- Molecule 79 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	BU	138	Total	C	N	O	S	0	0
			1052	672	187	190	3		
79	YU	138	Total	C	N	O	S	0	0
			1052	672	187	190	3		

- Molecule 80 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	n	76	Total	C	N	O	P	0	0
			1621	723	291	531	76		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	74	C	-	insertion	GB 1329886529
n	75	C	-	insertion	GB 1329886529
n	76	A	-	insertion	GB 1329886529

- Molecule 81 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	m	75	Total	C	N	O	P	0	0
			1589	710	279	525	75		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
m	11	C	U	conflict	GB 176418

- Molecule 82 is a RNA chain called A/P hybrid tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	nb	76	Total	C	N	O	P	0	0
			1620	723	290	532	75		

- Molecule 83 is a RNA chain called P/E hybrid tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	mb	77	Total	C	N	O	P	0	0
			1644	732	297	538	77		

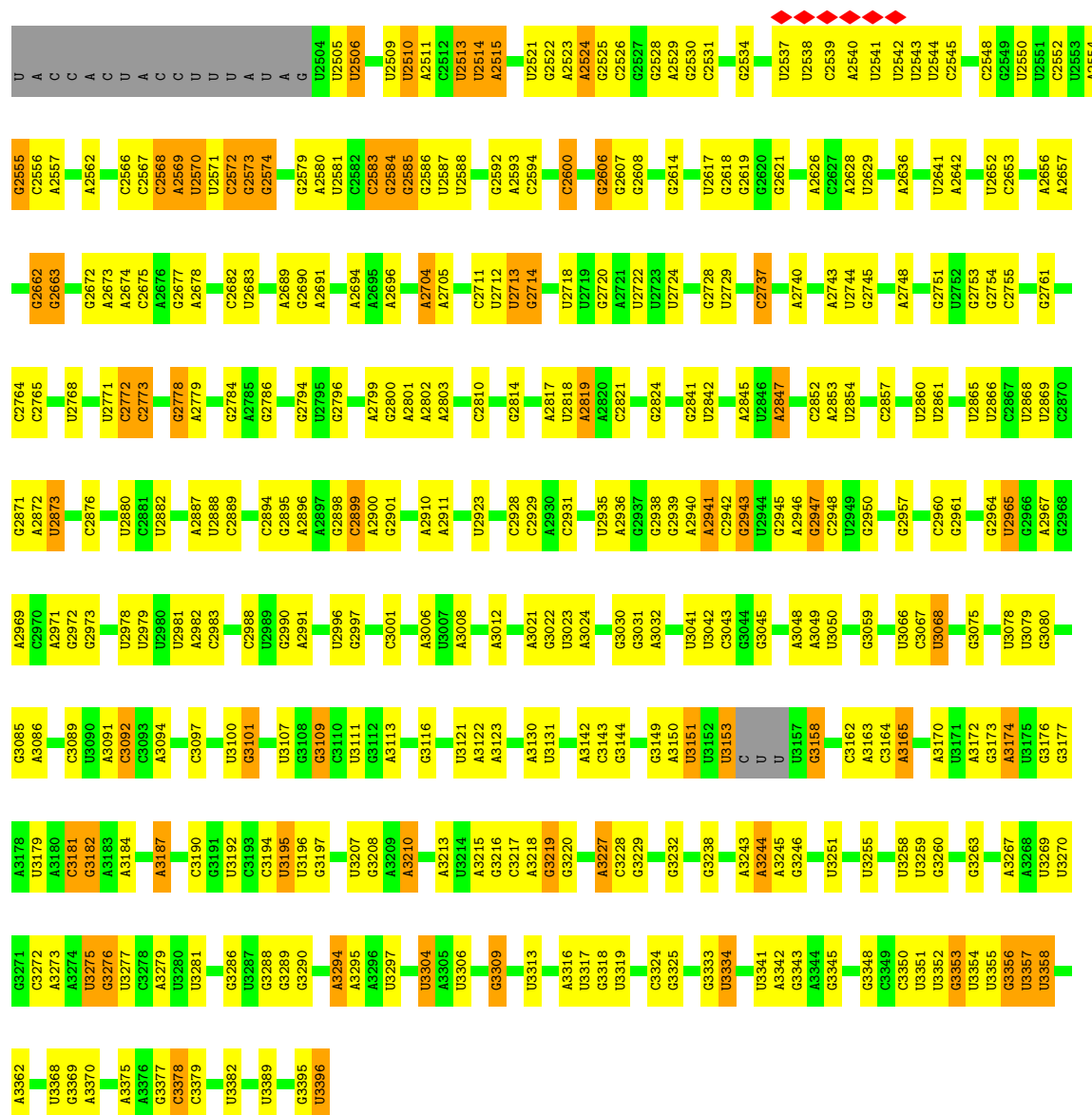
- Molecule 84 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	l	57	Total	C	N	O	P	0	0
			1182	530	171	424	57		

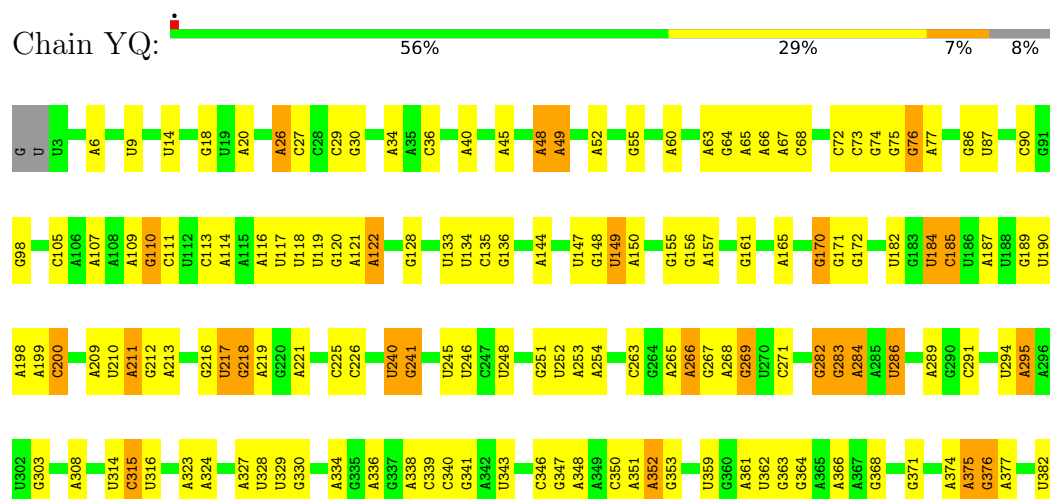
- Molecule 85 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
85	e	1	Total	Zn	0
			1	1	
85	f	1	Total	Zn	0
			1	1	
85	M	1	Total	Zn	0
			1	1	
85	N	1	Total	Zn	0
			1	1	
85	AO	1	Total	Zn	0
			1	1	
85	AP	1	Total	Zn	0
			1	1	
85	AT	1	Total	Zn	0
			1	1	
85	eb	1	Total	Zn	0
			1	1	
85	fb	1	Total	Zn	0
			1	1	
85	Mb	1	Total	Zn	0
			1	1	
85	YN	1	Total	Zn	0
			1	1	
85	XF	1	Total	Zn	0
			1	1	
85	XO	1	Total	Zn	0
			1	1	
85	XP	1	Total	Zn	0
			1	1	
85	XT	1	Total	Zn	0
			1	1	

A2419	A2309	G2218	A2100	U1871	G1760	G1634	A1545	U1438	U1325	A1046
C2422	U2310	G2221	C2101	C1872	C1761	G1635	A1545	U1446	U1329	A1047
G2425	A2313	A2222	U2102	U1873	C1762	A1638	C1551	A1447	A1330	A1048
G2429	U2314	A2223	U2103	G1875	U1763	C1639	U1554	U1448	G1340	C1049
U2434	G2315	A2224	A2104	G1878	U1765	A1642	U1555	U1449	A1348	A1055
G2435	U2319	A2228	G2111	U1879	G1766	A1643	C1556	A1452	G	A1062
U2436	A2320	A2229	U2112	U1880	C1144	A1644	A1557	A1453	A	G1063
G2437	G2323	C2230	A2113	U1884	U1770	G1645	A1558	A1454	U	A1064
A2438	A2324	A2232	C2114	U1884	C1771	G1646	A1559	U1455	U1168	G1066
G2441	G2325	A2233	C2118	G1891	U1772	G1655	G1560	G1464	U1171	U1067
A2441	A2325	A2244	C2118	G1892	G1775	A1656	C1562	G1464	G1171	U1072
G2442	U2334	C2245	G2121	A1893	C1779	G1657	C1563	A1467	C1175	G1071
A	U2335	G2246	G2122	A1896	G1780	G1658	U1564	A1468	C1176	U1073
C	U2336	G2247	C2121	G1897	U1794	G1662	G	U1470	C1177	U1074
A	C2337	C2248	A2131	G1898	G1794	G1662	U	U1470	C1364	A1075
U	G2338	G2249	U2137	G1899	U1795	C1671	U	A1474	G1379	U1078
A	C2339	G2250	A2138	A1900	G1796	U1672	U	A1475	G1380	A1079
G	U2340	G2251	A2139	G1903	A1797	G1677	U	A1477	U1265	A1080
A	A2341	G2252	G	U1904	G1808	G1678	U	G1480	U1269	U1081
G	C2346	G2253	A2142	C1905	A1813	A1683	C1573	G1481	G1383	G1082
G	G	A2254	A2143	G1905	U1814	U1683	C1574	A1481	U1270	G1083
G	C2350	A2255	A2144	G1906	U1815	U1683	C1575	A1482	A1271	A1084
U	G	C2257	G	C1907	A1816	U1692	G1576	G1483	C1272	A1085
G	C2353	G	G2155	U1920	A1817	U1692	G1577	G1487	U1275	C1086
U	C2354	U2260	G2156	A1921	G1817	U1694	C1578	G1488	U1276	G1087
G	G2355	G2261	G2157	U1921	U1818	U1695	C1579	A1489	C1277	A1091
A	G	A2262	A2158	A1930	U1819	A1696	A1580	U1495	G1283	A1096
A	C2371	C2263	U2162	U1931	U1820	U1703	C1581	G1492	G1284	G1097
A	A2372	U2266	G2163	A1932	U1821	U1716	A1583	G1493	G1285	A1098
U	C2373	A2270	A2164	G1935	G1825	U1717	U1588	U1494	A1202	A1103
A	C2374	G	G	G	C1832	G1718	A1589	G1496	A1203	G1104
A	G2375	G2169	G2170	G1935	U1839	U1724	G1592	C1497	G1206	U1114
G	C2376	U2271	U2170	G1953	A1841	C1725	U1601	G1498	G1207	G1117
U	G	G2272	G2177	G	A1842	G1726	A1605	U1511	U1210	G1126
G	A2384	G2273	A2178	U	C1846	G1727	U1606	G1514	G1209	U1127
A	U2388	G2276	U2184	G	G1847	G1728	U1607	G1520	G1219	U1128
C	G	G	G2185	U	G1848	A1729	A1613	G1528	U1221	A1129
C	C	A2279	C2188	A	C1849	G1730	G1618	A1529	G1222	A1130
U	C2392	A2280	A2188	G	A1850	A1731	U1619	G1536	C1231	A1133
U	G2393	A2281	G	G	G1851	U1737	U1620	G1536	C1232	A1135
G	G2394	U2282	C2196	C	U1863	U1740	U1627	G1536	A1231	A1136
G	G	G2288	C2204	U	A1865	G1743	U1628	A1529	G1236	G1237
C	C	G	U2205	U	C1866	U1743	U1629	G1536	C1237	C1239
G	A2401	C2283	G2205	U	A1867	G1748	U1630	G1536	C1237	C1239
C	A2402	U2294	A2206	G	G1868	A1749	A1631	G1541	C1237	C1239
C	G2403	A2296	A2207	A	C1869	A1750	A1632	G1542	C1237	C1239
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U	C2405	A2299	U2209	U	C1869	A1750	A1632	G1542	C1237	C1239
G	G	G	G2210	U	C1869	A1750	A1632	G1542	C1237	C1239
G	U2411	A2303	U2211	A	C1869	A1750	A1632	G1542	C1237	C1239
G	G2412	C2307	C2212	A	C1869	A1750	A1632	G1542	C1237	C1239
A	A	C2308	A2213	C	C1870	G1751	A1633	G1542	C1237	C1239
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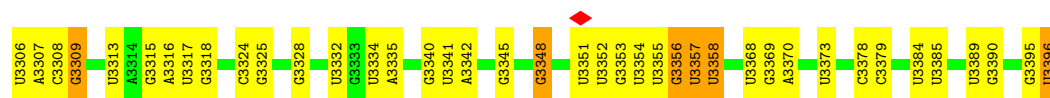


• Molecule 1: 25S ribosomal RNA

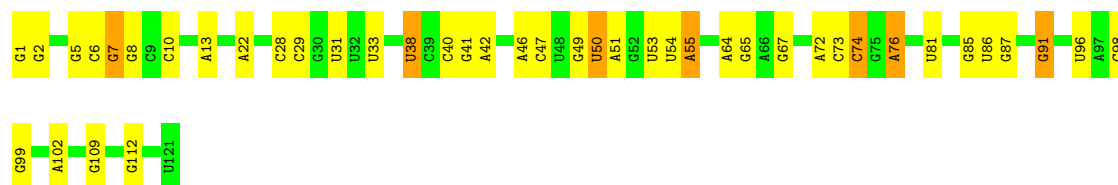




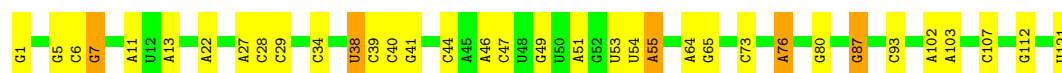
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G3216	A3130	A3021	C2809	C2810	U2723	G2608	A2523	C2360	G2261	A2167	G
G3217	U3131	G3022	A2899	C2810	U2724	G2609	A2524	A2361	C2262	A2168	G
A3218	A3134	C3025	G2901	U2814	U2726	G2614	G2525	C2362	U2170	A2169	C
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U3281	A3184	A3094	U2979	U2869	U2779	A2696	C2572	G2437	A2320	A2131	C
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U3304	U3304	A3122	A3011	C2894	A2803	U2717	A2593	U2514	G2355	U2162	C
A3210	A3210	A3122	A3011	C2894	A2803	U2717	A2593	U2514	G2355	U2162	C
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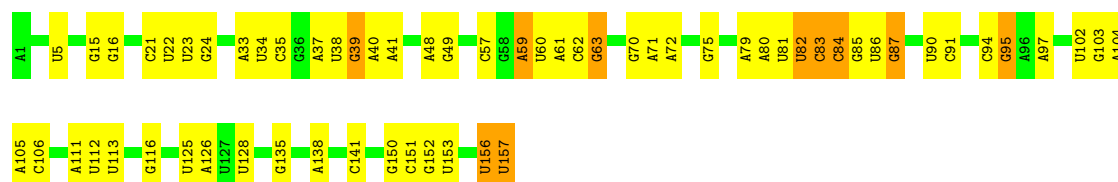
- Molecule 2: 5S ribosomal RNA



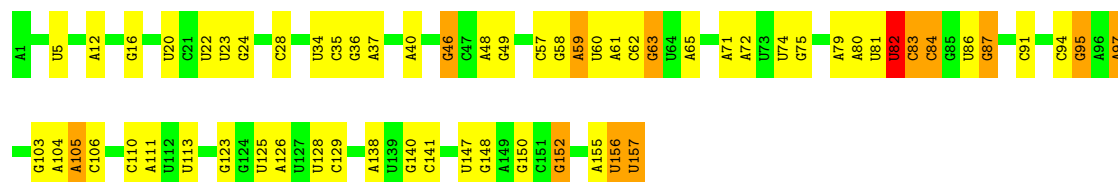
- Molecule 2: 5S ribosomal RNA



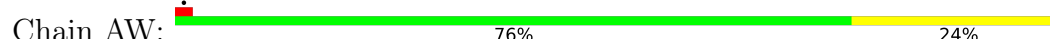
- Molecule 3: 5.8S ribosomal RNA



- Molecule 3: 5.8S ribosomal RNA



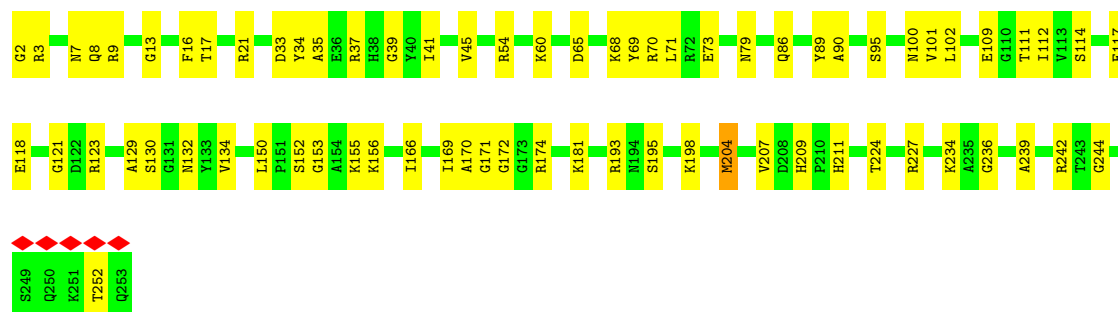
- Molecule 4: 60S ribosomal protein L2-A





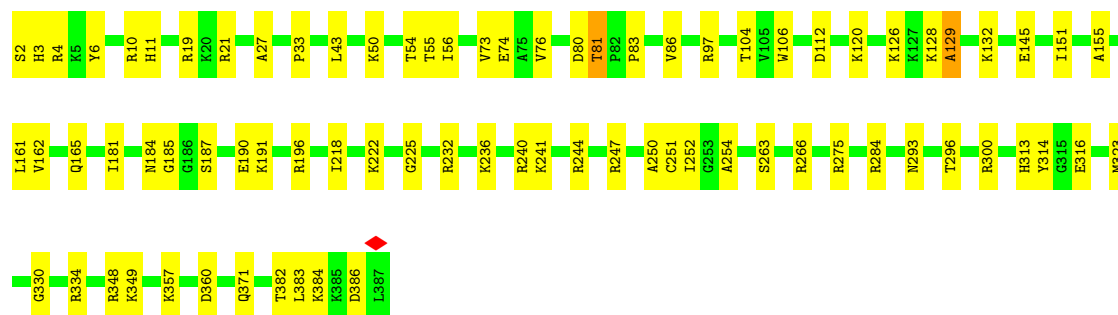
• Molecule 4: 60S ribosomal protein L2-A

Chain XW: 72% 28%



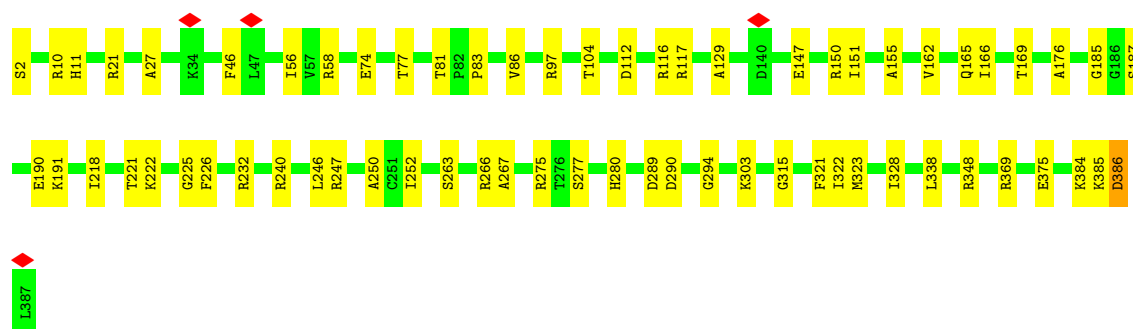
• Molecule 5: 60S ribosomal protein L3

Chain BA: 80% 20%



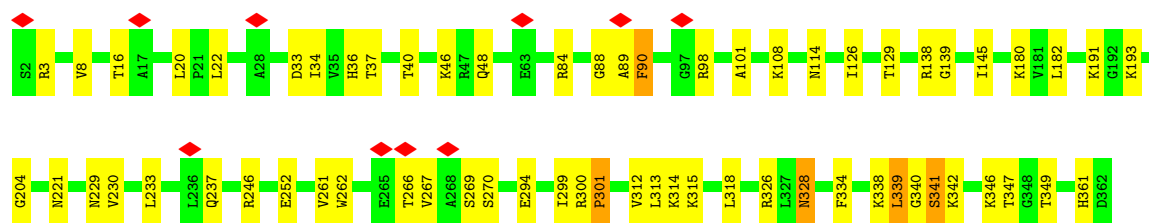
• Molecule 5: 60S ribosomal protein L3

Chain YA: 83% 17%



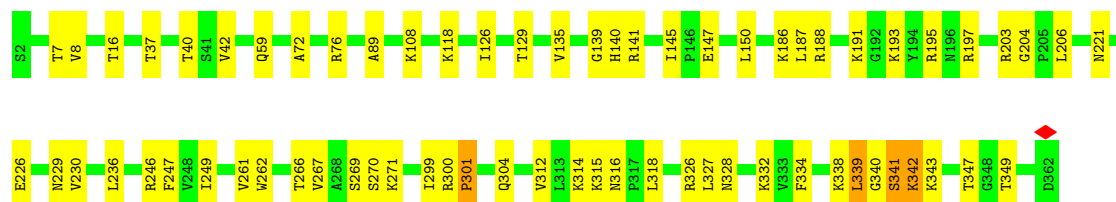
• Molecule 6: 60S ribosomal protein L4-A

Chain BE: 82% 16%



• Molecule 6: 60S ribosomal protein L4-A

Chain YE: 81% 18%



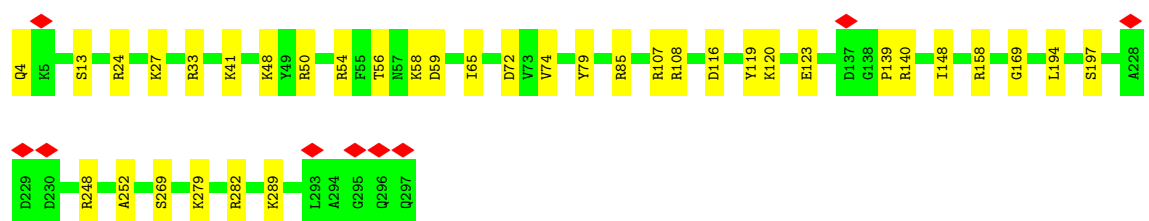
• Molecule 7: 60S ribosomal protein L5

Chain BI: 86% 14%



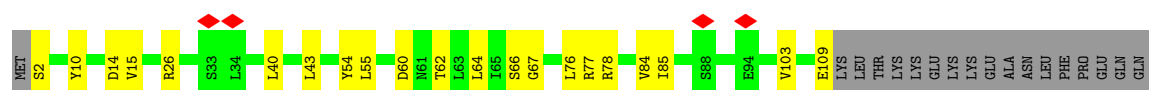
• Molecule 7: 60S ribosomal protein L5

Chain YI: 88% 12%



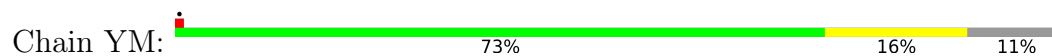
• Molecule 8: 60S ribosomal protein L6-A

Chain BM: 74% 15% 11%

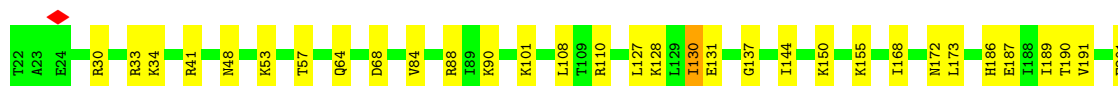
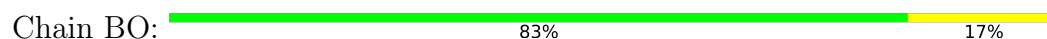




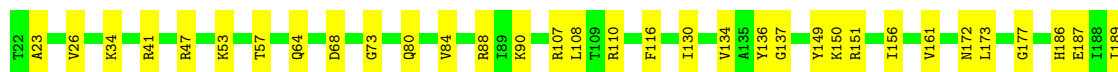
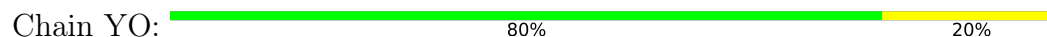
- Molecule 8: 60S ribosomal protein L6-A



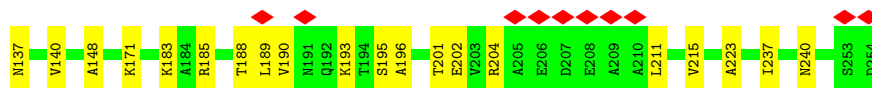
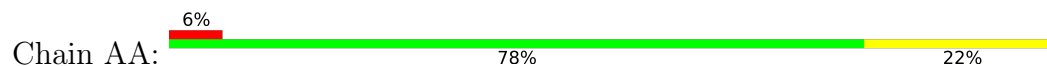
- Molecule 9: 60S ribosomal protein L7-A



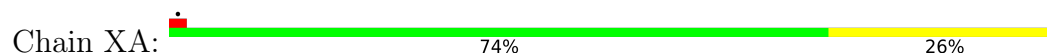
- Molecule 9: 60S ribosomal protein L7-A

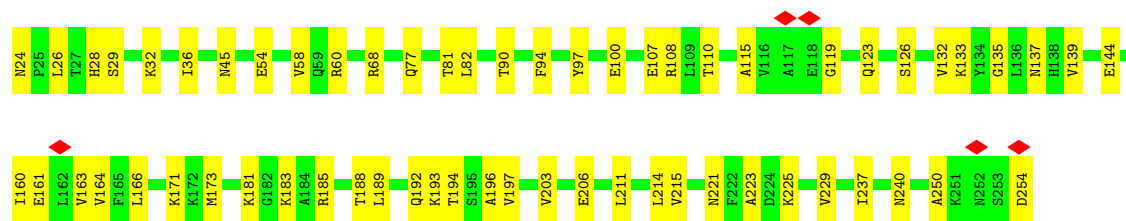


- Molecule 10: 60S ribosomal protein L8-A



- Molecule 10: 60S ribosomal protein L8-A

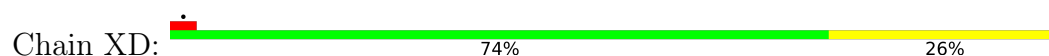




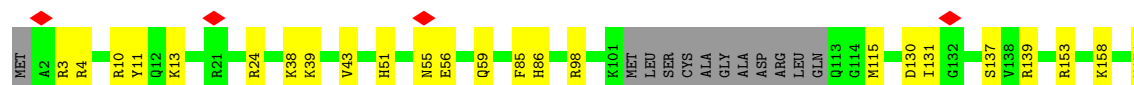
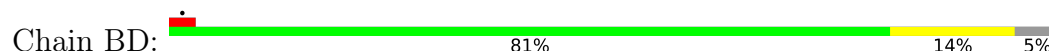
• Molecule 11: 60S ribosomal protein L9-A



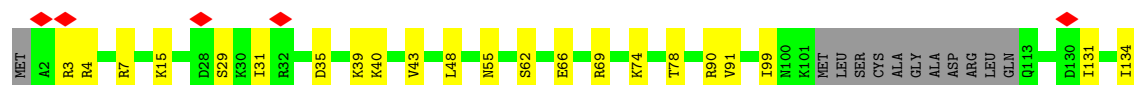
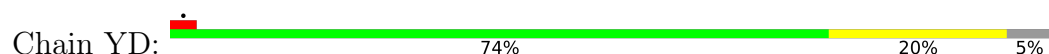
• Molecule 11: 60S ribosomal protein L9-A



• Molecule 12: 60S ribosomal protein L10

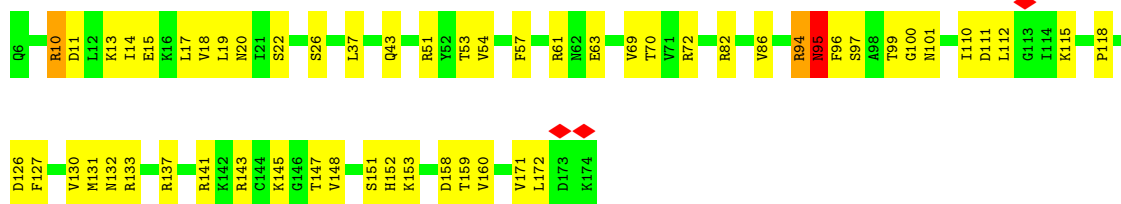


• Molecule 12: 60S ribosomal protein L10



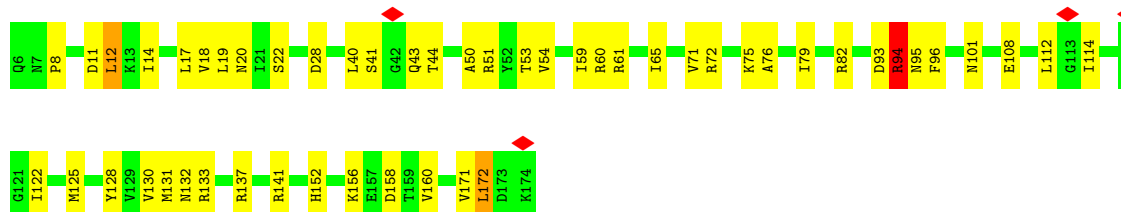
• Molecule 13: 60S ribosomal protein L11-B

Chain AG:  67% 31% ..



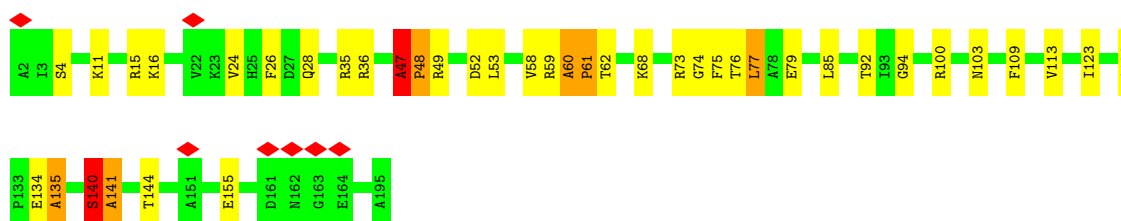
- Molecule 13: 60S ribosomal protein L11-B

Chain XG:  70% 28% ..



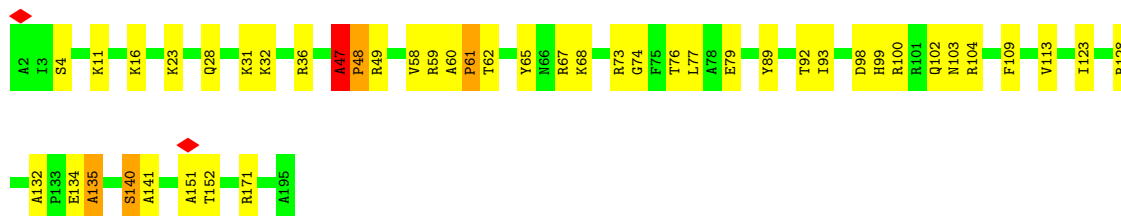
- Molecule 14: 60S ribosomal protein L13-A

Chain AJ:  79% 17% ..



- Molecule 14: 60S ribosomal protein L13-A

Chain XJ:  77% 21% ..



- Molecule 15: 60S ribosomal protein L14-A

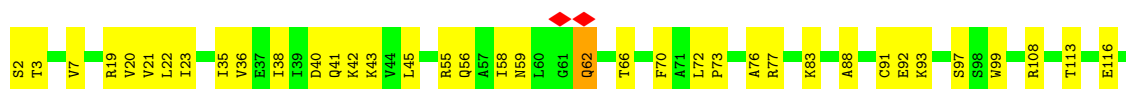
Chain AM:  74% 26%





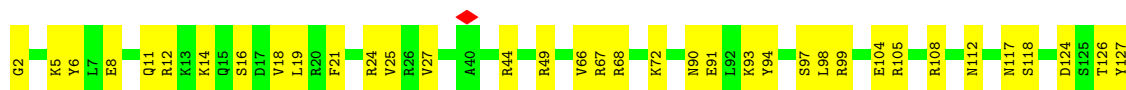
- Molecule 15: 60S ribosomal protein L14-A

Chain XM: 71% 28%



- Molecule 16: 60S ribosomal protein L15-A

Chain AQ: 71% 28%



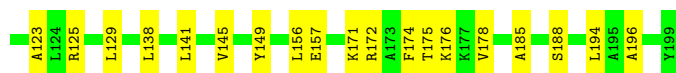
- Molecule 16: 60S ribosomal protein L15-A

Chain XQ: 74% 25%



- Molecule 17: 60S ribosomal protein L16-A

Chain AU: 75% 25%

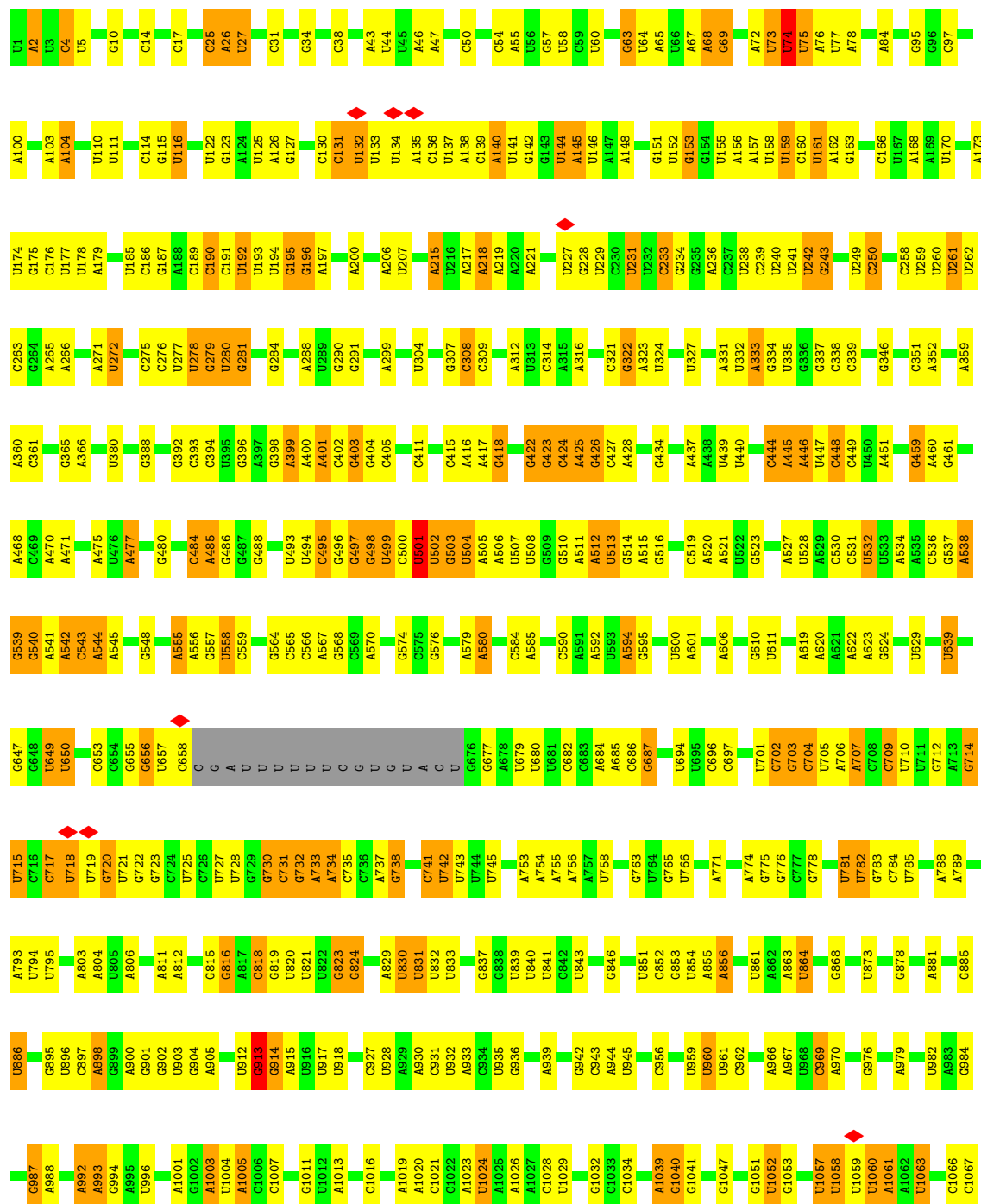


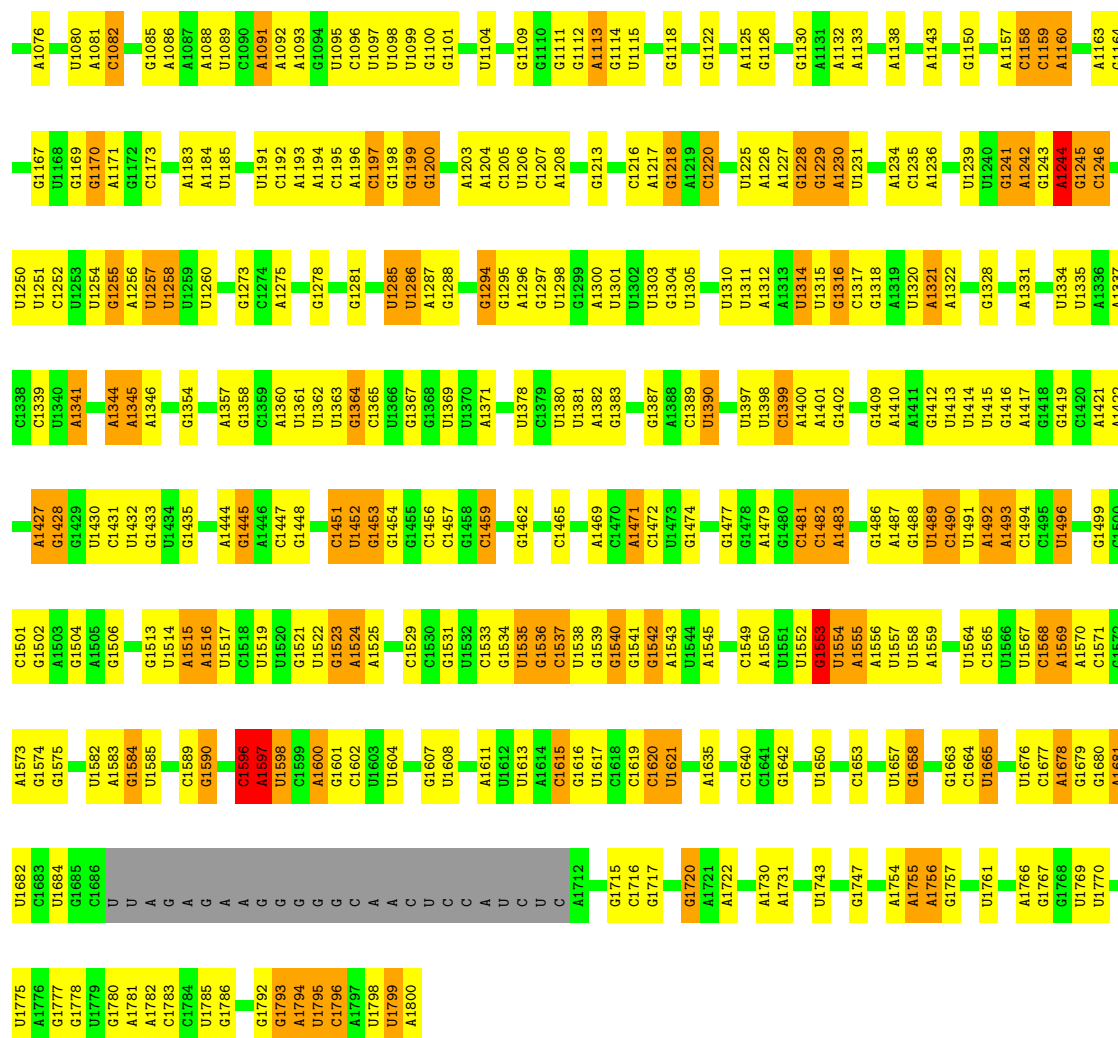
- Molecule 17: 60S ribosomal protein L16-A

Chain XU: 78% 22%

- Molecule 18: 18S ribosomal RNA

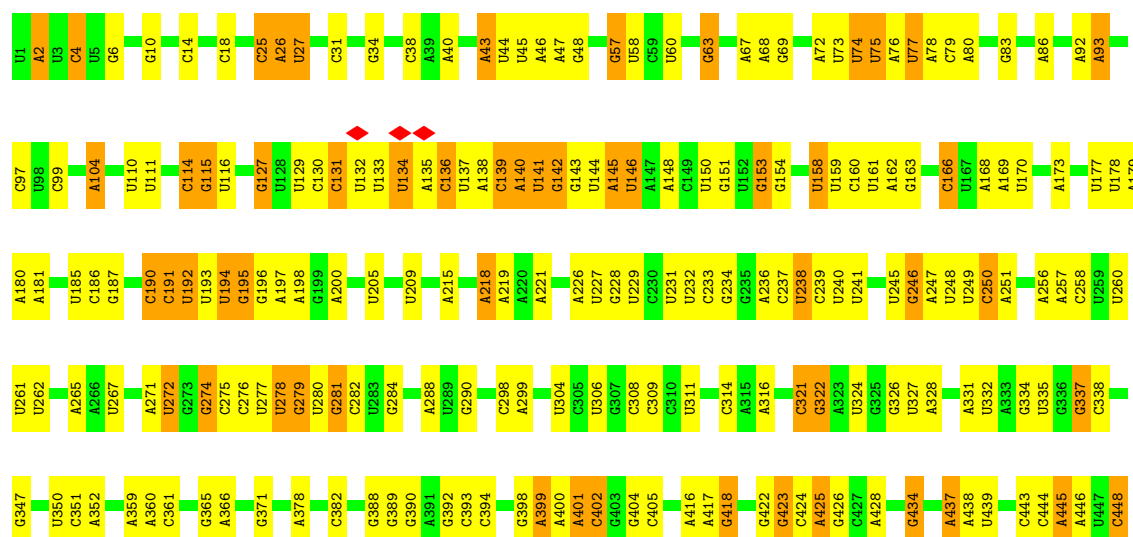
Chain 2: 51% 34% 12%





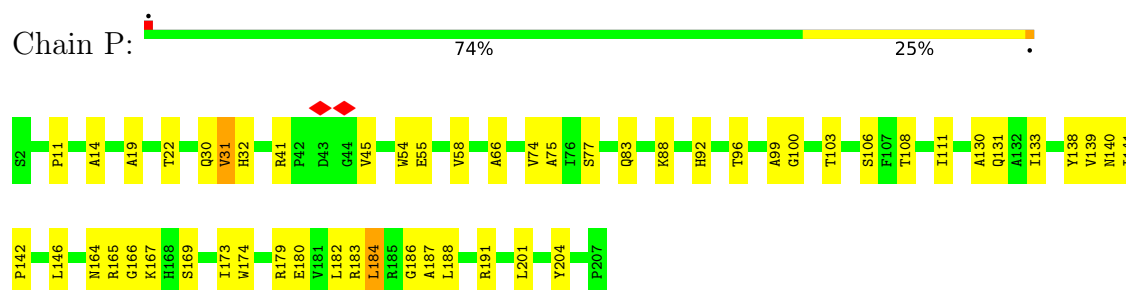
• Molecule 18: 18S ribosomal RNA

Chain 2b: 52% 34% 11%

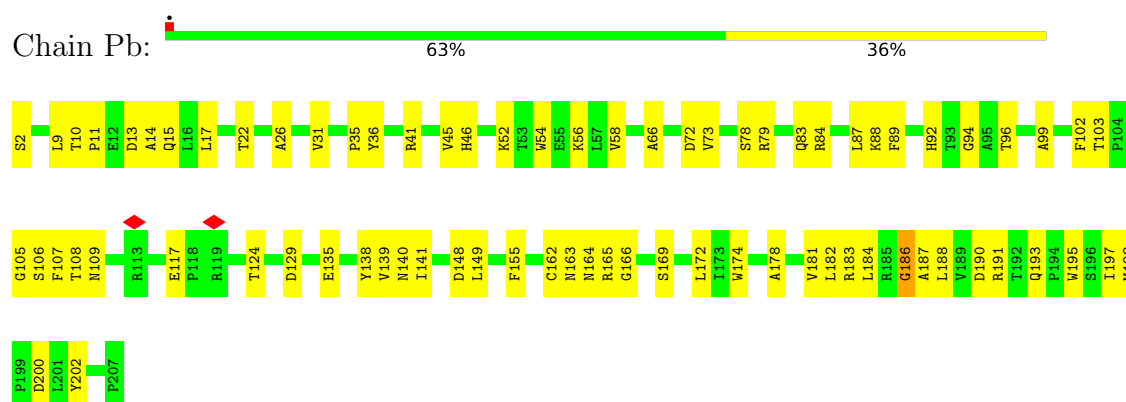


WORLDWIDE
PDB
PROTEIN DATA BANK

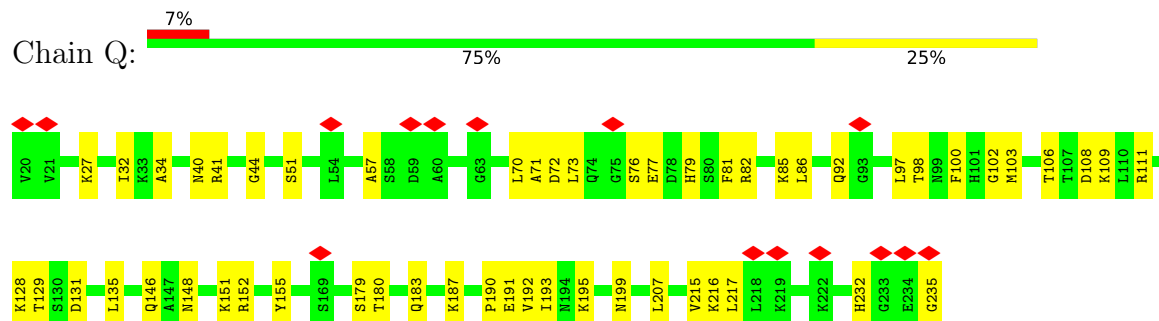
- Molecule 19: 40S ribosomal protein S0-A



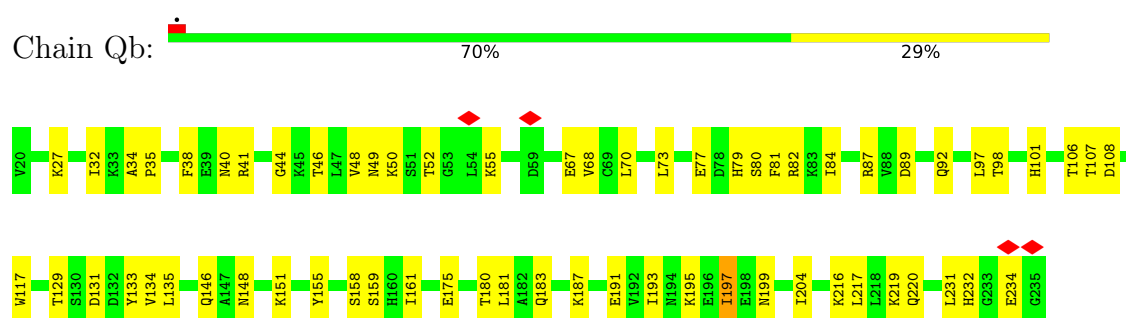
- Molecule 19: 40S ribosomal protein S0-A



- Molecule 20: 40S ribosomal protein S1-A

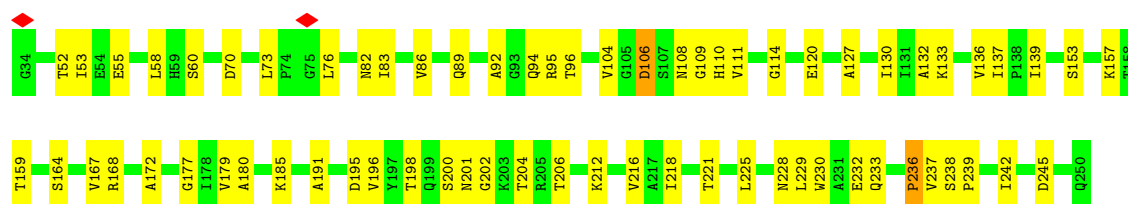


- Molecule 20: 40S ribosomal protein S1-A

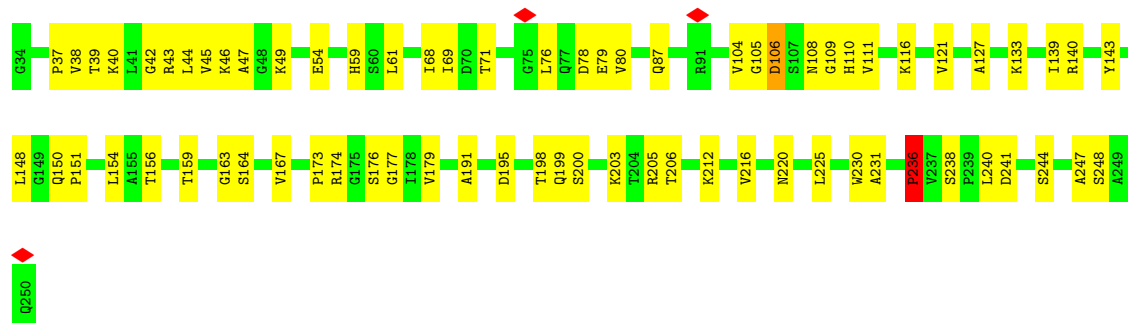


- Molecule 21: 40S ribosomal protein S2

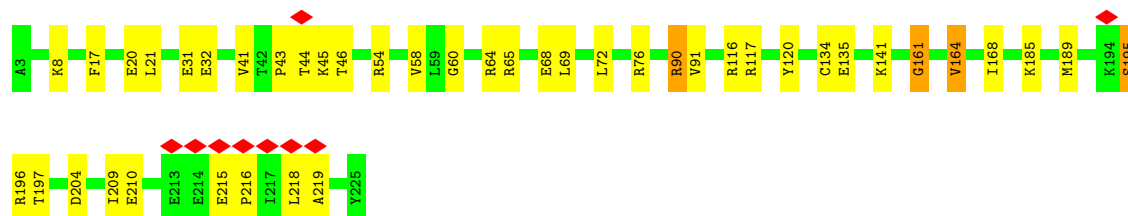
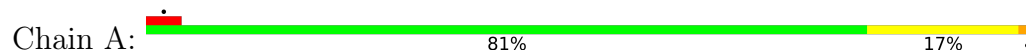




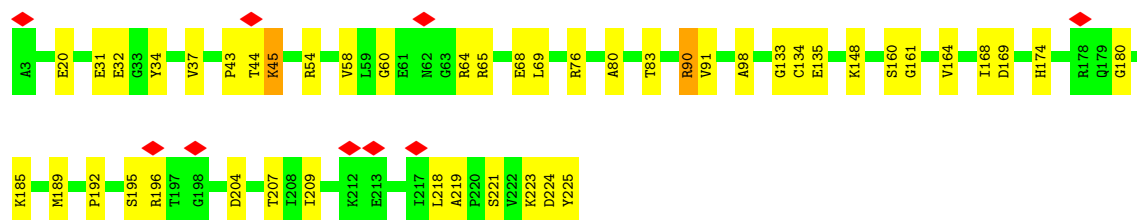
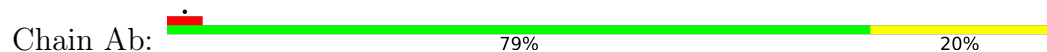
- Molecule 21: 40S ribosomal protein S2



- Molecule 22: 40S ribosomal protein S3

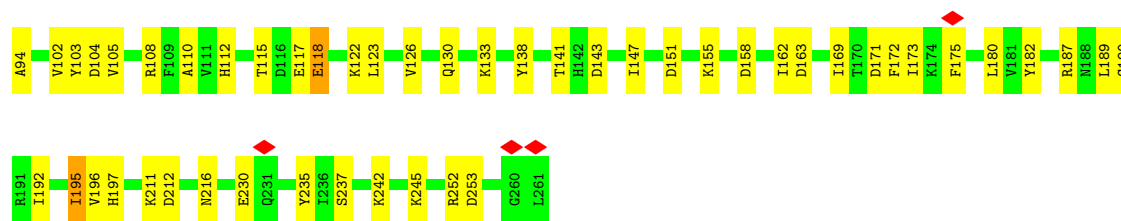


- Molecule 22: 40S ribosomal protein S3

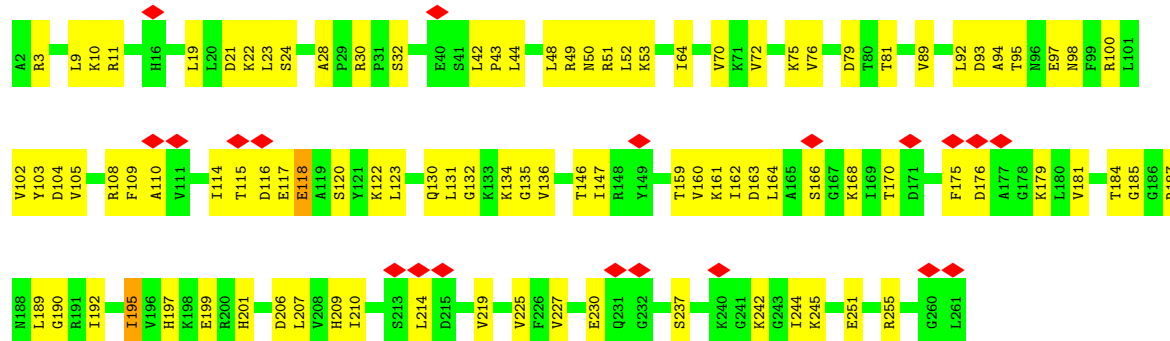


- Molecule 23: 40S ribosomal protein S4-A

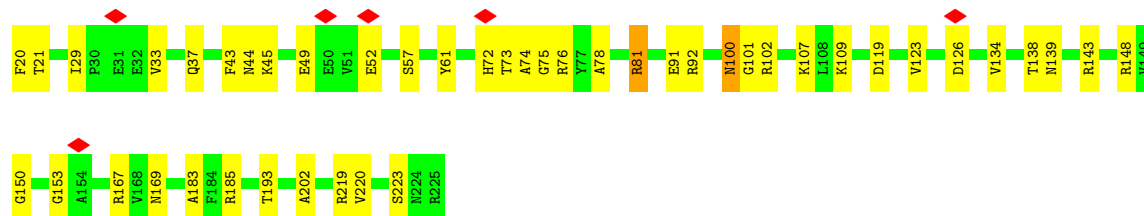
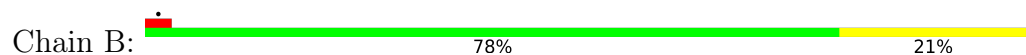




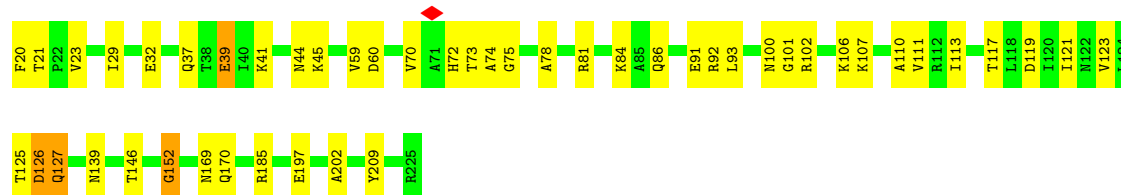
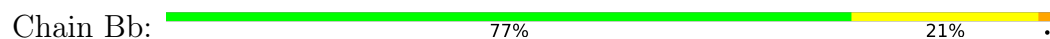
• Molecule 23: 40S ribosomal protein S4-A



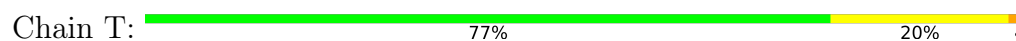
• Molecule 24: 40S ribosomal protein S5

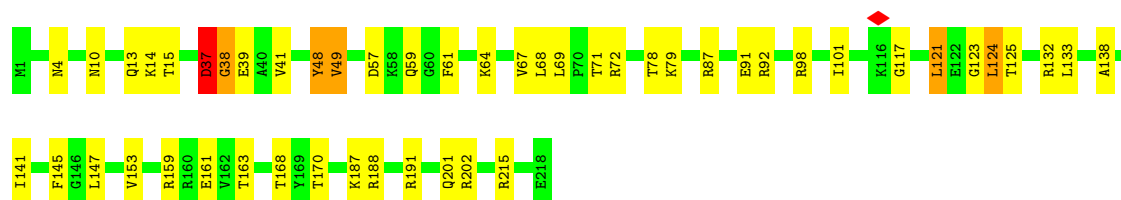


• Molecule 24: 40S ribosomal protein S5

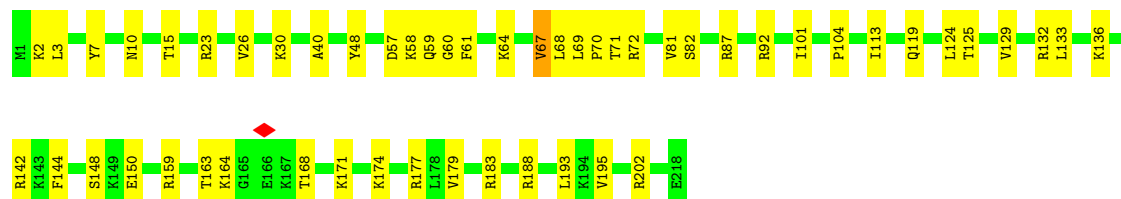
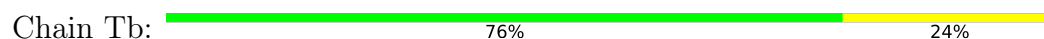


• Molecule 25: 40S ribosomal protein S6-A

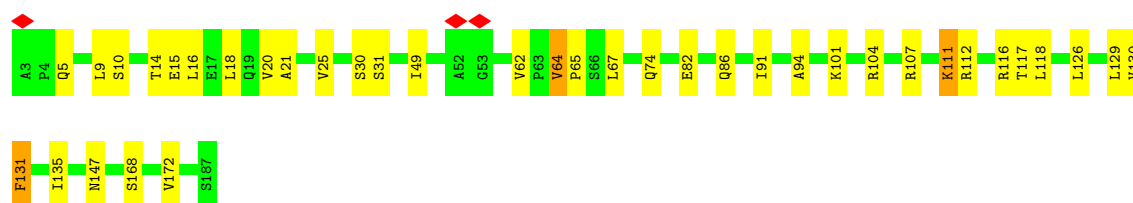
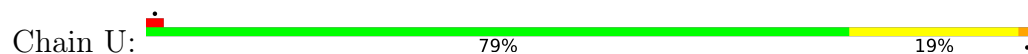




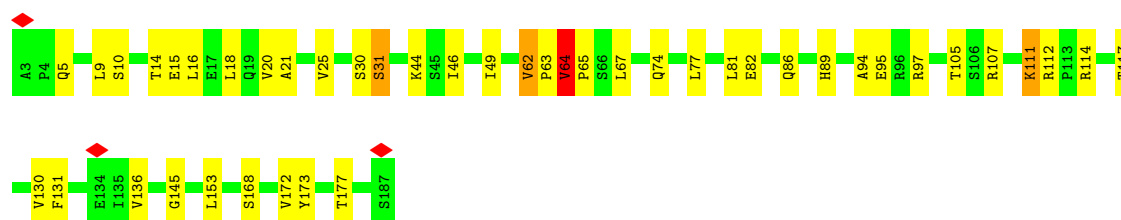
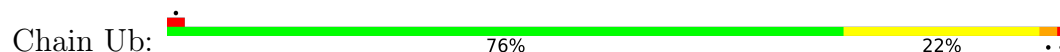
• Molecule 25: 40S ribosomal protein S6-A



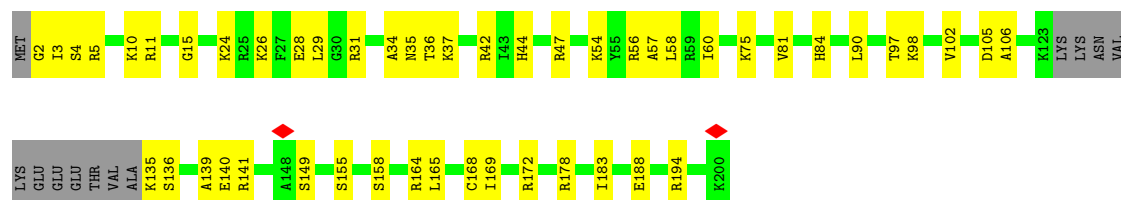
• Molecule 26: 40S ribosomal protein S7-A



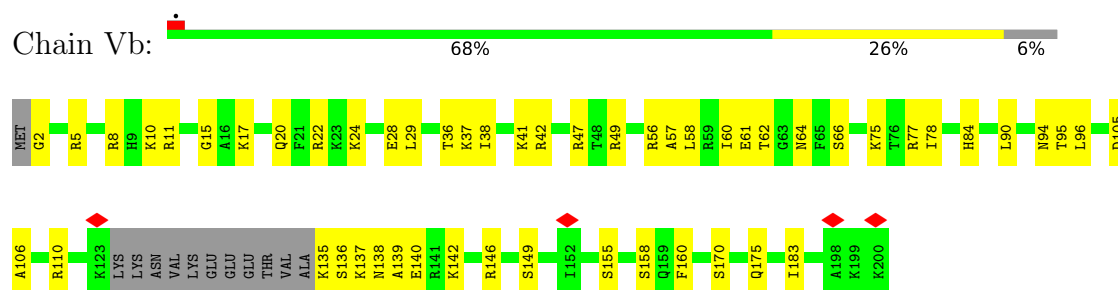
• Molecule 26: 40S ribosomal protein S7-A



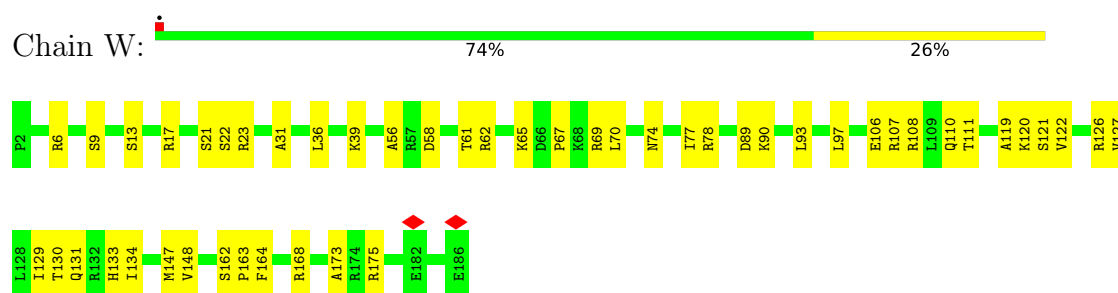
• Molecule 27: 40S ribosomal protein S8-A



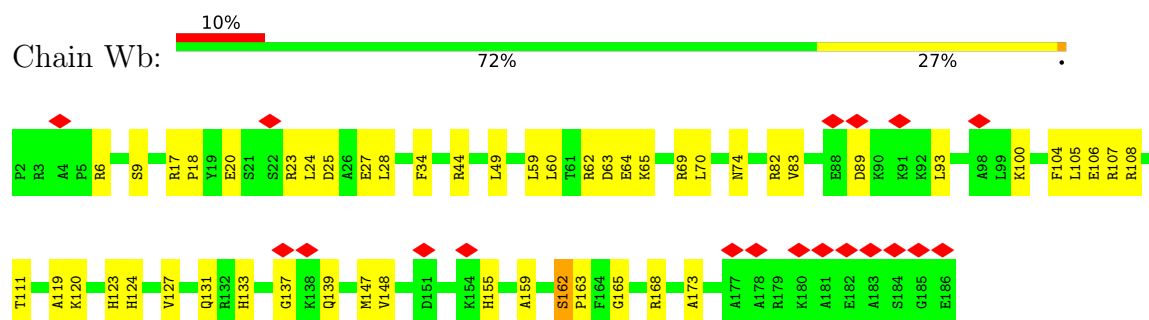
- Molecule 27: 40S ribosomal protein S8-A



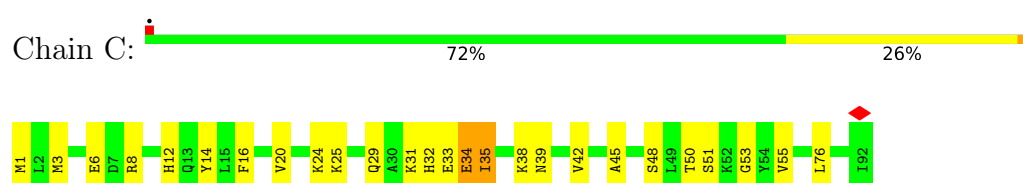
- Molecule 28: 40S ribosomal protein S9-A



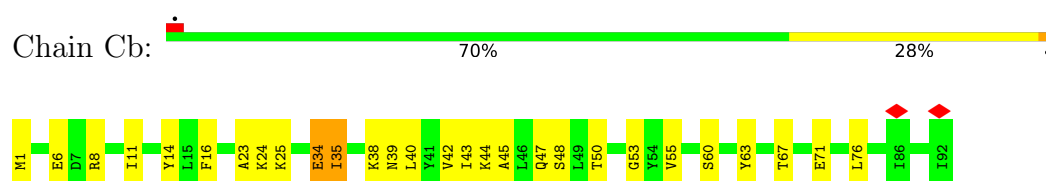
- Molecule 28: 40S ribosomal protein S9-A



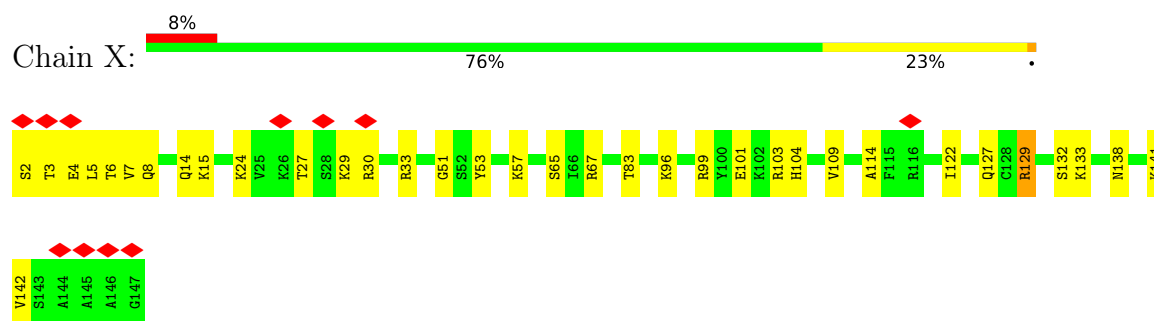
- Molecule 29: 40S ribosomal protein S10-A



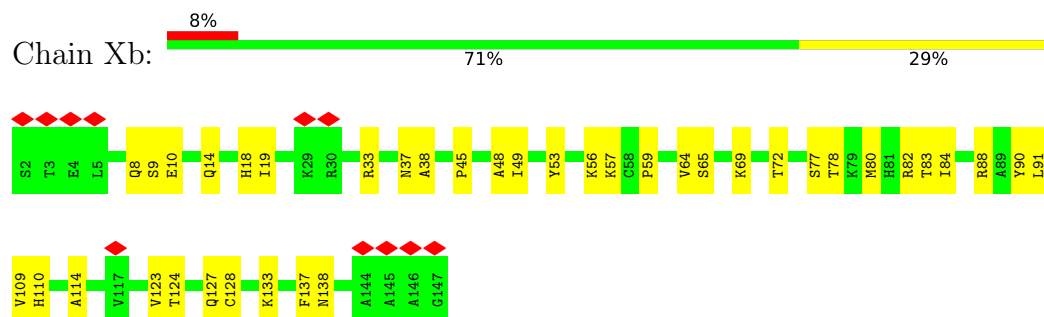
- Molecule 29: 40S ribosomal protein S10-A



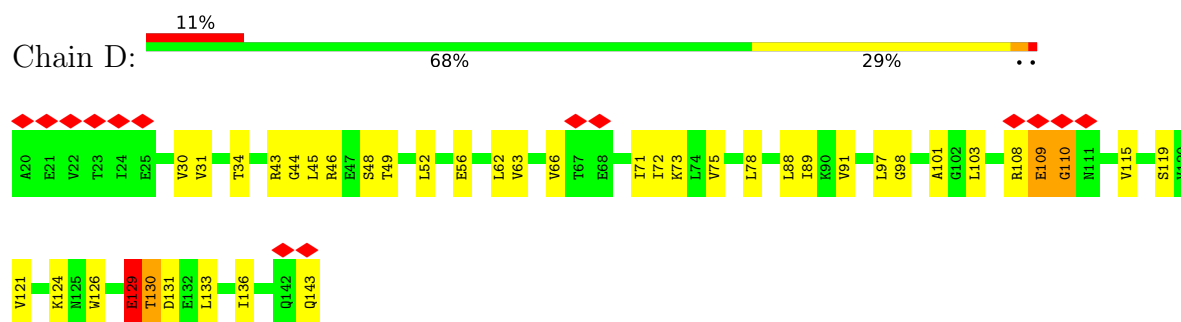
- Molecule 30: 40S ribosomal protein S11-A



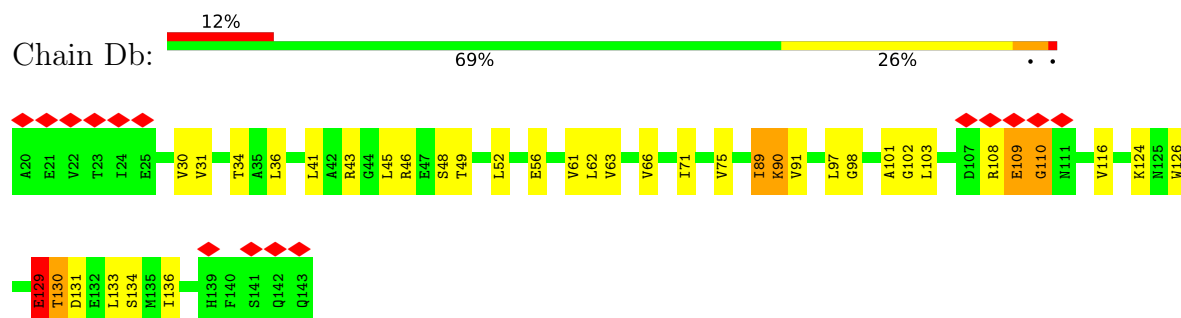
- Molecule 30: 40S ribosomal protein S11-A



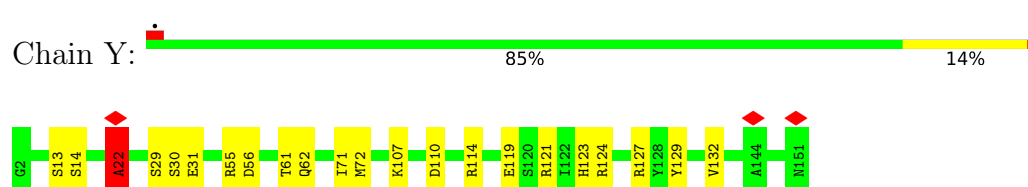
- Molecule 31: 40S ribosomal protein S12



- Molecule 31: 40S ribosomal protein S12

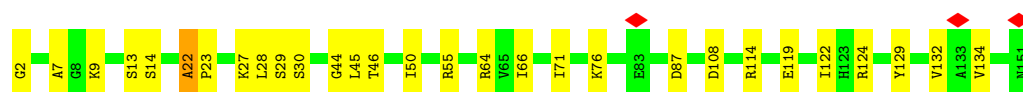


- Molecule 32: 40S ribosomal protein S13



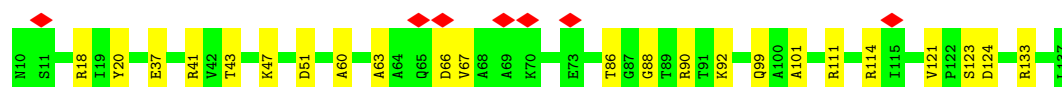
- Molecule 32: 40S ribosomal protein S13

Chain Yb:  81% 19%



- Molecule 33: 40S ribosomal protein S14-B

Chain Z:  5% 82% 18%



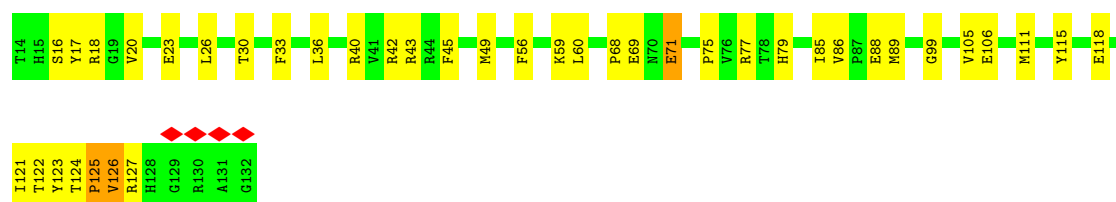
- Molecule 33: 40S ribosomal protein S14-B

Chain Zb:  77% 23%



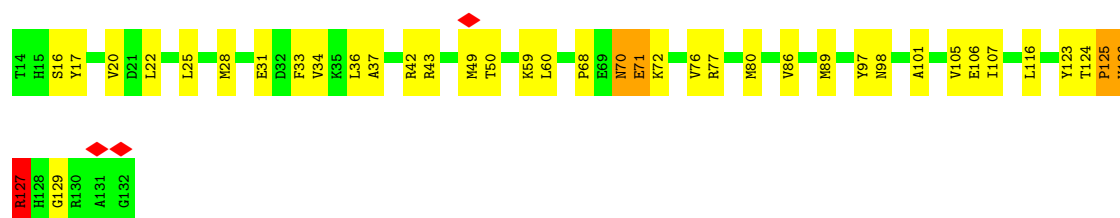
- Molecule 34: 40S ribosomal protein S15

Chain E:  66% 31%



- Molecule 34: 40S ribosomal protein S15

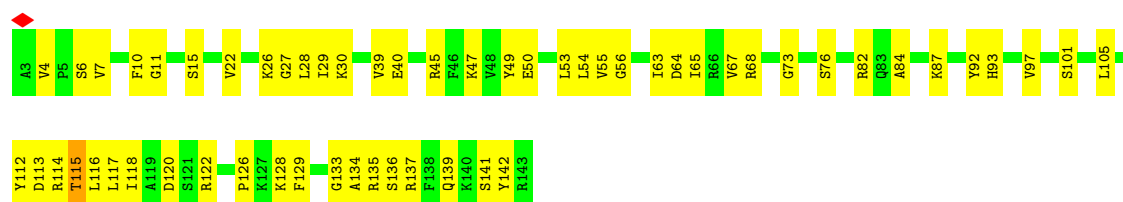
Chain Eb:  67% 29%



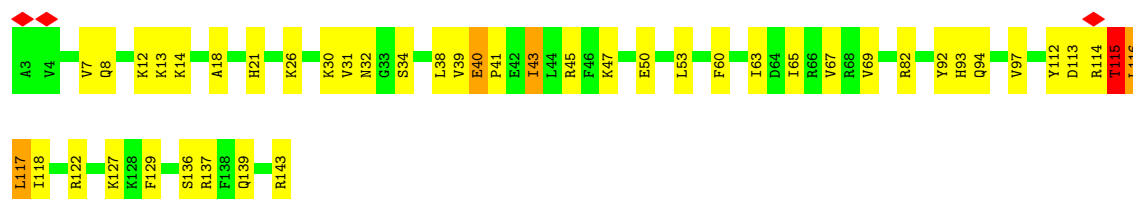
- Molecule 35: 40S ribosomal protein S16-A

Chain F:  60% 40%

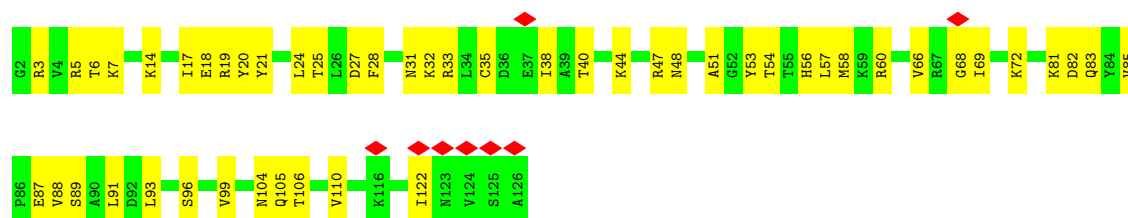




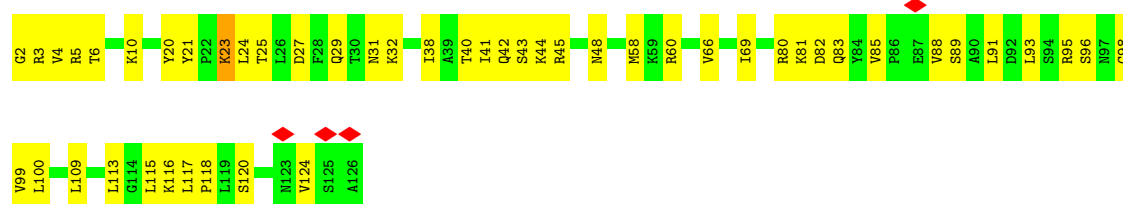
• Molecule 35: 40S ribosomal protein S16-A



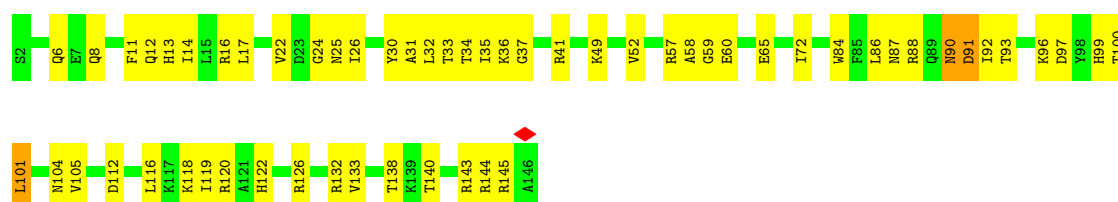
• Molecule 36: 40S ribosomal protein S17-A



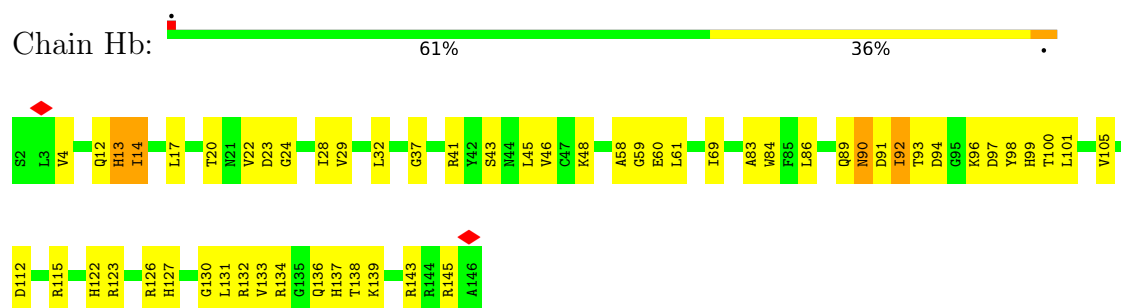
• Molecule 36: 40S ribosomal protein S17-A



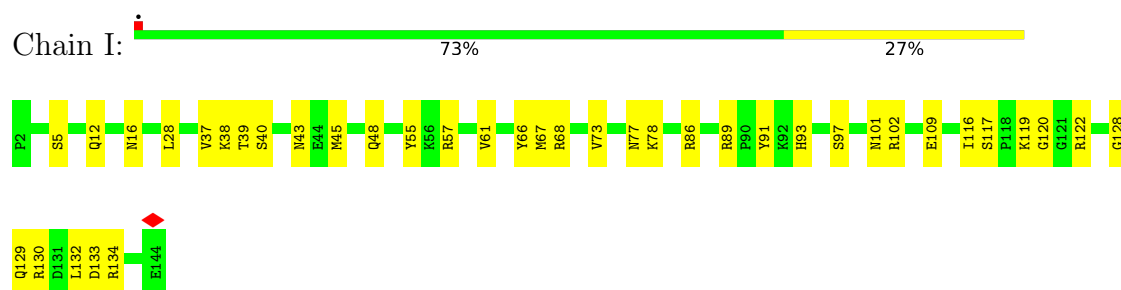
• Molecule 37: 40S ribosomal protein S18-A



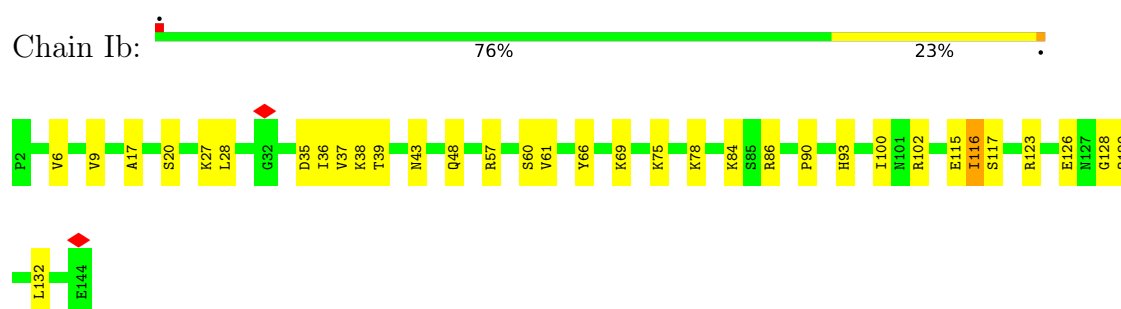
- Molecule 37: 40S ribosomal protein S18-A



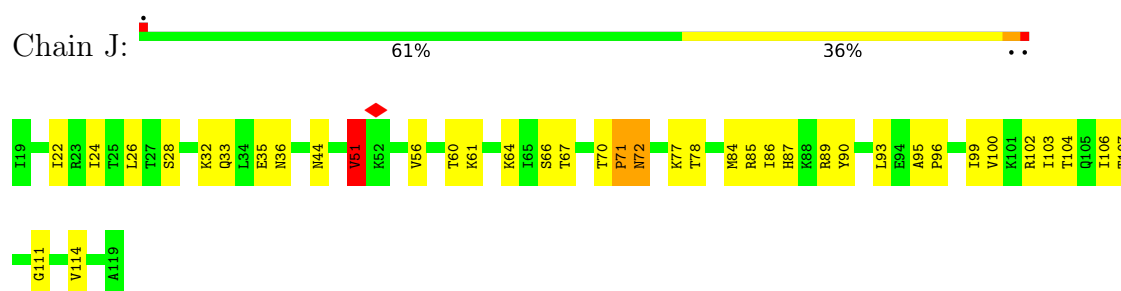
- Molecule 38: 40S ribosomal protein S19-A



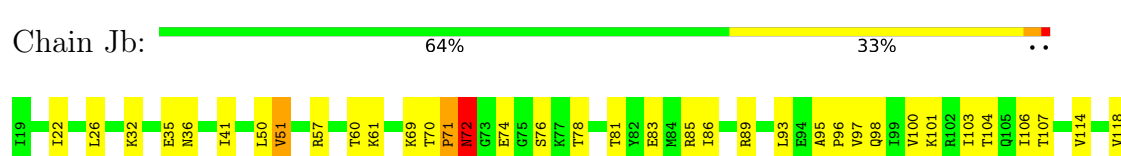
- Molecule 38: 40S ribosomal protein S19-A



- Molecule 39: 40S ribosomal protein S20



- Molecule 39: 40S ribosomal protein S20



A119

- Molecule 40: 40S ribosomal protein S21-A

Chain a:  74% 26%



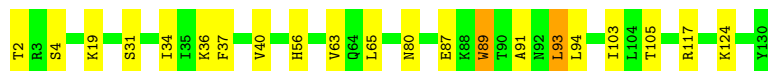
- Molecule 40: 40S ribosomal protein S21-A

Chain ab:  5% 72% 25%



- Molecule 41: 40S ribosomal protein S22-A

Chain b:  84% 15%



- Molecule 41: 40S ribosomal protein S22-A

Chain bb:  88% 11%



- Molecule 42: 40S ribosomal protein S23-A

Chain c:  80% 19%



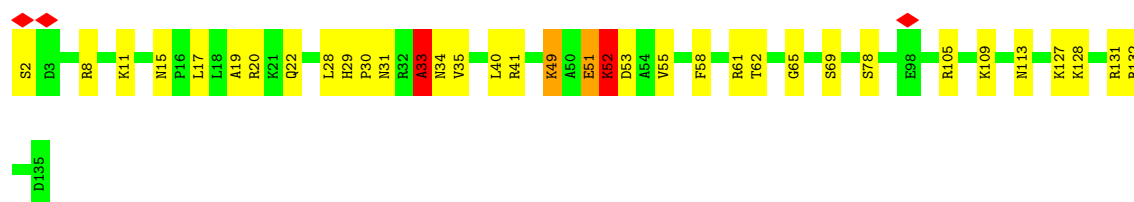
- Molecule 42: 40S ribosomal protein S23-A

Chain cb:  5% 83% 17%

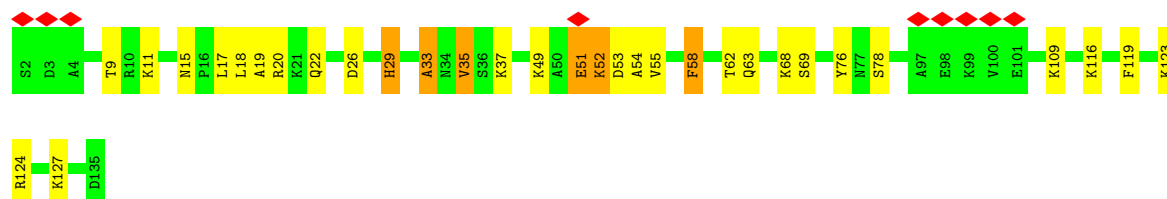
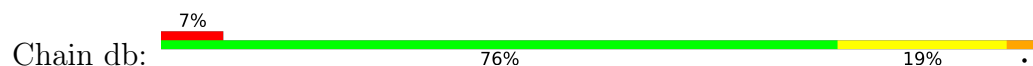


- Molecule 43: 40S ribosomal protein S24-A

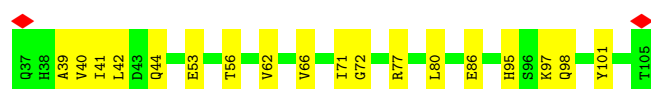
Chain d:  74% 23%



- Molecule 43: 40S ribosomal protein S24-A



- Molecule 44: 40S ribosomal protein S25-A



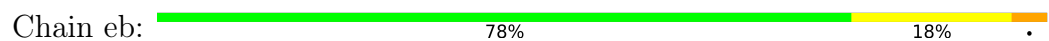
- Molecule 44: 40S ribosomal protein S25-A



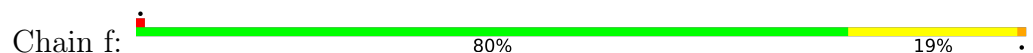
- Molecule 45: 40S ribosomal protein S26-B

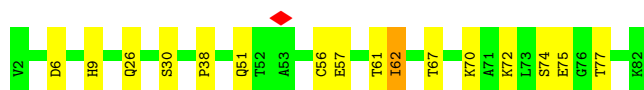


- Molecule 45: 40S ribosomal protein S26-B



- Molecule 46: 40S ribosomal protein S27-A





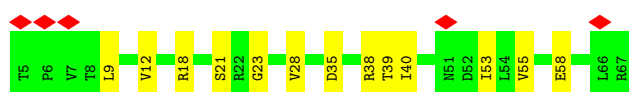
- Molecule 46: 40S ribosomal protein S27-A

Chain fb: 78% 21%



- Molecule 47: 40S ribosomal protein S28-A

Chain L: 8% 79% 21%



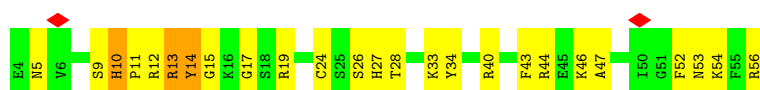
- Molecule 47: 40S ribosomal protein S28-A

Chain Lb: 8% 75% 25%



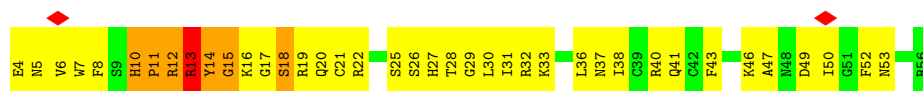
- Molecule 48: 40S ribosomal protein S29-A

Chain M: 8% 53% 42% 6%



- Molecule 48: 40S ribosomal protein S29-A

Chain Mb: 8% 26% 60% 11%

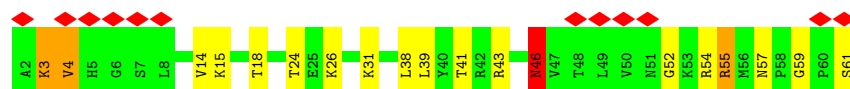


- Molecule 49: 40S ribosomal protein S30-A

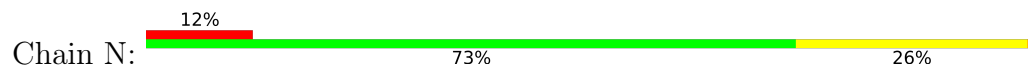
Chain g: 8% 70% 30%



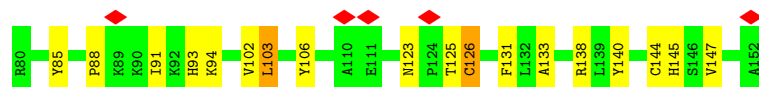
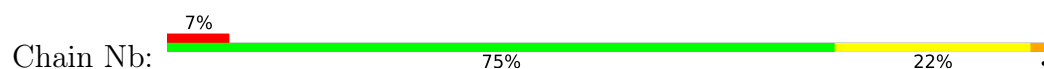
- Molecule 49: 40S ribosomal protein S30-A



