



Full wwPDB EM Validation Report ⓘ

Dec 10, 2025 – 06:17 pm GMT

PDB ID : 7ZRS / pdb_00007zrs
EMDB ID : EMD-14921
Title : Structure of the RQT-bound 80S ribosome from *S. cerevisiae* (C2) - composite map
Authors : Best, K.M.; Ikeuchi, K.; Kater, L.; Best, D.M.; Musial, J.; Matsuo, Y.; Berninghausen, O.; Becker, T.; Inada, T.; Beckmann, R.
Deposited on : 2022-05-05
Resolution : 4.80 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:

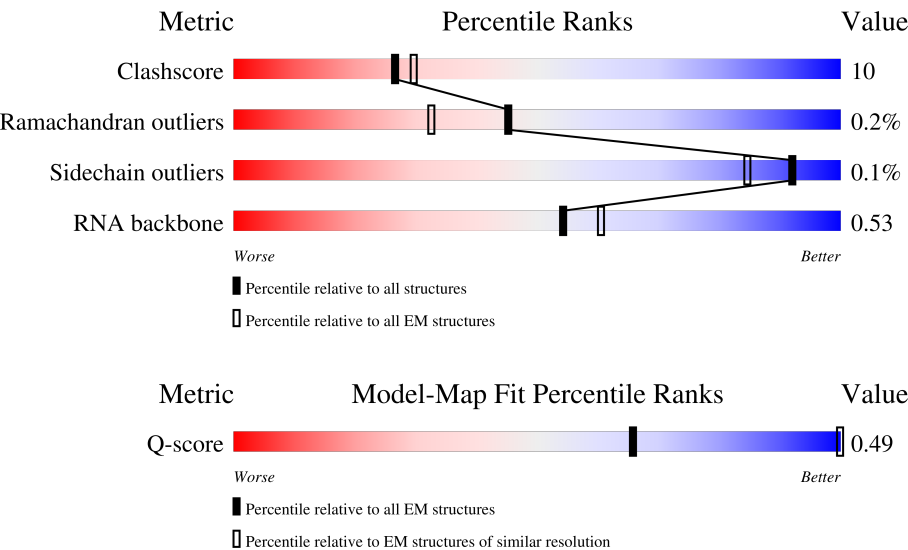
EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

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 4.80 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	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	1575 (4.30 - 5.30)

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 <=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	2	1798	45% 43% 11% .
2	3	158	53% 42% 5%
3	4	121	57% 40% .

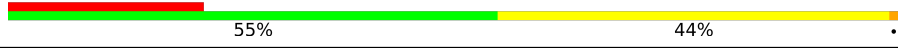
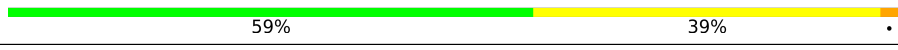
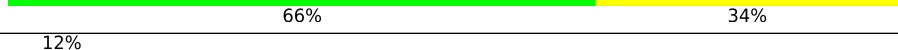
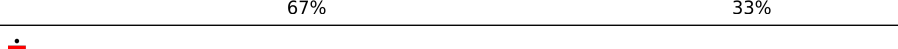
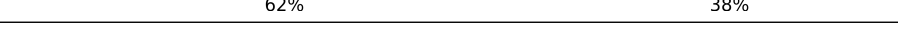
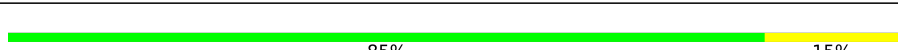
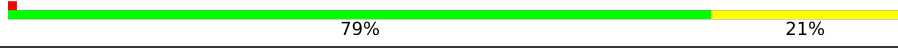
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Mol	Chain	Length	Quality of chain
4	5	3396	
5	6	75	
6	AA	206	
7	AB	255	
8	AC	216	
9	AD	222	
10	AE	258	
11	AF	206	
12	AG	228	
13	AH	184	
14	AI	200	
15	AJ	184	
16	AK	92	
17	AL	144	
18	AM	121	
19	AN	150	
20	AO	127	
21	AP	117	
22	AQ	141	
23	AR	136	
24	AS	145	
25	AT	143	
26	AU	100	
27	AV	87	
28	AW	129	

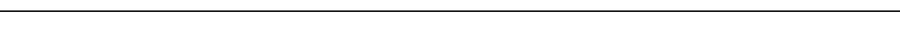
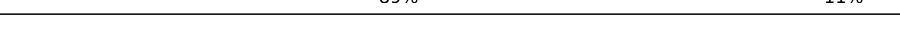
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Mol	Chain	Length	Quality of chain
29	AX	144	
30	AY	134	
31	AZ	82	
32	Aa	97	
33	Ab	81	
34	Ac	63	
35	Ad	53	
36	Ae	56	
37	Af	73	
38	Ag	312	
39	BA	251	
40	BB	386	
41	BC	361	
42	BD	294	
43	BE	176	
44	BF	222	
45	BG	233	
46	BH	191	
47	BI	218	
48	BJ	169	
49	BK	193	
50	BL	136	
51	BM	203	
52	BN	197	
53	BO	183	

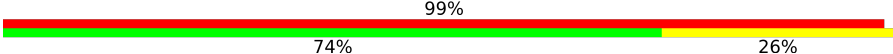
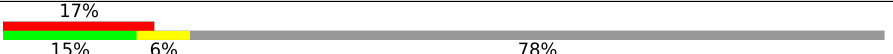
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Mol	Chain	Length	Quality of chain
54	BP	185	 81% 19%
55	BQ	188	 81% 19%
56	BR	171	 78% 22%
57	BS	159	 78% 22%
58	BT	100	 77% 23%
59	BU	136	 77% 23%
60	BV	126	 90% 10%
61	BW	121	 83% 16%
62	BX	125	 78% 22%
63	BY	135	 74% 26%
64	BZ	148	 74% 26%
65	Ba	58	 90% 10%
66	Bb	96	 82% 18%
67	Bc	109	 82% 18%
68	Bd	127	 89% 11%
69	Be	106	 85% 15%
70	Bf	112	 76% 24%
71	Bg	119	 89% 11%
72	Bh	99	 91% 9%
73	Bi	85	 71% 29%
74	Bj	77	 70% 29%
75	Bk	50	 80% 20%
76	Bl	52	 79% 21%
77	Bm	25	 68% 32%
78	Bn	103	 78% 22%

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Mol	Chain	Length	Quality of chain
79	Bo	91	
80	CA	1967	
81	CB	297	
82	CC	530	

2 Entry composition

There are 84 unique types of molecules in this entry. The entry contains 218399 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 2 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 4 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	5	3185	Total	C	N	O	P	0	0
			68114	30425	12264	22240	3185		

- Molecule 5 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	6	75	Total	C	N	O	P	0	0
			1589	710	279	525	75		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
6	11	C	U	conflict	GB 176418

- Molecule 6 is a protein called 40S ribosomal protein S0-A.

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

- Molecule 7 is a protein called 40S ribosomal protein S1-A.

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

- Molecule 8 is a protein called RPS2 isoform 1.

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

- Molecule 9 is a protein called RPS3 isoform 1.

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

- Molecule 10 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 11 is a protein called Rps5p.

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

- Molecule 12 is a protein called 40S ribosomal protein S6-A.

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

- Molecule 13 is a protein called 40S ribosomal protein S7-A.

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

- Molecule 14 is a protein called 40S ribosomal protein S8-A.

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

- Molecule 15 is a protein called 40S ribosomal protein S9-A.

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

- Molecule 16 is a protein called 40S ribosomal protein S10-A.

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

- Molecule 17 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AL	144	Total	C	N	O	S		
			1159	742	219	195	3	0	0

- Molecule 18 is a protein called 40S ribosomal protein S12.

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

- Molecule 19 is a protein called 40S ribosomal protein S13.

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

- Molecule 20 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AO	127	Total	C	N	O	S	0	0
			926	569	185	169	3		

- Molecule 21 is a protein called RPS15 isoform 1.

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

- Molecule 22 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AQ	141	Total	C	N	O	S	0	0
			1105	708	203	194			

- Molecule 23 is a protein called 40S ribosomal protein S17-A.

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

- Molecule 24 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AS	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		

- Molecule 25 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 26 is a protein called RPS20 isoform 1.

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

- Molecule 27 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 28 is a protein called RPS22A isoform 1.

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

- Molecule 29 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 30 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AY	134	Total	C	N	O		0	0
			1073	676	208	189			

- Molecule 31 is a protein called 40S ribosomal protein S25.

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

- Molecule 32 is a protein called RPS26B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Aa	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 33 is a protein called 40S ribosomal protein S27-A.

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

- Molecule 34 is a protein called RPS28A isoform 1.

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

- Molecule 35 is a protein called RPS29A isoform 1.

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

- Molecule 36 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Ae	56	Total	C	N	O	S	0	0
			448	283	93	71	1		

- Molecule 37 is a protein called RPS31 isoform 1.

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

- Molecule 38 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

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

- Molecule 39 is a protein called 60S ribosomal protein L2-A.

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

- Molecule 40 is a protein called 60S ribosomal protein L3.

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

- Molecule 41 is a protein called RPL4A isoform 1.

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

- Molecule 42 is a protein called RPL5 isoform 1.

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

- Molecule 43 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BE	167	Total	C	N	O	S	0	0
			1305	841	234	229	1		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BE	146	ILE	LEU	conflict	UNP P05739
BE	173	MET	LEU	conflict	UNP P05739

- Molecule 44 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 45 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 46 is a protein called 60S ribosomal protein L9-A.

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

- Molecule 47 is a protein called RPL10 isoform 1.

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

- Molecule 48 is a protein called RPL11B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BJ	169	Total	C	N	O	S	0	0
			1350	846	253	247	4		

- Molecule 49 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BK	193	Total	C	N	O	S	0	0
			1543	962	315	266			

- Molecule 50 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 51 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 52 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 53 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BO	183	Total	C	N	O	S	0	0
			1416	879	284	253			

- Molecule 54 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 55 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BQ	188	Total	C	N	O	S	0	0
			1515	932	323	260			

- Molecule 56 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 57 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BS	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 58 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BT	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 59 is a protein called 60S ribosomal protein L23-A.

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

- Molecule 60 is a protein called RPL24A isoform 1.

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

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BV	104	GLN	ASN	conflict	UNP A0A6A5PY83
BV	109	GLN	LEU	conflict	UNP A0A6A5PY83
BV	112	ASP	ASN	conflict	UNP A0A6A5PY83
BV	119	ALA	GLU	conflict	UNP A0A6A5PY83

- Molecule 61 is a protein called 60S ribosomal protein L25.

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

- Molecule 62 is a protein called 60S ribosomal protein L26-A.

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

- Molecule 63 is a protein called 60S ribosomal protein L27-A.

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

- Molecule 64 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BZ	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 65 is a protein called 60S ribosomal protein L29.

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

- Molecule 66 is a protein called 60S ribosomal protein L30.

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

- Molecule 67 is a protein called 60S ribosomal protein L31-A.

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

- Molecule 68 is a protein called RPL32 isoform 1.

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

- Molecule 69 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 70 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 71 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 72 is a protein called 60S ribosomal protein L36-A.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Bi	85	Total	C	N	O	S	0	0
			670	408	146	111	5		

- Molecule 74 is a protein called RPL38 isoform 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
74	Bj	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	Bk	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	Bl	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 77 is a protein called RPL41A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Bm	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	Bn	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	Bo	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 80 is a protein called RQC trigger complex helicase SLH1.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	CA	1742	Total	C	N	O	S	0	0
			14008	8959	2378	2596	75		

- Molecule 81 is a protein called RQC trigger complex subunit CUE3.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	CB	297	Total	C	N	O	S	0	0
			2415	1568	414	427	6		

- Molecule 82 is a protein called RQC trigger complex subunit RQT4.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	CC	114	Total	C	N	O	S	0	0
			886	539	167	172	8		

- Molecule 83 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
83	2	2	Total	Mg	0
			2	2	
83	AE	1	Total	Mg	0
			1	1	
83	AF	1	Total	Mg	0
			1	1	

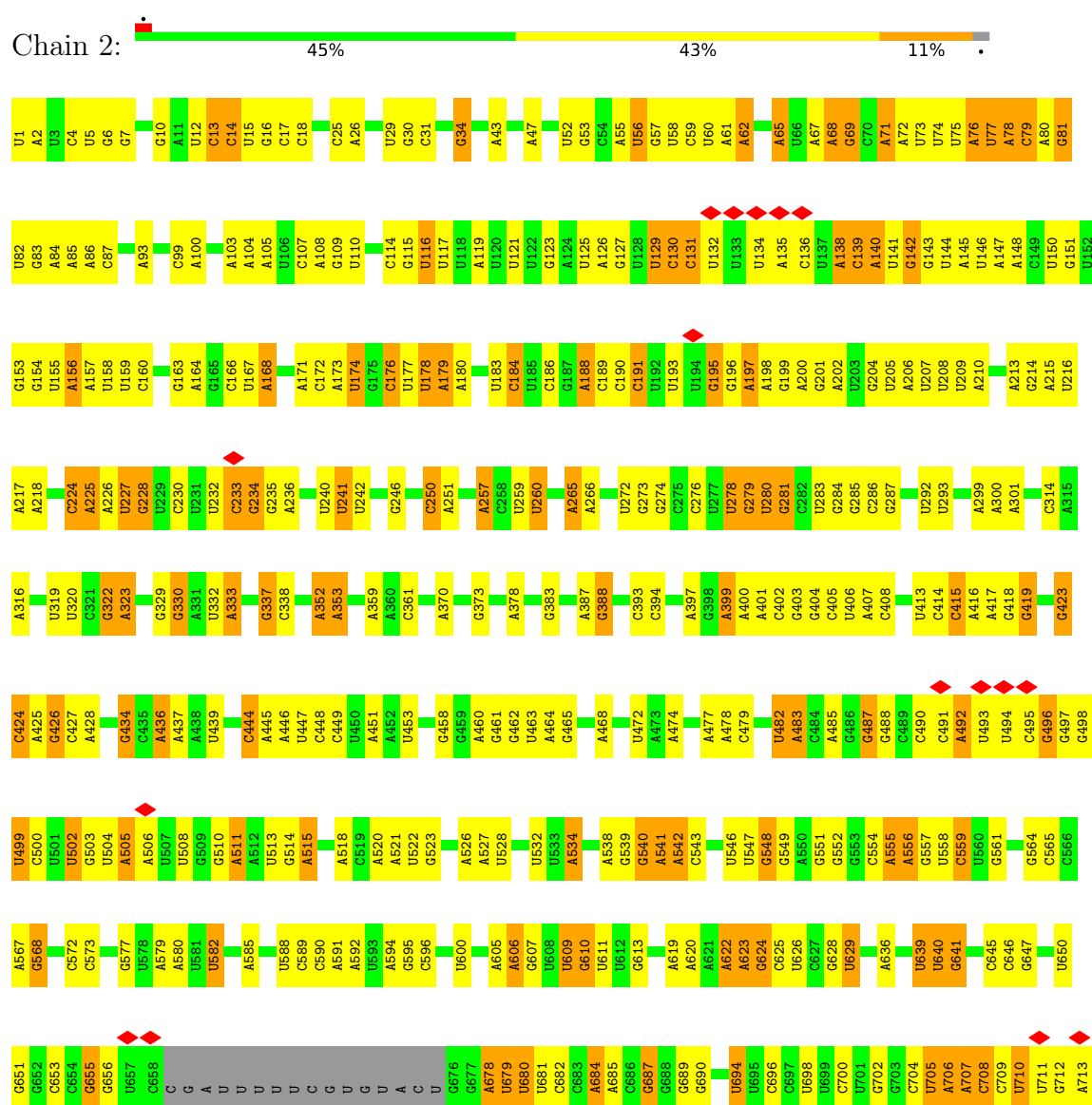
- Molecule 84 is ZINC ION (CCD ID: ZN) (formula: Zn).

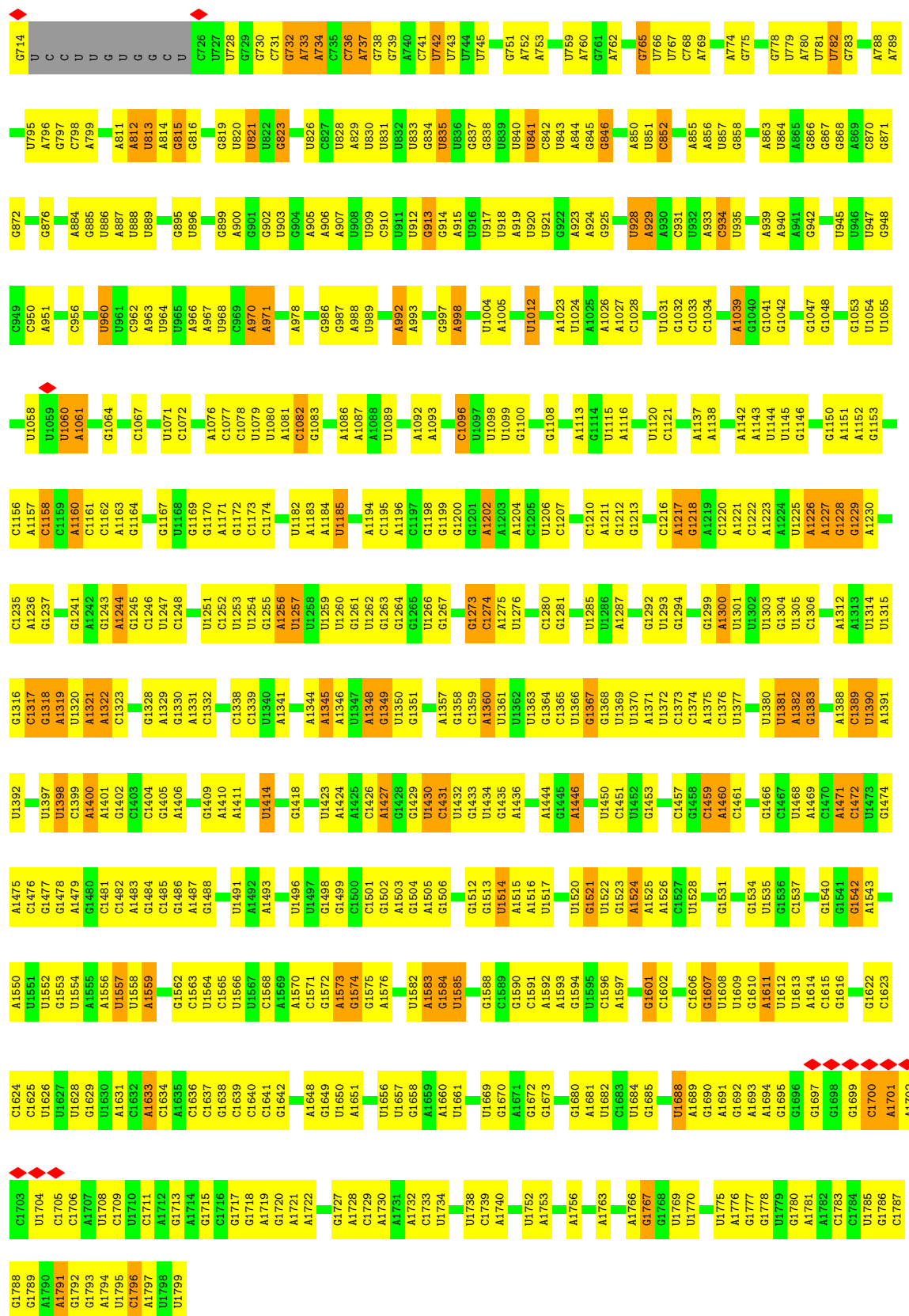
Mol	Chain	Residues	Atoms		AltConf
84	Ad	1	Total	Zn	0
			1	1	
84	Af	1	Total	Zn	0
			1	1	
84	Bf	1	Total	Zn	0
			1	1	
84	Bi	1	Total	Zn	0
			1	1	
84	Bl	1	Total	Zn	0
			1	1	
84	Bn	1	Total	Zn	0
			1	1	
84	Bo	1	Total	Zn	0
			1	1	
84	CC	2	Total	Zn	0
			2	2	

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.

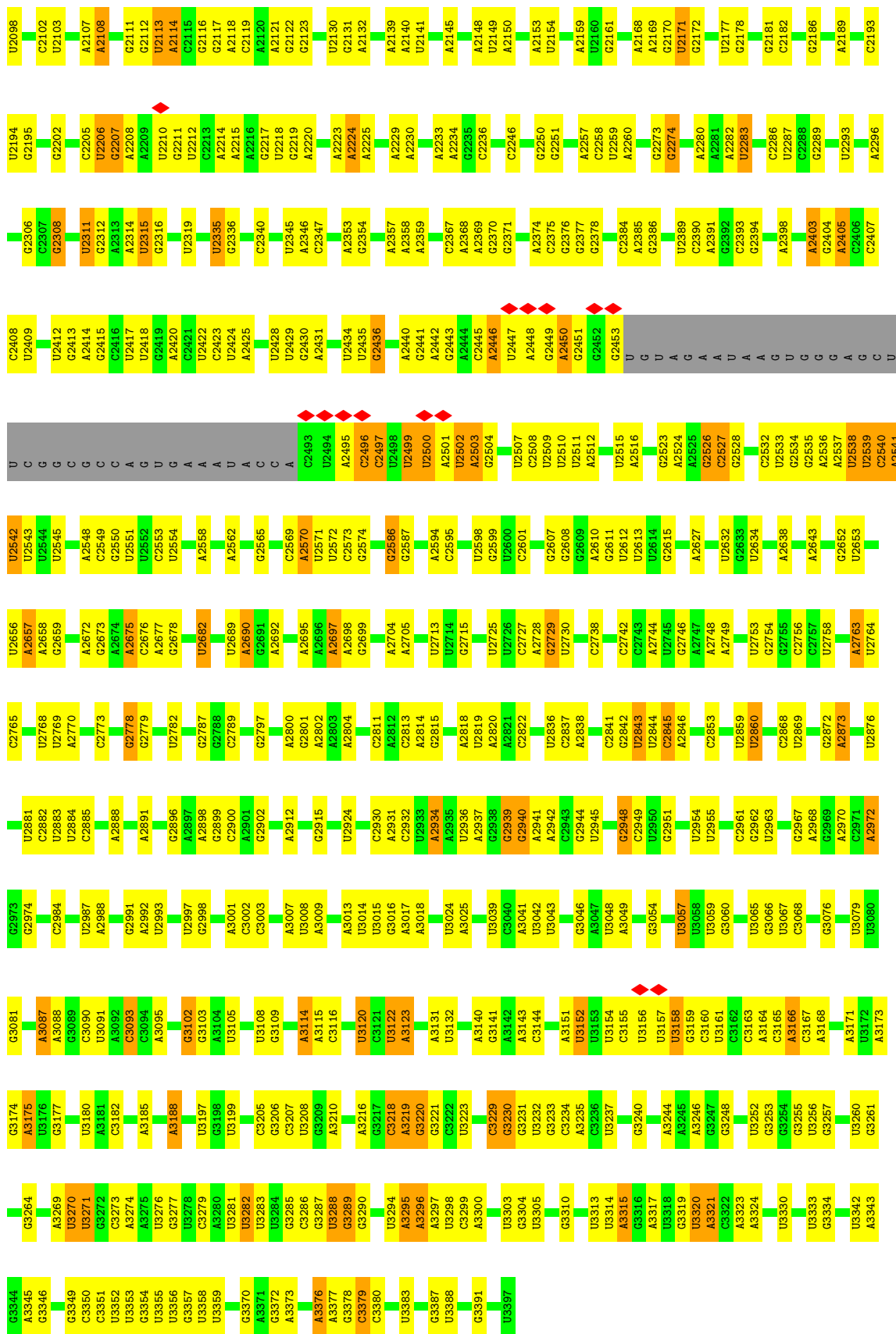
• Molecule 1: 18S ribosomal RNA





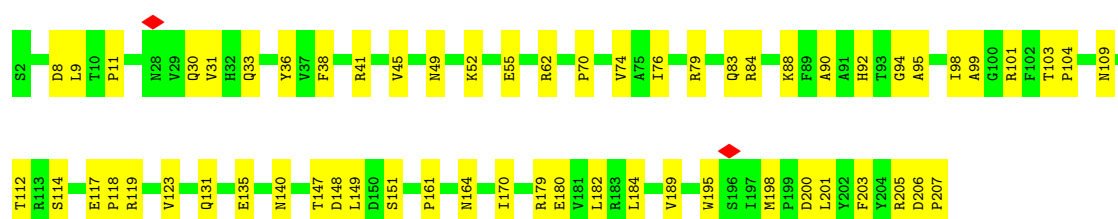
● Molecule 2: 5.8S ribosomal RNA



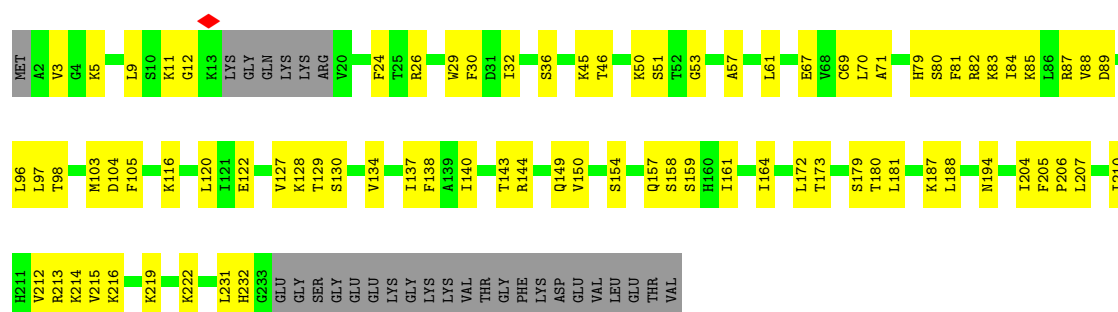




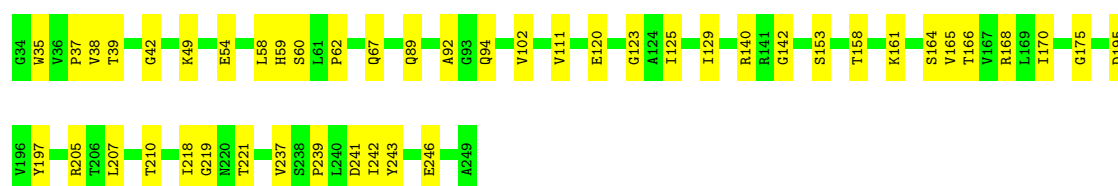
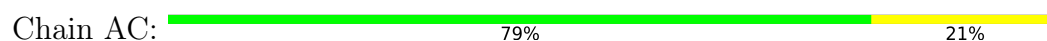
- Molecule 6: 40S ribosomal protein S0-A



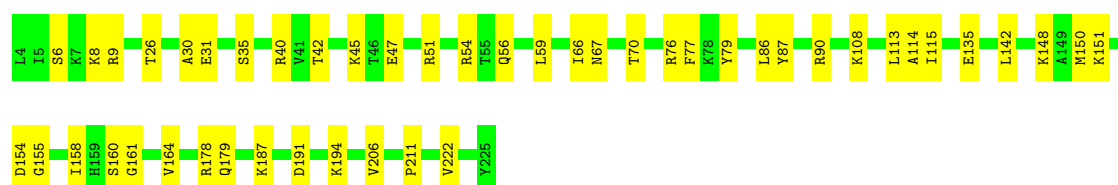
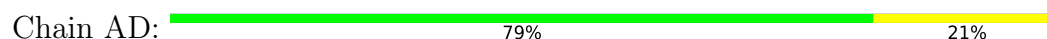
- Molecule 7: 40S ribosomal protein S1-A



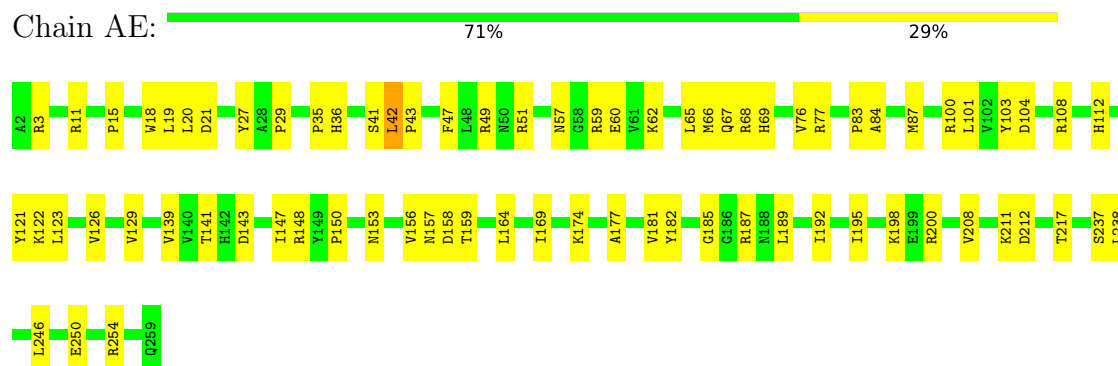
- Molecule 8: RPS2 isoform 1



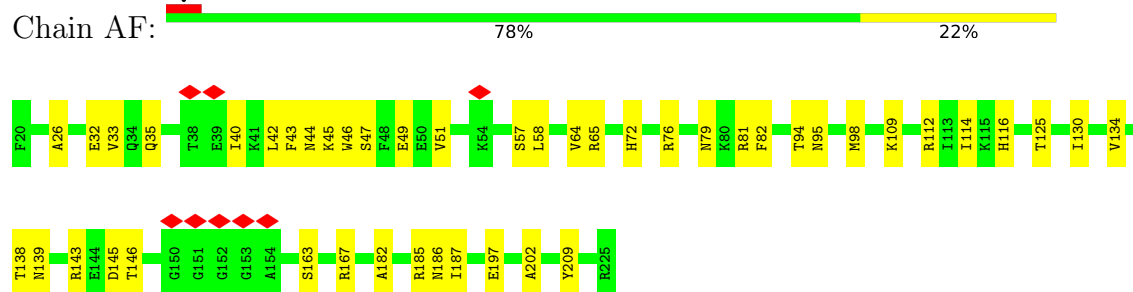
- Molecule 9: RPS3 isoform 1



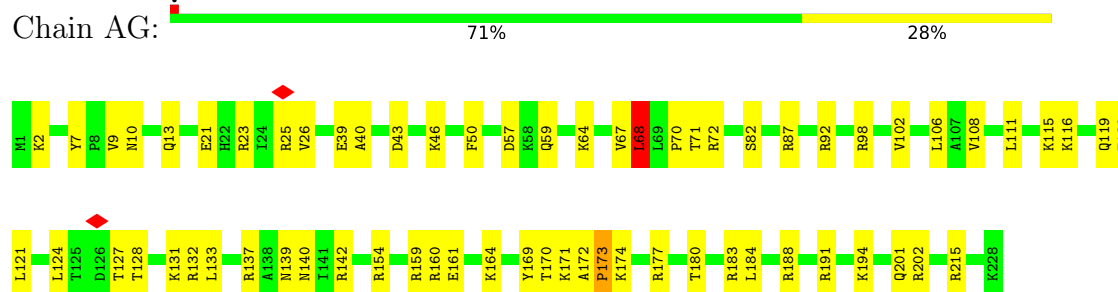
- Molecule 10: 40S ribosomal protein S4-A



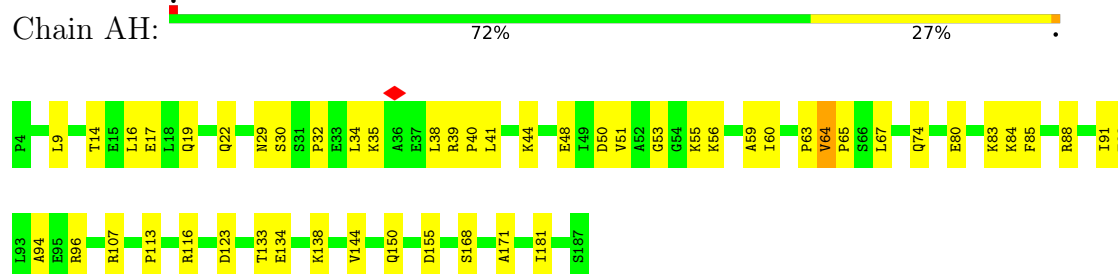
- Molecule 11: Rps5p



- Molecule 12: 40S ribosomal protein S6-A



- Molecule 13: 40S ribosomal protein S7-A

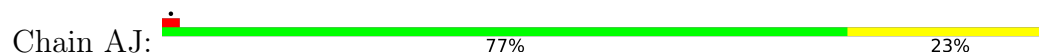


- Molecule 14: 40S ribosomal protein S8-A

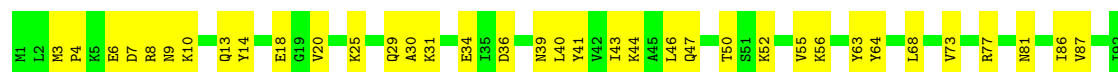




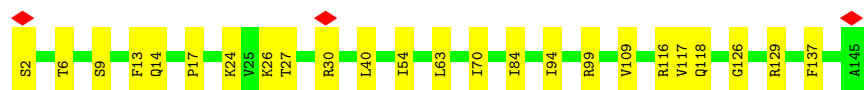
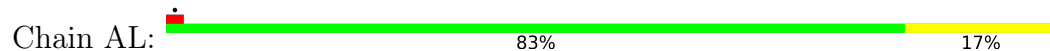
• Molecule 15: 40S ribosomal protein S9-A



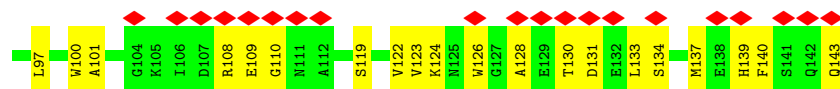
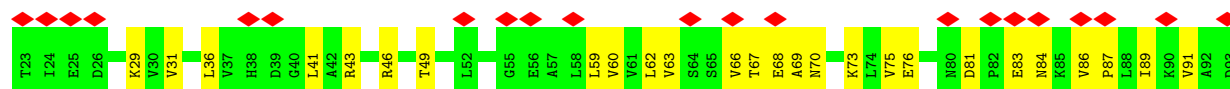
• Molecule 16: 40S ribosomal protein S10-A



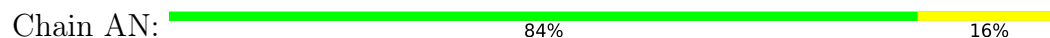
• Molecule 17: 40S ribosomal protein S11-A



• Molecule 18: 40S ribosomal protein S12

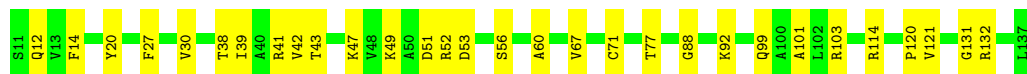


• Molecule 19: 40S ribosomal protein S13



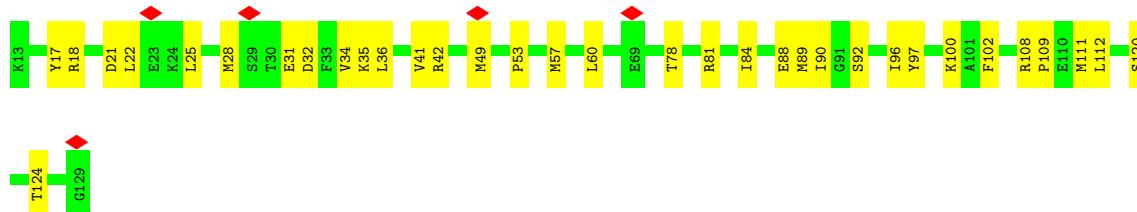
- Molecule 20: 40S ribosomal protein S14-B

Chain AO:  76% 24%



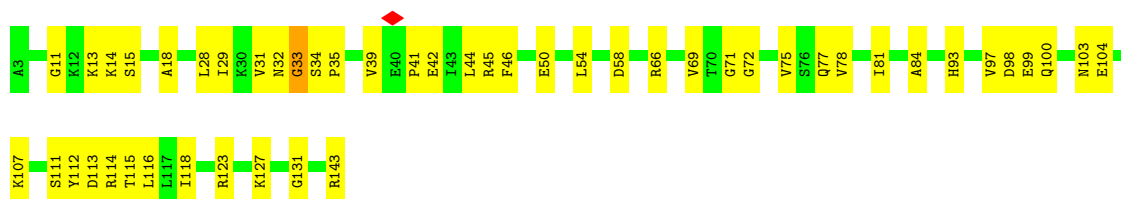
- Molecule 21: RPS15 isoform 1

Chain AP:  71% 29%



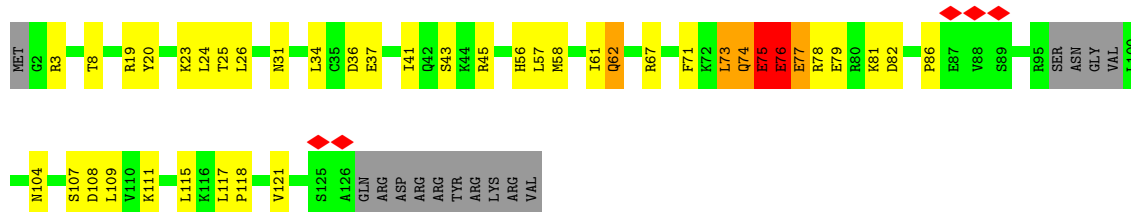
- Molecule 22: 40S ribosomal protein S16-A

