



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 12:23 PM UTC

PDB ID : 8BQX / pdb_00008bqx
EMDB ID : EMD-16191
Title : Yeast 80S ribosome in complex with Map1 (conformation 2)
Authors : Knorr, A.G.; Mackens-Kiani, T.; Musial, J.; Berninghausen, O.; Becker, T.;
Beatrix, B.; Beckmann, R.
Deposited on : 2022-11-21
Resolution : 3.80 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

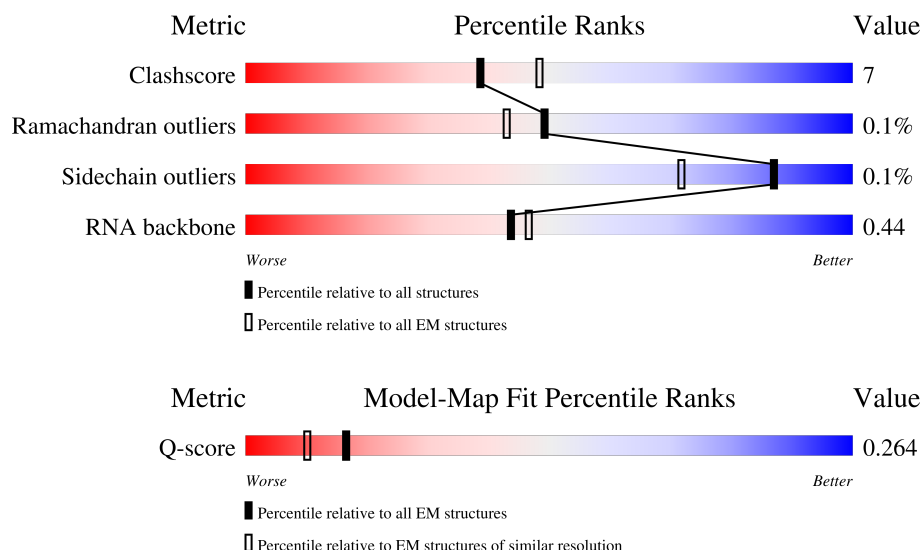
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 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	10198 (3.30 - 4.30)

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	x	387	
2	A	222	
3	B	206	

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Mol	Chain	Length	Quality of chain
4	C	92	
5	D	121	
6	E	142	
7	F	141	
8	G	125	
9	H	145	
10	I	143	
11	J	100	
12	K	82	
13	L	63	
14	M	53	
15	N	73	
16	O	312	
17	P	206	
18	Q	232	
19	R	216	
20	S	258	
21	T	228	
22	U	184	
23	V	198	
24	W	184	
25	X	142	
26	Y	150	
27	Z	127	
28	AA	233	

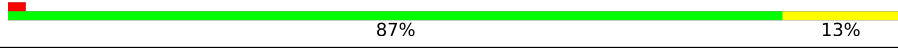
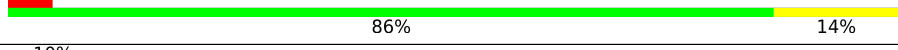
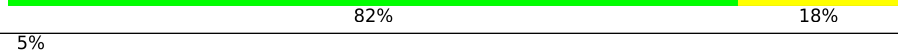
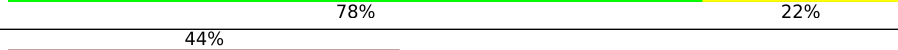
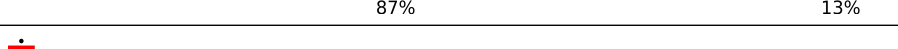
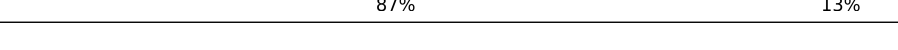
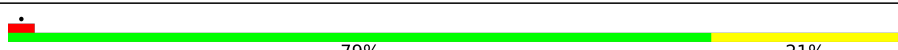
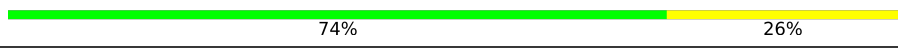
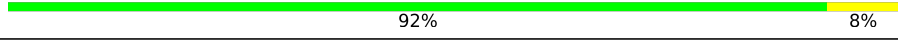
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Mol	Chain	Length	Quality of chain
29	BA	386	
30	AB	136	
31	BB	185	
32	AC	99	
33	BC	109	
34	2	1798	
35	a	87	
36	b	129	
37	c	144	
38	d	134	
39	e	97	
40	f	81	
41	g	60	
42	BQ	3301	
43	BR	121	
44	BS	158	
45	AW	251	
46	BE	361	
47	BI	294	
48	BM	175	
49	BO	222	
50	AD	191	
51	BD	218	
52	AG	169	
53	AJ	193	

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Mol	Chain	Length	Quality of chain
54	AM	136	
55	AQ	203	
56	AU	197	
57	AX	183	
58	BF	188	
59	BH	171	
60	BJ	159	
61	BL	100	
62	AE	126	
63	AH	121	
64	AK	125	
65	AN	135	
66	AR	148	
67	AV	58	
68	AY	96	
69	BG	127	
70	BK	106	
71	BN	112	
72	BP	119	
73	AF	81	
74	AI	77	
75	AL	50	
76	AO	52	
77	AS	25	
78	AP	103	

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Mol	Chain	Length	Quality of chain
79	AT	91	82%18%
80	BT	217	92%86%8%

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 205808 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	x	367	Total	C	N	O	S	0	0
			2899	1825	504	549	21		

- Molecule 2 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	222	Total	C	N	O	S	0	0
			1729	1098	312	313	6		

- Molecule 3 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	B	206	Total	C	N	O	S	0	0
			1605	1005	299	298	3		

- Molecule 4 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	C	92	Total	C	N	O	S	0	0
			752	487	122	141	2		

- Molecule 5 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	D	121	Total	C	N	O	S	0	0
			875	551	153	169	2		

- Molecule 6 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	E	117	Total	C	N	O	S	0	0
			916	583	171	155	7		

- Molecule 7 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 8 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	G	121	Total	C	N	O	S	0	0
			948	596	179	171	2		

- Molecule 9 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	H	145	Total	C	N	O	S	0	0
			1188	741	237	208	2		

- Molecule 10 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 11 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	J	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

- Molecule 12 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	K	82	Total	C	N	O	0	0
			651	416	123	112		

- Molecule 13 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 14 is a protein called 40S ribosomal protein S29-A.

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

- Molecule 15 is a protein called 40S ribosomal protein S31.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 16 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	312	Total	C	N	O	S	0	0
			2383	1514	409	452	8		

- Molecule 17 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 18 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Q	226	Total	C	N	O	S	0	0
			1798	1139	330	325	4		

- Molecule 19 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	R	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 20 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 21 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	T	228	Total	C	N	O	S	0	0
			1815	1138	351	323	3		

- Molecule 22 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	U	184	Total	C	N	O	0	0
			1473	946	263	264		

- Molecule 23 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	V	187	Total	C	N	O	S	0	0
			1476	916	295	263	2		

- Molecule 24 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	W	184	Total	C	N	O	S	0	0
			1479	935	285	258	1		

- Molecule 25 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	X	142	Total	C	N	O	S	0	0
			1142	733	217	189	3		

- Molecule 26 is a protein called 40S ribosomal protein S13.

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

- Molecule 27 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Z	127	Total	C	N	O	S	0	0
			923	568	185	167	3		

- Molecule 28 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AA	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 29 is a protein called 60S ribosomal protein L3.

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

- Molecule 30 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AB	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 31 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 32 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	AC	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 33 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	BC	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 34 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 35 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	a	87	Total	C	N	O	S	0	0
			673	415	125	131	2		

- Molecule 36 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 37 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 38 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	d	134	Total	C	N	O	0	0
			1032	651	195	186		

- Molecule 39 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	e	97	Total	C	N	O	S	0	0
			765	473	160	127	5		

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

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

- Molecule 41 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	g	60	Total	C	N	O	S	0	0
			472	298	97	76	1		

- Molecule 42 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BQ	3301	Total	C	N	O	P	0	0
			70586	31525	12690	23070	3301		

- Molecule 43 is a RNA chain called 5S rRNA.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BS	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 45 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	AW	251	Total	C	N	O	S	0	0
			1899	1182	385	331	1		

- Molecule 46 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 47 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BI	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 48 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	BM	167	Total	C	N	O		
			1307	843	234	230	0	0

- Molecule 49 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BO	222	Total	C	N	O	S		
			1784	1151	324	308	1	0	0

- Molecule 50 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	AD	191	Total	C	N	O	S		
			1508	957	274	273	4	0	0

- Molecule 51 is a protein called RPL10 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BD	218	Total	C	N	O	S		
			1764	1117	334	306	7	0	0

- Molecule 52 is a protein called RPL11B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	AG	169	Total	C	N	O	S		
			1346	843	252	247	4	0	0

- Molecule 53 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	AJ	193	Total	C	N	O		
			1543	962	315	266	0	0

- Molecule 54 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AM	136	Total	C	N	O	S		
			1053	675	199	177	2	0	0

- Molecule 55 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 56 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 57 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
57	AX	183	Total	C	N	O	0	0
			1416	879	284	253		

- Molecule 58 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	BF	188	Total	C	N	O	0	0
			1515	932	323	260		

- Molecule 59 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BH	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BJ	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 61 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
61	BL	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 62 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	AE	126	Total	C	N	O	S	0	0
			836	525	165	145	1		

- Molecule 63 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	AH	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 64 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	AK	125	Total	C	N	O		0	0
			984	620	191	173			

- Molecule 65 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	AN	135	Total	C	N	O		0	0
			1080	701	199	180			

- Molecule 66 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	AR	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 67 is a protein called 60S ribosomal protein L29.

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

- Molecule 68 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	AY	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 69 is a protein called RPL32 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BG	127	Total	C	N	O	S	0	0
			1017	644	205	167	1		

- Molecule 70 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 71 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 72 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BP	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 73 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AF	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 74 is a protein called RPL38 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AI	77	Total	C	N	O		0	0
			612	391	115	106			

- Molecule 75 is a protein called 60S ribosomal protein L39.

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

- Molecule 76 is a protein called 60S ribosomal protein L40-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AO	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 77 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AS	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 78 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	AP	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 79 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 80 is a protein called 60S ribosomal protein L1-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
80	BT	210	Total	C	N	O	0	0
			1041	621	210	210		

- Molecule 81 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
81	M	1	Total	Zn	0
			1	1	
81	N	1	Total	Zn	0
			1	1	
81	BN	1	Total	Zn	0
			1	1	
81	AF	1	Total	Zn	0
			1	1	
81	AO	1	Total	Zn	0
			1	1	
81	AP	1	Total	Zn	0
			1	1	

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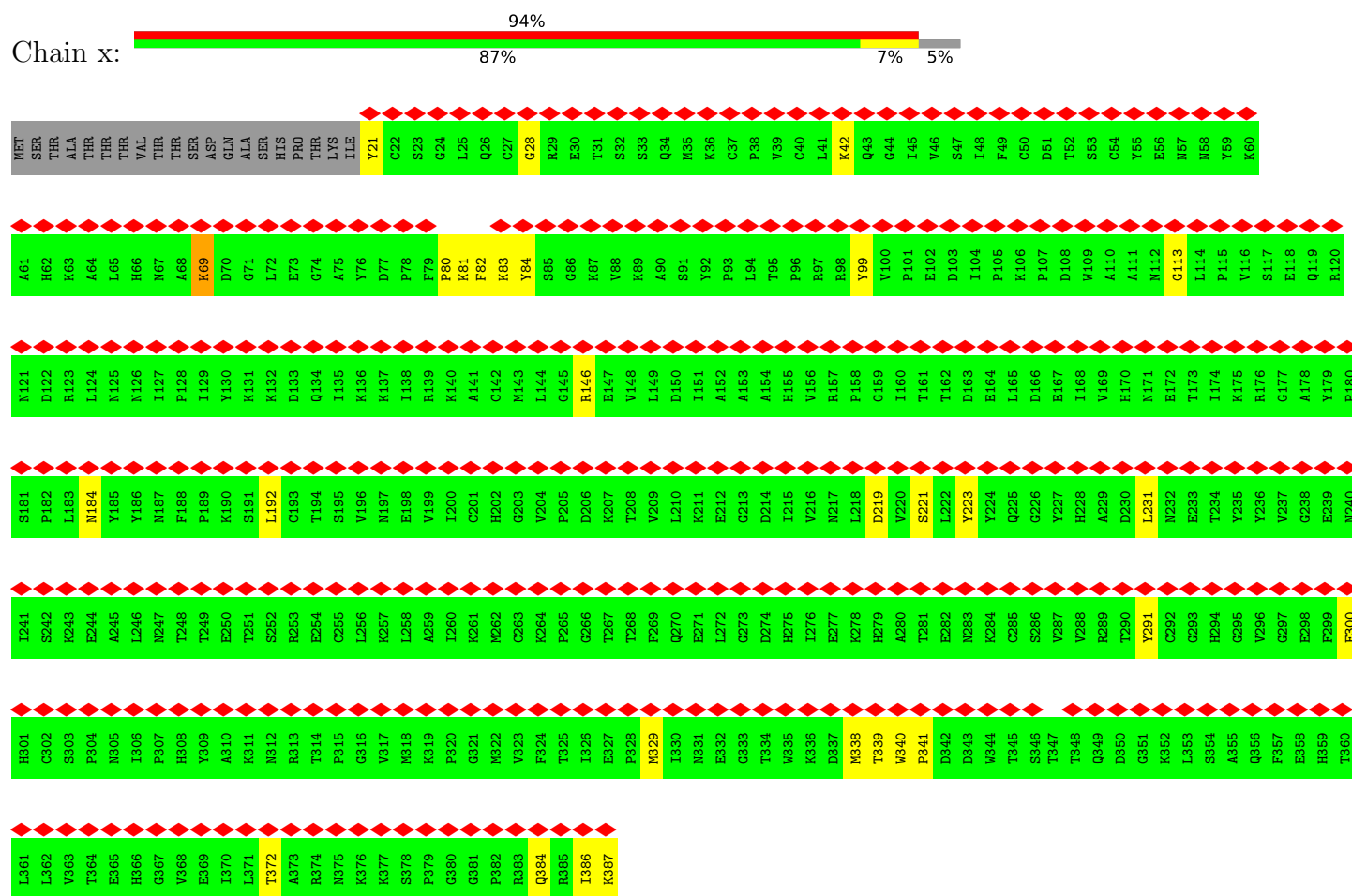
Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
81	AT	1	Total	Zn	0
			1	1	

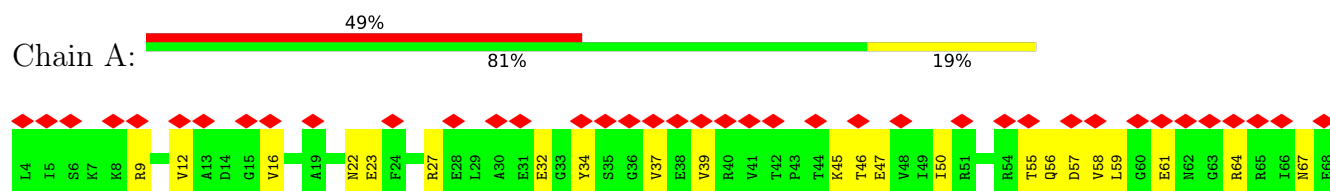
3 Residue-property plots

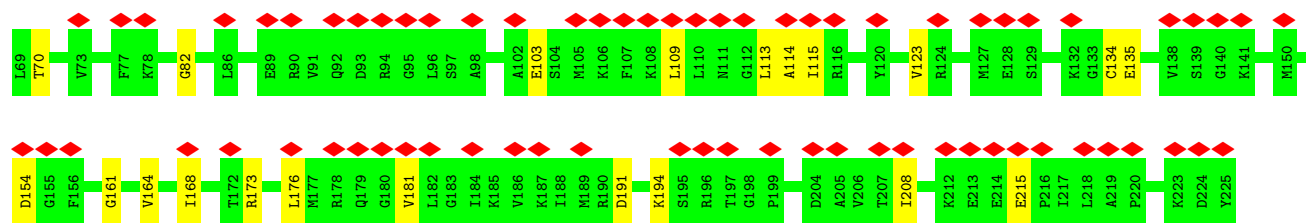
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: Methionine aminopeptidase 1

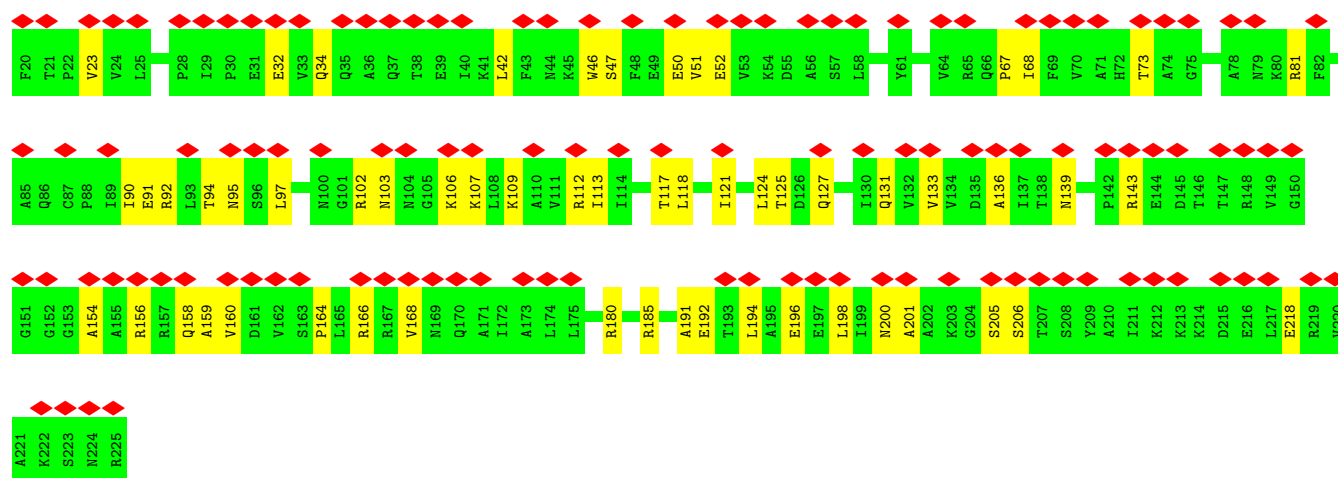
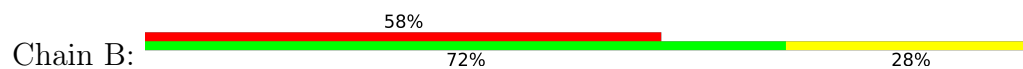


• Molecule 2: 40S ribosomal protein S3

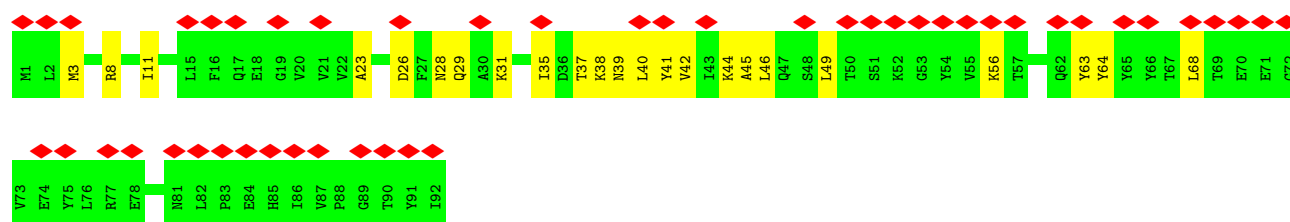




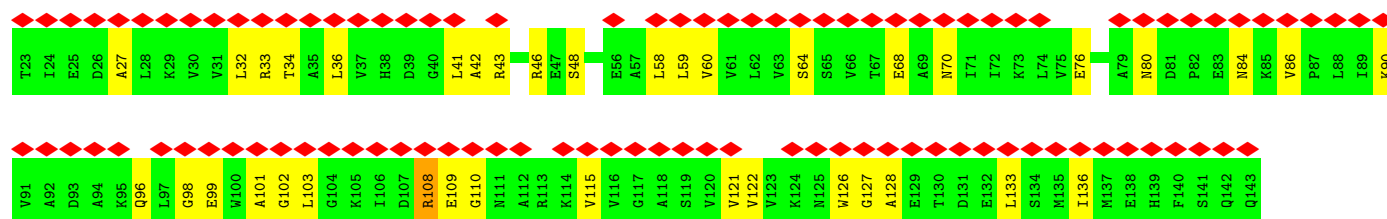
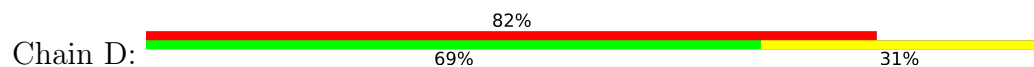
• Molecule 3: 40S ribosomal protein S5



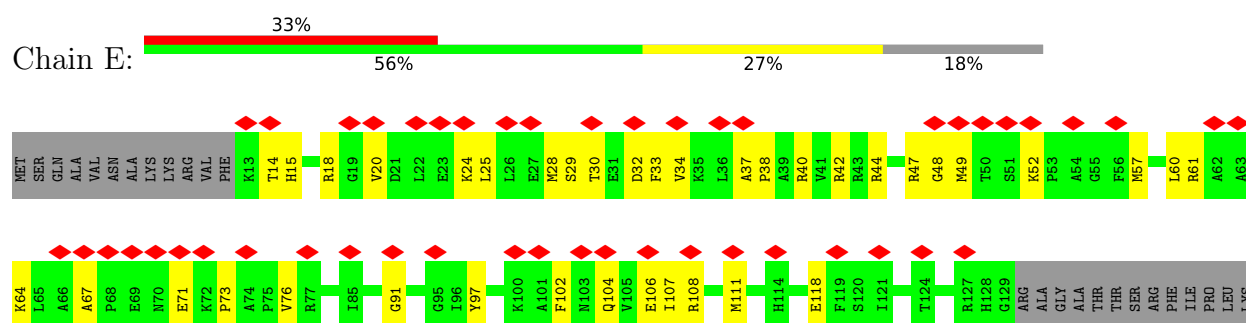
• Molecule 4: 40S ribosomal protein S10-A



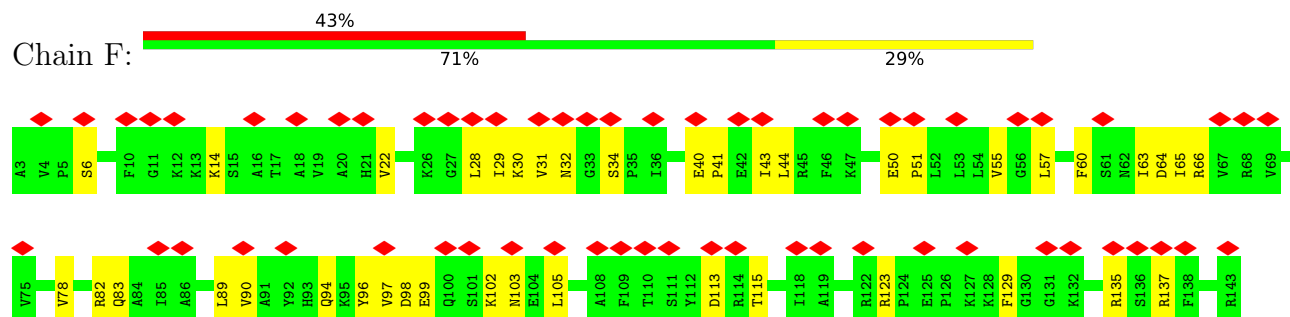
• Molecule 5: 40S ribosomal protein S12



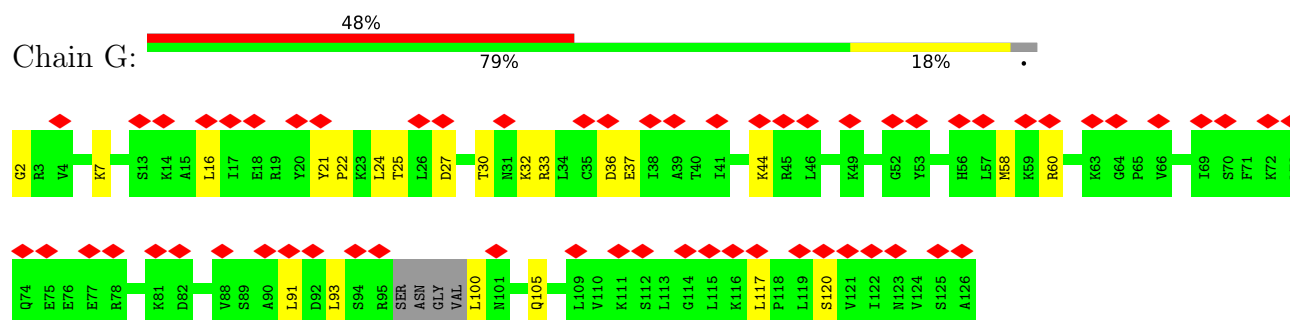
• Molecule 6: 40S ribosomal protein S15



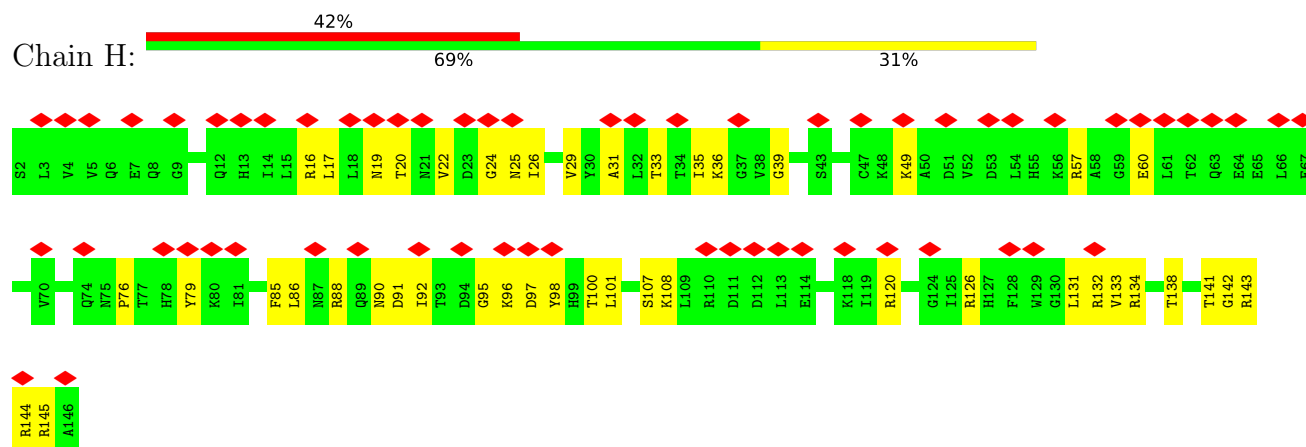
• Molecule 7: 40S ribosomal protein S16-A



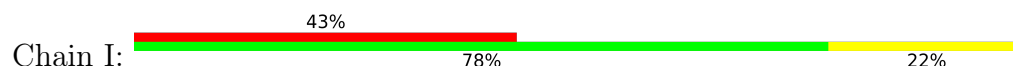
• Molecule 8: 40S ribosomal protein S17-A

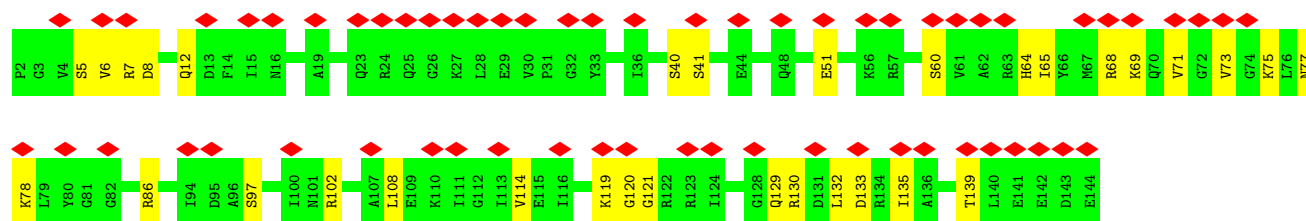


• Molecule 9: 40S ribosomal protein S18-A

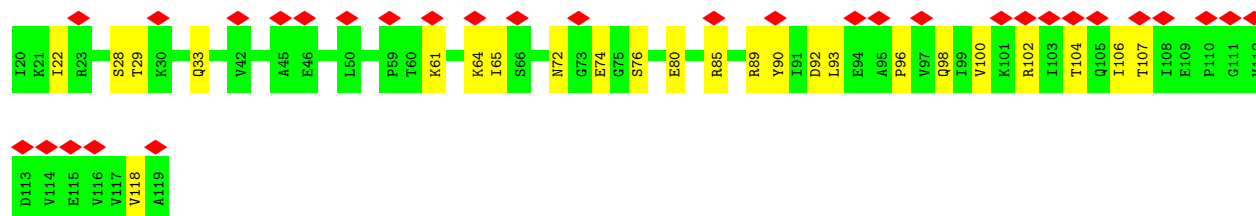
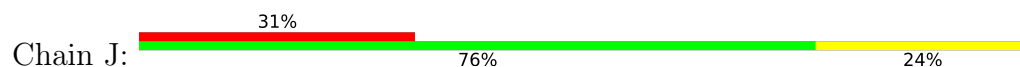


• Molecule 10: 40S ribosomal protein S19-A

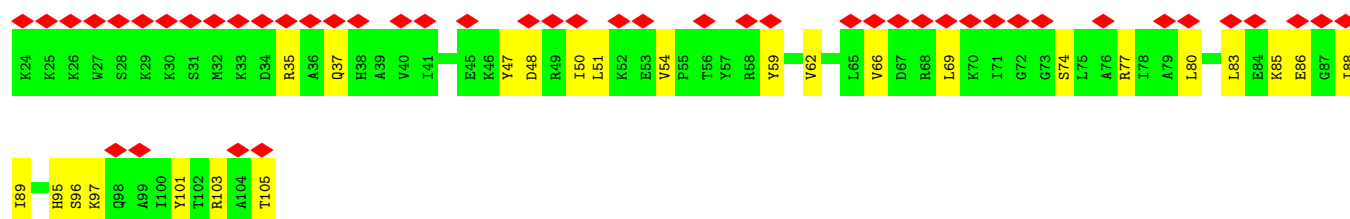




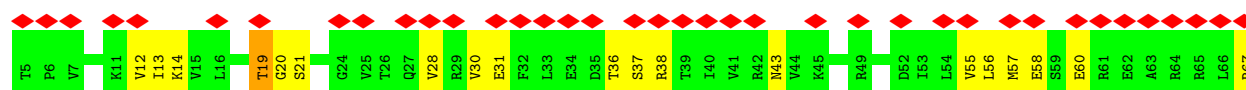
- Molecule 11: 40S ribosomal protein S20



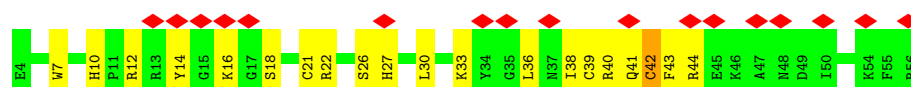
- Molecule 12: 40S ribosomal protein S25-A



- Molecule 13: 40S ribosomal protein S28-A

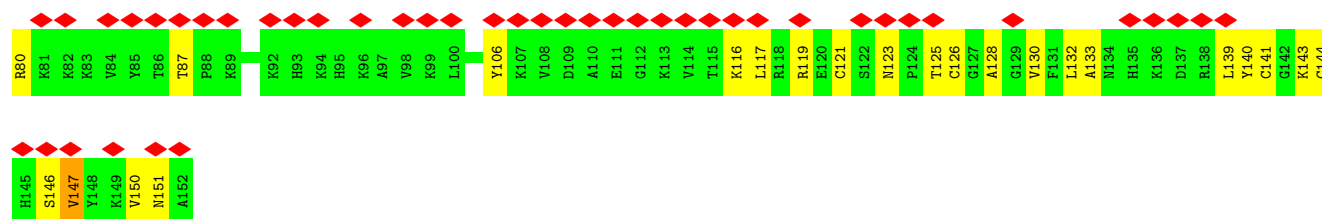


- Molecule 14: 40S ribosomal protein S29-A

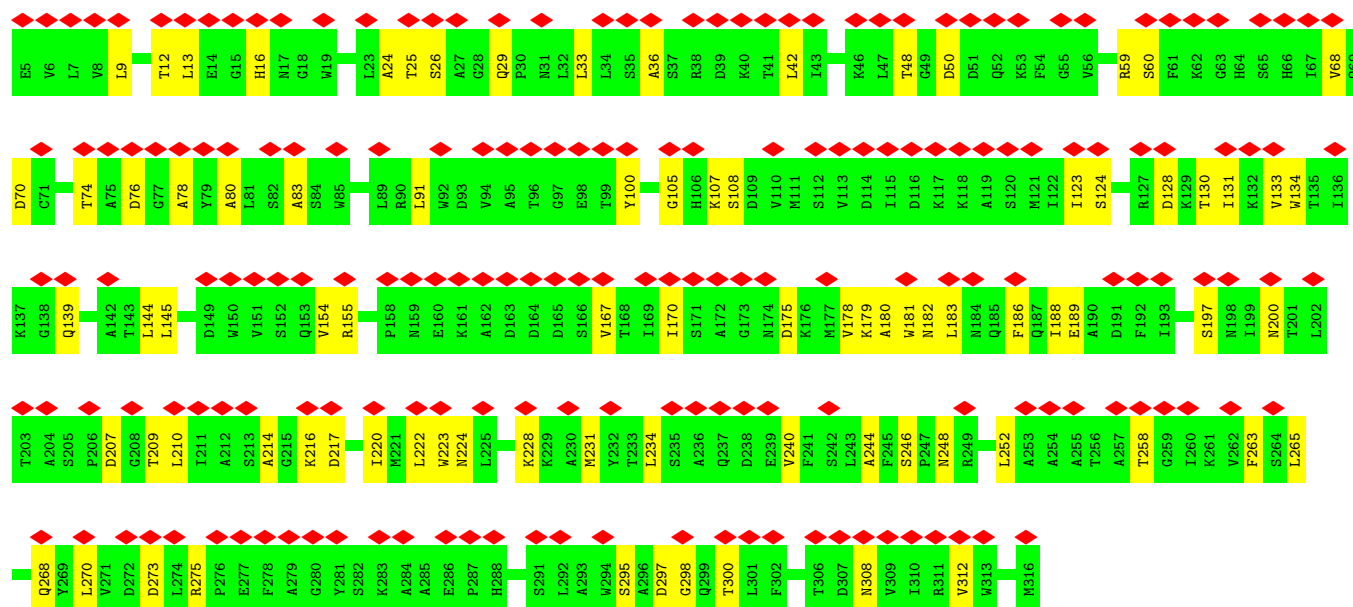
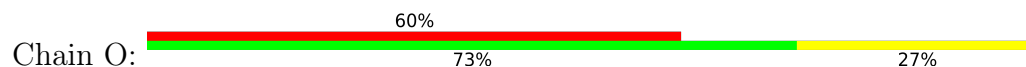


- Molecule 15: 40S ribosomal protein S31

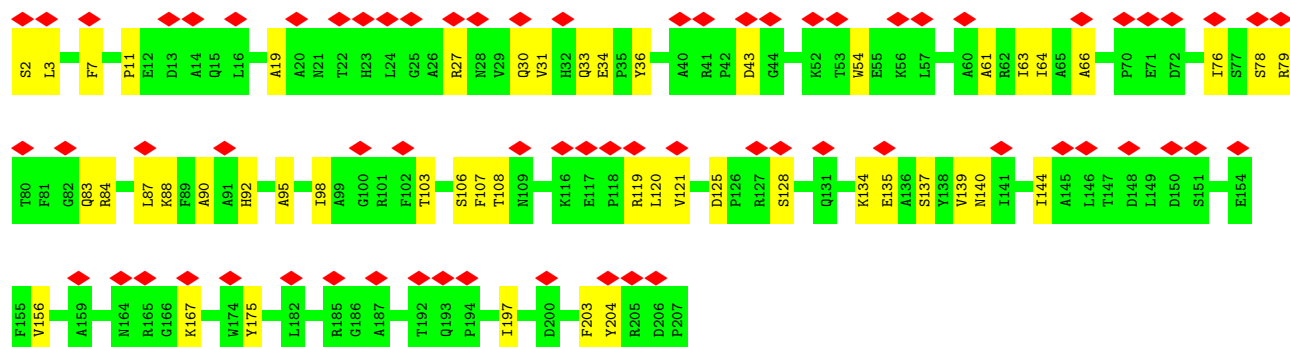
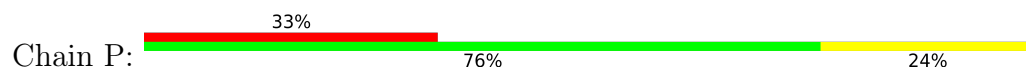




• Molecule 16: Guanine nucleotide-binding protein subunit beta-like protein

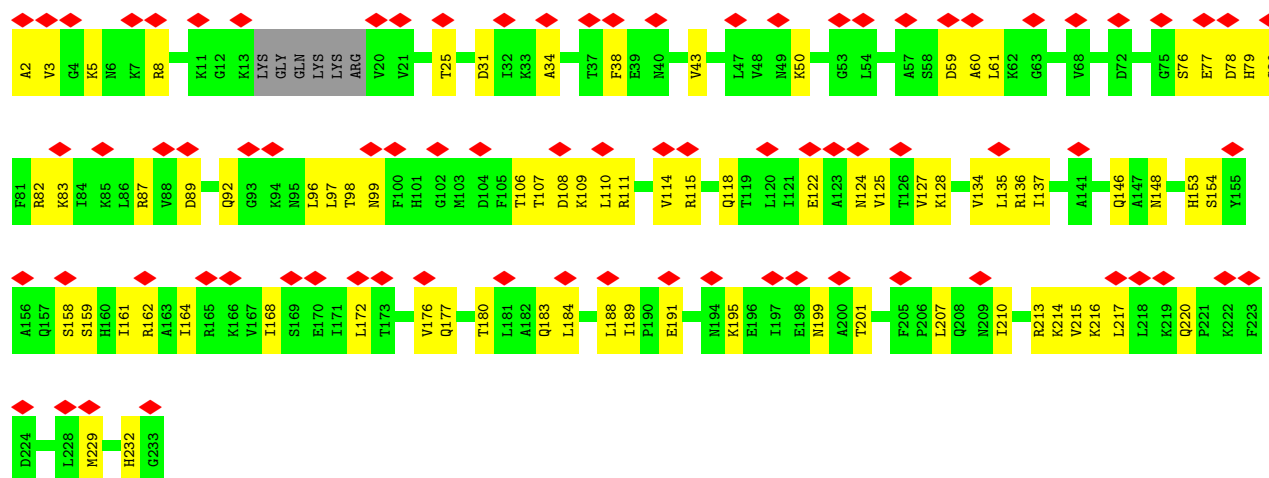


• Molecule 17: 40S ribosomal protein S0-A

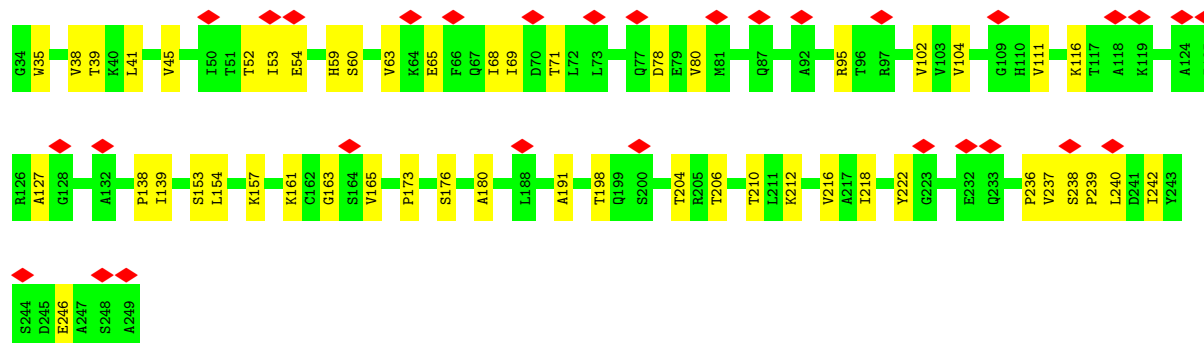
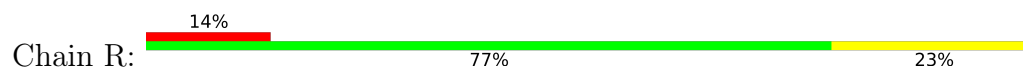


• Molecule 18: 40S ribosomal protein S1-A

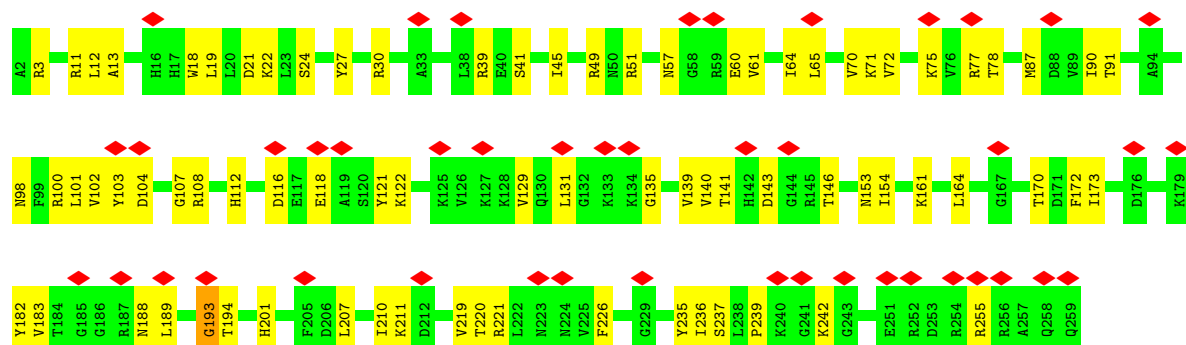




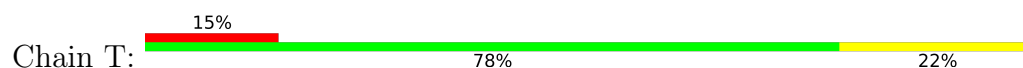
- Molecule 19: 40S ribosomal protein S2

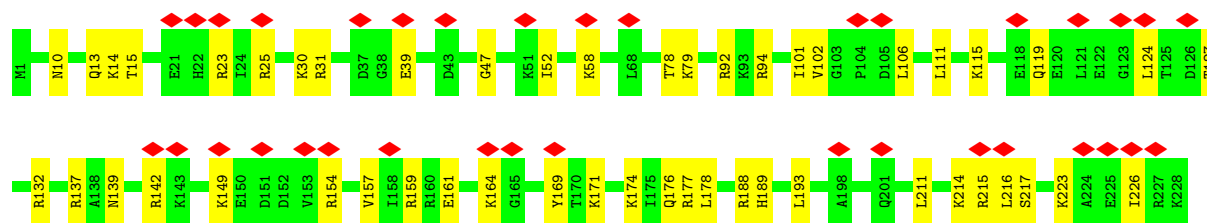


- Molecule 20: 40S ribosomal protein S4-A

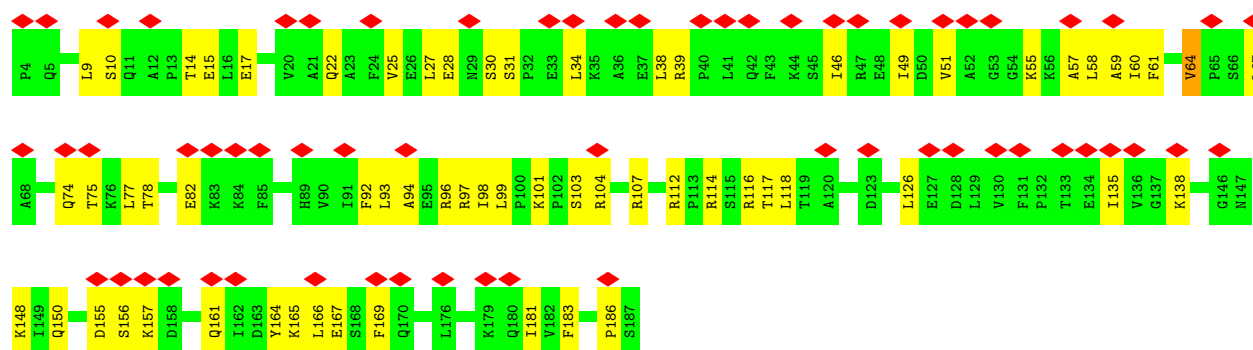


- Molecule 21: 40S ribosomal protein S6-A

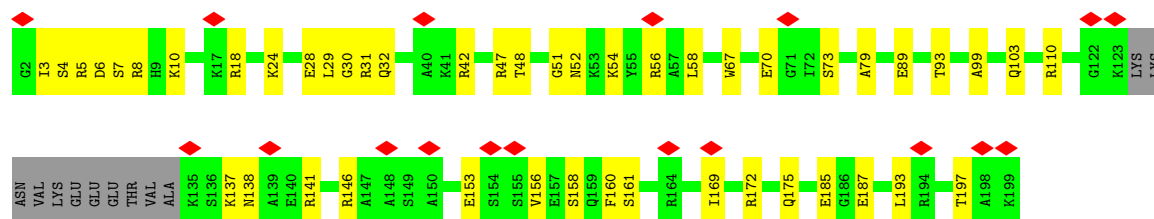




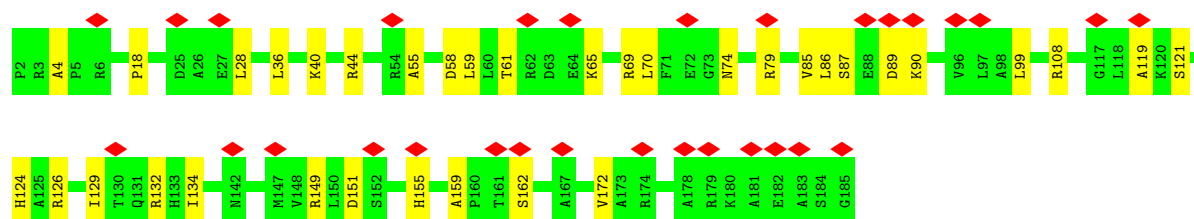
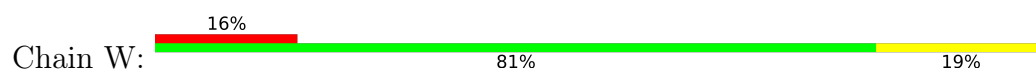
• Molecule 22: 40S ribosomal protein S7-A



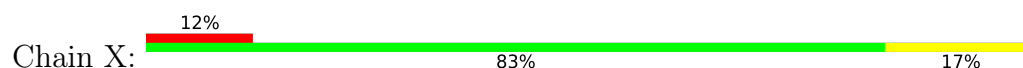
• Molecule 23: 40S ribosomal protein S8-A

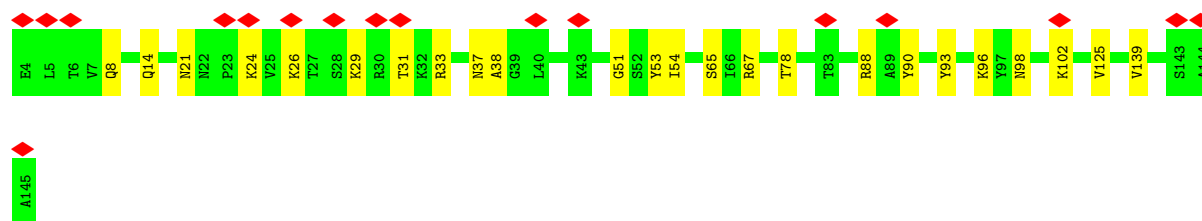


• Molecule 24: 40S ribosomal protein S9-A

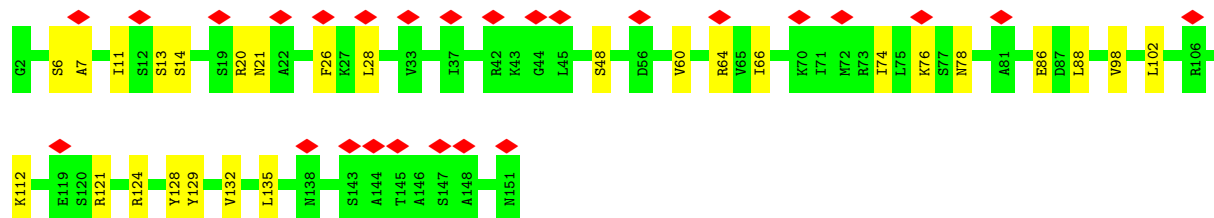
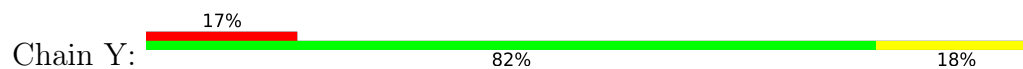


• Molecule 25: 40S ribosomal protein S11-A

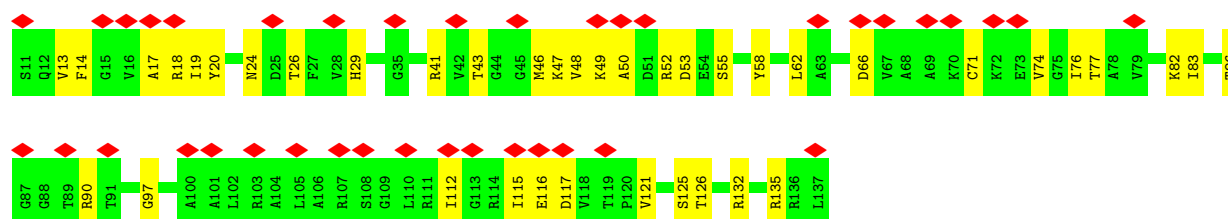




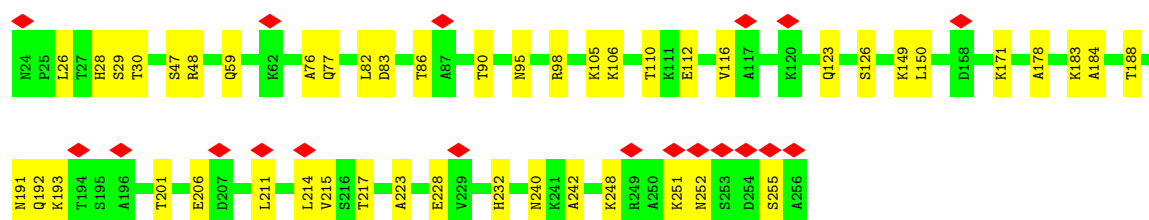
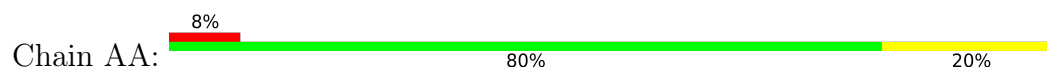
- Molecule 26: 40S ribosomal protein S13



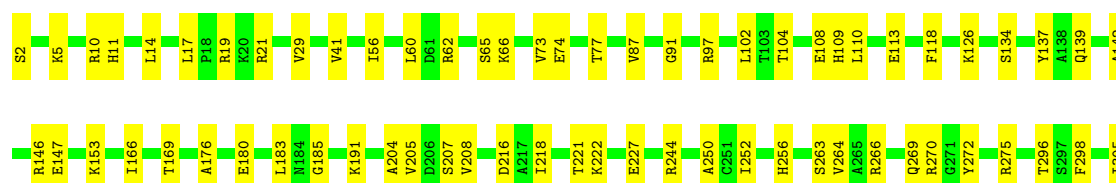
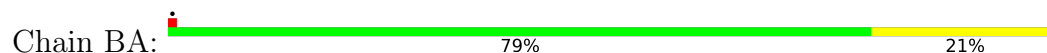
- Molecule 27: 40S ribosomal protein S14-B