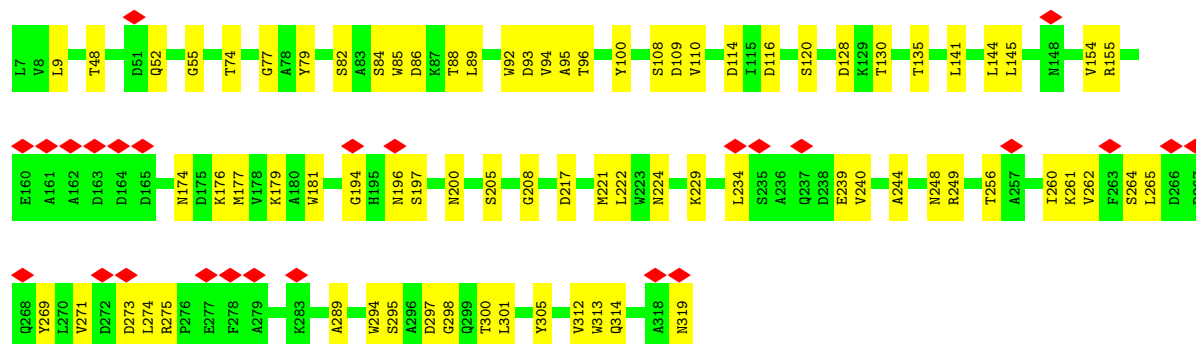
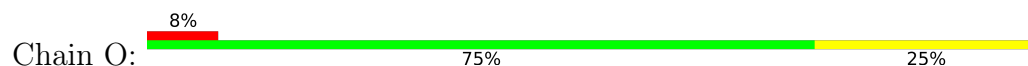
- Molecule 50: Ubiquitin-40S ribosomal protein S31



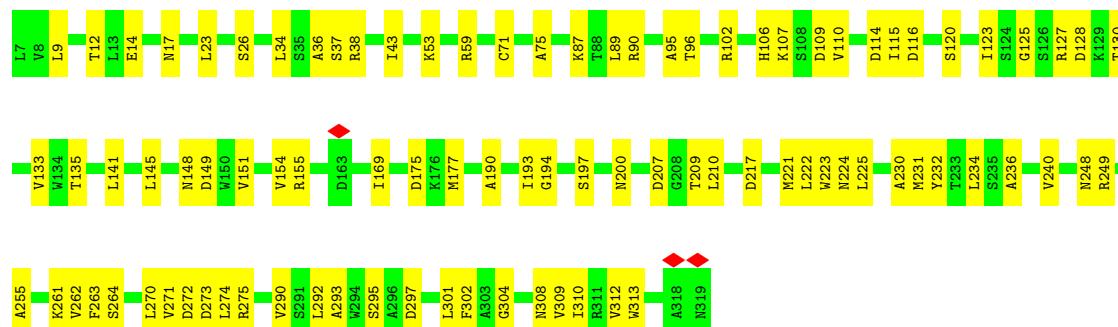
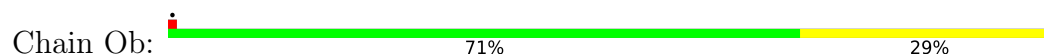
- Molecule 50: Ubiquitin-40S ribosomal protein S31



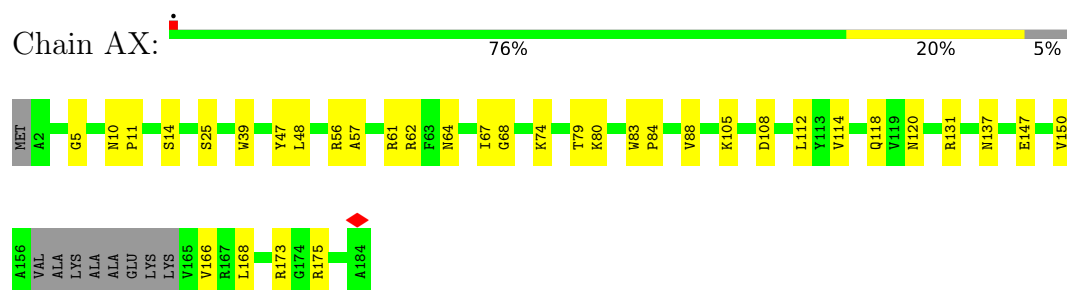
- Molecule 51: Guanine nucleotide-binding protein subunit beta-like protein



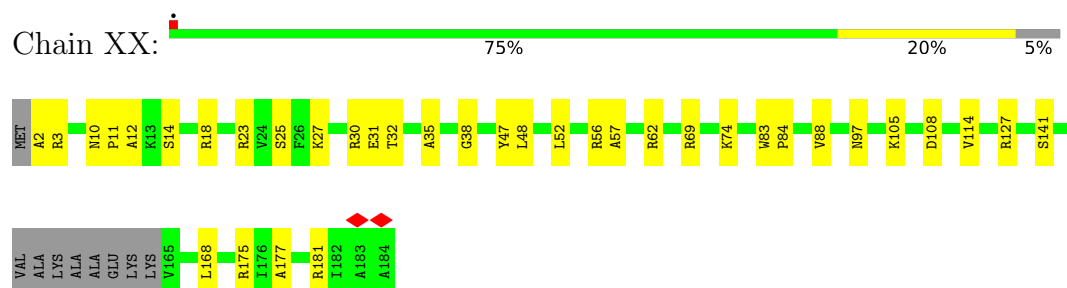
- Molecule 51: Guanine nucleotide-binding protein subunit beta-like protein



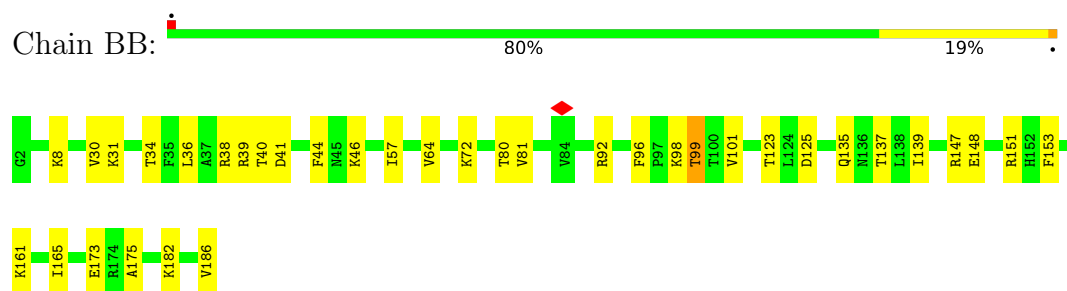
• Molecule 52: 60S ribosomal protein L17-A



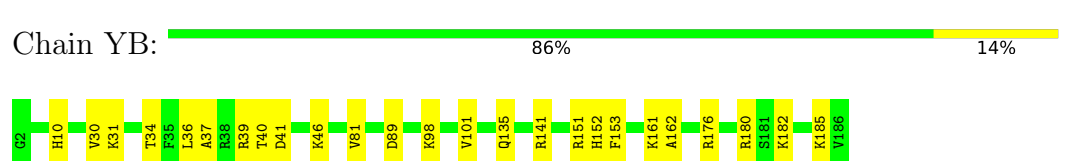
• Molecule 52: 60S ribosomal protein L17-A



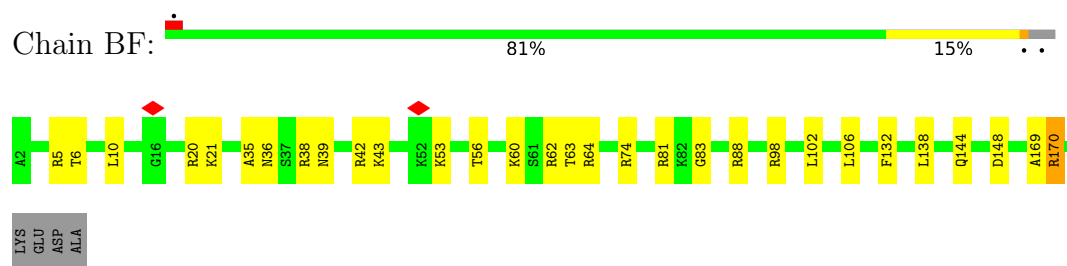
• Molecule 53: 60S ribosomal protein L18-A



• Molecule 53: 60S ribosomal protein L18-A



• Molecule 54: 60S ribosomal protein L19-A



• Molecule 54: 60S ribosomal protein L19-A

Chain YF:  84% 16%



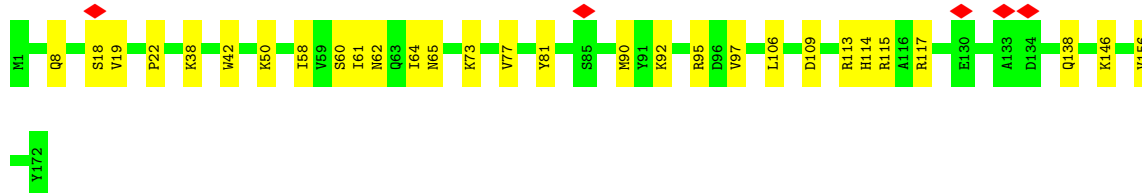
- Molecule 55: 60S ribosomal protein L20-A

Chain BH:  85% 15%



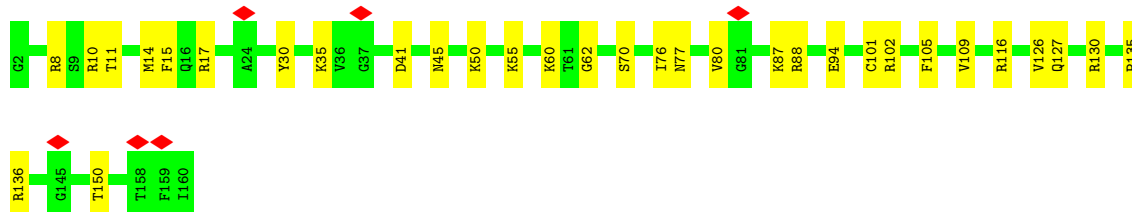
- Molecule 55: 60S ribosomal protein L20-A

Chain YH:  83% 17%



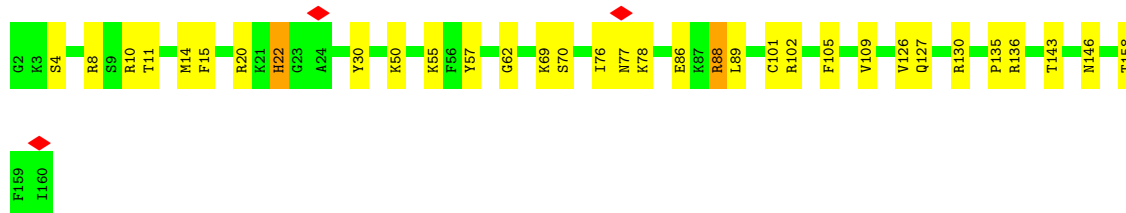
- Molecule 56: 60S ribosomal protein L21-A

Chain BJ:  80% 20%



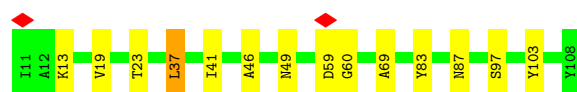
- Molecule 56: 60S ribosomal protein L21-A

Chain YJ:  79% 19%

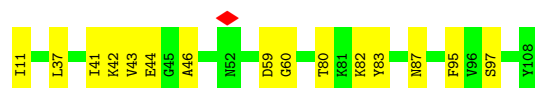
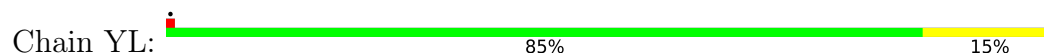


- Molecule 57: 60S ribosomal protein L22-A

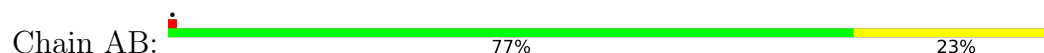
Chain BL:  86% 13%



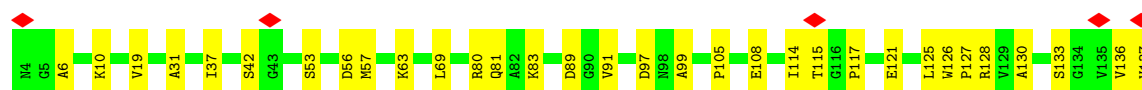
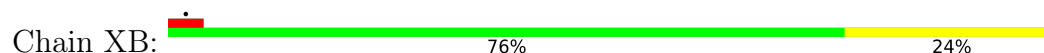
- Molecule 57: 60S ribosomal protein L22-A



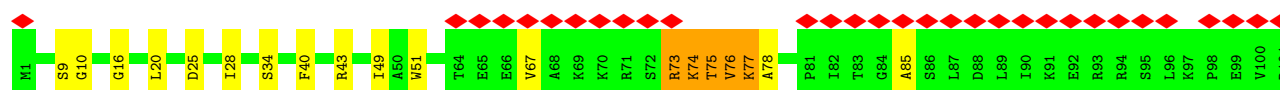
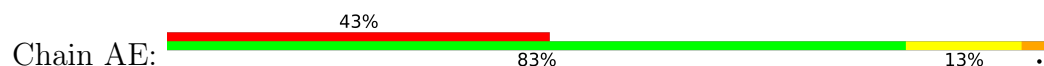
- Molecule 58: 60S ribosomal protein L23-A



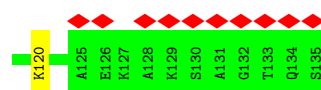
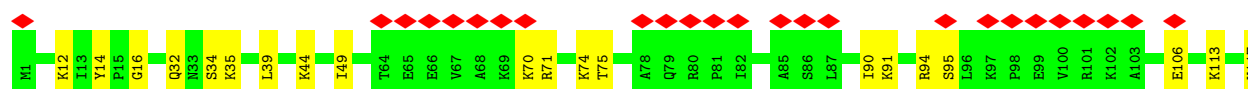
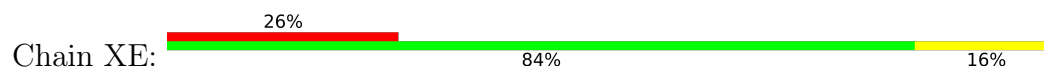
- Molecule 58: 60S ribosomal protein L23-A



- Molecule 59: 60S ribosomal protein L24-A

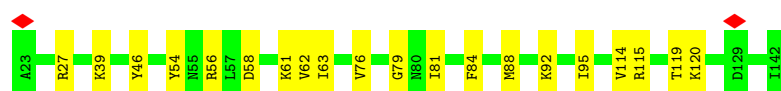


- Molecule 59: 60S ribosomal protein L24-A



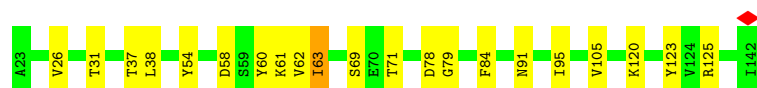
- Molecule 60: 60S ribosomal protein L25

Chain AH:  83% 17%



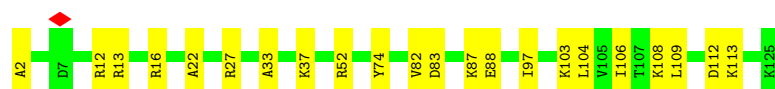
- Molecule 60: 60S ribosomal protein L25

Chain XH:  82% 17%



- Molecule 61: 60S ribosomal protein L26-A

Chain AK:  82% 18%



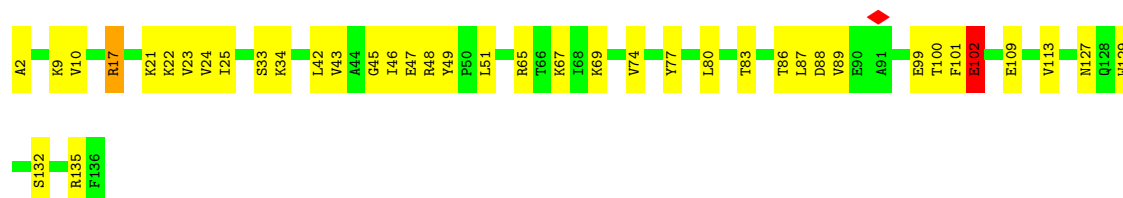
- Molecule 61: 60S ribosomal protein L26-A

Chain XK:  77% 23%



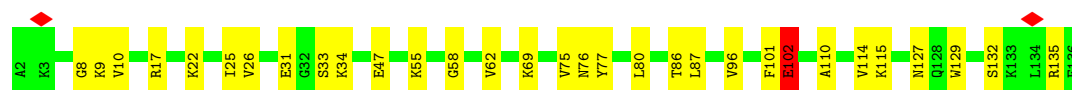
- Molecule 62: 60S ribosomal protein L27-A

Chain AN:  70% 28%



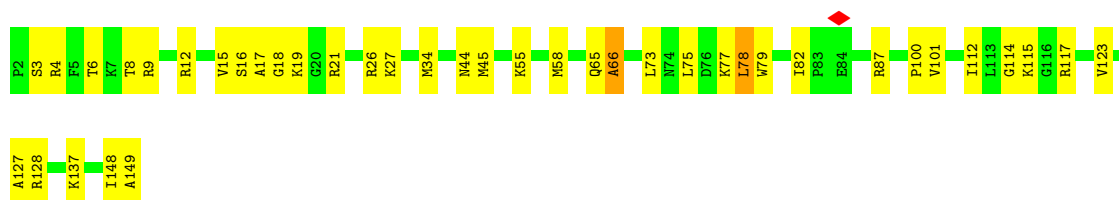
- Molecule 62: 60S ribosomal protein L27-A

Chain XN:  77% 22%



- Molecule 63: 60S ribosomal protein L28

Chain AR:  73% 26%



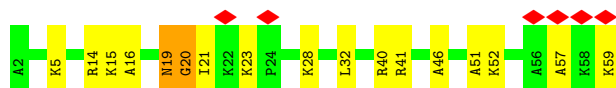
- Molecule 63: 60S ribosomal protein L28

Chain XR: 81% 18% .



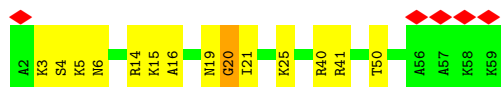
- Molecule 64: 60S ribosomal protein L29

Chain AV: 10% 71% 26% .



- Molecule 64: 60S ribosomal protein L29

Chain XV: 9% 76% 22% .



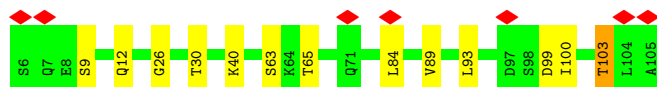
- Molecule 65: 60S ribosomal protein L30

Chain AY: 6% 91% 9% .



- Molecule 65: 60S ribosomal protein L30

Chain XY: 7% 87% 12% .

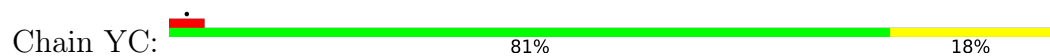


- Molecule 66: 60S ribosomal protein L31-A

Chain BC: 89% 11% .



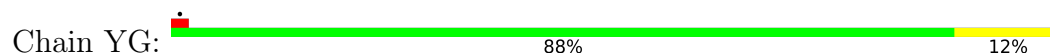
- Molecule 66: 60S ribosomal protein L31-A



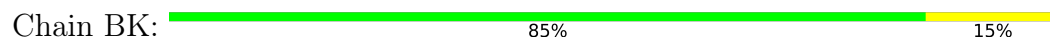
- Molecule 67: 60S ribosomal protein L32



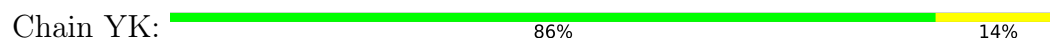
- Molecule 67: 60S ribosomal protein L32



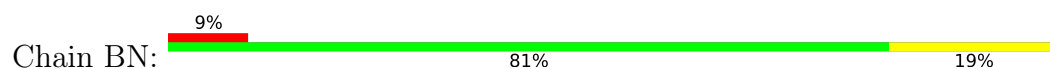
- Molecule 68: 60S ribosomal protein L33-A



- Molecule 68: 60S ribosomal protein L33-A



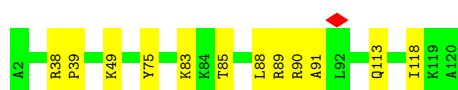
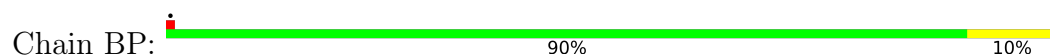
- Molecule 69: 60S ribosomal protein L34-A



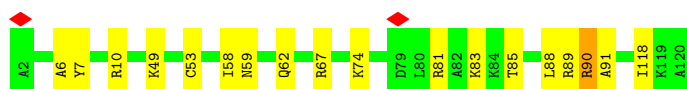
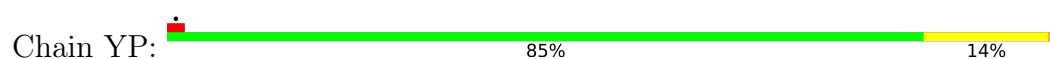
- Molecule 69: 60S ribosomal protein L34-A



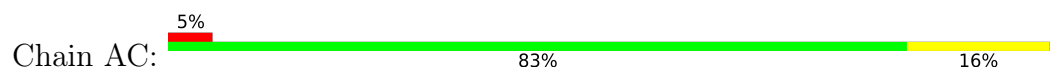
- Molecule 70: 60S ribosomal protein L35-A



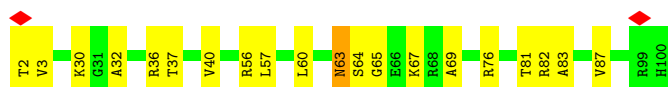
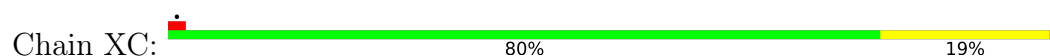
- Molecule 70: 60S ribosomal protein L35-A



- Molecule 71: 60S ribosomal protein L36-A



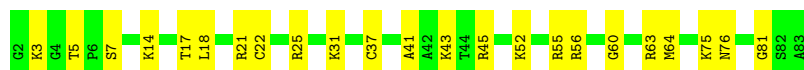
- Molecule 71: 60S ribosomal protein L36-A



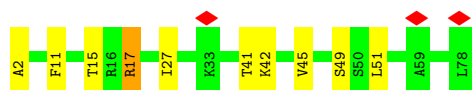
- Molecule 72: 60S ribosomal protein L37-A



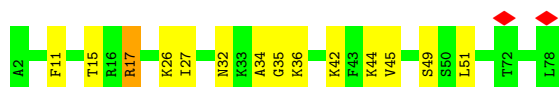
- Molecule 72: 60S ribosomal protein L37-A



• Molecule 73: 60S ribosomal protein L38

Chain AI:  87% 12%

• Molecule 73: 60S ribosomal protein L38

Chain XI:  82% 17%

• Molecule 74: 60S ribosomal protein L39

Chain AL:  80% 20%

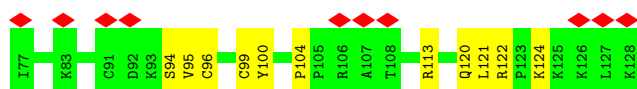
• Molecule 74: 60S ribosomal protein L39

Chain XL:  82% 18%

• Molecule 75: Ubiquitin-60S ribosomal protein L40

Chain AO:  79% 21%

• Molecule 75: Ubiquitin-60S ribosomal protein L40

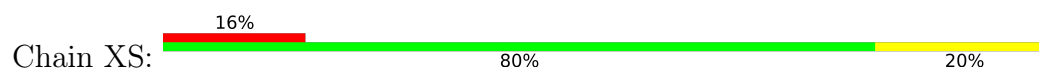
Chain XO:  19% 79% 21%

• Molecule 76: 60S ribosomal protein L41-B

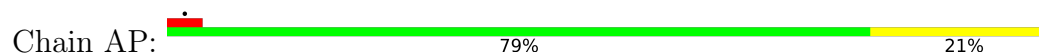
Chain AS:  84% 16%



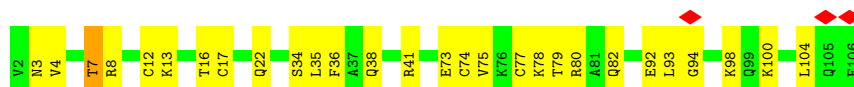
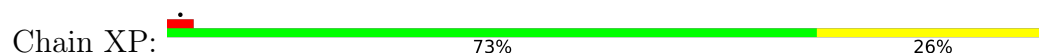
- Molecule 76: 60S ribosomal protein L41-B



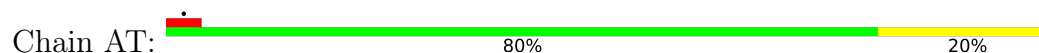
- Molecule 77: 60S ribosomal protein L42-A



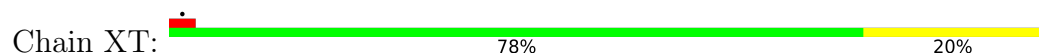
- Molecule 77: 60S ribosomal protein L42-A



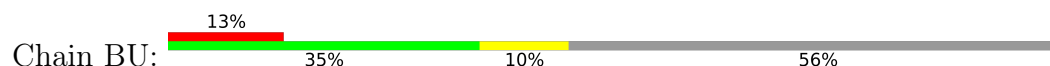
- Molecule 78: 60S ribosomal protein L43-A

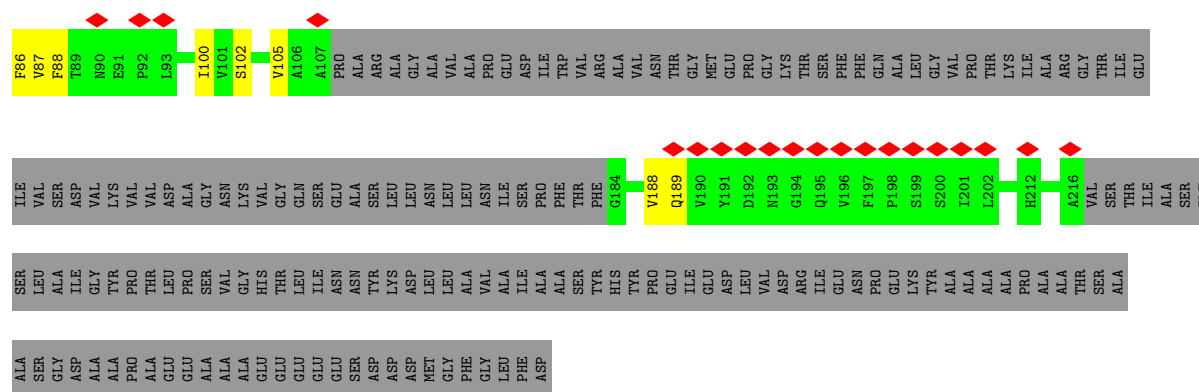


- Molecule 78: 60S ribosomal protein L43-A

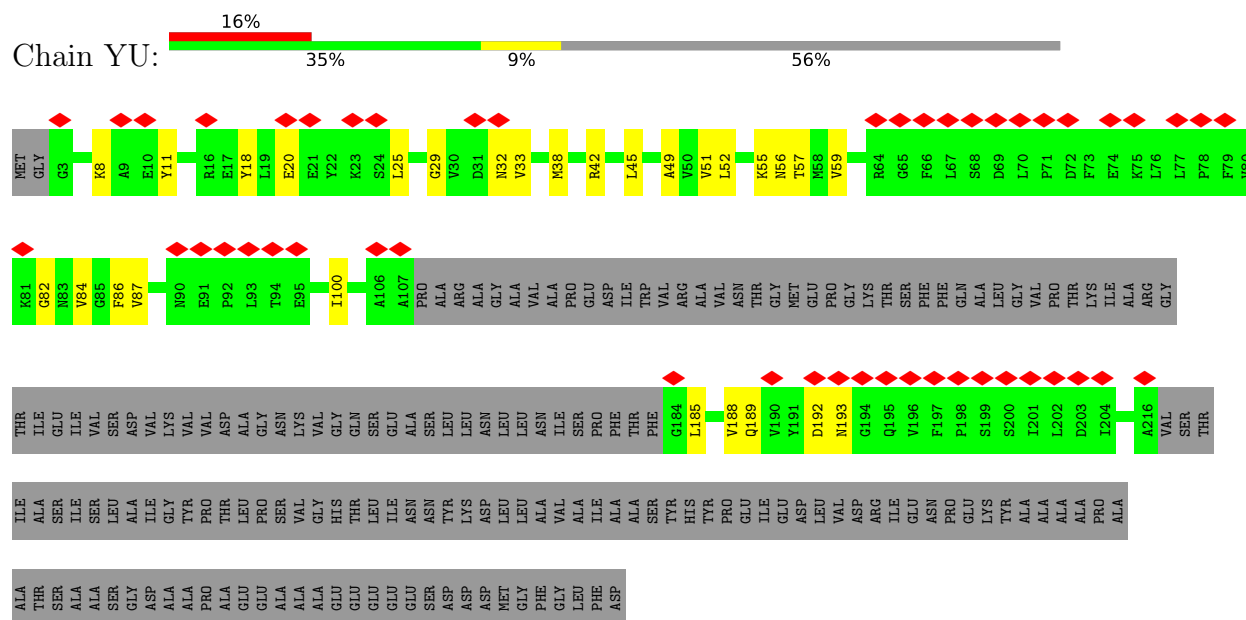


- Molecule 79: 60S acidic ribosomal protein P0

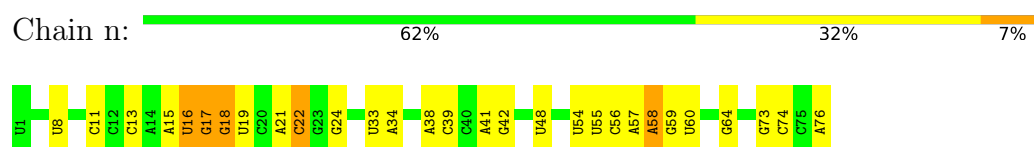




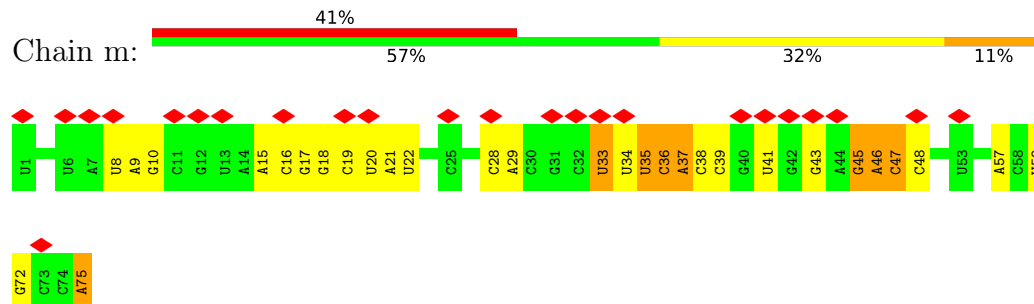
• Molecule 79: 60S acidic ribosomal protein P0



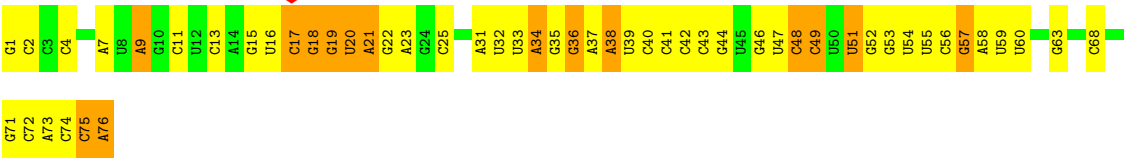
• Molecule 80: P-site tRNA



• Molecule 81: E-site tRNA



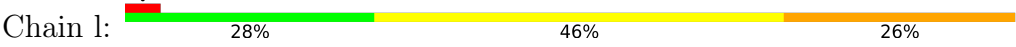
• Molecule 82: A/P hybrid tRNA



• Molecule 83: P/E hybrid tRNA



• Molecule 84: mRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	15739	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 ($e^-/\text{\AA}^2$)	2.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.160	Depositor
Minimum map value	-0.067	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.013	Depositor
Map size (Å)	758.7976, 758.7976, 758.7976	wwPDB
Map dimensions	506, 506, 506	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.4996, 1.4996, 1.4996	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

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	BQ	0.50	0/74873	0.46	0/116727
1	YQ	0.59	0/74873	0.51	3/116727 (0.0%)
2	BR	0.43	0/2883	0.40	0/4491
2	YR	0.50	0/2883	0.43	0/4491
3	BS	0.49	0/3724	0.46	0/5798
3	YS	0.59	0/3724	0.52	1/5798 (0.0%)
4	AW	0.65	0/1946	0.67	0/2614
4	XW	0.81	1/1946 (0.1%)	0.75	0/2614
5	BA	0.60	0/3146	0.76	2/4228 (0.0%)
5	YA	0.70	0/3146	0.84	2/4228 (0.0%)
6	BE	0.63	1/2800 (0.0%)	0.85	5/3790 (0.1%)
6	YE	0.73	0/2800	0.89	2/3790 (0.1%)
7	BI	0.48	0/2408	0.74	2/3248 (0.1%)
7	YI	0.54	0/2408	0.77	0/3248
8	BM	0.48	0/1269	0.85	3/1705 (0.2%)
8	YM	0.52	0/1269	0.85	0/1705
9	BO	0.63	0/1828	0.84	1/2461 (0.0%)
9	YO	0.72	0/1828	0.83	0/2461
10	AA	0.47	0/1795	0.61	0/2429
10	XA	0.53	0/1795	0.68	0/2429
11	AD	0.45	0/1531	0.60	0/2062
11	XD	0.52	0/1531	0.61	0/2062
12	BD	0.51	0/1732	0.73	0/2323
12	YD	0.62	0/1732	0.81	0/2323
13	AG	0.40	0/1374	0.71	0/1842
13	XG	0.46	0/1374	0.73	0/1842
14	AJ	0.56	0/1573	0.74	1/2113 (0.0%)
14	XJ	0.64	0/1573	0.77	1/2113 (0.0%)
15	AM	0.48	0/1074	0.63	0/1446
15	XM	0.50	0/1074	0.62	1/1446 (0.1%)
16	AQ	0.63	0/1757	0.65	0/2354
16	XQ	0.77	0/1757	0.70	0/2354

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	AU	0.61	0/1585	0.57	0/2128
17	XU	0.70	0/1585	0.61	0/2128
18	2	0.68	12/41891 (0.0%)	0.49	9/65273 (0.0%)
18	2b	0.70	6/41891 (0.0%)	0.53	6/65273 (0.0%)
19	P	0.47	0/1623	0.69	1/2222 (0.0%)
19	Pb	0.58	0/1623	0.75	0/2222
20	Q	0.48	0/1748	0.64	1/2352 (0.0%)
20	Qb	0.55	0/1748	0.63	0/2352
21	R	0.54	0/1665	0.62	0/2263
21	Rb	0.68	0/1665	0.68	0/2263
22	A	0.48	0/1759	0.87	2/2368 (0.1%)
22	Ab	0.63	0/1759	0.91	1/2368 (0.0%)
23	S	0.46	0/2109	0.61	0/2839
23	Sb	0.50	0/2109	0.65	0/2839
24	B	0.48	0/1629	0.95	5/2202 (0.2%)
24	Bb	0.55	0/1629	0.99	3/2202 (0.1%)
25	T	0.39	0/1779	0.68	4/2379 (0.2%)
25	Tb	0.39	0/1779	0.62	0/2379
26	U	0.43	0/1511	0.94	4/2036 (0.2%)
26	Ub	0.52	0/1511	0.95	3/2036 (0.1%)
27	V	0.49	0/1514	0.60	0/2021
27	Vb	0.47	0/1514	0.60	0/2021
28	W	0.48	1/1519 (0.1%)	0.62	0/2035
28	Wb	0.55	0/1519	0.69	0/2035
29	C	0.37	0/757	0.63	0/1022
29	Cb	0.44	0/757	0.70	0/1022
30	X	0.57	0/1194	0.64	0/1610
30	Xb	0.57	0/1194	0.64	0/1610
31	D	0.30	0/898	0.75	2/1220 (0.2%)
31	Db	0.34	0/898	0.79	2/1220 (0.2%)
32	Y	0.57	0/1215	0.67	2/1638 (0.1%)
32	Yb	0.61	0/1215	0.69	1/1638 (0.1%)
33	Z	0.46	0/960	0.61	0/1290
33	Zb	0.55	0/960	0.66	0/1290
34	E	0.36	0/959	0.71	0/1288
34	Eb	0.44	0/959	0.73	2/1288 (0.2%)
35	F	0.44	0/1125	0.69	0/1510
35	Fb	0.53	0/1125	0.76	3/1510 (0.2%)
36	G	0.46	0/1011	0.73	0/1355
36	Gb	0.52	0/1011	0.74	1/1355 (0.1%)
37	H	0.35	0/1211	0.66	0/1628
37	Hb	0.46	0/1211	0.71	0/1628
38	I	0.40	0/1130	0.56	0/1517

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	Ib	0.57	1/1130 (0.1%)	0.58	0/1517
39	J	0.43	0/815	0.63	0/1102
39	Jb	0.56	1/815 (0.1%)	0.68	0/1102
40	a	0.50	0/693	0.89	1/935 (0.1%)
40	ab	0.68	0/693	1.01	3/935 (0.3%)
41	b	0.62	0/1038	0.74	0/1395
41	bb	0.71	0/1038	0.77	0/1395
42	c	0.57	0/1139	0.86	3/1518 (0.2%)
42	cb	0.70	0/1139	0.91	1/1518 (0.1%)
43	d	0.48	0/1087	0.85	0/1449
43	db	0.49	0/1087	0.93	1/1449 (0.1%)
44	K	0.38	0/566	0.65	0/761
44	Kb	0.41	0/566	0.70	0/761
45	e	0.63	0/782	1.04	2/1047 (0.2%)
45	eb	0.70	0/782	0.97	1/1047 (0.1%)
46	f	0.49	0/620	0.79	0/838
46	fb	0.55	0/620	0.83	0/838
47	L	0.40	0/499	0.67	0/670
47	Lb	0.48	0/499	0.66	0/670
48	M	2.06	2/452 (0.4%)	1.97	6/600 (1.0%)
48	Mb	2.20	2/452 (0.4%)	2.08	6/600 (1.0%)
49	g	0.45	0/483	1.12	1/643 (0.2%)
49	gb	0.49	0/483	1.09	2/643 (0.3%)
50	N	0.38	0/567	0.86	0/764
50	Nb	0.48	1/567 (0.2%)	0.88	0/764
51	O	0.30	0/2456	0.53	0/3343
51	Ob	0.43	0/2456	0.59	0/3343
52	AX	0.59	0/1400	0.58	0/1882
52	XX	0.70	0/1400	0.63	0/1882
53	BB	0.57	0/1465	0.75	1/1965 (0.1%)
53	YB	0.71	0/1465	0.82	0/1965
54	BF	0.59	0/1499	0.91	3/1998 (0.2%)
54	YF	0.70	0/1539	0.84	0/2050
55	BH	0.55	0/1481	0.71	0/1990
55	YH	0.65	0/1481	0.76	0/1990
56	BJ	0.57	0/1300	0.76	0/1743
56	YJ	0.68	0/1300	0.85	2/1743 (0.1%)
57	BL	0.44	0/794	0.72	2/1076 (0.2%)
57	YL	0.47	0/794	0.73	2/1076 (0.2%)
58	AB	0.59	0/1008	0.57	0/1356
58	XB	0.70	0/1008	0.61	0/1356
59	AE	2.80	1/1103 (0.1%)	0.79	3/1458 (0.2%)
59	XE	0.53	0/1103	0.69	0/1458

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
60	AH	0.56	0/974	0.61	0/1314
60	XH	0.65	0/974	0.66	0/1314
61	AK	0.52	0/987	0.57	0/1318
61	XK	0.61	0/987	0.64	0/1318
62	AN	0.46	0/1118	0.59	0/1497
62	XN	0.53	0/1118	0.64	0/1497
63	AR	0.57	0/1204	0.65	0/1612
63	XR	0.72	0/1204	0.72	0/1612
64	AV	0.46	0/473	0.64	0/629
64	XV	0.61	0/473	0.77	0/629
65	AY	0.58	0/775	0.69	0/1040
65	XY	0.62	0/775	0.75	0/1040
66	BC	0.56	0/897	0.82	1/1205 (0.1%)
66	YC	0.65	0/897	0.83	1/1205 (0.1%)
67	BG	0.59	0/1041	0.75	0/1394
67	YG	0.72	0/1041	0.79	0/1394
68	BK	0.63	0/868	0.74	0/1168
68	YK	0.77	0/868	0.81	0/1168
69	BN	0.64	0/890	0.75	0/1189
69	YN	0.76	0/890	0.85	0/1189
70	BP	0.52	0/974	0.79	0/1297
70	YP	0.63	0/974	0.78	1/1297 (0.1%)
71	AC	0.46	0/777	0.61	0/1033
71	XC	0.54	0/777	0.70	0/1033
72	AF	0.65	0/665	0.58	0/882
72	XF	0.77	0/665	0.68	0/882
73	AI	0.43	0/614	0.57	0/822
73	XI	0.49	0/614	0.57	0/822
74	AL	0.64	0/443	0.59	0/588
74	XL	0.75	0/443	0.69	0/588
75	AO	0.45	0/423	0.52	0/562
75	XO	0.52	0/423	0.55	0/562
76	AS	0.54	0/234	0.69	0/300
76	XS	0.63	0/234	0.74	0/300
77	AP	0.54	0/860	0.57	0/1136
77	XP	0.65	0/860	0.59	0/1136
78	AT	0.63	0/701	0.70	0/934
78	XT	0.73	0/701	0.72	1/934 (0.1%)
79	BU	0.25	0/1067	0.52	0/1439
79	YU	0.28	0/1067	0.59	0/1439
80	n	0.36	0/1811	0.43	0/2821
81	m	0.18	0/1773	0.39	0/2759
82	nb	0.34	0/1810	0.55	0/2821

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
83	mb	0.42	0/1836	0.41	0/2859
84	l	0.35	0/1312	0.58	0/2033
All	All	0.60	29/436056 (0.0%)	0.60	120/640783 (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
4	AW	0	1
4	XW	0	1
5	BA	0	1
5	YA	0	1
6	BE	0	2
6	YE	0	2
7	BI	0	1
9	BO	0	1
9	YO	0	1
10	AA	0	1
12	YD	0	1
13	AG	0	6
13	XG	0	3
14	AJ	0	5
14	XJ	0	4
15	XM	0	1
16	AQ	0	1
16	XQ	0	1
19	P	0	3
19	Pb	0	5
20	Q	0	1
20	Qb	0	2
21	R	0	2
21	Rb	0	2
22	A	0	2
22	Ab	0	1
23	S	0	4
23	Sb	0	3
24	B	0	2
24	Bb	0	2
25	T	0	3
25	Tb	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
26	U	0	5
26	Ub	0	4
27	V	0	1
27	Vb	0	1
29	C	0	2
29	Cb	0	2
30	X	0	3
31	D	0	4
31	Db	0	4
32	Y	0	1
32	Yb	0	1
33	Zb	0	2
34	E	0	2
34	Eb	0	4
35	F	0	2
35	Fb	0	2
37	H	0	2
37	Hb	0	3
39	J	0	2
39	Jb	0	4
40	a	0	1
41	b	0	1
41	bb	0	1
42	c	0	1
42	cb	0	1
43	d	0	3
43	db	0	5
44	Kb	0	1
45	e	0	5
45	eb	0	5
48	M	0	1
48	Mb	0	2
49	g	0	1
49	gb	0	2
50	N	0	3
50	Nb	0	3
53	BB	0	1
53	YB	0	2
58	AB	0	1
59	AE	0	4
59	XE	0	2
62	AN	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
62	XN	0	1
63	AR	0	1
63	XR	0	1
64	AV	0	3
64	XV	0	3
70	BP	0	1
70	YP	0	1
71	AC	0	1
71	XC	0	1
78	XT	0	1
All	All	0	180

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	AE	116	LYS	CB-CG	91.49	4.26	1.52
18	2b	1597	A	C6-N1	49.28	2.34	1.35
18	2	1597	A	C6-N1	47.71	2.31	1.35
18	2b	1597	A	N1-C2	47.67	2.29	1.34
18	2	1597	A	N1-C2	46.50	2.27	1.34
18	2	1597	A	N3-C4	42.37	2.19	1.34
18	2	1597	A	C2-N3	41.15	2.15	1.33
18	2b	1597	A	N3-C4	41.10	2.17	1.34
18	2b	1597	A	C2-N3	40.23	2.14	1.33
18	2	1597	A	C5-C6	35.65	2.12	1.41
18	2b	1597	A	C5-C6	35.19	2.11	1.41
48	Mb	13	ARG	C-N	32.10	1.77	1.33
18	2	1597	A	C5-C4	31.94	2.02	1.38
18	2b	1597	A	C5-C4	31.27	2.01	1.38
48	M	13	ARG	C-N	29.82	1.76	1.33
48	Mb	14	TYR	N-CA	29.82	1.82	1.46
48	M	14	TYR	N-CA	29.49	1.82	1.46
18	2	74	U	N1-C2	16.10	1.70	1.38
18	2	74	U	N3-C4	15.77	1.70	1.38
18	2	74	U	C2-N3	15.73	1.69	1.37
18	2	74	U	N1-C6	15.20	1.68	1.38
18	2	74	U	C4-C5	13.51	1.70	1.43
18	2	74	U	C5-C6	12.87	1.59	1.34
4	XW	204	MET	C-N	-10.44	1.18	1.33
38	Ib	116	ILE	C-N	-9.79	1.19	1.33
39	Jb	69	LYS	C-N	-6.51	1.24	1.33
6	BE	101	ALA	C-O	-6.39	1.16	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
28	W	13	SER	C-N	-5.65	1.25	1.33
50	Nb	126	CYS	CA-CB	-5.40	1.46	1.53

All (120) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	Mb	13	ARG	CA-C-N	28.58	164.38	122.93
48	Mb	13	ARG	C-N-CA	28.58	164.38	122.93
48	M	13	ARG	CA-C-N	27.88	164.76	122.94
48	M	13	ARG	C-N-CA	27.88	164.76	122.94
6	YE	341	SER	N-CA-C	-11.45	95.82	111.96
18	2b	1597	A	N1-C2-N3	-10.44	97.98	129.30
18	2	1597	A	N1-C2-N3	-10.38	98.17	129.30
48	Mb	15	GLY	N-CA-C	-9.55	102.87	111.95
18	2b	1597	A	C2-N3-C4	8.81	137.02	110.60
9	BO	130	ILE	N-CA-CB	-8.77	100.54	111.94
18	2	1597	A	C2-N3-C4	8.51	136.14	110.60
18	2	1553	G	C4'-C3'-O3'	8.39	125.58	113.00
54	BF	35	ALA	N-CA-C	8.25	120.19	111.03
6	BE	341	SER	N-CA-C	-8.17	100.44	111.96
42	cb	39	LYS	N-CA-C	7.63	122.72	111.96
48	Mb	14	TYR	N-CA-CB	7.58	122.89	110.69
48	M	15	GLY	N-CA-C	-7.55	104.33	112.04
48	Mb	18	SER	N-CA-C	-7.52	103.42	112.59
36	Gb	23	LYS	N-CA-C	-7.01	98.56	108.23
8	BM	67	GLY	CA-C-N	6.95	143.69	127.00
8	BM	67	GLY	C-N-CA	6.95	143.69	127.00
18	2b	1553	G	C2'-C3'-O3'	6.73	123.80	113.70
5	YA	386	ASP	N-CA-CB	6.70	121.81	110.49
48	M	14	TYR	N-CA-CB	6.68	122.46	110.83
31	Db	129	GLU	CA-C-N	6.68	134.30	121.54
31	Db	129	GLU	C-N-CA	6.68	134.30	121.54
56	YJ	88	ARG	CA-CB-CG	6.59	127.27	114.10
42	c	39	LYS	N-CA-C	6.50	121.13	111.96
24	Bb	152	GLY	N-CA-C	-6.36	98.11	113.18
25	T	37	ASP	CA-C-N	-6.29	109.08	121.41
25	T	37	ASP	C-N-CA	-6.29	109.08	121.41
32	Yb	23	PRO	N-CA-C	6.28	120.50	110.21
8	BM	67	GLY	C-N-CD	-6.27	106.81	120.60
49	gb	52	GLY	CA-C-N	6.27	133.51	121.54
49	gb	52	GLY	C-N-CA	6.27	133.51	121.54
18	2	1596	C	C5'-C4'-O4'	6.26	119.19	109.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	ab	4	ASP	N-CA-C	6.20	117.71	111.07
7	BI	271	LYS	CA-C-N	6.19	132.63	121.92
7	BI	271	LYS	C-N-CA	6.19	132.63	121.92
5	BA	129	ALA	N-CA-C	6.13	123.86	110.80
53	BB	175	ALA	N-CA-C	6.09	123.77	110.80
26	U	131	PHE	N-CA-C	6.00	123.08	109.81
18	2b	1553	G	C4'-C3'-O3'	5.87	121.81	113.00
24	B	61	TYR	N-CA-C	-5.84	106.19	113.55
6	YE	316	ASN	N-CA-C	-5.79	102.35	109.65
66	BC	90	PHE	CB-CA-C	-5.78	98.79	109.37
57	YL	46	ALA	CA-C-N	5.77	129.20	120.95
57	YL	46	ALA	C-N-CA	5.77	129.20	120.95
24	Bb	127	GLN	N-CA-C	-5.70	103.12	110.19
40	a	4	ASP	N-CA-C	5.69	117.16	111.07
59	AE	116	LYS	CA-CB-CG	5.69	125.49	114.10
14	AJ	48	PRO	N-CA-C	5.69	124.19	112.47
42	c	88	PRO	CA-C-N	5.69	132.40	121.54
42	c	88	PRO	C-N-CA	5.69	132.40	121.54
18	2	1596	C	C5'-C4'-C3'	5.68	124.52	116.00
26	Ub	62	VAL	CB-CA-C	5.67	114.89	109.33
18	2	1244	A	C2'-C3'-O3'	5.67	118.00	109.50
35	Fb	43	ILE	N-CA-C	-5.65	107.31	112.96
26	Ub	111	LYS	N-CA-CB	-5.63	100.97	110.49
1	YQ	2872	A	C2'-C3'-O3'	5.63	117.95	109.50
26	U	111	LYS	N-CA-CB	-5.60	101.02	110.49
54	BF	74	ARG	N-CA-C	5.59	119.84	111.96
15	XM	36	VAL	N-CA-C	-5.59	106.36	111.67
48	Mb	14	TYR	N-CA-C	5.59	118.59	109.59
54	BF	98	ARG	CB-CA-C	-5.57	101.90	110.81
32	Y	22	ALA	CA-C-N	-5.55	112.90	119.84
32	Y	22	ALA	C-N-CA	-5.55	112.90	119.84
40	ab	10	GLU	CA-CB-CG	5.54	125.17	114.10
14	XJ	48	PRO	N-CA-C	5.53	123.87	112.47
31	D	129	GLU	CA-C-N	5.48	132.00	121.54
31	D	129	GLU	C-N-CA	5.48	132.00	121.54
40	ab	82	VAL	N-CA-C	-5.47	106.86	111.56
1	YQ	1213	G	C5'-C4'-O4'	5.46	117.99	109.80
5	BA	348	ARG	N-CA-CB	-5.45	107.96	114.17
24	B	81	ARG	N-CA-C	5.44	118.71	111.75
20	Q	207	LEU	N-CA-C	5.42	117.25	110.91
26	Ub	10	SER	N-CA-C	-5.40	99.29	110.80
22	A	161	GLY	CA-C-N	5.39	126.48	120.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	161	GLY	C-N-CA	5.39	126.48	120.06
48	M	14	TYR	N-CA-C	5.39	118.19	109.40
6	BE	90	PHE	CB-CA-C	-5.38	99.72	110.42
6	BE	328	ASN	N-CA-C	5.37	121.67	109.81
49	g	5	HIS	N-CA-C	5.36	117.45	109.25
24	B	49	GLU	CA-C-N	5.35	131.76	121.54
24	B	49	GLU	C-N-CA	5.35	131.76	121.54
25	T	38	GLY	N-CA-C	5.34	125.85	113.18
34	Eb	70	ASN	CA-C-N	5.33	131.71	121.54
34	Eb	70	ASN	C-N-CA	5.33	131.71	121.54
19	P	111	ILE	CG1-CB-CG2	5.30	126.61	110.70
18	2	913	G	C2'-C3'-O3'	5.27	117.40	109.50
57	BL	46	ALA	CA-C-N	5.24	128.44	120.95
57	BL	46	ALA	C-N-CA	5.24	128.44	120.95
26	U	101	LYS	N-CA-C	-5.24	101.80	109.50
56	YJ	88	ARG	CB-CG-CD	5.23	123.33	111.30
18	2b	652	G	C5'-C4'-O4'	5.20	117.60	109.80
22	Ab	160	SER	N-CA-C	5.19	121.86	110.80
18	2	501	U	C2'-C3'-O3'	5.18	117.27	109.50
5	YA	348	ARG	N-CA-CB	-5.18	108.27	114.17
59	AE	85	ALA	N-CA-C	-5.16	104.24	110.44
24	Bb	81	ARG	N-CA-C	5.16	117.64	111.71
1	YQ	1213	G	C5'-C4'-C3'	5.15	123.72	116.00
43	db	58	PHE	N-CA-C	5.13	121.72	110.80
6	BE	114	ASN	CA-C-N	5.11	127.13	120.28
6	BE	114	ASN	C-N-CA	5.11	127.13	120.28
18	2b	1196	A	C4'-C3'-O3'	5.09	117.04	109.40
25	T	121	LEU	CA-CB-CG	5.09	134.10	116.30
66	YC	90	PHE	CB-CA-C	-5.09	98.27	109.56
26	U	10	SER	N-CA-C	-5.07	100.01	110.80
70	YP	90	ARG	CB-CG-CD	5.06	122.93	111.30
3	YS	82	U	P-O3'-C3'	5.04	127.76	120.20
45	e	9	GLY	CA-C-N	5.03	131.15	121.54
45	e	9	GLY	C-N-CA	5.03	131.15	121.54
24	B	43	PHE	N-CA-C	-5.03	100.08	110.80
48	M	13	ARG	CA-C-O	-5.03	113.32	120.51
35	Fb	115	THR	CA-C-N	5.02	131.13	121.54
35	Fb	115	THR	C-N-CA	5.02	131.13	121.54
78	XT	16	VAL	N-CA-CB	-5.01	105.61	112.28
18	2	1597	A	C4-C5-N7	-5.01	95.67	110.70
59	AE	77	LYS	N-CA-C	5.01	121.46	110.80
45	eb	9	GLY	N-CA-C	-5.00	101.33	113.18

There are no chirality outliers.

All (180) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
22	A	195	SER	Peptide
22	A	219	ALA	Peptide
10	AA	202	GLU	Peptide
58	AB	41	GLY	Peptide
71	AC	63	ASN	Peptide
59	AE	73	ARG	Peptide
59	AE	74	LYS	Peptide
59	AE	75	THR	Peptide
59	AE	76	VAL	Peptide
13	AG	10	ARG	Peptide
13	AG	11	ASP	Peptide
13	AG	152	HIS	Peptide
13	AG	172	LEU	Peptide
13	AG	94	ARG	Peptide
13	AG	95	ASN	Peptide
14	AJ	135	ALA	Peptide
14	AJ	140	SER	Peptide
14	AJ	47	ALA	Peptide
14	AJ	61	PRO	Peptide
14	AJ	74	GLY	Peptide
62	AN	102	GLU	Peptide
16	AQ	146	ALA	Peptide
63	AR	66	ALA	Peptide
64	AV	19	ASN	Peptide
64	AV	20	GLY	Peptide
64	AV	21	ILE	Peptide
4	AW	214	GLY	Peptide
22	Ab	219	ALA	Peptide
24	B	100	ASN	Peptide
24	B	150	GLY	Peptide
5	BA	112	ASP	Mainchain
53	BB	98	LYS	Peptide
6	BE	318	LEU	Peptide
6	BE	89	ALA	Peptide
7	BI	269	SER	Peptide
9	BO	232	ARG	Peptide
70	BP	83	LYS	Peptide
24	Bb	100	ASN	Peptide
24	Bb	44	ASN	Peptide
29	C	31	LYS	Peptide

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Mol	Chain	Res	Type	Group
29	C	34	GLU	Peptide
29	Cb	23	ALA	Peptide
29	Cb	34	GLU	Peptide
31	D	109	GLU	Peptide
31	D	110	GLY	Peptide
31	D	129	GLU	Peptide
31	D	130	THR	Peptide
31	Db	109	GLU	Peptide
31	Db	110	GLY	Peptide
31	Db	129	GLU	Peptide
31	Db	130	THR	Peptide
34	E	124	THR	Peptide
34	E	125	PRO	Peptide
34	Eb	124	THR	Peptide
34	Eb	125	PRO	Peptide
34	Eb	127	ARG	Peptide
34	Eb	70	ASN	Peptide
35	F	115	THR	Peptide
35	F	40	GLU	Peptide
35	Fb	115	THR	Peptide
35	Fb	40	GLU	Peptide
37	H	101	LEU	Peptide
37	H	90	ASN	Peptide
37	Hb	101	LEU	Peptide
37	Hb	13	HIS	Peptide
37	Hb	90	ASN	Peptide
39	J	51	VAL	Peptide
39	J	71	PRO	Peptide
39	Jb	50	LEU	Peptide
39	Jb	51	VAL	Peptide
39	Jb	71	PRO	Peptide
39	Jb	72	ASN	Peptide
44	Kb	87	GLY	Peptide
48	M	10	HIS	Peptide
48	Mb	10	HIS	Peptide
48	Mb	18	SER	Peptide
50	N	106	TYR	Peptide
50	N	139	LEU	Peptide
50	N	147	VAL	Peptide
50	Nb	103	LEU	Peptide
50	Nb	106	TYR	Peptide
50	Nb	147	VAL	Peptide

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Mol	Chain	Res	Type	Group
19	P	166	GLY	Peptide
19	P	184	LEU	Peptide
19	P	186	GLY	Peptide
19	Pb	107	PHE	Peptide
19	Pb	166	GLY	Peptide
19	Pb	184	LEU	Peptide
19	Pb	186	GLY	Peptide
19	Pb	94	GLY	Peptide
20	Q	146	GLN	Peptide
20	Qb	146	GLN	Peptide
20	Qb	151	LYS	Peptide
21	R	106	ASP	Peptide
21	R	236	PRO	Peptide
21	Rb	106	ASP	Peptide
21	Rb	236	PRO	Peptide
23	S	118	GLU	Peptide
23	S	195	ILE	Peptide
23	S	88	ASP	Peptide
23	S	89	VAL	Peptide
23	Sb	118	GLU	Peptide
23	Sb	195	ILE	Peptide
23	Sb	28	ALA	Peptide
25	T	124	LEU	Peptide
25	T	37	ASP	Peptide
25	T	49	VAL	Peptide
25	Tb	164	LYS	Peptide
25	Tb	67	VAL	Peptide
26	U	130	VAL	Peptide
26	U	30	SER	Peptide
26	U	31	SER	Peptide
26	U	64	VAL	Peptide
26	U	9	LEU	Peptide
26	Ub	130	VAL	Peptide
26	Ub	31	SER	Peptide
26	Ub	64	VAL	Peptide
26	Ub	9	LEU	Peptide
27	V	60	ILE	Peptide
27	Vb	60	ILE	Peptide
30	X	122	ILE	Peptide
30	X	129	ARG	Peptide
30	X	6	THR	Peptide
71	XC	63	ASN	Peptide

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Mol	Chain	Res	Type	Group
59	XE	74	LYS	Peptide
59	XE	75	THR	Peptide
13	XG	11	ASP	Peptide
13	XG	172	LEU	Peptide
13	XG	94	ARG	Peptide
14	XJ	135	ALA	Peptide
14	XJ	47	ALA	Peptide
14	XJ	61	PRO	Peptide
14	XJ	74	GLY	Peptide
15	XM	62	GLN	Peptide
62	XN	102	GLU	Peptide
16	XQ	146	ALA	Peptide
63	XR	17	ALA	Peptide
78	XT	49	ARG	Peptide
64	XV	19	ASN	Peptide
64	XV	20	GLY	Peptide
64	XV	21	ILE	Peptide
4	XW	211	HIS	Peptide
32	Y	22	ALA	Peptide
5	YA	112	ASP	Mainchain
53	YB	41	ASP	Peptide
53	YB	98	LYS	Peptide
12	YD	48	LEU	Mainchain
6	YE	318	LEU	Peptide
6	YE	89	ALA	Peptide
9	YO	232	ARG	Peptide
70	YP	83	LYS	Peptide
32	Yb	22	ALA	Peptide
33	Zb	122	PRO	Peptide
33	Zb	79	VAL	Peptide
40	a	81	ASN	Peptide
41	b	89	TRP	Mainchain
41	bb	89	TRP	Mainchain
42	c	88	PRO	Peptide
42	cb	88	PRO	Peptide
43	d	33	ALA	Peptide
43	d	51	GLU	Peptide
43	d	52	LYS	Peptide
43	db	119	PHE	Peptide
43	db	29	HIS	Peptide
43	db	33	ALA	Peptide
43	db	51	GLU	Peptide

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Mol	Chain	Res	Type	Group
43	db	52	LYS	Peptide
45	e	10	ARG	Peptide
45	e	34	LYS	Peptide
45	e	61	GLU	Peptide
45	e	62	TYR	Peptide
45	e	7	SER	Peptide
45	eb	10	ARG	Peptide
45	eb	34	LYS	Peptide
45	eb	61	GLU	Peptide
45	eb	62	TYR	Peptide
45	eb	7	SER	Peptide
49	g	3	LYS	Peptide
49	gb	3	LYS	Peptide
49	gb	46	ASN	Peptide

5.2 Too-close contacts [i](#)

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	BQ	66891	0	33619	593	0
1	YQ	66891	0	33619	632	0
2	BR	2579	0	1304	33	0
2	YR	2579	0	1304	27	0
3	BS	3333	0	1685	40	0
3	YS	3333	0	1685	52	0
4	AW	1912	0	1976	44	0
4	XW	1912	0	1976	57	0
5	BA	3075	0	3142	62	0
5	YA	3075	0	3142	48	0
6	BE	2748	0	2859	49	0
6	YE	2748	0	2859	50	0
7	BI	2359	0	2311	30	0
7	YI	2359	0	2311	28	0
8	BM	1248	0	1339	19	0
8	YM	1248	0	1339	19	0
9	BO	1791	0	1869	26	0
9	YO	1791	0	1869	31	0
10	AA	1763	0	1819	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	XA	1763	0	1819	47	0
11	AD	1510	0	1576	21	0
11	XD	1510	0	1576	35	0
12	BD	1696	0	1731	21	0
12	YD	1696	0	1731	35	0
13	AG	1353	0	1383	34	0
13	XG	1353	0	1383	37	0
14	AJ	1548	0	1613	30	0
14	XJ	1548	0	1613	33	0
15	AM	1059	0	1154	27	0
15	XM	1059	0	1154	33	0
16	AQ	1720	0	1779	45	0
16	XQ	1720	0	1779	47	0
17	AU	1555	0	1659	37	0
17	XU	1555	0	1659	36	0
18	2	37455	0	18845	557	0
18	2b	37455	0	18845	529	0
19	P	1583	0	1578	35	0
19	Pb	1583	0	1578	54	0
20	Q	1722	0	1793	40	0
20	Qb	1722	0	1793	45	0
21	R	1635	0	1723	51	0
21	Rb	1635	0	1723	55	0
22	A	1734	0	1817	29	0
22	Ab	1734	0	1817	30	0
23	S	2068	0	2154	59	0
23	Sb	2068	0	2154	80	0
24	B	1609	0	1675	27	0
24	Bb	1609	0	1675	36	0
25	T	1755	0	1846	40	0
25	Tb	1755	0	1846	47	0
26	U	1486	0	1576	21	0
26	Ub	1486	0	1576	30	0
27	V	1489	0	1525	42	0
27	Vb	1489	0	1525	39	0
28	W	1494	0	1573	35	0
28	Wb	1494	0	1573	37	0
29	C	741	0	691	18	0
29	Cb	741	0	691	20	0
30	X	1168	0	1233	25	0
30	Xb	1168	0	1233	31	0
31	D	890	0	887	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	Db	890	0	887	28	0
32	Y	1192	0	1255	18	0
32	Yb	1192	0	1255	20	0
33	Z	949	0	985	21	0
33	Zb	949	0	985	21	0
34	E	939	0	968	29	0
34	Eb	939	0	968	25	0
35	F	1105	0	1166	42	0
35	Fb	1105	0	1166	40	0
36	G	1001	0	1063	42	0
36	Gb	1001	0	1063	42	0
37	H	1192	0	1222	50	0
37	Hb	1192	0	1222	41	0
38	I	1112	0	1124	34	0
38	Ib	1112	0	1124	28	0
39	J	805	0	874	32	0
39	Jb	805	0	874	29	0
40	a	684	0	672	18	0
40	ab	684	0	672	21	0
41	b	1021	0	1060	14	0
41	bb	1021	0	1060	11	0
42	c	1121	0	1196	17	0
42	cb	1121	0	1196	18	0
43	d	1073	0	1132	35	0
43	db	1073	0	1132	24	0
44	K	558	0	598	17	0
44	Kb	558	0	598	23	0
45	e	769	0	815	23	0
45	eb	769	0	815	17	0
46	f	610	0	633	11	0
46	fb	610	0	633	13	0
47	L	497	0	535	8	0
47	Lb	497	0	535	12	0
48	M	442	0	427	55	0
48	Mb	442	0	428	67	0
49	g	475	0	525	12	0
49	gb	475	0	525	13	0
50	N	556	0	548	20	0
50	Nb	556	0	552	15	0
51	O	2403	0	2353	49	0
51	Ob	2403	0	2353	65	0
52	AX	1378	0	1404	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
52	XX	1378	0	1404	30	0
53	BB	1441	0	1543	24	0
53	YB	1441	0	1543	17	0
54	BF	1482	0	1578	26	0
54	YF	1522	0	1617	26	0
55	BH	1445	0	1487	26	0
55	YH	1445	0	1487	22	0
56	BJ	1276	0	1323	27	0
56	YJ	1276	0	1323	26	0
57	BL	778	0	791	7	0
57	YL	778	0	791	9	0
58	AB	993	0	1040	22	0
58	XB	993	0	1040	25	0
59	AE	1089	0	1183	30	0
59	XE	1089	0	1183	18	0
60	AH	959	0	1023	15	0
60	XH	959	0	1023	17	0
61	AK	976	0	1064	18	0
61	XK	976	0	1064	29	0
62	AN	1092	0	1155	26	0
62	XN	1092	0	1155	26	0
63	AR	1173	0	1215	31	0
63	XR	1173	0	1215	26	0
64	AV	462	0	491	13	0
64	XV	462	0	491	11	0
65	AY	767	0	816	7	0
65	XY	767	0	816	9	0
66	BC	883	0	918	7	0
66	YC	883	0	918	13	0
67	BG	1020	0	1090	13	0
67	YG	1020	0	1090	14	0
68	BK	850	0	880	10	0
68	YK	850	0	880	12	0
69	BN	880	0	945	14	0
69	YN	880	0	942	10	0
70	BP	965	0	1067	8	0
70	YP	965	0	1067	15	0
71	AC	770	0	846	14	0
71	XC	770	0	846	18	0
72	AF	650	0	654	19	0
72	XF	650	0	650	20	0
73	AI	608	0	671	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
73	XI	608	0	671	12	0
74	AL	436	0	475	10	0
74	XL	436	0	475	9	0
75	AO	417	0	455	9	0
75	XO	417	0	455	8	0
76	AS	233	0	284	6	0
76	XS	233	0	284	5	0
77	AP	847	0	915	17	0
77	XP	847	0	915	23	0
78	AT	694	0	734	15	0
78	XT	694	0	734	14	0
79	BU	1052	0	1028	24	0
79	YU	1052	0	1028	20	0
80	n	1621	0	822	14	0
81	m	1589	0	810	21	0
82	nb	1620	0	822	18	0
83	mb	1644	0	836	10	0
84	l	1182	0	594	19	0
85	AO	1	0	0	0	0
85	AP	1	0	0	0	0
85	AT	1	0	0	0	0
85	M	1	0	0	0	0
85	Mb	1	0	0	0	0
85	N	1	0	0	0	0
85	XF	1	0	0	0	0
85	XO	1	0	0	0	0
85	XP	1	0	0	0	0
85	XT	1	0	0	0	0
85	YN	1	0	0	0	0
85	e	1	0	0	0	0
85	eb	1	0	0	0	0
85	f	1	0	0	0	0
85	fb	1	0	0	0	0
All	All	405889	0	299841	4980	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 8.