Chain AQ:  65% 34%



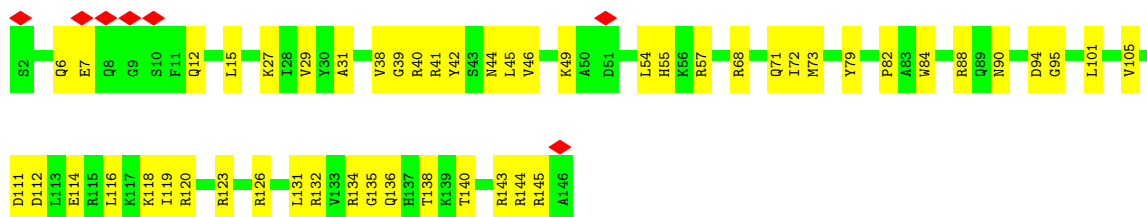
- Molecule 23: 40S ribosomal protein S17-A

Chain AR:  59% 26% 11%

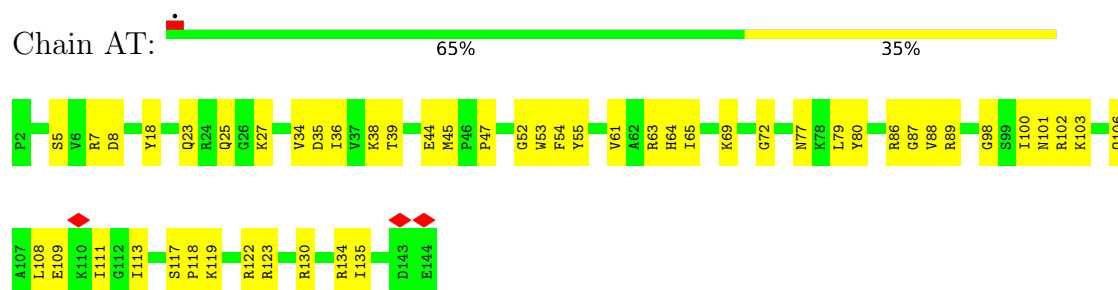


- Molecule 24: 40S ribosomal protein S18-A

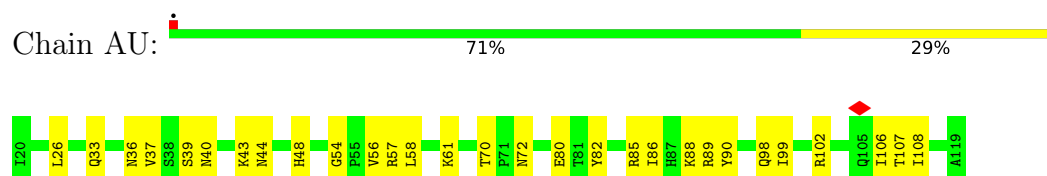
Chain AS:  5% 65% 35%



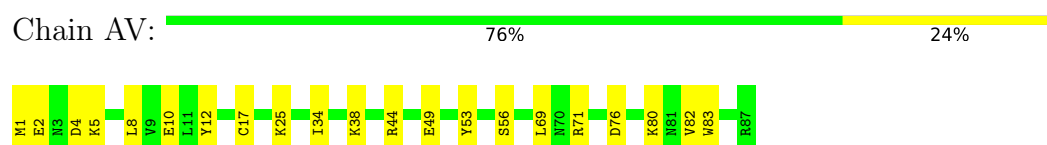
- Molecule 25: 40S ribosomal protein S19-A



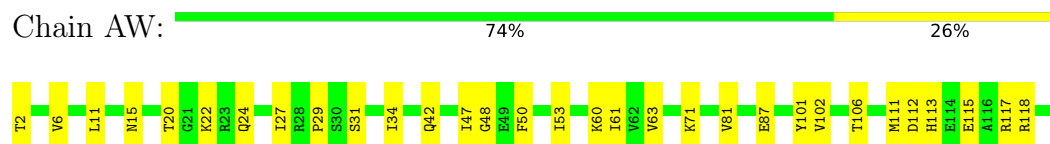
- Molecule 26: RPS20 isoform 1



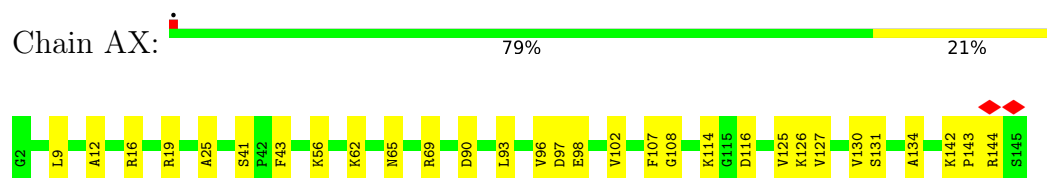
- Molecule 27: 40S ribosomal protein S21-A



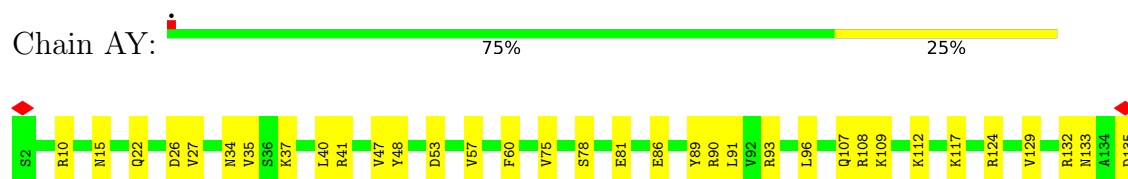
- Molecule 28: RPS22A isoform 1



- Molecule 29: 40S ribosomal protein S23-A

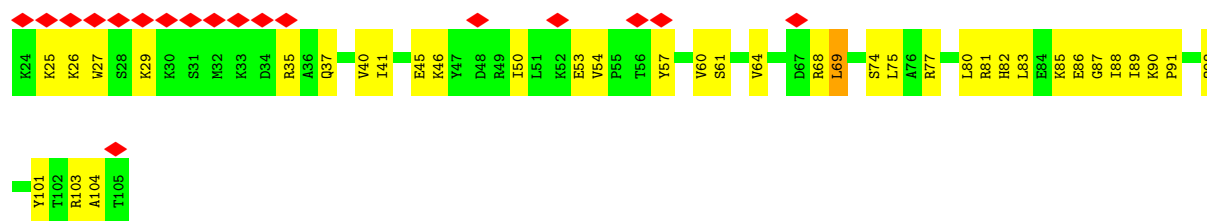


- Molecule 30: 40S ribosomal protein S24-A



- Molecule 31: 40S ribosomal protein S25





- Molecule 32: RPS26B isoform 1

Chain Aa: 59% 39%



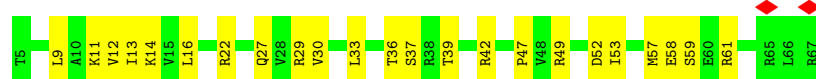
- Molecule 33: 40S ribosomal protein S27-A

Chain Ab: 75% 25%



- Molecule 34: RPS28A isoform 1

Chain Ac: 63% 37%



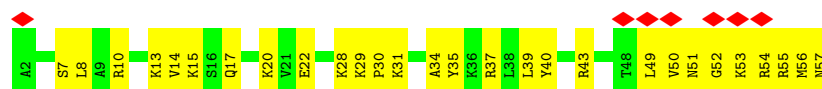
- Molecule 35: RPS29A isoform 1

Chain Ad: 66% 34%



- Molecule 36: 40S ribosomal protein S30-A

Chain Ae: 12% 50% 50%

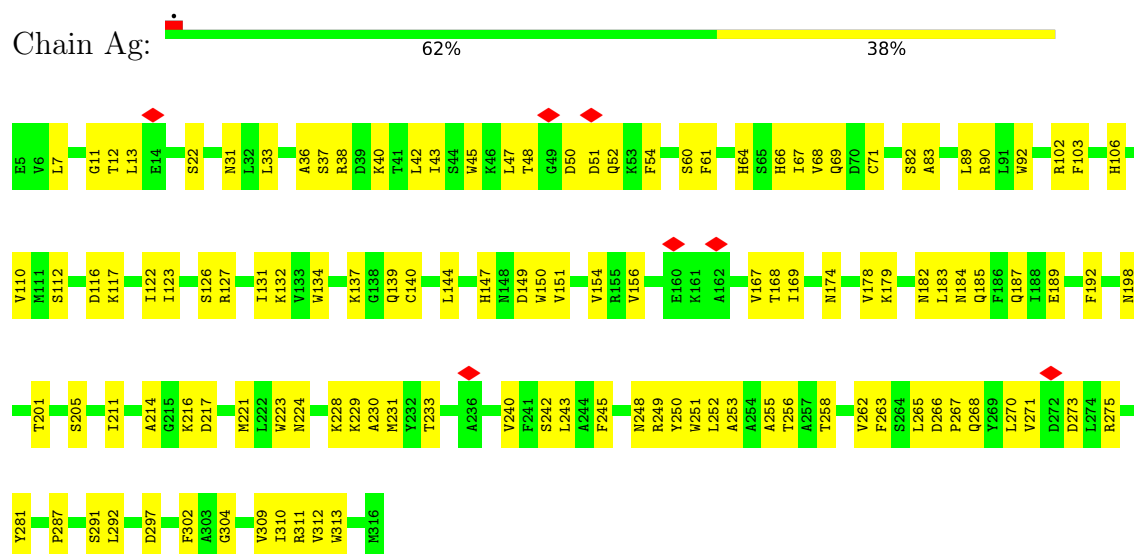


- Molecule 37: RPS31 isoform 1

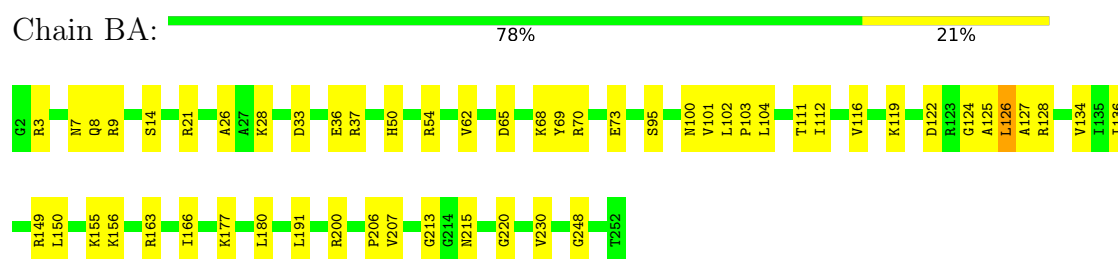
Chain Af: 36% 67% 33%



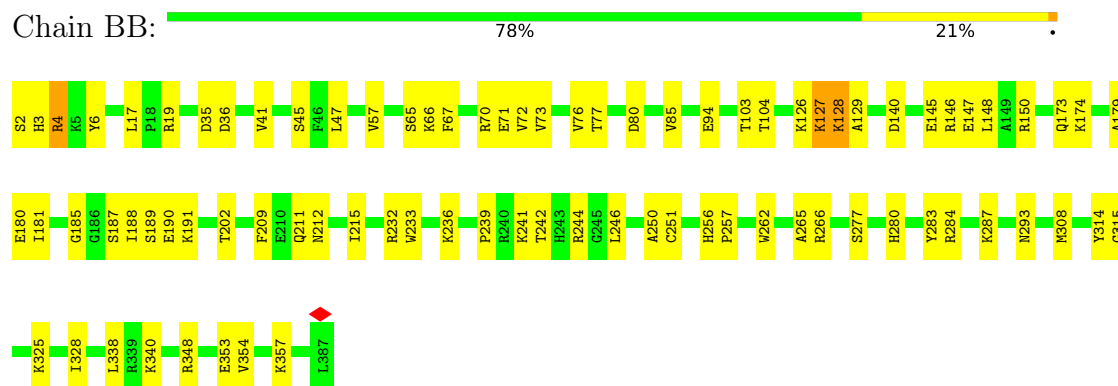
- Molecule 38: Guanine nucleotide-binding protein subunit beta-like protein



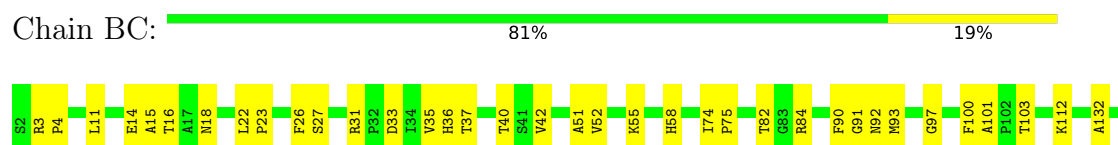
- Molecule 39: 60S ribosomal protein L2-A

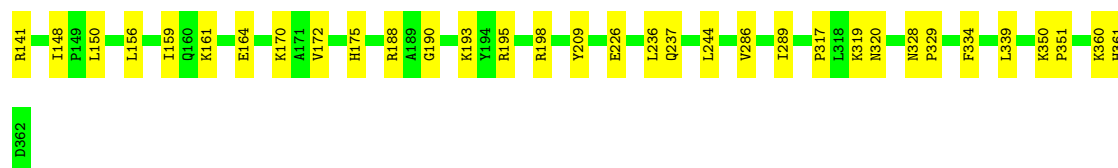


- Molecule 40: 60S ribosomal protein L3

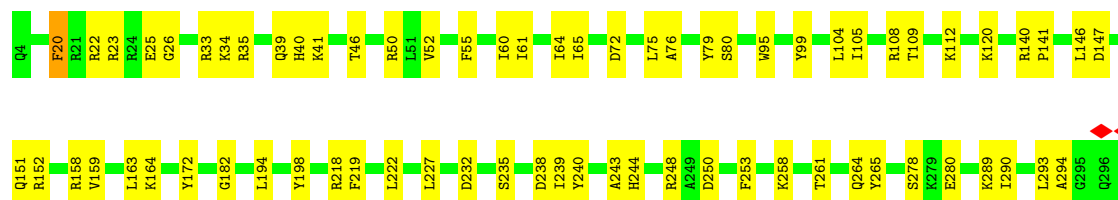
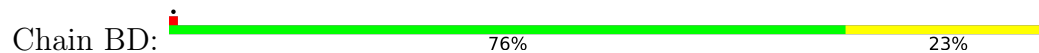


- Molecule 41: RPL4A isoform 1

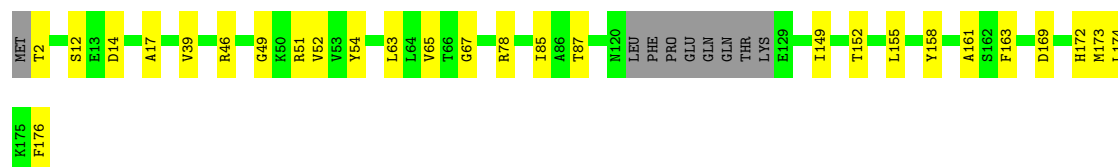
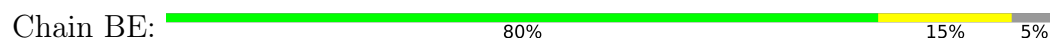




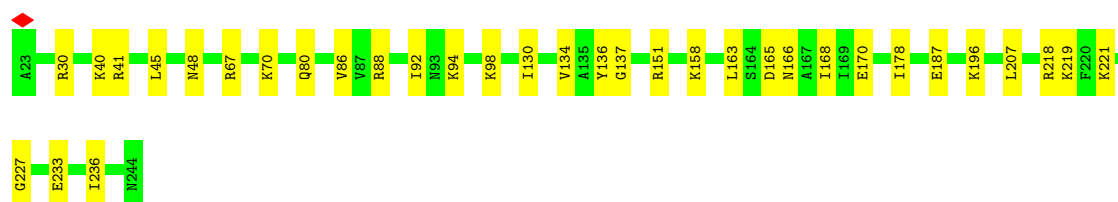
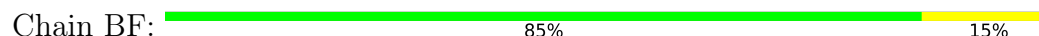
- Molecule 42: RPL5 isoform 1



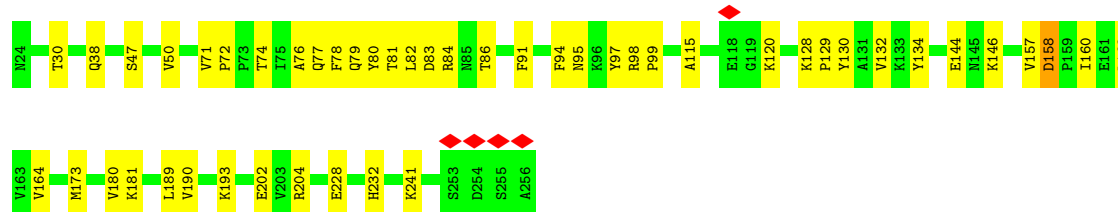
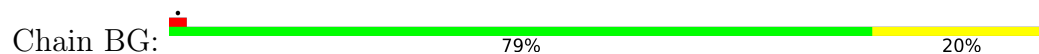
- Molecule 43: 60S ribosomal protein L6-B



- Molecule 44: 60S ribosomal protein L7-A

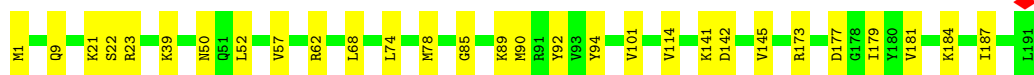


- Molecule 45: 60S ribosomal protein L8-A



- Molecule 46: 60S ribosomal protein L9-A

Chain BH:  85% 15%



- Molecule 47: RPL10 isoform 1

Chain BI:  84% 16%



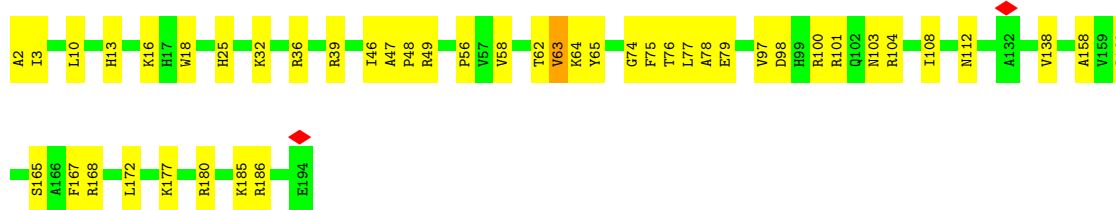
- Molecule 48: RPL11B isoform 1

Chain BJ:  72% 28%



- Molecule 49: 60S ribosomal protein L13-A

Chain BK:  77% 23%



- Molecule 50: 60S ribosomal protein L14-A

Chain BL:  79% 21%



- Molecule 51: 60S ribosomal protein L15-A

Chain BM:  81% 19%



- Molecule 52: 60S ribosomal protein L16-A

Chain BN: 86% 14%



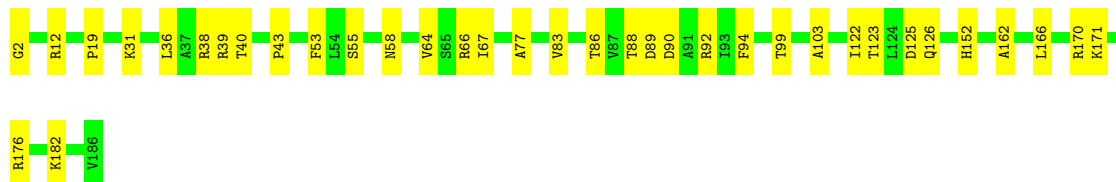
- Molecule 53: 60S ribosomal protein L17-A

Chain BO: 79% 21%



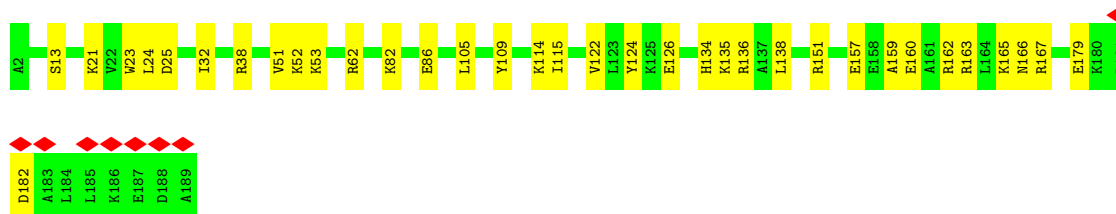
- Molecule 54: 60S ribosomal protein L18-A

Chain BP: 81% 19%



- Molecule 55: 60S ribosomal protein L19-A

Chain BQ: 81% 19%



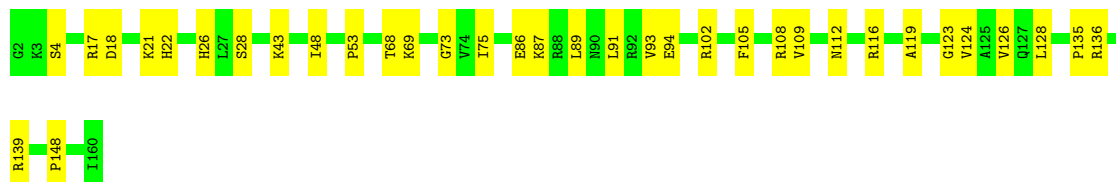
- Molecule 56: 60S ribosomal protein L20-A

Chain BR: 78% 22%



- Molecule 57: 60S ribosomal protein L21-A

Chain BS: 78% 22%



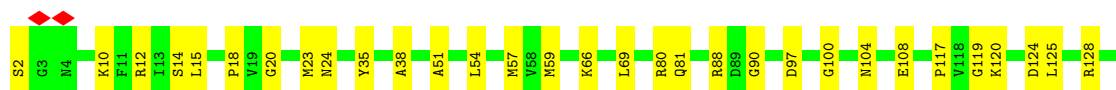
- Molecule 58: 60S ribosomal protein L22-A

Chain BT: 77% 23%



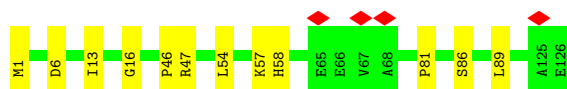
- Molecule 59: 60S ribosomal protein L23-A

Chain BU: 77% 23%



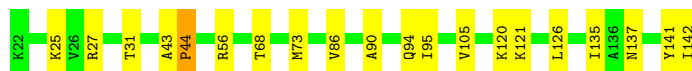
- Molecule 60: RPL24A isoform 1

Chain BV: 90% 10%



- Molecule 61: 60S ribosomal protein L25

Chain BW: 83% 16%

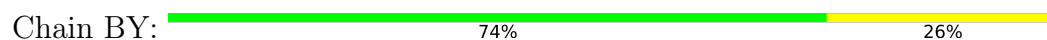


- Molecule 62: 60S ribosomal protein L26-A

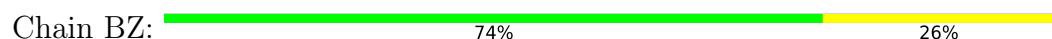
Chain BX: 78% 22%



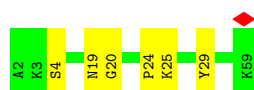
- Molecule 63: 60S ribosomal protein L27-A



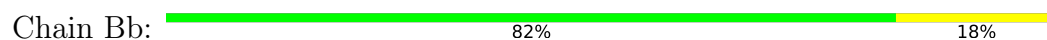
- Molecule 64: 60S ribosomal protein L28



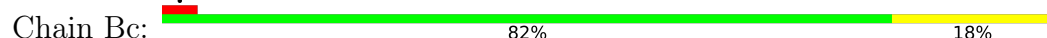
- Molecule 65: 60S ribosomal protein L29



- Molecule 66: 60S ribosomal protein L30



- Molecule 67: 60S ribosomal protein L31-A



- Molecule 68: RPL32 isoform 1



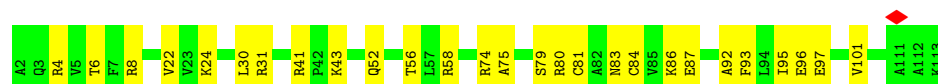
- Molecule 69: 60S ribosomal protein L33-A

Chain Be:  85% 15%



- Molecule 70: 60S ribosomal protein L34-A

Chain Bf:  76% 24%



- Molecule 71: 60S ribosomal protein L35-A

Chain Bg:  89% 11%



- Molecule 72: 60S ribosomal protein L36-A

Chain Bh:  91% 9%



- Molecule 73: 60S ribosomal protein L37-A

Chain Bi:  71% 29%



- Molecule 74: RPL38 isoform 1

Chain Bj:  70% 29%

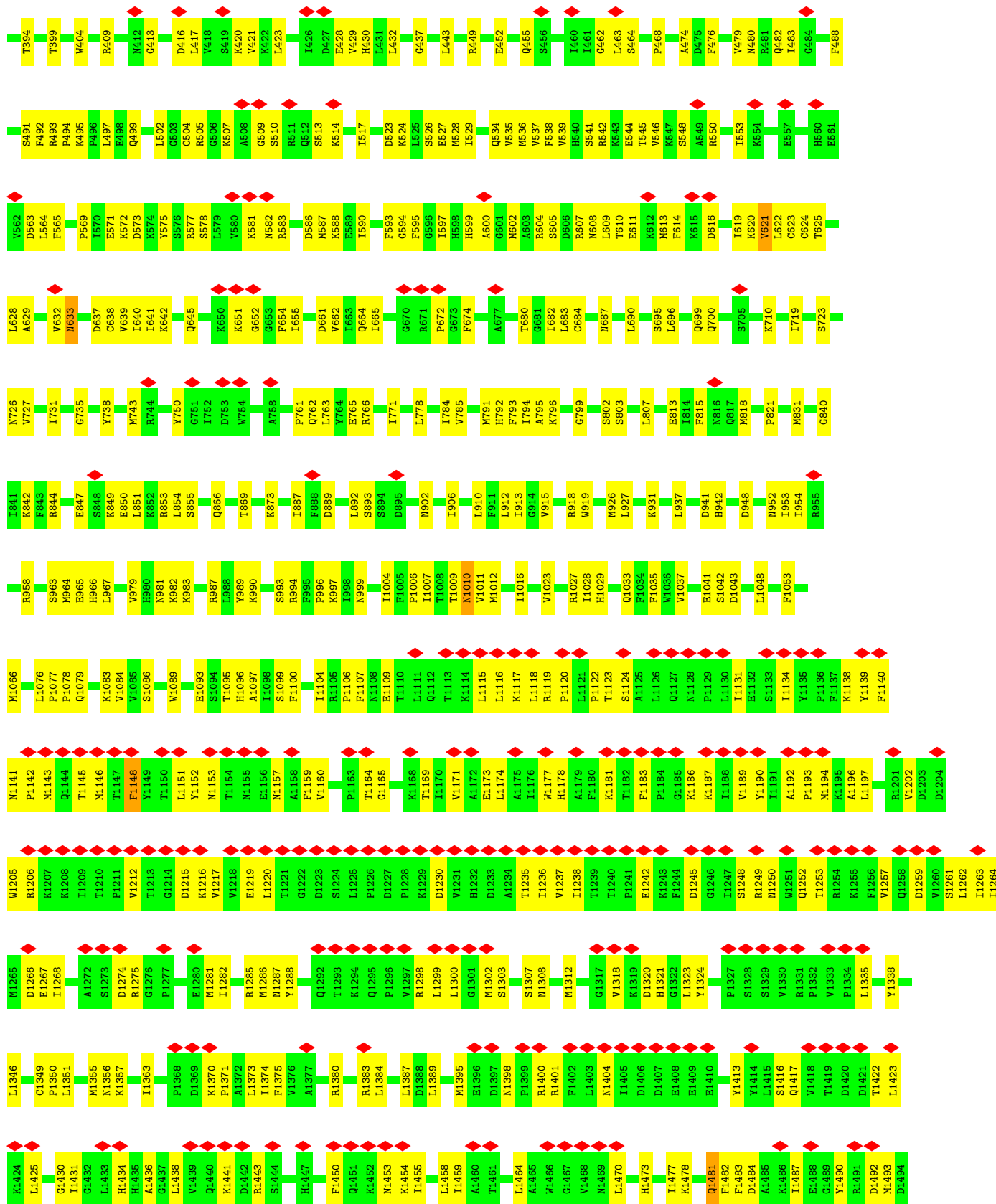


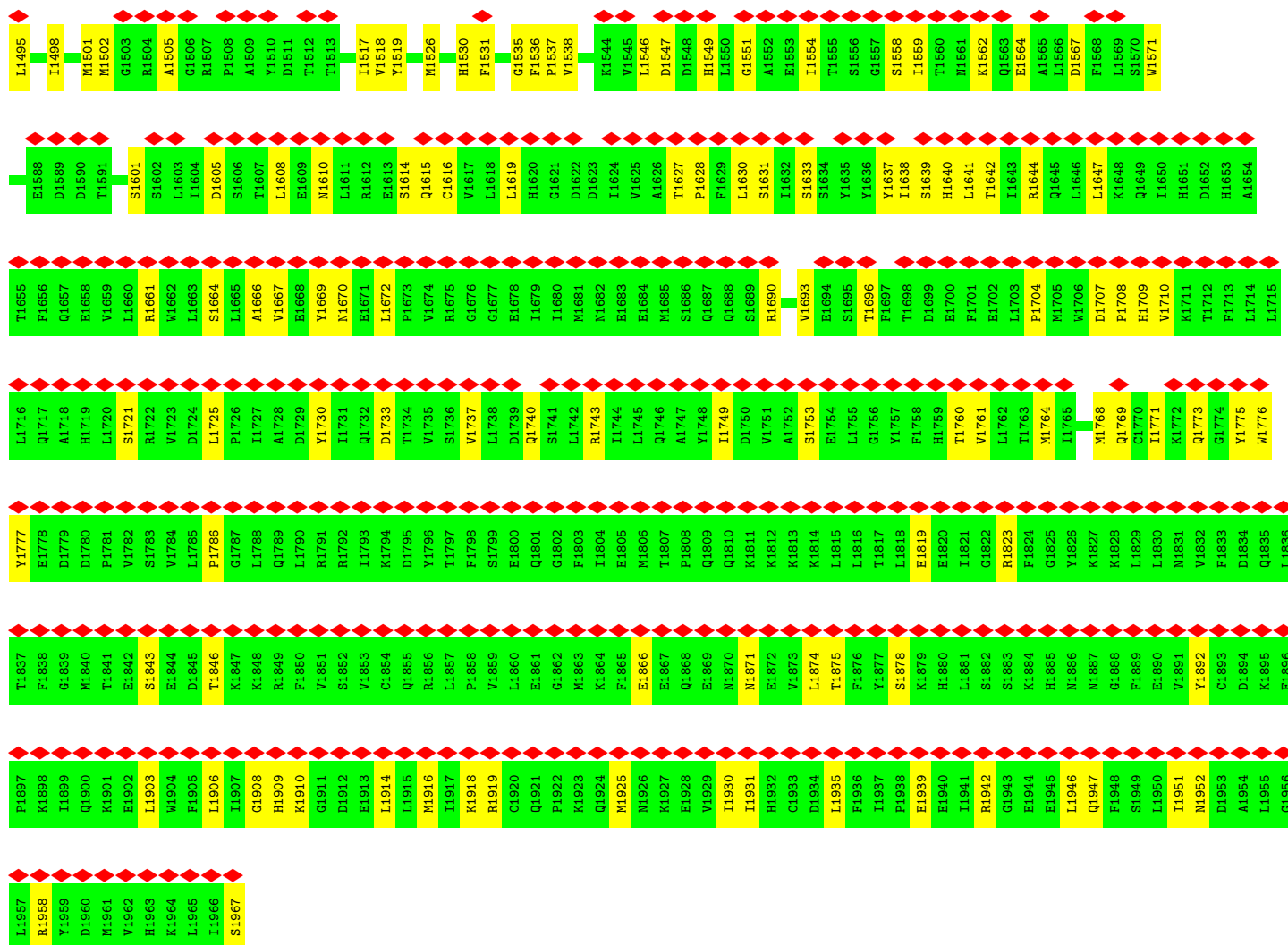
- Molecule 75: 60S ribosomal protein L39

Chain Bk:  80% 20%

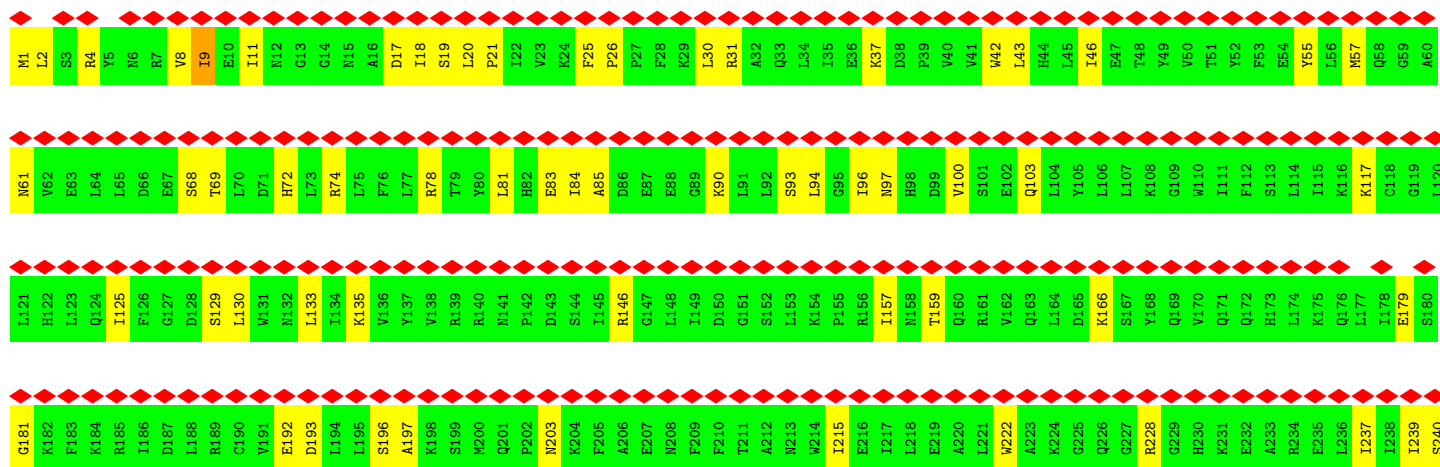
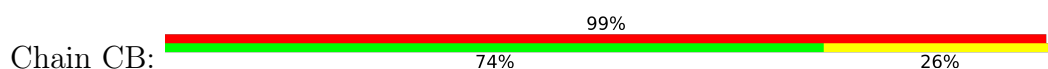


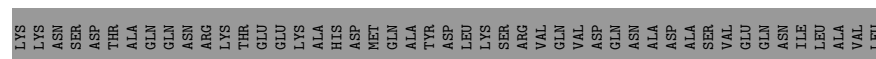
- Molecule 76: 60S ribosomal protein L40-A





● Molecule 81: RQC trigger complex subunit CUE3





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	20380	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 ($e^-/\text{\AA}^2$)	43.6	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	5.964	Depositor
Minimum map value	-0.585	Depositor
Average map value	0.017	Depositor
Map value standard deviation	0.130	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	585.19995, 585.19995, 585.19995	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.045, 1.045, 1.045	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, 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	2	0.16	0/42211	0.28	0/65773
2	3	0.20	0/3746	0.28	0/5832
3	4	0.18	0/2883	0.23	0/4491
4	5	0.21	0/76240	0.30	6/118862 (0.0%)
5	6	0.10	0/1773	0.24	0/2759
6	AA	0.16	0/1644	0.41	0/2249
7	AB	0.16	0/1823	0.44	0/2447
8	AC	0.17	0/1656	0.33	0/2251
9	AD	0.12	0/1754	0.30	0/2361
10	AE	0.17	0/2097	0.38	0/2823
11	AF	0.13	0/1625	0.34	0/2197
12	AG	0.12	0/1839	0.35	1/2460 (0.0%)
13	AH	0.15	0/1498	0.40	0/2019
14	AI	0.17	0/1501	0.44	0/2006
15	AJ	0.14	0/1504	0.33	0/2016
16	AK	0.16	0/769	0.49	0/1039
17	AL	0.17	0/1185	0.36	0/1598
18	AM	0.15	0/883	0.57	0/1199
19	AN	0.17	0/1215	0.37	0/1638
20	AO	0.18	0/937	0.39	0/1261
21	AP	0.17	0/936	0.36	0/1259
22	AQ	0.12	0/1125	0.39	0/1510
23	AR	0.31	0/957	0.54	0/1283
24	AS	0.12	0/1211	0.38	0/1628
25	AT	0.15	0/1130	0.41	0/1517
26	AU	0.12	0/807	0.31	0/1091
27	AV	0.17	0/682	0.44	0/921
28	AW	0.19	0/1038	0.38	0/1395
29	AX	0.17	0/1139	0.42	0/1518
30	AY	0.13	0/1087	0.30	0/1449
31	AZ	0.17	0/661	0.48	0/888
32	Aa	0.20	0/782	0.63	0/1047