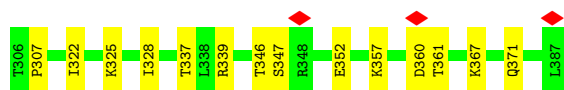


- Molecule 28: 60S ribosomal protein L8-A

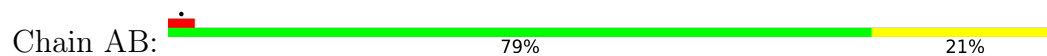


- Molecule 29: 60S ribosomal protein L3

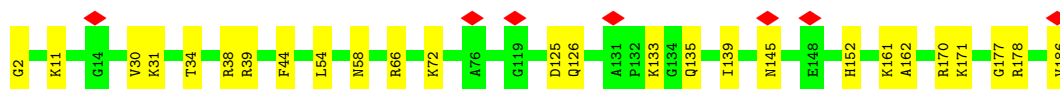




- Molecule 30: 60S ribosomal protein L23-A



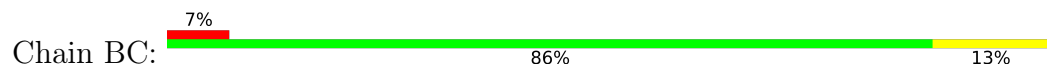
- Molecule 31: 60S ribosomal protein L18-A



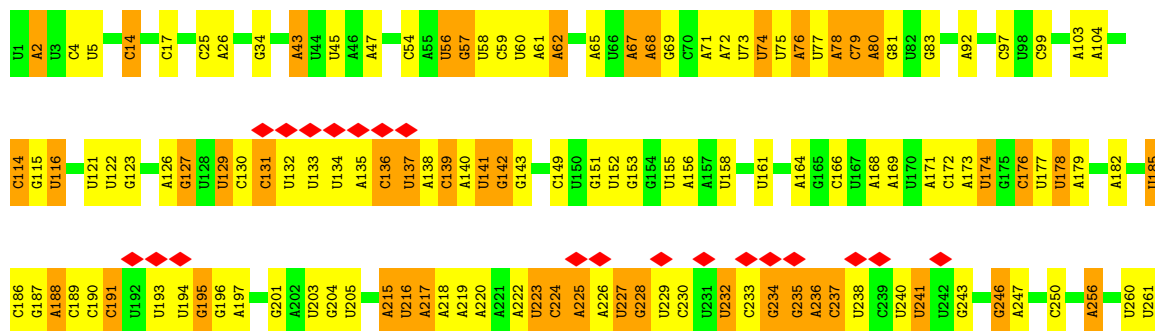
- Molecule 32: 60S ribosomal protein L36-A

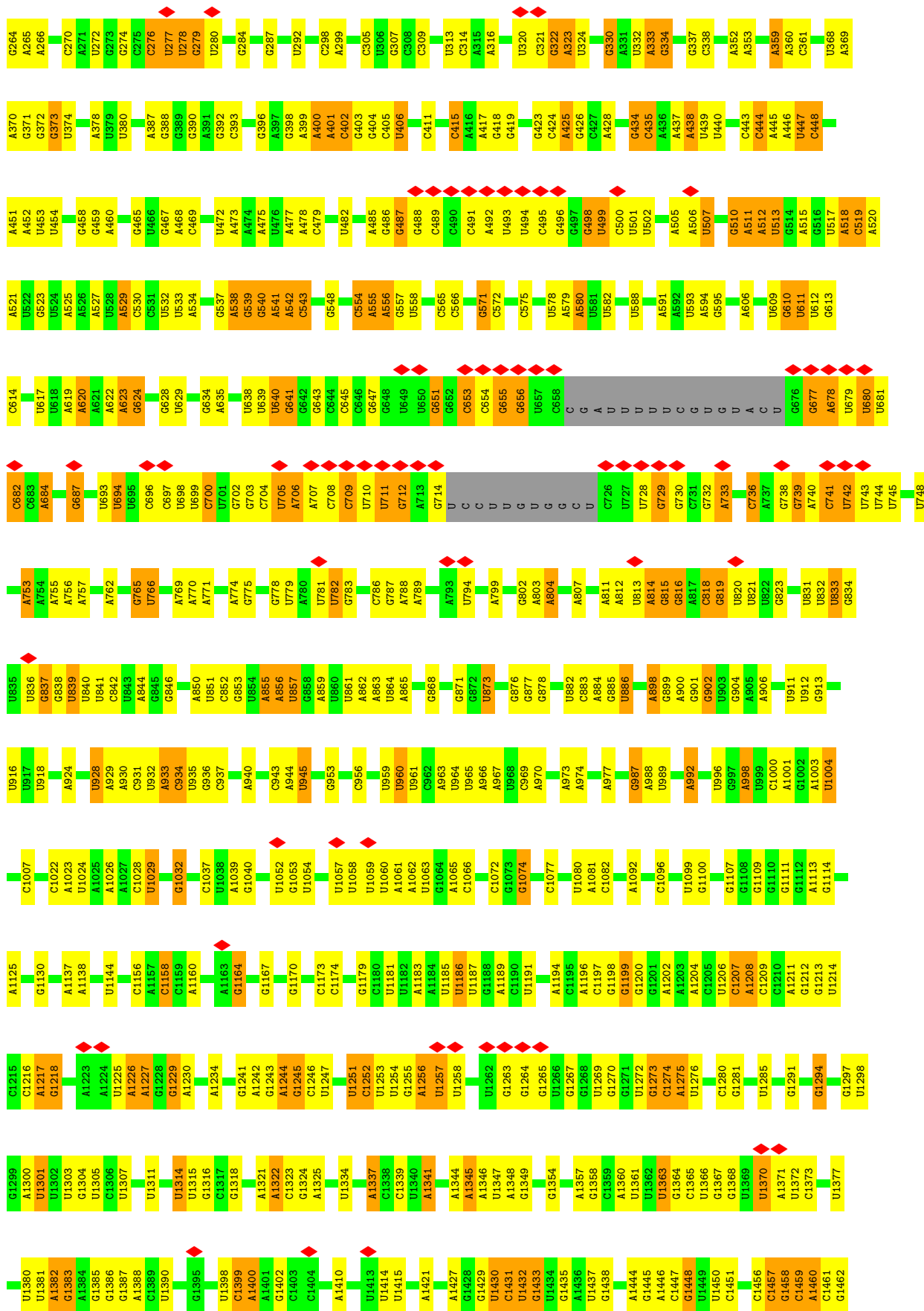


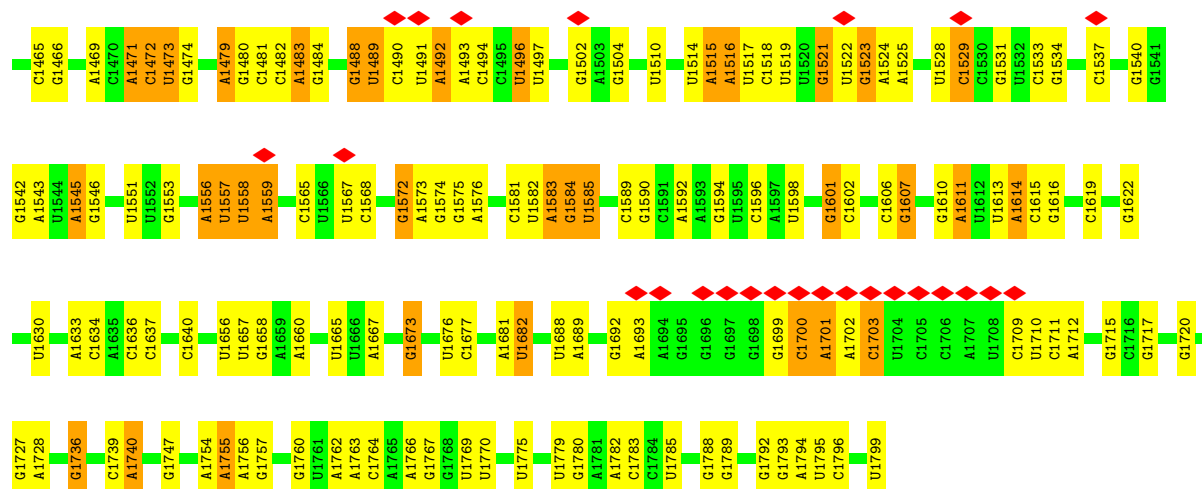
- Molecule 33: 60S ribosomal protein L31-A



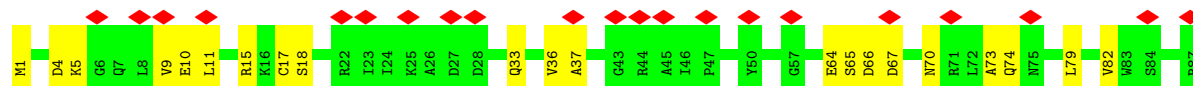
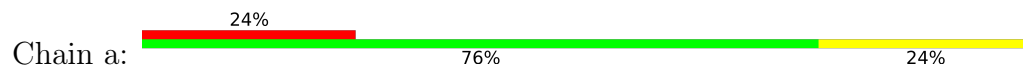
- Molecule 34: 18S rRNA



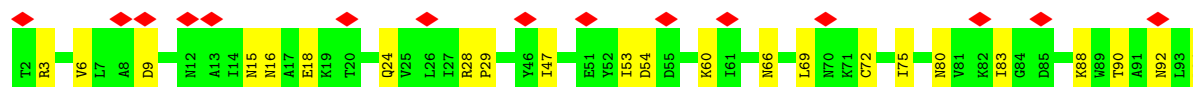
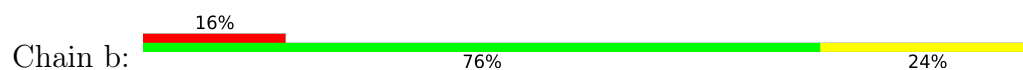




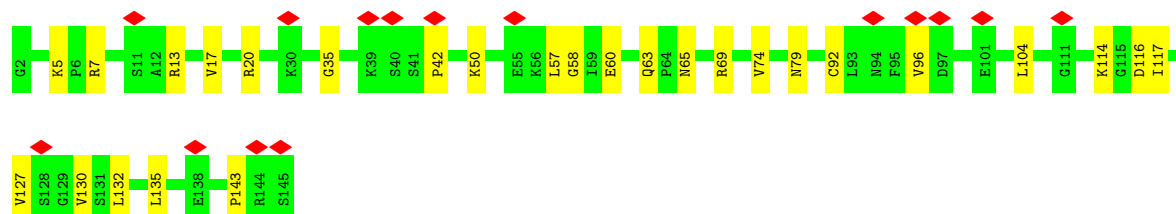
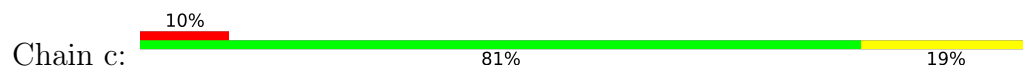
• Molecule 35: 40S ribosomal protein S21-A



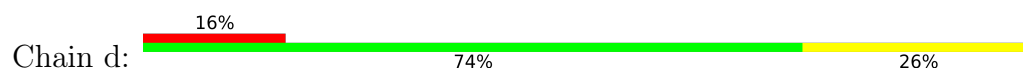
• Molecule 36: 40S ribosomal protein S22-A

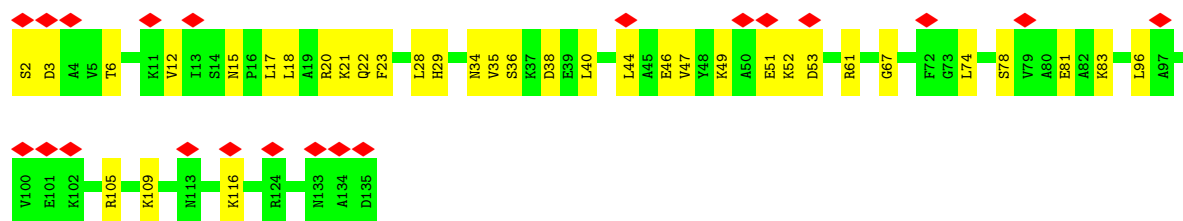


• Molecule 37: 40S ribosomal protein S23-A

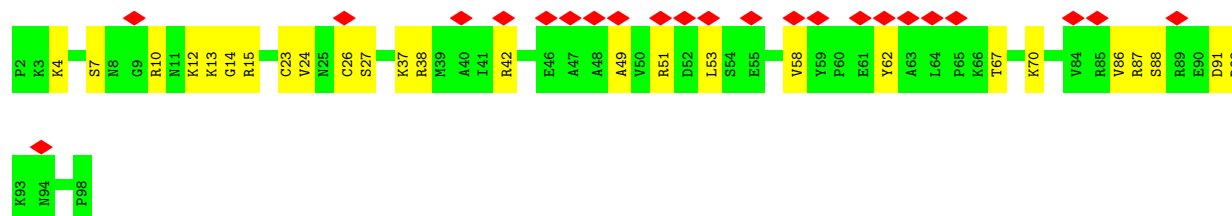
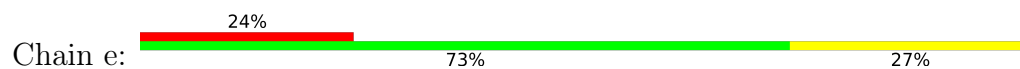


• Molecule 38: 40S ribosomal protein S24-A

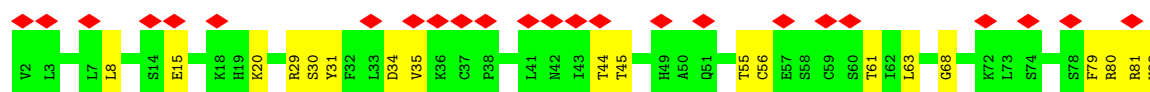
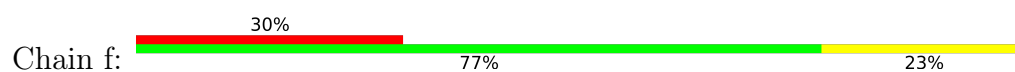




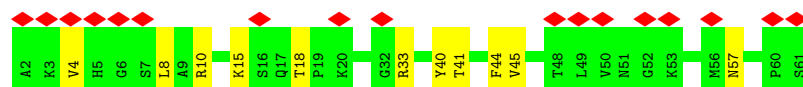
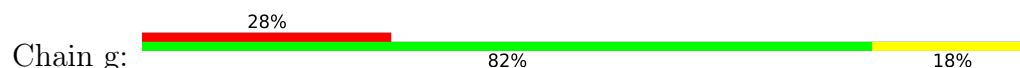
- Molecule 39: 40S ribosomal protein S26-B



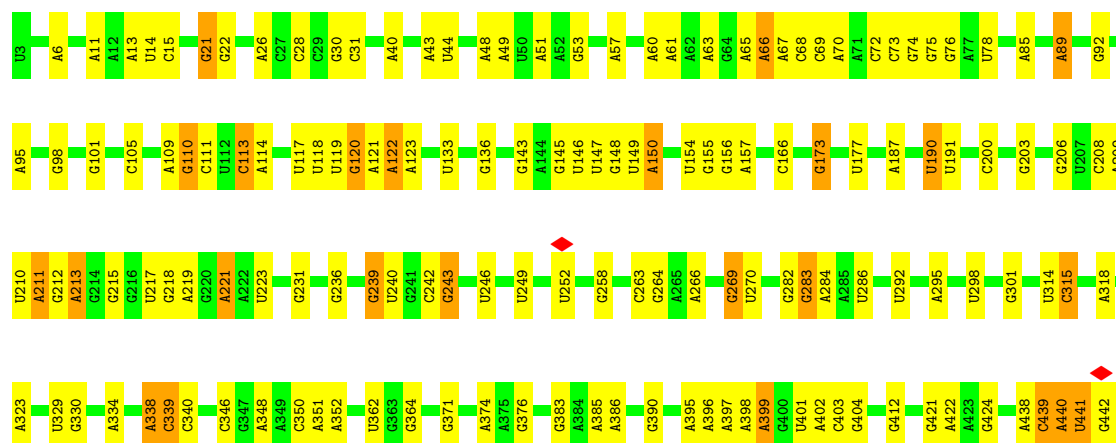
- Molecule 40: 40S ribosomal protein S27-A



- Molecule 41: 40S ribosomal protein S30-A

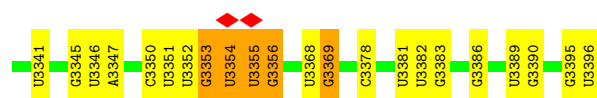


- Molecule 42: 25S rRNA



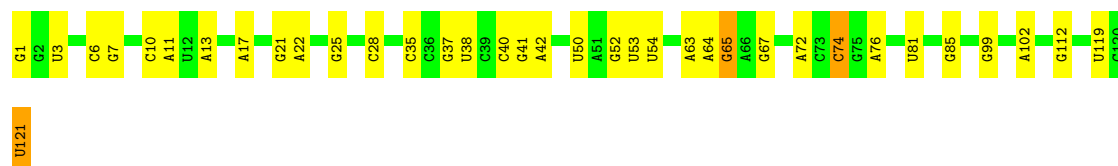


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U2846	U2847	G2848	G2849	U2852	U2854	U2855	U2856	U2861	U2865	U2866	C2867	U2868	U2869	G2870	G2871	U2872	U2873	U2874	U2875	C2876	U2887	U2888	C2889	U2890	U2891	U2892	U2893	U2894	U2895	U2896	U2897	U2898	U2899	U2901	U2902	U2903	U2904	U2905	U2906	U2907	U2908	U2909	U2910	U2911	U2912	U2913	U2914	U2915	U2916	U2917	U2918	U2919	U2920	U2921	U2922	U2923	U2924	U2925	U2926	U2927	U2928	U2929	U2930	U2931	U2932	U2933	U2934	U2935	U2936	U2937	U2938	U2939	U2940	U2941
U2722	U2723	U2724	U2725	U2726	U2727	U2728	U2737	U2738	U2741	U2742	U2743	U2744	U2745	U2746	U2747	U2748	U2749	U2752	U2753	U2754	C2755	U2756	U2757	U2758	U2767	U2768	U2777	G2778	A2785	U2796	G2800	A2801	U2802	A2803	U2804	G2805	U2810	A2817	U2818	U2819	A2820	C2821	U2838	U2842	U2843	U2844	U2845																											
U2617	G2618	G2621	A2626	U2629	U2630	U2631	A2636	C2644	G2648	U2652	A2656	U2666	A2667	U2668	A2671	A2672	C2673	C2675	A2676	A2677	U2678	U2679	U2680	U2681	U2687	U2688	A2689	G2690	A2691	A2694	A2695	A2696	A2698	U2701	U2702	A2703	U2704	A2705	U2712	U2713	G2714	U2717	U2718	U2719	U2721																													
A2523	A2524	G2525	C2526	C2531	U2532	U2537	U2538	C2539	A2540	U2541	U2542	U2543	C2546	U2547	C2548	G2549	C2552	U2553	A2554	G2555	A2561	A2562	G2563	G2564	C2568	U2570	C2569	U2571	U2572	U2573	U2574	U2575	U2576	U2577	U2578	U2579	G2584	G2585	G2586	U2587	U2588	U2589	A2593	C2594	A2595	G2506	G2507	G2508	A2509	U2512	U2513	U2514	U2515	U2516	G2517																			
G2393	G2394	A2397	A2402	G2403	A2404	U2411	G2412	A2419	C2422	U2423	A2424	U2434	U2435	U2436	A2437	A2438	A2439	G2440	A2441	G2442	A2443	C2444	A2445	U2446	A2447	G2448	A2449	G2450	G2451	G2452	C2492	U2493	A2494	C2495	G2496	U2497	U2498	U2499	A2500	U2501	A2502	U2503	U2504	U2505	U2506	C2507	U2513	A2514	U2515	U2516	G2517																							
A2020	G2021	G2022	G2023	G2024	G2025	A2026	G2027	U2028	C2033	A2034	G2035	U2036	G2037	A2038	C2039	U2040	U2041	G2042	U2043	U2044	G2045	U2046	A2047	G2048	A2049	G2050	U1986	G2051	G2052	U2056	G2057	G2058	U2059	C2080	U2081	U2082	G2083	G2084	U2085	A2086	C2087	A2088	A2089	U2090	U2091	A2092	A2093	C2094	G2095	A2096	U2097	C2101	U2102	G2111	U2112	A2113																		
C2118	G2121	G2122	A2131	A2139	A2147	U2148	A2149	U2154	G2155	A2158	G2169	U2170	G2185	U2186	G2187	A2188	C2196	G2201	U2205	G2206	A2207	A2208	U2209	G2218	A2223	C2231	A2232	C2237	G2236	U2237	A2244	C2245	G2249	G2250	G2251	A2252	A2256	G2261	A2262	C2263	C2392	U2513	A2514	A2515	U2516	G2517																												
G1949	U1950	C1951	G1952	G1953	G1954	U1955	A1956	U1957	U1958	G1959	A1960	A1961	G1962	G1963	A1964	C1965	A1972	G1973	A1974	U1975	G1976	G1981	G1982	G1985	U1986	G1987	C1988	U1992	G1993	G1994	G1998	C1999	U2000	U2001	G2002	G2003	U2004	G2005	G2006	G2007	G2008	C2009	U2010	U2011	G2012	G2013	U2014	U2016	U2017	C2018																								



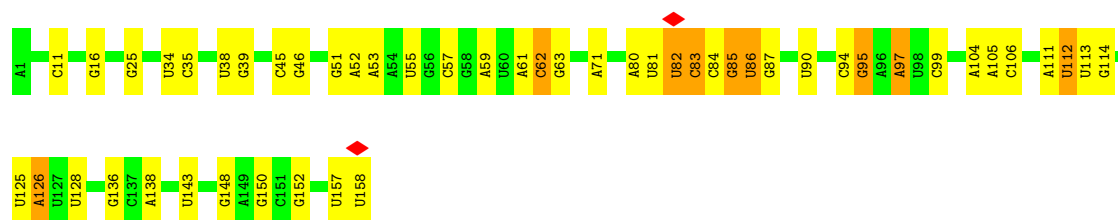
• Molecule 43: 5S rRNA

Chain BR: 70% 27%



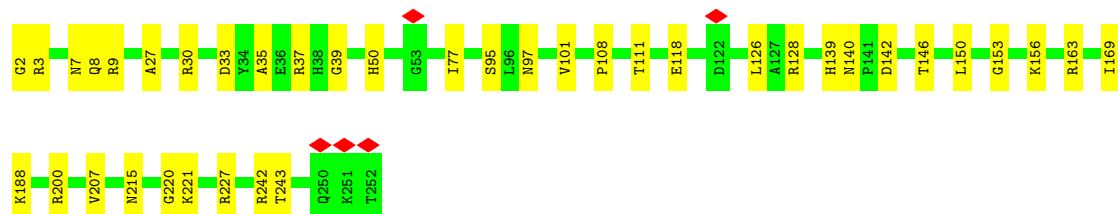
• Molecule 44: 5.8S rRNA

Chain BS: 68% 26% 6%



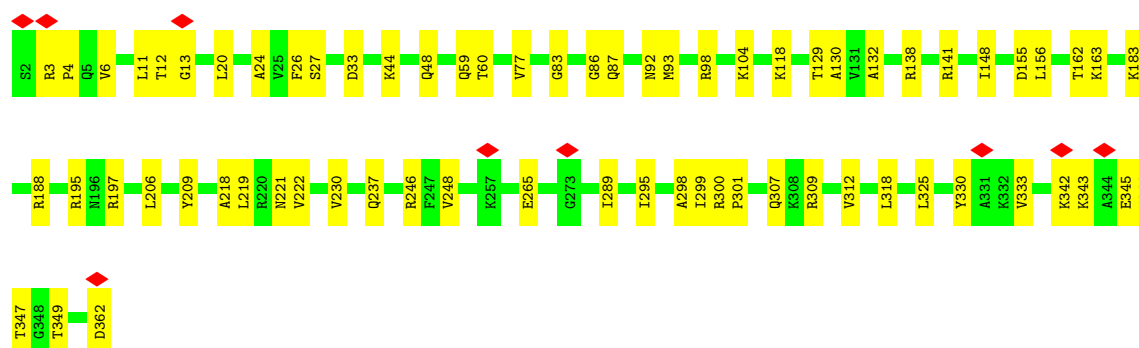
• Molecule 45: 60S ribosomal protein L2-A

Chain AW: 84% 16%

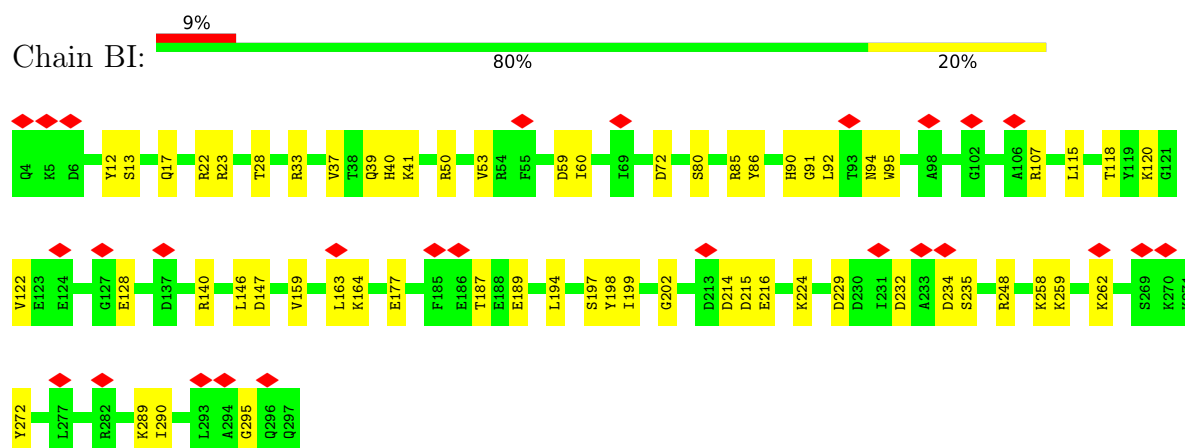


• Molecule 46: 60S ribosomal protein L4-A

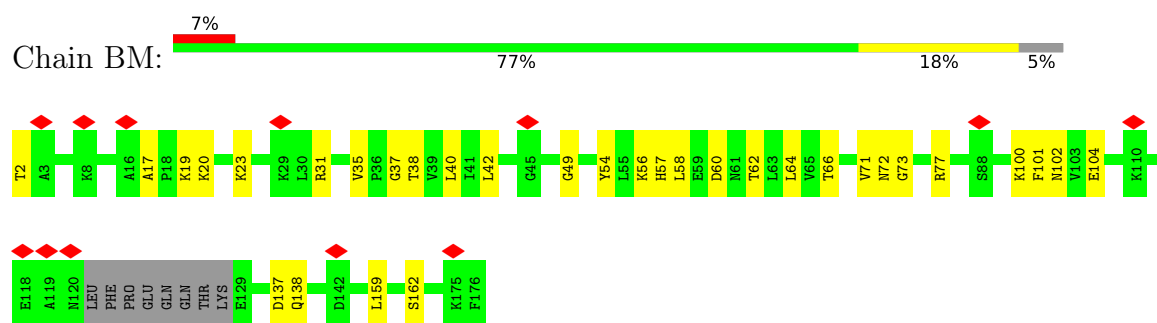
Chain BE: 81% 19%



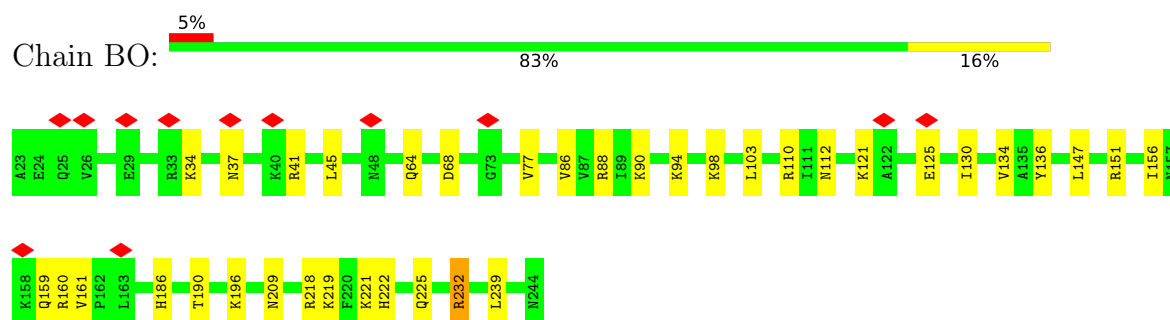
- Molecule 47: 60S ribosomal protein L5



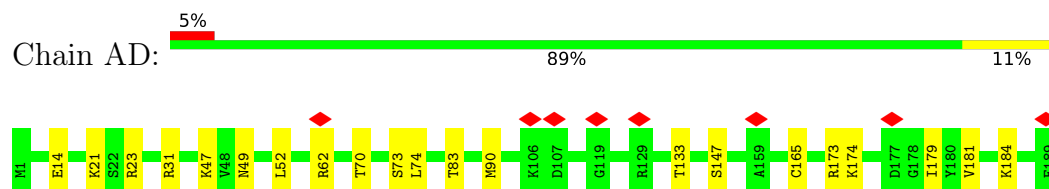
- Molecule 48: 60S ribosomal protein L6-B



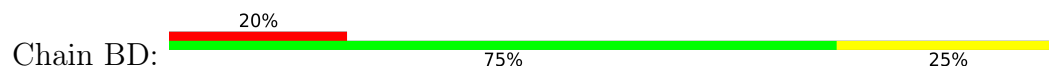
- Molecule 49: 60S ribosomal protein L7-A

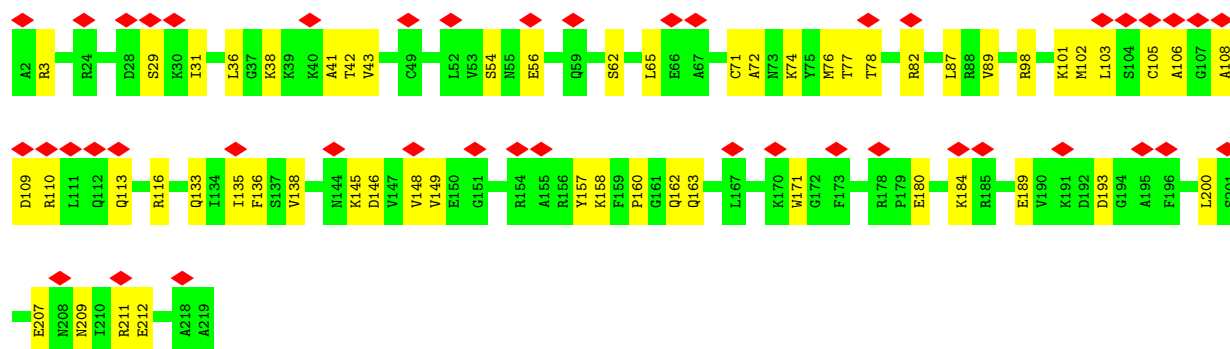


- Molecule 50: 60S ribosomal protein L9-A

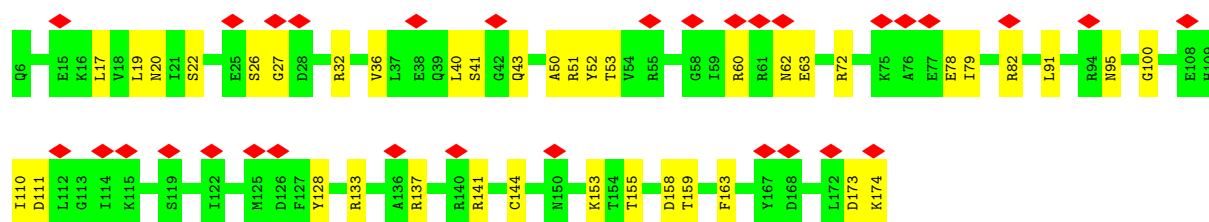
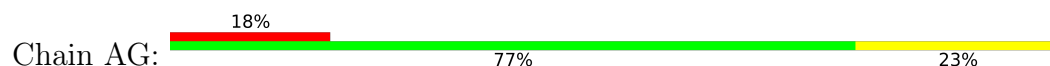


- Molecule 51: RPL10 isoform 1

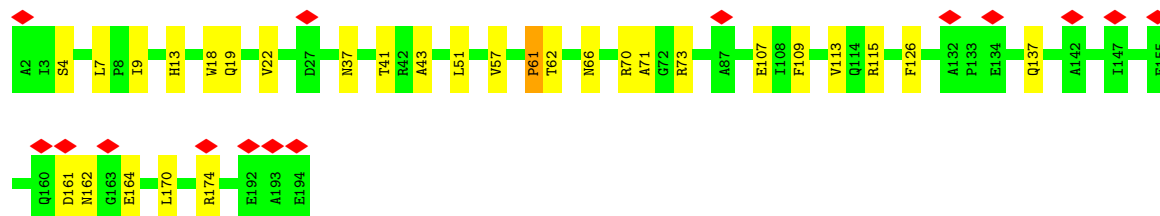
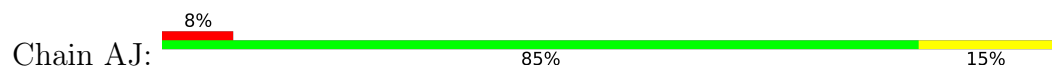




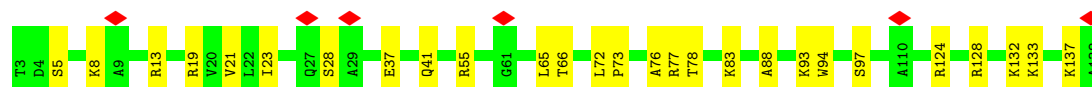
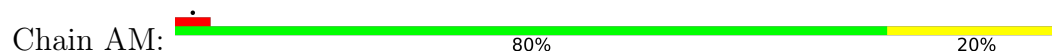
- Molecule 52: RPL11B isoform 1



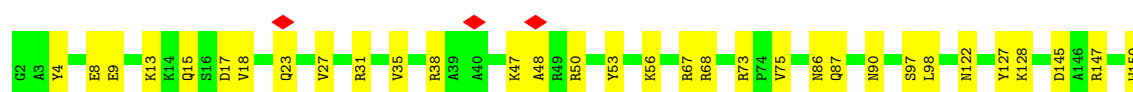
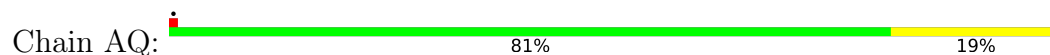
- Molecule 53: 60S ribosomal protein L13-A



- Molecule 54: 60S ribosomal protein L14-A

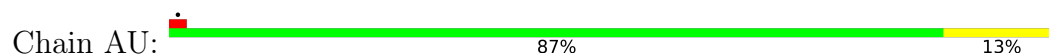


- Molecule 55: 60S ribosomal protein L15-A

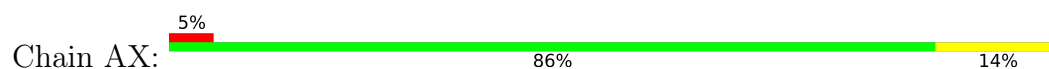




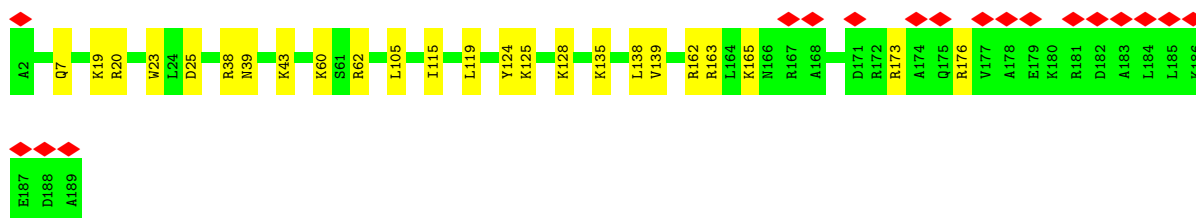
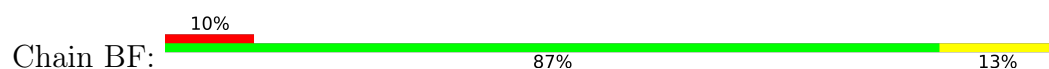
- Molecule 56: 60S ribosomal protein L16-A



- Molecule 57: 60S ribosomal protein L17-A



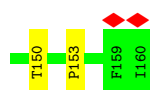
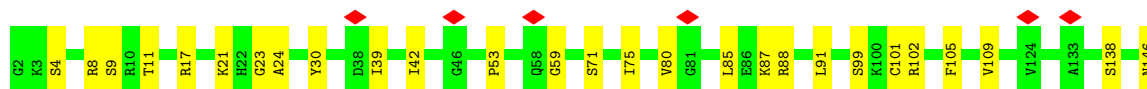
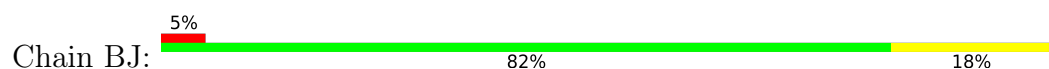
- Molecule 58: 60S ribosomal protein L19-A



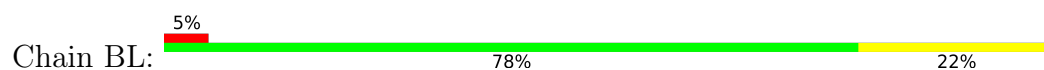
- Molecule 59: 60S ribosomal protein L20-A



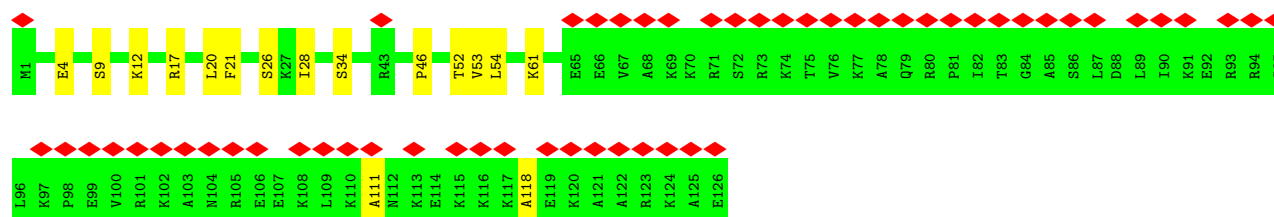
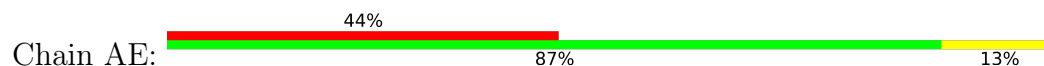
- Molecule 60: 60S ribosomal protein L21-A



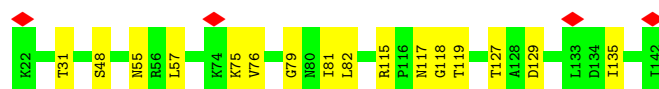
- Molecule 61: 60S ribosomal protein L22-A



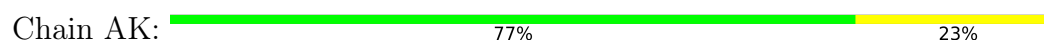
- Molecule 62: 60S ribosomal protein L24-A



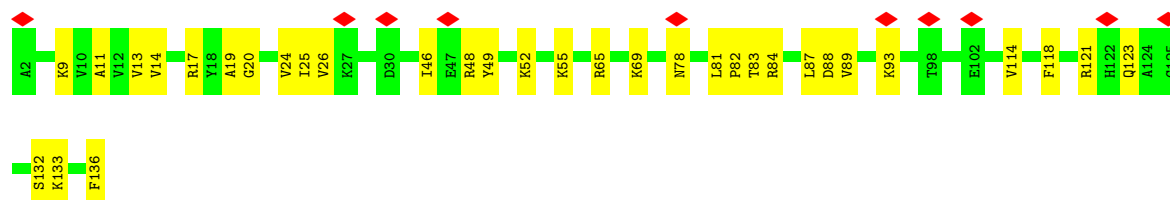
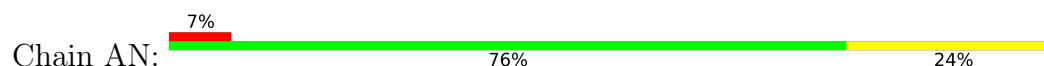
- Molecule 63: 60S ribosomal protein L25



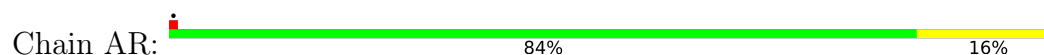
- Molecule 64: 60S ribosomal protein L26-A



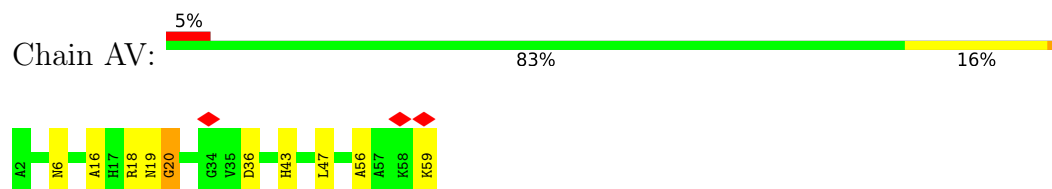
- Molecule 65: 60S ribosomal protein L27-A



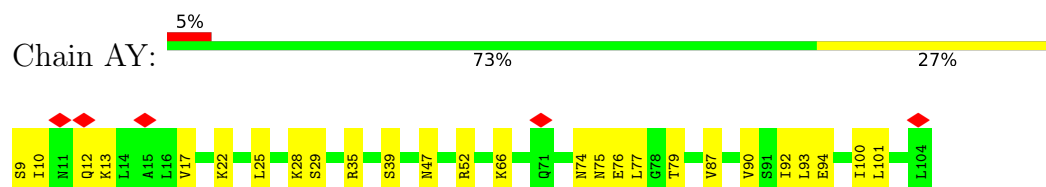
- Molecule 66: 60S ribosomal protein L28



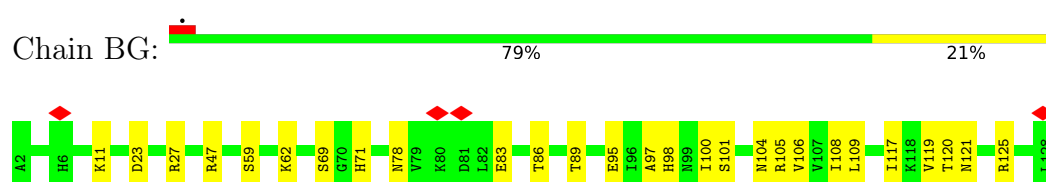
• Molecule 67: 60S ribosomal protein L29



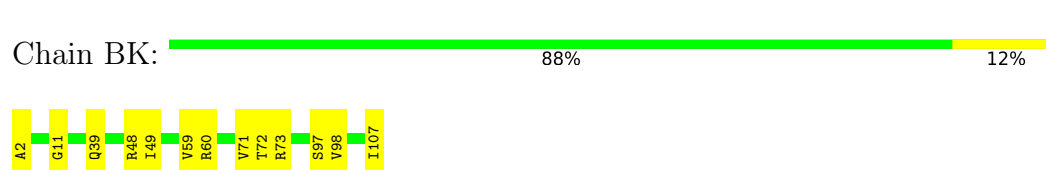
• Molecule 68: 60S ribosomal protein L30



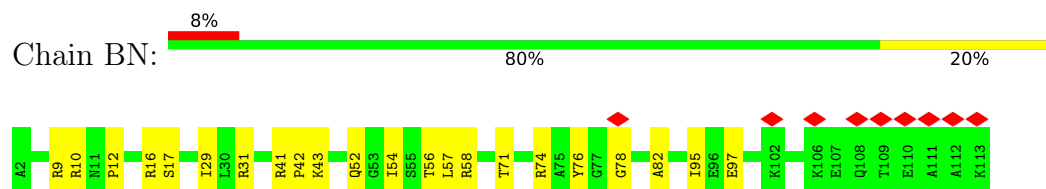
• Molecule 69: RPL32 isoform 1



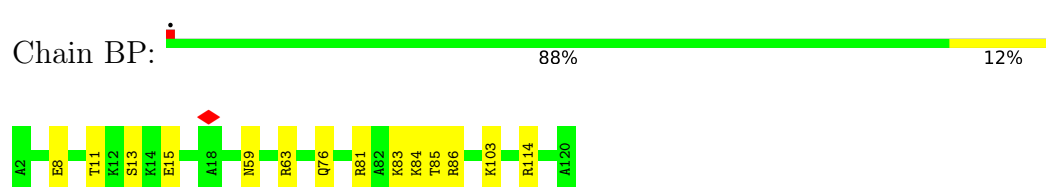
• Molecule 70: 60S ribosomal protein L33-A



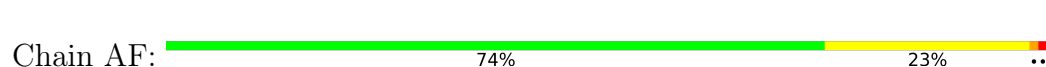
• Molecule 71: 60S ribosomal protein L34-A



• Molecule 72: 60S ribosomal protein L35-A

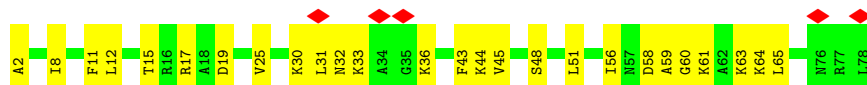


• Molecule 73: 60S ribosomal protein L37-A

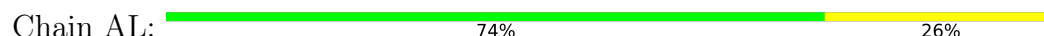




- Molecule 74: RPL38 isoform 1



- Molecule 75: 60S ribosomal protein L39



- Molecule 76: 60S ribosomal protein L40-A



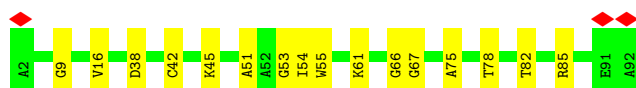
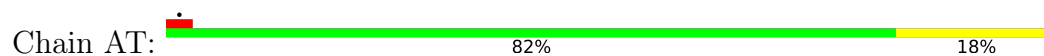
- Molecule 77: 60S ribosomal protein L41-A



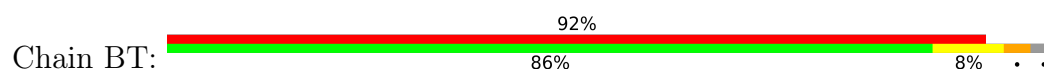
- Molecule 78: 60S ribosomal protein L42-A



- Molecule 79: 60S ribosomal protein L43-A



- Molecule 80: 60S ribosomal protein L1-A



M181	M182	M183	L184	M185	M186	M187	M188	M189	F190	V191	S192	L193	L194	K195	K196	N197	W198	Q199	K200	V201	G202	S203	L204	V205	V206	K207	S208	S209	M210	GLY	PRO	ALA	PHE	ARG	LEU	TYR	M1	S2	K3	I4	T5	S6	S7	Q8	V9	R10	E11	H12	V13	K14	E15	L16	L17	L18	V19	S20	N21	E22	T23	K24	K25	R26	N27	F28	L29	E30	T31	V32	E33	L34	Q35	V36	G37	L38	K39	N40	V41	D42	P43	Q44	R45	D46	K47	R48	F49	S50	G51	S52	L53	K54	L55	P56	N57	C58	P59	S60																																																												
																																																																																																	P61	N62	M63	S64	I65	C66	F68	G69	D70	A71	F72	D73	V74	D75	R76	A77	K78	S79	C80	G81	V82	D83	A84	M85	S86	V87	D88	D89	L90	K91	K92	L93	N94	K95	N96	K97	K98	L99	I100	K101	K102	L103	S104	K105	K106	Y107	M108	A109	F110	I111	A112	S113	E114	V115	L116	I117	K118	Q119	V120	
																																																																																																	P121	R122	L123	L124	G125	P126	Q127	L128	S129	K130	A131	G132	K133	F134	P135	T136	P137	V138	S139	H140	N141	D142	D143	L144	V145	G146	K147	V148	T149	D150	V151	R152	S153	T154	L155	K156	F157	Q158	L159	K160	K161	V162	L163	C164	L165	A166	V167	A168	V169	G170	M171	V172	E173	M174	E175	E176	D177	V178	L179	V180

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	13307	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 ($e^-/\text{\AA}^2$)	56.16	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3200	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.096	Depositor
Minimum map value	-0.047	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	455.28, 455.28, 455.28	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.084, 1.084, 1.084	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	x	0.74	0/2970	1.21	2/4023 (0.0%)
2	A	0.33	0/1754	0.53	0/2361
3	B	0.29	0/1625	0.55	0/2197
4	C	0.26	0/769	0.50	0/1039
5	D	0.24	0/883	0.62	0/1199
6	E	0.28	0/936	0.57	0/1259
7	F	0.33	0/1125	0.54	0/1510
8	G	0.29	0/957	0.47	0/1283
9	H	0.27	0/1207	0.49	0/1623
10	I	0.31	0/1130	0.54	1/1517 (0.1%)
11	J	0.33	0/807	0.52	0/1091
12	K	0.25	0/661	0.52	0/888
13	L	0.29	0/493	0.60	0/663
14	M	0.40	0/452	0.65	0/600
15	N	0.25	0/567	0.59	0/764
16	O	0.25	0/2436	0.51	0/3318
17	P	0.30	0/1644	0.51	0/2249
18	Q	0.29	0/1823	0.60	2/2447 (0.1%)
19	R	0.38	0/1656	0.55	0/2251
20	S	0.32	0/2097	0.56	0/2823
21	T	0.29	0/1839	0.55	0/2460
22	U	0.27	0/1498	0.56	0/2019
23	V	0.36	0/1501	0.53	0/2006
24	W	0.30	0/1504	0.57	0/2016
25	X	0.37	0/1168	0.48	0/1575
26	Y	0.36	0/1215	0.58	0/1638
27	Z	0.32	0/934	0.58	0/1257
28	AA	0.42	0/1836	0.56	0/2481
29	BA	0.56	0/3146	0.57	0/4228
30	AB	0.56	0/1018	0.52	0/1369
31	BB	0.54	0/1465	0.57	0/1965
32	AC	0.41	0/772	0.54	0/1026

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	BC	0.55	0/890	0.54	0/1196
34	2	0.33	0/42211	0.44	2/65773 (0.0%)
35	a	0.29	0/682	0.51	0/921
36	b	0.39	0/1038	0.56	1/1395 (0.1%)
37	c	0.42	0/1139	0.59	0/1518
38	d	0.26	0/1046	0.46	0/1401
39	e	0.39	0/778	0.59	0/1042
40	f	0.26	0/620	0.50	0/838
41	g	0.30	0/480	0.53	0/639
42	BQ	0.48	0/78999	0.46	0/123162
43	BR	0.38	0/2883	0.39	0/4491
44	BS	0.50	0/3746	0.46	0/5832
45	AW	0.64	0/1933	0.61	0/2598
46	BE	0.55	0/2800	0.61	0/3790
47	BI	0.39	0/2400	0.51	0/3239
48	BM	0.44	0/1329	0.57	0/1794
49	BO	0.56	0/1821	0.59	0/2451
50	AD	0.39	0/1529	0.50	0/2060
51	BD	0.44	0/1801	0.56	0/2416
52	AG	0.33	0/1367	0.51	0/1834
53	AJ	0.52	0/1568	0.56	0/2106
54	AM	0.43	0/1068	0.55	0/1438
55	AQ	0.66	0/1757	0.63	0/2354
56	AU	0.58	0/1585	0.53	0/2128
57	AX	0.61	0/1439	0.57	0/1938
58	BF	0.50	0/1532	0.53	0/2043
59	BH	0.50	0/1473	0.56	0/1980
60	BJ	0.51	0/1296	0.53	0/1739
61	BL	0.36	0/812	0.48	0/1099
62	AE	0.42	0/850	0.48	0/1152
63	AH	0.51	0/979	0.54	0/1321
64	AK	0.48	0/995	0.53	0/1329
65	AN	0.42	0/1106	0.53	0/1485
66	AR	0.60	0/1200	0.60	0/1607
67	AV	0.48	0/473	0.58	0/629
68	AY	0.44	0/745	0.47	0/1001
69	BG	0.60	0/1038	0.56	0/1390
70	BK	0.63	0/868	0.65	0/1168
71	BN	0.57	0/890	0.63	0/1189
72	BP	0.48	0/978	0.53	0/1301
73	AF	0.76	1/660 (0.2%)	0.88	2/875 (0.2%)
74	AI	0.37	0/618	0.50	0/826
75	AL	0.64	0/443	0.58	0/588

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	AO	0.72	1/416 (0.2%)	0.95	2/553 (0.4%)
77	AS	0.49	0/230	0.78	0/296
78	AP	0.74	2/836 (0.2%)	0.75	3/1104 (0.3%)
79	AT	0.72	1/701 (0.1%)	0.80	1/934 (0.1%)
80	BT	0.33	0/1040	0.88	10/1449 (0.7%)
All	All	0.45	5/220976 (0.0%)	0.51	26/324557 (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
1	x	0	1
3	B	0	1
5	D	0	1
7	F	0	1
10	I	0	1
13	L	0	1
15	N	0	1
20	S	0	1
22	U	0	1
27	Z	0	1
28	AA	0	3
31	BB	0	1
33	BC	0	1
36	b	0	1
46	BE	0	3
49	BO	0	1
66	AR	0	2
67	AV	0	2
68	AY	0	1
72	BP	0	1
80	BT	0	4
All	All	0	30

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
78	AP	14	GLY	C-N	7.21	1.43	1.33
79	AT	42	CYS	CA-C	-6.70	1.43	1.52
76	AO	103	LEU	C-N	6.38	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
73	AF	39	TYR	C-N	6.04	1.45	1.34
78	AP	79	THR	N-CA	-6.03	1.39	1.46

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
78	AP	79	THR	N-CA-C	-7.90	96.43	108.67
80	BT	126	PRO	N-CA-CB	7.77	111.41	103.25
80	BT	135	PRO	N-CA-CB	7.33	110.94	103.25
80	BT	61	PRO	N-CA-CB	7.29	110.91	103.25
76	AO	96	CYS	CA-C-N	6.92	129.44	120.44
76	AO	96	CYS	C-N-CA	6.92	129.44	120.44
80	BT	59	PRO	N-CA-CB	6.87	110.47	103.25
80	BT	121	PRO	N-CA-CB	6.46	110.04	103.25
80	BT	56	PRO	N-CA-CB	6.45	110.02	103.25
80	BT	137	PRO	N-CA-CB	6.37	109.39	103.41
80	BT	43	PRO	N-CA-CB	5.99	110.69	103.45
73	AF	22	CYS	CA-C-N	5.98	133.13	121.41
73	AF	22	CYS	C-N-CA	5.98	133.13	121.41
79	AT	42	CYS	N-CA-C	5.86	122.26	114.12
34	2	400	A	C2'-C3'-O3'	5.79	118.19	109.50
78	AP	14	GLY	CA-C-O	-5.78	110.52	120.57
18	Q	43	VAL	CA-C-N	-5.57	113.71	120.51
18	Q	43	VAL	C-N-CA	-5.57	113.71	120.51
36	b	28	ARG	C-N-CD	-5.56	108.37	120.60
1	x	69	LYS	N-CA-C	5.30	122.08	110.80
34	2	400	A	P-O3'-C3'	5.23	128.04	120.20
80	BT	55	LEU	CA-C-N	5.12	126.24	119.84
80	BT	55	LEU	C-N-CA	5.12	126.24	119.84
78	AP	12	CYS	CA-CB-SG	-5.08	102.72	114.40
1	x	300	PHE	CA-CB-CG	5.01	118.81	113.80
10	I	121	GLY	N-CA-C	5.01	116.62	111.56

There are no chirality outliers.