All (4980) 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)
18:2:74:U:C2	18:2:74:U:N1	1.70	1.59
18:2:74:U:C4	18:2:74:U:N3	1.70	1.59
18:2:74:U:N1	18:2:74:U:C6	1.68	1.58
18:2:74:U:C2	18:2:74:U:N3	1.69	1.52
18:2b:1597:A:C4	18:2b:1597:A:C5	2.01	1.46
48:M:13:ARG:C	48:M:14:TYR:N	1.76	1.43
48:M:14:TYR:N	48:M:14:TYR:CA	1.82	1.43
18:2:1597:A:C4	18:2:1597:A:C5	2.02	1.42
48:Mb:14:TYR:N	48:Mb:14:TYR:CA	1.82	1.40
48:Mb:13:ARG:C	48:Mb:14:TYR:N	1.77	1.40
18:2b:1597:A:C5	18:2b:1597:A:C6	2.11	1.38
18:2:1597:A:C5	18:2:1597:A:C6	2.12	1.35
18:2b:1597:A:N1	48:Mb:14:TYR:N	1.73	1.34
18:2:1597:A:N1	48:M:14:TYR:N	1.75	1.33
18:2:1597:A:N3	48:M:14:TYR:N	1.89	1.20
18:2b:1597:A:N3	48:Mb:14:TYR:N	1.90	1.18
18:2b:1597:A:N3	18:2b:1597:A:C2	2.14	1.15
18:2:1597:A:N3	18:2:1597:A:C2	2.15	1.14
18:2b:1597:A:C4	18:2b:1597:A:N3	2.17	1.12
18:2:1597:A:C2	48:M:14:TYR:N	2.17	1.12
18:2b:1597:A:C2	48:Mb:14:TYR:N	2.17	1.11
18:2:1597:A:C4	18:2:1597:A:N3	2.19	1.10
18:2:1597:A:N1	18:2:1597:A:C2	2.27	1.03
18:2b:1597:A:N1	18:2b:1597:A:C2	2.29	1.01
18:2:1597:A:C6	18:2:1597:A:N1	2.31	0.99
18:2b:1597:A:C6	18:2b:1597:A:N1	2.34	0.96
3:YS:71:A:N6	3:YS:87:G:N3	2.13	0.96
18:2:1597:A:C6	48:M:14:TYR:N	2.34	0.95
18:2b:1597:A:C6	48:Mb:14:TYR:N	2.34	0.94
18:2b:148:A:H62	18:2b:166:C:H42	1.17	0.92
18:2:74:U:C2	18:2:74:U:C1'	2.51	0.92
18:2b:148:A:H62	18:2b:166:C:N4	1.68	0.91
11:XD:80:THR:HG1	11:XD:86:TYR:HH	1.05	0.91
48:Mb:36:LEU:HD12	48:Mb:38:ILE:HD11	1.54	0.90
26:Ub:64:VAL:HG22	26:Ub:94:ALA:HB1	1.53	0.90
18:2:1597:A:C4	48:M:14:TYR:N	2.40	0.89
18:2b:1597:A:C4	48:Mb:14:TYR:N	2.41	0.89
1:BQ:1385:C:HO2'	8:BM:2:SER:N	1.71	0.89
1:YQ:2442:G:N1	1:YQ:2506:U:O2	2.07	0.88
1:YQ:2442:G:C2	1:YQ:2506:U:O2	2.27	0.87
1:YQ:2712:U:HO2'	1:YQ:2743:A:HO2'	1.08	0.87
18:2b:976:G:H1	18:2b:1023:A:HO2'	1.22	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1647:U:O2'	49:gb:3:LYS:O	1.91	0.87
18:2b:685:A:O2'	18:2b:686:C:O5'	1.91	0.86
1:BQ:1896:A:H61	1:BQ:2339:C:H42	1.23	0.86
1:YQ:55:G:OP1	72:XF:43:LYS:NZ	2.09	0.86
18:2:1555:A:N6	48:M:14:TYR:O	2.09	0.85
18:2:1597:A:C5	48:M:14:TYR:HA	2.11	0.85
18:2b:1597:A:C5	48:Mb:14:TYR:HA	2.11	0.85
3:BS:75:G:OP2	61:AK:74:TYR:OH	1.95	0.84
18:2b:680:U:O2'	18:2b:681:U:O4'	1.94	0.84
43:db:29:HIS:HE2	43:db:69:SER:HG	1.23	0.84
1:BQ:1135:A:OP2	64:AV:5:LYS:NZ	2.10	0.84
15:XM:88:ALA:O	15:XM:93:LYS:NZ	2.10	0.84
18:2:992:A:O2'	18:2:1785:U:O2	1.96	0.84
18:2b:1563:C:OP1	38:Ib:84:LYS:NZ	2.09	0.84
1:YQ:2722:U:O2'	56:YJ:88:ARG:O	1.95	0.84
18:2b:557:G:OP1	49:gb:55:ARG:NH1	2.11	0.83
53:BB:41:ASP:O	53:BB:46:LYS:NZ	2.11	0.83
1:YQ:2819:A:OP1	1:YQ:2866:U:O2'	1.95	0.83
37:H:6:GLN:O	37:H:8:GLN:NE2	2.11	0.83
18:2:394:C:H42	18:2:401:A:H62	1.25	0.83
1:BQ:1494:U:O2'	74:AL:17:LYS:NZ	2.12	0.83
18:2b:885:G:OP1	20:Qb:216:LYS:NZ	2.12	0.83
65:XY:63:SER:HG	65:XY:65:THR:HG1	1.16	0.83
1:BQ:3042:U:OP2	1:BQ:3092:C:N4	2.12	0.82
50:Nb:140:TYR:OH	50:Nb:144:CYS:O	1.97	0.82
30:X:83:THR:OG1	30:X:109:VAL:O	1.97	0.82
53:YB:182:LYS:NZ	63:XR:55:LYS:O	2.12	0.82
82:nb:75:C:O2'	82:nb:76:A:O4'	1.97	0.82
37:H:12:GLN:NE2	37:H:13:HIS:O	2.12	0.82
3:YS:147:U:HO2'	60:XH:37:THR:HG1	1.24	0.82
1:BQ:1063:G:N2	1:BQ:1097:G:O2'	2.12	0.82
18:2b:1242:A:O2'	18:2b:1244:A:OP1	1.96	0.82
1:BQ:2207:A:O2'	1:BQ:2208:A:O4'	1.97	0.82
72:AF:21:ARG:NH2	72:AF:41:ALA:O	2.13	0.82
37:Hb:48:LYS:NZ	38:Ib:35:ASP:O	2.13	0.82
1:BQ:3182:G:OP1	17:AU:117:ARG:NH2	2.13	0.81
1:BQ:3162:C:N4	1:BQ:3288:G:O6	2.14	0.81
18:2:1364:G:O2'	35:F:26:LYS:NZ	2.13	0.81
18:2b:992:A:O2'	18:2b:1785:U:O2	1.98	0.81
18:2b:1075:C:O2'	45:eb:13:LYS:O	1.97	0.81
1:YQ:694:C:OP2	6:YE:118:LYS:NZ	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1646:G:O2'	1:YQ:1808:G:N2	2.12	0.81
18:2:531:C:O2	43:d:62:THR:OG1	1.97	0.81
6:YE:72:ALA:O	6:YE:76:ARG:NH1	2.14	0.81
78:AT:59:CYS:SG	78:AT:60:CYS:N	2.54	0.81
1:YQ:596:C:O2	6:YE:326:ARG:NH2	2.13	0.81
18:2:1298:U:O2'	21:R:212:LYS:NZ	2.14	0.81
1:YQ:49:A:OP1	14:XJ:16:LYS:NZ	2.14	0.81
2:BR:28:C:OP1	13:AG:137:ARG:NH1	2.15	0.80
6:BE:126:ILE:O	6:BE:129:THR:OG1	1.99	0.80
18:2b:104:A:OP2	18:2b:308:C:N4	2.13	0.80
18:2b:1681:A:N6	18:2b:1720:G:O2'	2.14	0.80
37:Hb:12:GLN:NE2	37:Hb:13:HIS:O	2.14	0.80
3:BS:95:G:O2'	72:AF:81:GLY:O	1.98	0.80
18:2:885:G:OP1	20:Q:216:LYS:NZ	2.14	0.80
18:2b:1280:C:HO2'	39:Jb:70:THR:HG1	1.26	0.80
1:YQ:1433:A:O4'	67:YG:27:ARG:NH1	2.15	0.80
1:BQ:1824:U:O3'	73:AI:17:ARG:NH2	2.15	0.80
18:2b:158:U:O2'	18:2b:160:C:OP2	1.99	0.80
1:YQ:1431:G:OP2	63:XR:12:ARG:NH1	2.13	0.80
9:YO:186:HIS:O	9:YO:190:THR:OG1	2.00	0.80
10:XA:100:GLU:OE2	10:XA:108:ARG:NH1	2.14	0.80
1:BQ:2722:U:O2'	56:BJ:88:ARG:O	1.99	0.80
18:2:1316:G:OP1	36:G:6:THR:OG1	2.00	0.80
1:YQ:2162:U:OP1	4:XW:234:LYS:NZ	2.15	0.80
1:YQ:3190:C:OP1	17:XU:172:ARG:NH1	2.14	0.80
5:YA:185:GLY:O	5:YA:191:LYS:NZ	2.14	0.80
18:2b:637:C:O2	26:Ub:114:ARG:NH1	2.14	0.80
8:YM:31:ARG:NH2	8:YM:81:ALA:O	2.14	0.80
1:BQ:1873:U:OP1	54:BF:21:LYS:NZ	2.15	0.80
18:2:521:A:N3	43:d:34:ASN:ND2	2.30	0.80
18:2b:25:C:HO2'	18:2b:366:A:HO2'	1.25	0.80
25:T:10:ASN:ND2	25:T:125:THR:O	2.15	0.80
24:Bb:111:VAL:HG11	35:Fb:43:ILE:HG21	1.63	0.80
18:2:1553:G:N7	34:E:43:ARG:NH1	2.29	0.80
26:U:14:THR:OG1	26:U:15:GLU:OE1	2.00	0.80
22:Ab:31:GLU:O	22:Ab:54:ARG:NH2	2.14	0.80
1:YQ:1046:A:O2'	1:YQ:1048:A:OP2	2.00	0.80
3:YS:46:G:OP2	74:XL:15:LYS:NZ	2.10	0.80
18:2:702:G:O2'	18:2:703:G:O4'	1.99	0.80
24:B:74:ALA:O	35:F:122:ARG:NH2	2.15	0.80
63:AR:82:ILE:O	63:AR:87:ARG:NH2	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1555:A:N6	48:Mb:14:TYR:O	2.15	0.80
18:2:1242:A:OP1	34:E:59:LYS:NZ	2.15	0.79
20:Q:82:ARG:NH1	20:Q:191:GLU:OE2	2.15	0.79
82:nb:32:U:O2	82:nb:38:A:N6	2.15	0.79
1:BQ:978:G:O2'	1:BQ:979:U:O4'	2.00	0.79
1:BQ:2751:G:OP1	56:BJ:50:LYS:NZ	2.14	0.79
26:Ub:5:GLN:NE2	26:Ub:18:LEU:O	2.15	0.79
6:YE:126:ILE:O	6:YE:129:THR:OG1	2.00	0.79
1:BQ:2819:A:OP1	1:BQ:2866:U:O2'	2.01	0.79
18:2:1235:C:O2	50:N:138:ARG:NH1	2.15	0.79
18:2b:706:A:N6	18:2b:731:C:O2'	2.16	0.79
1:YQ:2989:U:O2'	5:YA:267:ALA:O	2.00	0.79
21:Rb:148:LEU:O	21:Rb:174:ARG:NH2	2.15	0.79
1:YQ:2931:C:O2'	58:XB:42:SER:OG	2.01	0.79
18:2:742:U:O2'	26:U:107:ARG:NH1	2.15	0.79
18:2:1453:G:OP1	48:M:10:HIS:ND1	2.16	0.79
19:P:103:THR:O	19:P:106:SER:OG	2.01	0.79
1:YQ:1489:A:OP1	69:YN:10:ARG:NH1	2.16	0.79
18:2b:853:G:N7	54:YF:173:ARG:NH2	2.31	0.79
1:YQ:1824:U:O3'	73:XI:17:ARG:NH2	2.15	0.79
18:2b:959:U:OP2	46:fb:20:LYS:NZ	2.15	0.79
1:BQ:3153:U:O5'	1:BQ:3158:G:N2	2.15	0.79
18:2b:394:C:H42	18:2b:401:A:H62	1.30	0.79
1:YQ:3008:A:OP2	17:XU:74:ARG:NH1	2.16	0.79
18:2:1132:A:OP1	42:c:30:LYS:NZ	2.15	0.79
1:YQ:695:C:OP1	6:YE:271:LYS:NZ	2.16	0.79
1:YQ:2828:G:O2'	12:YD:4:ARG:NH1	2.16	0.79
65:AY:63:SER:HG	65:AY:65:THR:HG1	1.24	0.78
18:2:284:G:N7	25:T:188:ARG:NH1	2.31	0.78
18:2:1113:A:N6	18:2:1132:A:OP2	2.16	0.78
27:V:11:ARG:NH1	27:V:15:GLY:O	2.16	0.78
18:2b:1298:U:O2'	21:Rb:212:LYS:NZ	2.13	0.78
1:YQ:1010:G:OP1	12:YD:39:LYS:NZ	2.16	0.78
81:m:15:A:N6	81:m:47:C:O2	2.15	0.78
1:BQ:640:U:OP1	63:AR:21:ARG:NH2	2.16	0.78
26:U:5:GLN:NE2	26:U:18:LEU:O	2.16	0.78
18:2b:698:U:O4	18:2b:740:A:N6	2.17	0.78
18:2b:1533:C:OP2	44:Kb:77:ARG:NH1	2.16	0.78
1:BQ:110:G:OP2	14:AJ:73:ARG:NH2	2.16	0.78
3:BS:82:U:O2'	3:BS:83:C:OP2	2.00	0.78
18:2b:1610:G:N7	35:Fb:14:LYS:NZ	2.32	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:649:A:OP2	1:YQ:2868:U:O2'	2.01	0.78
1:YQ:1201:C:N4	1:YQ:2857:C:OP1	2.17	0.78
1:BQ:1551:C:HO2'	1:BQ:2170:U:HO2'	1.31	0.78
18:2:1039:A:O2'	18:2:1040:G:O5'	2.00	0.78
19:P:74:VAL:HG22	19:P:96:THR:HG23	1.66	0.78
10:XA:221:ASN:OD1	10:XA:225:LYS:NZ	2.16	0.78
18:2b:1239:U:O2	18:2b:1246:C:N4	2.15	0.78
45:eb:3:LYS:NZ	45:eb:8:ASN:OD1	2.17	0.78
1:YQ:503:C:O2	8:YM:23:LYS:NZ	2.13	0.78
1:YQ:2424:A:OP1	16:XQ:90:ASN:ND2	2.17	0.78
1:YQ:3092:C:O2'	1:YQ:3094:A:OP2	2.01	0.78
3:YS:150:G:O2'	3:YS:152:G:OP1	2.02	0.78
15:XM:108:ARG:NH1	17:XU:195:ALA:O	2.16	0.78
18:2b:334:G:O6	27:Vb:5:ARG:NH2	2.17	0.78
18:2b:1113:A:N6	18:2b:1132:A:OP2	2.15	0.78
18:2b:1502:G:N7	38:Ib:102:ARG:NH2	2.30	0.78
1:YQ:149:U:OP2	16:XQ:49:ARG:NH1	2.17	0.78
1:BQ:2319:U:OP1	76:AS:25:LYS:NZ	2.16	0.78
18:2:324:U:OP1	30:X:133:LYS:NZ	2.17	0.78
18:2:1397:U:OP2	18:2:1399:C:N4	2.16	0.78
34:E:18:ARG:NH1	37:H:90:ASN:O	2.17	0.78
1:YQ:2261:G:O2'	1:YQ:2263:C:N4	2.16	0.78
1:YQ:1063:G:N2	1:YQ:1097:G:O2'	2.17	0.78
1:YQ:3266:G:OP2	8:YM:70:LYS:NZ	2.16	0.78
7:YI:54:ARG:NH1	7:YI:148:ILE:O	2.17	0.78
1:BQ:801:A:OP1	63:AR:27:LYS:NZ	2.14	0.78
1:BQ:2991:A:O3'	5:BA:21:ARG:NH2	2.17	0.78
9:BO:168:ILE:O	9:BO:172:ASN:ND2	2.17	0.78
18:2:1499:G:OP1	38:I:122:ARG:NH1	2.18	0.77
18:2b:1497:U:O3'	38:Ib:75:LYS:NZ	2.17	0.77
6:YE:139:GLY:O	6:YE:141:ARG:NH1	2.18	0.77
7:YI:123:GLU:OE2	7:YI:248:ARG:NH2	2.16	0.77
18:2:153:G:OP2	43:d:131:ARG:NH1	2.18	0.77
18:2:1481:C:O2'	18:2:1482:C:O5'	2.00	0.77
1:YQ:1907:C:O2	5:YA:240:ARG:NH2	2.17	0.77
12:YD:142:ASP:O	12:YD:145:LYS:NZ	2.16	0.77
1:BQ:543:C:O2	1:BQ:548:G:N2	2.14	0.77
18:2b:757:A:O3'	23:Sb:22:LYS:NZ	2.17	0.77
18:2b:1001:A:OP1	83:mb:39:A:O2'	2.01	0.77
18:2b:1039:A:O2'	18:2b:1040:G:O5'	2.01	0.77
79:YU:56:ASN:ND2	79:YU:82:GLY:O	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:837:A:OP2	78:AT:4:ARG:NH1	2.18	0.77
1:BQ:2162:U:OP1	4:AW:234:LYS:NZ	2.17	0.77
18:2:1556:A:N6	48:M:14:TYR:OH	2.16	0.77
1:BQ:86:G:O2'	1:BQ:98:G:O6	2.03	0.77
22:A:20:GLU:OE2	22:A:76:ARG:NH2	2.17	0.77
18:2b:31:C:O3'	42:cb:139:LYS:NZ	2.16	0.77
18:2b:1081:A:O2'	18:2b:1082:C:O5'	2.02	0.77
20:Qb:27:LYS:NZ	20:Qb:49:ASN:OD1	2.17	0.77
65:XY:40:LYS:NZ	65:XY:93:LEU:O	2.17	0.77
18:2b:272:U:O2	18:2b:284:G:N2	2.18	0.77
18:2b:867:G:N2	32:Yb:87:ASP:OD1	2.18	0.77
18:2b:1241:G:OP2	34:Eb:77:ARG:NH2	2.17	0.77
1:YQ:294:U:OP1	71:XC:76:ARG:NH2	2.17	0.77
1:BQ:1192:C:N4	1:BQ:1300:G:OP2	2.18	0.77
5:BA:4:ARG:NH1	5:BA:6:TYR:O	2.18	0.77
18:2b:1797:A:OP2	45:eb:10:ARG:NE	2.17	0.77
1:YQ:76:G:O2'	14:XJ:100:ARG:NH1	2.18	0.77
1:YQ:837:A:OP1	78:XT:5:THR:OG1	2.01	0.77
1:YQ:953:G:OP1	64:XV:15:LYS:NZ	2.16	0.77
18:2:74:U:C2	59:AE:116:LYS:CG	2.68	0.77
18:2:1160:A:O2'	18:2:1620:C:N3	2.18	0.77
1:BQ:1671:C:OP1	54:BF:60:LYS:NZ	2.17	0.77
18:2:1454:G:O2'	34:E:122:THR:OG1	2.03	0.77
25:T:14:LYS:NZ	25:T:15:THR:O	2.17	0.77
24:Bb:92:ARG:NH2	24:Bb:169:ASN:OD1	2.18	0.77
25:Tb:136:LYS:NZ	25:Tb:174:LYS:O	2.17	0.77
36:Gb:40:THR:O	36:Gb:42:GLN:NE2	2.18	0.77
1:YQ:884:A:OP2	1:YQ:2139:A:N6	2.18	0.77
1:BQ:1425:U:O2'	6:BE:36:HIS:NE2	2.18	0.76
16:AQ:192:LYS:O	16:AQ:196:THR:OG1	2.01	0.76
18:2:1597:A:C5	48:M:14:TYR:N	2.53	0.76
38:I:86:ARG:O	38:I:89:ARG:NH1	2.17	0.76
51:Ob:154:VAL:O	51:Ob:155:ARG:NH1	2.18	0.76
1:YQ:699:A:OP1	14:XJ:68:LYS:NZ	2.15	0.76
1:YQ:1412:G:OP1	67:YG:105:ARG:NH2	2.17	0.76
18:2:1552:U:O2	48:M:14:TYR:OH	2.04	0.76
37:H:118:LYS:O	37:H:120:ARG:NH2	2.17	0.76
1:BQ:1794:G:O2'	1:BQ:1796:G:N2	2.19	0.76
1:BQ:2196:C:O2'	1:BQ:2270:A:N3	2.19	0.76
18:2:280:U:O2'	18:2:281:G:OP2	2.04	0.76
18:2:868:G:OP1	32:Y:121:ARG:NH1	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1565:C:OP1	37:H:41:ARG:NH2	2.18	0.76
1:BQ:1779:C:N4	54:BF:88:ARG:O	2.18	0.76
3:BS:103:G:OP2	3:BS:105:A:O2'	2.03	0.76
18:2:272:U:O2	18:2:284:G:N2	2.18	0.76
18:2:732:G:O2'	18:2:733:A:O4'	2.01	0.76
1:YQ:866:A:N6	1:YQ:893:C:O2	2.17	0.76
1:YQ:1206:G:OP1	12:YD:153:ARG:NH2	2.18	0.76
1:YQ:2909:U:O2'	1:YQ:3105:U:O2	2.03	0.76
1:BQ:2393:G:O2'	1:BQ:2982:A:N6	2.19	0.76
18:2:1488:G:O2'	18:2:1494:C:O2	2.02	0.76
20:Q:72:ASP:OD1	33:Z:114:ARG:NH1	2.17	0.76
18:2b:1597:A:C5	48:Mb:14:TYR:N	2.53	0.76
37:Hb:130:GLY:O	37:Hb:145:ARG:NH1	2.19	0.76
1:YQ:1185:C:OP1	15:XM:59:ASN:ND2	2.19	0.76
1:YQ:2181:C:O3'	4:XW:193:ARG:NH1	2.19	0.76
1:BQ:1727:G:OP1	78:AT:44:LYS:NZ	2.17	0.76
18:2b:443:C:O2	18:2b:445:A:N6	2.18	0.76
26:Ub:14:THR:OG1	26:Ub:15:GLU:OE2	2.04	0.76
1:YQ:216:G:OP1	61:XK:16:ARG:NH1	2.19	0.76
1:BQ:1206:G:OP1	12:BD:153:ARG:NH2	2.19	0.76
36:G:93:LEU:O	36:G:96:SER:C	2.28	0.76
1:YQ:1024:G:O6	1:YQ:1029:G:N2	2.19	0.76
1:YQ:1062:A:N3	56:YJ:130:ARG:NH2	2.33	0.76
1:YQ:1302:A:N6	1:YQ:2857:C:O2	2.19	0.76
1:YQ:1389:G:OP1	67:YG:104:ASN:ND2	2.19	0.76
6:YE:314:LYS:NZ	9:YO:150:LYS:O	2.17	0.76
18:2:927:C:O2'	33:Z:124:ASP:OD2	2.04	0.76
18:2:1278:G:OP1	22:A:185:LYS:NZ	2.18	0.76
28:W:89:ASP:O	28:W:90:LYS:NZ	2.18	0.76
18:2b:580:A:O2'	18:2b:582:U:OP2	2.01	0.76
27:Vb:36:THR:OG1	27:Vb:96:LEU:O	2.03	0.76
16:XQ:155:VAL:O	16:XQ:162:ARG:NH2	2.19	0.76
1:BQ:398:A:O2'	1:BQ:1416:C:OP1	2.03	0.76
1:BQ:3092:C:O2'	1:BQ:3094:A:OP2	2.03	0.76
18:2:26:A:O2'	18:2:27:U:O5'	2.03	0.76
23:S:11:ARG:NH1	23:S:21:ASP:O	2.19	0.76
36:G:104:ASN:ND2	36:G:122:ILE:O	2.19	0.76
18:2b:588:U:O2	49:gb:57:ASN:ND2	2.18	0.76
27:Vb:77:ARG:NH1	27:Vb:78:ILE:O	2.18	0.76
1:YQ:120:G:N2	10:XA:126:SER:OG	2.19	0.76
1:BQ:2185:G:O2'	1:BQ:2314:U:OP2	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:897:C:N4	18:2:914:G:O2'	2.16	0.76
28:W:62:ARG:O	28:W:69:ARG:NH1	2.18	0.76
37:H:88:ARG:NH2	37:H:91:ASP:OD1	2.19	0.76
18:2b:258:C:O3'	27:Vb:75:LYS:NZ	2.18	0.76
1:YQ:1103:A:O2'	1:YQ:1104:G:OP1	2.04	0.76
1:YQ:2657:A:OP1	77:XP:98:LYS:NZ	2.17	0.76
1:YQ:3089:C:OP1	5:YA:222:LYS:NZ	2.15	0.76
10:XA:68:ARG:NE	10:XA:237:ILE:O	2.18	0.76
1:BQ:22:G:OP1	72:AF:43:LYS:NZ	2.19	0.75
2:BR:5:G:OP1	13:AG:143:ARG:NH2	2.20	0.75
18:2:1275:A:N3	22:A:141:LYS:NZ	2.31	0.75
25:T:39:GLU:N	59:AE:73:ARG:O	2.19	0.75
23:Sb:11:ARG:NH1	23:Sb:21:ASP:OD1	2.20	0.75
28:Wb:70:LEU:O	28:Wb:74:ASN:ND2	2.20	0.75
29:Cb:14:TYR:HB3	29:Cb:35:ILE:HD11	1.67	0.75
1:YQ:626:U:OP1	67:YG:15:LYS:NZ	2.19	0.75
1:YQ:770:G:OP1	14:XJ:171:ARG:NH2	2.19	0.75
1:YQ:2111:G:O3'	59:XE:44:LYS:NZ	2.19	0.75
1:BQ:2095:G:OP1	27:V:194:ARG:NH2	2.20	0.75
1:BQ:3085:G:OP1	59:AE:34:SER:OG	2.05	0.75
11:AD:162:GLN:NE2	11:AD:179:ILE:O	2.19	0.75
18:2:1567:U:O3'	37:H:36:LYS:NZ	2.19	0.75
62:AN:129:TRP:O	62:AN:132:SER:OG	2.04	0.75
71:AC:4:LYS:O	71:AC:16:LYS:NZ	2.19	0.75
1:YQ:353:G:N7	72:XF:55:ARG:NH1	2.33	0.75
3:YS:94:C:OP1	72:XF:75:LYS:NZ	2.15	0.75
18:2:1339:C:O2'	18:2:1341:A:N7	2.18	0.75
18:2b:44:U:OP2	18:2b:437:A:N6	2.19	0.75
18:2b:322:G:O2'	27:Vb:10:LYS:NZ	2.18	0.75
18:2b:960:U:OP2	32:Yb:14:SER:OG	2.01	0.75
18:2b:1402:G:OP1	36:Gb:10:LYS:NZ	2.20	0.75
1:BQ:289:A:O2'	16:AQ:94:TYR:O	2.03	0.75
18:2:428:A:N3	18:2:440:U:O2'	2.19	0.75
18:2:1034:C:HO2'	41:b:2:THR:N	1.84	0.75
69:BN:46:ASP:OD1	69:BN:80:ARG:NH1	2.19	0.75
18:2b:883:C:N4	18:2b:945:U:O4	2.19	0.75
18:2b:1597:A:C4	48:Mb:14:TYR:HA	2.22	0.75
23:Sb:166:SER:O	23:Sb:168:LYS:NZ	2.20	0.75
1:BQ:1067:U:O4	1:BQ:1091:A:N6	2.20	0.75
4:AW:171:GLY:O	78:AT:68:ALA:N	2.20	0.75
6:BE:204:GLY:O	6:BE:246:ARG:NH1	2.20	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:74:U:C2	59:AE:116:LYS:CB	2.69	0.75
27:V:149:SER:O	30:X:24:LYS:NZ	2.18	0.75
18:2b:883:C:N3	18:2b:945:U:O4	2.20	0.75
18:2b:1054:U:O4	18:2b:1065:A:N6	2.18	0.75
35:Fb:143:ARG:NE	83:mb:36:A:OP1	2.20	0.75
1:YQ:1010:G:N2	12:YD:193:ASP:OD1	2.19	0.75
1:BQ:1815:U:O2'	1:BQ:1816:A:OP2	2.05	0.75
18:2:900:A:OP1	33:Z:43:THR:OG1	2.03	0.75
1:YQ:120:G:N2	10:XA:123:GLN:O	2.20	0.75
1:YQ:407:A:OP2	3:YS:16:G:N2	2.20	0.75
1:YQ:2442:G:N2	1:YQ:2506:U:O2	2.20	0.75
1:BQ:791:A:OP1	6:BE:108:LYS:NZ	2.19	0.75
13:AG:13:LYS:NZ	13:AG:14:ILE:O	2.20	0.75
53:BB:182:LYS:NZ	63:AR:55:LYS:O	2.19	0.75
18:2b:1653:C:O3'	76:XS:21:ARG:NH1	2.20	0.75
1:BQ:2184:U:OP2	4:AW:6:ARG:NH2	2.18	0.75
18:2:1640:C:N4	84:l:48:A:OP1	2.19	0.75
50:N:125:THR:OG1	50:N:144:CYS:SG	2.45	0.75
18:2b:1387:G:N7	36:Gb:44:LYS:NZ	2.34	0.75
22:Ab:20:GLU:OE2	22:Ab:76:ARG:NH2	2.20	0.75
2:YR:28:C:OP1	13:XG:137:ARG:NH1	2.20	0.75
1:BQ:3194:C:O2	1:BQ:3197:G:N2	2.18	0.75
18:2b:1364:G:O2'	35:Fb:26:LYS:NZ	2.20	0.75
19:Pb:2:SER:N	40:ab:77:GLY:O	2.20	0.75
23:Sb:32:SER:OG	23:Sb:81:THR:OG1	2.05	0.75
1:YQ:683:U:OP2	14:XJ:28:GLN:NE2	2.20	0.75
1:YQ:1298:C:O3'	75:XO:113:ARG:NH2	2.20	0.75
1:BQ:1748:G:OP2	73:AI:42:LYS:NZ	2.19	0.74
18:2:987:G:N2	18:2:1013:A:OP1	2.20	0.74
18:2:1488:G:OP2	22:A:8:LYS:NZ	2.17	0.74
22:A:31:GLU:O	22:A:54:ARG:NH2	2.20	0.74
23:Sb:187:ARG:O	23:Sb:245:LYS:NZ	2.20	0.74
2:YR:76:A:N3	55:YH:50:LYS:NZ	2.35	0.74
1:BQ:361:A:OP1	72:AF:24:ARG:NH1	2.19	0.74
1:BQ:497:C:O3'	68:BK:86:ARG:NH2	2.20	0.74
25:T:121:LEU:H	59:AE:78:ALA:HB3	1.52	0.74
1:YQ:291:C:OP1	16:XQ:68:ARG:NH1	2.20	0.74
1:YQ:2701:U:OP2	56:YJ:22:HIS:ND1	2.16	0.74
18:2b:531:C:O2	43:db:62:THR:OG1	2.05	0.74
36:Gb:81:LYS:O	36:Gb:83:GLN:N	2.20	0.74
8:YM:60:ASP:OD2	8:YM:62:THR:OG1	2.04	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:52:THR:OG1	21:R:55:GLU:OE1	2.04	0.74
27:V:135:LYS:N	27:V:140:GLU:OE2	2.21	0.74
53:BB:148:GLU:OE1	53:BB:151:ARG:NH1	2.21	0.74
18:2b:1339:C:O2'	18:2b:1341:A:N7	2.20	0.74
18:2b:1573:A:OP2	24:Bb:185:ARG:NH2	2.21	0.74
19:Pb:103:THR:O	19:Pb:106:SER:OG	2.04	0.74
1:YQ:116:A:OP2	16:XQ:2:GLY:N	2.21	0.74
1:YQ:2360:C:O2'	1:YQ:2362:C:OP2	2.04	0.74
1:BQ:1158:A:OP2	9:BO:90:LYS:NZ	2.15	0.74
1:BQ:2895:G:O2'	75:AO:100:TYR:O	2.04	0.74
3:BS:151:C:O2'	3:BS:153:U:OP2	2.04	0.74
16:AQ:8:GLU:OE2	16:AQ:12:ARG:NE	2.21	0.74
18:2:886:U:O2'	33:Z:121:VAL:O	2.02	0.74
18:2:1564:U:O2'	37:H:84:TRP:O	2.04	0.74
1:YQ:2416:U:O2	1:YQ:2966:G:N2	2.19	0.74
1:BQ:61:A:N1	16:AQ:189:LYS:NZ	2.36	0.74
38:I:39:THR:OG1	38:I:43:ASN:ND2	2.20	0.74
18:2b:1594:G:OP2	18:2b:1596:C:N4	2.20	0.74
35:Fb:113:ASP:HA	35:Fb:116:LEU:HD12	1.68	0.74
51:Ob:128:ASP:OD1	51:Ob:130:THR:OG1	2.05	0.74
1:YQ:217:U:O2	61:XK:103:LYS:NZ	2.20	0.74
18:2:122:U:O3'	23:S:77:ARG:NH2	2.20	0.74
25:T:57:ASP:OD1	25:T:61:PHE:N	2.20	0.74
36:G:18:GLU:O	36:G:72:LYS:NZ	2.20	0.74
39:J:70:THR:O	48:M:40:ARG:NH1	2.21	0.74
18:2b:1294:G:O2'	19:Pb:108:THR:OG1	2.00	0.74
1:YQ:518:G:OP2	1:YQ:518:G:N2	2.19	0.74
1:YQ:2786:G:N2	63:XR:58:MET:SD	2.59	0.74
1:BQ:1281:G:OP1	79:BU:55:LYS:NZ	2.21	0.74
6:BE:3:ARG:NH1	6:BE:22:LEU:O	2.21	0.74
23:S:11:ARG:NH1	23:S:21:ASP:OD1	2.20	0.74
58:AB:68:GLU:O	58:AB:72:LYS:NZ	2.20	0.74
18:2b:494:U:O2'	18:2b:495:C:O5'	2.06	0.74
18:2b:742:U:O2	26:Ub:107:ARG:NH1	2.20	0.74
18:2b:1198:G:OP1	18:2b:1199:G:O2'	2.02	0.74
40:ab:30:ALA:O	40:ab:60:ARG:NH1	2.21	0.74
1:YQ:1727:G:OP1	78:XT:44:LYS:NZ	2.21	0.74
77:XP:73:GLU:OE1	77:XP:80:ARG:NH1	2.20	0.74
1:BQ:145:G:OP2	10:AA:193:LYS:NZ	2.19	0.74
18:2:1552:U:OP2	34:E:43:ARG:NH2	2.21	0.74
30:X:57:LYS:O	30:X:138:ASN:ND2	2.21	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Wb:108:ARG:O	28:Wb:111:THR:OG1	2.04	0.74
2:YR:5:G:OP2	7:YI:27:LYS:NZ	2.19	0.74
18:2:1357:A:N3	38:I:129:GLN:NE2	2.35	0.74
18:2b:861:U:OP1	32:Yb:64:ARG:NH1	2.21	0.74
1:YQ:520:U:O4	6:YE:349:THR:OG1	2.05	0.74
1:YQ:1144:U:O4	1:YQ:1159:A:N6	2.19	0.74
1:YQ:2713:U:O2'	77:XP:8:ARG:NH1	2.21	0.74
11:XD:133:THR:OG1	11:XD:147:SER:OG	2.04	0.74
15:AM:19:ARG:NH2	15:AM:66:THR:O	2.20	0.73
18:2:1402:G:OP2	36:G:5:ARG:NH2	2.21	0.73
35:Fb:94:GLN:O	51:Ob:59:ARG:NH1	2.21	0.73
1:YQ:2295:A:OP1	58:XB:63:LYS:NZ	2.20	0.73
2:BR:72:A:O2'	2:BR:74:C:OP1	2.03	0.73
18:2:68:A:N6	25:T:132:ARG:O	2.20	0.73
18:2b:247:A:O2'	30:Xb:37:ASN:O	2.06	0.73
1:YQ:2185:G:O2'	1:YQ:2314:U:OP2	2.06	0.73
7:YI:4:GLN:OE1	7:YI:4:GLN:N	2.20	0.73
1:BQ:1201:C:N4	1:BQ:2857:C:OP1	2.20	0.73
18:2b:775:G:O6	43:db:11:LYS:NZ	2.20	0.73
1:YQ:1321:G:O3'	55:YH:117:ARG:NH2	2.21	0.73
1:YQ:1591:G:HO2'	1:YQ:1655:G:HO2'	1.35	0.73
1:BQ:2786:G:N2	63:AR:58:MET:SD	2.61	0.73
1:BQ:2899:C:O2'	1:BQ:2901:G:OP2	2.04	0.73
18:2:803:A:O2'	26:U:104:ARG:NH2	2.22	0.73
52:AX:166:VAL:HG22	52:AX:168:LEU:HD13	1.70	0.73
18:2b:324:U:OP1	30:Xb:133:LYS:NZ	2.22	0.73
1:YQ:1079:A:OP2	7:YI:140:ARG:NH1	2.21	0.73
1:YQ:1900:A:O2'	1:YQ:1906:G:N7	2.19	0.73
2:YR:40:C:O2	13:XG:72:ARG:NE	2.21	0.73
18:2:1198:G:OP1	18:2:1199:G:O2'	2.05	0.73
51:O:154:VAL:O	51:O:155:ARG:NH1	2.22	0.73
1:YQ:1482:A:N7	1:YQ:1866:C:O2'	2.21	0.73
1:BQ:2261:G:O2'	1:BQ:2263:C:N4	2.22	0.73
9:BO:186:HIS:O	9:BO:190:THR:OG1	2.04	0.73
19:Pb:117:GLU:O	21:Rb:40:LYS:NZ	2.15	0.73
27:Vb:20:GLN:NE2	27:Vb:22:ARG:O	2.22	0.73
1:YQ:90:C:OP1	63:XR:59:ARG:NH1	2.21	0.73
21:R:180:ALA:O	21:R:185:LYS:NZ	2.22	0.73
18:2b:967:A:OP2	32:Yb:124:ARG:NH2	2.21	0.73
30:Xb:83:THR:OG1	30:Xb:109:VAL:O	2.05	0.73
18:2:333:A:OP2	27:V:54:LYS:NZ	2.17	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:D:31:VAL:HG22	31:D:133:LEU:HD12	1.70	0.73
18:2b:824:G:O6	18:2b:848:C:N4	2.19	0.73
18:2b:886:U:O2'	33:Zb:121:VAL:O	2.06	0.73
44:Kb:39:ALA:O	44:Kb:72:GLY:N	2.22	0.73
51:Ob:12:THR:OG1	51:Ob:14:GLU:OE2	2.05	0.73
1:BQ:66:A:OP2	14:AJ:100:ARG:NH2	2.22	0.73
1:BQ:2945:G:O2'	1:BQ:2948:C:OP2	2.04	0.73
18:2:221:A:OP2	18:2:832:U:O2'	2.03	0.73
23:S:130:GLN:NE2	23:S:138:TYR:OH	2.21	0.73
51:O:128:ASP:OD1	51:O:130:THR:OG1	2.06	0.73
18:2b:187:G:O2'	18:2b:198:A:N6	2.21	0.73
18:2b:471:A:O2'	28:Wb:9:SER:O	2.07	0.73
18:2b:702:G:O2'	18:2b:703:G:O4'	2.07	0.73
36:Gb:44:LYS:O	36:Gb:48:ASN:ND2	2.22	0.73
51:Ob:248:ASN:ND2	51:Ob:297:ASP:O	2.22	0.73
1:YQ:2542:U:O2'	1:YQ:2544:U:OP1	2.07	0.73
3:YS:126:A:O2'	3:YS:129:C:N4	2.22	0.73
1:BQ:1634:G:N7	62:AN:17:ARG:NH2	2.36	0.73
18:2:1502:G:N7	38:I:102:ARG:NH2	2.36	0.73
18:2b:145:A:O2'	18:2b:146:U:O5'	2.07	0.73
18:2b:1445:G:HO2'	50:Nb:85:TYR:HH	1.36	0.73
23:Sb:115:THR:OG1	23:Sb:117:GLU:O	2.07	0.73
1:YQ:1722:U:OP1	54:YF:100:ARG:NH1	2.22	0.73
4:XW:65:ASP:OD2	4:XW:68:LYS:N	2.22	0.73
5:YA:83:PRO:O	5:YA:165:GLN:NE2	2.22	0.73
84:l:52:U:O2'	84:l:53:U:O4'	2.07	0.73
11:AD:49:ASN:OD1	11:AD:52:LEU:N	2.22	0.72
23:S:115:THR:OG1	23:S:117:GLU:O	2.07	0.72
44:K:39:ALA:O	44:K:72:GLY:N	2.22	0.72
1:YQ:1010:G:O3'	12:YD:40:LYS:NZ	2.21	0.72
1:YQ:1112:A:N3	1:YQ:1370:G:O2'	2.22	0.72
1:YQ:1222:G:OP1	79:YU:8:LYS:NZ	2.21	0.72
1:YQ:2631:U:OP2	56:YJ:4:SER:OG	2.06	0.72
1:BQ:2103:U:OP1	54:BF:88:ARG:NH1	2.22	0.72
3:BS:141:C:O2	16:AQ:112:ASN:ND2	2.22	0.72
18:2:448:C:OP2	23:S:49:ARG:NH1	2.22	0.72
18:2:1206:U:O2	48:M:27:HIS:NE2	2.19	0.72
45:e:74:CYS:SG	45:e:75:VAL:N	2.62	0.72
51:O:174:ASN:O	51:O:176:LYS:NZ	2.22	0.72
18:2:140:A:OP2	25:T:187:LYS:NZ	2.20	0.72
18:2:960:U:O5'	32:Y:55:ARG:NH1	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:86:VAL:O	21:R:96:THR:OG1	2.06	0.72
56:YJ:14:MET:HE1	56:YJ:55:LYS:HB2	1.71	0.72
78:XT:78:THR:O	78:XT:81:SER:OG	2.05	0.72
82:nb:20:U:O4	82:nb:48:C:N4	2.20	0.72
1:BQ:691:A:OP1	6:BE:46:LYS:NZ	2.22	0.72
1:BQ:3379:C:O2'	5:BA:316:GLU:OE2	2.08	0.72
18:2:1220:C:O4'	29:C:51:SER:OG	2.08	0.72
18:2b:1350:U:O4	18:2b:1375:A:N6	2.19	0.72
24:Bb:102:ARG:O	24:Bb:106:LYS:NZ	2.20	0.72
1:YQ:144:A:OP1	10:XA:193:LYS:NZ	2.16	0.72
1:YQ:2273:G:O2'	1:YQ:2311:G:O6	2.07	0.72
52:AX:108:ASP:N	52:AX:152:GLU:OE2	2.23	0.72
18:2b:382:C:OP2	23:Sb:10:LYS:NZ	2.22	0.72
18:2b:1066:C:O2'	20:Qb:148:ASN:OD1	2.02	0.72
1:YQ:1899:G:O2'	1:YQ:2334:U:O4	2.04	0.72
14:AJ:4:SER:O	63:AR:44:ASN:ND2	2.22	0.72
18:2:459:G:OP1	43:d:109:LYS:NZ	2.21	0.72
18:2b:1435:G:N7	29:Cb:25:LYS:NZ	2.36	0.72
35:Fb:136:SER:O	35:Fb:137:ARG:NE	2.22	0.72
80:n:34:A:H61	84:l:48:A:H61	1.38	0.72
1:BQ:14:U:OP1	60:AH:39:LYS:NZ	2.22	0.72
1:BQ:1128:U:O4'	12:BD:4:ARG:NH1	2.21	0.72
1:BQ:1737:U:O2	69:BN:52:GLN:NE2	2.23	0.72
1:YQ:364:G:OP2	72:XF:52:LYS:NZ	2.18	0.72
1:YQ:1832:C:OP1	60:XH:120:LYS:NZ	2.23	0.72
1:BQ:1340:G:OP2	67:BG:61:LYS:NZ	2.23	0.72
1:BQ:2568:C:O2'	1:BQ:2569:A:O5'	2.08	0.72
18:2:447:U:O2'	23:S:27:TYR:O	2.07	0.72
18:2:741:C:O2'	18:2:742:U:O4'	2.07	0.72
18:2:1285:U:O2'	18:2:1286:U:OP1	2.06	0.72
24:B:76:ARG:NH2	35:F:120:ASP:OD1	2.21	0.72
35:F:112:TYR:O	35:F:114:ARG:NH1	2.22	0.72
18:2b:1564:U:O2'	37:Hb:84:TRP:O	2.07	0.72
1:BQ:596:C:OP2	9:BO:34:LYS:NZ	2.23	0.72
1:BQ:1364:C:OP1	9:BO:110:ARG:NH2	2.22	0.72
18:2:54:C:OP1	43:d:113:ASN:ND2	2.23	0.72
18:2:534:A:OP1	28:W:168:ARG:NH2	2.23	0.72
18:2b:1402:G:OP2	36:Gb:5:ARG:NH2	2.23	0.72
3:YS:57:C:O2	3:YS:61:A:O2'	2.08	0.72
31:D:56:GLU:OE1	31:D:124:LYS:NZ	2.23	0.72
42:c:109:ARG:O	42:c:112:LYS:NZ	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Pb:140:ASN:N	40:ab:29:HIS:O	2.23	0.72
1:YQ:225:C:O2'	61:XK:32:SER:OG	2.07	0.72
1:YQ:596:C:OP2	9:YO:34:LYS:NZ	2.23	0.72
1:YQ:1024:G:N2	1:YQ:1026:A:OP2	2.23	0.72
1:YQ:1874:A:OP2	54:YF:20:ARG:NH1	2.22	0.72
1:YQ:2179:C:O2'	4:XW:174:ARG:NH2	2.23	0.72
6:YE:328:ASN:ND2	9:YO:149:TYR:OH	2.23	0.72
11:XD:5:GLN:NE2	11:XD:7:GLU:OE2	2.22	0.72
21:Rb:143:TYR:OH	21:Rb:150:GLN:N	2.23	0.71
1:YQ:978:G:O2'	1:YQ:979:U:O4'	2.08	0.71
1:BQ:1379:G:O2'	6:BE:191:LYS:NZ	2.23	0.71
20:Q:180:THR:OG1	20:Q:183:GLN:NE2	2.22	0.71
18:2b:1665:U:OP1	27:Vb:17:LYS:NZ	2.22	0.71
1:YQ:2931:C:HO2'	58:XB:42:SER:HG	1.35	0.71
1:YQ:3273:A:OP2	8:YM:77:ARG:NH2	2.22	0.71
16:XQ:9:GLU:OE2	16:XQ:13:LYS:NZ	2.22	0.71
1:BQ:2675:C:N4	13:AG:22:SER:O	2.23	0.71
7:BI:54:ARG:NH1	7:BI:148:ILE:O	2.22	0.71
58:AB:28:ASN:OD1	58:AB:113:ALA:N	2.23	0.71
18:2b:1280:C:O2'	39:Jb:70:THR:OG1	2.05	0.71
18:2b:1365:C:O2'	35:Fb:30:LYS:NZ	2.23	0.71
18:2b:1381:U:O4'	18:2b:1516:A:N6	2.23	0.71
18:2b:1566:U:OP2	37:Hb:41:ARG:NH1	2.23	0.71
25:Tb:57:ASP:OD1	25:Tb:61:PHE:N	2.22	0.71
1:YQ:2682:C:O4'	13:XG:20:ASN:ND2	2.23	0.71
62:XN:22:LYS:NZ	62:XN:132:SER:OG	2.24	0.71
1:BQ:1258:U:O5'	79:BU:42:ARG:NH2	2.24	0.71
18:2:629:U:OP2	18:2:969:C:N4	2.23	0.71
18:2:930:A:O2'	20:Q:111:ARG:NH2	2.23	0.71
32:Y:110:ASP:OD1	32:Y:114:ARG:NH1	2.23	0.71
18:2b:1617:U:O2'	47:Lb:21:SER:O	2.07	0.71
18:2b:1796:C:OP1	45:eb:87:ARG:NH1	2.24	0.71
1:YQ:2771:U:O2'	1:YQ:2772:C:O4'	2.09	0.71
1:YQ:2940:A:N7	5:YA:2:SER:N	2.39	0.71
2:BR:76:A:N3	55:BH:50:LYS:NZ	2.37	0.71
18:2:861:U:O2'	41:b:56:HIS:O	2.06	0.71
18:2:1542:G:N2	18:2:1569:A:OP2	2.22	0.71
29:C:14:TYR:OH	29:C:34:GLU:OE1	2.07	0.71
58:AB:10:LYS:NZ	58:AB:56:ASP:OD1	2.22	0.71
1:YQ:1314:C:O3'	17:XU:18:ARG:NH2	2.23	0.71
1:YQ:1921:A:OP2	1:YQ:1930:A:N6	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:1713:G:N2	1:BQ:1731:A:OP2	2.22	0.71
18:2:258:C:O2	27:V:178:ARG:NH2	2.23	0.71
18:2:1653:C:O3'	76:AS:21:ARG:NH1	2.24	0.71
21:R:179:VAL:O	21:R:198:THR:OG1	2.07	0.71
23:S:252:ARG:NH2	23:S:253:ASP:OD1	2.24	0.71
4:XW:171:GLY:O	78:XT:68:ALA:N	2.23	0.71
10:XA:171:LYS:NZ	10:XA:223:ALA:O	2.23	0.71
1:BQ:835:G:O2'	1:BQ:857:G:N2	2.19	0.71
1:BQ:3277:U:OP2	52:AX:175:ARG:NH1	2.23	0.71
5:BA:185:GLY:O	5:BA:191:LYS:NZ	2.19	0.71
21:R:70:ASP:OD1	21:R:133:LYS:NZ	2.19	0.71
51:O:197:SER:OG	51:O:217:ASP:N	2.23	0.71
1:BQ:560:G:OP1	15:AM:83:LYS:NZ	2.17	0.71
18:2:558:U:OP2	49:g:55:ARG:NH1	2.23	0.71
18:2:1365:C:O2'	35:F:30:LYS:NZ	2.23	0.71
37:H:30:TYR:O	37:H:33:THR:OG1	2.08	0.71
38:I:5:SER:HG	38:I:66:TYR:HH	1.30	0.71
38:I:38:LYS:NZ	38:I:43:ASN:O	2.22	0.71
18:2b:10:G:O2'	21:Rb:87:GLN:OE1	2.09	0.71
18:2b:504:U:OP1	49:gb:46:ASN:ND2	2.23	0.71
18:2b:609:U:O4	18:2b:1108:G:O2'	2.03	0.71
31:Db:43:ARG:NH1	31:Db:102:GLY:O	2.24	0.71
1:YQ:128:G:OP2	70:YP:74:LYS:NZ	2.24	0.71
1:YQ:200:C:OP2	61:XK:60:ARG:NH2	2.24	0.71
1:YQ:2838:A:OP1	12:YD:154:ARG:NH1	2.24	0.71
5:YA:375:GLU:OE1	59:XE:14:TYR:OH	2.09	0.71
11:XD:80:THR:OG1	11:XD:86:TYR:OH	2.02	0.71
1:BQ:608:A:O3'	6:BE:326:ARG:NH1	2.23	0.71
3:BS:135:G:OP2	60:AH:56:ARG:NH2	2.23	0.71
18:2:424:C:O2	18:2:427:C:N4	2.24	0.71
18:2b:76:A:N6	18:2b:80:A:O2'	2.23	0.71
4:XW:89:TYR:N	4:XW:100:ASN:OD1	2.23	0.71
1:BQ:2550:U:OP1	69:BN:106:LYS:NZ	2.24	0.71
1:BQ:2988:C:O2	5:BA:266:ARG:NH1	2.24	0.71
4:AW:13:GLY:O	4:AW:16:PHE:N	2.24	0.71
13:AG:43:GLN:NE2	13:AG:70:THR:O	2.24	0.71
18:2:1063:U:OP1	46:f:72:LYS:NZ	2.23	0.71
18:2:1275:A:N7	18:2:1431:C:N4	2.38	0.71
18:2b:67:A:OP1	25:Tb:171:LYS:NZ	2.23	0.71
18:2b:1380:U:OP1	35:Fb:12:LYS:NZ	2.23	0.71
31:Db:45:LEU:HD11	50:Nb:102:VAL:HG13	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:114:A:N1	1:YQ:266:A:O2'	2.24	0.71
1:YQ:1062:A:O2'	1:YQ:1063:G:OP2	2.09	0.71
1:YQ:2165:G:N2	1:YQ:2168:A:OP2	2.24	0.71
1:YQ:2899:C:O2'	1:YQ:2901:G:OP2	2.09	0.71
5:YA:10:ARG:NH2	5:YA:263:SER:O	2.24	0.71
58:XB:10:LYS:NZ	58:XB:56:ASP:OD1	2.22	0.71
1:BQ:1071:U:O2'	1:BQ:1072:G:O5'	2.06	0.70
20:Qb:82:ARG:NH1	20:Qb:191:GLU:OE2	2.24	0.70
1:YQ:209:A:O2'	1:YQ:211:A:OP2	2.08	0.70
1:BQ:190:U:OP1	61:AK:37:LYS:NZ	2.16	0.70
1:BQ:1103:A:O2'	1:BQ:1104:G:OP1	2.09	0.70
18:2:322:G:O2'	27:V:10:LYS:NZ	2.23	0.70
26:U:64:VAL:HG22	26:U:94:ALA:HB1	1.71	0.70
36:G:81:LYS:O	36:G:83:GLN:N	2.24	0.70
18:2b:151:G:O5'	43:db:127:LYS:NZ	2.24	0.70
18:2b:1296:A:OP1	19:Pb:138:TYR:OH	2.07	0.70
34:Eb:37:ALA:O	34:Eb:42:ARG:NH1	2.24	0.70
60:XH:69:SER:HG	60:XH:71:THR:HG1	1.36	0.70
1:BQ:1875:G:N7	54:BF:20:ARG:NH2	2.38	0.70
1:BQ:2965:U:O2	4:AW:221:LYS:NZ	2.17	0.70
28:W:110:GLN:NE2	28:W:122:VAL:O	2.24	0.70
48:M:12:ARG:NH2	48:M:17:GLY:O	2.24	0.70
18:2b:1072:C:OP1	46:fb:22:LYS:NZ	2.23	0.70
18:2b:1233:G:O2'	50:Nb:145:HIS:NE2	2.23	0.70
1:YQ:608:A:OP1	6:YE:315:LYS:NZ	2.24	0.70
1:BQ:1176:C:OP2	1:BQ:1177:G:O2'	2.08	0.70
18:2:1157:A:O2'	18:2:1159:C:OP2	2.09	0.70
51:O:249:ARG:NH1	51:O:298:GLY:O	2.24	0.70
79:BU:45:LEU:HD22	79:BU:49:ALA:HB3	1.73	0.70
23:Sb:214:LEU:HD13	23:Sb:244:ILE:HD11	1.73	0.70
1:YQ:75:G:OP2	14:XJ:104:ARG:NH2	2.25	0.70
1:YQ:3173:G:OP2	17:XU:101:ARG:NE	2.23	0.70
14:XJ:4:SER:O	63:XR:44:ASN:ND2	2.24	0.70
1:BQ:1832:C:OP1	60:AH:120:LYS:NZ	2.22	0.70
5:BA:382:THR:OG1	5:BA:386:ASP:OD2	2.07	0.70
25:T:87:ARG:N	25:T:91:GLU:OE1	2.24	0.70
31:D:91:VAL:HG11	31:D:97:LEU:HD12	1.73	0.70
39:J:60:THR:OG1	39:J:86:ILE:O	2.09	0.70
18:2b:861:U:O2'	41:bb:56:HIS:O	2.08	0.70
1:YQ:2608:G:OP1	4:XW:2:GLY:N	2.24	0.70
15:XM:19:ARG:NH2	15:XM:66:THR:O	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:YJ:8:ARG:O	56:YJ:11:THR:OG1	2.09	0.70
1:BQ:317:A:OP2	71:AC:30:LYS:NZ	2.23	0.70
1:BQ:679:U:O2'	1:BQ:788:C:O2	2.10	0.70
1:BQ:1320:C:O2	55:BH:115:ARG:NH2	2.25	0.70
6:BE:328:ASN:OD1	9:BO:48:ASN:ND2	2.23	0.70
20:Q:195:LYS:O	20:Q:199:ASN:ND2	2.24	0.70
18:2b:628:G:OP1	32:Yb:124:ARG:NH1	2.24	0.70
18:2b:765:G:OP2	18:2b:765:G:N2	2.25	0.70
20:Qb:46:THR:OG1	33:Zb:32:ASP:OD2	2.10	0.70
1:YQ:77:A:H61	1:YQ:324:A:H61	1.40	0.70
1:BQ:515:C:O2'	6:BE:341:SER:O	2.10	0.70
18:2:123:G:OP1	23:S:75:LYS:NZ	2.24	0.70
18:2:1482:C:OP2	18:2:1521:G:N2	2.25	0.70
1:YQ:1312:C:O2'	17:XU:83:ALA:O	2.09	0.70
1:YQ:3039:C:O2'	58:XB:10:LYS:O	2.09	0.70
1:BQ:1312:C:O2'	17:AU:83:ALA:O	2.09	0.70
1:BQ:2901:G:O2'	1:BQ:3024:A:N1	2.24	0.70
3:BS:39:G:O2'	3:BS:105:A:N1	2.25	0.70
18:2b:38:C:O3'	28:Wb:6:ARG:NH1	2.24	0.70
18:2b:1081:A:O2'	18:2b:1082:C:O2	2.04	0.70
18:2b:1164:G:OP1	24:Bb:170:GLN:NE2	2.24	0.70
18:2b:1415:U:OP2	36:Gb:3:ARG:NH2	2.25	0.70
3:YS:82:U:O2'	3:YS:83:C:OP2	2.07	0.70
1:BQ:3243:A:N6	17:AU:157:GLU:OE2	2.22	0.70
18:2:1066:C:OP1	20:Q:151:LYS:NZ	2.17	0.70
18:2:1257:U:O2'	18:2:1258:U:O4'	2.09	0.70
39:J:32:LYS:O	39:J:36:ASN:ND2	2.25	0.70
18:2b:1064:G:O2'	20:Qb:204:ILE:O	2.10	0.70
18:2b:1430:U:O2'	18:2b:1433:G:OP1	2.09	0.70
1:BQ:518:G:OP2	1:BQ:518:G:N2	2.23	0.70
1:BQ:914:A:N1	4:AW:204:MET:HE3	2.07	0.70
1:BQ:1695:U:O2'	1:BQ:1749:A:N1	2.23	0.70
18:2:63:G:O2'	18:2:170:U:OP1	2.09	0.70
18:2:1479:A:OP2	38:I:57:ARG:NH2	2.25	0.70
21:Rb:179:VAL:O	21:Rb:198:THR:OG1	2.08	0.70
39:Jb:60:THR:OG1	39:Jb:86:ILE:O	2.09	0.70
1:YQ:1713:G:H1	1:YQ:1730:G:HO2'	1.39	0.70
1:BQ:1696:A:OP2	1:BQ:1749:A:N6	2.22	0.69
5:BA:10:ARG:NH2	5:BA:263:SER:O	2.25	0.69
5:BA:80:ASP:OD2	5:BA:314:TYR:OH	2.10	0.69
18:2:394:C:N4	18:2:401:A:H62	1.89	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XD:91:ARG:NH2	11:XD:141:LYS:O	2.25	0.69
53:YB:36:LEU:O	53:YB:40:THR:OG1	2.08	0.69
1:BQ:1389:G:OP1	67:BG:104:ASN:ND2	2.24	0.69
28:W:108:ARG:O	28:W:111:THR:OG1	2.10	0.69
18:2b:26:A:O2'	18:2b:27:U:O5'	2.10	0.69
18:2b:1558:U:OP1	37:Hb:122:HIS:ND1	2.25	0.69
1:YQ:170:G:OP1	14:XJ:128:ARG:NH1	2.25	0.69
1:YQ:1816:A:O2'	1:YQ:1817:G:OP1	2.10	0.69
1:YQ:2751:G:OP1	56:YJ:50:LYS:NZ	2.24	0.69
18:2:110:U:OP1	18:2:754:A:O2'	2.09	0.69
27:V:136:SER:O	27:V:139:ALA:N	2.25	0.69
38:I:73:VAL:O	38:I:77:ASN:ND2	2.26	0.69
35:Fb:18:ALA:HA	35:Fb:69:VAL:HG12	1.73	0.69
4:XW:117:GLU:OE1	4:XW:123:ARG:N	2.25	0.69
1:BQ:362:U:HO2'	1:BQ:928:C:HO2'	1.39	0.69
1:BQ:900:G:N3	1:BQ:1589:A:N6	2.40	0.69
7:BI:107:ARG:NH1	7:BI:169:GLY:O	2.25	0.69
18:2:1435:G:N7	29:C:25:LYS:NZ	2.39	0.69
20:Q:129:THR:OG1	20:Q:131:ASP:O	2.08	0.69
1:YQ:308:A:HO2'	1:YQ:2222:A:HO2'	1.32	0.69
1:YQ:359:U:O3'	72:XF:25:ARG:NH1	2.25	0.69
1:YQ:2988:C:O2	5:YA:266:ARG:NH1	2.24	0.69
3:YS:75:G:OP2	61:XK:74:TYR:OH	2.09	0.69
18:2:38:C:O3'	28:W:6:ARG:NH1	2.25	0.69
39:J:70:THR:HG22	39:J:71:PRO:O	1.92	0.69
18:2b:1159:C:N4	18:2b:1285:U:OP1	2.25	0.69
18:2b:1414:U:O2'	18:2b:1416:G:OP2	2.06	0.69
21:Rb:54:GLU:OE1	21:Rb:54:GLU:N	2.26	0.69
1:YQ:714:G:O2'	1:YQ:753:C:O2'	2.09	0.69
2:YR:44:C:OP2	13:XG:137:ARG:NH2	2.26	0.69
4:XW:13:GLY:O	4:XW:16:PHE:N	2.25	0.69
1:BQ:283:G:OP1	77:AP:45:ARG:NH2	2.25	0.69
1:BQ:2600:C:OP1	16:AQ:93:LYS:NZ	2.24	0.69
1:BQ:2737:C:OP1	56:BJ:70:SER:OG	2.09	0.69
18:2:74:U:C2	18:2:74:U:H1'	2.27	0.69
35:F:129:PHE:O	35:F:137:ARG:NH1	2.25	0.69
23:Sb:118:GLU:OE2	23:Sb:237:SER:N	2.23	0.69
50:Nb:123:ASN:ND2	50:Nb:125:THR:OG1	2.26	0.69
12:YD:186:GLU:OE1	12:YD:186:GLU:N	2.25	0.69
1:BQ:212:G:OP2	61:AK:2:ALA:N	2.25	0.69
1:BQ:782:U:O2'	63:AR:115:LYS:NZ	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:2294:U:OP2	58:AB:71:LYS:NZ	2.25	0.69
13:AG:94:ARG:N	13:AG:95:ASN:OD1	2.26	0.69
18:2:1213:G:O2'	18:2:1244:A:N6	2.26	0.69
20:Q:179:SER:OG	20:Q:187:LYS:NZ	2.25	0.69
38:I:117:SER:OG	38:I:120:GLY:O	2.11	0.69
51:Ob:200:ASN:ND2	51:Ob:240:VAL:O	2.24	0.69
1:YQ:799:G:OP2	63:XR:32:ARG:NH1	2.25	0.69
1:YQ:2676:A:N1	13:XG:22:SER:OG	2.25	0.69
4:XW:60:LYS:NZ	4:XW:73:GLU:OE1	2.23	0.69
6:YE:204:GLY:O	6:YE:246:ARG:NH1	2.25	0.69
55:YH:73:LYS:NZ	55:YH:97:VAL:O	2.22	0.69
1:BQ:683:U:OP1	16:AQ:204:LYS:NZ	2.26	0.69
1:BQ:718:G:OP1	63:AR:117:ARG:NH2	2.26	0.69
1:BQ:907:G:OP1	1:BQ:909:G:O2'	2.11	0.69
1:BQ:1493:G:OP2	1:BQ:1493:G:N2	2.22	0.69
1:BQ:3149:G:O2'	5:BA:129:ALA:O	2.08	0.69
1:BQ:3343:G:O2'	1:BQ:3362:A:N6	2.26	0.69
15:AM:40:ASP:OD1	15:AM:43:LYS:N	2.26	0.69
18:2:161:U:O4	43:d:128:LYS:NZ	2.26	0.69
18:2:555:A:N3	18:2:590:C:O2'	2.23	0.69
18:2:656:G:O2'	18:2:657:U:O4'	2.10	0.69
18:2:1255:G:O2'	18:2:1257:U:O4	2.10	0.69
18:2:1554:U:N3	48:M:9:SER:O	2.25	0.69
18:2:1596:C:O2'	18:2:1598:U:OP2	2.11	0.69
18:2b:218:A:N1	18:2b:843:U:O2'	2.26	0.69
18:2b:479:C:O3'	28:Wb:120:LYS:NZ	2.25	0.69
18:2b:1354:G:O6	18:2b:1369:U:O2	2.11	0.69
44:Kb:55:PRO:O	44:Kb:103:ARG:NH2	2.26	0.69
46:fb:67:THR:OG1	46:fb:70:LYS:O	2.11	0.69
51:Ob:133:VAL:O	51:Ob:141:LEU:N	2.26	0.69
1:YQ:825:U:OP1	4:XW:21:ARG:NH1	2.25	0.69
1:YQ:1547:G:OP1	16:XQ:108:ARG:NH2	2.26	0.69
1:YQ:2157:G:N7	4:XW:152:SER:OG	2.20	0.69
1:YQ:3115:C:OP1	11:XD:62:ARG:NH2	2.26	0.69
2:YR:38:U:N3	2:YR:41:G:OP2	2.25	0.69
4:XW:79:ASN:ND2	4:XW:166:ILE:O	2.26	0.69
12:YD:169:LYS:NZ	56:YJ:158:THR:OG1	2.16	0.69
68:YK:15:SER:OG	68:YK:16:TYR:N	2.26	0.69
1:BQ:147:U:O4	10:AA:183:LYS:NZ	2.25	0.69
1:BQ:2981:U:OP2	5:BA:244:ARG:NH2	2.25	0.69
5:BA:83:PRO:O	5:BA:165:GLN:NE2	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:64:U:O2'	18:2:168:A:N3	2.24	0.69
18:2:444:C:O5'	43:d:105:ARG:NH2	2.26	0.69
18:2:959:U:O2	46:f:30:SER:OG	2.10	0.69
18:2b:609:U:O2	42:cb:19:ARG:NH1	2.25	0.69
1:YQ:1868:G:O2'	1:YQ:2118:C:O2'	2.08	0.69
1:YQ:2556:C:O2'	62:XN:135:ARG:NH2	2.25	0.69
4:XW:242:ARG:NH2	4:XW:244:GLY:O	2.25	0.69
18:2:1608:U:OP1	35:F:15:SER:OG	2.09	0.69
27:V:2:GLY:O	27:V:24:LYS:NZ	2.18	0.69
33:Z:111:ARG:NH1	45:e:55:GLU:O	2.26	0.69
20:Qb:129:THR:OG1	20:Qb:131:ASP:O	2.11	0.69
51:Ob:14:GLU:OE1	51:Ob:53:LYS:NZ	2.26	0.69
1:YQ:2584:G:N3	10:XA:240:ASN:ND2	2.41	0.69
16:XQ:192:LYS:O	16:XQ:196:THR:OG1	2.09	0.69
1:BQ:20:A:OP2	70:BP:90:ARG:NH2	2.26	0.68
1:BQ:1630:U:OP1	62:AN:67:LYS:NZ	2.26	0.68
9:BO:150:LYS:NZ	9:BO:244:ASN:O	2.25	0.68
13:AG:94:ARG:O	13:AG:96:PHE:N	2.26	0.68
18:2:332:U:OP1	27:V:31:ARG:NE	2.25	0.68
18:2:714:G:O2'	18:2:715:U:O4'	2.08	0.68
18:2:1549:C:OP1	34:E:42:ARG:NH1	2.24	0.68
36:G:14:LYS:NZ	36:G:68:GLY:O	2.26	0.68
57:BL:83:TYR:O	57:BL:87:ASN:ND2	2.25	0.68
18:2b:148:A:N6	18:2b:166:C:H42	1.91	0.68
28:Wb:162:SER:O	28:Wb:165:GLY:N	2.25	0.68
48:Mb:14:TYR:N	48:Mb:14:TYR:HA	2.03	0.68
84:l:55:U:O2'	84:l:56:U:OP1	2.09	0.68
1:BQ:3097:C:OP1	5:BA:349:LYS:NZ	2.22	0.68
47:Lb:42:ARG:NH2	47:Lb:58:GLU:O	2.26	0.68
1:YQ:2562:A:O2'	10:XA:28:HIS:O	2.10	0.68
13:XG:40:LEU:HD13	13:XG:114:ILE:HD12	1.74	0.68
83:mb:7:G:O2'	83:mb:50:G:OP2	2.09	0.68
1:BQ:1313:G:OP1	17:AU:82:LYS:NZ	2.26	0.68
1:BQ:2282:U:OP1	1:BQ:2973:G:O2'	2.10	0.68
18:2:939:A:OP1	32:Y:114:ARG:NH2	2.26	0.68
63:AR:17:ALA:O	63:AR:19:LYS:N	2.25	0.68
1:YQ:117:U:O2'	1:YQ:119:U:OP2	2.11	0.68
1:YQ:2211:U:OP1	83:mb:3:C:O2'	2.10	0.68
1:BQ:1134:G:O2'	1:BQ:2642:A:N3	2.25	0.68
1:BQ:1896:A:H61	1:BQ:2339:C:N4	1.91	0.68
18:2:1786:G:OP2	33:Z:133:ARG:NH2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AK:33:ALA:HB3	61:AK:106:ILE:HD11	1.73	0.68
18:2b:1233:G:O2'	18:2b:1234:A:O4'	2.09	0.68
18:2b:1482:C:OP2	18:2b:1521:G:N2	2.26	0.68
1:YQ:1043:C:O3'	12:YD:90:ARG:NH1	2.27	0.68
18:2:104:A:N6	18:2:308:C:O4'	2.27	0.68
18:2:1486:G:O5'	39:J:64:LYS:NZ	2.25	0.68
18:2:1635:A:N6	21:R:92:ALA:O	2.27	0.68
18:2b:1241:G:O2'	18:2b:1242:A:O5'	2.07	0.68
56:YJ:14:MET:HE1	56:YJ:55:LYS:CB	2.24	0.68
73:XI:11:PHE:O	73:XI:15:THR:HG23	1.93	0.68
1:BQ:2521:U:O2'	1:BQ:2524:A:OP1	2.08	0.68
18:2:1681:A:N6	18:2:1720:G:O2'	2.26	0.68
46:fb:75:GLU:O	46:fb:77:THR:HG23	1.93	0.68
2:YR:47:C:OP2	7:YI:158:ARG:NH2	2.27	0.68
3:YS:63:G:O2'	70:YP:49:LYS:NZ	2.27	0.68
52:XX:10:ASN:O	52:XX:14:SER:OG	2.06	0.68
18:2:148:A:H62	18:2:166:C:H42	1.41	0.68
29:C:3:MET:O	29:C:8:ARG:NH1	2.26	0.68
21:Rb:176:SER:N	21:Rb:195:ASP:OD1	2.26	0.68
51:Ob:273:ASP:OD1	51:Ob:275:ARG:NH1	2.26	0.68
1:BQ:375:A:O4'	61:AK:87:LYS:NZ	2.19	0.68
1:BQ:520:U:O4	6:BE:349:THR:OG1	2.11	0.68
18:2:512:A:N3	28:W:131:GLN:NE2	2.41	0.68
18:2b:459:G:OP1	43:db:109:LYS:NZ	2.26	0.68
1:YQ:3277:U:OP2	52:XX:175:ARG:NH2	2.26	0.68
80:n:54:U:O2	80:n:58:A:N7	2.27	0.68
1:BQ:209:A:O2'	1:BQ:211:A:OP2	2.11	0.68
1:BQ:2137:U:OP2	1:BQ:2142:A:N6	2.26	0.68
13:AG:97:SER:OG	13:AG:99:THR:OG1	2.07	0.68
18:2:932:U:OP2	20:Q:155:TYR:OH	2.08	0.68
54:BF:144:GLN:NE2	54:BF:148:ASP:OD2	2.27	0.68
27:Vb:155:SER:O	27:Vb:158:SER:OG	2.06	0.68
62:XN:102:GLU:N	62:XN:102:GLU:OE1	2.27	0.68
13:AG:160:VAL:HG13	13:AG:171:VAL:HG21	1.74	0.68
18:2:74:U:C6	59:AE:116:LYS:CG	2.77	0.68
78:AT:46:THR:OG1	78:AT:57:CYS:SG	2.52	0.68
18:2b:1761:U:OP2	84:l:16:G:O2'	2.12	0.68
39:Jb:70:THR:O	48:Mb:40:ARG:NH1	2.26	0.68
1:YQ:679:U:O2'	1:YQ:788:C:O2	2.12	0.68
1:YQ:2523:A:OP1	60:XH:31:THR:OG1	2.06	0.68
13:XG:133:ARG:NH2	13:XG:158:ASP:OD2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:YH:92:LYS:NZ	55:YH:109:ASP:OD2	2.26	0.68
81:m:57:A:O2'	81:m:59:U:OP2	2.06	0.68
84:l:27:U:O2'	84:l:28:U:O2	2.10	0.68
1:BQ:1098:A:O2'	56:BJ:130:ARG:O	2.10	0.67
1:BQ:1431:G:OP2	63:AR:12:ARG:NH1	2.27	0.67
1:BQ:2338:C:OP1	5:BA:236:LYS:NZ	2.19	0.67
4:AW:65:ASP:OD1	4:AW:68:LYS:N	2.28	0.67
18:2:155:U:O2'	18:2:157:A:N7	2.25	0.67
21:R:94:GLN:NE2	21:R:95:ARG:O	2.27	0.67
39:Jb:83:GLU:N	48:Mb:53:ASN:O	2.26	0.67
3:YS:24:G:OP1	61:XK:17:LYS:NZ	2.23	0.67
1:BQ:1412:G:OP1	67:BG:105:ARG:NH2	2.27	0.67
1:BQ:2764:C:N3	81:m:75:A:O2'	2.23	0.67
18:2:902:G:OP1	33:Z:90:ARG:NH2	2.28	0.67
18:2:1496:U:O2'	18:2:1519:U:O2'	2.10	0.67
18:2:1676:U:OP1	27:V:44:HIS:ND1	2.28	0.67
18:2b:1285:U:O2'	18:2b:1286:U:OP1	2.11	0.67
37:Hb:28:ILE:HG12	37:Hb:61:LEU:HD11	1.76	0.67
1:BQ:685:G:OP2	14:AJ:35:ARG:NH1	2.28	0.67
18:2:31:C:O3'	42:c:139:LYS:NZ	2.26	0.67
18:2:307:G:OP1	30:X:103:ARG:NH1	2.28	0.67
18:2:501:U:O2'	18:2:502:U:O5'	2.12	0.67
28:W:70:LEU:O	28:W:74:ASN:ND2	2.27	0.67
18:2b:1597:A:N1	48:Mb:13:ARG:C	2.53	0.67
25:Tb:59:GLN:OE1	25:Tb:72:ARG:NH1	2.26	0.67
62:XN:22:LYS:NZ	62:XN:129:TRP:O	2.27	0.67
1:BQ:120:G:N2	10:AA:123:GLN:O	2.27	0.67
1:BQ:911:C:OP2	4:AW:9:ARG:NE	2.28	0.67
1:BQ:1816:A:O2'	1:BQ:1817:G:OP1	2.09	0.67
1:BQ:3195:U:O2'	1:BQ:3197:G:N2	2.26	0.67
1:BQ:3244:A:OP1	5:BA:97:ARG:NH2	2.26	0.67
18:2:74:U:C4	59:AE:116:LYS:CG	2.77	0.67
39:J:64:LYS:O	48:M:33:LYS:NZ	2.27	0.67
20:Qb:180:THR:OG1	20:Qb:183:GLN:OE1	2.12	0.67
3:YS:126:A:O2'	3:YS:128:U:OP2	2.09	0.67
4:XW:102:LEU:HD13	4:XW:166:ILE:HD11	1.76	0.67
3:BS:60:U:OP1	60:AH:54:TYR:OH	2.11	0.67
18:2:706:A:N6	18:2:731:C:O2'	2.26	0.67
40:a:49:GLU:OE1	40:a:49:GLU:N	2.27	0.67
44:K:66:VAL:HA	44:K:71:ILE:HG22	1.75	0.67
1:YQ:1634:G:N7	62:XN:17:ARG:NH1	2.42	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:2179:C:OP1	4:XW:132:ASN:ND2	2.28	0.67
14:XJ:89:TYR:O	14:XJ:92:THR:OG1	2.12	0.67
1:BQ:1455:U:O2	66:BC:26:LYS:NZ	2.27	0.67
1:BQ:2209:U:O2'	1:BQ:2210:G:OP2	2.12	0.67
3:BS:95:G:OP2	72:AF:72:ARG:NH1	2.28	0.67
18:2:95:G:OP1	23:S:6:LYS:NZ	2.28	0.67
34:E:75:PRO:O	34:E:77:ARG:NH1	2.27	0.67
18:2b:393:C:OP2	27:Vb:2:GLY:N	2.28	0.67
46:fb:38:PRO:HD3	46:fb:77:THR:HG22	1.75	0.67
1:YQ:1721:U:OP2	54:YF:124:TYR:OH	2.10	0.67
1:YQ:1723:A:OP1	54:YF:128:LYS:NZ	2.27	0.67
1:YQ:2720:G:OP2	53:YB:180:ARG:NH1	2.27	0.67
1:YQ:2794:G:N2	83:mb:77:A:O2'	2.28	0.67
1:BQ:901:G:OP1	72:AF:13:ASN:ND2	2.27	0.67
1:BQ:1907:C:O2	5:BA:240:ARG:NH2	2.28	0.67
1:BQ:3213:A:OP2	15:AM:124:ARG:NH2	2.28	0.67
18:2:58:U:O2'	18:2:451:A:N3	2.28	0.67
18:2:144:U:O2'	18:2:145:A:O5'	2.10	0.67
18:2:1492:A:O2'	18:2:1493:A:O4'	2.12	0.67
18:2:1597:A:C4	48:M:14:TYR:HA	2.30	0.67
18:2b:1427:A:O2'	18:2b:1428:G:OP1	2.08	0.67
18:2b:1481:C:O2'	18:2b:1482:C:O5'	2.13	0.67
2:YR:53:U:O2'	2:YR:55:A:N7	2.27	0.67
80:n:58:A:O2'	80:n:60:U:OP2	2.04	0.67
1:BQ:1096:U:OP2	56:BJ:116:ARG:NH2	2.28	0.67
16:AQ:174:ILE:O	16:AQ:175:ASN:ND2	2.27	0.67
18:2:1427:A:O2'	18:2:1428:G:OP1	2.12	0.67
29:C:45:ALA:O	29:C:48:SER:OG	2.12	0.67
58:AB:27:ASP:OD1	58:AB:29:SER:OG	2.11	0.67
38:Ib:126:GLU:OE1	38:Ib:126:GLU:N	2.27	0.67
1:YQ:2177:G:OP2	4:XW:54:ARG:NH1	2.28	0.67
3:YS:140:G:O2'	16:XQ:109:ARG:NH1	2.28	0.67
1:BQ:3294:A:OP2	5:BA:126:LYS:NZ	2.28	0.67
18:2:1414:U:O2'	18:2:1416:G:OP2	2.08	0.67
18:2:1459:C:OP1	37:H:126:ARG:NH1	2.27	0.67
18:2b:585:A:OP1	49:gb:15:LYS:NZ	2.27	0.67
18:2b:1548:G:O2'	37:Hb:89:GLN:OE1	2.12	0.67
19:Pb:56:LYS:NZ	40:ab:66:ASP:OD1	2.28	0.67
1:YQ:1389:G:O6	6:YE:186:LYS:NZ	2.28	0.67
1:YQ:3020:U:OP2	1:YQ:3021:A:O2'	2.10	0.67
11:XD:122:LYS:NZ	11:XD:123:ILE:O	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:nb:7:A:O2'	82:nb:49:C:O4'	2.12	0.67
18:2:1160:A:OP2	35:F:142:TYR:OH	2.13	0.67
24:B:37:GLN:HG2	35:F:53:LEU:HD13	1.76	0.67
18:2b:1531:G:N7	44:Kb:96:SER:OG	2.27	0.67
32:Yb:7:ALA:O	32:Yb:9:LYS:NZ	2.25	0.67
1:YQ:147:U:O4	10:XA:183:LYS:NZ	2.28	0.67
1:YQ:2392:C:O2'	5:YA:266:ARG:NH2	2.27	0.67
1:YQ:2618:G:OP1	1:YQ:2644:C:O2'	2.08	0.67
1:YQ:3328:G:OP1	5:YA:385:LYS:NZ	2.28	0.67
1:BQ:1171:G:OP1	2:BR:86:U:O2'	2.13	0.66
18:2:976:G:N2	18:2:1024:U:OP2	2.28	0.66
26:U:104:ARG:O	26:U:107:ARG:NH2	2.28	0.66
36:G:24:LEU:HB2	36:G:58:MET:HE3	1.77	0.66
51:O:262:VAL:O	51:O:271:VAL:N	2.27	0.66
65:AY:63:SER:OG	65:AY:65:THR:OG1	2.01	0.66
18:2b:274:G:N7	59:XE:120:LYS:NZ	2.34	0.66
18:2b:634:G:N2	18:2b:965:U:OP2	2.27	0.66
18:2b:1596:C:O2'	18:2b:1598:U:OP2	2.12	0.66
23:Sb:51:ARG:NH1	23:Sb:109:PHE:O	2.28	0.66
27:Vb:61:GLU:OE1	27:Vb:61:GLU:N	2.28	0.66
29:Cb:6:GLU:OE1	29:Cb:6:GLU:N	2.28	0.66
13:XG:93:ASP:OD2	13:XG:156:LYS:NZ	2.28	0.66
18:2b:753:A:N7	23:Sb:187:ARG:NH2	2.43	0.66
19:Pb:84:ARG:HE	19:Pb:88:LYS:HZ1	1.42	0.66
20:Qb:219:LYS:NZ	78:XT:89:MET:O	2.20	0.66
35:Fb:31:VAL:N	35:Fb:34:SER:O	2.28	0.66
1:YQ:352:A:N6	1:YQ:366:A:OP2	2.26	0.66
54:YF:70:LYS:NZ	54:YF:75:HIS:O	2.28	0.66
1:BQ:1062:A:O2'	1:BQ:1063:G:OP2	2.10	0.66
14:AJ:92:THR:O	70:BP:113:GLN:NE2	2.28	0.66
18:2:415:C:O2'	18:2:418:G:O6	2.09	0.66
18:2:649:U:O2'	18:2:650:U:O5'	2.14	0.66
18:2:1234:A:OP2	18:2:1245:G:O2'	2.11	0.66
20:Q:77:GLU:OE2	33:Z:114:ARG:NH2	2.28	0.66
73:AI:11:PHE:O	73:AI:15:THR:HG23	1.95	0.66
18:2b:687:G:N2	26:Ub:145:GLY:O	2.28	0.66
18:2b:785:U:O4	43:db:11:LYS:NZ	2.27	0.66
18:2b:1255:G:O2'	18:2b:1257:U:O4	2.12	0.66
79:YU:51:VAL:HG12	79:YU:87:VAL:HG22	1.76	0.66
25:T:124:LEU:N	59:AE:78:ALA:O	2.28	0.66
29:C:8:ARG:O	29:C:12:HIS:ND1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Fb:115:THR:O	35:Fb:117:LEU:N	2.29	0.66
46:fb:56:CYS:SG	46:fb:57:GLU:N	2.68	0.66
1:YQ:1687:U:OP2	57:YL:42:LYS:NZ	2.28	0.66
18:2:74:U:C4	59:AE:116:LYS:CB	2.79	0.66
44:K:53:GLU:O	44:K:56:THR:OG1	2.05	0.66
18:2b:567:A:H62	18:2b:576:G:H21	1.42	0.66
18:2b:855:A:O2'	18:2b:857:U:O5'	2.09	0.66
24:Bb:74:ALA:O	35:Fb:122:ARG:NH2	2.27	0.66
1:YQ:1135:A:OP2	64:XV:5:LYS:NZ	2.27	0.66
6:YE:226:GLU:OE1	6:YE:246:ARG:NH2	2.29	0.66
51:O:319:ASN:ND2	22:Ab:196:ARG:O	2.19	0.66
27:Vb:146:ARG:O	27:Vb:149:SER:OG	2.11	0.66
1:YQ:497:C:O3'	68:YK:86:ARG:NH2	2.28	0.66
1:YQ:1493:G:OP2	1:YQ:1493:G:N2	2.26	0.66
11:XD:31:ARG:NH1	11:XD:188:THR:OG1	2.29	0.66
1:BQ:339:C:OP1	1:BQ:1380:G:O2'	2.12	0.66
1:BQ:2139:A:O2'	72:AF:3:LYS:NZ	2.29	0.66
1:BQ:2724:U:OP2	56:BJ:87:LYS:NZ	2.28	0.66
1:BQ:3111:U:OP1	11:AD:184:LYS:NZ	2.29	0.66
2:BR:47:C:OP2	7:BI:158:ARG:NH2	2.29	0.66
11:AD:23:ARG:NH2	11:AD:41:ILE:O	2.28	0.66
18:2:1793:G:O2'	18:2:1795:U:OP2	2.14	0.66
29:C:29:GLN:OE1	29:C:39:ASN:ND2	2.28	0.66
46:f:75:GLU:O	46:f:77:THR:HG23	1.95	0.66
51:O:295:SER:OG	51:O:297:ASP:OD1	2.05	0.66
36:Gb:24:LEU:HB2	36:Gb:58:MET:HE3	1.78	0.66
1:YQ:884:A:OP1	72:XF:5:THR:OG1	2.04	0.66
1:YQ:1447:G:OP2	52:XX:27:LYS:NZ	2.28	0.66
13:XG:94:ARG:O	13:XG:96:PHE:N	2.29	0.66
1:BQ:266:A:OP1	16:AQ:5:LYS:NZ	2.29	0.66
79:BU:19:LEU:HD22	79:BU:73:PHE:CE1	2.30	0.66
18:2b:555:A:N3	18:2b:590:C:O2'	2.25	0.66
7:YI:50:ARG:NH2	7:YI:72:ASP:OD2	2.28	0.66
1:BQ:2673:A:O2'	13:AG:126:ASP:OD1	2.13	0.66
20:Q:129:THR:OG1	20:Q:131:ASP:OD1	2.10	0.66
34:E:115:TYR:N	34:E:118:GLU:OE1	2.29	0.66
29:Cb:14:TYR:CB	29:Cb:35:ILE:HD11	2.26	0.66
1:YQ:2260:U:O2'	1:YQ:2261:G:OP1	2.14	0.66
1:YQ:2854:U:OP2	12:YD:3:ARG:NH2	2.28	0.66
1:YQ:2988:C:OP1	17:XU:68:ARG:NH1	2.29	0.66
14:XJ:28:GLN:OE1	16:XQ:201:ARG:NH1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XQ:146:ALA:O	16:XQ:148:TYR:N	2.28	0.66
79:YU:192:ASP:OD2	79:YU:193:ASN:ND2	2.29	0.66
1:BQ:1196:C:OP1	1:BQ:1309:U:O2'	2.14	0.66
62:AN:22:LYS:NZ	62:AN:132:SER:OG	2.29	0.66
21:Rb:140:ARG:NH1	40:ab:10:GLU:OE1	2.29	0.66
28:Wb:119:ALA:O	28:Wb:124:HIS:ND1	2.28	0.66
1:YQ:396:A:N7	1:YQ:399:A:N6	2.43	0.66
1:YQ:2842:U:OP1	1:YQ:2898:G:N2	2.29	0.66
64:XV:4:SER:O	64:XV:6:ASN:ND2	2.29	0.66
81:m:8:U:O2	81:m:15:A:N6	2.29	0.66
1:BQ:221:A:O2'	1:BQ:223:U:OP2	2.11	0.65
31:D:62:LEU:HD22	31:D:75:VAL:HG11	1.77	0.65
78:AT:58:SER:O	78:AT:61:LYS:NZ	2.16	0.65
18:2b:1132:A:OP1	42:cb:30:LYS:NZ	2.29	0.65
1:YQ:2349:U:O2'	1:YQ:3307:A:N3	2.29	0.65
7:YI:41:LYS:NZ	56:YJ:30:TYR:O	2.29	0.65
58:XB:53:SER:N	58:XB:56:ASP:OD2	2.30	0.65
1:BQ:1024:G:N2	1:BQ:1026:A:OP2	2.29	0.65
1:BQ:1315:U:OP2	17:AU:44:SER:OG	2.13	0.65
5:BA:383:LEU:N	5:BA:386:ASP:OD2	2.28	0.65
18:2:717:C:H42	18:2:720:G:H22	1.42	0.65
18:2:1003:A:O2'	18:2:1005:A:N7	2.25	0.65
21:R:236:PRO:O	40:a:33:GLN:NE2	2.28	0.65
18:2b:1552:U:OP2	34:Eb:43:ARG:NH2	2.29	0.65
18:2b:1764:C:OP2	18:2b:1767:G:O2'	2.10	0.65
35:Fb:50:GLU:OE2	35:Fb:112:TYR:OH	2.12	0.65
44:Kb:44:GLN:NE2	44:Kb:44:GLN:O	2.29	0.65
1:YQ:36:C:O2'	1:YQ:808:A:N1	2.27	0.65
1:YQ:543:C:O2	1:YQ:548:G:N2	2.18	0.65
1:YQ:2285:C:OP2	1:YQ:2286:U:O2'	2.08	0.65
2:BR:87:G:OP1	9:BO:218:ARG:NE	2.30	0.65
18:2b:555:A:O2'	18:2b:556:A:OP1	2.14	0.65
24:Bb:146:THR:O	47:Lb:45:LYS:NZ	2.22	0.65
73:XI:32:ASN:OD1	73:XI:36:LYS:N	2.28	0.65
2:BR:7:G:OP1	7:BI:33:ARG:NH1	2.30	0.65
18:2:74:U:C6	59:AE:116:LYS:CB	2.79	0.65
31:D:45:LEU:O	31:D:49:THR:HG23	1.97	0.65
18:2b:298:C:O2'	23:Sb:30:ARG:NH2	2.30	0.65
26:Ub:168:SER:O	26:Ub:172:VAL:HG23	1.95	0.65
16:XQ:119:TYR:OH	16:XQ:131:GLU:OE1	2.07	0.65
1:BQ:970:A:OP2	64:AV:19:ASN:ND2	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:984:G:OP1	9:BO:101:LYS:NZ	2.28	0.65
18:2:1483:A:N3	18:2:1607:G:O2'	2.25	0.65
39:Jb:101:LYS:O	39:Jb:104:THR:OG1	2.13	0.65
45:eb:74:CYS:SG	45:eb:75:VAL:N	2.70	0.65
1:YQ:1106:G:O3'	64:XV:25:LYS:NZ	2.30	0.65
18:2:1236:A:N6	18:2:1245:G:N7	2.45	0.65
18:2:1533:C:OP2	44:K:77:ARG:NH1	2.29	0.65
42:c:97:ASP:N	42:c:100:ASP:OD2	2.30	0.65
18:2b:434:G:N1	18:2b:437:A:OP2	2.28	0.65
1:YQ:591:G:N2	1:YQ:612:U:OP1	2.29	0.65
11:XD:9:GLN:O	11:XD:72:LYS:NZ	2.29	0.65
51:Ob:207:ASP:OD2	51:Ob:209:THR:OG1	2.11	0.65
1:YQ:3085:G:OP1	59:XE:34:SER:OG	2.14	0.65
1:BQ:2556:C:O2'	62:AN:135:ARG:NH2	2.30	0.65
1:BQ:2653:C:O2'	1:BQ:2657:A:N1	2.27	0.65
1:BQ:3109:G:O4'	11:AD:163:GLN:NE2	2.30	0.65
18:2:1216:C:O2'	18:2:1444:A:N1	2.21	0.65
78:AT:75:ALA:O	78:AT:78:THR:OG1	2.15	0.65
18:2b:154:G:OP1	25:Tb:2:LYS:NZ	2.29	0.65
1:YQ:1390:A:N6	1:YQ:1418:A:O2'	2.29	0.65
1:BQ:1896:A:N6	1:BQ:2339:C:H42	1.93	0.65
2:BR:7:G:O3'	7:BI:33:ARG:NH2	2.30	0.65
3:BS:70:G:O2'	3:BS:87:G:N2	2.30	0.65
13:AG:132:ASN:ND2	13:AG:133:ARG:O	2.29	0.65
19:P:41:ARG:N	19:P:45:VAL:O	2.30	0.65
23:S:141:THR:OG1	23:S:143:ASP:OD1	2.07	0.65
24:B:52:GLU:OE1	24:B:52:GLU:N	2.30	0.65
18:2b:567:A:O2'	42:cb:90:ASP:OD2	2.12	0.65
1:BQ:2252:A:O2'	80:n:11:C:O2'	2.14	0.65
1:BQ:2323:G:O2'	1:BQ:2325:G:OP2	2.08	0.65
1:BQ:2682:C:O4'	13:AG:20:ASN:ND2	2.30	0.65
1:BQ:2711:C:O2'	1:BQ:2744:U:OP1	2.14	0.65
18:2:190:C:N4	18:2:196:G:O6	2.30	0.65
18:2:1597:A:N1	48:M:13:ARG:C	2.55	0.65
26:U:168:SER:O	26:U:172:VAL:HG23	1.97	0.65
28:W:56:ALA:HB3	28:W:97:LEU:HD21	1.79	0.65
53:BB:36:LEU:O	53:BB:40:THR:OG1	2.11	0.65
55:BH:8:GLN:HB3	55:BH:64:ILE:HD11	1.78	0.65
62:AN:9:LYS:NZ	62:AN:83:THR:O	2.25	0.65
18:2b:179:A:N1	25:Tb:202:ARG:NH2	2.45	0.65
21:Rb:244:SER:O	21:Rb:248:SER:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Gb:27:ASP:O	36:Gb:31:ASN:ND2	2.30	0.65
40:ab:3:ASN:ND2	40:ab:7:GLN:O	2.30	0.65
78:XT:59:CYS:SG	78:XT:60:CYS:N	2.69	0.65
1:BQ:634:C:O2'	67:BG:47:ARG:NH1	2.29	0.64
1:BQ:2854:U:OP2	12:BD:3:ARG:NH2	2.31	0.64
5:BA:10:ARG:NH1	5:BA:11:HIS:O	2.29	0.64
10:AA:100:GLU:OE2	10:AA:108:ARG:NH1	2.29	0.64
18:2:74:U:N3	59:AE:116:LYS:CB	2.60	0.64
33:Z:60:ALA:HB1	33:Z:101:ALA:HB2	1.79	0.64
48:M:14:TYR:N	48:M:14:TYR:HA	2.05	0.64
40:ab:7:GLN:NE2	40:ab:8:LEU:O	2.29	0.64
1:BQ:520:U:O2'	6:BE:346:LYS:NZ	2.29	0.64
18:2:1537:C:O2'	18:2:1540:G:O6	2.10	0.64
27:V:155:SER:O	27:V:158:SER:OG	2.12	0.64
40:a:30:ALA:O	40:a:60:ARG:NH1	2.30	0.64
18:2b:392:G:OP1	27:Vb:24:LYS:NZ	2.20	0.64
10:XA:107:GLU:O	10:XA:110:THR:OG1	2.13	0.64
1:BQ:294:U:OP1	71:AC:76:ARG:NH2	2.30	0.64
1:BQ:1062:A:N3	56:BJ:130:ARG:NH2	2.46	0.64
3:BS:59:A:O2'	60:AH:61:LYS:NZ	2.28	0.64
36:G:87:GLU:OE1	36:G:87:GLU:N	2.30	0.64
1:YQ:1493:G:O6	74:XL:2:ALA:N	2.29	0.64
81:m:35:U:O2'	81:m:36:C:O5'	2.12	0.64
2:BR:50:U:O2'	7:BI:221:GLU:O	2.09	0.64
3:BS:63:G:O2'	70:BP:49:LYS:NZ	2.25	0.64
18:2:1617:U:O2'	47:L:21:SER:O	2.15	0.64
20:Q:81:PHE:O	20:Q:106:THR:HG23	1.97	0.64
63:AR:34:MET:HE1	63:AR:45:MET:HE1	1.78	0.64
51:Ob:197:SER:OG	51:Ob:217:ASP:N	2.29	0.64
1:YQ:497:C:O2'	68:YK:86:ARG:NH2	2.29	0.64
1:YQ:952:A:N3	1:YQ:1114:U:O2'	2.28	0.64
69:YN:46:ASP:OD1	69:YN:47:CYS:N	2.31	0.64
13:AG:51:ARG:O	13:AG:61:ARG:NH2	2.31	0.64
46:f:38:PRO:HD3	46:f:77:THR:HG22	1.78	0.64
18:2b:77:U:O4'	25:Tb:159:ARG:NH1	2.31	0.64
18:2b:813:U:OP2	32:Yb:76:LYS:NZ	2.29	0.64
18:2b:1354:G:O6	18:2b:1369:U:C2	2.50	0.64
21:Rb:212:LYS:O	21:Rb:216:VAL:HG23	1.97	0.64
23:Sb:251:GLU:OE1	23:Sb:255:ARG:NH2	2.31	0.64
1:BQ:383:G:N2	1:BQ:386:A:OP2	2.23	0.64
1:BQ:2754:G:N7	77:AP:86:LYS:NZ	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1465:C:OP1	35:F:139:GLN:NE2	2.30	0.64
44:K:62:VAL:O	44:K:66:VAL:HG23	1.98	0.64
30:Xb:72:THR:OG1	30:Xb:123:VAL:O	2.07	0.64
1:YQ:148:G:N7	10:XA:137:ASN:ND2	2.46	0.64
1:YQ:700:C:OP1	14:XJ:65:TYR:OH	2.12	0.64
77:XP:38:GLN:OE1	77:XP:41:ARG:NH1	2.30	0.64
6:BE:139:GLY:O	6:BE:180:LYS:NZ	2.27	0.64
11:AD:90:MET:HE3	11:AD:181:VAL:HG23	1.80	0.64
18:2:1316:G:OP2	36:G:7:LYS:NZ	2.16	0.64
21:R:76:LEU:HD21	21:R:104:VAL:HB	1.79	0.64
18:2b:92:A:OP1	18:2b:398:G:N2	2.28	0.64
18:2b:1641:C:O3'	76:XS:1:MET:N	2.23	0.64
18:2b:1793:G:O2'	18:2b:1795:U:OP2	2.15	0.64
51:Ob:248:ASN:OD1	51:Ob:249:ARG:NH1	2.30	0.64
1:YQ:1160:C:N3	67:YG:45:ARG:NH1	2.46	0.64
1:YQ:1748:G:OP2	73:XI:42:LYS:NZ	2.31	0.64
1:YQ:3348:G:O6	1:YQ:3357:U:O4	2.15	0.64
16:XQ:6:TYR:CE2	71:XC:40:VAL:HG22	2.32	0.64
17:XU:171:LYS:O	17:XU:175:THR:HG23	1.97	0.64
71:XC:60:LEU:O	71:XC:64:SER:OG	2.15	0.64
1:BQ:2555:G:O3'	69:BN:88:ARG:NH1	2.30	0.64
17:AU:77:SER:N	17:AU:106:GLU:OE2	2.31	0.64
18:2:1679:G:N2	18:2:1722:A:H62	1.95	0.64
18:2b:1408:G:O2'	51:Ob:17:ASN:ND2	2.30	0.64
73:XI:26:LYS:NZ	73:XI:27:ILE:O	2.28	0.64
1:BQ:3089:C:OP1	5:BA:222:LYS:NZ	2.31	0.64
18:2:74:U:N3	59:AE:116:LYS:CG	2.61	0.64
20:Q:40:ASN:ND2	20:Q:73:LEU:O	2.30	0.64
35:F:39:VAL:O	35:F:45:ARG:NE	2.31	0.64
18:2b:717:C:O2	18:2b:720:G:C6	2.51	0.64
18:2b:883:C:C4	18:2b:945:U:O4	2.51	0.64
18:2b:1644:C:O2'	1:YQ:2262:A:N3	2.28	0.64
23:Sb:89:VAL:HG22	23:Sb:100:ARG:NH2	2.13	0.64
2:YR:29:C:O2'	2:YR:51:A:N1	2.25	0.64
1:BQ:1222:G:N2	1:BQ:1285:G:O2'	2.30	0.64
1:BQ:1750:A:OP2	73:AI:42:LYS:NZ	2.28	0.64
18:2:1597:A:C4	48:M:14:TYR:CA	2.81	0.64
19:P:140:ASN:N	40:a:29:HIS:O	2.31	0.64
35:F:50:GLU:OE1	35:F:112:TYR:OH	2.15	0.64
51:O:256:THR:OG1	51:O:261:LYS:NZ	2.31	0.64
58:AB:85:TRP:NE1	58:AB:93:LEU:HD21	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:BU:19:LEU:HD23	79:BU:88:PHE:HE1	1.63	0.64
23:Sb:146:THR:O	23:Sb:147:ILE:HD13	1.97	0.64
35:Fb:40:GLU:N	35:Fb:40:GLU:OE2	2.31	0.64
1:YQ:2137:U:OP2	1:YQ:2142:A:N6	2.27	0.64
11:XD:94:TYR:OH	11:XD:141:LYS:NZ	2.17	0.64
1:BQ:874:U:OP2	1:BQ:1907:C:O2'	2.16	0.63
18:2:74:U:N1	59:AE:116:LYS:CB	2.61	0.63
51:O:52:GLN:OE1	51:O:52:GLN:N	2.31	0.63
52:AX:48:LEU:HD22	52:AX:88:VAL:HG13	1.80	0.63
54:BF:102:LEU:HD22	54:BF:138:LEU:HD13	1.80	0.63
65:AY:99:ASP:O	65:AY:103:THR:HG23	1.98	0.63
18:2b:1521:G:O2'	18:2b:1523:G:OP2	2.04	0.63
19:Pb:79:ARG:NH1	19:Pb:164:ASN:O	2.30	0.63
1:YQ:376:G:O2'	1:YQ:401:U:O4	2.11	0.63
1:YQ:1713:G:N2	1:YQ:1731:A:OP2	2.31	0.63
1:YQ:1873:U:OP2	54:YF:20:ARG:NH2	2.29	0.63
1:YQ:2618:G:O2'	1:YQ:2865:U:OP1	2.16	0.63
1:YQ:3113:A:O2'	11:XD:66:ALA:O	2.14	0.63
15:XM:113:THR:N	15:XM:116:GLU:OE1	2.31	0.63
1:BQ:608:A:O2'	6:BE:326:ARG:NH1	2.31	0.63
18:2:74:U:N1	59:AE:116:LYS:CG	2.61	0.63
18:2b:284:G:N7	25:Tb:188:ARG:NH1	2.46	0.63
18:2b:717:C:N3	18:2b:720:G:N1	2.45	0.63
18:2b:1456:C:OP1	18:2b:1457:C:O2'	2.16	0.63
1:YQ:1320:C:O2	55:YH:115:ARG:NH2	2.31	0.63
2:YR:6:C:OP1	7:YI:54:ARG:NE	2.31	0.63
16:AQ:124:ASP:OD1	16:AQ:127:TYR:N	2.32	0.63
18:2:1242:A:O2'	18:2:1244:A:OP1	2.14	0.63
18:2b:1383:G:O4'	39:Jb:57:ARG:NH2	2.31	0.63
43:db:26:ASP:OD1	43:db:68:LYS:NZ	2.29	0.63
1:YQ:282:G:O2'	1:YQ:283:G:OP2	2.12	0.63
1:YQ:524:U:OP1	15:XM:77:ARG:NH2	2.31	0.63
1:YQ:2294:U:O2'	1:YQ:2296:A:N7	2.24	0.63
1:BQ:2295:A:N3	1:BQ:2929:C:O2'	2.26	0.63
6:BE:314:LYS:NZ	9:BO:150:LYS:O	2.22	0.63
14:AJ:79:GLU:OE2	14:AJ:103:ASN:ND2	2.32	0.63
18:2:1798:U:OP2	45:e:38:ARG:NH2	2.31	0.63
31:D:30:VAL:O	31:D:34:THR:HG23	1.97	0.63
18:2b:979:A:N3	18:2b:1775:U:O2'	2.31	0.63
21:Rb:45:VAL:HG21	21:Rb:68:ILE:HG23	1.81	0.63
31:Db:30:VAL:O	31:Db:34:THR:HG23	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:536:U:OP1	55:YH:146:LYS:NZ	2.31	0.63
3:YS:95:G:OP1	72:XF:76:ASN:ND2	2.31	0.63
58:XB:6:ALA:HB2	58:XB:126:TRP:CH2	2.34	0.63
18:2:930:A:OP1	45:e:32:LYS:NZ	2.31	0.63
18:2:1254:U:OP2	31:D:46:ARG:NH2	2.32	0.63
77:AP:106:PHE:O	80:n:18:G:N2	2.31	0.63
18:2b:448:C:OP2	23:Sb:49:ARG:NH1	2.31	0.63
18:2b:1175:U:OP2	37:Hb:137:HIS:ND1	2.31	0.63
26:Ub:82:GLU:O	26:Ub:86:GLN:NE2	2.32	0.63
28:Wb:60:LEU:HD21	28:Wb:93:LEU:HB2	1.79	0.63
29:Cb:71:GLU:OE1	29:Cb:71:GLU:N	2.32	0.63
38:Ib:27:LYS:O	38:Ib:28:LEU:HD23	1.99	0.63
1:YQ:537:A:N6	1:YQ:554:A:O2'	2.31	0.63
1:YQ:1040:A:N3	12:YD:198:LYS:NZ	2.44	0.63
10:XA:115:ALA:O	10:XA:119:GLY:HA3	1.97	0.63
1:BQ:905:U:O2	1:BQ:910:G:O2'	2.17	0.63
1:BQ:3324:C:OP1	66:BC:19:ARG:NH1	2.32	0.63
39:J:100:VAL:O	39:J:104:THR:HG23	1.98	0.63
1:YQ:1864:A:OP1	54:YF:88:ARG:NH1	2.31	0.63
1:YQ:2319:U:OP1	76:XS:25:LYS:NZ	2.18	0.63
2:YR:27:A:O3'	13:XG:141:ARG:NH1	2.30	0.63
6:YE:338:LYS:O	6:YE:340:GLY:N	2.32	0.63
16:XQ:80:THR:HG21	16:XQ:87:GLN:HA	1.80	0.63
1:BQ:1258:U:OP1	79:BU:46:ARG:NH2	2.31	0.63
3:BS:150:G:OP1	60:AH:27:ARG:NH2	2.31	0.63
5:BA:50:LYS:NZ	5:BA:330:GLY:O	2.25	0.63
18:2:776:G:O6	43:d:11:LYS:NZ	2.28	0.63
18:2b:1480:G:OP1	38:Ib:60:SER:OG	2.16	0.63
1:YQ:1751:G:O6	73:XI:44:LYS:NZ	2.25	0.63
1:BQ:1646:G:O2'	1:BQ:1808:G:N2	2.25	0.63
1:BQ:2931:C:O2'	58:AB:42:SER:OG	2.14	0.63
6:BE:338:LYS:O	6:BE:340:GLY:N	2.32	0.63
18:2:1525:A:N3	18:2:1589:C:O2'	2.32	0.63
39:J:33:GLN:OE1	39:J:33:GLN:N	2.31	0.63
18:2b:1445:G:N2	50:Nb:88:PRO:O	2.31	0.63
20:Qb:87:ARG:NH1	20:Qb:220:GLN:OE1	2.32	0.63
48:Mb:6:VAL:HG23	48:Mb:7:TRP:CE3	2.33	0.63
1:YQ:2895:G:O2'	75:XO:100:TYR:O	2.16	0.63
1:BQ:423:A:N1	67:BG:24:ARG:NH2	2.47	0.63
18:2:818:C:N4	18:2:819:G:O6	2.32	0.63
26:U:112:ARG:NH2	26:U:117:THR:OG1	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AC:60:LEU:O	71:AC:64:SER:OG	2.17	0.63
18:2b:902:G:N2	33:Zb:51:ASP:OD2	2.30	0.63
1:YQ:116:A:OP2	71:XC:36:ARG:NH2	2.32	0.63
18:2:159:U:O2	25:T:87:ARG:NH1	2.31	0.62
18:2:1358:G:OP1	38:I:130:ARG:NH2	2.32	0.62
18:2:1761:U:OP2	84:l:46:C:O2'	2.15	0.62
35:F:115:THR:O	35:F:117:LEU:N	2.31	0.62
51:O:273:ASP:OD1	51:O:275:ARG:NH1	2.32	0.62
18:2b:267:U:OP1	25:Tb:183:ARG:NE	2.31	0.62
18:2b:1451:C:O2'	18:2b:1452:U:OP1	2.15	0.62
4:XW:118:GLU:OE2	4:XW:156:LYS:NZ	2.29	0.62
1:BQ:2293:C:N3	1:BQ:2299:A:N6	2.46	0.62
1:BQ:3208:G:OP2	15:AM:106:ARG:NH1	2.32	0.62
18:2:1553:G:O3'	48:M:13:ARG:NH1	2.32	0.62
18:2b:1027:A:OP1	18:2b:1789:G:O2'	2.10	0.62
18:2b:1546:G:OP1	37:Hb:123:ARG:NH1	2.31	0.62
18:2b:1597:A:C4	48:Mb:14:TYR:CA	2.81	0.62
1:YQ:820:A:N3	1:YQ:911:C:O2'	2.28	0.62
1:BQ:2392:C:O2'	5:BA:266:ARG:NH2	2.32	0.62
18:2:151:G:N2	25:T:13:GLN:OE1	2.18	0.62
18:2:903:U:O2'	18:2:905:A:N7	2.23	0.62
18:2:1513:G:O2'	18:2:1515:A:N3	2.25	0.62
18:2b:140:A:N6	18:2b:281:G:OP1	2.23	0.62
18:2b:499:U:HO2'	18:2b:500:C:P	2.22	0.62
38:Ib:115:GLU:OE2	38:Ib:123:ARG:NH1	2.33	0.62
1:YQ:2320:A:H2	78:XT:16:VAL:HG22	1.64	0.62
14:XJ:59:ARG:NH2	14:XJ:67:ARG:O	2.32	0.62
59:XE:91:LYS:O	59:XE:95:SER:OG	2.09	0.62
1:BQ:1302:A:N7	1:BQ:2857:C:O2'	2.32	0.62
2:BR:29:C:O2'	2:BR:51:A:N1	2.31	0.62
10:AA:171:LYS:NZ	10:AA:223:ALA:O	2.27	0.62
18:2:714:G:O2'	18:2:715:U:O5'	2.16	0.62
18:2:1244:A:O2'	18:2:1246:C:OP1	2.12	0.62
37:H:91:ASP:N	37:H:96:LYS:O	2.32	0.62
18:2b:797:G:O2'	30:Xb:69:LYS:NZ	2.32	0.62
18:2b:1513:G:O2'	18:2b:1515:A:N3	2.26	0.62
3:YS:65:A:O2'	70:YP:10:ARG:NH2	2.33	0.62
14:XJ:47:ALA:O	14:XJ:49:ARG:N	2.30	0.62
61:XK:82:VAL:HG12	61:XK:83:ASP:O	2.00	0.62
1:BQ:1245:A:N7	1:BQ:1271:A:O2'	2.33	0.62
1:BQ:2211:U:O2'	81:m:70:G:O2'	2.05	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:3174:A:OP1	68:BK:97:SER:OG	2.09	0.62
18:2:1409:G:N1	18:2:1412:G:OP2	2.31	0.62
18:2b:67:A:N6	18:2b:83:G:O2'	2.33	0.62
23:Sb:161:LYS:O	23:Sb:170:THR:OG1	2.10	0.62
26:Ub:112:ARG:NH2	26:Ub:117:THR:OG1	2.32	0.62
33:Zb:60:ALA:HB1	33:Zb:101:ALA:HB2	1.82	0.62
1:YQ:377:A:N6	1:YQ:400:G:O2'	2.32	0.62
10:XA:211:LEU:O	10:XA:215:VAL:HG23	1.99	0.62
1:BQ:1236:G:O2'	1:BQ:1237:G:OP1	2.16	0.62
1:BQ:2940:A:N7	5:BA:2:SER:N	2.48	0.62
18:2b:1204:A:O5'	48:Mb:12:ARG:NH2	2.32	0.62
19:Pb:187:ALA:O	19:Pb:188:LEU:HD22	2.00	0.62
1:YQ:1145:G:O2'	67:YG:45:ARG:O	2.17	0.62
1:BQ:608:A:OP1	6:BE:315:LYS:NZ	2.33	0.62
1:BQ:1136:A:O4'	1:BQ:2636:A:N6	2.32	0.62
34:E:126:VAL:HG22	34:E:127:ARG:H	1.64	0.62
1:YQ:3184:A:O3'	11:XD:39:LYS:NZ	2.33	0.62
7:YI:108:ARG:NH2	7:YI:252:ALA:O	2.33	0.62
63:XR:17:ALA:O	63:XR:19:LYS:N	2.32	0.62
81:m:8:U:O2'	81:m:21:A:N1	2.30	0.62
1:BQ:1713:G:H1	1:BQ:1730:G:HO2'	1.48	0.62
8:BM:40:LEU:HD11	8:BM:54:TYR:HB2	1.81	0.62
18:2:544:A:O2'	49:g:28:LYS:NZ	2.20	0.62
18:2:1296:A:OP1	19:P:138:TYR:OH	2.09	0.62
30:X:2:SER:OG	30:X:3:THR:N	2.33	0.62
18:2b:405:C:O2'	25:Tb:92:ARG:O	2.18	0.62
18:2b:818:C:N4	18:2b:819:G:O6	2.31	0.62
24:Bb:86:GLN:OE1	24:Bb:86:GLN:N	2.32	0.62
1:YQ:1740:U:OP1	69:YN:55:SER:OG	2.14	0.62
1:YQ:2737:C:OP1	56:YJ:70:SER:OG	2.17	0.62
1:BQ:1188:U:OP1	1:BQ:1210:U:O2'	2.16	0.62
1:BQ:1554:U:O2'	1:BQ:1555:U:OP1	2.13	0.62
10:AA:78:PHE:O	10:AA:79:GLN:NE2	2.32	0.62
18:2:393:C:OP2	27:V:2:GLY:N	2.33	0.62
79:BU:27:VAL:O	79:BU:188:VAL:N	2.33	0.62
30:Xb:8:GLN:NE2	30:Xb:14:GLN:O	2.33	0.62
1:YQ:1341:U:O4	1:YQ:1363:A:N6	2.18	0.62
12:YD:43:VAL:HG21	12:YD:197:VAL:HG13	1.82	0.62
54:YF:152:GLU:OE2	54:YF:156:ASN:ND2	2.32	0.62
1:BQ:2572:C:O2'	1:BQ:2573:G:O4'	2.13	0.62
2:BR:38:U:O2'	2:BR:42:A:N6	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1543:A:N6	18:2:1568:C:O4'	2.33	0.62
23:S:151:ASP:OD1	25:T:215:ARG:NH2	2.32	0.62
68:BK:13:HIS:ND1	68:BK:93:THR:O	2.31	0.62
21:Rb:108:ASN:O	21:Rb:110:HIS:ND1	2.32	0.62
23:Sb:102:VAL:O	23:Sb:110:ALA:N	2.31	0.62
1:YQ:198:A:N3	1:YQ:218:G:O2'	2.31	0.62
6:YE:304:GLN:NE2	6:YE:304:GLN:O	2.32	0.62
1:BQ:661:G:OP1	63:AR:12:ARG:NH2	2.33	0.61
1:BQ:3181:C:OP2	17:AU:171:LYS:NZ	2.22	0.61
4:AW:150:LEU:O	4:AW:153:GLY:N	2.33	0.61
18:2:701:U:O2	18:2:738:G:N2	2.34	0.61
77:AP:3:ASN:OD1	77:AP:95:GLY:N	2.33	0.61
18:2b:1218:G:N2	18:2b:1444:A:OP2	2.23	0.61
21:Rb:231:ALA:O	40:ab:16:LYS:NZ	2.31	0.61
23:Sb:72:VAL:N	23:Sb:75:LYS:O	2.33	0.61
48:Mb:47:ALA:HA	48:Mb:50:ILE:HD12	1.82	0.61
1:YQ:1564:U:O2	1:YQ:1575:A:N6	2.33	0.61
1:BQ:994:G:N2	1:BQ:995:U:O4	2.33	0.61
11:AD:47:LYS:NZ	15:AM:5:SER:O	2.23	0.61
18:2:804:A:N3	41:b:105:THR:HG22	2.15	0.61
18:2:902:G:N2	33:Z:51:ASP:OD2	2.30	0.61
18:2:1531:G:N2	38:I:48:GLN:OE1	2.31	0.61
35:F:113:ASP:OD1	35:F:115:THR:N	2.32	0.61
35:F:115:THR:O	35:F:118:ILE:N	2.33	0.61
44:K:80:LEU:HD22	44:K:101:TYR:CD2	2.35	0.61
18:2b:898:A:N1	18:2b:911:U:O2'	2.33	0.61
44:Kb:47:TYR:HA	44:Kb:50:ILE:HD12	1.82	0.61
1:YQ:1364:C:OP1	9:YO:110:ARG:NH2	2.33	0.61
3:YS:60:U:OP1	60:XH:54:TYR:OH	2.18	0.61
10:XA:160:ILE:O	10:XA:164:VAL:HG13	2.00	0.61
1:BQ:1073:U:O2'	64:AV:46:ALA:O	2.14	0.61
1:BQ:2221:G:N2	1:BQ:2224:A:OP2	2.25	0.61
10:AA:54:GLU:OE2	10:AA:57:ARG:NH2	2.33	0.61
18:2:148:A:H62	18:2:166:C:N4	1.97	0.61
51:O:205:SER:OG	51:O:208:GLY:N	2.33	0.61
1:BQ:3353:G:O2'	1:BQ:3356:G:OP2	2.18	0.61
23:S:122:LYS:NZ	23:S:143:ASP:OD2	2.33	0.61
78:AT:49:ARG:NE	78:AT:68:ALA:O	2.32	0.61
18:2b:856:A:OP2	26:Ub:97:ARG:NH2	2.32	0.61
18:2b:939:A:OP1	32:Yb:114:ARG:NH2	2.33	0.61
24:Bb:73:THR:HG22	24:Bb:75:GLY:H	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Bb:73:THR:HG23	35:Fb:114:ARG:HD3	1.83	0.61
35:Fb:115:THR:O	35:Fb:118:ILE:N	2.32	0.61
1:YQ:1474:A:O2'	66:YC:57:GLN:NE2	2.32	0.61
1:YQ:1629:U:O3'	62:XN:115:LYS:NZ	2.34	0.61
82:nb:36:G:H22	84:l:19:A:H2	1.48	0.61
1:BQ:1151:U:O4	1:BQ:1200:A:N6	2.33	0.61
32:Y:119:GLU:O	32:Y:123:HIS:ND1	2.34	0.61
43:d:35:VAL:HG13	43:d:40:LEU:HD11	1.82	0.61
52:AX:61:ARG:O	52:AX:64:ASN:ND2	2.33	0.61
18:2b:1388:A:OP2	36:Gb:32:LYS:NZ	2.34	0.61
1:YQ:1141:C:O2'	1:YQ:1153:A:N3	2.31	0.61
56:YJ:14:MET:HE3	56:YJ:15:PHE:CE2	2.35	0.61
1:BQ:407:A:OP2	3:BS:16:G:N2	2.33	0.61
18:2:74:U:C5	59:AE:116:LYS:CG	2.84	0.61
18:2b:311:U:OP2	42:cb:20:ARG:NE	2.32	0.61
18:2b:1034:C:HO2'	41:bb:2:THR:N	1.98	0.61
20:Qb:52:THR:N	20:Qb:55:LYS:O	2.33	0.61
28:Wb:123:HIS:O	28:Wb:127:VAL:HG23	2.00	0.61
1:YQ:1452:A:N3	1:YQ:2346:C:O2'	2.29	0.61
1:YQ:2869:U:O2'	1:YQ:2873:U:OP2	2.16	0.61
3:YS:72:A:OP2	61:XK:52:ARG:NH1	2.34	0.61
6:YE:7:THR:OG1	6:YE:147:GLU:OE2	2.19	0.61
17:XU:124:LEU:HB2	17:XU:127:LEU:HD12	1.83	0.61
1:BQ:1231:A:N6	1:BQ:1277:C:OP2	2.21	0.61
18:2:396:G:N1	18:2:399:A:OP2	2.33	0.61
18:2:1334:U:O2'	39:J:85:ARG:NH2	2.34	0.61
19:P:88:LYS:O	19:P:92:HIS:ND1	2.34	0.61
33:Z:88:GLY:O	33:Z:92:LYS:NZ	2.34	0.61
75:AO:122:ARG:NH1	75:AO:123:PRO:O	2.33	0.61
17:XU:45:GLY:O	17:XU:136:THR:OG1	2.19	0.61
17:XU:121:PRO:HA	17:XU:124:LEU:HD23	1.83	0.61
58:XB:108:GLU:OE2	58:XB:128:ARG:NH2	2.33	0.61
2:BR:13:A:O2'	7:BI:24:ARG:NH1	2.34	0.61
18:2:116:U:O2'	18:2:333:A:N3	2.32	0.61
18:2:144:U:HO2'	18:2:145:A:P	2.22	0.61
25:T:138:ALA:HA	25:T:141:ILE:HD12	1.81	0.61
30:X:27:THR:O	30:X:30:ARG:NH1	2.34	0.61
36:G:106:THR:O	36:G:110:VAL:HG23	2.01	0.61
37:H:37:GLY:O	37:H:99:HIS:NE2	2.33	0.61
67:BG:100:ILE:O	67:BG:125:ARG:NH2	2.34	0.61
1:YQ:529:A:N6	1:YQ:563:U:O4	2.19	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XQ:18:VAL:HG23	16:XQ:19:LEU:HD12	1.82	0.61
53:YB:152:HIS:ND1	53:YB:162:ALA:O	2.33	0.61
1:BQ:719:U:O2	53:BB:72:LYS:NZ	2.34	0.61
1:BQ:3008:A:OP2	17:AU:74:ARG:NH1	2.33	0.61
18:2:1317:C:O2'	18:2:1400:A:N3	2.30	0.61
20:Q:128:LYS:NZ	20:Q:129:THR:O	2.29	0.61
35:F:7:VAL:HG21	35:F:92:TYR:HA	1.83	0.61
35:F:49:TYR:HB3	35:F:53:LEU:HD11	1.83	0.61
62:AN:10:VAL:HG22	62:AN:24:VAL:HG22	1.82	0.61
18:2b:162:A:H3'	18:2b:163:G:H21	1.65	0.61
23:Sb:11:ARG:NH1	23:Sb:23:LEU:O	2.34	0.61
29:Cb:45:ALA:O	29:Cb:48:SER:OG	2.17	0.61
1:YQ:29:C:O3'	16:XQ:172:ARG:NH1	2.33	0.61
1:YQ:2655:U:O4	77:XP:8:ARG:NH2	2.33	0.61
7:YI:194:LEU:O	7:YI:197:SER:OG	2.15	0.61
79:YU:38:MET:HE1	79:YU:51:VAL:HG21	1.83	0.61
1:BQ:839:C:O2'	1:BQ:1724:U:OP1	2.13	0.61
1:BQ:983:A:OP2	64:AV:23:LYS:NZ	2.34	0.61
23:S:147:ILE:HG21	23:S:169:ILE:HD12	1.82	0.61
18:2b:512:A:OP2	28:Wb:173:ALA:N	2.34	0.61
1:YQ:341:G:O2'	3:YS:22:U:O4	2.18	0.61
79:YU:45:LEU:HD22	79:YU:49:ALA:HB3	1.83	0.61
1:BQ:2177:G:OP2	4:AW:128:ARG:NH1	2.34	0.60
2:BR:98:C:O3'	9:BO:128:LYS:NZ	2.34	0.60
18:2b:1174:C:H42	18:2b:1465:C:H41	1.48	0.60
28:Wb:18:PRO:O	28:Wb:23:ARG:NH2	2.34	0.60
48:Mb:20:GLN:NE2	48:Mb:25:SER:OG	2.34	0.60
1:YQ:1588:A:N3	74:XL:4:GLN:NE2	2.49	0.60
1:YQ:2375:G:O2'	1:YQ:2377:G:OP2	2.12	0.60
67:YG:81:ASP:O	67:YG:84:THR:OG1	2.16	0.60
82:nb:56:C:O2'	82:nb:57:G:O4'	2.18	0.60
1:BQ:2964:G:N2	1:BQ:2967:A:OP2	2.32	0.60
16:AQ:136:ASP:OD1	16:AQ:139:HIS:N	2.34	0.60
63:AR:79:TRP:O	63:AR:87:ARG:NH2	2.33	0.60
1:YQ:1158:A:OP2	9:YO:90:LYS:NZ	2.34	0.60
1:YQ:2808:A:O2'	1:YQ:2969:A:OP1	2.09	0.60
1:BQ:196:G:N1	1:BQ:199:A:OP2	2.34	0.60
1:BQ:952:A:N3	1:BQ:1114:U:O2'	2.31	0.60
18:2b:549:G:O2'	18:2b:556:A:N1	2.29	0.60
1:YQ:640:U:OP1	63:XR:21:ARG:NH2	2.33	0.60
1:YQ:3175:U:OP1	68:YK:10:LYS:NZ	2.25	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1597:A:N3	48:Mb:14:TYR:CA	2.65	0.60
21:Rb:238:SER:O	21:Rb:238:SER:OG	2.19	0.60
26:Ub:64:VAL:CG2	26:Ub:94:ALA:HB1	2.31	0.60
1:YQ:508:U:OP1	9:YO:211:SER:OG	2.07	0.60
1:YQ:999:G:N3	1:YQ:1002:A:N6	2.49	0.60
1:YQ:3268:A:OP1	8:YM:46:ARG:NH2	2.35	0.60
18:2:471:A:O2'	28:W:9:SER:O	2.18	0.60
18:2:484:C:H42	18:2:503:G:H22	1.50	0.60
20:Q:51:SER:OG	20:Q:57:ALA:N	2.35	0.60
18:2b:115:G:OP2	30:Xb:65:SER:OG	2.20	0.60
1:YQ:1491:A:O3'	72:XF:14:LYS:NZ	2.35	0.60
1:YQ:2848:G:OP1	75:XO:100:TYR:OH	2.18	0.60
1:BQ:2425:G:OP1	16:AQ:72:LYS:NZ	2.19	0.60
14:AJ:47:ALA:O	14:AJ:49:ARG:N	2.33	0.60
18:2:639:U:OP1	26:U:118:LEU:N	2.34	0.60
18:2:1597:A:N3	48:M:14:TYR:CA	2.64	0.60
21:R:60:SER:OG	40:a:15:ARG:NH2	2.34	0.60
26:U:64:VAL:CG2	26:U:94:ALA:HB1	2.30	0.60
29:C:1:MET:O	29:C:8:ARG:NH2	2.32	0.60
61:AK:22:ALA:O	61:AK:27:ARG:NH2	2.34	0.60
18:2b:649:U:O2'	18:2b:650:U:O5'	2.17	0.60
18:2b:1254:U:OP2	31:Db:46:ARG:NH2	2.35	0.60
23:Sb:48:LEU:HA	23:Sb:52:LEU:HD12	1.82	0.60
25:Tb:48:TYR:OH	25:Tb:119:GLN:O	2.08	0.60
10:XA:203:VAL:HG21	10:XA:211:LEU:CD1	2.32	0.60
64:XV:16:ALA:O	64:XV:20:GLY:CA	2.50	0.60
1:BQ:303:G:O2'	1:BQ:2778:G:OP2	2.11	0.60
17:AU:15:LEU:N	17:AU:123:ALA:O	2.34	0.60
18:2:629:U:OP1	32:Y:127:ARG:NH2	2.34	0.60
18:2:1597:A:N3	48:M:13:ARG:C	2.60	0.60
48:Mb:36:LEU:HD12	48:Mb:38:ILE:CD1	2.30	0.60
1:YQ:1694:U:O3'	69:YN:24:LYS:NZ	2.26	0.60
1:YQ:1815:U:O2'	1:YQ:1816:A:OP2	2.12	0.60
1:YQ:2807:U:O2'	1:YQ:2809:C:OP1	2.17	0.60
1:YQ:2991:A:O2'	1:YQ:3309:G:N7	2.35	0.60
1:YQ:3315:G:OP2	5:YA:116:ARG:NH1	2.33	0.60
18:2:74:U:C5	59:AE:116:LYS:CB	2.84	0.60
18:2:480:G:OP1	28:W:120:LYS:NZ	2.20	0.60
21:Rb:238:SER:OG	21:Rb:241:ASP:OD2	2.19	0.60
27:Vb:136:SER:O	27:Vb:139:ALA:N	2.34	0.60
1:YQ:1310:G:N2	1:YQ:2381:G:OP1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1750:A:OP2	73:XI:42:LYS:NZ	2.32	0.60
1:YQ:3011:A:N1	1:YQ:3043:C:O2'	2.32	0.60
2:YR:107:C:OP2	12:YD:203:LYS:NZ	2.32	0.60
1:BQ:212:G:O2'	6:BE:221:ASN:O	2.06	0.60
1:BQ:595:G:OP1	9:BO:33:ARG:NH2	2.34	0.60
1:BQ:2303:A:O2'	18:2:1747:G:O2'	2.18	0.60
35:F:93:HIS:HA	35:F:97:VAL:HG22	1.84	0.60
36:G:20:TYR:CE2	36:G:38:ILE:HD11	2.37	0.60
31:Db:129:GLU:OE1	31:Db:134:SER:OG	2.18	0.60
15:XM:20:VAL:O	15:XM:66:THR:OG1	2.16	0.60
1:BQ:2946:A:O3'	5:BA:244:ARG:NH1	2.34	0.60
18:2:332:U:O4	27:V:172:ARG:NH2	2.34	0.60
18:2:1360:A:OP1	38:I:134:ARG:NH1	2.33	0.60
18:2:1535:U:O2'	18:2:1536:G:O5'	2.20	0.60
18:2b:4:C:OP2	21:Rb:200:SER:OG	2.18	0.60
18:2b:221:A:OP2	18:2b:832:U:O2'	2.20	0.60
18:2b:932:U:OP2	20:Qb:155:TYR:OH	2.15	0.60
24:Bb:139:ASN:ND2	24:Bb:202:ALA:O	2.34	0.60
27:Vb:8:ARG:NH2	27:Vb:28:GLU:OE2	2.34	0.60
1:BQ:2586:G:O2'	1:BQ:2588:U:OP2	2.16	0.59
11:AD:90:MET:HE3	11:AD:181:VAL:CG2	2.32	0.59
18:2b:422:G:O2'	18:2b:423:G:O5'	2.19	0.59
10:XA:250:ALA:O	10:XA:254:ASP:N	2.35	0.59
1:BQ:288:C:OP1	16:AQ:170:LYS:NZ	2.26	0.59
18:2:115:G:OP2	30:X:65:SER:OG	2.19	0.59
18:2:592:A:OP1	28:W:39:LYS:NZ	2.22	0.59
18:2:979:A:N3	18:2:1775:U:O2'	2.34	0.59
43:d:35:VAL:CG1	43:d:40:LEU:HD11	2.31	0.59
1:YQ:1591:G:O2'	1:YQ:1655:G:O2'	2.10	0.59
1:YQ:3158:G:O6	1:YQ:3293:U:N3	2.35	0.59
7:YI:116:ASP:O	7:YI:120:LYS:NZ	2.23	0.59
13:XG:82:ARG:HB3	13:XG:112:LEU:HD12	1.85	0.59
79:YU:51:VAL:CG1	79:YU:87:VAL:HG22	2.32	0.59
82:nb:31:A:N6	82:nb:39:U:O4	2.33	0.59
1:BQ:1129:A:OP1	12:BD:13:LYS:NZ	2.29	0.59
2:BR:6:C:O2'	7:BI:50:ARG:NH2	2.35	0.59
5:BA:76:VAL:HG11	5:BA:323:MET:HE3	1.83	0.59
18:2:1515:A:O2'	18:2:1517:U:OP2	2.16	0.59
23:S:112:HIS:NE2	23:S:237:SER:O	2.32	0.59
51:O:264:SER:N	51:O:269:TYR:O	2.34	0.59
18:2b:804:A:N3	41:bb:105:THR:HG22	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Ab:60:GLY:N	22:Ab:64:ARG:O	2.35	0.59
31:Db:46:ARG:O	31:Db:49:THR:OG1	2.19	0.59
39:Jb:32:LYS:O	39:Jb:36:ASN:ND2	2.35	0.59
1:YQ:677:A:N6	1:YQ:786:A:O4'	2.36	0.59
1:YQ:1889:G:OP1	5:YA:246:LEU:N	2.34	0.59
1:YQ:3373:U:OP2	66:YC:102:LYS:NZ	2.29	0.59
1:BQ:291:C:OP1	16:AQ:68:ARG:NH1	2.35	0.59
3:BS:94:C:OP1	72:AF:75:LYS:NZ	2.28	0.59
12:BD:11:TYR:O	12:BD:59:GLN:NE2	2.35	0.59
18:2:1445:G:O2'	50:N:85:TYR:OH	2.19	0.59
23:S:37:LYS:NZ	23:S:40:GLU:OE1	2.29	0.59
37:H:22:VAL:HG22	37:H:34:THR:CG2	2.33	0.59
46:f:56:CYS:SG	46:f:57:GLU:N	2.74	0.59
18:2b:1674:C:OP1	25:Tb:92:ARG:NH2	2.32	0.59
29:Cb:8:ARG:HA	29:Cb:11:ILE:HD12	1.84	0.59
1:YQ:328:U:OP2	14:XJ:23:LYS:NZ	2.26	0.59
4:XW:7:ASN:OD1	4:XW:8:GLN:N	2.36	0.59
11:XD:92:TYR:CD1	11:XD:179:ILE:HD12	2.37	0.59
68:YK:13:HIS:ND1	68:YK:93:THR:O	2.35	0.59
32:Y:30:SER:OG	32:Y:31:GLU:OE1	2.19	0.59
35:F:22:VAL:HG22	35:F:65:ILE:HG23	1.83	0.59
53:BB:153:PHE:O	53:BB:161:LYS:NZ	2.26	0.59
21:Rb:38:VAL:O	21:Rb:43:ARG:NH2	2.35	0.59
1:YQ:1695:U:O2'	1:YQ:1749:A:N1	2.34	0.59
1:BQ:2946:A:O2'	5:BA:244:ARG:NH1	2.35	0.59
15:AM:48:GLY:O	15:AM:52:GLY:N	2.35	0.59
20:Q:27:LYS:NZ	33:Z:37:GLU:OE2	2.36	0.59
20:Q:92:GLN:NE2	20:Q:97:LEU:HD21	2.17	0.59
34:E:126:VAL:HG13	34:E:127:ARG:HG3	1.85	0.59
37:H:88:ARG:NH1	37:H:112:ASP:OD2	2.36	0.59
52:AX:79:THR:HG23	52:AX:80:LYS:HG3	1.84	0.59
18:2b:327:U:OP2	30:Xb:57:LYS:NZ	2.33	0.59
41:bb:63:VAL:HG12	41:bb:65:LEU:HD22	1.83	0.59
43:db:15:ASN:O	43:db:19:ALA:N	2.35	0.59
14:XJ:79:GLU:OE2	14:XJ:103:ASN:ND2	2.36	0.59
15:XM:40:ASP:OD1	15:XM:43:LYS:N	2.35	0.59
53:YB:37:ALA:O	53:YB:46:LYS:NZ	2.19	0.59
1:BQ:113:C:OP1	16:AQ:147:ARG:NH2	2.35	0.59
4:AW:242:ARG:NH2	4:AW:243:THR:O	2.36	0.59
18:2:1304:G:OP2	18:2:1305:U:O2'	2.19	0.59
18:2:1387:G:N7	36:G:44:LYS:NZ	2.46	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1680:G:O2'	18:2:1720:G:N2	2.36	0.59
47:L:35:ASP:OD1	47:L:38:ARG:N	2.36	0.59
18:2b:1459:C:OP2	37:Hb:138:THR:OG1	2.12	0.59
28:Wb:62:ARG:O	28:Wb:69:ARG:NH1	2.35	0.59
38:Ib:17:ALA:O	38:Ib:20:SER:OG	2.17	0.59
1:YQ:18:G:OP1	70:YP:81:ARG:NH2	2.34	0.59
1:YQ:297:G:O2'	71:XC:32:ALA:O	2.19	0.59
1:YQ:436:A:OP2	1:YQ:621:A:N6	2.25	0.59
1:YQ:3050:U:O2'	59:XE:16:GLY:O	2.21	0.59
3:YS:5:U:OP2	52:XX:62:ARG:NH2	2.35	0.59
18:2:422:G:O2'	18:2:423:G:O5'	2.21	0.59
18:2:1684:U:O2	18:2:1717:G:N2	2.32	0.59
34:E:69:GLU:N	34:E:69:GLU:OE1	2.36	0.59
18:2b:487:G:H1	18:2b:500:C:H42	1.50	0.59
18:2b:499:U:O2'	18:2b:500:C:O5'	2.14	0.59
18:2b:743:U:O2'	18:2b:744:U:O4'	2.16	0.59
18:2b:799:A:O2'	23:Sb:199:GLU:OE1	2.14	0.59
1:YQ:835:G:O2'	1:YQ:857:G:N2	2.24	0.59
5:YA:81:THR:HG21	5:YA:322:ILE:CD1	2.33	0.59
58:XB:81:GLN:NE2	58:XB:83:LYS:O	2.35	0.59
82:nb:1:G:O2'	82:nb:2:C:O4'	2.17	0.59
4:AW:101:VAL:C	4:AW:102:LEU:HD12	2.27	0.59
29:C:16:PHE:CD1	29:C:76:LEU:HD22	2.38	0.59
62:AN:33:SER:OG	62:AN:34:LYS:N	2.33	0.59
65:AY:26:GLY:O	65:AY:30:THR:HG23	2.03	0.59
18:2b:279:G:OP1	59:XE:117:LYS:NZ	2.27	0.59
20:Qb:81:PHE:O	20:Qb:106:THR:HG23	2.03	0.59
28:Wb:83:VAL:O	28:Wb:107:ARG:NE	2.26	0.59
28:Wb:137:GLY:N	28:Wb:155:HIS:O	2.36	0.59
34:Eb:126:VAL:HG22	34:Eb:127:ARG:H	1.67	0.59
39:Jb:22:ILE:N	39:Jb:93:LEU:O	2.35	0.59
1:YQ:29:C:O2'	16:XQ:172:ARG:NH1	2.35	0.59
1:YQ:1178:G:N3	1:YQ:1328:C:O2'	2.32	0.59
2:YR:39:C:O2'	13:XG:44:THR:O	2.15	0.59
14:XJ:109:PHE:O	14:XJ:113:VAL:HG23	2.02	0.59
1:BQ:376:G:O2'	1:BQ:401:U:O4	2.13	0.59
9:BO:155:LYS:N	9:BO:201:PHE:O	2.36	0.59
28:W:58:ASP:O	28:W:61:THR:OG1	2.21	0.59
18:2b:752:A:O5'	23:Sb:187:ARG:NH1	2.35	0.59
18:2b:1063:U:OP1	46:fb:72:LYS:NZ	2.36	0.59
19:Pb:164:ASN:OD1	19:Pb:165:ARG:NH1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Ub:49:ILE:HD11	26:Ub:172:VAL:HG22	1.85	0.59
31:Db:103:LEU:HD11	31:Db:116:VAL:HG22	1.85	0.59
1:YQ:1447:G:N7	52:XX:25:SER:OG	2.34	0.59
3:YS:95:G:O2'	72:XF:81:GLY:O	2.08	0.59
16:AQ:99:ARG:NH2	16:AQ:118:SER:O	2.35	0.58
23:S:54:TYR:O	43:d:15:ASN:ND2	2.35	0.58
27:V:168:CYS:SG	27:V:169:ILE:N	2.76	0.58
55:BH:73:LYS:NZ	55:BH:97:VAL:O	2.30	0.58
18:2b:14:C:OP2	21:Rb:206:THR:HG21	2.03	0.58
18:2b:93:A:O4'	23:Sb:3:ARG:NH1	2.36	0.58
18:2b:805:U:O2'	41:bb:78:ARG:NH1	2.36	0.58
51:Ob:194:GLY:HA3	51:Ob:221:MET:HE1	1.84	0.58
1:YQ:1461:A:OP1	66:YC:50:ARG:NH1	2.35	0.58
1:BQ:3001:C:OP1	5:BA:120:LYS:NZ	2.36	0.58
4:AW:19:HIS:ND1	4:AW:190:ARG:O	2.35	0.58
18:2:1101:G:HO2'	41:b:4:SER:HG	1.49	0.58
18:2:1104:U:OP1	42:c:14:LYS:NZ	2.34	0.58
24:B:219:ARG:NH1	81:m:41:U:O3'	2.36	0.58
71:AC:40:VAL:O	71:AC:44:VAL:HG23	2.02	0.58
74:AL:20:ASN:ND2	74:AL:42:ARG:O	2.36	0.58
18:2b:1272:U:O2'	18:2b:1275:A:OP2	2.14	0.58
28:Wb:104:PHE:HB3	28:Wb:147:MET:HE1	1.84	0.58
34:Eb:89:MET:O	34:Eb:107:ILE:HD11	2.03	0.58
1:YQ:67:A:O2'	1:YQ:315:C:O2	2.21	0.58
1:YQ:2724:U:OP2	1:YQ:2726:C:N4	2.36	0.58
60:XH:78:ASP:OD2	60:XH:79:GLY:N	2.36	0.58
18:2:1118:G:OP1	76:AS:21:ARG:NH2	2.37	0.58
19:P:182:LEU:HB3	19:P:188:LEU:HD23	1.85	0.58
18:2b:394:C:N4	18:2b:401:A:H62	2.00	0.58
18:2b:489:C:N3	18:2b:498:G:N2	2.50	0.58
18:2b:544:A:O2'	49:gb:31:LYS:NZ	2.36	0.58
43:db:62:THR:HG22	43:db:69:SER:OG	2.02	0.58
51:Ob:262:VAL:O	51:Ob:271:VAL:N	2.35	0.58
2:YR:11:A:N7	56:YJ:20:ARG:NH2	2.52	0.58
2:YR:49:G:O2'	7:YI:58:LYS:NZ	2.24	0.58
6:YE:349:THR:HG21	9:YO:64:GLN:HE22	1.69	0.58
1:BQ:1657:C:O2'	1:BQ:1797:A:OP2	2.17	0.58
1:BQ:2341:A:OP2	5:BA:247:ARG:NH2	2.37	0.58
6:BE:37:THR:O	6:BE:40:THR:OG1	2.21	0.58
18:2:530:C:O2	43:d:61:ARG:NH1	2.35	0.58
18:2:1558:U:OP1	37:H:122:HIS:ND1	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:F:136:SER:O	35:F:137:ARG:NE	2.37	0.58
52:AX:10:ASN:O	52:AX:14:SER:OG	2.08	0.58
19:Pb:36:TYR:OH	40:ab:66:ASP:OD2	2.13	0.58
20:Qb:87:ARG:NH2	20:Qb:89:ASP:OD2	2.36	0.58
37:Hb:100:THR:HG23	37:Hb:105:VAL:HG12	1.84	0.58
1:YQ:2526:C:OP1	4:XW:37:ARG:NH1	2.37	0.58
6:YE:334:PHE:CD1	6:YE:339:LEU:HD11	2.39	0.58
61:XK:116:LYS:HA	61:XK:119:ILE:HD12	1.86	0.58
1:BQ:661:G:OP2	1:BQ:661:G:N2	2.28	0.58
8:BM:76:LEU:N	8:BM:138:GLN:OE1	2.34	0.58
39:J:35:GLU:OE1	39:J:89:ARG:NH1	2.37	0.58
50:N:103:LEU:HG	50:N:104:SER:H	1.68	0.58
18:2b:278:U:O2'	59:XE:117:LYS:NZ	2.36	0.58
18:2b:1297:G:N2	18:2b:1300:A:OP2	2.32	0.58
18:2b:1597:A:C6	48:Mb:13:ARG:C	2.82	0.58
18:2b:1597:A:N3	48:Mb:13:ARG:C	2.62	0.58
1:YQ:327:A:OP2	14:XJ:31:LYS:NZ	2.36	0.58
4:XW:13:GLY:O	4:XW:17:THR:HG23	2.03	0.58
4:XW:45:VAL:HG12	4:XW:86:GLN:O	2.04	0.58
55:YH:81:TYR:CE1	55:YH:90:MET:HE3	2.38	0.58
1:BQ:525:C:OP2	15:AM:77:ARG:NE	2.36	0.58
1:BQ:1474:A:OP2	54:BF:53:LYS:NZ	2.37	0.58
1:BQ:1477:A:OP1	1:BQ:3075:G:O2'	2.22	0.58
1:BQ:3258:U:O2'	1:BQ:3260:G:OP1	2.18	0.58
4:AW:27:ALA:O	4:AW:128:ARG:NH2	2.36	0.58
16:AQ:146:ALA:O	16:AQ:148:TYR:N	2.36	0.58
20:Q:86:LEU:HD23	20:Q:100:PHE:HA	1.85	0.58
18:2b:1597:A:N1	48:Mb:14:TYR:CA	2.67	0.58
19:Pb:35:PRO:O	19:Pb:52:LYS:NZ	2.25	0.58
20:Qb:40:ASN:ND2	20:Qb:73:LEU:O	2.36	0.58
1:YQ:2198:A:O2'	1:YQ:2270:A:OP1	2.16	0.58
15:XM:62:GLN:N	15:XM:62:GLN:OE1	2.37	0.58
57:YL:43:VAL:HG12	57:YL:44:GLU:OE2	2.04	0.58
58:XB:89:ASP:OD1	58:XB:91:VAL:HG12	2.03	0.58
1:BQ:64:G:O2'	1:BQ:77:A:N3	2.30	0.58
1:BQ:2557:A:OP1	4:AW:69:TYR:OH	2.17	0.58
15:AM:108:ARG:NH2	17:AU:196:ALA:O	2.36	0.58
18:2:1218:G:O4'	18:2:1444:A:N6	2.36	0.58
18:2:1335:U:O2'	48:M:56:ARG:NH1	2.35	0.58
24:B:143:ARG:HD2	47:L:55:VAL:HG11	1.84	0.58
28:W:67:PRO:HA	28:W:70:LEU:HD12	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BB:123:THR:OG1	53:BB:125:ASP:OD1	2.18	0.58
72:AF:17:THR:HG22	72:AF:18:LEU:H	1.68	0.58
20:Qb:67:GLU:OE1	20:Qb:68:VAL:N	2.37	0.58
39:Jb:100:VAL:O	39:Jb:104:THR:HG23	2.03	0.58
1:BQ:3045:G:O3'	5:BA:275:ARG:NH1	2.37	0.58
18:2:1303:U:O2'	18:2:1322:A:OP2	2.20	0.58
18:2:1358:G:O2'	38:I:133:ASP:OD2	2.21	0.58
36:G:88:VAL:HG12	36:G:89:SER:O	2.03	0.58
60:AH:88:MET:HE1	60:AH:114:VAL:HG13	1.86	0.58
62:AN:102:GLU:OE1	62:AN:102:GLU:N	2.37	0.58
19:Pb:15:GLN:HG3	36:Gb:117:LEU:HD11	1.85	0.58
1:YQ:212:G:OP2	61:XK:2:ALA:N	2.36	0.58
1:YQ:1427:U:OP2	63:XR:4:ARG:NH2	2.36	0.58
1:YQ:2256:A:O2'	1:YQ:2257:C:OP2	2.18	0.58
1:YQ:2355:G:OP1	52:XX:141:SER:OG	2.10	0.58
8:YM:2:SER:OG	67:YG:81:ASP:OD2	2.15	0.58
1:BQ:2771:U:O2'	1:BQ:2772:C:O4'	2.15	0.58
18:2:717:C:N4	18:2:720:G:H22	2.02	0.58
20:Q:190:PRO:HG2	20:Q:192:VAL:HG23	1.85	0.58
21:R:127:ALA:HA	21:R:130:ILE:HD12	1.86	0.58
18:2b:732:G:O2'	18:2b:733:A:O4'	2.22	0.58
18:2b:1199:G:N2	48:Mb:29:GLY:O	2.37	0.58
3:YS:71:A:H62	3:YS:87:G:N2	2.01	0.58
4:XW:35:ALA:O	4:XW:39:GLY:N	2.37	0.58
55:YH:22:PRO:O	56:YJ:146:ASN:ND2	2.36	0.58
79:YU:25:LEU:HD13	79:YU:86:PHE:CD1	2.38	0.58
18:2:1344:A:O2'	18:2:1345:A:OP1	2.20	0.58
18:2:1389:C:OP1	36:G:48:ASN:ND2	2.37	0.58
18:2:1597:A:N1	48:M:14:TYR:CA	2.67	0.58
18:2:1604:U:HO2'	39:J:66:SER:HG	1.52	0.58
36:G:93:LEU:O	36:G:96:SER:O	2.22	0.58
37:H:11:PHE:CD1	44:K:41:ILE:HD13	2.39	0.58
23:Sb:176:ASP:OD1	23:Sb:179:LYS:NZ	2.25	0.58
26:Ub:62:VAL:HG12	26:Ub:64:VAL:H	1.68	0.58
1:YQ:341:G:OP2	6:YE:191:LYS:NZ	2.29	0.58
4:XW:117:GLU:OE2	4:XW:121:GLY:N	2.37	0.58
10:XA:192:GLN:NE2	10:XA:194:THR:O	2.37	0.58
1:BQ:351:A:N6	74:AL:37:TYR:O	2.37	0.57
1:BQ:1168:U:O2'	9:BO:214:TRP:NE1	2.36	0.57
20:Q:187:LYS:HB3	20:Q:193:ILE:HD11	1.85	0.57
29:Cb:16:PHE:CG	29:Cb:76:LEU:HD22	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:3074:G:O5'	66:YC:62:ARG:NH2	2.37	0.57
54:YF:98:ARG:NH2	54:YF:130:ASN:OD1	2.36	0.57
58:XB:97:ASP:OD1	58:XB:97:ASP:N	2.33	0.57
1:BQ:2524:A:N1	10:AA:44:ARG:NH1	2.50	0.57
1:BQ:2526:C:OP1	4:AW:37:ARG:NH1	2.35	0.57
1:BQ:2947:G:C2	5:BA:250:ALA:HB1	2.38	0.57
18:2:218:A:N1	18:2:843:U:O2'	2.33	0.57
18:2b:79:C:OP1	25:Tb:159:ARG:NH2	2.37	0.57
19:Pb:78:SER:OG	19:Pb:129:ASP:OD1	2.21	0.57
24:Bb:197:GLU:OE2	24:Bb:209:TYR:N	2.37	0.57
27:Vb:61:GLU:HG2	27:Vb:62:THR:HG23	1.86	0.57
1:YQ:794:U:OP1	63:XR:6:THR:OG1	2.17	0.57
1:YQ:1340:G:OP2	67:YG:61:LYS:NZ	2.37	0.57
68:YK:37:THR:OG1	68:YK:40:ASP:OD2	2.22	0.57
1:BQ:1307:G:O2'	1:BQ:1308:A:OP2	2.19	0.57
1:BQ:3194:C:O2'	1:BQ:3195:U:O2	2.21	0.57
14:AJ:155:GLU:O	63:AR:101:VAL:N	2.37	0.57
23:S:118:GLU:OE2	23:S:237:SER:N	2.35	0.57
37:H:6:GLN:HG3	44:K:42:LEU:HD13	1.86	0.57
53:BB:44:PHE:CD1	53:BB:139:ILE:HD11	2.40	0.57
55:BH:83:SER:N	55:BH:86:GLY:O	2.36	0.57
58:AB:69:LEU:O	58:AB:74:MET:HE1	2.04	0.57
18:2b:332:U:N3	18:2b:335:U:OP2	2.37	0.57
18:2b:960:U:O5'	32:Yb:55:ARG:NH2	2.34	0.57
39:Jb:70:THR:HG22	39:Jb:71:PRO:O	2.04	0.57
1:YQ:27:C:HO2'	1:YQ:327:A:HO2'	1.50	0.57
4:XW:150:LEU:O	4:XW:153:GLY:N	2.36	0.57
14:XJ:98:ASP:OD1	14:XJ:100:ARG:N	2.37	0.57
59:XE:12:LYS:O	59:XE:32:GLN:NE2	2.37	0.57
81:m:15:A:N1	81:m:47:C:N3	2.50	0.57
1:BQ:149:U:OP2	16:AQ:49:ARG:NH1	2.37	0.57
1:BQ:1306:G:N2	1:BQ:1307:G:N7	2.52	0.57
2:BR:6:C:OP2	7:BI:22:ARG:NH2	2.37	0.57
18:2b:110:U:OP1	18:2b:754:A:O2'	2.21	0.57
18:2b:1316:G:OP1	36:Gb:6:THR:OG1	2.22	0.57
19:Pb:162:CYS:SG	19:Pb:163:ASN:N	2.77	0.57
36:Gb:88:VAL:HG12	36:Gb:89:SER:O	2.05	0.57
62:XN:87:LEU:HD13	62:XN:127:ASN:ND2	2.18	0.57
72:XF:21:ARG:NH2	72:XF:41:ALA:O	2.34	0.57
1:BQ:98:G:OP1	14:AJ:16:LYS:NZ	2.38	0.57
1:BQ:692:A:OP1	16:AQ:201:ARG:NH2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:2847:A:OP2	75:AO:97:ARG:NH1	2.38	0.57
2:BR:53:U:O2'	2:BR:55:A:N7	2.37	0.57
18:2:445:A:O3'	23:S:59:ARG:NH2	2.37	0.57
18:2:1516:A:OP2	39:J:61:LYS:NZ	2.19	0.57
18:2:1521:G:O2'	18:2:1523:G:OP2	2.20	0.57
24:B:119:ASP:O	24:B:123:VAL:HG23	2.04	0.57
77:AP:44:ASP:O	77:AP:48:SER:OG	2.15	0.57
18:2b:717:C:O2	18:2b:720:G:O6	2.22	0.57
18:2b:1104:U:OP1	42:cb:14:LYS:NZ	2.36	0.57
20:Qb:195:LYS:O	20:Qb:199:ASN:ND2	2.38	0.57
38:Ib:37:VAL:HG11	38:Ib:100:ILE:HD11	1.86	0.57
1:BQ:3275:U:O2'	1:BQ:3276:G:OP1	2.21	0.57
1:BQ:3370:A:O3'	5:BA:384:LYS:NZ	2.35	0.57
4:AW:118:GLU:N	4:AW:122:ASP:OD2	2.37	0.57
19:P:187:ALA:O	19:P:188:LEU:HD22	2.04	0.57
36:G:93:LEU:HD22	36:G:99:VAL:O	2.04	0.57
37:H:24:GLY:O	37:H:59:GLY:N	2.37	0.57
18:2b:551:G:O4'	18:2b:581:U:N3	2.38	0.57
21:Rb:40:LYS:HB3	21:Rb:240:LEU:HD11	1.87	0.57
21:Rb:236:PRO:O	40:ab:33:GLN:NE2	2.37	0.57
22:Ab:224:ASP:OD2	22:Ab:225:TYR:N	2.37	0.57
28:Wb:162:SER:O	28:Wb:162:SER:OG	2.22	0.57
35:Fb:8:GLN:OE1	35:Fb:21:HIS:NE2	2.35	0.57
45:eb:33:ASP:OD2	45:eb:34:LYS:N	2.38	0.57
13:XG:60:ARG:NE	77:XP:104:LEU:O	2.31	0.57
55:YH:90:MET:HE1	55:YH:114:HIS:CE1	2.39	0.57
1:BQ:1313:G:O2'	1:BQ:1318:A:N1	2.38	0.57
19:P:130:ALA:HA	19:P:133:ILE:HD12	1.86	0.57
22:A:43:PRO:O	22:A:44:THR:OG1	2.20	0.57
1:YQ:1334:U:O2'	9:YO:151:ARG:NH2	2.36	0.57
1:BQ:1182:A:O3'	55:BH:158:LYS:NZ	2.38	0.57
1:BQ:3333:G:O2'	1:BQ:3334:U:OP2	2.19	0.57
18:2:706:A:O2'	18:2:707:A:O4'	2.17	0.57
40:a:1:MET:N	40:a:10:GLU:OE1	2.32	0.57
41:b:63:VAL:HG12	41:b:65:LEU:HD22	1.86	0.57
53:BB:99:THR:O	53:BB:101:VAL:HG23	2.05	0.57
23:Sb:105:VAL:HG21	23:Sb:245:LYS:H	1.70	0.57
23:Sb:209:HIS:HA	23:Sb:219:VAL:HG22	1.87	0.57
34:Eb:80:MET:O	34:Eb:116:LEU:HD12	2.05	0.57
3:YS:103:G:OP1	3:YS:110:C:N4	2.38	0.57
15:XM:58:ILE:HD11	15:XM:62:GLN:CB	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:YP:58:ILE:HG22	70:YP:62:GLN:HE22	1.69	0.57
73:XI:32:ASN:HD21	73:XI:34:ALA:HB3	1.70	0.57
18:2b:1441:C:O2'	18:2b:1447:C:N4	2.38	0.57
37:Hb:14:ILE:HD12	37:Hb:22:VAL:O	2.05	0.57
1:YQ:815:G:OP2	72:XF:31:LYS:NZ	2.20	0.57
15:XM:108:ARG:NH2	17:XU:196:ALA:O	2.37	0.57
75:XO:94:SER:OG	75:XO:104:PRO:O	2.10	0.57
80:n:13:C:O2	80:n:22:C:N4	2.37	0.57
1:BQ:1870:C:O2	1:BQ:3066:U:O2'	2.22	0.57
7:BI:50:ARG:NH2	7:BI:72:ASP:OD2	2.34	0.57
17:AU:141:LEU:O	17:AU:145:VAL:HG22	2.05	0.57
18:2:179:A:N1	25:T:202:ARG:NH2	2.52	0.57
35:F:50:GLU:OE2	35:F:82:ARG:NH2	2.38	0.57
47:L:18:ARG:NH2	47:L:23:GLY:O	2.38	0.57
21:Rb:69:ILE:HD11	21:Rb:133:LYS:HB3	1.87	0.57
35:Fb:31:VAL:O	35:Fb:34:SER:OG	2.11	0.57
1:YQ:20:A:OP2	70:YP:90:ARG:NH2	2.38	0.57
16:XQ:68:ARG:NE	16:XQ:124:ASP:O	2.37	0.57
1:BQ:1863:G:N1	1:BQ:1866:C:OP2	2.38	0.56
2:BR:13:A:OP2	2:BR:67:G:N2	2.35	0.56
10:AA:67:ILE:HG23	10:AA:237:ILE:HD13	1.86	0.56
49:g:38:LEU:O	49:g:41:THR:OG1	2.22	0.56
51:O:224:ASN:N	51:O:229:LYS:O	2.34	0.56
24:Bb:73:THR:N	24:Bb:91:GLU:OE2	2.38	0.56
31:Db:66:VAL:HG21	31:Db:71:ILE:CG2	2.34	0.56
38:Ib:86:ARG:NH1	38:Ib:90:PRO:O	2.38	0.56
51:Ob:148:ASN:N	51:Ob:175:ASP:OD2	2.37	0.56
1:YQ:779:G:OP1	53:YB:185:LYS:NZ	2.38	0.56
1:YQ:3214:U:OP2	15:XM:128:ARG:NH1	2.38	0.56
52:XX:38:GLY:H	52:XX:114:VAL:HG13	1.69	0.56
18:2:1523:G:P	38:I:78:LYS:HZ3	2.27	0.56
25:T:37:ASP:OD1	25:T:49:VAL:HG13	2.04	0.56
31:D:31:VAL:HG22	31:D:133:LEU:CD1	2.35	0.56
59:AE:20:LEU:HD21	59:AE:28:ILE:HG23	1.86	0.56
18:2b:1654:G:O2'	18:2b:1746:A:N6	2.37	0.56
20:Qb:35:PRO:HB3	20:Qb:231:LEU:HD21	1.86	0.56
21:Rb:203:LYS:O	21:Rb:206:THR:OG1	2.24	0.56
1:YQ:362:U:O2'	1:YQ:928:C:O2'	2.18	0.56
8:YM:40:LEU:HD11	8:YM:54:TYR:HB2	1.87	0.56
1:BQ:2899:C:N3	11:AD:173:ARG:NH1	2.52	0.56
3:BS:85:G:N1	61:AK:112:ASP:OD2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AD:1:MET:HE1	55:BH:138:GLN:HB3	1.87	0.56
18:2:1001:A:OP1	80:n:38:A:O2'	2.22	0.56
18:2:1679:G:H21	18:2:1722:A:N6	2.04	0.56
23:S:60:GLU:OE2	43:d:20:ARG:NH2	2.38	0.56
35:F:64:ASP:O	35:F:65:ILE:HD13	2.04	0.56
18:2b:27:U:OP1	18:2b:43:A:N6	2.37	0.56
18:2b:399:A:N3	23:Sb:3:ARG:NH1	2.53	0.56
33:Zb:88:GLY:O	33:Zb:92:LYS:NZ	2.38	0.56
36:Gb:100:LEU:O	36:Gb:120:SER:N	2.38	0.56
51:Ob:106:HIS:ND1	51:Ob:128:ASP:OD2	2.34	0.56
1:YQ:63:A:OP1	16:XQ:172:ARG:NH2	2.38	0.56
1:YQ:692:A:OP1	16:XQ:201:ARG:NH2	2.38	0.56
1:YQ:1176:C:OP2	1:YQ:1177:G:O2'	2.12	0.56
1:YQ:1522:U:OP1	60:XH:123:TYR:OH	2.23	0.56
1:YQ:2521:U:O2'	1:YQ:2524:A:OP1	2.14	0.56
53:YB:31:LYS:O	53:YB:34:THR:OG1	2.23	0.56
81:m:22:U:OP2	81:m:46:A:N6	2.39	0.56
1:BQ:1237:G:N7	1:BQ:1263:A:O2'	2.33	0.56
1:BQ:1523:U:OP1	1:BQ:1607:U:N3	2.32	0.56
1:BQ:1921:A:OP2	1:BQ:1930:A:N6	2.29	0.56
15:AM:72:LEU:HD12	15:AM:73:PRO:HD2	1.87	0.56
18:2:1597:A:N1	48:M:13:ARG:N	2.53	0.56
18:2:1677:C:OP1	27:V:42:ARG:NH1	2.37	0.56
18:2:1755:A:O2'	18:2:1756:A:OP2	2.19	0.56
24:B:72:HIS:O	24:B:73:THR:OG1	2.20	0.56
56:BJ:8:ARG:O	56:BJ:11:THR:OG1	2.22	0.56
18:2b:257:A:N3	27:Vb:64:ASN:ND2	2.53	0.56
18:2b:1597:A:C6	48:Mb:14:TYR:CA	2.89	0.56
19:Pb:172:LEU:HD12	36:Gb:91:LEU:HD13	1.86	0.56
20:Qb:129:THR:OG1	20:Qb:131:ASP:OD1	2.15	0.56
35:Fb:63:ILE:HD12	35:Fb:65:ILE:HD11	1.87	0.56
65:XY:26:GLY:O	65:XY:30:THR:HG23	2.06	0.56
1:BQ:2714:G:OP2	77:AP:8:ARG:NH2	2.39	0.56
1:BQ:2768:U:O2	77:AP:82:GLN:NE2	2.37	0.56
1:BQ:3006:A:OP1	17:AU:149:TYR:OH	2.18	0.56
5:BA:284:ARG:NH1	5:BA:293:ASN:O	2.38	0.56
16:AQ:157:LYS:O	16:AQ:162:ARG:NH2	2.39	0.56
17:AU:185:ALA:O	17:AU:188:SER:OG	2.21	0.56
23:S:212:ASP:OD1	23:S:216:ASN:N	2.38	0.56
63:AR:114:GLY:O	63:AR:137:LYS:NZ	2.36	0.56
18:2b:568:G:N7	42:cb:69:ARG:NH2	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Sb:159:THR:CG2	23:Sb:227:VAL:HG23	2.35	0.56
51:Ob:274:LEU:HD13	51:Ob:313:TRP:CD2	2.40	0.56
1:YQ:599:C:OP1	6:YE:332:LYS:NZ	2.23	0.56
1:YQ:1245:A:N7	1:YQ:1271:A:O2'	2.39	0.56
1:YQ:2155:G:O2'	4:XW:227:ARG:NH2	2.38	0.56
2:YR:7:G:O3'	7:YI:33:ARG:NH2	2.38	0.56
9:YO:172:ASN:C	9:YO:173:LEU:HD12	2.31	0.56
6:BE:229:ASN:OD1	6:BE:230:VAL:N	2.38	0.56
12:BD:55:ASN:HA	12:BD:131:ILE:HG23	1.86	0.56
23:S:103:TYR:O	23:S:182:TYR:OH	2.23	0.56
43:d:20:ARG:NH1	43:d:22:GLN:OE1	2.39	0.56
18:2b:418:G:O2'	25:Tb:72:ARG:NH2	2.38	0.56
18:2b:1409:G:N1	18:2b:1412:G:OP2	2.39	0.56
18:2b:1597:A:C5	48:Mb:14:TYR:CA	2.88	0.56
19:Pb:11:PRO:HB2	36:Gb:117:LEU:HD13	1.86	0.56
29:Cb:44:LYS:NZ	29:Cb:47:GLN:OE1	2.32	0.56
1:YQ:824:C:O2'	1:YQ:1534:A:N3	2.32	0.56
1:YQ:3348:G:O6	1:YQ:3357:U:C4	2.59	0.56
12:YD:162:GLN:OE1	12:YD:163:GLN:N	2.39	0.56
13:XG:51:ARG:O	13:XG:61:ARG:NH2	2.38	0.56
74:XL:33:ASN:OD1	74:XL:34:THR:N	2.39	0.56
1:BQ:3068:U:OP2	54:BF:62:ARG:NH2	2.38	0.56
21:R:120:GLU:OE1	22:A:120:TYR:OH	2.22	0.56
33:Z:99:GLN:NE2	45:e:44:ILE:O	2.39	0.56
41:b:89:TRP:O	41:b:93:LEU:HD23	2.06	0.56
43:d:52:LYS:O	43:d:55:VAL:HG22	2.06	0.56
18:2b:894:U:O2'	33:Zb:36:LYS:NZ	2.24	0.56
25:Tb:26:VAL:O	25:Tb:30:LYS:NZ	2.23	0.56
36:Gb:88:VAL:O	36:Gb:95:ARG:NH1	2.39	0.56
1:BQ:28:C:OP1	16:AQ:192:LYS:NZ	2.37	0.56
1:BQ:439:C:O2'	1:BQ:494:G:N2	2.38	0.56
1:BQ:707:U:OP1	1:BQ:780:A:O2'	2.11	0.56
2:BR:64:A:OP2	7:BI:289:LYS:NZ	2.30	0.56
51:O:144:LEU:HD13	51:O:181:TRP:CE3	2.41	0.56
62:AN:46:ILE:HD11	62:AN:49:TYR:CZ	2.40	0.56
18:2b:714:G:O2'	18:2b:715:U:O4'	2.24	0.56
18:2b:1524:A:O3'	38:Ib:93:HIS:ND1	2.37	0.56
22:Ab:148:LYS:NZ	84:l:25:U:O4	2.39	0.56
27:Vb:84:HIS:CG	27:Vb:90:LEU:HD12	2.41	0.56
1:YQ:1884:A:OP2	66:YC:31:ARG:NH2	2.38	0.56
1:YQ:2205:U:O2	1:YQ:2207:A:N6	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:3297:U:O3'	52:AX:74:LYS:NZ	2.37	0.56
23:S:173:ILE:HD11	23:S:235:TYR:CE2	2.41	0.56
53:BB:31:LYS:O	53:BB:34:THR:OG1	2.24	0.56
60:AH:58:ASP:O	60:AH:62:VAL:HG23	2.06	0.56
68:BK:19:SER:OG	68:BK:20:LYS:N	2.39	0.56
75:AO:94:SER:OG	75:AO:104:PRO:O	2.24	0.56
23:Sb:49:ARG:NH2	23:Sb:50:ASN:OD1	2.38	0.56
1:YQ:1044:U:OP1	12:YD:90:ARG:NH2	2.37	0.56
1:YQ:2991:A:O3'	5:YA:21:ARG:NH2	2.36	0.56
3:YS:74:U:OP2	61:XK:76:LEU:HD22	2.06	0.56
3:YS:103:G:OP2	3:YS:105:A:O2'	2.23	0.56
10:XA:54:GLU:O	10:XA:58:VAL:HG23	2.05	0.56
58:XB:121:GLU:N	58:XB:121:GLU:OE1	2.38	0.56
78:XT:56:THR:HG22	78:XT:63:THR:HG23	1.86	0.56
11:AD:91:ARG:NH2	11:AD:141:LYS:O	2.39	0.56
18:2:155:U:O4	43:d:132:ARG:NH2	2.39	0.56
26:U:16:LEU:O	26:U:20:VAL:HG23	2.06	0.56
38:I:73:VAL:HG12	38:I:77:ASN:HD21	1.70	0.56
58:AB:42:SER:OG	58:AB:42:SER:O	2.24	0.56
18:2b:1163:A:N3	18:2b:1613:U:O2'	2.37	0.56
21:Rb:47:ALA:HB1	21:Rb:49:LYS:HE2	1.89	0.56
1:YQ:119:U:O3'	10:XA:133:LYS:NZ	2.39	0.56
1:YQ:687:U:O4	14:XJ:32:LYS:NZ	2.26	0.56
1:YQ:1219:C:O2'	1:YQ:1286:A:N1	2.37	0.56
1:YQ:1545:A:N7	16:XQ:105:ARG:NH1	2.54	0.56
1:YQ:2155:G:H4'	4:XW:239:ALA:HB3	1.88	0.56
1:YQ:3324:C:OP1	66:YC:19:ARG:NH1	2.38	0.56
12:YD:160:PRO:O	12:YD:163:GLN:NE2	2.39	0.56
77:XP:74:CYS:CB	77:XP:77:CYS:SG	2.93	0.56
1:BQ:1635:G:N2	1:BQ:1638:A:OP2	2.34	0.55
1:BQ:3273:A:OP2	8:BM:77:ARG:NH2	2.34	0.55
16:AQ:66:VAL:CG2	16:AQ:98:LEU:HD23	2.36	0.55
18:2:1597:A:C6	48:M:14:TYR:CA	2.89	0.55
18:2b:903:U:O3'	33:Zb:135:ARG:NH2	2.40	0.55
19:Pb:15:GLN:OE1	36:Gb:93:LEU:HD12	2.05	0.55
22:Ab:80:ALA:O	22:Ab:83:THR:OG1	2.25	0.55
47:Lb:9:LEU:HD23	47:Lb:55:VAL:HG22	1.88	0.55
51:Ob:262:VAL:O	51:Ob:270:LEU:HD12	2.06	0.55
3:YS:97:A:OP1	70:YP:67:ARG:NH2	2.39	0.55
9:YO:216:VAL:HG21	9:YO:227:GLY:HA2	1.88	0.55
64:XV:16:ALA:O	64:XV:20:GLY:HA3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:XP:75:VAL:O	77:XP:78:LYS:NZ	2.39	0.55
1:BQ:1198:C:OP2	1:BQ:1199:C:O2'	2.22	0.55
1:BQ:1282:G:OP1	79:BU:56:ASN:N	2.37	0.55
1:BQ:1383:G:O3'	6:BE:138:ARG:NH2	2.38	0.55
18:2:896:U:O2	33:Z:41:ARG:NH1	2.39	0.55
18:2:1019:A:OP2	32:Y:107:LYS:NZ	2.39	0.55
24:B:220:VAL:O	24:B:223:SER:OG	2.17	0.55
36:G:54:THR:HA	36:G:57:LEU:HD12	1.87	0.55
57:BL:37:LEU:HD12	57:BL:41:ILE:HD11	1.88	0.55
18:2b:190:C:O2'	18:2b:191:C:OP2	2.20	0.55
18:2b:1381:U:O4	18:2b:1382:A:N6	2.39	0.55
18:2b:1492:A:O2'	18:2b:1493:A:O4'	2.24	0.55
18:2b:1613:U:O5'	24:Bb:84:LYS:NZ	2.38	0.55
29:Cb:38:LYS:O	29:Cb:42:VAL:HG23	2.06	0.55
1:YQ:289:A:O2'	16:XQ:94:TYR:O	2.19	0.55
1:YQ:409:A:HO2'	1:YQ:654:C:HO2'	1.44	0.55
1:YQ:1888:U:OP1	5:YA:247:ARG:NH1	2.37	0.55
6:YE:266:THR:OG1	6:YE:267:VAL:N	2.39	0.55
7:YI:85:ARG:NH1	7:YI:252:ALA:O	2.37	0.55
8:BM:60:ASP:OD2	8:BM:62:THR:OG1	2.23	0.55
15:AM:72:LEU:HD11	15:AM:76:ALA:CB	2.36	0.55
18:2:564:G:N1	18:2:580:A:OP2	2.38	0.55
18:2:1597:A:C6	48:M:13:ARG:C	2.84	0.55
39:J:26:LEU:CD2	39:J:114:VAL:HG13	2.36	0.55
60:AH:115:ARG:NH1	60:AH:119:THR:OG1	2.39	0.55
18:2b:567:A:H62	18:2b:576:G:N2	2.03	0.55
18:2b:1354:G:C6	18:2b:1369:U:O2	2.60	0.55
19:Pb:9:LEU:O	19:Pb:10:THR:OG1	2.21	0.55
20:Qb:32:ILE:HD12	20:Qb:44:GLY:C	2.31	0.55
45:eb:7:SER:OG	45:eb:9:GLY:O	2.20	0.55
1:YQ:2116:G:OP1	1:YQ:2118:C:N4	2.39	0.55
2:YR:64:A:OP2	7:YI:289:LYS:NZ	2.31	0.55
70:YP:85:THR:HG22	70:YP:88:LEU:HD12	1.88	0.55
17:AU:38:ALA:O	17:AU:41:LEU:HD23	2.06	0.55
17:AU:89:SER:O	17:AU:92:THR:OG1	2.17	0.55
18:2:1199:G:O2'	18:2:1200:G:OP2	2.25	0.55
37:H:22:VAL:HG22	37:H:34:THR:HG21	1.89	0.55
18:2b:1217:A:C4	29:Cb:40:LEU:HD11	2.42	0.55
23:Sb:104:ASP:N	23:Sb:108:ARG:O	2.34	0.55
36:Gb:93:LEU:O	36:Gb:96:SER:C	2.49	0.55
37:Hb:32:LEU:HD12	37:Hb:43:SER:OG	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1376:C:HO2'	1:YQ:1408:G:HO2'	1.54	0.55
1:YQ:3182:G:O3'	17:XU:161:LYS:NZ	2.39	0.55
13:XG:71:VAL:HG12	13:XG:76:ALA:HB2	1.88	0.55
60:XH:58:ASP:OD2	60:XH:60:TYR:N	2.37	0.55
1:BQ:595:G:OP2	9:BO:30:ARG:NH1	2.39	0.55
3:BS:84:C:O2	61:AK:113:LYS:N	2.39	0.55
7:BI:85:ARG:NH1	7:BI:86:TYR:OH	2.39	0.55
16:AQ:137:PRO:O	16:AQ:143:ARG:NH1	2.38	0.55
17:AU:11:GLY:O	17:AU:41:LEU:HD22	2.07	0.55
17:AU:27:LEU:O	17:AU:101:ARG:NH1	2.39	0.55
18:2:44:U:OP2	18:2:437:A:N6	2.39	0.55
18:2:717:C:N3	18:2:720:G:N1	2.55	0.55
18:2:994:G:OP1	18:2:1778:G:O2'	2.25	0.55
18:2:1095:U:O3'	41:b:19:LYS:NZ	2.40	0.55
18:2:1122:G:N2	18:2:1125:A:OP2	2.31	0.55
18:2b:609:U:O2	18:2b:610:G:N2	2.38	0.55
18:2b:639:U:OP1	26:Ub:117:THR:OG1	2.24	0.55
40:ab:1:MET:N	40:ab:10:GLU:OE2	2.39	0.55
51:Ob:36:ALA:HB2	51:Ob:71:CYS:HB3	1.88	0.55
1:YQ:2307:G:O2'	1:YQ:2310:U:OP2	2.23	0.55
3:YS:97:A:O2'	70:YP:59:ASN:OD1	2.24	0.55
5:YA:86:VAL:HG22	5:YA:162:VAL:HG12	1.89	0.55
12:YD:153:ARG:NH2	12:YD:157:TYR:OH	2.40	0.55
84:l:25:U:O2'	84:l:26:U:O5'	2.24	0.55
1:BQ:3219:G:H1	8:BM:162:SER:HG	1.54	0.55
11:AD:178:GLY:O	11:AD:179:ILE:HD13	2.06	0.55
18:2:142:G:H22	18:2:173:A:H2	1.54	0.55
24:B:153:GLY:O	81:m:37:A:N6	2.38	0.55
36:G:66:VAL:HB	36:G:69:ILE:HD11	1.89	0.55
53:BB:80:THR:OG1	53:BB:137:THR:HG22	2.06	0.55
54:BF:60:LYS:O	54:BF:63:THR:OG1	2.23	0.55
18:2b:1597:A:H61	48:Mb:12:ARG:HD3	1.72	0.55
19:Pb:182:LEU:O	19:Pb:188:LEU:N	2.40	0.55
1:YQ:978:G:O2'	1:YQ:979:U:O2	2.25	0.55
1:YQ:1222:G:H2'	79:YU:57:THR:HG21	1.89	0.55
1:YQ:1261:G:O2'	1:YQ:1262:G:N7	2.39	0.55
65:XY:9:SER:OG	65:XY:12:GLN:NE2	2.39	0.55
9:BO:172:ASN:C	9:BO:173:LEU:HD12	2.31	0.55
18:2:162:A:H3'	18:2:163:G:H21	1.71	0.55
18:2:512:A:OP2	28:W:173:ALA:N	2.39	0.55
18:2:513:U:OP1	28:W:133:HIS:NE2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:F:10:PHE:O	35:F:87:LYS:NZ	2.30	0.55
42:c:97:ASP:OD1	42:c:98:GLU:N	2.40	0.55
67:BG:81:ASP:O	67:BG:84:THR:OG1	2.24	0.55
18:2b:151:G:N7	43:db:124:ARG:NE	2.54	0.55
20:Qb:158:SER:HA	20:Qb:161:ILE:HD12	1.89	0.55
23:Sb:93:ASP:OD1	23:Sb:94:ALA:N	2.40	0.55
25:Tb:64:LYS:NZ	25:Tb:82:SER:OG	2.38	0.55
40:ab:53:TYR:OH	40:ab:76:ASP:OD2	2.15	0.55
57:YL:83:TYR:O	57:YL:87:ASN:ND2	2.39	0.55
58:XB:31:ALA:HB2	58:XB:69:LEU:HD21	1.88	0.55
1:BQ:1498:A:OP1	54:BF:6:THR:OG1	2.24	0.55
18:2:1310:U:O2'	18:2:1402:G:O2'	2.24	0.55
21:R:225:LEU:HD21	21:R:230:TRP:CD1	2.41	0.55
67:BG:100:ILE:O	67:BG:105:ARG:NH1	2.39	0.55
18:2b:350:U:OP1	18:2b:351:C:O2'	2.20	0.55
18:2b:497:G:O2'	18:2b:498:G:O5'	2.22	0.55
18:2b:1198:G:O3'	48:Mb:41:GLN:NE2	2.33	0.55
1:BQ:2713:U:O2'	77:AP:8:ARG:NE	2.40	0.55
5:BA:187:SER:O	5:BA:190:GLU:N	2.40	0.55
10:AA:98:ARG:NH1	10:AA:188:THR:O	2.37	0.55
22:A:117:ARG:NE	84:l:60:U:O4	2.38	0.55
23:S:180:LEU:HD22	23:S:230:GLU:O	2.06	0.55
77:AP:22:GLN:O	77:AP:75:VAL:HG22	2.07	0.55
1:YQ:791:A:OP1	6:YE:108:LYS:NZ	2.28	0.55
1:YQ:874:U:OP2	1:YQ:1907:C:O2'	2.16	0.55
1:YQ:1874:A:OP2	54:YF:21:LYS:NZ	2.40	0.55
1:YQ:3153:U:O4'	1:YQ:3158:G:N2	2.40	0.55
3:YS:71:A:H62	3:YS:87:G:H21	1.55	0.55
10:XA:144:GLU:HA	10:XA:173:MET:HE3	1.89	0.55
15:XM:72:LEU:HD12	15:XM:73:PRO:HD2	1.88	0.55
58:XB:57:MET:HE1	58:XB:105:PRO:HA	1.89	0.55
18:2:242:U:O2'	18:2:243:G:O5'	2.20	0.55
21:R:133:LYS:O	21:R:136:VAL:HG13	2.07	0.55
30:X:99:ARG:NH1	42:c:7:ARG:O	2.37	0.55
56:BJ:101:CYS:SG	56:BJ:102:ARG:N	2.80	0.55
71:AC:68:ARG:O	71:AC:72:VAL:HG23	2.07	0.55
18:2b:1209:C:N3	18:2b:1455:G:N2	2.55	0.55
19:Pb:183:ARG:NH2	19:Pb:191:ARG:O	2.40	0.55
24:Bb:113:ILE:O	24:Bb:117:THR:OG1	2.23	0.55
27:Vb:105:ASP:OD1	27:Vb:106:ALA:N	2.40	0.55
28:Wb:23:ARG:NH1	28:Wb:27:GLU:OE2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Hb:45:LEU:HD13	38:Ib:36:ILE:HG22	1.87	0.55
62:XN:87:LEU:HD13	62:XN:127:ASN:HD22	1.72	0.55
1:BQ:1452:A:N3	1:BQ:2346:C:O2'	2.37	0.54
31:D:31:VAL:HG21	31:D:136:ILE:HD13	1.88	0.54
44:K:44:GLN:O	44:K:44:GLN:NE2	2.40	0.54
79:BU:6:GLU:O	79:BU:10:GLU:N	2.39	0.54
79:BU:19:LEU:HD23	79:BU:88:PHE:CE1	2.42	0.54
23:Sb:42:LEU:HD23	23:Sb:43:PRO:O	2.08	0.54
25:Tb:23:ARG:NH2	25:Tb:40:ALA:O	2.40	0.54
30:Xb:99:ARG:NH1	42:cb:7:ARG:O	2.40	0.54
50:Nb:123:ASN:ND2	50:Nb:126:CYS:SG	2.80	0.54
1:YQ:1231:A:H2'	1:YQ:1277:C:H41	1.71	0.54
1:YQ:1886:A:O2'	5:YA:226:PHE:O	2.24	0.54
13:XG:19:LEU:HD23	13:XG:125:MET:HE1	1.89	0.54
72:XF:17:THR:HG22	72:XF:18:LEU:H	1.71	0.54
1:BQ:1480:G:N1	1:BQ:1872:C:OP2	2.40	0.54
18:2:1287:A:N1	18:2:1328:G:O2'	2.25	0.54
27:V:97:THR:OG1	27:V:98:LYS:O	2.24	0.54
31:D:63:VAL:HG21	31:D:66:VAL:CG1	2.38	0.54
19:Pb:41:ARG:N	19:Pb:45:VAL:O	2.41	0.54
24:Bb:20:PHE:O	24:Bb:21:THR:OG1	2.22	0.54
1:YQ:2564:G:OP2	62:XN:55:LYS:NZ	2.39	0.54
1:YQ:2818:U:O2'	1:YQ:2819:A:OP2	2.17	0.54
1:YQ:3216:G:O2'	1:YQ:3219:G:O3'	2.25	0.54
10:XA:203:VAL:HG21	10:XA:211:LEU:HD13	1.89	0.54
2:BR:38:U:N3	2:BR:41:G:OP2	2.39	0.54
18:2:1597:A:C5	48:M:14:TYR:CA	2.89	0.54
20:Q:85:LYS:N	20:Q:102:GLY:O	2.38	0.54
21:R:159:THR:OG1	21:R:167:VAL:O	2.17	0.54
23:S:42:LEU:N	23:S:84:ALA:O	2.38	0.54
29:C:33:GLU:OE2	29:C:33:GLU:N	2.40	0.54
38:I:12:GLN:O	38:I:16:ASN:ND2	2.40	0.54
49:g:25:GLU:O	49:g:26:LYS:NZ	2.39	0.54
56:BJ:17:ARG:NH1	56:BJ:45:ASN:OD1	2.41	0.54
18:2b:539:G:N2	18:2b:540:G:O6	2.33	0.54
18:2b:733:A:O5'	18:2b:734:A:N6	2.41	0.54
18:2b:930:A:OP2	45:eb:32:LYS:NZ	2.39	0.54
1:YQ:3325:G:OP1	66:YC:70:ARG:NH1	2.39	0.54
2:YR:40:C:O2'	13:XG:43:GLN:NE2	2.40	0.54
15:XM:97:SER:OG	15:XM:99:TRP:N	2.39	0.54
52:XX:108:ASP:N	52:XX:152:GLU:OE2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:XR:82:ILE:O	63:XR:87:ARG:NH2	2.39	0.54
1:BQ:860:G:OP1	78:AT:17:ARG:NH2	2.41	0.54
14:AJ:140:SER:OG	14:AJ:141:ALA:N	2.38	0.54
18:2:68:A:O2'	18:2:69:G:OP2	2.16	0.54
18:2:1252:C:OP2	50:N:118:ARG:NH2	2.41	0.54
18:2:1294:G:HO2'	19:P:108:THR:HG1	1.51	0.54
18:2:1679:G:H21	18:2:1722:A:H62	1.56	0.54
18:2:1785:U:OP2	33:Z:133:ARG:NH1	2.40	0.54
71:AC:58:ILE:HA	71:AC:61:ILE:HD12	1.90	0.54
18:2b:853:G:OP2	54:YF:173:ARG:NE	2.41	0.54
8:YM:157:GLN:OE1	8:YM:157:GLN:N	2.40	0.54
62:XN:129:TRP:O	62:XN:132:SER:OG	2.10	0.54
65:XY:99:ASP:OD1	65:XY:99:ASP:N	2.36	0.54
1:BQ:358:G:N2	1:BQ:361:A:OP2	2.37	0.54
1:BQ:875:G:O2'	1:BQ:1891:A:OP1	2.24	0.54
18:2:584:C:O3'	49:g:15:LYS:NZ	2.40	0.54
21:R:58:LEU:O	40:a:15:ARG:NE	2.39	0.54
40:a:17:CYS:O	40:a:21:ASN:N	2.41	0.54
43:d:29:HIS:NE2	43:d:69:SER:OG	2.36	0.54
45:e:33:ASP:OD1	45:e:34:LYS:N	2.41	0.54
51:O:200:ASN:ND2	51:O:239:GLU:OE2	2.41	0.54
79:BU:51:VAL:HG12	79:BU:87:VAL:HG22	1.89	0.54
18:2b:402:C:OP1	23:Sb:3:ARG:NH2	2.39	0.54
24:Bb:39:GLU:OE1	24:Bb:39:GLU:N	2.40	0.54
25:Tb:163:THR:HG22	25:Tb:168:THR:HG22	1.89	0.54
30:Xb:33:ARG:NH2	30:Xb:49:ILE:O	2.41	0.54
1:YQ:921:A:N6	1:YQ:1846:C:OP2	2.34	0.54
1:BQ:291:C:OP2	16:AQ:128:LYS:NZ	2.40	0.54
1:BQ:505:G:H4'	6:BE:313:LEU:HD21	1.89	0.54
1:BQ:645:A:N6	1:BQ:2869:U:OP1	2.40	0.54
1:BQ:2295:A:OP1	58:AB:63:LYS:NZ	2.31	0.54
52:AX:11:PRO:O	52:AX:105:LYS:NZ	2.41	0.54
57:BL:13:LYS:NZ	57:BL:69:ALA:O	2.28	0.54
79:BU:27:VAL:N	79:BU:189:GLN:O	2.36	0.54
18:2b:130:C:O2'	18:2b:131:C:OP1	2.19	0.54
18:2b:332:U:OP1	27:Vb:56:ARG:NH2	2.40	0.54
18:2b:1252:C:O2'	50:Nb:131:PHE:O	2.20	0.54
31:Db:31:VAL:HG21	31:Db:136:ILE:HD13	1.90	0.54
32:Yb:46:THR:C	32:Yb:50:ILE:HD12	2.32	0.54
42:cb:27:ASN:ND2	42:cb:28:ASN:OD1	2.41	0.54
48:Mb:4:GLU:OE1	48:Mb:4:GLU:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1554:U:O2'	1:YQ:1555:U:OP1	2.20	0.54
6:BE:299:ILE:HG22	6:BE:300:ARG:O	2.08	0.54
18:2:1029:U:OP2	45:e:12:LYS:NZ	2.27	0.54
44:K:66:VAL:HG22	44:K:71:ILE:CG2	2.37	0.54
18:2b:1430:U:O4'	39:Jb:72:ASN:ND2	2.41	0.54
18:2b:1755:A:N3	42:cb:63:GLN:NE2	2.56	0.54
28:Wb:106:GLU:O	28:Wb:111:THR:OG1	2.25	0.54
33:Zb:99:GLN:NE2	45:eb:44:ILE:O	2.40	0.54
1:YQ:1551:C:O2'	1:YQ:2170:U:O2'	2.25	0.54
52:XX:52:LEU:CD2	52:XX:88:VAL:HG11	2.37	0.54
57:YL:37:LEU:HD12	57:YL:41:ILE:HD11	1.89	0.54
1:BQ:2794:G:C5'	81:m:75:A:H62	2.21	0.54
18:2:788:A:C4	23:S:19:LEU:HD13	2.43	0.54
23:S:32:SER:OG	23:S:81:THR:OG1	2.08	0.54
18:2b:246:G:N2	30:Xb:38:ALA:O	2.34	0.54
18:2b:1205:C:N4	48:Mb:16:LYS:O	2.40	0.54
18:2b:1230:A:H2	18:2b:1255:G:H21	1.53	0.54
25:Tb:64:LYS:HB3	25:Tb:67:VAL:HG11	1.90	0.54
44:Kb:89:ILE:HD12	44:Kb:101:TYR:CD1	2.43	0.54
77:XP:16:THR:OG1	77:XP:17:CYS:N	2.39	0.54
1:BQ:1084:A:OP1	56:BJ:35:LYS:NZ	2.26	0.54
18:2:1534:G:OP2	37:H:57:ARG:NH1	2.41	0.54
25:T:123:GLY:N	59:AE:78:ALA:O	2.41	0.54
31:D:52:LEU:CB	31:D:78:LEU:HD13	2.38	0.54
34:E:86:VAL:HG22	34:E:89:MET:HE3	1.89	0.54
37:H:140:THR:O	37:H:143:ARG:NH1	2.39	0.54
18:2b:365:G:O5'	18:2b:757:A:N6	2.34	0.54
18:2b:454:U:OP1	18:2b:455:C:N4	2.29	0.54
18:2b:523:G:OP2	43:db:37:LYS:NZ	2.41	0.54
18:2b:1293:U:O2	19:Pb:109:ASN:ND2	2.40	0.54
37:Hb:139:LYS:O	37:Hb:143:ARG:NH2	2.40	0.54
1:YQ:1863:G:N1	1:YQ:1866:C:OP2	2.36	0.54
1:YQ:2551:U:O4	4:XW:95:SER:N	2.40	0.54
1:YQ:2775:U:O2'	1:YQ:2777:G:N1	2.41	0.54
53:YB:81:VAL:CG1	53:YB:101:VAL:HG22	2.38	0.54
62:XN:26:VAL:HG11	62:XN:96:VAL:HB	1.88	0.54
79:YU:188:VAL:HG12	79:YU:189:GLN:CD	2.32	0.54
1:BQ:359:U:O3'	72:AF:25:ARG:NH1	2.40	0.54
20:Q:98:THR:O	20:Q:232:HIS:NE2	2.41	0.54
22:A:216:PRO:O	51:O:196:ASN:ND2	2.41	0.54
34:E:23:GLU:HA	34:E:26:LEU:HD12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:e:42:ARG:NH1	84:l:39:G:O4'	2.40	0.54
18:2b:331:A:OP2	27:Vb:175:GLN:NE2	2.39	0.54
21:Rb:225:LEU:HD21	21:Rb:230:TRP:CD1	2.43	0.54
1:YQ:68:C:N4	1:YQ:314:U:O2'	2.41	0.54
1:YQ:240:U:O2'	1:YQ:241:G:O5'	2.23	0.54
1:YQ:622:A:O4'	68:YK:60:ARG:NH2	2.41	0.54
1:YQ:2947:G:N3	5:YA:250:ALA:HB1	2.22	0.54
1:YQ:3091:A:N3	1:YQ:3093:C:O2'	2.41	0.54
4:XW:130:SER:OG	4:XW:172:GLY:N	2.41	0.54
7:YI:107:ARG:NH1	7:YI:169:GLY:O	2.39	0.54
13:XG:17:LEU:HD12	13:XG:128:TYR:O	2.08	0.54
84:l:28:U:O2'	84:l:29:U:O4'	2.24	0.54
1:BQ:1284:C:O2'	1:BQ:1285:G:OP1	2.25	0.53
1:BQ:1903:U:O2'	1:BQ:1905:G:N7	2.22	0.53
1:BQ:2373:A:N3	1:BQ:2824:G:O2'	2.31	0.53
1:BQ:3190:C:OP1	17:AU:172:ARG:NH1	2.41	0.53
18:2:25:C:O2'	18:2:366:A:O2'	2.24	0.53
18:2:1058:U:O4	18:2:1061:A:N6	2.41	0.53
18:2:1192:C:OP2	18:2:1193:A:O2'	2.25	0.53
48:M:43:PHE:O	48:M:46:LYS:N	2.41	0.53
18:2b:92:A:P	18:2b:398:G:H22	2.31	0.53
18:2b:153:G:OP1	25:Tb:15:THR:OG1	2.25	0.53
1:YQ:560:G:OP1	15:XM:83:LYS:NZ	2.23	0.53
13:XG:53:THR:OG1	13:XG:61:ARG:N	2.40	0.53
13:AG:15:GLU:HB2	13:AG:130:VAL:HG23	1.89	0.53
18:2:74:U:C6	18:2:74:U:C1'	2.81	0.53
19:P:139:VAL:HG23	19:P:141:ILE:HD12	1.89	0.53
20:Q:34:ALA:HB3	20:Q:41:ARG:HA	1.90	0.53
64:AV:16:ALA:O	64:AV:20:GLY:CA	2.56	0.53
18:2b:251:A:C2	23:Sb:131:LEU:HD13	2.43	0.53
18:2b:885:G:N3	33:Zb:123:SER:OG	2.39	0.53
18:2b:1312:A:OP1	36:Gb:2:GLY:N	2.40	0.53
25:Tb:144:PHE:O	59:XE:94:ARG:NH2	2.38	0.53
30:Xb:9:SER:OG	30:Xb:10:GLU:OE1	2.27	0.53
39:Jb:41:ILE:HG13	39:Jb:107:THR:HG21	1.89	0.53
58:XB:6:ALA:HB2	58:XB:126:TRP:CZ2	2.44	0.53
79:YU:18:TYR:CE2	79:YU:52:LEU:HD13	2.43	0.53
1:BQ:2515:A:N6	1:BQ:2592:G:O2'	2.39	0.53
13:AG:10:ARG:NH2	13:AG:151:SER:O	2.42	0.53
28:W:162:SER:O	28:W:162:SER:OG	2.22	0.53
35:F:63:ILE:HD12	35:F:65:ILE:HD11	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AE:25:ASP:OD1	59:AE:25:ASP:N	2.37	0.53
18:2b:398:G:OP2	27:Vb:47:ARG:NH1	2.40	0.53
18:2b:1595:U:OP1	48:Mb:32:ARG:N	2.40	0.53
31:Db:56:GLU:OE1	31:Db:124:LYS:NZ	2.23	0.53
33:Zb:47:LYS:NZ	33:Zb:66:ASP:OD1	2.29	0.53
34:Eb:86:VAL:HG22	34:Eb:89:MET:HE3	1.90	0.53
51:Ob:26:SER:OG	51:Ob:75:ALA:O	2.24	0.53
13:XG:101:ASN:ND2	13:XG:130:VAL:HG23	2.24	0.53
81:m:57:A:O2'	81:m:60:C:N4	2.41	0.53
1:BQ:409:A:O2'	1:BQ:654:C:O2'	2.26	0.53
1:BQ:2617:U:N3	1:BQ:2621:G:OP2	2.39	0.53
1:BQ:3151:U:OP1	5:BA:128:LYS:NZ	2.41	0.53
5:BA:73:VAL:HG21	58:AB:90:GLY:CA	2.38	0.53
21:R:108:ASN:O	21:R:110:HIS:ND1	2.41	0.53
20:Qb:193:ILE:O	20:Qb:197:ILE:HD12	2.09	0.53
27:Vb:11:ARG:NH1	27:Vb:15:GLY:O	2.42	0.53
51:Ob:255:ALA:N	51:Ob:292:LEU:HD11	2.23	0.53
1:YQ:105:C:HO2'	1:YQ:684:G:HO2'	1.57	0.53
52:XX:23:ARG:NH1	52:XX:141:SER:OG	2.41	0.53
1:BQ:253:A:O2'	1:BQ:254:A:O5'	2.27	0.53
18:2:159:U:O2'	25:T:87:ARG:NH1	2.42	0.53
18:2:1597:A:C4	48:M:13:ARG:C	2.86	0.53
37:H:60:GLU:N	37:H:60:GLU:OE1	2.40	0.53
53:BB:64:VAL:HG22	53:BB:96:PHE:CE1	2.43	0.53
72:AF:25:ARG:HG3	74:AL:51:ILE:HD12	1.90	0.53
18:2b:885:G:N2	33:Zb:123:SER:O	2.38	0.53
35:Fb:32:ASN:N	35:Fb:67:VAL:O	2.38	0.53
35:Fb:143:ARG:NH2	83:mb:34:U:OP2	2.41	0.53
40:ab:9:VAL:HG22	40:ab:10:GLU:H	1.74	0.53
41:bb:3:ARG:NH1	41:bb:9:ASP:OD2	2.42	0.53
1:YQ:375:A:O3'	61:XK:89:LYS:NZ	2.26	0.53
1:YQ:589:A:N7	1:YQ:610:G:O2'	2.42	0.53
1:YQ:1713:G:O2'	1:YQ:1730:G:N2	2.42	0.53
5:YA:232:ARG:NH2	5:YA:266:ARG:O	2.39	0.53
9:YO:84:VAL:HG13	9:YO:137:GLY:O	2.08	0.53
52:XX:52:LEU:HD21	52:XX:88:VAL:HG11	1.90	0.53
1:BQ:188:U:O2'	1:BQ:207:U:O2	2.21	0.53
18:2:424:C:O2'	18:2:426:G:OP1	2.26	0.53
18:2:717:C:O2'	18:2:718:U:OP1	2.17	0.53
18:2:1099:U:O4	21:R:168:ARG:NH1	2.41	0.53
31:D:49:THR:O	31:D:52:LEU:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Y:13:SER:OG	32:Y:14:SER:N	2.41	0.53
69:BN:35:VAL:HG12	69:BN:36:LYS:O	2.08	0.53
18:2b:1773:C:OP2	76:XS:2:ARG:NH2	2.42	0.53
20:Qb:41:ARG:NH1	20:Qb:234:GLU:O	2.42	0.53
27:Vb:66:SER:O	27:Vb:183:ILE:HD12	2.09	0.53
1:YQ:86:G:O2'	1:YQ:98:G:O6	2.26	0.53
3:YS:74:U:P	61:XK:76:LEU:HD22	2.49	0.53
65:XY:99:ASP:O	65:XY:103:THR:HG23	2.09	0.53
1:BQ:2437:G:OP1	10:AA:70:LYS:NZ	2.42	0.53
1:BQ:2869:U:O2'	1:BQ:2873:U:OP2	2.26	0.53
15:AM:123:LEU:HB2	17:AU:194:LEU:HD21	1.90	0.53
18:2:207:U:O2	27:V:178:ARG:NH1	2.36	0.53
18:2:231:U:O2'	18:2:233:C:OP2	2.26	0.53
31:D:44:GLY:O	31:D:48:SER:OG	2.25	0.53
31:D:52:LEU:HB3	31:D:78:LEU:HD13	1.91	0.53
36:G:53:TYR:CD2	36:G:57:LEU:HD11	2.43	0.53
44:K:86:GLU:N	44:K:86:GLU:OE2	2.42	0.53
51:O:264:SER:O	51:O:265:LEU:HD23	2.09	0.53
18:2b:545:A:N6	18:2b:594:A:O5'	2.40	0.53
21:Rb:43:ARG:NH1	21:Rb:247:ALA:O	2.39	0.53
24:Bb:32:GLU:N	24:Bb:32:GLU:OE2	2.42	0.53
65:XY:30:THR:HG21	65:XY:89:VAL:HG22	1.91	0.53
1:BQ:999:G:N3	1:BQ:1002:A:N6	2.56	0.53
1:BQ:3100:U:O2'	1:BQ:3101:G:O5'	2.26	0.53
4:AW:77:ILE:HD12	4:AW:115:ASN:ND2	2.23	0.53
18:2:1163:A:N3	18:2:1613:U:O2'	2.29	0.53
28:W:77:ILE:HD11	28:W:93:LEU:HD23	1.91	0.53
18:2b:534:A:OP1	28:Wb:168:ARG:NH2	2.41	0.53
18:2b:1600:A:O2'	18:2b:1602:C:N4	2.42	0.53
18:2b:1601:G:OP1	38:Ib:86:ARG:NH2	2.42	0.53
35:Fb:93:HIS:HA	35:Fb:97:VAL:HG22	1.90	0.53
1:YQ:1598:G:OP2	69:YN:31:ARG:NH2	2.39	0.53
2:YR:11:A:N6	7:YI:13:SER:O	2.38	0.53
9:BO:88:ARG:NH2	9:BO:108:LEU:O	2.36	0.53
15:AM:47:ASP:OD2	15:AM:78:THR:OG1	2.24	0.53
30:X:132:SER:O	30:X:132:SER:OG	2.21	0.53
35:F:22:VAL:HG22	35:F:65:ILE:HD12	1.91	0.53
63:AR:128:ARG:NH2	63:AR:149:ALA:O	2.41	0.53
72:AF:4:GLY:O	72:AF:7:SER:OG	2.23	0.53
18:2b:4:C:O2'	28:Wb:17:ARG:NH1	2.42	0.53
18:2b:904:G:O2'	24:Bb:152:GLY:O	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Ob:293:ALA:O	51:Ob:301:LEU:HD12	2.09	0.53
1:YQ:2513:U:O2'	1:YQ:2514:U:O5'	2.25	0.53
11:XD:129:ARG:NH2	11:XD:160:ASP:OD2	2.42	0.53
13:XG:50:ALA:HB2	13:XG:65:ILE:HD11	1.90	0.53
1:BQ:128:G:OP1	70:BP:75:TYR:OH	2.16	0.53
3:BS:40:A:OP2	3:BS:103:G:N1	2.42	0.53
25:T:69:LEU:O	25:T:71:THR:N	2.39	0.53
37:H:32:LEU:O	37:H:35:ILE:HD12	2.09	0.53
18:2b:1465:C:OP1	35:Fb:139:GLN:NE2	2.41	0.53
51:Ob:209:THR:O	51:Ob:224:ASN:ND2	2.42	0.53
1:YQ:1148:G:O2'	1:YQ:1171:G:O2'	2.24	0.53
1:YQ:2419:A:OP2	1:YQ:2606:G:N2	2.39	0.53
1:YQ:2572:C:O2'	1:YQ:2573:G:OP2	2.23	0.53
1:YQ:3357:U:O2'	1:YQ:3358:U:OP1	2.27	0.53
2:YR:1:G:N2	7:YI:269:SER:OG	2.42	0.53
10:XA:161:GLU:OE2	16:XQ:26:ARG:NH1	2.41	0.53
13:XG:19:LEU:HD23	13:XG:125:MET:CE	2.39	0.53
1:BQ:520:U:O4	6:BE:347:THR:OG1	2.26	0.52
1:BQ:971:G:OP1	53:BB:8:LYS:NZ	2.36	0.52
1:BQ:1192:C:OP1	75:AO:113:ARG:NH1	2.40	0.52
15:AM:45:LEU:HD12	15:AM:56:GLN:O	2.10	0.52
18:2:304:U:O4'	30:X:127:GLN:NE2	2.42	0.52
18:2:754:A:H61	18:2:793:A:H3'	1.73	0.52
18:2:1387:G:OP1	36:G:32:LYS:NZ	2.26	0.52
21:R:111:VAL:O	21:R:137:ILE:N	2.42	0.52
39:J:96:PRO:O	39:J:100:VAL:HG23	2.09	0.52
79:BU:16:ARG:NH2	79:BU:69:ASP:OD1	2.42	0.52
27:Vb:57:ALA:C	27:Vb:58:LEU:HD12	2.34	0.52
30:Xb:53:TYR:OH	30:Xb:114:ALA:HB2	2.09	0.52
1:YQ:598:A:OP1	9:YO:41:ARG:NH2	2.42	0.52
1:YQ:1703:U:N3	1:YQ:1740:U:O2	2.42	0.52
6:YE:59:GLN:O	72:XF:52:LYS:NZ	2.27	0.52
1:BQ:804:C:OP1	6:BE:98:ARG:NH2	2.41	0.52
1:BQ:1231:A:H2'	1:BQ:1277:C:H41	1.73	0.52
12:BD:24:ARG:NH1	80:n:64:G:O2'	2.42	0.52
16:AQ:91:GLU:N	16:AQ:91:GLU:OE2	2.42	0.52
18:2:1112:G:OP1	76:AS:6:ARG:NH2	2.42	0.52
18:2:1596:C:O3'	48:M:19:ARG:NE	2.42	0.52
19:P:77:SER:O	19:P:100:GLY:N	2.40	0.52
21:R:89:GLN:OE1	21:R:89:GLN:N	2.42	0.52
18:2b:1454:G:OP2	48:Mb:10:HIS:NE2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1597:A:C4	48:Mb:13:ARG:C	2.87	0.52
21:Rb:68:ILE:O	21:Rb:71:THR:OG1	2.24	0.52
36:Gb:93:LEU:HD13	36:Gb:98:GLY:O	2.09	0.52
1:YQ:1148:G:HO2'	1:YQ:1171:G:HO2'	1.56	0.52
10:XA:163:VAL:HG23	10:XA:166:LEU:HD12	1.90	0.52
13:XG:41:SER:OG	13:XG:43:GLN:O	2.28	0.52
54:YF:31:GLU:N	54:YF:31:GLU:OE2	2.40	0.52
54:YF:99:LEU:HD21	54:YF:103:ARG:NH2	2.24	0.52
1:BQ:597:G:O3'	9:BO:41:ARG:NH2	2.42	0.52
6:BE:33:ASP:OD1	6:BE:34:ILE:N	2.42	0.52
18:2:647:G:H22	18:2:687:G:H22	1.56	0.52
27:V:34:ALA:HB2	27:V:56:ARG:HD2	1.92	0.52
79:BU:42:ARG:O	79:BU:46:ARG:N	2.42	0.52
38:Ib:128:GLY:O	38:Ib:132:LEU:HD23	2.09	0.52
1:YQ:1597:C:OP1	69:YN:31:ARG:NH1	2.42	0.52
3:YS:147:U:H4'	60:XH:38:LEU:HD11	1.90	0.52
15:XM:45:LEU:HD12	15:XM:56:GLN:O	2.10	0.52
61:XK:88:GLU:OE1	61:XK:88:GLU:N	2.42	0.52
1:BQ:1464:G:N1	1:BQ:1467:A:OP2	2.43	0.52
11:AD:92:TYR:CD1	11:AD:179:ILE:HD12	2.43	0.52
18:2:339:C:OP2	27:V:10:LYS:NZ	2.28	0.52
51:O:114:ASP:OD2	51:O:155:ARG:NH1	2.42	0.52
18:2b:145:A:H61	18:2b:169:A:H62	1.58	0.52
21:Rb:79:GLU:OE2	21:Rb:80:VAL:N	2.42	0.52
23:Sb:70:VAL:O	23:Sb:76:VAL:HG22	2.10	0.52
1:YQ:268:A:N7	16:XQ:12:ARG:NH2	2.57	0.52
1:YQ:708:G:N2	1:YQ:711:A:OP2	2.39	0.52
1:YQ:1003:A:N1	1:YQ:1049:C:O2'	2.34	0.52
1:YQ:1203:A:N3	1:YQ:2855:U:O2'	2.37	0.52
1:YQ:1316:C:OP1	17:XU:129:LEU:HD12	2.09	0.52
1:YQ:2568:C:O2'	1:YQ:2569:A:O5'	2.24	0.52
3:YS:59:A:O3'	60:XH:61:LYS:NZ	2.42	0.52
62:XN:10:VAL:HG23	62:XN:86:THR:HA	1.92	0.52
1:BQ:1009:A:O3'	12:BD:39:LYS:NZ	2.42	0.52
7:BI:56:THR:OG1	7:BI:59:ASP:N	2.43	0.52
18:2:405:C:O2'	25:T:92:ARG:O	2.26	0.52
18:2b:399:A:OP1	27:Vb:49:ARG:NH2	2.43	0.52
18:2b:895:G:H21	33:Zb:38:THR:HG21	1.75	0.52
18:2b:1161:C:H1'	18:2b:1619:C:H42	1.72	0.52
19:Pb:66:ALA:HB1	40:ab:50:TYR:CE1	2.44	0.52
20:Qb:98:THR:O	20:Qb:232:HIS:NE2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Sb:132:GLY:N	23:Sb:136:VAL:O	2.42	0.52
35:Fb:39:VAL:HG12	35:Fb:41:PRO:HD2	1.91	0.52
46:fb:61:THR:HG23	46:fb:62:ILE:H	1.75	0.52
3:YS:141:C:OP1	16:XQ:109:ARG:NH2	2.41	0.52
4:XW:101:VAL:C	4:XW:102:LEU:HD12	2.35	0.52
6:YE:269:SER:O	6:YE:270:SER:OG	2.21	0.52
1:BQ:912:G:OP2	4:AW:9:ARG:NH1	2.40	0.52
1:BQ:1269:U:N3	1:BQ:1272:C:OP2	2.41	0.52
1:BQ:1868:G:O2'	1:BQ:2118:C:O2'	2.18	0.52
18:2:477:A:OP1	49:g:31:LYS:N	2.42	0.52
18:2:1796:C:OP1	45:e:87:ARG:NE	2.40	0.52
39:J:95:ALA:HB1	39:J:99:ILE:HD11	1.92	0.52
42:c:73:ARG:NH1	42:c:84:THR:OG1	2.41	0.52
18:2b:347:G:OP1	30:Xb:77:SER:OG	2.22	0.52
18:2b:473:A:OP1	28:Wb:44:ARG:NH1	2.39	0.52
22:Ab:161:GLY:O	22:Ab:164:VAL:HG12	2.10	0.52
30:Xb:128:CYS:SG	30:Xb:138:ASN:ND2	2.82	0.52
49:gb:38:LEU:O	49:gb:41:THR:OG1	2.27	0.52
51:Ob:89:LEU:HD21	51:Ob:110:VAL:HG11	1.91	0.52
5:YA:294:GLY:N	5:YA:303:LYS:O	2.42	0.52
1:BQ:1321:G:O2'	55:BH:117:ARG:NH2	2.41	0.52
1:BQ:1432:C:O2'	1:BQ:1434:G:OP2	2.28	0.52
17:AU:19:LEU:O	17:AU:23:VAL:HG23	2.09	0.52
17:AU:65:ASN:OD1	17:AU:67:THR:HG22	2.09	0.52
18:2:1796:C:O5'	45:e:5:ARG:NH1	2.36	0.52
45:e:10:ARG:HD2	45:e:34:LYS:HA	1.92	0.52
18:2b:897:C:O2	33:Zb:41:ARG:NH2	2.42	0.52
18:2b:1244:A:O4'	48:Mb:5:ASN:ND2	2.41	0.52
40:ab:4:ASP:OD1	40:ab:4:ASP:N	2.41	0.52
1:YQ:644:G:OP1	1:YQ:1142:G:O2'	2.28	0.52
1:YQ:1678:G:OP1	57:YL:97:SER:N	2.43	0.52
2:YR:13:A:O2'	7:YI:24:ARG:NH1	2.43	0.52
79:YU:29:GLY:HA2	79:YU:84:VAL:HG12	1.92	0.52
1:BQ:2394:G:O2'	5:BA:254:ALA:O	2.27	0.52
1:BQ:3243:A:N1	17:AU:108:ILE:N	2.57	0.52
18:2:332:U:N3	18:2:335:U:OP2	2.41	0.52
36:G:17:ILE:HG12	36:G:58:MET:HE2	1.92	0.52
38:I:77:ASN:OD1	38:I:101:ASN:ND2	2.42	0.52
18:2b:490:C:H42	18:2b:497:G:H22	1.58	0.52
18:2b:1445:G:C8	50:Nb:91:ILE:HD11	2.44	0.52
22:Ab:68:GLU:OE2	29:Cb:67:THR:OG1	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Mb:40:ARG:HA	48:Mb:43:PHE:HB3	1.91	0.52
1:YQ:2223:A:OP1	71:XC:67:LYS:NZ	2.42	0.52
16:XQ:63:ARG:NH2	16:XQ:131:GLU:OE2	2.41	0.52
77:XP:12:CYS:SG	77:XP:79:THR:OG1	2.68	0.52
81:m:47:C:O2'	81:m:48:C:OP1	2.23	0.52
1:BQ:514:G:H21	6:BE:341:SER:HA	1.74	0.52
1:BQ:2158:A:OP2	4:AW:156:LYS:NZ	2.36	0.52
1:BQ:2434:U:OP2	16:AQ:24:ARG:NH1	2.43	0.52
5:BA:296:THR:HG21	5:BA:357:LYS:C	2.35	0.52
18:2:1067:C:O4'	20:Q:148:ASN:ND2	2.41	0.52
23:S:72:VAL:HG22	23:S:90:ILE:HD12	1.91	0.52
30:X:141:LYS:NZ	30:X:142:VAL:O	2.42	0.52
52:AX:47:TYR:OH	52:AX:57:ALA:O	2.26	0.52
79:BU:3:GLY:O	79:BU:7:LYS:N	2.41	0.52
33:Zb:25:ASP:OD1	33:Zb:26:THR:N	2.43	0.52
51:Ob:116:ASP:OD2	51:Ob:120:SER:OG	2.24	0.52
55:YH:77:VAL:HG11	55:YH:106:LEU:HD13	1.91	0.52
83:mb:19:G:N2	83:mb:59:A:O5'	2.42	0.52
1:BQ:705:A:N6	1:BQ:715:A:O5'	2.41	0.52
1:BQ:818:C:H42	1:BQ:919:U:H4'	1.75	0.52
1:BQ:2662:G:O2'	1:BQ:2663:G:OP1	2.26	0.52
46:f:67:THR:OG1	46:f:70:LYS:O	2.27	0.52
31:Db:61:VAL:HG22	31:Db:91:VAL:CG1	2.40	0.52
51:Ob:109:ASP:OD2	51:Ob:127:ARG:NH1	2.42	0.52
1:YQ:1218:U:O2'	1:YQ:1223:A:O2'	2.10	0.52
1:YQ:3068:U:OP2	54:YF:62:ARG:NH1	2.38	0.52
1:YQ:3244:A:OP1	5:YA:97:ARG:NH2	2.42	0.52
6:YE:299:ILE:HG22	6:YE:300:ARG:O	2.10	0.52
17:XU:19:LEU:O	17:XU:23:VAL:HG23	2.10	0.52
1:BQ:373:A:N6	1:BQ:394:G:O2'	2.42	0.51
1:BQ:2584:G:N3	10:AA:240:ASN:ND2	2.57	0.51
6:BE:261:VAL:HG13	6:BE:262:TRP:CD1	2.45	0.51
7:BI:53:VAL:HG11	7:BI:159:VAL:HG23	1.92	0.51
13:AG:53:THR:OG1	13:AG:61:ARG:N	2.42	0.51
18:2:97:C:O2	18:2:425:A:O2'	2.26	0.51
18:2:177:U:O2'	25:T:191:ARG:NH1	2.43	0.51
18:2:396:G:N7	27:V:47:ARG:NH2	2.57	0.51
18:2:823:G:O2'	18:2:824:G:O4'	2.21	0.51
18:2:1417:A:O2'	35:F:128:LYS:NZ	2.39	0.51
31:D:108:ARG:O	31:D:110:GLY:N	2.43	0.51
34:E:33:PHE:O	34:E:36:LEU:HD23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1098:U:O3'	41:bb:71:LYS:NZ	2.39	0.51
18:2b:1542:G:N2	18:2b:1569:A:OP2	2.41	0.51
1:YQ:1080:A:OP2	7:YI:140:ARG:NH2	2.43	0.51
9:YO:80:GLN:OE1	9:YO:80:GLN:N	2.43	0.51
13:XG:171:VAL:HG22	13:XG:172:LEU:H	1.75	0.51
16:XQ:133:ILE:C	16:XQ:134:LEU:HD12	2.35	0.51
72:XF:60:GLY:HA2	72:XF:64:MET:HE2	1.92	0.51
6:BE:334:PHE:CD1	6:BE:339:LEU:HD11	2.45	0.51
18:2:1459:C:H4'	34:E:126:VAL:HG23	1.93	0.51
48:M:44:ARG:O	48:M:47:ALA:HB2	2.11	0.51
18:2b:1546:G:OP2	37:Hb:134:ARG:NH2	2.42	0.51
20:Qb:70:LEU:HD12	20:Qb:84:ILE:HD11	1.92	0.51
25:Tb:69:LEU:O	25:Tb:71:THR:N	2.43	0.51
25:Tb:71:THR:HG22	25:Tb:72:ARG:H	1.75	0.51
51:Ob:295:SER:OG	51:Ob:297:ASP:OD1	2.16	0.51
1:YQ:308:A:O2'	1:YQ:2222:A:O2'	2.07	0.51
1:YQ:2341:A:OP2	5:YA:247:ARG:NH2	2.43	0.51
1:YQ:2717:U:O3'	77:XP:13:LYS:NZ	2.41	0.51
4:XW:171:GLY:N	78:XT:66:GLY:O	2.41	0.51
72:XF:3:LYS:O	72:XF:7:SER:OG	2.14	0.51
1:BQ:2514:U:OP2	10:AA:68:ARG:NH1	2.43	0.51
6:BE:237:GLN:O	6:BE:246:ARG:NE	2.38	0.51
45:e:32:LYS:O	45:e:37:LYS:NZ	2.42	0.51
63:AR:127:ALA:HA	63:AR:148:ILE:HD11	1.92	0.51
18:2b:896:U:O4'	33:Zb:38:THR:OG1	2.28	0.51
18:2b:1387:G:OP1	36:Gb:32:LYS:NZ	2.44	0.51
1:YQ:2840:C:N4	1:YQ:2845:A:O2'	2.40	0.51
1:YQ:3112:G:N2	1:YQ:3113:A:N7	2.58	0.51
7:YI:56:THR:OG1	7:YI:59:ASP:N	2.43	0.51
11:XD:85:GLY:HA3	11:XD:187:ILE:HD12	1.92	0.51
79:YU:11:TYR:OH	79:YU:59:VAL:HG22	2.10	0.51
1:BQ:1141:C:O2'	1:BQ:1153:A:N3	2.43	0.51
1:BQ:1193:A:OP2	17:AU:49:ARG:NH2	2.42	0.51
1:BQ:2157:G:N7	4:AW:152:SER:OG	2.33	0.51
1:BQ:2164:A:OP1	4:AW:231:SER:OG	2.26	0.51
1:BQ:2704:A:O2'	1:BQ:2705:A:O5'	2.26	0.51
7:BI:39:GLN:OE1	7:BI:40:HIS:N	2.42	0.51
70:BP:85:THR:HG22	70:BP:88:LEU:HD12	1.91	0.51
18:2b:1356:U:O2	18:2b:1367:G:N2	2.44	0.51
18:2b:1620:C:O2'	18:2b:1621:U:OP1	2.27	0.51
24:Bb:37:GLN:HG2	35:Fb:53:LEU:HD13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Ub:20:VAL:HG21	26:Ub:46:ILE:CD1	2.41	0.51
26:Ub:21:ALA:O	26:Ub:25:VAL:HG23	2.10	0.51
47:Lb:13:ILE:HD11	47:Lb:31:GLU:HB2	1.93	0.51
1:YQ:1008:U:O2'	12:YD:35:ASP:OD2	2.21	0.51
1:YQ:1206:G:OP1	12:YD:157:TYR:OH	2.25	0.51
55:YH:18:SER:OG	55:YH:19:VAL:N	2.43	0.51
1:BQ:683:U:OP2	14:AJ:28:GLN:NE2	2.41	0.51
2:BR:46:A:O5'	7:BI:158:ARG:NH2	2.43	0.51
5:BA:56:ILE:HG22	5:BA:74:GLU:O	2.11	0.51
18:2:647:G:N2	18:2:687:G:H22	2.09	0.51
18:2:1218:G:H22	18:2:1444:A:P	2.33	0.51
18:2:1501:C:OP2	38:I:102:ARG:NH1	2.43	0.51
51:O:84:SER:OG	51:O:85:TRP:N	2.43	0.51
36:Gb:25:THR:O	36:Gb:31:ASN:ND2	2.43	0.51
1:YQ:1207:G:O2'	1:YQ:1209:G:OP2	2.16	0.51
17:XU:37:ARG:N	17:XU:107:GLY:O	2.41	0.51
55:YH:8:GLN:HB3	55:YH:64:ILE:HD11	1.93	0.51
1:BQ:1427:U:OP2	63:AR:4:ARG:NH2	2.41	0.51
18:2:1447:C:O4'	50:N:80:ARG:NH2	2.44	0.51
19:P:22:THR:HG22	19:P:169:SER:CB	2.40	0.51
58:AB:114:ILE:HD12	58:AB:133:SER:HA	1.93	0.51
18:2b:142:G:N7	25:Tb:177:ARG:NH1	2.58	0.51
24:Bb:45:LYS:HE2	24:Bb:45:LYS:HA	1.92	0.51
1:YQ:295:A:N3	71:XC:82:ARG:NH1	2.59	0.51
1:YQ:3158:G:O2'	1:YQ:3159:C:OP1	2.27	0.51
13:XG:17:LEU:HD12	13:XG:18:VAL:H	1.74	0.51
16:XQ:5:LYS:HZ3	71:XC:37:THR:HG22	1.76	0.51
2:BR:8:G:OP2	2:BR:10:C:N4	2.43	0.51
18:2:1225:U:N3	18:2:1230:A:O2'	2.42	0.51
18:2:1471:A:OP1	24:B:185:ARG:NH1	2.44	0.51
24:B:183:ALA:HB2	24:B:193:THR:HG21	1.92	0.51
34:E:16:SER:O	37:H:93:THR:HG22	2.10	0.51
47:L:39:THR:C	47:L:40:ILE:HD12	2.35	0.51
59:AE:114:GLU:OE2	59:AE:114:GLU:N	2.42	0.51
18:2b:497:G:O2'	18:2b:498:G:O4'	2.29	0.51
18:2b:788:A:C4	23:Sb:19:LEU:HD13	2.46	0.51
19:Pb:22:THR:HG22	19:Pb:169:SER:CB	2.41	0.51
51:Ob:125:GLY:HA3	51:Ob:151:VAL:HG11	1.91	0.51
1:YQ:394:G:N1	1:YQ:397:A:OP2	2.43	0.51
1:YQ:2323:G:O2'	1:YQ:2325:G:OP2	2.17	0.51
1:YQ:3070:A:OP1	54:YF:62:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:XM:72:LEU:HD12	15:XM:73:PRO:CD	2.41	0.51
63:XR:45:MET:HE2	63:XR:45:MET:HA	1.93	0.51
82:nb:9:A:C2'	82:nb:11:C:H41	2.23	0.51
1:BQ:97:U:O4	14:AJ:11:LYS:NZ	2.41	0.51
1:BQ:122:A:O5'	10:AA:105:LYS:NZ	2.44	0.51
1:BQ:2947:G:N3	5:BA:250:ALA:HB1	2.26	0.51
4:AW:250:GLN:OE1	4:AW:250:GLN:N	2.41	0.51
18:2:816:G:N7	54:BF:170:ARG:NH2	2.54	0.51
18:2:1390:U:O4'	36:G:3:ARG:NH2	2.44	0.51
20:Q:70:LEU:HD22	20:Q:79:HIS:HB3	1.93	0.51
27:V:105:ASP:OD1	27:V:106:ALA:N	2.43	0.51
30:X:53:TYR:OH	30:X:114:ALA:HB2	2.11	0.51
31:D:45:LEU:HD11	50:N:102:VAL:HG23	1.92	0.51
58:AB:127:PRO:O	58:AB:131:SER:N	2.43	0.51
69:BN:96:GLU:OE1	69:BN:99:LYS:NZ	2.39	0.51
18:2b:1211:A:N3	34:Eb:97:TYR:OH	2.43	0.51
21:Rb:37:PRO:HD3	21:Rb:46:LYS:HD2	1.93	0.51
25:Tb:64:LYS:O	25:Tb:67:VAL:HG22	2.11	0.51
58:XB:6:ALA:HB1	58:XB:125:LEU:HG	1.93	0.51
1:BQ:371:G:N1	1:BQ:374:A:OP2	2.39	0.51
1:BQ:640:U:C5	67:BG:38:ILE:HD11	2.45	0.51
1:BQ:1920:U:O2'	1:BQ:1932:A:N7	2.42	0.51
1:BQ:3043:C:OP1	58:AB:45:ARG:NE	2.43	0.51
1:BQ:3304:U:O2'	5:BA:334:ARG:NH2	2.43	0.51
3:BS:156:U:O2'	3:BS:157:U:OP1	2.25	0.51
24:B:100:ASN:O	24:B:102:ARG:N	2.42	0.51
43:d:51:GLU:O	43:d:53:ASP:N	2.43	0.51
18:2b:192:U:O2'	18:2b:193:U:O4'	2.29	0.51
18:2b:717:C:C2	18:2b:720:G:N1	2.78	0.51
19:Pb:54:TRP:O	19:Pb:58:VAL:HG23	2.10	0.51
23:Sb:23:LEU:O	23:Sb:24:SER:OG	2.28	0.51
23:Sb:162:ILE:H	23:Sb:162:ILE:HD12	1.75	0.51
23:Sb:185:GLY:N	23:Sb:189:LEU:HD13	2.26	0.51
24:Bb:72:HIS:O	24:Bb:73:THR:OG1	2.22	0.51
29:Cb:34:GLU:N	29:Cb:34:GLU:OE1	2.42	0.51
45:eb:44:ILE:HD13	45:eb:65:PRO:HG2	1.92	0.51
1:YQ:68:C:OP2	1:YQ:301:G:N2	2.43	0.51
1:YQ:196:G:N1	1:YQ:199:A:OP2	2.43	0.51
1:YQ:2255:A:N6	1:YQ:2260:U:C2	2.77	0.51
54:YF:30:SER:OG	54:YF:31:GLU:OE2	2.26	0.51
6:BE:294:GLU:OE1	6:BE:294:GLU:N	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:931:C:OP2	18:2:932:U:O2'	2.09	0.51
21:R:82:ASN:OD1	21:R:83:ILE:N	2.44	0.51
23:S:192:ILE:HD12	23:S:242:LYS:C	2.36	0.51
62:AN:10:VAL:HG23	62:AN:86:THR:HA	1.92	0.51
18:2b:2:A:O2'	21:Rb:198:THR:O	2.27	0.51
25:Tb:113:ILE:HD11	25:Tb:124:LEU:HD23	1.93	0.51
34:Eb:71:GLU:OE1	34:Eb:71:GLU:N	2.43	0.51
37:Hb:37:GLY:O	37:Hb:99:HIS:NE2	2.41	0.51
1:YQ:1392:G:O2'	1:YQ:1417:G:N2	2.38	0.51
1:YQ:3020:U:O2'	11:XD:121:LYS:NZ	2.29	0.51
5:YA:147:GLU:OE2	5:YA:150:ARG:NH1	2.43	0.51
14:AJ:109:PHE:O	14:AJ:113:VAL:HG23	2.11	0.50
18:2:1615:C:N4	24:B:78:ALA:O	2.39	0.50
22:A:195:SER:O	22:A:197:THR:N	2.43	0.50
23:S:92:LEU:HD13	43:d:17:LEU:HD11	1.93	0.50
31:D:97:LEU:HD21	31:D:121:VAL:HG22	1.93	0.50
18:2b:141:U:H6	25:Tb:179:VAL:HG12	1.76	0.50
19:Pb:195:TRP:CE2	19:Pb:197:ILE:HD13	2.45	0.50
21:Rb:216:VAL:O	21:Rb:220:ASN:ND2	2.44	0.50
51:Ob:9:LEU:HD12	51:Ob:312:VAL:O	2.11	0.50
1:YQ:519:A:N1	55:YH:65:ASN:ND2	2.59	0.50
1:YQ:1258:U:N3	1:YQ:1261:G:OP2	2.40	0.50
4:XW:130:SER:OG	4:XW:170:ALA:O	2.16	0.50
6:YE:150:LEU:HD22	6:YE:249:ILE:HG23	1.93	0.50
10:XA:97:TYR:O	10:XA:132:VAL:HG13	2.11	0.50
14:XJ:123:ILE:HG22	70:YP:118:ILE:HG12	1.92	0.50
1:BQ:1210:U:OP1	11:AD:62:ARG:NH1	2.44	0.50
18:2:936:G:N7	45:e:15:ARG:NH1	2.58	0.50
18:2:1158:C:H42	18:2:1163:A:H61	1.59	0.50
18:2:1522:U:O3'	38:I:78:LYS:NZ	2.44	0.50
18:2:1794:A:OP2	45:e:4:LYS:NZ	2.43	0.50
28:W:127:VAL:O	28:W:130:THR:OG1	2.25	0.50
64:AV:16:ALA:O	64:AV:20:GLY:HA2	2.11	0.50
71:AC:36:ARG:O	71:AC:40:VAL:HG23	2.10	0.50
18:2b:1516:A:OP2	39:Jb:61:LYS:NZ	2.36	0.50
19:Pb:155:PHE:N	40:ab:60:ARG:O	2.41	0.50
20:Qb:134:VAL:O	20:Qb:135:LEU:HD23	2.10	0.50
31:Db:103:LEU:CD1	31:Db:116:VAL:HG22	2.41	0.50
44:Kb:102:THR:HG22	44:Kb:103:ARG:H	1.75	0.50
48:Mb:22:ARG:NH2	48:Mb:36:LEU:HD13	2.26	0.50
1:YQ:2947:G:C2	5:YA:250:ALA:HB1	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:YO:107:ARG:NH2	9:YO:199:ASN:O	2.42	0.50
11:XD:49:ASN:OD1	11:XD:52:LEU:N	2.44	0.50
1:BQ:776:U:OP1	64:AV:41:ARG:NH2	2.44	0.50
5:BA:296:THR:HG21	5:BA:357:LYS:CA	2.42	0.50
10:AA:148:ALA:HA	10:AA:201:THR:HG22	1.93	0.50
23:S:61:VAL:HA	23:S:64:ILE:HD12	1.92	0.50
23:S:171:ASP:OD2	23:S:171:ASP:N	2.44	0.50
39:J:106:ILE:HG23	39:J:107:THR:HG23	1.94	0.50
45:e:90:GLU:N	45:e:90:GLU:OE2	2.41	0.50
52:AX:112:LEU:HD11	52:AX:150:VAL:HB	1.93	0.50
62:AN:23:VAL:HG12	62:AN:45:GLY:HA3	1.93	0.50
18:2b:191:C:O2'	18:2b:192:U:O5'	2.26	0.50
24:Bb:126:ASP:OD2	24:Bb:126:ASP:N	2.44	0.50
27:Vb:37:LYS:N	27:Vb:58:LEU:O	2.40	0.50
48:Mb:6:VAL:HG23	48:Mb:7:TRP:HE3	1.77	0.50
1:YQ:781:G:OP1	53:YB:151:ARG:NH1	2.44	0.50
1:YQ:860:G:O5'	4:XW:181:LYS:NZ	2.44	0.50
1:YQ:1175:C:O4'	17:XU:21:SER:OG	2.29	0.50
1:YQ:1610:G:OP1	60:XH:125:ARG:NH1	2.44	0.50
1:YQ:2750:U:OP1	56:YJ:69:LYS:NZ	2.44	0.50
5:YA:10:ARG:NH1	5:YA:11:HIS:O	2.44	0.50
1:BQ:420:G:O2'	1:BQ:2384:A:N3	2.40	0.50
1:BQ:1379:G:O3'	6:BE:191:LYS:NZ	2.42	0.50
3:BS:5:U:P	52:AX:62:ARG:HE	2.34	0.50
13:AG:100:GLY:O	13:AG:159:THR:HG21	2.12	0.50
18:2:333:A:OP1	27:V:31:ARG:NH2	2.45	0.50
18:2:503:G:HO2'	18:2:504:U:C5'	2.25	0.50
18:2:1642:G:N3	18:2:1781:A:O2'	2.40	0.50
26:U:62:VAL:HG12	26:U:64:VAL:H	1.76	0.50
34:E:30:THR:OG1	34:E:88:GLU:OE2	2.29	0.50
35:F:73:GLY:N	35:F:76:SER:OG	2.43	0.50
38:I:37:VAL:HG12	38:I:39:THR:H	1.76	0.50
51:O:135:THR:CG2	51:O:141:LEU:HD21	2.41	0.50
36:Gb:93:LEU:HD13	36:Gb:98:GLY:C	2.37	0.50
51:Ob:135:THR:HG22	51:Ob:141:LEU:HD21	1.94	0.50
1:YQ:952:A:OP1	64:XV:14:ARG:NH2	2.45	0.50
3:YS:36:G:OP2	70:YP:85:THR:OG1	2.26	0.50
5:YA:289:ASP:OD2	5:YA:290:ASP:N	2.44	0.50
12:YD:55:ASN:O	12:YD:131:ILE:HG22	2.10	0.50
17:XU:11:GLY:N	17:XU:36:VAL:O	2.40	0.50
1:BQ:116:A:OP1	1:BQ:265:A:O2'	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:305:U:O2	1:BQ:2784:G:N2	2.44	0.50
14:AJ:58:VAL:HG12	14:AJ:60:ALA:H	1.76	0.50
18:2:351:C:O2	30:X:104:HIS:ND1	2.43	0.50
23:S:72:VAL:HG22	23:S:90:ILE:CD1	2.41	0.50
25:T:145:PHE:HB3	25:T:147:LEU:HD21	1.94	0.50
26:U:21:ALA:O	26:U:25:VAL:HG23	2.11	0.50
35:F:4:VAL:O	35:F:6:SER:N	2.44	0.50
37:H:126:ARG:NH2	37:H:132:ARG:O	2.44	0.50
52:AX:39:TRP:O	52:AX:114:VAL:HG12	2.12	0.50
73:AI:27:ILE:HD12	73:AI:41:THR:HG22	1.94	0.50
21:Rb:40:LYS:HB3	21:Rb:247:ALA:HB1	1.92	0.50
28:Wb:89:ASP:OD2	28:Wb:89:ASP:N	2.42	0.50
40:ab:38:LYS:O	40:ab:46:ILE:HD12	2.11	0.50
1:YQ:409:A:O2'	1:YQ:654:C:O2'	2.16	0.50
1:YQ:1613:A:OP1	73:XI:51:LEU:N	2.45	0.50
11:XD:98:PRO:O	11:XD:116:ASN:ND2	2.41	0.50
1:BQ:1613:A:OP1	73:AI:51:LEU:N	2.39	0.50
1:BQ:1655:G:OP1	69:BN:40:THR:OG1	2.30	0.50
1:BQ:3227:A:O3'	15:AM:133:LYS:NZ	2.44	0.50
4:AW:70:ARG:C	4:AW:71:LEU:HD12	2.37	0.50
15:AM:113:THR:O	15:AM:116:GLU:N	2.45	0.50
21:R:201:ASN:OD1	21:R:202:GLY:N	2.45	0.50
18:2b:765:G:H22	28:Wb:82:ARG:NH1	2.09	0.50
18:2b:1383:G:OP1	39:Jb:89:ARG:NH2	2.43	0.50
18:2b:1568:C:HO2'	18:2b:1569:A:P	2.34	0.50
20:Qb:101:HIS:O	20:Qb:217:LEU:HD13	2.11	0.50
31:Db:126:TRP:CD1	31:Db:133:LEU:HD23	2.45	0.50
1:YQ:266:A:OP1	16:XQ:5:LYS:NZ	2.45	0.50
1:BQ:2529:A:N6	1:BQ:2581:U:O4	2.18	0.50
1:BQ:3022:G:O2'	1:BQ:3031:G:O6	2.25	0.50
14:AJ:123:ILE:HG22	70:BP:118:ILE:HG12	1.92	0.50
18:2:647:G:H22	18:2:687:G:H1	1.59	0.50
18:2:1430:U:O2'	18:2:1433:G:OP1	2.29	0.50
23:S:192:ILE:HD12	23:S:242:LYS:O	2.12	0.50
27:V:4:SER:OG	27:V:28:GLU:OE1	2.28	0.50
51:O:48:THR:HG22	51:O:55:GLY:HA2	1.93	0.50
75:AO:95:VAL:O	75:AO:122:ARG:N	2.45	0.50
79:BU:63:ILE:HB	79:BU:77:LEU:HD21	1.93	0.50
18:2b:639:U:OP1	26:Ub:112:ARG:NH2	2.45	0.50
19:Pb:26:ALA:HB2	19:Pb:148:ASP:OD2	2.11	0.50
23:Sb:131:LEU:HD21	23:Sb:135:GLY:HA2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:694:C:P	6:YE:118:LYS:HZ3	2.29	0.50
76:XS:1:MET:HE2	76:XS:6:ARG:HD3	1.94	0.50
78:XT:49:ARG:CZ	78:XT:52:ALA:HB2	2.41	0.50
1:BQ:794:U:OP1	63:AR:6:THR:OG1	2.22	0.50
1:BQ:1541:G:N2	1:BQ:1555:U:O2'	2.45	0.50
1:BQ:2531:C:H41	1:BQ:2548:C:H42	1.59	0.50
16:AQ:21:PHE:O	16:AQ:25:VAL:HG23	2.12	0.50
17:AU:171:LYS:O	17:AU:175:THR:HG23	2.11	0.50
18:2:1545:A:OP1	37:H:133:VAL:N	2.44	0.50
23:S:87:MET:HA	23:S:87:MET:HE2	1.93	0.50
45:e:44:ILE:HD13	45:e:65:PRO:HG2	1.93	0.50
55:BH:81:TYR:CE1	55:BH:90:MET:HE3	2.46	0.50
18:2b:1240:U:O4	34:Eb:59:LYS:NZ	2.45	0.50
49:gb:24:THR:OG1	49:gb:26:LYS:NZ	2.31	0.50
1:YQ:371:G:N1	1:YQ:374:A:OP2	2.40	0.50
1:YQ:2154:U:OP1	4:XW:242:ARG:NH1	2.45	0.50
1:YQ:2712:U:O2'	1:YQ:2743:A:O2'	1.99	0.50
18:2:567:A:O2'	42:c:90:ASP:OD2	2.24	0.50
20:Q:41:ARG:NH1	20:Q:235:GLY:O	2.45	0.50
34:E:121:ILE:HD11	34:E:123:TYR:CE1	2.47	0.50
60:AH:92:LYS:HA	60:AH:95:ILE:HD12	1.94	0.50
20:Qb:131:ASP:OD1	20:Qb:131:ASP:N	2.44	0.50
23:Sb:159:THR:HG22	23:Sb:227:VAL:HG23	1.94	0.50
35:Fb:38:LEU:HD13	38:Ib:9:VAL:C	2.37	0.50
39:Jb:97:VAL:HG22	39:Jb:101:LYS:HE3	1.94	0.50
1:BQ:120:G:N2	10:AA:126:SER:O	2.44	0.49
1:BQ:1416:C:O2'	1:BQ:1417:G:O4'	2.29	0.49
1:BQ:2209:U:O2'	1:BQ:2209:U:O2	2.30	0.49
1:BQ:2969:A:N7	4:AW:215:ASN:ND2	2.60	0.49
18:2:74:U:O2'	18:2:75:U:O5'	2.25	0.49
18:2:1199:G:O6	39:J:67:THR:HG22	2.12	0.49
25:T:78:THR:OG1	25:T:79:LYS:N	2.45	0.49
37:H:26:ILE:HG13	37:H:31:ALA:HB2	1.94	0.49
40:a:41:GLU:OE2	40:a:44:ARG:NH2	2.45	0.49
18:2b:1433:G:H21	48:Mb:46:LYS:NZ	2.10	0.49
1:YQ:1302:A:N7	1:YQ:2857:C:O2'	2.45	0.49
1:YQ:1624:G:O2'	1:YQ:1643:A:N1	2.41	0.49
1:BQ:75:G:C5'	14:AJ:58:VAL:HG13	2.43	0.49
6:BE:269:SER:O	6:BE:270:SER:OG	2.23	0.49
18:2:2:A:O2'	21:R:198:THR:O	2.30	0.49
18:2:960:U:OP2	32:Y:14:SER:OG	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1088:A:O2'	18:2:1143:A:OP1	2.28	0.49
18:2:1472:C:O2	18:2:1534:G:N2	2.45	0.49
31:D:103:LEU:O	31:D:115:VAL:HG22	2.12	0.49
32:Y:31:GLU:OE1	32:Y:31:GLU:N	2.44	0.49
18:2b:714:G:O2'	18:2b:715:U:O5'	2.25	0.49
18:2b:1795:U:O2	45:eb:10:ARG:NH1	2.45	0.49
30:Xb:59:PRO:HA	30:Xb:64:VAL:HG23	1.93	0.49
1:YQ:3306:U:OP1	5:YA:225:GLY:N	2.44	0.49
3:YS:12:A:OP1	52:XX:3:ARG:NH1	2.38	0.49
5:YA:27:ALA:HB3	5:YA:218:ILE:HG22	1.93	0.49
75:XO:95:VAL:N	75:XO:122:ARG:O	2.43	0.49
1:BQ:148:G:N7	10:AA:137:ASN:ND2	2.60	0.49
1:BQ:978:G:O2'	1:BQ:979:U:O2	2.22	0.49
18:2:152:U:O2'	25:T:4:ASN:OD1	2.15	0.49
18:2:1244:A:O5'	48:M:5:ASN:ND2	2.45	0.49
18:2:1775:U:OP1	76:AS:11:ARG:NH2	2.45	0.49
27:V:36:THR:HG22	27:V:57:ALA:O	2.13	0.49
51:O:130:THR:HG22	51:O:145:LEU:HG	1.95	0.49
18:2b:741:C:N4	18:2b:742:U:O4	2.45	0.49
18:2b:781:U:O2'	18:2b:782:U:O5'	2.25	0.49
18:2b:812:A:OP1	18:2b:858:G:N2	2.45	0.49
18:2b:1225:U:O2	18:2b:1230:A:O2'	2.30	0.49
21:Rb:163:GLY:O	21:Rb:164:SER:OG	2.29	0.49
30:Xb:94:ILE:O	30:Xb:98:ASN:N	2.45	0.49
34:Eb:49:MET:O	34:Eb:50:THR:OG1	2.21	0.49
46:fb:53:ALA:HB1	46:fb:62:ILE:HD11	1.93	0.49
1:YQ:1404:G:N2	1:YQ:1407:A:OP2	2.38	0.49
1:YQ:2563:G:O6	1:YQ:2579:G:N2	2.46	0.49
3:YS:155:A:OP1	10:XA:181:LYS:NZ	2.41	0.49
1:BQ:1508:C:O2'	1:BQ:2353:G:O2'	2.27	0.49
16:AQ:27:VAL:HG23	16:AQ:129:TYR:CE1	2.47	0.49
18:2:153:G:O6	43:d:128:LYS:NZ	2.44	0.49
18:2:900:A:H3'	18:2:901:G:H21	1.77	0.49
18:2:1171:A:OP1	37:H:144:ARG:NH2	2.44	0.49
18:2:1541:G:H1'	18:2:1570:A:H61	1.77	0.49
53:BB:158:HIS:H	53:BB:186:VAL:HG11	1.77	0.49
18:2b:394:C:H42	18:2b:401:A:N6	2.03	0.49
51:Ob:17:ASN:O	51:Ob:308:ASN:ND2	2.45	0.49
1:YQ:2837:A:OP2	1:YQ:2845:A:N6	2.45	0.49
10:XA:24:ASN:O	10:XA:26:LEU:N	2.46	0.49
6:BE:301:PRO:O	53:BB:39:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AA:185:ARG:O	10:AA:188:THR:OG1	2.28	0.49
18:2:753:A:N7	23:S:187:ARG:NH2	2.58	0.49
18:2:1658:G:N2	18:2:1743:U:O2	2.45	0.49
24:B:139:ASN:ND2	24:B:202:ALA:O	2.45	0.49
26:U:49:ILE:HD11	26:U:172:VAL:HG22	1.94	0.49
38:I:38:LYS:O	38:I:39:THR:OG1	2.25	0.49
62:AN:99:GLU:OE2	62:AN:100:THR:HG23	2.12	0.49
18:2b:279:G:OP1	59:XE:113:LYS:NZ	2.41	0.49
18:2b:1252:C:H1'	50:Nb:133:ALA:HB2	1.93	0.49
19:Pb:46:HIS:HB2	19:Pb:149:LEU:HD11	1.93	0.49
25:Tb:7:TYR:HD1	25:Tb:113:ILE:HD12	1.77	0.49
26:Ub:44:LYS:NZ	26:Ub:95:GLU:OE1	2.35	0.49
51:Ob:222:LEU:O	51:Ob:231:MET:N	2.42	0.49
3:YS:37:A:OP1	70:YP:89:ARG:NH2	2.45	0.49
1:BQ:117:U:OP2	16:AQ:2:GLY:N	2.46	0.49
1:BQ:503:C:O5'	8:BM:26:ARG:NH1	2.45	0.49
10:AA:136:LEU:O	10:AA:140:VAL:HG23	2.13	0.49
13:AG:37:LEU:HD22	13:AG:69:VAL:HG12	1.94	0.49
18:2:104:A:P	18:2:308:C:H41	2.36	0.49
18:2:206:A:OP1	23:S:133:LYS:NZ	2.32	0.49
21:R:218:ILE:HA	21:R:221:THR:HG23	1.93	0.49
25:T:14:LYS:HB3	25:T:124:LEU:HD11	1.94	0.49
33:Z:123:SER:O	33:Z:123:SER:OG	2.31	0.49
37:H:52:VAL:HG22	37:H:65:GLU:CD	2.37	0.49
39:J:84:MET:HE3	48:M:52:PHE:HD1	1.77	0.49
47:L:12:VAL:HG13	47:L:28:VAL:CG2	2.43	0.49
18:2b:260:U:OP2	27:Vb:41:LYS:NZ	2.45	0.49
22:Ab:54:ARG:O	22:Ab:58:VAL:HG23	2.13	0.49
30:Xb:10:GLU:OE1	30:Xb:10:GLU:N	2.45	0.49
1:YQ:1529:A:OP2	1:YQ:1592:G:N2	2.43	0.49
4:XW:134:VAL:HG23	4:XW:150:LEU:HD23	1.95	0.49
1:BQ:394:G:N1	1:BQ:397:A:OP2	2.45	0.49
1:BQ:1632:A:OP1	62:AN:69:LYS:NZ	2.44	0.49
1:BQ:3184:A:N3	1:BQ:3187:A:O2'	2.41	0.49
18:2:1456:C:OP1	18:2:1457:C:O2'	2.25	0.49
25:T:132:ARG:C	25:T:133:LEU:HD12	2.37	0.49
25:T:163:THR:HG22	25:T:168:THR:HG22	1.95	0.49
27:V:84:HIS:CD2	27:V:90:LEU:HD12	2.48	0.49
30:X:8:GLN:NE2	30:X:14:GLN:O	2.45	0.49
34:E:105:VAL:HG12	34:E:106:GLU:O	2.13	0.49
54:BF:132:PHE:CD2	54:BF:138:LEU:HD12	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:6:G:N7	21:Rb:205:ARG:NH1	2.61	0.49
18:2b:1427:A:HO2'	18:2b:1428:G:P	2.30	0.49
19:Pb:88:LYS:O	19:Pb:92:HIS:ND1	2.46	0.49
23:Sb:123:LEU:HD13	23:Sb:160:VAL:O	2.12	0.49
1:YQ:26:A:N3	1:YQ:328:U:O2'	2.37	0.49
1:YQ:911:C:OP2	4:XW:9:ARG:NE	2.44	0.49
4:XW:129:ALA:HB3	4:XW:132:ASN:OD1	2.13	0.49
58:XB:127:PRO:HA	58:XB:130:ALA:HB3	1.95	0.49
80:n:8:U:O2	80:n:15:A:N6	2.45	0.49
1:BQ:351:A:OP1	74:AL:34:THR:OG1	2.31	0.49
1:BQ:952:A:OP1	64:AV:14:ARG:NH2	2.46	0.49
1:BQ:1178:G:OP2	17:AU:25:LYS:NZ	2.34	0.49
6:BE:361:HIS:O	55:BH:26:ARG:NH2	2.43	0.49
18:2:115:G:OP1	30:X:67:ARG:NH2	2.44	0.49
18:2:781:U:O2'	18:2:782:U:O5'	2.31	0.49
21:R:229:LEU:O	40:a:16:LYS:NZ	2.41	0.49
22:A:32:GLU:OE1	22:A:32:GLU:N	2.46	0.49
22:A:164:VAL:HG22	22:A:168:ILE:HD11	1.94	0.49
22:A:215:GLU:OE2	22:A:215:GLU:N	2.42	0.49
18:2b:205:U:OP1	23:Sb:134:LYS:NZ	2.46	0.49
18:2b:783:G:HO2'	18:2b:784:C:P	2.36	0.49
37:Hb:24:GLY:O	37:Hb:58:ALA:N	2.45	0.49
1:YQ:212:G:O2'	6:YE:221:ASN:O	2.26	0.49
1:YQ:1307:G:O2'	1:YQ:1308:A:OP2	2.24	0.49
1:YQ:2971:A:O2'	1:YQ:2972:G:OP2	2.24	0.49
13:XG:53:THR:HG23	13:XG:60:ARG:HA	1.95	0.49
1:BQ:309:U:OP1	71:AC:84:LYS:NZ	2.39	0.49
1:BQ:714:G:O2'	1:BQ:753:C:O2'	2.23	0.49
1:BQ:1392:G:O2'	1:BQ:1393:A:OP2	2.27	0.49
1:BQ:2509:U:O2'	1:BQ:2510:U:O5'	2.30	0.49
1:BQ:2991:A:O2'	1:BQ:3309:G:N7	2.41	0.49
7:BI:65:ILE:HD13	7:BI:74:VAL:HA	1.94	0.49
7:BI:108:ARG:NE	7:BI:251:PRO:O	2.39	0.49
13:AG:133:ARG:NH2	13:AG:158:ASP:OD2	2.46	0.49
18:2:5:U:OP2	21:R:204:THR:OG1	2.27	0.49
18:2:956:C:O2'	18:2:1047:G:N3	2.44	0.49
18:2:1085:G:N2	18:2:1088:A:OP2	2.35	0.49
18:2:1453:G:N2	34:E:99:GLY:O	2.45	0.49
43:d:2:SER:O	43:d:2:SER:OG	2.26	0.49
1:YQ:785:G:N2	53:YB:89:ASP:O	2.34	0.49
1:YQ:2764:C:O3'	63:XR:55:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XG:54:VAL:HG22	13:XG:59:ILE:HD11	1.94	0.49
3:BS:22:U:OP1	61:AK:12:ARG:NH2	2.46	0.49
5:BA:360:ASP:OD1	5:BA:371:GLN:NE2	2.45	0.49
18:2:1419:G:O3'	48:M:54:LYS:NZ	2.46	0.49
18:2:1430:U:O4'	39:J:72:ASN:ND2	2.46	0.49
24:B:72:HIS:O	35:F:47:LYS:NZ	2.39	0.49
39:J:26:LEU:HD23	39:J:114:VAL:HG13	1.95	0.49
51:O:82:SER:OG	51:O:92:TRP:NE1	2.39	0.49
61:AK:88:GLU:OE1	61:AK:88:GLU:N	2.46	0.49
18:2b:854:U:O4	18:2b:855:A:N6	2.46	0.49
18:2b:1273:G:N2	18:2b:1278:G:O6	2.46	0.49
23:Sb:199:GLU:OE1	23:Sb:201:HIS:NE2	2.44	0.49
29:Cb:11:ILE:HA	29:Cb:35:ILE:HD13	1.94	0.49
43:db:20:ARG:NH1	43:db:22:GLN:OE1	2.43	0.49
1:YQ:3149:G:O2'	5:YA:129:ALA:O	2.23	0.49
2:YR:34:C:N3	2:YR:46:A:O2'	2.40	0.49
14:XJ:98:ASP:OD1	14:XJ:99:HIS:N	2.46	0.49
12:BD:130:ASP:OD2	12:BD:131:ILE:N	2.42	0.48
13:AG:160:VAL:CG1	13:AG:171:VAL:HG21	2.43	0.48
18:2:537:G:OP1	28:W:175:ARG:NH1	2.46	0.48
18:2:1597:A:C5	48:M:13:ARG:C	2.91	0.48
36:G:27:ASP:O	36:G:31:ASN:ND2	2.46	0.48
53:BB:81:VAL:HG13	53:BB:101:VAL:HG13	1.95	0.48
56:BJ:14:MET:HE1	56:BJ:55:LYS:CB	2.43	0.48
18:2b:245:U:N3	18:2b:248:U:OP2	2.36	0.48
51:Ob:114:ASP:OD1	51:Ob:115:ILE:N	2.45	0.48
1:YQ:1307:G:N3	17:XU:60:LYS:NZ	2.59	0.48
2:YR:87:G:OP1	9:YO:218:ARG:NE	2.46	0.48
4:XW:114:SER:HB2	4:XW:169:ILE:HD11	1.95	0.48
10:XA:144:GLU:OE1	16:XQ:6:TYR:OH	2.28	0.48
83:mb:14:A:N1	83:mb:22:A:O2'	2.46	0.48
1:BQ:119:U:O3'	10:AA:133:LYS:NZ	2.34	0.48
1:BQ:3164:C:HO2'	1:BQ:3165:A:H8	1.61	0.48
18:2:639:U:P	26:U:117:THR:HG1	2.36	0.48
19:P:140:ASN:ND2	21:R:60:SER:O	2.46	0.48
21:R:104:VAL:HG22	21:R:132:ALA:HB1	1.95	0.48
22:A:134:CYS:SG	22:A:135:GLU:N	2.86	0.48
27:V:35:ASN:O	27:V:37:LYS:NZ	2.44	0.48
28:W:56:ALA:CB	28:W:97:LEU:HD21	2.42	0.48
47:L:58:GLU:OE1	47:L:58:GLU:N	2.45	0.48
22:Ab:209:ILE:HG23	36:Gb:20:TYR:OH	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1719:G:OP2	54:YF:121:HIS:ND1	2.38	0.48
12:YD:4:ARG:HH21	12:YD:99:ILE:HG22	1.78	0.48
62:XN:10:VAL:HG23	62:XN:86:THR:CA	2.43	0.48
1:BQ:596:C:O2	6:BE:326:ARG:NE	2.46	0.48
6:BE:84:ARG:NH1	6:BE:88:GLY:O	2.46	0.48
18:2:497:G:O2'	18:2:498:G:O4'	2.30	0.48
19:P:66:ALA:HB1	40:a:50:TYR:CE1	2.48	0.48
23:S:62:LYS:NZ	23:S:66:MET:HE3	2.28	0.48
25:T:64:LYS:HB3	25:T:67:VAL:HG11	1.94	0.48
29:C:76:LEU:O	29:C:76:LEU:HD23	2.13	0.48
56:BJ:126:VAL:HG23	56:BJ:127:GLN:H	1.78	0.48
58:AB:54:LEU:HD21	58:AB:119:GLY:HA3	1.95	0.48
79:BU:102:SER:O	79:BU:105:VAL:HG12	2.13	0.48
18:2b:1235:C:N3	50:Nb:138:ARG:NH2	2.38	0.48
18:2b:1257:U:O2'	18:2b:1258:U:O4'	2.31	0.48
56:YJ:101:CYS:SG	56:YJ:102:ARG:N	2.86	0.48
58:XB:115:THR:O	58:XB:115:THR:OG1	2.26	0.48
8:BM:43:LEU:HD21	8:BM:85:ILE:HD12	1.95	0.48
9:BO:84:VAL:HG13	9:BO:137:GLY:O	2.13	0.48
15:AM:42:LYS:HA	15:AM:60:LEU:HD12	1.95	0.48
18:2:788:A:OP2	23:S:108:ARG:NH1	2.40	0.48
19:P:139:VAL:CG2	19:P:141:ILE:HD12	2.42	0.48
19:P:184:LEU:HD12	40:a:45:ALA:HB2	1.95	0.48
25:T:132:ARG:O	25:T:133:LEU:HD12	2.13	0.48
36:G:25:THR:O	36:G:31:ASN:ND2	2.42	0.48
51:O:244:ALA:HB1	51:O:294:TRP:HD1	1.78	0.48
53:BB:81:VAL:CG1	53:BB:101:VAL:HG22	2.44	0.48
58:AB:93:LEU:H	58:AB:93:LEU:HD23	1.78	0.48
18:2b:1198:G:H4'	48:Mb:40:ARG:HH21	1.78	0.48
30:Xb:82:ARG:O	30:Xb:110:HIS:ND1	2.44	0.48
33:Zb:63:ALA:O	33:Zb:67:VAL:HG23	2.13	0.48
37:Hb:23:ASP:OD1	37:Hb:24:GLY:N	2.46	0.48
1:YQ:1098:A:O2'	56:YJ:130:ARG:O	2.21	0.48
1:YQ:1192:C:N4	1:YQ:1301:A:O3'	2.46	0.48
1:YQ:2393:G:O2'	1:YQ:2982:A:N6	2.35	0.48
5:YA:56:ILE:HG22	5:YA:74:GLU:O	2.13	0.48
9:YO:116:PHE:O	9:YO:199:ASN:ND2	2.46	0.48
14:XJ:151:ALA:O	14:XJ:152:THR:OG1	2.24	0.48
54:YF:37:SER:O	54:YF:41:ILE:HD12	2.12	0.48
1:BQ:2939:G:N7	5:BA:3:HIS:N	2.58	0.48
5:BA:73:VAL:HG22	58:AB:88:ARG:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:14:C:OP1	21:R:164:SER:OG	2.30	0.48
18:2:1383:G:OP1	39:J:87:HIS:ND1	2.45	0.48
51:O:194:GLY:HA3	51:O:221:MET:HE1	1.96	0.48
54:BF:39:ASN:OD1	54:BF:43:LYS:NZ	2.34	0.48
18:2b:129:U:P	18:2b:130:C:H41	2.37	0.48
18:2b:657:U:O2	18:2b:677:G:N1	2.35	0.48
21:Rb:154:LEU:HD23	21:Rb:156:THR:O	2.13	0.48
28:Wb:65:LYS:HA	28:Wb:70:LEU:HD11	1.96	0.48
41:bb:12:ASN:OD1	41:bb:16:ASN:ND2	2.47	0.48
44:Kb:66:VAL:HG22	44:Kb:71:ILE:CG2	2.43	0.48
49:gb:14:VAL:O	49:gb:18:THR:HG23	2.13	0.48
1:YQ:735:A:O2'	1:YQ:736:A:OP1	2.26	0.48
1:YQ:3216:G:OP1	8:YM:162:SER:OG	2.23	0.48
3:YS:71:A:O5'	61:XK:51:ARG:NH1	2.46	0.48
4:XW:3:ARG:H	4:XW:207:VAL:HG22	1.78	0.48
5:YA:151:ILE:O	5:YA:155:ALA:HB3	2.13	0.48
8:YM:35:VAL:O	8:YM:38:THR:OG1	2.26	0.48
12:YD:66:GLU:OE1	12:YD:69:ARG:NH2	2.47	0.48
60:XH:63:ILE:HD11	60:XH:84:PHE:CD1	2.49	0.48
62:XN:31:GLU:N	62:XN:31:GLU:OE1	2.47	0.48
78:XT:4:ARG:O	78:XT:5:THR:HG23	2.13	0.48
1:BQ:1555:U:H5	1:BQ:1557:A:H62	1.60	0.48
1:BQ:3067:C:OP2	54:BF:62:ARG:NH1	2.44	0.48
37:H:100:THR:HG1	37:H:104:ASN:CG	2.22	0.48
43:d:8:ARG:CZ	43:d:28:LEU:HD11	2.43	0.48
62:AN:109:GLU:O	62:AN:113:VAL:HG23	2.13	0.48
18:2b:114:C:O2'	30:Xb:65:SER:OG	2.20	0.48
18:2b:1531:G:N2	38:Ib:48:GLN:OE1	2.38	0.48
25:Tb:144:PHE:CZ	59:XE:90:ILE:HD11	2.48	0.48
35:Fb:60:PHE:HA	35:Fb:63:ILE:HD11	1.96	0.48
39:Jb:70:THR:HG21	39:Jb:74:GLU:O	2.14	0.48
1:YQ:3114:A:H62	1:YQ:3118:C:H42	1.62	0.48
5:YA:187:SER:O	5:YA:190:GLU:N	2.47	0.48
1:BQ:2898:G:O6	75:AO:125:LYS:NZ	2.47	0.48
15:AM:77:ARG:O	15:AM:81:VAL:HG23	2.14	0.48
18:2:498:G:O2'	18:2:499:U:O5'	2.30	0.48
21:R:157:LYS:NZ	41:b:91:ALA:O	2.26	0.48
29:C:14:TYR:HB3	29:C:35:ILE:HD11	1.94	0.48
37:H:101:LEU:CA	37:H:105:VAL:HG13	2.44	0.48
38:I:67:MET:HE3	38:I:68:ARG:HH12	1.78	0.48
40:a:9:VAL:HG22	40:a:10:GLU:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AL:33:ASN:ND2	74:AL:35:ILE:O	2.45	0.48
18:2b:1597:A:C5	48:Mb:13:ARG:C	2.92	0.48
23:Sb:189:LEU:HD12	23:Sb:190:GLY:H	1.78	0.48
31:Db:62:LEU:HD22	31:Db:75:VAL:HG11	1.96	0.48
35:Fb:7:VAL:HG21	35:Fb:92:TYR:HA	1.95	0.48
1:YQ:347:G:H1	72:XF:55:ARG:HH22	1.60	0.48
4:XW:134:VAL:CG2	4:XW:150:LEU:HD23	2.44	0.48
11:XD:178:GLY:C	11:XD:179:ILE:HD13	2.39	0.48
1:BQ:649:A:OP2	1:BQ:2868:U:O2'	2.29	0.48
1:BQ:1223:A:OP2	1:BQ:1285:G:N2	2.47	0.48
5:BA:106:TRP:CH2	5:BA:161:LEU:HD13	2.49	0.48
8:BM:78:ARG:NH2	8:BM:103:VAL:O	2.47	0.48
18:2:14:C:P	21:R:206:THR:HG21	2.54	0.48
18:2:1620:C:O2'	18:2:1621:U:OP1	2.31	0.48
38:I:57:ARG:O	38:I:61:VAL:HG23	2.13	0.48
39:J:22:ILE:HG23	39:J:24:ILE:HD11	1.95	0.48
53:BB:57:ILE:HD11	53:BB:147:ARG:NE	2.29	0.48
68:BK:16:TYR:OH	68:BK:89:LEU:O	2.27	0.48
18:2b:1597:A:N1	48:Mb:13:ARG:N	2.59	0.48
19:Pb:182:LEU:HB3	19:Pb:188:LEU:HD23	1.96	0.48
20:Qb:34:ALA:O	20:Qb:41:ARG:NE	2.45	0.48
31:Db:31:VAL:HG22	31:Db:133:LEU:HD12	1.95	0.48
34:Eb:127:ARG:O	34:Eb:129:GLY:N	2.47	0.48
39:Jb:76:SER:O	39:Jb:78:THR:N	2.47	0.48
1:YQ:64:G:O2'	1:YQ:77:A:N3	2.38	0.48
1:YQ:1419:A:OP1	3:YS:20:U:O2'	2.32	0.48
1:YQ:2728:G:O6	56:YJ:78:LYS:NZ	2.35	0.48
5:YA:117:ARG:NE	5:YA:176:ALA:O	2.45	0.48
10:XA:90:THR:HG23	10:XA:214:LEU:HD22	1.95	0.48
11:XD:105:GLU:OE1	11:XD:105:GLU:N	2.46	0.48
14:XJ:76:THR:O	14:XJ:76:THR:OG1	2.32	0.48
16:XQ:103:GLU:OE1	16:XQ:118:SER:OG	2.17	0.48
62:XN:110:ALA:O	62:XN:114:VAL:HG23	2.14	0.48
71:XC:63:ASN:O	71:XC:65:GLY:N	2.46	0.48
77:XP:7:THR:OG1	77:XP:22:GLN:NE2	2.47	0.48
3:BS:126:A:O2'	3:BS:128:U:OP2	2.23	0.48
4:AW:52:SER:HB3	4:AW:191:LEU:HD12	1.96	0.48
14:AJ:53:LEU:HD22	14:AJ:94:GLY:HA2	1.96	0.48
20:Q:187:LYS:CB	20:Q:193:ILE:HD11	2.43	0.48
23:S:44:LEU:HD12	23:S:79:ASP:O	2.13	0.48
23:S:189:LEU:HD12	23:S:190:GLY:N	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BJ:14:MET:HE1	56:BJ:55:LYS:HB2	1.95	0.48
18:2b:1555:A:H1'	48:Mb:11:PRO:HB3	1.95	0.48
18:2b:1597:A:C5	48:Mb:13:ARG:O	2.67	0.48
22:Ab:32:GLU:OE1	22:Ab:32:GLU:N	2.46	0.48
23:Sb:175:PHE:CE2	23:Sb:225:VAL:HG11	2.49	0.48
1:YQ:595:G:O6	8:YM:22:ARG:NH2	2.42	0.48
1:YQ:1868:G:HO2'	1:YQ:2118:C:HO2'	1.56	0.48
5:YA:81:THR:HG22	5:YA:321:PHE:HA	1.96	0.48
13:XG:41:SER:OG	13:XG:43:GLN:N	2.47	0.48
17:XU:136:THR:HG22	17:XU:137:THR:H	1.79	0.48
1:BQ:75:G:H5''	14:AJ:58:VAL:HG13	1.96	0.48
1:BQ:537:A:N6	1:BQ:554:A:O2'	2.47	0.48
1:BQ:1098:A:OP2	56:BJ:130:ARG:N	2.44	0.48
1:BQ:2583:C:O2'	1:BQ:2584:G:OP1	2.23	0.48
1:BQ:2896:A:OP1	75:AO:124:LYS:NZ	2.45	0.48
4:AW:101:VAL:HG23	4:AW:164:GLY:C	2.38	0.48
8:BM:40:LEU:HD13	8:BM:84:VAL:HG11	1.96	0.48
18:2:851:U:OP1	54:BF:169:ALA:HB2	2.13	0.48
18:2:1173:C:OP1	37:H:132:ARG:NH2	2.44	0.48
18:2:1555:A:H1'	48:M:11:PRO:HA	1.94	0.48
43:d:15:ASN:O	43:d:19:ALA:N	2.47	0.48
26:Ub:136:VAL:N	26:Ub:153:LEU:O	2.44	0.48
35:Fb:41:PRO:O	35:Fb:43:ILE:HD12	2.14	0.48
36:Gb:4:VAL:HG12	36:Gb:5:ARG:O	2.13	0.48
45:eb:51:ARG:NH1	47:Lb:37:SER:OG	2.46	0.48
1:YQ:284:A:OP2	77:XP:38:GLN:NE2	2.46	0.48
82:nb:17:C:O2'	82:nb:18:G:OP1	2.25	0.48
1:BQ:735:A:O2'	1:BQ:736:A:OP1	2.27	0.47
1:BQ:1321:G:O3'	55:BH:117:ARG:NH1	2.47	0.47
1:BQ:2382:G:OP1	17:AU:85:ARG:NH1	2.46	0.47
4:AW:29:LEU:O	4:AW:123:ARG:NH2	2.45	0.47
4:AW:33:ASP:N	4:AW:33:ASP:OD1	2.46	0.47
13:AG:86:VAL:HG22	13:AG:111:ASP:OD1	2.13	0.47
18:2:215:A:H62	18:2:242:U:H3'	1.79	0.47
20:Q:148:ASN:N	20:Q:148:ASN:OD1	2.47	0.47
26:U:82:GLU:O	26:U:86:GLN:NE2	2.47	0.47
28:W:133:HIS:C	28:W:134:ILE:HD12	2.39	0.47
51:O:93:ASP:OD2	51:O:100:TYR:OH	2.24	0.47
79:BU:11:TYR:OH	79:BU:59:VAL:HG22	2.14	0.47
18:2b:388:G:OP2	18:2b:423:G:O2'	2.10	0.47
18:2b:1357:A:N3	38:Ib:129:GLN:NE2	2.55	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Pb:72:ASP:OD1	19:Pb:73:VAL:N	2.47	0.47
19:Pb:124:THR:HG22	19:Pb:174:TRP:HE1	1.79	0.47
19:Pb:139:VAL:CG2	19:Pb:141:ILE:HD12	2.44	0.47
20:Qb:50:LYS:O	20:Qb:52:THR:HG23	2.15	0.47
28:Wb:20:GLU:O	28:Wb:24:LEU:HD13	2.14	0.47
1:YQ:1219:C:N3	1:YQ:1287:A:N6	2.62	0.47
1:YQ:2785:A:O2'	77:XP:41:ARG:NH2	2.48	0.47
52:XX:48:LEU:HD22	52:XX:88:VAL:HG13	1.96	0.47
1:BQ:591:G:N2	1:BQ:612:U:OP1	2.46	0.47
1:BQ:1618:G:O2'	3:BS:126:A:N1	2.46	0.47
1:BQ:1794:G:HO2'	1:BQ:1796:G:N2	2.12	0.47
11:AD:50:ASN:OD1	15:AM:5:SER:N	2.44	0.47
16:AQ:104:GLU:OE2	16:AQ:108:ARG:NH2	2.46	0.47
18:2:707:A:O2'	18:2:731:C:N4	2.46	0.47
18:2:763:G:OP1	28:W:78:ARG:NH1	2.42	0.47
18:2:1197:C:O5'	39:J:77:LYS:NZ	2.45	0.47
18:2:1381:U:O4	18:2:1382:A:N6	2.47	0.47
18:2:1469:A:OP1	38:I:91:TYR:OH	2.18	0.47
20:Q:193:ILE:HD12	20:Q:193:ILE:H	1.79	0.47
35:F:133:GLY:O	35:F:137:ARG:NH2	2.48	0.47
37:H:49:LYS:HB2	37:H:72:ILE:HG21	1.96	0.47
51:O:244:ALA:HB1	51:O:294:TRP:CD1	2.49	0.47
18:2b:63:G:O2'	18:2b:170:U:OP1	2.30	0.47
18:2b:1642:G:O2'	18:2b:1781:A:O3'	2.31	0.47
36:Gb:99:VAL:HG12	36:Gb:118:PRO:HB2	1.96	0.47
44:Kb:80:LEU:HD22	44:Kb:101:TYR:CD2	2.49	0.47
1:YQ:661:G:OP1	63:XR:12:ARG:NH2	2.47	0.47
1:YQ:3395:G:N2	1:YQ:3396:U:O4	2.27	0.47
6:YE:301:PRO:O	53:YB:39:ARG:NH2	2.46	0.47
13:XG:156:LYS:O	13:XG:160:VAL:HG23	2.13	0.47
75:XO:96:CYS:CB	75:XO:99:CYS:SG	3.02	0.47
1:BQ:1388:U:O2'	67:BG:99:ASN:O	2.32	0.47
1:BQ:2579:G:OP2	1:BQ:2580:A:O2'	2.28	0.47
1:BQ:3177:G:N7	8:BM:167:ASN:ND2	2.63	0.47
1:BQ:3210:A:OP1	15:AM:109:ARG:NH1	2.43	0.47
14:AJ:24:VAL:HG11	14:AJ:26:PHE:CZ	2.49	0.47
31:D:126:TRP:CD1	31:D:133:LEU:HD23	2.49	0.47
50:N:108:VAL:HG12	50:N:114:VAL:HG22	1.94	0.47
56:BJ:62:GLY:HA3	56:BJ:76:ILE:HD13	1.96	0.47
18:2b:490:C:H42	18:2b:497:G:N2	2.11	0.47
18:2b:647:G:H22	18:2b:687:G:H1	1.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Sb:103:TYR:CD2	23:Sb:189:LEU:HD11	2.48	0.47
32:Yb:27:LYS:C	32:Yb:28:LEU:HD12	2.40	0.47
37:Hb:131:LEU:HD23	37:Hb:145:ARG:HH22	1.79	0.47
1:YQ:677:A:O5'	1:YQ:786:A:N6	2.46	0.47
1:YQ:1114:U:OP1	63:XR:23:GLY:N	2.39	0.47
12:YD:201:SER:OG	12:YD:202:LYS:N	2.48	0.47
68:YK:16:TYR:OH	68:YK:89:LEU:O	2.29	0.47
5:BA:43:LEU:HD23	5:BA:181:ILE:HD13	1.97	0.47
14:AJ:140:SER:OG	14:AJ:144:THR:N	2.45	0.47
18:2:394:C:H42	18:2:401:A:N6	2.01	0.47
18:2:704:C:O2	18:2:704:C:O2'	2.32	0.47
18:2:854:U:O4	18:2:855:A:N6	2.47	0.47
18:2:1114:G:OP1	76:AS:6:ARG:NH1	2.48	0.47
18:2:1445:G:C5	50:N:91:ILE:HD11	2.49	0.47
19:P:83:GLN:HG2	19:P:99:ALA:HB1	1.96	0.47
21:R:111:VAL:HG22	21:R:139:ILE:HD11	1.95	0.47
21:R:238:SER:O	21:R:238:SER:OG	2.30	0.47
22:A:168:ILE:HG22	22:A:189:MET:HA	1.97	0.47
37:H:86:LEU:HD22	37:H:97:ASP:CG	2.39	0.47
43:d:62:THR:HG22	43:d:69:SER:OG	2.14	0.47
50:N:139:LEU:O	50:N:150:VAL:N	2.43	0.47
18:2b:1478:G:OP1	38:Ib:43:ASN:ND2	2.48	0.47
35:Fb:39:VAL:O	35:Fb:45:ARG:NE	2.46	0.47
37:Hb:29:VAL:O	37:Hb:43:SER:OG	2.24	0.47
37:Hb:90:ASN:N	37:Hb:97:ASP:OD1	2.43	0.47
51:Ob:123:ILE:HD13	51:Ob:169:ILE:HG21	1.96	0.47
1:YQ:120:G:N2	10:XA:126:SER:HG	2.09	0.47
1:YQ:363:G:OP2	72:XF:56:ARG:NH2	2.43	0.47
1:YQ:610:G:C8	6:YE:312:VAL:HG21	2.50	0.47
1:YQ:1073:U:O2'	64:XV:50:THR:N	2.47	0.47
1:YQ:1259:A:N6	1:YQ:1260:A:N1	2.62	0.47
5:YA:81:THR:HG21	5:YA:322:ILE:HD12	1.95	0.47
10:XA:45:ASN:ND2	60:XH:26:VAL:HG22	2.29	0.47
1:BQ:1219:C:O2'	1:BQ:1286:A:N1	2.44	0.47
1:BQ:1420:C:OP2	6:BE:193:LYS:NZ	2.46	0.47
1:BQ:2641:U:OP2	56:BJ:10:ARG:NH1	2.47	0.47
1:BQ:2852:C:N3	12:BD:158:LYS:NZ	2.61	0.47
2:BR:85:G:O3'	9:BO:218:ARG:NH2	2.47	0.47
10:AA:94:PHE:HB3	10:AA:189:LEU:HD11	1.96	0.47
12:BD:174:THR:HG23	12:BD:175:ASN:H	1.79	0.47
18:2:1554:U:H3	48:M:9:SER:HG	1.59	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:F:11:GLY:N	35:F:84:ALA:HB2	2.29	0.47
41:b:87:GLU:OE2	41:b:117:ARG:NH2	2.48	0.47
55:BH:38:LYS:HG2	55:BH:58:ILE:HD13	1.96	0.47
66:BC:72:ARG:NH1	66:BC:105:GLN:O	2.42	0.47
18:2b:1206:U:HO2'	48:Mb:27:HIS:CE1	2.25	0.47
18:2b:1218:G:H22	18:2b:1444:A:P	2.35	0.47
22:Ab:98:ALA:N	22:Ab:169:ASP:OD2	2.48	0.47
30:Xb:78:THR:HA	30:Xb:84:ILE:HG22	1.95	0.47
31:Db:108:ARG:O	31:Db:110:GLY:N	2.47	0.47
37:Hb:14:ILE:HD12	37:Hb:22:VAL:C	2.40	0.47
47:Lb:59:SER:N	47:Lb:60:GLU:OE1	2.48	0.47
50:Nb:93:HIS:ND1	50:Nb:94:LYS:O	2.43	0.47
51:Ob:87:LYS:NZ	51:Ob:107:LYS:O	2.32	0.47
1:YQ:1686:U:O4	57:YL:82:LYS:NZ	2.38	0.47
1:YQ:3022:G:O2'	1:YQ:3031:G:O6	2.25	0.47
9:YO:64:GLN:NE2	9:YO:68:ASP:OD1	2.46	0.47
9:YO:73:GLY:O	56:YJ:143:THR:HG22	2.14	0.47
1:BQ:1820:U:O2'	1:BQ:1821:U:OP1	2.29	0.47
1:BQ:3008:A:OP1	17:AU:72:HIS:ND1	2.42	0.47
3:BS:63:G:H22	3:BS:97:A:H2	1.61	0.47
18:2:1799:U:O2'	20:Q:152:ARG:NH1	2.45	0.47
19:P:54:TRP:O	19:P:58:VAL:HG23	2.15	0.47
19:P:55:GLU:OE2	40:a:80:LYS:N	2.42	0.47
27:V:37:LYS:N	27:V:58:LEU:O	2.44	0.47
28:W:162:SER:O	28:W:164:PHE:N	2.48	0.47
30:X:27:THR:HG23	30:X:29:LYS:O	2.15	0.47
18:2b:1097:U:OP1	18:2b:1098:U:O2'	2.20	0.47
19:Pb:22:THR:HG22	19:Pb:169:SER:HB3	1.97	0.47
23:Sb:95:THR:HG22	43:db:17:LEU:HD11	1.97	0.47
27:Vb:5:ARG:NH1	27:Vb:29:LEU:O	2.43	0.47
45:eb:10:ARG:HD2	45:eb:34:LYS:HA	1.94	0.47
1:YQ:1195:A:O2'	1:YQ:1320:C:OP1	2.32	0.47
1:YQ:1426:C:H4'	6:YE:40:THR:HG22	1.97	0.47
1:YQ:1496:C:N3	1:YQ:1521:G:N2	2.63	0.47
1:YQ:1724:U:OP2	54:YF:128:LYS:NZ	2.27	0.47
4:XW:195:SER:O	4:XW:198:LYS:NZ	2.35	0.47
9:YO:130:ILE:O	9:YO:134:VAL:HG22	2.14	0.47
58:XB:80:ARG:HB2	58:XB:99:ALA:HB3	1.96	0.47
1:BQ:144:A:P	10:AA:193:LYS:HZ3	2.38	0.47
1:BQ:618:C:OP1	52:AX:173:ARG:NH2	2.42	0.47
1:BQ:659:G:H2'	1:BQ:1432:C:H42	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:1489:A:OP1	69:BN:10:ARG:NH1	2.48	0.47
1:BQ:2419:A:P	1:BQ:2606:G:H22	2.38	0.47
4:AW:30:ARG:NH2	4:AW:33:ASP:OD2	2.48	0.47
5:BA:151:ILE:O	5:BA:155:ALA:HB3	2.14	0.47
12:BD:51:HIS:ND1	12:BD:137:SER:OG	2.34	0.47
18:2:398:G:OP2	27:V:47:ARG:NH2	2.44	0.47
18:2:717:C:H42	18:2:720:G:N2	2.10	0.47
18:2:1159:C:N4	18:2:1285:U:OP1	2.48	0.47
18:2:1160:A:H1'	18:2:1620:C:H42	1.80	0.47
18:2:1597:A:N3	48:M:14:TYR:CB	2.78	0.47
32:Y:56:ASP:OD2	46:f:51:GLN:N	2.45	0.47
49:g:59:GLY:O	49:g:61:SER:N	2.45	0.47
18:2b:685:A:HO2'	18:2b:686:C:P	2.27	0.47
18:2b:710:U:O2'	18:2b:729:G:N1	2.40	0.47
21:Rb:139:ILE:CD1	21:Rb:191:ALA:HB1	2.44	0.47
23:Sb:105:VAL:HG21	23:Sb:245:LYS:N	2.30	0.47
24:Bb:119:ASP:O	24:Bb:123:VAL:HG23	2.14	0.47
36:Gb:85:VAL:HG23	36:Gb:85:VAL:O	2.15	0.47
1:YQ:424:G:O2'	67:YG:23:ASP:OD2	2.31	0.47
1:YQ:687:U:OP2	14:XJ:36:ARG:NH2	2.45	0.47
1:YQ:1125:U:OP1	12:YD:15:LYS:NZ	2.39	0.47
3:YS:46:G:P	74:XL:15:LYS:HZ3	2.32	0.47
8:YM:165:LEU:HD11	68:YK:102:LEU:HD11	1.97	0.47
9:YO:187:GLU:O	9:YO:191:VAL:HA	2.14	0.47
15:XM:38:ILE:O	55:YH:95:ARG:NH2	2.47	0.47
52:XX:10:ASN:OD1	52:XX:12:ALA:N	2.46	0.47
79:YU:25:LEU:O	79:YU:25:LEU:HD12	2.14	0.47
1:BQ:96:G:OP1	14:AJ:15:ARG:NH2	2.48	0.47
1:BQ:921:A:N6	1:BQ:1846:C:OP2	2.34	0.47
1:BQ:1514:G:O2'	74:AL:45:ARG:NH2	2.45	0.47
1:BQ:3216:G:O2'	1:BQ:3220:G:OP2	2.33	0.47
18:2:1170:G:N2	18:2:1571:C:O2'	2.48	0.47
18:2:1529:C:OP2	44:K:97:LYS:NZ	2.48	0.47
27:V:26:LYS:O	27:V:29:LEU:HD22	2.14	0.47
37:H:101:LEU:C	37:H:105:VAL:HG13	2.40	0.47
51:O:9:LEU:HD12	51:O:312:VAL:O	2.15	0.47
23:Sb:134:LYS:HB2	23:Sb:136:VAL:HG23	1.96	0.47
39:Jb:72:ASN:N	39:Jb:72:ASN:OD1	2.47	0.47
44:Kb:71:ILE:HD11	44:Kb:75:LEU:CB	2.45	0.47
44:Kb:74:SER:O	44:Kb:78:ILE:HD12	2.15	0.47
1:YQ:589:A:N6	1:YQ:610:G:O3'	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1015:U:O2'	1:YQ:1016:C:OP1	2.28	0.47
1:YQ:1903:U:N3	1:YQ:1906:G:OP2	2.45	0.47
1:YQ:2562:A:H2	10:XA:29:SER:HG	1.63	0.47
1:YQ:3109:G:N2	11:XD:156:GLN:OE1	2.48	0.47
9:YO:53:LYS:O	9:YO:57:THR:HG23	2.15	0.47
11:XD:33:THR:O	11:XD:34:LEU:HD23	2.14	0.47
15:XM:55:ARG:NH2	15:XM:76:ALA:O	2.46	0.47
1:BQ:655:C:OP2	67:BG:27:ARG:NE	2.40	0.47
1:BQ:3243:A:C8	17:AU:156:LEU:HD13	2.50	0.47
3:BS:82:U:HO2'	3:BS:83:C:P	2.31	0.47
11:AD:105:GLU:OE1	11:AD:105:GLU:N	2.47	0.47
34:E:85:ILE:HD13	34:E:111:MET:HB3	1.97	0.47
50:N:103:LEU:O	50:N:104:SER:OG	2.27	0.47
55:BH:21:GLU:O	55:BH:23:LYS:NZ	2.48	0.47
69:BN:25:THR:OG1	69:BN:29:ILE:O	2.21	0.47
18:2b:724:C:O2'	18:2b:725:U:OP2	2.28	0.47
18:2b:783:G:O2'	18:2b:784:C:O5'	2.32	0.47
19:Pb:10:THR:O	19:Pb:13:ASP:N	2.48	0.47
21:Rb:177:GLY:N	21:Rb:195:ASP:OD1	2.47	0.47
26:Ub:89:HIS:ND1	26:Ub:168:SER:OG	2.41	0.47
1:YQ:856:G:OP1	54:YF:92:GLN:NE2	2.48	0.47
1:YQ:907:G:OP1	1:YQ:909:G:O2'	2.33	0.47
1:YQ:3186:A:N6	11:XD:58:HIS:O	2.43	0.47
8:YM:102:ASN:OD1	8:YM:105:TYR:N	2.45	0.47
12:YD:90:ARG:HD3	12:YD:134:ILE:HG21	1.95	0.47
55:YH:38:LYS:HG2	55:YH:58:ILE:HD13	1.97	0.47
79:YU:100:ILE:O	79:YU:185:LEU:HD11	2.14	0.47
81:m:10:G:O6	81:m:45:G:N2	2.47	0.47
1:BQ:269:G:OP2	16:AQ:44:ARG:NH2	2.48	0.47
1:BQ:396:A:N7	1:BQ:399:A:N6	2.63	0.47
1:BQ:1404:G:N2	1:BQ:1407:A:OP2	2.43	0.47
3:BS:71:A:O3'	61:AK:52:ARG:NH1	2.48	0.47
17:AU:174:PHE:O	17:AU:178:VAL:HG23	2.15	0.47
18:2:864:U:OP2	46:f:26:GLN:NE2	2.48	0.47
18:2:1445:G:C8	50:N:91:ILE:HD11	2.50	0.47
18:2:1524:A:O3'	38:I:93:HIS:ND1	2.48	0.47
61:AK:112:ASP:OD1	61:AK:113:LYS:N	2.44	0.47
22:Ab:134:CYS:SG	22:Ab:135:GLU:N	2.88	0.47
23:Sb:116:ASP:OD1	23:Sb:116:ASP:N	2.47	0.47
1:YQ:1715:A:H62	65:XY:84:LEU:HD23	1.79	0.47
4:XW:33:ASP:OD1	4:XW:33:ASP:N	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XW:70:ARG:C	4:XW:71:LEU:HD12	2.41	0.47
15:XM:2:SER:OG	15:XM:3:THR:N	2.48	0.47
82:nb:9:A:H2'	82:nb:11:C:H41	1.80	0.47
1:BQ:70:A:N1	1:BQ:313:A:O2'	2.47	0.46
9:BO:127:LEU:HA	9:BO:130:ILE:HG22	1.96	0.46
14:AJ:59:ARG:NH2	14:AJ:68:LYS:O	2.48	0.46
16:AQ:11:GLN:NE2	16:AQ:11:GLN:O	2.48	0.46
18:2:196:G:N7	27:V:141:ARG:NH1	2.60	0.46
18:2:494:U:O2'	18:2:495:C:O5'	2.29	0.46
21:R:109:GLY:N	21:R:191:ALA:O	2.45	0.46
22:A:90:ARG:O	22:A:91:VAL:HG13	2.15	0.46
31:D:97:LEU:HD21	31:D:121:VAL:CG2	2.45	0.46
18:2b:326:G:O6	18:2b:337:G:O6	2.33	0.46
24:Bb:70:VAL:O	35:Fb:47:LYS:NZ	2.48	0.46
38:Ib:35:ASP:OD1	38:Ib:36:ILE:HG23	2.15	0.46
51:Ob:232:TYR:HE1	51:Ob:234:LEU:HD11	1.80	0.46
51:Ob:264:SER:N	51:Ob:271:VAL:HG23	2.30	0.46
1:YQ:2361:A:N6	1:YQ:2376:G:O6	2.48	0.46
1:YQ:3005:A:O2'	1:YQ:3140:G:N2	2.41	0.46
6:YE:261:VAL:HG13	6:YE:262:TRP:CD1	2.49	0.46
10:XA:185:ARG:O	10:XA:188:THR:OG1	2.30	0.46
17:XU:140:LYS:HA	17:XU:143:THR:HG22	1.95	0.46
58:XB:136:VAL:HG12	58:XB:137:VAL:HG23	1.97	0.46
62:XN:58:GLY:O	62:XN:62:VAL:HG23	2.14	0.46
1:BQ:1492:G:N7	74:AL:2:ALA:N	2.63	0.46
1:BQ:3216:G:OP1	8:BM:162:SER:N	2.48	0.46
2:BR:1:G:N2	7:BI:269:SER:OG	2.48	0.46
18:2:65:A:H2	18:2:84:A:H62	1.63	0.46
18:2:138:A:N6	18:2:266:A:H61	2.12	0.46
18:2:1597:A:N3	48:M:14:TYR:HB3	2.31	0.46
51:O:74:THR:OG1	51:O:77:GLY:N	2.48	0.46
62:AN:88:ASP:OD1	62:AN:89:VAL:N	2.46	0.46
26:Ub:77:LEU:O	26:Ub:81:LEU:HD23	2.15	0.46
1:YQ:87:U:OP2	14:XJ:11:LYS:NZ	2.48	0.46
1:YQ:119:U:O2'	10:XA:133:LYS:NZ	2.22	0.46
1:YQ:303:G:O2'	1:YQ:2778:G:OP2	2.19	0.46
1:YQ:1307:G:O4'	17:XU:60:LYS:NZ	2.37	0.46
1:YQ:2900:A:N3	1:YQ:3025:C:O2'	2.40	0.46
1:YQ:3060:C:O2	1:YQ:3332:U:O2'	2.29	0.46
4:XW:204:MET:HE2	4:XW:209:HIS:HB2	1.97	0.46
6:YE:206:LEU:HB2	6:YE:246:ARG:HD3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XD:20:ILE:HD12	15:XM:7:VAL:HG22	1.97	0.46
14:XJ:76:THR:O	14:XJ:79:GLU:N	2.48	0.46
17:XU:127:LEU:HD22	55:YH:156:VAL:HG13	1.97	0.46
58:XB:80:ARG:NH1	58:XB:117:PRO:O	2.41	0.46
1:BQ:1204:A:N6	1:BQ:1300:G:O2'	2.47	0.46
4:AW:50:HIS:HB2	78:AT:51:ALA:HB1	1.96	0.46
5:BA:33:PRO:O	5:BA:184:ASN:ND2	2.44	0.46
23:S:173:ILE:HD11	23:S:235:TYR:CZ	2.49	0.46
79:BU:27:VAL:HG21	79:BU:189:GLN:OE1	2.15	0.46
18:2b:1205:C:N3	48:Mb:17:GLY:HA3	2.31	0.46
18:2b:1244:A:O2'	18:2b:1246:C:OP1	2.20	0.46
18:2b:1453:G:OP1	48:Mb:10:HIS:ND1	2.49	0.46
30:Xb:45:PRO:HG2	30:Xb:48:ALA:HB2	1.96	0.46
51:Ob:236:ALA:O	51:Ob:261:LYS:NZ	2.48	0.46
1:YQ:1582:C:O2'	1:YQ:1583:A:O5'	2.33	0.46
1:YQ:1741:A:O2'	69:YN:38:LEU:HD21	2.16	0.46
1:YQ:3298:C:OP1	52:XX:74:LYS:NZ	2.47	0.46
14:XJ:134:GLU:O	14:XJ:135:ALA:HB2	2.15	0.46
17:XU:65:ASN:OD1	17:XU:67:THR:HG22	2.16	0.46
75:XO:120:GLN:O	75:XO:121:LEU:HD23	2.15	0.46
1:BQ:148:G:HO2'	1:BQ:149:U:P	2.37	0.46
1:BQ:412:G:N2	52:AX:118:GLN:OE1	2.24	0.46
1:BQ:3375:A:OP2	1:BQ:3378:C:N4	2.42	0.46
11:AD:1:MET:HE1	55:BH:138:GLN:CG	2.45	0.46
16:AQ:67:ARG:NH2	16:AQ:127:TYR:OH	2.48	0.46
18:2:1082:C:H42	18:2:1091:A:N6	2.14	0.46
23:S:94:ALA:HB3	43:d:17:LEU:HD23	1.98	0.46
28:W:65:LYS:HA	28:W:70:LEU:HD11	1.97	0.46
48:M:24:CYS:SG	48:M:26:SER:OG	2.66	0.46
53:BB:165:ILE:HD13	53:BB:173:GLU:OE1	2.16	0.46
77:AP:58:PHE:N	81:m:75:A:OP1	2.47	0.46
18:2b:1787:C:OP1	33:Zb:127:ARG:NH2	2.48	0.46
23:Sb:192:ILE:HD12	23:Sb:242:LYS:O	2.16	0.46
43:db:20:ARG:HD2	43:db:76:TYR:CE1	2.50	0.46
51:Ob:274:LEU:HD13	51:Ob:313:TRP:CE2	2.49	0.46
1:YQ:433:A:OP2	68:YK:57:LYS:NZ	2.48	0.46
1:YQ:2254:U:O4	1:YQ:2261:G:O2'	2.25	0.46
1:YQ:2442:G:O6	1:YQ:2505:U:N3	2.48	0.46
1:YQ:2558:U:OP1	10:XA:32:LYS:NZ	2.48	0.46
1:YQ:2696:A:N7	1:YQ:2758:A:N6	2.63	0.46
1:YQ:3026:G:OP1	11:XD:174:LYS:NZ	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:nb:21:A:H62	82:nb:46:G:H2'	1.81	0.46
1:BQ:59:G:H2'	3:BS:33:A:H2'	1.98	0.46
9:BO:131:GLU:OE2	9:BO:222:HIS:NE2	2.47	0.46
14:AJ:132:ALA:N	14:AJ:134:GLU:OE2	2.49	0.46
18:2:1169:G:N1	18:2:1575:G:OP2	2.42	0.46
18:2:1273:G:N2	18:2:1278:G:O6	2.49	0.46
23:S:196:VAL:HG11	23:S:211:LYS:HB2	1.98	0.46
25:T:59:GLN:OE1	25:T:72:ARG:NH1	2.46	0.46
42:c:43:PHE:O	42:c:45:GLY:N	2.48	0.46
51:O:264:SER:C	51:O:265:LEU:HD23	2.40	0.46
18:2b:1615:C:N4	24:Bb:78:ALA:O	2.46	0.46
25:Tb:142:ARG:NE	25:Tb:148:SER:O	2.38	0.46
28:Wb:139:GLN:NE2	43:db:63:GLN:OE1	2.48	0.46
33:Zb:64:ALA:HB1	33:Zb:105:LEU:HG	1.97	0.46
1:YQ:36:C:OP2	16:XQ:83:LYS:NZ	2.44	0.46
1:YQ:52:A:N3	1:YQ:811:U:O2'	2.48	0.46
1:YQ:1230:G:O6	1:YQ:1280:C:N4	2.49	0.46
1:YQ:3165:A:H61	1:YQ:3285:C:H42	1.63	0.46
2:YR:46:A:O5'	7:YI:158:ARG:NH2	2.48	0.46
3:YS:87:G:OP1	70:YP:7:TYR:OH	2.33	0.46
12:YD:140:THR:HG21	12:YD:148:VAL:HG11	1.96	0.46
62:XN:22:LYS:NZ	62:XN:132:SER:HG	2.14	0.46
62:XN:33:SER:OG	62:XN:34:LYS:N	2.49	0.46
1:BQ:939:U:OP2	63:AR:26:ARG:NH2	2.44	0.46
1:BQ:1385:C:O2'	8:BM:2:SER:N	2.41	0.46
1:BQ:1529:A:P	1:BQ:1592:G:H22	2.39	0.46
3:BS:150:G:O2'	3:BS:152:G:OP1	2.23	0.46
12:BD:43:VAL:O	12:BD:171:TRP:NE1	2.45	0.46
15:AM:116:GLU:O	15:AM:120:VAL:HG23	2.15	0.46
18:2:151:G:N3	25:T:13:GLN:NE2	2.54	0.46
18:2:898:A:N6	18:2:914:G:C4	2.84	0.46
20:Q:108:ASP:OD1	20:Q:109:LYS:N	2.47	0.46
56:BJ:30:TYR:OH	56:BJ:94:GLU:OE1	2.31	0.46
62:AN:46:ILE:HD11	62:AN:49:TYR:CE1	2.50	0.46
18:2b:513:U:OP1	28:Wb:133:HIS:NE2	2.46	0.46
23:Sb:181:VAL:O	23:Sb:192:ILE:HG23	2.15	0.46
36:Gb:80:ARG:O	36:Gb:83:GLN:NE2	2.49	0.46
6:YE:8:VAL:O	6:YE:16:THR:HG22	2.15	0.46
1:BQ:662:U:OP1	63:AR:8:THR:HG21	2.16	0.46
1:BQ:1261:G:O2'	1:BQ:1262:G:N7	2.49	0.46
1:BQ:2505:U:O2'	1:BQ:2506:U:O4'	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:157:LYS:NZ	41:b:94:LEU:O	2.31	0.46
41:b:37:PHE:CE1	41:b:103:ILE:HD11	2.51	0.46
52:AX:84:PRO:O	52:AX:88:VAL:HG23	2.16	0.46
63:AR:3:SER:O	63:AR:6:THR:HG22	2.16	0.46
68:BK:56:SER:O	68:BK:63:LYS:NZ	2.44	0.46
18:2b:864:U:OP2	46:fb:26:GLN:NE2	2.47	0.46
18:2b:1034:C:O3'	32:Yb:2:GLY:N	2.49	0.46
18:2b:1192:C:OP2	18:2b:1193:A:O2'	2.24	0.46
20:Qb:183:GLN:OE1	20:Qb:183:GLN:N	2.48	0.46
26:Ub:16:LEU:O	26:Ub:20:VAL:HG23	2.15	0.46
1:YQ:1820:U:O2'	1:YQ:1821:U:OP1	2.25	0.46
3:YS:84:C:N3	61:XK:116:LYS:NZ	2.55	0.46
4:XW:41:ILE:N	4:XW:90:ALA:O	2.47	0.46
17:XU:119:VAL:HG22	17:XU:124:LEU:HD21	1.97	0.46
77:XP:74:CYS:SG	77:XP:77:CYS:N	2.85	0.46
1:BQ:38:U:OP1	1:BQ:935:U:O2'	2.32	0.46
1:BQ:2618:G:O2'	1:BQ:2865:U:OP1	2.31	0.46
1:BQ:2712:U:O2'	1:BQ:2743:A:O2'	2.03	0.46
1:BQ:2882:U:O2'	5:BA:263:SER:OG	2.31	0.46
2:BR:76:A:O2'	55:BH:50:LYS:NZ	2.37	0.46
18:2:334:G:O6	27:V:5:ARG:NH2	2.44	0.46
18:2:392:G:OP1	27:V:24:LYS:NZ	2.39	0.46
18:2:1474:G:OP2	24:B:109:LYS:NZ	2.45	0.46
36:G:47:ARG:NH1	36:G:48:ASN:OD1	2.48	0.46
48:M:52:PHE:O	48:M:53:ASN:ND2	2.49	0.46
79:BU:11:TYR:CD1	79:BU:58:MET:HE3	2.50	0.46
18:2b:1025:A:O2'	18:2b:1773:C:O2'	2.27	0.46
22:Ab:207:THR:OG1	36:Gb:40:THR:OG1	2.25	0.46
29:Cb:1:MET:HA	29:Cb:1:MET:HE3	1.97	0.46
29:Cb:50:THR:HG22	29:Cb:55:VAL:HG13	1.97	0.46
37:Hb:24:GLY:HA2	37:Hb:58:ALA:HB3	1.97	0.46
41:bb:89:TRP:O	41:bb:93:LEU:HD23	2.14	0.46
49:gb:59:GLY:O	49:gb:61:SER:N	2.47	0.46
51:Ob:263:PHE:CZ	51:Ob:270:LEU:HD13	2.51	0.46
1:YQ:1231:A:C2'	1:YQ:1277:C:H41	2.28	0.46
1:YQ:1703:U:O4	1:YQ:1740:U:O2'	2.34	0.46
15:XM:91:CYS:SG	15:XM:92:GLU:N	2.89	0.46
17:XU:183:ALA:HA	17:XU:186:ALA:HB3	1.97	0.46
1:BQ:610:G:C8	6:BE:312:VAL:HG21	2.51	0.46
1:BQ:1175:C:O4'	17:AU:21:SER:OG	2.26	0.46
13:AG:17:LEU:HD12	13:AG:18:VAL:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:545:A:O4'	18:2:594:A:N6	2.49	0.46
18:2:568:G:N7	42:c:69:ARG:NH2	2.62	0.46
18:2:1297:G:N1	18:2:1300:A:OP2	2.46	0.46
25:T:48:TYR:OH	25:T:117:GLY:N	2.49	0.46
38:I:28:LEU:HD22	38:I:55:TYR:CE1	2.51	0.46
46:f:74:SER:OG	46:f:75:GLU:N	2.49	0.46
18:2b:1401:A:OP1	36:Gb:60:ARG:NH1	2.49	0.46
18:2b:1611:A:OP1	24:Bb:107:LYS:NZ	2.48	0.46
19:Pb:14:ALA:HA	19:Pb:17:LEU:HD12	1.96	0.46
37:Hb:4:VAL:HG21	44:Kb:82:HIS:CE1	2.51	0.46
39:Jb:26:LEU:HD23	39:Jb:114:VAL:HG22	1.98	0.46
44:Kb:88:ILE:HA	44:Kb:104:ALA:HB2	1.98	0.46
1:YQ:705:A:N7	63:XR:74:ASN:ND2	2.62	0.46
10:XA:77:GLN:HA	10:XA:229:VAL:HG11	1.98	0.46
10:XA:94:PHE:HB3	10:XA:189:LEU:HD11	1.98	0.46
16:XQ:136:ASP:OD1	16:XQ:138:GLN:NE2	2.49	0.46
1:BQ:126:U:OP1	16:AQ:144:ARG:NH1	2.46	0.46
1:BQ:213:A:N6	1:BQ:227:G:O2'	2.49	0.46
1:BQ:2941:A:OP1	1:BQ:2943:G:O2'	2.33	0.46
1:BQ:3325:G:OP1	66:BC:70:ARG:NH1	2.49	0.46
17:AU:11:GLY:N	17:AU:36:VAL:O	2.46	0.46
21:R:114:GLY:N	21:R:132:ALA:HB2	2.30	0.46
29:C:6:GLU:OE1	29:C:6:GLU:N	2.44	0.46
33:Z:63:ALA:O	33:Z:67:VAL:HG23	2.16	0.46
37:H:26:ILE:O	37:H:58:ALA:N	2.49	0.46
37:H:37:GLY:HA3	37:H:105:VAL:HG11	1.98	0.46
60:AH:63:ILE:HD11	60:AH:84:PHE:CD1	2.51	0.46
62:AN:77:TYR:HA	62:AN:80:LEU:HD12	1.97	0.46
18:2b:18:C:O2'	42:cb:109:ARG:NH1	2.49	0.46
18:2b:1206:U:O2	48:Mb:27:HIS:NE2	2.49	0.46
25:Tb:57:ASP:OD1	25:Tb:60:GLY:N	2.48	0.46
51:Ob:223:TRP:CZ3	51:Ob:230:ALA:HB2	2.51	0.46
1:YQ:520:U:O4	6:YE:347:THR:OG1	2.25	0.46
1:YQ:836:A:N7	1:YQ:856:G:N2	2.64	0.46
1:YQ:2711:C:O2'	1:YQ:2744:U:OP1	2.33	0.46
1:BQ:29:C:O3'	16:AQ:172:ARG:NH1	2.48	0.45
1:BQ:1071:U:HO2'	1:BQ:1072:G:P	2.33	0.45
1:BQ:2157:G:N2	1:BQ:2178:A:OP2	2.44	0.45
10:AA:71:VAL:HG12	10:AA:72:PRO:O	2.16	0.45
10:AA:107:GLU:O	10:AA:110:THR:OG1	2.27	0.45
10:AA:211:LEU:O	10:AA:215:VAL:HG23	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AG:118:PRO:HB3	37:H:14:ILE:HG23	1.97	0.45
15:AM:22:LEU:HD12	15:AM:31:LYS:O	2.16	0.45
16:AQ:99:ARG:NH2	16:AQ:117:ASN:OD1	2.49	0.45
18:2:125:U:OP1	25:T:201:GLN:NE2	2.48	0.45
18:2:538:A:O2'	18:2:539:G:N7	2.48	0.45
21:R:53:ILE:HD11	21:R:73:LEU:HB2	1.98	0.45
22:A:17:PHE:CZ	22:A:21:LEU:HD11	2.52	0.45
22:A:116:ARG:NH1	84:l:57:U:O4	2.42	0.45
24:B:92:ARG:NH2	24:B:169:ASN:OD1	2.49	0.45
55:BH:12:ARG:NE	55:BH:57:GLU:OE1	2.39	0.45
18:2b:194:U:O2'	18:2b:195:G:O4'	2.34	0.45
20:Qb:175:GLU:OE2	20:Qb:187:LYS:NZ	2.42	0.45
21:Rb:111:VAL:HG13	21:Rb:191:ALA:HA	1.98	0.45
32:Yb:30:SER:OG	32:Yb:66:ILE:O	2.34	0.45
1:YQ:375:A:O5'	61:XK:89:LYS:NZ	2.49	0.45
1:YQ:1438:U:OP1	6:YE:76:ARG:NH2	2.46	0.45
1:YQ:2745:G:N2	1:YQ:2748:A:OP2	2.43	0.45
1:YQ:3108:G:N3	11:XD:163:GLN:NE2	2.60	0.45
6:YE:339:LEU:HA	6:YE:342:LYS:HB2	1.97	0.45
9:YO:88:ARG:NH1	9:YO:108:LEU:O	2.48	0.45
13:XG:14:ILE:HG13	13:XG:131:MET:HE1	1.98	0.45
62:XN:9:LYS:HB3	62:XN:25:ILE:HD12	1.98	0.45
1:BQ:2562:A:O2'	10:AA:28:HIS:O	2.29	0.45
1:BQ:2657:A:OP1	77:AP:98:LYS:NZ	2.36	0.45
1:BQ:2764:C:H42	81:m:75:A:H2'	1.82	0.45
7:BI:163:LEU:HD11	7:BI:173:VAL:HG11	1.97	0.45
18:2:782:U:O4	43:d:49:LYS:NZ	2.50	0.45
18:2:1523:G:O2'	18:2:1524:A:OP1	2.27	0.45
18:2:1583:A:OP1	35:F:135:ARG:NH2	2.46	0.45
21:R:239:PRO:HA	21:R:242:ILE:HD13	1.98	0.45
22:A:210:GLU:OE2	36:G:19:ARG:NH1	2.49	0.45
29:C:38:LYS:O	29:C:42:VAL:HG23	2.16	0.45
31:D:62:LEU:HD23	31:D:62:LEU:H	1.81	0.45
35:F:101:SER:O	35:F:105:LEU:HD13	2.16	0.45
39:J:28:SER:OG	39:J:111:GLY:O	2.29	0.45
18:2b:237:C:H5''	18:2b:238:U:H5'	1.99	0.45
36:Gb:66:VAL:HB	36:Gb:69:ILE:HD11	1.97	0.45
37:Hb:86:LEU:HD23	37:Hb:98:TYR:N	2.32	0.45
39:Jb:35:GLU:OE1	39:Jb:89:ARG:NH1	2.49	0.45
44:Kb:104:ALA:O	44:Kb:105:THR:OG1	2.29	0.45
1:YQ:977:C:OP1	53:YB:141:ARG:NH1	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:3105:U:OP2	1:YQ:3128:G:N1	2.45	0.45
6:YE:37:THR:O	6:YE:40:THR:OG1	2.34	0.45
6:YE:229:ASN:OD1	6:YE:230:VAL:N	2.49	0.45
11:XD:4:ILE:HG22	15:XM:41:GLN:HE21	1.82	0.45
11:XD:103:ILE:HD11	11:XD:134:ILE:HG21	1.98	0.45
15:XM:58:ILE:HD11	15:XM:62:GLN:HB3	1.98	0.45
52:XX:38:GLY:N	52:XX:114:VAL:HG13	2.30	0.45
63:XR:82:ILE:HG21	63:XR:87:ARG:HA	1.98	0.45
68:YK:56:SER:O	68:YK:63:LYS:NZ	2.45	0.45
77:XP:92:GLU:C	77:XP:93:LEU:HD12	2.41	0.45
1:BQ:1065:A:O3'	64:AV:28:LYS:NZ	2.44	0.45
1:BQ:1348:U:O5'	53:BB:38:ARG:NH2	2.45	0.45
1:BQ:1492:G:O6	74:AL:2:ALA:N	2.49	0.45
17:AU:113:ASP:OD1	17:AU:114:LYS:N	2.49	0.45
18:2:126:A:N1	18:2:263:C:O2'	2.44	0.45
18:2:1597:A:C2	48:M:13:ARG:C	2.95	0.45
18:2:1678:A:OP2	27:V:42:ARG:NH2	2.46	0.45
23:S:104:ASP:N	23:S:108:ARG:O	2.43	0.45
26:U:126:LEU:CD2	26:U:135:ILE:HD11	2.46	0.45
27:V:188:GLU:OE2	30:X:15:LYS:NZ	2.32	0.45
34:E:17:TYR:N	34:E:20:VAL:O	2.47	0.45
46:f:61:THR:HG23	46:f:62:ILE:H	1.80	0.45
51:O:89:LEU:HD21	51:O:110:VAL:HG11	1.99	0.45
18:2b:788:A:OP2	23:Sb:108:ARG:NH1	2.50	0.45
18:2b:1442:U:O4'	18:2b:1447:C:N4	2.50	0.45
21:Rb:78:ASP:CB	21:Rb:104:VAL:HG12	2.46	0.45
23:Sb:44:LEU:HD12	23:Sb:79:ASP:O	2.16	0.45
28:Wb:106:GLU:HA	28:Wb:111:THR:HG21	1.98	0.45
31:Db:89:ILE:HG23	31:Db:90:LYS:H	1.81	0.45
39:Jb:95:ALA:HB1	39:Jb:96:PRO:HD2	1.99	0.45
51:Ob:37:SER:OG	51:Ob:38:ARG:N	2.49	0.45
1:YQ:3205:G:OP2	1:YQ:3206:C:N4	2.49	0.45
52:XX:2:ALA:O	52:XX:18:ARG:NH2	2.49	0.45
81:m:36:C:H42	81:m:37:A:N6	2.14	0.45
1:BQ:687:U:OP2	14:AJ:36:ARG:NH2	2.47	0.45
1:BQ:1078:U:N3	1:BQ:1081:U:OP2	2.42	0.45
1:BQ:1132:C:HO2'	1:BQ:2865:U:HO2'	1.54	0.45
4:AW:35:ALA:O	4:AW:39:GLY:N	2.48	0.45
4:AW:132:ASN:O	4:AW:169:ILE:HD12	2.17	0.45
18:2:324:U:C1'	18:2:346:G:H21	2.29	0.45
18:2:434:G:N2	18:2:437:A:OP2	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:584:C:O2'	49:g:18:THR:HG21	2.16	0.45
18:2:878:G:OP1	18:2:943:C:O2'	2.27	0.45
18:2:1297:G:N2	18:2:1300:A:OP2	2.46	0.45
18:2:1477:G:OP1	38:I:45:MET:N	2.45	0.45
24:B:20:PHE:O	24:B:21:THR:OG1	2.23	0.45
31:D:62:LEU:HD22	31:D:88:LEU:HD11	1.99	0.45
34:E:20:VAL:HG21	34:E:36:LEU:HD13	1.99	0.45
51:O:177:MET:SD	51:O:179:LYS:NZ	2.87	0.45
18:2b:1234:A:OP2	18:2b:1245:G:O2'	2.13	0.45
22:Ab:209:ILE:O	36:Gb:20:TYR:OH	2.23	0.45
23:Sb:103:TYR:CE2	23:Sb:189:LEU:HD11	2.51	0.45
23:Sb:195:ILE:O	23:Sb:197:HIS:N	2.49	0.45
24:Bb:37:GLN:O	24:Bb:41:LYS:NZ	2.48	0.45
37:Hb:83:ALA:O	37:Hb:89:GLN:NE2	2.49	0.45
43:db:51:GLU:O	43:db:53:ASP:N	2.46	0.45
48:Mb:31:ILE:HG21	48:Mb:43:PHE:CZ	2.51	0.45
1:YQ:1236:G:O2'	1:YQ:1237:G:OP1	2.26	0.45
1:YQ:1833:G:O3'	74:XL:5:LYS:NZ	2.49	0.45
1:YQ:2183:A:O2'	4:XW:236:GLY:N	2.46	0.45
1:YQ:2991:A:H2	52:XX:69:ARG:HH22	1.64	0.45
12:YD:218:ALA:O	12:YD:220:GLN:N	2.50	0.45
15:XM:22:LEU:HD12	15:XM:23:ILE:N	2.31	0.45
53:YB:176:ARG:O	63:XR:51:GLY:N	2.48	0.45
66:YC:88:PRO:C	66:YC:89:LEU:HD12	2.41	0.45
71:XC:2:THR:OG1	71:XC:3:VAL:N	2.49	0.45
1:BQ:1627:U:O2'	1:BQ:1813:A:N7	2.44	0.45
1:BQ:3041:U:OP1	58:AB:12:ARG:NH1	2.48	0.45
3:BS:37:A:OP1	70:BP:89:ARG:NH2	2.50	0.45
13:AG:141:ARG:O	13:AG:145:LYS:NZ	2.45	0.45
18:2:1060:U:N3	18:2:1061:A:N3	2.65	0.45
18:2:1236:A:C1'	50:N:138:ARG:HH12	2.29	0.45
22:A:60:GLY:N	22:A:64:ARG:O	2.40	0.45
23:S:195:ILE:O	23:S:197:HIS:N	2.49	0.45
36:G:40:THR:O	36:G:40:THR:OG1	2.33	0.45
40:a:66:ASP:OD2	40:a:67:ASP:N	2.50	0.45
52:AX:5:GLY:N	52:AX:147:GLU:OE2	2.49	0.45
55:BH:81:TYR:HE1	55:BH:90:MET:HE3	1.82	0.45
61:AK:87:LYS:N	61:AK:97:ILE:HD11	2.31	0.45
62:AN:42:LEU:HG	62:AN:74:VAL:HG22	1.98	0.45
18:2b:1593:A:O3'	48:Mb:33:LYS:NZ	2.50	0.45
35:Fb:31:VAL:O	35:Fb:34:SER:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Ob:135:THR:CG2	51:Ob:141:LEU:HD21	2.47	0.45
1:YQ:1446:A:N6	1:YQ:2357:A:OP2	2.45	0.45
1:YQ:1467:A:N6	1:YQ:1511:U:O2'	2.45	0.45
15:XM:21:VAL:HA	15:XM:66:THR:HG23	1.99	0.45
16:XQ:121:VAL:HG11	16:XQ:131:GLU:HG3	1.97	0.45
16:XQ:187:ARG:O	16:XQ:190:THR:OG1	2.28	0.45
82:nb:18:G:N1	82:nb:57:G:N7	2.64	0.45
1:BQ:2218:G:OP2	71:AC:68:ARG:NH1	2.50	0.45
1:BQ:2531:C:N4	1:BQ:2548:C:H42	2.15	0.45
1:BQ:3050:U:O2'	59:AE:16:GLY:O	2.31	0.45
5:BA:296:THR:O	5:BA:300:ARG:NH1	2.47	0.45
18:2:126:A:H62	18:2:291:G:H21	1.64	0.45
18:2:913:G:HO2'	18:2:914:G:P	2.39	0.45
18:2:1321:A:N7	19:P:131:GLN:NE2	2.57	0.45
77:AP:74:CYS:SG	77:AP:77:CYS:N	2.86	0.45
18:2b:1597:A:C2	48:Mb:13:ARG:C	2.94	0.45
18:2b:1714:A:OP1	59:XE:70:LYS:NZ	2.43	0.45
22:Ab:168:ILE:HG22	22:Ab:189:MET:HA	1.99	0.45
24:Bb:110:ALA:HA	24:Bb:113:ILE:HD12	1.97	0.45
39:Jb:96:PRO:O	39:Jb:100:VAL:HG23	2.17	0.45
1:YQ:3163:A:N6	1:YQ:3288:G:O6	2.50	0.45
5:YA:277:SER:OG	5:YA:280:HIS:NE2	2.42	0.45
54:YF:86:GLU:OE1	54:YF:91:SER:OG	2.16	0.45
1:BQ:1529:A:OP2	1:BQ:1592:G:N2	2.49	0.45
10:AA:97:TYR:OH	10:AA:204:ARG:N	2.44	0.45
11:AD:61:GLY:O	11:AD:65:VAL:HG23	2.17	0.45
14:AJ:76:THR:O	14:AJ:76:THR:OG1	2.35	0.45
18:2:610:G:OP2	30:X:96:LYS:NZ	2.49	0.45
57:BL:19:VAL:O	57:BL:23:THR:OG1	2.28	0.45
68:BK:31:LYS:NZ	68:BK:78:SER:O	2.50	0.45
18:2b:697:C:HO2'	18:2b:698:U:P	2.39	0.45
23:Sb:176:ASP:OD1	23:Sb:176:ASP:N	2.50	0.45
1:YQ:728:G:O6	1:YQ:742:G:N2	2.50	0.45
1:YQ:1339:C:OP1	67:YG:61:LYS:NZ	2.50	0.45
1:YQ:3258:U:O2'	1:YQ:3260:G:OP1	2.28	0.45
62:XN:22:LYS:NZ	62:XN:132:SER:O	2.35	0.45
63:XR:15:VAL:O	63:XR:16:SER:OG	2.35	0.45
1:BQ:1063:G:O6	56:BJ:109:VAL:HG13	2.16	0.45
1:BQ:1631:C:OP2	62:AN:48:ARG:NH2	2.47	0.45
2:BR:40:C:O2	13:AG:72:ARG:NE	2.37	0.45
6:BE:334:PHE:HA	6:BE:339:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AA:190:VAL:O	10:AA:190:VAL:HG12	2.17	0.45
16:AQ:14:LYS:HA	16:AQ:19:LEU:HD22	1.97	0.45
18:2:192:U:O2'	18:2:193:U:O4'	2.34	0.45
18:2:542:A:O2'	18:2:543:C:O5'	2.34	0.45
19:P:11:PRO:O	19:P:14:ALA:HB3	2.17	0.45
25:T:38:GLY:H	59:AE:74:LYS:N	2.14	0.45
38:I:128:GLY:O	38:I:132:LEU:HD23	2.17	0.45
18:2b:150:U:OP1	43:db:123:LYS:NZ	2.40	0.45
18:2b:1445:G:C4	50:Nb:91:ILE:HD11	2.52	0.45
19:Pb:83:GLN:HG2	19:Pb:99:ALA:HB1	1.99	0.45
21:Rb:109:GLY:N	21:Rb:191:ALA:O	2.50	0.45
33:Zb:58:TYR:CE1	33:Zb:61:MET:HE1	2.52	0.45
35:Fb:117:LEU:N	35:Fb:117:LEU:HD23	2.31	0.45
1:YQ:107:A:O2'	1:YQ:324:A:N3	2.41	0.45
1:YQ:1632:A:OP1	62:XN:69:LYS:NZ	2.47	0.45
1:YQ:2111:G:C8	59:XE:49:ILE:HD13	2.52	0.45
1:YQ:2657:A:OP2	77:XP:100:LYS:NZ	2.37	0.45
6:YE:326:ARG:HD2	6:YE:327:LEU:HD22	1.98	0.45
10:XA:206:GLU:OE1	10:XA:206:GLU:N	2.44	0.45
9:BO:53:LYS:O	9:BO:57:THR:HG23	2.17	0.45
11:AD:37:ASN:O	11:AD:38:LEU:HD23	2.17	0.45
14:AJ:77:LEU:H	14:AJ:77:LEU:HD12	1.81	0.45
14:AJ:134:GLU:O	14:AJ:135:ALA:HB2	2.16	0.45
16:AQ:155:VAL:O	16:AQ:162:ARG:NH1	2.43	0.45
18:2:1089:U:O2'	18:2:1093:A:N1	2.41	0.45
21:R:153:SER:OG	21:R:195:ASP:O	2.24	0.45
28:W:106:GLU:O	28:W:111:THR:OG1	2.30	0.45
46:f:6:ASP:CG	46:f:9:HIS:HD1	2.23	0.45
58:AB:127:PRO:HA	58:AB:130:ALA:HB3	1.98	0.45
62:AN:21:LYS:NZ	62:AN:47:GLU:O	2.37	0.45
18:2b:389:G:H3'	18:2b:390:G:H21	1.80	0.45
18:2b:781:U:OP2	43:db:9:THR:OG1	2.27	0.45
18:2b:823:G:O2'	18:2b:824:G:O4'	2.28	0.45
18:2b:1492:A:O2'	18:2b:1493:A:O5'	2.35	0.45
44:Kb:66:VAL:HG22	44:Kb:71:ILE:HG23	1.99	0.45
45:eb:87:ARG:NH2	45:eb:91:ASP:O	2.49	0.45
1:YQ:533:A:N1	1:YQ:560:G:N2	2.65	0.45
1:YQ:1505:C:OP1	52:XX:23:ARG:NH2	2.50	0.45
1:YQ:2157:G:N1	1:YQ:2178:A:OP2	2.45	0.45
5:YA:369:ARG:NE	59:XE:32:GLN:OE1	2.49	0.45
52:XX:30:ARG:NH1	52:XX:31:GLU:OE2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:XX:32:THR:O	52:XX:35:ALA:HB3	2.16	0.45
57:YL:11:ILE:N	57:YL:11:ILE:HD12	2.32	0.45
73:XI:45:VAL:O	73:XI:51:LEU:HD12	2.17	0.45
1:BQ:1018:G:N2	1:BQ:1034:U:O2	2.47	0.45
4:AW:50:HIS:CB	78:AT:51:ALA:HB1	2.47	0.45
8:BM:66:SER:OG	8:BM:138:GLN:NE2	2.49	0.45
10:AA:68:ARG:NE	10:AA:237:ILE:O	2.50	0.45
18:2:74:U:C6	59:AE:116:LYS:HA	2.52	0.45
18:2:1451:C:O2'	18:2:1452:U:OP1	2.25	0.45
18:2:1584:G:N2	18:2:1611:A:OP2	2.47	0.45
21:R:237:VAL:O	21:R:237:VAL:HG12	2.17	0.45
36:G:33:ARG:NE	51:O:109:ASP:OD1	2.50	0.45
44:K:66:VAL:HG22	44:K:71:ILE:HG23	1.99	0.45
51:O:264:SER:N	51:O:271:VAL:HG23	2.32	0.45
72:AF:17:THR:N	72:AF:27:PHE:O	2.49	0.45
19:Pb:105:GLY:N	19:Pb:135:GLU:OE2	2.50	0.45
21:Rb:173:PRO:O	21:Rb:176:SER:OG	2.26	0.45
23:Sb:64:ILE:HD11	43:db:18:LEU:HD11	1.98	0.45
25:Tb:67:VAL:O	25:Tb:67:VAL:HG23	2.17	0.45
32:Yb:13:SER:OG	32:Yb:14:SER:N	2.50	0.45
37:Hb:112:ASP:OD1	37:Hb:115:ARG:NH2	2.50	0.45
38:Ib:57:ARG:O	38:Ib:61:VAL:HG23	2.16	0.45
44:Kb:90:LYS:NZ	44:Kb:103:ARG:O	2.49	0.45
1:YQ:1480:G:N1	1:YQ:1872:C:OP2	2.48	0.45
3:YS:84:C:O3'	61:XK:113:LYS:NZ	2.50	0.45
6:YE:42:VAL:HG12	6:YE:236:LEU:HD21	1.98	0.45
1:BQ:148:G:O2'	1:BQ:149:U:OP2	2.32	0.44
1:BQ:1003:A:N1	1:BQ:1049:C:O2'	2.39	0.44
12:BD:86:HIS:HB3	12:BD:139:ARG:HG2	1.99	0.44
18:2:514:G:H1	18:2:543:C:H41	1.65	0.44
18:2:600:U:O4	18:2:601:A:N6	2.50	0.44
22:A:72:LEU:HG	29:C:20:VAL:HG21	1.99	0.44
22:A:204:ASP:OD1	22:A:204:ASP:N	2.50	0.44
30:X:3:THR:OG1	30:X:4:GLU:N	2.49	0.44
30:X:101:GLU:OE2	42:c:16:ARG:NH2	2.47	0.44
31:D:45:LEU:CD1	50:N:102:VAL:HG23	2.47	0.44
31:D:63:VAL:HG21	31:D:66:VAL:HG13	1.99	0.44
45:e:37:LYS:O	45:e:38:ARG:NE	2.49	0.44
64:AV:51:ALA:HB3	64:AV:52:LYS:HZ2	1.83	0.44
69:BN:105:VAL:O	69:BN:109:THR:HG23	2.17	0.44
18:2b:782:U:H4'	18:2b:783:G:H5''	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:9:U:OP1	16:XQ:41:ARG:NH2	2.49	0.44
1:YQ:1103:A:HO2'	1:YQ:1104:G:P	2.35	0.44
1:YQ:1508:C:OP1	52:XX:127:ARG:NH2	2.50	0.44
1:YQ:2768:U:O2	77:XP:82:GLN:NE2	2.47	0.44
6:YE:188:ARG:NE	6:YE:197:ARG:O	2.45	0.44
7:YI:65:ILE:HD13	7:YI:74:VAL:HA	1.99	0.44
9:BO:144:ILE:HD12	9:BO:189:ILE:HD12	2.00	0.44
18:2:484:C:O2'	18:2:485:A:OP1	2.34	0.44
18:2:1183:A:N6	18:2:1184:A:N1	2.65	0.44
18:2:1229:G:O2'	18:2:1255:G:N1	2.47	0.44
18:2:1504:G:OP1	38:I:97:SER:OG	2.31	0.44
41:b:31:SER:OG	41:b:34:ILE:HD12	2.17	0.44
45:e:44:ILE:H	45:e:44:ILE:HD12	1.82	0.44
73:AI:2:ALA:N	73:AI:51:LEU:O	2.50	0.44
18:2b:58:U:OP1	18:2b:456:A:O2'	2.31	0.44
18:2b:522:U:P	43:db:37:LYS:HZ3	2.41	0.44
18:2b:629:U:OP2	18:2b:969:C:N4	2.50	0.44
18:2b:823:G:O2'	18:2b:824:G:O5'	2.35	0.44
18:2b:1174:C:H42	18:2b:1465:C:N4	2.14	0.44
18:2b:1445:G:N9	50:Nb:91:ILE:HD11	2.32	0.44
51:Ob:90:ARG:NH2	51:Ob:102:ARG:HE	2.15	0.44
1:YQ:1308:A:O2'	1:YQ:1311:G:OP1	2.15	0.44
1:YQ:3178:A:C2	17:XU:6:VAL:HG11	2.52	0.44
1:YQ:3215:A:N7	15:XM:125:LYS:NZ	2.65	0.44
12:YD:31:ILE:HG22	12:YD:62:SER:OG	2.17	0.44
52:XX:11:PRO:O	52:XX:105:LYS:NZ	2.51	0.44
61:XK:71:SER:OG	61:XK:83:ASP:N	2.50	0.44
1:BQ:3232:G:N2	1:BQ:3255:U:O2	2.49	0.44
4:AW:89:TYR:N	4:AW:100:ASN:OD1	2.48	0.44
18:2:523:G:N2	18:2:528:U:OP2	2.46	0.44
18:2:967:A:OP2	32:Y:124:ARG:NH2	2.42	0.44
18:2:1281:G:H5''	39:J:78:THR:HG21	2.00	0.44
18:2:1487:A:OP1	48:M:34:TYR:OH	2.35	0.44
23:S:105:VAL:HG21	23:S:245:LYS:H	1.82	0.44
39:J:44:ASN:OD1	39:J:102:ARG:NH2	2.50	0.44
54:BF:10:LEU:HD12	54:BF:38:ARG:HG2	1.98	0.44
64:AV:57:ALA:O	64:AV:59:LYS:NZ	2.44	0.44
71:AC:63:ASN:O	71:AC:65:GLY:N	2.49	0.44
18:2b:1761:U:O2'	84:l:17:A:OP1	2.35	0.44
21:Rb:159:THR:OG1	21:Rb:167:VAL:O	2.14	0.44
37:Hb:131:LEU:CD2	37:Hb:145:ARG:HH22	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ib:38:LYS:O	38:Ib:39:THR:OG1	2.27	0.44
41:bb:57:ARG:NH2	46:fb:26:GLN:OE1	2.51	0.44
1:YQ:361:A:O3'	72:XF:45:ARG:NH2	2.49	0.44
1:YQ:515:C:O2'	6:YE:341:SER:O	2.36	0.44
1:YQ:776:U:OP1	64:XV:41:ARG:NH2	2.50	0.44
1:YQ:1258:U:O5'	79:YU:42:ARG:NH2	2.50	0.44
1:YQ:2888:U:O4'	1:YQ:2911:A:N6	2.51	0.44
1:YQ:3181:C:OP2	17:XU:171:LYS:NZ	2.45	0.44
3:YS:152:G:OP1	10:XA:60:ARG:NH2	2.46	0.44
14:XJ:132:ALA:N	14:XJ:134:GLU:OE1	2.51	0.44
77:XP:3:ASN:OD1	77:XP:4:VAL:N	2.49	0.44
1:BQ:835:G:O2'	1:BQ:836:A:OP2	2.35	0.44
1:BQ:2138:A:O2'	72:AF:3:LYS:N	2.49	0.44
1:BQ:3048:A:N6	1:BQ:3091:A:OP2	2.42	0.44
4:AW:43:GLY:O	4:AW:88:ILE:N	2.46	0.44
5:BA:86:VAL:HG22	5:BA:162:VAL:HG12	2.00	0.44
6:BE:126:ILE:HD11	6:BE:233:LEU:HD13	1.98	0.44
8:BM:55:LEU:HD12	8:BM:64:LEU:HD23	2.00	0.44
15:AM:112:LEU:O	15:AM:117:ARG:NH2	2.51	0.44
18:2:532:U:O2'	43:d:33:ALA:O	2.22	0.44
18:2:993:A:OP1	18:2:1777:G:N2	2.51	0.44
18:2:1241:G:N3	34:E:79:HIS:NE2	2.66	0.44
28:W:107:ARG:NH2	28:W:148:VAL:O	2.51	0.44
39:J:103:ILE:HA	39:J:106:ILE:HG22	2.00	0.44
42:c:130:VAL:HG23	42:c:131:SER:H	1.82	0.44
55:BH:42:TRP:NE1	55:BH:58:ILE:HD11	2.33	0.44
59:AE:40:PHE:O	59:AE:43:ARG:NH1	2.50	0.44
73:AI:45:VAL:O	73:AI:51:LEU:HD12	2.17	0.44
19:Pb:103:THR:O	19:Pb:103:THR:OG1	2.28	0.44
23:Sb:48:LEU:O	23:Sb:53:LYS:N	2.50	0.44
25:Tb:10:ASN:ND2	25:Tb:125:THR:O	2.50	0.44
27:Vb:138:ASN:OD1	27:Vb:139:ALA:N	2.49	0.44
42:cb:43:PHE:O	42:cb:45:GLY:N	2.48	0.44
1:YQ:3158:G:HO2'	1:YQ:3159:C:P	2.39	0.44
3:YS:156:U:O2'	3:YS:157:U:OP1	2.28	0.44
6:YE:206:LEU:HB2	6:YE:246:ARG:CD	2.47	0.44
12:YD:174:THR:HG23	12:YD:175:ASN:H	1.81	0.44
52:XX:177:ALA:HB1	52:XX:181:ARG:NH1	2.33	0.44
1:BQ:735:A:HO2'	1:BQ:736:A:P	2.41	0.44
1:BQ:3107:U:OP2	75:AO:112:LYS:NZ	2.45	0.44
3:BS:72:A:N6	3:BS:79:A:H61	2.14	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AG:147:THR:HG22	13:AG:148:VAL:H	1.82	0.44
24:B:33:VAL:HG12	24:B:37:GLN:NE2	2.33	0.44
24:B:91:GLU:OE1	24:B:107:LYS:NZ	2.43	0.44
32:Y:61:THR:OG1	32:Y:62:GLN:N	2.50	0.44
35:F:27:GLY:N	35:F:64:ASP:OD1	2.50	0.44
35:F:55:VAL:HG13	35:F:56:GLY:O	2.17	0.44
18:2b:714:G:H22	18:2b:725:U:H3	1.66	0.44
18:2b:1415:U:OP1	36:Gb:45:ARG:NH1	2.48	0.44
31:Db:45:LEU:O	31:Db:49:THR:HG23	2.16	0.44
37:Hb:92:ILE:HG23	37:Hb:93:THR:HG23	2.00	0.44
1:YQ:2418:G:OP2	1:YQ:2606:G:N2	2.47	0.44
11:XD:113:GLU:OE2	11:XD:115:ARG:NH2	2.50	0.44
11:XD:178:GLY:O	11:XD:179:ILE:HD13	2.17	0.44
12:YD:74:LYS:O	12:YD:78:THR:HG23	2.16	0.44
16:XQ:64:VAL:HG11	16:XQ:102:ALA:HB1	2.00	0.44
2:BR:109:G:O5'	7:BI:279:LYS:NZ	2.51	0.44
15:AM:38:ILE:HD13	55:BH:148:LEU:HD22	1.98	0.44
31:D:98:GLY:O	31:D:101:ALA:C	2.61	0.44
51:O:294:TRP:HA	51:O:301:LEU:HD12	1.99	0.44
53:BB:57:ILE:HD11	53:BB:147:ARG:CZ	2.48	0.44
18:2b:1334:U:O2'	39:Jb:85:ARG:NH2	2.48	0.44
19:Pb:66:ALA:HB1	40:ab:50:TYR:CD1	2.53	0.44
22:Ab:192:PRO:O	22:Ab:195:SER:OG	2.20	0.44
23:Sb:9:LEU:HD23	23:Sb:10:LYS:O	2.18	0.44
25:Tb:132:ARG:O	25:Tb:133:LEU:HD12	2.16	0.44
28:Wb:159:ALA:HB3	28:Wb:162:SER:OG	2.18	0.44
30:Xb:90:TYR:O	30:Xb:91:LEU:HD23	2.17	0.44
31:Db:63:VAL:HG21	31:Db:66:VAL:HG13	2.00	0.44
39:Jb:22:ILE:HD12	39:Jb:118:VAL:HA	2.00	0.44
51:Ob:23:LEU:HD11	51:Ob:304:GLY:H	1.81	0.44
1:YQ:1524:A:HO2'	1:YQ:1526:U:P	2.36	0.44
9:YO:189:ILE:HG23	9:YO:190:THR:HG23	1.99	0.44
54:YF:115:ILE:HG13	54:YF:119:LEU:HD23	1.99	0.44
56:YJ:62:GLY:HA3	56:YJ:76:ILE:HD13	2.00	0.44
1:BQ:116:A:OP2	71:AC:36:ARG:NH2	2.47	0.44
1:BQ:1024:G:N7	1:BQ:1027:A:N6	2.66	0.44
1:BQ:2794:G:H5'	81:m:75:A:H62	1.81	0.44
5:BA:56:ILE:HD13	5:BA:323:MET:HE1	1.98	0.44
6:BE:8:VAL:O	6:BE:16:THR:HG22	2.18	0.44
6:BE:266:THR:OG1	6:BE:267:VAL:N	2.50	0.44
18:2:1213:G:HO2'	18:2:1244:A:H62	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:31:ALA:HA	28:W:36:LEU:HD12	2.00	0.44
35:F:126:PRO:O	35:F:134:ALA:HB2	2.17	0.44
64:AV:32:LEU:O	64:AV:40:ARG:NH1	2.50	0.44
72:AF:50:GLY:O	72:AF:53:ALA:HB3	2.18	0.44
18:2b:139:C:O2'	18:2b:140:A:OP2	2.25	0.44
18:2b:328:A:OP2	30:Xb:56:LYS:NZ	2.22	0.44
18:2b:878:G:O2'	32:Yb:108:ASP:OD1	2.25	0.44
22:Ab:45:LYS:HA	22:Ab:83:THR:O	2.18	0.44
34:Eb:22:LEU:HA	34:Eb:25:LEU:HD12	2.00	0.44
35:Fb:82:ARG:NH1	35:Fb:114:ARG:O	2.51	0.44
48:Mb:21:CYS:N	48:Mb:26:SER:O	2.50	0.44
1:YQ:184:U:O3'	61:XK:121:ARG:NH1	2.51	0.44
1:YQ:1010:G:H22	1:YQ:1040:A:H2	1.65	0.44
17:XU:113:ASP:OD1	17:XU:114:LYS:N	2.51	0.44
63:XR:3:SER:O	63:XR:6:THR:N	2.40	0.44
1:BQ:240:U:O2'	1:BQ:241:G:O5'	2.35	0.44
1:BQ:817:A:OP1	72:AF:30:GLN:NE2	2.44	0.44
1:BQ:1693:C:O2'	1:BQ:1772:U:O3'	2.35	0.44
1:BQ:3192:U:OP1	17:AU:176:LYS:NZ	2.45	0.44
4:AW:117:GLU:OE2	4:AW:163:ARG:NE	2.39	0.44
18:2:151:G:O5'	43:d:127:LYS:NZ	2.49	0.44
18:2:897:C:H42	18:2:914:G:C2'	2.26	0.44
19:P:141:ILE:HG22	19:P:142:PRO:O	2.18	0.44
21:R:106:ASP:OD1	21:R:106:ASP:N	2.48	0.44
28:W:126:ARG:O	28:W:130:THR:HG23	2.18	0.44
35:F:117:LEU:N	35:F:117:LEU:HD23	2.33	0.44
19:Pb:41:ARG:NH2	36:Gb:124:VAL:HG11	2.32	0.44
19:Pb:198:MET:HE2	19:Pb:198:MET:HA	1.99	0.44
21:Rb:106:ASP:OD1	21:Rb:106:ASP:N	2.48	0.44
23:Sb:184:THR:C	23:Sb:189:LEU:HD13	2.43	0.44
25:Tb:10:ASN:O	25:Tb:129:VAL:N	2.49	0.44
36:Gb:109:LEU:HD11	36:Gb:113:LEU:HD21	2.00	0.44
1:YQ:286:U:O2'	16:XQ:179:LYS:O	2.35	0.44
1:YQ:873:C:H3'	1:YQ:874:U:H4'	2.00	0.44
1:YQ:996:A:N3	2:YR:80:G:O2'	2.50	0.44
13:XG:132:ASN:ND2	13:XG:133:ARG:O	2.51	0.44
52:XX:114:VAL:HG13	52:XX:114:VAL:O	2.18	0.44
82:nb:34:A:N6	84:l:21:A:H61	2.16	0.44
1:BQ:2425:G:OP2	16:AQ:90:ASN:ND2	2.48	0.44
4:AW:134:VAL:CG2	4:AW:150:LEU:HD23	2.48	0.44
10:AA:73:PRO:HA	10:AA:76:ALA:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:S:126:VAL:HG11	23:S:155:LYS:O	2.17	0.44
29:C:32:HIS:HD1	29:C:34:GLU:C	2.26	0.44
34:E:56:PHE:CZ	34:E:60:LEU:HD21	2.52	0.44
51:O:108:SER:OG	51:O:109:ASP:N	2.51	0.44
51:O:260:ILE:HB	51:O:274:LEU:HD12	1.99	0.44
51:O:300:THR:OG1	51:O:314:GLN:NE2	2.45	0.44
54:BF:102:LEU:O	54:BF:106:LEU:HD23	2.18	0.44
78:AT:4:ARG:O	78:AT:5:THR:HG23	2.18	0.44
18:2b:2:A:N3	21:Rb:199:GLN:NE2	2.66	0.44
18:2b:321:C:H42	18:2b:1667:A:P	2.41	0.44
18:2b:569:C:H41	42:cb:69:ARG:HH12	1.66	0.44
18:2b:1227:A:O2'	18:2b:1228:G:OP2	2.25	0.44
22:Ab:133:GLY:N	22:Ab:189:MET:O	2.48	0.44
29:Cb:16:PHE:CD1	29:Cb:76:LEU:HD22	2.53	0.44
38:Ib:116:ILE:HG22	38:Ib:117:SER:O	2.18	0.44
40:ab:17:CYS:O	40:ab:21:ASN:N	2.50	0.44
44:Kb:80:LEU:HD22	44:Kb:101:TYR:CE2	2.52	0.44
1:YQ:110:G:OP2	14:XJ:73:ARG:NH2	2.49	0.44
1:YQ:645:A:N6	1:YQ:2869:U:OP1	2.51	0.44
1:YQ:1204:A:N6	1:YQ:1300:G:O2'	2.43	0.44
58:XB:31:ALA:HB2	58:XB:69:LEU:CD2	2.47	0.44
61:XK:71:SER:N	61:XK:81:GLN:O	2.50	0.44
71:XC:83:ALA:O	71:XC:87:VAL:HG23	2.18	0.44
83:mb:37:U:H3	84:l:16:G:H22	1.66	0.44
1:BQ:223:U:OP1	1:BQ:224:C:N4	2.50	0.43
1:BQ:642:U:N3	1:BQ:645:A:OP2	2.44	0.43
1:BQ:1010:G:H22	1:BQ:1040:A:H2	1.65	0.43
1:BQ:3395:G:O2'	1:BQ:3396:U:OP2	2.31	0.43
2:BR:91:G:H22	12:BD:56:GLU:CD	2.26	0.43
9:BO:187:GLU:O	9:BO:191:VAL:HA	2.18	0.43
13:AG:101:ASN:OD1	13:AG:131:MET:N	2.47	0.43
16:AQ:18:VAL:HG13	16:AQ:19:LEU:HD12	1.99	0.43
18:2:1401:A:OP1	36:G:56:HIS:NE2	2.48	0.43
19:P:19:ALA:HB3	36:G:91:LEU:HD22	2.00	0.43
19:P:30:GLN:O	19:P:32:HIS:N	2.51	0.43
23:S:172:PHE:C	23:S:173:ILE:HD12	2.42	0.43
25:T:141:ILE:HG21	25:T:153:VAL:HB	1.99	0.43
36:G:28:PHE:CE1	36:G:51:ALA:HB3	2.53	0.43
43:d:8:ARG:NE	43:d:28:LEU:HD11	2.33	0.43
65:AY:17:VAL:O	65:AY:21:GLY:N	2.45	0.43
18:2b:190:C:H41	27:Vb:137:LYS:HD2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Sb:89:VAL:O	23:Sb:89:VAL:HG12	2.17	0.43
23:Sb:195:ILE:O	23:Sb:195:ILE:HG22	2.18	0.43
27:Vb:135:LYS:N	27:Vb:140:GLU:OE2	2.51	0.43
38:Ib:6:VAL:HG22	38:Ib:66:TYR:CE1	2.53	0.43
47:Lb:66:LEU:HD23	47:Lb:67:ARG:N	2.32	0.43
1:YQ:1269:U:N3	1:YQ:1272:C:OP2	2.44	0.43
16:XQ:124:ASP:OD1	16:XQ:127:TYR:N	2.40	0.43
56:YJ:86:GLU:OE1	56:YJ:88:ARG:NH1	2.51	0.43
62:XN:25:ILE:HG22	62:XN:26:VAL:N	2.32	0.43
63:XR:77:LYS:O	63:XR:79:TRP:N	2.51	0.43
1:BQ:361:A:O3'	72:AF:45:ARG:NH2	2.52	0.43
1:BQ:992:A:N6	1:BQ:993:G:O6	2.51	0.43
1:BQ:1764:U:H3'	1:BQ:1765:U:H5''	2.00	0.43
2:BR:96:U:OP1	55:BH:43:TYR:OH	2.34	0.43
18:2:1229:G:O6	31:D:46:ARG:N	2.51	0.43
25:T:161:GLU:OE1	59:AE:104:ASN:ND2	2.51	0.43
37:H:87:ASN:OD1	37:H:88:ARG:N	2.51	0.43
51:O:222:LEU:HD23	51:O:234:LEU:HD13	1.99	0.43
63:AR:73:LEU:HB3	63:AR:112:ILE:HD13	2.00	0.43
18:2b:97:C:O2	18:2b:425:A:O2'	2.35	0.43
18:2b:557:G:O3'	49:gb:55:ARG:NH2	2.51	0.43
18:2b:1523:G:OP1	38:Ib:78:LYS:NZ	2.44	0.43
19:Pb:84:ARG:NH2	19:Pb:200:ASP:O	2.51	0.43
27:Vb:95:THR:C	27:Vb:96:LEU:HD23	2.42	0.43
1:YQ:726:G:N2	1:YQ:743:C:OP2	2.50	0.43
1:YQ:1392:G:O2'	1:YQ:1393:A:OP2	2.30	0.43
1:YQ:3214:U:O4	15:XM:124:ARG:NH1	2.49	0.43
5:YA:46:PHE:N	5:YA:338:LEU:O	2.50	0.43
6:YE:135:VAL:HG12	6:YE:140:HIS:HB2	1.99	0.43
52:XX:56:ARG:O	52:XX:83:TRP:NE1	2.50	0.43
53:YB:153:PHE:O	53:YB:161:LYS:NZ	2.41	0.43
55:YH:42:TRP:HE1	55:YH:58:ILE:HD11	1.82	0.43
63:XR:65:GLN:O	63:XR:66:ALA:HB3	2.18	0.43
66:YC:82:GLU:OE2	66:YC:83:GLU:N	2.51	0.43
1:BQ:853:G:N7	78:AT:2:ALA:HB2	2.33	0.43
1:BQ:1390:A:N6	1:BQ:1418:A:O2'	2.47	0.43
1:BQ:1900:A:O2'	1:BQ:1906:G:N7	2.39	0.43
4:AW:111:THR:HG22	4:AW:112:ILE:N	2.33	0.43
10:AA:81:THR:HG23	10:AA:82:LEU:H	1.83	0.43
18:2:104:A:N6	18:2:308:C:O5'	2.50	0.43
18:2:327:U:O3'	30:X:14:GLN:NE2	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:AN:51:LEU:HD12	62:AN:65:ARG:HD2	2.00	0.43
79:BU:27:VAL:HG22	79:BU:86:PHE:CE1	2.53	0.43
18:2b:613:G:OP2	18:2b:1099:U:O2'	2.25	0.43
18:2b:933:A:OP1	45:eb:70:LYS:NZ	2.37	0.43
19:Pb:96:THR:HG23	19:Pb:96:THR:O	2.19	0.43
34:Eb:126:VAL:HG13	34:Eb:127:ARG:HG3	1.99	0.43
42:cb:130:VAL:HG23	42:cb:131:SER:H	1.82	0.43
1:YQ:336:A:OP2	61:XK:9:SER:OG	2.24	0.43
1:YQ:1144:U:OP2	67:YG:43:ARG:NH2	2.47	0.43
1:YQ:2201:G:H21	4:XW:224:THR:HG21	1.82	0.43
3:YS:152:G:P	10:XA:60:ARG:HE	2.40	0.43
4:XW:34:TYR:CE2	10:XA:36:ILE:HD11	2.54	0.43
10:XA:90:THR:CG2	10:XA:214:LEU:HD22	2.48	0.43
69:YN:16:ARG:HE	69:YN:16:ARG:N	2.17	0.43
1:BQ:785:G:O4'	53:BB:92:ARG:NH1	2.52	0.43
1:BQ:1236:G:N2	1:BQ:1244:A:OP1	2.51	0.43
6:BE:334:PHE:CG	6:BE:339:LEU:HD11	2.53	0.43
7:BI:177:GLU:OE1	7:BI:177:GLU:N	2.51	0.43
14:AJ:75:PHE:O	14:AJ:76:THR:OG1	2.34	0.43
18:2:446:A:N6	18:2:461:G:H21	2.17	0.43
18:2:1597:A:C5	48:M:13:ARG:O	2.72	0.43
25:T:145:PHE:CB	25:T:147:LEU:HD21	2.47	0.43
37:H:101:LEU:O	37:H:104:ASN:N	2.51	0.43
39:J:56:VAL:HG21	39:J:90:TYR:CE1	2.53	0.43
18:2b:145:A:N6	18:2b:169:A:H62	2.15	0.43
18:2b:232:U:O2'	18:2b:234:G:O6	2.20	0.43
18:2b:1553:G:N3	18:2b:1555:A:C8	2.87	0.43
18:2b:1584:G:O2'	18:2b:1610:G:O6	2.34	0.43
22:Ab:65:ARG:O	22:Ab:69:LEU:HD13	2.18	0.43
32:Yb:119:GLU:HA	32:Yb:122:ILE:HD12	2.00	0.43
48:Mb:43:PHE:O	48:Mb:47:ALA:HB2	2.17	0.43
51:Ob:302:PHE:CD1	51:Ob:312:VAL:HG22	2.53	0.43
1:YQ:1186:G:OP2	15:XM:42:LYS:NZ	2.23	0.43
1:YQ:1237:G:N7	1:YQ:1263:A:O2'	2.37	0.43
1:YQ:1721:U:O4	54:YF:128:LYS:NZ	2.51	0.43
5:YA:166:ILE:O	5:YA:169:THR:HG22	2.18	0.43
52:XX:84:PRO:O	52:XX:88:VAL:HG23	2.19	0.43
61:XK:18:ALA:O	61:XK:22:ALA:HB2	2.18	0.43
71:XC:3:VAL:O	71:XC:3:VAL:HG13	2.18	0.43
74:XL:27:ILE:O	74:XL:33:ASN:ND2	2.49	0.43
78:XT:14:TYR:OH	78:XT:30:GLU:OE1	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:XT:55:TRP:CG	78:XT:71:VAL:HG22	2.53	0.43
1:BQ:1046:A:O2'	1:BQ:1048:A:OP2	2.18	0.43
1:BQ:1592:G:OP1	69:BN:58:ARG:NH2	2.52	0.43
1:BQ:1703:U:N3	1:BQ:1740:U:O2	2.51	0.43
1:BQ:2841:G:N2	1:BQ:2898:G:O6	2.51	0.43
1:BQ:3021:A:H61	1:BQ:3032:A:H3'	1.82	0.43
1:BQ:3163:A:N6	1:BQ:3288:G:O6	2.51	0.43
4:AW:172:GLY:O	4:AW:174:ARG:N	2.46	0.43
18:2:539:G:N2	18:2:540:G:O6	2.42	0.43
28:W:17:ARG:O	28:W:23:ARG:NH2	2.49	0.43
30:X:5:LEU:HD11	30:X:7:VAL:O	2.18	0.43
52:AX:131:ARG:NH1	52:AX:137:ASN:OD1	2.49	0.43
70:BP:38:ARG:HG2	70:BP:39:PRO:HD2	1.99	0.43
18:2b:190:C:H1'	18:2b:191:C:H5'	2.00	0.43
18:2b:512:A:N3	28:Wb:131:GLN:NE2	2.62	0.43
18:2b:1369:U:OP2	38:Ib:69:LYS:NZ	2.52	0.43
18:2b:1613:U:OP1	24:Bb:92:ARG:NH2	2.44	0.43
21:Rb:76:LEU:HD21	21:Rb:105:GLY:N	2.32	0.43
21:Rb:105:GLY:HA3	21:Rb:111:VAL:HG12	1.99	0.43
24:Bb:111:VAL:HG11	35:Fb:43:ILE:CG2	2.43	0.43
26:Ub:15:GLU:OE2	26:Ub:15:GLU:N	2.48	0.43
26:Ub:105:THR:O	26:Ub:107:ARG:NH2	2.47	0.43
36:Gb:21:TYR:CD1	36:Gb:58:MET:HE1	2.54	0.43
44:Kb:50:ILE:O	44:Kb:54:VAL:HG23	2.19	0.43
1:YQ:364:G:O6	72:XF:56:ARG:NE	2.46	0.43
1:YQ:2255:A:N7	1:YQ:2260:U:O4	2.51	0.43
1:YQ:3356:G:O2'	1:YQ:3357:U:OP1	2.28	0.43
13:XG:75:LYS:O	13:XG:79:ILE:HD12	2.18	0.43
52:XX:47:TYR:OH	52:XX:57:ALA:O	2.28	0.43
70:YP:6:ALA:HB2	70:YP:53:CYS:SG	2.59	0.43
80:n:55:U:O2'	80:n:57:A:N7	2.48	0.43
1:BQ:338:A:OP1	6:BE:48:GLN:N	2.46	0.43
1:BQ:1545:A:N7	16:AQ:105:ARG:NH1	2.65	0.43
18:2:195:G:H2'	18:2:196:G:H5'	2.00	0.43
18:2:706:A:N1	18:2:734:A:N6	2.66	0.43
33:Z:47:LYS:NZ	33:Z:66:ASP:OD2	2.46	0.43
34:E:71:GLU:N	34:E:71:GLU:OE2	2.51	0.43
35:F:115:THR:HG23	35:F:118:ILE:O	2.18	0.43
40:a:41:GLU:OE1	40:a:41:GLU:N	2.51	0.43
77:AP:2:VAL:O	77:AP:92:GLU:N	2.49	0.43
18:2b:1556:A:N7	48:Mb:14:TYR:OH	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1597:A:N3	48:Mb:14:TYR:CB	2.82	0.43
23:Sb:206:ASP:C	23:Sb:207:LEU:HD12	2.43	0.43
27:Vb:110:ARG:NH2	27:Vb:160:PHE:O	2.52	0.43
35:Fb:94:GLN:O	35:Fb:94:GLN:NE2	2.51	0.43
1:YQ:113:C:OP1	16:XQ:147:ARG:NH2	2.42	0.43
1:YQ:3308:C:OP2	1:YQ:3309:G:N2	2.50	0.43
7:YI:279:LYS:HA	7:YI:282:ARG:HE	1.84	0.43
10:XA:225:LYS:O	10:XA:229:VAL:HG23	2.18	0.43
15:XM:58:ILE:HD11	15:XM:62:GLN:HB2	1.99	0.43
16:XQ:5:LYS:NZ	71:XC:37:THR:HG22	2.34	0.43
60:XH:58:ASP:O	60:XH:62:VAL:HG23	2.19	0.43
81:m:21:A:H61	81:m:46:A:H2'	1.83	0.43
1:BQ:1677:G:OP2	57:BL:103:TYR:OH	2.34	0.43
1:BQ:2422:C:H42	1:BQ:2608:G:H1	1.64	0.43
2:BR:31:U:O2'	7:BI:218:ARG:NH2	2.52	0.43
3:BS:57:C:O2	3:BS:61:A:O2'	2.35	0.43
4:AW:134:VAL:HG23	4:AW:150:LEU:HD23	2.01	0.43
15:AM:127:LYS:O	15:AM:131:VAL:HG23	2.18	0.43
18:2:543:C:HO2'	18:2:544:A:C5'	2.28	0.43
18:2:543:C:O2'	18:2:544:A:O5'	2.24	0.43
18:2:895:G:H22	18:2:917:U:H3	1.65	0.43
18:2:1041:G:OP1	19:P:31:VAL:HG13	2.19	0.43
18:2:1114:G:O2'	18:2:1130:G:O6	2.26	0.43
21:R:180:ALA:HB2	21:R:198:THR:HG21	2.00	0.43
29:C:53:GLY:O	29:C:55:VAL:HG12	2.18	0.43
45:e:7:SER:OG	45:e:9:GLY:N	2.52	0.43
51:O:240:VAL:HG22	51:O:256:THR:HG22	2.00	0.43
79:BU:41:VAL:HG12	79:BU:45:LEU:HD12	2.00	0.43
18:2b:1433:G:H21	48:Mb:46:LYS:HZ2	1.66	0.43
29:Cb:53:GLY:O	29:Cb:55:VAL:HG12	2.18	0.43
48:Mb:30:LEU:HD22	48:Mb:37:ASN:C	2.43	0.43
1:YQ:1304:A:O2'	1:YQ:2884:C:O2	2.37	0.43
1:YQ:2158:A:P	4:XW:156:LYS:HZ1	2.41	0.43
1:YQ:3164:C:HO2'	1:YQ:3165:A:P	2.41	0.43
4:XW:155:LYS:NZ	4:XW:252:THR:O	2.49	0.43
56:YJ:126:VAL:HG23	56:YJ:127:GLN:H	1.83	0.43
79:YU:87:VAL:HG11	79:YU:100:ILE:HD11	2.00	0.43
1:BQ:1729:A:N6	78:AT:41:PHE:O	2.48	0.43
1:BQ:1899:G:O2'	1:BQ:2334:U:O4	2.30	0.43
1:BQ:2888:U:O4'	1:BQ:2911:A:N6	2.52	0.43
5:BA:54:THR:OG1	5:BA:55:THR:N	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:73:U:O2'	18:2:74:U:O5'	2.37	0.43
37:H:16:ARG:C	37:H:17:LEU:HD12	2.44	0.43
18:2b:505:A:N6	18:2b:507:U:O4	2.47	0.43
18:2b:512:A:HO2'	18:2b:513:U:P	2.42	0.43
18:2b:1471:A:OP1	24:Bb:185:ARG:NH1	2.52	0.43
18:2b:1678:A:OP2	27:Vb:42:ARG:NH1	2.43	0.43
20:Qb:92:GLN:NE2	20:Qb:97:LEU:HD21	2.34	0.43
22:Ab:43:PRO:O	22:Ab:44:THR:OG1	2.34	0.43
23:Sb:92:LEU:HD22	43:db:17:LEU:HD21	1.99	0.43
30:Xb:109:VAL:HG12	30:Xb:137:PHE:HB2	2.00	0.43
32:Yb:129:TYR:O	32:Yb:134:VAL:HG22	2.19	0.43
1:YQ:75:G:H5''	14:XJ:58:VAL:HG13	2.00	0.43
1:YQ:297:G:OP2	1:YQ:297:G:N2	2.36	0.43
1:YQ:1240:A:H2	1:YQ:1248:C:H41	1.66	0.43
1:YQ:2618:G:O4'	64:XV:3:LYS:NZ	2.48	0.43
1:YQ:3370:A:OP2	5:YA:384:LYS:N	2.43	0.43
58:XB:53:SER:HG	58:XB:56:ASP:CG	2.26	0.43
1:BQ:18:G:OP2	60:AH:46:TYR:OH	2.32	0.43
1:BQ:2754:G:O2'	1:BQ:2755:C:OP1	2.32	0.43
1:BQ:2943:G:N2	5:BA:251:CYS:SG	2.92	0.43
6:BE:20:LEU:HD11	6:BE:252:GLU:HG3	2.00	0.43
18:2:775:G:O6	43:d:11:LYS:NZ	2.52	0.43
18:2:1583:A:H61	18:2:1611:A:H3'	1.83	0.43
23:S:102:VAL:O	23:S:110:ALA:N	2.47	0.43
37:H:31:ALA:O	37:H:34:THR:HG22	2.19	0.43
43:d:41:ARG:NE	43:d:55:VAL:O	2.51	0.43
45:e:7:SER:OG	45:e:10:ARG:N	2.51	0.43
20:Qb:77:GLU:O	20:Qb:80:SER:OG	2.34	0.43
25:Tb:193:LEU:O	25:Tb:193:LEU:HD23	2.19	0.43
26:Ub:30:SER:N	26:Ub:31:SER:HA	2.34	0.43
26:Ub:89:HIS:HD1	26:Ub:168:SER:HG	1.60	0.43
28:Wb:25:ASP:OD2	49:gb:54:ARG:NH2	2.45	0.43
29:Cb:39:ASN:OD1	29:Cb:43:ILE:HD11	2.18	0.43
29:Cb:60:SER:O	29:Cb:63:TYR:N	2.45	0.43
37:Hb:127:HIS:CE1	37:Hb:133:VAL:HG21	2.54	0.43
1:YQ:34:A:OP2	16:XQ:86:ASN:ND2	2.51	0.43
1:YQ:1834:U:OP1	74:XL:5:LYS:NZ	2.52	0.43
12:YD:90:ARG:O	12:YD:91:VAL:HG13	2.18	0.43
63:XR:3:SER:OG	63:XR:4:ARG:N	2.51	0.43
74:XL:9:ILE:HG22	74:XL:13:MET:HE3	2.01	0.43
77:XP:36:PHE:O	77:XP:41:ARG:NH2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:1825:G:OP1	73:AI:49:SER:OG	2.31	0.43
1:BQ:2880:U:O2	5:BA:250:ALA:HB3	2.19	0.43
12:BD:10:ARG:O	12:BD:59:GLN:N	2.43	0.43
16:AQ:97:SER:OG	16:AQ:98:LEU:N	2.50	0.43
18:2:174:U:H3	18:2:266:A:H62	1.66	0.43
22:A:209:ILE:O	36:G:20:TYR:OH	2.24	0.43
29:C:50:THR:HG22	29:C:55:VAL:HG13	2.01	0.43
39:J:84:MET:HE3	48:M:52:PHE:CD1	2.53	0.43
44:K:95:HIS:N	44:K:98:GLN:O	2.52	0.43
59:AE:9:SER:OG	59:AE:10:GLY:N	2.52	0.43
77:AP:36:PHE:O	77:AP:41:ARG:NE	2.51	0.43
18:2b:306:U:OP1	30:Xb:88:ARG:NH2	2.52	0.43
18:2b:717:C:H42	18:2b:720:G:H22	1.66	0.43
18:2b:1252:C:H2'	18:2b:1253:U:O4'	2.19	0.43
18:2b:1543:A:N6	18:2b:1568:C:O4'	2.52	0.43
18:2b:1713:G:H4'	59:XE:71:ARG:HD2	2.01	0.43
51:Ob:209:THR:C	51:Ob:210:LEU:HD12	2.44	0.43
1:YQ:2192:C:O2'	1:YQ:2193:U:O5'	2.36	0.43
3:YS:58:G:O6	72:XF:63:ARG:NH2	2.52	0.43
60:XH:63:ILE:HD11	60:XH:84:PHE:CE1	2.53	0.43
1:BQ:1431:G:OP2	63:AR:9:ARG:NH2	2.47	0.42
1:BQ:2772:C:O2'	1:BQ:2773:C:OP2	2.23	0.42
16:AQ:16:SER:OG	16:AQ:19:LEU:HD13	2.19	0.42
18:2:962:C:O3'	32:Y:72:MET:HE1	2.19	0.42
31:D:103:LEU:HG	31:D:115:VAL:HG13	2.01	0.42
38:I:40:SER:OG	38:I:43:ASN:N	2.49	0.42
51:O:274:LEU:HD13	51:O:313:TRP:CE2	2.53	0.42
55:BH:42:TRP:HE1	55:BH:58:ILE:HD11	1.83	0.42
65:AY:30:THR:HG21	65:AY:89:VAL:HG22	2.01	0.42
18:2b:161:U:OP2	25:Tb:87:ARG:NH2	2.52	0.42
18:2b:938:G:N2	18:2b:941:A:OP2	2.44	0.42
18:2b:1173:C:OP1	37:Hb:132:ARG:NH1	2.47	0.42
18:2b:1388:A:OP1	36:Gb:29:GLN:NE2	2.52	0.42
19:Pb:83:GLN:O	19:Pb:87:LEU:HD23	2.19	0.42
21:Rb:116:LYS:HG2	21:Rb:127:ALA:HB3	2.00	0.42
31:Db:36:LEU:HG	31:Db:41:LEU:HD12	2.01	0.42
37:Hb:24:GLY:O	37:Hb:59:GLY:N	2.49	0.42
44:Kb:88:ILE:O	44:Kb:104:ALA:N	2.52	0.42
1:YQ:1523:U:OP2	1:YQ:1604:G:O2'	2.36	0.42
1:YQ:1550:C:O2'	1:YQ:2167:A:N6	2.45	0.42
1:YQ:1556:C:OP1	1:YQ:2169:G:N2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:2505:U:O2'	1:YQ:2506:U:O4'	2.37	0.42
58:XB:114:ILE:HD12	58:XB:133:SER:HA	2.00	0.42
80:n:21:A:O2'	80:n:22:C:O5'	2.33	0.42
1:BQ:1470:U:O3'	54:BF:5:ARG:NH2	2.52	0.42
1:BQ:1724:U:H1'	1:BQ:1725:C:C6	2.54	0.42
1:BQ:3353:G:O5'	27:V:164:ARG:NH1	2.52	0.42
3:BS:41:A:OP1	72:AF:65:ARG:N	2.52	0.42
14:AJ:52:ASP:O	14:AJ:53:LEU:HD23	2.19	0.42
17:AU:9:ILE:O	17:AU:36:VAL:HG22	2.19	0.42
18:2:422:G:O2'	18:2:423:G:O4'	2.29	0.42
18:2:709:C:H42	18:2:730:G:C1'	2.32	0.42
18:2:1445:G:HO2'	50:N:85:TYR:HH	1.49	0.42
18:2:1459:C:OP2	37:H:138:THR:OG1	2.22	0.42
21:R:177:GLY:N	21:R:195:ASP:OD1	2.47	0.42
23:S:18:TRP:O	23:S:51:ARG:NH2	2.52	0.42
27:V:165:LEU:HB3	27:V:183:ILE:HD11	2.01	0.42
34:E:45:PHE:O	34:E:49:MET:HE2	2.19	0.42
35:F:28:LEU:C	35:F:29:ILE:HD12	2.44	0.42
36:G:85:VAL:O	36:G:85:VAL:HG23	2.19	0.42
51:O:95:ALA:O	51:O:96:THR:HG22	2.19	0.42
67:BG:79:VAL:HG13	67:BG:111:ARG:HG2	2.01	0.42
18:2b:567:A:OP1	42:cb:70:LYS:NZ	2.52	0.42
18:2b:1451:C:H3'	48:Mb:8:PHE:CG	2.54	0.42
22:Ab:221:SER:N	51:Ob:193:ILE:O	2.47	0.42
1:YQ:67:A:N6	1:YQ:271:C:O2'	2.52	0.42
1:YQ:340:C:H2'	1:YQ:341:G:O4'	2.18	0.42
1:YQ:1416:C:O2'	1:YQ:1417:G:O4'	2.34	0.42
17:XU:38:ALA:O	17:XU:41:LEU:HD23	2.18	0.42
61:XK:35:LEU:N	61:XK:46:LYS:O	2.52	0.42
63:XR:85:ASP:N	63:XR:85:ASP:OD1	2.52	0.42
79:YU:33:VAL:HG21	79:YU:185:LEU:HB3	2.01	0.42
1:BQ:342:A:OP2	3:BS:21:C:N4	2.51	0.42
1:BQ:1063:G:O2'	1:BQ:1097:G:N2	2.52	0.42
1:BQ:2394:G:H5'	5:BA:252:ILE:HG22	2.01	0.42
7:BI:120:LYS:O	7:BI:248:ARG:NH2	2.49	0.42
8:BM:109:GLU:N	8:BM:109:GLU:OE1	2.51	0.42
14:AJ:85:LEU:N	14:AJ:85:LEU:HD23	2.34	0.42
17:AU:125:ARG:O	17:AU:129:LEU:N	2.52	0.42
18:2:1597:A:C2	48:M:14:TYR:CA	3.01	0.42
22:A:68:GLU:OE1	22:A:68:GLU:N	2.48	0.42
23:S:122:LYS:C	23:S:123:LEU:HD12	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:d:29:HIS:ND1	43:d:29:HIS:O	2.52	0.42
51:O:248:ASN:OD1	51:O:249:ARG:N	2.52	0.42
18:2b:192:U:O2'	18:2b:193:U:O5'	2.32	0.42
21:Rb:44:LEU:HD21	21:Rb:247:ALA:N	2.34	0.42
24:Bb:127:GLN:OE1	24:Bb:127:GLN:N	2.51	0.42
34:Eb:123:TYR:OH	37:Hb:126:ARG:NH1	2.52	0.42
44:Kb:95:HIS:N	44:Kb:98:GLN:O	2.52	0.42
47:Lb:53:ILE:C	47:Lb:54:LEU:HD22	2.44	0.42
51:Ob:290:VAL:HG22	51:Ob:304:GLY:O	2.19	0.42
1:YQ:185:C:OP1	61:XK:121:ARG:NH1	2.51	0.42
1:YQ:2856:G:N7	12:YD:7:ARG:NH2	2.67	0.42
1:YQ:3379:C:H4'	5:YA:315:GLY:HA2	2.00	0.42
6:YE:246:ARG:HG2	6:YE:247:PHE:N	2.34	0.42
9:YO:223:PHE:HA	9:YO:227:GLY:O	2.19	0.42
10:XA:123:GLN:O	10:XA:126:SER:OG	2.29	0.42
13:XG:28:ASP:N	13:XG:28:ASP:OD2	2.52	0.42
52:XX:168:LEU:C	52:XX:168:LEU:HD12	2.44	0.42
56:YJ:76:ILE:HG22	56:YJ:77:ASN:N	2.34	0.42
66:YC:80:ASN:OD1	66:YC:81:GLU:N	2.51	0.42
1:BQ:1055:A:N3	2:BR:81:U:O2'	2.52	0.42
1:BQ:1672:U:OP1	54:BF:64:ARG:NE	2.52	0.42
13:AG:110:ILE:HD11	37:H:16:ARG:HH11	1.84	0.42
18:2:785:U:O4	43:d:11:LYS:NZ	2.50	0.42
18:2:896:U:OP1	20:Q:27:LYS:NZ	2.36	0.42
18:2:961:U:H5''	32:Y:71:ILE:HD12	2.02	0.42
18:2:1400:A:O5'	36:G:60:ARG:NH2	2.51	0.42
20:Q:103:MET:HB3	20:Q:215:VAL:HG22	2.01	0.42
23:S:158:ASP:OD1	23:S:175:PHE:N	2.47	0.42
24:B:44:ASN:O	24:B:45:LYS:NZ	2.37	0.42
35:F:54:LEU:HD11	35:F:112:TYR:CB	2.49	0.42
44:K:80:LEU:HD22	44:K:101:TYR:CE2	2.55	0.42
49:g:48:THR:C	49:g:49:LEU:HD22	2.44	0.42
60:AH:76:VAL:HG22	60:AH:81:ILE:O	2.20	0.42
69:BN:41:ARG:HG2	69:BN:56:THR:HG22	2.01	0.42
18:2b:2:A:OP2	21:Rb:179:VAL:HG11	2.19	0.42
18:2b:1796:C:O2	45:eb:5:ARG:NH1	2.53	0.42
21:Rb:59:HIS:HB3	21:Rb:61:LEU:HD21	2.01	0.42
1:YQ:651:G:H2'	1:YQ:652:G:O4'	2.19	0.42
1:YQ:2682:C:O2'	13:XG:18:VAL:HG11	2.19	0.42
9:YO:47:ARG:NH1	9:YO:177:GLY:O	2.50	0.42
9:YO:156:ILE:HD13	9:YO:161:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:YN:75:VAL:HG11	62:YN:80:LEU:HD21	2.01	0.42
82:nb:51:U:H3	82:nb:63:G:H22	1.66	0.42
1:BQ:284:A:OP2	77:AP:38:GLN:NE2	2.48	0.42
1:BQ:3377:G:O3'	5:BA:313:HIS:NE2	2.45	0.42
12:BD:38:LYS:N	12:BD:85:PHE:O	2.43	0.42
18:2:566:C:O3'	49:g:10:ARG:NE	2.48	0.42
18:2:1316:G:OP1	36:G:7:LYS:N	2.47	0.42
24:B:57:SER:OG	24:B:167:ARG:NH2	2.52	0.42
43:d:30:PRO:O	43:d:31:ASN:ND2	2.52	0.42
47:L:9:LEU:HD22	47:L:53:ILE:HG21	2.02	0.42
62:AN:87:LEU:HD13	62:AN:127:ASN:ND2	2.34	0.42
69:BN:76:TYR:HB2	69:BN:85:VAL:HG11	2.02	0.42
18:2b:57:G:OP1	43:db:116:LYS:NZ	2.33	0.42
18:2b:127:G:C5	25:Tb:195:VAL:HG13	2.54	0.42
18:2b:180:A:H2'	18:2b:181:A:O4'	2.19	0.42
18:2b:209:U:O3'	27:Vb:170:SER:OG	2.35	0.42
18:2b:600:U:O4	18:2b:601:A:N6	2.53	0.42
18:2b:679:U:O2'	18:2b:680:U:O5'	2.29	0.42
18:2b:1597:A:H62	48:Mb:17:GLY:C	2.27	0.42
41:bb:12:ASN:O	41:bb:16:ASN:ND2	2.53	0.42
1:YQ:34:A:H3'	1:YQ:48:A:H61	1.85	0.42
1:YQ:225:C:HO2'	1:YQ:226:C:H5'	1.84	0.42
1:YQ:633:C:O2'	68:YK:21:ARG:O	2.37	0.42
1:YQ:708:G:N1	1:YQ:711:A:OP2	2.46	0.42
1:YQ:3005:A:N1	1:YQ:3140:G:O2'	2.48	0.42
17:XU:141:LEU:O	17:XU:145:VAL:HG22	2.19	0.42
55:YH:60:SER:OG	55:YH:62:ASN:OD1	2.38	0.42
56:YJ:105:PHE:O	56:YJ:109:VAL:HG23	2.20	0.42
58:XB:19:VAL:HG13	58:XB:37:ILE:HA	2.01	0.42
60:XH:91:ASN:C	60:XH:95:ILE:HD12	2.44	0.42
1:BQ:84:U:O2'	1:BQ:101:G:O6	2.27	0.42
1:BQ:340:C:H2'	1:BQ:341:G:O4'	2.19	0.42
1:BQ:535:G:O2'	1:BQ:554:A:N1	2.40	0.42
2:BR:2:G:H4'	7:BI:270:LYS:HD3	2.02	0.42
5:BA:81:THR:O	5:BA:81:THR:OG1	2.36	0.42
18:2:1171:A:OP1	37:H:144:ARG:NH1	2.51	0.42
18:2:1604:U:O2'	39:J:66:SER:OG	2.23	0.42
21:R:245:ASP:N	21:R:245:ASP:OD1	2.53	0.42
24:B:134:VAL:O	24:B:138:THR:HG23	2.20	0.42
27:V:84:HIS:CG	27:V:90:LEU:HD12	2.54	0.42
56:BJ:14:MET:HE3	56:BJ:15:PHE:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AK:108:LYS:C	61:AK:109:LEU:HD12	2.44	0.42
69:BN:82:ALA:HA	69:BN:85:VAL:HG22	2.01	0.42
18:2b:961:U:H5''	32:Yb:71:ILE:HD12	2.02	0.42
18:2b:1004:U:O2'	18:2b:1005:A:OP1	2.36	0.42
18:2b:1341:A:O2'	51:Ob:102:ARG:NH2	2.53	0.42
20:Qb:70:LEU:HD22	20:Qb:79:HIS:HB3	2.01	0.42
43:db:29:HIS:ND1	43:db:29:HIS:O	2.53	0.42
13:XG:82:ARG:CB	13:XG:112:LEU:HD12	2.49	0.42
54:YF:132:PHE:CD2	54:YF:138:LEU:HD12	2.54	0.42
82:nb:56:C:O2'	82:nb:57:G:O5'	2.37	0.42
1:BQ:1678:G:OP1	57:BL:97:SER:N	2.52	0.42
1:BQ:1864:A:OP1	54:BF:83:GLY:N	2.44	0.42
16:AQ:124:ASP:OD1	16:AQ:126:THR:N	2.50	0.42
17:AU:27:LEU:HD22	17:AU:101:ARG:HB2	2.01	0.42
18:2:131:C:O2'	18:2:132:U:OP1	2.33	0.42
18:2:278:U:O2	18:2:279:G:N2	2.52	0.42
18:2:936:G:O6	45:e:15:ARG:NH1	2.53	0.42
18:2:1057:U:H1'	18:2:1058:U:H2'	2.00	0.42
19:P:146:LEU:HD13	19:P:173:ILE:HG21	2.01	0.42
22:A:64:ARG:NH1	22:A:68:GLU:OE2	2.52	0.42
24:B:148:ARG:NH2	81:m:33:U:O5'	2.52	0.42
26:U:147:ASN:OD1	26:U:147:ASN:N	2.49	0.42
31:D:66:VAL:HG21	31:D:71:ILE:HG22	2.02	0.42
50:N:88:PRO:O	50:N:90:LYS:N	2.53	0.42
54:BF:6:THR:O	54:BF:10:LEU:HD23	2.19	0.42
68:BK:85:PHE:CE2	68:BK:89:LEU:HD21	2.55	0.42
18:2b:142:G:H22	18:2b:173:A:H2	1.66	0.42
18:2b:488:G:OP1	18:2b:488:G:H4'	2.20	0.42
23:Sb:230:GLU:N	23:Sb:230:GLU:OE1	2.53	0.42
28:Wb:63:ASP:OD1	28:Wb:64:GLU:N	2.52	0.42
36:Gb:41:ILE:HG22	36:Gb:43:SER:H	1.83	0.42
8:YM:55:LEU:HD12	8:YM:64:LEU:HD23	2.01	0.42
12:YD:29:SER:OG	12:YD:31:ILE:O	2.24	0.42
54:YF:101:VAL:HG22	54:YF:104:ARG:NH2	2.35	0.42
1:BQ:76:G:N1	1:BQ:315:C:OP1	2.46	0.42
1:BQ:991:G:O2'	56:BJ:41:ASP:OD2	2.38	0.42
1:BQ:2842:U:OP1	1:BQ:2898:G:N2	2.44	0.42
1:BQ:3357:U:O2'	1:BQ:3358:U:OP1	2.36	0.42
18:2:1550:A:OP2	34:E:42:ARG:NH2	2.53	0.42
23:S:122:LYS:HG3	23:S:162:ILE:HD13	2.02	0.42
28:W:147:MET:HE2	28:W:147:MET:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:c:74:VAL:O	42:c:83:VAL:HG12	2.20	0.42
45:e:43:ASN:N	45:e:43:ASN:OD1	2.52	0.42
60:AH:63:ILE:HD11	60:AH:84:PHE:CG	2.55	0.42
66:BC:111:GLU:N	66:BC:111:GLU:OE1	2.53	0.42
18:2b:371:G:N2	18:2b:612:U:O2	2.53	0.42
19:Pb:102:PHE:O	19:Pb:103:THR:OG1	2.37	0.42
21:Rb:44:LEU:HD21	21:Rb:247:ALA:HB2	2.02	0.42
22:Ab:204:ASP:N	22:Ab:204:ASP:OD1	2.52	0.42
23:Sb:89:VAL:HG22	23:Sb:100:ARG:HH21	1.83	0.42
23:Sb:201:HIS:N	23:Sb:206:ASP:OD1	2.46	0.42
28:Wb:49:LEU:HD11	28:Wb:100:LYS:HA	2.01	0.42
47:Lb:9:LEU:CD2	47:Lb:55:VAL:HG22	2.49	0.42
48:Mb:52:PHE:O	48:Mb:53:ASN:ND2	2.53	0.42
1:YQ:590:G:C2	1:YQ:610:G:H2'	2.55	0.42
1:YQ:2393:G:O3'	5:YA:252:ILE:HG21	2.20	0.42
11:XD:43:VAL:HG22	11:XD:44:THR:H	1.85	0.42
17:XU:182:ASN:OD1	17:XU:183:ALA:N	2.53	0.42
18:2:1051:G:O2'	18:2:1052:U:OP1	2.32	0.42
28:W:129:ILE:HA	28:W:134:ILE:HD13	2.02	0.42
35:F:67:VAL:HG12	35:F:68:ARG:N	2.35	0.42
41:b:80:ASN:OD1	41:b:124:LYS:NZ	2.24	0.42
61:AK:103:LYS:C	61:AK:104:LEU:HD23	2.44	0.42
79:BU:87:VAL:HG11	79:BU:100:ILE:HD11	2.01	0.42
18:2b:187:G:OP2	27:Vb:142:LYS:NZ	2.52	0.42
18:2b:874:C:OP1	20:Qb:159:SER:OG	2.23	0.42
18:2b:1597:A:C2	48:Mb:14:TYR:CA	3.02	0.42
18:2b:1606:C:OP2	35:Fb:127:LYS:N	2.50	0.42
20:Qb:101:HIS:C	20:Qb:217:LEU:HD13	2.45	0.42
22:Ab:34:TYR:OH	22:Ab:37:VAL:HG13	2.19	0.42
31:Db:97:LEU:O	31:Db:101:ALA:N	2.40	0.42
32:Yb:44:GLY:O	32:Yb:45:LEU:HD23	2.19	0.42
34:Eb:98:ASN:OD1	34:Eb:101:ALA:N	2.41	0.42
37:Hb:90:ASN:N	37:Hb:96:LYS:O	2.53	0.42
51:Ob:95:ALA:O	51:Ob:96:THR:HG22	2.19	0.42
51:Ob:177:MET:HE2	51:Ob:177:MET:HA	2.01	0.42
1:YQ:148:G:O2'	1:YQ:149:U:OP2	2.29	0.42
1:YQ:3153:U:O5'	1:YQ:3158:G:N2	2.30	0.42
3:YS:84:C:O2	61:XK:113:LYS:N	2.52	0.42
5:YA:58:ARG:NE	5:YA:74:GLU:OE1	2.53	0.42
10:XA:81:THR:OG1	10:XA:82:LEU:N	2.52	0.42
15:XM:19:ARG:HB3	15:XM:35:ILE:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XU:65:ASN:CG	17:XU:67:THR:HG22	2.45	0.42
59:XE:35:LYS:O	59:XE:39:LEU:HD23	2.20	0.42
69:YN:71:THR:HG22	69:YN:72:VAL:O	2.20	0.42
80:n:54:U:C2	80:n:58:A:N7	2.88	0.42
1:BQ:36:C:O2'	1:BQ:934:G:N3	2.53	0.42
1:BQ:2718:U:OP1	77:AP:13:LYS:NZ	2.53	0.42
1:BQ:2761:G:OP1	77:AP:67:LYS:NZ	2.41	0.42
8:BM:14:ASP:OD1	8:BM:15:VAL:N	2.53	0.42
20:Q:71:ALA:HB1	20:Q:76:SER:O	2.19	0.42
56:BJ:105:PHE:O	56:BJ:109:VAL:HG23	2.20	0.42
18:2b:1455:G:H2'	18:2b:1456:C:O4'	2.20	0.42
18:2b:1677:C:OP1	27:Vb:42:ARG:NH1	2.53	0.42
26:Ub:63:PRO:C	26:Ub:64:VAL:HG23	2.45	0.42
51:Ob:302:PHE:HD1	51:Ob:312:VAL:HG22	1.85	0.42
1:YQ:1477:A:OP1	1:YQ:3075:G:O2'	2.33	0.42
1:YQ:1482:A:OP2	1:YQ:1858:A:O2'	2.37	0.42
1:YQ:1555:U:H6	1:YQ:1581:C:H42	1.67	0.42
4:XW:109:GLU:OE1	4:XW:109:GLU:N	2.53	0.42
6:YE:203:ARG:NH1	6:YE:226:GLU:OE2	2.53	0.42
8:YM:41:ILE:O	8:YM:84:VAL:HG13	2.20	0.42
62:XN:76:ASN:OD1	62:XN:77:TYR:N	2.52	0.42
1:BQ:407:A:OP2	3:BS:15:G:N1	2.53	0.41
1:BQ:1322:U:O2	55:BH:108:GLN:NE2	2.44	0.41
1:BQ:1447:G:N7	52:AX:25:SER:OG	2.37	0.41
1:BQ:1872:C:O3'	54:BF:56:THR:OG1	2.38	0.41
1:BQ:2841:G:H1'	1:BQ:2847:A:H61	1.85	0.41
3:BS:153:U:OP1	10:AA:63:LYS:NZ	2.53	0.41
5:BA:19:ARG:O	5:BA:232:ARG:NH2	2.53	0.41
10:AA:81:THR:HG23	10:AA:82:LEU:N	2.35	0.41
16:AQ:6:TYR:CD1	71:AC:40:VAL:HG13	2.55	0.41
18:2:856:A:O2'	26:U:116:ARG:NH2	2.53	0.41
18:2:1489:U:O2'	18:2:1490:C:OP2	2.37	0.41
18:2:1553:G:O6	34:E:40:ARG:NH2	2.45	0.41
25:T:41:VAL:HG21	59:AE:74:LYS:HZ2	1.85	0.41
62:AN:25:ILE:HA	62:AN:43:VAL:HG12	2.01	0.41
18:2b:523:G:N2	18:2b:528:U:OP2	2.47	0.41
18:2b:565:C:H2'	18:2b:577:G:N3	2.35	0.41
18:2b:1523:G:OP1	18:2b:1523:G:N2	2.53	0.41
30:Xb:123:VAL:HG12	30:Xb:124:THR:N	2.35	0.41
37:Hb:134:ARG:O	37:Hb:136:GLN:N	2.52	0.41
47:Lb:55:VAL:C	47:Lb:56:LEU:HD22	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Mb:15:GLY:H	48:Mb:19:ARG:HH22	1.68	0.41
1:YQ:382:U:O2	52:XX:97:ASN:ND2	2.53	0.41
1:YQ:675:C:O2'	1:YQ:679:U:OP1	2.37	0.41
3:YS:147:U:C4'	60:XH:38:LEU:HD11	2.49	0.41
11:XD:1:MET:HE1	55:YH:138:GLN:HG2	2.02	0.41
1:BQ:953:G:OP1	64:AV:15:LYS:NZ	2.42	0.41
1:BQ:1073:U:O4	1:BQ:1084:A:N6	2.53	0.41
1:BQ:1449:A:H62	1:BQ:2355:G:H21	1.68	0.41
3:BS:152:G:P	10:AA:60:ARG:HE	2.41	0.41
11:AD:70:THR:O	11:AD:74:LEU:HD13	2.19	0.41
13:AG:148:VAL:O	13:AG:153:LYS:NZ	2.49	0.41
18:2:446:A:H62	18:2:461:G:H21	1.67	0.41
18:2:567:A:H62	18:2:576:G:H21	1.67	0.41
18:2:961:U:C5'	32:Y:71:ILE:HD12	2.50	0.41
18:2:1228:G:O2'	18:2:1229:G:OP1	2.35	0.41
18:2:1311:U:N3	18:2:1314:U:OP2	2.49	0.41
18:2:1597:A:N1	48:M:14:TYR:C	2.78	0.41
19:P:75:ALA:HB1	19:P:174:TRP:CH2	2.56	0.41
23:S:9:LEU:HD22	23:S:28:ALA:HB3	2.02	0.41
25:T:159:ARG:NE	25:T:170:THR:OG1	2.53	0.41
27:V:81:VAL:HG22	27:V:102:VAL:HG12	2.02	0.41
31:D:63:VAL:HG11	31:D:66:VAL:CG1	2.51	0.41
51:O:256:THR:HG21	51:O:261:LYS:HD2	2.01	0.41
63:AR:65:GLN:O	63:AR:66:ALA:HB3	2.20	0.41
63:AR:75:LEU:HA	63:AR:78:LEU:HD22	2.01	0.41
79:BU:51:VAL:CG1	79:BU:87:VAL:HG22	2.50	0.41
18:2b:1799:U:O4'	20:Qb:117:TRP:NE1	2.52	0.41
19:Pb:89:PHE:CE2	19:Pb:178:ALA:HB2	2.56	0.41
25:Tb:150:GLU:OE1	25:Tb:150:GLU:N	2.54	0.41
31:Db:48:SER:O	31:Db:52:LEU:HD23	2.20	0.41
47:Lb:60:GLU:OE1	47:Lb:60:GLU:N	2.53	0.41
1:YQ:726:G:N1	1:YQ:743:C:OP2	2.48	0.41
1:YQ:2393:G:O2'	1:YQ:2394:G:OP2	2.36	0.41
10:XA:196:ALA:O	10:XA:197:VAL:HG13	2.20	0.41
56:YJ:57:TYR:CD2	56:YJ:89:LEU:HD21	2.55	0.41
1:BQ:1040:A:N3	12:BD:198:LYS:NZ	2.61	0.41
1:BQ:1601:U:OP2	54:BF:42:ARG:NH2	2.47	0.41
1:BQ:2765:C:OP1	63:AR:55:LYS:NZ	2.51	0.41
5:BA:27:ALA:HB3	5:BA:218:ILE:HG22	2.02	0.41
7:BI:41:LYS:NZ	56:BJ:30:TYR:O	2.48	0.41
18:2:513:U:H2'	18:2:514:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:709:C:H42	18:2:730:G:H1'	1.86	0.41
18:2:1554:U:N3	48:M:9:SER:OG	2.50	0.41
31:D:48:SER:O	31:D:52:LEU:HD23	2.21	0.41
41:b:36:LYS:O	41:b:40:VAL:HG23	2.20	0.41
42:c:18:HIS:O	42:c:22:ASN:ND2	2.52	0.41
58:AB:85:TRP:CE2	58:AB:93:LEU:HD21	2.55	0.41
58:AB:118:VAL:O	58:AB:137:VAL:N	2.46	0.41
59:AE:67:VAL:HG12	59:AE:67:VAL:O	2.21	0.41
62:AN:2:ALA:N	65:AY:63:SER:O	2.54	0.41
18:2b:134:U:OP1	18:2b:136:C:N4	2.53	0.41
18:2b:751:G:H2'	18:2b:752:A:O4'	2.20	0.41
18:2b:931:C:OP2	18:2b:932:U:O2'	2.30	0.41
18:2b:1057:U:H1'	18:2b:1058:U:H2'	2.02	0.41
18:2b:1525:A:N3	18:2b:1589:C:O2'	2.43	0.41
21:Rb:39:THR:HG1	21:Rb:42:GLY:H	1.67	0.41
21:Rb:151:PRO:HD2	40:ab:9:VAL:HG21	2.01	0.41
22:Ab:223:LYS:O	51:Ob:190:ALA:HB1	2.20	0.41
37:Hb:94:ASP:OD2	37:Hb:98:TYR:OH	2.38	0.41
46:fb:18:LYS:O	46:fb:29:ARG:NH2	2.47	0.41
1:YQ:269:G:OP2	16:XQ:44:ARG:NH2	2.50	0.41
1:YQ:691:A:N1	3:YS:28:C:O2'	2.51	0.41
1:YQ:767:U:H1'	1:YQ:768:C:C6	2.55	0.41
1:YQ:2179:C:O3'	4:XW:174:ARG:NH2	2.51	0.41
61:XK:70:ILE:H	61:XK:70:ILE:HD12	1.85	0.41
1:BQ:560:G:OP1	15:AM:84:LYS:NZ	2.52	0.41
1:BQ:2155:G:H4'	4:AW:239:ALA:HB3	2.00	0.41
1:BQ:3275:U:C2	68:BK:64:ILE:HG21	2.56	0.41
18:2:1251:U:O2	50:N:135:HIS:NE2	2.47	0.41
18:2:1597:A:C4	48:M:13:ARG:O	2.74	0.41
21:R:228:ASN:C	21:R:229:LEU:HD12	2.45	0.41
26:U:64:VAL:HG13	26:U:67:LEU:HD12	2.02	0.41
27:V:3:ILE:HG22	27:V:4:SER:N	2.36	0.41
36:G:6:THR:HG1	36:G:7:LYS:H	1.69	0.41
36:G:21:TYR:HA	36:G:58:MET:HE1	2.02	0.41
37:H:37:GLY:CA	37:H:105:VAL:HG11	2.49	0.41
51:O:116:ASP:OD1	51:O:120:SER:OG	2.32	0.41
51:O:289:ALA:HB2	51:O:305:TYR:CZ	2.56	0.41
56:BJ:76:ILE:HG22	56:BJ:77:ASN:N	2.35	0.41
68:BK:30:ILE:O	68:BK:81:VAL:HG12	2.21	0.41
18:2b:981:U:H2'	18:2b:982:U:H5'	2.01	0.41
18:2b:1278:G:O3'	22:Ab:185:LYS:NZ	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2b:1471:A:O2'	24:Bb:102:ARG:NH1	2.52	0.41
20:Qb:34:ALA:HB3	20:Qb:41:ARG:HA	2.02	0.41
20:Qb:38:PHE:CG	20:Qb:73:LEU:HD12	2.55	0.41
21:Rb:59:HIS:CB	21:Rb:61:LEU:HD21	2.49	0.41
23:Sb:11:ARG:NH1	23:Sb:24:SER:OG	2.54	0.41
25:Tb:58:LYS:NZ	25:Tb:104:PRO:O	2.41	0.41
34:Eb:72:LYS:HZ2	34:Eb:106:GLU:HB2	1.85	0.41
36:Gb:115:LEU:HD23	36:Gb:116:LYS:N	2.34	0.41
44:Kb:71:ILE:HD11	44:Kb:75:LEU:HB3	2.02	0.41
45:eb:44:ILE:HD12	45:eb:44:ILE:H	1.85	0.41
1:YQ:316:U:O2'	71:XC:30:LYS:NZ	2.43	0.41
1:YQ:522:A:H62	1:YQ:570:A:H61	1.68	0.41
1:YQ:3045:G:O3'	5:YA:275:ARG:NH1	2.53	0.41
1:YQ:3190:C:OP1	17:XU:168:TYR:OH	2.32	0.41
3:YS:40:A:OP2	3:YS:103:G:N1	2.48	0.41
3:YS:141:C:O3'	16:XQ:62:TYR:OH	2.38	0.41
11:XD:130:ASP:OD1	11:XD:131:GLY:N	2.53	0.41
55:YH:109:ASP:OD1	55:YH:113:ARG:NH1	2.50	0.41
66:YC:110:GLU:OE2	66:YC:111:GLU:N	2.54	0.41
77:XP:4:VAL:O	77:XP:94:GLY:N	2.50	0.41
79:YU:55:LYS:O	79:YU:59:VAL:HG23	2.21	0.41
1:BQ:794:U:P	63:AR:6:THR:HG1	2.40	0.41
1:BQ:1079:A:OP2	7:BI:143:LYS:NZ	2.40	0.41
1:BQ:1257:C:H42	1:BQ:1261:G:H22	1.68	0.41
6:BE:261:VAL:HG13	6:BE:262:TRP:HD1	1.84	0.41
13:AG:26:SER:OG	13:AG:63:GLU:OE2	2.26	0.41
18:2:175:G:N2	18:2:176:C:H41	2.19	0.41
18:2:259:U:OP1	27:V:75:LYS:NZ	2.53	0.41
18:2:976:G:N1	18:2:1023:A:O2'	2.47	0.41
18:2:1250:U:O2'	50:N:135:HIS:O	2.39	0.41
20:Q:135:LEU:HD22	20:Q:217:LEU:HD12	2.03	0.41
30:X:8:GLN:OE1	30:X:14:GLN:N	2.50	0.41
37:H:11:PHE:CE1	44:K:41:ILE:HG21	2.56	0.41
37:H:116:LEU:HA	37:H:119:ILE:HG22	2.01	0.41
42:c:55:GLU:HG2	42:c:73:ARG:HB3	2.03	0.41
53:BB:30:VAL:O	53:BB:34:THR:HG23	2.20	0.41
55:BH:26:ARG:HD3	56:BJ:150:THR:HG22	2.02	0.41
56:BJ:60:LYS:HD2	56:BJ:60:LYS:N	2.35	0.41
62:AN:23:VAL:HG21	62:AN:43:VAL:HG21	2.02	0.41
18:2b:1229:G:O6	31:Db:46:ARG:N	2.53	0.41
18:2b:1277:G:O2'	22:Ab:174:HIS:ND1	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Qb:107:THR:OG1	33:Zb:116:GLU:OE2	2.34	0.41
23:Sb:189:LEU:HD12	23:Sb:190:GLY:N	2.35	0.41
28:Wb:107:ARG:NH2	28:Wb:148:VAL:O	2.53	0.41
34:Eb:105:VAL:HG12	34:Eb:106:GLU:O	2.20	0.41
36:Gb:23:LYS:NZ	51:Ob:149:ASP:OD2	2.47	0.41
51:Ob:209:THR:O	51:Ob:225:LEU:N	2.53	0.41
1:YQ:914:A:N1	4:XW:204:MET:HE3	2.35	0.41
1:YQ:1151:U:O4	1:YQ:1200:A:N6	2.53	0.41
1:YQ:1338:C:O2	67:YG:12:LYS:NZ	2.49	0.41
1:YQ:1717:U:H2'	1:YQ:1718:G:C8	2.56	0.41
1:YQ:2704:A:O2'	1:YQ:2705:A:O5'	2.38	0.41
1:YQ:2769:A:O2'	77:XP:80:ARG:O	2.39	0.41
1:YQ:3385:U:H1'	66:YC:106:THR:HG21	2.02	0.41
4:XW:45:VAL:HG13	4:XW:45:VAL:O	2.20	0.41
5:YA:56:ILE:HD13	5:YA:323:MET:HE1	2.03	0.41
62:XN:8:GLY:O	62:XN:86:THR:OG1	2.33	0.41
1:BQ:1703:U:O4	1:BQ:1740:U:O2'	2.34	0.41
1:BQ:3219:G:N1	8:BM:162:SER:OG	2.45	0.41
3:BS:24:G:O6	61:AK:13:ARG:NH2	2.53	0.41
13:AG:86:VAL:HG13	13:AG:111:ASP:OD1	2.21	0.41
18:2:55:A:H3'	18:2:403:G:H22	1.84	0.41
18:2:1331:A:H61	22:A:161:GLY:N	2.18	0.41
18:2:1524:A:N3	18:2:1590:G:O2'	2.52	0.41
19:P:66:ALA:HB1	40:a:50:TYR:CD1	2.56	0.41
20:Q:32:ILE:HD12	20:Q:44:GLY:C	2.45	0.41
20:Q:71:ALA:HB3	33:Z:114:ARG:NH1	2.35	0.41
20:Q:135:LEU:HD23	20:Q:217:LEU:HA	2.01	0.41
25:T:98:ARG:NH2	25:T:101:ILE:O	2.54	0.41
28:W:119:ALA:HB1	28:W:121:SER:O	2.20	0.41
31:D:129:GLU:N	31:D:133:LEU:HD22	2.36	0.41
45:e:43:ASN:ND2	45:e:45:VAL:O	2.53	0.41
51:O:86:ASP:OD1	51:O:88:THR:OG1	2.34	0.41
63:AR:15:VAL:O	63:AR:16:SER:OG	2.35	0.41
63:AR:77:LYS:O	63:AR:79:TRP:N	2.53	0.41
18:2b:1114:G:O2'	18:2b:1130:G:O6	2.37	0.41
18:2b:1553:G:N7	34:Eb:43:ARG:NH1	2.68	0.41
20:Qb:133:TYR:CG	20:Qb:181:LEU:HD11	2.55	0.41
28:Wb:59:LEU:O	28:Wb:62:ARG:N	2.53	0.41
31:Db:98:GLY:HA2	31:Db:101:ALA:HB3	2.01	0.41
32:Yb:132:VAL:HG23	32:Yb:134:VAL:HG13	2.02	0.41
51:Ob:89:LEU:CD2	51:Ob:110:VAL:HG11	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:YQ:1341:U:O2	53:YB:10:HIS:ND1	2.50	0.41
1:YQ:2896:A:OP1	75:XO:124:LYS:NZ	2.43	0.41
1:YQ:3180:A:P	17:XU:171:LYS:HZ1	2.43	0.41
2:YR:107:C:P	12:YD:203:LYS:HZ3	2.41	0.41
11:XD:90:MET:HE2	11:XD:179:ILE:HG22	2.02	0.41
13:XG:108:GLU:HA	13:XG:122:ILE:HD11	2.02	0.41
1:BQ:424:G:O2'	67:BG:23:ASP:OD2	2.38	0.41
1:BQ:2960:C:N4	1:BQ:2961:G:O6	2.54	0.41
3:BS:23:U:OP2	61:AK:16:ARG:NE	2.48	0.41
11:AD:1:MET:HE1	55:BH:138:GLN:CB	2.50	0.41
18:2:532:U:OP1	43:d:65:GLY:N	2.48	0.41
18:2:1462:G:OP2	37:H:143:ARG:NE	2.53	0.41
21:R:232:GLU:O	21:R:233:GLN:NE2	2.54	0.41
26:U:91:ILE:HG12	26:U:129:LEU:HD12	2.02	0.41
52:AX:67:ILE:HG22	52:AX:68:GLY:N	2.36	0.41
52:AX:120:ASN:N	52:AX:120:ASN:OD1	2.52	0.41
63:AR:100:PRO:HG2	63:AR:123:VAL:HG13	2.03	0.41
72:AF:14:LYS:CE	74:AL:51:ILE:HD11	2.51	0.41
18:2b:657:U:H1'	18:2b:677:G:H22	1.85	0.41
18:2b:1058:U:O4	18:2b:1061:A:N6	2.54	0.41
19:Pb:178:ALA:HA	19:Pb:181:VAL:HG22	2.02	0.41
19:Pb:190:ASP:N	40:ab:42:GLU:OE1	2.54	0.41
23:Sb:95:THR:HG21	23:Sb:97:GLU:OE2	2.21	0.41
23:Sb:120:SER:HA	23:Sb:164:LEU:HD12	2.02	0.41
33:Zb:31:THR:OG1	33:Zb:34:SER:O	2.33	0.41
34:Eb:16:SER:O	37:Hb:93:THR:HG22	2.21	0.41
1:YQ:1230:G:OP1	79:YU:32:ASN:ND2	2.54	0.41
4:XW:111:THR:HG22	4:XW:112:ILE:N	2.35	0.41
5:YA:77:THR:CG2	5:YA:328:ILE:HD12	2.51	0.41
7:YI:119:TYR:OH	7:YI:139:PRO:O	2.37	0.41
9:YO:228:SER:O	9:YO:229:PHE:HB3	2.21	0.41
67:YG:96:ILE:O	67:YG:121:ASN:ND2	2.47	0.41
71:XC:36:ARG:O	71:XC:40:VAL:HG23	2.21	0.41
84:l:38:G:O2'	84:l:39:G:O5'	2.36	0.41
1:BQ:524:U:O4	1:BQ:568:G:N2	2.51	0.41
1:BQ:727:G:O6	1:BQ:742:G:O2'	2.29	0.41
1:BQ:767:U:H1'	1:BQ:768:C:C6	2.56	0.41
1:BQ:1063:G:C6	56:BJ:109:VAL:HG22	2.55	0.41
1:BQ:1130:A:H61	12:BD:115:MET:HE3	1.86	0.41
1:BQ:2371:G:N1	1:BQ:2375:G:OP1	2.46	0.41
9:BO:64:GLN:NE2	9:BO:68:ASP:OD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AA:195:SER:O	10:AA:196:ALA:HB3	2.21	0.41
13:AG:82:ARG:HB3	13:AG:112:LEU:HB2	2.02	0.41
18:2:4:C:OP2	21:R:200:SER:OG	2.29	0.41
18:2:74:U:H1'	18:2:74:U:O2	2.21	0.41
18:2:544:A:O3'	49:g:28:LYS:NZ	2.54	0.41
18:2:851:U:P	54:BF:169:ALA:HB2	2.60	0.41
18:2:1369:U:OP1	38:I:119:LYS:NZ	2.47	0.41
18:2:1664:C:H2'	18:2:1665:U:O4'	2.21	0.41
28:W:107:ARG:O	28:W:148:VAL:N	2.54	0.41
18:2b:143:G:HO2'	18:2b:144:U:P	2.41	0.41
18:2b:249:U:H3'	18:2b:250:C:H5'	2.03	0.41
18:2b:251:A:O2'	23:Sb:130:GLN:NE2	2.47	0.41
22:Ab:209:ILE:HG22	36:Gb:38:ILE:HG13	2.02	0.41
34:Eb:33:PHE:O	34:Eb:36:LEU:HD23	2.21	0.41
39:Jb:103:ILE:HA	39:Jb:106:ILE:HG22	2.02	0.41
51:Ob:34:LEU:HD12	51:Ob:43:ILE:O	2.20	0.41
51:Ob:290:VAL:HG22	51:Ob:304:GLY:C	2.46	0.41
1:YQ:267:G:N2	16:XQ:50:ARG:O	2.53	0.41
1:YQ:1713:G:N2	1:YQ:1730:G:HO2'	2.18	0.41
1:YQ:1764:U:H3'	1:YQ:1765:U:H5''	2.02	0.41
1:YQ:1895:A:N6	1:YQ:2335:G:O2'	2.54	0.41
1:YQ:2641:U:OP2	56:YJ:10:ARG:NH1	2.45	0.41
3:YS:40:A:H62	3:YS:105:A:H62	1.68	0.41
6:YE:347:THR:HB	6:YE:349:THR:HG23	2.02	0.41
9:YO:23:ALA:O	9:YO:26:VAL:HG22	2.21	0.41
9:YO:156:ILE:HD13	9:YO:161:VAL:CG2	2.50	0.41
14:XJ:102:GLN:O	14:XJ:104:ARG:NE	2.52	0.41
53:YB:135:GLN:OE1	53:YB:135:GLN:N	2.52	0.41
62:XN:47:GLU:N	62:XN:69:LYS:O	2.47	0.41
63:XR:73:LEU:HB3	63:XR:112:ILE:HD13	2.02	0.41
71:XC:81:THR:OG1	71:XC:82:ARG:N	2.53	0.41
1:BQ:1496:C:H42	1:BQ:1520:G:H1	1.68	0.41
1:BQ:2568:C:N4	1:BQ:2574:G:O6	2.54	0.41
1:BQ:2745:G:N2	1:BQ:2748:A:OP2	2.48	0.41
1:BQ:2950:G:OP2	1:BQ:2950:G:N2	2.44	0.41
3:BS:72:A:H61	3:BS:79:A:H61	1.69	0.41
12:BD:201:SER:OG	12:BD:202:LYS:N	2.54	0.41
18:2:73:U:O2'	59:AE:119:GLU:OE1	2.28	0.41
18:2:242:U:HO2'	18:2:243:G:P	2.41	0.41
18:2:830:U:HO2'	18:2:831:U:C5'	2.33	0.41
18:2:1203:A:H61	18:2:1553:G:H21	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:1730:A:HO2'	18:2:1731:A:H8	1.68	0.41
19:P:22:THR:HG22	19:P:169:SER:HA	2.02	0.41
19:P:164:ASN:OD1	19:P:165:ARG:NH1	2.49	0.41
19:P:183:ARG:NH2	19:P:191:ARG:O	2.51	0.41
19:P:201:LEU:N	36:G:85:VAL:HG12	2.35	0.41
21:R:212:LYS:O	21:R:216:VAL:HG23	2.20	0.41
22:A:65:ARG:O	22:A:69:LEU:HD13	2.21	0.41
24:B:73:THR:HG22	24:B:75:GLY:H	1.86	0.41
31:D:73:LYS:HG3	50:N:108:VAL:HG22	2.01	0.41
53:BB:135:GLN:OE1	53:BB:135:GLN:N	2.51	0.41
18:2b:43:A:O2'	18:2b:99:C:OP1	2.34	0.41
18:2b:304:U:O4'	30:Xb:127:GLN:NE2	2.54	0.41
18:2b:1354:G:O6	18:2b:1368:G:N1	2.54	0.41
22:Ab:90:ARG:O	22:Ab:91:VAL:HG13	2.21	0.41
26:Ub:67:LEU:HD21	26:Ub:94:ALA:HB2	2.02	0.41
31:Db:129:GLU:O	31:Db:133:LEU:HD13	2.20	0.41
34:Eb:60:LEU:HD23	34:Eb:76:VAL:HG21	2.02	0.41
35:Fb:129:PHE:O	35:Fb:137:ARG:NH1	2.47	0.41
37:Hb:17:LEU:O	37:Hb:20:THR:N	2.52	0.41
38:Ib:37:VAL:HG12	38:Ib:39:THR:H	1.84	0.41
39:Jb:81:THR:HG23	39:Jb:81:THR:O	2.21	0.41
39:Jb:97:VAL:HG13	39:Jb:98:GLN:N	2.36	0.41
43:db:54:ALA:O	43:db:76:TYR:N	2.44	0.41
51:Ob:309:VAL:HG12	51:Ob:310:ILE:N	2.36	0.41
1:YQ:607:A:OP1	8:YM:24:ALA:N	2.49	0.41
1:YQ:750:G:OP2	64:XV:40:ARG:NH2	2.53	0.41
1:YQ:950:G:N1	1:YQ:1368:U:OP2	2.44	0.41
1:YQ:1264:G:N2	1:YQ:1277:C:H42	2.19	0.41
1:YQ:1284:C:HO2'	1:YQ:1285:G:P	2.43	0.41
1:YQ:2232:A:H2'	1:YQ:2233:A:O4'	2.21	0.41
1:YQ:2278:C:O2'	1:YQ:2279:A:O5'	2.38	0.41
1:YQ:2557:A:OP1	4:XW:69:TYR:OH	2.24	0.41
1:YQ:2872:A:O2'	1:YQ:2873:U:O5'	2.38	0.41
1:YQ:3243:A:C5	17:XU:156:LEU:HD13	2.56	0.41
4:XW:13:GLY:C	4:XW:17:THR:HG23	2.46	0.41
11:XD:146:LEU:N	11:XD:146:LEU:HD12	2.36	0.41
13:XG:12:LEU:HD22	13:XG:133:ARG:HE	1.86	0.41
15:XM:70:PHE:HE2	15:XM:72:LEU:HD22	1.85	0.41
15:XM:72:LEU:HD12	15:XM:73:PRO:N	2.36	0.41
16:XQ:121:VAL:HG23	16:XQ:122:ASN:N	2.35	0.41
61:XK:85:VAL:HG12	61:XK:97:ILE:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:XR:3:SER:O	63:XR:6:THR:HG22	2.20	0.41
65:XY:100:ILE:O	65:XY:103:THR:OG1	2.38	0.41
66:YC:43:HIS:O	66:YC:44:MET:HB2	2.20	0.41
71:XC:57:LEU:HD22	71:XC:69:ALA:HB1	2.02	0.41
77:XP:34:SER:OG	77:XP:35:LEU:N	2.54	0.41
80:n:17:G:N2	80:n:58:A:O4'	2.54	0.41
1:BQ:1426:C:H4'	6:BE:40:THR:HG22	2.03	0.41
7:BI:282:ARG:O	7:BI:286:VAL:HG23	2.21	0.41
17:AU:43:ILE:HD11	17:AU:138:LEU:HD13	2.02	0.41
18:2:260:U:O2'	18:2:261:U:OP1	2.36	0.41
18:2:788:A:H2'	23:S:19:LEU:HD22	2.03	0.41
18:2:918:U:O3'	33:Z:18:ARG:NE	2.54	0.41
18:2:1098:U:OP2	21:R:168:ARG:NE	2.49	0.41
18:2:1533:C:H4'	18:2:1539:G:H22	1.85	0.41
28:W:21:SER:OG	28:W:22:SER:N	2.54	0.41
30:X:33:ARG:NH2	30:X:51:GLY:O	2.54	0.41
36:G:87:GLU:HG2	36:G:88:VAL:HG23	2.03	0.41
37:H:25:ASN:OD1	44:K:40:VAL:HG22	2.20	0.41
38:I:109:GLU:OE1	38:I:116:ILE:N	2.54	0.41
51:O:79:TYR:CA	51:O:94:VAL:HG23	2.51	0.41
57:BL:59:ASP:OD1	57:BL:60:GLY:N	2.54	0.41
59:AE:49:ILE:HG22	59:AE:51:TRP:H	1.86	0.41
18:2b:74:U:O2'	18:2b:75:U:OP2	2.29	0.41
18:2b:1684:U:O2'	18:2b:1685:G:O4'	2.36	0.41
19:Pb:190:ASP:O	19:Pb:193:GLN:N	2.49	0.41
20:Qb:108:ASP:N	20:Qb:108:ASP:OD1	2.51	0.41
26:Ub:14:THR:OG1	26:Ub:15:GLU:N	2.54	0.41
28:Wb:28:LEU:HD23	49:gb:43:ARG:HD2	2.03	0.41
30:Xb:57:LYS:O	30:Xb:64:VAL:HG21	2.21	0.41
31:Db:71:ILE:O	31:Db:75:VAL:HG23	2.21	0.41
38:Ib:39:THR:OG1	38:Ib:43:ASN:ND2	2.54	0.41
39:Jb:26:LEU:CD2	39:Jb:114:VAL:HG22	2.51	0.41
42:cb:104:LEU:CD2	42:cb:124:VAL:HG12	2.51	0.41
44:Kb:40:VAL:O	44:Kb:41:ILE:HG23	2.21	0.41
1:YQ:2748:A:O2'	7:YI:48:LYS:NZ	2.51	0.41
8:YM:65:ILE:HG22	8:YM:66:SER:N	2.36	0.41
14:XJ:89:TYR:CE1	14:XJ:93:ILE:HD11	2.56	0.41
55:YH:81:TYR:HE1	55:YH:90:MET:HE3	1.84	0.41
57:YL:59:ASP:OD1	57:YL:60:GLY:N	2.54	0.41
1:BQ:609:G:OP2	6:BE:315:LYS:NZ	2.54	0.40
1:BQ:1126:G:OP1	12:BD:98:ARG:NH2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BQ:2213:A:H61	1:BQ:2429:G:H1'	1.86	0.40
1:BQ:2585:G:N7	10:AA:47:SER:OG	2.26	0.40
1:BQ:3151:U:OP2	5:BA:132:LYS:NZ	2.48	0.40
18:2:819:G:H22	18:2:853:G:H2'	1.85	0.40
18:2:1195:C:N4	35:F:141:SER:OG	2.54	0.40
18:2:1244:A:O2'	18:2:1245:G:O5'	2.38	0.40
18:2:1380:U:O2'	18:2:1516:A:N1	2.45	0.40
18:2:1486:G:N2	18:2:1522:U:O4	2.54	0.40
18:2:1555:A:N3	48:M:11:PRO:CB	2.84	0.40
22:A:41:VAL:HA	22:A:46:THR:HG23	2.03	0.40
22:A:54:ARG:O	22:A:58:VAL:HG23	2.22	0.40
31:D:66:VAL:HG22	31:D:72:ILE:CD1	2.51	0.40
31:D:143:GLN:OE1	31:D:143:GLN:N	2.53	0.40
32:Y:129:TYR:HA	32:Y:132:VAL:HG22	2.02	0.40
33:Z:20:TYR:OH	33:Z:86:THR:HG22	2.21	0.40
38:I:28:LEU:HD22	38:I:55:TYR:CD1	2.56	0.40
39:J:95:ALA:CB	39:J:99:ILE:HD11	2.51	0.40
42:c:58:GLY:O	49:g:6:GLY:N	2.54	0.40
52:AX:14:SER:O	52:AX:105:LYS:NZ	2.49	0.40
18:2b:78:A:O3'	25:Tb:159:ARG:NH1	2.52	0.40
18:2b:422:G:HO2'	18:2b:423:G:C4'	2.33	0.40
18:2b:523:G:H1'	18:2b:529:A:H61	1.86	0.40
18:2b:1054:U:O2	20:Qb:148:ASN:ND2	2.54	0.40
18:2b:1555:A:C6	48:Mb:12:ARG:HG2	2.56	0.40
23:Sb:89:VAL:HG23	23:Sb:122:LYS:HE3	2.02	0.40
25:Tb:64:LYS:HZ1	25:Tb:81:VAL:HG12	1.86	0.40
28:Wb:34:PHE:CZ	28:Wb:105:LEU:HD23	2.56	0.40
31:Db:61:VAL:HG22	31:Db:91:VAL:HG12	2.02	0.40
1:YQ:348:A:N3	1:YQ:352:A:O2'	2.52	0.40
1:YQ:1825:G:OP1	73:XI:49:SER:OG	2.35	0.40
1:YQ:2947:G:OP1	1:YQ:2982:A:N6	2.43	0.40
5:YA:322:ILE:HD12	5:YA:322:ILE:N	2.37	0.40
6:YE:187:LEU:HD22	6:YE:193:LYS:HE3	2.03	0.40
10:XA:135:GLY:O	10:XA:139:VAL:HG23	2.20	0.40
55:YH:61:ILE:O	55:YH:61:ILE:HG23	2.21	0.40
57:YL:80:THR:HG21	57:YL:95:PHE:HD2	1.84	0.40
59:XE:106:GLU:OE1	59:XE:106:GLU:N	2.54	0.40
61:XK:54:ASP:O	61:XK:70:ILE:HD12	2.21	0.40
82:nb:18:G:O2'	82:nb:19:G:N3	2.47	0.40
1:BQ:1562:C:N3	1:BQ:1578:C:N4	2.68	0.40
1:BQ:2570:U:H5''	1:BQ:2572:C:H42	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BR:49:G:O2'	7:BI:58:LYS:NZ	2.54	0.40
4:AW:147:ARG:HB3	4:AW:157:VAL:HG22	2.02	0.40
8:BM:149:ILE:HG23	8:BM:155:LEU:HD22	2.03	0.40
13:AG:19:LEU:HD22	13:AG:127:PHE:CD1	2.55	0.40
18:2:1615:C:OP1	24:B:81:ARG:NH2	2.53	0.40
19:P:167:LYS:NZ	19:P:204:TYR:O	2.54	0.40
20:Q:131:ASP:OD1	20:Q:131:ASP:N	2.54	0.40
40:a:32:VAL:HG23	40:a:60:ARG:NH1	2.37	0.40
52:AX:56:ARG:O	52:AX:83:TRP:NE1	2.53	0.40
55:BH:61:ILE:HG23	55:BH:61:ILE:O	2.21	0.40
58:AB:39:VAL:HG22	58:AB:58:VAL:HG12	2.04	0.40
18:2b:487:G:N2	18:2b:501:U:O2	2.54	0.40
18:2b:1597:A:H61	48:Mb:12:ARG:CD	2.33	0.40
19:Pb:182:LEU:CB	19:Pb:188:LEU:HD23	2.50	0.40
23:Sb:209:HIS:O	23:Sb:210:ILE:HD13	2.20	0.40
24:Bb:121:ILE:O	24:Bb:125:THR:HB	2.21	0.40
25:Tb:70:PRO:HB3	25:Tb:101:ILE:HB	2.03	0.40
26:Ub:173:TYR:CE2	26:Ub:177:THR:HG21	2.56	0.40
30:Xb:80:MET:HB2	30:Xb:83:THR:HG23	2.03	0.40
51:Ob:145:LEU:HD23	51:Ob:145:LEU:N	2.36	0.40
1:YQ:118:U:N3	1:YQ:122:A:OP2	2.47	0.40
1:YQ:2373:A:N3	1:YQ:2824:G:O2'	2.54	0.40
9:YO:84:VAL:HG11	9:YO:136:TYR:HD2	1.85	0.40
16:XQ:46:ASP:OD2	16:XQ:46:ASP:N	2.53	0.40
71:XC:56:ARG:O	71:XC:60:LEU:HD13	2.21	0.40
80:n:16:U:O2'	80:n:17:G:OP1	2.26	0.40
1:BQ:2104:A:OP2	54:BF:81:ARG:NH2	2.46	0.40
1:BQ:2513:U:O2'	1:BQ:2514:U:O5'	2.31	0.40
4:AW:13:GLY:O	4:AW:17:THR:HG23	2.22	0.40
5:BA:145:GLU:OE1	5:BA:196:ARG:NH1	2.47	0.40
18:2:1133:A:N3	18:2:1650:U:O2'	2.33	0.40
19:P:179:ARG:NH2	19:P:180:GLU:OE1	2.55	0.40
21:R:172:ALA:HB3	21:R:196:VAL:HA	2.04	0.40
36:G:105:GLN:OE1	36:G:105:GLN:N	2.50	0.40
66:BC:46:THR:HG22	66:BC:91:SER:OG	2.22	0.40
18:2b:575:C:H41	42:cb:65:ASN:CG	2.30	0.40
18:2b:1597:A:C2	48:Mb:14:TYR:CG	3.10	0.40
23:Sb:114:ILE:HD12	23:Sb:118:GLU:C	2.46	0.40
24:Bb:59:VAL:HG12	24:Bb:60:ASP:H	1.86	0.40
27:Vb:38:ILE:HD12	27:Vb:94:ASN:HB3	2.02	0.40
31:Db:129:GLU:N	31:Db:133:LEU:HD22	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Eb:17:TYR:N	34:Eb:20:VAL:O	2.55	0.40
34:Eb:31:GLU:O	34:Eb:34:VAL:HG22	2.22	0.40
37:Hb:46:VAL:HG11	37:Hb:69:ILE:HG23	2.03	0.40
50:Nb:103:LEU:O	50:Nb:103:LEU:HG	2.01	0.40
1:YQ:341:G:N7	6:YE:195:ARG:NH2	2.66	0.40
53:YB:30:VAL:O	53:YB:34:THR:HG23	2.21	0.40
70:YP:58:ILE:O	70:YP:62:GLN:NE2	2.54	0.40
1:BQ:1467:A:O2'	1:BQ:1469:C:OP2	2.38	0.40
1:BQ:2224:A:P	71:AC:71:LYS:HZ2	2.45	0.40
1:BQ:3306:U:OP1	5:BA:225:GLY:N	2.49	0.40
13:AG:54:VAL:HG11	13:AG:57:PHE:CE2	2.56	0.40
15:AM:38:ILE:O	55:BH:95:ARG:NH2	2.50	0.40
18:2:60:U:N3	18:2:63:G:OP1	2.52	0.40
18:2:249:U:H3'	18:2:250:C:H5'	2.04	0.40
18:2:520:A:H2'	18:2:521:A:O4'	2.21	0.40
18:2:1445:G:C4	50:N:91:ILE:HD11	2.56	0.40
18:2:1600:A:O2'	18:2:1602:C:N4	2.55	0.40
36:G:35:CYS:HA	36:G:38:ILE:HG22	2.04	0.40
39:J:51:VAL:HG22	39:J:93:LEU:HD23	2.04	0.40
60:AH:79:GLY:C	60:AH:81:ILE:HD12	2.46	0.40
61:AK:82:VAL:HG12	61:AK:83:ASP:O	2.21	0.40
18:2b:168:A:OP1	25:Tb:136:LYS:N	2.50	0.40
21:Rb:121:VAL:HG11	84:l:27:U:OP2	2.22	0.40
25:Tb:7:TYR:CD1	25:Tb:113:ILE:HD12	2.56	0.40
25:Tb:113:ILE:HD11	25:Tb:124:LEU:CD2	2.51	0.40
27:Vb:38:ILE:HG13	27:Vb:96:LEU:HD21	2.04	0.40
30:Xb:18:HIS:C	30:Xb:19:ILE:HD13	2.47	0.40
35:Fb:13:LYS:HG3	35:Fb:14:LYS:H	1.87	0.40
51:Ob:23:LEU:HD11	51:Ob:304:GLY:N	2.36	0.40
1:YQ:628:A:H2'	1:YQ:629:U:O4'	2.21	0.40
1:YQ:1640:G:OP2	69:YN:72:VAL:HG12	2.21	0.40
1:YQ:2186:U:H2'	1:YQ:2187:G:O4'	2.22	0.40
1:YQ:2320:A:C2	78:XT:16:VAL:HG22	2.50	0.40
1:YQ:2583:C:O2'	1:YQ:2584:G:OP1	2.38	0.40
8:YM:37:GLY:N	8:YM:54:TYR:O	2.42	0.40
73:Xl:32:ASN:OD1	73:Xl:35:GLY:N	2.55	0.40
82:nb:2:C:N4	82:nb:71:G:O6	2.55	0.40
1:BQ:1078:U:OP2	7:BI:140:ARG:NH2	2.55	0.40
1:BQ:1906:G:O2'	1:BQ:1907:C:OP2	2.38	0.40
1:BQ:2320:A:H2	78:AT:16:VAL:HG22	1.87	0.40
18:2:331:A:O3'	27:V:56:ARG:NH2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:2:449:C:OP1	23:S:81:THR:HG21	2.22	0.40
18:2:993:A:H62	18:2:1011:G:H21	1.69	0.40
18:2:1433:G:N2	48:M:46:LYS:HZ2	2.20	0.40
23:S:162:ILE:H	23:S:162:ILE:HD12	1.86	0.40
23:S:189:LEU:HD12	23:S:190:GLY:H	1.85	0.40
31:D:43:ARG:NH2	31:D:103:LEU:HD13	2.37	0.40
66:BC:10:ARG:HB2	66:BC:12:TYR:HE1	1.87	0.40
18:2b:574:G:O6	42:cb:65:ASN:ND2	2.49	0.40
20:Qb:48:VAL:HG12	20:Qb:49:ASN:N	2.37	0.40
23:Sb:98:ASN:O	23:Sb:114:ILE:N	2.44	0.40
25:Tb:2:LYS:O	25:Tb:3:LEU:HD23	2.22	0.40
34:Eb:28:MET:HE3	34:Eb:33:PHE:HB2	2.03	0.40
46:fb:6:ASP:CG	46:fb:9:HIS:HD1	2.27	0.40
51:Ob:175:ASP:OD1	51:Ob:175:ASP:N	2.53	0.40
51:Ob:272:ASP:OD1	51:Ob:273:ASP:N	2.54	0.40
2:YR:13:A:N3	7:YI:24:ARG:NH2	2.69	0.40
14:XJ:140:SER:OG	14:XJ:141:ALA:N	2.53	0.40
83:mb:55:U:O2	83:mb:59:A:N7	2.55	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	AW	250/252 (99%)	217 (87%)	33 (13%)	0	100	100
4	XW	250/252 (99%)	218 (87%)	32 (13%)	0	100	100
5	BA	384/386 (100%)	357 (93%)	27 (7%)	0	100	100
5	YA	384/386 (100%)	358 (93%)	25 (6%)	1 (0%)	36	71
6	BE	359/361 (99%)	321 (89%)	33 (9%)	5 (1%)	9	38
6	YE	359/361 (99%)	321 (89%)	33 (9%)	5 (1%)	9	38