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Ab	0.14	0/620	0.39	0/838
34	Ac	0.13	0/493	0.37	0/663
35	Ad	0.14	0/452	0.30	0/600
36	Ae	0.16	0/454	0.44	0/602
37	Af	0.17	0/567	0.54	0/764
38	Ag	0.11	0/2436	0.31	0/3318
39	BA	0.21	0/1933	0.38	0/2598
40	BB	0.20	0/3146	0.36	0/4228
41	BC	0.19	0/2800	0.35	0/3790
42	BD	0.15	0/2400	0.32	0/3239
43	BE	0.17	0/1327	0.35	0/1790
44	BF	0.20	0/1821	0.33	0/2451
45	BG	0.17	0/1836	0.37	0/2481
46	BH	0.16	0/1529	0.30	0/2060
47	BI	0.17	0/1801	0.32	0/2416
48	BJ	0.16	0/1371	0.40	0/1838
49	BK	0.19	0/1568	0.40	0/2106
50	BL	0.15	0/1068	0.28	0/1438
51	BM	0.21	0/1757	0.34	0/2354
52	BN	0.20	0/1585	0.33	0/2128
53	BO	0.19	0/1439	0.35	0/1938
54	BP	0.19	0/1465	0.32	0/1965
55	BQ	0.17	0/1532	0.30	0/2043
56	BR	0.19	0/1473	0.33	0/1980
57	BS	0.19	0/1300	0.32	0/1743
58	BT	0.17	0/812	0.44	0/1099
59	BU	0.20	0/1018	0.38	0/1369
60	BV	0.14	0/850	0.27	0/1152
61	BW	0.17	0/979	0.34	0/1321
62	BX	0.16	0/995	0.30	0/1329
63	BY	0.17	0/1118	0.34	0/1497
64	BZ	0.21	0/1204	0.42	0/1612
65	Ba	0.16	0/473	0.37	0/629
66	Bb	0.17	0/745	0.27	0/1001
67	Bc	0.17	0/890	0.29	0/1196
68	Bd	0.19	0/1038	0.37	0/1390
69	Be	0.21	0/868	0.32	0/1168
70	Bf	0.19	0/890	0.32	0/1189
71	Bg	0.16	0/978	0.29	0/1301
72	Bh	0.17	0/772	0.31	0/1026
73	Bi	0.21	0/685	0.32	0/908
74	Bj	0.16	0/618	0.35	0/826
75	Bk	0.19	0/443	0.27	0/588

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Bl	0.18	0/423	0.42	0/562
77	Bm	0.19	0/230	0.36	0/296
78	Bn	0.17	0/836	0.32	0/1104
79	Bo	0.18	0/701	0.32	0/934
80	CA	0.12	0/14309	0.34	0/19348
81	CB	0.09	0/2463	0.27	0/3324
82	CC	0.10	0/897	0.36	0/1203
All	All	0.18	0/233746	0.32	7/341530 (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
7	AB	0	1
10	AE	0	1
12	AG	0	1
13	AH	0	1
22	AQ	0	1
31	AZ	0	1
32	Aa	0	1
40	BB	0	2
45	BG	0	2
52	BN	0	1
55	BQ	0	1
61	BW	0	1
65	Ba	0	2
80	CA	0	1
All	All	0	17

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	5	2940	G	OP1-P-OP2	-13.24	79.87	119.60
4	5	2939	G	OP1-P-O3'	-11.29	74.14	108.00
4	5	2940	G	O5'-P-OP2	-10.64	76.07	108.00
4	5	2939	G	OP2-P-O3'	9.77	137.32	108.00
4	5	2940	G	O5'-P-OP1	7.67	131.02	108.00
4	5	2939	G	O3'-P-O5'	-5.15	96.28	104.00
12	AG	68	LEU	CA-CB-CG	5.12	134.22	116.30

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	AB	81	PHE	Peptide
10	AE	42	LEU	Peptide
12	AG	68	LEU	Peptide
13	AH	64	VAL	Peptide
22	AQ	33	GLY	Peptide
31	AZ	69	LEU	Peptide
32	Aa	9	GLY	Peptide
40	BB	127	LYS	Peptide
40	BB	4	ARG	Peptide
45	BG	158	ASP	Peptide
45	BG	30	THR	Peptide
52	BN	110[A]	PRO	Peptide
55	BQ	52	LYS	Peptide
61	BW	43	ALA	Peptide
65	Ba	19	ASN	Peptide
65	Ba	20	GLY	Peptide
80	CA	1010	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2	37739	0	18988	704	0
2	3	3353	0	1695	55	0
3	4	2579	0	1304	42	0
4	5	68114	0	34228	853	0
5	6	1589	0	810	20	0
6	AA	1603	0	1610	46	0
7	AB	1798	0	1890	61	0
8	AC	1626	0	1715	40	0
9	AD	1729	0	1812	45	0
10	AE	2056	0	2140	54	0
11	AF	1605	0	1669	40	0
12	AG	1815	0	1894	62	0
13	AH	1473	0	1555	41	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	AI	1476	0	1501	36	0
15	AJ	1479	0	1556	33	0
16	AK	752	0	719	31	0
17	AL	1159	0	1225	17	0
18	AM	875	0	878	34	0
19	AN	1192	0	1255	19	0
20	AO	926	0	950	27	0
21	AP	916	0	941	32	0
22	AQ	1105	0	1166	38	0
23	AR	948	0	990	52	0
24	AS	1192	0	1222	42	0
25	AT	1112	0	1124	43	0
26	AU	797	0	863	24	0
27	AV	673	0	662	19	0
28	AW	1021	0	1060	24	0
29	AX	1121	0	1196	24	0
30	AY	1073	0	1132	32	0
31	AZ	651	0	682	27	0
32	Aa	769	0	818	40	0
33	Ab	610	0	633	16	0
34	Ac	491	0	524	20	0
35	Ad	442	0	428	14	0
36	Ae	448	0	499	21	0
37	Af	556	0	546	20	0
38	Ag	2383	0	2332	87	0
39	BA	1899	0	1957	42	0
40	BB	3075	0	3142	68	0
41	BC	2748	0	2859	50	0
42	BD	2351	0	2294	55	0
43	BE	1305	0	1370	19	0
44	BF	1784	0	1862	26	0
45	BG	1804	0	1877	36	0
46	BH	1508	0	1572	24	0
47	BI	1764	0	1804	26	0
48	BJ	1350	0	1381	38	0
49	BK	1543	0	1608	44	0
50	BL	1053	0	1149	21	0
51	BM	1720	0	1779	35	0
52	BN	1555	0	1659	17	0
53	BO	1416	0	1433	29	0
54	BP	1441	0	1543	28	0
55	BQ	1515	0	1606	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	BR	1437	0	1475	28	0
57	BS	1276	0	1323	27	0
58	BT	796	0	812	17	0
59	BU	1003	0	1048	23	0
60	BV	836	0	709	8	0
61	BW	964	0	1025	17	0
62	BX	984	0	1075	19	0
63	BY	1092	0	1155	24	0
64	BZ	1173	0	1215	39	0
65	Ba	462	0	491	3	0
66	Bb	737	0	792	11	0
67	Bc	876	0	912	13	0
68	Bd	1017	0	1081	12	0
69	Be	850	0	880	10	0
70	Bf	880	0	941	24	0
71	Bg	969	0	1078	10	0
72	Bh	766	0	844	8	0
73	Bi	670	0	673	22	0
74	Bj	612	0	682	18	0
75	Bk	436	0	475	10	0
76	Bl	417	0	455	12	0
77	Bm	229	0	273	9	0
78	Bn	824	0	888	19	0
79	Bo	694	0	735	13	0
80	CA	14008	0	14058	440	0
81	CB	2415	0	2508	55	0
82	CC	886	0	857	27	0
83	2	2	0	0	0	0
83	AE	1	0	0	0	0
83	AF	1	0	0	0	0
84	Ad	1	0	0	0	0
84	Af	1	0	0	0	0
84	Bf	1	0	0	0	0
84	Bi	1	0	0	0	0
84	Bl	1	0	0	0	0
84	Bn	1	0	0	0	0
84	Bo	1	0	0	0	0
84	CC	2	0	0	0	0
All	All	218399	0	165567	3689	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 10.