All (30) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
28	AA	30	THR	Peptide
28	AA	76	ALA	Peptide
28	AA	77	GLN	Peptide
66	AR	115	LYS	Peptide
66	AR	14	HIS	Peptide

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Mol	Chain	Res	Type	Group
67	AV	19	ASN	Peptide
67	AV	20	GLY	Peptide
68	AY	47	ASN	Peptide
3	B	42	LEU	Peptide
31	BB	161	LYS	Peptide
33	BC	7	VAL	Peptide
46	BE	13	GLY	Peptide
46	BE	3	ARG	Peptide
46	BE	318	LEU	Peptide
49	BO	232	ARG	Peptide
72	BP	83	LYS	Peptide
80	BT	191	VAL	Peptide
80	BT	192	SER	Peptide
80	BT	203	SER	Peptide
80	BT	56	PRO	Peptide
5	D	108	ARG	Peptide
7	F	40	GLU	Peptide
10	I	120	GLY	Peptide
13	L	19	THR	Peptide
15	N	147	VAL	Peptide
20	S	193	GLY	Peptide
22	U	64	VAL	Peptide
27	Z	90	ARG	Peptide
36	b	54	ASP	Peptide
1	x	223	TYR	Sidechain

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	x	2899	0	2843	121	0
2	A	1729	0	1812	27	0
3	B	1605	0	1669	46	0
4	C	752	0	719	17	0
5	D	875	0	878	23	0
6	E	916	0	941	29	0
7	F	1105	0	1166	30	0
8	G	948	0	990	20	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	H	1188	0	1218	35	0
10	I	1112	0	1124	25	0
11	J	797	0	863	19	0
12	K	651	0	682	18	0
13	L	491	0	524	13	0
14	M	442	0	428	20	0
15	N	556	0	549	25	0
16	O	2383	0	2332	57	0
17	P	1603	0	1610	36	0
18	Q	1798	0	1890	58	0
19	R	1626	0	1715	40	0
20	S	2056	0	2140	68	0
21	T	1815	0	1894	41	0
22	U	1473	0	1555	51	0
23	V	1476	0	1501	35	0
24	W	1479	0	1556	27	0
25	X	1142	0	1209	20	0
26	Y	1192	0	1255	23	0
27	Z	923	0	948	27	0
28	AA	1804	0	1877	32	0
29	BA	3075	0	3142	58	0
30	AB	1003	0	1048	22	0
31	BB	1441	0	1543	20	0
32	AC	766	0	844	7	0
33	BC	876	0	912	9	0
34	2	37739	0	18988	513	0
35	a	673	0	662	17	0
36	b	1021	0	1060	21	0
37	c	1121	0	1196	24	0
38	d	1032	0	1044	32	0
39	e	765	0	814	19	0
40	f	610	0	633	15	0
41	g	472	0	521	12	0
42	BQ	70586	0	35467	705	0
43	BR	2579	0	1304	22	0
44	BS	3353	0	1695	26	0
45	AW	1899	0	1957	30	0
46	BE	2748	0	2859	55	0
47	BI	2351	0	2294	45	0
48	BM	1307	0	1377	22	0
49	BO	1784	0	1862	28	0
50	AD	1508	0	1572	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
51	BD	1764	0	1804	37	0
52	AG	1346	0	1370	28	0
53	AJ	1543	0	1608	22	0
54	AM	1053	0	1149	23	0
55	AQ	1720	0	1779	27	0
56	AU	1555	0	1659	19	0
57	AX	1416	0	1433	18	0
58	BF	1515	0	1606	22	0
59	BH	1437	0	1475	20	0
60	BJ	1272	0	1312	24	0
61	BL	796	0	812	15	0
62	AE	836	0	706	12	0
63	AH	964	0	1025	13	0
64	AK	984	0	1075	19	0
65	AN	1080	0	1122	23	0
66	AR	1169	0	1211	19	0
67	AV	462	0	491	8	0
68	AY	737	0	792	17	0
69	BG	1017	0	1081	19	0
70	BK	850	0	880	12	0
71	BN	880	0	942	22	0
72	BP	969	0	1078	9	0
73	AF	645	0	645	16	0
74	AI	612	0	675	57	0
75	AL	436	0	475	13	0
76	AO	410	0	442	13	0
77	AS	229	0	273	2	0
78	AP	824	0	890	12	0
79	AT	694	0	734	12	0
80	BT	1041	0	447	4	0
81	AF	1	0	0	0	0
81	AO	1	0	0	0	0
81	AP	1	0	0	0	0
81	AT	1	0	0	0	0
81	BN	1	0	0	0	0
81	M	1	0	0	0	0
81	N	1	0	0	0	0
All	All	205808	0	151673	2493	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 7.