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	BI	292/294 (99%)	266 (91%)	25 (9%)	1 (0%)	36	71
7	YI	292/294 (99%)	265 (91%)	27 (9%)	0	100	100
8	BM	153/176 (87%)	146 (95%)	6 (4%)	1 (1%)	18	55
8	YM	153/176 (87%)	146 (95%)	6 (4%)	1 (1%)	18	55
9	BO	221/223 (99%)	206 (93%)	14 (6%)	1 (0%)	24	63
9	YO	221/223 (99%)	207 (94%)	14 (6%)	0	100	100
10	AA	229/231 (99%)	202 (88%)	27 (12%)	0	100	100
10	XA	229/231 (99%)	197 (86%)	32 (14%)	0	100	100
11	AD	188/190 (99%)	177 (94%)	11 (6%)	0	100	100
11	XD	188/190 (99%)	175 (93%)	13 (7%)	0	100	100
12	BD	205/221 (93%)	187 (91%)	17 (8%)	1 (0%)	24	63
12	YD	205/221 (93%)	187 (91%)	17 (8%)	1 (0%)	24	63
13	AG	167/169 (99%)	139 (83%)	26 (16%)	2 (1%)	10	42
13	XG	167/169 (99%)	139 (83%)	24 (14%)	4 (2%)	4	25
14	AJ	192/194 (99%)	159 (83%)	25 (13%)	8 (4%)	2	17
14	XJ	192/194 (99%)	155 (81%)	30 (16%)	7 (4%)	2	19
15	AM	135/137 (98%)	129 (96%)	6 (4%)	0	100	100
15	XM	135/137 (98%)	123 (91%)	12 (9%)	0	100	100
16	AQ	201/203 (99%)	185 (92%)	14 (7%)	2 (1%)	12	47
16	XQ	201/203 (99%)	180 (90%)	20 (10%)	1 (0%)	24	63
17	AU	195/197 (99%)	191 (98%)	4 (2%)	0	100	100
17	XU	195/197 (99%)	186 (95%)	9 (5%)	0	100	100
19	P	204/206 (99%)	171 (84%)	32 (16%)	1 (0%)	24	63
19	Pb	204/206 (99%)	171 (84%)	31 (15%)	2 (1%)	12	47
20	Q	214/216 (99%)	193 (90%)	21 (10%)	0	100	100
20	Qb	214/216 (99%)	189 (88%)	25 (12%)	0	100	100
21	R	215/217 (99%)	190 (88%)	25 (12%)	0	100	100
21	Rb	215/217 (99%)	187 (87%)	27 (13%)	1 (0%)	24	63
22	A	221/223 (99%)	196 (89%)	21 (10%)	4 (2%)	6	32
22	Ab	221/223 (99%)	199 (90%)	18 (8%)	4 (2%)	6	32
23	S	258/260 (99%)	226 (88%)	31 (12%)	1 (0%)	30	67