All (3689) 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)
1:2:1588:G:H1	1:2:1608:U:H3	1.08	0.96
4:5:1019:G:H1	4:5:1035:U:H3	0.93	0.92
23:AR:76:GLU:C	23:AR:78:ARG:H	1.78	0.86
80:CA:590:ILE:HA	80:CA:594:GLY:HA3	1.57	0.86
3:4:32:U:H5'	42:BD:218:ARG:HH22	1.42	0.85
1:2:647:G:H22	1:2:687:G:H1	1.23	0.85
4:5:2939:G:H3'	40:BB:3:HIS:CE1	2.10	0.85
4:5:442:G:N7	4:5:493:U:H5''	1.92	0.84
4:5:441:U:H5'	4:5:493:U:H5'	1.59	0.83
16:AK:3:MET:SD	16:AK:8:ARG:NH1	2.52	0.82
4:5:1258:C:N3	4:5:1262:G:N1	2.28	0.81
80:CA:1554:ILE:HD11	80:CA:1559:ILE:HB	1.63	0.81
7:AB:130:SER:HB2	7:AB:180:THR:HG22	1.64	0.79
1:2:1697:G:H1	1:2:1704:U:H3	1.28	0.79
1:2:1229:G:H21	1:2:1256:A:H62	1.28	0.79
80:CA:1160:VAL:HA	80:CA:1324:TYR:HB3	1.65	0.79
1:2:1552:U:N3	1:2:1556:A:N6	2.31	0.78
1:2:1034:C:HO2'	28:AW:2:THR:N	1.81	0.78
8:AC:142:GLY:HA2	27:AV:1:MET:HE1	1.66	0.78
4:5:846:G:N2	4:5:849:A:OP2	2.17	0.78
1:2:992:A:H2	1:2:1012:U:H3	1.30	0.77
73:Bi:21:ARG:NH2	73:Bi:41:ALA:O	2.17	0.77
4:5:1258:C:N4	4:5:1262:G:H22	1.81	0.77
7:AB:32:ILE:HD11	7:AB:46:THR:HG23	1.66	0.77
1:2:142:G:OP2	12:AG:139:ASN:ND2	2.18	0.77
4:5:38:U:H4'	64:BZ:32:ARG:HD2	1.65	0.77
57:BS:48:ILE:HG13	57:BS:94:GLU:HG2	1.65	0.77
7:AB:212:VAL:HG13	7:AB:213:ARG:H	1.48	0.77
4:5:1640:C:OP2	70:Bf:74:ARG:NH2	2.18	0.76
24:AS:90:ASN:HA	24:AS:95:GLY:HA2	1.68	0.76
1:2:1695:G:H1	1:2:1706:C:H42	1.32	0.76
13:AH:64:VAL:HG23	13:AH:67:LEU:HB2	1.68	0.76
9:AD:56:GLN:NE2	80:CA:1095:THR:O	2.18	0.76
4:5:542:U:N3	4:5:543:G:O6	2.19	0.76
32:Aa:45:VAL:HG13	32:Aa:46:GLU:H	1.50	0.76
39:BA:127:ALA:HB2	39:BA:134:VAL:HG23	1.66	0.76
78:Bn:99:GLN:HG3	78:Bn:102:GLN:HB2	1.68	0.75
1:2:1559:A:N7	24:AS:134:ARG:NH1	2.35	0.75
4:5:440:A:H5''	4:5:495:G:H1	1.51	0.75
4:5:3163:C:N4	4:5:3164:A:N6	2.34	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AH:39:ARG:HD3	13:AH:40:PRO:HD3	1.68	0.75
4:5:3093:C:O2'	4:5:3095:A:OP2	2.03	0.75
1:2:1162:C:H4'	34:Ac:22:ARG:HD3	1.68	0.75
78:Bn:71:ARG:HD2	78:Bn:80:ARG:HH21	1.52	0.74
80:CA:583:ARG:HH21	80:CA:609:LEU:HB2	1.50	0.74
80:CA:1387:LEU:HD22	81:CB:94:LEU:HB3	1.69	0.74
62:BX:87:LYS:HB2	62:BX:97:ILE:HD11	1.69	0.74
4:5:1662:G:H2'	4:5:1663:G:C8	2.23	0.74
38:Ag:33:LEU:HB3	38:Ag:45:TRP:HB2	1.69	0.74
22:AQ:32:ASN:HD21	22:AQ:69:VAL:HG12	1.51	0.74
23:AR:76:GLU:C	23:AR:78:ARG:N	2.38	0.74
8:AC:140:ARG:NH1	27:AV:10:GLU:OE2	2.21	0.73
50:BL:27:GLN:NE2	50:BL:28:SER:OG	2.22	0.73
54:BP:170:ARG:HD2	64:BZ:57:GLY:HA3	1.69	0.73
1:2:895:G:H21	20:AO:38:THR:HG21	1.53	0.73
4:5:2601:C:OP1	51:BM:93:LYS:NZ	2.20	0.73
4:5:388:G:H1'	53:BO:97:ASN:HD21	1.54	0.73
1:2:895:G:H1	1:2:917:U:H3	1.36	0.72
1:2:1368:G:H5''	25:AT:69:LYS:HG2	1.71	0.72
1:2:1552:U:C2	1:2:1556:A:N6	2.57	0.72
80:CA:1006:PRO:HA	80:CA:1012:MET:HG3	1.71	0.72
28:AW:6:VAL:HG13	28:AW:29:PRO:HD2	1.71	0.72
13:AH:9:LEU:HD11	13:AH:17:GLU:HG3	1.71	0.72
4:5:490:C:H2'	4:5:491:A:N7	2.05	0.72
37:Af:106:TYR:O	37:Af:107:LYS:HD3	1.89	0.72
40:BB:284:ARG:NH1	40:BB:293:ASN:O	2.22	0.72
1:2:1672:G:H2'	1:2:1673:G:C8	2.24	0.72
6:AA:55:GLU:HG2	27:AV:80:LYS:HB2	1.70	0.72
41:BC:329:PRO:HG3	44:BF:41:ARG:HE	1.53	0.72
1:2:1171:A:H2'	1:2:1172:G:H8	1.54	0.72
31:AZ:60:VAL:HG23	31:AZ:103:ARG:HH22	1.54	0.72
59:BU:120:LYS:NZ	59:BU:124:ASP:OD2	2.23	0.72
8:AC:39:THR:HG23	8:AC:42:GLY:H	1.53	0.72
1:2:1591:C:H2'	1:2:1592:A:H8	1.54	0.72
32:Aa:83:ILE:O	32:Aa:85:ARG:N	2.20	0.72
2:3:95:G:OP2	73:Bi:72:ARG:NH1	2.22	0.71
4:5:2729:G:N7	57:BS:87:LYS:NZ	2.36	0.71
7:AB:194:ASN:HD21	7:AB:212:VAL:HB	1.55	0.71
46:BH:90:MET:HE2	46:BH:179:ILE:HG22	1.70	0.71
1:2:1116:A:OP1	77:Bm:17:ARG:NH1	2.23	0.71
4:5:1258:C:N4	4:5:1262:G:N2	2.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:825:C:H5''	39:BA:21:ARG:HD2	1.73	0.71
4:5:1230:G:H2'	4:5:1231:G:C8	2.25	0.71
1:2:815:G:OP2	55:BQ:166:ASN:ND2	2.23	0.71
38:Ag:110:VAL:HA	38:Ag:126:SER:HA	1.73	0.71
4:5:282:G:O2'	4:5:283:G:OP2	2.09	0.71
16:AK:50:THR:HG22	16:AK:55:VAL:HG23	1.72	0.71
61:BW:25:LYS:NZ	61:BW:27:ARG:HE	1.87	0.71
1:2:514:G:H2'	1:2:515:A:H8	1.55	0.71
8:AC:165:VAL:HG11	8:AC:210:THR:HG22	1.73	0.71
14:AI:152:ILE:HG13	14:AI:153:GLU:H	1.55	0.71
4:5:719:G:OP1	64:BZ:117:ARG:NH2	2.24	0.70
46:BH:94:TYR:OH	46:BH:141:LYS:NZ	2.23	0.70
80:CA:258:GLN:NE2	80:CA:491:SER:O	2.24	0.70
80:CA:761:PRO:HG2	81:CB:179:GLU:HG2	1.72	0.70
6:AA:140:ASN:HD22	8:AC:62:PRO:HD3	1.56	0.70
44:BF:163:LEU:HA	44:BF:168:ILE:HD11	1.73	0.70
80:CA:1349:CYS:SG	81:CB:37:LYS:NZ	2.64	0.70
1:2:871:G:H2'	1:2:872:G:C8	2.26	0.70
38:Ag:270:LEU:HD21	38:Ag:273:ASP:HB2	1.74	0.70
57:BS:17:ARG:HG2	57:BS:22:HIS:HA	1.73	0.70
80:CA:847:GLU:HB3	80:CA:851:LEU:HD13	1.73	0.70
1:2:163:G:N2	1:2:163:G:OP2	2.24	0.70
13:AH:39:ARG:HH11	13:AH:40:PRO:HD3	1.56	0.70
42:BD:294:ALA:HB1	47:BI:217:PHE:HB3	1.74	0.70
80:CA:1007:ILE:HB	80:CA:1011:VAL:HG23	1.73	0.70
8:AC:219:GLY:O	27:AV:25:LYS:NZ	2.22	0.70
38:Ag:11:GLY:HA2	38:Ag:52:GLN:HA	1.73	0.70
1:2:1797:A:N6	32:Aa:84:VAL:O	2.24	0.70
80:CA:695:SER:HA	80:CA:699:GLN:HB2	1.72	0.70
80:CA:1164:THR:HG22	80:CA:1165:GLY:H	1.57	0.69
3:4:7:G:OP1	42:BD:33:ARG:NH1	2.24	0.69
4:5:148:G:OP2	51:BM:4:TYR:OH	2.10	0.69
57:BS:18:ASP:HB3	57:BS:21:LYS:HB2	1.74	0.69
10:AE:185:GLY:H	10:AE:189:LEU:HD13	1.56	0.69
30:AY:27:VAL:HG11	30:AY:35:VAL:HG21	1.73	0.69
50:BL:48:GLY:HA3	50:BL:53:VAL:HB	1.74	0.69
1:2:1429:G:N3	26:AU:72:ASN:ND2	2.40	0.69
4:5:1349:U:O2	4:5:1350:G:N2	2.26	0.69
41:BC:11:LEU:HD21	41:BC:156:LEU:HB2	1.75	0.69
80:CA:261:ASN:HD22	80:CA:491:SER:HB3	1.57	0.69
21:AP:18:ARG:HD2	21:AP:36:LEU:HB2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AS:132:ARG:HD2	24:AS:136:GLN:HE21	1.56	0.69
80:CA:537:VAL:HB	80:CA:623:CYS:HA	1.75	0.69
7:AB:194:ASN:ND2	7:AB:210:ILE:O	2.26	0.69
25:AT:106:GLN:HA	25:AT:109:GLU:HG2	1.75	0.69
61:BW:90:ALA:O	61:BW:120:LYS:NZ	2.25	0.69
4:5:441:U:C5	4:5:493:U:H4'	2.28	0.68
4:5:2961:C:H2'	4:5:2962:G:C8	2.28	0.68
7:AB:5:LYS:NZ	20:AO:51:ASP:OD2	2.27	0.68
4:5:768:U:H4'	49:BK:186:ARG:HH12	1.58	0.68
4:5:2569:C:O2'	4:5:2570:A:O4'	2.11	0.68
66:Bb:30:THR:HG23	66:Bb:91:SER:HB2	1.76	0.68
4:5:438:A:H2'	4:5:439:C:C6	2.28	0.68
1:2:992:A:O2'	1:2:1785:U:O2	2.12	0.68
4:5:542:U:C4	4:5:543:G:O6	2.47	0.68
19:AN:40:TYR:HB3	19:AN:45:LEU:HD12	1.75	0.68
80:CA:624:CYS:SG	80:CA:625:THR:N	2.67	0.68
25:AT:108:LEU:HD23	25:AT:113:ILE:HD11	1.74	0.68
1:2:1229:G:N2	1:2:1255:G:O2'	2.22	0.68
1:2:1610:G:OP1	11:AF:72:HIS:NE2	2.25	0.68
4:5:2843:U:OP1	4:5:2845:C:N4	2.26	0.68
80:CA:1122:PRO:HG3	82:CC:325:LEU:HD11	1.76	0.68
80:CA:1346:LEU:HD13	80:CA:1350:PRO:HB2	1.75	0.68
4:5:3163:C:N4	4:5:3164:A:H62	1.92	0.68
10:AE:19:LEU:HD11	10:AE:108:ARG:HD2	1.76	0.68
62:BX:101:PRO:HA	62:BX:104:LEU:HD12	1.75	0.68
1:2:1339:C:O2'	1:2:1341:A:N7	2.27	0.68
1:2:1690:G:H2'	1:2:1691:A:H8	1.58	0.68
9:AD:211:PRO:HG3	23:AR:20:TYR:HE1	1.58	0.68
33:Ab:55:THR:HA	33:Ab:63:LEU:HD23	1.76	0.68
47:BI:189:GLU:HB2	47:BI:200:LEU:HB3	1.75	0.68
67:Bc:62:ARG:NH2	67:Bc:68:GLU:OE2	2.26	0.68
1:2:7:G:N7	8:AC:205:ARG:NH2	2.41	0.68
46:BH:1:MET:HE1	56:BR:138:GLN:HB3	1.76	0.68
48:BJ:49:LYS:HD3	48:BJ:62:ASN:HD22	1.58	0.68
4:5:1223:G:N2	4:5:1286:G:O2'	2.27	0.67
1:2:1562:G:OP1	25:AT:89:ARG:NH2	2.27	0.67
34:Ac:11:LYS:HB2	34:Ac:53:ILE:HG22	1.76	0.67
43:BE:12:SER:OG	43:BE:14:ASP:OD1	2.12	0.67
1:2:488:G:N1	1:2:499:U:O4	2.27	0.67
1:2:555:A:N7	1:2:590:C:O2'	2.28	0.67
1:2:1331:A:OP1	23:AR:45:ARG:NH2	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1548:G:OP1	51:BM:108:ARG:NH2	2.28	0.67
7:AB:79:HIS:HB3	7:AB:82:ARG:HD3	1.77	0.67
4:5:745:A:OP1	54:BP:66:ARG:NH2	2.27	0.67
16:AK:77:ARG:HH12	16:AK:86:ILE:H	1.40	0.67
64:BZ:6:THR:HG22	64:BZ:8:THR:H	1.60	0.67
4:5:2970:A:N7	39:BA:215:ASN:ND2	2.42	0.67
26:AU:82:TYR:HB3	35:Ad:52:PHE:HB3	1.76	0.67
31:AZ:54:VAL:HA	31:AZ:68:ARG:HH22	1.58	0.67
80:CA:354:PRO:HG2	80:CA:358:LEU:HD22	1.74	0.67
80:CA:586:ASP:HA	80:CA:597:ILE:HD11	1.77	0.67
2:3:63:G:O2'	71:Bg:49:LYS:NZ	2.27	0.67
2:3:103:G:OP2	2:3:105:A:O2'	2.13	0.67
74:Bj:24:THR:HG22	74:Bj:76:ASN:HB3	1.77	0.67
1:2:56:U:H5''	1:2:403:G:H22	1.60	0.67
1:2:1534:G:OP2	31:AZ:74:SER:OG	2.11	0.67
1:2:1572:G:O2'	11:AF:185:ARG:NH1	2.27	0.67
4:5:1758:A:OP1	58:BT:94:ARG:NH2	2.22	0.67
7:AB:70:LEU:HD13	7:AB:84:ILE:HG13	1.76	0.67
10:AE:42:LEU:HD22	10:AE:101:LEU:HD21	1.77	0.67
80:CA:1942:ARG:HB3	80:CA:1967:SER:HA	1.76	0.67
1:2:458:G:OP1	30:AY:109:LYS:NZ	2.28	0.67
1:2:1471:A:OP1	11:AF:185:ARG:NH2	2.21	0.67
38:Ag:131:ILE:HB	38:Ag:144:LEU:HB2	1.77	0.67
1:2:144:U:H2'	1:2:145:A:C8	2.29	0.67
39:BA:111:THR:HB	39:BA:136:ILE:HD13	1.77	0.67
82:CC:322:ASN:HB3	82:CC:325:LEU:HD23	1.77	0.67
1:2:1183:A:N3	1:2:1210:C:O2'	2.28	0.66
1:2:1488:G:H3'	1:2:1515:A:H61	1.60	0.66
4:5:2425:A:OP1	51:BM:90:ASN:ND2	2.27	0.66
22:AQ:13:LYS:HG3	22:AQ:14:LYS:H	1.60	0.66
82:CC:331:ARG:O	82:CC:335:LEU:N	2.26	0.66
40:BB:215:ILE:HD12	40:BB:338:LEU:HD12	1.77	0.66
41:BC:16:THR:HG22	41:BC:18:ASN:H	1.60	0.66
49:BK:76:THR:O	49:BK:79:GLU:N	2.27	0.66
80:CA:1250:ASN:OD1	80:CA:1253:THR:OG1	2.13	0.66
1:2:1041:G:H2'	1:2:1042:G:C8	2.31	0.66
4:5:2148:A:OP2	39:BA:200:ARG:NH2	2.29	0.66
6:AA:30:GLN:HE22	6:AA:149:LEU:HD13	1.59	0.66
1:2:1171:A:H2'	1:2:1172:G:C8	2.29	0.66
4:5:688:U:OP2	49:BK:36:ARG:NH2	2.23	0.66
4:5:1115:U:OP1	64:BZ:23:GLY:N	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2944:G:N7	40:BB:2:SER:N	2.44	0.66
4:5:3043:U:OP2	4:5:3093:C:N4	2.28	0.66
74:Bj:27:ILE:HG21	74:Bj:39:ARG:HH21	1.61	0.66
81:CB:26:PRO:HB3	81:CB:30:LEU:HD23	1.77	0.66
4:5:724:U:HO2'	65:Ba:29:TYR:HH	1.44	0.66
6:AA:147:THR:HG23	6:AA:151:SER:HB2	1.77	0.66
7:AB:71:ALA:HB3	20:AO:114:ARG:HH12	1.59	0.66
40:BB:239:PRO:O	40:BB:242:THR:OG1	2.12	0.66
14:AI:5:ARG:NH1	14:AI:29:LEU:O	2.28	0.66
1:2:1182:U:H5	1:2:1185:U:H5''	1.61	0.66
4:5:490:C:H2'	4:5:491:A:C8	2.31	0.66
7:AB:128:LYS:NZ	7:AB:129:THR:O	2.29	0.66
13:AH:14:THR:OG1	13:AH:17:GLU:OE1	2.13	0.66
19:AN:34:ILE:HD11	19:AN:67:THR:HG21	1.78	0.66
38:Ag:185:GLN:NE2	38:Ag:189:GLU:OE2	2.28	0.66
70:Bf:41:ARG:O	70:Bf:43:LYS:NZ	2.25	0.66
80:CA:1122:PRO:O	80:CA:1124:SER:N	2.29	0.66
4:5:289:A:O2'	51:BM:93:LYS:O	2.12	0.66
19:AN:3:ARG:HB3	19:AN:6:SER:HB3	1.77	0.66
1:2:765:G:O6	15:AJ:149:ARG:NH2	2.29	0.66
4:5:3042:U:OP1	59:BU:12:ARG:NH1	2.29	0.66
7:AB:103:MET:HB3	7:AB:215:VAL:HG12	1.78	0.66
8:AC:102:VAL:HG11	8:AC:129:ILE:HD13	1.77	0.66
36:Ae:51:ASN:ND2	80:CA:983:LYS:O	2.29	0.66
80:CA:1417:GLN:O	80:CA:1441:LYS:NZ	2.29	0.66
80:CA:1547:ASP:OD2	80:CA:1610:ASN:ND2	2.28	0.66
4:5:2113:U:H4'	4:5:2114:A:H5'	1.78	0.65
4:5:2961:C:H2'	4:5:2962:G:H8	1.60	0.65
9:AD:59:LEU:HA	9:AD:66:ILE:HG12	1.76	0.65
2:3:134:G:OP1	61:BW:56:ARG:NH1	2.30	0.65
4:5:443:G:H8	4:5:443:G:H3'	1.61	0.65
43:BE:169:ASP:HB3	43:BE:174:LEU:HD11	1.78	0.65
1:2:125:U:OP1	12:AG:201:GLN:NE2	2.30	0.65
8:AC:237:VAL:HB	8:AC:242:ILE:HD11	1.78	0.65
16:AK:44:LYS:HD3	16:AK:47:GLN:HE21	1.61	0.65
43:BE:85:ILE:HG21	43:BE:176:PHE:HD2	1.60	0.65
80:CA:948:ASP:O	80:CA:987:ARG:NH2	2.29	0.65
1:2:225:A:N6	1:2:837:G:O6	2.30	0.65
1:2:1321:A:H4'	1:2:1322:A:O5'	1.95	0.65
4:5:665:U:H2'	4:5:666:A:C8	2.32	0.65
4:5:1683:U:O4	58:BT:90:ARG:NH1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AH:150:GLN:HB2	13:AH:181:ILE:HG22	1.78	0.65
31:AZ:83:LEU:HD13	31:AZ:88:ILE:HD11	1.78	0.65
80:CA:1551:GLY:HA2	80:CA:1554:ILE:HG22	1.79	0.65
1:2:680:U:O4	1:2:682:C:N4	2.30	0.65
1:2:1435:G:N7	16:AK:25:LYS:NZ	2.44	0.65
4:5:1225:C:N3	4:5:1226:A:N6	2.44	0.65
4:5:1258:C:H42	4:5:1262:G:N2	1.94	0.65
4:5:3276:U:O2'	69:Be:99:ARG:NH1	2.30	0.65
47:BI:36:LEU:HD21	47:BI:69:ARG:HH11	1.62	0.65
54:BP:182:LYS:NZ	64:BZ:55:LYS:O	2.29	0.65
4:5:1234:G:H1	4:5:1256:C:H42	1.45	0.65
12:AG:180:THR:HG23	12:AG:183:ARG:H	1.61	0.65
1:2:78:A:H2'	1:2:79:C:C6	2.30	0.65
1:2:1461:C:OP1	24:AS:144:ARG:NH2	2.30	0.65
4:5:3068:C:H3'	55:BQ:62:ARG:HH22	1.62	0.65
3:4:121:U:OP2	42:BD:265:TYR:OH	2.14	0.65
18:AM:59:LEU:HB2	18:AM:123:VAL:HB	1.79	0.65
19:AN:99:ARG:NH2	19:AN:119:GLU:OE2	2.29	0.65
46:BH:9:GLN:HB3	46:BH:52:LEU:HD11	1.79	0.65
75:Bk:23:LEU:HD11	75:Bk:35:ILE:HG22	1.79	0.65
80:CA:1481:GLN:HG2	80:CA:1490:TYR:HB3	1.78	0.65
4:5:3017:A:H2'	4:5:3018:A:H8	1.62	0.65
63:BY:22:LYS:HE3	63:BY:134:LEU:HB2	1.78	0.65
80:CA:319:ILE:HB	80:CA:463:LEU:HD21	1.77	0.65
1:2:1681:A:H2	1:2:1720:G:H21	1.45	0.64
4:5:596:G:H1	4:5:610:G:H5''	1.62	0.64
10:AE:129:VAL:HG12	10:AE:139:VAL:HG12	1.79	0.64
4:5:1228:C:N4	4:5:1283:G:O6	2.31	0.64
1:2:190:C:N4	1:2:191:C:O2	2.30	0.64
4:5:2194:U:H5'	4:5:2195:G:H5'	1.79	0.64
1:2:706:A:H61	1:2:731:C:H5''	1.62	0.64
4:5:449:U:O2'	4:5:450:G:N2	2.31	0.64
13:AH:123:ASP:OD1	13:AH:138:LYS:NZ	2.31	0.64
57:BS:136:ARG:HD2	57:BS:139:ARG:HH22	1.61	0.64
1:2:656:G:O6	1:2:679:U:O2	2.14	0.64
80:CA:850:GLU:OE2	80:CA:853:ARG:NH2	2.30	0.64
1:2:154:G:OP2	30:AY:132:ARG:NH1	2.31	0.64
1:2:478:A:O2'	15:AJ:124:HIS:ND1	2.30	0.64
1:2:1255:G:N7	18:AM:46:ARG:NH1	2.46	0.64
1:2:129:U:O3'	1:2:131:C:N4	2.31	0.64
4:5:1826:G:OP1	74:Bj:48:SER:OG	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:AY:37:LYS:HA	30:AY:40:LEU:HD13	1.79	0.64
47:BI:189:GLU:OE2	47:BI:189:GLU:N	2.24	0.64
80:CA:1498:ILE:HA	80:CA:1501:MET:HB2	1.79	0.64
4:5:656:C:H2'	4:5:657:A:H8	1.62	0.64
21:AP:90:ILE:HD12	21:AP:109:PRO:HA	1.79	0.64
35:Ad:14:TYR:HA	35:Ad:19:ARG:HH12	1.61	0.64
52:BN:65[A]:ASN:HB3	52:BN:68[A]:ARG:HD3	1.78	0.64
1:2:446:A:OP1	10:AE:59:ARG:NE	2.31	0.64
4:5:1349:U:OP1	54:BP:39:ARG:NH1	2.30	0.64
4:5:3041:A:H5'	59:BU:12:ARG:HB2	1.80	0.64
26:AU:99:ILE:HG13	26:AU:102:ARG:HH21	1.64	0.64
42:BD:261:THR:OG1	42:BD:264:GLN:OE1	2.14	0.64
80:CA:279:CYS:SG	80:CA:300:TYR:OH	2.55	0.64
1:2:588:U:O2	36:Ae:57:ASN:ND2	2.31	0.63
1:2:815:G:OP1	55:BQ:163:ARG:NH1	2.30	0.63
1:2:1081:A:O2'	1:2:1083:G:N7	2.31	0.63
40:BB:126:LYS:HB2	40:BB:128:LYS:HG2	1.81	0.63
4:5:1204:A:H2'	4:5:1205:A:C8	2.33	0.63
21:AP:81:ARG:NH1	21:AP:97:TYR:O	2.32	0.63
26:AU:36:ASN:O	26:AU:40:ASN:ND2	2.31	0.63
41:BC:3:ARG:HB3	41:BC:22:LEU:HB2	1.81	0.63
1:2:1359:C:OP1	25:AT:134:ARG:NH2	2.31	0.63
4:5:3295:A:H5'	40:BB:128:LYS:HG3	1.80	0.63
39:BA:36:GLU:OE1	39:BA:163:ARG:NH1	2.30	0.63
80:CA:1220:LEU:HD13	80:CA:1237:VAL:HG13	1.79	0.63
80:CA:1398:ASN:HB3	80:CA:1401:ARG:HD2	1.81	0.63
21:AP:111:MET:HG2	24:AS:119:ILE:HD11	1.80	0.63
32:Aa:82:ARG:HD3	32:Aa:85:ARG:HH12	1.64	0.63
38:Ag:178:VAL:HB	38:Ag:192:PHE:HB2	1.78	0.63
82:CC:201:VAL:HG23	82:CC:202:ILE:HD12	1.79	0.63
1:2:174:U:H3	1:2:266:A:H62	1.46	0.63
1:2:1775:U:OP1	77:Bm:11:ARG:NH2	2.32	0.63
4:5:68:C:OP2	4:5:301:G:N2	2.30	0.63
4:5:521:U:OP2	44:BF:70:LYS:NZ	2.32	0.63
7:AB:69:CYS:SG	20:AO:114:ARG:NH1	2.71	0.63
49:BK:108:ILE:O	49:BK:112:ASN:ND2	2.31	0.63
64:BZ:24:LYS:O	64:BZ:26:ARG:HG2	1.98	0.63
1:2:447:U:H2'	1:2:448:C:O4'	1.99	0.63
1:2:947:U:H2'	1:2:948:G:H8	1.63	0.63
49:BK:25:HIS:HE2	51:BM:198:SER:HG	1.43	0.63
80:CA:1117:LYS:HG3	82:CC:190:PRO:HB2	1.78	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:63:A:N3	4:5:78:U:O2'	2.31	0.63
28:AW:6:VAL:HG12	28:AW:34:ILE:HD11	1.81	0.63
47:BI:36:LEU:HD11	47:BI:69:ARG:HD2	1.80	0.63
53:BO:122:ALA:HB3	53:BO:143:PRO:HB2	1.81	0.63
80:CA:355:LEU:HG	80:CA:356:LYS:H	1.63	0.63
4:5:670:U:HO2'	4:5:1110:U:HO2'	1.45	0.63
15:AJ:17:ARG:O	15:AJ:23:ARG:NH2	2.31	0.63
81:CB:125:ILE:O	81:CB:166:LYS:NZ	2.32	0.63
1:2:143:G:OP2	12:AG:139:ASN:ND2	2.32	0.63
9:AD:56:GLN:HG2	80:CA:1095:THR:HB	1.81	0.63
36:Ae:29:LYS:NZ	36:Ae:30:PRO:O	2.31	0.63
1:2:1521:G:O2'	1:2:1523:G:OP2	2.16	0.62
4:5:441:U:H5	4:5:493:U:H4'	1.63	0.62
4:5:1280:C:H2'	4:5:1281:C:C6	2.34	0.62
1:2:78:A:H4'	12:AG:172:ALA:HB3	1.81	0.62
1:2:1482:C:N4	1:2:1524:A:OP2	2.32	0.62
4:5:2896:G:O2'	76:BI:100:TYR:O	2.17	0.62
24:AS:46:VAL:HB	24:AS:72:ILE:HG21	1.81	0.62
48:BJ:21:ILE:HG21	48:BJ:33:ALA:HB1	1.81	0.62
1:2:337:G:O2'	14:AI:10:LYS:NZ	2.32	0.62
1:2:580:A:O2'	1:2:582:U:OP1	2.17	0.62
1:2:1345:A:N6	1:2:1377:U:O2'	2.32	0.62
38:Ag:42:LEU:HB2	38:Ag:61:PHE:HB2	1.81	0.62
46:BH:89:LYS:HG2	46:BH:145:VAL:HG22	1.80	0.62
65:Ba:24:PRO:O	65:Ba:25:LYS:HG3	1.99	0.62
80:CA:277:HIS:HA	80:CA:280:LYS:HG2	1.82	0.62
80:CA:1249:ARG:NH1	80:CA:1633:SER:O	2.32	0.62
1:2:850:A:H5''	55:BQ:165:LYS:HD3	1.80	0.62
1:2:1484:G:H21	1:2:1606:C:H1'	1.65	0.62
1:2:1778:G:N7	77:Bm:12:ARG:NH2	2.47	0.62
4:5:1120:C:H2'	4:5:1121:A:H8	1.65	0.62
10:AE:153:ASN:OD1	12:AG:215:ARG:NH1	2.32	0.62
41:BC:361:HIS:O	56:BR:28:ARG:NH1	2.32	0.62
47:BI:102:MET:SD	47:BI:112:GLN:NE2	2.73	0.62
80:CA:1016:ILE:HB	80:CA:1066:MET:HB2	1.81	0.62
80:CA:1266:ASP:HA	80:CA:1302:MET:HB2	1.81	0.62
4:5:676:C:O2'	4:5:680:U:OP1	2.16	0.62
36:Ae:7:SER:OG	36:Ae:10:ARG:NH1	2.32	0.62
47:BI:18:PRO:O	47:BI:23:ASN:ND2	2.32	0.62
1:2:68:A:N6	12:AG:132:ARG:O	2.33	0.62
1:2:1727:G:H2'	1:2:1728:A:C8	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:BX:55:GLU:HB2	62:BX:108:LYS:HB3	1.82	0.62
1:2:590:C:H2'	1:2:591:A:H8	1.63	0.62
1:2:496:G:H2'	1:2:497:G:C8	2.35	0.62
4:5:443:G:H3'	4:5:443:G:C8	2.34	0.62
8:AC:49:LYS:HB3	8:AC:243:TYR:HD1	1.64	0.62
11:AF:57:SER:OG	11:AF:167:ARG:NH2	2.32	0.62
38:Ag:262:VAL:HG13	38:Ag:271:VAL:HB	1.80	0.62
80:CA:348:LYS:HE2	80:CA:420:LYS:HE2	1.81	0.62
10:AE:139:VAL:HG13	10:AE:150:PRO:HG3	1.82	0.62
39:BA:180:LEU:HD22	79:Bo:18:TYR:HB3	1.80	0.62
45:BG:94:PHE:HB3	45:BG:189:LEU:HD11	1.80	0.62
80:CA:537:VAL:HA	80:CA:640:ILE:HB	1.82	0.62
1:2:1426:C:H3'	1:2:1427:A:H4'	1.81	0.62
64:BZ:75:LEU:HD22	64:BZ:78:LEU:HD22	1.82	0.62
80:CA:510:SER:O	80:CA:513:SER:OG	2.18	0.62
1:2:532:U:O2	30:AY:34:ASN:ND2	2.31	0.61
1:2:788:A:OP2	10:AE:108:ARG:NH2	2.33	0.61
7:AB:82:ARG:NH2	7:AB:188:LEU:O	2.32	0.61
37:Af:120:GLU:HA	37:Af:132:LEU:HD23	1.83	0.61
80:CA:1146:MET:HE3	80:CA:1324:TYR:HA	1.82	0.61
80:CA:1616:CYS:O	80:CA:1627:THR:OG1	2.13	0.61
4:5:3039:U:O3'	40:BB:65:SER:OG	2.19	0.61
41:BC:193:LYS:HA	41:BC:198:ARG:HA	1.82	0.61
48:BJ:10:ARG:HB2	48:BJ:133:ARG:HD3	1.81	0.61
32:Aa:30:ILE:HD12	32:Aa:31:PRO:HD2	1.82	0.61
80:CA:1262:LEU:HD13	80:CA:1298:ARG:HB3	1.82	0.61
1:2:1027:A:OP1	1:2:1789:G:O2'	2.17	0.61
4:5:297:G:OP2	4:5:297:G:N2	2.24	0.61
4:5:1204:A:H2'	4:5:1205:A:H8	1.66	0.61
4:5:1625:G:O2'	4:5:1644:A:N1	2.32	0.61
4:5:2217:G:H22	4:5:2230:A:H2	1.47	0.61
4:5:2992:A:H2	53:BO:69:ARG:HH22	1.48	0.61
5:6:7:A:O2'	5:6:48:C:H5'	2.01	0.61
19:AN:23:PRO:HD2	19:AN:26:PHE:HB2	1.81	0.61
51:BM:46:ASP:OD1	51:BM:47:LYS:N	2.33	0.61
80:CA:1104:ILE:HG22	80:CA:1106:PRO:HD2	1.82	0.61
80:CA:1142:PRO:O	80:CA:1145:THR:OG1	2.17	0.61
1:2:179:A:N1	12:AG:202:ARG:NH1	2.48	0.61
1:2:250:C:H2'	1:2:251:A:H8	1.65	0.61
4:5:2229:A:H2'	4:5:2230:A:C8	2.36	0.61
1:2:813:U:H3'	55:BQ:163:ARG:HH22	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1365:C:H5''	22:AQ:66:ARG:HH22	1.66	0.61
1:2:1789:G:OP2	20:AO:132:ARG:NH2	2.32	0.61
2:3:75:G:OP2	62:BX:74:TYR:OH	2.19	0.61
4:5:441:U:OP2	4:5:492:C:H2'	2.00	0.61
4:5:939:C:OP2	64:BZ:26:ARG:NH1	2.33	0.61
18:AM:89:ILE:HD11	18:AM:140:PHE:HB2	1.82	0.61
24:AS:118:LYS:O	24:AS:120:ARG:NH1	2.34	0.61
25:AT:103:LYS:HA	25:AT:106:GLN:NE2	2.15	0.61
1:2:905:A:H5''	20:AO:52:ARG:HD3	1.81	0.61
1:2:1573:A:H4'	1:2:1574:G:O5'	2.01	0.61
4:5:1349:U:OP2	54:BP:38:ARG:NH2	2.34	0.61
11:AF:95:ASN:HA	11:AF:98:MET:HE2	1.81	0.61
37:Af:132:LEU:HD12	37:Af:139:LEU:HB3	1.81	0.61
74:Bj:22:THR:HG22	74:Bj:74:LYS:HE3	1.82	0.61
80:CA:282:VAL:O	80:CA:369:LYS:NZ	2.34	0.61
80:CA:1483:PHE:HA	80:CA:1490:TYR:HA	1.83	0.61
80:CA:1495:LEU:HD23	80:CA:1498:ILE:HD11	1.82	0.61
81:CB:125:ILE:HG22	81:CB:130:LEU:HD22	1.83	0.61
1:2:259:U:H1'	14:AI:178:ARG:NH2	2.15	0.61
4:5:26:A:N3	4:5:328:U:O2'	2.33	0.61
4:5:112:U:OP1	71:Bg:107:LYS:NZ	2.32	0.61
4:5:493:U:O4'	4:5:494:G:H5'	2.00	0.61
4:5:1391:A:N6	4:5:1419:A:O2'	2.33	0.61
11:AF:40:ILE:HG23	11:AF:42:LEU:HG	1.83	0.61
11:AF:182:ALA:O	11:AF:186:ASN:ND2	2.34	0.61
15:AJ:32:GLY:HA3	36:Ae:40:TYR:CD1	2.36	0.61
50:BL:105:GLN:OE1	50:BL:109:ARG:NH2	2.23	0.61
80:CA:1012:MET:HE1	80:CA:1100:PHE:HB3	1.83	0.61
4:5:16:A:H5''	61:BW:44:PRO:HA	1.82	0.61
4:5:634:C:O2'	69:Be:21:ARG:O	2.19	0.61
4:5:2139:A:HO2'	73:Bi:2:GLY:N	1.98	0.61
4:5:2768:U:O2'	78:Bn:30:ALA:O	2.16	0.61
23:AR:77:GLU:HB2	23:AR:81:LYS:NZ	2.16	0.61
74:Bj:26:LYS:NZ	74:Bj:27:ILE:O	2.33	0.61
81:CB:215:ILE:HG21	81:CB:270:LEU:HD23	1.83	0.61
1:2:1331:A:H61	9:AD:161:GLY:HA3	1.65	0.61
1:2:1556:A:H4'	1:2:1557:U:H5	1.65	0.61
4:5:543:G:C6	4:5:551:A:N1	2.69	0.61
4:5:1498:C:O2'	4:5:1603:A:N3	2.31	0.61
4:5:1658:C:O2'	4:5:1798:A:OP2	2.16	0.61
21:AP:108:ARG:HH22	24:AS:120:ARG:HH22	1.47	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Ae:50:VAL:HA	36:Ae:54:ARG:HA	1.83	0.61
56:BR:52:LYS:H	56:BR:55:SER:HG	1.49	0.61
59:BU:15:LEU:HD23	59:BU:51:ALA:HB3	1.83	0.61
1:2:1591:C:H2'	1:2:1592:A:C8	2.36	0.60
4:5:3330:U:H5''	40:BB:308:MET:HE2	1.82	0.60
16:AK:29:GLN:HG2	16:AK:39:ASN:HD22	1.65	0.60
82:CC:372:LEU:HA	82:CC:375:LYS:HB2	1.83	0.60
1:2:167:U:H1'	12:AG:133:LEU:HD23	1.84	0.60
1:2:1256:A:H4'	1:2:1257:U:O5'	2.00	0.60
1:2:1487:A:H2'	1:2:1488:G:C8	2.37	0.60
4:5:656:C:H2'	4:5:657:A:C8	2.37	0.60
63:BY:30:ASP:OD1	63:BY:31:GLU:N	2.34	0.60
1:2:17:C:O2'	1:2:1137:A:N1	2.34	0.60
1:2:164:A:N3	12:AG:13:GLN:NE2	2.49	0.60
1:2:1594:G:OP2	1:2:1596:C:N4	2.34	0.60
9:AD:148:LYS:HD3	9:AD:150:MET:HE3	1.81	0.60
30:AY:86:GLU:OE1	30:AY:90:ARG:NH1	2.33	0.60
50:BL:85:TRP:NE1	50:BL:91:CYS:SG	2.65	0.60
62:BX:74:TYR:HD2	62:BX:77:LYS:HB2	1.66	0.60
76:Bl:78:ILE:HG21	76:Bl:83:LYS:HE2	1.83	0.60
80:CA:452:GLU:O	80:CA:455:GLN:NE2	2.35	0.60
80:CA:1160:VAL:HG13	80:CA:1324:TYR:HD2	1.66	0.60
1:2:142:G:H1	1:2:173:A:H2	1.48	0.60
1:2:477:A:OP2	36:Ae:28:LYS:NZ	2.33	0.60
4:5:520:A:N7	41:BC:360:LYS:NZ	2.49	0.60
4:5:861:G:OP1	79:Bo:17:ARG:NH1	2.32	0.60
4:5:1900:G:O2'	4:5:2335:U:O4	2.16	0.60
7:AB:104:ASP:HA	7:AB:214:LYS:HB2	1.83	0.60
16:AK:44:LYS:HD3	16:AK:47:GLN:NE2	2.16	0.60
23:AR:73:LEU:O	23:AR:74:GLN:C	2.44	0.60
47:BI:77:THR:HG23	47:BI:82:ARG:HA	1.84	0.60
11:AF:64:VAL:O	11:AF:65:ARG:HD3	2.00	0.60
18:AM:43:ARG:HE	18:AM:101:ALA:HB1	1.67	0.60
4:5:443:G:N7	4:5:445:G:N2	2.50	0.60
9:AD:54:ARG:HH21	80:CA:965:GLU:H	1.47	0.60
17:AL:2:SER:HB2	17:AL:116:ARG:HH21	1.67	0.60
21:AP:17:TYR:HD2	21:AP:18:ARG:HG3	1.67	0.60
26:AU:44:ASN:O	26:AU:48:HIS:ND1	2.27	0.60
58:BT:19:VAL:HG12	58:BT:105:LEU:HD22	1.83	0.60
76:Bl:124:LYS:O	76:Bl:126:LYS:NZ	2.30	0.60
1:2:68:A:H5'	12:AG:160:ARG:HH22	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1229:G:N2	1:2:1256:A:H62	1.99	0.60
4:5:2186:G:O2'	4:5:2315:U:OP2	2.20	0.60
7:AB:61:LEU:HD21	7:AB:96:LEU:HD13	1.83	0.60
28:AW:20:THR:HG23	28:AW:22:LYS:HG3	1.82	0.60
47:BI:66:GLU:OE2	47:BI:69:ARG:NH2	2.35	0.60
71:Bg:102:GLU:OE1	71:Bg:102:GLU:N	2.33	0.60
80:CA:535:VAL:HG12	80:CA:638:CYS:HB3	1.83	0.60
4:5:2941:A:H62	40:BB:2:SER:N	1.99	0.60
6:AA:31:VAL:HG12	6:AA:33:GLN:H	1.66	0.60
18:AM:131:ASP:HA	18:AM:134:SER:HB2	1.84	0.60
1:2:636:A:H5''	28:AW:31:SER:HB3	1.84	0.60
1:2:924:A:H2'	1:2:925:G:C8	2.35	0.60
1:2:1374:C:H2'	1:2:1375:A:H8	1.66	0.60
4:5:65:A:N1	4:5:109:A:O2'	2.34	0.60
4:5:441:U:P	4:5:492:C:H2'	2.42	0.60
4:5:716:A:H5''	64:BZ:115:LYS:HA	1.83	0.60
80:CA:910:LEU:HA	80:CA:913:ILE:HD12	1.84	0.60
4:5:441:U:H3'	4:5:442:G:H8	1.66	0.60
10:AE:126:VAL:HG22	10:AE:158:ASP:H	1.66	0.60
57:BS:53:PRO:HB3	57:BS:91:LEU:HD21	1.84	0.60