All (2493) 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)
1:x:338:MET:HE3	42:BQ:1762:C:C5	1.54	1.40
1:x:386:ILE:CG2	42:BQ:2024:G:C4	2.02	1.40
1:x:339:THR:O	42:BQ:1762:C:C1'	1.69	1.39
1:x:338:MET:HB2	42:BQ:1762:C:C4	1.58	1.39
1:x:386:ILE:HG21	42:BQ:2024:G:C1'	1.53	1.38
1:x:80:PRO:CG	42:BQ:1760:A:O5'	1.72	1.36
1:x:384:GLN:OE1	42:BQ:2000:U:H5'	1.27	1.31
1:x:338:MET:HE3	42:BQ:1762:C:C6	1.65	1.30
42:BQ:1976:G:C4'	74:AI:59:ALA:O	1.78	1.30
1:x:384:GLN:NE2	42:BQ:1999:C:O3'	1.66	1.28
1:x:387:LYS:O	42:BQ:2024:G:N1	1.68	1.27
1:x:386:ILE:HG22	42:BQ:2024:G:C4	1.63	1.26
1:x:81:LYS:HB2	42:BQ:1761:C:C6	1.69	1.26
1:x:386:ILE:HG22	42:BQ:2024:G:N3	1.48	1.26
1:x:338:MET:HB2	42:BQ:1762:C:C5	1.72	1.25
1:x:339:THR:O	42:BQ:1762:C:H1'	1.26	1.22
1:x:386:ILE:HD13	42:BQ:2024:G:O2'	1.41	1.20
42:BQ:1976:G:O4'	74:AI:60:GLY:CA	1.90	1.19
1:x:80:PRO:HG2	42:BQ:1760:A:O5'	1.00	1.18
1:x:80:PRO:HG2	42:BQ:1760:A:C5'	1.75	1.16
1:x:386:ILE:CD1	42:BQ:2024:G:O2'	1.95	1.15
42:BQ:1976:G:H4'	74:AI:59:ALA:O	1.40	1.14
1:x:82:PHE:HB2	42:BQ:1761:C:H2'	1.15	1.14
1:x:386:ILE:CG2	42:BQ:2024:G:N9	2.09	1.13
15:N:123:ASN:ND2	15:N:125:THR:OG1	1.81	1.13
42:BQ:1976:G:O4'	74:AI:60:GLY:HA2	1.40	1.13
1:x:82:PHE:HD1	42:BQ:1761:C:O2'	1.32	1.12
42:BQ:1976:G:O4'	74:AI:60:GLY:N	1.81	1.12
42:BQ:1976:G:O4'	74:AI:59:ALA:C	1.93	1.12
1:x:83:LYS:C	42:BQ:1762:C:OP2	1.85	1.11
1:x:82:PHE:O	42:BQ:1761:C:H5''	1.48	1.09
1:x:338:MET:CB	42:BQ:1762:C:C4	2.35	1.09
1:x:82:PHE:HB2	42:BQ:1761:C:C2'	1.73	1.08
42:BQ:2050:C:OP1	74:AI:36:LYS:CD	1.99	1.08
1:x:386:ILE:CG2	42:BQ:2024:G:N3	2.11	1.07
1:x:386:ILE:HG21	42:BQ:2024:G:N9	1.65	1.06
1:x:386:ILE:CG2	42:BQ:2024:G:C1'	2.34	1.05
1:x:81:LYS:HE2	42:BQ:1759:C:C2	1.91	1.05
1:x:384:GLN:OE1	42:BQ:2000:U:C5'	2.03	1.05
42:BQ:1976:G:H3'	74:AI:63:LYS:HD3	1.42	1.02
42:BQ:1976:G:O2'	74:AI:59:ALA:CB	2.08	1.01
79:AT:53:GLY:HA2	79:AT:66:GLY:O	1.61	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:x:338:MET:CE	42:BQ:1762:C:C5	2.43	1.00
42:BQ:1975:C:H1'	74:AI:58:ASP:OD2	1.60	1.00
1:x:82:PHE:CB	42:BQ:1761:C:C2'	2.10	1.00
1:x:386:ILE:HG21	42:BQ:2024:G:H1'	1.39	1.00
1:x:386:ILE:HG21	42:BQ:2024:G:C4	1.91	0.99
1:x:82:PHE:CD1	42:BQ:1761:C:O2'	2.12	0.98
42:BQ:2050:C:OP1	74:AI:36:LYS:HD2	1.60	0.97
42:BQ:1976:G:O2'	74:AI:59:ALA:HB1	1.63	0.96
1:x:81:LYS:HB3	42:BQ:1760:A:C4	1.66	0.96
1:x:386:ILE:CG2	42:BQ:2024:G:H1'	1.95	0.95
1:x:386:ILE:HD13	42:BQ:2024:G:H1'	1.46	0.95
42:BQ:1976:G:C4'	74:AI:59:ALA:C	2.39	0.94
42:BQ:383:G:N2	42:BQ:386:A:N7	2.15	0.94
34:2:219:A:H61	34:2:842:C:H42	1.03	0.93
1:x:338:MET:HE3	42:BQ:1762:C:H5	1.29	0.92
42:BQ:1975:C:O2	74:AI:60:GLY:N	2.03	0.92
1:x:83:LYS:HB3	42:BQ:1762:C:OP1	1.70	0.92
1:x:387:LYS:O	42:BQ:2024:G:C6	2.22	0.91
1:x:81:LYS:HE2	42:BQ:1759:C:N1	1.76	0.91
1:x:386:ILE:HD13	42:BQ:2024:G:C1'	2.00	0.90
1:x:338:MET:HB3	42:BQ:1762:C:N4	1.87	0.90
34:2:219:A:H61	34:2:842:C:N4	1.70	0.89
34:2:816:G:O6	34:2:855:A:N1	2.05	0.89
1:x:81:LYS:CB	42:BQ:1761:C:C6	2.54	0.89
79:AT:53:GLY:CA	79:AT:66:GLY:O	2.20	0.89
47:BI:115:LEU:O	47:BI:118:THR:O	1.91	0.89
25:X:65:SER:HG	34:2:114:C:HO2'	1.21	0.89
1:x:386:ILE:HG21	42:BQ:2024:G:C2'	2.02	0.88
1:x:339:THR:O	42:BQ:1762:C:N1	2.05	0.87
1:x:338:MET:CB	42:BQ:1762:C:N4	2.37	0.87
1:x:384:GLN:NE2	42:BQ:1999:C:C3'	2.37	0.86
1:x:386:ILE:HD13	42:BQ:2024:G:C2'	2.04	0.86
16:O:167:VAL:HG13	16:O:183:LEU:HD21	1.58	0.86
1:x:81:LYS:HB2	42:BQ:1761:C:C5	2.11	0.85
42:BQ:1238:C:O2	42:BQ:1250:G:N2	2.09	0.85
34:2:219:A:N6	34:2:842:C:H42	1.74	0.85
2:A:39:VAL:HA	2:A:47:GLU:O	1.76	0.84
1:x:80:PRO:HG3	42:BQ:1760:A:O5'	1.77	0.84
42:BQ:3163:A:N6	42:BQ:3288:G:O6	2.10	0.83
1:x:338:MET:CB	42:BQ:1762:C:C5	2.59	0.83
1:x:81:LYS:HB2	42:BQ:1761:C:H6	1.41	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:123:ASN:ND2	15:N:144:CYS:SG	2.51	0.83
1:x:384:GLN:HE22	42:BQ:1999:C:C3'	1.92	0.82
34:2:959:U:OP2	40:f:20:LYS:NZ	2.12	0.82
42:BQ:1976:G:C5'	74:AI:59:ALA:O	2.27	0.82
42:BQ:2007:G:H1	42:BQ:2014:U:H3	0.88	0.82
34:2:655:G:C2	34:2:678:A:N6	2.47	0.82
42:BQ:1634:G:N7	65:AN:17:ARG:NH1	2.27	0.82
42:BQ:925:A:N6	45:AW:2:GLY:O	2.13	0.81
42:BQ:2679:A:O2'	52:AG:52:TYR:OH	1.98	0.81
3:B:121:ILE:O	3:B:124:LEU:O	1.99	0.81
42:BQ:1057:A:OP1	49:BO:98:LYS:NZ	2.14	0.81
42:BQ:1639:C:OP2	71:BN:74:ARG:NH2	2.15	0.80
34:2:479:C:O2	34:2:510:G:N2	2.14	0.80
34:2:478:A:N6	34:2:539:G:C2	2.49	0.80
42:BQ:1976:G:O2'	74:AI:59:ALA:HB3	1.80	0.80
42:BQ:1976:G:C1'	74:AI:60:GLY:N	2.44	0.80
42:BQ:3163:A:C6	42:BQ:3288:G:C6	2.69	0.80
42:BQ:1876:U:OP2	58:BF:19:LYS:NZ	2.14	0.80
34:2:1029:U:OP2	39:e:12:LYS:NZ	2.14	0.80
42:BQ:3163:A:N6	42:BQ:3288:G:C6	2.50	0.80
42:BQ:2094:C:H6	42:BQ:2094:C:H5''	1.47	0.80
42:BQ:3092:C:O2'	42:BQ:3094:A:OP2	1.99	0.79
18:Q:136:ARG:O	18:Q:215:VAL:HA	1.81	0.79
34:2:816:G:N1	34:2:855:A:C2	2.51	0.79
18:Q:80:SER:O	18:Q:83:LYS:NZ	2.15	0.79
45:AW:27:ALA:O	45:AW:128:ARG:NH2	2.16	0.79
75:AL:27:ILE:O	75:AL:33:ASN:ND2	2.16	0.79
1:x:338:MET:CE	42:BQ:1762:C:C6	2.59	0.79
1:x:387:LYS:O	42:BQ:2024:G:C2	2.34	0.79
34:2:1229:G:H21	34:2:1256:A:H62	1.29	0.79
25:X:37:ASN:O	34:2:247:A:O2'	2.00	0.79
34:2:1230:A:C8	34:2:1255:G:N2	2.49	0.79
42:BQ:2282:U:OP1	42:BQ:2973:G:O2'	2.01	0.79
14:M:7:TRP:O	34:2:1450:U:O2'	2.00	0.79
27:Z:17:ALA:O	27:Z:29:HIS:O	2.01	0.79
42:BQ:1975:C:C2	74:AI:60:GLY:HA3	2.14	0.78
42:BQ:1868:G:O2'	42:BQ:2118:C:O2'	2.01	0.78
14:M:10:HIS:O	14:M:12:ARG:NH2	2.15	0.78
42:BQ:1958:U:O2	42:BQ:2083:G:O6	2.01	0.78
10:I:86:ARG:NH1	34:2:1601:G:OP1	2.17	0.78
42:BQ:525:C:O2	42:BQ:568:G:N2	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:132:ARG:NH2	34:2:1789:G:OP2	2.17	0.78
42:BQ:2004:U:H3	42:BQ:2017:G:H1	0.84	0.78
34:2:467:G:O2'	34:2:469:C:OP2	2.02	0.78
34:2:1339:C:O2'	34:2:1341:A:N7	2.16	0.78
62:AE:4:GLU:O	62:AE:12:LYS:HA	1.82	0.78
42:BQ:1592:G:OP1	71:BN:58:ARG:NH2	2.17	0.77
17:P:103:THR:O	17:P:106:SER:OG	2.03	0.77
42:BQ:177:U:O4	42:BQ:239:G:N2	2.17	0.77
34:2:705:U:O2'	34:2:706:A:O5'	2.03	0.77
42:BQ:1976:G:C3'	74:AI:63:LYS:HD3	2.09	0.77
42:BQ:1976:G:C8	74:AI:60:GLY:HA2	2.19	0.77
4:C:29:GLN:NE2	4:C:31:LYS:O	2.17	0.77
34:2:1484:G:N2	34:2:1606:C:O2	2.16	0.77
42:BQ:1899:G:O2'	42:BQ:2334:U:O4	2.02	0.77
43:BR:21:G:HO2'	47:BI:272:TYR:HH	1.22	0.77
29:BA:10:ARG:NH2	29:BA:11:HIS:O	2.18	0.77
64:AK:29:VAL:O	64:AK:32:SER:OG	2.03	0.77
34:2:458:G:OP2	38:d:105:ARG:NH2	2.18	0.77
34:2:655:G:C2	34:2:678:A:C6	2.73	0.77
42:BQ:1363:A:OP1	49:BO:160:ARG:NH1	2.18	0.77
18:Q:76:SER:OG	18:Q:78:ASP:OD1	2.02	0.77
31:BB:38:ARG:NH2	42:BQ:1348:U:OP2	2.18	0.77
42:BQ:2185:G:O2'	42:BQ:2314:U:OP2	2.03	0.77
18:Q:25:THR:O	18:Q:50:LYS:NZ	2.18	0.76
34:2:1208:A:O2'	34:2:1270:G:OP2	2.04	0.76
34:2:61:A:O2'	34:2:62:A:O4'	2.03	0.76
34:2:1198:G:OP1	34:2:1199:G:O2'	2.02	0.76
37:c:42:PRO:O	37:c:79:ASN:ND2	2.18	0.76
42:BQ:269:G:OP1	55:AQ:47:LYS:NZ	2.17	0.76
42:BQ:2852:C:N3	51:BD:158:LYS:NZ	2.32	0.76
53:AJ:4:SER:O	66:AR:44:ASN:ND2	2.19	0.76
29:BA:10:ARG:NH1	29:BA:263:SER:O	2.19	0.76
42:BQ:146:U:O2	42:BQ:148:G:C2	2.38	0.76
42:BQ:1624:G:O6	42:BQ:1819:U:O4	2.02	0.76
22:U:27:LEU:O	22:U:31:SER:OG	2.03	0.76
51:BD:209:ASN:O	51:BD:212:GLU:O	2.04	0.76
4:C:44:LYS:NZ	34:2:1217:A:O3'	2.19	0.76
42:BQ:2205:U:O4	42:BQ:2237:C:N3	2.19	0.76
48:BM:31:ARG:NH1	70:BK:107:ILE:O	2.19	0.76
4:C:11:ILE:HD11	4:C:42:VAL:HG22	1.67	0.75
9:H:138:THR:OG1	34:2:1459:C:OP2	2.04	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:651:G:C6	34:2:684:A:N1	2.54	0.75
39:e:87:ARG:NH1	39:e:91:ASP:O	2.19	0.75
42:BQ:593:C:OP2	48:BM:19:LYS:NZ	2.19	0.75
45:AW:30:ARG:O	45:AW:163:ARG:NH1	2.20	0.75
39:e:7:SER:OG	39:e:10:ARG:O	2.03	0.75
12:K:50:ILE:HG22	12:K:69:LEU:HD13	1.68	0.75
42:BQ:68:C:OP2	42:BQ:301:G:N2	2.19	0.75
1:x:386:ILE:HD12	42:BQ:2024:G:O2'	1.84	0.75
19:R:236:PRO:O	35:a:33:GLN:NE2	2.18	0.75
42:BQ:3212:C:OP2	54:AM:124:ARG:NH2	2.18	0.75
12:K:74:SER:OG	34:2:1534:G:OP2	2.05	0.75
18:Q:5:LYS:NZ	34:2:900:A:N7	2.33	0.75
20:S:141:THR:OG1	20:S:143:ASP:OD1	2.03	0.75
34:2:486:G:N2	34:2:501:U:O2'	2.19	0.75
1:x:386:ILE:HG23	42:BQ:2024:G:N9	2.02	0.75
28:AA:95:ASN:OD1	28:AA:98:ARG:NH2	2.20	0.75
7:F:135:ARG:NH1	34:2:1582:U:OP1	2.20	0.75
23:V:172:ARG:NH1	34:2:330:G:OP2	2.20	0.75
42:BQ:439:C:O2'	42:BQ:440:A:OP1	2.03	0.75
42:BQ:1955:U:O4	42:BQ:1956:A:N6	2.20	0.75
34:2:1179:G:H21	34:2:1460:A:H62	1.34	0.75
40:f:56:CYS:SG	40:f:61:THR:OG1	2.44	0.75
42:BQ:592:A:O2'	48:BM:20:LYS:NZ	2.16	0.75
30:AB:10:LYS:O	42:BQ:3039:C:O2'	2.04	0.74
42:BQ:3163:A:C6	42:BQ:3288:G:N1	2.54	0.74
34:2:67:A:N6	34:2:83:G:O2'	2.20	0.74
34:2:1022:C:O2'	34:2:1125:A:N1	2.19	0.74
42:BQ:3216:G:OP2	70:BK:2:ALA:N	2.19	0.74
45:AW:95:SER:OG	45:AW:97:ASN:ND2	2.21	0.74
34:2:477:A:O2'	41:g:33:ARG:NH2	2.20	0.74
42:BQ:3186:A:O2'	50:AD:23:ARG:NH2	2.20	0.74
3:B:109:LYS:NZ	34:2:1474:G:OP1	2.20	0.74
18:Q:148:ASN:OD1	34:2:1066:C:O2'	2.05	0.74
1:x:82:PHE:HD1	42:BQ:1761:C:HO2'	0.76	0.74
34:2:17:C:O2'	34:2:1137:A:N1	2.19	0.74
42:BQ:2767:U:O2'	78:AP:30:ALA:O	2.05	0.74
42:BQ:3008:A:OP2	56:AU:74[A]:ARG:NH1	2.21	0.74
23:V:31:ARG:NH2	34:2:333:A:OP2	2.20	0.74
34:2:853:G:OP1	58:BF:176:ARG:NH1	2.21	0.74
42:BQ:1613:A:OP1	74:AI:2:ALA:N	2.20	0.74
42:BQ:1976:G:O4'	74:AI:59:ALA:O	2.00	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:BP:76:GLN:O	72:BP:81:ARG:NH2	2.20	0.74
2:A:56:GLN:NE2	2:A:57:ASP:OD1	2.21	0.74
7:F:14:LYS:O	7:F:123:ARG:NH1	2.21	0.74
7:F:66:ARG:NH2	34:2:1366:U:OP2	2.21	0.74
28:AA:193:LYS:NZ	42:BQ:145:G:OP2	2.16	0.74
30:AB:71:LYS:NZ	42:BQ:2294:U:OP2	2.21	0.74
42:BQ:533:A:O2'	42:BQ:535:G:OP2	2.06	0.74
42:BQ:1523:U:O4	63:AH:75:LYS:NZ	2.20	0.74
59:BH:26:ARG:NH1	60:BJ:150:THR:OG1	2.20	0.74
1:x:82:PHE:CD1	42:BQ:1761:C:C3'	2.70	0.74
9:H:144:ARG:NH1	34:2:1461:C:OP1	2.20	0.73
31:BB:170:ARG:NH2	42:BQ:89:A:OP2	2.20	0.73
42:BQ:542:G:C6	42:BQ:550:A:C6	2.76	0.73
25:X:38:ALA:O	34:2:246:G:N2	2.21	0.73
26:Y:121:ARG:NH1	34:2:868:G:OP1	2.21	0.73
42:BQ:640:U:OP1	66:AR:21:ARG:NH2	2.22	0.73
42:BQ:213:A:O4'	64:AK:2:ALA:N	2.21	0.73
48:BM:102:ASN:ND2	48:BM:104:GLU:OE1	2.22	0.73
9:H:22:VAL:HG22	9:H:35:ILE:HD11	1.69	0.73
10:I:119:LYS:NZ	34:2:1370:U:OP1	2.22	0.73
6:E:20:VAL:HG21	6:E:28:MET:HE1	1.70	0.73
25:X:102:LYS:O	37:c:13:ARG:NH2	2.20	0.73
34:2:74:U:O2'	34:2:76:A:OP2	2.05	0.73
42:BQ:1016:C:N4	42:BQ:2671:A:OP1	2.21	0.73
42:BQ:3111:U:OP1	50:AD:184:LYS:NZ	2.21	0.73
1:x:384:GLN:HE21	42:BQ:1999:C:H4'	1.53	0.73
4:C:8:ARG:NH2	34:2:1257:U:O2'	2.21	0.73
10:I:12:GLN:NE2	34:2:1479:A:N3	2.36	0.73
10:I:75:LYS:NZ	34:2:1497:U:O3'	2.22	0.73
15:N:123:ASN:HB3	15:N:126:CYS:SG	2.28	0.73
16:O:214:ALA:HB1	16:O:240:VAL:HG21	1.71	0.73
42:BQ:815:G:OP2	73:AF:31:LYS:NZ	2.21	0.73
3:B:121:ILE:O	3:B:124:LEU:C	2.32	0.73
5:D:34:THR:OG1	5:D:127:GLY:O	2.06	0.73
34:2:878:G:OP1	34:2:943:C:O2'	2.05	0.73
42:BQ:1045:C:OP1	51:BD:133:GLN:NE2	2.22	0.73
42:BQ:1345:G:N2	46:BE:307:GLN:OE1	2.21	0.73
42:BQ:1385:C:O2	48:BM:2:THR:N	2.21	0.73
42:BQ:2525:G:O2'	42:BQ:2526:C:OP2	2.06	0.73
47:BI:41:LYS:NZ	60:BJ:30:TYR:O	2.19	0.73
47:BI:122:VAL:O	47:BI:248:ARG:NH1	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:x:341:PRO:HG3	42:BQ:1762:C:H4'	1.71	0.73
17:P:84:ARG:NH1	17:P:203:PHE:O	2.21	0.73
38:d:78:SER:OG	38:d:81:GLU:OE1	2.07	0.73
42:BQ:284:A:OP2	78:AP:41:ARG:NH1	2.22	0.73
43:BR:64:A:OP2	47:BI:289:LYS:NZ	2.22	0.73
1:x:384:GLN:HE22	42:BQ:2000:U:P	2.12	0.72
10:I:65:ILE:O	10:I:68:ARG:O	2.07	0.72
28:AA:149:LYS:NZ	28:AA:201:THR:O	2.20	0.72
42:BQ:1046:A:O2'	42:BQ:1048:A:OP2	2.07	0.72
42:BQ:1778:G:O2'	42:BQ:1780:G:OP2	2.06	0.72
22:U:27:LEU:O	22:U:30:SER:O	2.07	0.72
34:2:924:A:O2'	34:2:987:G:OP1	2.06	0.72
69:BG:101:SER:OG	69:BG:104:ASN:OD1	2.07	0.72
5:D:46:ARG:NH2	34:2:1254:U:OP2	2.22	0.72
28:AA:251:LYS:O	28:AA:255:SER:OG	2.07	0.72
34:2:653:C:N4	34:2:681:U:C4	2.58	0.72
34:2:883:C:N3	34:2:945:U:O4	2.22	0.72
47:BI:120:LYS:O	47:BI:248:ARG:NH2	2.22	0.72
7:F:66:ARG:NH1	34:2:1365:C:OP1	2.22	0.72
8:G:60:ARG:NH1	34:2:1400:A:O3'	2.22	0.72
21:T:94:ARG:NH2	34:2:406:U:O2'	2.22	0.72
34:2:371:G:O3'	36:b:88:LYS:NZ	2.22	0.72
42:BQ:1244:A:O2'	42:BQ:1247:U:OP1	2.06	0.72
34:2:1273:G:O2'	34:2:1430:U:OP2	2.07	0.72
52:AG:155:THR:OG1	52:AG:158:ASP:OD1	2.06	0.72
9:H:17:LEU:O	9:H:20:THR:OG1	2.07	0.72
17:P:27:ARG:NH2	17:P:43:ASP:O	2.21	0.72
34:2:1245:G:O2'	34:2:1247:U:OP2	2.08	0.72
39:e:37:LYS:O	39:e:38:ARG:NH1	2.23	0.72
10:I:73:VAL:O	10:I:77:ASN:ND2	2.22	0.72
34:2:936:G:OP1	34:2:1074:G:N2	2.23	0.72
3:B:23:VAL:O	3:B:34:GLN:NE2	2.23	0.72
9:H:16:ARG:NH2	52:AG:111:ASP:OD1	2.23	0.72
52:AG:60:ARG:N	52:AG:63:GLU:OE1	2.22	0.72
15:N:123:ASN:HB2	15:N:144:CYS:SG	2.30	0.72
1:x:386:ILE:CD1	42:BQ:2024:G:H1'	2.20	0.72
22:U:75:THR:OG1	22:U:161:GLN:OE1	2.08	0.72
34:2:498:G:O2'	34:2:499:U:O2	2.06	0.72
34:2:873:U:O4	34:2:953:G:O6	2.08	0.72
44:BS:52:A:OP1	75:AL:21:ARG:NH1	2.23	0.72
7:F:129:PHE:O	7:F:137:ARG:NH1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:X:65:SER:OG	34:2:114:C:O2'	2.05	0.71
42:BQ:2800:G:O6	66:AR:42:ARG:NH2	2.23	0.71
53:AJ:126:PHE:O	72:BP:114:ARG:NH2	2.23	0.71
21:T:137:ARG:NH1	34:2:169:A:OP2	2.23	0.71
23:V:110:ARG:NH1	23:V:160:PHE:O	2.24	0.71
40:f:15:GLU:O	40:f:29:ARG:NH2	2.23	0.71
42:BQ:1198:C:OP2	42:BQ:1199:C:O2'	2.08	0.71
42:BQ:1633:C:OP2	65:AN:69:LYS:NZ	2.24	0.71
34:2:1521:G:C5	34:2:1523:G:C2	2.78	0.71
42:BQ:1824:U:O3'	74:AI:17:ARG:NH1	2.23	0.71
42:BQ:3227:A:O3'	54:AM:133:LYS:NZ	2.23	0.71
9:H:49:LYS:NZ	9:H:79:TYR:O	2.23	0.71
17:P:88:LYS:O	17:P:92:HIS:ND1	2.23	0.71
21:T:174:LYS:NZ	21:T:176:GLN:OE1	2.23	0.71
29:BA:97:ARG:NH2	42:BQ:3244:A:OP1	2.23	0.71
30:AB:10:LYS:NZ	30:AB:56:ASP:OD1	2.22	0.71
34:2:472:U:O2'	34:2:769:A:N3	2.23	0.71
42:BQ:292:U:OP2	55:AQ:68:ARG:NH1	2.24	0.71
51:BD:211:ARG:NH1	51:BD:212:GLU:OE2	2.24	0.71
9:H:120:ARG:NH1	42:BQ:1025:A:O2'	2.24	0.71
13:L:13:ILE:O	13:L:14:LYS:NZ	2.22	0.71
34:2:1630:U:HO2'	34:2:1764:C:HO2'	1.35	0.71
42:BQ:1427:U:OP1	46:BE:44:LYS:NZ	2.23	0.71
42:BQ:3052:G:OP1	62:AE:34:SER:OG	2.07	0.71
42:BQ:21:G:OP2	72:BP:86:ARG:NH2	2.23	0.71
15:N:116:LYS:NZ	15:N:128:ALA:O	2.24	0.71
16:O:248:ASN:ND2	16:O:297:ASP:O	2.24	0.71
34:2:956:C:OP1	34:2:1072:C:O2'	2.08	0.71
42:BQ:1268:G:O2'	42:BQ:1269:U:O2	2.08	0.71
42:BQ:1390:A:N6	42:BQ:1418:A:O2'	2.24	0.71
42:BQ:3181:C:O2'	56:AU:164[A]:SER:OG	2.07	0.71
15:N:80:ARG:NH2	34:2:1209:C:OP1	2.22	0.71
34:2:1226:A:O2'	34:2:1227:A:O5'	2.08	0.71
42:BQ:936:A:OP1	66:AR:32:ARG:NH2	2.24	0.71
42:BQ:1631:C:OP2	65:AN:48:ARG:NH2	2.23	0.71
6:E:24:LYS:HB3	6:E:28:MET:HE2	1.72	0.70
34:2:229:U:O4	34:2:237:C:N3	2.24	0.70
38:d:36:SER:OG	38:d:38:ASP:OD1	2.07	0.70
42:BQ:1765:U:OP2	58:BF:39:ASN:ND2	2.24	0.70
34:2:415:C:O2	34:2:418:G:O6	2.09	0.70
43:BR:11:A:N6	47:BI:13:SER:O	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:12:ARG:NH1	34:2:1451:C:OP1	2.24	0.70
24:W:126:ARG:NE	34:2:475:A:OP1	2.24	0.70
42:BQ:221:A:O2'	42:BQ:223:U:OP2	2.07	0.70
42:BQ:1079:A:O2'	47:BI:140:ARG:O	2.08	0.70
1:x:386:ILE:HG22	42:BQ:2024:G:C2	2.26	0.70
6:E:37:ALA:O	6:E:42:ARG:NH1	2.24	0.70
16:O:295:SER:OG	16:O:297:ASP:OD1	2.09	0.70
29:BA:205:VAL:HG11	29:BA:322:ILE:HD11	1.73	0.70
34:2:1584:G:N2	34:2:1611:A:OP2	2.24	0.70
42:BQ:1976:G:HO2'	74:AI:59:ALA:HB1	1.55	0.70
47:BI:197:SER:O	47:BI:202:GLY:N	2.25	0.70
16:O:154:VAL:O	16:O:155:ARG:NH1	2.24	0.70
19:R:180:ALA:HB2	19:R:198:THR:HG21	1.73	0.70
21:T:164:LYS:NZ	34:2:72:A:N7	2.39	0.70
25:X:29:LYS:NZ	25:X:31:THR:O	2.25	0.70
34:2:651:G:O6	34:2:684:A:C6	2.45	0.70
42:BQ:1671:C:OP1	58:BF:60:LYS:NZ	2.23	0.70
42:BQ:1693:C:HO2'	42:BQ:1772:U:HO2'	1.38	0.70
42:BQ:3158:G:O6	42:BQ:3292:A:N1	2.24	0.70
59:BH:73:LYS:NZ	59:BH:97:VAL:O	2.25	0.70
65:AN:78:ASN:OD1	68:AY:35:ARG:NH2	2.25	0.70
34:2:850:A:OP1	58:BF:165:LYS:NZ	2.16	0.70
56:AU:56[A]:ASP:OD1	56:AU:60[A]:LYS:NZ	2.23	0.70
17:P:78:SER:HG	17:P:128:SER:HG	1.37	0.70
17:P:167:LYS:NZ	17:P:204:TYR:O	2.18	0.70
20:S:19:LEU:HD11	20:S:108:ARG:HD2	1.74	0.70
29:BA:137:TYR:O	29:BA:139:GLN:NE2	2.24	0.70
42:BQ:1976:G:H8	74:AI:60:GLY:HA2	1.57	0.70
34:2:487:G:C2	34:2:501:U:C2	2.80	0.70
42:BQ:3070:A:OP1	58:BF:62:ARG:NH2	2.25	0.70
48:BM:66:THR:OG1	48:BM:138:GLN:NE2	2.25	0.70
20:S:30:ARG:NH1	34:2:298:C:O2'	2.24	0.69
34:2:129:U:O3'	34:2:131:C:N4	2.24	0.69
34:2:322:G:O2'	34:2:323:A:OP2	2.09	0.69
34:2:541:A:O2'	34:2:542:A:OP1	2.09	0.69
34:2:1213:G:O2'	34:2:1244:A:N7	2.25	0.69
42:BQ:2050:C:OP1	74:AI:36:LYS:HD3	1.92	0.69
22:U:97:ARG:NH1	34:2:856:A:OP1	2.25	0.69
34:2:227:U:C4	34:2:235:G:O6	2.45	0.69
42:BQ:3026:G:OP1	50:AD:174:LYS:NZ	2.23	0.69
44:BS:55:U:O4	44:BS:62:C:N3	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:69:LYS:NZ	34:2:1368:G:OP1	2.24	0.69
34:2:1673:G:O6	34:2:1728:A:N1	2.26	0.69
47:BI:53:VAL:HG21	47:BI:159:VAL:HG23	1.72	0.69
15:N:123:ASN:CB	15:N:144:CYS:SG	2.80	0.69
34:2:1754:A:O2'	37:c:60:GLU:OE2	2.09	0.69
42:BQ:542:G:N1	42:BQ:550:A:C6	2.60	0.69
50:AD:133:THR:OG1	50:AD:147:SER:OG	2.10	0.69
34:2:540:G:N2	34:2:542:A:H62	1.91	0.69
34:2:1430:U:O2'	34:2:1431:C:OP1	2.08	0.69
42:BQ:3215:A:HO2'	42:BQ:3259:U:H3	1.40	0.69
57:AX:118:GLN:NE2	57:AX:147:GLU:OE2	2.25	0.69
1:x:338:MET:HE3	42:BQ:1762:C:H6	1.49	0.69
43:BR:72:A:O2'	43:BR:74:C:OP1	2.11	0.69
14:M:14:TYR:OH	34:2:1553:G:O2'	2.07	0.69
29:BA:180:GLU:OE2	42:BQ:3002:C:O2'	2.10	0.69
34:2:188:A:N6	34:2:197:A:O2'	2.25	0.69
34:2:1594:G:OP2	34:2:1596:C:N4	2.25	0.69
52:AG:78:GLU:OE2	52:AG:82:ARG:NE	2.26	0.69
2:A:22:ASN:OD1	2:A:34:TYR:OH	2.11	0.69
5:D:96:GLN:NE2	5:D:99:GLU:OE2	2.26	0.69
6:E:102:PHE:O	6:E:104:GLN:NE2	2.25	0.69
9:H:142:GLY:O	9:H:145:ARG:NH2	2.26	0.69
19:R:198:THR:O	34:2:2:A:O2'	2.11	0.69
29:BA:216:ASP:OD2	29:BA:339:ARG:NH2	2.26	0.69
29:BA:222:LYS:NZ	42:BQ:3089:C:OP1	2.25	0.69
34:2:393:C:N4	34:2:401:A:OP2	2.26	0.69
34:2:1297:G:N2	34:2:1300:A:OP2	2.19	0.69
42:BQ:515:C:O5'	46:BE:343:LYS:NZ	2.25	0.69
42:BQ:1155:C:O2'	42:BQ:1197:A:N1	2.22	0.69
42:BQ:1562:C:O2'	42:BQ:1563:C:O4'	2.11	0.69
42:BQ:448:U:O2	42:BQ:488:U:O2'	2.10	0.69
16:O:108:SER:OG	16:O:128:ASP:N	2.26	0.69
16:O:265:LEU:O	16:O:268:GLN:NE2	2.26	0.69
20:S:100:ARG:NH2	20:S:121:TYR:O	2.26	0.69
23:V:146:ARG:NH2	34:2:185:U:O5'	2.26	0.69
34:2:487:G:N1	34:2:501:U:C2	2.62	0.69
34:2:853:G:OP2	58:BF:173:ARG:NE	2.26	0.69
42:BQ:150:A:OP1	55:AQ:56:LYS:NZ	2.26	0.69
20:S:11:ARG:NH2	20:S:21:ASP:O	2.25	0.68
42:BQ:2681:U:O2	52:AG:20:ASN:ND2	2.26	0.68
34:2:588:U:O2	41:g:57:ASN:ND2	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:524:U:OP1	54:AM:77:ARG:NH2	2.26	0.68
51:BD:138:VAL:HG21	51:BD:148:VAL:HG21	1.74	0.68
34:2:651:G:N1	34:2:684:A:C2	2.62	0.68
42:BQ:590:G:O2'	46:BE:309:ARG:NH1	2.26	0.68
61:BL:10:LYS:O	61:BL:68:THR:OG1	2.10	0.68
20:S:98:ASN:ND2	20:S:116:ASP:OD1	2.27	0.68
23:V:187:GLU:OE2	25:X:21:ASN:ND2	2.26	0.68
34:2:225:A:N6	34:2:837:G:C2	2.62	0.68
7:F:94:GLN:NE2	16:O:60:SER:O	2.26	0.68
26:Y:86:GLU:OE2	34:2:961:U:O2'	2.10	0.68
31:BB:2:GLY:N	42:BQ:1159:A:OP1	2.27	0.68
42:BQ:804:C:OP1	46:BE:98:ARG:NH1	2.26	0.68
70:BK:39:GLN:OE1	70:BK:39:GLN:N	2.25	0.68
20:S:27:TYR:O	34:2:447:U:O2'	2.11	0.68
34:2:57:G:OP2	38:d:116:LYS:NZ	2.26	0.68
34:2:1558:U:OP2	34:2:1559:A:O2'	2.04	0.68
42:BQ:520:U:O4	46:BE:349:THR:OG1	2.12	0.68
42:BQ:2154:U:OP1	45:AW:242:ARG:NH1	2.27	0.68
42:BQ:2965:U:O2	45:AW:221:LYS:NZ	2.15	0.68
68:AY:22:LYS:NZ	68:AY:94:GLU:OE2	2.26	0.68
19:R:222:TYR:OH	35:a:11:LEU:O	2.07	0.68
34:2:655:G:N2	34:2:678:A:C6	2.61	0.68
42:BQ:1222:G:N2	42:BQ:1285:G:O2'	2.24	0.68
66:AR:96:LYS:NZ	66:AR:142:GLY:O	2.26	0.68
10:I:133:ASP:OD2	34:2:1358:G:O2'	2.08	0.68
34:2:226:A:O2'	34:2:228:G:OP2	2.10	0.68
64:AK:20:PHE:O	64:AK:27:ARG:NH2	2.27	0.68
69:BG:98:HIS:O	69:BG:125:ARG:NH2	2.26	0.68
10:I:60:SER:OG	34:2:1480:G:OP1	2.11	0.68
19:R:63:VAL:HG21	19:R:69:ILE:HD11	1.76	0.68
28:AA:171:LYS:NZ	28:AA:223:ALA:O	2.27	0.68
31:BB:39:ARG:NH1	42:BQ:1348:U:OP1	2.26	0.68
79:AT:75:ALA:O	79:AT:78:THR:OG1	2.11	0.68
1:x:341:PRO:HD3	42:BQ:1762:C:H4'	1.76	0.68
16:O:48:THR:OG1	16:O:50:ASP:OD2	2.08	0.68
42:BQ:1003:A:N1	42:BQ:1049:C:O2'	2.26	0.68
52:AG:141:ARG:NH2	52:AG:144:CYS:O	2.27	0.68
34:2:1202:A:O2'	34:2:1204:A:OP2	2.11	0.67
1:x:338:MET:CE	42:BQ:1762:C:H5	1.93	0.67
1:x:384:GLN:CD	42:BQ:2000:U:H5'	2.17	0.67
12:K:96:SER:OG	12:K:97:LYS:NZ	2.20	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:255:ARG:NH1	34:2:786:C:O4'	2.27	0.67
29:BA:142:ALA:O	29:BA:146:ARG:NH1	2.27	0.67
30:AB:104:ASN:OD1	30:AB:108:GLU:N	2.27	0.67
34:2:1542:G:H1	34:2:1568:C:HO2'	1.38	0.67
36:b:3:ARG:NH1	36:b:9:ASP:OD2	2.27	0.67
42:BQ:449:U:O2'	42:BQ:450:G:N2	2.28	0.67
42:BQ:3199:G:OP1	50:AD:21:LYS:NZ	2.27	0.67
35:a:15:ARG:NH1	35:a:33:GLN:OE1	2.27	0.67
15:N:146:SER:OG	34:2:1234:A:O2'	2.07	0.67
42:BQ:2843:U:OP2	42:BQ:2844:C:N4	2.25	0.67
46:BE:11:LEU:HD21	46:BE:156:LEU:HB2	1.75	0.67
17:P:79:ARG:O	17:P:83:GLN:NE2	2.27	0.67
42:BQ:173:G:C6	42:BQ:246:U:O2	2.48	0.67
42:BQ:2375:G:O2'	42:BQ:2377:G:OP2	2.10	0.67
42:BQ:2896:A:O2'	76:AO:122:ARG:NH2	2.28	0.67
10:I:78:LYS:NZ	34:2:1522:U:O3'	2.27	0.67
21:T:47:GLY:O	21:T:115:LYS:NZ	2.26	0.67
42:BQ:1055:A:N3	43:BR:81:U:O2'	2.27	0.67
17:P:78:SER:OG	17:P:128:SER:OG	2.08	0.67
34:2:518:A:N1	34:2:533:U:C4	2.62	0.67
6:E:118:GLU:OE2	34:2:1557:U:O2'	2.11	0.67
29:BA:126:LYS:NZ	42:BQ:3294:A:OP2	2.27	0.67
42:BQ:1244:A:N6	42:BQ:1271:A:OP1	2.27	0.67
42:BQ:1712:G:O6	68:AY:28:LYS:NZ	2.27	0.67
49:BO:186:HIS:O	49:BO:190:THR:OG1	2.10	0.67
64:AK:5:SER:OG	64:AK:7:ASP:OD1	2.10	0.67
12:K:35:ARG:O	12:K:37:GLN:NE2	2.28	0.67
18:Q:159:SER:OG	18:Q:162:ARG:NH2	2.28	0.67
34:2:139:C:O2'	34:2:177:U:O2	2.07	0.67
42:BQ:3273:A:OP2	48:BM:77:ARG:NH2	2.28	0.67
51:BD:56:GLU:OE1	51:BD:162:GLN:N	2.28	0.67
6:E:18:ARG:NH1	9:H:90:ASN:O	2.28	0.66
40:f:34:ASP:OD1	40:f:82:LYS:NZ	2.28	0.66
42:BQ:1825:G:OP1	74:AI:48:SER:OG	2.13	0.66
42:BQ:1949:G:OP2	58:BF:135:LYS:NZ	2.26	0.66
42:BQ:2564:G:OP2	65:AN:55:LYS:NZ	2.28	0.66
42:BQ:3184:A:N3	42:BQ:3187:A:O2'	2.28	0.66
34:2:1226:A:HO2'	34:2:1227:A:P	2.18	0.66
42:BQ:1364:C:OP1	49:BO:110:ARG:NH2	2.28	0.66
42:BQ:2452:G:O6	42:BQ:2493:U:C4	2.48	0.66
43:BR:6:C:O2'	47:BI:50:ARG:NH2	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BS:53:A:O2'	75:AL:40:LYS:NZ	2.28	0.66
1:x:339:THR:O	42:BQ:1762:C:O4'	2.14	0.66
34:2:1466:G:O2'	34:2:1602:C:OP1	2.13	0.66
19:R:52:THR:OG1	19:R:54:GLU:OE2	2.14	0.66
34:2:43:A:O2'	34:2:99:C:OP1	2.09	0.66
34:2:523:G:O2'	34:2:529:A:N6	2.28	0.66
42:BQ:208:C:OP2	46:BE:163:LYS:NZ	2.28	0.66
50:AD:47:LYS:NZ	54:AM:5:SER:O	2.20	0.66
51:BD:209:ASN:O	51:BD:212:GLU:C	2.38	0.66
18:Q:195:LYS:O	18:Q:199:ASN:ND2	2.28	0.66
34:2:415:C:O2	34:2:418:G:C6	2.49	0.66
47:BI:50:ARG:NH2	47:BI:72:ASP:OD2	2.28	0.66
34:2:220:A:OP2	34:2:831:U:O2'	2.13	0.66
34:2:1218:G:O4'	34:2:1444:A:N6	2.29	0.66
42:BQ:1833:G:O2'	75:AL:3:ALA:O	2.14	0.66
42:BQ:1975:C:C2	74:AI:60:GLY:CA	2.79	0.66
42:BQ:2158:A:OP2	45:AW:156:LYS:NZ	2.29	0.66
1:x:80:PRO:CG	42:BQ:1760:A:P	2.83	0.66
51:BD:105:CYS:SG	51:BD:106:ALA:N	2.69	0.66
16:O:224:ASN:O	16:O:228:LYS:N	2.28	0.66
20:S:3:ARG:NH1	34:2:402:C:OP1	2.29	0.66
29:BA:153:LYS:NZ	42:BQ:3241:G:OP2	2.28	0.66
31:BB:178:ARG:NH2	42:BQ:780:A:OP1	2.28	0.66
42:BQ:2631:U:OP2	60:BJ:4:SER:OG	2.13	0.66
57:AX:56:ARG:NH1	57:AX:75:GLU:OE2	2.28	0.66
1:x:82:PHE:CG	42:BQ:1761:C:C3'	2.41	0.66
10:I:65:ILE:O	10:I:68:ARG:C	2.39	0.66
23:V:7:SER:O	23:V:18:ARG:NH1	2.29	0.66
42:BQ:3200:G:OP2	54:AM:8:LYS:NZ	2.26	0.66
47:BI:91:GLY:O	47:BI:94:ASN:ND2	2.29	0.66
48:BM:56:LYS:NZ	48:BM:101:PHE:O	2.28	0.66
11:J:74:GLU:OE2	34:2:1189:A:O2'	2.08	0.66
32:AC:68:ARG:NH1	42:BQ:2218:G:OP1	2.29	0.66
42:BQ:2945:G:O2'	42:BQ:2948:C:OP2	2.11	0.66
42:BQ:3291:G:C6	42:BQ:3292:A:N6	2.64	0.66
65:AN:11:ALA:HB2	65:AN:25:ILE:HD11	1.77	0.66
26:Y:76:LYS:NZ	34:2:859:A:N1	2.43	0.65
38:d:38:ASP:O	38:d:52:LYS:NZ	2.29	0.65
42:BQ:542:G:O6	42:BQ:550:A:N6	2.29	0.65
46:BE:77:VAL:O	46:BE:86:GLY:N	2.29	0.65
23:V:5:ARG:NH2	34:2:334:G:O6	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BA:244:ARG:NH2	42:BQ:2948:C:OP1	2.28	0.65
51:BD:101:LYS:NZ	51:BD:102:MET:O	2.20	0.65
54:AM:19:ARG:NH2	54:AM:66:THR:O	2.29	0.65
74:AI:32:ASN:OD1	74:AI:33:LYS:N	2.29	0.65
79:AT:38:ASP:OD1	79:AT:45:LYS:NZ	2.30	0.65
10:I:129:GLN:NE2	34:2:1357:A:N3	2.45	0.65
22:U:107:ARG:NH1	34:2:742:U:O2'	2.29	0.65
34:2:623:A:O2'	34:2:624:G:OP1	2.10	0.65
34:2:868:G:O6	34:2:960:U:O4	2.13	0.65
43:BR:1:G:O6	47:BI:262:LYS:NZ	2.17	0.65
60:BJ:71:SER:OG	60:BJ:91:LEU:O	2.08	0.65
34:2:1521:G:C8	34:2:1523:G:N2	2.64	0.65
42:BQ:2703:A:N6	47:BI:28:THR:O	2.26	0.65
55:AQ:23:GLN:NE2	55:AQ:122:ASN:OD1	2.29	0.65
78:AP:45:ARG:O	78:AP:48:SER:OG	2.13	0.65
3:B:133:VAL:HG23	3:B:198:LEU:HD22	1.78	0.65
42:BQ:117:U:O2'	42:BQ:119:U:OP2	2.08	0.65
1:x:384:GLN:NE2	42:BQ:1999:C:H4'	2.11	0.65
18:Q:216:LYS:NZ	34:2:886:U:OP2	2.30	0.65
22:U:49:ILE:O	22:U:57:ALA:N	2.28	0.65
34:2:1304:G:OP2	34:2:1305:U:O2'	2.07	0.65
42:BQ:1156:C:OP2	49:BO:94:LYS:NZ	2.29	0.65
42:BQ:1686:U:OP1	61:BL:42:LYS:NZ	2.18	0.65
16:O:91:LEU:O	16:O:100:TYR:N	2.30	0.65
34:2:217:A:N1	34:2:844:A:O2'	2.24	0.65
40:f:45:THR:OG1	40:f:82:LYS:NZ	2.30	0.65
42:BQ:2045:G:H2'	42:BQ:2046:U:C6	2.32	0.65
44:BS:126:A:O2'	44:BS:128:U:OP2	2.10	0.65
4:C:23:ALA:O	4:C:63:TYR:C	2.40	0.65
6:E:57:MET:SD	6:E:61:ARG:NH2	2.70	0.65
12:K:85:LYS:NZ	12:K:86:GLU:OE1	2.30	0.65
21:T:188:ARG:NH1	34:2:284:G:N7	2.45	0.65
26:Y:124:ARG:NH1	34:2:628:G:OP1	2.29	0.65
29:BA:205:VAL:HA	29:BA:208:VAL:HG12	1.79	0.65
47:BI:39:GLN:OE1	47:BI:40:HIS:N	2.30	0.65
3:B:102:ARG:O	3:B:106:LYS:NZ	2.20	0.65
36:b:80:ASN:OD1	36:b:124:LYS:NZ	2.28	0.65
42:BQ:992:A:H61	42:BQ:1057:A:H61	1.45	0.65
42:BQ:2085:U:H2'	42:BQ:2086:A:C8	2.31	0.65
42:BQ:2899:C:O2'	42:BQ:2901:G:OP2	2.07	0.65
48:BM:40:LEU:HD11	48:BM:54:TYR:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:444:C:O5'	38:d:105:ARG:NH1	2.30	0.64
35:a:17:CYS:SG	35:a:18:SER:N	2.69	0.64
43:BR:85:G:O2'	49:BO:221:LYS:NZ	2.29	0.64
6:E:18:ARG:N	9:H:92:ILE:O	2.29	0.64
7:F:31:VAL:HG12	7:F:32:ASN:HD22	1.62	0.64
34:2:58:U:O2'	34:2:451:A:N3	2.29	0.64
34:2:1114:G:O2'	34:2:1130:G:O6	2.14	0.64
1:x:82:PHE:CD1	42:BQ:1761:C:C2'	2.79	0.64
11:J:100:VAL:O	11:J:104:THR:HG23	1.98	0.64
28:AA:90:THR:HG22	28:AA:214:LEU:HD21	1.80	0.64
34:2:434:G:N1	34:2:437:A:OP2	2.30	0.64
42:BQ:535:G:OP1	59:BH:146:LYS:NZ	2.22	0.64
46:BE:188:ARG:NE	46:BE:197:ARG:O	2.27	0.64
20:S:70:VAL:CG2	20:S:90:ILE:HD11	2.28	0.64
20:S:140:VAL:HG12	20:S:146:THR:HG22	1.78	0.64
21:T:159:ARG:NH1	34:2:78:A:O3'	2.30	0.64
34:2:1496:U:HO2'	34:2:1519:U:HO2'	1.40	0.64
42:BQ:1190:A:O2'	42:BQ:1193:A:OP2	2.10	0.64
2:A:61:GLU:OE2	2:A:64:ARG:NH1	2.31	0.64
18:Q:122:GLU:OE2	18:Q:213:ARG:NH2	2.30	0.64
34:2:1229:G:H21	34:2:1256:A:N6	1.95	0.64
46:BE:237:GLN:O	46:BE:246:ARG:NH1	2.31	0.64
28:AA:183:LYS:NZ	42:BQ:147:U:O4	2.24	0.64
42:BQ:2549:G:N2	42:BQ:2549:G:OP2	2.31	0.64
61:BL:32:SER:OG	61:BL:83:TYR:OH	2.09	0.64
63:AH:76:VAL:HG12	63:AH:81:ILE:O	1.97	0.64
42:BQ:921:A:N6	42:BQ:1846:C:OP2	2.29	0.64
42:BQ:1186:G:O3'	59:BH:113:ARG:NH2	2.30	0.64
42:BQ:1684:U:OP1	61:BL:86:LYS:NZ	2.26	0.64
42:BQ:3369:G:OP2	62:AE:61:LYS:NZ	2.31	0.64
49:BO:156:ILE:HD12	49:BO:161:VAL:HG21	1.79	0.64
1:x:80:PRO:HG3	42:BQ:1760:A:P	2.38	0.64
1:x:341:PRO:CG	42:BQ:1762:C:H4'	2.28	0.64
3:B:67:PRO:O	3:B:68:ILE:HD13	1.97	0.64
3:B:81:ARG:NH2	34:2:1615:C:OP1	2.30	0.64
22:U:156:SER:OG	22:U:186:PRO:O	2.15	0.64
42:BQ:362:U:OP1	73:AF:45:ARG:NH1	2.31	0.64
11:J:22:ILE:HG22	11:J:118:VAL:HG22	1.79	0.64
42:BQ:649:A:OP2	42:BQ:2868:U:O2'	2.15	0.64
12:K:103:ARG:NH2	12:K:105:THR:OG1	2.31	0.63
19:R:173:PRO:O	19:R:176:SER:OG	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:10:ASN:ND2	21:T:127:THR:O	2.31	0.63
24:W:129:ILE:HD13	24:W:134:ILE:HG21	1.80	0.63
38:d:46:GLU:O	38:d:49:LYS:NZ	2.27	0.63
1:x:82:PHE:CD1	42:BQ:1761:C:O3'	2.50	0.63
7:F:90:VAL:HG22	7:F:105:LEU:HD23	1.79	0.63
18:Q:128:LYS:O	18:Q:177:GLN:NE2	2.31	0.63
34:2:1345:A:N6	34:2:1377:U:O2'	2.31	0.63
42:BQ:2046:U:H2'	42:BQ:2047:A:C4	2.32	0.63
42:BQ:2101:C:O2'	42:BQ:2102:U:O5'	2.08	0.63
16:O:9:LEU:HD12	16:O:312:VAL:O	1.99	0.63
38:d:12:VAL:HG12	38:d:23:PHE:HB3	1.81	0.63
42:BQ:2101:C:O2'	42:BQ:2102:U:O4'	2.16	0.63
19:R:204:THR:OG1	34:2:5:U:OP2	2.10	0.63
63:AH:127:THR:OG1	63:AH:129:ASP:OD1	2.11	0.63
23:V:10:LYS:NZ	34:2:323:A:OP2	2.29	0.63
42:BQ:1976:G:H4'	74:AI:59:ALA:C	2.13	0.63
42:BQ:2714:G:OP2	78:AP:8:ARG:NH2	2.32	0.63
45:AW:118:GLU:OE2	45:AW:156:LYS:NZ	2.31	0.63
59:BH:131:LYS:NZ	59:BH:132:THR:O	2.20	0.63
20:S:13:ALA:O	20:S:39:ARG:NH1	2.31	0.63
34:2:59:C:O2'	34:2:60:U:O4'	2.16	0.63
44:BS:143:U:OP1	55:AQ:38:ARG:NH2	2.31	0.63
42:BQ:499:G:OP1	70:BK:48:ARG:NH2	2.32	0.63
45:AW:140:ASN:ND2	45:AW:142:ASP:O	2.31	0.63
58:BF:7:GLN:OE1	58:BF:7:GLN:N	2.31	0.63
42:BQ:2969:A:N7	45:AW:215:ASN:ND2	2.47	0.63
74:AI:11:PHE:O	74:AI:15:THR:HG23	1.99	0.63
2:A:191:ASP:OD2	2:A:194:LYS:N	2.31	0.63
24:W:86:LEU:HD21	24:W:90:LYS:O	1.99	0.63
34:2:222:A:OP2	34:2:833:U:O2'	2.11	0.63
42:BQ:1793:C:O2	45:AW:188:LYS:NZ	2.29	0.62
42:BQ:3020:U:OP2	42:BQ:3021:A:O2'	2.17	0.62
46:BE:26:PHE:CD1	46:BE:130:ALA:HB2	2.34	0.62
50:AD:133:THR:HG1	50:AD:147:SER:HG	1.41	0.62
71:BN:41:ARG:O	71:BN:43:LYS:NZ	2.32	0.62
73:AF:37:CYS:O	73:AF:44:THR:HA	1.99	0.62
12:K:80:LEU:HD22	12:K:101:TYR:CE1	2.35	0.62
42:BQ:1492:G:N7	75:AL:2:ALA:N	2.47	0.62
42:BQ:1721:U:OP2	58:BF:124:TYR:OH	2.15	0.62
28:AA:83:ASP:OD1	28:AA:86:THR:OG1	2.09	0.62
42:BQ:1382:G:OP2	46:BE:188:ARG:NH1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:AN:88:ASP:O	65:AN:121:ARG:NH1	2.33	0.62
1:x:82:PHE:CD2	42:BQ:1762:C:OP2	2.53	0.62
31:BB:145:ASN:ND2	42:BQ:746:A:OP1	2.32	0.62
42:BQ:2307:G:O2'	42:BQ:2310:U:OP2	2.16	0.62
53:AJ:37:ASN:O	53:AJ:41:THR:HG23	1.99	0.62
70:BK:49:ILE:HD11	70:BK:71:VAL:CG2	2.29	0.62
23:V:42:ARG:NH1	34:2:1677:C:OP1	2.33	0.62
34:2:540:G:N2	34:2:542:A:N6	2.47	0.62
42:BQ:2501:U:O2'	42:BQ:2502:A:OP1	2.15	0.62
11:J:80:GLU:OE1	14:M:44:ARG:NH1	2.32	0.62
23:V:153:GLU:OE2	23:V:156:VAL:HG13	2.00	0.62
34:2:487:G:C6	34:2:501:U:N3	2.67	0.62
42:BQ:1975:C:C2	74:AI:60:GLY:N	2.66	0.62
45:AW:150:LEU:O	45:AW:153:GLY:N	2.32	0.62
1:x:83:LYS:CB	42:BQ:1762:C:OP1	2.45	0.62
1:x:386:ILE:HG21	42:BQ:2024:G:N3	2.02	0.62
34:2:227:U:C4	34:2:235:G:C6	2.87	0.62
1:x:82:PHE:CG	42:BQ:1761:C:H3'	1.78	0.62
2:A:45:LYS:NZ	2:A:82:GLY:O	2.30	0.62
6:E:64:LYS:NZ	6:E:91:GLY:O	2.33	0.62
13:L:37:SER:O	39:e:51:ARG:NH2	2.33	0.62
26:Y:124:ARG:NH2	34:2:967:A:OP2	2.33	0.62
36:b:24:GLN:N	36:b:24:GLN:OE1	2.33	0.62
42:BQ:1564:U:O2	42:BQ:1576:G:C2	2.53	0.62
52:AG:32:ARG:O	52:AG:36:VAL:HG23	1.99	0.62
18:Q:111:ARG:NH2	34:2:930:A:N3	2.48	0.62
30:AB:4:ASN:ND2	30:AB:105:PRO:O	2.32	0.62
34:2:539:G:N3	34:2:540:G:N2	2.48	0.62
17:P:120:LEU:HD21	17:P:144:ILE:HD13	1.82	0.62
21:T:161:GLU:OE1	21:T:169:TYR:N	2.33	0.62
23:V:6:ASP:OD1	23:V:8:ARG:N	2.32	0.62
48:BM:35:VAL:O	48:BM:38:THR:OG1	2.09	0.62
24:W:149:ARG:NH2	34:2:765:G:N7	2.48	0.61
75:AL:2:ALA:O	75:AL:5:LYS:NZ	2.25	0.61
1:x:81:LYS:HE3	42:BQ:1760:A:H5''	1.82	0.61
10:I:102:ARG:NH2	34:2:1502:G:N7	2.47	0.61
24:W:132:ARG:NH2	34:2:532:U:OP1	2.32	0.61
26:Y:74:ILE:O	26:Y:78:ASN:ND2	2.33	0.61
29:BA:77:THR:HG21	29:BA:328:ILE:HG12	1.80	0.61
31:BB:72:LYS:NZ	42:BQ:720:A:OP1	2.31	0.61
34:2:512:A:C6	34:2:539:G:O6	2.54	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:x:341:PRO:CD	42:BQ:1762:C:H4'	2.29	0.61
3:B:143:ARG:NH1	13:L:57:MET:SD	2.73	0.61
9:H:91:ASP:OD1	9:H:95:GLY:N	2.33	0.61
42:BQ:938:C:OP2	66:AR:26:ARG:NH1	2.32	0.61
42:BQ:1481:A:OP2	42:BQ:1859:A:N6	2.32	0.61
49:BO:86:VAL:HG22	49:BO:136:TYR:HB3	1.82	0.61
55:AQ:8:GLU:OE2	55:AQ:50:ARG:NE	2.33	0.61
28:AA:105:LYS:NZ	42:BQ:123:A:OP1	2.23	0.61
34:2:278:U:O2	34:2:279:G:N1	2.33	0.61
42:BQ:383:G:N2	42:BQ:386:A:C8	2.68	0.61
44:BS:11:C:O3'	57:AX:3:ARG:NH1	2.33	0.61
47:BI:216:GLU:N	47:BI:216:GLU:OE1	2.34	0.61
23:V:137:LYS:NZ	34:2:195:G:N7	2.47	0.61
28:AA:47:SER:OG	42:BQ:2585:G:O6	2.10	0.61
33:BC:65:LYS:NZ	42:BQ:3058:U:O4	2.20	0.61
42:BQ:1315:U:OP2	56:AU:44[A]:SER:OG	2.09	0.61
51:BD:77:THR:HG22	51:BD:82:ARG:HA	1.82	0.61
53:AJ:107:GLU:OE1	53:AJ:107:GLU:N	2.34	0.61
67:AV:16:ALA:O	67:AV:20:GLY:CA	2.49	0.61
16:O:170:ILE:HD11	16:O:178:VAL:HG12	1.82	0.61
18:Q:87:ARG:NE	18:Q:89:ASP:OD1	2.34	0.61
1:x:82:PHE:CG	42:BQ:1762:C:OP2	2.54	0.61
20:S:70:VAL:HG22	20:S:90:ILE:HD11	1.83	0.61
34:2:1755:A:O2'	34:2:1756:A:O4'	2.14	0.61
42:BQ:105:C:O2'	42:BQ:684:G:O2'	2.19	0.61
42:BQ:733:G:HO2'	42:BQ:735:A:H62	1.49	0.61
42:BQ:1231:A:N6	42:BQ:1276:U:O5'	2.34	0.61
12:K:77:ARG:NH1	34:2:1533:C:OP2	2.33	0.61
16:O:24:ALA:O	16:O:33:LEU:HD12	2.01	0.61
42:BQ:424:G:O2'	69:BG:23:ASP:OD2	2.14	0.61
42:BQ:444:U:C4	42:BQ:491:A:C5	2.88	0.61
42:BQ:951:A:OP1	67:AV:18:ARG:NH2	2.34	0.61
42:BQ:1257:C:C4	42:BQ:1261:G:N2	2.68	0.61
64:AK:27:ARG:NH1	64:AK:76:LEU:O	2.34	0.61
7:F:83:GLN:NE2	7:F:115:THR:O	2.33	0.61
28:AA:29:SER:OG	42:BQ:2563:G:O2'	2.12	0.61
34:2:126:A:N6	34:2:292:U:C5	2.69	0.61
42:BQ:2617:U:O2'	51:BD:116:ARG:NH2	2.34	0.61
46:BE:345:GLU:OE1	46:BE:347:THR:OG1	2.17	0.61
18:Q:97:LEU:HD22	18:Q:232:HIS:CD2	2.36	0.61
22:U:27:LEU:O	22:U:30:SER:C	2.44	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:620:A:N3	34:2:1107:G:O2'	2.27	0.61
34:2:1000:C:N4	34:2:1003:A:OP2	2.33	0.61
42:BQ:283:G:OP1	78:AP:45:ARG:NH1	2.32	0.61
42:BQ:1976:G:C1'	74:AI:60:GLY:CA	2.78	0.61
42:BQ:2713:U:O2'	78:AP:8:ARG:NH1	2.33	0.61
21:T:23:ARG:NH1	21:T:39:GLU:O	2.34	0.60
34:2:1656:U:O2'	42:BQ:2292:U:O2'	2.18	0.60
37:c:96:VAL:HG12	37:c:127:VAL:HG21	1.83	0.60
42:BQ:2741:C:O2'	78:AP:20:HIS:ND1	2.28	0.60
54:AM:94:TRP:O	54:AM:97:SER:OG	2.14	0.60
55:AQ:67:ARG:NH2	55:AQ:127:TYR:OH	2.34	0.60
16:O:182:ASN:O	16:O:186:PHE:N	2.33	0.60
42:BQ:2901:G:O2'	42:BQ:3024:A:N1	2.32	0.60
60:BJ:80:VAL:HG21	60:BJ:85:LEU:HD12	1.82	0.60
42:BQ:1517:G:OP2	75:AL:41:ARG:NH2	2.34	0.60
42:BQ:2516:U:OP1	55:AQ:31:ARG:NH1	2.34	0.60
67:AV:56:ALA:O	67:AV:59:LYS:NZ	2.34	0.60
79:AT:53:GLY:HA3	79:AT:66:GLY:O	2.01	0.60
6:E:44:ARG:O	6:E:47:ARG:C	2.44	0.60
22:U:167:GLU:OE1	22:U:167:GLU:N	2.35	0.60
51:BD:207:GLU:N	51:BD:207:GLU:OE2	2.33	0.60
18:Q:82:ARG:NH2	18:Q:188:LEU:O	2.35	0.60
28:AA:240:ASN:ND2	42:BQ:2584:G:O2'	2.33	0.60
34:2:655:G:N3	34:2:678:A:N1	2.50	0.60
42:BQ:2722:U:O2'	60:BJ:88:ARG:O	2.19	0.60
62:AE:20:LEU:HD23	62:AE:21:PHE:N	2.17	0.60
34:2:816:G:C6	34:2:855:A:N1	2.69	0.60
34:2:1399:C:O2'	34:2:1400:A:O5'	2.18	0.60
42:BQ:1010:G:N2	51:BD:193:ASP:OD2	2.29	0.60
42:BQ:1976:G:C8	74:AI:60:GLY:CA	2.84	0.60
44:BS:52:A:H62	75:AL:27:ILE:HD13	1.67	0.60
3:B:73:THR:N	3:B:91:GLU:OE2	2.35	0.60
10:I:97:SER:OG	34:2:1504:G:OP1	2.14	0.60
21:T:157:VAL:HG11	34:2:78:A:C5'	2.32	0.60
42:BQ:2608:G:OP1	45:AW:2:GLY:N	2.34	0.60
47:BI:214:ASP:OD1	47:BI:215:ASP:N	2.35	0.60
48:BM:100:LYS:NZ	48:BM:137:ASP:OD1	2.28	0.60
22:U:161:GLN:O	22:U:165:LYS:NZ	2.26	0.60
26:Y:20:ARG:NH2	34:2:861:U:O3'	2.35	0.60
34:2:205:U:O2	34:2:263:C:N3	2.34	0.60
34:2:816:G:C6	34:2:855:A:C2	2.89	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:1596:C:O2'	34:2:1598:U:OP2	2.15	0.60
15:N:130:VAL:HG23	34:2:1253:U:H5''	1.82	0.60
25:X:96:LYS:NZ	34:2:374:U:OP1	2.32	0.60
34:2:223:U:O4	34:2:838:G:O6	2.20	0.60
34:2:396:G:N1	34:2:399:A:OP2	2.34	0.60
49:BO:77:VAL:O	60:BJ:138:SER:OG	2.13	0.60
16:O:222:LEU:O	16:O:231:MET:N	2.34	0.59
18:Q:8:ARG:NH2	34:2:911:U:OP2	2.35	0.59
25:X:93:TYR:OH	25:X:98:ASN:OD1	2.18	0.59
34:2:936:G:N7	39:e:15:ARG:NH2	2.50	0.59
42:BQ:1232:C:N4	42:BQ:1262:G:OP2	2.36	0.59
20:S:239:PRO:O	20:S:242:LYS:NZ	2.25	0.59
59:BH:87:THR:O	59:BH:88:HIS:ND1	2.36	0.59
63:AH:115:ARG:O	63:AH:118:GLY:N	2.35	0.59
4:C:26:ASP:O	4:C:39:ASN:ND2	2.35	0.59
15:N:106:TYR:O	15:N:117:LEU:N	2.35	0.59
34:2:538:A:O4'	34:2:543:C:N4	2.33	0.59
42:BQ:2043:U:O4	42:BQ:2045:G:N1	2.35	0.59
57:AX:172:GLN:NE2	70:BK:60:ARG:O	2.34	0.59
23:V:48:THR:OG1	23:V:52:ASN:O	2.12	0.59
28:AA:86:THR:O	28:AA:90:THR:HG23	2.02	0.59
42:BQ:1764:U:OP2	58:BF:43:LYS:NZ	2.21	0.59
6:E:67:ALA:HB1	6:E:71:GLU:O	2.02	0.59
47:BI:146:LEU:HD22	47:BI:163:LEU:CD1	2.32	0.59
16:O:16:HIS:O	16:O:308:ASN:ND2	2.35	0.59
20:S:194:THR:OG1	20:S:211:LYS:O	2.17	0.59
34:2:554:C:N4	34:2:571:G:O6	2.35	0.59
42:BQ:551:A:O2'	42:BQ:552:G:O4'	2.21	0.59
42:BQ:1277:C:O2'	42:BQ:1278:A:O5'	2.18	0.59
42:BQ:1993:G:O6	42:BQ:2028:U:O4	2.20	0.59
1:x:384:GLN:NE2	42:BQ:1999:C:C4'	2.66	0.59
38:d:83:LYS:HD3	38:d:96:LEU:HD23	1.84	0.59
67:AV:43:HIS:CE1	67:AV:47:LEU:HD11	2.38	0.59
19:R:206:THR:HG21	34:2:14:C:OP2	2.03	0.59
34:2:653:C:C5	34:2:681:U:O4	2.56	0.59
42:BQ:446:U:O2'	42:BQ:489:U:O2	2.21	0.59
42:BQ:3228:C:OP1	54:AM:137:LYS:NZ	2.36	0.59
46:BE:83:GLY:O	46:BE:87:GLN:NE2	2.36	0.59
47:BI:146:LEU:HD22	47:BI:163:LEU:HD12	1.83	0.59
51:BD:36:LEU:HD13	51:BD:87:LEU:HD22	1.85	0.59
3:B:164:PRO:O	3:B:168:VAL:HG23	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:92:ARG:O	34:2:405:C:O2'	2.20	0.59
34:2:540:G:C2	34:2:542:A:N6	2.70	0.59
42:BQ:148:G:OP2	55:AQ:4:TYR:OH	2.14	0.59
43:BR:6:C:OP2	47:BI:22:ARG:NH1	2.35	0.59
2:A:67:ASN:O	2:A:70:THR:OG1	2.21	0.59
10:I:130:ARG:NH1	34:2:1358:G:OP1	2.35	0.59
34:2:733:A:H1'	34:2:736:C:H41	1.67	0.59
52:AG:100:GLY:O	52:AG:159:THR:HG21	2.03	0.59
62:AE:46:PRO:HB3	62:AE:52:THR:HG21	1.85	0.59
65:AN:84:ARG:NH1	71:BN:97:GLU:OE1	2.36	0.59
4:C:64:TYR:OH	34:2:1435:G:O6	2.19	0.58
9:H:134:ARG:NE	34:2:1546:G:OP2	2.35	0.58
39:e:88:SER:N	39:e:91:ASP:OD1	2.36	0.58
42:BQ:1831:U:O2'	44:BS:114:G:OP1	2.16	0.58
42:BQ:2205:U:O4	42:BQ:2237:C:C4	2.56	0.58
25:X:8:GLN:NE2	25:X:14:GLN:O	2.36	0.58
34:2:687:G:O5'	36:b:118:ARG:NH1	2.36	0.58
42:BQ:494:G:N2	42:BQ:619:A:N1	2.51	0.58
42:BQ:600:G:O2'	42:BQ:602:A:N6	2.32	0.58
42:BQ:1761:C:O2'	42:BQ:1762:C:O3'	2.20	0.58
42:BQ:2004:U:O4	42:BQ:2017:G:O6	2.21	0.58
20:S:153:ASN:OD1	21:T:215:ARG:NH1	2.36	0.58
38:d:15:ASN:OD1	38:d:18:LEU:N	2.35	0.58
42:BQ:3022:G:O2'	42:BQ:3031:G:O6	2.19	0.58
42:BQ:3163:A:N1	42:BQ:3288:G:C6	2.71	0.58
59:BH:124:LEU:HD23	60:BJ:153:PRO:HB2	1.85	0.58
68:AY:77:LEU:HD23	68:AY:87:VAL:O	2.02	0.58
6:E:106:GLU:OE2	6:E:108:ARG:NE	2.37	0.58
8:G:105:GLN:OE1	8:G:105:GLN:N	2.36	0.58
19:R:35:TRP:NE1	19:R:65:GLU:OE1	2.36	0.58
42:BQ:451:U:O2'	42:BQ:486:A:N3	2.31	0.58
42:BQ:1986:U:H3	42:BQ:2035:G:H1	1.52	0.58
42:BQ:2245:C:O2'	45:AW:220:GLY:O	2.21	0.58
49:BO:121:LYS:NZ	49:BO:125:GLU:OE1	2.37	0.58
3:B:154:ALA:O	3:B:156:ARG:NH1	2.37	0.58
16:O:25:THR:HG22	16:O:33:LEU:HD13	1.85	0.58
23:V:138:ASN:OD1	23:V:141:ARG:NH2	2.37	0.58
45:AW:242:ARG:NH2	45:AW:243:THR:O	2.36	0.58
3:B:185:ARG:NH1	34:2:1572:G:O2'	2.37	0.58
5:D:33:ARG:NH2	5:D:99:GLU:O	2.37	0.58
15:N:133:ALA:HB3	15:N:140:TYR:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AA:191:ASN:O	28:AA:192:GLN:NE2	2.36	0.58
42:BQ:520:U:O2	46:BE:346:LYS:NZ	2.28	0.58
42:BQ:2196:C:O2'	42:BQ:2270:A:N3	2.30	0.58
49:BO:219:LYS:O	49:BO:221:LYS:N	2.37	0.58
55:AQ:73:ARG:NH1	55:AQ:86:ASN:O	2.37	0.58
7:F:123:ARG:NH2	34:2:1337:A:OP1	2.35	0.58
11:J:89:ARG:NH2	34:2:1383:G:OP1	2.35	0.58
18:Q:148:ASN:ND2	34:2:1054:U:O2	2.37	0.58
20:S:107:GLY:HA2	20:S:189:LEU:HD23	1.86	0.58
34:2:1206:U:OP2	34:2:1207:C:O2'	2.16	0.58
3:B:139:ASN:ND2	3:B:201:ALA:O	2.37	0.58
7:F:94:GLN:O	16:O:59:ARG:NH1	2.35	0.58
20:S:100:ARG:NH2	20:S:118:GLU:O	2.36	0.58
38:d:44:LEU:HA	38:d:47:VAL:HG12	1.85	0.58
42:BQ:560:G:OP1	54:AM:83:LYS:NZ	2.34	0.58
42:BQ:1361:U:O2	49:BO:159:GLN:NE2	2.37	0.58
46:BE:265:GLU:N	46:BE:265:GLU:OE1	2.35	0.58
49:BO:64:GLN:NE2	49:BO:68:ASP:OD1	2.35	0.58
34:2:818:C:N4	34:2:819:G:N7	2.52	0.58
34:2:1699:G:C6	34:2:1703:C:N3	2.72	0.58
42:BQ:1965:C:N4	42:BQ:2059:U:O2	2.36	0.58
42:BQ:3192:U:C4	42:BQ:3193:C:N4	2.72	0.58
19:R:139:ILE:HD12	19:R:218:ILE:HB	1.86	0.58
27:Z:19:ILE:HB	27:Z:83:ILE:HD13	1.86	0.58
34:2:1681:A:N6	34:2:1720:G:O2'	2.36	0.58
37:c:63:GLN:NE2	37:c:65:ASN:O	2.37	0.58
37:c:74:VAL:HG11	37:c:104:LEU:HD11	1.86	0.58
42:BQ:348:A:N3	42:BQ:352:A:O2'	2.36	0.58
17:P:134:LYS:O	17:P:137:SER:OG	2.19	0.57
37:c:57:LEU:HD22	41:g:4:VAL:CG1	2.34	0.57
51:BD:72:ALA:HB1	51:BD:76:MET:HE1	1.86	0.57
68:AY:39:SER:HA	68:AY:93:LEU:HD23	1.86	0.57
38:d:20:ARG:HD2	38:d:74:LEU:HD11	1.86	0.57
47:BI:85:ARG:NH2	47:BI:86:TYR:OH	2.37	0.57
75:AL:16:ALA:HB1	75:AL:42:ARG:HH21	1.69	0.57
13:L:19:THR:HG22	13:L:20:GLY:H	1.68	0.57
16:O:200:ASN:ND2	16:O:240:VAL:O	2.38	0.57
16:O:220:ILE:HD11	16:O:234:LEU:HD22	1.85	0.57
42:BQ:952:A:N3	42:BQ:1114:U:O2'	2.36	0.57
42:BQ:1959:G:O6	42:BQ:2082:U:O2	2.22	0.57
42:BQ:2452:G:N2	42:BQ:2494:A:C6	2.72	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:154:ASP:N	2:A:154:ASP:OD1	2.37	0.57
10:I:51:GLU:N	10:I:51:GLU:OE1	2.37	0.57
19:R:212:LYS:NZ	34:2:1298:U:O3'	2.37	0.57
31:BB:31:LYS:O	31:BB:34:THR:OG1	2.22	0.57
34:2:513:U:C2	34:2:538:A:N6	2.73	0.57
34:2:656:G:C6	34:2:679:U:O2	2.58	0.57
34:2:1471:A:O2'	34:2:1472:C:OP1	2.17	0.57
4:C:28:ASN:OD1	14:M:7:TRP:NE1	2.38	0.57
5:D:84:ASN:O	5:D:86:VAL:HG23	2.04	0.57
8:G:117:LEU:HD11	17:P:11:PRO:O	2.03	0.57
15:N:123:ASN:CG	15:N:144:CYS:SG	2.88	0.57
17:P:120:LEU:HD21	17:P:144:ILE:CD1	2.35	0.57
20:S:104:ASP:OD1	20:S:108:ARG:N	2.37	0.57
42:BQ:1976:G:P	74:AI:64:LYS:HG3	2.44	0.57
42:BQ:2568:C:O2'	42:BQ:2569:A:O4'	2.19	0.57
60:BJ:9:SER:O	60:BJ:11:THR:HG23	2.04	0.57
1:x:339:THR:O	42:BQ:1762:C:C2	2.58	0.57
34:2:458:G:OP1	38:d:109:LYS:NZ	2.25	0.57
42:BQ:340:C:OP2	46:BE:195:ARG:NH2	2.38	0.57
42:BQ:2717:U:O3'	78:AP:13:LYS:NZ	2.37	0.57
25:X:88:ARG:NH1	34:2:305:C:O3'	2.37	0.57
34:2:232:U:C2	34:2:234:G:O6	2.58	0.57
3:B:112:ARG:NH2	34:2:1529:C:OP1	2.38	0.57
17:P:30:GLN:OE1	17:P:31:VAL:N	2.37	0.57
20:S:45:ILE:HD12	20:S:61:VAL:HG21	1.86	0.57
20:S:64:ILE:HD11	38:d:18:LEU:CD1	2.35	0.57
23:V:5:ARG:NH1	23:V:29:LEU:O	2.36	0.57
30:AB:68:GLU:OE1	30:AB:68:GLU:N	2.38	0.57
32:AC:29:LYS:NZ	42:BQ:264:G:O6	2.37	0.57
38:d:51:GLU:OE1	38:d:53:ASP:N	2.35	0.57
34:2:540:G:C2	34:2:542:A:C6	2.93	0.57
42:BQ:1412:G:OP1	69:BG:105:ARG:NH2	2.37	0.57
50:AD:173:ARG:NH1	76:AO:125:LYS:O	2.36	0.57
54:AM:21:VAL:HG12	54:AM:65:LEU:HD23	1.86	0.57
56:AU:178[A]:VAL:O	56:AU:182[A]:ASN:ND2	2.38	0.57
68:AY:25:LEU:O	68:AY:29:SER:OG	2.22	0.57
17:P:175:TYR:OH	17:P:197:ILE:O	2.12	0.57
22:U:135:ILE:HD11	22:U:138:LYS:HD3	1.86	0.57
29:BA:10:ARG:NH1	29:BA:14:LEU:HD21	2.20	0.57
34:2:1229:G:N2	34:2:1256:A:H62	2.02	0.57
36:b:75:ILE:N	36:b:126:LEU:O	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:440:A:OP1	42:BQ:493:U:O2'	2.18	0.57
3:B:158:GLN:NE2	3:B:159:ALA:O	2.36	0.56
16:O:70:ASP:OD1	16:O:83:ALA:HB3	2.05	0.56
16:O:182:ASN:N	16:O:189:GLU:OE1	2.37	0.56
23:V:89:GLU:O	23:V:93:THR:HG22	2.04	0.56
34:2:368:U:O2	34:2:373:G:O6	2.22	0.56
34:2:479:C:C2	34:2:510:G:N2	2.73	0.56
42:BQ:339:C:OP1	46:BE:195:ARG:NH1	2.37	0.56
42:BQ:1152:G:OP2	42:BQ:1152:G:N2	2.29	0.56
42:BQ:3267:A:OP1	42:BQ:3268:A:N6	2.38	0.56
44:BS:71:A:N1	44:BS:82:U:O2'	2.38	0.56
1:x:80:PRO:HG2	42:BQ:1760:A:C4'	2.35	0.56
5:D:36:LEU:HD11	5:D:41:LEU:HD22	1.86	0.56
16:O:29:GLN:NE2	16:O:76:ASP:O	2.38	0.56
22:U:112:ARG:NH1	22:U:117:THR:OG1	2.37	0.56
34:2:1665:U:O2	34:2:1736:G:O6	2.23	0.56
42:BQ:1564:U:C2	42:BQ:1576:G:N1	2.72	0.56
42:BQ:2365:C:O2'	56:AU:68[A]:ARG:NH2	2.38	0.56
42:BQ:2768:U:O2	78:AP:82:GLN:NE2	2.38	0.56
42:BQ:3181:C:OP2	56:AU:171[A]:LYS:NZ	2.18	0.56
6:E:30:THR:O	6:E:34:VAL:HG23	2.06	0.56
6:E:44:ARG:O	6:E:47:ARG:O	2.23	0.56
18:Q:3:VAL:HG13	27:Z:48:VAL:O	2.05	0.56
22:U:51:VAL:HG12	22:U:55:LYS:O	2.06	0.56
31:BB:44:PHE:CD1	31:BB:139:ILE:HD11	2.39	0.56
34:2:276:C:H41	62:AE:118:ALA:HB3	1.70	0.56
42:BQ:726:G:N1	42:BQ:743:C:OP2	2.37	0.56
42:BQ:2335:G:N2	42:BQ:2339:C:O2	2.37	0.56
42:BQ:3172:A:O2'	56:AU:101[A]:ARG:NH2	2.39	0.56
52:AG:17:LEU:HD12	52:AG:128:TYR:O	2.05	0.56
54:AM:41:GLN:NE2	54:AM:41:GLN:O	2.37	0.56
61:BL:43:VAL:HG22	61:BL:44:GLU:OE1	2.04	0.56
18:Q:127:VAL:CG1	18:Q:176:VAL:HG11	2.35	0.56
28:AA:26:LEU:HD21	65:AN:123:GLN:HA	1.87	0.56
29:BA:307:PRO:HA	29:BA:361:THR:HG22	1.86	0.56
34:2:487:G:N1	34:2:501:U:N3	2.54	0.56
42:BQ:1100:U:OP2	49:BO:196:LYS:NZ	2.34	0.56
47:BI:90:HIS:NE2	47:BI:229:ASP:OD2	2.38	0.56
8:G:100:LEU:O	8:G:120:SER:N	2.39	0.56
9:H:91:ASP:OD1	9:H:96:LYS:N	2.38	0.56
17:P:83:GLN:O	17:P:87:LEU:HD23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:46:ILE:HD13	22:U:60:ILE:HG13	1.87	0.56
28:AA:206:GLU:OE1	28:AA:206:GLU:N	2.36	0.56
42:BQ:1293:U:O2'	59:BH:88:HIS:NE2	2.39	0.56
42:BQ:3153:U:HO2'	42:BQ:3154:C:C4'	2.16	0.56
28:AA:150:LEU:HD13	28:AA:215:VAL:HG12	1.88	0.56
36:b:15:ASN:ND2	36:b:72:CYS:O	2.38	0.56
42:BQ:215:G:OP1	64:AK:12:ARG:NH1	2.39	0.56
42:BQ:1271:A:O2'	42:BQ:1272:C:OP1	2.16	0.56
42:BQ:2007:G:N2	42:BQ:2014:U:O2	2.27	0.56
52:AG:133:ARG:NH1	52:AG:153:LYS:O	2.38	0.56
53:AJ:70:ARG:NH1	53:AJ:71:ALA:O	2.37	0.56
74:AI:45:VAL:O	74:AI:51:LEU:HD12	2.06	0.56
11:J:85:ARG:NH2	34:2:1334:U:O2'	2.38	0.56
16:O:258:THR:HG22	16:O:275:ARG:HD3	1.88	0.56
17:P:33:GLN:NE2	35:a:64:GLU:OE2	2.39	0.56
18:Q:125:VAL:CG2	18:Q:172:LEU:HD12	2.35	0.56
28:AA:48:ARG:NH2	42:BQ:2588:U:OP1	2.38	0.56
28:AA:123:GLN:O	42:BQ:120:G:N2	2.39	0.56
28:AA:184:ALA:O	28:AA:188:THR:HG23	2.06	0.56
29:BA:221:THR:O	29:BA:272:TYR:N	2.39	0.56
42:BQ:1976:G:C1'	74:AI:59:ALA:C	2.78	0.56
80:BT:203:SER:O	80:BT:205:VAL:N	2.38	0.56
1:x:81:LYS:CE	42:BQ:1759:C:C2	2.78	0.56
21:T:58:LYS:NZ	21:T:106:LEU:O	2.38	0.56
24:W:79:ARG:NH2	34:2:762:A:OP1	2.39	0.56
34:2:864:U:O4	36:b:60:LYS:NZ	2.23	0.56
42:BQ:398:A:N7	57:AX:3:ARG:NH2	2.54	0.56
42:BQ:542:G:C6	42:BQ:550:A:N6	2.73	0.56
42:BQ:2666:C:OP2	42:BQ:2687:G:N1	2.38	0.56
42:BQ:2688:U:OP1	47:BI:12:TYR:OH	2.21	0.56
2:A:23:GLU:OE2	2:A:27:ARG:NE	2.39	0.56
16:O:131:ILE:HG23	16:O:144:LEU:HB2	1.87	0.56
26:Y:13:SER:OG	26:Y:14:SER:N	2.38	0.56
34:2:116:U:O2'	34:2:333:A:N3	2.38	0.56
34:2:126:A:N6	34:2:292:U:C4	2.74	0.56
42:BQ:515:C:O2'	46:BE:342:LYS:O	2.24	0.56
42:BQ:1956:A:H2'	42:BQ:1957:G:C8	2.41	0.56
43:BR:38:U:N3	43:BR:41:G:OP2	2.38	0.56
3:B:94:THR:HA	3:B:97:LEU:HD12	1.88	0.56
17:P:156:VAL:O	35:a:65:SER:OG	2.24	0.56
18:Q:82:ARG:NH1	18:Q:191:GLU:OE2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:13:GLN:NE2	34:2:151:G:N3	2.54	0.56
9:H:85:PHE:O	34:2:1565:C:O2'	2.15	0.55
16:O:175:ASP:OD2	16:O:179:LYS:NZ	2.39	0.55
17:P:7:PHE:O	17:P:54:TRP:NE1	2.38	0.55
25:X:33:ARG:NH2	25:X:51:GLY:O	2.39	0.55
29:BA:91:GLY:O	29:BA:102:LEU:HD23	2.06	0.55
34:2:1747:G:O2'	42:BQ:2303:A:O2'	2.24	0.55
35:a:74:GLN:OE1	35:a:82:VAL:N	2.39	0.55
42:BQ:610:G:N7	46:BE:309:ARG:NH2	2.54	0.55
42:BQ:1603:A:OP1	58:BF:38:ARG:NH2	2.37	0.55
55:AQ:9:GLU:OE2	55:AQ:13:LYS:NZ	2.40	0.55
73:AF:59:THR:HG22	73:AF:64:MET:HE3	1.86	0.55
1:x:384:GLN:NE2	42:BQ:1999:C:O2'	2.39	0.55
3:B:117:THR:HG21	3:B:194:LEU:HD23	1.88	0.55
6:E:67:ALA:HB2	6:E:73:PRO:HA	1.88	0.55
9:H:88:ARG:O	9:H:98:TYR:N	2.39	0.55
16:O:123:ILE:HG22	16:O:133:VAL:HG12	1.88	0.55
18:Q:107:THR:OG1	27:Z:117:ASP:O	2.25	0.55
18:Q:217:LEU:HD21	18:Q:220:GLN:HB3	1.88	0.55
20:S:87:MET:N	20:S:101:LEU:O	2.40	0.55
34:2:223:U:O4	34:2:838:G:C6	2.59	0.55
34:2:855:A:N6	34:2:857:U:C4	2.75	0.55
52:AG:50:ALA:HB3	52:AG:62:ASN:H	1.69	0.55
72:BP:8:GLU:O	72:BP:11:THR:OG1	2.23	0.55
6:E:97:TYR:OH	34:2:1211:A:N3	2.39	0.55
1:x:384:GLN:CD	42:BQ:1999:C:O2'	2.50	0.55
34:2:447:U:O2'	34:2:448:C:OP1	2.25	0.55
51:BD:62:SER:HA	51:BD:65:LEU:HD12	1.88	0.55
61:BL:80:THR:HG21	61:BL:95:PHE:HD2	1.70	0.55
63:AH:82:LEU:HD11	63:AH:135:ILE:HD11	1.89	0.55
76:AO:122:ARG:NH1	76:AO:123:PRO:O	2.39	0.55
12:K:83:LEU:HD12	12:K:88:ILE:CG2	2.35	0.55
16:O:123:ILE:HB	16:O:131:ILE:HD11	1.89	0.55
23:V:32:GLN:NE2	34:2:1727:G:N3	2.54	0.55
42:BQ:1497:C:O2'	42:BQ:1602:A:N3	2.29	0.55
71:BN:71:THR:OG1	71:BN:78:GLY:N	2.40	0.55
10:I:135:ILE:O	10:I:139:THR:HG23	2.06	0.55
17:P:63:ILE:CG1	35:a:36:VAL:HG22	2.37	0.55
20:S:65:LEU:HD13	20:S:70:VAL:HG11	1.88	0.55
20:S:71:LYS:O	20:S:90:ILE:HD12	2.06	0.55
22:U:181:ILE:HD12	22:U:183:PHE:HE1	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BA:56:ILE:O	29:BA:73:VAL:HG23	2.06	0.55
34:2:479:C:N3	34:2:510:G:N1	2.55	0.55
37:c:58:GLY:HA2	41:g:8:LEU:HD21	1.88	0.55
42:BQ:1874:A:N7	58:BF:20:ARG:NH1	2.54	0.55
62:AE:53:VAL:HG13	62:AE:54:LEU:HD22	1.89	0.55
2:A:215:GLU:N	2:A:215:GLU:OE1	2.40	0.55
34:2:224:C:O2'	34:2:225:A:OP1	2.25	0.55
34:2:629:U:OP2	34:2:969:C:N4	2.38	0.55
42:BQ:1750:A:OP1	74:AI:44:LYS:NZ	2.34	0.55
42:BQ:2701:U:OP1	60:BJ:23:GLY:N	2.39	0.55
46:BE:24:ALA:O	46:BE:27:SER:OG	2.18	0.55
68:AY:75:ASN:O	68:AY:79:THR:HG23	2.06	0.55
34:2:435:C:O3'	37:c:50:LYS:NZ	2.39	0.55
42:BQ:2553:U:C5	71:BN:95:ILE:HG22	2.41	0.55
66:AR:76:ASP:OD1	66:AR:76:ASP:N	2.37	0.55
68:AY:74:ASN:OD1	68:AY:75:ASN:N	2.39	0.55
79:AT:82:THR:OG1	79:AT:85:ARG:NH2	2.40	0.55
16:O:197:SER:OG	16:O:217:ASP:N	2.38	0.55
18:Q:77:GLU:O	18:Q:80:SER:OG	2.23	0.55
18:Q:158:SER:HA	18:Q:161:ILE:HD12	1.88	0.55
20:S:57:ASN:N	20:S:60:GLU:OE1	2.38	0.55
26:Y:112:LYS:NZ	34:2:974:A:O3'	2.32	0.55
27:Z:55:SER:O	27:Z:55:SER:OG	2.23	0.55
27:Z:112:ILE:O	39:e:58:VAL:HG22	2.06	0.55
34:2:779:U:N3	34:2:782:U:O4	2.38	0.55
34:2:1037:C:O2	36:b:16:ASN:ND2	2.39	0.55
38:d:29:HIS:O	38:d:67:GLY:HA2	2.07	0.55
44:BS:94:C:OP1	73:AF:76:ASN:ND2	2.40	0.55
46:BE:300:ARG:NH1	46:BE:301:PRO:O	2.38	0.55
64:AK:47:ALA:O	64:AK:122:LYS:NZ	2.40	0.55
70:BK:49:ILE:HD11	70:BK:71:VAL:HG22	1.88	0.55
74:AI:17:ARG:NE	74:AI:19:ASP:OD1	2.38	0.55
8:G:32:LYS:NZ	34:2:1388:A:OP2	2.40	0.55
16:O:128:ASP:OD1	16:O:130:THR:OG1	2.17	0.55
19:R:78:ASP:HB3	19:R:104:VAL:HG12	1.88	0.55
19:R:180:ALA:HB2	19:R:198:THR:CG2	2.37	0.55
21:T:177:ARG:NH1	34:2:143:G:N7	2.54	0.55
32:AC:51:SER:OG	55:AQ:15:GLN:OE1	2.25	0.55
34:2:428:A:N3	34:2:440:U:O2'	2.35	0.55
42:BQ:396:A:O2'	42:BQ:399:A:OP1	2.20	0.55
42:BQ:1170:A:O3'	49:BO:218:ARG:NH1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:AW:33:ASP:O	45:AW:37:ARG:NH1	2.40	0.55
1:x:82:PHE:CB	42:BQ:1761:C:H2'	1.86	0.54
19:R:95:ARG:NH2	34:2:1291:G:OP1	2.40	0.54
19:R:138:PRO:O	19:R:139:ILE:HD13	2.06	0.54
34:2:1204:A:OP1	34:2:1456:C:N4	2.40	0.54
79:AT:51:ALA:HB3	79:AT:54:ILE:HD12	1.89	0.54
9:H:126:ARG:HD2	9:H:131:LEU:HD12	1.89	0.54
10:I:65:ILE:HD13	10:I:71:VAL:HG22	1.88	0.54
34:2:539:G:O2'	34:2:540:G:OP2	2.17	0.54
34:2:862:A:O2'	34:2:963:A:N6	2.27	0.54
38:d:81:GLU:OE1	38:d:81:GLU:N	2.40	0.54
42:BQ:681:U:O4	46:BE:118:LYS:NZ	2.39	0.54
2:A:134:CYS:SG	2:A:135:GLU:N	2.80	0.54
5:D:42:ALA:O	5:D:48:SER:OG	2.21	0.54
5:D:64:SER:O	5:D:90:LYS:NZ	2.39	0.54
5:D:76:GLU:O	5:D:80:ASN:ND2	2.40	0.54
8:G:7:LYS:NZ	34:2:1316:G:OP2	2.39	0.54
10:I:6:VAL:HG21	10:I:132:LEU:HD21	1.88	0.54
22:U:61:PHE:HD1	22:U:93:LEU:HD22	1.73	0.54
25:X:24:LYS:O	25:X:26:LYS:NZ	2.38	0.54
34:2:782:U:OP2	38:d:21:LYS:NZ	2.38	0.54
42:BQ:679:U:O2'	42:BQ:788:C:O2	2.24	0.54
42:BQ:3019:U:O2	42:BQ:3035:A:N6	2.35	0.54
1:x:341:PRO:HD3	42:BQ:1762:C:C4'	2.36	0.54
10:I:5:SER:N	10:I:8:ASP:OD2	2.40	0.54
18:Q:172:LEU:O	18:Q:176:VAL:HG12	2.08	0.54
30:AB:39:VAL:O	42:BQ:2931:C:O2'	2.26	0.54
36:b:53:ILE:HD11	40:f:8:LEU:HD23	1.89	0.54
42:BQ:209:A:O2'	42:BQ:211:A:OP2	2.24	0.54
42:BQ:763:G:C6	42:BQ:769:G:C2	2.96	0.54
46:BE:129:THR:HG23	46:BE:246:ARG:O	2.08	0.54
52:AG:40:LEU:HD21	52:AG:79:ILE:HD12	1.88	0.54
5:D:108:ARG:O	5:D:110:GLY:N	2.40	0.54
15:N:130:VAL:HG21	15:N:143:LYS:HB2	1.89	0.54
20:S:72:VAL:N	20:S:75:LYS:O	2.41	0.54
34:2:680:U:O4	34:2:682:C:N4	2.41	0.54
42:BQ:68:C:N4	42:BQ:314:U:O2'	2.40	0.54
42:BQ:1951:C:O2	42:BQ:1951:C:H2'	2.08	0.54
48:BM:57:HIS:ND1	48:BM:58:LEU:O	2.40	0.54
3:B:196:GLU:O	3:B:200:ASN:ND2	2.40	0.54
17:P:125:ASP:OD1	17:P:128:SER:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:13:VAL:O	27:Z:77:THR:OG1	2.24	0.54
34:2:505:A:O2'	34:2:507:U:OP1	2.12	0.54
34:2:653:C:C4	34:2:681:U:O4	2.61	0.54
42:BQ:1206:G:OP1	51:BD:157:TYR:OH	2.12	0.54
42:BQ:3353:G:O2'	42:BQ:3354:U:O4'	2.15	0.54
12:K:62:VAL:O	12:K:66:VAL:HG23	2.07	0.54
34:2:748:U:O3'	36:b:122:SER:OG	2.25	0.54
42:BQ:2086:A:O2'	42:BQ:2087:C:OP1	2.23	0.54
47:BI:128:GLU:O	47:BI:164:LYS:NZ	2.23	0.54
51:BD:160:PRO:O	51:BD:163:GLN:NE2	2.41	0.54
22:U:96:ARG:O	34:2:694:U:N3	2.40	0.54
23:V:99:ALA:N	23:V:169:ILE:O	2.41	0.54
30:AB:12:ARG:NH1	42:BQ:3041:U:OP1	2.41	0.54
42:BQ:1488:G:O2'	71:BN:10:ARG:O	2.25	0.54
42:BQ:2555:G:N7	71:BN:95:ILE:HD11	2.23	0.54
44:BS:136:G:OP1	63:AH:48:SER:OG	2.17	0.54
46:BE:59:GLN:OE1	73:AF:55:ARG:NH2	2.40	0.54
1:x:21:TYR:CE1	1:x:99:TYR:CD2	2.96	0.54
34:2:651:G:C6	34:2:684:A:C6	2.96	0.54
34:2:1457:C:O2'	34:2:1458:G:O5'	2.21	0.54
42:BQ:1015:U:O2	42:BQ:1017:C:O2'	2.20	0.54
66:AR:89:GLN:N	66:AR:89:GLN:OE1	2.39	0.54
76:AO:109:ASN:ND2	76:AO:117:HIS:O	2.40	0.54
6:E:24:LYS:CB	6:E:28:MET:HE2	2.37	0.53
22:U:64:VAL:HG23	22:U:67:LEU:CB	2.38	0.53
33:BC:62:ARG:NH1	33:BC:68:GLU:OE1	2.39	0.53
42:BQ:67:A:O2'	42:BQ:315:C:O2	2.25	0.53
42:BQ:1135:A:OP1	67:AV:6:ASN:N	2.37	0.53
46:BE:155:ASP:OD1	46:BE:156:LEU:N	2.41	0.53
5:D:60:VAL:HG22	5:D:122:VAL:HG13	1.89	0.53
19:R:116:LYS:HG2	19:R:127:ALA:HB3	1.90	0.53
31:BB:44:PHE:HD1	31:BB:139:ILE:HD11	1.73	0.53
34:2:1186:U:OP2	34:2:1456:C:O2'	2.11	0.53
34:2:1272:U:O2	34:2:1438:G:O6	2.26	0.53
42:BQ:2553:U:C4	71:BN:95:ILE:HG22	2.43	0.53
42:BQ:3198:U:O2	50:AD:21:LYS:N	2.41	0.53
68:AY:12:GLN:OE1	68:AY:12:GLN:N	2.41	0.53
5:D:32:LEU:O	5:D:36:LEU:HD23	2.08	0.53
8:G:7:LYS:N	34:2:1316:G:OP1	2.41	0.53
18:Q:34:ALA:O	18:Q:232:HIS:NE2	2.40	0.53
20:S:72:VAL:HG22	20:S:90:ILE:HD13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:25:ARG:NH1	29:BA:298:PHE:O	2.40	0.53
24:W:151:ASP:O	24:W:155:HIS:ND1	2.40	0.53
29:BA:126:LYS:N	42:BQ:3295:A:OP2	2.41	0.53
34:2:487:G:C2	34:2:501:U:O2	2.61	0.53
34:2:933:A:H61	34:2:944:A:H61	1.57	0.53
42:BQ:1210:U:OP1	50:AD:62:ARG:NE	2.39	0.53
51:BD:54:SER:HB2	51:BD:135:ILE:HD11	1.89	0.53
51:BD:89:VAL:HG12	51:BD:136:PHE:CE1	2.44	0.53
65:AN:114:VAL:O	65:AN:118:PHE:N	2.41	0.53
68:AY:76:GLU:OE2	68:AY:76:GLU:N	2.41	0.53
1:x:80:PRO:HG3	42:BQ:1760:A:OP1	2.09	0.53
1:x:80:PRO:O	42:BQ:1760:A:O2'	2.23	0.53
23:V:70:GLU:OE1	23:V:70:GLU:N	2.41	0.53
28:AA:126:SER:O	42:BQ:120:G:N2	2.41	0.53
23:V:48:THR:OG1	23:V:51:GLY:O	2.27	0.53
29:BA:367:LYS:NZ	42:BQ:3086:A:OP1	2.42	0.53
34:2:518:A:C6	34:2:533:U:O4	2.62	0.53
34:2:656:G:O6	34:2:679:U:O2	2.25	0.53
42:BQ:1167:U:O2	49:BO:209:ASN:ND2	2.41	0.53
42:BQ:3258:U:O2'	42:BQ:3260:G:OP1	2.19	0.53
51:BD:71:CYS:SG	51:BD:72:ALA:N	2.81	0.53
59:BH:81:TYR:CE1	59:BH:90:MET:HE3	2.44	0.53
7:F:99:GLU:OE2	7:F:102:LYS:NZ	2.27	0.53
16:O:197:SER:OG	16:O:216:LYS:N	2.41	0.53
29:BA:60:LEU:HD12	29:BA:352:GLU:OE2	2.09	0.53
42:BQ:2085:U:H2'	42:BQ:2086:A:H8	1.72	0.53
76:AO:96:CYS:HA	76:AO:121:LEU:HD23	1.91	0.53
3:B:91:GLU:O	3:B:95:ASN:ND2	2.41	0.53
16:O:224:ASN:HB3	16:O:231:MET:HE3	1.91	0.53
16:O:270:LEU:HD21	16:O:273:ASP:HB2	1.89	0.53
22:U:99:LEU:HD13	22:U:116:ARG:HB3	1.91	0.53
23:V:158:SER:O	23:V:161:SER:OG	2.18	0.53
26:Y:88:LEU:HD22	26:Y:129:TYR:CD2	2.44	0.53
29:BA:2:SER:N	42:BQ:2940:A:OP2	2.42	0.53
34:2:540:G:N3	34:2:542:A:C5	2.77	0.53
34:2:575:C:N4	37:c:65:ASN:OD1	2.34	0.53
38:d:20:ARG:CD	38:d:74:LEU:HD11	2.39	0.53
42:BQ:242:C:O2'	42:BQ:243:G:OP2	2.26	0.53
48:BM:60:ASP:O	48:BM:62:THR:HG23	2.08	0.53
12:K:47:TYR:CZ	12:K:51:LEU:HD11	2.43	0.53
20:S:12:LEU:HD11	24:W:4:ALA:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Z:52:ARG:NH2	34:2:906:A:OP1	2.42	0.53
29:BA:10:ARG:HH11	29:BA:14:LEU:HD21	1.74	0.53
42:BQ:884:A:OP2	42:BQ:2139:A:N6	2.42	0.53
49:BO:88:ARG:O	49:BO:112:ASN:N	2.41	0.53
52:AG:91:LEU:HD12	52:AG:163:PHE:CE2	2.43	0.53
1:x:192:LEU:HD12	1:x:219:ASP:O	2.09	0.53
3:B:103:ASN:ND2	34:2:1473:U:O2'	2.41	0.53
8:G:36:ASP:OD1	8:G:37:GLU:N	2.42	0.53
37:c:58:GLY:N	41:g:4:VAL:O	2.37	0.53
42:BQ:1958:U:C2	42:BQ:2083:G:O6	2.62	0.53
71:BN:74:ARG:NH2	71:BN:82:ALA:HB2	2.24	0.53
16:O:246:SER:OG	16:O:248:ASN:OD1	2.27	0.53
17:P:108:THR:OG1	34:2:1294:G:O2'	2.25	0.53
20:S:19:LEU:HD12	20:S:51:ARG:HH22	1.74	0.53
21:T:132:ARG:O	34:2:68:A:N6	2.40	0.53
22:U:155:ASP:OD1	22:U:157:LYS:NZ	2.27	0.53
36:b:53:ILE:HD11	40:f:8:LEU:CD2	2.39	0.53
42:BQ:3216:G:OP1	48:BM:162:SER:N	2.42	0.53
55:AQ:155:VAL:O	55:AQ:162:ARG:NH2	2.40	0.53
16:O:74:THR:OG1	16:O:78:ALA:N	2.42	0.52
22:U:22:GLN:HA	22:U:25:VAL:HG22	1.91	0.52
26:Y:129:TYR:CB	26:Y:135:LEU:HD12	2.40	0.52
33:BC:105:GLN:OE1	42:BQ:3383:G:N2	2.32	0.52
42:BQ:2724:U:OP2	42:BQ:2726:C:N4	2.42	0.52
42:BQ:3153:U:OP2	42:BQ:3293:U:O2'	2.15	0.52
15:N:132:LEU:HD13	15:N:139:LEU:HD23	1.90	0.52
21:T:30:LYS:O	21:T:102:VAL:HG23	2.09	0.52
21:T:214:LYS:O	21:T:217:SER:OG	2.19	0.52
23:V:73:SER:OG	34:2:256:A:N3	2.21	0.52
34:2:452:A:O2'	34:2:453:U:O4'	2.26	0.52
34:2:815:G:O2'	58:BF:162:ARG:NH2	2.42	0.52
34:2:1488:G:O2'	34:2:1494:C:O2	2.11	0.52
34:2:1779:U:O4	77:AS:12:ARG:NH1	2.42	0.52
42:BQ:2724:U:OP2	60:BJ:87:LYS:NZ	2.26	0.52
67:AV:16:ALA:O	67:AV:20:GLY:HA3	2.09	0.52
9:H:26:ILE:HD11	9:H:31:ALA:HB2	1.90	0.52
28:AA:248:LYS:O	28:AA:252:ASN:ND2	2.43	0.52
34:2:225:A:N6	34:2:837:G:N1	2.56	0.52
34:2:998:A:N6	34:2:1004:U:OP2	2.43	0.52
34:2:1489:U:O2'	34:2:1492:A:N3	2.36	0.52
38:d:21:LYS:O	38:d:74:LEU:HD12	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BS:57:C:OP2	73:AF:68:LYS:NZ	2.42	0.52
65:AN:13:VAL:O	65:AN:20:GLY:N	2.42	0.52
7:F:50:GLU:OE1	7:F:82:ARG:NH2	2.43	0.52
19:R:68:ILE:O	19:R:71:THR:OG1	2.27	0.52
22:U:61:PHE:CD1	22:U:93:LEU:HD22	2.44	0.52
37:c:130:VAL:HG21	37:c:143:PRO:HD2	1.90	0.52
1:x:82:PHE:CG	42:BQ:1761:C:C2'	2.83	0.52
34:2:451:A:N6	34:2:453:U:O2	2.43	0.52
42:BQ:1257:C:N3	42:BQ:1261:G:N2	2.57	0.52
52:AG:40:LEU:HD21	52:AG:79:ILE:CD1	2.39	0.52
18:Q:115:ARG:O	18:Q:118:GLN:NE2	2.42	0.52
39:e:87:ARG:NH2	39:e:92:ARG:O	2.42	0.52
42:BQ:66:A:N6	42:BQ:75:G:N2	2.58	0.52
20:S:64:ILE:HD11	38:d:18:LEU:HD12	1.91	0.52
24:W:134:ILE:N	24:W:159:ALA:HB2	2.25	0.52
27:Z:50:ALA:HB3	27:Z:53:ASP:HB2	1.92	0.52
42:BQ:2093:A:H2'	42:BQ:2094:C:C6	2.44	0.52
18:Q:106:THR:OG1	18:Q:108:ASP:OD1	2.15	0.52
21:T:15:THR:HG23	34:2:152:U:O2'	2.10	0.52
21:T:31:ARG:HG2	21:T:101:ILE:HD13	1.91	0.52
40:f:34:ASP:OD2	40:f:80:ARG:NH1	2.43	0.52
8:G:44:LYS:NZ	34:2:1386:G:OP2	2.39	0.52