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	Sb	258/260 (99%)	219 (85%)	38 (15%)	1 (0%)	30	67
24	B	204/206 (99%)	170 (83%)	31 (15%)	3 (2%)	8	38
24	Bb	204/206 (99%)	173 (85%)	28 (14%)	3 (2%)	8	38
25	T	216/218 (99%)	194 (90%)	20 (9%)	2 (1%)	14	49
25	Tb	216/218 (99%)	202 (94%)	13 (6%)	1 (0%)	24	63
26	U	183/185 (99%)	156 (85%)	23 (13%)	4 (2%)	5	27
26	Ub	183/185 (99%)	157 (86%)	22 (12%)	4 (2%)	5	27
27	V	184/200 (92%)	167 (91%)	17 (9%)	0	100	100
27	Vb	184/200 (92%)	168 (91%)	16 (9%)	0	100	100
28	W	183/185 (99%)	164 (90%)	18 (10%)	1 (0%)	24	63
28	Wb	183/185 (99%)	149 (81%)	32 (18%)	2 (1%)	11	45
29	C	90/92 (98%)	67 (74%)	21 (23%)	2 (2%)	5	27
29	Cb	90/92 (98%)	70 (78%)	18 (20%)	2 (2%)	5	27
30	X	144/146 (99%)	123 (85%)	20 (14%)	1 (1%)	18	55
30	Xb	144/146 (99%)	125 (87%)	19 (13%)	0	100	100
31	D	122/124 (98%)	86 (70%)	31 (25%)	5 (4%)	2	17
31	Db	122/124 (98%)	87 (71%)	30 (25%)	5 (4%)	2	17
32	Y	148/150 (99%)	131 (88%)	15 (10%)	2 (1%)	9	38
32	Yb	148/150 (99%)	132 (89%)	14 (10%)	2 (1%)	9	38
33	Z	126/128 (98%)	110 (87%)	16 (13%)	0	100	100
33	Zb	126/128 (98%)	112 (89%)	14 (11%)	0	100	100
34	E	117/119 (98%)	101 (86%)	12 (10%)	4 (3%)	3	20
34	Eb	117/119 (98%)	102 (87%)	10 (8%)	5 (4%)	2	16
35	F	139/141 (99%)	124 (89%)	14 (10%)	1 (1%)	18	55
35	Fb	139/141 (99%)	123 (88%)	15 (11%)	1 (1%)	18	55
36	G	123/125 (98%)	106 (86%)	16 (13%)	1 (1%)	16	52
36	Gb	123/125 (98%)	103 (84%)	19 (15%)	1 (1%)	16	52
37	H	143/145 (99%)	122 (85%)	19 (13%)	2 (1%)	9	38
37	Hb	143/145 (99%)	128 (90%)	11 (8%)	4 (3%)	4	23
38	I	141/143 (99%)	131 (93%)	10 (7%)	0	100	100
38	Ib	141/143 (99%)	130 (92%)	11 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	J	99/101 (98%)	86 (87%)	11 (11%)	2 (2%)	6	30
39	Jb	99/101 (98%)	84 (85%)	13 (13%)	2 (2%)	6	30
40	a	85/87 (98%)	72 (85%)	12 (14%)	1 (1%)	10	42
40	ab	85/87 (98%)	74 (87%)	10 (12%)	1 (1%)	10	42
41	b	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
41	bb	127/129 (98%)	122 (96%)	4 (3%)	1 (1%)	16	52
42	c	142/144 (99%)	129 (91%)	10 (7%)	3 (2%)	5	28
42	cb	142/144 (99%)	128 (90%)	11 (8%)	3 (2%)	5	28
43	d	132/134 (98%)	117 (89%)	10 (8%)	5 (4%)	2	18
43	db	132/134 (98%)	114 (86%)	12 (9%)	6 (4%)	2	16
44	K	67/69 (97%)	61 (91%)	6 (9%)	0	100	100
44	Kb	67/69 (97%)	61 (91%)	6 (9%)	0	100	100
45	e	95/97 (98%)	77 (81%)	17 (18%)	1 (1%)	11	45
45	eb	95/97 (98%)	80 (84%)	14 (15%)	1 (1%)	11	45
46	f	79/81 (98%)	68 (86%)	10 (13%)	1 (1%)	9	40
46	fb	79/81 (98%)	68 (86%)	10 (13%)	1 (1%)	9	40
47	L	61/63 (97%)	51 (84%)	10 (16%)	0	100	100
47	Lb	61/63 (97%)	52 (85%)	9 (15%)	0	100	100
48	M	51/53 (96%)	37 (72%)	14 (28%)	0	100	100
48	Mb	51/53 (96%)	38 (74%)	11 (22%)	2 (4%)	2	18
49	g	58/60 (97%)	47 (81%)	10 (17%)	1 (2%)	7	34
49	gb	58/60 (97%)	46 (79%)	11 (19%)	1 (2%)	7	34
50	N	71/73 (97%)	45 (63%)	25 (35%)	1 (1%)	9	38
50	Nb	71/73 (97%)	47 (66%)	24 (34%)	0	100	100
51	O	311/313 (99%)	292 (94%)	19 (6%)	0	100	100
51	Ob	311/313 (99%)	280 (90%)	31 (10%)	0	100	100
52	AX	171/184 (93%)	163 (95%)	8 (5%)	0	100	100
52	XX	171/184 (93%)	161 (94%)	10 (6%)	0	100	100
53	BB	183/185 (99%)	171 (93%)	11 (6%)	1 (0%)	24	63
53	YB	183/185 (99%)	168 (92%)	15 (8%)	0	100	100
54	BF	181/188 (96%)	173 (96%)	7 (4%)	1 (1%)	21	58