4:5:1667:G:H2'	4:5:1668:A:H8	1.66	0.59
4:5:2358:A:H2'	4:5:2359:A:C8	2.36	0.59
40:BB:45:SER:HB3	40:BB:181:ILE:HG23	1.84	0.59
56:BR:77:VAL:HG11	56:BR:106:LEU:HD22	1.84	0.59
80:CA:851:LEU:HD21	80:CA:873:LYS:HG3	1.83	0.59
1:2:156:A:N1	1:2:415:C:O2'	2.35	0.59
1:2:591:A:H2'	1:2:592:A:C8	2.37	0.59
1:2:1680:G:H1'	1:2:1721:A:H61	1.67	0.59
4:5:2358:A:H2'	4:5:2359:A:H8	1.66	0.59
29:AX:130:VAL:HG11	29:AX:143:PRO:HD3	1.84	0.59
53:BO:108:ASP:OD2	53:BO:110:THR:OG1	2.19	0.59
80:CA:1202:VAL:HG22	80:CA:1238:ILE:HD13	1.84	0.59
4:5:913:G:OP2	39:BA:9:ARG:NH2	2.35	0.59
4:5:1597:C:H2'	4:5:1598:C:C6	2.38	0.59
4:5:1604:A:OP1	55:BQ:38:ARG:NH1	2.35	0.59
4:5:1806:C:H2'	4:5:1807:A:H8	1.67	0.59
17:AL:84:ILE:HD13	17:AL:117:VAL:HG21	1.84	0.59
47:BI:21:ARG:O	47:BI:24:ARG:NH1	2.35	0.59
80:CA:785:VAL:HB	80:CA:794:ILE:HB	1.84	0.59
1:2:146:U:H2'	1:2:147:A:H8	1.67	0.59
4:5:1598:C:H5'	4:5:1697:A:H1'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2502:U:O2'	4:5:2503:A:N7	2.32	0.59
80:CA:687:ASN:HA	80:CA:690:LEU:HD23	1.83	0.59
1:2:826:U:N3	1:2:846:G:O6	2.30	0.59
1:2:1513:G:O2'	1:2:1515:A:N3	2.27	0.59
1:2:1584:G:N2	1:2:1611:A:OP2	2.34	0.59
1:2:1610:G:N7	22:AQ:14:LYS:NZ	2.48	0.59
4:5:1481:G:O2'	4:5:1872:U:O4	2.18	0.59
4:5:1685:U:OP1	58:BT:86:LYS:NZ	2.30	0.59
4:5:1787:G:H2'	4:5:1788:A:C8	2.38	0.59
29:AX:96:VAL:HG12	29:AX:127:VAL:HG11	1.84	0.59
80:CA:432:LEU:HA	80:CA:437:GLY:HA3	1.84	0.59
2:3:41:A:H4'	73:Bi:59:THR:HG23	1.83	0.59
4:5:1405:G:N2	4:5:1408:A:OP2	2.28	0.59
4:5:3376:A:O2'	4:5:3379:C:OP2	2.18	0.59
10:AE:62:LYS:HA	10:AE:65:LEU:HD12	1.84	0.59
13:AH:51:VAL:HG23	13:AH:53:GLY:H	1.66	0.59
16:AK:29:GLN:HG2	16:AK:39:ASN:ND2	2.18	0.59
26:AU:37:VAL:HA	26:AU:40:ASN:HD21	1.68	0.59
38:Ag:89:LEU:HD21	38:Ag:110:VAL:HG21	1.83	0.59
40:BB:348:ARG:HG3	40:BB:348:ARG:O	2.02	0.59
81:CB:1:MET:O	81:CB:4:ARG:NH1	2.36	0.59
3:4:112:G:H2'	3:4:113:C:C6	2.38	0.59
4:5:1741:U:H1'	4:5:1742:A:H2	1.67	0.59
4:5:2535:G:H2'	4:5:2536:A:C8	2.38	0.59
13:AH:48:GLU:OE2	13:AH:88:ARG:NE	2.32	0.59
50:BL:20:VAL:O	50:BL:66:THR:OG1	2.20	0.59
1:2:967:A:OP2	19:AN:124:ARG:NH2	2.34	0.59
1:2:1366:U:O2'	25:AT:7:ARG:NH1	2.35	0.59
1:2:1524:A:N3	1:2:1590:G:O2'	2.33	0.59
2:3:23:U:H5''	62:BX:13:ARG:HG3	1.84	0.59
3:4:62:U:O4	3:4:63:A:N6	2.36	0.59
4:5:800:G:O2'	49:BK:18:TRP:NE1	2.34	0.59
9:AD:76:ARG:HE	16:AK:63:TYR:HE2	1.50	0.59
41:BC:328:ASN:OD1	44:BF:48:ASN:ND2	2.35	0.59
80:CA:248:HIS:O	80:CA:505:ARG:NH1	2.35	0.59
1:2:1499:G:H5''	25:AT:122:ARG:HH12	1.68	0.59
4:5:2283:U:OP1	4:5:2974:G:O2'	2.19	0.59
80:CA:348:LYS:HG3	80:CA:420:LYS:HB3	1.85	0.59
80:CA:645:GLN:HE22	80:CA:654:PHE:HB3	1.68	0.59
2:3:8:C:H2'	2:3:9:A:C8	2.38	0.59
4:5:3017:A:H2'	4:5:3018:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AQ:115:THR:HA	22:AQ:118:ILE:HG22	1.84	0.59
32:Aa:44:ILE:HD12	32:Aa:65:PRO:HG2	1.84	0.59
45:BG:50:VAL:HG21	61:BW:27:ARG:HD2	1.84	0.59
74:Bj:13:GLU:HA	74:Bj:16:ARG:HH12	1.67	0.59
80:CA:495:LYS:NZ	80:CA:674:PHE:O	2.36	0.59
1:2:1424:A:H4'	8:AC:92:ALA:HB2	1.84	0.58
4:5:394:G:N1	4:5:397:A:OP2	2.35	0.58
4:5:902:G:OP1	73:Bi:13:ASN:ND2	2.35	0.58
4:5:1239:C:N4	4:5:1246:A:OP2	2.36	0.58
4:5:2891:A:O2'	4:5:2934:A:N3	2.35	0.58
27:AV:1:MET:N	27:AV:10:GLU:OE1	2.32	0.58
1:2:58:U:O2'	1:2:451:A:N3	2.35	0.58
1:2:733:A:N3	1:2:736:C:N4	2.51	0.58
1:2:1158:C:N3	1:2:1162:C:N4	2.49	0.58
4:5:901:G:H1'	4:5:1590:A:N6	2.18	0.58
12:AG:102:VAL:HG13	12:AG:106:LEU:HD12	1.84	0.58
38:Ag:48:THR:OG1	38:Ag:50:ASP:OD1	2.22	0.58
54:BP:19:PRO:HD3	54:BP:53:PHE:CD1	2.37	0.58
70:Bf:79:SER:OG	70:Bf:80:ARG:NH1	2.36	0.58
81:CB:85:ALA:HB1	81:CB:135:LYS:HD2	1.83	0.58
1:2:895:G:H2'	1:2:896:U:C6	2.38	0.58
4:5:86:G:O2'	4:5:98:G:O6	2.18	0.58
4:5:1004:A:N1	4:5:1050:C:O2'	2.35	0.58
4:5:1018:C:N4	4:5:2672:A:OP1	2.36	0.58
4:5:2177:U:OP1	39:BA:54:ARG:NH2	2.36	0.58
7:AB:179:SER:OG	7:AB:187:LYS:NZ	2.33	0.58
42:BD:238:ASP:OD1	42:BD:239:ILE:N	2.36	0.58
68:Bd:96:ILE:HG21	68:Bd:105:ARG:HG2	1.83	0.58
80:CA:240:THR:HB	80:CA:254:PRO:HB3	1.84	0.58
80:CA:1216:LYS:NZ	80:CA:1230:ASP:O	2.37	0.58
81:CB:274:LEU:O	81:CB:280:HIS:NE2	2.36	0.58
1:2:532:U:OP1	15:AJ:132:ARG:NH2	2.37	0.58
4:5:568:G:H2'	4:5:569:G:C8	2.39	0.58
4:5:847:A:H2'	4:5:848:A:C8	2.38	0.58
4:5:1568:U:O2'	4:5:1570:U:OP1	2.19	0.58
5:6:68:C:H2'	5:6:69:G:H8	1.69	0.58
23:AR:24:LEU:HB3	23:AR:34:LEU:HD11	1.84	0.58
80:CA:544:GLU:O	80:CA:548:SER:N	2.35	0.58
3:4:16:U:H2'	3:4:17:A:H8	1.68	0.58
4:5:3216:A:OP2	50:BL:125:LYS:NZ	2.36	0.58
12:AG:2:LYS:HB3	12:AG:108:VAL:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BH:94:TYR:HA	46:BH:177:ASP:OD1	2.02	0.58
80:CA:348:LYS:NZ	80:CA:391:ILE:O	2.36	0.58
1:2:1382:A:O2'	1:2:1383:G:OP1	2.20	0.58
1:2:1642:G:HO2'	1:2:1781:A:HO2'	1.51	0.58
4:5:1135:G:O2'	4:5:2643:A:N3	2.31	0.58
4:5:3380:C:H4'	40:BB:315:GLY:HA2	1.85	0.58
9:AD:108:LYS:HB3	9:AD:113:LEU:HD23	1.84	0.58
16:AK:14:TYR:OH	16:AK:34:GLU:OE2	2.16	0.58
18:AM:84:ASN:O	18:AM:86:VAL:HG23	2.04	0.58
18:AM:134:SER:HA	18:AM:137:MET:HE1	1.86	0.58
32:Aa:33:ASP:OD1	32:Aa:34:LYS:N	2.37	0.58
34:Ac:16:LEU:HD12	34:Ac:27:GLN:HB3	1.84	0.58
38:Ag:12:THR:HG22	38:Ag:311:ARG:HG3	1.85	0.58
80:CA:380:LEU:HB3	80:CA:399:THR:HG22	1.83	0.58
1:2:1039:A:OP1	28:AW:22:LYS:NZ	2.32	0.58
4:5:684:U:OP1	51:BM:204:LYS:NZ	2.36	0.58
18:AM:91:VAL:HG21	18:AM:97:LEU:HD13	1.84	0.58
24:AS:88:ARG:NH2	24:AS:112:ASP:OD2	2.33	0.58
36:Ae:29:LYS:O	36:Ae:31:LYS:NZ	2.37	0.58
53:BO:23:ARG:NH1	53:BO:125:GLN:OE1	2.36	0.58
1:2:1656:U:O2'	4:5:2293:U:O2'	2.19	0.58
4:5:2844:U:OP2	4:5:2845:C:N4	2.31	0.58
9:AD:115:ILE:HG13	9:AD:142:LEU:HD12	1.85	0.58
14:AI:84:HIS:NE2	14:AI:97:THR:OG1	2.31	0.58
29:AX:41:SER:O	29:AX:43:PHE:N	2.37	0.58
41:BC:350:LYS:HE3	41:BC:351:PRO:HD2	1.86	0.58
80:CA:1321:HIS:NE2	82:CC:177:ASN:O	2.37	0.58
80:CA:1639:SER:HG	80:CA:1642:THR:HG1	1.50	0.58
9:AD:76:ARG:HD3	9:AD:77:PHE:HD2	1.68	0.58
23:AR:77:GLU:HB2	23:AR:81:LYS:HZ2	1.68	0.58
47:BI:82:ARG:HE	47:BI:83:ASP:CG	2.12	0.58
53:BO:60:PHE:HB3	53:BO:64:ASN:HB3	1.85	0.58
59:BU:128:ARG:NH1	59:BU:128:ARG:HA	2.18	0.58
80:CA:731:ILE:O	80:CA:735:GLY:N	2.36	0.58
1:2:225:A:H2'	1:2:226:A:C8	2.38	0.58
4:5:529:U:H2'	4:5:530:A:C8	2.38	0.58
4:5:1278:C:O2'	4:5:1279:A:O5'	2.19	0.58
80:CA:1268:ILE:HB	80:CA:1303:SER:HB3	1.85	0.58
1:2:513:U:H2'	1:2:514:G:C8	2.39	0.57
4:5:2214:A:H2'	4:5:2215:A:C8	2.39	0.57
9:AD:90:ARG:HE	80:CA:1096:HIS:CD2	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ag:224:ASN:HB3	38:Ag:231:MET:HE3	1.86	0.57
73:Bi:59:THR:HG22	73:Bi:64:MET:HE3	1.86	0.57
80:CA:743:MET:HE1	80:CA:750:TYR:H	1.69	0.57
80:CA:1171:VAL:HA	80:CA:1174:LEU:HD23	1.86	0.57
13:AH:51:VAL:HG11	13:AH:168:SER:HA	1.86	0.57
38:Ag:167:VAL:O	38:Ag:182:ASN:ND2	2.37	0.57
49:BK:10:LEU:HD23	54:BP:166:LEU:HD11	1.84	0.57
64:BZ:76:ASP:OD1	64:BZ:77:LYS:N	2.37	0.57
69:Be:49:ILE:HD11	69:Be:71:VAL:HG22	1.86	0.57
80:CA:1190:TYR:HB3	80:CA:1238:ILE:HG13	1.85	0.57
1:2:115:G:H5'	17:AL:129:ARG:HD3	1.85	0.57
1:2:590:C:H2'	1:2:591:A:C8	2.38	0.57
1:2:1169:G:N1	1:2:1575:G:OP2	2.34	0.57
4:5:595:U:P	4:5:610:G:H1	2.27	0.57
21:AP:96:ILE:HD12	21:AP:120:SER:HB2	1.86	0.57
71:Bg:10:ARG:NH1	71:Bg:60:GLU:OE1	2.37	0.57
80:CA:1690:ARG:NH2	80:CA:1777:TYR:OH	2.37	0.57
80:CA:1903:LEU:HD11	80:CA:1919:ARG:HB3	1.86	0.57
4:5:1030:G:H2'	4:5:1031:A:H8	1.69	0.57
20:AO:88:GLY:O	20:AO:92:LYS:NZ	2.37	0.57
31:AZ:35:ARG:O	31:AZ:37:GLN:NE2	2.37	0.57
34:Ac:12:VAL:HA	34:Ac:30:VAL:HA	1.87	0.57
55:BQ:23:TRP:CH2	55:BQ:25:ASP:HB3	2.39	0.57
3:4:39:C:H4'	48:BJ:44:THR:HG23	1.86	0.57
4:5:1792:C:H2'	4:5:1793:C:C6	2.40	0.57
4:5:3231:G:H4'	50:BL:132:LYS:HD3	1.87	0.57
11:AF:116:HIS:CD2	31:AZ:98:GLN:HG3	2.39	0.57
23:AR:71:PHE:CZ	23:AR:74:GLN:HB3	2.40	0.57
29:AX:102:VAL:HG12	29:AX:127:VAL:HG12	1.87	0.57
60:BV:86:SER:O	60:BV:89:LEU:N	2.38	0.57
77:Bm:1:MET:H3	77:Bm:6:ARG:HH12	1.52	0.57
80:CA:1308:ASN:HB3	80:CA:1537:PRO:HB3	1.85	0.57
1:2:487:G:H2'	1:2:488:G:C8	2.40	0.57
4:5:1374:A:OP2	64:BZ:7:LYS:NZ	2.37	0.57
13:AH:113:PRO:HG2	13:AH:116:ARG:HD3	1.85	0.57
13:AH:144:VAL:HA	28:AW:42:GLN:HE21	1.68	0.57
21:AP:41:VAL:HG13	21:AP:84:ILE:HD13	1.86	0.57
47:BI:99:ILE:HB	47:BI:123:HIS:CD2	2.40	0.57
63:BY:115:LYS:NZ	63:BY:119:GLU:OE2	2.37	0.57
80:CA:243:MET:N	80:CA:243:MET:SD	2.77	0.57
1:2:472:U:O2'	1:2:769:A:N3	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:520:A:H2'	1:2:521:A:C8	2.40	0.57
1:2:1195:C:N4	22:AQ:143:ARG:O	2.35	0.57
1:2:1251:U:H1'	37:Af:135:HIS:CD2	2.39	0.57
1:2:1502:G:N2	1:2:1505:A:OP2	2.34	0.57
1:2:1566:U:H5''	24:AS:39:GLY:H	1.69	0.57
4:5:441:U:H3'	4:5:442:G:C8	2.39	0.57
4:5:3273:C:OP2	43:BE:78:ARG:NH1	2.37	0.57
48:BJ:21:ILE:HG22	48:BJ:23:VAL:HG23	1.87	0.57
1:2:1550:A:OP2	21:AP:42:ARG:NH2	2.37	0.57
1:2:1552:U:H3	1:2:1556:A:N6	1.99	0.57
1:2:1609:U:H5''	22:AQ:75:VAL:HB	1.87	0.57
4:5:364:G:OP2	73:Bi:52:LYS:NZ	2.27	0.57
4:5:825:C:OP1	39:BA:21:ARG:HD3	2.05	0.57
4:5:1597:C:O2'	4:5:1697:A:N3	2.37	0.57
28:AW:81:VAL:O	28:AW:122:SER:OG	2.23	0.57
51:BM:44:ARG:NH1	51:BM:120:TRP:O	2.37	0.57
1:2:1466:G:O2'	1:2:1602:C:OP1	2.23	0.57
2:3:8:C:H2'	2:3:9:A:H8	1.69	0.57
4:5:284:A:OP2	78:Bn:41:ARG:NH1	2.30	0.57
4:5:1636:G:N2	4:5:1639:A:OP2	2.29	0.57
21:AP:60:LEU:HD11	21:AP:92:SER:HB3	1.85	0.57
29:AX:125:VAL:HG12	29:AX:126:LYS:HG3	1.86	0.57
43:BE:51:ARG:NH1	43:BE:158:TYR:O	2.37	0.57
56:BR:57:GLU:OE1	57:BS:139:ARG:NH1	2.37	0.57
80:CA:493:ARG:HH22	80:CA:497:LEU:HB2	1.69	0.57
80:CA:696:LEU:O	80:CA:700:GLN:NE2	2.38	0.57
1:2:257:A:N3	14:AI:64:ASN:ND2	2.53	0.57
1:2:886:U:O2'	20:AO:121:VAL:O	2.23	0.57
4:5:1085:A:H2'	4:5:1086:A:C8	2.39	0.57
4:5:2308:G:O2'	4:5:2311:U:OP2	2.23	0.57
5:6:28:C:H2'	5:6:29:A:C8	2.40	0.57
8:AC:49:LYS:HB3	8:AC:243:TYR:CD1	2.39	0.57
13:AH:64:VAL:HB	13:AH:94:ALA:HB1	1.87	0.57
67:Bc:41:LYS:NZ	67:Bc:47:ASP:OD1	2.35	0.57
80:CA:349:VAL:HG22	80:CA:423:LEU:HB3	1.87	0.57
3:4:45:A:OP1	42:BD:151:GLN:NE2	2.38	0.56
4:5:1247:G:O2'	4:5:1248:U:O4'	2.23	0.56
4:5:2094:A:N1	55:BQ:114:LYS:NZ	2.49	0.56
4:5:3296:A:H2'	4:5:3297:A:C8	2.40	0.56
24:AS:6:GLN:O	24:AS:7:GLU:HG2	2.03	0.56
30:AY:41:ARG:HH21	30:AY:53:ASP:HA	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BB:187:SER:O	40:BB:190:GLU:N	2.30	0.56
1:2:153:G:H2'	1:2:154:G:H8	1.70	0.56
1:2:841:U:H2'	1:2:842:C:C6	2.40	0.56
5:6:43:G:H2'	5:6:44:A:C8	2.39	0.56
20:AO:99:GLN:HE22	32:Aa:45:VAL:HA	1.70	0.56
23:AR:20:TYR:O	23:AR:23:LYS:HB2	2.05	0.56
42:BD:95:TRP:CE3	42:BD:198:TYR:HB3	2.40	0.56
49:BK:165:SER:O	49:BK:167:PHE:N	2.38	0.56
1:2:153:G:O3'	12:AG:2:LYS:NZ	2.37	0.56
1:2:233:C:O2'	1:2:234:G:N2	2.39	0.56
1:2:738:G:OP1	10:AE:200:ARG:NH1	2.36	0.56
1:2:950:C:O2'	19:AN:104:ARG:NH2	2.38	0.56
4:5:269:G:OP2	51:BM:44:ARG:NH2	2.37	0.56
4:5:657:A:H2'	4:5:658:A:C8	2.40	0.56
4:5:1020:G:H1	4:5:1034:U:H3	1.53	0.56
4:5:3059:U:O4	67:Bc:65:LYS:NZ	2.30	0.56
8:AC:58:LEU:HA	27:AV:12:TYR:HE1	1.71	0.56
10:AE:246:LEU:HD22	10:AE:254:ARG:HH12	1.71	0.56
12:AG:67:VAL:O	12:AG:68:LEU:HD22	2.04	0.56
14:AI:34:ALA:HB2	14:AI:56:ARG:HD3	1.87	0.56
23:AR:74:GLN:NE2	23:AR:75:GLU:HG3	2.19	0.56
25:AT:25:GLN:HG2	25:AT:27:LYS:HG2	1.87	0.56
30:AY:10:ARG:HD2	30:AY:26:ASP:OD2	2.05	0.56
40:BB:147:GLU:OE1	40:BB:150:ARG:NH1	2.38	0.56
42:BD:22:ARG:O	42:BD:26:GLY:N	2.38	0.56
69:Be:35:VAL:HG13	69:Be:40:ASP:HB2	1.87	0.56
80:CA:237:PRO:O	80:CA:699:GLN:NE2	2.37	0.56
80:CA:1616:CYS:HB3	80:CA:1630:LEU:HG	1.87	0.56
1:2:151:G:O6	30:AY:124:ARG:NH1	2.38	0.56
3:4:28:C:OP1	48:BJ:137:ARG:NH1	2.35	0.56
4:5:440:A:H5''	4:5:495:G:N1	2.19	0.56
4:5:2898:A:H5''	76:Bl:125:LYS:HD2	1.88	0.56
34:Ac:9:LEU:HB3	34:Ac:33:LEU:HD12	1.88	0.56
80:CA:1628:PRO:HA	80:CA:1631:SER:HB3	1.87	0.56
81:CB:81:LEU:HD12	81:CB:84:ILE:HD11	1.87	0.56
1:2:61:A:O2'	1:2:62:A:O4'	2.24	0.56
1:2:482:U:H2'	1:2:483:A:H8	1.71	0.56
4:5:1209:U:O2'	4:5:3116:C:N4	2.39	0.56
4:5:1535:A:H2'	4:5:1536:A:C8	2.41	0.56
4:5:1660:U:H2'	4:5:1661:C:C6	2.41	0.56
38:Ag:116:ASP:OD1	38:Ag:117:LYS:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BB:35:ASP:OD2	40:BB:191:LYS:NZ	2.39	0.56
80:CA:586:ASP:OD1	80:CA:587:MET:N	2.36	0.56
80:CA:1481:GLN:HA	80:CA:1492:ASP:HA	1.87	0.56
80:CA:1704:PRO:HG2	80:CA:1707:ASP:HB2	1.87	0.56
1:2:29:U:H2'	1:2:30:G:H8	1.71	0.56
1:2:166:C:O2'	12:AG:133:LEU:O	2.23	0.56
1:2:478:A:OP1	36:Ae:37:ARG:NH2	2.39	0.56
1:2:870:C:O2	33:Ab:51:GLN:NE2	2.39	0.56
1:2:1615:C:OP1	11:AF:81:ARG:NH2	2.38	0.56
4:5:3165:C:O2'	4:5:3166:A:H8	1.88	0.56
4:5:3185:A:N3	4:5:3188:A:O2'	2.35	0.56
24:AS:68:ARG:HG3	24:AS:71:GLN:HE21	1.71	0.56
32:Aa:18:VAL:HG11	32:Aa:33:ASP:H	1.71	0.56
45:BG:95:ASN:OD1	45:BG:98:ARG:NH1	2.39	0.56
80:CA:927:LEU:HG	80:CA:931:LYS:HE3	1.88	0.56
80:CA:1104:ILE:HB	80:CA:1107:PHE:HD2	1.71	0.56
80:CA:1693:VAL:HG21	80:CA:1710:VAL:HG13	1.87	0.56
1:2:86:A:H2'	1:2:87:C:H6	1.71	0.56
1:2:139:C:O2'	1:2:177:U:O2	2.23	0.56
1:2:1204:A:N3	35:Ad:10:HIS:NE2	2.50	0.56
1:2:1357:A:H2'	1:2:1358:G:H8	1.70	0.56
1:2:1524:A:H2'	1:2:1525:A:C8	2.40	0.56
1:2:1601:G:OP1	25:AT:86:ARG:NH1	2.32	0.56
4:5:1278:C:O2'	4:5:1279:A:H8	1.88	0.56
4:5:3046:G:OP1	40:BB:19:ARG:NH2	2.35	0.56
6:AA:119:ARG:NH2	8:AC:241:ASP:OD1	2.36	0.56
44:BF:165:ASP:OD1	44:BF:166:ASN:N	2.39	0.56
69:Be:67:MET:HE1	69:Be:90:PRO:HD3	1.88	0.56
80:CA:1173:GLU:OE2	80:CA:1205:TRP:NE1	2.39	0.56
80:CA:1423:LEU:HD11	80:CA:1438:LEU:HD13	1.88	0.56
1:2:1374:C:H2'	1:2:1375:A:C8	2.41	0.56
4:5:1195:G:H2'	4:5:1196:A:C8	2.41	0.56
4:5:1748:G:H21	74:Bj:2:ALA:HA	1.71	0.56
4:5:2441:G:H2'	4:5:2442:A:C8	2.41	0.56
42:BD:41:LYS:HD2	57:BS:93:VAL:HG11	1.88	0.56
80:CA:504:CYS:SG	80:CA:505:ARG:N	2.79	0.56
1:2:99:C:OP2	1:2:378:A:O2'	2.21	0.56
1:2:962:C:H2'	1:2:963:A:O4'	2.06	0.56
4:5:880:U:O2'	53:BO:135:ARG:NH2	2.30	0.56
4:5:1019:G:N2	4:5:1035:U:O2	2.30	0.56
13:AH:19:GLN:OE1	13:AH:84:LYS:NZ	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1559:A:H5''	24:AS:135:GLY:HA3	1.88	0.55
5:6:9:A:O2'	5:6:10:G:N7	2.39	0.55
6:AA:206:ASP:OD1	6:AA:207:PRO:HD3	2.06	0.55
8:AC:170:ILE:HB	8:AC:197:TYR:HB2	1.88	0.55
16:AK:4:PRO:HB2	16:AK:6:GLU:OE1	2.06	0.55
46:BH:181:VAL:HG11	46:BH:184:LYS:HE2	1.88	0.55
52:BN:110[A]:PRO:O	52:BN:112[A]:TYR:N	2.39	0.55
80:CA:1193:PRO:HD2	80:CA:1197:LEU:HD22	1.87	0.55
1:2:1304:G:OP2	1:2:1305:U:O2'	2.20	0.55
4:5:532:G:H2'	4:5:533:A:C8	2.42	0.55
4:5:788:G:H2'	4:5:789:C:C6	2.40	0.55
4:5:800:G:OP2	64:BZ:32:ARG:NH1	2.38	0.55
4:5:2393:C:O2'	40:BB:266:ARG:NH2	2.35	0.55
4:5:2586:G:O6	45:BG:47:SER:OG	2.22	0.55
4:5:2676:C:OP2	4:5:2677:A:O2'	2.24	0.55
11:AF:57:SER:HA	34:Ac:53:ILE:HG13	1.88	0.55
53:BO:118:GLN:NE2	53:BO:147:GLU:OE2	2.40	0.55
59:BU:80:ARG:NH1	59:BU:117:PRO:O	2.37	0.55
80:CA:586:ASP:HB2	80:CA:590:ILE:HD13	1.88	0.55
80:CA:719:ILE:HG22	80:CA:795:ALA:HB2	1.88	0.55
1:2:119:A:H1'	1:2:397:A:C5	2.42	0.55
1:2:1776:A:H2'	1:2:1777:G:C8	2.41	0.55
4:5:1111:U:H2'	4:5:1112:U:C6	2.42	0.55
4:5:1667:G:H2'	4:5:1668:A:C8	2.42	0.55
4:5:1668:A:H2'	4:5:1669:G:C8	2.40	0.55
4:5:2149:U:H2'	4:5:2150:A:C8	2.41	0.55
4:5:2219:G:H2'	4:5:2220:A:H8	1.71	0.55
42:BD:182:GLY:HA2	42:BD:194:LEU:HD23	1.88	0.55
46:BH:57:VAL:HG23	46:BH:68:LEU:HD13	1.87	0.55
55:BQ:105:LEU:HD23	55:BQ:138:LEU:HD23	1.87	0.55
78:Bn:24:LYS:HB2	78:Bn:73:GLU:HB3	1.87	0.55
80:CA:778:LEU:HB3	80:CA:784:ILE:HG12	1.88	0.55
80:CA:1134:ILE:HD13	80:CA:1212:VAL:HG21	1.89	0.55
1:2:234:G:N1	1:2:235:G:N3	2.55	0.55
4:5:832:G:O2'	4:5:1865:A:N3	2.36	0.55
4:5:2178:G:O2'	39:BA:126:LEU:HA	2.06	0.55
4:5:3269:A:OP1	43:BE:46:ARG:NH2	2.29	0.55
12:AG:26:VAL:HG21	12:AG:40:ALA:HB1	1.88	0.55
12:AG:50:PHE:HB3	12:AG:111:LEU:HD22	1.87	0.55
80:CA:298:VAL:O	80:CA:302:THR:OG1	2.22	0.55
80:CA:1387:LEU:HA	81:CB:94:LEU:HD22	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:93:A:H1'	10:AE:3:ARG:HB3	1.88	0.55
18:AM:60:VAL:H	18:AM:87:PRO:HB2	1.70	0.55
20:AO:14:PHE:HZ	32:Aa:58:VAL:HG21	1.70	0.55
32:Aa:5:ARG:HB2	32:Aa:8:ASN:HA	1.88	0.55
38:Ag:291:SER:O	38:Ag:304:GLY:N	2.36	0.55
43:BE:39:VAL:O	43:BE:87:THR:OG1	2.24	0.55
43:BE:52:VAL:HG23	43:BE:67:GLY:HA2	1.88	0.55
51:BM:47:LYS:HD2	51:BM:50:ARG:HH12	1.71	0.55
80:CA:529:ILE:HG21	80:CA:565:PHE:HE1	1.72	0.55
1:2:68:A:OP1	12:AG:171:LYS:NZ	2.33	0.55
1:2:490:C:OP2	1:2:492:A:N6	2.39	0.55
1:2:900:A:OP1	20:AO:43:THR:OG1	2.24	0.55
1:2:1144:U:H2'	1:2:1145:U:O2	2.05	0.55
46:BH:173:ARG:NH1	76:BI:125:LYS:O	2.38	0.55
57:BS:108:ARG:O	57:BS:112:ASN:ND2	2.31	0.55
80:CA:1404:ASN:ND2	80:CA:1453:ASN:O	2.40	0.55
4:5:1080:A:H4'	42:BD:140:ARG:O	2.06	0.55
4:5:1232:A:N6	4:5:1277:U:OP2	2.38	0.55
4:5:1368:G:OP1	68:Bd:45:ARG:NH2	2.39	0.55
9:AD:77:PHE:HB3	9:AD:79:TYR:CE1	2.41	0.55
12:AG:121:LEU:HD13	12:AG:124:LEU:HD12	1.89	0.55
13:AH:44:LYS:HD3	13:AH:63:PRO:HB3	1.89	0.55
80:CA:409:ARG:HH11	80:CA:803:SER:HB3	1.72	0.55
80:CA:569:PRO:HA	80:CA:572:LYS:HD3	1.89	0.55
80:CA:1431:ILE:HD11	80:CA:1459:ILE:HD12	1.88	0.55
80:CA:1769:GLN:NE2	80:CA:1952:ASN:O	2.34	0.55
4:5:170:G:H1	4:5:248:U:H3	1.55	0.55
4:5:491:A:H3'	4:5:492:C:C5'	2.35	0.55
4:5:1220:C:H4'	4:5:1224:A:H5'	1.89	0.55
4:5:2408:C:H2'	4:5:2409:U:H6	1.72	0.55
4:5:3303:U:H3	4:5:3313:U:H3	1.55	0.55
10:AE:103:TYR:O	10:AE:182:TYR:OH	2.24	0.55
14:AI:39:GLY:O	14:AI:59:ARG:HB3	2.07	0.55
40:BB:66:LYS:NZ	59:BU:88:ARG:HH12	2.04	0.55
47:BI:43:VAL:HG21	47:BI:197:VAL:HB	1.88	0.55
67:Bc:9:THR:HG23	67:Bc:109:VAL:HB	1.88	0.55
1:2:1588:G:O6	1:2:1608:U:O4	2.24	0.55
6:AA:88:LYS:NZ	23:AR:82:ASP:HB2	2.21	0.55
15:AJ:86:LEU:HD13	15:AJ:99:LEU:HD21	1.89	0.55
18:AM:62:LEU:HD13	18:AM:75:VAL:HG21	1.89	0.55
24:AS:38:VAL:HG13	24:AS:42:TYR:HD2	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AT:18:TYR:HD1	25:AT:135:ILE:HD13	1.72	0.55
25:AT:103:LYS:HA	25:AT:106:GLN:HE22	1.70	0.55
38:Ag:90:ARG:HG2	38:Ag:92:TRP:CZ2	2.42	0.55
39:BA:149:ARG:HH22	39:BA:155:LYS:HE3	1.70	0.55
64:BZ:39:HIS:O	64:BZ:42:ARG:N	2.39	0.55
1:2:322:G:O2'	1:2:323:A:OP2	2.20	0.55
1:2:813:U:H3'	55:BQ:163:ARG:NH2	2.21	0.55
4:5:1689:U:OP2	58:BT:74:LYS:NZ	2.39	0.55
4:5:2446:A:H2	4:5:2503:A:H61	1.54	0.55
4:5:2558:A:OP1	39:BA:69:TYR:OH	2.20	0.55
4:5:3295:A:H2'	4:5:3296:A:O4'	2.07	0.55
10:AE:192:ILE:HD13	10:AE:238:LEU:HD13	1.89	0.55
32:Aa:83:ILE:C	32:Aa:85:ARG:H	2.14	0.55
54:BP:89:ASP:OD1	54:BP:90:ASP:N	2.40	0.55
1:2:12:U:H2'	1:2:13:C:C6	2.41	0.54
1:2:178:U:OP1	12:AG:191:ARG:NH1	2.32	0.54
4:5:1379:U:H2'	4:5:1380:G:H8	1.72	0.54
6:AA:88:LYS:HZ2	23:AR:82:ASP:HB2	1.71	0.54
12:AG:23:ARG:NH2	12:AG:39:GLU:O	2.39	0.54
38:Ag:147:HIS:HA	38:Ag:179:LYS:HZ3	1.71	0.54
45:BG:160:ILE:O	45:BG:164:VAL:HG13	2.07	0.54
70:Bf:22:VAL:HG12	70:Bf:30:LEU:HD22	1.87	0.54
80:CA:271:LYS:HG3	80:CA:273:SER:H	1.72	0.54
80:CA:620:LYS:O	80:CA:621:VAL:HG22	2.07	0.54
80:CA:915:VAL:O	80:CA:918:ARG:NH1	2.40	0.54
80:CA:1248:SER:O	80:CA:1285:ARG:NH1	2.40	0.54
1:2:207:U:O2	14:AI:178:ARG:NH1	2.36	0.54
1:2:520:A:H2'	1:2:521:A:H8	1.73	0.54
1:2:1318:G:H5'	23:AR:67:ARG:HH21	1.72	0.54
1:2:1357:A:H2'	1:2:1358:G:C8	2.42	0.54
2:3:156:U:H2'	2:3:157:U:C6	2.42	0.54
3:4:56:A:H4'	48:BJ:152:HIS:HB2	1.90	0.54
4:5:2769:U:H2'	4:5:2770:A:H8	1.71	0.54
4:5:2902:G:O2'	4:5:3025:A:N1	2.39	0.54
38:Ag:13:LEU:HB2	38:Ag:310:ILE:HB	1.88	0.54
1:2:885:G:H2'	1:2:886:U:C6	2.42	0.54
1:2:1071:U:H2'	1:2:1072:C:C6	2.41	0.54
2:3:13:A:O2'	53:BO:121:GLN:O	2.25	0.54
2:3:141:C:H2'	2:3:142:C:H6	1.72	0.54
2:3:149:A:H2'	2:3:150:G:C8	2.41	0.54
4:5:2526:G:O2'	4:5:2527:C:OP2	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2632:U:OP2	57:BS:4:SER:OG	2.25	0.54
4:5:3154:U:H3	4:5:3294:U:H3	1.55	0.54
19:AN:44:GLY:HA3	66:Bb:16:LEU:HD21	1.88	0.54
51:BM:155:VAL:O	51:BM:162:ARG:NH2	2.36	0.54
59:BU:10:LYS:HB2	59:BU:125:LEU:HD11	1.88	0.54
81:CB:146:ARG:NH2	81:CB:193:ASP:O	2.36	0.54
1:2:159:U:O2'	12:AG:87:ARG:NH1	2.40	0.54
1:2:195:G:H2'	1:2:196:G:C8	2.43	0.54
1:2:1435:G:O6	16:AK:64:TYR:OH	2.24	0.54
4:5:1794:C:OP2	79:Bo:49:ARG:NH2	2.40	0.54
4:5:1800:A:H2'	4:5:1801:A:C8	2.43	0.54
10:AE:100:ARG:NH2	10:AE:121:TYR:O	2.41	0.54
29:AX:90:ASP:OD2	36:Ae:15:LYS:HB2	2.06	0.54
46:BH:50:ASN:HD21	50:BL:4:ASP:HB2	1.72	0.54
80:CA:538:PHE:N	80:CA:640:ILE:O	2.37	0.54
1:2:130:C:H4'	1:2:176:C:H5'	1.88	0.54
4:5:1120:C:H2'	4:5:1121:A:C8	2.43	0.54
4:5:3014:U:H2'	4:5:3015:U:C6	2.42	0.54
4:5:3223:U:H3	4:5:3264:G:H1	1.55	0.54
9:AD:154:ASP:OD1	9:AD:155:GLY:N	2.40	0.54
13:AH:133:THR:OG1	13:AH:134:GLU:N	2.39	0.54
38:Ag:248:ASN:OD1	38:Ag:249:ARG:N	2.41	0.54
78:Bn:28:TYR:HD1	78:Bn:71:ARG:HH21	1.56	0.54
1:2:868:G:OP1	19:AN:121:ARG:NH1	2.41	0.54
1:2:884:A:H2'	1:2:885:G:C8	2.42	0.54
1:2:1701:A:H2'	1:2:1702:A:C8	2.42	0.54
2:3:58:G:O6	73:Bi:63:ARG:NH1	2.40	0.54
4:5:1177:C:H2'	4:5:1178:G:N2	2.23	0.54
54:BP:55:SER:OG	54:BP:58:ASN:ND2	2.40	0.54
80:CA:219:TYR:HB3	80:CA:222:GLY:HA3	1.88	0.54
80:CA:604:ARG:HA	80:CA:607:ARG:HG2	1.89	0.54
80:CA:1190:TYR:N	80:CA:1237:VAL:O	2.41	0.54
10:AE:148:ARG:NH2	12:AG:201:GLN:OE1	2.40	0.54
15:AJ:109:LEU:HB2	15:AJ:146:PHE:HB3	1.90	0.54
40:BB:67:PHE:HA	40:BB:70:ARG:HD3	1.90	0.54
80:CA:480:ASN:OD1	80:CA:483:ILE:N	2.31	0.54
1:2:78:A:O2'	12:AG:172:ALA:O	2.25	0.54
1:2:142:G:N7	12:AG:177:ARG:NH2	2.55	0.54
1:2:1796:C:H41	32:Aa:93:LYS:HE3	1.71	0.54
4:5:1246:A:N6	4:5:1273:C:O2'	2.40	0.54
4:5:3229:C:H4'	4:5:3230:G:O5'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BJ:21:ILE:HD11	48:BJ:125:MET:HG2	1.90	0.54
55:BQ:134:HIS:HE1	55:BQ:136:ARG:HE	1.55	0.54
61:BW:25:LYS:HZ2	61:BW:27:ARG:HE	1.52	0.54
80:CA:851:LEU:O	80:CA:855:SER:N	2.40	0.54
80:CA:990:LYS:O	80:CA:994:ARG:HG2	2.08	0.54
1:2:513:U:H2'	1:2:514:G:H8	1.73	0.54
1:2:830:U:H2'	1:2:831:U:C6	2.43	0.54
4:5:534:A:O2'	4:5:536:G:OP2	2.23	0.54
4:5:3166:A:H2'	4:5:3167:C:C6	2.41	0.54
9:AD:40:ARG:HH12	26:AU:108:ILE:HG22	1.73	0.54
80:CA:288:LEU:HB2	80:CA:292:GLN:HE21	1.72	0.54
80:CA:348:LYS:NZ	80:CA:394:THR:O	2.41	0.54
80:CA:429:VAL:HG12	80:CA:464:SER:HB3	1.90	0.54
80:CA:889:ASP:HB3	80:CA:892:LEU:HB2	1.90	0.54
1:2:522:U:H5''	30:AY:37:LYS:HG3	1.91	0.54
1:2:1202:A:H1'	1:2:1207:C:H42	1.73	0.54
1:2:1482:C:O2'	22:AQ:72:GLY:O	2.26	0.54
3:4:119:U:OP2	42:BD:258:LYS:NZ	2.33	0.54
4:5:63:A:H5''	51:BM:174:ILE:HD13	1.89	0.54
4:5:1800:A:H2'	4:5:1801:A:H8	1.72	0.54
4:5:2407:C:H2'	4:5:2408:C:C6	2.43	0.54
4:5:2441:G:H2'	4:5:2442:A:H8	1.72	0.54
4:5:2782:U:H4'	49:BK:185:LYS:HD3	1.90	0.54
12:AG:57:ASP:HA	12:AG:106:LEU:HA	1.90	0.54
21:AP:22:LEU:HD11	21:AP:109:PRO:HB3	1.90	0.54
35:Ad:4:GLU:HG3	35:Ad:6:VAL:HG22	1.90	0.54
49:BK:76:THR:OG1	49:BK:101:ARG:NH1	2.41	0.54
54:BP:19:PRO:HD3	54:BP:53:PHE:HD1	1.73	0.54
64:BZ:35:ALA:O	64:BZ:41:HIS:ND1	2.39	0.54
71:Bg:32:LYS:HG2	71:Bg:44:ILE:HD11	1.89	0.54
3:4:31:U:O3'	42:BD:218:ARG:NH2	2.41	0.53
3:4:73:C:H42	56:BR:19:VAL:HG21	1.73	0.53
4:5:2181:G:H2'	4:5:2182:C:C6	2.43	0.53
10:AE:87:MET:HE1	10:AE:123:LEU:HB2	1.89	0.53
11:AF:51:VAL:HG11	11:AF:130:ILE:HG22	1.90	0.53
21:AP:25:LEU:HA	21:AP:28:MET:HE1	1.89	0.53
24:AS:12:GLN:HE22	24:AS:15:LEU:HD22	1.72	0.53
30:AY:15:ASN:ND2	30:AY:22:GLN:OE1	2.40	0.53
34:Ac:12:VAL:HG12	34:Ac:52:ASP:H	1.72	0.53
38:Ag:131:ILE:HD11	38:Ag:151:VAL:HG21	1.90	0.53
80:CA:553:ILE:HG13	80:CA:593:PHE:HB3	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:209:U:H2'	1:2:210:A:H8	1.73	0.53
1:2:521:A:O2'	30:AY:34:ASN:O	2.26	0.53