34:2:97:C:O2	34:2:425:A:O2'	2.27	0.52
34:2:655:G:N3	34:2:678:A:C6	2.77	0.52
35:a:9:VAL:HG22	35:a:10:GLU:H	1.75	0.52
42:BQ:1126:G:OP1	51:BD:98:ARG:NH2	2.43	0.52
44:BS:82:U:O2'	44:BS:83:C:OP1	2.27	0.52
46:BE:33:ASP:N	46:BE:33:ASP:OD1	2.43	0.52
76:AO:110:CYS:SG	76:AO:111:ARG:N	2.83	0.52
7:F:28:LEU:O	7:F:29:ILE:HD13	2.10	0.52
46:BE:219:LEU:HA	46:BE:222:VAL:HG22	1.92	0.52
47:BI:107:ARG:NH1	47:BI:120:LYS:O	2.43	0.52
55:AQ:56:LYS:NZ	55:AQ:145:ASP:OD2	2.43	0.52
69:BG:97:ALA:O	69:BG:105:ARG:NH2	2.43	0.52
23:V:4:SER:OG	23:V:6:ASP:OD2	2.28	0.51
29:BA:204:ALA:O	29:BA:207:SER:OG	2.24	0.51
29:BA:218:ILE:HD11	29:BA:339:ARG:NH1	2.25	0.51
30:AB:130:ALA:O	30:AB:133:SER:OG	2.29	0.51
34:2:1553:G:N1	34:2:1556:A:OP2	2.43	0.51
34:2:1582:U:O2'	34:2:1583:A:OP2	2.24	0.51
40:f:44:THR:HG21	40:f:63:LEU:HD13	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1219:C:O2'	42:BQ:1223:A:O4'	2.26	0.51
42:BQ:2695:A:HO2'	42:BQ:2696:A:P	2.33	0.51
42:BQ:2696:A:N7	42:BQ:2758:A:N6	2.58	0.51
49:BO:86:VAL:HG22	49:BO:136:TYR:CB	2.40	0.51
49:BO:232:ARG:NH1	49:BO:239:LEU:HD13	2.24	0.51
54:AM:72:LEU:HD12	54:AM:73:PRO:HD2	1.92	0.51
5:D:34:THR:HG21	5:D:128:ALA:HB2	1.91	0.51
12:K:48:ASP:HA	12:K:51:LEU:HD12	1.92	0.51
12:K:50:ILE:O	12:K:54:VAL:HG13	2.10	0.51
18:Q:108:ASP:OD1	18:Q:109:LYS:N	2.43	0.51
18:Q:146:GLN:NE2	34:2:1065:A:N3	2.58	0.51
27:Z:41:ARG:NH2	34:2:916:U:O4	2.43	0.51
30:AB:14:SER:O	30:AB:81:GLN:NE2	2.44	0.51
30:AB:108:GLU:N	30:AB:108:GLU:OE1	2.42	0.51
31:BB:66:ARG:NH2	42:BQ:744:A:OP1	2.43	0.51
42:BQ:999:G:N3	42:BQ:1002:A:N6	2.57	0.51
61:BL:80:THR:HG21	61:BL:95:PHE:CD2	2.46	0.51
62:AE:20:LEU:HD21	62:AE:28:ILE:HG23	1.92	0.51
69:BG:83:GLU:HA	69:BG:86:THR:HG23	1.92	0.51
24:W:55:ALA:O	24:W:59:LEU:HD23	2.10	0.51
42:BQ:836:A:O2'	79:AT:9:GLY:O	2.25	0.51
64:AK:58:VAL:O	64:AK:65:GLY:N	2.44	0.51
16:O:144:LEU:C	16:O:145:LEU:HD22	2.35	0.51
18:Q:92:GLN:OE1	18:Q:229:MET:HE1	2.10	0.51
42:BQ:1386:A:O4'	46:BE:141:ARG:NH1	2.44	0.51
43:BR:21:G:O2'	47:BI:272:TYR:OH	2.03	0.51
55:AQ:98:LEU:HD22	55:AQ:128:LYS:HD2	1.93	0.51
11:J:90:TYR:OH	34:2:1347:U:OP1	2.18	0.51
11:J:102:ARG:O	11:J:106:ILE:HG22	2.11	0.51
19:R:165:VAL:HG11	19:R:210:THR:HG22	1.92	0.51
27:Z:50:ALA:HB1	27:Z:52:ARG:NH2	2.25	0.51
34:2:931:C:OP2	39:e:70:LYS:NZ	2.40	0.51
42:BQ:901:G:OP1	73:AF:13:ASN:ND2	2.43	0.51
42:BQ:1477:A:OP1	42:BQ:3075:G:O2'	2.28	0.51
19:R:212:LYS:O	19:R:216:VAL:HG23	2.10	0.51
26:Y:60:VAL:HG13	26:Y:66:ILE:HD13	1.92	0.51
42:BQ:1116:G:N2	42:BQ:2817:A:O4'	2.43	0.51
42:BQ:2672:G:O2'	52:AG:95:ASN:O	2.24	0.51
64:AK:89:LYS:O	64:AK:92:GLY:N	2.39	0.51
16:O:124:SER:OG	16:O:134:TRP:NE1	2.43	0.51
24:W:28:LEU:HD21	41:g:40:TYR:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:203:G:OP1	46:BE:183:LYS:NZ	2.44	0.51
42:BQ:1299:U:O2'	76:AO:114:LYS:O	2.27	0.51
42:BQ:1405:U:OP2	69:BG:59:SER:OG	2.19	0.51
44:BS:85:G:HO2'	44:BS:86:U:P	2.33	0.51
74:AI:61:LYS:O	74:AI:65:LEU:HD23	2.11	0.51
79:AT:16:VAL:HG12	79:AT:16:VAL:O	2.11	0.51
22:U:114:ARG:O	22:U:117:THR:HG22	2.11	0.51
34:2:443:C:O2'	34:2:445:A:N7	2.39	0.51
34:2:1775:U:OP1	77:AS:11:ARG:NH1	2.41	0.51
42:BQ:450:G:N7	42:BQ:487:U:O2'	2.39	0.51
42:BQ:591:G:O2'	48:BM:17:ALA:O	2.28	0.51
42:BQ:1261:G:N2	42:BQ:1261:G:OP2	2.43	0.51
42:BQ:1643:A:O2'	42:BQ:1644:C:O4'	2.23	0.51
70:BK:49:ILE:HD11	70:BK:71:VAL:HG23	1.92	0.51
20:S:129:VAL:HG12	20:S:139:VAL:HG12	1.93	0.51
29:BA:60:LEU:HD11	29:BA:62:ARG:NE	2.26	0.51
30:AB:12:ARG:HH22	30:AB:15:LEU:HD12	1.76	0.51
34:2:699:U:O2'	34:2:700:C:O5'	2.28	0.51
34:2:1229:G:N2	34:2:1255:G:O2'	2.28	0.51
37:c:58:GLY:CA	41:g:8:LEU:HD21	2.41	0.51
42:BQ:1638:A:O2'	71:BN:52:GLN:NE2	2.44	0.51
42:BQ:2261:G:H21	42:BQ:2262:A:H62	1.58	0.51
46:BE:92:ASN:OD1	46:BE:93:MET:N	2.44	0.51
57:AX:47:TYR:OH	57:AX:57:ALA:O	2.12	0.51
11:J:76:SER:OG	34:2:1281:G:O3'	2.25	0.51
14:M:12:ARG:O	14:M:18:SER:OG	2.19	0.51
14:M:44:ARG:NH2	34:2:1280:C:OP1	2.44	0.51
19:R:153:SER:OG	19:R:154:LEU:N	2.44	0.51
19:R:239:PRO:HA	19:R:242:ILE:HD12	1.93	0.51
22:U:64:VAL:HG23	22:U:67:LEU:HB2	1.92	0.51
29:BA:266:ARG:NH2	42:BQ:2392:C:O2'	2.41	0.51
34:2:1303:U:O2'	34:2:1322:A:OP2	2.28	0.51
34:2:1488:G:H3'	34:2:1515:A:H61	1.76	0.51
42:BQ:1724:U:O2'	42:BQ:1725:C:OP2	2.24	0.51
68:AY:17:VAL:HG11	68:AY:92:ILE:HD12	1.93	0.51
2:A:103:GLU:OE2	2:A:173:ARG:NE	2.41	0.50
6:E:60:LEU:HD23	6:E:76:VAL:HG21	1.92	0.50
22:U:166:LEU:HD13	22:U:169:PHE:HD2	1.76	0.50
25:X:8:GLN:OE1	25:X:14:GLN:N	2.41	0.50
34:2:478:A:N6	34:2:539:G:N1	2.58	0.50
38:d:2:SER:OG	38:d:3:ASP:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1268:G:N2	42:BQ:1269:U:O4	2.45	0.50
66:AR:22:ILE:H	66:AR:22:ILE:HD12	1.76	0.50
2:A:32:GLU:OE1	2:A:32:GLU:N	2.45	0.50
14:M:30:LEU:HD22	14:M:30:LEU:N	2.26	0.50
31:BB:152:HIS:ND1	31:BB:162:ALA:O	2.41	0.50
34:2:1432:U:O2'	34:2:1433:G:OP2	2.28	0.50
42:BQ:3153:U:O2'	42:BQ:3154:C:O4'	2.13	0.50
19:R:161:LYS:NZ	19:R:163:GLY:O	2.24	0.50
27:Z:26:THR:HG21	27:Z:97:GLY:HA3	1.92	0.50
31:BB:135:GLN:N	31:BB:135:GLN:OE1	2.43	0.50
34:2:898:A:N1	34:2:911:U:O2'	2.35	0.50
34:2:1181:U:C2	34:2:1458:G:N1	2.79	0.50
42:BQ:2746:A:C2	47:BI:146:LEU:HD23	2.46	0.50
56:AU:108[A]:ILE:HD12	56:AU:157[A]:GLU:OE2	2.11	0.50
1:x:82:PHE:CZ	42:BQ:1762:C:H6	2.29	0.50
29:BA:109:HIS:C	29:BA:110:LEU:HD22	2.36	0.50
29:BA:346:THR:OG1	29:BA:347:SER:N	2.42	0.50
35:a:1:MET:N	35:a:10:GLU:OE2	2.44	0.50
36:b:18:GLU:HG3	36:b:69:LEU:HD23	1.94	0.50
40:f:80:ARG:NH2	40:f:81:ARG:O	2.44	0.50
42:BQ:69:C:HO2'	42:BQ:101:G:HO2'	1.54	0.50
42:BQ:590:G:OP1	69:BG:62:LYS:NZ	2.44	0.50
50:AD:14:GLU:OE1	50:AD:14:GLU:N	2.42	0.50
22:U:46:ILE:HD12	22:U:59:ALA:O	2.12	0.50
34:2:227:U:O4	34:2:235:G:C6	2.64	0.50
42:BQ:1657:C:O2	71:BN:16:ARG:NH2	2.44	0.50
42:BQ:2896:A:OP1	76:AO:124:LYS:NZ	2.28	0.50
55:AQ:147:ARG:O	55:AQ:150:TRP:NE1	2.43	0.50
3:B:51:VAL:HG13	3:B:131:GLN:HA	1.92	0.50
52:AG:50:ALA:HB3	52:AG:62:ASN:N	2.27	0.50
53:AJ:9:ILE:HG23	66:AR:34:MET:HE3	1.93	0.50
56:AU:115[A]:LYS:O	56:AU:117[A]:ARG:NH1	2.45	0.50
2:A:9:ARG:HA	2:A:12:VAL:HG22	1.93	0.50
3:B:52:GLU:OE1	3:B:52:GLU:N	2.42	0.50
8:G:2:GLY:N	34:2:1311:U:O3'	2.45	0.50
8:G:33:ARG:NH1	34:2:1387:G:OP1	2.44	0.50
19:R:157:LYS:NZ	36:b:92:ASN:O	2.45	0.50
27:Z:20:TYR:OH	27:Z:86:THR:HG22	2.10	0.50
72:BP:13:SER:OG	72:BP:15:GLU:OE1	2.28	0.50
19:R:59:HIS:O	35:a:15:ARG:NH2	2.45	0.50
34:2:219:A:N1	34:2:842:C:N3	2.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:651:G:C6	34:2:684:A:C2	2.99	0.50
42:BQ:542:G:C6	42:BQ:550:A:N1	2.80	0.50
42:BQ:2502:A:O2'	42:BQ:2503:G:OP1	2.26	0.50
73:AF:19:CYS:SG	73:AF:20:ASN:N	2.85	0.50
9:H:33:THR:HG22	9:H:39:GLY:C	2.37	0.50
19:R:78:ASP:CB	19:R:104:VAL:HG12	2.42	0.50
21:T:157:VAL:HG11	34:2:78:A:H5'	1.94	0.50
34:2:76:A:O2'	34:2:80:A:N6	2.44	0.50
34:2:1251:U:O2'	34:2:1252:C:OP1	2.29	0.50
42:BQ:2261:G:H21	42:BQ:2262:A:N6	2.10	0.50
42:BQ:2618:G:OP1	42:BQ:2644:C:O2'	2.28	0.50
61:BL:54:VAL:HG12	61:BL:67:SER:CB	2.42	0.50
78:AP:17:CYS:HG	78:AP:77:CYS:HG	1.60	0.50
3:B:47:SER:OG	3:B:50:GLU:OE2	2.29	0.49
26:Y:64:ARG:NH2	34:2:861:U:OP1	2.43	0.49
27:Z:47:LYS:NZ	27:Z:66:ASP:OD2	2.31	0.49
34:2:142:G:H22	34:2:173:A:H2	1.60	0.49
42:BQ:72:C:O2'	53:AJ:61:PRO:O	2.26	0.49
42:BQ:2688:U:N3	47:BI:17:GLN:O	2.42	0.49
64:AK:100:HIS:ND1	64:AK:102:SER:OG	2.27	0.49
79:AT:61:LYS:CE	79:AT:61:LYS:HA	2.42	0.49
3:B:23:VAL:CG1	7:F:57:LEU:HD12	2.42	0.49
6:E:40:ARG:NH1	34:2:1551:U:O4	2.42	0.49
20:S:182:TYR:N	20:S:226:PHE:O	2.44	0.49
43:BR:6:C:O2'	47:BI:72:ASP:OD2	2.24	0.49
1:x:83:LYS:O	42:BQ:1762:C:P	2.71	0.49
3:B:95:ASN:O	34:2:1611:A:O2'	2.29	0.49
27:Z:24:ASN:ND2	34:2:902:G:N7	2.60	0.49
30:AB:135:VAL:HG11	62:AE:26:SER:OG	2.13	0.49
34:2:1521:G:C5	34:2:1523:G:N2	2.80	0.49
42:BQ:439:C:H1'	42:BQ:494:G:H21	1.77	0.49
47:BI:194:LEU:HD11	47:BI:198:TYR:CZ	2.47	0.49
1:x:42:LYS:NZ	61:BL:26:GLY:HA3	2.27	0.49
3:B:32:GLU:OE1	3:B:32:GLU:N	2.44	0.49
4:C:11:ILE:CD1	4:C:42:VAL:HG22	2.40	0.49
12:K:50:ILE:CG2	12:K:69:LEU:HD13	2.39	0.49
12:K:95:HIS:ND1	12:K:96:SER:O	2.42	0.49
29:BA:118:PHE:O	42:BQ:3000:A:O2'	2.30	0.49
29:BA:360:ASP:OD2	62:AE:17:ARG:NH2	2.45	0.49
36:b:6:VAL:HG23	36:b:29:PRO:HD2	1.93	0.49
38:d:22:GLN:HB3	38:d:74:LEU:HD13	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1976:G:H1'	74:AI:60:GLY:N	2.24	0.49
46:BE:289:ILE:O	46:BE:295:ILE:HD12	2.12	0.49
48:BM:42:LEU:O	48:BM:49:GLY:N	2.43	0.49
60:BJ:17:ARG:NH1	60:BJ:21:LYS:O	2.45	0.49
3:B:117:THR:HG22	3:B:191:ALA:O	2.13	0.49
29:BA:166:ILE:O	29:BA:169:THR:OG1	2.30	0.49
34:2:103:A:O2'	34:2:309:C:N4	2.45	0.49
34:2:1158:C:O2'	34:2:1581:C:OP2	2.30	0.49
42:BQ:488:U:O2'	42:BQ:489:U:O4'	2.31	0.49
42:BQ:1986:U:O2	42:BQ:2035:G:N2	2.29	0.49
42:BQ:2452:G:N2	42:BQ:2494:A:C5	2.81	0.49
42:BQ:2675:C:N4	52:AG:22:SER:OG	2.38	0.49
44:BS:83:C:O2	64:AK:51:ARG:NH2	2.45	0.49
78:AP:17:CYS:SG	78:AP:77:CYS:SG	3.10	0.49
1:x:231:LEU:HD13	1:x:372:THR:HB	1.93	0.49
6:E:108:ARG:H	6:E:111:MET:HE3	1.75	0.49
9:H:22:VAL:CG2	9:H:35:ILE:HD11	2.39	0.49
20:S:65:LEU:HD12	20:S:78:THR:HA	1.93	0.49
22:U:148:LYS:NZ	34:2:641:G:OP1	2.46	0.49
39:e:26:CYS:O	39:e:27:SER:OG	2.25	0.49
42:BQ:190:U:OP1	64:AK:37:LYS:NZ	2.34	0.49
42:BQ:535:G:HO2'	42:BQ:554:A:H61	1.58	0.49
53:AJ:7:LEU:O	66:AR:49:HIS:NE2	2.42	0.49
64:AK:53:ASP:O	64:AK:69:LYS:NZ	2.46	0.49
15:N:133:ALA:HB2	34:2:1252:C:H1'	1.94	0.49
16:O:295:SER:OG	16:O:300:THR:OG1	2.30	0.49
22:U:166:LEU:HD13	22:U:169:PHE:CD2	2.48	0.49
42:BQ:959:C:O2	42:BQ:2614:G:O2'	2.26	0.49
42:BQ:1521:G:O6	75:AL:17:LYS:NZ	2.45	0.49
48:BM:64:LEU:HD12	48:BM:77:ARG:O	2.12	0.49
58:BF:105:LEU:HD23	58:BF:138:LEU:HD23	1.93	0.49
9:H:133:VAL:HG12	34:2:1545:A:O5'	2.12	0.49
18:Q:214:LYS:NZ	34:2:886:U:OP1	2.39	0.49
34:2:478:A:N1	34:2:511:A:N6	2.61	0.49
37:c:17:VAL:HG12	37:c:20:ARG:NH2	2.28	0.49
42:BQ:70:A:H2	42:BQ:72:C:H42	1.60	0.49
42:BQ:912:G:OP2	45:AW:9:ARG:NH1	2.41	0.49
42:BQ:1564:U:C2	42:BQ:1576:G:C2	3.00	0.49
66:AR:82:ILE:HD11	66:AR:102:ILE:HD11	1.93	0.49
7:F:31:VAL:HG12	7:F:32:ASN:ND2	2.28	0.49
11:J:64:LYS:O	14:M:33:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:80:VAL:HG12	19:R:102:VAL:HG12	1.94	0.49
20:S:193:GLY:O	20:S:211:LYS:N	2.45	0.49
27:Z:14:PHE:C	27:Z:76:ILE:HD11	2.37	0.49
30:AB:24:ASN:ND2	30:AB:97:ASP:OD2	2.45	0.49
42:BQ:1975:C:O3'	74:AI:64:LYS:HG3	2.12	0.49
43:BR:63:A:O2'	43:BR:65:G:O4'	2.30	0.49
64:AK:33:ALA:HB2	64:AK:101:PRO:HB2	1.95	0.49
1:x:384:GLN:HE21	42:BQ:1999:C:C4'	2.25	0.49
2:A:37:VAL:HG12	2:A:50:ILE:HG12	1.94	0.49
3:B:107:LYS:NZ	34:2:1611:A:OP1	2.44	0.49
9:H:86:LEU:HD12	9:H:97:ASP:HB3	1.95	0.49
22:U:181:ILE:HD12	22:U:183:PHE:CE1	2.46	0.49
23:V:5:ARG:N	23:V:28:GLU:O	2.46	0.49
24:W:59:LEU:HD12	24:W:69:ARG:HA	1.94	0.49
34:2:518:A:O2'	34:2:519:C:O5'	2.20	0.49
34:2:855:A:C6	34:2:857:U:C4	3.01	0.49
42:BQ:596:C:OP2	49:BO:34:LYS:NZ	2.32	0.49
60:BJ:39:ILE:HD12	60:BJ:102:ARG:HD3	1.93	0.49
72:BP:84:LYS:O	72:BP:85:THR:HG23	2.12	0.49
2:A:109:LEU:CD2	2:A:115:ILE:HG22	2.42	0.48
9:H:133:VAL:HG13	9:H:134:ARG:HG2	1.94	0.48
20:S:77:ARG:NH2	34:2:122:U:O3'	2.46	0.48
33:BC:44:MET:O	33:BC:77:ARG:NH1	2.46	0.48
34:2:548:G:C6	34:2:591:A:C6	3.01	0.48
34:2:1582:U:C2	34:2:1614:A:C6	3.00	0.48
38:d:12:VAL:HG12	38:d:23:PHE:CB	2.43	0.48
42:BQ:2703:A:OP2	47:BI:23:ARG:NH2	2.46	0.48
42:BQ:2898:G:O6	76:AO:125:LYS:NZ	2.46	0.48
46:BE:26:PHE:HD1	46:BE:130:ALA:HB2	1.78	0.48
55:AQ:187:ARG:O	55:AQ:190:THR:OG1	2.30	0.48
56:AU:27[A]:LEU:HD23	56:AU:31[A]:GLN:O	2.13	0.48
1:x:386:ILE:CG1	42:BQ:2024:G:H1'	2.42	0.48
11:J:61:LYS:NZ	34:2:1516:A:OP2	2.25	0.48
14:M:39:CYS:HB2	14:M:42:CYS:SG	2.53	0.48
20:S:19:LEU:HD11	20:S:108:ARG:CD	2.43	0.48
26:Y:129:TYR:HB2	26:Y:135:LEU:HD12	1.94	0.48
32:AC:66:GLU:OE1	32:AC:70:ARG:NH1	2.46	0.48
42:BQ:1188:U:OP1	42:BQ:1210:U:O2'	2.17	0.48
42:BQ:1543:G:OP1	55:AQ:35:VAL:HG23	2.13	0.48
42:BQ:2155:G:O2'	45:AW:227:ARG:NH2	2.47	0.48
50:AD:70:THR:O	50:AD:74:LEU:HD23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BF:115:ILE:HG13	58:BF:119:LEU:HD23	1.95	0.48
63:AH:55:ASN:ND2	63:AH:57:LEU:O	2.45	0.48
18:Q:135:LEU:HD13	18:Q:217:LEU:HA	1.95	0.48
22:U:77:LEU:HD22	22:U:92:PHE:HZ	1.78	0.48
23:V:193:LEU:O	23:V:197:THR:HG23	2.14	0.48
29:BA:183:LEU:O	29:BA:191:LYS:NZ	2.47	0.48
34:2:505:A:N1	34:2:507:U:C4	2.81	0.48
34:2:699:U:O2	34:2:739:G:N2	2.44	0.48
37:c:130:VAL:HG11	37:c:135:LEU:HD21	1.96	0.48
65:AN:136:PHE:O	71:BN:76:TYR:OH	2.22	0.48
4:C:23:ALA:O	4:C:63:TYR:O	2.31	0.48
6:E:48:GLY:O	6:E:52:LYS:NZ	2.28	0.48
11:J:92:ASP:C	11:J:93:LEU:HD22	2.39	0.48
34:2:149:C:N3	34:2:166:C:N4	2.61	0.48
34:2:478:A:N6	34:2:539:G:N2	2.60	0.48
34:2:1382:A:O2'	34:2:1383:G:OP1	2.27	0.48
35:a:73:ALA:HB3	35:a:79:LEU:HD12	1.95	0.48
42:BQ:2320:A:H2	79:AT:16:VAL:HG12	1.78	0.48
42:BQ:2681:U:OP2	52:AG:51:ARG:NE	2.46	0.48
57:AX:10:ASN:O	57:AX:14:SER:OG	2.21	0.48
59:BH:90:MET:HE1	59:BH:114:HIS:NE2	2.28	0.48
12:K:83:LEU:HD12	12:K:88:ILE:HG22	1.94	0.48
17:P:107:PHE:N	17:P:135:GLU:OE1	2.46	0.48
34:2:279:G:C8	62:AE:111:ALA:HB1	2.48	0.48
42:BQ:1973:G:C2	42:BQ:2048:G:H2'	2.48	0.48
42:BQ:2004:U:O2	42:BQ:2017:G:N2	2.31	0.48
42:BQ:2609:A:N3	55:AQ:87:GLN:NE2	2.61	0.48
51:BD:42:THR:OG1	51:BD:43:VAL:N	2.46	0.48
61:BL:35:LYS:HA	61:BL:38:ILE:HD12	1.95	0.48
1:x:386:ILE:HG23	42:BQ:2024:G:C4	2.27	0.48
2:A:123:VAL:HG12	2:A:134:CYS:SG	2.53	0.48
3:B:113:ILE:O	3:B:117:THR:HG23	2.14	0.48
15:N:119:ARG:O	15:N:132:LEU:HD12	2.13	0.48
16:O:214:ALA:HB1	16:O:240:VAL:CG2	2.43	0.48
21:T:189:HIS:O	21:T:193:LEU:HD23	2.14	0.48
22:U:9:LEU:HD23	22:U:10:SER:N	2.29	0.48
22:U:14:THR:HG22	22:U:17:GLU:OE2	2.13	0.48
26:Y:88:LEU:HD22	26:Y:129:TYR:HD2	1.79	0.48
34:2:76:A:C2'	34:2:80:A:H62	2.27	0.48
76:AO:96:CYS:HA	76:AO:121:LEU:CD2	2.43	0.48
15:N:141:CYS:SG	15:N:144:CYS:N	2.85	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:52:ILE:HA	21:T:111:LEU:HD23	1.94	0.48
23:V:67:TRP:NE1	23:V:185:GLU:OE2	2.43	0.48
37:c:114:LYS:HB3	37:c:117:ILE:HD11	1.95	0.48
42:BQ:1322:U:O2	59:BH:108:GLN:NE2	2.45	0.48
43:BR:28:C:OP1	52:AG:137:ARG:NH1	2.41	0.48
42:BQ:610:G:C8	46:BE:312:VAL:HG21	2.48	0.48
46:BE:132:ALA:HB2	46:BE:148:ILE:HD11	1.95	0.48
51:BD:29:SER:OG	51:BD:31:ILE:O	2.25	0.48
56:AU:126[A]:VAL:O	59:BH:154:HIS:NE2	2.45	0.48
63:AH:115:ARG:HD3	63:AH:119:THR:HG23	1.95	0.48
18:Q:184:LEU:O	18:Q:188:LEU:HD23	2.14	0.48
24:W:134:ILE:H	24:W:159:ALA:HB2	1.77	0.48
26:Y:48:SER:OG	34:2:960:U:O2	2.32	0.48
26:Y:60:VAL:HG13	26:Y:66:ILE:CD1	2.44	0.48
42:BQ:1724:U:OP1	58:BF:128:LYS:NZ	2.41	0.48
42:BQ:2057:G:N2	42:BQ:2058:G:O6	2.34	0.48
42:BQ:3113:A:OP1	50:AD:73:SER:OG	2.21	0.48
45:AW:108:PRO:O	45:AW:111:THR:OG1	2.27	0.48
46:BE:330:TYR:HA	46:BE:333:VAL:HG22	1.95	0.48
18:Q:127:VAL:HG13	18:Q:176:VAL:HG11	1.95	0.48
20:S:22:LYS:NZ	34:2:757:A:O3'	2.45	0.48
21:T:223:LYS:O	21:T:226:ILE:O	2.32	0.48
22:U:107:ARG:NE	34:2:741:C:O2	2.46	0.48
26:Y:11:ILE:HG23	26:Y:11:ILE:O	2.14	0.48
28:AA:214:LEU:O	28:AA:217:THR:OG1	2.24	0.48
34:2:54:C:O2'	34:2:459:G:N7	2.37	0.48
34:2:190:C:N4	34:2:191:C:O2	2.47	0.48
2:A:208:ILE:HD12	8:G:16:LEU:HD21	1.95	0.47
18:Q:61:LEU:HD21	18:Q:96:LEU:HD13	1.96	0.47
31:BB:177:GLY:O	31:BB:186:VAL:N	2.45	0.47
34:2:656:G:O6	34:2:679:U:C2	2.66	0.47
42:BQ:217:U:O2	64:AK:103:LYS:NZ	2.29	0.47
59:BH:151:PRO:O	59:BH:152:LEU:HD23	2.14	0.47
13:L:31:GLU:OE2	13:L:38:ARG:N	2.48	0.47
28:AA:112:GLU:O	28:AA:116:VAL:HG22	2.14	0.47
34:2:478:A:N7	34:2:539:G:N2	2.62	0.47
42:BQ:114:A:N1	42:BQ:266:A:O2'	2.44	0.47
42:BQ:1958:U:N3	42:BQ:1959:G:N7	2.62	0.47
42:BQ:1976:G:C1'	74:AI:60:GLY:HA2	2.36	0.47
9:H:100:THR:C	9:H:101:LEU:HD22	2.39	0.47
18:Q:134:VAL:C	18:Q:135:LEU:HD22	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:137:ILE:HG13	18:Q:172:LEU:HD13	1.95	0.47
20:S:102:VAL:HG22	20:S:103:TYR:H	1.79	0.47
27:Z:71:CYS:HA	27:Z:74:VAL:HG12	1.96	0.47
42:BQ:444:U:C4	42:BQ:491:A:C6	3.02	0.47
42:BQ:1975:C:O3'	74:AI:64:LYS:CG	2.62	0.47
3:B:205:SER:O	3:B:206:SER:OG	2.25	0.47
5:D:43:ARG:NH2	5:D:102:GLY:O	2.44	0.47
9:H:20:THR:OG1	9:H:35:ILE:HD12	2.15	0.47
42:BQ:98:G:N7	53:AJ:13:HIS:NE2	2.61	0.47
42:BQ:2756:C:O2	60:BJ:8:ARG:NH2	2.47	0.47
44:BS:85:G:HO2'	44:BS:86:U:C5'	2.26	0.47
4:C:3:MET:HE3	4:C:41:TYR:HB3	1.96	0.47
22:U:103:SER:OG	22:U:104:ARG:N	2.46	0.47
29:BA:221:THR:HG21	29:BA:275:ARG:HG3	1.97	0.47
31:BB:54:LEU:HD13	31:BB:58:ASN:O	2.14	0.47
34:2:532:U:O2	38:d:34:ASN:ND2	2.45	0.47
43:BR:121:U:O5'	47:BI:259:LYS:NZ	2.42	0.47
51:BD:145:LYS:O	51:BD:148:VAL:HG12	2.15	0.47
20:S:72:VAL:CG2	20:S:90:ILE:HD13	2.45	0.47
30:AB:117:PRO:HA	30:AB:135:VAL:HG13	1.96	0.47
34:2:1584:G:O2'	34:2:1610:G:N1	2.47	0.47
42:BQ:439:C:O2'	42:BQ:494:G:N3	2.47	0.47
42:BQ:1307:G:O2'	42:BQ:1308:A:OP2	2.24	0.47
42:BQ:3355:U:O2'	42:BQ:3356:G:O3'	2.32	0.47
48:BM:71:VAL:HG11	48:BM:159:LEU:HB2	1.96	0.47
1:x:338:MET:SD	42:BQ:1762:C:C5	3.08	0.47
13:L:31:GLU:OE2	13:L:37:SER:N	2.47	0.47
16:O:234:LEU:HD21	16:O:263:PHE:CZ	2.50	0.47
18:Q:137:ILE:HD11	18:Q:172:LEU:HB3	1.97	0.47
21:T:157:VAL:HG11	34:2:78:A:H5''	1.95	0.47
21:T:171:LYS:NZ	34:2:68:A:OP1	2.27	0.47
21:T:216:LEU:HD21	34:2:241:U:H5'	1.97	0.47
24:W:85:VAL:HG12	24:W:99:LEU:HD13	1.97	0.47
29:BA:14:LEU:HA	29:BA:17:LEU:HD13	1.95	0.47
34:2:612:U:OP1	37:c:7:ARG:NH2	2.44	0.47
34:2:937:C:N4	39:e:14:GLY:O	2.43	0.47
35:a:64:GLU:OE1	35:a:64:GLU:N	2.48	0.47
42:BQ:113:C:OP1	55:AQ:147:ARG:NE	2.37	0.47
42:BQ:872:U:O2'	42:BQ:1908:A:OP1	2.31	0.47
42:BQ:1974:A:N6	42:BQ:2049:A:N3	2.62	0.47
69:BG:100:ILE:O	69:BG:105:ARG:NE	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AI:2:ALA:N	74:AI:51:LEU:O	2.47	0.47
19:R:38:VAL:O	19:R:39:THR:OG1	2.27	0.47
29:BA:108:GLU:OE1	29:BA:109:HIS:NE2	2.48	0.47
34:2:653:C:C4	34:2:681:U:C4	3.02	0.47
34:2:653:C:C4	34:2:681:U:N3	2.83	0.47
36:b:114:GLU:OE1	36:b:114:GLU:N	2.45	0.47
42:BQ:1590:G:OP1	71:BN:17:SER:OG	2.32	0.47
42:BQ:1606:U:O4	71:BN:9:ARG:NE	2.39	0.47
51:BD:180:GLU:OE2	51:BD:184:LYS:NZ	2.46	0.47
54:AM:55:ARG:NH2	54:AM:76:ALA:O	2.47	0.47
19:R:59:HIS:NE2	19:R:237:VAL:O	2.48	0.47
21:T:142:ARG:NH1	21:T:149:LYS:O	2.47	0.47
32:AC:53:TYR:O	32:AC:57:LEU:HD23	2.15	0.47
34:2:1181:U:O2	34:2:1458:G:C2	2.68	0.47
42:BQ:2712:U:O2'	42:BQ:2743:A:O2'	2.08	0.47
56:AU:44[A]:SER:HB3	56:AU:129[A]:LEU:HD21	1.97	0.47
74:AI:17:ARG:NH2	74:AI:19:ASP:OD2	2.47	0.47
3:B:23:VAL:HG13	7:F:57:LEU:HD12	1.96	0.47
7:F:97:VAL:HG12	7:F:98:ASP:H	1.80	0.47
8:G:27:ASP:HB3	8:G:30:THR:HG22	1.96	0.47
10:I:64:HIS:NE2	34:2:1523:G:N7	2.62	0.47
27:Z:82:LYS:NZ	27:Z:116:GLU:OE1	2.48	0.47
33:BC:8:VAL:HG22	33:BC:9:THR:H	1.80	0.47
34:2:1399:C:HO2'	34:2:1400:A:P	2.37	0.47
42:BQ:1976:G:O5'	74:AI:63:LYS:N	2.47	0.47
42:BQ:2147:A:OP2	45:AW:200:ARG:NH1	2.48	0.47
42:BQ:2668:U:O4	42:BQ:2687:G:N2	2.48	0.47
55:AQ:48:ALA:HB1	55:AQ:53:TYR:HB3	1.97	0.47
61:BL:89:LEU:HB3	61:BL:93:ILE:HD12	1.97	0.47
68:AY:25:LEU:HD23	68:AY:90:VAL:HG23	1.95	0.47
2:A:55:THR:O	2:A:59:LEU:HD23	2.15	0.46
3:B:90:ILE:O	3:B:94:THR:HG23	2.15	0.46
3:B:109:LYS:HZ1	34:2:1474:G:P	2.35	0.46
23:V:56:ARG:O	23:V:58:LEU:HD12	2.15	0.46
24:W:172:VAL:HG13	34:2:511:A:H5''	1.97	0.46
34:2:56:U:OP1	34:2:403:G:N1	2.45	0.46
34:2:555:A:O2'	34:2:556:A:O5'	2.28	0.46
34:2:1216:C:O2'	34:2:1217:A:O5'	2.25	0.46
37:c:130:VAL:HG21	37:c:143:PRO:CD	2.45	0.46
42:BQ:1403:C:OP1	69:BG:11:LYS:NZ	2.37	0.46
42:BQ:1729:A:O4'	68:AY:52:ARG:NH1	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1982:G:N2	42:BQ:2040:U:H3	2.14	0.46
54:AM:13:ARG:NH1	54:AM:65:LEU:O	2.46	0.46
57:AX:31:GLU:OE2	57:AX:61:ARG:N	2.43	0.46
9:H:107:SER:OG	9:H:108:LYS:N	2.49	0.46
11:J:96:PRO:O	11:J:100:VAL:HG23	2.15	0.46
13:L:55:VAL:C	13:L:56:LEU:HD22	2.40	0.46
20:S:154:ILE:HD11	20:S:172:PHE:HB3	1.97	0.46
34:2:655:G:N2	34:2:678:A:N6	2.60	0.46
42:BQ:154:U:OP2	72:BP:103:LYS:NZ	2.32	0.46
46:BE:162:THR:HA	46:BE:218:ALA:HB1	1.98	0.46
52:AG:173:ASP:OD1	52:AG:174:LYS:N	2.48	0.46
17:P:61:ALA:HA	17:P:64:ILE:HD12	1.96	0.46
21:T:223:LYS:O	21:T:226:ILE:C	2.58	0.46
27:Z:125:SER:OG	27:Z:126:THR:N	2.46	0.46
34:2:647:G:H22	34:2:687:G:H22	1.62	0.46
42:BQ:1963:G:H2'	42:BQ:1964:C:H4'	1.96	0.46
47:BI:59:ASP:OD1	47:BI:60:ILE:N	2.48	0.46
53:AJ:18:TRP:O	53:AJ:22:VAL:HG23	2.15	0.46
1:x:42:LYS:NZ	61:BL:26:GLY:CA	2.78	0.46
1:x:338:MET:SD	42:BQ:1762:C:H5	2.37	0.46
7:F:64:ASP:OD1	7:F:64:ASP:N	2.49	0.46
10:I:7:ARG:NH1	34:2:1366:U:O2'	2.46	0.46
13:L:21:SER:N	13:L:67:ARG:O	2.46	0.46
16:O:210:LEU:HD12	16:O:223:TRP:O	2.15	0.46
17:P:139:VAL:O	17:P:139:VAL:HG12	2.15	0.46
19:R:45:VAL:HG11	19:R:68:ILE:HG23	1.98	0.46
20:S:49:ARG:NH2	34:2:447:U:O5'	2.49	0.46
27:Z:135:ARG:NH2	34:2:1007:C:O2'	2.48	0.46
34:2:78:A:O2'	34:2:79:C:O4'	2.32	0.46
42:BQ:1385:C:OP1	46:BE:141:ARG:NH2	2.47	0.46
44:BS:46:G:O2'	44:BS:61:A:N1	2.41	0.46
47:BI:50:ARG:NH1	47:BI:147:ASP:OD2	2.45	0.46
3:B:133:VAL:HG23	3:B:198:LEU:CD2	2.45	0.46
3:B:166:ARG:NH2	34:2:1164:G:OP1	2.49	0.46
9:H:141:THR:HG22	34:2:1173:C:OP2	2.16	0.46
23:V:3:ILE:O	23:V:30:GLY:N	2.47	0.46
27:Z:121:VAL:O	27:Z:121:VAL:HG13	2.15	0.46
29:BA:65:SER:OG	29:BA:66:LYS:N	2.48	0.46
34:2:815:G:OP2	58:BF:163:ARG:NH2	2.46	0.46
40:f:55:THR:OG1	40:f:56:CYS:N	2.48	0.46
42:BQ:562:C:OP2	54:AM:77:ARG:NH1	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:12:VAL:HA	13:L:30:VAL:HG22	1.97	0.46
15:N:121:CYS:HB2	15:N:132:LEU:HD21	1.97	0.46
20:S:221:ARG:NH2	34:2:753:A:O4'	2.48	0.46
31:BB:11:LYS:NZ	42:BQ:1104:G:OP1	2.44	0.46
34:2:1795:U:OP2	39:e:4:LYS:NZ	2.27	0.46
42:BQ:242:C:O2'	42:BQ:243:G:N7	2.49	0.46
42:BQ:1219:C:N4	42:BQ:1287:A:N6	2.63	0.46
42:BQ:1523:U:OP2	42:BQ:1604:G:O2'	2.30	0.46
1:x:338:MET:HB3	42:BQ:1762:C:H41	1.74	0.46
2:A:113:LEU:HD12	2:A:114:ALA:H	1.81	0.46
6:E:25:LEU:HB3	6:E:28:MET:HE3	1.97	0.46
11:J:33:GLN:OE1	11:J:33:GLN:N	2.47	0.46
18:Q:98:THR:OG1	18:Q:99:ASN:N	2.49	0.46
24:W:119:ALA:HB1	24:W:121:SER:O	2.16	0.46
42:BQ:371:G:N1	42:BQ:374:A:OP2	2.44	0.46
42:BQ:2854:U:OP2	51:BD:3:ARG:NH2	2.49	0.46
65:AN:9:LYS:CB	65:AN:25:ILE:HD12	2.45	0.46
17:P:120:LEU:HD23	17:P:121:VAL:N	2.31	0.46
20:S:18:TRP:NE1	20:S:41:SER:O	2.48	0.46
22:U:14:THR:OG1	22:U:15:GLU:OE2	2.31	0.46
34:2:548:G:N1	34:2:591:A:C6	2.84	0.46
34:2:1186:U:C4	34:2:1208:A:N6	2.84	0.46
41:g:41:THR:HA	41:g:45:VAL:HG12	1.98	0.46
42:BQ:2538:U:O2'	42:BQ:2541:U:N3	2.49	0.46
43:BR:38:U:O2'	43:BR:42:A:N6	2.48	0.46
64:AK:109:LEU:HD22	64:AK:115:ARG:HH21	1.80	0.46
9:H:19:ASN:ND2	52:AG:111:ASP:OD1	2.45	0.46
16:O:12:THR:C	16:O:13:LEU:HD22	2.41	0.46
22:U:93:LEU:HD23	22:U:94:ALA:N	2.30	0.46
23:V:47:ARG:NH2	34:2:398:G:OP2	2.46	0.46
24:W:40:LYS:N	34:2:593:U:OP1	2.47	0.46
34:2:235:G:O2'	34:2:236:A:O5'	2.27	0.46
34:2:1692:G:N1	34:2:1710:U:C2	2.84	0.46
42:BQ:712:G:OP1	53:AJ:174:ARG:NH1	2.48	0.46
42:BQ:1147:G:OP1	69:BG:47:ARG:NH1	2.48	0.46
42:BQ:2095:G:H2'	42:BQ:2096:A:H8	1.81	0.46
43:BR:40:C:O2	52:AG:72:ARG:NE	2.47	0.46
45:AW:101:VAL:O	45:AW:101:VAL:HG12	2.16	0.46
47:BI:95:TRP:HZ3	47:BI:199:ILE:HD13	1.80	0.46
8:G:22:PRO:O	16:O:216:LYS:NZ	2.40	0.46
17:P:66:ALA:HB2	35:a:37:ALA:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:119:ALA:O	24:W:124:HIS:ND1	2.49	0.46
31:BB:133:LYS:NZ	46:BE:298:ALA:O	2.44	0.46
38:d:53:ASP:O	38:d:96:LEU:HD21	2.15	0.46
42:BQ:1795:U:OP2	45:AW:50:HIS:NE2	2.45	0.46
50:AD:31:ARG:NH2	50:AD:83:THR:O	2.48	0.46
71:BN:42:PRO:HG2	71:BN:54:ILE:HG21	1.98	0.46
4:C:42:VAL:O	4:C:46:LEU:HD23	2.16	0.45
7:F:31:VAL:N	7:F:34:SER:O	2.44	0.45
18:Q:127:VAL:HG11	18:Q:176:VAL:HG11	1.98	0.45
20:S:131:LEU:HD11	20:S:135:GLY:HA2	1.98	0.45
24:W:36:LEU:HD21	24:W:108:ARG:NH1	2.31	0.45
24:W:44:ARG:NH1	34:2:473:A:OP1	2.45	0.45
29:BA:29:VAL:CG2	29:BA:337:THR:HG21	2.46	0.45
31:BB:125:ASP:OD1	31:BB:126:GLN:N	2.48	0.45
34:2:1630:U:O2'	34:2:1764:C:O2'	2.12	0.45
39:e:13:LYS:O	39:e:15:ARG:NH1	2.47	0.45
42:BQ:2049:A:C6	42:BQ:2051:G:H1'	2.52	0.45
45:AW:35:ALA:O	45:AW:39:GLY:N	2.47	0.45
59:BH:27:MET:HE1	59:BH:44:PHE:CD2	2.51	0.45
1:x:84:TYR:N	42:BQ:1762:C:OP2	2.43	0.45
1:x:340:TRP:HA	42:BQ:1762:C:O4'	2.17	0.45
2:A:181:VAL:HG23	34:2:1437:U:O2'	2.16	0.45
9:H:24:GLY:O	9:H:25:ASN:ND2	2.49	0.45
16:O:105:GLY:O	16:O:107:LYS:NZ	2.49	0.45
21:T:119:GLN:OE1	21:T:119:GLN:N	2.43	0.45
28:AA:106:LYS:O	28:AA:110:THR:HG23	2.15	0.45
34:2:934:C:N4	34:2:1077:C:O3'	2.50	0.45
42:BQ:519:A:OP1	59:BH:62:ASN:ND2	2.44	0.45
42:BQ:776:U:C4	42:BQ:2738:A:N1	2.84	0.45
42:BQ:2785:A:O2'	78:AP:41:ARG:NH2	2.50	0.45
46:BE:11:LEU:CD2	46:BE:156:LEU:HD12	2.45	0.45
4:C:45:ALA:O	4:C:49:LEU:HD23	2.16	0.45
23:V:175:GLN:NE2	34:2:332:U:OP2	2.42	0.45
42:BQ:1158:A:OP2	49:BO:90:LYS:NZ	2.24	0.45
42:BQ:1219:C:O2'	42:BQ:1286:A:N1	2.49	0.45
44:BS:95:G:OP2	73:AF:72:ARG:NH1	2.48	0.45
59:BH:9:VAL:HG22	59:BH:61:ILE:HG13	1.98	0.45
65:AN:52:LYS:O	65:AN:65:ARG:NH2	2.46	0.45
17:P:76:ILE:CD1	17:P:98:ILE:HD13	2.46	0.45
20:S:129:VAL:HG12	20:S:139:VAL:CG1	2.47	0.45
20:S:173:ILE:HD11	20:S:235:TYR:CZ	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:150:GLN:HB3	22:U:181:ILE:HG22	1.98	0.45
28:AA:126:SER:OG	42:BQ:120:G:N2	2.49	0.45
34:2:127:G:H21	34:2:178:U:H1'	1.81	0.45
34:2:515:A:N6	34:2:537:G:O2'	2.46	0.45
34:2:518:A:N6	34:2:533:U:O4	2.50	0.45
40:f:30:SER:OG	40:f:31:TYR:N	2.50	0.45
42:BQ:597:G:OP2	49:BO:37:ASN:ND2	2.44	0.45
42:BQ:2086:A:O2'	42:BQ:2087:C:H5'	2.16	0.45
46:BE:6:VAL:O	46:BE:20:LEU:N	2.47	0.45
52:AG:41:SER:OG	52:AG:43:GLN:O	2.33	0.45
66:AR:79:TRP:CE3	66:AR:82:ILE:HD12	2.51	0.45
7:F:44:LEU:HD12	7:F:78:VAL:HG11	1.99	0.45
21:T:139:ASN:ND2	34:2:142:G:OP1	2.50	0.45
29:BA:250:ALA:HB1	42:BQ:2947:G:C2	2.52	0.45
34:2:222:A:N1	34:2:839:U:C4	2.85	0.45
42:BQ:1136:A:O4'	42:BQ:2636:A:N6	2.49	0.45
45:AW:126:LEU:HD12	45:AW:150:LEU:CD2	2.47	0.45
69:BG:89:THR:HG22	69:BG:117:ILE:HG12	1.97	0.45
3:B:143:ARG:NH2	3:B:218:GLU:OE1	2.49	0.45
8:G:24:LEU:HD12	8:G:58:MET:HE2	1.98	0.45
29:BA:113:GLU:HB2	29:BA:176:ALA:HB2	1.99	0.45
32:AC:26:ILE:CG1	42:BQ:155:G:H21	2.29	0.45
34:2:530:C:O2	38:d:61:ARG:NH2	2.50	0.45
38:d:6:THR:HG21	38:d:28:LEU:HD12	1.97	0.45
42:BQ:1488:G:H21	71:BN:12:PRO:HG3	1.81	0.45
42:BQ:2089:A:O2'	42:BQ:2090:U:O4'	2.19	0.45
5:D:126:TRP:CD1	5:D:133:LEU:HD21	2.52	0.45
34:2:518:A:C6	34:2:533:U:C4	3.04	0.45
42:BQ:118:U:N3	42:BQ:122:A:OP2	2.47	0.45
80:BT:58:CYS:O	80:BT:103:LEU:N	2.49	0.45
6:E:32:ASP:OD1	6:E:33:PHE:N	2.50	0.45
13:L:58:GLU:OE1	13:L:60:GLU:N	2.50	0.45
14:M:30:LEU:N	14:M:30:LEU:CD2	2.80	0.45
19:R:111:VAL:HG11	19:R:191:ALA:HB2	1.99	0.45
22:U:74:GLN:O	22:U:78:THR:HG23	2.16	0.45
22:U:166:LEU:HD12	22:U:183:PHE:CG	2.52	0.45
30:AB:26:ALA:O	30:AB:115:THR:OG1	2.27	0.45
34:2:232:U:C2	34:2:234:G:C6	3.04	0.45
42:BQ:1015:U:O2'	42:BQ:1017:C:OP2	2.35	0.45
42:BQ:1114:U:OP1	66:AR:23:GLY:N	2.43	0.45
42:BQ:1620:U:O2'	42:BQ:1825:G:N2	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1677:G:N7	61:BL:74:LYS:NZ	2.63	0.45
42:BQ:2285:C:OP2	42:BQ:2286:U:O2'	2.29	0.45
42:BQ:3275:U:O2'	42:BQ:3276:G:OP1	2.29	0.45
60:BJ:17:ARG:NH2	60:BJ:24:ALA:O	2.49	0.45
6:E:29:SER:OG	6:E:32:ASP:OD2	2.32	0.45
11:J:72:ASN:ND2	34:2:1429:G:N3	2.65	0.45
29:BA:74:GLU:OE1	29:BA:325:LYS:NZ	2.44	0.45
34:2:651:G:C2	34:2:684:A:C2	3.04	0.45
34:2:1273:G:H4'	34:2:1274:C:H3'	1.98	0.45
34:2:1274:C:O2'	34:2:1275:A:OP2	2.27	0.45
45:AW:142:ASP:OD1	45:AW:142:ASP:N	2.50	0.45
46:BE:6:VAL:N	46:BE:20:LEU:O	2.50	0.45
51:BD:74:LYS:O	51:BD:78:THR:OG1	2.12	0.45
53:AJ:43:ALA:HB2	53:AJ:51:LEU:HD13	1.99	0.45
74:AI:25:VAL:HG12	74:AI:43:PHE:CD2	2.52	0.45
7:F:99:GLU:OE1	7:F:103:ASN:ND2	2.48	0.45
21:T:78:THR:HG22	21:T:79:LYS:H	1.81	0.45
28:AA:26:LEU:O	28:AA:28:HIS:ND1	2.50	0.45
34:2:129:U:O4'	34:2:264:G:N1	2.50	0.45
42:BQ:270:U:O2'	42:BQ:318:A:N3	2.45	0.45
42:BQ:2445:A:O2'	42:BQ:2446:U:OP1	2.34	0.45
42:BQ:3158:G:C6	42:BQ:3292:A:N1	2.85	0.45
43:BR:37:G:N2	43:BR:41:G:N3	2.65	0.45
49:BO:130:ILE:O	49:BO:134:VAL:HG22	2.16	0.45
55:AQ:165:THR:OG1	55:AQ:166:ALA:N	2.50	0.45
7:F:60:PHE:HA	7:F:63:ILE:HD13	1.98	0.44
11:J:106:ILE:O	11:J:107:THR:OG1	2.29	0.44
20:S:161:LYS:O	20:S:170:THR:N	2.46	0.44
34:2:151:G:N1	34:2:164:A:C6	2.85	0.44
34:2:928:U:O2'	34:2:945:U:OP2	2.34	0.44
42:BQ:2040:U:H2'	42:BQ:2041:U:C6	2.52	0.44
6:E:20:VAL:CG2	6:E:28:MET:HE1	2.45	0.44
7:F:51:PRO:O	7:F:55:VAL:HG22	2.16	0.44
20:S:201:HIS:NE2	34:2:799:A:O2'	2.49	0.44
42:BQ:212:G:OP2	64:AK:2:ALA:N	2.50	0.44
42:BQ:441:U:OP2	42:BQ:490:C:N4	2.50	0.44
42:BQ:2516:U:O2	42:BQ:2594:C:N4	2.50	0.44
42:BQ:2621:G:O6	51:BD:113:GLN:NE2	2.49	0.44
53:AJ:161:ASP:OD1	66:AR:139:ARG:NH1	2.49	0.44
60:BJ:42:ILE:O	60:BJ:59:GLY:N	2.47	0.44
18:Q:59:ASP:OD1	18:Q:60:ALA:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:53:ILE:H	19:R:53:ILE:HD12	1.83	0.44
21:T:31:ARG:NH1	34:2:1682:U:OP1	2.45	0.44
22:U:126:LEU:HD21	22:U:181:ILE:HD13	1.99	0.44
24:W:86:LEU:HD23	24:W:87:SER:N	2.33	0.44
25:X:90:TYR:OH	34:2:307:G:OP1	2.31	0.44
33:BC:42:LEU:HD23	33:BC:43:HIS:N	2.31	0.44
34:2:811:A:H2	34:2:814:A:H62	1.65	0.44
42:BQ:1814:A:N3	42:BQ:1815:U:N3	2.65	0.44
42:BQ:2206:G:N3	42:BQ:2207:A:N6	2.65	0.44
48:BM:37:GLY:N	48:BM:54:TYR:O	2.49	0.44
48:BM:72:ASN:OD1	48:BM:73:GLY:N	2.50	0.44
55:AQ:17:ASP:OD1	55:AQ:18:VAL:N	2.51	0.44
63:AH:82:LEU:HD11	63:AH:135:ILE:CD1	2.47	0.44
5:D:27:ALA:HB3	5:D:136:ILE:HG23	2.00	0.44
14:M:41:GLN:NE2	34:2:1433:G:O4'	2.51	0.44
29:BA:256:HIS:ND1	42:BQ:2941:A:OP2	2.45	0.44
34:2:612:U:OP2	34:2:613:G:O2'	2.34	0.44
34:2:1521:G:O2'	34:2:1523:G:OP2	2.35	0.44
42:BQ:209:A:N3	46:BE:221:ASN:ND2	2.65	0.44
42:BQ:1312:C:O2'	56:AU:83[A]:ALA:O	2.35	0.44
45:AW:7:ASN:OD1	45:AW:8:GLN:N	2.50	0.44
46:BE:11:LEU:HD21	46:BE:156:LEU:HD12	1.97	0.44
53:AJ:170:LEU:HD21	66:AR:147:LEU:HD13	2.00	0.44
7:F:29:ILE:O	7:F:30:LYS:NZ	2.34	0.44
17:P:79:ARG:NH1	17:P:125:ASP:OD2	2.50	0.44
27:Z:58:TYR:O	27:Z:62:LEU:HD13	2.18	0.44
29:BA:361:THR:N	29:BA:371:GLN:OE1	2.46	0.44
39:e:42:ARG:O	39:e:67:THR:HG22	2.17	0.44
40:f:55:THR:OG1	40:f:61:THR:OG1	2.12	0.44
42:BQ:1243:G:N2	42:BQ:1270:A:O2'	2.49	0.44
42:BQ:1564:U:N3	42:BQ:1576:G:N1	2.65	0.44
50:AD:90:MET:HE3	50:AD:181:VAL:HB	1.98	0.44
51:BD:138:VAL:HG21	51:BD:148:VAL:CG2	2.43	0.44
56:AU:157[A]:GLU:OE1	56:AU:160[A]:ARG:NH2	2.44	0.44
3:B:192:GLU:OE1	12:K:59:TYR:OH	2.33	0.44
9:H:36:LYS:NZ	34:2:1567:U:O3'	2.33	0.44
11:J:28:SER:OG	11:J:29:THR:N	2.51	0.44
16:O:144:LEU:HD23	16:O:181:TRP:CG	2.53	0.44
17:P:90:ALA:HA	17:P:95:ALA:HB3	1.98	0.44
18:Q:201:THR:OG1	18:Q:207:LEU:HD23	2.18	0.44
20:S:91:THR:HG23	20:S:98:ASN:ND2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:122:LYS:HD2	20:S:164:LEU:HD11	2.00	0.44
23:V:47:ARG:NH2	34:2:396:G:N7	2.65	0.44
25:X:53:TYR:C	25:X:54:ILE:HD13	2.43	0.44
25:X:125:VAL:HG12	25:X:139:VAL:HG12	1.98	0.44
34:2:136:C:N4	34:2:137:U:O4	2.51	0.44
34:2:139:C:N3	34:2:176:C:N4	2.65	0.44
34:2:653:C:N4	34:2:681:U:N3	2.66	0.44
34:2:883:C:C4	34:2:945:U:O4	2.71	0.44
34:2:1430:U:HO2'	34:2:1431:C:P	2.34	0.44
42:BQ:412:G:N2	57:AX:118:GLN:OE1	2.43	0.44
42:BQ:808:A:HO2'	42:BQ:2412:G:HO2'	1.66	0.44
42:BQ:1253:U:N3	42:BQ:1264:G:OP1	2.46	0.44
54:AM:88:ALA:O	54:AM:93:LYS:NZ	2.33	0.44
62:AE:9:SER:HA	62:AE:52:THR:HG23	1.98	0.44
14:M:16:LYS:O	14:M:27:HIS:ND1	2.49	0.44
16:O:207:ASP:HB2	16:O:209:THR:HG22	2.00	0.44
19:R:246:GLU:OE1	19:R:246:GLU:N	2.51	0.44
22:U:118:LEU:HD21	34:2:640:U:C4	2.53	0.44
27:Z:18:ARG:NH1	34:2:918:U:O3'	2.50	0.44
29:BA:252:ILE:O	29:BA:264:VAL:HG21	2.17	0.44
34:2:623:A:H3'	34:2:624:G:H5''	2.00	0.44
34:2:992:A:O2'	34:2:1785:U:O2	2.23	0.44
34:2:1480:G:OP2	34:2:1481:C:N4	2.50	0.44
42:BQ:1621:A:H62	42:BQ:1820:U:H3	1.65	0.44
42:BQ:2523:A:OP1	63:AH:31:THR:HG22	2.17	0.44
60:BJ:75:ILE:HD11	60:BJ:88:ARG:CZ	2.47	0.44
34:2:540:G:C2	34:2:542:A:C5	3.06	0.44
34:2:640:U:O2'	34:2:641:G:OP1	2.34	0.44
34:2:1218:G:H5''	34:2:1444:A:H61	1.83	0.44
34:2:1523:G:N2	34:2:1523:G:OP2	2.50	0.44
42:BQ:1446:A:O2'	42:BQ:1447:G:OP2	2.32	0.44
42:BQ:1473:G:O3'	58:BF:23:TRP:NE1	2.45	0.44
42:BQ:1560:G:N1	42:BQ:1561:G:C6	2.86	0.44
44:BS:97:A:O2'	72:BP:59:ASN:OD1	2.35	0.44
65:AN:89:VAL:HG12	65:AN:93:LYS:HB3	1.99	0.44
3:B:160:VAL:HG12	13:L:43:ASN:ND2	2.33	0.44
9:H:29:VAL:O	9:H:33:THR:HG23	2.18	0.44
18:Q:180:THR:HG22	18:Q:183:GLN:OE1	2.17	0.44
20:S:193:GLY:O	20:S:210:ILE:HG23	2.18	0.44
24:W:65:LYS:HA	24:W:70:LEU:HD11	2.00	0.44
24:W:89:ASP:OD1	24:W:89:ASP:N	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:798:G:OP1	66:AR:33:GLY:N	2.51	0.44
42:BQ:2819:A:N6	42:BQ:2870:C:O2	2.50	0.44
42:BQ:3310:A:OP1	57:AX:71:ALA:HB2	2.18	0.44
69:BG:106:VAL:HA	69:BG:109:LEU:HD12	2.00	0.44
73:AF:21:ARG:HD2	73:AF:37:CYS:SG	2.58	0.44
3:B:180:ARG:NH2	34:2:1473:U:O4	2.51	0.43
9:H:76:PRO:O	9:H:79:TYR:N	2.47	0.43
18:Q:136:ARG:NH1	34:2:885:G:OP1	2.49	0.43
34:2:372:G:HO2'	34:2:611:U:H3	1.65	0.43
42:BQ:1223:A:OP2	42:BQ:1285:G:N2	2.50	0.43
42:BQ:1976:G:O5'	74:AI:59:ALA:O	2.34	0.43
45:AW:77:ILE:HG21	45:AW:169:ILE:HD12	2.00	0.43
57:AX:120:ASN:OD1	57:AX:120:ASN:N	2.51	0.43
60:BJ:80:VAL:CG2	60:BJ:85:LEU:HD12	2.47	0.43
69:BG:95:GLU:OE1	69:BG:120:THR:OG1	2.16	0.43
1:x:83:LYS:O	42:BQ:1762:C:OP2	2.32	0.43
1:x:113:GLY:HA2	1:x:184:ASN:O	2.18	0.43
4:C:35:ILE:HG22	4:C:37:THR:HG22	2.00	0.43
11:J:65:ILE:HG21	14:M:43:PHE:CE2	2.54	0.43
21:T:164:LYS:NZ	34:2:71:A:N7	2.47	0.43
34:2:1179:G:N2	34:2:1460:A:H62	2.11	0.43
42:BQ:494:G:H1	42:BQ:619:A:H61	1.66	0.43
42:BQ:1219:C:N3	42:BQ:1287:A:C6	2.87	0.43
42:BQ:1348:U:H5''	42:BQ:1355:A:H61	1.83	0.43
42:BQ:1564:U:N3	42:BQ:1576:G:C6	2.87	0.43
42:BQ:1751:G:O6	74:AI:44:LYS:NZ	2.49	0.43
42:BQ:1974:A:OP1	42:BQ:2048:G:N2	2.51	0.43
42:BQ:3152:U:OP2	42:BQ:3395:G:N2	2.40	0.43
52:AG:110:ILE:H	52:AG:110:ILE:HD12	1.83	0.43
2:A:176:LEU:HG	2:A:181:VAL:HG22	1.99	0.43
3:B:136:ALA:HB1	3:B:201:ALA:HB3	2.00	0.43
4:C:40:LEU:HD11	34:2:1217:A:C4	2.53	0.43
8:G:21:TYR:CE1	8:G:58:MET:HE1	2.53	0.43
16:O:244:ALA:O	16:O:252:LEU:HD12	2.18	0.43
21:T:171:LYS:HZ1	34:2:67:A:P	2.41	0.43
22:U:101:LYS:NZ	34:2:804:A:OP1	2.36	0.43
34:2:1144:U:O2'	34:2:1301:U:O2'	2.33	0.43
34:2:1667:A:O2'	42:BQ:1935:G:O2'	2.36	0.43
42:BQ:31:C:OP2	55:AQ:188:ARG:NH2	2.46	0.43
42:BQ:338:A:OP1	46:BE:48:GLN:N	2.51	0.43
42:BQ:1063:G:O2'	42:BQ:1097:G:N2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:147:LEU:O	49:BO:151:ARG:N	2.45	0.43
69:BG:23:ASP:OD1	69:BG:23:ASP:N	2.50	0.43
2:A:55:THR:O	2:A:58:VAL:HG22	2.17	0.43
34:2:748:U:C2	34:2:802:G:N1	2.86	0.43
34:2:871:G:N2	40:f:68:GLY:O	2.48	0.43
42:BQ:148:G:HO2'	42:BQ:149:U:P	2.39	0.43
42:BQ:600:G:C2'	42:BQ:602:A:H62	2.31	0.43
63:AH:129:ASP:OD1	63:AH:129:ASP:N	2.52	0.43
68:AY:10:ILE:HD13	68:AY:13:LYS:CE	2.48	0.43
15:N:87:THR:O	34:2:1445:G:N2	2.44	0.43
17:P:63:ILE:O	17:P:66:ALA:HB3	2.18	0.43
29:BA:250:ALA:HB1	42:BQ:2947:G:N3	2.33	0.43
34:2:487:G:O2'	34:2:488:G:O4'	2.35	0.43
34:2:655:G:O2'	34:2:677:G:O6	2.31	0.43
42:BQ:95:A:OP1	66:AR:52:TYR:OH	2.24	0.43
42:BQ:2745:G:N2	42:BQ:2748:A:OP2	2.44	0.43
50:AD:165:CYS:SG	50:AD:179:ILE:N	2.88	0.43
52:AG:53:THR:HG22	52:AG:60:ARG:HA	2.00	0.43
53:AJ:109:PHE:O	53:AJ:113:VAL:HG23	2.17	0.43
57:AX:108:ASP:N	57:AX:152:GLU:OE2	2.47	0.43
63:AH:117:ASN:OD1	63:AH:119:THR:HG22	2.18	0.43
71:BN:56:THR:O	71:BN:57:LEU:HD23	2.19	0.43
3:B:125:THR:O	3:B:127:GLN:N	2.51	0.43
6:E:14:THR:OG1	6:E:15:HIS:N	2.51	0.43
6:E:37:ALA:HB1	6:E:38:PRO:HD2	2.00	0.43
7:F:6:SER:N	7:F:96:TYR:OH	2.52	0.43
8:G:25:THR:HG23	8:G:27:ASP:H	1.84	0.43
13:L:36:THR:O	13:L:37:SER:OG	2.27	0.43
20:S:91:THR:HG23	20:S:98:ASN:HD21	1.82	0.43
29:BA:305:ILE:O	29:BA:361:THR:HG23	2.19	0.43
42:BQ:364:G:O6	73:AF:56:ARG:NE	2.46	0.43
42:BQ:1392:G:O2'	42:BQ:1417:G:N1	2.42	0.43
47:BI:80:SER:O	47:BI:92:LEU:HD22	2.19	0.43
57:AX:97:ASN:OD1	57:AX:101:ASN:ND2	2.51	0.43
69:BG:119:VAL:HG12	69:BG:121:ASN:H	1.84	0.43
73:AF:17:THR:OG1	73:AF:18:LEU:N	2.50	0.43
7:F:89:LEU:HG	7:F:105:LEU:HD21	2.01	0.43
19:R:80:VAL:HG12	19:R:102:VAL:CG1	2.49	0.43
20:S:70:VAL:HG23	20:S:90:ILE:HD11	2.01	0.43
25:X:67:ARG:NH2	34:2:115:G:N7	2.66	0.43
26:Y:21:ASN:OD1	26:Y:21:ASN:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:126:A:C6	34:2:292:U:C4	3.06	0.43
34:2:224:C:O2'	34:2:226:A:N7	2.45	0.43
34:2:1387:G:H21	34:2:1410:A:H61	1.66	0.43
42:BQ:1281:G:O6	42:BQ:1282:G:O6	2.37	0.43
42:BQ:1447:G:OP2	57:AX:27:LYS:NZ	2.50	0.43
42:BQ:2617:U:O3'	51:BD:116:ARG:NH2	2.44	0.43
30:AB:85:TRP:CE2	30:AB:93:LEU:HD21	2.53	0.43
35:a:66:ASP:OD1	35:a:67:ASP:N	2.49	0.43
36:b:111:MET:HE3	36:b:116:ALA:HA	2.00	0.43
44:BS:39:G:O2'	44:BS:105:A:N1	2.51	0.43
46:BE:299:ILE:HG22	46:BE:300:ARG:O	2.19	0.43
47:BI:177:GLU:OE1	47:BI:177:GLU:N	2.45	0.43
53:AJ:57:VAL:HG23	53:AJ:115:ARG:HD2	2.01	0.43
7:F:22:VAL:HG22	7:F:65:ILE:HG12	2.00	0.43
8:G:21:TYR:CD1	8:G:58:MET:HE1	2.54	0.43
22:U:28:GLU:OE2	22:U:39:ARG:N	2.52	0.43
22:U:31:SER:OG	22:U:34:LEU:HD11	2.19	0.43
34:2:92:A:P	34:2:398:G:H22	2.42	0.43
34:2:227:U:O2	34:2:834:G:N2	2.51	0.43
34:2:359:A:H62	37:c:35:GLY:HA3	1.84	0.43
34:2:610:G:O2'	34:2:613:G:O2'	2.12	0.43
34:2:1700:C:O2'	34:2:1701:A:O5'	2.27	0.43
36:b:47:ILE:O	36:b:66:ASN:ND2	2.52	0.43
42:BQ:1572:U:O2'	42:BQ:1573:G:O5'	2.28	0.43
42:BQ:1598:G:OP2	71:BN:31:ARG:NH1	2.47	0.43
42:BQ:2014:U:H2'	42:BQ:2015:C:C6	2.53	0.43
51:BD:146:ASP:HA	51:BD:149:VAL:HG22	2.01	0.43
66:AR:6:THR:HG22	66:AR:8:THR:H	1.84	0.43
5:D:103:LEU:HB2	5:D:115:VAL:HG22	2.01	0.43
14:M:36:LEU:HD23	14:M:36:LEU:H	1.83	0.43
28:AA:211:LEU:O	28:AA:215:VAL:HG13	2.18	0.43
35:a:4:ASP:OD1	35:a:5:LYS:N	2.51	0.43
42:BQ:364:G:OP1	46:BE:60:THR:HG22	2.19	0.43
42:BQ:3232:G:O6	42:BQ:3255:U:C4	2.72	0.43
65:AN:9:LYS:NZ	65:AN:83:THR:O	2.46	0.43
1:x:146:ARG:HA	1:x:231:LEU:HD11	2.01	0.42
18:Q:111:ARG:NH2	18:Q:114:VAL:HG21	2.34	0.42
20:S:182:TYR:O	20:S:226:PHE:N	2.52	0.42
34:2:513:U:N3	34:2:538:A:N6	2.67	0.42
34:2:1311:U:N3	34:2:1314:U:OP2	2.46	0.42
34:2:1483:A:N3	34:2:1607:G:O2'	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BQ:1306:G:N2	42:BQ:1307:G:N7	2.67	0.42
42:BQ:1416:C:O2'	42:BQ:1417:G:O4'	2.35	0.42
42:BQ:1975:C:H1'	74:AI:58:ASP:CG	2.40	0.42
45:AW:3:ARG:HB3	45:AW:207:VAL:HG22	2.01	0.42
57:AX:32:THR:O	57:AX:35:ALA:HB3	2.19	0.42
16:O:297:ASP:OD1	16:O:298:GLY:N	2.52	0.42
20:S:112:HIS:NE2	20:S:237:SER:OG	2.50	0.42
22:U:57:ALA:C	22:U:58:LEU:HD22	2.44	0.42
36:b:120:HIS:O	36:b:120:HIS:ND1	2.52	0.42
42:BQ:655:C:OP1	69:BG:27:ARG:N	2.52	0.42
42:BQ:1572:U:HO2'	42:BQ:1573:G:P	2.42	0.42
42:BQ:2888:U:O4'	42:BQ:2911:A:N6	2.51	0.42
42:BQ:3291:G:N1	42:BQ:3292:A:C6	2.87	0.42
43:BR:50:U:O2'	47:BI:224:LYS:NZ	2.39	0.42
45:AW:139:HIS:ND1	45:AW:146:THR:HG22	2.35	0.42
46:BE:138:ARG:O	46:BE:138:ARG:NH1	2.47	0.42
56:AU:9[A]:ILE:O	56:AU:36[A]:VAL:HG22	2.18	0.42
2:A:39:VAL:CA	2:A:47:GLU:O	2.60	0.42
7:F:113:ASP:CG	7:F:115:THR:HG22	2.44	0.42
9:H:126:ARG:NE	9:H:132:ARG:O	2.50	0.42
18:Q:111:ARG:HA	18:Q:114:VAL:HG22	2.01	0.42
24:W:70:LEU:O	24:W:74:ASN:ND2	2.53	0.42
34:2:438:A:O2'	34:2:465:G:N2	2.51	0.42
34:2:647:G:N2	34:2:687:G:H22	2.17	0.42
42:BQ:763:G:O2'	42:BQ:764:U:OP1	2.37	0.42
42:BQ:1306:G:O6	42:BQ:2366:C:O2'	2.28	0.42
42:BQ:1720:U:O4	58:BF:125:LYS:NZ	2.50	0.42
42:BQ:2261:G:O2'	42:BQ:2263:C:N4	2.52	0.42
42:BQ:3213:A:H62	54:AM:124:ARG:NH1	2.17	0.42
45:AW:126:LEU:HD12	45:AW:150:LEU:HD22	2.01	0.42
60:BJ:53:PRO:HB3	60:BJ:91:LEU:HD21	2.01	0.42
60:BJ:101:CYS:SG	60:BJ:102:ARG:N	2.92	0.42
74:AI:32:ASN:O	74:AI:33:LYS:NZ	2.34	0.42
76:AO:115:CYS:SG	76:AO:118:THR:HG22	2.60	0.42
15:N:133:ALA:HB2	34:2:1252:C:C1'	2.50	0.42
20:S:24:SER:O	20:S:24:SER:OG	2.36	0.42
20:S:57:ASN:O	20:S:61:VAL:HG23	2.19	0.42
29:BA:147:GLU:OE1	29:BA:147:GLU:N	2.50	0.42
34:2:647:G:H22	34:2:687:G:H1	1.66	0.42
34:2:1525:A:N3	34:2:1589:C:O2'	2.38	0.42
42:BQ:800:G:O6	46:BE:104:LYS:NZ	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BI:187:THR:O	47:BI:189:GLU:N	2.53	0.42
51:BD:189:GLU:OE1	51:BD:200:LEU:HD22	2.19	0.42
57:AX:33:ALA:HB1	57:AX:117:ILE:HD13	2.02	0.42
65:AN:9:LYS:HB2	65:AN:25:ILE:HD12	2.01	0.42
65:AN:81:LEU:HD12	65:AN:82:PRO:HD2	2.00	0.42
3:B:46:TRP:CE3	3:B:118:LEU:HD23	2.54	0.42
3:B:97:LEU:O	3:B:180:ARG:NH2	2.52	0.42
15:N:130:VAL:HG21	15:N:143:LYS:H	1.84	0.42
18:Q:164:ILE:HG22	18:Q:168:ILE:HD12	2.01	0.42
18:Q:210:ILE:O	18:Q:210:ILE:HG22	2.19	0.42
20:S:207:LEU:HD22	20:S:219:VAL:CG1	2.49	0.42
31:BB:171:LYS:NZ	42:BQ:89:A:N7	2.68	0.42
34:2:622:A:O2'	34:2:1032:G:OP2	2.31	0.42
34:2:711:U:O2'	34:2:712:G:OP2	2.29	0.42
34:2:814:A:N1	34:2:857:U:O4	2.52	0.42
34:2:1521:G:C4	34:2:1523:G:N2	2.87	0.42
42:BQ:2014:U:H2'	42:BQ:2015:C:H6	1.84	0.42
68:AY:9:SER:OG	68:AY:10:ILE:N	2.44	0.42
68:AY:66:LYS:NZ	68:AY:101:LEU:O	2.53	0.42
14:M:40:ARG:NH2	34:2:1198:G:O3'	2.52	0.42
15:N:150:VAL:O	15:N:151:ASN:ND2	2.51	0.42
20:S:87:MET:HE1	20:S:236:ILE:HG21	2.00	0.42
21:T:178:LEU:HD13	34:2:78:A:C2	2.55	0.42
27:Z:43:THR:HG23	27:Z:46:MET:H	1.84	0.42
29:BA:41:VAL:HG22	29:BA:185:GLY:O	2.20	0.42
29:BA:134:SER:O	29:BA:137:TYR:C	2.63	0.42
42:BQ:2424:A:OP1	55:AQ:90:ASN:ND2	2.47	0.42
42:BQ:3214:U:OP2	54:AM:128:ARG:NH1	2.52	0.42
43:BR:119:U:O5'	47:BI:258:LYS:NZ	2.50	0.42
46:BE:362:ASP:OD1	59:BH:28:ARG:NH2	2.53	0.42
47:BI:33:ARG:O	47:BI:37:VAL:HG22	2.19	0.42
53:AJ:164:GLU:OE1	53:AJ:164:GLU:N	2.53	0.42
61:BL:104:ARG:C	61:BL:105:LEU:HD12	2.45	0.42
4:C:56:LYS:NZ	4:C:68:LEU:O	2.42	0.42
10:I:108:LEU:C	10:I:114:VAL:HG12	2.45	0.42
13:L:12:VAL:HG23	13:L:28:VAL:HB	2.01	0.42
18:Q:78:ASP:OD1	18:Q:79:HIS:N	2.52	0.42
20:S:194:THR:OG1	20:S:194:THR:O	2.36	0.42
27:Z:115:ILE:N	39:e:62:TYR:OH	2.48	0.42
29:BA:296:THR:OG1	29:BA:357:LYS:O	2.37	0.42
34:2:580:A:O2'	34:2:582:U:OP2	2.23	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2:816:G:O6	34:2:857:U:O4	2.38	0.42
34:2:1640:C:O2	34:2:1763:A:N6	2.53	0.42
41:g:15:LYS:O	41:g:18:THR:HG22	2.19	0.42
42:BQ:28:C:O2'	42:BQ:61:A:N3	2.49	0.42
42:BQ:535:G:O2'	42:BQ:554:A:N6	2.28	0.42
44:BS:97:A:O5'	72:BP:63:ARG:NE	2.53	0.42
2:A:39:VAL:HG23	2:A:46:THR:OG1	2.20	0.42
7:F:41:PRO:O	7:F:43:ILE:HD12	2.20	0.42
17:P:140:ASN:ND2	19:R:60:SER:O	2.53	0.42
19:R:38:VAL:O	19:R:38:VAL:HG13	2.19	0.42
22:U:98:ILE:C	22:U:99:LEU:HD12	2.45	0.42
34:2:151:G:C2	34:2:164:A:C6	3.08	0.42
34:2:478:A:C5	34:2:539:G:N2	2.88	0.42
34:2:748:U:O2	34:2:802:G:C2	2.72	0.42
34:2:766:U:C2	34:2:770:A:N6	2.87	0.42
34:2:1213:G:C1'	34:2:1242:A:H61	2.32	0.42
46:BE:209:TYR:O	46:BE:230:VAL:HG23	2.20	0.42
51:BD:38:LYS:HG3	51:BD:41:ALA:HB2	2.02	0.42
71:BN:95:ILE:HG21	71:BN:95:ILE:HD13	1.85	0.42
17:P:36:TYR:OH	35:a:70:ASN:ND2	2.46	0.42
19:R:41:LEU:HD22	19:R:68:ILE:HD13	2.02	0.42
20:S:75:LYS:NZ	34:2:123:G:OP1	2.46	0.42
26:Y:128:TYR:CE1	26:Y:132:VAL:HG11	2.55	0.42
34:2:614:C:OP2	37:c:5:LYS:NZ	2.44	0.42
37:c:132:LEU:HD23	37:c:135:LEU:HD12	2.01	0.42
38:d:29:HIS:O	38:d:67:GLY:CA	2.67	0.42
38:d:35:VAL:HG11	38:d:40:LEU:HD21	2.01	0.42
42:BQ:524:U:O2'	54:AM:78:THR:HG21	2.19	0.42
42:BQ:2007:G:O6	42:BQ:2014:U:O4	2.38	0.42
42:BQ:3005:A:O2'	42:BQ:3140:G:N2	2.48	0.42
42:BQ:3332:U:H2'	42:BQ:3333:G:O4'	2.20	0.42
43:BR:3:U:O2'	43:BR:25:G:N3	2.53	0.42
44:BS:112:U:OP1	75:AL:8:ARG:NH1	2.51	0.42
51:BD:43:VAL:HG12	51:BD:171:TRP:CD1	2.54	0.42
54:AM:23:ILE:HG21	54:AM:28:SER:HB2	2.00	0.42
54:AM:72:LEU:HD12	54:AM:73:PRO:CD	2.50	0.42
59:BH:24:LEU:HD12	60:BJ:146:ASN:CG	2.45	0.42
64:AK:82:VAL:HG12	64:AK:83:ASP:O	2.19	0.42
65:AN:46:ILE:HG21	65:AN:49:TYR:CD1	2.55	0.42
6:E:49:MET:HE2	6:E:49:MET:HA	2.02	0.42
16:O:36:ALA:HB2	16:O:42:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:139:GLN:OE1	16:O:139:GLN:N	2.49	0.42
21:T:14:LYS:HB3	21:T:124:LEU:HD21	2.02	0.42
22:U:64:VAL:HG23	22:U:67:LEU:HB3	2.01	0.42
34:2:928:U:O3'	34:2:944:A:O2'	2.37	0.42
53:AJ:162:ASN:OD1	53:AJ:162:ASN:N	2.53	0.42
60:BJ:99:SER:OG	60:BJ:101:CYS:SG	2.51	0.42
70:BK:59:VAL:HG23	70:BK:60:ARG:H	1.85	0.42
1:x:82:PHE:CE1	42:BQ:1762:C:H6	2.38	0.41
3:B:92:ARG:NH2	34:2:1613:U:OP1	2.47	0.41
5:D:68:GLU:OE2	5:D:70:ASN:ND2	2.52	0.41
5:D:98:GLY:O	5:D:101:ALA:C	2.63	0.41
16:O:26:SER:OG	16:O:76:ASP:O	2.34	0.41
23:V:24:LYS:NZ	34:2:392:G:OP1	2.45	0.41
24:W:159:ALA:HB3	24:W:162:SER:HB3	2.01	0.41
33:BC:13:THR:OG1	33:BC:72:ARG:NH1	2.47	0.41
34:2:1267:G:O2'	34:2:1448:G:O2'	2.35	0.41
42:BQ:110:G:OP2	53:AJ:73:ARG:NH1	2.47	0.41
42:BQ:1222:G:O2'	42:BQ:1285:G:N1	2.50	0.41
42:BQ:1404:G:N2	42:BQ:1407:A:OP2	2.50	0.41
42:BQ:3268:A:OP1	57:AX:181:ARG:NH2	2.53	0.41
44:BS:95:G:O2'	73:AF:81:GLY:O	2.37	0.41
55:AQ:97:SER:OG	55:AQ:98:LEU:N	2.52	0.41
69:BG:78:ASN:HA	69:BG:108:ILE:HD11	2.01	0.41
80:BT:106:LYS:O	80:BT:132:GLY:N	2.52	0.41
6:E:91:GLY:N	6:E:107:ILE:O	2.52	0.41
16:O:68:VAL:HG23	16:O:68:VAL:O	2.20	0.41
16:O:183:LEU:HD23	16:O:183:LEU:H	1.84	0.41
18:Q:110:LEU:O	18:Q:114:VAL:HG22	2.20	0.41
22:U:82:GLU:OE1	22:U:164:TYR:OH	2.36	0.41
23:V:79:ALA:N	23:V:103:GLN:O	2.49	0.41
28:AA:228:GLU:O	28:AA:232:HIS:ND1	2.52	0.41
29:BA:87:VAL:HG23	29:BA:87:VAL:O	2.20	0.41
34:2:371:G:N2	34:2:612:U:O2	2.52	0.41
34:2:478:A:H62	34:2:539:G:N2	2.17	0.41
34:2:512:A:N1	34:2:539:G:C6	2.88	0.41
34:2:566:C:O3'	41:g:10:ARG:NH2	2.53	0.41
34:2:655:G:N2	34:2:678:A:C5	2.87	0.41
46:BE:206:LEU:HD23	46:BE:248:VAL:HG22	2.01	0.41
48:BM:104:GLU:OE1	48:BM:104:GLU:N	2.47	0.41
69:BG:69:SER:OG	69:BG:71:HIS:ND1	2.51	0.41
70:BK:72:THR:OG1	70:BK:73:ARG:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:41:LEU:HD12	5:D:121:VAL:HG13	2.01	0.41
5:D:41:LEU:HD21	5:D:43:ARG:CZ	2.50	0.41
16:O:80:ALA:O	16:O:91:LEU:HD12	2.20	0.41
25:X:78:THR:O	25:X:78:THR:HG22	2.19	0.41
28:AA:59:GLN:NE2	44:BS:150:G:H21	2.18	0.41
29:BA:19:ARG:NH2	42:BQ:3045:G:OP1	2.53	0.41
34:2:1174:C:H42	34:2:1465:C:H41	1.68	0.41
42:BQ:733:G:HO2'	42:BQ:735:A:N6	2.16	0.41
42:BQ:1813:A:O2'	42:BQ:1816:A:N3	2.29	0.41
46:BE:325:LEU:O	49:BO:41:ARG:NH2	2.52	0.41
53:AJ:62:THR:O	53:AJ:66:ASN:N	2.53	0.41
58:BF:25:ASP:N	58:BF:25:ASP:OD1	2.53	0.41
10:I:40:SER:OG	10:I:41:SER:N	2.53	0.41
18:Q:31:ASP:O	18:Q:96:LEU:HD23	2.20	0.41
20:S:108:ARG:NH1	34:2:788:A:OP2	2.52	0.41
20:S:183:VAL:HG11	20:S:188:ASN:HB2	2.02	0.41
22:U:64:VAL:O	22:U:64:VAL:HG22	2.19	0.41
28:AA:242:ALA:N	42:BQ:2586:G:O6	2.47	0.41
34:2:174:U:H3	34:2:266:A:H62	1.68	0.41
34:2:540:G:O2'	34:2:541:A:O3'	2.34	0.41
34:2:548:G:C6	34:2:591:A:N6	2.88	0.41
34:2:1272:U:C2	34:2:1438:G:O6	2.73	0.41
37:c:69:ARG:NH2	37:c:116:ASP:OD2	2.45	0.41
42:BQ:1896:A:H61	42:BQ:2339:C:H42	1.68	0.41
42:BQ:3109:G:OP1	76:AO:93:LYS:NZ	2.54	0.41
42:BQ:3248:C:O4'	56:AU:114[A]:LYS:NZ	2.54	0.41
50:AD:49:ASN:OD1	50:AD:52:LEU:N	2.53	0.41
51:BD:103:LEU:HD12	51:BD:108:ALA:HB1	2.02	0.41
18:Q:2:ALA:N	27:Z:49:LYS:O	2.54	0.41
20:S:207:LEU:HD22	20:S:219:VAL:HG12	2.02	0.41
26:Y:26:PHE:CZ	26:Y:28:LEU:HD12	2.56	0.41
33:BC:29:ALA:HB3	33:BC:30:PRO:HD3	2.02	0.41
34:2:151:G:C2	34:2:164:A:N1	2.89	0.41
34:2:541:A:HO2'	34:2:542:A:P	2.38	0.41
40:f:35:VAL:HG23	40:f:79:PHE:HB3	2.02	0.41
42:BQ:2094:C:H6	42:BQ:2094:C:C5'	2.25	0.41
42:BQ:2563:G:O6	42:BQ:2579:G:C2	2.73	0.41
42:BQ:2689:A:N6	42:BQ:2702:A:O2'	2.53	0.41
60:BJ:75:ILE:HD11	60:BJ:88:ARG:NH2	2.35	0.41
4:C:38:LYS:O	4:C:42:VAL:HG23	2.20	0.41
12:K:88:ILE:HG23	12:K:89:ILE:HG23	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BC:7:VAL:O	33:BC:7:VAL:HG13	2.20	0.41
36:b:83:ILE:H	36:b:83:ILE:HD12	1.86	0.41
39:e:23:CYS:SG	39:e:24:VAL:N	2.90	0.41
42:BQ:1182:A:O3'	59:BH:158:LYS:NZ	2.52	0.41
42:BQ:1238:C:N4	42:BQ:1245:A:OP2	2.53	0.41
42:BQ:1656:A:N6	42:BQ:1799:A:OP2	2.45	0.41
42:BQ:1976:G:O5'	74:AI:60:GLY:CA	2.68	0.41
42:BQ:2848:G:OP1	76:AO:100:TYR:OH	2.17	0.41
65:AN:26:VAL:HG23	65:AN:89:VAL:HG11	2.03	0.41
67:AV:16:ALA:O	67:AV:20:GLY:HA2	2.20	0.41
15:N:139:LEU:HD13	15:N:150:VAL:HG23	2.03	0.41
17:P:2:SER:OG	17:P:3:LEU:N	2.54	0.41
18:Q:78:ASP:OD1	18:Q:79:HIS:ND1	2.45	0.41
20:S:64:ILE:HD12	38:d:17:LEU:HB3	2.02	0.41
20:S:140:VAL:CG1	20:S:146:THR:HG22	2.48	0.41
24:W:58:ASP:C	24:W:61:THR:HG22	2.46	0.41
32:AC:19:SER:OG	32:AC:20:MET:N	2.54	0.41
34:2:141:U:O2'	34:2:142:G:O5'	2.29	0.41
34:2:1251:U:HO2'	34:2:1252:C:P	2.42	0.41
42:BQ:63:A:N3	42:BQ:78:U:O2'	2.45	0.41
42:BQ:800:G:OP1	53:AJ:19:GLN:NE2	2.53	0.41
42:BQ:1693:C:O2'	42:BQ:1772:U:O2'	2.14	0.41
42:BQ:1976:G:H8	74:AI:60:GLY:CA	2.29	0.41
42:BQ:2451:G:H21	42:BQ:2495:C:H5	1.68	0.41
42:BQ:2500:A:O2'	42:BQ:2501:U:OP1	2.31	0.41
42:BQ:3135:U:OP1	56:AU:148[A]:LYS:NZ	2.49	0.41
52:AG:26:SER:OG	52:AG:27:GLY:N	2.53	0.41
53:AJ:43:ALA:HB1	53:AJ:137:GLN:HE22	1.85	0.41
2:A:16:VAL:HG21	14:M:22:ARG:NH1	2.36	0.41
29:BA:269:GLN:NE2	42:BQ:3306:U:OP1	2.53	0.41
31:BB:30:VAL:O	31:BB:34:THR:HG23	2.21	0.41
42:BQ:503:C:O2	48:BM:23:LYS:NZ	2.36	0.41
42:BQ:2002:G:O6	42:BQ:2019:U:O4	2.39	0.41
42:BQ:3291:G:O6	42:BQ:3292:A:N6	2.54	0.41
43:BR:13:A:OP2	43:BR:67:G:N2	2.53	0.41
46:BE:330:TYR:HD1	49:BO:45:LEU:HD12	1.85	0.41
47:BI:234:ASP:OD1	47:BI:235:SER:N	2.54	0.41
54:AM:37:GLU:OE1	59:BH:95:ARG:NH2	2.53	0.41
55:AQ:73:ARG:O	55:AQ:75:VAL:N	2.54	0.41
56:AU:151[A]:ASP:OD1	56:AU:152[A]:VAL:N	2.54	0.41
68:AY:13:LYS:CB	68:AY:100:ILE:HD11	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:x:81:LYS:HE3	42:BQ:1759:C:H3'	2.03	0.41
1:x:384:GLN:OE1	42:BQ:2000:U:H5''	2.10	0.41
14:M:26:SER:HB3	14:M:39:CYS:SG	2.61	0.41
19:R:138:PRO:C	19:R:139:ILE:HD13	2.46	0.41
20:S:146:THR:OG1	34:2:123:G:N3	2.47	0.41
22:U:93:LEU:HD23	22:U:94:ALA:C	2.45	0.41
25:X:67:ARG:NE	34:2:115:G:OP1	2.42	0.41
29:BA:5:LYS:NZ	42:BQ:2925:C:OP2	2.54	0.41
29:BA:21:ARG:NH2	42:BQ:3309:G:O6	2.50	0.41
29:BA:227:GLU:HG2	29:BA:270:ARG:HE	1.86	0.41
30:AB:42:SER:OG	42:BQ:2931:C:O2'	2.39	0.41
30:AB:97:ASP:OD1	30:AB:98:ASN:N	2.49	0.41
34:2:1323:C:H2'	34:2:1324:G:O4'	2.20	0.41
34:2:1584:G:O2'	34:2:1585:U:OP2	2.39	0.41
37:c:92:CYS:O	37:c:96:VAL:HG22	2.21	0.41
42:BQ:1279:C:H2'	42:BQ:1280:C:O4'	2.20	0.41
42:BQ:1646:G:O2'	42:BQ:1808:G:N2	2.51	0.41
42:BQ:2538:U:O2'	42:BQ:2542:U:O2	2.32	0.41
42:BQ:2618:G:O2'	42:BQ:2865:U:OP1	2.31	0.41
51:BD:109:ASP:OD1	51:BD:110:ARG:N	2.53	0.41
60:BJ:105:PHE:O	60:BJ:109:VAL:HG23	2.21	0.41
71:BN:29:ILE:HD11	71:BN:31:ARG:NH2	2.36	0.41
74:AI:30:LYS:O	74:AI:31:LEU:HD22	2.21	0.41
19:R:237:VAL:HG22	19:R:238:SER:H	1.86	0.41
21:T:154:ARG:HG2	21:T:178:LEU:HD11	2.03	0.41
21:T:211:LEU:HD11	21:T:215:ARG:HH21	1.86	0.41
23:V:48:THR:HG21	23:V:54:LYS:HB2	2.03	0.41
26:Y:6:SER:OG	26:Y:7:ALA:N	2.54	0.41
34:2:566:C:O2'	41:g:10:ARG:NE	2.54	0.41
34:2:1225:U:O2	34:2:1230:A:O2'	2.17	0.41
42:BQ:53:G:OP1	73:AF:48:ASN:N	2.46	0.41
42:BQ:776:U:C4	42:BQ:2738:A:C6	3.09	0.41
42:BQ:829:U:H3	42:BQ:895:A:H62	1.69	0.41
42:BQ:1528:G:OP1	71:BN:9:ARG:NH1	2.53	0.41
42:BQ:2869:U:O2'	42:BQ:2873:U:OP1	2.37	0.41
42:BQ:3159:C:N3	42:BQ:3292:A:N1	2.69	0.41
44:BS:45:C:OP2	75:AL:15:LYS:NZ	2.54	0.41
52:AG:17:LEU:HD21	52:AG:19:LEU:HD21	2.03	0.41
61:BL:40:HIS:HA	61:BL:47:VAL:HG11	2.03	0.41
63:AH:79:GLY:HA3	63:AH:81:ILE:HD12	2.03	0.41
64:AK:51:ARG:HG2	64:AK:52:ARG:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:36:LEU:CD1	5:D:41:LEU:HD22	2.50	0.40
5:D:58:LEU:C	5:D:59:LEU:HD12	2.46	0.40
8:G:91:LEU:HD12	17:P:19:ALA:HB3	2.02	0.40
16:O:180:ALA:O	16:O:188:ILE:HD12	2.20	0.40
18:Q:38:PHE:CE1	18:Q:189:ILE:HD11	2.56	0.40
30:AB:80:ARG:NH1	30:AB:117:PRO:O	2.50	0.40
34:2:1363:U:O2'	34:2:1364:G:O4'	2.31	0.40
37:c:96:VAL:CG1	37:c:132:LEU:HD21	2.52	0.40
42:BQ:1565:G:H21	42:BQ:1566:A:H1'	1.86	0.40
42:BQ:3235:C:O2	42:BQ:3253:G:N2	2.54	0.40
65:AN:14:VAL:O	65:AN:19:ALA:HB1	2.21	0.40
74:AI:8:ILE:O	74:AI:12:LEU:HD23	2.20	0.40
1:x:291:TYR:CB	1:x:329:MET:HE1	2.51	0.40
3:B:81:ARG:NE	34:2:1615:C:OP2	2.52	0.40
18:Q:153:HIS:O	18:Q:154:SER:OG	2.32	0.40
28:AA:82:LEU:HD11	28:AA:178:ALA:HB1	2.02	0.40
34:2:276:C:O2'	34:2:277:U:O5'	2.35	0.40
34:2:1213:G:H1'	34:2:1242:A:H61	1.86	0.40
34:2:1795:U:OP1	39:e:86:VAL:HG13	2.20	0.40
42:BQ:1626:U:O4	42:BQ:1817:G:O6	2.40	0.40
79:AT:55:TRP:NE1	79:AT:67:GLY:O	2.45	0.40
1:x:81:LYS:CE	42:BQ:1759:C:N3	2.78	0.40
9:H:143:ARG:NH1	34:2:1462:G:OP2	2.48	0.40
14:M:21:CYS:SG	14:M:38:ILE:HA	2.61	0.40
17:P:30:GLN:NE2	17:P:34:GLU:O	2.55	0.40
18:Q:124:ASN:ND2	34:2:884:A:O2'	2.52	0.40
34:2:709:C:H41	34:2:729:G:H2'	1.86	0.40
34:2:1380:U:O2'	34:2:1516:A:N1	2.49	0.40
57:AX:114:VAL:O	57:AX:114:VAL:HG13	2.21	0.40
58:BF:135:LYS:O	58:BF:139:VAL:HG23	2.21	0.40
65:AN:24:VAL:HG21	65:AN:87:LEU:HD23	2.03	0.40
65:AN:132:SER:OG	65:AN:133:LYS:N	2.54	0.40
70:BK:11:GLY:O	70:BK:98:VAL:HG12	2.21	0.40
1:x:82:PHE:CZ	42:BQ:1762:C:C6	3.09	0.40
8:G:93:LEU:HD13	8:G:100:LEU:HB3	2.03	0.40
9:H:60:GLU:OE1	9:H:60:GLU:N	2.54	0.40
10:I:78:LYS:HZ3	34:2:1523:G:P	2.43	0.40
16:O:224:ASN:CB	16:O:231:MET:HE3	2.51	0.40
17:P:119:ARG:NE	19:R:240:LEU:HD22	2.36	0.40
20:S:207:LEU:HD23	20:S:220:THR:O	2.22	0.40
23:V:141:ARG:NH1	34:2:196:G:N7	2.60	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y:98:VAL:O	26:Y:102:LEU:HD23	2.22	0.40
36:b:90:THR:HA	36:b:94:LEU:HD23	2.02	0.40
42:BQ:664:U:H2'	42:BQ:665:A:C8	2.57	0.40
42:BQ:826:G:OP1	42:BQ:1590:G:O2'	2.32	0.40
47:BI:290:ILE:O	47:BI:295:GLY:N	2.53	0.40
49:BO:222:HIS:O	49:BO:225:GLN:N	2.51	0.40
74:AI:56:ILE:HG22	74:AI:58:ASP:H	1.86	0.40
2:A:161:GLY:O	2:A:164:VAL:HG12	2.21	0.40
9:H:57:ARG:NH1	34:2:1534:G:OP1	2.46	0.40
11:J:98:GLN:OE1	11:J:98:GLN:N	2.47	0.40
15:N:130:VAL:HG13	15:N:130:VAL:O	2.21	0.40
15:N:147:VAL:HG23	15:N:147:VAL:O	2.21	0.40
22:U:34:LEU:HD13	22:U:38:LEU:HD21	2.03	0.40
24:W:28:LEU:HD22	41:g:44:PHE:HE1	1.87	0.40
30:AB:93:LEU:H	30:AB:93:LEU:HD23	1.87	0.40
30:AB:128:ARG:O	30:AB:131:SER:OG	2.22	0.40
34:2:215:A:O2'	34:2:216:U:OP1	2.37	0.40
34:2:521:A:O2'	38:d:35:VAL:O	2.39	0.40
34:2:634:G:N1	34:2:965:U:OP2	2.54	0.40
34:2:1739:C:H2'	34:2:1740:A:O4'	2.21	0.40
39:e:49:ALA:O	39:e:53:LEU:HD23	2.20	0.40
42:BQ:874:U:N3	42:BQ:2978:U:OP1	2.48	0.40
42:BQ:1257:C:N3	42:BQ:1261:G:C2	2.90	0.40
42:BQ:2087:C:H2'	42:BQ:2088:A:H2'	2.04	0.40
42:BQ:2737:C:O2'	67:AV:36:ASP:OD1	2.39	0.40
42:BQ:3174:A:OP1	70:BK:97:SER:OG	2.31	0.40
42:BQ:3230:G:H4'	54:AM:132:LYS:HD3	2.04	0.40
44:BS:51:G:C8	75:AL:27:ILE:HD11	2.56	0.40
47:BI:232:ASP:OD1	47:BI:235:SER:OG	2.19	0.40
49:BO:88:ARG:NH1	49:BO:103:LEU:HD13	2.36	0.40
73:AF:22:CYS:O	73:AF:22:CYS:SG	2.79	0.40
80:BT:64:SER:O	80:BT:68:PHE:N	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	x	365/387 (94%)	349 (96%)	14 (4%)	2 (0%)	24	57
2	A	220/222 (99%)	208 (94%)	12 (6%)	0	100	100
3	B	204/206 (99%)	190 (93%)	14 (7%)	0	100	100
4	C	90/92 (98%)	77 (86%)	13 (14%)	0	100	100
5	D	119/121 (98%)	89 (75%)	29 (24%)	1 (1%)	16	48
6	E	115/142 (81%)	100 (87%)	15 (13%)	0	100	100
7	F	139/141 (99%)	124 (89%)	15 (11%)	0	100	100
8	G	117/125 (94%)	112 (96%)	5 (4%)	0	100	100
9	H	143/145 (99%)	129 (90%)	14 (10%)	0	100	100
10	I	141/143 (99%)	128 (91%)	13 (9%)	0	100	100
11	J	98/100 (98%)	88 (90%)	10 (10%)	0	100	100
12	K	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
13	L	61/63 (97%)	56 (92%)	5 (8%)	0	100	100
14	M	51/53 (96%)	49 (96%)	2 (4%)	0	100	100
15	N	71/73 (97%)	48 (68%)	23 (32%)	0	100	100
16	O	310/312 (99%)	265 (86%)	45 (14%)	0	100	100
17	P	204/206 (99%)	181 (89%)	23 (11%)	0	100	100
18	Q	222/232 (96%)	196 (88%)	26 (12%)	0	100	100
19	R	214/216 (99%)	189 (88%)	25 (12%)	0	100	100
20	S	256/258 (99%)	224 (88%)	32 (12%)	0	100	100
21	T	226/228 (99%)	210 (93%)	16 (7%)	0	100	100
22	U	182/184 (99%)	160 (88%)	22 (12%)	0	100	100
23	V	183/198 (92%)	164 (90%)	19 (10%)	0	100	100
24	W	182/184 (99%)	162 (89%)	19 (10%)	1 (0%)	24	57
25	X	140/142 (99%)	125 (89%)	15 (11%)	0	100	100
26	Y	148/150 (99%)	131 (88%)	17 (12%)	0	100	100
27	Z	125/127 (98%)	108 (86%)	17 (14%)	0	100	100
28	AA	231/233 (99%)	209 (90%)	22 (10%)	0	100	100
29	BA	384/386 (100%)	354 (92%)	30 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	AB	134/136 (98%)	127 (95%)	7 (5%)	0	100	100
31	BB	183/185 (99%)	170 (93%)	13 (7%)	0	100	100
32	AC	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
33	BC	107/109 (98%)	92 (86%)	15 (14%)	0	100	100
35	a	85/87 (98%)	72 (85%)	13 (15%)	0	100	100
36	b	127/129 (98%)	114 (90%)	13 (10%)	0	100	100
37	c	142/144 (99%)	122 (86%)	20 (14%)	0	100	100
38	d	132/134 (98%)	123 (93%)	9 (7%)	0	100	100
39	e	95/97 (98%)	85 (90%)	10 (10%)	0	100	100
40	f	79/81 (98%)	71 (90%)	8 (10%)	0	100	100
41	g	58/60 (97%)	48 (83%)	10 (17%)	0	100	100
45	AW	249/251 (99%)	220 (88%)	29 (12%)	0	100	100
46	BE	359/361 (99%)	320 (89%)	38 (11%)	1 (0%)	36	67
47	BI	292/294 (99%)	268 (92%)	24 (8%)	0	100	100
48	BM	163/175 (93%)	146 (90%)	17 (10%)	0	100	100
49	BO	220/222 (99%)	205 (93%)	15 (7%)	0	100	100
50	AD	189/191 (99%)	172 (91%)	17 (9%)	0	100	100
51	BD	216/218 (99%)	188 (87%)	28 (13%)	0	100	100
52	AG	167/169 (99%)	155 (93%)	12 (7%)	0	100	100
53	AJ	191/193 (99%)	169 (88%)	21 (11%)	1 (0%)	24	57
54	AM	134/136 (98%)	120 (90%)	14 (10%)	0	100	100
55	AQ	201/203 (99%)	181 (90%)	20 (10%)	0	100	100
56	AU	195/197 (99%)	186 (95%)	9 (5%)	0	100	100
57	AX	181/183 (99%)	165 (91%)	16 (9%)	0	100	100
58	BF	186/188 (99%)	178 (96%)	8 (4%)	0	100	100
59	BH	169/171 (99%)	157 (93%)	12 (7%)	0	100	100
60	BJ	157/159 (99%)	142 (90%)	15 (10%)	0	100	100
61	BL	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
62	AE	124/126 (98%)	106 (86%)	18 (14%)	0	100	100
63	AH	119/121 (98%)	110 (92%)	9 (8%)	0	100	100
64	AK	123/125 (98%)	116 (94%)	7 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
65	AN	133/135 (98%)	117 (88%)	16 (12%)	0	100	100
66	AR	146/148 (99%)	128 (88%)	18 (12%)	0	100	100
67	AV	56/58 (97%)	46 (82%)	10 (18%)	0	100	100
68	AY	94/96 (98%)	91 (97%)	3 (3%)	0	100	100
69	BG	125/127 (98%)	114 (91%)	11 (9%)	0	100	100
70	BK	104/106 (98%)	98 (94%)	6 (6%)	0	100	100
71	BN	110/112 (98%)	105 (96%)	5 (4%)	0	100	100
72	BP	117/119 (98%)	109 (93%)	8 (7%)	0	100	100
73	AF	79/81 (98%)	72 (91%)	7 (9%)	0	100	100
74	AI	75/77 (97%)	71 (95%)	4 (5%)	0	100	100
75	AL	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
76	AO	50/52 (96%)	43 (86%)	7 (14%)	0	100	100
77	AS	23/25 (92%)	23 (100%)	0	0	100	100
78	AP	101/103 (98%)	93 (92%)	8 (8%)	0	100	100
79	AT	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
80	BT	208/217 (96%)	166 (80%)	31 (15%)	11 (5%)	1	16
All	All	11551/11792 (98%)	10413 (90%)	1121 (10%)	17 (0%)	49	79