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	YF	186/188 (99%)	178 (96%)	8 (4%)	0	100	100
55	BH	170/172 (99%)	160 (94%)	10 (6%)	0	100	100
55	YH	170/172 (99%)	161 (95%)	9 (5%)	0	100	100
56	BJ	157/159 (99%)	142 (90%)	13 (8%)	2 (1%)	9	40
56	YJ	157/159 (99%)	140 (89%)	14 (9%)	3 (2%)	6	30
57	BL	96/98 (98%)	88 (92%)	7 (7%)	1 (1%)	12	47
57	YL	96/98 (98%)	87 (91%)	9 (9%)	0	100	100
58	AB	132/134 (98%)	124 (94%)	8 (6%)	0	100	100
58	XB	132/134 (98%)	122 (92%)	10 (8%)	0	100	100
59	AE	133/135 (98%)	114 (86%)	17 (13%)	2 (2%)	8	38
59	XE	133/135 (98%)	113 (85%)	20 (15%)	0	100	100
60	AH	118/120 (98%)	107 (91%)	11 (9%)	0	100	100
60	XH	118/120 (98%)	109 (92%)	9 (8%)	0	100	100
61	AK	122/124 (98%)	111 (91%)	11 (9%)	0	100	100
61	XK	122/124 (98%)	116 (95%)	6 (5%)	0	100	100
62	AN	133/135 (98%)	119 (90%)	12 (9%)	2 (2%)	8	38
62	XN	133/135 (98%)	118 (89%)	13 (10%)	2 (2%)	8	38
63	AR	146/148 (99%)	122 (84%)	22 (15%)	2 (1%)	9	38
63	XR	146/148 (99%)	119 (82%)	26 (18%)	1 (1%)	18	55
64	AV	56/58 (97%)	45 (80%)	11 (20%)	0	100	100
64	XV	56/58 (97%)	44 (79%)	12 (21%)	0	100	100
65	AY	98/100 (98%)	97 (99%)	1 (1%)	0	100	100
65	XY	98/100 (98%)	94 (96%)	3 (3%)	1 (1%)	12	47
66	BC	107/109 (98%)	94 (88%)	12 (11%)	1 (1%)	14	49
66	YC	107/109 (98%)	94 (88%)	11 (10%)	2 (2%)	6	30
67	BG	125/127 (98%)	116 (93%)	7 (6%)	2 (2%)	7	36
67	YG	125/127 (98%)	116 (93%)	7 (6%)	2 (2%)	7	36
68	BK	104/106 (98%)	97 (93%)	7 (7%)	0	100	100
68	YK	104/106 (98%)	96 (92%)	8 (8%)	0	100	100
69	BN	110/112 (98%)	105 (96%)	5 (4%)	0	100	100
69	YN	110/112 (98%)	106 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
70	BP	117/119 (98%)	108 (92%)	8 (7%)	1 (1%)	14	49
70	YP	117/119 (98%)	108 (92%)	8 (7%)	1 (1%)	14	49
71	AC	97/99 (98%)	83 (86%)	14 (14%)	0	100	100
71	XC	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
72	AF	80/82 (98%)	72 (90%)	8 (10%)	0	100	100
72	XF	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
73	AI	75/77 (97%)	70 (93%)	4 (5%)	1 (1%)	9	40
73	XI	75/77 (97%)	69 (92%)	5 (7%)	1 (1%)	9	40
74	AL	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
74	XL	48/50 (96%)	43 (90%)	5 (10%)	0	100	100
75	AO	50/52 (96%)	47 (94%)	3 (6%)	0	100	100
75	XO	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
76	AS	23/25 (92%)	23 (100%)	0	0	100	100
76	XS	23/25 (92%)	22 (96%)	1 (4%)	0	100	100
77	AP	103/105 (98%)	94 (91%)	9 (9%)	0	100	100
77	XP	103/105 (98%)	95 (92%)	8 (8%)	0	100	100
78	AT	89/91 (98%)	82 (92%)	7 (8%)	0	100	100
78	XT	89/91 (98%)	82 (92%)	7 (8%)	0	100	100
79	BU	134/312 (43%)	128 (96%)	6 (4%)	0	100	100
79	YU	134/312 (43%)	127 (95%)	7 (5%)	0	100	100
All	All	22169/22946 (97%)	19791 (89%)	2203 (10%)	175 (1%)	18	52