1:2:1471:A:H2	1:2:1474:G:N3	2.05	0.53
1:2:1483:A:H2'	1:2:1484:G:C8	2.44	0.53
2:3:69:U:H2'	2:3:70:G:O4'	2.08	0.53
5:6:48:C:H2'	5:6:49:G:H8	1.73	0.53
9:AD:77:PHE:HB3	9:AD:79:TYR:HE1	1.72	0.53
12:AG:64:LYS:NZ	12:AG:82:SER:OG	2.36	0.53
19:AN:89:TYR:HE1	19:AN:150:VAL:HG13	1.73	0.53
24:AS:29:VAL:HG23	24:AS:44:ASN:HA	1.90	0.53
41:BC:317:PRO:C	41:BC:319:LYS:H	2.15	0.53
45:BG:82:LEU:HG	45:BG:86:THR:HG23	1.90	0.53
46:BH:90:MET:HG2	46:BH:181:VAL:HA	1.90	0.53
80:CA:428:GLU:OE1	80:CA:430:HIS:NE2	2.41	0.53
1:2:195:G:N7	14:AI:141:ARG:NH1	2.56	0.53
1:2:448:C:H2'	1:2:449:C:H6	1.73	0.53
1:2:1158:C:H42	1:2:1163:A:H61	1.55	0.53
1:2:1220:C:H2'	1:2:1221:A:C8	2.44	0.53
4:5:494:G:H4'	4:5:495:G:OP1	2.08	0.53
4:5:3232:U:H2'	4:5:3233:G:H8	1.73	0.53
12:AG:159:ARG:HB3	12:AG:170:THR:HB	1.90	0.53
66:Bb:10:ILE:HD12	66:Bb:13:LYS:HD2	1.90	0.53
78:Bn:38:GLN:NE2	78:Bn:38:GLN:O	2.39	0.53
80:CA:963:SER:OG	80:CA:966:HIS:ND1	2.40	0.53
4:5:529:U:H2'	4:5:530:A:H8	1.73	0.53
4:5:761:G:O2'	4:5:771:G:N2	2.39	0.53
4:5:2407:C:H2'	4:5:2408:C:H6	1.74	0.53
22:AQ:32:ASN:ND2	22:AQ:69:VAL:HG12	2.23	0.53
23:AR:26:LEU:HG	23:AR:58:MET:HB3	1.91	0.53
64:BZ:60:TYR:HE2	64:BZ:63:LYS:HA	1.74	0.53
81:CB:97:ASN:HB3	81:CB:100:VAL:HG23	1.90	0.53
1:2:16:G:H2'	1:2:17:C:C6	2.43	0.53
1:2:1650:U:H2'	1:2:1651:A:C8	2.43	0.53
4:5:76:G:O2'	49:BK:100:ARG:NH1	2.36	0.53
4:5:1262:G:O2'	4:5:1263:G:N1	2.38	0.53
4:5:2682:U:H5'	48:BJ:65:ILE:HD11	1.89	0.53
4:5:3315:A:H5''	40:BB:174:LYS:HD2	1.90	0.53
7:AB:143:THR:HB	7:AB:205:PHE:HE2	1.74	0.53
10:AE:18:TRP:NE1	10:AE:41:SER:O	2.38	0.53
13:AH:34:LEU:HB2	13:AH:38:LEU:HD23	1.90	0.53
16:AK:3:MET:HE1	16:AK:7:ASP:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ag:205:SER:HA	38:Ag:245:PHE:HD2	1.74	0.53
55:BQ:21:LYS:O	55:BQ:53:LYS:HD2	2.08	0.53
80:CA:763:LEU:HB3	80:CA:766:ARG:HB3	1.90	0.53
82:CC:179:GLN:OE1	82:CC:198:VAL:N	2.41	0.53
1:2:140:A:H1'	12:AG:184:LEU:HD21	1.89	0.53
1:2:1247:U:H2'	1:2:1248:C:C6	2.44	0.53
1:2:1459:C:OP1	24:AS:126:ARG:NH2	2.40	0.53
2:3:52:A:H62	75:Bk:27:ILE:HD13	1.73	0.53
4:5:172:G:H1	4:5:246:U:H3	1.56	0.53
4:5:690:U:O4	41:BC:209:TYR:OH	2.25	0.53
4:5:2368:A:H2'	4:5:2369:A:C8	2.44	0.53
4:5:2949:C:OP1	40:BB:244:ARG:NH2	2.41	0.53
16:AK:46:LEU:O	16:AK:50:THR:N	2.41	0.53
29:AX:127:VAL:O	29:AX:130:VAL:HG22	2.08	0.53
45:BG:72:PRO:HG3	51:BM:18:VAL:HA	1.91	0.53
53:BO:60:PHE:O	53:BO:64:ASN:ND2	2.34	0.53
63:BY:23:VAL:HG12	63:BY:45:GLY:HA3	1.90	0.53
80:CA:223:SER:O	80:CA:224:THR:OG1	2.23	0.53
1:2:1369:U:OP2	25:AT:69:LYS:NZ	2.41	0.53
4:5:144:A:OP1	45:BG:193:LYS:NZ	2.37	0.53
4:5:601:G:N2	4:5:604:A:OP2	2.33	0.53
4:5:1554:U:H4'	4:5:1555:U:H5'	1.91	0.53
4:5:2130:U:H2'	4:5:2131:G:C8	2.43	0.53
4:5:3007:A:H2'	4:5:3008:U:O4'	2.09	0.53
10:AE:57:ASN:N	10:AE:60:GLU:OE2	2.41	0.53
16:AK:55:VAL:HG12	16:AK:68:LEU:HA	1.89	0.53
38:Ag:137:LYS:HG3	38:Ag:139:GLN:HG2	1.90	0.53
49:BK:168:ARG:HH21	49:BK:172:LEU:HD21	1.74	0.53
63:BY:14:VAL:HB	70:Bf:86:LYS:HG3	1.91	0.53
80:CA:1083:LYS:HA	80:CA:1095:THR:HG23	1.91	0.53
80:CA:1117:LYS:HD2	82:CC:185:VAL:HG21	1.90	0.53
1:2:205:U:H2'	1:2:206:A:H8	1.73	0.53
1:2:407:A:H2'	1:2:408:C:H6	1.73	0.53
1:2:689:G:H2'	1:2:690:G:H8	1.74	0.53
2:3:39:G:H1'	2:3:104:A:N6	2.24	0.53
3:4:71:G:H2'	3:4:72:A:H8	1.74	0.53
29:AX:142:LYS:O	29:AX:144:ARG:NH2	2.42	0.53
52:BN:61[A]:ALA:HA	52:BN:70[A]:PRO:HD2	1.90	0.53
56:BR:79:VAL:HG11	56:BR:110:MET:HE2	1.90	0.53
80:CA:572:LYS:HA	80:CA:575:TYR:HB2	1.89	0.53
80:CA:1878:SER:HB3	80:CA:1931:ILE:HB	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:629:U:O2'	4:5:847:A:N3	2.34	0.53
1:2:1266:U:H2'	1:2:1267:G:C8	2.44	0.53
3:4:71:G:H2'	3:4:72:A:C8	2.43	0.53
7:AB:180:THR:OG1	7:AB:181:LEU:N	2.41	0.53
15:AJ:179:ARG:HH22	80:CA:571:GLU:HA	1.73	0.53
24:AS:27:LYS:HE2	24:AS:55:HIS:HA	1.91	0.53
26:AU:70:THR:OG1	26:AU:72:ASN:OD1	2.27	0.53
45:BG:83:ASP:HB3	45:BG:86:THR:HG22	1.91	0.53
49:BK:56:PRO:HG3	49:BK:74:GLY:O	2.09	0.53
80:CA:536:MET:HG3	80:CA:622:LEU:HB3	1.91	0.53
1:2:1330:G:H21	23:AR:8:THR:HG21	1.74	0.53
4:5:665:U:H2'	4:5:666:A:H8	1.73	0.53
33:Ab:41:LEU:HD12	33:Ab:42:ASN:N	2.24	0.53
48:BJ:53:THR:HG22	48:BJ:61:ARG:H	1.73	0.53
68:Bd:32:TRP:CZ2	68:Bd:53:PRO:HD2	2.44	0.53
80:CA:363:VAL:HG11	80:CA:379:GLU:HB2	1.91	0.53
1:2:86:A:H2'	1:2:87:C:C6	2.44	0.52
1:2:257:A:H1'	14:AI:73:SER:HB2	1.90	0.52
4:5:1109:U:H2'	4:5:1110:U:C6	2.44	0.52
4:5:3205:C:H2'	4:5:3206:G:C8	2.44	0.52
4:5:3285:G:H2'	4:5:3286:C:C6	2.44	0.52
41:BC:132:ALA:HA	41:BC:148:ILE:HD11	1.91	0.52
42:BD:95:TRP:HD1	42:BD:158:ARG:HA	1.74	0.52
80:CA:542:ARG:HB3	80:CA:599:HIS:ND1	2.24	0.52
80:CA:1010:ASN:O	80:CA:1011:VAL:HG13	2.08	0.52
80:CA:1389:LEU:HD12	80:CA:1459:ILE:HD11	1.90	0.52
6:AA:76:ILE:HB	6:AA:123:VAL:HG12	1.90	0.52
42:BD:75:LEU:O	42:BD:112:LYS:NZ	2.42	0.52
48:BJ:132:ASN:HA	48:BJ:154:THR:HG21	1.91	0.52
52:BN:189[A]:ASP:OD1	52:BN:190[A]:VAL:N	2.43	0.52
61:BW:86:VAL:HG11	61:BW:95:ILE:HD11	1.90	0.52
80:CA:546:VAL:O	80:CA:550:ARG:HG2	2.08	0.52
80:CA:1282:ILE:HG22	80:CA:1286:MET:HE1	1.92	0.52
1:2:176:C:H2'	1:2:177:U:C6	2.45	0.52
1:2:1230:A:OP2	1:2:1255:G:N2	2.37	0.52
4:5:542:U:N3	4:5:543:G:C6	2.77	0.52
4:5:2698:A:H2'	4:5:2699:G:C8	2.44	0.52
38:Ag:248:ASN:ND2	38:Ag:297:ASP:O	2.42	0.52
41:BC:3:ARG:HH22	41:BC:27:SER:HG	1.52	0.52
56:BR:71:LYS:HE3	56:BR:73:LYS:HD2	1.91	0.52
80:CA:641:ILE:HD12	80:CA:683:LEU:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1252:GLN:HG2	80:CA:1253:THR:HG23	1.92	0.52
80:CA:1383:ARG:NE	80:CA:1422:THR:OG1	2.41	0.52
1:2:1424:A:OP2	9:AD:151:LYS:NZ	2.33	0.52
1:2:1785:U:H2'	1:2:1786:G:H8	1.73	0.52
4:5:216:G:OP1	62:BX:16:ARG:NH1	2.41	0.52
4:5:443:G:C8	4:5:443:G:C3'	2.91	0.52
4:5:835:U:H2'	4:5:836:G:O4'	2.10	0.52
4:5:995:G:N2	4:5:996:U:O4	2.36	0.52
4:5:2565:G:OP2	63:BY:55:LYS:NZ	2.37	0.52
6:AA:189:VAL:O	27:AV:44:ARG:NH2	2.40	0.52
11:AF:47:SER:OG	11:AF:49:GLU:OE1	2.26	0.52
38:Ag:265:LEU:O	38:Ag:268:GLN:NE2	2.43	0.52
51:BM:110:ALA:HB1	51:BM:113:LEU:HD23	1.92	0.52
73:Bi:64:MET:HE2	73:Bi:67:LEU:HD22	1.90	0.52
80:CA:645:GLN:HE21	80:CA:654:PHE:HD2	1.56	0.52
1:2:319:U:H4'	1:2:323:A:C8	2.44	0.52
1:2:821:U:O4	1:2:852:C:N3	2.43	0.52
1:2:1483:A:H4'	22:AQ:71:GLY:HA2	1.92	0.52
4:5:339:C:OP1	4:5:1381:G:O2'	2.25	0.52
4:5:1245:A:O2'	4:5:1248:U:OP1	2.22	0.52
6:AA:76:ILE:HD13	6:AA:98:ILE:HB	1.91	0.52
9:AD:56:GLN:HE22	9:AD:90:ARG:HH22	1.55	0.52
15:AJ:170:GLY:O	15:AJ:174:ARG:NH1	2.42	0.52
33:Ab:33:LEU:O	33:Ab:46:VAL:N	2.36	0.52
38:Ag:106:HIS:HD2	38:Ag:132:LYS:HD2	1.75	0.52
41:BC:36:HIS:O	41:BC:40:THR:HG23	2.09	0.52
70:Bf:41:ARG:HG2	70:Bf:56:THR:HG21	1.92	0.52
82:CC:207:LYS:NZ	82:CC:209:LYS:O	2.37	0.52
82:CC:329:GLN:HA	82:CC:332:LEU:HD13	1.92	0.52
1:2:34:G:O2'	1:2:515:A:O2'	2.28	0.52
1:2:108:A:H2'	1:2:109:G:C8	2.44	0.52
1:2:868:G:H1	1:2:960:U:H3	1.58	0.52
1:2:1592:A:H2'	1:2:1593:A:H8	1.75	0.52
1:2:1608:U:OP1	22:AQ:15:SER:OG	2.20	0.52
3:4:28:C:H5''	48:BJ:137:ARG:HG2	1.90	0.52
3:4:52:G:O2'	3:4:53:U:OP1	2.28	0.52
4:5:17:G:OP1	61:BW:44:PRO:HB2	2.10	0.52
4:5:788:G:H2'	4:5:789:C:H6	1.73	0.52
4:5:1157:C:OP2	44:BF:94:LYS:NZ	2.43	0.52
4:5:1556:U:H5	4:5:1560:A:H61	1.56	0.52
4:5:2881:U:H1'	40:BB:250:ALA:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:3234:C:H2'	4:5:3235:A:C8	2.44	0.52
6:AA:205:ARG:HG2	23:AR:86:PRO:HG3	1.90	0.52
10:AE:62:LYS:HG3	10:AE:66:MET:HE1	1.90	0.52
18:AM:139:HIS:O	18:AM:143:GLN:NE2	2.43	0.52
24:AS:7:GLU:OE2	31:AZ:41:ILE:HB	2.09	0.52
54:BP:36:LEU:O	54:BP:40:THR:OG1	2.12	0.52
1:2:209:U:H2'	1:2:210:A:C8	2.44	0.52
1:2:1477:G:H2'	1:2:1478:G:H8	1.75	0.52
1:2:1680:G:H1'	1:2:1721:A:N6	2.25	0.52
2:3:9:A:H2'	2:3:10:A:C8	2.45	0.52
4:5:552:A:O2'	4:5:553:G:H8	1.92	0.52
4:5:657:A:H2'	4:5:658:A:H8	1.74	0.52
4:5:1275:A:H2'	4:5:1276:C:H6	1.75	0.52
15:AJ:35:GLY:O	15:AJ:110:GLN:NE2	2.40	0.52
16:AK:46:LEU:O	16:AK:50:THR:HG23	2.09	0.52
31:AZ:57:TYR:C	31:AZ:103:ARG:HE	2.18	0.52
40:BB:76:VAL:HG12	40:BB:325:LYS:HA	1.90	0.52
41:BC:226:GLU:OE1	41:BC:237:GLN:NE2	2.42	0.52
42:BD:95:TRP:CD1	42:BD:158:ARG:HA	2.44	0.52
48:BJ:13:LYS:HE3	48:BJ:134:PRO:HG3	1.92	0.52
80:CA:661:ASP:OD1	80:CA:662:VAL:N	2.42	0.52
80:CA:1338:TYR:HB2	80:CA:1517:ILE:HG23	1.91	0.52
80:CA:1909:HIS:NE2	80:CA:1947:GLN:OE1	2.43	0.52
1:2:1468:U:H1'	25:AT:88:VAL:HG23	1.92	0.52
4:5:412:G:OP1	53:BO:62:ARG:NH1	2.43	0.52
4:5:494:G:N2	4:5:495:G:N7	2.52	0.52
4:5:2992:A:O2'	4:5:3310:G:N7	2.42	0.52
38:Ag:43:ILE:HD13	38:Ag:60:SER:HA	1.92	0.52
38:Ag:150:TRP:NE1	38:Ag:174:ASN:HD22	2.07	0.52
43:BE:49:GLY:O	43:BE:163:PHE:N	2.40	0.52
50:BL:23:ILE:HG21	50:BL:28:SER:HB2	1.92	0.52
81:CB:197:ALA:HB2	81:CB:203:ASN:HB2	1.91	0.52
1:2:1375:A:H2'	1:2:1376:C:C6	2.44	0.52
2:3:57:C:OP2	73:Bi:68:LYS:NZ	2.41	0.52
4:5:2117:G:OP1	4:5:2119:C:N4	2.42	0.52
4:5:3299:C:C2	4:5:3300:A:C8	2.98	0.52
6:AA:79:ARG:NH2	6:AA:164:ASN:O	2.43	0.52
12:AG:161:GLU:HA	12:AG:170:THR:HA	1.92	0.52
13:AH:40:PRO:HG2	13:AH:41:LEU:HD12	1.91	0.52
62:BX:74:TYR:CD2	62:BX:77:LYS:HB2	2.44	0.52
80:CA:818:MET:HG2	82:CC:370:ARG:HH22	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1177:TRP:O	80:CA:1181:LYS:NZ	2.42	0.52
80:CA:1638:ILE:HG22	80:CA:1640:HIS:H	1.74	0.52
1:2:1397:U:O2'	1:2:1400:A:N6	2.42	0.52
1:2:1398:U:O4	23:AR:67:ARG:NH2	2.42	0.52
4:5:424:G:O2'	68:Bd:23:ASP:OD2	2.26	0.52
4:5:596:G:OP2	44:BF:30:ARG:NH1	2.42	0.52
4:5:1563:C:H2'	4:5:1564:C:C6	2.44	0.52
4:5:3323:A:H2'	4:5:3324:A:C8	2.45	0.52
10:AE:112:HIS:NE2	10:AE:237:SER:O	2.42	0.52
20:AO:12:GLN:OE1	20:AO:77:THR:OG1	2.23	0.52
38:Ag:221:MET:HA	38:Ag:233:THR:HA	1.92	0.52
51:BM:68:ARG:NH1	51:BM:124:ASP:O	2.40	0.52
80:CA:954:ILE:HG22	80:CA:958:ARG:HH12	1.75	0.52
80:CA:1871:ASN:ND2	80:CA:1967:SER:O	2.43	0.52
81:CB:25:PHE:HB2	81:CB:31:ARG:HH22	1.74	0.52
1:2:705:U:O2'	1:2:706:A:O5'	2.24	0.51
1:2:737:A:H2'	1:2:738:G:C8	2.45	0.51
1:2:1220:C:H2'	1:2:1221:A:H8	1.75	0.51
1:2:1312:A:N6	1:2:1414:U:H1'	2.24	0.51
1:2:1584:G:HO2'	1:2:1585:U:P	2.32	0.51
4:5:1104:A:OP2	44:BF:158:LYS:NZ	2.43	0.51
4:5:1220:C:O2'	4:5:1287:A:N1	2.43	0.51
4:5:2632:U:OP1	4:5:2758:U:O2'	2.26	0.51
32:Aa:83:ILE:HG22	32:Aa:84:VAL:H	1.75	0.51
38:Ag:229:LYS:NZ	38:Ag:230:ALA:O	2.41	0.51
38:Ag:255:ALA:HB2	38:Ag:292:LEU:HD22	1.92	0.51
42:BD:34:LYS:HD3	42:BD:35:ARG:HD3	1.90	0.51
68:Bd:87:MET:HA	68:Bd:87:MET:HE3	1.91	0.51
80:CA:1151:LEU:HD22	80:CA:1174:LEU:HB3	1.93	0.51
1:2:520:A:H2	30:AY:34:ASN:ND2	2.08	0.51
1:2:1722:A:H1'	12:AG:67:VAL:HG13	1.92	0.51
4:5:441:U:OP1	4:5:443:G:N2	2.43	0.51
4:5:543:G:O6	4:5:551:A:N1	2.43	0.51
4:5:2742:C:O2	78:Bn:20:HIS:HE1	1.93	0.51
14:AI:57:ALA:HB2	14:AI:177:GLY:HA2	1.92	0.51
22:AQ:99:GLU:OE1	22:AQ:99:GLU:N	2.43	0.51
41:BC:74:ILE:HD12	41:BC:75:PRO:HD2	1.91	0.51
1:2:188:A:H62	1:2:197:A:H8	1.58	0.51
4:5:2541:A:N3	4:5:2542:U:N3	2.59	0.51
4:5:3303:U:H2'	4:5:3304:G:C8	2.45	0.51
21:AP:22:LEU:HA	21:AP:25:LEU:HG	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Af:119:ARG:NH1	37:Af:148:TYR:OH	2.43	0.51
37:Af:135:HIS:C	37:Af:136:LYS:HD2	2.36	0.51
80:CA:1355:MET:HE1	80:CA:1478:LYS:HG3	1.91	0.51
80:CA:1484:ASP:HB3	80:CA:1487:ILE:HG12	1.92	0.51
1:2:424:C:O2'	1:2:426:G:OP1	2.23	0.51
1:2:1086:A:H5'	8:AC:164:SER:HB3	1.93	0.51
1:2:1216:C:H2'	1:2:1444:A:N1	2.25	0.51
1:2:1287:A:N1	1:2:1328:G:O2'	2.38	0.51
1:2:1450:U:H2'	1:2:1451:C:C6	2.45	0.51
1:2:1791:A:H3'	32:Aa:8:ASN:HB3	1.92	0.51
4:5:435:C:H2'	4:5:436:A:C8	2.46	0.51
7:AB:3:VAL:HB	20:AO:49:LYS:HE3	1.91	0.51
17:AL:26:LYS:HG3	17:AL:30:ARG:HH22	1.74	0.51
20:AO:30:VAL:HG11	20:AO:71:CYS:SG	2.51	0.51
24:AS:94:ASP:OD1	24:AS:94:ASP:N	2.43	0.51
40:BB:4:ARG:O	40:BB:6:TYR:N	2.43	0.51
45:BG:130:TYR:HD1	45:BG:202:GLU:HG3	1.75	0.51
49:BK:3:ILE:HD13	64:BZ:45:MET:HE2	1.91	0.51
62:BX:23:PRO:HG2	62:BX:26:GLN:HG3	1.92	0.51
80:CA:632:VAL:O	80:CA:633:ASN:HB2	2.09	0.51
4:5:351:A:N6	75:Bk:37:TYR:O	2.42	0.51
4:5:2219:G:H2'	4:5:2220:A:C8	2.45	0.51
4:5:2746:G:N2	4:5:2749:A:OP2	2.33	0.51
6:AA:140:ASN:ND2	8:AC:60:SER:O	2.44	0.51
10:AE:35:PRO:HD2	10:AE:83:PRO:HG2	1.92	0.51
46:BH:21:LYS:HG3	46:BH:22:SER:H	1.74	0.51
47:BI:63:GLU:N	47:BI:63:GLU:OE1	2.43	0.51
54:BP:94:PHE:CZ	64:BZ:119:PRO:HD3	2.45	0.51
59:BU:104:ASN:HD21	59:BU:108:GLU:HG2	1.75	0.51
74:Bj:39:ARG:HH11	74:Bj:39:ARG:HG3	1.75	0.51
76:Bl:80:PRO:HA	76:Bl:83:LYS:HB2	1.91	0.51
79:Bo:46:THR:HB	79:Bo:58:SER:HB3	1.92	0.51
80:CA:842:LYS:HB2	80:CA:844:ARG:HH12	1.74	0.51
80:CA:1819:GLU:OE2	80:CA:1823:ARG:NH2	2.42	0.51
1:2:265:A:OP2	12:AG:194:LYS:NZ	2.40	0.51
1:2:554:C:H1'	1:2:555:A:H2	1.74	0.51
4:5:2612:U:H2'	4:5:2613:U:C6	2.46	0.51
4:5:3003:C:O2'	40:BB:180:GLU:OE2	2.22	0.51
4:5:3009:A:OP2	52:BN:74[A]:ARG:NH1	2.44	0.51
27:AV:34:ILE:HB	27:AV:53:TYR:HB2	1.92	0.51
27:AV:53:TYR:OH	27:AV:76:ASP:OD2	2.18	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BB:66:LYS:HZ3	59:BU:88:ARG:HH12	1.58	0.51
53:BO:111:LYS:HG3	53:BO:152:GLU:HG3	1.91	0.51
80:CA:1608:LEU:HD13	80:CA:1619:LEU:HD11	1.93	0.51
1:2:1099:U:O4	8:AC:168:ARG:NH1	2.43	0.51
3:4:4:U:H2'	3:4:5:G:H8	1.76	0.51
4:5:250:U:H5''	4:5:251:G:H2'	1.92	0.51
4:5:1837:C:O2'	4:5:1843:A:N1	2.41	0.51
16:AK:30:ALA:O	16:AK:31:LYS:HE2	2.11	0.51
40:BB:3:HIS:O	40:BB:4:ARG:C	2.53	0.51
41:BC:14:GLU:HG2	41:BC:15:ALA:H	1.76	0.51
52:BN:121[A]:PRO:HA	52:BN:124[A]:LEU:HD12	1.93	0.51
53:BO:48:LEU:HD22	53:BO:88:VAL:HG13	1.91	0.51
61:BW:25:LYS:HZ3	61:BW:27:ARG:HE	1.56	0.51
63:BY:10:VAL:O	63:BY:83:THR:OG1	2.23	0.51
74:Bj:13:GLU:HA	74:Bj:16:ARG:NH1	2.26	0.51
80:CA:727:VAL:HG23	80:CA:791:MET:HB3	1.93	0.51
80:CA:1725:LEU:HD13	80:CA:1730:TYR:HB3	1.93	0.51
1:2:332:U:OP2	14:AI:175:GLN:NE2	2.36	0.51
1:2:1405:G:H2'	1:2:1406:A:H8	1.76	0.51
4:5:605:G:H2'	4:5:606:U:C6	2.46	0.51
4:5:3057:U:O2	67:Bc:28:ARG:NH2	2.44	0.51
7:AB:30:PHE:O	7:AB:45:LYS:HG3	2.10	0.51
8:AC:142:GLY:N	8:AC:153:SER:O	2.36	0.51
9:AD:142:LEU:HB2	9:AD:148:LYS:HE3	1.92	0.51
10:AE:177:ALA:HA	10:AE:195:ILE:HG22	1.93	0.51
22:AQ:50:GLU:OE2	22:AQ:112:TYR:OH	2.26	0.51
38:Ag:7:LEU:HD12	38:Ag:313:TRP:HB3	1.93	0.51
63:BY:24:VAL:HG11	63:BY:87:LEU:HD23	1.92	0.51
63:BY:25:ILE:HG13	63:BY:43:VAL:HG12	1.93	0.51
1:2:895:G:N2	1:2:917:U:O2	2.40	0.51
1:2:1079:U:H2'	1:2:1080:U:C6	2.46	0.51
4:5:27:C:O2'	4:5:327:A:N3	2.42	0.51
4:5:441:U:H3'	4:5:443:G:N2	2.25	0.51
4:5:2948:G:N3	40:BB:250:ALA:HB1	2.26	0.51
41:BC:82:THR:HG22	41:BC:84:ARG:H	1.74	0.51
82:CC:189:ALA:HB1	82:CC:217:LEU:HD11	1.93	0.51
1:2:388:G:OP1	1:2:423:G:O2'	2.18	0.51
1:2:1360:A:H2	1:2:1364:G:O6	1.94	0.51
1:2:1481:C:OP1	25:AT:63:ARG:NH2	2.35	0.51
4:5:370:U:H4'	4:5:404:G:H5'	1.93	0.51
4:5:1552:C:HO2'	4:5:2171:U:HO2'	1.48	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1622:A:H2'	4:5:1623:U:C6	2.46	0.51
4:5:2450:A:H2'	4:5:2451:G:C8	2.46	0.51
4:5:2898:A:OP2	4:5:2900:C:N4	2.44	0.51
4:5:2931:A:H2'	4:5:2932:C:C6	2.46	0.51
4:5:3288:U:H3'	4:5:3289:G:H8	1.76	0.51
22:AQ:107:LYS:NZ	22:AQ:111:SER:OG	2.40	0.51
25:AT:118:PRO:O	25:AT:119:LYS:HG3	2.10	0.51
44:BF:178:ILE:HD11	44:BF:187:GLU:HG3	1.93	0.51
1:2:55:A:OP1	30:AY:112:LYS:NZ	2.33	0.50
1:2:588:U:H2'	1:2:589:C:H6	1.76	0.50
1:2:1228:G:OP1	18:AM:119:SER:N	2.42	0.50
1:2:1329:A:OP2	9:AD:160:SER:OG	2.30	0.50
3:4:16:U:H2'	3:4:17:A:C8	2.47	0.50
4:5:129:U:H2'	4:5:130:A:C8	2.46	0.50
4:5:188:U:O2'	4:5:207:U:O2	2.26	0.50
4:5:1097:U:OP2	57:BS:116:ARG:NH2	2.44	0.50
4:5:1758:A:H2'	4:5:1759:G:H8	1.76	0.50
4:5:3372:G:H2'	4:5:3373:A:H8	1.75	0.50
10:AE:141:THR:OG1	10:AE:143:ASP:OD1	2.28	0.50
11:AF:58:LEU:HD12	11:AF:138:THR:HG22	1.93	0.50
14:AI:152:ILE:HG22	17:AL:24:LYS:HE3	1.93	0.50
15:AJ:20:GLU:OE2	15:AJ:23:ARG:NE	2.36	0.50
15:AJ:44:ARG:O	15:AJ:48:GLN:HG3	2.11	0.50
26:AU:106:ILE:HG13	26:AU:107:THR:HG23	1.94	0.50
39:BA:116:VAL:O	39:BA:125:ALA:HB3	2.11	0.50
80:CA:1037:VAL:HG22	80:CA:1084:VAL:HG22	1.92	0.50
81:CB:2:LEU:HD23	81:CB:2:LEU:H	1.75	0.50
1:2:607:G:H5'	1:2:613:G:N2	2.25	0.50
1:2:917:U:O2	20:AO:41:ARG:NH1	2.44	0.50
1:2:1273:G:O2'	1:2:1430:U:OP2	2.26	0.50
4:5:358:G:N2	4:5:361:A:OP2	2.40	0.50
4:5:2212:U:OP1	5:6:3:C:O2'	2.28	0.50
4:5:2436:G:H1'	51:BM:24:ARG:HH22	1.76	0.50
4:5:2837:C:H5	4:5:2853:C:H42	1.58	0.50
9:AD:40:ARG:HB3	9:AD:47:GLU:HG3	1.94	0.50
11:AF:51:VAL:O	11:AF:51:VAL:HG12	2.12	0.50
13:AH:14:THR:N	13:AH:17:GLU:OE2	2.41	0.50
34:Ac:42:ARG:NH1	34:Ac:58:GLU:O	2.37	0.50
47:BI:215:GLU:CD	47:BI:215:GLU:H	2.19	0.50
48:BJ:23:VAL:HG12	48:BJ:25:GLU:H	1.74	0.50
81:CB:146:ARG:NH2	81:CB:196:SER:O	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:29:U:H2'	1:2:30:G:C8	2.47	0.50
1:2:406:U:H2'	1:2:407:A:H8	1.77	0.50
1:2:474:A:H5''	15:AJ:144:PRO:HD2	1.93	0.50
1:2:884:A:H2'	1:2:885:G:H8	1.76	0.50
1:2:1502:G:N7	25:AT:102:ARG:NH2	2.59	0.50
1:2:1787:C:H2'	1:2:1788:G:C8	2.47	0.50
4:5:1946:A:H2'	4:5:1947:A:C8	2.46	0.50
4:5:2962:G:H2'	4:5:2963:U:C6	2.47	0.50
9:AD:206:VAL:HG12	23:AR:41:ILE:HG12	1.93	0.50
27:AV:34:ILE:N	27:AV:53:TYR:O	2.44	0.50
38:Ag:106:HIS:CD2	38:Ag:132:LYS:HD2	2.46	0.50
45:BG:78:PHE:C	45:BG:80:TYR:H	2.19	0.50
45:BG:115:ALA:O	45:BG:120:LYS:N	2.41	0.50
51:BM:147:ARG:HG3	71:Bg:101:THR:HG21	1.93	0.50
67:Bc:92:TYR:HE2	67:Bc:94:GLU:HG3	1.77	0.50
80:CA:948:ASP:OD1	80:CA:948:ASP:N	2.44	0.50
80:CA:1268:ILE:HG21	80:CA:1312:MET:HE1	1.93	0.50
80:CA:1398:ASN:HD22	80:CA:1401:ARG:CZ	2.25	0.50
1:2:103:A:H4'	1:2:105:A:C8	2.47	0.50
1:2:1684:U:H2'	1:2:1685:G:H8	1.77	0.50
1:2:1732:A:H2'	1:2:1733:C:C6	2.46	0.50
2:3:75:G:C8	75:Bk:30:ARG:HG2	2.46	0.50
4:5:1211:U:OP1	46:BH:62:ARG:NH1	2.44	0.50
4:5:1341:G:H2'	4:5:1342:U:C6	2.46	0.50
4:5:2408:C:H2'	4:5:2409:U:C6	2.45	0.50
4:5:2551:U:H1'	45:BG:38:GLN:HE22	1.77	0.50
4:5:2697:A:H2'	4:5:2698:A:C8	2.46	0.50
4:5:2765:C:N3	5:6:75:A:O2'	2.39	0.50
4:5:2987:U:H2'	4:5:2988:A:C8	2.46	0.50
6:AA:49:ASN:HD22	6:AA:52:LYS:NZ	2.08	0.50
6:AA:112:THR:HG22	6:AA:114:SER:H	1.75	0.50
10:AE:42:LEU:HD21	10:AE:47:PHE:CG	2.47	0.50
12:AG:173:PRO:O	12:AG:174:LYS:HG3	2.11	0.50
21:AP:53:PRO:O	21:AP:57:MET:HG3	2.11	0.50
24:AS:45:LEU:HD11	25:AT:36:ILE:HD13	1.92	0.50
37:Af:89:LYS:HE2	37:Af:89:LYS:HA	1.93	0.50
56:BR:77:VAL:HG13	56:BR:126:VAL:HG22	1.93	0.50
80:CA:509:GLY:O	80:CA:514:LYS:NZ	2.44	0.50
80:CA:953:ILE:HG23	80:CA:979:VAL:HB	1.93	0.50
80:CA:1605:ASP:O	80:CA:1608:LEU:HG	2.11	0.50
1:2:540:G:OP2	80:CA:582:ASN:HB2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1216:C:O2	1:2:1446:A:N6	2.45	0.50
1:2:1460:A:H5''	24:AS:145:ARG:HH22	1.76	0.50
4:5:243:G:H2'	4:5:244:G:H8	1.76	0.50
4:5:1254:U:N3	4:5:1265:G:OP1	2.43	0.50
4:5:2883:U:H2'	4:5:2884:U:C6	2.46	0.50
15:AJ:82:ARG:HH21	15:AJ:149:ARG:HG2	1.76	0.50
23:AR:23:LYS:HA	23:AR:23:LYS:HE3	1.92	0.50
32:Aa:23:CYS:HB3	32:Aa:28:LYS:H	1.76	0.50
80:CA:866:GLN:O	80:CA:869:THR:OG1	2.27	0.50
80:CA:1145:THR:HA	80:CA:1148:PHE:CE1	2.46	0.50
80:CA:1866:GLU:HB2	80:CA:1875:THR:HB	1.93	0.50
1:2:539:G:OP2	80:CA:577:ARG:NH1	2.44	0.50
1:2:592:A:O2'	1:2:596:C:OP1	2.30	0.50
1:2:1198:G:O3'	35:Ad:40:ARG:NH2	2.45	0.50
4:5:442:G:H5''	4:5:443:G:N1	2.27	0.50
4:5:793:G:H2'	4:5:794:C:C6	2.45	0.50
4:5:1663:G:H22	4:5:1788:A:H2	1.59	0.50
7:AB:30:PHE:HB3	7:AB:96:LEU:HD22	1.94	0.50
14:AI:188:GLU:HG2	17:AL:13:PHE:CE2	2.46	0.50
22:AQ:113:ASP:HB3	22:AQ:116:LEU:HD12	1.93	0.50
25:AT:23:GLN:HG2	25:AT:55:TYR:HD2	1.77	0.50
26:AU:26:LEU:N	26:AU:89:ARG:O	2.38	0.50
40:BB:146:ARG:HH11	40:BB:146:ARG:HG3	1.76	0.50
45:BG:78:PHE:O	45:BG:79:GLN:NE2	2.45	0.50
49:BK:2:ALA:HB3	64:BZ:41:HIS:CE1	2.45	0.50
49:BK:25:HIS:NE2	51:BM:198:SER:OG	2.36	0.50
54:BP:77:ALA:O	54:BP:99:THR:OG1	2.29	0.50
54:BP:152:HIS:ND1	54:BP:162:ALA:O	2.28	0.50
78:Bn:25:VAL:HG13	78:Bn:70:LEU:HB3	1.93	0.50
78:Bn:46:LYS:HE2	78:Bn:54:THR:HB	1.93	0.50
1:2:609:U:H4'	1:2:610:G:O5'	2.11	0.50
1:2:1266:U:H2'	1:2:1267:G:H8	1.77	0.50
1:2:1542:G:H5''	25:AT:87:GLY:HA2	1.94	0.50
1:2:1795:U:H5'	32:Aa:79:ILE:HD11	1.94	0.50
4:5:3164:A:N1	4:5:3289:G:C6	2.80	0.50
12:AG:119:GLN:NE2	12:AG:120:GLU:O	2.45	0.50
32:Aa:87:ARG:NH2	32:Aa:94:ASN:O	2.42	0.50
59:BU:104:ASN:ND2	59:BU:108:GLU:OE1	2.45	0.50
80:CA:641:ILE:O	80:CA:684:CYS:HB3	2.12	0.50
80:CA:941:ASP:OD1	80:CA:942:HIS:N	2.45	0.50
82:CC:185:VAL:HA	82:CC:200:CYS:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:150:U:H2'	1:2:151:G:C8	2.47	0.50
1:2:224:C:N4	1:2:225:A:H62	2.08	0.50
1:2:479:C:O3'	15:AJ:120:LYS:NZ	2.45	0.50
1:2:514:G:H2'	1:2:515:A:C8	2.42	0.50
1:2:1459:C:OP2	24:AS:138:THR:OG1	2.30	0.50
1:2:1592:A:H2'	1:2:1593:A:C8	2.47	0.50
4:5:1278:C:HO2'	4:5:1279:A:P	2.34	0.50
4:5:1834:G:O2'	75:Bk:3:ALA:O	2.29	0.50
4:5:2948:G:C2	40:BB:250:ALA:HB1	2.46	0.50
14:AI:152:ILE:HG13	14:AI:153:GLU:N	2.24	0.50
24:AS:40:ARG:HB3	25:AT:45:MET:HE1	1.94	0.50
50:BL:108:ARG:HH21	52:BN:197[A]:LEU:HD23	1.76	0.50
55:BQ:24:LEU:HG	55:BQ:32:ILE:HD13	1.94	0.50
59:BU:54:LEU:HD11	59:BU:119:GLY:HA3	1.94	0.50
80:CA:604:ARG:O	80:CA:608:ASN:ND2	2.45	0.50
1:2:1404:C:H2'	1:2:1405:G:H8	1.77	0.50
1:2:1689:A:H1'	1:2:1713:G:H22	1.76	0.50
4:5:2220:A:OP2	72:Bh:68:ARG:NH2	2.45	0.50
4:5:2424:U:H2'	4:5:2425:A:C8	2.46	0.50
4:5:2554:U:C4	70:Bf:95:ILE:HG22	2.47	0.50
4:5:2698:A:H2'	4:5:2699:G:H8	1.77	0.50
28:AW:27:ILE:HB	28:AW:61:ILE:HB	1.94	0.50
35:Ad:19:ARG:HH21	35:Ad:32:ARG:NH2	2.09	0.50
38:Ag:240:VAL:HA	38:Ag:256:THR:HA	1.94	0.50
42:BD:146:LEU:HD11	42:BD:163:LEU:HB2	1.93	0.50
42:BD:250:ASP:OD1	42:BD:250:ASP:N	2.45	0.50
43:BE:85:ILE:HG21	43:BE:176:PHE:CD2	2.45	0.50
59:BU:23:MET:HE3	59:BU:100:GLY:HA3	1.93	0.50
80:CA:537:VAL:N	80:CA:622:LEU:O	2.30	0.50
80:CA:1115:LEU:HB3	80:CA:1117:LYS:NZ	2.27	0.50
80:CA:1206:ARG:HD3	80:CA:1217:VAL:HB	1.94	0.50
81:CB:222:TRP:HZ3	81:CB:268:PRO:HB2	1.77	0.50
1:2:639:U:H4'	1:2:640:U:O5'	2.11	0.49
1:2:1183:A:C8	21:AP:100:LYS:NZ	2.79	0.49
4:5:561:G:OP1	50:BL:83:LYS:NZ	2.36	0.49
4:5:663:U:H2'	4:5:664:C:C6	2.47	0.49
4:5:1809:G:OP2	63:BY:133:LYS:NZ	2.44	0.49
4:5:2503:A:N6	4:5:2504:G:O6	2.45	0.49
16:AK:36:ASP:OD2	16:AK:36:ASP:N	2.44	0.49
41:BC:286:VAL:HG11	54:BP:31:LYS:HE2	1.94	0.49
49:BK:74:GLY:HA3	49:BK:98:ASP:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BU:24:ASN:ND2	59:BU:97:ASP:OD2	2.43	0.49
80:CA:534:GLN:HB2	80:CA:637:ASP:HB2	1.95	0.49
1:2:447:U:O2'	10:AE:27:TYR:O	2.29	0.49
1:2:451:A:N6	1:2:453:U:O2	2.46	0.49
1:2:559:C:H5'	80:CA:982:LYS:HE2	1.94	0.49
4:5:121:A:C2	45:BG:129:PRO:HB3	2.47	0.49
4:5:598:G:H4'	44:BF:41:ARG:HH12	1.78	0.49
4:5:1158:G:H2'	4:5:1159:A:O4'	2.11	0.49
4:5:1223:G:O2'	4:5:1224:A:OP2	2.26	0.49
4:5:3372:G:H2'	4:5:3373:A:C8	2.47	0.49
17:AL:27:THR:O	17:AL:30:ARG:NH1	2.45	0.49
19:AN:5:HIS:HB3	19:AN:117:LEU:HD13	1.92	0.49
38:Ag:51:ASP:N	38:Ag:51:ASP:OD1	2.46	0.49
48:BJ:32:ARG:NE	48:BJ:119:SER:O	2.45	0.49
50:BL:12:TRP:HZ2	56:BR:153:PRO:HG3	1.77	0.49
56:BR:12:ARG:HB2	56:BR:22:PRO:HB2	1.94	0.49
80:CA:546:VAL:HA	80:CA:597:ILE:HG22	1.95	0.49
80:CA:1267:GLU:N	80:CA:1302:MET:O	2.45	0.49
1:2:762:A:OP1	15:AJ:79:ARG:NH2	2.40	0.49
1:2:939:A:H2'	1:2:940:A:C8	2.47	0.49
1:2:1512:G:H2'	1:2:1513:G:C8	2.47	0.49
4:5:1758:A:H2'	4:5:1759:G:C8	2.47	0.49
4:5:1762:C:O2'	4:5:1764:U:OP2	2.30	0.49
4:5:3114:A:H2'	4:5:3115:A:O4'	2.12	0.49
4:5:3297:A:H2'	4:5:3298:U:H6	1.77	0.49
8:AC:120:GLU:HG2	8:AC:123:GLY:H	1.76	0.49
11:AF:45:LYS:HE3	11:AF:46:TRP:CH2	2.47	0.49
39:BA:62:VAL:HG22	39:BA:73:GLU:HB3	1.93	0.49