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
80	BT	56	PRO
80	BT	59	PRO
80	BT	87	VAL
80	BT	121	PRO
80	BT	126	PRO
80	BT	134	PHE
80	BT	135	PRO
1	x	69	LYS
5	D	109	GLU
46	BE	4	PRO
80	BT	61	PRO
80	BT	136	THR
80	BT	204	LEU
80	BT	36	VAL
53	AJ	61	PRO

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Mol	Chain	Res	Type
24	W	18	PRO
1	x	28	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	x	322/340 (95%)	321 (100%)	1 (0%)	86	84
2	A	182/182 (100%)	181 (100%)	1 (0%)	81	81
3	B	172/173 (99%)	172 (100%)	0	100	100
4	C	77/85 (91%)	77 (100%)	0	100	100
5	D	88/98 (90%)	88 (100%)	0	100	100
6	E	95/118 (80%)	95 (100%)	0	100	100
7	F	117/117 (100%)	117 (100%)	0	100	100
8	G	101/113 (89%)	101 (100%)	0	100	100
9	H	127/128 (99%)	127 (100%)	0	100	100
10	I	115/115 (100%)	115 (100%)	0	100	100
11	J	93/93 (100%)	93 (100%)	0	100	100
12	K	67/73 (92%)	67 (100%)	0	100	100
13	L	55/56 (98%)	55 (100%)	0	100	100
14	M	47/47 (100%)	46 (98%)	1 (2%)	47	64
15	N	56/63 (89%)	56 (100%)	0	100	100
16	O	250/257 (97%)	250 (100%)	0	100	100
17	P	170/173 (98%)	170 (100%)	0	100	100
18	Q	200/205 (98%)	200 (100%)	0	100	100
19	R	175/175 (100%)	175 (100%)	0	100	100
20	S	220/220 (100%)	220 (100%)	0	100	100
21	T	189/195 (97%)	189 (100%)	0	100	100
22	U	163/165 (99%)	163 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	V	148/159 (93%)	148 (100%)	0	100	100
24	W	156/157 (99%)	156 (100%)	0	100	100
25	X	126/127 (99%)	126 (100%)	0	100	100
26	Y	127/127 (100%)	127 (100%)	0	100	100
27	Z	90/96 (94%)	90 (100%)	0	100	100
28	AA	187/191 (98%)	187 (100%)	0	100	100
29	BA	318/322 (99%)	317 (100%)	1 (0%)	86	84
30	AB	104/104 (100%)	104 (100%)	0	100	100
31	BB	150/150 (100%)	150 (100%)	0	100	100
32	AC	80/81 (99%)	80 (100%)	0	100	100
33	BC	92/96 (96%)	92 (100%)	0	100	100
35	a	71/74 (96%)	71 (100%)	0	100	100
36	b	110/110 (100%)	110 (100%)	0	100	100
37	c	119/119 (100%)	119 (100%)	0	100	100
38	d	102/112 (91%)	102 (100%)	0	100	100
39	e	82/83 (99%)	82 (100%)	0	100	100
40	f	70/70 (100%)	70 (100%)	0	100	100
41	g	50/51 (98%)	50 (100%)	0	100	100
45	AW	190/193 (98%)	190 (100%)	0	100	100
46	BE	288/288 (100%)	287 (100%)	1 (0%)	86	84
47	BI	241/243 (99%)	241 (100%)	0	100	100
48	BM	139/154 (90%)	139 (100%)	0	100	100
49	BO	186/186 (100%)	186 (100%)	0	100	100
50	AD	168/171 (98%)	168 (100%)	0	100	100
51	BD	185/185 (100%)	185 (100%)	0	100	100
52	AG	145/147 (99%)	145 (100%)	0	100	100
53	AJ	154/154 (100%)	154 (100%)	0	100	100
54	AM	107/107 (100%)	107 (100%)	0	100	100
55	AQ	175/175 (100%)	174 (99%)	1 (1%)	78	79
56	AU	160/160 (100%)	160 (100%)	0	100	100
57	AX	138/145 (95%)	138 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
58	BF	152/153 (99%)	152 (100%)	0	100	100
59	BH	155/155 (100%)	155 (100%)	0	100	100
60	BJ	135/136 (99%)	135 (100%)	0	100	100
61	BL	87/87 (100%)	87 (100%)	0	100	100
62	AE	56/108 (52%)	56 (100%)	0	100	100
63	AH	104/105 (99%)	104 (100%)	0	100	100
64	AK	108/108 (100%)	108 (100%)	0	100	100
65	AN	112/115 (97%)	112 (100%)	0	100	100
66	AR	117/118 (99%)	117 (100%)	0	100	100
67	AV	46/46 (100%)	46 (100%)	0	100	100
68	AY	81/81 (100%)	81 (100%)	0	100	100
69	BG	108/109 (99%)	108 (100%)	0	100	100
70	BK	90/90 (100%)	90 (100%)	0	100	100
71	BN	95/95 (100%)	95 (100%)	0	100	100
72	BP	104/104 (100%)	104 (100%)	0	100	100
73	AF	67/67 (100%)	65 (97%)	2 (3%)	36	57
74	AI	68/68 (100%)	68 (100%)	0	100	100
75	AL	45/45 (100%)	45 (100%)	0	100	100
76	AO	45/47 (96%)	43 (96%)	2 (4%)	25	49
77	AS	22/23 (96%)	22 (100%)	0	100	100
78	AP	87/88 (99%)	87 (100%)	0	100	100
79	AT	71/71 (100%)	71 (100%)	0	100	100
All	All	9494/9747 (97%)	9484 (100%)	10 (0%)	87	89