All (175) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	BE	90	PHE
6	BE	339	LEU
13	AG	95	ASN
14	AJ	48	PRO
14	AJ	62	THR
16	AQ	147	ARG
22	A	196	ARG
24	B	101	GLY
26	U	74	GLN
26	U	111	LYS

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Mol	Chain	Res	Type
31	D	130	THR
35	F	116	LEU
36	G	82	ASP
43	d	52	LYS
24	Bb	101	GLY
26	Ub	74	GLN
26	Ub	111	LYS
31	Db	130	THR
35	Fb	116	LEU
36	Gb	82	ASP
39	Jb	72	ASN
43	db	52	LYS
5	YA	386	ASP
6	YE	339	LEU
13	XG	95	ASN
14	XJ	48	PRO
14	XJ	62	THR
16	XQ	147	ARG
62	XN	102	GLU
63	XR	78	LEU
67	YG	6	HIS
22	A	45	LYS
22	A	90	ARG
24	B	126	ASP
29	C	35	ILE
31	D	109	GLU
37	H	91	ASP
39	J	72	ASN
40	a	6	GLY
42	c	89	ASN
43	d	49	LYS
49	g	4	VAL
56	BJ	135	PRO
59	AE	76	VAL
62	AN	102	GLU
63	AR	18	GLY
63	AR	78	LEU
22	Ab	90	ARG
25	Tb	68	LEU
34	Eb	71	GLU
37	Hb	91	ASP
40	ab	11	LEU

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Mol	Chain	Res	Type
41	bb	68	ARG
42	cb	89	ASN
43	db	33	ALA
43	db	49	LYS
6	YE	343	LYS
14	XJ	77	LEU
56	YJ	135	PRO
67	YG	17	PHE
73	XI	17	ARG
6	BE	301	PRO
6	BE	342	LYS
14	AJ	61	PRO
14	AJ	77	LEU
22	A	218	LEU
23	S	163	ASP
34	E	71	GLU
45	e	9	GLY
54	BF	36	ASN
59	AE	75	THR
67	BG	6	HIS
67	BG	17	PHE
70	BP	91	ALA
73	AI	17	ARG
22	Ab	45	LYS
22	Ab	218	LEU
23	Sb	163	ASP
24	Bb	126	ASP
31	Db	109	GLU
34	Eb	127	ARG
45	eb	35	ALA
49	gb	4	VAL
6	YE	301	PRO
65	XY	103	THR
66	YC	82	GLU
7	BI	6	ASP
13	AG	115	LYS
14	AJ	47	ALA
25	T	48	TYR
29	C	24	LYS
31	D	131	ASP
42	c	101	GLU
43	d	33	ALA

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Mol	Chain	Res	Type
43	d	58	PHE
43	d	78	SER
46	f	62	ILE
50	N	107	LYS
31	Db	131	ASP
43	db	78	SER
48	Mb	13	ARG
6	YE	342	LYS
13	XG	94	ARG
14	XJ	61	PRO
56	YJ	22	HIS
56	YJ	136	ARG
70	YP	91	ALA
8	BM	10	TYR
9	BO	229	PHE
14	AJ	140	SER
16	AQ	146	ALA
24	B	29	ILE
25	T	68	LEU
31	D	119	SER
32	Y	29	SER
34	E	125	PRO
56	BJ	136	ARG
57	BL	49	ASN
24	Bb	29	ILE
31	Db	90	LYS
32	Yb	29	SER
34	Eb	125	PRO
37	Hb	60	GLU
42	cb	101	GLU
43	db	58	PHE
46	fb	62	ILE
8	YM	10	TYR
12	YD	219	ALA
13	XG	152	HIS
14	XJ	47	ALA
14	XJ	140	SER
62	XN	101	PHE
6	BE	145	ILE
12	BD	219	ALA
14	AJ	141	ALA
19	P	31	VAL

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Mol	Chain	Res	Type
26	U	131	PHE
32	Y	22	ALA
39	J	51	VAL
42	c	41	SER
53	BB	99	THR
62	AN	101	PHE
26	Ub	131	PHE
29	Cb	24	LYS
29	Cb	35	ILE
42	cb	41	SER
28	W	163	PRO
30	X	129	ARG
34	E	68	PRO
66	BC	7	VAL
34	Eb	68	PRO
37	Hb	92	ILE
39	Jb	51	VAL
6	YE	145	ILE
14	XJ	60	ALA
26	U	65	PRO
37	H	92	ILE
19	Pb	186	GLY
28	Wb	162	SER
34	Eb	126	VAL
43	db	35	VAL
66	YC	7	VAL
14	AJ	60	ALA
31	D	89	ILE
22	Ab	180	GLY
26	Ub	65	PRO
37	Hb	14	ILE
48	Mb	11	PRO
34	E	126	VAL
19	Pb	31	VAL
21	Rb	236	PRO
28	Wb	163	PRO
31	Db	89	ILE
32	Yb	22	ALA
13	XG	8	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	
4	AW	192/194 (99%)	192 (100%)	0	100	100
4	XW	192/194 (99%)	192 (100%)	0	100	100
5	BA	318/322 (99%)	315 (99%)	3 (1%)	70	77
5	YA	318/322 (99%)	316 (99%)	2 (1%)	78	81
6	BE	288/288 (100%)	287 (100%)	1 (0%)	86	84
6	YE	288/288 (100%)	288 (100%)	0	100	100
7	BI	243/243 (100%)	243 (100%)	0	100	100
7	YI	243/243 (100%)	242 (100%)	1 (0%)	84	83
8	BM	135/153 (88%)	135 (100%)	0	100	100
8	YM	135/153 (88%)	134 (99%)	1 (1%)	76	80
9	BO	187/187 (100%)	187 (100%)	0	100	100
9	YO	187/187 (100%)	187 (100%)	0	100	100
10	AA	177/190 (93%)	177 (100%)	0	100	100
10	XA	177/190 (93%)	177 (100%)	0	100	100
11	AD	170/170 (100%)	170 (100%)	0	100	100
11	XD	170/170 (100%)	170 (100%)	0	100	100
12	BD	177/187 (95%)	177 (100%)	0	100	100
12	YD	177/187 (95%)	176 (99%)	1 (1%)	78	81
13	AG	147/147 (100%)	147 (100%)	0	100	100
13	XG	147/147 (100%)	146 (99%)	1 (1%)	76	80
14	AJ	154/154 (100%)	154 (100%)	0	100	100
14	XJ	154/154 (100%)	154 (100%)	0	100	100
15	AM	108/108 (100%)	108 (100%)	0	100	100
15	XM	108/108 (100%)	108 (100%)	0	100	100
16	AQ	175/175 (100%)	175 (100%)	0	100	100
16	XQ	175/175 (100%)	175 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	AU	160/160 (100%)	160 (100%)	0	100	100
17	XU	160/160 (100%)	160 (100%)	0	100	100
19	P	165/173 (95%)	165 (100%)	0	100	100
19	Pb	165/173 (95%)	164 (99%)	1 (1%)	78	81
20	Q	192/192 (100%)	192 (100%)	0	100	100
20	Qb	192/192 (100%)	191 (100%)	1 (0%)	81	82
21	R	176/176 (100%)	176 (100%)	0	100	100
21	Rb	176/176 (100%)	176 (100%)	0	100	100
22	A	182/182 (100%)	181 (100%)	1 (0%)	81	82
22	Ab	182/182 (100%)	182 (100%)	0	100	100
23	S	221/221 (100%)	221 (100%)	0	100	100
23	Sb	221/221 (100%)	221 (100%)	0	100	100
24	B	173/173 (100%)	173 (100%)	0	100	100
24	Bb	173/173 (100%)	170 (98%)	3 (2%)	53	67
25	T	187/187 (100%)	187 (100%)	0	100	100
25	Tb	187/187 (100%)	187 (100%)	0	100	100
26	U	165/165 (100%)	165 (100%)	0	100	100
26	Ub	165/165 (100%)	164 (99%)	1 (1%)	78	81
27	V	150/161 (93%)	150 (100%)	0	100	100
27	Vb	150/161 (93%)	150 (100%)	0	100	100
28	W	158/158 (100%)	158 (100%)	0	100	100
28	Wb	158/158 (100%)	158 (100%)	0	100	100
29	C	73/85 (86%)	73 (100%)	0	100	100
29	Cb	73/85 (86%)	73 (100%)	0	100	100
30	X	129/129 (100%)	129 (100%)	0	100	100
30	Xb	129/129 (100%)	129 (100%)	0	100	100
31	D	88/100 (88%)	88 (100%)	0	100	100
31	Db	88/100 (88%)	88 (100%)	0	100	100
32	Y	127/127 (100%)	127 (100%)	0	100	100
32	Yb	127/127 (100%)	127 (100%)	0	100	100
33	Z	97/97 (100%)	97 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	Zb	97/97 (100%)	97 (100%)	0	100	100
34	E	98/98 (100%)	98 (100%)	0	100	100
34	Eb	98/98 (100%)	98 (100%)	0	100	100
35	F	117/117 (100%)	117 (100%)	0	100	100
35	Fb	117/117 (100%)	116 (99%)	1 (1%)	70	77
36	G	113/113 (100%)	113 (100%)	0	100	100
36	Gb	113/113 (100%)	113 (100%)	0	100	100
37	H	128/128 (100%)	127 (99%)	1 (1%)	73	78
37	Hb	128/128 (100%)	128 (100%)	0	100	100
38	I	115/115 (100%)	115 (100%)	0	100	100
38	Ib	115/115 (100%)	115 (100%)	0	100	100
39	J	94/94 (100%)	94 (100%)	0	100	100
39	Jb	94/94 (100%)	94 (100%)	0	100	100
40	a	74/74 (100%)	74 (100%)	0	100	100
40	ab	74/74 (100%)	74 (100%)	0	100	100
41	b	110/110 (100%)	109 (99%)	1 (1%)	70	77
41	bb	110/110 (100%)	108 (98%)	2 (2%)	51	66
42	c	119/119 (100%)	119 (100%)	0	100	100
42	cb	119/119 (100%)	119 (100%)	0	100	100
43	d	112/112 (100%)	112 (100%)	0	100	100
43	db	112/112 (100%)	110 (98%)	2 (2%)	51	66
44	K	61/61 (100%)	61 (100%)	0	100	100
44	Kb	61/61 (100%)	61 (100%)	0	100	100
45	e	83/83 (100%)	83 (100%)	0	100	100
45	eb	83/83 (100%)	83 (100%)	0	100	100
46	f	70/70 (100%)	70 (100%)	0	100	100
46	fb	70/70 (100%)	70 (100%)	0	100	100
47	L	56/56 (100%)	56 (100%)	0	100	100
47	Lb	56/56 (100%)	56 (100%)	0	100	100
48	M	47/47 (100%)	46 (98%)	1 (2%)	47	64
48	Mb	47/47 (100%)	44 (94%)	3 (6%)	16	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
49	g	51/51 (100%)	51 (100%)	0	100	100
49	gb	51/51 (100%)	47 (92%)	4 (8%)	11	32
50	N	56/63 (89%)	56 (100%)	0	100	100
50	Nb	56/63 (89%)	56 (100%)	0	100	100
51	O	255/256 (100%)	255 (100%)	0	100	100
51	Ob	255/256 (100%)	255 (100%)	0	100	100
52	AX	139/146 (95%)	139 (100%)	0	100	100
52	XX	139/146 (95%)	139 (100%)	0	100	100
53	BB	150/150 (100%)	150 (100%)	0	100	100
53	YB	150/150 (100%)	150 (100%)	0	100	100
54	BF	149/153 (97%)	148 (99%)	1 (1%)	76	80
54	YF	153/153 (100%)	153 (100%)	0	100	100
55	BH	156/156 (100%)	156 (100%)	0	100	100
55	YH	156/156 (100%)	156 (100%)	0	100	100
56	BJ	136/136 (100%)	135 (99%)	1 (1%)	76	80
56	YJ	136/136 (100%)	136 (100%)	0	100	100
57	BL	85/85 (100%)	84 (99%)	1 (1%)	63	74
57	YL	85/85 (100%)	85 (100%)	0	100	100
58	AB	103/103 (100%)	103 (100%)	0	100	100
58	XB	103/103 (100%)	103 (100%)	0	100	100
59	AE	114/114 (100%)	113 (99%)	1 (1%)	70	77
59	XE	114/114 (100%)	114 (100%)	0	100	100
60	AH	104/104 (100%)	104 (100%)	0	100	100
60	XH	104/104 (100%)	102 (98%)	2 (2%)	50	66
61	AK	107/107 (100%)	107 (100%)	0	100	100
61	XK	107/107 (100%)	107 (100%)	0	100	100
62	AN	115/115 (100%)	114 (99%)	1 (1%)	70	77
62	XN	115/115 (100%)	115 (100%)	0	100	100
63	AR	118/118 (100%)	118 (100%)	0	100	100
63	XR	118/118 (100%)	118 (100%)	0	100	100
64	AV	46/46 (100%)	46 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
64	XV	46/46 (100%)	46 (100%)	0	100	100
65	AY	84/84 (100%)	84 (100%)	0	100	100
65	XY	84/84 (100%)	84 (100%)	0	100	100
66	BC	94/96 (98%)	94 (100%)	0	100	100
66	YC	94/96 (98%)	93 (99%)	1 (1%)	65	74
67	BG	109/109 (100%)	109 (100%)	0	100	100
67	YG	109/109 (100%)	109 (100%)	0	100	100
68	BK	90/90 (100%)	90 (100%)	0	100	100
68	YK	90/90 (100%)	90 (100%)	0	100	100
69	BN	95/95 (100%)	95 (100%)	0	100	100
69	YN	95/95 (100%)	94 (99%)	1 (1%)	65	74
70	BP	103/104 (99%)	103 (100%)	0	100	100
70	YP	103/104 (99%)	103 (100%)	0	100	100
71	AC	80/81 (99%)	80 (100%)	0	100	100
71	XC	80/81 (99%)	80 (100%)	0	100	100
72	AF	67/67 (100%)	67 (100%)	0	100	100
72	XF	67/67 (100%)	65 (97%)	2 (3%)	36	56
73	AI	67/68 (98%)	67 (100%)	0	100	100
73	XI	67/68 (98%)	67 (100%)	0	100	100
74	AL	45/45 (100%)	45 (100%)	0	100	100
74	XL	45/45 (100%)	45 (100%)	0	100	100
75	AO	47/47 (100%)	47 (100%)	0	100	100
75	XO	47/47 (100%)	47 (100%)	0	100	100
76	AS	23/23 (100%)	23 (100%)	0	100	100
76	XS	23/23 (100%)	23 (100%)	0	100	100
77	AP	90/90 (100%)	90 (100%)	0	100	100
77	XP	90/90 (100%)	89 (99%)	1 (1%)	65	74
78	AT	71/71 (100%)	71 (100%)	0	100	100
78	XT	71/71 (100%)	70 (99%)	1 (1%)	59	71
79	BU	105/254 (41%)	105 (100%)	0	100	100
79	YU	105/254 (41%)	104 (99%)	1 (1%)	68	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	18734/19256 (97%)	18688 (100%)	46 (0%)	85 85

All (46) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	BA	81	THR
5	BA	104	THR
5	BA	241	LYS
6	BE	182	LEU
22	A	164	VAL
37	H	145	ARG
41	b	93	LEU
48	M	28	THR
54	BF	170	ARG
56	BJ	80	VAL
57	BL	37	LEU
59	AE	77	LYS
62	AN	17	ARG
19	Pb	202	TYR
20	Qb	197	ILE
24	Bb	23	VAL
24	Bb	39	GLU
24	Bb	93	LEU
26	Ub	64	VAL
35	Fb	117	LEU
41	bb	93	LEU
41	bb	104	LEU
43	db	35	VAL
43	db	55	VAL
48	Mb	12	ARG
48	Mb	28	THR
48	Mb	49	ASP
49	gb	4	VAL
49	gb	39	LEU
49	gb	46	ASN
49	gb	55	ARG
5	YA	104	THR
5	YA	221	THR
7	YI	79	TYR
8	YM	34	LEU
12	YD	186	GLU
13	XG	12	LEU

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Mol	Chain	Res	Type
60	XH	63	ILE
60	XH	105	VAL
66	YC	28	ARG
69	YN	37	LYS
72	XF	22	CYS
72	XF	37	CYS
77	XP	7	THR
78	XT	57	CYS
79	YU	20	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (156) such sidechains are listed below:

Mol	Chain	Res	Type
4	AW	97	ASN
4	AW	194	ASN
4	AW	216	HIS
5	BA	121	ASN
6	BE	48	GLN
6	BE	116	ASN
6	BE	196	ASN
6	BE	311	HIS
7	BI	90	HIS
8	BM	97	ASN
9	BO	81	HIS
9	BO	225	GLN
11	AD	102	ASN
11	AD	157	ASN
12	BD	73	ASN
12	BD	162	GLN
13	AG	109	HIS
14	AJ	106	GLN
16	AQ	11	GLN
16	AQ	175	ASN
17	AU	122	GLN
19	P	28	ASN
19	P	46	HIS
19	P	168	HIS
20	Q	183	GLN
20	Q	208	GLN
21	R	94	GLN
21	R	233	GLN
23	S	17	HIS

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Mol	Chain	Res	Type
23	S	57	ASN
23	S	130	GLN
23	S	259	GLN
25	T	119	GLN
28	W	74	ASN
31	D	80	ASN
31	D	125	ASN
34	E	128	HIS
36	G	62	GLN
36	G	123	ASN
37	H	75	ASN
37	H	89	GLN
38	I	43	ASN
40	a	3	ASN
41	b	15	ASN
42	c	48	HIS
43	d	31	ASN
45	e	17	HIS
48	M	20	GLN
48	M	53	ASN
50	N	95	HIS
51	O	196	ASN
51	O	314	GLN
52	AX	34	GLN
52	AX	54	HIS
54	BF	7	GLN
54	BF	36	ASN
58	AB	7	GLN
62	AN	127	ASN
63	AR	11	HIS
64	AV	42	ASN
64	AV	43	HIS
64	AV	48	HIS
67	BG	26	HIS
67	BG	49	ASN
67	BG	52	GLN
67	BG	104	ASN
69	BN	33	GLN
72	AF	79	GLN
73	AI	67	GLN
77	AP	22	GLN
79	BU	39	HIS

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Mol	Chain	Res	Type
19	Pb	32	HIS
19	Pb	69	ASN
21	Rb	89	GLN
22	Ab	67	ASN
23	Sb	57	ASN
24	Bb	37	GLN
24	Bb	103	ASN
25	Tb	65	GLN
26	Ub	19	GLN
26	Ub	108	GLN
26	Ub	174	ASN
28	Wb	74	ASN
32	Yb	105	ASN
33	Zb	24	ASN
34	Eb	15	HIS
34	Eb	103	ASN
37	Hb	21	ASN
37	Hb	71	GLN
37	Hb	103	ASN
38	Ib	23	GLN
38	Ib	43	ASN
38	Ib	64	HIS
39	Jb	49	ASN
41	bb	15	ASN
41	bb	70	ASN
42	cb	22	ASN
42	cb	27	ASN
43	db	31	ASN
43	db	106	GLN
44	Kb	82	HIS
46	fb	42	ASN
48	Mb	20	GLN
48	Mb	53	ASN
49	gb	46	ASN
51	Ob	17	ASN
51	Ob	288	HIS
4	XW	97	ASN
5	YA	182	GLN
6	YE	48	GLN
6	YE	213	ASN
6	YE	328	ASN
9	YO	64	GLN

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Mol	Chain	Res	Type
9	YO	93	ASN
9	YO	157	ASN
10	XA	38	GLN
11	XD	5	GLN
11	XD	58	HIS
11	XD	149	ASN
12	YD	55	ASN
12	YD	59	GLN
12	YD	123	HIS
13	XG	39	GLN
13	XG	68	HIS
14	XJ	103	ASN
15	XM	56	GLN
16	XQ	86	ASN
16	XQ	138	GLN
52	XX	55	GLN
52	XX	121	GLN
54	YF	68	GLN
54	YF	92	GLN
55	YH	65	ASN
55	YH	68	HIS
55	YH	88	HIS
55	YH	122	HIS
60	XH	85	GLN
60	XH	111	ASN
61	XK	120	GLN
62	XN	29	HIS
62	XN	127	ASN
63	XR	62	HIS
64	XV	6	ASN
65	XY	12	GLN
65	XY	75	ASN
66	YC	57	GLN
70	YP	62	GLN
70	YP	108	GLN
72	XF	12	HIS
72	XF	20	ASN
72	XF	76	ASN
75	XO	90	ASN
77	XP	22	GLN
78	XT	33	GLN
79	YU	32	ASN

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Mol	Chain	Res	Type
79	YU	193	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	BQ	3121/3396 (91%)	652 (20%)	63 (2%)
1	YQ	3120/3396 (91%)	676 (21%)	58 (1%)
18	2	1755/1800 (97%)	488 (27%)	62 (3%)
18	2b	1755/1800 (97%)	492 (28%)	0
2	BR	120/121 (99%)	15 (12%)	0
2	YR	120/121 (99%)	14 (11%)	0
3	BS	156/157 (99%)	29 (18%)	3 (1%)
3	YS	156/157 (99%)	32 (20%)	2 (1%)
80	n	75/76 (98%)	17 (22%)	0
81	m	74/75 (98%)	21 (28%)	0
82	nb	75/76 (98%)	42 (56%)	0
83	mb	76/77 (98%)	11 (14%)	0
84	l	56/57 (98%)	37 (66%)	0
All	All	10659/11309 (94%)	2526 (23%)	188 (1%)

All (2526) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	BQ	14	U
1	BQ	15	C
1	BQ	26	A
1	BQ	30	G
1	BQ	40	A
1	BQ	43	A
1	BQ	48	A
1	BQ	49	A
1	BQ	60	A
1	BQ	65	A
1	BQ	66	A
1	BQ	73	C
1	BQ	74	G
1	BQ	76	G
1	BQ	85	A
1	BQ	92	G
1	BQ	96	G
1	BQ	109	A

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Mol	Chain	Res	Type
1	BQ	110	G
1	BQ	115	A
1	BQ	121	A
1	BQ	122	A
1	BQ	133	U
1	BQ	134	U
1	BQ	135	C
1	BQ	150	A
1	BQ	152	U
1	BQ	153	U
1	BQ	156	G
1	BQ	157	A
1	BQ	161	G
1	BQ	165	A
1	BQ	170	G
1	BQ	171	G
1	BQ	182	U
1	BQ	184	U
1	BQ	187	A
1	BQ	190	U
1	BQ	191	U
1	BQ	200	C
1	BQ	206	G
1	BQ	210	U
1	BQ	218	G
1	BQ	219	A
1	BQ	221	A
1	BQ	234	G
1	BQ	240	U
1	BQ	241	G
1	BQ	245	U
1	BQ	246	U
1	BQ	248	U
1	BQ	251	G
1	BQ	252	U
1	BQ	253	A
1	BQ	254	A
1	BQ	265	A
1	BQ	269	G
1	BQ	283	G
1	BQ	284	A
1	BQ	285	A

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Mol	Chain	Res	Type
1	BQ	286	U
1	BQ	295	A
1	BQ	305	U
1	BQ	306	A
1	BQ	311	C
1	BQ	315	C
1	BQ	323	A
1	BQ	329	U
1	BQ	334	A
1	BQ	338	A
1	BQ	339	C
1	BQ	346	C
1	BQ	350	C
1	BQ	368	G
1	BQ	375	A
1	BQ	376	G
1	BQ	387	A
1	BQ	390	G
1	BQ	398	A
1	BQ	399	A
1	BQ	401	U
1	BQ	402	A
1	BQ	403	C
1	BQ	420	G
1	BQ	421	G
1	BQ	422	A
1	BQ	439	C
1	BQ	440	A
1	BQ	503	C
1	BQ	507	U
1	BQ	515	C
1	BQ	519	A
1	BQ	520	U
1	BQ	521	A
1	BQ	523	A
1	BQ	535	G
1	BQ	536	U
1	BQ	545	U
1	BQ	546	C
1	BQ	548	G
1	BQ	555	U
1	BQ	557	A

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Mol	Chain	Res	Type
1	BQ	559	A
1	BQ	569	A
1	BQ	578	A
1	BQ	579	G
1	BQ	581	U
1	BQ	589	A
1	BQ	592	A
1	BQ	594	U
1	BQ	595	G
1	BQ	597	G
1	BQ	600	G
1	BQ	603	A
1	BQ	604	G
1	BQ	609	G
1	BQ	610	G
1	BQ	611	A
1	BQ	612	U
1	BQ	620	U
1	BQ	621	A
1	BQ	622	A
1	BQ	636	C
1	BQ	645	A
1	BQ	649	A
1	BQ	660	A
1	BQ	661	G
1	BQ	667	C
1	BQ	677	A
1	BQ	681	U
1	BQ	683	U
1	BQ	691	A
1	BQ	705	A
1	BQ	716	A
1	BQ	719	U
1	BQ	725	G
1	BQ	726	G
1	BQ	727	G
1	BQ	736	A
1	BQ	737	G
1	BQ	758	C
1	BQ	761	A
1	BQ	763	G
1	BQ	766	U

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Mol	Chain	Res	Type
1	BQ	768	C
1	BQ	776	U
1	BQ	777	U
1	BQ	780	A
1	BQ	781	G
1	BQ	784	A
1	BQ	785	G
1	BQ	786	A
1	BQ	806	A
1	BQ	808	A
1	BQ	817	A
1	BQ	826	G
1	BQ	830	A
1	BQ	832	G
1	BQ	837	A
1	BQ	849	C
1	BQ	861	C
1	BQ	871	U
1	BQ	874	U
1	BQ	879	U
1	BQ	897	U
1	BQ	907	G
1	BQ	908	G
1	BQ	909	G
1	BQ	914	A
1	BQ	915	A
1	BQ	916	G
1	BQ	917	A
1	BQ	923	C
1	BQ	932	U
1	BQ	936	A
1	BQ	937	G
1	BQ	944	C
1	BQ	959	C
1	BQ	960	U
1	BQ	962	A
1	BQ	974	G
1	BQ	979	U
1	BQ	984	G
1	BQ	991	G
1	BQ	1002	A
1	BQ	1010	G

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Mol	Chain	Res	Type
1	BQ	1014	U
1	BQ	1015	U
1	BQ	1016	C
1	BQ	1017	C
1	BQ	1018	G
1	BQ	1021	G
1	BQ	1024	G
1	BQ	1025	A
1	BQ	1026	A
1	BQ	1028	U
1	BQ	1029	G
1	BQ	1034	U
1	BQ	1035	G
1	BQ	1041	U
1	BQ	1047	A
1	BQ	1049	C
1	BQ	1063	G
1	BQ	1064	A
1	BQ	1065	A
1	BQ	1072	G
1	BQ	1075	A
1	BQ	1081	U
1	BQ	1082	U
1	BQ	1085	A
1	BQ	1087	G
1	BQ	1093	A
1	BQ	1096	U
1	BQ	1097	G
1	BQ	1098	A
1	BQ	1103	A
1	BQ	1104	G
1	BQ	1117	G
1	BQ	1131	G
1	BQ	1143	A
1	BQ	1152	G
1	BQ	1153	A
1	BQ	1159	A
1	BQ	1163	A
1	BQ	1178	G
1	BQ	1180	A
1	BQ	1181	U
1	BQ	1182	A

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Mol	Chain	Res	Type
1	BQ	1186	G
1	BQ	1201	C
1	BQ	1202	A
1	BQ	1208	U
1	BQ	1221	A
1	BQ	1222	G
1	BQ	1223	A
1	BQ	1232	C
1	BQ	1236	G
1	BQ	1237	G
1	BQ	1239	C
1	BQ	1242	G
1	BQ	1243	G
1	BQ	1245	A
1	BQ	1246	G
1	BQ	1254	C
1	BQ	1256	G
1	BQ	1258	U
1	BQ	1262	G
1	BQ	1263	A
1	BQ	1264	G
1	BQ	1265	U
1	BQ	1270	A
1	BQ	1275	C
1	BQ	1277	C
1	BQ	1281	G
1	BQ	1285	G
1	BQ	1286	A
1	BQ	1295	G
1	BQ	1301	A
1	BQ	1308	A
1	BQ	1309	U
1	BQ	1325	U
1	BQ	1330	A
1	BQ	1348	U
1	BQ	1354	G
1	BQ	1356	U
1	BQ	1357	G
1	BQ	1385	C
1	BQ	1386	A
1	BQ	1399	A
1	BQ	1400	G

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Mol	Chain	Res	Type
1	BQ	1418	A
1	BQ	1419	A
1	BQ	1434	G
1	BQ	1437	C
1	BQ	1438	U
1	BQ	1446	A
1	BQ	1452	A
1	BQ	1453	A
1	BQ	1455	U
1	BQ	1470	U
1	BQ	1475	A
1	BQ	1481	A
1	BQ	1482	A
1	BQ	1483	G
1	BQ	1487	G
1	BQ	1503	A
1	BQ	1508	C
1	BQ	1511	U
1	BQ	1523	U
1	BQ	1528	G
1	BQ	1536	G
1	BQ	1542	G
1	BQ	1554	U
1	BQ	1555	U
1	BQ	1556	C
1	BQ	1558	A
1	BQ	1560	G
1	BQ	1561	G
1	BQ	1562	C
1	BQ	1574	C
1	BQ	1575	A
1	BQ	1576	G
1	BQ	1577	G
1	BQ	1578	C
1	BQ	1579	C
1	BQ	1580	A
1	BQ	1581	C
1	BQ	1582	C
1	BQ	1583	A
1	BQ	1588	A
1	BQ	1589	A
1	BQ	1607	U

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Mol	Chain	Res	Type
1	BQ	1620	U
1	BQ	1629	U
1	BQ	1639	C
1	BQ	1642	A
1	BQ	1643	A
1	BQ	1644	C
1	BQ	1645	U
1	BQ	1655	G
1	BQ	1658	G
1	BQ	1662	G
1	BQ	1683	A
1	BQ	1692	U
1	BQ	1694	U
1	BQ	1716	U
1	BQ	1717	U
1	BQ	1718	G
1	BQ	1724	U
1	BQ	1743	G
1	BQ	1750	A
1	BQ	1751	G
1	BQ	1760	A
1	BQ	1762	C
1	BQ	1764	U
1	BQ	1765	U
1	BQ	1766	G
1	BQ	1770	G
1	BQ	1775	G
1	BQ	1780	G
1	BQ	1796	G
1	BQ	1797	A
1	BQ	1808	G
1	BQ	1814	A
1	BQ	1815	U
1	BQ	1816	A
1	BQ	1817	G
1	BQ	1818	U
1	BQ	1821	U
1	BQ	1839	A
1	BQ	1841	A
1	BQ	1842	A
1	BQ	1846	C
1	BQ	1848	G

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Mol	Chain	Res	Type
1	BQ	1849	C
1	BQ	1850	A
1	BQ	1851	G
1	BQ	1866	C
1	BQ	1878	G
1	BQ	1879	A
1	BQ	1880	U
1	BQ	1884	A
1	BQ	1893	A
1	BQ	1897	G
1	BQ	1904	C
1	BQ	1906	G
1	BQ	1930	A
1	BQ	1935	G
1	BQ	2100	A
1	BQ	2101	C
1	BQ	2102	U
1	BQ	2111	G
1	BQ	2112	U
1	BQ	2113	A
1	BQ	2114	C
1	BQ	2121	G
1	BQ	2122	G
1	BQ	2131	A
1	BQ	2142	A
1	BQ	2144	A
1	BQ	2158	A
1	BQ	2169	G
1	BQ	2170	U
1	BQ	2188	A
1	BQ	2204	C
1	BQ	2205	U
1	BQ	2207	A
1	BQ	2208	A
1	BQ	2209	U
1	BQ	2210	G
1	BQ	2212	C
1	BQ	2223	A
1	BQ	2228	A
1	BQ	2229	A
1	BQ	2232	A
1	BQ	2244	A

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Mol	Chain	Res	Type
1	BQ	2246	G
1	BQ	2248	C
1	BQ	2249	G
1	BQ	2250	G
1	BQ	2251	G
1	BQ	2252	A
1	BQ	2253	G
1	BQ	2255	A
1	BQ	2256	A
1	BQ	2257	C
1	BQ	2261	G
1	BQ	2266	U
1	BQ	2269	U
1	BQ	2272	G
1	BQ	2273	G
1	BQ	2276	G
1	BQ	2279	A
1	BQ	2281	A
1	BQ	2288	G
1	BQ	2307	G
1	BQ	2309	A
1	BQ	2310	U
1	BQ	2313	A
1	BQ	2315	G
1	BQ	2335	G
1	BQ	2336	U
1	BQ	2350	C
1	BQ	2373	A
1	BQ	2374	C
1	BQ	2375	G
1	BQ	2376	G
1	BQ	2388	U
1	BQ	2393	G
1	BQ	2397	A
1	BQ	2401	A
1	BQ	2402	A
1	BQ	2403	G
1	BQ	2404	A
1	BQ	2405	C
1	BQ	2411	U
1	BQ	2412	G
1	BQ	2418	G

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Mol	Chain	Res	Type
1	BQ	2419	A
1	BQ	2434	U
1	BQ	2435	G
1	BQ	2437	G
1	BQ	2438	A
1	BQ	2441	A
1	BQ	2506	U
1	BQ	2510	U
1	BQ	2511	A
1	BQ	2514	U
1	BQ	2515	A
1	BQ	2522	G
1	BQ	2523	A
1	BQ	2524	A
1	BQ	2525	G
1	BQ	2528	G
1	BQ	2530	G
1	BQ	2534	G
1	BQ	2538	U
1	BQ	2539	C
1	BQ	2540	A
1	BQ	2541	U
1	BQ	2542	U
1	BQ	2543	U
1	BQ	2544	U
1	BQ	2545	C
1	BQ	2552	C
1	BQ	2554	A
1	BQ	2555	G
1	BQ	2566	C
1	BQ	2567	C
1	BQ	2568	C
1	BQ	2569	A
1	BQ	2570	U
1	BQ	2571	U
1	BQ	2572	C
1	BQ	2573	G
1	BQ	2574	G
1	BQ	2584	G
1	BQ	2585	G
1	BQ	2587	U
1	BQ	2593	A