39:BA:101:VAL:O	39:BA:101:VAL:HG12	2.11	0.49
63:BY:72:ILE:HD11	63:BY:107:ARG:HG3	1.94	0.49
78:Bn:73:GLU:OE1	78:Bn:80:ARG:HB3	2.13	0.49
80:CA:541:SER:HB3	80:CA:544:GLU:CD	2.37	0.49
80:CA:1639:SER:OG	80:CA:1642:THR:OG1	2.23	0.49
2:3:141:C:H2'	2:3:142:C:C6	2.47	0.49
3:4:11:A:N1	3:4:67:G:O2'	2.43	0.49
4:5:628:U:H2'	4:5:629:A:C8	2.47	0.49
4:5:2441:G:H4'	7:AB:53:GLY:HA3	1.95	0.49
6:AA:147:THR:HG22	6:AA:148:ASP:O	2.12	0.49
9:AD:76:ARG:NH1	9:AD:76:ARG:O	2.43	0.49
10:AE:42:LEU:HB3	10:AE:84:ALA:HB3	1.94	0.49
10:AE:67:GLN:HG3	10:AE:69:HIS:ND1	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AF:139:ASN:ND2	11:AF:202:ALA:O	2.45	0.49
11:AF:197:GLU:OE2	11:AF:209:TYR:N	2.45	0.49
17:AL:6:THR:HG23	17:AL:9:SER:HB3	1.93	0.49
22:AQ:11:GLY:HA3	22:AQ:84:ALA:HB2	1.95	0.49
29:AX:131:SER:O	29:AX:134:ALA:N	2.42	0.49
38:Ag:90:ARG:HG2	38:Ag:92:TRP:CE2	2.48	0.49
38:Ag:198:ASN:HD21	38:Ag:216:LYS:HD2	1.77	0.49
61:BW:105:VAL:HG21	61:BW:135:ILE:HD13	1.93	0.49
69:Be:53:TYR:CZ	69:Be:65:ARG:HB2	2.46	0.49
78:Bn:18:ARG:HG2	78:Bn:18:ARG:HH11	1.77	0.49
80:CA:1436:ALA:HA	80:CA:1443:ARG:HH21	1.76	0.49
1:2:82:U:H2'	1:2:83:G:O4'	2.12	0.49
1:2:300:A:H2'	1:2:301:A:C8	2.48	0.49
1:2:541:A:O2'	1:2:542:A:OP1	2.31	0.49
4:5:1291:A:H2'	4:5:1292:A:C8	2.48	0.49
4:5:1799:A:H2'	4:5:1800:A:C8	2.47	0.49
4:5:2414:A:H2'	4:5:2415:G:H8	1.76	0.49
4:5:2434:U:OP2	4:5:2435:U:O2'	2.28	0.49
8:AC:175:GLY:N	8:AC:195:ASP:OD1	2.46	0.49
23:AR:71:PHE:CE1	23:AR:74:GLN:HB3	2.47	0.49
25:AT:34:VAL:O	25:AT:36:ILE:HG12	2.13	0.49
38:Ag:89:LEU:HB2	38:Ag:103:PHE:HB2	1.94	0.49
39:BA:95:SER:O	39:BA:100:ASN:ND2	2.43	0.49
80:CA:253:ILE:HA	80:CA:499:GLN:O	2.12	0.49
80:CA:1169:THR:HA	80:CA:1205:TRP:HZ2	1.77	0.49
1:2:250:C:H2'	1:2:251:A:C8	2.46	0.49
1:2:511:A:H5''	15:AJ:172:VAL:HG13	1.95	0.49
1:2:1067:C:H5''	7:AB:150:VAL:HG23	1.94	0.49
1:2:1318:G:O2'	1:2:1319:A:OP1	2.27	0.49
3:4:10:C:N3	42:BD:20:PHE:HB3	2.28	0.49
4:5:1896:A:O2'	4:5:3054:G:H4'	2.12	0.49
4:5:3281:U:HO2'	4:5:3282:U:H6	1.59	0.49
7:AB:144:ARG:HG2	7:AB:206:PRO:HB2	1.94	0.49
13:AH:19:GLN:O	13:AH:22:GLN:NE2	2.43	0.49
20:AO:42:VAL:HG22	20:AO:67:VAL:HG23	1.94	0.49
20:AO:131:GLY:O	32:Aa:22:ARG:NH2	2.45	0.49
41:BC:286:VAL:HA	41:BC:289:ILE:HD12	1.95	0.49
49:BK:180:ARG:HG2	49:BK:180:ARG:HH11	1.77	0.49
67:Bc:4:LEU:O	67:Bc:79:ARG:NH1	2.34	0.49
1:2:834:G:H2'	1:2:835:U:C6	2.48	0.49
4:5:993:A:H5''	57:BS:43:LYS:HD2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1489:G:H5''	4:5:1839:G:O6	2.12	0.49
4:5:1616:C:H2'	4:5:1617:U:C6	2.48	0.49
4:5:2345:U:H2'	4:5:2346:A:C8	2.48	0.49
4:5:2882:C:H2'	4:5:2883:U:C6	2.47	0.49
4:5:2987:U:H2'	4:5:2988:A:H8	1.77	0.49
12:AG:10:ASN:HD21	12:AG:128:THR:HA	1.78	0.49
12:AG:23:ARG:NE	12:AG:40:ALA:O	2.44	0.49
30:AY:78:SER:OG	30:AY:81:GLU:OE1	2.27	0.49
32:Aa:37:LYS:HD3	32:Aa:37:LYS:H	1.76	0.49
38:Ag:47:LEU:HD22	38:Ag:54:PHE:CE2	2.48	0.49
38:Ag:221:MET:HG2	38:Ag:223:TRP:NE1	2.28	0.49
39:BA:177:LYS:HB2	79:Bo:29:LEU:HD13	1.94	0.49
42:BD:41:LYS:HB2	57:BS:68:THR:O	2.12	0.49
69:Be:49:ILE:HG12	69:Be:100:ILE:HG13	1.94	0.49
80:CA:308:ILE:N	80:CA:462:GLY:O	2.41	0.49
80:CA:581:LYS:HB2	80:CA:583:ARG:HD3	1.93	0.49
80:CA:1670:ASN:HD22	80:CA:1708:PRO:HG2	1.77	0.49
80:CA:1721:SER:OG	80:CA:1776:TRP:NE1	2.33	0.49
1:2:463:U:C2	1:2:464:A:C8	3.01	0.49
1:2:1226:A:O2'	1:2:1227:A:O5'	2.29	0.49
3:4:44:C:OP2	48:BJ:137:ARG:NH2	2.45	0.49
3:4:45:A:H2'	3:4:46:A:C8	2.48	0.49
4:5:361:A:O3'	73:Bi:45:ARG:NH2	2.46	0.49
4:5:442:G:H5''	4:5:443:G:C6	2.47	0.49
4:5:632:U:H2'	4:5:633:G:C8	2.48	0.49
4:5:2713:U:HO2'	4:5:2744:A:HO2'	1.57	0.49
4:5:3001:A:H2'	4:5:3002:C:C6	2.47	0.49
7:AB:36:SER:HB3	7:AB:231:LEU:O	2.13	0.49
13:AH:133:THR:O	13:AH:134:GLU:HG2	2.12	0.49
18:AM:81:ASP:OD1	18:AM:81:ASP:N	2.44	0.49
40:BB:187:SER:OG	40:BB:190:GLU:OE1	2.29	0.49
47:BI:169:LYS:O	47:BI:169:LYS:NZ	2.46	0.49
66:Bb:26:GLY:O	66:Bb:30:THR:OG1	2.26	0.49
80:CA:348:LYS:HB2	80:CA:421:VAL:HA	1.95	0.49
80:CA:645:GLN:NE2	80:CA:654:PHE:HB3	2.28	0.49
80:CA:1217:VAL:HG22	80:CA:1236:ILE:HB	1.94	0.49
4:5:94:G:H2'	4:5:95:A:C8	2.48	0.49
4:5:289:A:H2'	4:5:290:G:H8	1.78	0.49
4:5:1102:G:OP2	44:BF:196:LYS:NZ	2.38	0.49
4:5:1722:U:OP2	55:BQ:124:TYR:OH	2.26	0.49
4:5:3175:A:OP1	69:Be:97:SER:OG	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:3288:U:H3'	4:5:3289:G:C8	2.48	0.49
8:AC:161:LYS:HG3	8:AC:166:THR:HG22	1.95	0.49
9:AD:211:PRO:HG2	23:AR:19:ARG:HB2	1.94	0.49
37:Af:111:GLU:N	37:Af:112:GLY:HA2	2.28	0.49
42:BD:99:TYR:HE2	42:BD:164:LYS:HG3	1.78	0.49
44:BF:233:GLU:HG3	56:BR:35:VAL:HG22	1.94	0.49
76:Bl:79:GLU:OE1	76:Bl:81:SER:OG	2.30	0.49
80:CA:232:GLN:O	80:CA:233:LYS:HG3	2.13	0.49
80:CA:1115:LEU:HB3	80:CA:1117:LYS:HZ3	1.78	0.49
80:CA:1740:GLN:HG3	80:CA:1743:ARG:HE	1.77	0.49
1:2:1791:A:O3'	32:Aa:8:ASN:ND2	2.46	0.49
2:3:126:A:O2'	2:3:129:C:N4	2.45	0.49
4:5:438:A:H2'	4:5:439:C:H6	1.74	0.49
4:5:822:U:H2'	4:5:823:G:H8	1.77	0.49
6:AA:41:ARG:HH21	6:AA:45:VAL:HG21	1.78	0.49
26:AU:39:SER:C	26:AU:43:LYS:HZ2	2.20	0.49
31:AZ:61:SER:OG	31:AZ:64:VAL:HG23	2.13	0.49
40:BB:47:LEU:HD11	40:BB:179:ALA:HB3	1.94	0.49
47:Bl:30:LYS:HG3	47:Bl:63:GLU:HG3	1.94	0.49
66:Bb:57:GLU:OE2	66:Bb:69:TYR:OH	2.26	0.49
80:CA:1526:MET:HE3	80:CA:1530:HIS:NE2	2.28	0.49
81:CB:280:HIS:O	81:CB:287:LYS:NZ	2.45	0.49
1:2:76:A:N3	1:2:80:A:N6	2.61	0.48
1:2:448:C:H2'	1:2:449:C:C6	2.48	0.48
1:2:1299:G:H2'	1:2:1300:A:C8	2.48	0.48
1:2:1474:G:H2'	1:2:1475:A:H8	1.78	0.48
1:2:1482:C:OP1	1:2:1521:G:N1	2.46	0.48
2:3:52:A:OP1	75:Bk:21:ARG:NH1	2.45	0.48
4:5:630:U:H2'	4:5:631:A:C8	2.47	0.48
4:5:3163:C:H2'	4:5:3164:A:C8	2.48	0.48
16:AK:18:GLU:HG2	16:AK:20:VAL:H	1.78	0.48
41:BC:35:VAL:HG11	41:BC:244:LEU:HD21	1.95	0.48
44:BF:130:ILE:HD12	44:BF:134:VAL:HG11	1.95	0.48
53:BO:67:ILE:HG12	53:BO:80:LYS:HD2	1.95	0.48
63:BY:52:LYS:O	63:BY:65:ARG:NE	2.38	0.48
80:CA:1242:GLU:O	80:CA:1637:TYR:OH	2.22	0.48
80:CA:1335:LEU:HD11	80:CA:1505:ALA:HB3	1.95	0.48
80:CA:1380:ARG:HH12	81:CB:1:MET:HG3	1.78	0.48
80:CA:1749:ILE:HG12	80:CA:1764:MET:HB3	1.95	0.48
1:2:5:U:H2'	1:2:6:G:H8	1.78	0.48
1:2:751:G:H2'	1:2:752:A:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1482:C:H4'	22:AQ:77:GLN:HE21	1.78	0.48
4:5:1498:C:H2'	4:5:1499:A:H8	1.78	0.48
4:5:3024:U:H2'	4:5:3025:A:H8	1.78	0.48
6:AA:88:LYS:HE2	6:AA:201:LEU:HG	1.95	0.48
9:AD:59:LEU:HD23	9:AD:66:ILE:HG13	1.94	0.48
10:AE:21:ASP:OD1	10:AE:21:ASP:N	2.42	0.48
12:AG:115:LYS:NZ	12:AG:116:LYS:O	2.41	0.48
18:AM:60:VAL:HG23	18:AM:87:PRO:HG2	1.95	0.48
31:AZ:86:GLU:HG2	31:AZ:87:GLY:N	2.28	0.48
80:CA:381:THR:O	80:CA:384:MET:HE2	2.12	0.48
80:CA:527:GLU:HG3	80:CA:528:MET:HE2	1.94	0.48
80:CA:1615:GLN:HE21	80:CA:1647:LEU:HD13	1.78	0.48
81:CB:74:ARG:HH21	81:CB:78:ARG:HH21	1.60	0.48
81:CB:250:LEU:HB2	81:CB:289:LYS:HD2	1.93	0.48
1:2:1359:C:H5''	25:AT:134:ARG:CZ	2.43	0.48
1:2:1622:G:H2'	1:2:1623:C:C6	2.48	0.48
4:5:1225:C:H2'	4:5:1226:A:C8	2.48	0.48
4:5:1241:A:H61	4:5:1245:A:H2'	1.78	0.48
13:AH:50:ASP:HA	13:AH:56:LYS:HA	1.94	0.48
16:AK:40:LEU:HA	16:AK:43:ILE:HG12	1.94	0.48
41:BC:161:LYS:HB2	41:BC:164:GLU:HG2	1.94	0.48
50:BL:32:LEU:HD11	50:BL:94:TRP:CD1	2.48	0.48
52:BN:27[A]:LEU:O	52:BN:101[A]:ARG:NH1	2.45	0.48
80:CA:386:LEU:HD22	80:CA:390:GLU:HG3	1.95	0.48
80:CA:502:LEU:HB2	80:CA:684:CYS:HA	1.96	0.48
80:CA:1041:GLU:HG3	80:CA:1048:LEU:HD11	1.94	0.48
80:CA:1093:GLU:OE2	80:CA:1095:THR:OG1	2.31	0.48
80:CA:1187:LYS:HZ1	80:CA:1257:VAL:HA	1.79	0.48
80:CA:1356:ASN:OD1	80:CA:1357:LYS:N	2.46	0.48
80:CA:1672:LEU:HD11	80:CA:1733:ASP:HB3	1.95	0.48
1:2:183:U:H2'	1:2:184:C:C6	2.49	0.48
1:2:397:A:H4'	14:AI:50:GLY:HA2	1.95	0.48
1:2:610:G:OP2	29:AX:19:ARG:NE	2.46	0.48
1:2:1512:G:H2'	1:2:1513:G:H8	1.78	0.48
4:5:1279:A:O2'	4:5:1280:C:O5'	2.29	0.48
4:5:1523:U:OP2	61:BW:121:LYS:NZ	2.46	0.48
4:5:1864:G:N1	4:5:1867:C:OP2	2.41	0.48
4:5:2586:G:H2'	4:5:2586:G:N3	2.28	0.48
4:5:2704:A:OP2	42:BD:23:ARG:NE	2.40	0.48
4:5:3188:A:H5'	46:BH:22:SER:HB2	1.96	0.48
6:AA:49:ASN:ND2	6:AA:52:LYS:HG3	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AB:149:GLN:HE22	7:AB:154:SER:HB3	1.79	0.48
24:AS:111:ASP:HA	24:AS:114:GLU:HB2	1.96	0.48
48:BJ:32:ARG:HB3	48:BJ:120:ILE:HA	1.95	0.48
52:BN:11[A]:GLY:O	52:BN:41[A]:LEU:HD23	2.13	0.48
1:2:1321:A:H5'	6:AA:104:PRO:HG3	1.96	0.48
1:2:1474:G:H2'	1:2:1475:A:C8	2.48	0.48
1:2:1691:A:H2'	1:2:1692:G:C8	2.48	0.48
4:5:875:U:H5''	4:5:2951:G:OP1	2.14	0.48
8:AC:35:TRP:CE2	8:AC:37:PRO:HB3	2.48	0.48
22:AQ:103:ASN:OD1	22:AQ:104:GLU:N	2.46	0.48
26:AU:98:GLN:HG2	26:AU:99:ILE:HD12	1.95	0.48
36:Ae:13:LYS:O	36:Ae:17:GLN:HG3	2.13	0.48
38:Ag:37:SER:OG	38:Ag:38:ARG:N	2.46	0.48
42:BD:278:SER:OG	42:BD:280:GLU:OE1	2.28	0.48
60:BV:6:ASP:HA	60:BV:13:ILE:HD11	1.96	0.48
61:BW:105:VAL:HG11	61:BW:126:LEU:HD13	1.95	0.48
1:2:329:G:H2'	1:2:330:G:H8	1.78	0.48
1:2:564:G:N2	1:2:577:G:OP1	2.40	0.48
4:5:1264:A:H2'	4:5:1264:A:N3	2.28	0.48
4:5:2370:G:H2'	4:5:2371:G:C8	2.48	0.48
4:5:2500:U:H2'	4:5:2501:A:C8	2.48	0.48
4:5:2769:U:H2'	4:5:2770:A:C8	2.48	0.48
4:5:3048:U:O2'	4:5:3049:A:H5'	2.13	0.48
11:AF:42:LEU:HD22	11:AF:47:SER:HA	1.95	0.48
14:AI:191:PHE:HA	14:AI:194:ARG:NH2	2.28	0.48
23:AR:19:ARG:HG3	23:AR:20:TYR:CD1	2.49	0.48
23:AR:74:GLN:O	23:AR:76:GLU:N	2.46	0.48
23:AR:108:ASP:HA	23:AR:111:LYS:HG2	1.96	0.48
34:Ac:58:GLU:HG3	34:Ac:61:ARG:HG3	1.96	0.48
41:BC:3:ARG:NH2	41:BC:27:SER:OG	2.26	0.48
42:BD:64:ILE:HG12	42:BD:105:ILE:HD11	1.94	0.48
42:BD:232:ASP:OD1	42:BD:235:SER:OG	2.20	0.48
46:BH:74:LEU:O	46:BH:78:MET:HG3	2.14	0.48
49:BK:177:LYS:HG3	72:Bh:11:LEU:HD23	1.94	0.48
50:BL:3:THR:OG1	50:BL:4:ASP:N	2.46	0.48
52:BN:97[A]:ALA:O	52:BN:100[A]:GLU:HG3	2.13	0.48
80:CA:288:LEU:HD13	80:CA:292:GLN:HG2	1.95	0.48
80:CA:310:ALA:HA	80:CA:488:PHE:HB2	1.96	0.48
80:CA:1183:PHE:HD2	80:CA:1186:LYS:HG3	1.79	0.48
80:CA:1373:LEU:HD21	80:CA:1375:PHE:HE2	1.78	0.48
1:2:140:A:OP2	1:2:140:A:H4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:646:C:H2'	1:2:647:G:C8	2.49	0.48
1:2:655:G:H4'	1:2:656:G:C8	2.48	0.48
1:2:1691:A:H2'	1:2:1692:G:H8	1.79	0.48
4:5:117:U:OP2	51:BM:2:GLY:N	2.46	0.48
4:5:1048:A:N3	4:5:2634:U:O2'	2.46	0.48
4:5:1580:C:N3	4:5:1581:A:N6	2.62	0.48
4:5:1795:G:O2'	4:5:1797:G:N2	2.47	0.48
5:6:1:U:H2'	5:6:2:C:C6	2.49	0.48
11:AF:145:ASP:OD1	11:AF:146:THR:N	2.47	0.48
18:AM:126:TRP:CD1	18:AM:128:ALA:HB3	2.49	0.48
45:BG:97:TYR:HE1	45:BG:204:ARG:HG3	1.78	0.48
60:BV:46:PRO:HB2	60:BV:54:LEU:HD23	1.95	0.48
72:Bh:70:ARG:HG2	72:Bh:87:VAL:HG21	1.95	0.48
80:CA:313:GLY:HA2	80:CA:316:LYS:HZ2	1.77	0.48
80:CA:887:ILE:HD12	80:CA:893:SER:HA	1.95	0.48
1:2:199:G:H2'	1:2:200:A:C8	2.49	0.48
1:2:464:A:C2	1:2:465:G:C8	3.02	0.48
1:2:1146:G:H1'	8:AC:89:GLN:HB3	1.96	0.48
1:2:1388:A:N7	1:2:1411:A:N6	2.61	0.48
4:5:393:U:H2'	4:5:394:G:O4'	2.14	0.48
4:5:749:U:H2'	4:5:750:C:C6	2.48	0.48
4:5:1097:U:O2	4:5:1098:G:N2	2.47	0.48
4:5:1356:A:H4'	4:5:1357:U:O5'	2.12	0.48
4:5:1620:A:H2'	4:5:1621:U:O4'	2.13	0.48
4:5:1890:G:OP1	40:BB:246:LEU:N	2.40	0.48
4:5:2942:A:OP2	4:5:2942:A:H8	1.97	0.48
4:5:3188:A:OP1	46:BH:23:ARG:NH1	2.47	0.48
5:6:28:C:H2'	5:6:29:A:H8	1.76	0.48
6:AA:198:MET:HG3	6:AA:200:ASP:H	1.78	0.48
10:AE:246:LEU:HD23	10:AE:250:GLU:HG2	1.95	0.48
21:AP:18:ARG:NH1	24:AS:90:ASN:HB3	2.28	0.48
49:BK:62:THR:O	49:BK:65:TYR:N	2.30	0.48
73:Bi:18:LEU:HA	73:Bi:25:ARG:HA	1.95	0.48
80:CA:1157:ASN:HB2	80:CA:1318:VAL:HA	1.95	0.48
80:CA:1404:ASN:HB2	80:CA:1454:LYS:HA	1.96	0.48
80:CA:1843:SER:O	80:CA:1846:THR:OG1	2.31	0.48
1:2:207:U:H2'	1:2:208:U:C6	2.49	0.48
1:2:487:G:H2'	1:2:488:G:H8	1.78	0.48
1:2:1120:U:H2'	1:2:1121:C:C6	2.49	0.48
1:2:1280:C:H2'	1:2:1281:G:H8	1.78	0.48
1:2:1688:U:H2'	1:2:1689:A:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1776:A:H2'	1:2:1777:G:H8	1.79	0.48
4:5:307:A:H2'	4:5:308:A:C8	2.49	0.48
4:5:340:C:H2'	4:5:341:G:O4'	2.14	0.48
4:5:1341:G:H2'	4:5:1342:U:H6	1.79	0.48
4:5:1642:U:O2'	4:5:1643:A:H3'	2.12	0.48
15:AJ:123:HIS:HE2	36:Ae:37:ARG:HB2	1.79	0.48
21:AP:18:ARG:NE	21:AP:36:LEU:O	2.47	0.48
38:Ag:42:LEU:HD21	38:Ag:82:SER:HB3	1.96	0.48
53:BO:50:GLN:OE1	53:BO:56:ARG:NH1	2.33	0.48
68:Bd:83:GLU:OE2	68:Bd:111:ARG:NH1	2.47	0.48
80:CA:607:ARG:O	80:CA:610:THR:OG1	2.31	0.48
80:CA:762:GLN:HB2	81:CB:179:GLU:HG3	1.96	0.48
80:CA:796:LYS:NZ	82:CC:353:SER:O	2.47	0.48
80:CA:1120:PRO:HB2	80:CA:1140:PHE:HB3	1.95	0.48
82:CC:366:SER:HB2	82:CC:368:ARG:CZ	2.44	0.48
1:2:1071:U:H2'	1:2:1072:C:H6	1.78	0.48
1:2:1163:A:N3	1:2:1613:U:O2'	2.39	0.48
1:2:1641:C:H2'	1:2:1642:G:C8	2.49	0.48
3:4:90:U:H2'	3:4:91:G:O4'	2.13	0.48
4:5:93:C:OP2	4:5:2765:C:O2'	2.24	0.48
4:5:443:G:H2'	4:5:444:U:C5	2.49	0.48
4:5:493:U:C4'	4:5:494:G:H5'	2.44	0.48
4:5:964:G:O2'	64:BZ:29:PRO:O	2.23	0.48
4:5:1342:U:H2'	4:5:1343:C:C6	2.48	0.48
4:5:2223:A:H2'	4:5:2224:A:C8	2.49	0.48
4:5:2523:G:O6	39:BA:70:ARG:NH1	2.35	0.48
4:5:2587:G:O2'	45:BG:241:LYS:NZ	2.47	0.48
7:AB:51:SER:HA	7:AB:57:ALA:H	1.77	0.48
7:AB:71:ALA:HB2	7:AB:80:SER:HA	1.95	0.48
18:AM:60:VAL:HG13	18:AM:122:VAL:HG22	1.96	0.48
49:BK:2:ALA:HB1	64:BZ:33:GLY:O	2.14	0.48
57:BS:102:ARG:HH11	57:BS:102:ARG:HG3	1.79	0.48
57:BS:124:VAL:O	57:BS:124:VAL:HG12	2.13	0.48
78:Bn:6:LYS:HE2	78:Bn:94:GLY:HA2	1.95	0.48
80:CA:468:PRO:HB3	80:CA:700:GLN:HB3	1.95	0.48
80:CA:548:SER:HA	80:CA:642:LYS:HZ3	1.79	0.48
81:CB:26:PRO:O	81:CB:31:ARG:NH1	2.47	0.48
1:2:482:U:H2'	1:2:483:A:C8	2.49	0.47
1:2:1556:A:H4'	1:2:1557:U:C5	2.48	0.47
1:2:1564:U:H2'	1:2:1565:C:H6	1.78	0.47
4:5:638:C:C2	4:5:639:C:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2274:G:N2	4:5:2312:G:H2'	2.29	0.47
4:5:2377:G:H2'	4:5:2378:G:C8	2.49	0.47
4:5:2445:C:H3'	4:5:2446:A:H8	1.78	0.47
8:AC:125:ILE:O	8:AC:129:ILE:HG12	2.14	0.47
25:AT:38:LYS:O	25:AT:39:THR:OG1	2.25	0.47
30:AY:48:TYR:CD1	30:AY:75:VAL:HG11	2.48	0.47
32:Aa:88:SER:OG	32:Aa:91:ASP:OD1	2.32	0.47
39:BA:124:GLY:HA3	39:BA:128:ARG:HH21	1.78	0.47
42:BD:60:ILE:N	42:BD:80:SER:OG	2.47	0.47
42:BD:64:ILE:HG13	42:BD:109:THR:HG21	1.96	0.47
48:BJ:109:HIS:NE2	48:BJ:114:ILE:HG21	2.29	0.47
49:BK:76:THR:O	49:BK:78:ALA:N	2.47	0.47
80:CA:1245:ASP:O	80:CA:1249:ARG:N	2.46	0.47
1:2:227:U:H2'	1:2:228:G:H8	1.78	0.47
1:2:1226:A:H4'	1:2:1227:A:OP1	2.13	0.47
3:4:81:U:H2'	3:4:82:G:C8	2.48	0.47
4:5:543:G:N1	4:5:551:A:C2	2.82	0.47
4:5:878:C:O2'	4:5:881:G:O2'	2.28	0.47
4:5:1478:A:OP1	4:5:3076:G:O2'	2.31	0.47
4:5:3016:G:H2'	4:5:3017:A:H8	1.78	0.47
4:5:3282:U:H2'	4:5:3283:U:C6	2.48	0.47
4:5:3320:U:O2'	4:5:3321:A:OP1	2.25	0.47
27:AV:38:LYS:HZ3	27:AV:49:GLU:CD	2.22	0.47
31:AZ:60:VAL:HG23	31:AZ:103:ARG:NH2	2.26	0.47
42:BD:258:LYS:O	42:BD:265:TYR:OH	2.31	0.47
73:Bi:58:THR:O	73:Bi:61:THR:OG1	2.28	0.47
80:CA:1193:PRO:HG3	80:CA:1267:GLU:HB2	1.94	0.47
1:2:142:G:N1	1:2:173:A:H2	2.09	0.47
1:2:971:A:H2	4:5:847:A:C6	2.32	0.47
1:2:1108:G:H2'	29:AX:25:ALA:HB1	1.96	0.47
4:5:518:G:OP1	44:BF:67:ARG:NH2	2.47	0.47
4:5:2554:U:C5	70:Bf:95:ILE:HG22	2.49	0.47
9:AD:59:LEU:HD11	80:CA:1097:ALA:HB2	1.97	0.47
11:AF:33:VAL:HG23	22:AQ:46:PHE:HE1	1.79	0.47
14:AI:48:THR:OG1	14:AI:52:ASN:O	2.31	0.47
28:AW:11:LEU:O	28:AW:15:ASN:ND2	2.47	0.47
35:Ad:10:HIS:ND1	35:Ad:11:PRO:HD2	2.29	0.47
38:Ag:217:ASP:OD1	38:Ag:217:ASP:N	2.46	0.47
41:BC:52:VAL:N	41:BC:103:THR:OG1	2.47	0.47
48:BJ:31:THR:O	48:BJ:34:SER:OG	2.31	0.47
61:BW:68:THR:HA	61:BW:73:MET:HE2	1.94	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:BY:16:GLY:O	70:Bf:74:ARG:HG3	2.15	0.47
80:CA:931:LYS:NZ	80:CA:1086:SER:O	2.40	0.47
80:CA:1308:ASN:ND2	80:CA:1538:VAL:O	2.41	0.47
1:2:71:A:N7	12:AG:164:LYS:NZ	2.63	0.47
1:2:461:G:H2'	1:2:462:G:H8	1.80	0.47
1:2:623:A:N6	1:2:970:A:OP1	2.48	0.47
1:2:850:A:H2'	1:2:851:U:C6	2.49	0.47
1:2:1376:C:H2'	1:2:1377:U:C6	2.49	0.47
2:3:57:C:H4'	2:3:63:G:N7	2.29	0.47
4:5:592:G:N2	4:5:613:U:OP1	2.37	0.47
4:5:1565:U:N3	4:5:1566:G:N7	2.62	0.47
4:5:2768:U:H2'	4:5:2769:U:C6	2.49	0.47
4:5:2884:U:H2'	4:5:2885:C:C6	2.49	0.47
12:AG:131:LYS:N	60:BV:81:PRO:O	2.45	0.47
15:AJ:59:LEU:HD22	15:AJ:69:ARG:HA	1.95	0.47
22:AQ:58:ASP:OD1	22:AQ:58:ASP:N	2.45	0.47
23:AR:24:LEU:HD13	23:AR:31:ASN:ND2	2.29	0.47
23:AR:73:LEU:O	23:AR:75:GLU:N	2.47	0.47
23:AR:76:GLU:O	23:AR:78:ARG:N	2.48	0.47
30:AY:48:TYR:HD1	30:AY:75:VAL:HG11	1.78	0.47
40:BB:127:LYS:O	40:BB:129:ALA:N	2.47	0.47
76:Bl:122:ARG:HH21	76:Bl:125:LYS:HE2	1.79	0.47
80:CA:602:MET:O	80:CA:607:ARG:NH2	2.38	0.47
80:CA:1189:VAL:HG22	80:CA:1237:VAL:HB	1.95	0.47
1:2:14:C:P	8:AC:164:SER:HG	2.37	0.47
1:2:947:U:H2'	1:2:948:G:C8	2.46	0.47
1:2:1590:G:H2'	1:2:1591:C:C6	2.49	0.47
3:4:87:G:O2'	56:BR:119:ARG:NH2	2.39	0.47
4:5:107:A:OP1	49:BK:39:ARG:NH1	2.44	0.47
4:5:283:G:OP1	4:5:285:A:O2'	2.29	0.47
11:AF:112:ARG:HD2	11:AF:116:HIS:NE2	2.30	0.47
29:AX:65:ASN:ND2	29:AX:116:ASP:OD2	2.47	0.47
32:Aa:82:ARG:HA	32:Aa:85:ARG:HH12	1.79	0.47
48:BJ:110:ILE:HG23	48:BJ:115:LYS:O	2.15	0.47
53:BO:138:LYS:HD2	53:BO:140:GLU:OE1	2.14	0.47
80:CA:1669:TYR:HE1	80:CA:1737:VAL:HA	1.80	0.47
1:2:742:U:O2	13:AH:107:ARG:NH2	2.48	0.47
2:3:142:C:H2'	2:3:143:U:C6	2.49	0.47
4:5:1160:A:OP1	54:BP:2:GLY:N	2.48	0.47
4:5:1393:G:H1'	4:5:1419:A:N6	2.29	0.47
12:AG:7:TYR:HE1	12:AG:9:VAL:HB	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AK:56:LYS:NZ	16:AK:68:LEU:O	2.46	0.47
26:AU:40:ASN:HA	26:AU:43:LYS:HG2	1.97	0.47
33:Ab:67:THR:HG22	33:Ab:68:GLY:H	1.80	0.47
38:Ag:167:VAL:HG23	38:Ag:183:LEU:HD21	1.96	0.47
42:BD:76:ALA:HB3	42:BD:109:THR:HG22	1.96	0.47
49:BK:158:ALA:HA	64:BZ:97:GLU:HA	1.95	0.47
55:BQ:25:ASP:N	55:BQ:25:ASP:OD1	2.46	0.47
76:Bl:79:GLU:O	76:Bl:81:SER:N	2.48	0.47
81:CB:290:LEU:HD22	81:CB:292:PHE:HE1	1.78	0.47
1:2:407:A:H2'	1:2:408:C:C6	2.50	0.47
1:2:625:C:H2'	1:2:626:U:C6	2.50	0.47
1:2:866:G:H5''	19:AN:2:GLY:HA3	1.96	0.47
1:2:1213:G:O2'	1:2:1244:A:N7	2.48	0.47
1:2:1499:G:H5''	25:AT:122:ARG:NH1	2.29	0.47
1:2:1624:C:H2'	1:2:1625:C:C6	2.49	0.47
4:5:592:G:O2'	43:BE:17:ALA:O	2.30	0.47
4:5:760:U:H2'	4:5:761:G:O4'	2.14	0.47
4:5:1358:G:H2'	4:5:1359:C:C6	2.50	0.47
4:5:1628:U:O2'	4:5:1814:A:N7	2.42	0.47
4:5:2097:A:H2'	4:5:2098:U:C6	2.49	0.47
4:5:2417:U:H2'	4:5:2418:U:C6	2.49	0.47
4:5:2972:A:N7	47:BI:110:ARG:NH1	2.62	0.47
4:5:3252:U:H2'	4:5:3253:G:C8	2.50	0.47
6:AA:83:GLN:HG3	6:AA:99:ALA:HB1	1.96	0.47
11:AF:163:SER:OG	34:Ac:47:PRO:O	2.29	0.47
18:AM:73:LYS:HA	18:AM:76:GLU:HG3	1.97	0.47
21:AP:17:TYR:CE1	21:AP:112:LEU:HB2	2.50	0.47
22:AQ:11:GLY:O	22:AQ:18:ALA:N	2.44	0.47
22:AQ:14:LYS:O	22:AQ:123:ARG:NH1	2.48	0.47
26:AU:56:VAL:HB	26:AU:90:TYR:CE2	2.50	0.47
28:AW:101:TYR:HB3	28:AW:112:ASP:HB2	1.97	0.47
31:AZ:77:ARG:HB3	31:AZ:81:ARG:NH2	2.30	0.47
33:Ab:55:THR:HB	33:Ab:60:SER:HA	1.96	0.47
38:Ag:168:THR:HG22	38:Ag:182:ASN:HB2	1.96	0.47
45:BG:130:TYR:CD1	45:BG:202:GLU:HG3	2.49	0.47
46:BH:23:ARG:HE	46:BH:39:LYS:HA	1.80	0.47
53:BO:108:ASP:OD2	53:BO:111:LYS:NZ	2.48	0.47
63:BY:83:THR:HG22	70:Bf:93:PHE:CZ	2.50	0.47
78:Bn:23:HIS:CD2	78:Bn:72:LEU:HB3	2.49	0.47
80:CA:388:LYS:NZ	80:CA:413:GLY:O	2.47	0.47
80:CA:494:PRO:HB2	80:CA:672:PRO:HD3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:563:ASP:OD1	80:CA:564:LEU:N	2.46	0.47
80:CA:614:PHE:CD1	80:CA:619:ILE:HG21	2.49	0.47
80:CA:1009:THR:HG22	80:CA:1109:GLU:HG2	1.97	0.47
80:CA:1076:LEU:HD12	80:CA:1077:PRO:HD2	1.97	0.47
80:CA:1183:PHE:HB2	80:CA:1186:LYS:HE3	1.96	0.47
80:CA:1501:MET:HE3	80:CA:1501:MET:HB3	1.77	0.47
80:CA:1768:MET:HA	80:CA:1771:ILE:HB	1.97	0.47
1:2:415:C:O2'	1:2:418:G:O6	2.33	0.47
1:2:707:A:N7	1:2:731:C:N4	2.61	0.47
4:5:283:G:OP2	4:5:285:A:H4'	2.15	0.47
4:5:677:G:O6	54:BP:86:THR:HG21	2.15	0.47
4:5:701:C:OP1	49:BK:65:TYR:OH	2.29	0.47
4:5:912:C:OP1	39:BA:14:SER:OG	2.32	0.47
4:5:2353:A:H5''	53:BO:83:TRP:O	2.15	0.47
4:5:2357:A:OP1	53:BO:138:LYS:NZ	2.48	0.47
10:AE:11:ARG:NH1	10:AE:20:LEU:HB3	2.30	0.47
13:AH:63:PRO:O	13:AH:64:VAL:HG12	2.15	0.47
25:AT:64:HIS:NE2	25:AT:79:LEU:HD11	2.30	0.47
31:AZ:90:LYS:HZ3	31:AZ:104:ALA:HA	1.80	0.47
43:BE:172:HIS:HD2	43:BE:173:MET:HE2	1.80	0.47
45:BG:71:VAL:HG12	51:BM:21:PHE:CE1	2.50	0.47
45:BG:99:PRO:HD3	45:BG:132:VAL:HG12	1.97	0.47
48:BJ:112:LEU:O	48:BJ:114:ILE:HG12	2.15	0.47
53:BO:33:ALA:HB1	53:BO:117:ILE:HG12	1.97	0.47
56:BR:141:LYS:HA	56:BR:144:LEU:HD12	1.96	0.47
80:CA:645:GLN:NE2	80:CA:654:PHE:HD2	2.12	0.47
81:CB:8:VAL:O	81:CB:9:ILE:HG22	2.15	0.47
81:CB:245:SER:OG	81:CB:247:ASP:OD1	2.28	0.47
1:2:622:A:O2'	1:2:1032:G:H5'	2.15	0.47
1:2:1202:A:N6	1:2:1457:C:O5'	2.48	0.47
1:2:1319:A:H2'	1:2:1320:U:O4'	2.14	0.47
1:2:1389:C:N4	1:2:1391:A:O4'	2.48	0.47
4:5:493:U:H1'	4:5:494:G:C4	2.49	0.47
4:5:493:U:O2'	4:5:494:G:C5	2.67	0.47
4:5:504:C:H2'	4:5:505:A:H8	1.79	0.47
4:5:1349:U:H5''	4:5:1350:G:C6	2.50	0.47
4:5:3167:C:H2'	4:5:3168:A:H8	1.78	0.47
25:AT:130:ARG:O	25:AT:134:ARG:HG2	2.14	0.47
29:AX:107:PHE:CD1	29:AX:114:LYS:HD2	2.49	0.47
32:Aa:7:SER:HB2	32:Aa:10:ARG:O	2.15	0.47
38:Ag:304:GLY:HA2	38:Ag:310:ILE:HD12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BF:80:GLN:HB2	57:BS:135:PRO:HB2	1.96	0.47
64:BZ:77:LYS:C	64:BZ:79:TRP:H	2.23	0.47
67:Bc:80:ASN:OD1	67:Bc:81:GLU:N	2.48	0.47
72:Bh:66:GLU:OE1	72:Bh:91:ASN:ND2	2.41	0.47
80:CA:575:TYR:O	80:CA:578:SER:OG	2.31	0.47
80:CA:662:VAL:HA	80:CA:665:ILE:HG12	1.97	0.47
80:CA:784:ILE:HG22	80:CA:795:ALA:HA	1.96	0.47
80:CA:926:MET:HE3	80:CA:926:MET:HA	1.97	0.47
1:2:1484:G:H2'	1:2:1485:C:C6	2.50	0.47
4:5:563:C:H5''	56:BR:71:LYS:HD2	1.97	0.47
4:5:2836:U:H2'	4:5:2837:C:O2	2.15	0.47
4:5:2884:U:H2'	4:5:2885:C:H6	1.78	0.47
5:6:32:C:OP2	22:AQ:143:ARG:NH1	2.48	0.47
10:AE:211:LYS:HB3	10:AE:217:THR:HG22	1.96	0.47
16:AK:3:MET:HE3	16:AK:41:TYR:CD2	2.50	0.47
24:AS:72:ILE:HG22	24:AS:73:MET:HE2	1.96	0.47
30:AY:132:ARG:NH2	30:AY:135:ASP:OD2	2.35	0.47
37:Af:107:LYS:HZ2	37:Af:117:LEU:HG	1.80	0.47
38:Ag:22:SER:OG	38:Ag:71:CYS:N	2.45	0.47
38:Ag:31:ASN:HA	38:Ag:47:LEU:HB2	1.96	0.47
42:BD:52:VAL:HG21	42:BD:65:ILE:HD12	1.97	0.47
43:BE:51:ARG:HH12	43:BE:161:ALA:HB3	1.80	0.47
46:BH:85:GLY:HA3	46:BH:187:ILE:HD12	1.97	0.47
55:BQ:105:LEU:HD22	55:BQ:135:LYS:HG3	1.96	0.47
62:BX:11:ASP:OD2	62:BX:13:ARG:N	2.48	0.47
66:Bb:14:LEU:O	66:Bb:18:ILE:HG12	2.15	0.47
80:CA:536:MET:HE1	80:CA:628:LEU:HD22	1.97	0.47
80:CA:652:GLY:HA2	80:CA:840:GLY:O	2.15	0.47
80:CA:910:LEU:HD13	80:CA:913:ILE:HD12	1.97	0.47
1:2:555:A:O2'	1:2:556:A:O5'	2.32	0.46
3:4:27:A:H2'	3:4:28:C:C6	2.50	0.46
4:5:438:A:H2'	4:5:439:C:O4'	2.15	0.46
4:5:519:G:H2'	4:5:521:U:H5'	1.96	0.46
4:5:1335:U:H2'	4:5:1336:C:C6	2.50	0.46
4:5:1716:A:N7	66:Bb:84:LEU:HD22	2.30	0.46
4:5:2539:U:O2'	4:5:2542:U:N3	2.47	0.46
4:5:2539:U:HO2'	4:5:2542:U:H3	1.62	0.46
6:AA:200:ASP:HA	6:AA:203:PHE:CD2	2.50	0.46
15:AJ:119:ALA:O	15:AJ:120:LYS:HG2	2.15	0.46
21:AP:34:VAL:HG23	21:AP:41:VAL:HG12	1.97	0.46
22:AQ:93:HIS:HA	22:AQ:97:VAL:HB	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Af:137:ASP:O	37:Af:151:ASN:ND2	2.47	0.46
38:Ag:54:PHE:CE2	38:Ag:312:VAL:HG11	2.50	0.46
45:BG:91:PHE:HE2	45:BG:180:VAL:HG21	1.81	0.46
49:BK:62:THR:O	49:BK:64:LYS:N	2.48	0.46
58:BT:38:ILE:HG23	58:BT:50:LEU:HD11	1.96	0.46
80:CA:1004:ILE:HG12	80:CA:1012:MET:HE2	1.97	0.46
1:2:1514:U:H5''	1:2:1515:A:O4'	2.14	0.46
4:5:1597:C:H2'	4:5:1598:C:H6	1.80	0.46
13:AH:85:PHE:CD2	13:AH:88:ARG:HG3	2.50	0.46