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	x	221	SER
2	A	168	ILE
14	M	42	CYS
29	BA	104	THR
46	BE	12	THR
55	AQ	27	VAL
73	AF	19	CYS

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Mol	Chain	Res	Type
73	AF	22	CYS
76	AO	112	LYS
76	AO	115	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
1	x	275	HIS
1	x	349	GLN
1	x	356	GLN
3	B	103	ASN
3	B	158	GLN
4	C	29	GLN
7	F	32	ASN
9	H	6	GLN
9	H	25	ASN
9	H	71	GLN
9	H	104	ASN
11	J	49	ASN
15	N	123	ASN
15	N	151	ASN
16	O	106	HIS
17	P	39	ASN
26	Y	58	HIS
28	AA	59	GLN
28	AA	85	ASN
28	AA	192	GLN
28	AA	240	ASN
29	BA	139	GLN
29	BA	279	ASN
31	BB	23	ASN
31	BB	126	GLN
36	b	70	ASN
38	d	34	ASN
40	f	51	GLN
45	AW	97	ASN
45	AW	140	ASN
45	AW	144	ASN
45	AW	187	HIS
45	AW	194	ASN
45	AW	205	ASN
46	BE	243	HIS

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Mol	Chain	Res	Type
47	BI	63	GLN
47	BI	296	GLN
49	BO	93	ASN
49	BO	186	HIS
50	AD	64	HIS
50	AD	116	ASN
50	AD	162	GLN
51	BD	55	ASN
52	AG	43	GLN
53	AJ	160	GLN
54	AM	56	GLN
56	AU	122[A]	GLN
57	AX	34	GLN
57	AX	55	GLN
59	BH	138	GLN
62	AE	59	HIS
65	AN	103	GLN
65	AN	122	HIS
66	AR	11	HIS
67	AV	6	ASN
67	AV	43	HIS
68	AY	75	ASN
69	BG	35	GLN
69	BG	49	ASN
70	BK	26	ASN
70	BK	88	ASN
70	BK	106	ASN
72	BP	16	GLN
73	AF	12	HIS
73	AF	30	GLN
75	AL	32	ASN
78	AP	23	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	2	1768/1798 (98%)	536 (30%)	53 (2%)
42	BQ	3296/3301 (99%)	760 (23%)	44 (1%)
43	BR	120/121 (99%)	15 (12%)	1 (0%)
44	BS	157/158 (99%)	32 (20%)	3 (1%)
All	All	5341/5378 (99%)	1343 (25%)	101 (1%)

All (1343) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
34	2	2	A
34	2	4	C
34	2	14	C
34	2	25	C
34	2	26	A
34	2	34	G
34	2	43	A
34	2	45	U
34	2	47	A
34	2	56	U
34	2	57	G
34	2	62	A
34	2	65	A
34	2	67	A
34	2	68	A
34	2	69	G
34	2	73	U
34	2	74	U
34	2	75	U
34	2	76	A
34	2	78	A
34	2	79	C
34	2	80	A
34	2	81	G
34	2	104	A
34	2	114	C
34	2	116	U
34	2	121	U
34	2	127	G
34	2	129	U
34	2	130	C
34	2	131	C
34	2	132	U
34	2	133	U
34	2	134	U
34	2	135	A
34	2	136	C
34	2	137	U
34	2	138	A
34	2	140	A
34	2	141	U
34	2	142	G

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Mol	Chain	Res	Type
34	2	153	G
34	2	155	U
34	2	156	A
34	2	158	U
34	2	161	U
34	2	168	A
34	2	171	A
34	2	172	C
34	2	174	U
34	2	176	C
34	2	178	U
34	2	179	A
34	2	182	A
34	2	185	U
34	2	186	C
34	2	187	G
34	2	188	A
34	2	189	C
34	2	191	C
34	2	193	U
34	2	194	U
34	2	195	G
34	2	201	G
34	2	203	U
34	2	204	G
34	2	216	U
34	2	217	A
34	2	218	A
34	2	223	U
34	2	224	C
34	2	225	A
34	2	227	U
34	2	228	G
34	2	230	C
34	2	232	U
34	2	233	C
34	2	234	G
34	2	235	G
34	2	236	A
34	2	238	U
34	2	240	U
34	2	241	U

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Mol	Chain	Res	Type
34	2	243	G
34	2	246	G
34	2	250	C
34	2	256	A
34	2	260	U
34	2	261	U
34	2	265	A
34	2	270	C
34	2	272	U
34	2	274	G
34	2	276	C
34	2	277	U
34	2	278	U
34	2	279	G
34	2	280	U
34	2	287	G
34	2	299	A
34	2	313	U
34	2	314	C
34	2	316	A
34	2	320	U
34	2	321	C
34	2	322	G
34	2	323	A
34	2	324	U
34	2	330	G
34	2	333	A
34	2	334	G
34	2	337	G
34	2	338	C
34	2	352	A
34	2	353	A
34	2	359	A
34	2	360	A
34	2	361	C
34	2	369	A
34	2	370	A
34	2	373	G
34	2	378	A
34	2	380	U
34	2	388	G
34	2	390	G

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Mol	Chain	Res	Type
34	2	400	A
34	2	401	A
34	2	402	C
34	2	404	G
34	2	406	U
34	2	411	C
34	2	415	C
34	2	417	A
34	2	419	G
34	2	423	G
34	2	424	C
34	2	425	A
34	2	426	G
34	2	434	G
34	2	435	C
34	2	438	A
34	2	439	U
34	2	444	C
34	2	446	A
34	2	447	U
34	2	448	C
34	2	454	U
34	2	460	A
34	2	468	A
34	2	482	U
34	2	485	A
34	2	487	G
34	2	489	C
34	2	491	C
34	2	492	A
34	2	493	U
34	2	494	U
34	2	495	C
34	2	496	G
34	2	498	G
34	2	499	U
34	2	500	C
34	2	502	U
34	2	506	A
34	2	507	U
34	2	510	G
34	2	511	A

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Mol	Chain	Res	Type
34	2	512	A
34	2	513	U
34	2	517	U
34	2	518	A
34	2	519	C
34	2	520	A
34	2	525	A
34	2	527	A
34	2	529	A
34	2	534	A
34	2	538	A
34	2	539	G
34	2	540	G
34	2	541	A
34	2	542	A
34	2	543	C
34	2	554	C
34	2	555	A
34	2	556	A
34	2	557	G
34	2	558	U
34	2	565	C
34	2	571	G
34	2	572	C
34	2	578	U
34	2	579	A
34	2	580	A
34	2	594	A
34	2	595	G
34	2	606	A
34	2	609	U
34	2	610	G
34	2	611	U
34	2	617	U
34	2	619	A
34	2	620	A
34	2	623	A
34	2	624	G
34	2	635	A
34	2	638	U
34	2	639	U
34	2	640	U

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Mol	Chain	Res	Type
34	2	641	G
34	2	643	G
34	2	645	C
34	2	651	G
34	2	653	C
34	2	654	C
34	2	655	G
34	2	656	G
34	2	677	G
34	2	678	A
34	2	680	U
34	2	682	C
34	2	684	A
34	2	687	G
34	2	693	U
34	2	694	U
34	2	696	C
34	2	697	C
34	2	698	U
34	2	700	C
34	2	702	G
34	2	703	G
34	2	704	C
34	2	705	U
34	2	706	A
34	2	707	A
34	2	708	C
34	2	709	C
34	2	710	U
34	2	711	U
34	2	712	G
34	2	714	G
34	2	728	U
34	2	729	G
34	2	730	G
34	2	732	G
34	2	733	A
34	2	736	C
34	2	738	G
34	2	739	G
34	2	741	C
34	2	742	U

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Mol	Chain	Res	Type
34	2	743	U
34	2	744	U
34	2	745	U
34	2	753	A
34	2	755	A
34	2	756	A
34	2	765	G
34	2	766	U
34	2	771	A
34	2	774	A
34	2	775	G
34	2	778	G
34	2	781	U
34	2	782	U
34	2	783	G
34	2	787	G
34	2	789	A
34	2	794	U
34	2	804	A
34	2	807	A
34	2	812	A
34	2	813	U
34	2	814	A
34	2	815	G
34	2	816	G
34	2	818	C
34	2	819	G
34	2	820	U
34	2	821	U
34	2	823	G
34	2	832	U
34	2	833	U
34	2	836	U
34	2	837	G
34	2	839	U
34	2	840	U
34	2	841	U
34	2	846	G
34	2	851	U
34	2	852	C
34	2	855	A
34	2	856	A

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Mol	Chain	Res	Type
34	2	857	U
34	2	863	A
34	2	865	A
34	2	873	U
34	2	876	G
34	2	877	G
34	2	882	U
34	2	886	U
34	2	898	A
34	2	899	G
34	2	901	G
34	2	902	G
34	2	904	G
34	2	912	U
34	2	913	G
34	2	929	A
34	2	932	U
34	2	933	A
34	2	934	C
34	2	935	U
34	2	940	A
34	2	945	U
34	2	960	U
34	2	964	U
34	2	966	A
34	2	970	A
34	2	973	A
34	2	977	A
34	2	988	A
34	2	989	U
34	2	992	A
34	2	996	U
34	2	998	A
34	2	1001	A
34	2	1004	U
34	2	1024	U
34	2	1026	A
34	2	1028	C
34	2	1029	U
34	2	1032	G
34	2	1039	A
34	2	1040	G

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Mol	Chain	Res	Type
34	2	1052	U
34	2	1053	G
34	2	1057	U
34	2	1058	U
34	2	1059	U
34	2	1060	U
34	2	1061	A
34	2	1062	A
34	2	1063	U
34	2	1074	G
34	2	1080	U
34	2	1081	A
34	2	1082	C
34	2	1092	A
34	2	1096	C
34	2	1099	U
34	2	1100	G
34	2	1109	G
34	2	1111	G
34	2	1113	A
34	2	1138	A
34	2	1156	C
34	2	1158	C
34	2	1160	A
34	2	1164	G
34	2	1167	G
34	2	1170	G
34	2	1183	A
34	2	1185	U
34	2	1186	U
34	2	1187	U
34	2	1191	U
34	2	1194	A
34	2	1196	A
34	2	1197	C
34	2	1199	G
34	2	1200	G
34	2	1208	A
34	2	1212	G
34	2	1214	U
34	2	1217	A
34	2	1218	G

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Mol	Chain	Res	Type
34	2	1227	A
34	2	1229	G
34	2	1241	G
34	2	1243	G
34	2	1244	A
34	2	1245	G
34	2	1246	C
34	2	1251	U
34	2	1252	C
34	2	1256	A
34	2	1257	U
34	2	1258	U
34	2	1263	G
34	2	1264	G
34	2	1265	G
34	2	1269	U
34	2	1273	G
34	2	1274	C
34	2	1275	A
34	2	1276	U
34	2	1285	U
34	2	1294	G
34	2	1301	U
34	2	1307	U
34	2	1314	U
34	2	1315	U
34	2	1318	G
34	2	1321	A
34	2	1322	A
34	2	1325	A
34	2	1337	A
34	2	1341	A
34	2	1344	A
34	2	1345	A
34	2	1346	A
34	2	1348	A
34	2	1349	G
34	2	1354	G
34	2	1360	A
34	2	1361	U
34	2	1363	U
34	2	1367	G

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Mol	Chain	Res	Type
34	2	1370	U
34	2	1371	A
34	2	1372	U
34	2	1373	C
34	2	1381	U
34	2	1382	A
34	2	1383	G
34	2	1385	G
34	2	1390	U
34	2	1398	U
34	2	1399	C
34	2	1400	A
34	2	1402	G
34	2	1414	U
34	2	1415	U
34	2	1421	A
34	2	1427	A
34	2	1431	C
34	2	1432	U
34	2	1433	G
34	2	1446	A
34	2	1447	C
34	2	1448	G
34	2	1457	C
34	2	1458	G
34	2	1459	C
34	2	1460	A
34	2	1469	A
34	2	1472	C
34	2	1473	U
34	2	1479	A
34	2	1482	C
34	2	1483	A
34	2	1488	G
34	2	1489	U
34	2	1490	C
34	2	1491	U
34	2	1492	A
34	2	1493	A
34	2	1496	U
34	2	1510	U
34	2	1514	U

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Mol	Chain	Res	Type
34	2	1515	A
34	2	1516	A
34	2	1517	U
34	2	1518	C
34	2	1521	G
34	2	1523	G
34	2	1524	A
34	2	1528	U
34	2	1529	C
34	2	1531	G
34	2	1537	C
34	2	1540	G
34	2	1543	A
34	2	1545	A
34	2	1556	A
34	2	1557	U
34	2	1558	U
34	2	1559	A
34	2	1572	G
34	2	1573	A
34	2	1574	G
34	2	1575	G
34	2	1576	A
34	2	1583	A
34	2	1584	G
34	2	1585	U
34	2	1590	G
34	2	1592	A
34	2	1601	G
34	2	1607	G
34	2	1611	A
34	2	1614	A
34	2	1616	G
34	2	1619	C
34	2	1622	G
34	2	1634	C
34	2	1637	C
34	2	1657	U
34	2	1658	G
34	2	1660	A
34	2	1673	G
34	2	1676	U

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Mol	Chain	Res	Type
34	2	1682	U
34	2	1688	U
34	2	1689	A
34	2	1693	A
34	2	1700	C
34	2	1701	A
34	2	1702	A
34	2	1703	C
34	2	1709	C
34	2	1711	C
34	2	1712	A
34	2	1715	G
34	2	1717	G
34	2	1736	G
34	2	1740	A
34	2	1755	A
34	2	1757	G
34	2	1760	G
34	2	1762	A
34	2	1766	A
34	2	1767	G
34	2	1769	U
34	2	1770	U
34	2	1780	G
34	2	1782	A
34	2	1783	C
34	2	1788	G
34	2	1792	G
34	2	1793	G
34	2	1794	A
34	2	1796	C
34	2	1799	U
42	BQ	6	A
42	BQ	11	A
42	BQ	14	U
42	BQ	15	C
42	BQ	21	G
42	BQ	22	G
42	BQ	26	A
42	BQ	30	G
42	BQ	40	A
42	BQ	43	A

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Mol	Chain	Res	Type
42	BQ	44	U
42	BQ	48	A
42	BQ	49	A
42	BQ	51	A
42	BQ	57	A
42	BQ	60	A
42	BQ	65	A
42	BQ	66	A
42	BQ	73	C
42	BQ	74	G
42	BQ	76	G
42	BQ	85	A
42	BQ	89	A
42	BQ	92	G
42	BQ	109	A
42	BQ	110	G
42	BQ	111	C
42	BQ	113	C
42	BQ	120	G
42	BQ	121	A
42	BQ	122	A
42	BQ	133	U
42	BQ	136	G
42	BQ	143	G
42	BQ	150	A
42	BQ	156	G
42	BQ	157	A
42	BQ	166	C
42	BQ	173	G
42	BQ	187	A
42	BQ	190	U
42	BQ	191	U
42	BQ	200	C
42	BQ	206	G
42	BQ	210	U
42	BQ	211	A
42	BQ	213	A
42	BQ	218	G
42	BQ	219	A
42	BQ	221	A
42	BQ	231	G
42	BQ	236	G

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Mol	Chain	Res	Type
42	BQ	239	G
42	BQ	240	U
42	BQ	243	G
42	BQ	249	U
42	BQ	252	U
42	BQ	258	G
42	BQ	263	C
42	BQ	269	G
42	BQ	282	G
42	BQ	283	G
42	BQ	286	U
42	BQ	295	A
42	BQ	298	U
42	BQ	315	C
42	BQ	323	A
42	BQ	329	U
42	BQ	330	G
42	BQ	334	A
42	BQ	338	A
42	BQ	339	C
42	BQ	346	C
42	BQ	350	C
42	BQ	351	A
42	BQ	376	G
42	BQ	385	A
42	BQ	390	G
42	BQ	395	A
42	BQ	397	A
42	BQ	399	A
42	BQ	401	U
42	BQ	402	A
42	BQ	403	C
42	BQ	404	G
42	BQ	421	G
42	BQ	422	A
42	BQ	438	A
42	BQ	440	A
42	BQ	441	U
42	BQ	442	G
42	BQ	443	G
42	BQ	445	G
42	BQ	446	U

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Mol	Chain	Res	Type
42	BQ	447	U
42	BQ	448	U
42	BQ	449	U
42	BQ	450	G
42	BQ	487	U
42	BQ	488	U
42	BQ	489	U
42	BQ	490	C
42	BQ	491	A
42	BQ	492	C
42	BQ	494	G
42	BQ	498	A
42	BQ	510	G
42	BQ	515	C
42	BQ	517	G
42	BQ	520	U
42	BQ	521	A
42	BQ	535	G
42	BQ	543	C
42	BQ	544	C
42	BQ	545	U
42	BQ	546	C
42	BQ	547	G
42	BQ	552	G
42	BQ	555	U
42	BQ	557	A
42	BQ	559	A
42	BQ	568	G
42	BQ	578	A
42	BQ	579	G
42	BQ	597	G
42	BQ	600	G
42	BQ	603	A
42	BQ	604	G
42	BQ	609	G
42	BQ	610	G
42	BQ	611	A
42	BQ	612	U
42	BQ	619	A
42	BQ	620	U
42	BQ	621	A
42	BQ	625	G

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Mol	Chain	Res	Type
42	BQ	637	C
42	BQ	638	C
42	BQ	642	U
42	BQ	649	A
42	BQ	650	C
42	BQ	660	A
42	BQ	667	C
42	BQ	677	A
42	BQ	681	U
42	BQ	691	A
42	BQ	699	A
42	BQ	705	A
42	BQ	712	G
42	BQ	716	A
42	BQ	718	G
42	BQ	719	U
42	BQ	720	A
42	BQ	726	G
42	BQ	737	G
42	BQ	742	G
42	BQ	758	C
42	BQ	763	G
42	BQ	764	U
42	BQ	765	C
42	BQ	766	U
42	BQ	767	U
42	BQ	771	A
42	BQ	774	G
42	BQ	776	U
42	BQ	777	U
42	BQ	780	A
42	BQ	781	G
42	BQ	785	G
42	BQ	786	A
42	BQ	806	A
42	BQ	808	A
42	BQ	817	A
42	BQ	830	A
42	BQ	832	G
42	BQ	848	A
42	BQ	849	C
42	BQ	850	U

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Mol	Chain	Res	Type
42	BQ	851	C
42	BQ	861	C
42	BQ	865	U
42	BQ	868	C
42	BQ	871	U
42	BQ	874	U
42	BQ	879	U
42	BQ	894	G
42	BQ	895	A
42	BQ	896	A
42	BQ	899	U
42	BQ	906	A
42	BQ	907	G
42	BQ	908	G
42	BQ	914	A
42	BQ	916	G
42	BQ	917	A
42	BQ	921	A
42	BQ	923	C
42	BQ	932	U
42	BQ	934	G
42	BQ	937	G
42	BQ	944	C
42	BQ	959	C
42	BQ	960	U
42	BQ	971	G
42	BQ	974	G
42	BQ	981	U
42	BQ	982	C
42	BQ	991	G
42	BQ	1002	A
42	BQ	1012	G
42	BQ	1015	U
42	BQ	1018	G
42	BQ	1020	G
42	BQ	1021	G
42	BQ	1024	G
42	BQ	1026	A
42	BQ	1028	U
42	BQ	1029	G
42	BQ	1040	A
42	BQ	1041	U

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Mol	Chain	Res	Type
42	BQ	1045	C
42	BQ	1047	A
42	BQ	1049	C
42	BQ	1064	A
42	BQ	1065	A
42	BQ	1072	G
42	BQ	1081	U
42	BQ	1093	A
42	BQ	1094	U
42	BQ	1095	U
42	BQ	1096	U
42	BQ	1097	G
42	BQ	1098	A
42	BQ	1103	A
42	BQ	1104	G
42	BQ	1117	G
42	BQ	1118	C
42	BQ	1128	U
42	BQ	1131	G
42	BQ	1144	U
42	BQ	1145	G
42	BQ	1148	G
42	BQ	1153	A
42	BQ	1158	A
42	BQ	1159	A
42	BQ	1177	G
42	BQ	1178	G
42	BQ	1180	A
42	BQ	1181	U
42	BQ	1182	A
42	BQ	1190	A
42	BQ	1192	C
42	BQ	1193	A
42	BQ	1196	C
42	BQ	1197	A
42	BQ	1201	C
42	BQ	1202	A
42	BQ	1206	G
42	BQ	1208	U
42	BQ	1217	A
42	BQ	1218	U
42	BQ	1222	G

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Mol	Chain	Res	Type
42	BQ	1223	A
42	BQ	1227	C
42	BQ	1229	G
42	BQ	1234	G
42	BQ	1236	G
42	BQ	1237	G
42	BQ	1238	C
42	BQ	1239	C
42	BQ	1240	A
42	BQ	1241	U
42	BQ	1242	G
42	BQ	1243	G
42	BQ	1244	A
42	BQ	1245	A
42	BQ	1246	G
42	BQ	1248	C
42	BQ	1251	A
42	BQ	1253	U
42	BQ	1258	U
42	BQ	1262	G
42	BQ	1263	A
42	BQ	1264	G
42	BQ	1266	G
42	BQ	1267	U
42	BQ	1269	U
42	BQ	1270	A
42	BQ	1271	A
42	BQ	1272	C
42	BQ	1278	A
42	BQ	1279	C
42	BQ	1280	C
42	BQ	1282	G
42	BQ	1285	G
42	BQ	1286	A
42	BQ	1287	A
42	BQ	1295	G
42	BQ	1307	G
42	BQ	1308	A
42	BQ	1309	U
42	BQ	1313	G
42	BQ	1316	C
42	BQ	1318	A

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Mol	Chain	Res	Type
42	BQ	1325	U
42	BQ	1330	A
42	BQ	1345	G
42	BQ	1348	U
42	BQ	1349	G
42	BQ	1351	U
42	BQ	1352	A
42	BQ	1354	G
42	BQ	1355	A
42	BQ	1356	U
42	BQ	1357	G
42	BQ	1386	A
42	BQ	1392	G
42	BQ	1399	A
42	BQ	1400	G
42	BQ	1418	A
42	BQ	1419	A
42	BQ	1421	G
42	BQ	1429	G
42	BQ	1430	U
42	BQ	1431	G
42	BQ	1434	G
42	BQ	1437	C
42	BQ	1442	U
42	BQ	1443	G
42	BQ	1446	A
42	BQ	1450	G
42	BQ	1455	U
42	BQ	1481	A
42	BQ	1482	A
42	BQ	1483	G
42	BQ	1484	U
42	BQ	1487	G
42	BQ	1488	G
42	BQ	1503	A
42	BQ	1508	C
42	BQ	1511	U
42	BQ	1523	U
42	BQ	1528	G
42	BQ	1533	U
42	BQ	1536	G
42	BQ	1542	G

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Mol	Chain	Res	Type
42	BQ	1549	U
42	BQ	1555	U
42	BQ	1556	C
42	BQ	1557	A
42	BQ	1559	A
42	BQ	1560	G
42	BQ	1562	C
42	BQ	1563	C
42	BQ	1565	G
42	BQ	1566	A
42	BQ	1567	U
42	BQ	1568	U
42	BQ	1569	U
42	BQ	1572	U
42	BQ	1573	G
42	BQ	1574	C
42	BQ	1575	A
42	BQ	1576	G
42	BQ	1580	A
42	BQ	1581	C
42	BQ	1582	C
42	BQ	1583	A
42	BQ	1587	A
42	BQ	1588	A
42	BQ	1589	A
42	BQ	1590	G
42	BQ	1602	A
42	BQ	1605	A
42	BQ	1621	A
42	BQ	1629	U
42	BQ	1632	A
42	BQ	1639	C
42	BQ	1642	A
42	BQ	1643	A
42	BQ	1645	U
42	BQ	1658	G
42	BQ	1677	G
42	BQ	1683	A
42	BQ	1687	U
42	BQ	1688	U
42	BQ	1696	A
42	BQ	1704	A

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Mol	Chain	Res	Type
42	BQ	1705	U
42	BQ	1715	A
42	BQ	1716	U
42	BQ	1717	U
42	BQ	1722	U
42	BQ	1724	U
42	BQ	1725	C
42	BQ	1750	A
42	BQ	1751	G
42	BQ	1756	C
42	BQ	1760	A
42	BQ	1765	U
42	BQ	1766	G
42	BQ	1770	G
42	BQ	1775	G
42	BQ	1780	G
42	BQ	1788	C
42	BQ	1796	G
42	BQ	1797	A
42	BQ	1814	A
42	BQ	1816	A
42	BQ	1817	G
42	BQ	1819	U
42	BQ	1820	U
42	BQ	1821	U
42	BQ	1822	C
42	BQ	1839	A
42	BQ	1840	U
42	BQ	1841	A
42	BQ	1842	A
42	BQ	1846	C
42	BQ	1849	C
42	BQ	1850	A
42	BQ	1866	C
42	BQ	1867	A
42	BQ	1874	A
42	BQ	1880	U
42	BQ	1881	A
42	BQ	1893	A
42	BQ	1897	G
42	BQ	1906	G
42	BQ	1908	A

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Mol	Chain	Res	Type
42	BQ	1930	A
42	BQ	1935	G
42	BQ	1943	C
42	BQ	1950	U
42	BQ	1953	G
42	BQ	1954	G
42	BQ	1955	U
42	BQ	1960	A
42	BQ	1961	G
42	BQ	1962	A
42	BQ	1963	G
42	BQ	1964	C
42	BQ	1972	A
42	BQ	1973	G
42	BQ	1976	G
42	BQ	1981	G
42	BQ	1988	C
42	BQ	1994	G
42	BQ	1998	G
42	BQ	2001	U
42	BQ	2006	G
42	BQ	2010	U
42	BQ	2013	C
42	BQ	2017	G
42	BQ	2020	A
42	BQ	2023	C
42	BQ	2025	G
42	BQ	2033	G
42	BQ	2035	G
42	BQ	2039	C
42	BQ	2045	G
42	BQ	2047	A
42	BQ	2048	G
42	BQ	2049	A
42	BQ	2050	C
42	BQ	2059	U
42	BQ	2081	U
42	BQ	2082	U
42	BQ	2087	C
42	BQ	2088	A
42	BQ	2089	A
42	BQ	2093	A

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Mol	Chain	Res	Type
42	BQ	2094	C
42	BQ	2095	G
42	BQ	2097	U
42	BQ	2101	C
42	BQ	2102	U
42	BQ	2111	G
42	BQ	2112	U
42	BQ	2113	A
42	BQ	2121	G
42	BQ	2122	G
42	BQ	2131	A
42	BQ	2139	A
42	BQ	2149	A
42	BQ	2158	A
42	BQ	2169	G
42	BQ	2170	U
42	BQ	2187	G
42	BQ	2188	A
42	BQ	2201	G
42	BQ	2205	U
42	BQ	2206	G
42	BQ	2207	A
42	BQ	2209	U
42	BQ	2223	A
42	BQ	2232	A
42	BQ	2244	A
42	BQ	2249	G
42	BQ	2250	G
42	BQ	2252	A
42	BQ	2256	A
42	BQ	2262	A
42	BQ	2272	G
42	BQ	2273	G
42	BQ	2274	U
42	BQ	2279	A
42	BQ	2280	A
42	BQ	2281	A
42	BQ	2282	U
42	BQ	2284	C
42	BQ	2285	C
42	BQ	2288	G
42	BQ	2299	A

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Mol	Chain	Res	Type
42	BQ	2306	C
42	BQ	2307	G
42	BQ	2308	C
42	BQ	2309	A
42	BQ	2310	U
42	BQ	2313	A
42	BQ	2314	U
42	BQ	2315	G
42	BQ	2335	G
42	BQ	2347	U
42	BQ	2364	G
42	BQ	2372	A
42	BQ	2373	A
42	BQ	2374	C
42	BQ	2375	G
42	BQ	2385	G
42	BQ	2388	U
42	BQ	2393	G
42	BQ	2394	G
42	BQ	2397	A
42	BQ	2402	A
42	BQ	2403	G
42	BQ	2404	A
42	BQ	2411	U
42	BQ	2412	G
42	BQ	2419	A
42	BQ	2422	C
42	BQ	2434	U
42	BQ	2435	G
42	BQ	2437	G
42	BQ	2438	A
42	BQ	2439	A
42	BQ	2440	G
42	BQ	2446	U
42	BQ	2451	G
42	BQ	2452	G
42	BQ	2493	U
42	BQ	2496	C
42	BQ	2498	U
42	BQ	2501	U
42	BQ	2502	A
42	BQ	2503	G

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Mol	Chain	Res	Type
42	BQ	2507	C
42	BQ	2514	U
42	BQ	2515	A
42	BQ	2522	G
42	BQ	2523	A
42	BQ	2524	A
42	BQ	2525	G
42	BQ	2526	C
42	BQ	2531	C
42	BQ	2532	U
42	BQ	2537	U
42	BQ	2538	U
42	BQ	2539	C
42	BQ	2540	A
42	BQ	2541	U
42	BQ	2542	U
42	BQ	2543	U
42	BQ	2546	C
42	BQ	2549	G
42	BQ	2552	C
42	BQ	2554	A
42	BQ	2561	A
42	BQ	2569	A
42	BQ	2570	U
42	BQ	2571	U
42	BQ	2572	C
42	BQ	2573	G
42	BQ	2576	G
42	BQ	2585	G
42	BQ	2589	G
42	BQ	2593	A
42	BQ	2594	C
42	BQ	2595	A
42	BQ	2606	G
42	BQ	2607	G
42	BQ	2614	G
42	BQ	2626	A
42	BQ	2629	U
42	BQ	2636	A
42	BQ	2648	G
42	BQ	2652	U
42	BQ	2656	A

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Mol	Chain	Res	Type
42	BQ	2672	G
42	BQ	2674	A
42	BQ	2677	G
42	BQ	2689	A
42	BQ	2691	A
42	BQ	2694	A
42	BQ	2696	A
42	BQ	2703	A
42	BQ	2704	A
42	BQ	2714	G
42	BQ	2719	U
42	BQ	2728	G
42	BQ	2748	A
42	BQ	2749	G
42	BQ	2752	U
42	BQ	2753	G
42	BQ	2755	C
42	BQ	2777	G
42	BQ	2778	G
42	BQ	2796	G
42	BQ	2800	G
42	BQ	2801	A
42	BQ	2802	A
42	BQ	2803	A
42	BQ	2804	A
42	BQ	2805	G
42	BQ	2810	C
42	BQ	2817	A
42	BQ	2818	U
42	BQ	2821	C
42	BQ	2838	A
42	BQ	2842	U
42	BQ	2844	C
42	BQ	2845	A
42	BQ	2847	A
42	BQ	2849	C
42	BQ	2856	G
42	BQ	2861	U
42	BQ	2867	C
42	BQ	2871	G
42	BQ	2872	A
42	BQ	2873	U

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Mol	Chain	Res	Type
42	BQ	2875	U
42	BQ	2876	C
42	BQ	2887	A
42	BQ	2894	C
42	BQ	2899	C
42	BQ	2910	A
42	BQ	2916	U
42	BQ	2918	G
42	BQ	2923	U
42	BQ	2928	C
42	BQ	2933	A
42	BQ	2935	U
42	BQ	2936	A
42	BQ	2941	A
42	BQ	2942	C
42	BQ	2947	G
42	BQ	2954	U
42	BQ	2955	U
42	BQ	2957	G
42	BQ	2971	A
42	BQ	2983	C
42	BQ	2990	G
42	BQ	2996	U
42	BQ	2997	G
42	BQ	3003	G
42	BQ	3012	A
42	BQ	3030	G
42	BQ	3055	U
42	BQ	3056	U
42	BQ	3058	U
42	BQ	3059	G
42	BQ	3078	U
42	BQ	3079	U
42	BQ	3080	G
42	BQ	3086	A
42	BQ	3092	C
42	BQ	3101	G
42	BQ	3104	U
42	BQ	3115	C
42	BQ	3116	G
42	BQ	3118	C
42	BQ	3119	U

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Mol	Chain	Res	Type
42	BQ	3122	A
42	BQ	3129	A
42	BQ	3130	A
42	BQ	3131	U
42	BQ	3142	A
42	BQ	3143	C
42	BQ	3151	U
42	BQ	3154	C
42	BQ	3155	U
42	BQ	3156	U
42	BQ	3157	U
42	BQ	3158	G
42	BQ	3165	A
42	BQ	3170	A
42	BQ	3172	A
42	BQ	3173	G
42	BQ	3174	A
42	BQ	3175	U
42	BQ	3176	G
42	BQ	3180	A
42	BQ	3181	C
42	BQ	3187	A
42	BQ	3196	U
42	BQ	3199	G
42	BQ	3207	U
42	BQ	3209	A
42	BQ	3210	A
42	BQ	3216	G
42	BQ	3217	C
42	BQ	3218	A
42	BQ	3219	G
42	BQ	3222	U
42	BQ	3229	G
42	BQ	3243	A
42	BQ	3244	A
42	BQ	3245	A
42	BQ	3247	G
42	BQ	3259	U
42	BQ	3260	G
42	BQ	3263	G
42	BQ	3270	U
42	BQ	3272	C

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Mol	Chain	Res	Type
42	BQ	3273	A
42	BQ	3276	G
42	BQ	3277	U
42	BQ	3281	U
42	BQ	3286	G
42	BQ	3287	U
42	BQ	3288	G
42	BQ	3289	G
42	BQ	3294	A
42	BQ	3295	A
42	BQ	3304	U
42	BQ	3313	U
42	BQ	3316	A
42	BQ	3318	G
42	BQ	3319	U
42	BQ	3320	A
42	BQ	3334	U
42	BQ	3341	U
42	BQ	3345	G
42	BQ	3346	U
42	BQ	3347	A
42	BQ	3351	U
42	BQ	3352	U
42	BQ	3353	G
42	BQ	3354	U
42	BQ	3355	U
42	BQ	3356	G
42	BQ	3368	U
42	BQ	3369	G
42	BQ	3378	C
42	BQ	3381	U
42	BQ	3382	U
42	BQ	3386	G
42	BQ	3389	U
42	BQ	3390	G
42	BQ	3396	U
43	BR	7	G
43	BR	10	C
43	BR	17	A
43	BR	22	A
43	BR	35	C
43	BR	52	G

Continued on next page...