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Mol	Chain	Res	Type
1	BQ	2594	C
1	BQ	2600	C
1	BQ	2606	G
1	BQ	2607	G
1	BQ	2614	G
1	BQ	2619	G
1	BQ	2626	A
1	BQ	2628	A
1	BQ	2629	U
1	BQ	2652	U
1	BQ	2656	A
1	BQ	2663	G
1	BQ	2672	G
1	BQ	2674	A
1	BQ	2677	G
1	BQ	2678	A
1	BQ	2683	U
1	BQ	2689	A
1	BQ	2690	G
1	BQ	2691	A
1	BQ	2694	A
1	BQ	2696	A
1	BQ	2704	A
1	BQ	2713	U
1	BQ	2714	G
1	BQ	2720	G
1	BQ	2728	G
1	BQ	2729	U
1	BQ	2737	C
1	BQ	2740	A
1	BQ	2753	G
1	BQ	2772	C
1	BQ	2773	C
1	BQ	2778	G
1	BQ	2779	A
1	BQ	2796	G
1	BQ	2799	A
1	BQ	2800	G
1	BQ	2801	A
1	BQ	2802	A
1	BQ	2803	A
1	BQ	2810	C

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Mol	Chain	Res	Type
1	BQ	2814	G
1	BQ	2817	A
1	BQ	2818	U
1	BQ	2819	A
1	BQ	2821	C
1	BQ	2845	A
1	BQ	2847	A
1	BQ	2853	A
1	BQ	2860	U
1	BQ	2861	U
1	BQ	2871	G
1	BQ	2872	A
1	BQ	2873	U
1	BQ	2876	C
1	BQ	2887	A
1	BQ	2889	C
1	BQ	2894	C
1	BQ	2899	C
1	BQ	2900	A
1	BQ	2910	A
1	BQ	2923	U
1	BQ	2928	C
1	BQ	2935	U
1	BQ	2936	A
1	BQ	2938	G
1	BQ	2941	A
1	BQ	2942	C
1	BQ	2943	G
1	BQ	2947	G
1	BQ	2957	G
1	BQ	2965	U
1	BQ	2971	A
1	BQ	2972	G
1	BQ	2978	U
1	BQ	2979	U
1	BQ	2983	C
1	BQ	2990	G
1	BQ	2996	U
1	BQ	2997	G
1	BQ	3012	A
1	BQ	3023	U
1	BQ	3030	G

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Mol	Chain	Res	Type
1	BQ	3049	A
1	BQ	3059	G
1	BQ	3068	U
1	BQ	3078	U
1	BQ	3079	U
1	BQ	3080	G
1	BQ	3086	A
1	BQ	3092	C
1	BQ	3101	G
1	BQ	3109	G
1	BQ	3113	A
1	BQ	3116	G
1	BQ	3122	A
1	BQ	3123	A
1	BQ	3130	A
1	BQ	3131	U
1	BQ	3142	A
1	BQ	3143	C
1	BQ	3144	G
1	BQ	3150	A
1	BQ	3151	U
1	BQ	3153	U
1	BQ	3158	G
1	BQ	3165	A
1	BQ	3170	A
1	BQ	3172	A
1	BQ	3173	G
1	BQ	3174	A
1	BQ	3176	G
1	BQ	3179	U
1	BQ	3181	C
1	BQ	3182	G
1	BQ	3187	A
1	BQ	3195	U
1	BQ	3196	U
1	BQ	3207	U
1	BQ	3210	A
1	BQ	3215	A
1	BQ	3217	C
1	BQ	3218	A
1	BQ	3219	G
1	BQ	3227	A

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Mol	Chain	Res	Type
1	BQ	3229	G
1	BQ	3238	G
1	BQ	3244	A
1	BQ	3245	A
1	BQ	3246	G
1	BQ	3251	U
1	BQ	3259	U
1	BQ	3263	G
1	BQ	3267	A
1	BQ	3270	U
1	BQ	3272	C
1	BQ	3276	G
1	BQ	3279	A
1	BQ	3281	U
1	BQ	3286	G
1	BQ	3289	G
1	BQ	3290	G
1	BQ	3294	A
1	BQ	3295	A
1	BQ	3304	U
1	BQ	3309	G
1	BQ	3313	U
1	BQ	3316	A
1	BQ	3317	U
1	BQ	3318	G
1	BQ	3319	U
1	BQ	3334	U
1	BQ	3341	U
1	BQ	3342	A
1	BQ	3345	G
1	BQ	3348	G
1	BQ	3350	C
1	BQ	3351	U
1	BQ	3352	U
1	BQ	3353	G
1	BQ	3354	U
1	BQ	3355	U
1	BQ	3356	G
1	BQ	3357	U
1	BQ	3358	U
1	BQ	3368	U
1	BQ	3369	G

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Mol	Chain	Res	Type
1	BQ	3378	C
1	BQ	3382	U
1	BQ	3389	U
1	BQ	3396	U
2	BR	7	G
2	BR	22	A
2	BR	33	U
2	BR	38	U
2	BR	50	U
2	BR	54	U
2	BR	55	A
2	BR	65	G
2	BR	73	C
2	BR	74	C
2	BR	76	A
2	BR	91	G
2	BR	99	G
2	BR	102	A
2	BR	112	G
3	BS	34	U
3	BS	35	C
3	BS	38	U
3	BS	48	A
3	BS	49	G
3	BS	59	A
3	BS	62	C
3	BS	63	G
3	BS	80	A
3	BS	81	U
3	BS	82	U
3	BS	83	C
3	BS	84	C
3	BS	86	U
3	BS	87	G
3	BS	90	U
3	BS	91	C
3	BS	95	G
3	BS	102	U
3	BS	104	A
3	BS	106	C
3	BS	111	A
3	BS	112	U

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Mol	Chain	Res	Type
3	BS	113	U
3	BS	116	G
3	BS	125	U
3	BS	138	A
3	BS	156	U
3	BS	157	U
18	2	2	A
18	2	4	C
18	2	10	G
18	2	17	C
18	2	25	C
18	2	26	A
18	2	27	U
18	2	34	G
18	2	43	A
18	2	46	A
18	2	47	A
18	2	50	C
18	2	57	G
18	2	63	G
18	2	67	A
18	2	68	A
18	2	69	G
18	2	72	A
18	2	73	U
18	2	74	U
18	2	75	U
18	2	76	A
18	2	77	U
18	2	78	A
18	2	100	A
18	2	103	A
18	2	104	A
18	2	111	U
18	2	114	C
18	2	116	U
18	2	127	G
18	2	131	C
18	2	132	U
18	2	133	U
18	2	134	U
18	2	135	A

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Mol	Chain	Res	Type
18	2	136	C
18	2	137	U
18	2	140	A
18	2	141	U
18	2	144	U
18	2	145	A
18	2	146	U
18	2	153	G
18	2	156	A
18	2	158	U
18	2	159	U
18	2	160	C
18	2	161	U
18	2	178	U
18	2	185	U
18	2	186	C
18	2	187	G
18	2	189	C
18	2	190	C
18	2	191	C
18	2	192	U
18	2	194	U
18	2	195	G
18	2	196	G
18	2	197	A
18	2	200	A
18	2	215	A
18	2	218	A
18	2	219	A
18	2	227	U
18	2	228	G
18	2	229	U
18	2	231	U
18	2	233	C
18	2	234	G
18	2	236	A
18	2	238	U
18	2	239	C
18	2	240	U
18	2	241	U
18	2	243	G
18	2	250	C

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Mol	Chain	Res	Type
18	2	261	U
18	2	262	U
18	2	265	A
18	2	271	A
18	2	272	U
18	2	275	C
18	2	276	C
18	2	277	U
18	2	278	U
18	2	279	G
18	2	280	U
18	2	281	G
18	2	288	A
18	2	290	G
18	2	299	A
18	2	308	C
18	2	309	C
18	2	312	A
18	2	314	C
18	2	316	A
18	2	321	C
18	2	322	G
18	2	323	A
18	2	333	A
18	2	337	G
18	2	338	C
18	2	352	A
18	2	359	A
18	2	360	A
18	2	361	C
18	2	365	G
18	2	380	U
18	2	388	G
18	2	399	A
18	2	400	A
18	2	401	A
18	2	402	C
18	2	403	G
18	2	404	G
18	2	411	C
18	2	416	A
18	2	417	A

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Mol	Chain	Res	Type
18	2	418	G
18	2	423	G
18	2	424	C
18	2	425	A
18	2	426	G
18	2	439	U
18	2	444	C
18	2	445	A
18	2	446	A
18	2	448	C
18	2	459	G
18	2	460	A
18	2	468	A
18	2	470	A
18	2	475	A
18	2	477	A
18	2	484	C
18	2	485	A
18	2	486	G
18	2	488	G
18	2	493	U
18	2	495	C
18	2	496	G
18	2	497	G
18	2	498	G
18	2	499	U
18	2	500	C
18	2	501	U
18	2	502	U
18	2	504	U
18	2	505	A
18	2	506	A
18	2	507	U
18	2	508	U
18	2	510	G
18	2	511	A
18	2	512	A
18	2	513	U
18	2	515	A
18	2	516	G
18	2	519	C
18	2	527	A

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Mol	Chain	Res	Type
18	2	532	U
18	2	536	C
18	2	538	A
18	2	539	G
18	2	540	G
18	2	541	A
18	2	542	A
18	2	543	C
18	2	544	A
18	2	548	G
18	2	555	A
18	2	556	A
18	2	557	G
18	2	558	U
18	2	559	C
18	2	565	C
18	2	570	A
18	2	574	G
18	2	579	A
18	2	580	A
18	2	585	A
18	2	594	A
18	2	595	G
18	2	606	A
18	2	611	U
18	2	619	A
18	2	620	A
18	2	622	A
18	2	623	A
18	2	624	G
18	2	639	U
18	2	649	U
18	2	650	U
18	2	653	C
18	2	655	G
18	2	656	G
18	2	658	C
18	2	677	G
18	2	679	U
18	2	680	U
18	2	682	C
18	2	684	A

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Mol	Chain	Res	Type
18	2	685	A
18	2	686	C
18	2	687	G
18	2	694	U
18	2	696	C
18	2	697	C
18	2	702	G
18	2	703	G
18	2	704	C
18	2	705	U
18	2	707	A
18	2	709	C
18	2	710	U
18	2	712	G
18	2	715	U
18	2	718	U
18	2	719	U
18	2	721	U
18	2	722	G
18	2	723	G
18	2	725	U
18	2	727	U
18	2	728	U
18	2	730	G
18	2	731	C
18	2	732	G
18	2	733	A
18	2	734	A
18	2	735	C
18	2	737	A
18	2	738	G
18	2	741	C
18	2	742	U
18	2	743	U
18	2	745	U
18	2	755	A
18	2	756	A
18	2	758	U
18	2	765	G
18	2	766	U
18	2	771	A
18	2	774	A

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Mol	Chain	Res	Type
18	2	778	G
18	2	781	U
18	2	782	U
18	2	783	G
18	2	784	C
18	2	789	A
18	2	794	U
18	2	795	U
18	2	806	A
18	2	812	A
18	2	815	G
18	2	816	G
18	2	818	C
18	2	820	U
18	2	821	U
18	2	823	G
18	2	824	G
18	2	830	U
18	2	831	U
18	2	833	U
18	2	837	G
18	2	839	U
18	2	840	U
18	2	841	U
18	2	846	G
18	2	852	C
18	2	856	A
18	2	863	A
18	2	864	U
18	2	873	U
18	2	881	A
18	2	886	U
18	2	898	A
18	2	904	G
18	2	912	U
18	2	913	G
18	2	914	G
18	2	915	A
18	2	928	U
18	2	933	A
18	2	935	U
18	2	942	G

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Mol	Chain	Res	Type
18	2	944	A
18	2	945	U
18	2	960	U
18	2	966	A
18	2	969	C
18	2	970	A
18	2	982	U
18	2	984	G
18	2	987	G
18	2	988	A
18	2	992	A
18	2	993	A
18	2	996	U
18	2	1003	A
18	2	1004	U
18	2	1005	A
18	2	1007	C
18	2	1016	C
18	2	1020	A
18	2	1021	C
18	2	1024	U
18	2	1026	A
18	2	1028	C
18	2	1032	G
18	2	1039	A
18	2	1040	G
18	2	1052	U
18	2	1053	G
18	2	1057	U
18	2	1058	U
18	2	1059	U
18	2	1060	U
18	2	1061	A
18	2	1063	U
18	2	1076	A
18	2	1080	U
18	2	1082	C
18	2	1086	A
18	2	1091	A
18	2	1092	A
18	2	1096	C
18	2	1097	U

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Mol	Chain	Res	Type
18	2	1100	G
18	2	1109	G
18	2	1111	G
18	2	1113	A
18	2	1115	U
18	2	1126	G
18	2	1138	A
18	2	1150	G
18	2	1158	C
18	2	1159	C
18	2	1160	A
18	2	1164	G
18	2	1167	G
18	2	1170	G
18	2	1185	U
18	2	1191	U
18	2	1194	A
18	2	1196	A
18	2	1197	C
18	2	1199	G
18	2	1200	G
18	2	1204	A
18	2	1205	C
18	2	1207	C
18	2	1208	A
18	2	1217	A
18	2	1218	G
18	2	1220	C
18	2	1226	A
18	2	1228	G
18	2	1229	G
18	2	1230	A
18	2	1231	U
18	2	1239	U
18	2	1241	G
18	2	1242	A
18	2	1243	G
18	2	1244	A
18	2	1245	G
18	2	1246	C
18	2	1255	G
18	2	1256	A

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Mol	Chain	Res	Type
18	2	1257	U
18	2	1258	U
18	2	1260	U
18	2	1285	U
18	2	1286	U
18	2	1288	G
18	2	1294	G
18	2	1295	G
18	2	1301	U
18	2	1312	A
18	2	1314	U
18	2	1315	U
18	2	1316	G
18	2	1318	G
18	2	1320	U
18	2	1321	A
18	2	1337	A
18	2	1341	A
18	2	1344	A
18	2	1345	A
18	2	1346	A
18	2	1354	G
18	2	1361	U
18	2	1362	U
18	2	1363	U
18	2	1364	G
18	2	1367	G
18	2	1371	A
18	2	1378	U
18	2	1390	U
18	2	1398	U
18	2	1399	C
18	2	1410	A
18	2	1413	U
18	2	1415	U
18	2	1422	A
18	2	1427	A
18	2	1428	G
18	2	1432	U
18	2	1445	G
18	2	1448	G
18	2	1451	C

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Mol	Chain	Res	Type
18	2	1452	U
18	2	1453	G
18	2	1459	C
18	2	1471	A
18	2	1481	C
18	2	1482	C
18	2	1483	A
18	2	1489	U
18	2	1490	C
18	2	1491	U
18	2	1492	A
18	2	1493	A
18	2	1496	U
18	2	1506	G
18	2	1514	U
18	2	1515	A
18	2	1516	A
18	2	1523	G
18	2	1524	A
18	2	1535	U
18	2	1536	G
18	2	1537	C
18	2	1538	U
18	2	1540	G
18	2	1542	G
18	2	1553	G
18	2	1554	U
18	2	1555	A
18	2	1557	U
18	2	1559	A
18	2	1569	A
18	2	1573	A
18	2	1574	G
18	2	1582	U
18	2	1584	G
18	2	1585	U
18	2	1590	G
18	2	1596	C
18	2	1597	A
18	2	1598	U
18	2	1600	A
18	2	1601	G

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Mol	Chain	Res	Type
18	2	1615	C
18	2	1616	G
18	2	1619	C
18	2	1621	U
18	2	1657	U
18	2	1658	G
18	2	1663	G
18	2	1665	U
18	2	1678	A
18	2	1681	A
18	2	1682	U
18	2	1715	G
18	2	1716	C
18	2	1720	G
18	2	1754	A
18	2	1755	A
18	2	1756	A
18	2	1757	G
18	2	1766	A
18	2	1767	G
18	2	1769	U
18	2	1770	U
18	2	1780	G
18	2	1782	A
18	2	1783	C
18	2	1792	G
18	2	1793	G
18	2	1794	A
18	2	1795	U
18	2	1796	C
18	2	1799	U
18	2	1800	A
18	2b	2	A
18	2b	4	C
18	2b	25	C
18	2b	26	A
18	2b	27	U
18	2b	34	G
18	2b	40	A
18	2b	43	A
18	2b	45	U
18	2b	46	A

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Mol	Chain	Res	Type
18	2b	47	A
18	2b	48	G
18	2b	57	G
18	2b	60	U
18	2b	63	G
18	2b	68	A
18	2b	69	G
18	2b	72	A
18	2b	73	U
18	2b	74	U
18	2b	75	U
18	2b	77	U
18	2b	86	A
18	2b	93	A
18	2b	104	A
18	2b	111	U
18	2b	114	C
18	2b	115	G
18	2b	116	U
18	2b	127	G
18	2b	131	C
18	2b	132	U
18	2b	133	U
18	2b	134	U
18	2b	135	A
18	2b	136	C
18	2b	137	U
18	2b	138	A
18	2b	139	C
18	2b	140	A
18	2b	141	U
18	2b	142	G
18	2b	145	A
18	2b	146	U
18	2b	153	G
18	2b	158	U
18	2b	159	U
18	2b	166	C
18	2b	177	U
18	2b	178	U
18	2b	185	U
18	2b	186	C

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Mol	Chain	Res	Type
18	2b	190	C
18	2b	191	C
18	2b	192	U
18	2b	194	U
18	2b	195	G
18	2b	196	G
18	2b	197	A
18	2b	200	A
18	2b	215	A
18	2b	218	A
18	2b	219	A
18	2b	226	A
18	2b	227	U
18	2b	228	G
18	2b	229	U
18	2b	231	U
18	2b	233	C
18	2b	236	A
18	2b	238	U
18	2b	239	C
18	2b	240	U
18	2b	241	U
18	2b	246	G
18	2b	250	C
18	2b	256	A
18	2b	261	U
18	2b	262	U
18	2b	265	A
18	2b	271	A
18	2b	272	U
18	2b	274	G
18	2b	275	C
18	2b	276	C
18	2b	277	U
18	2b	278	U
18	2b	279	G
18	2b	280	U
18	2b	281	G
18	2b	282	C
18	2b	288	A
18	2b	290	G
18	2b	299	A

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Mol	Chain	Res	Type
18	2b	309	C
18	2b	314	C
18	2b	316	A
18	2b	321	C
18	2b	322	G
18	2b	337	G
18	2b	338	C
18	2b	352	A
18	2b	359	A
18	2b	360	A
18	2b	361	C
18	2b	378	A
18	2b	399	A
18	2b	400	A
18	2b	401	A
18	2b	402	C
18	2b	404	G
18	2b	416	A
18	2b	417	A
18	2b	418	G
18	2b	423	G
18	2b	424	C
18	2b	425	A
18	2b	426	G
18	2b	428	A
18	2b	434	G
18	2b	437	A
18	2b	438	A
18	2b	439	U
18	2b	444	C
18	2b	445	A
18	2b	446	A
18	2b	448	C
18	2b	460	A
18	2b	468	A
18	2b	470	A
18	2b	475	A
18	2b	484	C
18	2b	485	A
18	2b	486	G
18	2b	488	G
18	2b	493	U

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Mol	Chain	Res	Type
18	2b	495	C
18	2b	496	G
18	2b	497	G
18	2b	498	G
18	2b	499	U
18	2b	500	C
18	2b	502	U
18	2b	504	U
18	2b	505	A
18	2b	506	A
18	2b	507	U
18	2b	508	U
18	2b	510	G
18	2b	511	A
18	2b	512	A
18	2b	513	U
18	2b	514	G
18	2b	515	A
18	2b	519	C
18	2b	527	A
18	2b	532	U
18	2b	534	A
18	2b	536	C
18	2b	538	A
18	2b	539	G
18	2b	540	G
18	2b	541	A
18	2b	542	A
18	2b	543	C
18	2b	545	A
18	2b	548	G
18	2b	551	G
18	2b	555	A
18	2b	556	A
18	2b	557	G
18	2b	558	U
18	2b	559	C
18	2b	565	C
18	2b	568	G
18	2b	570	A
18	2b	574	G
18	2b	578	U

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Mol	Chain	Res	Type
18	2b	579	A
18	2b	580	A
18	2b	582	U
18	2b	585	A
18	2b	594	A
18	2b	595	G
18	2b	608	U
18	2b	611	U
18	2b	619	A
18	2b	620	A
18	2b	622	A
18	2b	623	A
18	2b	624	G
18	2b	642	G
18	2b	648	G
18	2b	650	U
18	2b	652	G
18	2b	654	C
18	2b	655	G
18	2b	656	G
18	2b	657	U
18	2b	658	C
18	2b	677	G
18	2b	679	U
18	2b	680	U
18	2b	682	C
18	2b	684	A
18	2b	685	A
18	2b	686	C
18	2b	691	C
18	2b	694	U
18	2b	695	U
18	2b	696	C
18	2b	697	C
18	2b	698	U
18	2b	700	C
18	2b	702	G
18	2b	703	G
18	2b	704	C
18	2b	705	U
18	2b	706	A
18	2b	707	A

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Mol	Chain	Res	Type
18	2b	709	C
18	2b	710	U
18	2b	711	U
18	2b	712	G
18	2b	714	G
18	2b	718	U
18	2b	719	U
18	2b	720	G
18	2b	721	U
18	2b	722	G
18	2b	723	G
18	2b	725	U
18	2b	727	U
18	2b	728	U
18	2b	730	G
18	2b	731	C
18	2b	732	G
18	2b	733	A
18	2b	734	A
18	2b	735	C
18	2b	738	G
18	2b	742	U
18	2b	743	U
18	2b	745	U
18	2b	754	A
18	2b	755	A
18	2b	756	A
18	2b	765	G
18	2b	771	A
18	2b	774	A
18	2b	775	G
18	2b	778	G
18	2b	780	A
18	2b	781	U
18	2b	782	U
18	2b	783	G
18	2b	784	C
18	2b	787	G
18	2b	789	A
18	2b	794	U
18	2b	795	U
18	2b	803	A

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Mol	Chain	Res	Type
18	2b	806	A
18	2b	811	A
18	2b	812	A
18	2b	815	G
18	2b	816	G
18	2b	818	C
18	2b	820	U
18	2b	821	U
18	2b	824	G
18	2b	829	A
18	2b	830	U
18	2b	831	U
18	2b	833	U
18	2b	839	U
18	2b	840	U
18	2b	841	U
18	2b	846	G
18	2b	854	U
18	2b	856	A
18	2b	863	A
18	2b	898	A
18	2b	899	G
18	2b	912	U
18	2b	913	G
18	2b	914	G
18	2b	915	A
18	2b	928	U
18	2b	933	A
18	2b	935	U
18	2b	942	G
18	2b	944	A
18	2b	945	U
18	2b	951	A
18	2b	959	U
18	2b	960	U
18	2b	966	A
18	2b	969	C
18	2b	970	A
18	2b	982	U
18	2b	992	A
18	2b	993	A
18	2b	996	U

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Mol	Chain	Res	Type
18	2b	1004	U
18	2b	1005	A
18	2b	1007	C
18	2b	1020	A
18	2b	1021	C
18	2b	1026	A
18	2b	1028	C
18	2b	1029	U
18	2b	1031	U
18	2b	1040	G
18	2b	1043	A
18	2b	1052	U
18	2b	1053	G
18	2b	1058	U
18	2b	1059	U
18	2b	1060	U
18	2b	1061	A
18	2b	1063	U
18	2b	1065	A
18	2b	1074	G
18	2b	1076	A
18	2b	1082	C
18	2b	1086	A
18	2b	1092	A
18	2b	1093	A
18	2b	1096	C
18	2b	1097	U
18	2b	1100	G
18	2b	1109	G
18	2b	1111	G
18	2b	1113	A
18	2b	1138	A
18	2b	1150	G
18	2b	1158	C
18	2b	1159	C
18	2b	1160	A
18	2b	1164	G
18	2b	1167	G
18	2b	1185	U
18	2b	1191	U
18	2b	1194	A
18	2b	1196	A

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Mol	Chain	Res	Type
18	2b	1197	C
18	2b	1199	G
18	2b	1200	G
18	2b	1203	A
18	2b	1204	A
18	2b	1207	C
18	2b	1212	G
18	2b	1217	A
18	2b	1218	G
18	2b	1226	A
18	2b	1228	G
18	2b	1229	G
18	2b	1230	A
18	2b	1231	U
18	2b	1239	U
18	2b	1240	U
18	2b	1241	G
18	2b	1242	A
18	2b	1243	G
18	2b	1244	A
18	2b	1245	G
18	2b	1246	C
18	2b	1255	G
18	2b	1256	A
18	2b	1257	U
18	2b	1258	U
18	2b	1259	U
18	2b	1276	U
18	2b	1286	U
18	2b	1288	G
18	2b	1294	G
18	2b	1307	U
18	2b	1312	A
18	2b	1314	U
18	2b	1315	U
18	2b	1318	G
18	2b	1320	U
18	2b	1321	A
18	2b	1337	A
18	2b	1344	A
18	2b	1345	A
18	2b	1346	A

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Mol	Chain	Res	Type
18	2b	1347	U
18	2b	1348	A
18	2b	1354	G
18	2b	1360	A
18	2b	1361	U
18	2b	1362	U
18	2b	1363	U
18	2b	1364	G
18	2b	1367	G
18	2b	1371	A
18	2b	1372	U
18	2b	1378	U
18	2b	1385	G
18	2b	1390	U
18	2b	1391	A
18	2b	1398	U
18	2b	1399	C
18	2b	1413	U
18	2b	1414	U
18	2b	1415	U
18	2b	1427	A
18	2b	1428	G
18	2b	1432	U
18	2b	1445	G
18	2b	1446	A
18	2b	1448	G
18	2b	1451	C
18	2b	1452	U
18	2b	1453	G
18	2b	1459	C
18	2b	1460	A
18	2b	1471	A
18	2b	1481	C
18	2b	1482	C
18	2b	1486	G
18	2b	1489	U
18	2b	1490	C
18	2b	1491	U
18	2b	1492	A
18	2b	1493	A
18	2b	1494	C
18	2b	1496	U

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Mol	Chain	Res	Type
18	2b	1506	G
18	2b	1514	U
18	2b	1515	A
18	2b	1516	A
18	2b	1517	U
18	2b	1521	G
18	2b	1523	G
18	2b	1524	A
18	2b	1535	U
18	2b	1536	G
18	2b	1537	C
18	2b	1538	U
18	2b	1553	G
18	2b	1554	U
18	2b	1555	A
18	2b	1557	U
18	2b	1558	U
18	2b	1559	A
18	2b	1569	A
18	2b	1574	G
18	2b	1575	G
18	2b	1584	G
18	2b	1585	U
18	2b	1590	G
18	2b	1596	C
18	2b	1598	U
18	2b	1600	A
18	2b	1601	G
18	2b	1616	G
18	2b	1619	C
18	2b	1621	U
18	2b	1622	G
18	2b	1632	C
18	2b	1657	U
18	2b	1658	G
18	2b	1663	G
18	2b	1665	U
18	2b	1678	A
18	2b	1680	G
18	2b	1681	A
18	2b	1682	U
18	2b	1715	G

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Mol	Chain	Res	Type
18	2b	1716	C
18	2b	1720	G
18	2b	1742	U
18	2b	1750	A
18	2b	1755	A
18	2b	1756	A
18	2b	1757	G
18	2b	1766	A
18	2b	1767	G
18	2b	1768	G
18	2b	1769	U
18	2b	1770	U
18	2b	1780	G
18	2b	1782	A
18	2b	1792	G
18	2b	1793	G
18	2b	1794	A
18	2b	1795	U
18	2b	1799	U
18	2b	1800	A
1	YQ	6	A
1	YQ	14	U
1	YQ	26	A
1	YQ	30	G
1	YQ	40	A
1	YQ	45	A
1	YQ	48	A
1	YQ	49	A
1	YQ	60	A
1	YQ	65	A
1	YQ	66	A
1	YQ	72	C
1	YQ	73	C
1	YQ	74	G
1	YQ	76	G
1	YQ	92	G
1	YQ	96	G
1	YQ	109	A
1	YQ	110	G
1	YQ	111	C
1	YQ	121	A
1	YQ	122	A

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Mol	Chain	Res	Type
1	YQ	133	U
1	YQ	134	U
1	YQ	135	C
1	YQ	136	G
1	YQ	149	U
1	YQ	150	A
1	YQ	155	G
1	YQ	156	G
1	YQ	157	A
1	YQ	161	G
1	YQ	165	A
1	YQ	171	G
1	YQ	172	G
1	YQ	182	U
1	YQ	184	U
1	YQ	185	C
1	YQ	187	A
1	YQ	189	G
1	YQ	190	U
1	YQ	191	U
1	YQ	200	C
1	YQ	210	U
1	YQ	211	A
1	YQ	213	A
1	YQ	218	G
1	YQ	219	A
1	YQ	221	A
1	YQ	240	U
1	YQ	241	G
1	YQ	245	U
1	YQ	246	U
1	YQ	248	U
1	YQ	251	G
1	YQ	252	U
1	YQ	253	A
1	YQ	254	A
1	YQ	263	C
1	YQ	265	A
1	YQ	266	A
1	YQ	269	G
1	YQ	283	G
1	YQ	284	A

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Mol	Chain	Res	Type
1	YQ	286	U
1	YQ	295	A
1	YQ	298	U
1	YQ	315	C
1	YQ	323	A
1	YQ	329	U
1	YQ	330	G
1	YQ	334	A
1	YQ	338	A
1	YQ	339	C
1	YQ	343	U
1	YQ	346	C
1	YQ	350	C
1	YQ	351	A
1	YQ	352	A
1	YQ	368	G
1	YQ	375	A
1	YQ	376	G
1	YQ	390	G
1	YQ	398	A
1	YQ	401	U
1	YQ	402	A
1	YQ	403	C
1	YQ	404	G
1	YQ	420	G
1	YQ	421	G
1	YQ	422	A
1	YQ	439	C
1	YQ	440	A
1	YQ	503	C
1	YQ	507	U
1	YQ	515	C
1	YQ	519	A
1	YQ	520	U
1	YQ	521	A
1	YQ	536	U
1	YQ	546	C
1	YQ	548	G
1	YQ	551	A
1	YQ	555	U
1	YQ	557	A
1	YQ	558	U

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Mol	Chain	Res	Type
1	YQ	559	A
1	YQ	569	A
1	YQ	578	A
1	YQ	579	G
1	YQ	589	A
1	YQ	592	A
1	YQ	594	U
1	YQ	600	G
1	YQ	603	A
1	YQ	604	G
1	YQ	609	G
1	YQ	610	G
1	YQ	611	A
1	YQ	612	U
1	YQ	620	U
1	YQ	621	A
1	YQ	622	A
1	YQ	636	C
1	YQ	642	U
1	YQ	645	A
1	YQ	649	A
1	YQ	661	G
1	YQ	667	C
1	YQ	677	A
1	YQ	681	U
1	YQ	682	U
1	YQ	689	U
1	YQ	691	A
1	YQ	705	A
1	YQ	706	A
1	YQ	716	A
1	YQ	719	U
1	YQ	720	A
1	YQ	726	G
1	YQ	736	A
1	YQ	737	G
1	YQ	742	G
1	YQ	760	G
1	YQ	761	A
1	YQ	766	U
1	YQ	776	U
1	YQ	777	U

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Mol	Chain	Res	Type
1	YQ	780	A
1	YQ	781	G
1	YQ	785	G
1	YQ	786	A
1	YQ	806	A
1	YQ	808	A
1	YQ	815	G
1	YQ	817	A
1	YQ	830	A
1	YQ	832	G
1	YQ	837	A
1	YQ	861	C
1	YQ	874	U
1	YQ	879	U
1	YQ	882	A
1	YQ	897	U
1	YQ	907	G
1	YQ	908	G
1	YQ	914	A
1	YQ	916	G
1	YQ	917	A
1	YQ	924	G
1	YQ	926	A
1	YQ	937	G
1	YQ	944	C
1	YQ	953	G
1	YQ	959	C
1	YQ	960	U
1	YQ	962	A
1	YQ	974	G
1	YQ	979	U
1	YQ	981	U
1	YQ	984	G
1	YQ	991	G
1	YQ	1001	G
1	YQ	1002	A
1	YQ	1010	G
1	YQ	1014	U
1	YQ	1015	U
1	YQ	1016	C
1	YQ	1017	C
1	YQ	1018	G

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Mol	Chain	Res	Type
1	YQ	1021	G
1	YQ	1024	G
1	YQ	1025	A
1	YQ	1026	A
1	YQ	1028	U
1	YQ	1029	G
1	YQ	1034	U
1	YQ	1035	G
1	YQ	1047	A
1	YQ	1049	C
1	YQ	1063	G
1	YQ	1064	A
1	YQ	1065	A
1	YQ	1071	U
1	YQ	1072	G
1	YQ	1079	A
1	YQ	1081	U
1	YQ	1082	U
1	YQ	1085	A
1	YQ	1093	A
1	YQ	1094	U
1	YQ	1096	U
1	YQ	1097	G
1	YQ	1098	A
1	YQ	1103	A
1	YQ	1104	G
1	YQ	1117	G
1	YQ	1129	A
1	YQ	1131	G
1	YQ	1143	A
1	YQ	1144	U
1	YQ	1145	G
1	YQ	1152	G
1	YQ	1153	A
1	YQ	1159	A
1	YQ	1160	C
1	YQ	1178	G
1	YQ	1180	A
1	YQ	1181	U
1	YQ	1182	A
1	YQ	1192	C
1	YQ	1201	C

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Mol	Chain	Res	Type
1	YQ	1202	A
1	YQ	1222	G
1	YQ	1223	A
1	YQ	1234	G
1	YQ	1236	G
1	YQ	1237	G
1	YQ	1239	C
1	YQ	1242	G
1	YQ	1243	G
1	YQ	1245	A
1	YQ	1246	G
1	YQ	1258	U
1	YQ	1262	G
1	YQ	1263	A
1	YQ	1264	G
1	YQ	1265	U
1	YQ	1270	A
1	YQ	1277	C
1	YQ	1285	G
1	YQ	1286	A
1	YQ	1295	G
1	YQ	1301	A
1	YQ	1305	U
1	YQ	1307	G
1	YQ	1308	A
1	YQ	1309	U
1	YQ	1310	G
1	YQ	1329	U
1	YQ	1330	A
1	YQ	1346	G
1	YQ	1348	U
1	YQ	1354	G
1	YQ	1355	A
1	YQ	1357	G
1	YQ	1385	C
1	YQ	1386	A
1	YQ	1399	A
1	YQ	1400	G
1	YQ	1408	G
1	YQ	1418	A
1	YQ	1419	A
1	YQ	1421	G

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Mol	Chain	Res	Type
1	YQ	1434	G
1	YQ	1437	C
1	YQ	1443	G
1	YQ	1445	U
1	YQ	1446	A
1	YQ	1452	A
1	YQ	1455	U
1	YQ	1475	A
1	YQ	1477	A
1	YQ	1481	A
1	YQ	1482	A
1	YQ	1484	U
1	YQ	1487	G
1	YQ	1488	G
1	YQ	1495	U
1	YQ	1496	C
1	YQ	1508	C
1	YQ	1511	U
1	YQ	1523	U
1	YQ	1533	U
1	YQ	1544	G
1	YQ	1546	A
1	YQ	1549	U
1	YQ	1554	U
1	YQ	1555	U
1	YQ	1556	C
1	YQ	1559	A
1	YQ	1560	G
1	YQ	1561	G
1	YQ	1562	C
1	YQ	1563	C
1	YQ	1575	A
1	YQ	1576	G
1	YQ	1577	G
1	YQ	1578	C
1	YQ	1580	A
1	YQ	1581	C
1	YQ	1582	C
1	YQ	1583	A
1	YQ	1584	U
1	YQ	1587	A
1	YQ	1588	A

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Mol	Chain	Res	Type
1	YQ	1589	A
1	YQ	1591	G
1	YQ	1605	A
1	YQ	1607	U
1	YQ	1620	U
1	YQ	1629	U
1	YQ	1639	C
1	YQ	1642	A
1	YQ	1643	A
1	YQ	1644	C
1	YQ	1645	U
1	YQ	1655	G
1	YQ	1658	G
1	YQ	1677	G
1	YQ	1683	A
1	YQ	1694	U
1	YQ	1716	U
1	YQ	1717	U
1	YQ	1722	U
1	YQ	1724	U
1	YQ	1736	G
1	YQ	1741	A
1	YQ	1750	A
1	YQ	1751	G
1	YQ	1759	C
1	YQ	1760	A
1	YQ	1762	C
1	YQ	1764	U
1	YQ	1765	U
1	YQ	1766	G
1	YQ	1769	G
1	YQ	1770	G
1	YQ	1775	G
1	YQ	1780	G
1	YQ	1796	G
1	YQ	1797	A
1	YQ	1808	G
1	YQ	1814	A
1	YQ	1816	A
1	YQ	1817	G
1	YQ	1818	U
1	YQ	1821	U

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Mol	Chain	Res	Type
1	YQ	1838	G
1	YQ	1839	A
1	YQ	1840	U
1	YQ	1841	A
1	YQ	1842	A
1	YQ	1846	C
1	YQ	1849	C
1	YQ	1850	A
1	YQ	1851	G
1	YQ	1878	G
1	YQ	1879	A
1	YQ	1880	U
1	YQ	1881	A
1	YQ	1890	U
1	YQ	1893	A
1	YQ	1897	G
1	YQ	1906	G
1	YQ	1935	G
1	YQ	1938	U
1	YQ	1948	G
1	YQ	1953	G
1	YQ	2101	C
1	YQ	2102	U
1	YQ	2111	G
1	YQ	2112	U
1	YQ	2113	A
1	YQ	2114	C
1	YQ	2121	G
1	YQ	2122	G
1	YQ	2131	A
1	YQ	2139	A
1	YQ	2158	A
1	YQ	2169	G
1	YQ	2184	U
1	YQ	2188	A
1	YQ	2205	U
1	YQ	2207	A
1	YQ	2208	A
1	YQ	2209	U
1	YQ	2210	G
1	YQ	2212	C
1	YQ	2213	A

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Mol	Chain	Res	Type
1	YQ	2223	A
1	YQ	2229	A
1	YQ	2244	A
1	YQ	2246	G
1	YQ	2249	G
1	YQ	2250	G
1	YQ	2251	G
1	YQ	2252	A
1	YQ	2253	G
1	YQ	2255	A
1	YQ	2256	A
1	YQ	2257	C
1	YQ	2261	G
1	YQ	2262	A
1	YQ	2266	U
1	YQ	2267	C
1	YQ	2269	U
1	YQ	2271	A
1	YQ	2272	G
1	YQ	2273	G
1	YQ	2274	U
1	YQ	2276	G
1	YQ	2279	A
1	YQ	2280	A
1	YQ	2281	A
1	YQ	2284	C
1	YQ	2288	G
1	YQ	2307	G
1	YQ	2309	A
1	YQ	2310	U
1	YQ	2313	A
1	YQ	2315	G
1	YQ	2372	A
1	YQ	2373	A
1	YQ	2374	C
1	YQ	2375	G
1	YQ	2388	U
1	YQ	2393	G
1	YQ	2394	G
1	YQ	2397	A
1	YQ	2398	A
1	YQ	2401	A

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Mol	Chain	Res	Type
1	YQ	2402	A
1	YQ	2403	G
1	YQ	2404	A
1	YQ	2411	U
1	YQ	2412	G
1	YQ	2418	G
1	YQ	2419	A
1	YQ	2422	C
1	YQ	2434	U
1	YQ	2435	G
1	YQ	2437	G
1	YQ	2441	A
1	YQ	2505	U
1	YQ	2510	U
1	YQ	2511	A
1	YQ	2514	U
1	YQ	2515	A
1	YQ	2522	G
1	YQ	2523	A
1	YQ	2524	A
1	YQ	2525	G
1	YQ	2526	C
1	YQ	2530	G
1	YQ	2535	A
1	YQ	2536	A
1	YQ	2538	U
1	YQ	2539	C
1	YQ	2540	A
1	YQ	2541	U
1	YQ	2542	U
1	YQ	2543	U
1	YQ	2544	U
1	YQ	2545	C
1	YQ	2548	C
1	YQ	2549	G
1	YQ	2552	C
1	YQ	2554	A
1	YQ	2562	A
1	YQ	2566	C
1	YQ	2567	C
1	YQ	2568	C
1	YQ	2569	A

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Mol	Chain	Res	Type
1	YQ	2570	U
1	YQ	2571	U
1	YQ	2572	C
1	YQ	2573	G
1	YQ	2574	G
1	YQ	2578	U
1	YQ	2580	A
1	YQ	2584	G
1	YQ	2585	G
1	YQ	2589	G
1	YQ	2593	A
1	YQ	2594	C
1	YQ	2606	G
1	YQ	2607	G
1	YQ	2614	G
1	YQ	2629	U
1	YQ	2636	A
1	YQ	2652	U
1	YQ	2655	U
1	YQ	2656	A
1	YQ	2663	G
1	YQ	2672	G
1	YQ	2674	A
1	YQ	2677	G
1	YQ	2683	U
1	YQ	2689	A
1	YQ	2690	G
1	YQ	2694	A
1	YQ	2696	A
1	YQ	2703	A
1	YQ	2704	A
1	YQ	2708	C
1	YQ	2714	G
1	YQ	2727	A
1	YQ	2728	G
1	YQ	2729	U
1	YQ	2737	C
1	YQ	2740	A
1	YQ	2752	U
1	YQ	2753	G
1	YQ	2754	G
1	YQ	2762	A

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Mol	Chain	Res	Type
1	YQ	2772	C
1	YQ	2773	C
1	YQ	2777	G
1	YQ	2778	G
1	YQ	2779	A
1	YQ	2782	U
1	YQ	2796	G
1	YQ	2799	A
1	YQ	2800	G
1	YQ	2801	A
1	YQ	2803	A
1	YQ	2810	C
1	YQ	2814	G
1	YQ	2817	A
1	YQ	2818	U
1	YQ	2819	A
1	YQ	2821	C
1	YQ	2828	G
1	YQ	2845	A
1	YQ	2847	A
1	YQ	2849	C
1	YQ	2860	U
1	YQ	2861	U
1	YQ	2871	G
1	YQ	2872	A
1	YQ	2873	U
1	YQ	2874	G
1	YQ	2876	C
1	YQ	2887	A
1	YQ	2889	C
1	YQ	2894	C
1	YQ	2899	C
1	YQ	2900	A
1	YQ	2910	A
1	YQ	2916	U
1	YQ	2923	U
1	YQ	2924	U
1	YQ	2935	U
1	YQ	2936	A
1	YQ	2942	C
1	YQ	2943	G
1	YQ	2945	G

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Mol	Chain	Res	Type
1	YQ	2947	G
1	YQ	2955	U
1	YQ	2957	G
1	YQ	2965	U
1	YQ	2971	A
1	YQ	2972	G
1	YQ	2979	U
1	YQ	2983	C
1	YQ	2990	G
1	YQ	2996	U
1	YQ	2997	G
1	YQ	3011	A
1	YQ	3012	A
1	YQ	3030	G
1	YQ	3039	C
1	YQ	3049	A
1	YQ	3059	G
1	YQ	3074	G
1	YQ	3078	U
1	YQ	3080	G
1	YQ	3086	A
1	YQ	3092	C
1	YQ	3093	C
1	YQ	3094	A
1	YQ	3104	U
1	YQ	3114	A
1	YQ	3116	G
1	YQ	3122	A
1	YQ	3130	A
1	YQ	3131	U
1	YQ	3134	A
1	YQ	3142	A
1	YQ	3143	C
1	YQ	3150	A
1	YQ	3151	U
1	YQ	3153	U
1	YQ	3158	G
1	YQ	3159	C
1	YQ	3165	A
1	YQ	3170	A
1	YQ	3172	A
1	YQ	3173	G

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Mol	Chain	Res	Type
1	YQ	3174	A
1	YQ	3176	G
1	YQ	3179	U
1	YQ	3180	A
1	YQ	3181	C
1	YQ	3187	A
1	YQ	3195	U
1	YQ	3196	U
1	YQ	3197	G
1	YQ	3198	U
1	YQ	3207	U
1	YQ	3210	A
1	YQ	3217	C
1	YQ	3218	A
1	YQ	3219	G
1	YQ	3227	A
1	YQ	3229	G
1	YQ	3235	C
1	YQ	3238	G
1	YQ	3243	A
1	YQ	3244	A
1	YQ	3245	A
1	YQ	3246	G
1	YQ	3251	U
1	YQ	3259	U
1	YQ	3263	G
1	YQ	3267	A
1	YQ	3269	U
1	YQ	3270	U
1	YQ	3271	G
1	YQ	3272	C
1	YQ	3276	G
1	YQ	3279	A
1	YQ	3281	U
1	YQ	3286	G
1	YQ	3289	G
1	YQ	3290	G
1	YQ	3294	A
1	YQ	3295	A
1	YQ	3304	U
1	YQ	3309	G
1	YQ	3313	U

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Mol	Chain	Res	Type
1	YQ	3316	A
1	YQ	3317	U
1	YQ	3318	G
1	YQ	3334	U
1	YQ	3335	A
1	YQ	3341	U
1	YQ	3342	A
1	YQ	3345	G
1	YQ	3348	G
1	YQ	3351	U
1	YQ	3352	U
1	YQ	3353	G
1	YQ	3354	U
1	YQ	3355	U
1	YQ	3356	G
1	YQ	3357	U
1	YQ	3358	U
1	YQ	3368	U
1	YQ	3369	G
1	YQ	3378	C
1	YQ	3384	U
1	YQ	3389	U
1	YQ	3390	G
1	YQ	3396	U
2	YR	7	G
2	YR	22	A
2	YR	38	U
2	YR	54	U
2	YR	55	A
2	YR	65	G
2	YR	73	C
2	YR	76	A
2	YR	87	G
2	YR	93	C
2	YR	102	A
2	YR	103	A
2	YR	112	G
2	YR	121	U
3	YS	23	U
3	YS	34	U
3	YS	35	C
3	YS	46	G

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Mol	Chain	Res	Type
3	YS	48	A
3	YS	49	G
3	YS	59	A
3	YS	62	C
3	YS	63	G
3	YS	79	A
3	YS	80	A
3	YS	81	U
3	YS	82	U
3	YS	83	C
3	YS	84	C
3	YS	86	U
3	YS	87	G
3	YS	91	C
3	YS	95	G
3	YS	97	A
3	YS	104	A
3	YS	105	A
3	YS	106	C
3	YS	111	A
3	YS	113	U
3	YS	123	G
3	YS	125	U
3	YS	138	A
3	YS	148	G
3	YS	152	G
3	YS	156	U
3	YS	157	U
80	n	16	U
80	n	17	G
80	n	18	G
80	n	19	U
80	n	22	C
80	n	24	G
80	n	33	U
80	n	39	C
80	n	41	A
80	n	42	G
80	n	48	U
80	n	56	C
80	n	58	A
80	n	59	G

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Mol	Chain	Res	Type
80	n	73	G
80	n	74	C
80	n	76	A
81	m	9	A
81	m	16	C
81	m	17	G
81	m	18	G
81	m	19	C
81	m	20	U
81	m	28	C
81	m	29	A
81	m	33	U
81	m	34	U
81	m	35	U
81	m	36	C
81	m	37	A
81	m	38	C
81	m	39	C
81	m	43	G
81	m	45	G
81	m	46	A
81	m	47	C
81	m	72	G
81	m	75	A
82	nb	4	C
82	nb	9	A
82	nb	13	C
82	nb	15	G
82	nb	16	U
82	nb	17	C
82	nb	18	G
82	nb	19	G
82	nb	20	U
82	nb	21	A
82	nb	22	G
82	nb	23	A
82	nb	25	C
82	nb	33	U
82	nb	34	A
82	nb	35	G
82	nb	36	G
82	nb	37	A

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Mol	Chain	Res	Type
82	nb	38	A
82	nb	40	C
82	nb	41	C
82	nb	42	C
82	nb	43	C
82	nb	44	G
82	nb	47	U
82	nb	48	C
82	nb	49	C
82	nb	51	U
82	nb	52	G
82	nb	53	G
82	nb	54	U
82	nb	55	U
82	nb	57	G
82	nb	58	A
82	nb	59	U
82	nb	60	U
82	nb	68	C
82	nb	72	C
82	nb	73	A
82	nb	74	C
82	nb	75	C
82	nb	76	A
83	mb	2	G
83	mb	9	G
83	mb	19	G
83	mb	20	G
83	mb	21	U
83	mb	48	U
83	mb	49	C
83	mb	57	C
83	mb	63	C
83	mb	76	C
83	mb	77	A
84	l	5	U
84	l	6	U
84	l	8	U
84	l	9	U
84	l	10	U
84	l	11	U
84	l	12	U

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Mol	Chain	Res	Type
84	1	13	U
84	1	16	G
84	1	19	A
84	1	23	U
84	1	24	U
84	1	25	U
84	1	26	U
84	1	28	U
84	1	29	U
84	1	30	U
84	1	31	U
84	1	32	A
84	1	33	A
84	1	34	U
84	1	38	G
84	1	39	G
84	1	40	A
84	1	42	G
84	1	46	C
84	1	49	C
84	1	50	C
84	1	52	U
84	1	53	U
84	1	54	U
84	1	55	U
84	1	56	U
84	1	57	U
84	1	58	U
84	1	59	U
84	1	60	U

All (188) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	BQ	13	A
1	BQ	65	A
1	BQ	151	A
1	BQ	170	G
1	BQ	217	U
1	BQ	240	U
1	BQ	282	G
1	BQ	619	A

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Mol	Chain	Res	Type
1	BQ	715	A
1	BQ	735	A
1	BQ	765	C
1	BQ	873	C
1	BQ	916	G
1	BQ	1015	U
1	BQ	1027	A
1	BQ	1033	U
1	BQ	1062	A
1	BQ	1064	A
1	BQ	1081	U
1	BQ	1096	U
1	BQ	1103	A
1	BQ	1152	G
1	BQ	1222	G
1	BQ	1238	C
1	BQ	1241	U
1	BQ	1284	C
1	BQ	1307	G
1	BQ	1329	U
1	BQ	1481	A
1	BQ	1560	G
1	BQ	1573	G
1	BQ	1582	C
1	BQ	1605	A
1	BQ	1761	C
1	BQ	1815	U
1	BQ	1816	A
1	BQ	2101	C
1	BQ	2112	U
1	BQ	2204	C
1	BQ	2207	A
1	BQ	2209	U
1	BQ	2231	C
1	BQ	2260	U
1	BQ	2418	G
1	BQ	2513	U
1	BQ	2537	U
1	BQ	2583	C
1	BQ	2662	G
1	BQ	2772	C
1	BQ	2872	A

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Mol	Chain	Res	Type
1	BQ	2971	A
1	BQ	3078	U
1	BQ	3121	U
1	BQ	3195	U
1	BQ	3218	A
1	BQ	3228	C
1	BQ	3269	U
1	BQ	3275	U
1	BQ	3289	G
1	BQ	3317	U
1	BQ	3341	U
1	BQ	3356	G
1	BQ	3357	U
3	BS	39	G
3	BS	80	A
3	BS	156	U
18	2	25	C
18	2	68	A
18	2	73	U
18	2	76	A
18	2	103	A
18	2	130	C
18	2	131	C
18	2	132	U
18	2	139	C
18	2	217	A
18	2	218	A
18	2	239	C
18	2	240	U
18	2	242	U
18	2	278	U
18	2	279	G
18	2	280	U
18	2	352	A
18	2	417	A
18	2	422	G
18	2	484	C
18	2	497	G
18	2	499	U
18	2	501	U
18	2	503	G
18	2	512	A

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Mol	Chain	Res	Type
18	2	555	A
18	2	558	U
18	2	685	A
18	2	714	G
18	2	717	C
18	2	720	G
18	2	721	U
18	2	734	A
18	2	755	A
18	2	765	G
18	2	782	U
18	2	794	U
18	2	811	A
18	2	829	A
18	2	913	G
18	2	1058	U
18	2	1081	A
18	2	1196	A
18	2	1199	G
18	2	1227	A
18	2	1244	A
18	2	1255	G
18	2	1344	A
18	2	1421	A
18	2	1451	C
18	2	1481	C
18	2	1489	U
18	2	1491	U
18	2	1535	U
18	2	1553	G
18	2	1554	U
18	2	1568	C
18	2	1573	A
18	2	1596	C
18	2	1620	C
18	2	1657	U
1	YQ	65	A
1	YQ	170	G
1	YQ	217	U
1	YQ	240	U
1	YQ	282	G
1	YQ	715	A

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Mol	Chain	Res	Type
1	YQ	735	A
1	YQ	765	C
1	YQ	873	C
1	YQ	916	G
1	YQ	1015	U
1	YQ	1027	A
1	YQ	1033	U
1	YQ	1062	A
1	YQ	1064	A
1	YQ	1081	U
1	YQ	1096	U
1	YQ	1103	A
1	YQ	1152	G
1	YQ	1222	G
1	YQ	1238	C
1	YQ	1241	U
1	YQ	1284	C
1	YQ	1285	G
1	YQ	1307	G
1	YQ	1329	U
1	YQ	1481	A
1	YQ	1560	G
1	YQ	1582	C
1	YQ	1761	C
1	YQ	1815	U
1	YQ	1816	A
1	YQ	2101	C
1	YQ	2112	U
1	YQ	2168	A
1	YQ	2204	C
1	YQ	2256	A
1	YQ	2260	U
1	YQ	2272	G
1	YQ	2418	G
1	YQ	2513	U
1	YQ	2537	U
1	YQ	2583	C
1	YQ	2662	G
1	YQ	2772	C
1	YQ	2777	G
1	YQ	2872	A
1	YQ	2971	A

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Mol	Chain	Res	Type
1	YQ	3158	G
1	YQ	3195	U
1	YQ	3218	A
1	YQ	3228	C
1	YQ	3269	U
1	YQ	3289	G
1	YQ	3317	U
1	YQ	3340	G
1	YQ	3341	U
1	YQ	3357	U
3	YS	82	U
3	YS	156	U

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 15 ligands modelled in this entry, 15 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

The following chains have linkage breaks:

Mol	Chain	Number of breaks
48	Mb	1
48	M	1
38	Ib	1
4	XW	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Mb	13:ARG	C	14:TYR	N	1.77
1	M	13:ARG	C	14:TYR	N	1.76
1	Ib	116:ILE	C	117:SER	N	1.19
1	XW	204:MET	C	205:ASN	N	1.18

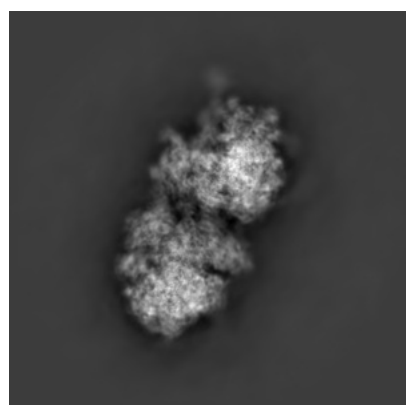
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-4427. These allow visual inspection of the internal detail of the map and identification of artifacts.

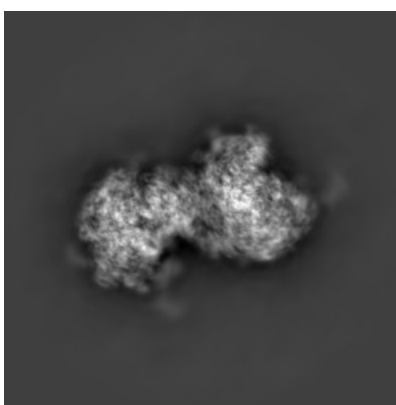
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

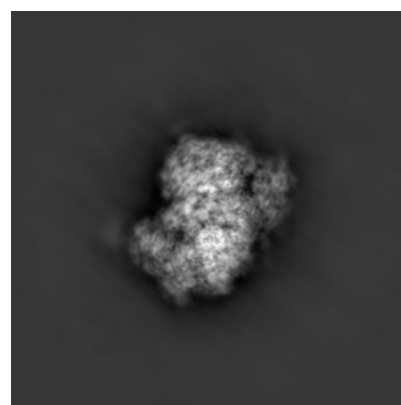
6.1.1 Primary map



X



Y

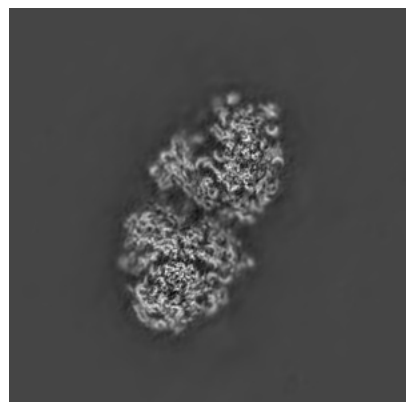


Z

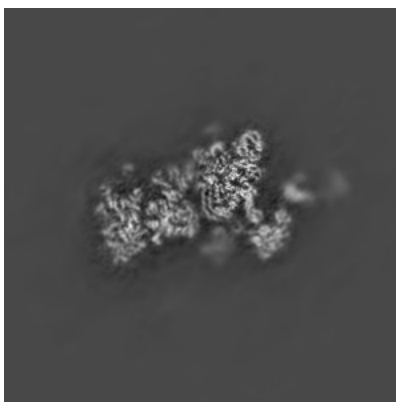
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

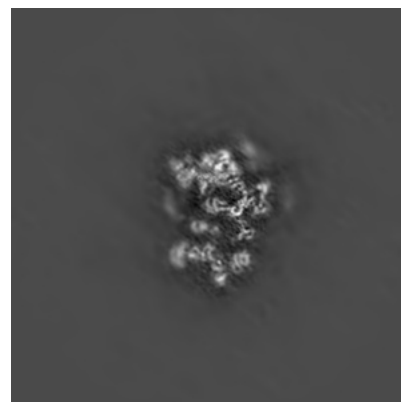
6.2.1 Primary map



X Index: 253



Y Index: 253

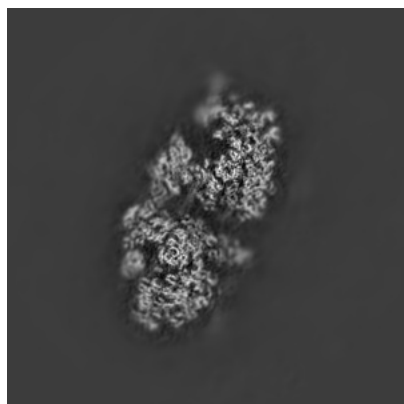


Z Index: 253

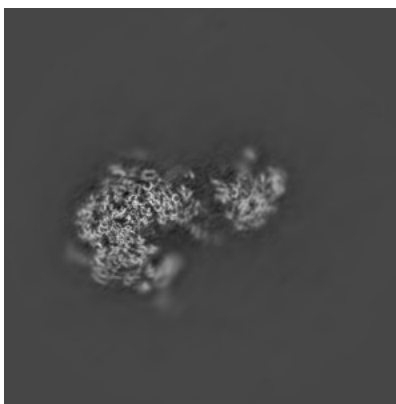
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

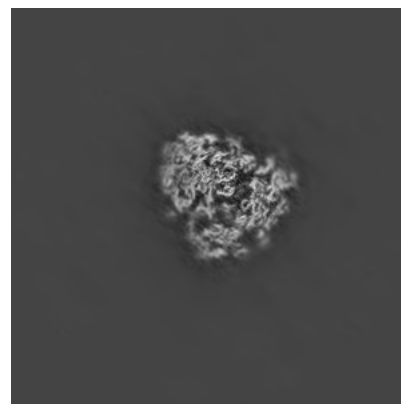
6.3.1 Primary map



X Index: 264



Y Index: 208

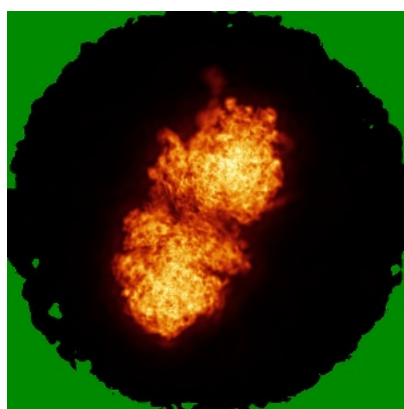


Z Index: 315

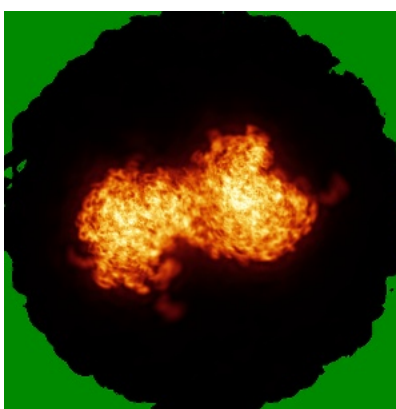
The images above show the largest variance slices of the map in three orthogonal directions.

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

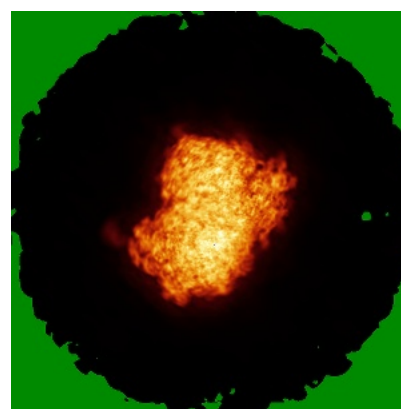
6.4.1 Primary map



X



Y



Z

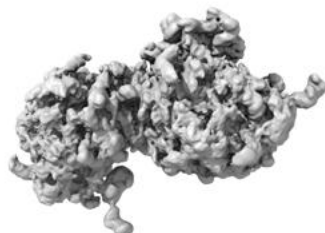
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

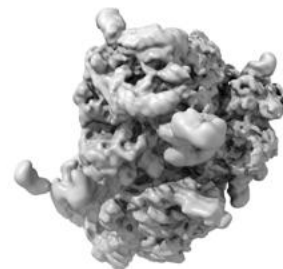
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.013. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

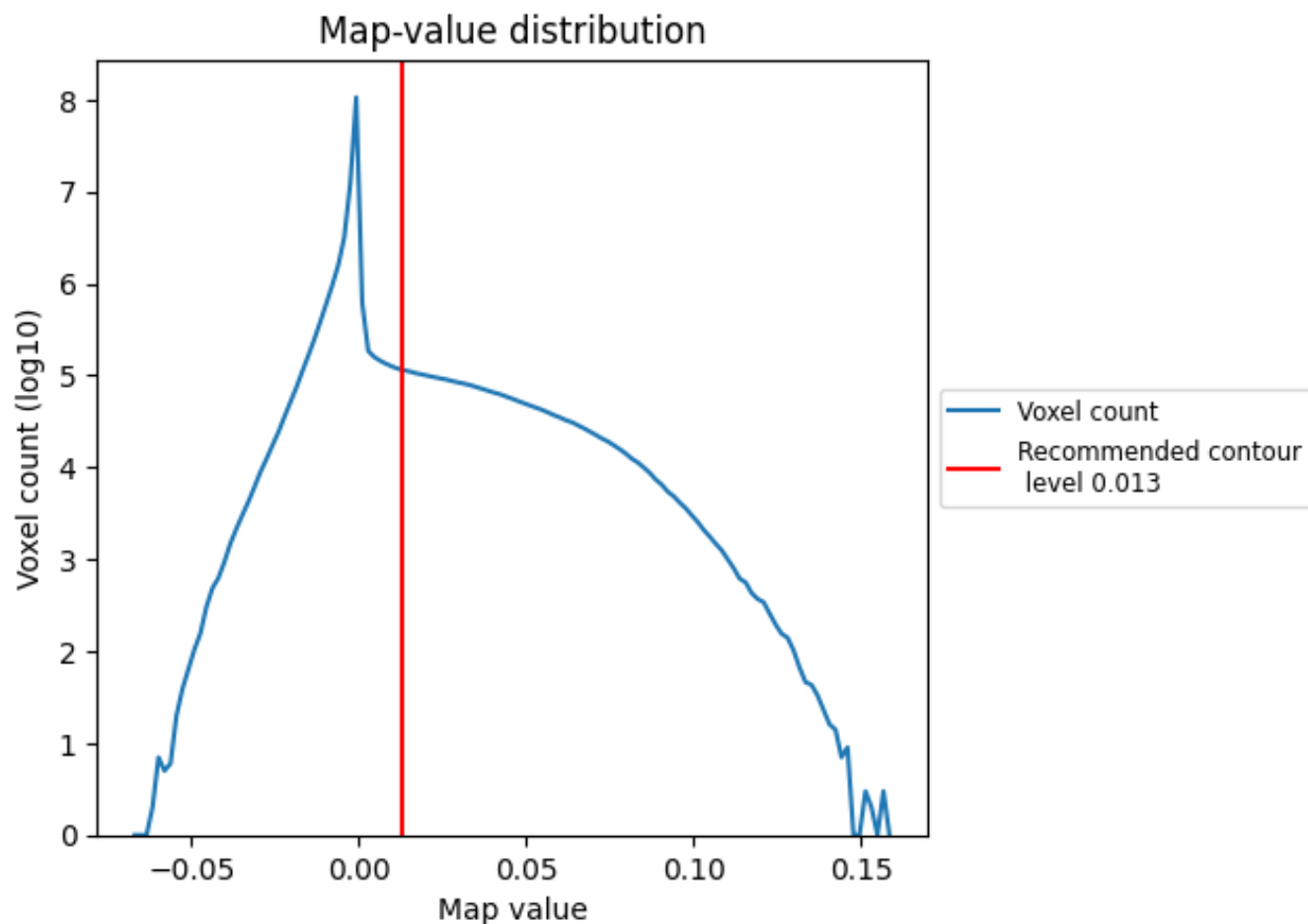
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

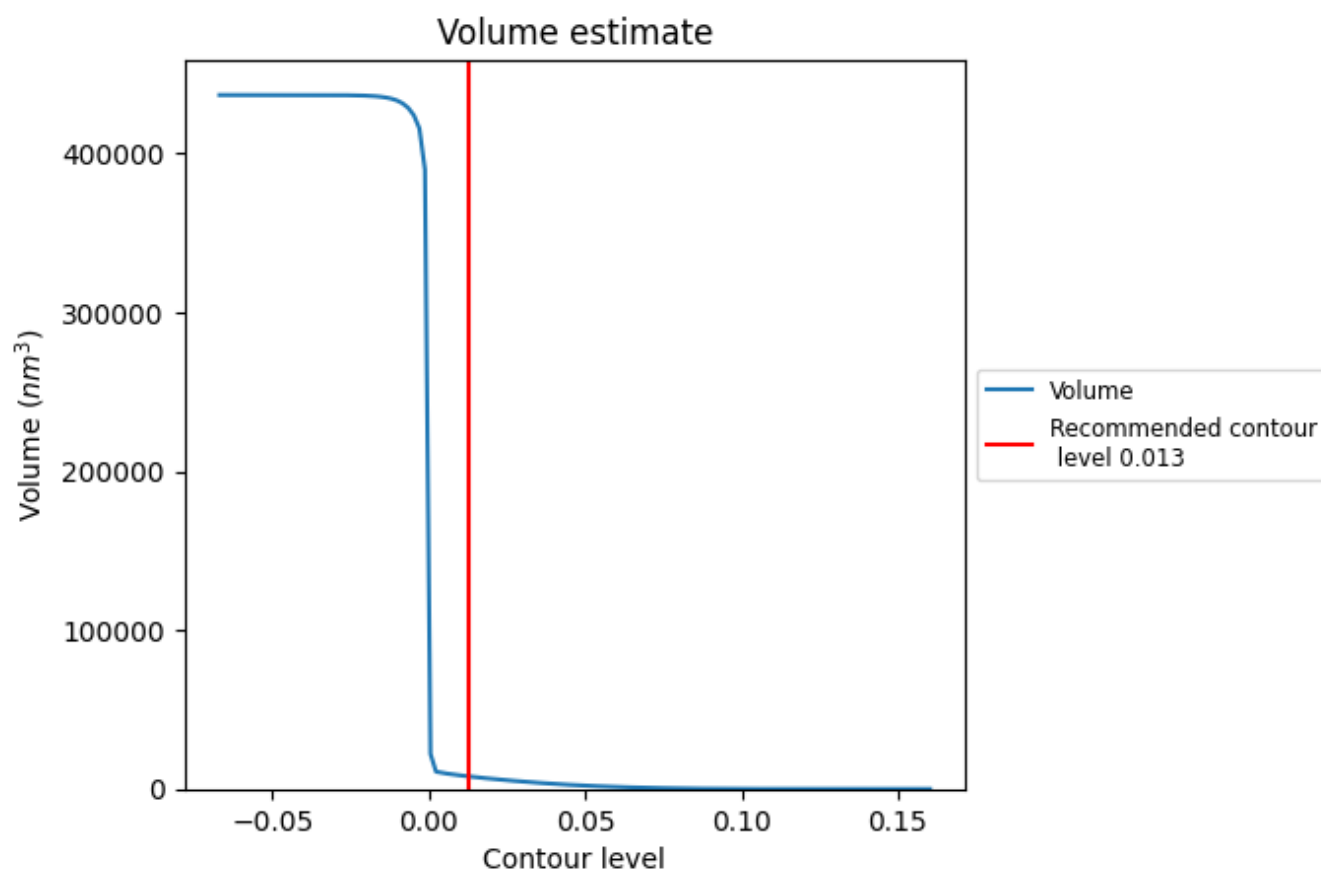
This section contains the results of statistical analysis of the map.

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.

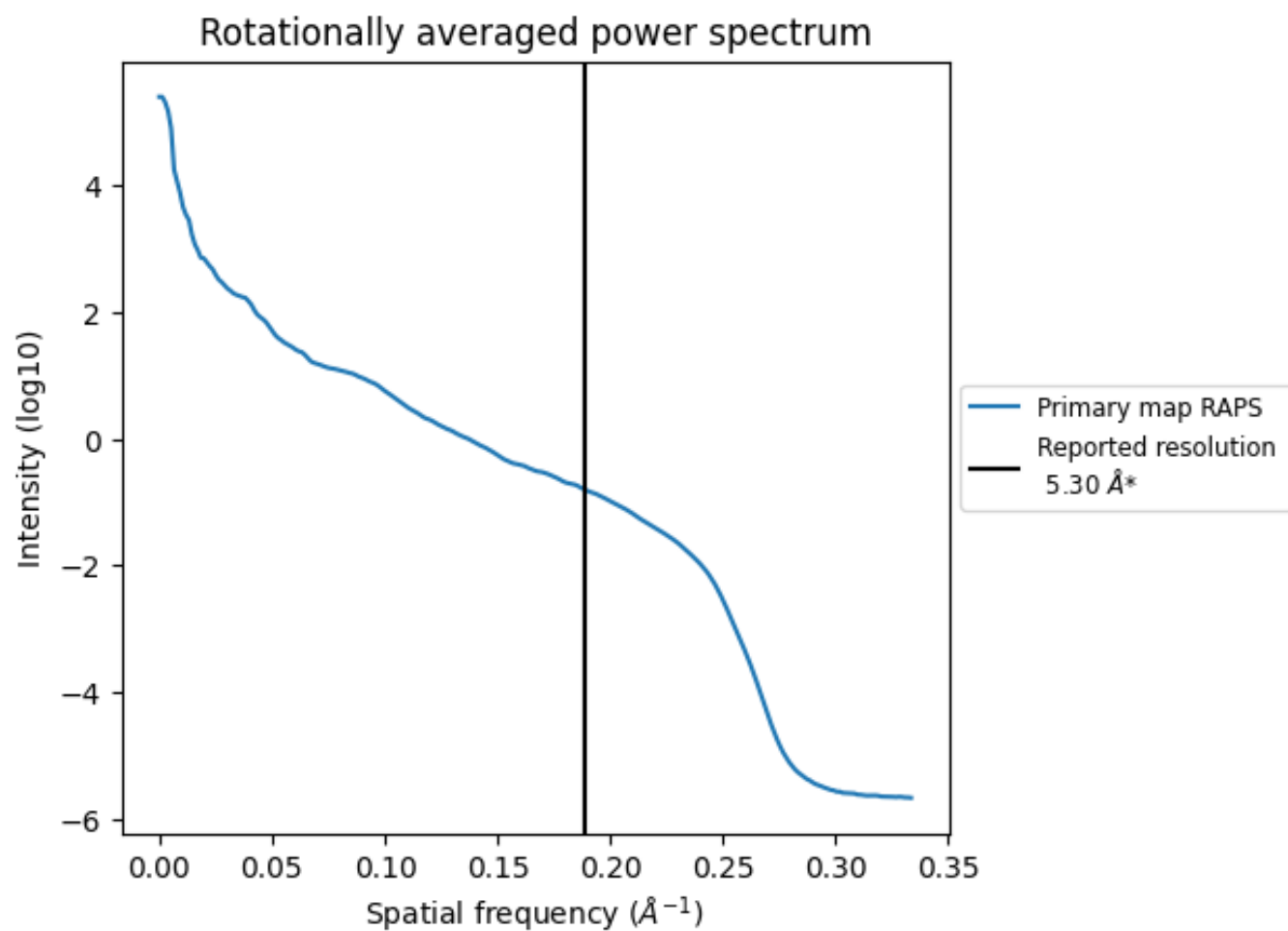
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 7857 nm³; this corresponds to an approximate mass of 7097 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 ⓘ

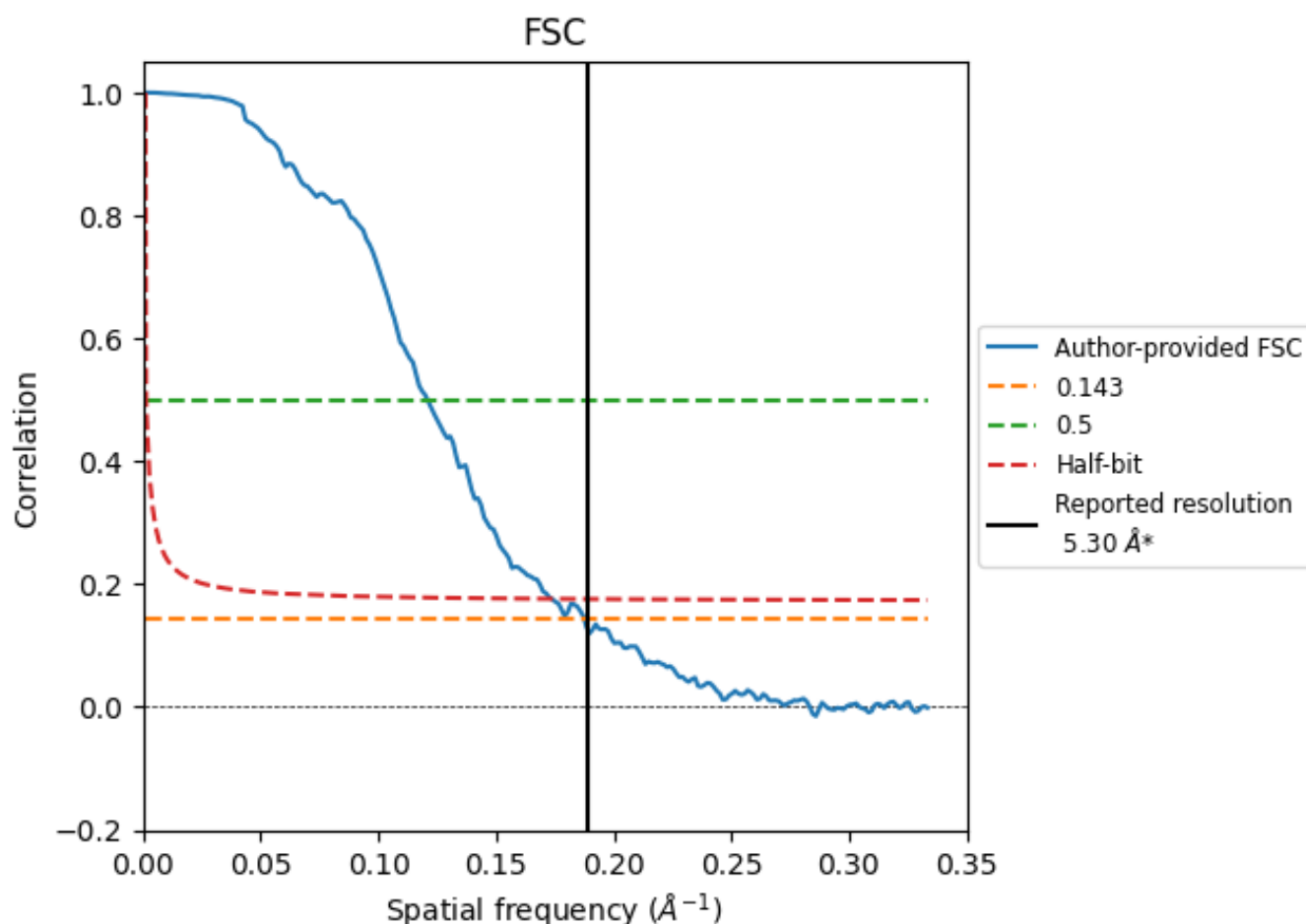


*Reported resolution corresponds to spatial frequency of 0.189 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.189 Å⁻¹

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	5.30	-	-
Author-provided FSC curve	5.33	8.27	5.76
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

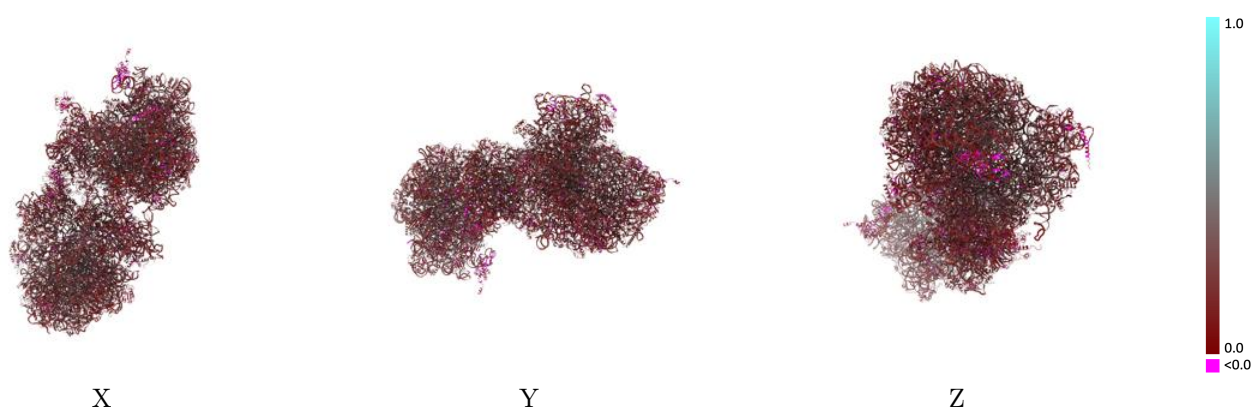
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-4427 and PDB model 6I7O. Per-residue inclusion information can be found in section 3 on page 27.

9.1 Map-model overlay [i](#)

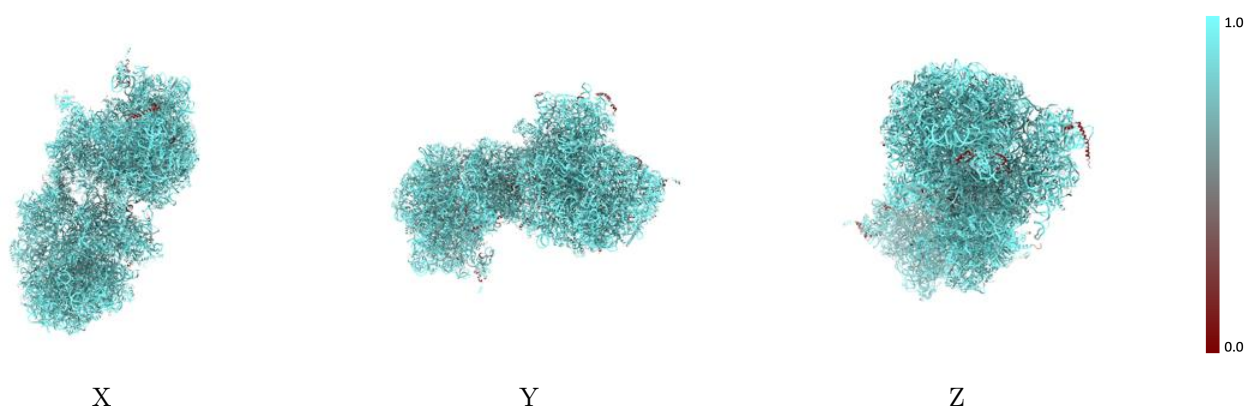
This section was not generated.

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



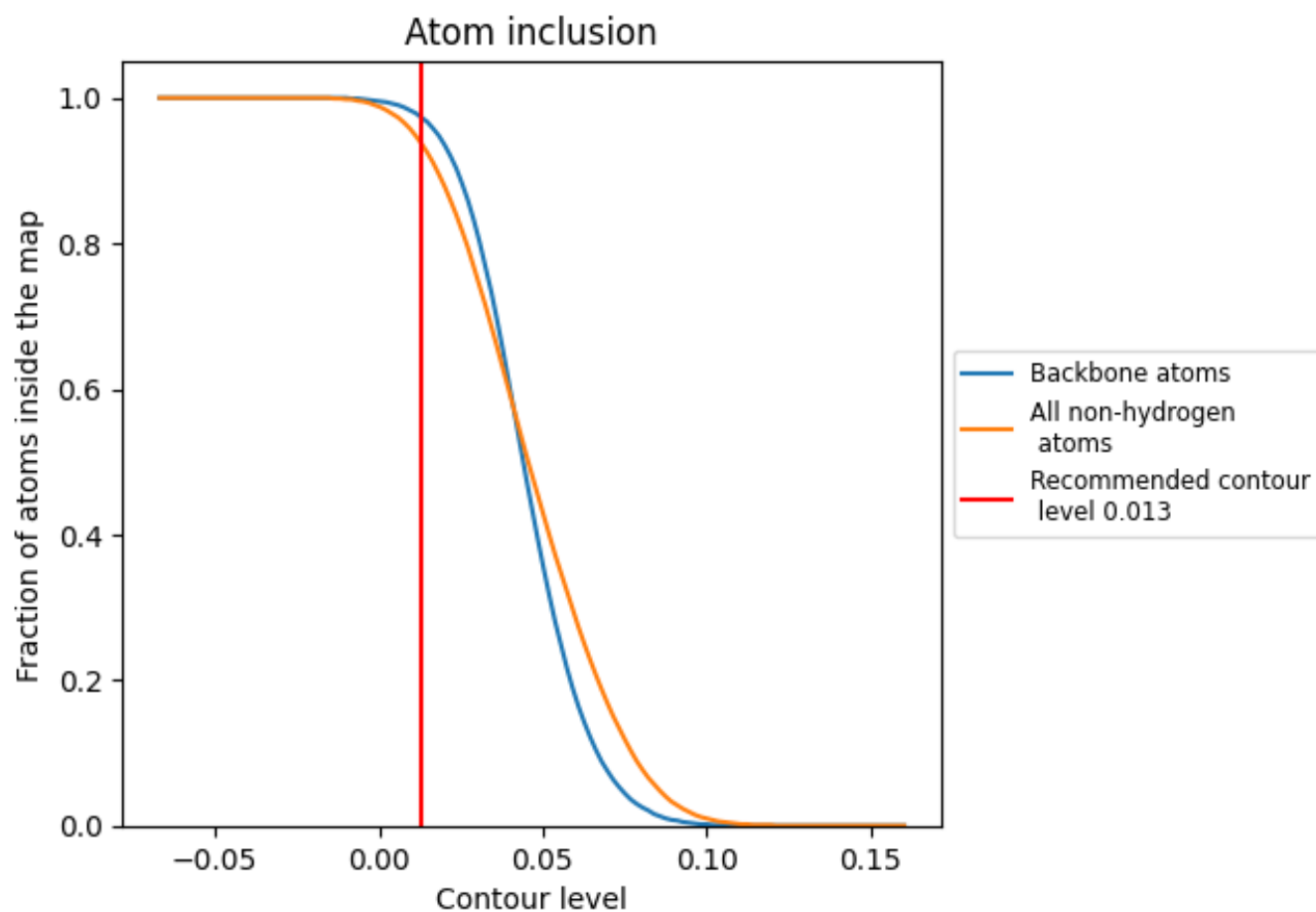
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.013).

9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.013) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9370	 0.2120
2	 0.9820	 0.2500
2b	 0.9850	 0.2320
A	 0.8470	 0.1750
AA	 0.8700	 0.1540
AB	 0.8720	 0.2900
AC	 0.8510	 0.1560
AD	 0.9260	 0.1910
AE	 0.5140	 0.1200
AF	 0.9210	 0.1960
AG	 0.9320	 0.1220
AH	 0.9030	 0.1640
AI	 0.8890	 0.1510
AJ	 0.8990	 0.1590
AK	 0.9270	 0.1610
AL	 0.8750	 0.1770
AM	 0.9450	 0.1640
AN	 0.9160	 0.1560
AO	 0.8890	 0.2060
AP	 0.8570	 0.1380
AQ	 0.8980	 0.1490
AR	 0.9290	 0.1550
AS	 0.7830	 0.2540
AT	 0.8190	 0.2490
AU	 0.9070	 0.2080
AV	 0.8320	 0.1460
AW	 0.8510	 0.2310
AX	 0.9320	 0.2170
AY	 0.8070	 0.1830
Ab	 0.7970	 0.1770
B	 0.8210	 0.1500
BA	 0.9160	 0.2310
BB	 0.9050	 0.1430
BC	 0.8770	 0.1880
BD	 0.8920	 0.1600



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Chain	Atom inclusion	Q-score
BE	 0.9110	 0.1590
BF	 0.8760	 0.1760
BG	 0.8470	 0.1680
BH	 0.8910	 0.1470
BI	 0.9330	 0.1030
BJ	 0.8720	 0.1380
BK	 0.9130	 0.1470
BL	 0.9120	 0.1530
BM	 0.8970	 0.1420
BN	 0.8130	 0.1610
BO	 0.9090	 0.1530
BP	 0.8760	 0.1590
BQ	 0.9870	 0.2460
BR	 0.9980	 0.1950
BS	 0.9920	 0.2240
BU	 0.6580	 0.0420
Bb	 0.8800	 0.1820
C	 0.9350	 0.1600
Cb	 0.9050	 0.1620
D	 0.8740	 0.1140
Db	 0.8500	 0.1130
E	 0.9220	 0.1390
Eb	 0.8890	 0.1440
F	 0.9040	 0.1470
Fb	 0.9220	 0.1600
G	 0.8260	 0.1810
Gb	 0.8500	 0.1790
H	 0.9490	 0.1490
Hb	 0.9120	 0.1580
I	 0.9570	 0.1370
Ib	 0.9430	 0.1440
J	 0.9320	 0.1600
Jb	 0.9050	 0.1580
K	 0.8840	 0.1420
Kb	 0.9170	 0.1630
L	 0.7780	 0.1800
Lb	 0.8660	 0.2060
M	 0.9340	 0.0610
Mb	 0.8870	 0.0590
N	 0.8330	 0.1060
Nb	 0.8670	 0.1110
O	 0.8330	 0.1420

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Chain	Atom inclusion	Q-score
Ob	 0.9490	 0.1530
P	 0.8800	 0.2200
Pb	 0.8930	 0.2140
Q	 0.7920	 0.1990
Qb	 0.8580	 0.1950
R	 0.8910	 0.2510
Rb	 0.8110	 0.2130
S	 0.8970	 0.1680
Sb	 0.8360	 0.1390
T	 0.9340	 0.1510
Tb	 0.9170	 0.1410
U	 0.8860	 0.1770
Ub	 0.8990	 0.1540
V	 0.9240	 0.1590
Vb	 0.9120	 0.1280
W	 0.8790	 0.1960
Wb	 0.7770	 0.1490
X	 0.8490	 0.2010
XA	 0.9170	 0.1720
XB	 0.8390	 0.1680
XC	 0.8990	 0.1780
XD	 0.9050	 0.1380
XE	 0.6710	 0.1250
XF	 0.9260	 0.2350
XG	 0.9140	 0.1420
XH	 0.9150	 0.1840
XI	 0.8990	 0.1540
XJ	 0.9110	 0.1960
XK	 0.9310	 0.1580
XL	 0.8720	 0.2280
XM	 0.9260	 0.1470
XN	 0.9190	 0.1400
XO	 0.7550	 0.1230
XP	 0.8000	 0.2070
XQ	 0.9040	 0.2060
XR	 0.9160	 0.2170
XS	 0.7170	 0.2150
XT	 0.8550	 0.2290
XU	 0.8710	 0.1680
XV	 0.8740	 0.2020
XW	 0.8640	 0.2600
XX	 0.9080	 0.2020

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Chain	Atom inclusion	Q-score
XY	 0.8120	 0.1620
Xb	 0.8220	 0.1510
Y	 0.8350	 0.2120
YA	 0.9120	 0.1540
YB	 0.8950	 0.1860
YC	 0.8530	 0.1530
YD	 0.8830	 0.1580
YE	 0.9160	 0.1970
YF	 0.8770	 0.1690
YG	 0.8660	 0.2150
YH	 0.8700	 0.1350
YI	 0.9390	 0.1340
YJ	 0.8730	 0.1650
YK	 0.9210	 0.1560
YL	 0.9100	 0.1380
YM	 0.9290	 0.1410
YN	 0.8580	 0.1620
YO	 0.8880	 0.1650
YP	 0.9130	 0.1710
YQ	 0.9860	 0.2550
YR	 0.9950	 0.2020
YS	 0.9950	 0.2560
YU	 0.6320	 0.0430
Yb	 0.8810	 0.1880
Z	 0.8670	 0.2080
Zb	 0.9000	 0.2000
a	 0.8520	 0.2050
ab	 0.8330	 0.2050
b	 0.8720	 0.2150
bb	 0.8500	 0.1730
c	 0.8620	 0.2710
cb	 0.8200	 0.1940
d	 0.9140	 0.1590
db	 0.8430	 0.1220
e	 0.8770	 0.2640
eb	 0.8700	 0.2550
f	 0.8620	 0.1950
fb	 0.9020	 0.1820
g	 0.8370	 0.1940
gb	 0.7080	 0.1420
l	 0.8640	 0.2020
m	 0.5120	 0.1390

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Chain	Atom inclusion	Q-score
mb	 0.9690	 0.2520
n	 0.9740	 0.2370
nb	 0.9570	 0.2040