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Mol	Chain	Res	Type
43	BR	53	U
43	BR	54	U
43	BR	65	G
43	BR	74	C
43	BR	76	A
43	BR	99	G
43	BR	102	A
43	BR	112	G
43	BR	121	U
44	BS	16	G
44	BS	25	G
44	BS	34	U
44	BS	35	C
44	BS	38	U
44	BS	59	A
44	BS	62	C
44	BS	63	G
44	BS	80	A
44	BS	81	U
44	BS	82	U
44	BS	83	C
44	BS	84	C
44	BS	85	G
44	BS	86	U
44	BS	87	G
44	BS	90	U
44	BS	95	G
44	BS	97	A
44	BS	99	C
44	BS	104	A
44	BS	106	C
44	BS	111	A
44	BS	112	U
44	BS	113	U
44	BS	125	U
44	BS	126	A
44	BS	138	A
44	BS	148	G
44	BS	152	G
44	BS	157	U
44	BS	158	U

All (101) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
34	2	68	A
34	2	77	U
34	2	139	C
34	2	141	U
34	2	215	A
34	2	224	C
34	2	237	C
34	2	278	U
34	2	313	U
34	2	322	G
34	2	352	A
34	2	387	A
34	2	400	A
34	2	447	U
34	2	511	A
34	2	518	A
34	2	539	G
34	2	541	A
34	2	555	A
34	2	609	U
34	2	639	U
34	2	640	U
34	2	705	U
34	2	711	U
34	2	740	A
34	2	755	A
34	2	803	A
34	2	819	G
34	2	912	U
34	2	928	U
34	2	987	G
34	2	1023	A
34	2	1207	C
34	2	1226	A
34	2	1245	G
34	2	1251	U
34	2	1256	A
34	2	1273	G
34	2	1274	C
34	2	1314	U
34	2	1344	A
34	2	1348	A
34	2	1382	A

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Mol	Chain	Res	Type
34	2	1399	C
34	2	1430	U
34	2	1471	A
34	2	1556	A
34	2	1557	U
34	2	1573	A
34	2	1584	G
34	2	1633	A
34	2	1636	C
34	2	1700	C
42	BQ	13	A
42	BQ	282	G
42	BQ	439	C
42	BQ	637	C
42	BQ	763	G
42	BQ	849	C
42	BQ	873	C
42	BQ	896	A
42	BQ	916	G
42	BQ	993	G
42	BQ	1064	A
42	BQ	1097	G
42	BQ	1271	A
42	BQ	1307	G
42	BQ	1355	A
42	BQ	1562	C
42	BQ	1572	U
42	BQ	1582	C
42	BQ	1716	U
42	BQ	1815	U
42	BQ	1820	U
42	BQ	1959	G
42	BQ	2086	A
42	BQ	2112	U
42	BQ	2231	C
42	BQ	2445	A
42	BQ	2500	A
42	BQ	2501	U
42	BQ	2502	A
42	BQ	2513	U
42	BQ	2514	U
42	BQ	2525	G

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Mol	Chain	Res	Type
42	BQ	2537	U
42	BQ	2538	U
42	BQ	2541	U
42	BQ	3055	U
42	BQ	3078	U
42	BQ	3121	U
42	BQ	3218	A
42	BQ	3228	C
42	BQ	3269	U
42	BQ	3275	U
42	BQ	3319	U
42	BQ	3350	C
43	BR	52	G
44	BS	82	U
44	BS	85	G
44	BS	125	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 7 ligands modelled in this entry, 7 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
42	BQ	4
68	AY	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	BQ	2452:G	O3'	2492:C	P	17.28
1	BQ	2059:U	O3'	2080:C	P	10.98
1	BQ	451:U	O3'	486:A	P	8.84
1	BQ	1984:C	O3'	1985:G	P	6.36
1	AY	47:ASN	C	48:THR	N	1.17

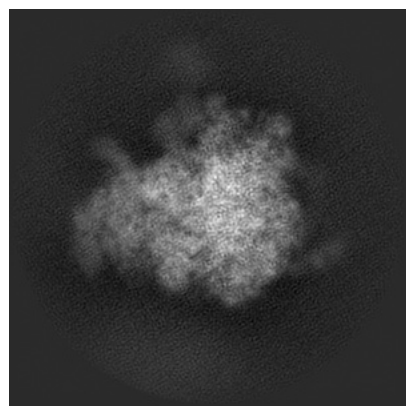
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-16191. These allow visual inspection of the internal detail of the map and identification of artifacts.

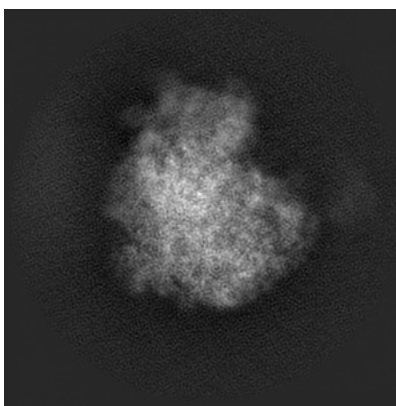
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

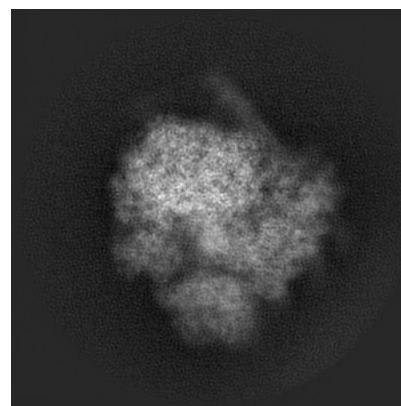
6.1.1 Primary map



X

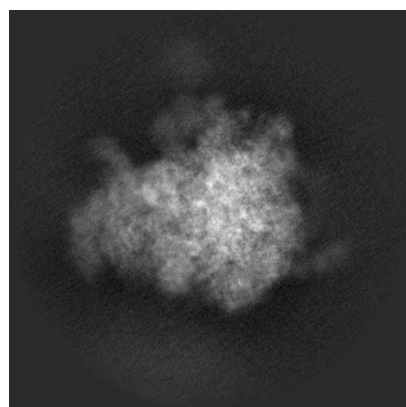


Y

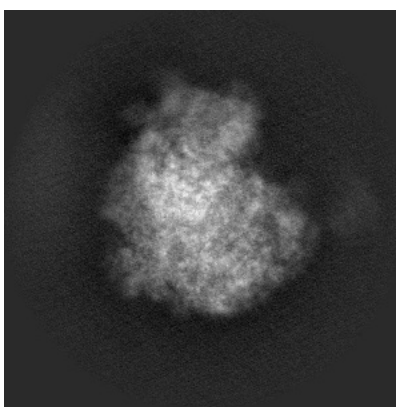


Z

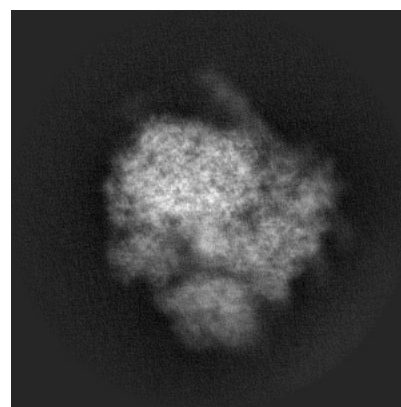
6.1.2 Raw map



X



Y

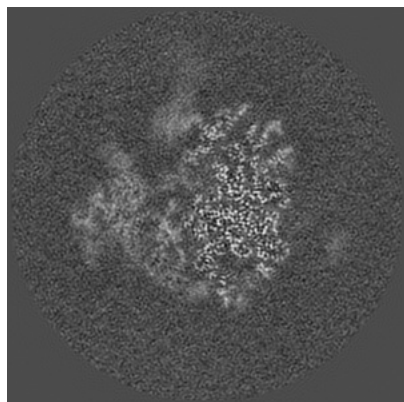


Z

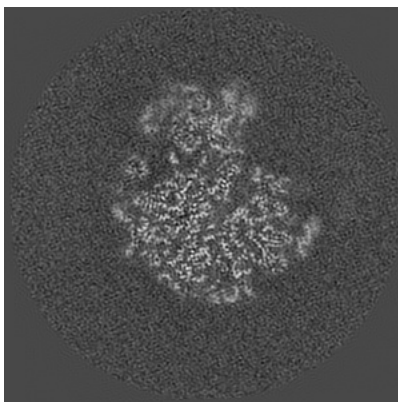
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

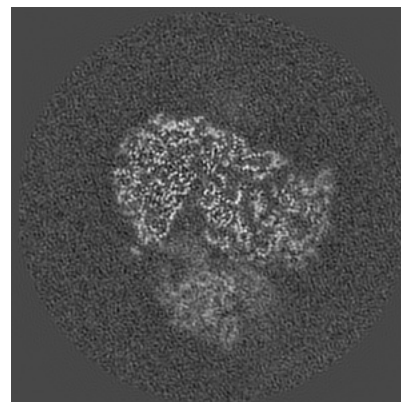
6.2.1 Primary map



X Index: 210

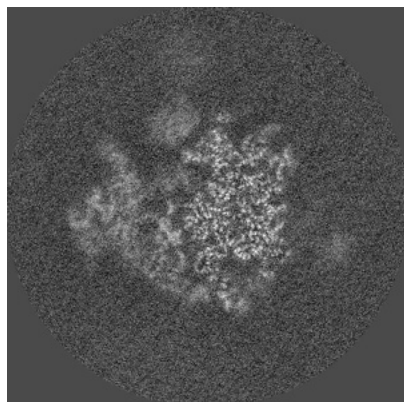


Y Index: 210

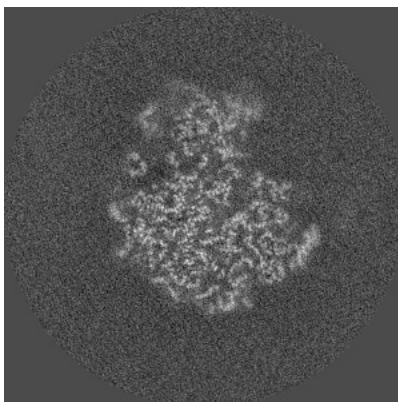


Z Index: 210

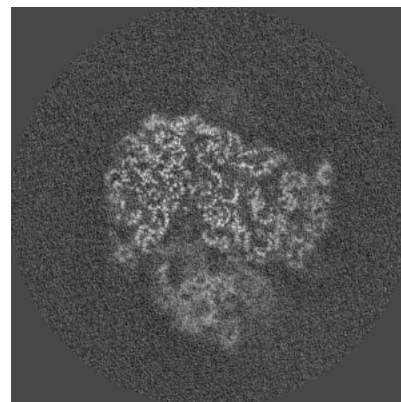
6.2.2 Raw map



X Index: 210



Y Index: 210

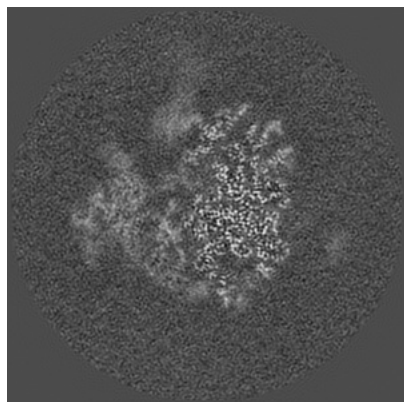


Z Index: 210

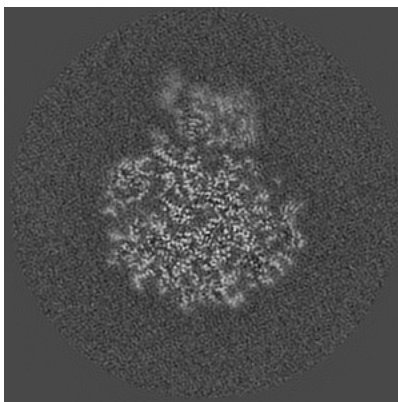
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

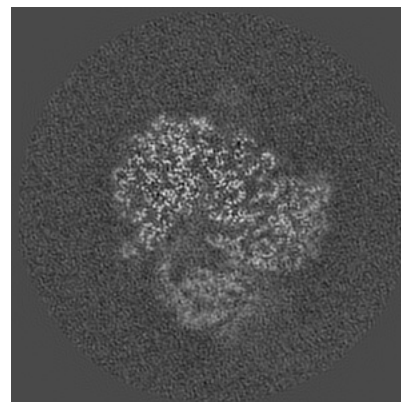
6.3.1 Primary map



X Index: 210

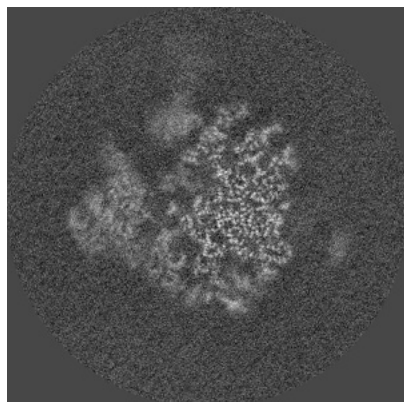


Y Index: 234

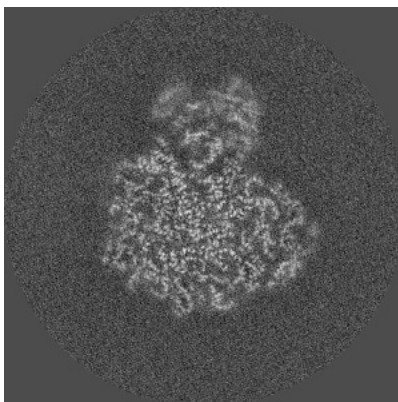


Z Index: 215

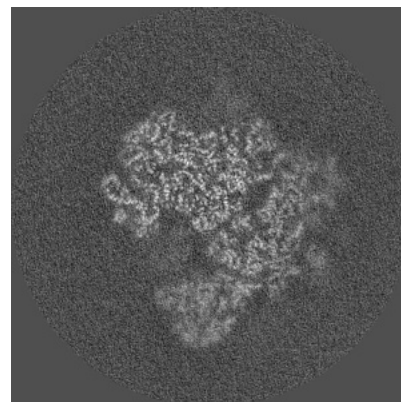
6.3.2 Raw map



X Index: 206



Y Index: 226

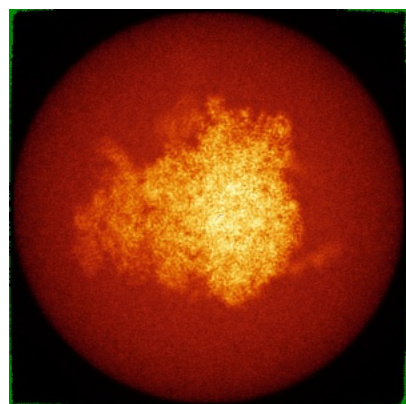


Z Index: 189

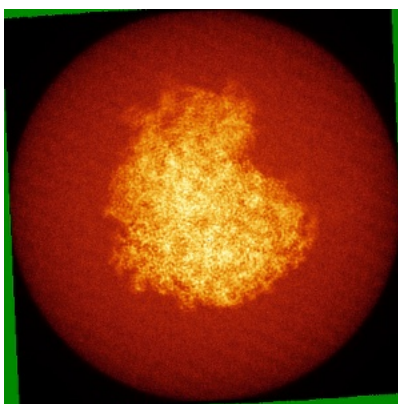
The images above show the largest variance slices of the map in three orthogonal directions.

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

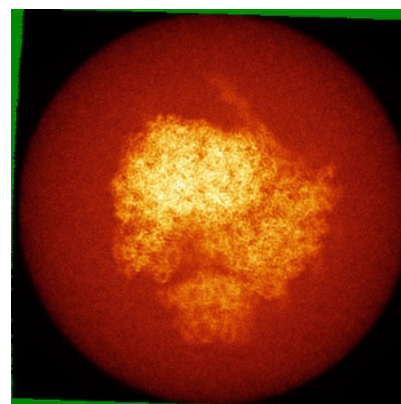
6.4.1 Primary map



X

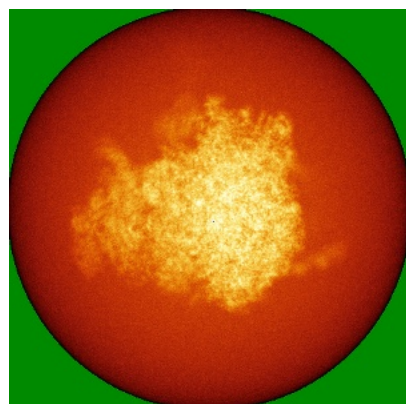


Y

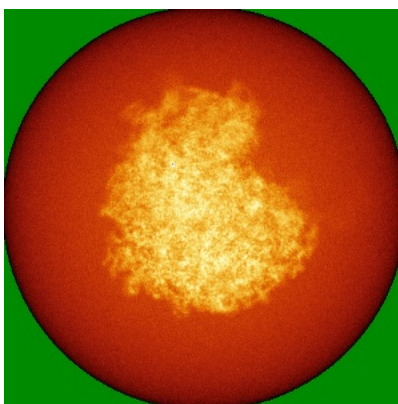


Z

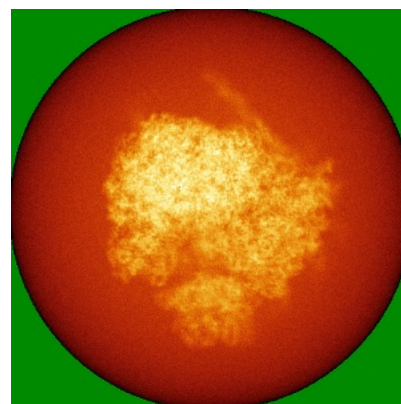
6.4.2 Raw map



X



Y

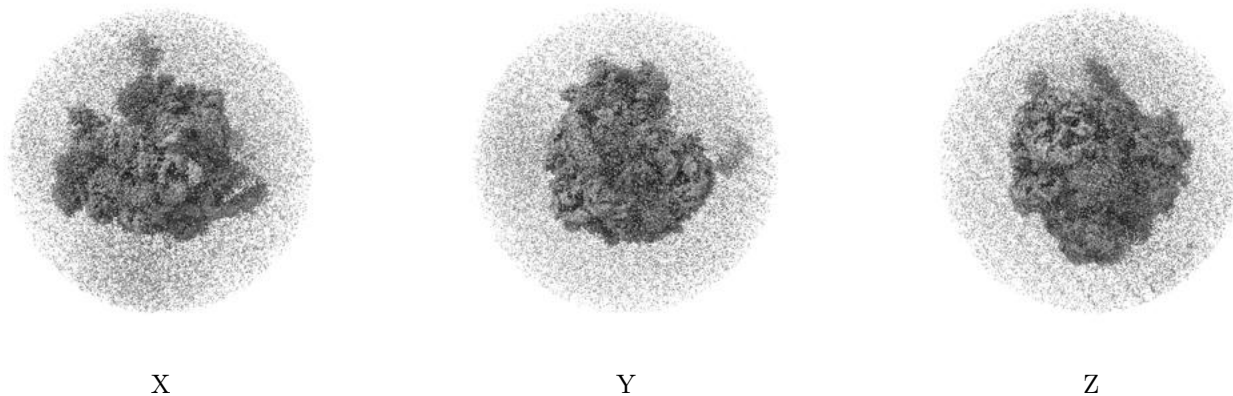


Z

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

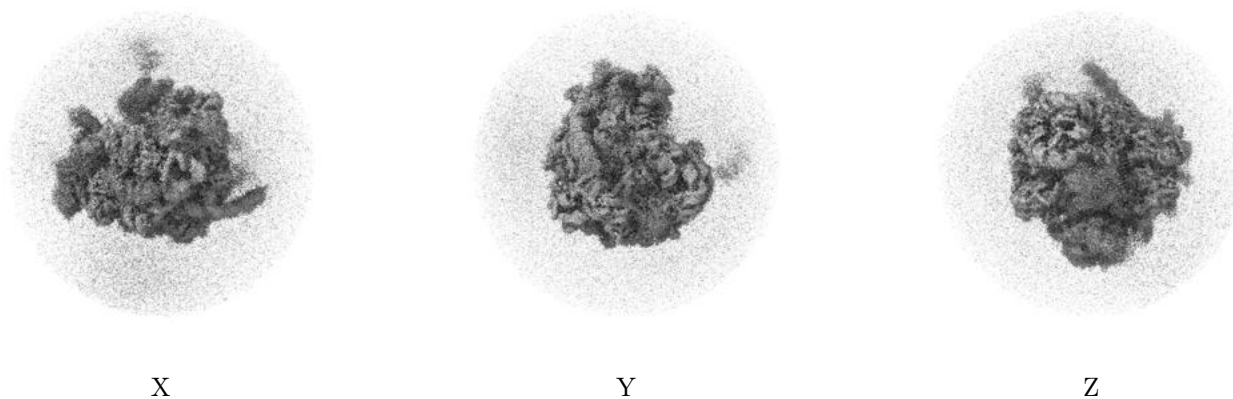
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

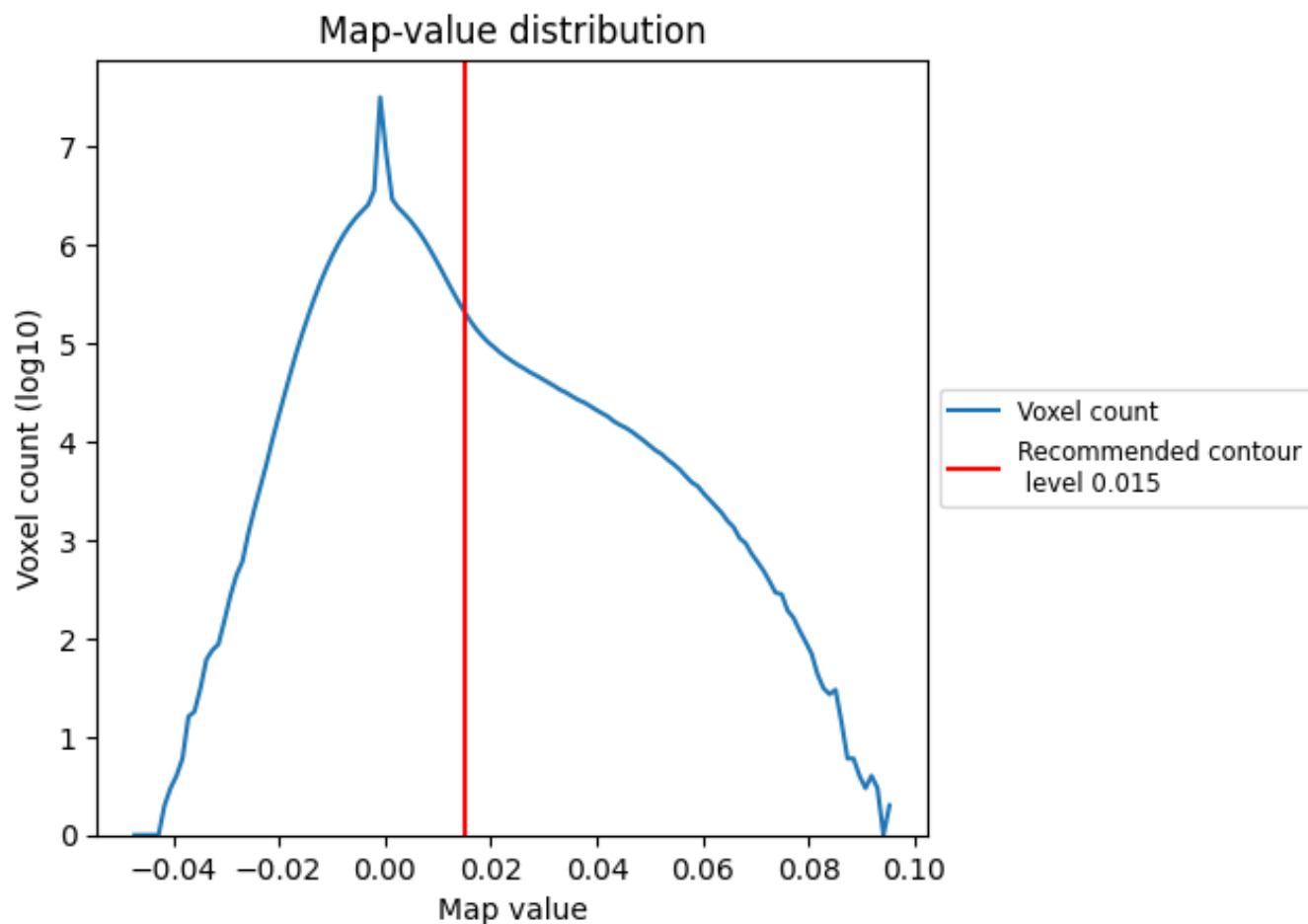
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

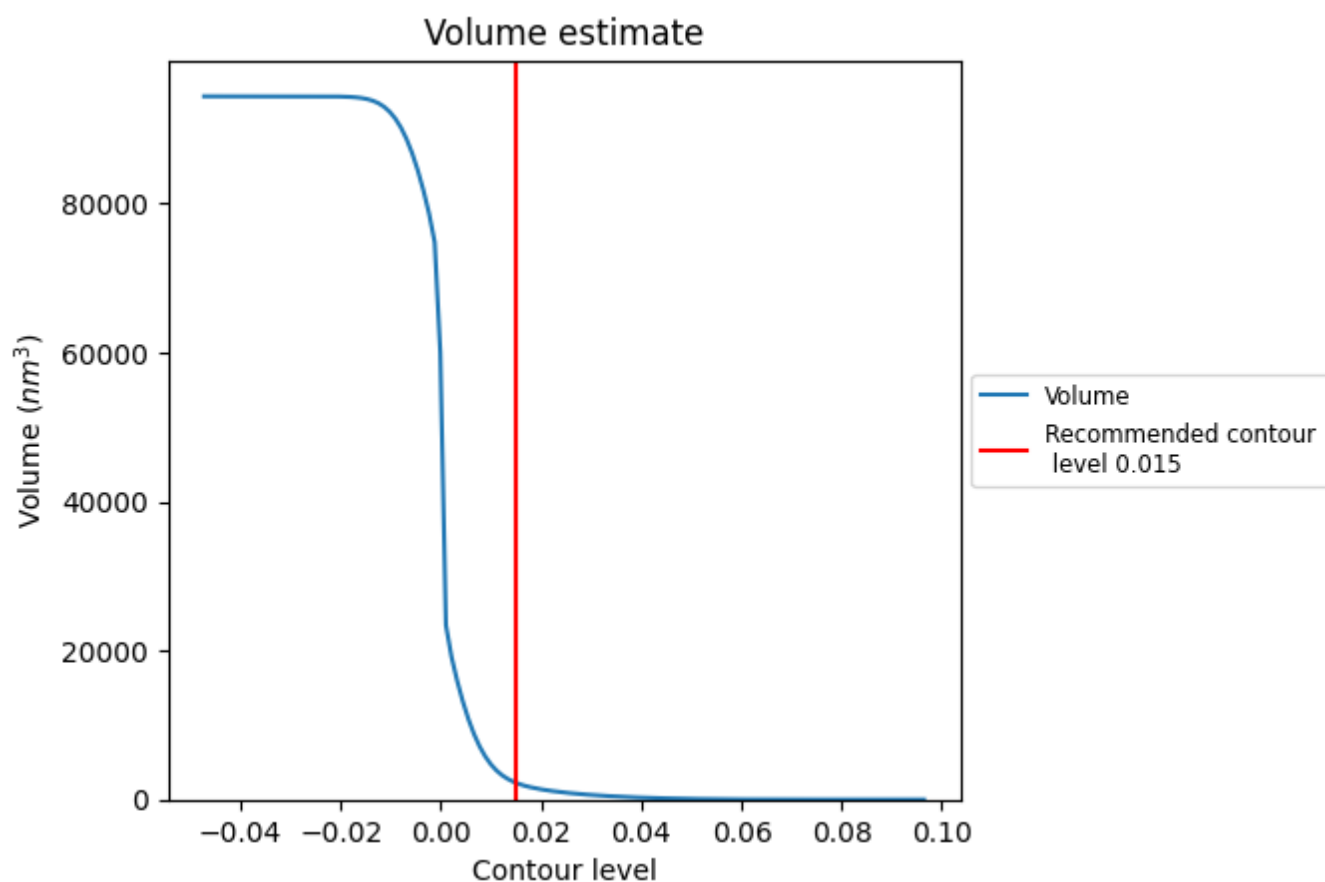
This section contains the results of statistical analysis of the map.

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.

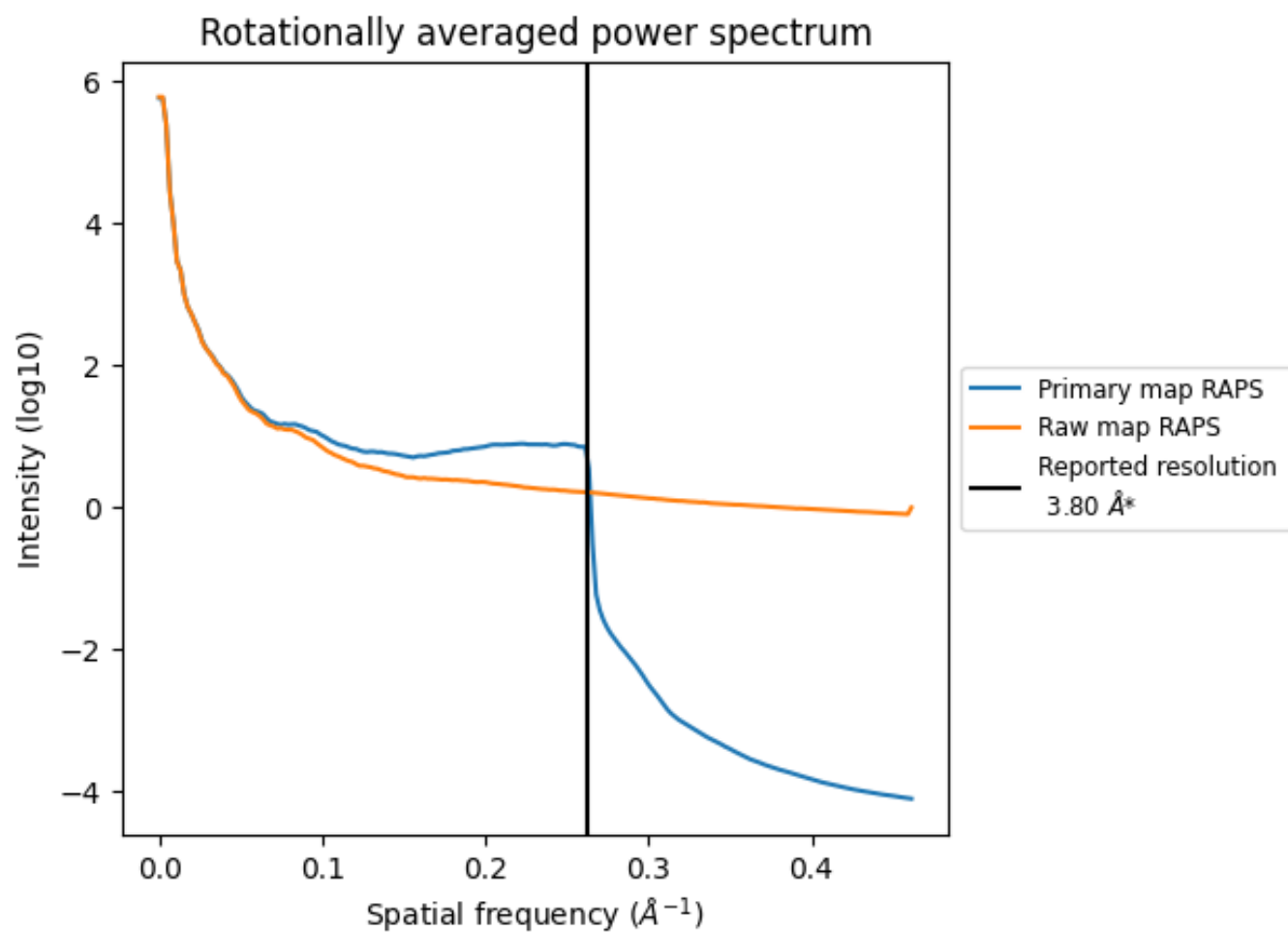
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2255 nm³; this corresponds to an approximate mass of 2037 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 ⓘ

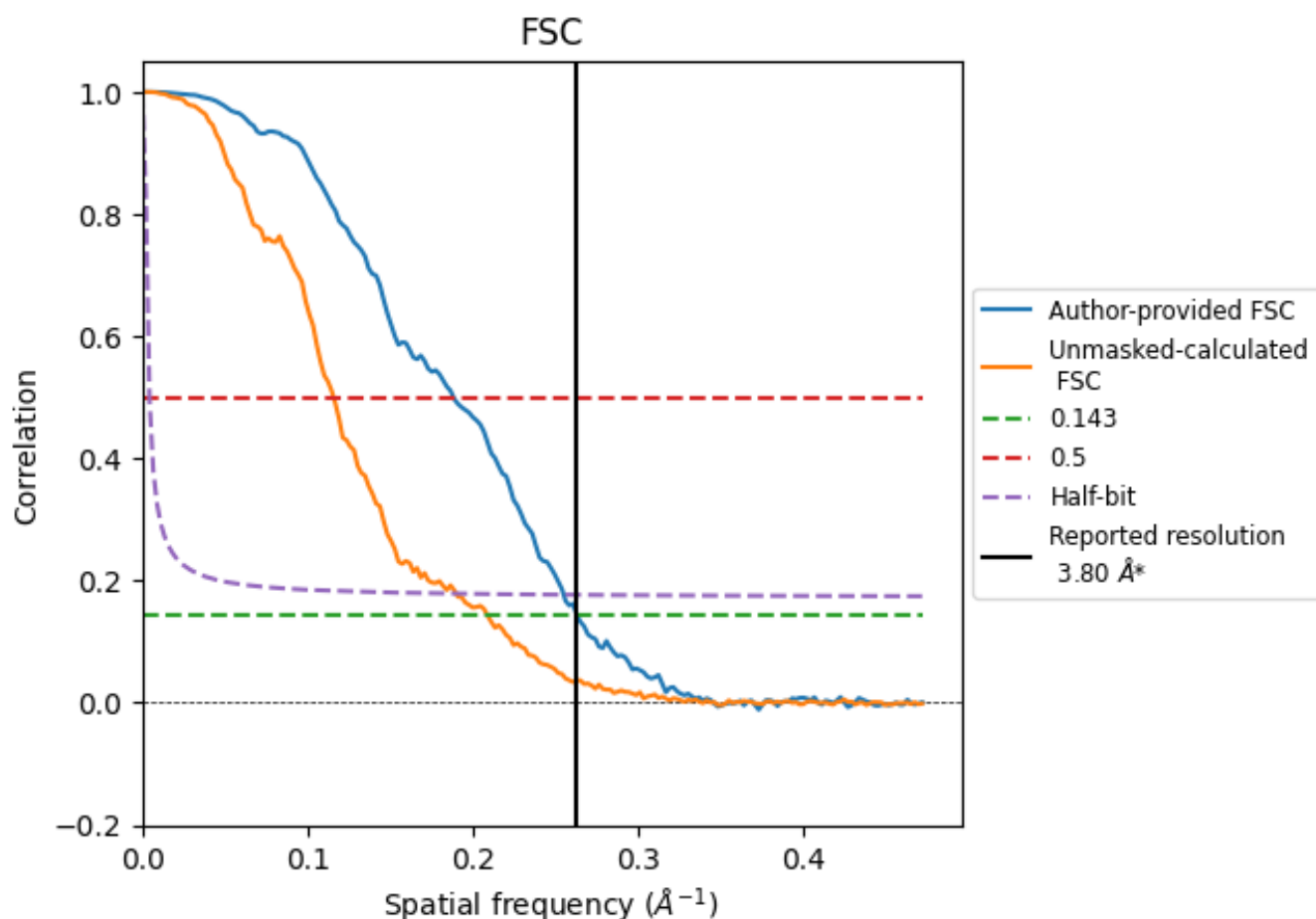


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

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 0.263 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

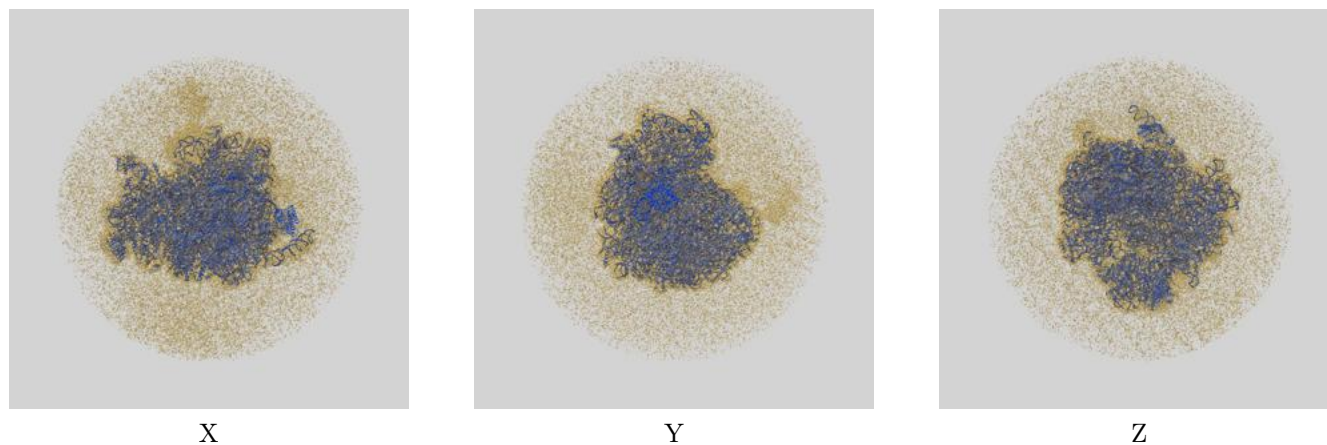
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.80	5.31	3.92
Unmasked-calculated*	4.78	8.64	5.26

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.78 differs from the reported value 3.8 by more than 10 %

9 Map-model fit [i](#)

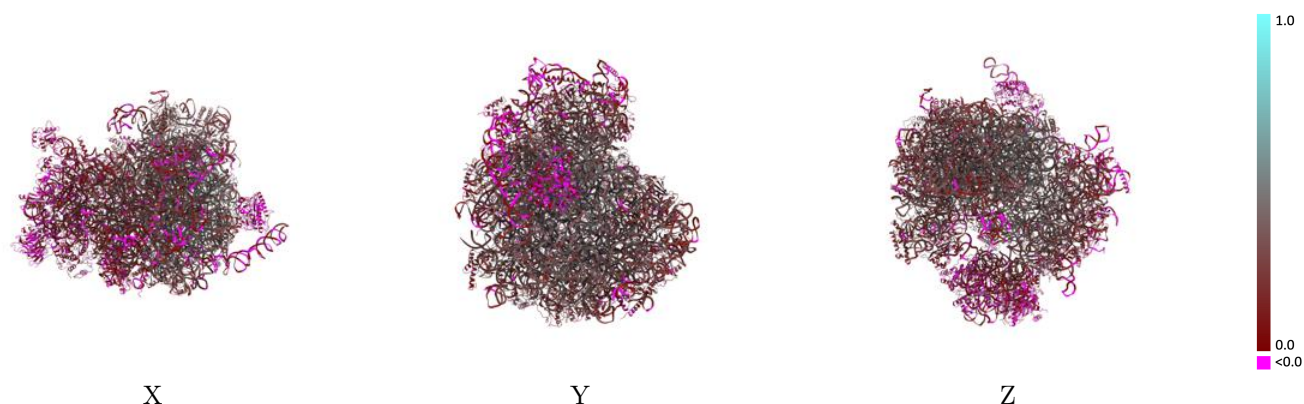
This section contains information regarding the fit between EMDB map EMD-16191 and PDB model 8BQX. Per-residue inclusion information can be found in [section 3](#) on [page 20](#).

9.1 Map-model overlay [i](#)



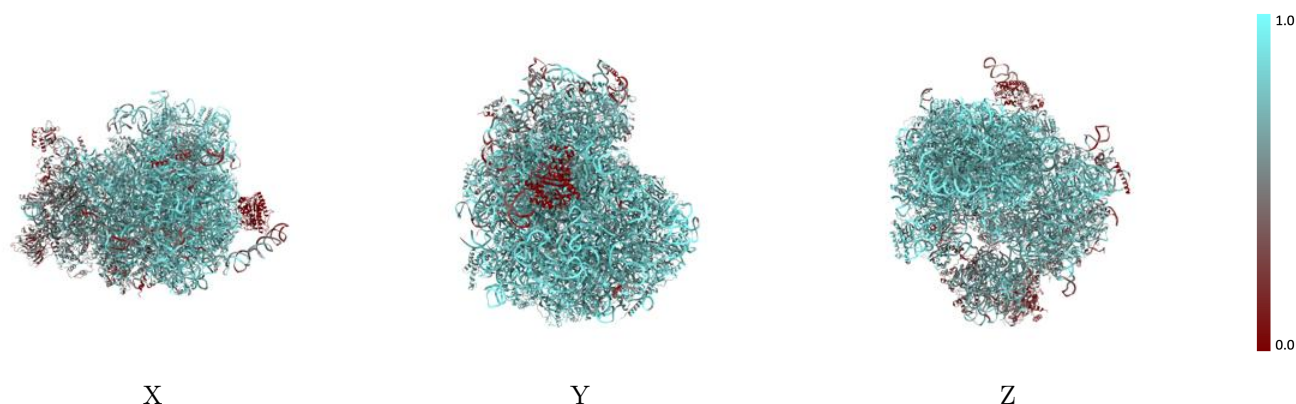
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



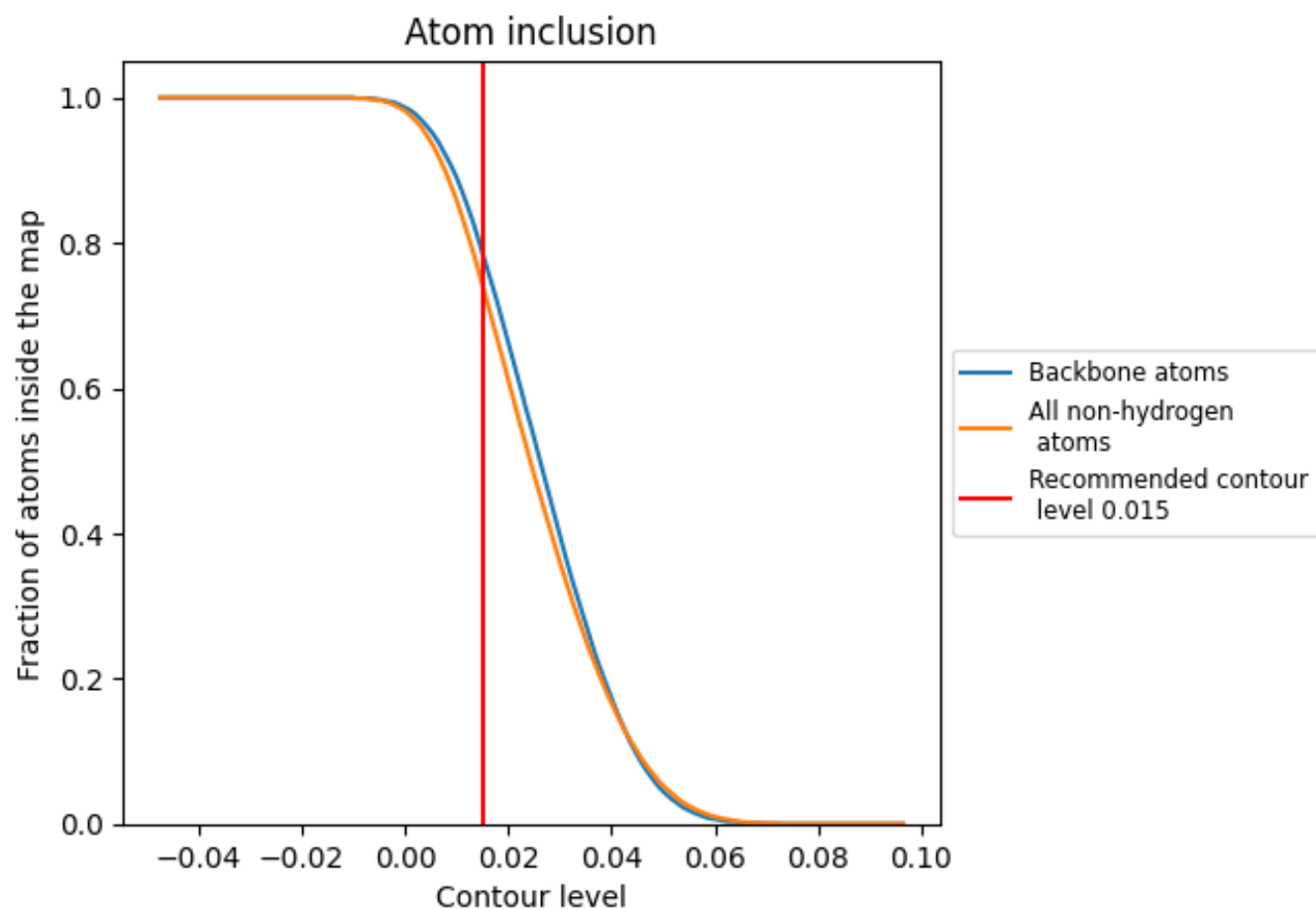
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.015).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 74% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7440	 0.2640
2	 0.7690	 0.2120
A	 0.4230	 0.1180
AA	 0.7240	 0.2760
AB	 0.7670	 0.3980
AC	 0.7320	 0.2980
AD	 0.7450	 0.2870
AE	 0.5510	 0.2380
AF	 0.8710	 0.4150
AG	 0.6290	 0.1890
AH	 0.7590	 0.3470
AI	 0.7180	 0.2810
AJ	 0.7580	 0.3050
AK	 0.7980	 0.3400
AL	 0.7780	 0.3790
AM	 0.7320	 0.2440
AN	 0.7020	 0.2560
AO	 0.7810	 0.2960
AP	 0.7650	 0.3530
AQ	 0.7870	 0.3580
AR	 0.7870	 0.3420
AS	 0.6830	 0.2560
AT	 0.7690	 0.3790
AU	 0.7640	 0.3230
AV	 0.7480	 0.3250
AW	 0.7910	 0.4020
AX	 0.7950	 0.3800
AY	 0.7270	 0.3270
B	 0.3570	 0.0370
BA	 0.8010	 0.3730
BB	 0.7570	 0.3120
BC	 0.7730	 0.3630
BD	 0.6230	 0.2070
BE	 0.7650	 0.3060
BF	 0.7410	 0.3280



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Chain	Atom inclusion	Q-score
BG	 0.7800	 0.3580
BH	 0.7600	 0.3120
BI	 0.7210	 0.2340
BJ	 0.7400	 0.2980
BK	 0.7560	 0.3290
BL	 0.7520	 0.3020
BM	 0.6960	 0.2250
BN	 0.7370	 0.3540
BO	 0.7470	 0.2860
BP	 0.7590	 0.3080
BQ	 0.8700	 0.3310
BR	 0.8750	 0.2710
BS	 0.9050	 0.3610
BT	 0.1370	 0.0880
C	 0.4350	 0.0770
D	 0.2120	 0.0460
E	 0.4600	 0.0740
F	 0.4600	 0.0600
G	 0.4240	 0.0860
H	 0.4920	 0.0760
I	 0.4540	 0.0580
J	 0.5140	 0.0990
K	 0.3730	 0.0400
L	 0.3760	 0.0940
M	 0.5450	 0.1100
N	 0.3930	 0.0680
O	 0.3540	 0.0420
P	 0.5380	 0.1250
Q	 0.4960	 0.1520
R	 0.6190	 0.2150
S	 0.6130	 0.2010
T	 0.6330	 0.1920
U	 0.5020	 0.1130
V	 0.7040	 0.2670
W	 0.6460	 0.1990
X	 0.6700	 0.2860
Y	 0.6230	 0.2310
Z	 0.5430	 0.1620
a	 0.5510	 0.1460
b	 0.6160	 0.2190
c	 0.6560	 0.2790
d	 0.6480	 0.1920

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Chain	Atom inclusion	Q-score
e	 0.5850	 0.1910
f	 0.5460	 0.1750
g	 0.5480	 0.1520
x	 0.0330	 0.0050