19:AN:22:ALA:HB1	19:AN:23:PRO:HA	1.97	0.46
23:AR:74:GLN:OE1	23:AR:74:GLN:N	2.48	0.46
34:Ac:14:LYS:HB3	34:Ac:29:ARG:HB3	1.98	0.46
40:BB:94:GLU:HG3	52:BN:152[A]:VAL:HG21	1.97	0.46
41:BC:23:PRO:HD2	41:BC:26:PHE:CD2	2.50	0.46
42:BD:39:GLN:NE2	42:BD:46:THR:O	2.44	0.46
51:BM:94:TYR:CZ	51:BM:96:ARG:HB2	2.49	0.46
70:Bf:81:CYS:HB2	70:Bf:84:CYS:SG	2.54	0.46
78:Bn:10:THR:HA	78:Bn:20:HIS:HD2	1.80	0.46
80:CA:1434:HIS:CD2	80:CA:1464:LEU:HD21	2.51	0.46
80:CA:1458:LEU:HD13	80:CA:1470:LEU:HD13	1.97	0.46
2:3:141:C:O3'	51:BM:62:TYR:OH	2.34	0.46
3:4:4:U:H2'	3:4:5:G:C8	2.50	0.46
4:5:848:A:OP1	19:AN:140:LYS:NZ	2.45	0.46
4:5:2749:A:C2	42:BD:35:ARG:HB2	2.50	0.46
21:AP:49:MET:N	21:AP:49:MET:HE2	2.30	0.46
25:AT:5:SER:N	25:AT:8:ASP:OD2	2.47	0.46
25:AT:77:ASN:HD21	25:AT:98:GLY:HA2	1.81	0.46
27:AV:1:MET:HG2	27:AV:10:GLU:HB2	1.96	0.46
38:Ag:122:ILE:HD11	38:Ag:134:TRP:HB2	1.96	0.46
48:BJ:17:LEU:HD13	48:BJ:129:VAL:HG22	1.96	0.46
48:BJ:60:ARG:HG2	48:BJ:61:ARG:N	2.29	0.46
70:Bf:41:ARG:HA	70:Bf:56:THR:HG22	1.97	0.46
80:CA:289:ASN:H	80:CA:292:GLN:NE2	2.13	0.46
1:2:812:A:H62	1:2:858:G:H2'	1.81	0.46
1:2:1409:G:N7	22:AQ:114:ARG:NH2	2.62	0.46
1:2:1553:G:N1	1:2:1556:A:OP2	2.47	0.46
4:5:848:A:N3	4:5:848:A:H2'	2.30	0.46
4:5:1660:U:H2'	4:5:1661:C:H6	1.80	0.46
4:5:3218:C:C5	4:5:3221:G:H1'	2.51	0.46
11:AF:143:ARG:HB2	34:Ac:57:MET:HE1	1.98	0.46
13:AH:60:ILE:HD12	13:AH:92:PHE:HE1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BN:40[A]:GLU:O	52:BN:40[A]:GLU:HG2	2.15	0.46
54:BP:122:ILE:HG22	54:BP:123:THR:O	2.16	0.46
55:BQ:86:GLU:N	55:BQ:86:GLU:OE1	2.46	0.46
55:BQ:109:TYR:HB3	55:BQ:115:ILE:HG12	1.98	0.46
58:BT:50:LEU:HB2	58:BT:54:VAL:HG22	1.98	0.46
67:Bc:92:TYR:CE2	67:Bc:94:GLU:HG3	2.50	0.46
80:CA:629:ALA:O	80:CA:664:GLN:NE2	2.47	0.46
80:CA:1761:VAL:HG21	80:CA:1914:LEU:HD22	1.97	0.46
80:CA:1906:LEU:HB3	80:CA:1918:LYS:HB3	1.97	0.46
1:2:333:A:N6	14:AI:27:PHE:HB2	2.30	0.46
1:2:886:U:C2	1:2:887:A:C8	3.03	0.46
1:2:1487:A:OP2	9:AD:8:LYS:NZ	2.48	0.46
1:2:1573:A:H5'	1:2:1574:G:N3	2.31	0.46
2:3:10:A:H2'	2:3:11:C:C6	2.51	0.46
3:4:84:A:H2'	3:4:85:G:C8	2.50	0.46
4:5:385:A:H2'	4:5:386:A:C8	2.51	0.46
4:5:435:C:H2'	4:5:436:A:H8	1.81	0.46
4:5:1622:A:H2'	4:5:1623:U:H6	1.79	0.46
4:5:3151:A:H2'	4:5:3152:U:O4'	2.15	0.46
9:AD:87:TYR:HB3	80:CA:1079:GLN:NE2	2.30	0.46
16:AK:68:LEU:HD13	16:AK:73:VAL:HB	1.97	0.46
17:AL:94:ILE:HD13	29:AX:16:ARG:HD3	1.96	0.46
18:AM:63:VAL:HG21	18:AM:66:VAL:HG23	1.98	0.46
32:Aa:45:VAL:HG13	32:Aa:46:GLU:N	2.26	0.46
38:Ag:66:HIS:CG	38:Ag:67:ILE:H	2.33	0.46
46:BH:22:SER:OG	46:BH:23:ARG:N	2.48	0.46
52:BN:74[A]:ARG:HG3	52:BN:145[A]:VAL:HG23	1.97	0.46
58:BT:90:ARG:C	58:BT:92:TRP:H	2.23	0.46
80:CA:1874:LEU:HB3	80:CA:1935:LEU:HB2	1.98	0.46
80:CA:1910:LYS:HB2	80:CA:1946:LEU:HD22	1.97	0.46
1:2:12:U:H2'	1:2:13:C:H6	1.81	0.46
1:2:116:U:H2'	1:2:117:U:C6	2.51	0.46
1:2:352:A:H4'	1:2:353:A:O5'	2.15	0.46
1:2:520:A:H2	30:AY:34:ASN:HD21	1.63	0.46
1:2:1450:U:H2'	1:2:1451:C:H6	1.80	0.46
1:2:1611:A:O2'	11:AF:95:ASN:HB3	2.16	0.46
4:5:440:A:H3'	4:5:495:G:N2	2.31	0.46
4:5:494:G:H2'	4:5:494:G:OP2	2.16	0.46
4:5:502:A:H2'	4:5:503:U:C6	2.49	0.46
4:5:1914:A:N3	4:5:2121:A:H2'	2.30	0.46
4:5:2449:G:H1	4:5:2499:U:H3	1.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2598:U:H2'	4:5:2599:G:C8	2.51	0.46
5:6:48:C:H2'	5:6:49:G:C8	2.51	0.46
5:6:68:C:H2'	5:6:69:G:C8	2.49	0.46
6:AA:92:HIS:HB3	6:AA:182:LEU:HD11	1.97	0.46
7:AB:9:LEU:HD23	7:AB:9:LEU:H	1.81	0.46
11:AF:94:THR:HG22	11:AF:114:ILE:HG13	1.97	0.46
29:AX:97:ASP:OD1	29:AX:98:GLU:N	2.46	0.46
42:BD:95:TRP:CZ3	42:BD:198:TYR:HB3	2.51	0.46
80:CA:223:SER:OG	80:CA:224:THR:N	2.48	0.46
80:CA:963:SER:O	80:CA:967:LEU:HD23	2.16	0.46
80:CA:1559:ILE:HD13	80:CA:1564:GLU:HB3	1.97	0.46
1:2:65:A:H2	1:2:84:A:H62	1.63	0.46
1:2:77:U:H1'	1:2:78:A:OP2	2.15	0.46
4:5:263:C:H2'	4:5:264:G:O4'	2.16	0.46
4:5:275:U:H2'	4:5:276:U:C6	2.51	0.46
4:5:1255:C:H41	4:5:1264:A:H5''	1.80	0.46
5:6:22:U:H2'	5:6:23:C:O4'	2.16	0.46
6:AA:70:PRO:HB2	6:AA:94:GLY:HA3	1.98	0.46
7:AB:83:LYS:N	7:AB:104:ASP:O	2.48	0.46
22:AQ:44:LEU:HB3	22:AQ:78:VAL:HG11	1.98	0.46
22:AQ:69:VAL:HG11	22:AQ:81:ILE:HD11	1.97	0.46
34:Ac:11:LYS:C	34:Ac:30:VAL:HG23	2.41	0.46
40:BB:77:THR:HG21	40:BB:328:ILE:HG12	1.97	0.46
74:Bj:67:GLN:NE2	74:Bj:67:GLN:H	2.14	0.46
80:CA:517:ILE:HG23	80:CA:684:CYS:SG	2.55	0.46
1:2:928:U:O2'	1:2:945:U:OP2	2.23	0.46
1:2:1206:U:OP2	1:2:1207:C:O2'	2.23	0.46
1:2:1217:A:O3'	16:AK:44:LYS:NZ	2.49	0.46
1:2:1542:G:N2	1:2:1568:C:H1'	2.31	0.46
1:2:1796:C:N4	32:Aa:93:LYS:HE3	2.30	0.46
4:5:417:A:H2'	4:5:418:A:C8	2.50	0.46
4:5:1479:C:H2'	4:5:1480:U:C6	2.51	0.46
4:5:1548:G:H2'	4:5:1549:C:C6	2.51	0.46
4:5:2841:C:H2'	4:5:2842:G:O4'	2.15	0.46
6:AA:101:ARG:HG3	6:AA:103:THR:H	1.81	0.46
14:AI:9:HIS:CG	14:AI:10:LYS:H	2.34	0.46
18:AM:31:VAL:HG12	18:AM:133:LEU:HG	1.98	0.46
36:Ae:29:LYS:HD2	36:Ae:35:TYR:CE1	2.51	0.46
38:Ag:211:ILE:O	38:Ag:223:TRP:N	2.46	0.46
62:BX:45:ILE:HD11	62:BX:119:ILE:HG23	1.98	0.46
63:BY:54:THR:HG23	63:BY:56:LYS:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:370:LEU:HB3	80:CA:375:ILE:HB	1.97	0.46
80:CA:997:LYS:NZ	80:CA:999:ASN:OD1	2.47	0.46
80:CA:1274:ASP:OD1	80:CA:1275:ARG:N	2.48	0.46
80:CA:1430:GLY:HA2	80:CA:1455:ILE:HG22	1.98	0.46
80:CA:1666:ALA:HB3	80:CA:1669:TYR:HD2	1.81	0.46
81:CB:192:GLU:HB2	81:CB:239:ILE:HD13	1.98	0.46
1:2:523:G:N2	1:2:528:U:OP2	2.44	0.46
1:2:1254:U:H2'	1:2:1255:G:C8	2.50	0.46
1:2:1572:G:HO2'	11:AF:185:ARG:HH12	1.58	0.46
4:5:47:C:H5''	49:BK:16:LYS:HG2	1.98	0.46
4:5:439:C:OP2	4:5:440:A:N6	2.49	0.46
4:5:542:U:H2'	4:5:543:G:C8	2.51	0.46
4:5:2763:A:H2'	4:5:2764:U:H6	1.80	0.46
4:5:3140:A:H2'	4:5:3141:G:O4'	2.16	0.46
9:AD:76:ARG:HD3	9:AD:77:PHE:CD2	2.49	0.46
15:AJ:89:ASP:OD1	15:AJ:89:ASP:N	2.46	0.46
19:AN:91:LEU:HD12	19:AN:125:LEU:HD12	1.97	0.46
26:AU:85:ARG:HH11	26:AU:85:ARG:HG3	1.80	0.46
27:AV:71:ARG:HB3	27:AV:83:TRP:CE2	2.51	0.46
39:BA:112:ILE:HG13	79:Bo:79:VAL:HG22	1.98	0.46
1:2:199:G:H2'	1:2:200:A:H8	1.81	0.46
1:2:950:C:H2'	1:2:951:A:C8	2.51	0.46
1:2:1061:A:OP1	1:2:1061:A:H4'	2.15	0.46
1:2:1263:G:H2'	1:2:1264:G:O4'	2.15	0.46
4:5:443:G:C2	4:5:492:C:O2'	2.69	0.46
4:5:524:A:O2'	56:BR:69:PRO:HD2	2.16	0.46
4:5:1275:A:H2'	4:5:1276:C:C6	2.51	0.46
4:5:2967:G:H2'	4:5:2968:A:C8	2.52	0.46
6:AA:36:TYR:CD2	6:AA:161:PRO:HG3	2.51	0.46
7:AB:138:PHE:O	7:AB:212:VAL:HG22	2.15	0.46
10:AE:147:ILE:HG21	10:AE:169:ILE:HG13	1.98	0.46
14:AI:7:SER:O	14:AI:18:ARG:NH2	2.49	0.46
45:BG:83:ASP:OD1	45:BG:84:ARG:N	2.49	0.46
80:CA:523:ASP:OD1	80:CA:523:ASP:N	2.46	0.46
80:CA:1263:ILE:HB	80:CA:1299:LEU:HD23	1.97	0.46
1:2:1202:A:H1'	1:2:1207:C:N4	2.31	0.45
1:2:1390:U:O4'	23:AR:3:ARG:NH1	2.49	0.45
4:5:308:A:H1'	4:5:2223:A:N3	2.31	0.45
4:5:443:G:C4	4:5:491:A:N1	2.84	0.45
4:5:605:G:H2'	4:5:606:U:H6	1.80	0.45
4:5:716:A:O2'	4:5:753:C:O2'	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1000:G:H2'	4:5:1001:C:C6	2.51	0.45
4:5:1646:U:H2'	4:5:1647:G:H5'	1.97	0.45
4:5:2405:A:N7	4:5:2873:A:N6	2.64	0.45
4:5:3256:U:H2'	4:5:3257:G:H8	1.81	0.45
6:AA:11:PRO:HA	23:AR:115:LEU:HD12	1.98	0.45
11:AF:64:VAL:HG23	11:AF:65:ARG:HD2	1.98	0.45
14:AI:49:ARG:O	14:AI:52:ASN:ND2	2.49	0.45
14:AI:189:LEU:O	14:AI:193:LEU:HG	2.16	0.45
24:AS:82:PRO:HB2	24:AS:84:TRP:CD1	2.51	0.45
31:AZ:50:ILE:HG22	31:AZ:69:LEU:HD22	1.97	0.45
33:Ab:34:ASP:HB3	33:Ab:82:LYS:HE3	1.98	0.45
37:Af:141:CYS:SG	37:Af:142:GLY:N	2.89	0.45
38:Ag:127:ARG:HD2	38:Ag:150:TRP:HB2	1.98	0.45
38:Ag:201:THR:HG21	38:Ag:242:SER:HA	1.97	0.45
42:BD:50:ARG:NE	42:BD:147:ASP:OD2	2.35	0.45
50:BL:40:ASP:OD1	50:BL:43:LYS:HG2	2.15	0.45
64:BZ:39:HIS:O	64:BZ:41:HIS:N	2.49	0.45
80:CA:1786:PRO:HG3	80:CA:1892:TYR:CZ	2.52	0.45
1:2:522:U:OP1	30:AY:37:LYS:NZ	2.49	0.45
1:2:923:A:H2'	1:2:924:A:C8	2.51	0.45
1:2:1160:A:H2'	1:2:1161:C:C6	2.52	0.45
3:4:45:A:H2'	3:4:46:A:H8	1.82	0.45
4:5:113:C:OP1	51:BM:147:ARG:NE	2.48	0.45
4:5:1393:G:OP1	68:Bd:125:ARG:NH1	2.48	0.45
5:6:7:A:HO2'	5:6:48:C:H5'	1.82	0.45
6:AA:30:GLN:HA	6:AA:30:GLN:OE1	2.15	0.45
11:AF:64:VAL:C	11:AF:65:ARG:HD3	2.40	0.45
17:AL:99:ARG:HB2	29:AX:9:LEU:O	2.15	0.45
24:AS:101:LEU:O	24:AS:105:VAL:HG13	2.17	0.45
27:AV:2:GLU:HG2	27:AV:8:LEU:HA	1.98	0.45
30:AY:107:GLN:OE1	30:AY:107:GLN:HA	2.15	0.45
40:BB:212:ASN:ND2	40:BB:353:GLU:HA	2.30	0.45
41:BC:92:ASN:HD22	41:BC:100:PHE:HB2	1.82	0.45
43:BE:14:ASP:OD1	43:BE:14:ASP:N	2.48	0.45
44:BF:40:LYS:HZ1	44:BF:170:GLU:CD	2.24	0.45
51:BM:119:TYR:OH	51:BM:131:GLU:OE1	2.29	0.45
55:BQ:179:GLU:HA	55:BQ:182:ASP:HB3	1.98	0.45
60:BV:47:ARG:NH1	60:BV:58:HIS:HB2	2.31	0.45
80:CA:268:LYS:NZ	80:CA:269:LEU:O	2.49	0.45
80:CA:1029:HIS:O	80:CA:1033:GLN:NE2	2.49	0.45
1:2:1597:A:OP1	35:Ad:19:ARG:NH2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1625:C:H2'	1:2:1626:U:C6	2.51	0.45
1:2:1669:U:H2'	1:2:1670:G:O4'	2.16	0.45
4:5:2286:C:OP2	4:5:2287:U:O2'	2.27	0.45
4:5:2535:G:H2'	4:5:2536:A:H8	1.80	0.45
4:5:2612:U:H2'	4:5:2613:U:H6	1.82	0.45
12:AG:7:TYR:CE1	12:AG:9:VAL:HB	2.52	0.45
16:AK:10:LYS:O	16:AK:13:GLN:HG3	2.16	0.45
23:AR:36:ASP:OD1	23:AR:37:GLU:N	2.49	0.45
36:Ae:55:ARG:NH1	80:CA:982:LYS:O	2.50	0.45
40:BB:211:GLN:NE2	40:BB:283:TYR:O	2.46	0.45
64:BZ:77:LYS:O	64:BZ:79:TRP:N	2.50	0.45
80:CA:937:LEU:HD21	80:CA:941:ASP:HB3	1.98	0.45
80:CA:994:ARG:HB3	80:CA:1029:HIS:HE1	1.81	0.45
81:CB:43:LEU:HA	81:CB:103:GLN:HE22	1.80	0.45
1:2:1096:C:OP2	28:AW:71:LYS:NZ	2.35	0.45
1:2:1220:C:O3'	16:AK:52:LYS:NZ	2.49	0.45
1:2:1405:G:H2'	1:2:1406:A:C8	2.52	0.45
2:3:26:U:H2'	2:3:27:U:C6	2.51	0.45
2:3:63:G:H22	2:3:97:A:H2	1.65	0.45
4:5:1098:G:H1'	4:5:1099:A:OP2	2.17	0.45
4:5:1262:G:N2	4:5:1262:G:OP2	2.49	0.45
4:5:2675:A:H2'	4:5:2676:C:C6	2.52	0.45
7:AB:120:LEU:HD21	7:AB:122:GLU:HG3	1.97	0.45
7:AB:140:ILE:N	7:AB:212:VAL:O	2.48	0.45
7:AB:143:THR:HB	7:AB:205:PHE:CE2	2.51	0.45
10:AE:123:LEU:HB3	10:AE:159:THR:HG23	1.98	0.45
13:AH:59:ALA:HA	13:AH:91:ILE:HG13	1.98	0.45
24:AS:49:LYS:NZ	24:AS:79:TYR:O	2.46	0.45
36:Ae:20:LYS:NZ	36:Ae:22:GLU:HB3	2.32	0.45
38:Ag:22:SER:HB3	38:Ag:36:ALA:HB3	1.98	0.45
38:Ag:40:LYS:HA	38:Ag:68:VAL:HG23	1.99	0.45
39:BA:7:ASN:OD1	39:BA:8:GLN:N	2.48	0.45
41:BC:150:LEU:HD21	41:BC:172:VAL:HG12	1.96	0.45
48:BJ:120:ILE:HG13	48:BJ:121:GLY:N	2.31	0.45
64:BZ:136:GLU:OE1	64:BZ:136:GLU:N	2.45	0.45
80:CA:502:LEU:HD22	80:CA:684:CYS:SG	2.56	0.45
80:CA:1134:ILE:HG21	80:CA:1212:VAL:HG11	1.97	0.45
80:CA:1477:ILE:O	80:CA:1519:TYR:HB2	2.17	0.45
1:2:246:G:N3	17:AL:40:LEU:HG	2.32	0.45
1:2:472:U:H5''	15:AJ:11:THR:HG23	1.99	0.45
1:2:811:A:H62	13:AH:113:PRO:HD3	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:716:A:H4'	4:5:717:A:OP1	2.16	0.45
4:5:831:A:H2'	4:5:832:G:O4'	2.15	0.45
4:5:1121:A:H2'	4:5:1122:U:H6	1.82	0.45
4:5:1245:A:N6	4:5:1272:A:OP1	2.49	0.45
4:5:2424:U:H2'	4:5:2425:A:H8	1.81	0.45
4:5:2527:C:H2'	4:5:2528:G:H8	1.82	0.45
10:AE:104:ASP:OD1	10:AE:108:ARG:N	2.49	0.45
12:AG:70:PRO:O	12:AG:98:ARG:NH1	2.48	0.45
15:AJ:49:LEU:HD21	15:AJ:53:ARG:HH22	1.81	0.45
21:AP:21:ASP:OD1	21:AP:22:LEU:N	2.49	0.45
21:AP:31:GLU:O	21:AP:34:VAL:HG12	2.16	0.45
31:AZ:53:GLU:OE1	31:AZ:68:ARG:NH2	2.36	0.45
38:Ag:253:ALA:HA	38:Ag:262:VAL:HA	1.98	0.45
41:BC:58:HIS:HA	41:BC:90:PHE:HE1	1.81	0.45
74:Bj:25:VAL:HB	74:Bj:77:ARG:HD3	1.99	0.45
77:Bm:1:MET:N	77:Bm:6:ARG:HH12	2.14	0.45
80:CA:502:LEU:HD21	80:CA:524:LYS:HZ2	1.82	0.45
1:2:78:A:O2'	1:2:79:C:O5'	2.34	0.45
1:2:1054:U:H2'	1:2:1055:U:C6	2.51	0.45
1:2:1145:U:H5	1:2:1633:A:N1	2.15	0.45
1:2:1247:U:H1'	37:Af:92:LYS:HE2	1.97	0.45
4:5:98:G:N7	49:BK:13:HIS:NE2	2.63	0.45
4:5:1697:A:H2'	4:5:1698:A:C8	2.52	0.45
4:5:2768:U:H2'	4:5:2769:U:H6	1.81	0.45
4:5:3210:A:C4	50:BL:106:ARG:HD3	2.52	0.45
5:6:7:A:N6	5:6:66:A:N6	2.64	0.45
14:AI:171:SER:HB3	14:AI:180:ASP:H	1.82	0.45
38:Ag:302:PHE:HD1	38:Ag:312:VAL:HG12	1.82	0.45
44:BF:151:ARG:HD2	44:BF:207:LEU:HD23	1.98	0.45
80:CA:313:GLY:H	80:CA:316:LYS:HD3	1.82	0.45
80:CA:388:LYS:HA	80:CA:388:LYS:HD2	1.85	0.45
80:CA:851:LEU:HA	80:CA:854:LEU:HB2	1.98	0.45
80:CA:1152:TYR:CD1	80:CA:1177:TRP:HB3	2.52	0.45
80:CA:1281:MET:HE2	80:CA:1281:MET:HA	1.98	0.45
81:CB:81:LEU:HD21	81:CB:133:LEU:HB2	1.99	0.45
1:2:842:C:H2'	1:2:843:U:O4'	2.17	0.45
1:2:997:G:H2'	1:2:998:A:O4'	2.16	0.45
1:2:1476:C:H2'	1:2:1477:G:H8	1.81	0.45
1:2:1564:U:H2'	1:2:1565:C:C6	2.51	0.45
2:3:75:G:H2'	2:3:76:C:H6	1.82	0.45
4:5:20:A:H2'	4:5:21:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:201:A:H2'	4:5:202:G:H8	1.82	0.45
4:5:872:U:H2'	4:5:873:U:C6	2.52	0.45
4:5:1070:C:H2'	4:5:1071:U:C6	2.52	0.45
4:5:1379:U:H2'	4:5:1380:G:C8	2.50	0.45
4:5:1718:U:H2'	4:5:1719:G:C8	2.52	0.45
4:5:2656:U:H4'	4:5:2657:A:O4'	2.16	0.45
4:5:2962:G:H2'	4:5:2963:U:H6	1.82	0.45
9:AD:31:GLU:OE1	9:AD:31:GLU:N	2.38	0.45
14:AI:25:ARG:HA	14:AI:25:ARG:HD3	1.80	0.45
34:Ac:11:LYS:HZ1	34:Ac:13:ILE:HG22	1.82	0.45
38:Ag:90:ARG:HH12	38:Ag:102:ARG:NE	2.15	0.45
38:Ag:281:TYR:HD2	38:Ag:287:PRO:HD3	1.82	0.45
48:BJ:92:ARG:HA	48:BJ:172:LEU:HB2	1.98	0.45
58:BT:56:VAL:HG22	58:BT:65:VAL:HG22	1.99	0.45
63:BY:89:VAL:HG23	63:BY:89:VAL:O	2.17	0.45
80:CA:638:CYS:SG	80:CA:639:VAL:N	2.89	0.45
1:2:1235:C:O2	37:Af:138:ARG:NH1	2.50	0.45
1:2:1628:U:H2'	1:2:1629:G:C8	2.52	0.45
2:3:9:A:H2'	2:3:10:A:H8	1.82	0.45
2:3:24:G:H1'	4:5:349:A:C4	2.51	0.45
4:5:153:U:H4'	4:5:158:G:H4'	1.98	0.45
4:5:440:A:H2'	4:5:440:A:N3	2.31	0.45
4:5:639:C:P	68:Bd:21:HIS:HE2	2.39	0.45
4:5:1621:U:H2'	4:5:1622:A:C8	2.51	0.45
7:AB:158:SER:HA	7:AB:161:ILE:HD12	1.99	0.45
13:AH:14:THR:H	13:AH:17:GLU:CD	2.24	0.45
13:AH:32:PRO:HA	13:AH:35:LYS:HD3	1.99	0.45
18:AM:46:ARG:O	18:AM:49:THR:OG1	2.27	0.45
21:AP:78:THR:C	21:AP:102:PHE:HE2	2.25	0.45
25:AT:47:PRO:HG2	25:AT:53:TRP:CE2	2.51	0.45
26:AU:33:GLN:O	26:AU:37:VAL:HG23	2.17	0.45
31:AZ:45:GLU:OE1	31:AZ:46:LYS:HE3	2.17	0.45
41:BC:112:LYS:HG3	51:BM:202:TYR:HB3	1.99	0.45
47:BI:65:LEU:HD23	47:BI:159:PHE:HE1	1.81	0.45
62:BX:100:HIS:ND1	62:BX:102:SER:OG	2.39	0.45
70:Bf:92:ALA:O	70:Bf:96:GLU:HG3	2.17	0.45
73:Bi:21:ARG:HD2	73:Bi:37:CYS:SG	2.57	0.45
1:2:15:U:H2'	1:2:16:G:O4'	2.16	0.45
1:2:144:U:O4	12:AG:137:ARG:NH2	2.35	0.45
1:2:605:A:OP2	1:2:606:A:O2'	2.30	0.45
1:2:768:C:C2	15:AJ:143:ILE:HG21	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:872:G:N2	1:2:1047:G:H4'	2.32	0.45
1:2:1031:U:H4'	1:2:1032:G:OP2	2.16	0.45
1:2:1142:A:H2'	1:2:1143:A:C8	2.52	0.45
1:2:1253:U:H2'	1:2:1254:U:H6	1.82	0.45
1:2:1525:A:H2'	1:2:1526:A:C8	2.52	0.45
1:2:1767:G:OP1	1:2:1770:U:H4'	2.16	0.45
1:2:1797:A:N6	32:Aa:84:VAL:HB	2.32	0.45
3:4:6:C:O2'	42:BD:72:ASP:OD2	2.26	0.45
4:5:825:C:H5''	39:BA:21:ARG:CD	2.44	0.45
4:5:864:C:H2'	4:5:865:G:O4'	2.17	0.45
4:5:1284:C:H2'	4:5:1285:C:H6	1.81	0.45
4:5:1393:G:H1'	4:5:1419:A:H61	1.82	0.45
4:5:1921:U:O2'	4:5:1933:A:N7	2.43	0.45
4:5:2296:A:N3	4:5:2930:C:O2'	2.40	0.45
4:5:2657:A:C5	4:5:2659:G:C8	3.05	0.45
4:5:2813:C:H2'	4:5:2814:A:C8	2.52	0.45
6:AA:84:ARG:NH2	23:AR:82:ASP:O	2.49	0.45
20:AO:114:ARG:HA	20:AO:114:ARG:HD3	1.74	0.45
30:AY:57:VAL:HB	30:AY:60:PHE:CZ	2.52	0.45
39:BA:150:LEU:HD11	39:BA:156:LYS:HD2	1.98	0.45
48:BJ:20:ASN:O	48:BJ:21:ILE:HD13	2.16	0.45
59:BU:20:GLY:HA2	59:BU:35:TYR:CE1	2.51	0.45
73:Bi:54:LYS:O	73:Bi:58:THR:HG23	2.17	0.45
80:CA:258:GLN:HE22	80:CA:492:PHE:HA	1.82	0.45
80:CA:319:ILE:HA	80:CA:322:LEU:HD12	1.99	0.45
80:CA:550:ARG:HA	80:CA:553:ILE:HG22	1.99	0.45
80:CA:640:ILE:HG23	80:CA:682:ILE:HD11	1.99	0.45
80:CA:726:ASN:HB3	80:CA:792:HIS:HA	1.99	0.45
80:CA:813:GLU:O	82:CC:370:ARG:NH1	2.50	0.45
80:CA:1178:HIS:CE1	80:CA:1298:ARG:HG3	2.52	0.45
80:CA:1335:LEU:HD21	80:CA:1502:MET:HB3	1.97	0.45
1:2:52:U:H2'	1:2:53:G:H8	1.82	0.45
1:2:123:G:OP1	10:AE:77:ARG:NH2	2.49	0.45
1:2:273:G:H1	1:2:283:U:H3	1.64	0.45
1:2:547:U:H2'	1:2:548:G:O4'	2.17	0.45
1:2:1218:G:N2	1:2:1444:A:OP2	2.29	0.45
4:5:75:G:OP2	49:BK:104:ARG:NH2	2.50	0.45
4:5:713:G:H2'	4:5:714:U:C6	2.51	0.45
4:5:1322:G:N2	56:BR:112:ALA:HB2	2.31	0.45
4:5:1465:G:N1	4:5:1468:A:OP2	2.50	0.45
4:5:1795:G:H4'	39:BA:191:LEU:HD12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2390:C:H2'	4:5:2391:A:C8	2.51	0.45
4:5:2536:A:H2'	4:5:2537:A:C8	2.52	0.45
13:AH:134:GLU:HB2	13:AH:155:ASP:OD1	2.16	0.45
40:BB:36:ASP:OD1	40:BB:36:ASP:N	2.50	0.45
40:BB:80:ASP:OD2	40:BB:314:TYR:OH	2.33	0.45
47:BI:206:LEU:O	47:BI:210:ILE:HG12	2.17	0.45
49:BK:160:GLN:OE1	49:BK:160:GLN:HA	2.17	0.45
80:CA:370:LEU:HD22	80:CA:375:ILE:HD13	1.99	0.45
80:CA:719:ILE:HD13	80:CA:793:PHE:HB3	1.99	0.45
80:CA:1041:GLU:HB3	80:CA:1077:PRO:HB3	1.99	0.45
80:CA:1434:HIS:CG	80:CA:1464:LEU:HD21	2.52	0.45
80:CA:1773:GLN:HB2	80:CA:1775:TYR:CD1	2.52	0.45
81:CB:68:SER:O	81:CB:72:HIS:ND1	2.46	0.45
1:2:850:A:H5''	55:BQ:165:LYS:CD	2.46	0.44
1:2:919:A:H2'	1:2:920:U:C6	2.52	0.44
1:2:1752:U:H2'	1:2:1753:A:C8	2.52	0.44
3:4:9:C:OP1	57:BS:26:HIS:HB2	2.17	0.44
4:5:551:A:H2'	4:5:552:A:C8	2.53	0.44
4:5:603:A:O2'	4:5:604:A:O4'	2.26	0.44
4:5:632:U:H2'	4:5:633:G:H8	1.80	0.44
4:5:818:A:O2'	73:Bi:11:ARG:HG2	2.18	0.44
4:5:1040:U:H2'	4:5:1041:A:C8	2.52	0.44
4:5:2224:A:H2'	4:5:2225:A:C8	2.52	0.44
4:5:2345:U:H2'	4:5:2346:A:H8	1.82	0.44
4:5:2414:A:H2'	4:5:2415:G:C8	2.52	0.44
4:5:3387:G:H2'	4:5:3388:U:C6	2.52	0.44
9:AD:35:SER:O	9:AD:51:ARG:NE	2.50	0.44
9:AD:67:ASN:O	9:AD:70:THR:OG1	2.34	0.44
13:AH:51:VAL:HG22	13:AH:55:LYS:O	2.17	0.44
14:AI:163:GLY:O	14:AI:164:ARG:NH1	2.50	0.44
41:BC:33:ASP:O	41:BC:37:THR:HG23	2.17	0.44
58:BT:97:SER:HB2	58:BT:103:TYR:CD1	2.52	0.44
80:CA:541:SER:N	80:CA:544:GLU:OE2	2.35	0.44
80:CA:611:GLU:HA	80:CA:614:PHE:HB2	1.99	0.44
80:CA:1939:GLU:HA	80:CA:1942:ARG:HG3	1.99	0.44
1:2:153:G:H2'	1:2:154:G:C8	2.51	0.44
1:2:228:G:O6	1:2:834:G:H1'	2.17	0.44
1:2:241:U:H2'	1:2:242:U:C6	2.51	0.44
1:2:1145:U:H6	8:AC:89:GLN:HB2	1.82	0.44
1:2:1173:C:H2'	1:2:1174:C:H6	1.83	0.44
1:2:1624:C:H2'	1:2:1625:C:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:973:A:OP1	54:BP:12:ARG:NH2	2.50	0.44
4:5:1386:C:O2'	43:BE:2:THR:HG23	2.18	0.44
4:5:2945:U:H1'	40:BB:251:CYS:SG	2.57	0.44
4:5:3158:U:H4'	4:5:3159:G:H5'	1.99	0.44
5:6:1:U:H2'	5:6:2:C:H6	1.82	0.44
18:AM:81:ASP:O	18:AM:83:GLU:N	2.43	0.44
25:AT:61:VAL:O	25:AT:65:ILE:HG12	2.17	0.44
25:AT:79:LEU:HD22	25:AT:80:TYR:CE2	2.52	0.44
32:Aa:62:TYR:CG	32:Aa:63:ALA:N	2.85	0.44
38:Ag:64:HIS:HE2	38:Ag:82:SER:HG	1.65	0.44
39:BA:3:ARG:HB3	39:BA:207:VAL:HG22	2.00	0.44
49:BK:138:VAL:HG22	71:Bg:118:ILE:HG23	1.99	0.44
62:BX:5:SER:HB3	62:BX:8:VAL:HG23	1.99	0.44
63:BY:54:THR:HG22	63:BY:57:HIS:CD2	2.52	0.44
67:Bc:16:LEU:HD11	67:Bc:71:LEU:HD12	1.99	0.44
80:CA:1346:LEU:HD12	80:CA:1351:LEU:HD13	1.99	0.44
80:CA:1753:SER:HA	80:CA:1914:LEU:HD23	2.00	0.44
81:CB:287:LYS:HA	81:CB:293:LEU:HD11	1.99	0.44
1:2:1303:U:H2'	1:2:1304:G:O4'	2.17	0.44
1:2:1565:C:OP1	24:AS:41:ARG:NH1	2.50	0.44
4:5:21:G:H3'	4:5:22:G:H8	1.83	0.44
4:5:377:A:H1'	4:5:392:G:N2	2.33	0.44
4:5:1467:G:N2	4:5:1511:G:H5''	2.32	0.44
4:5:1796:U:H2'	39:BA:50:HIS:CD2	2.51	0.44
9:AD:6:SER:HB2	9:AD:9:ARG:HD3	2.00	0.44
9:AD:8:LYS:HE2	26:AU:61:LYS:HD3	1.98	0.44
9:AD:135:GLU:HG2	9:AD:187:LYS:HD3	1.99	0.44
18:AM:36:LEU:HB3	18:AM:41:LEU:HD12	1.99	0.44
23:AR:24:LEU:HB2	23:AR:31:ASN:HD22	1.82	0.44
31:AZ:90:LYS:NZ	31:AZ:104:ALA:HA	2.31	0.44
41:BC:351:PRO:HB3	44:BF:70:LYS:HB3	2.00	0.44
42:BD:40:HIS:CE1	57:BS:69:LYS:HA	2.52	0.44
42:BD:108:ARG:CZ	42:BD:253:PHE:HB2	2.47	0.44
62:BX:55:GLU:OE2	62:BX:69:LYS:HE3	2.18	0.44
63:BY:90:GLU:OE1	63:BY:90:GLU:HA	2.18	0.44
76:Bl:78:ILE:O	76:Bl:79:GLU:HG3	2.17	0.44
79:Bo:32:GLN:O	79:Bo:37:TYR:OH	2.24	0.44
80:CA:614:PHE:HA	80:CA:619:ILE:HG21	1.99	0.44
80:CA:1141:ASN:HB3	80:CA:1143:MET:HG2	1.99	0.44
1:2:572:C:H2'	1:2:573:C:C6	2.52	0.44
1:2:751:G:H2'	1:2:752:A:C8	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:752:A:H2	1:2:797:G:H22	1.65	0.44
1:2:1476:C:H5''	25:AT:44:GLU:OE2	2.17	0.44
1:2:1625:C:H2'	1:2:1626:U:H6	1.82	0.44
1:2:1718:G:H2'	1:2:1719:A:H8	1.82	0.44
1:2:1738:U:H2'	1:2:1739:C:C6	2.52	0.44
1:2:1763:A:O4'	77:Bm:1:MET:HE1	2.18	0.44
4:5:438:A:H8	4:5:438:A:O5'	2.00	0.44
4:5:617:G:H2'	4:5:618:G:C8	2.52	0.44
4:5:1170:A:H4'	44:BF:219:LYS:HD3	1.98	0.44
4:5:1567:A:H2'	4:5:1568:U:C5	2.52	0.44
4:5:1676:G:H2'	4:5:1677:A:H8	1.81	0.44
4:5:2690:A:H2'	4:5:2690:A:N3	2.33	0.44
4:5:3108:U:H2'	4:5:3109:G:C8	2.52	0.44
4:5:3219:A:H4'	4:5:3220:G:O5'	2.17	0.44
14:AI:42:ARG:O	14:AI:58:LEU:HB2	2.17	0.44
19:AN:89:TYR:CE1	19:AN:150:VAL:HG13	2.51	0.44
25:AT:117:SER:HB2	25:AT:123:ARG:HG3	1.99	0.44
28:AW:24:GLN:HG3	33:Ab:7:LEU:HD23	1.99	0.44
28:AW:47:ILE:HG13	28:AW:48:GLY:N	2.32	0.44
35:Ad:21:CYS:HB3	35:Ad:26:SER:H	1.83	0.44
37:Af:148:TYR:O	37:Af:149:LYS:HE2	2.18	0.44
39:BA:65:ASP:HB3	39:BA:68:LYS:O	2.17	0.44
42:BD:239:ILE:O	42:BD:243:ALA:N	2.50	0.44
46:BH:92:TYR:HB2	46:BH:142:ASP:HB3	1.99	0.44
58:BT:36:TYR:CE2	58:BT:83:TYR:HB2	2.53	0.44
58:BT:90:ARG:O	58:BT:91:ASP:OD1	2.36	0.44
66:Bb:74:ASN:N	66:Bb:74:ASN:OD1	2.50	0.44
74:Bj:35:GLY:C	74:Bj:36:LYS:HD3	2.42	0.44
80:CA:1042:SER:HB3	80:CA:1078:PRO:HD2	1.99	0.44
80:CA:1153:ASN:HD21	82:CC:197:LYS:HE3	1.83	0.44
1:2:284:G:N7	12:AG:188:ARG:NH1	2.66	0.44
1:2:887:A:H5''	20:AO:120:PRO:HB2	1.99	0.44
1:2:934:C:C4	1:2:1077:C:H4'	2.52	0.44
1:2:1221:A:H2'	1:2:1222:C:C6	2.53	0.44
1:2:1222:C:H2'	1:2:1223:A:C8	2.53	0.44
1:2:1582:U:O2'	1:2:1583:A:OP2	2.29	0.44
2:3:139:U:H2'	2:3:140:G:H8	1.82	0.44
4:5:120:G:N7	45:BG:128:LYS:HG3	2.33	0.44
4:5:1284:C:C2	4:5:1285:C:C5	3.05	0.44
4:5:1839:G:H5''	4:5:1840:A:H5'	1.98	0.44
16:AK:6:GLU:HA	16:AK:9:ASN:ND2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AP:17:TYR:CD2	21:AP:18:ARG:HG3	2.51	0.44
22:AQ:29:ILE:O	22:AQ:35:PRO:HA	2.17	0.44
24:AS:140:THR:HA	24:AS:143:ARG:HH21	1.81	0.44
30:AY:47:VAL:HG12	30:AY:48:TYR:CD2	2.52	0.44
38:Ag:245:PHE:CD1	38:Ag:252:LEU:HD13	2.52	0.44
40:BB:57:VAL:HG11	60:BV:1:MET:HB3	1.98	0.44
40:BB:145:GLU:HA	40:BB:148:LEU:HB2	2.00	0.44
40:BB:187:SER:O	40:BB:189:SER:N	2.51	0.44
41:BC:329:PRO:HB2	44:BF:45:LEU:HB2	2.00	0.44
45:BG:228:GLU:HG3	45:BG:232:HIS:HE1	1.82	0.44
46:BH:101:VAL:HG22	46:BH:114:VAL:HG22	2.00	0.44
49:BK:75:PHE:H	49:BK:97:VAL:HA	1.83	0.44
56:BR:73:LYS:NZ	56:BR:97:VAL:O	2.32	0.44
79:Bo:39:CYS:CB	79:Bo:42:CYS:SG	3.05	0.44
80:CA:286:GLU:OE2	80:CA:287:THR:OG1	2.34	0.44
80:CA:474:ALA:HB1	80:CA:479:VAL:HB	1.99	0.44
80:CA:1131:ILE:HG21	80:CA:1177:TRP:HE1	1.82	0.44
80:CA:1151:LEU:HD23	80:CA:1178:HIS:HB2	1.98	0.44
1:2:504:U:H2'	1:2:505:A:C8	2.52	0.44
1:2:929:A:OP1	1:2:931:C:N4	2.51	0.44
1:2:1280:C:H2'	1:2:1281:G:C8	2.52	0.44
1:2:1566:U:H5''	24:AS:39:GLY:N	2.30	0.44
1:2:1705:C:H2'	1:2:1706:C:C6	2.52	0.44
2:3:67:U:H2'	2:3:68:G:H8	1.82	0.44
2:3:75:G:H2'	2:3:76:C:C6	2.53	0.44
4:5:297:G:H2'	72:Bh:41:ARG:HH12	1.82	0.44
4:5:446:U:H4'	4:5:447:U:H5	1.82	0.44
4:5:630:U:H2'	4:5:631:A:H8	1.80	0.44
4:5:1456:U:H1'	67:Bc:26:LYS:HE3	2.00	0.44
4:5:1910:A:H2'	4:5:1911:A:C8	2.52	0.44
4:5:2511:U:H2'	4:5:2512:A:H8	1.83	0.44
4:5:2859:U:H2'	4:5:2860:U:C6	2.53	0.44
4:5:3122:U:H1'	4:5:3123:A:H5''	1.99	0.44
4:5:3349:G:H2'	4:5:3350:C:O4'	2.18	0.44
9:AD:191:ASP:OD2	9:AD:194:LYS:HG3	2.18	0.44
12:AG:159:ARG:NE	12:AG:170:THR:OG1	2.40	0.44
13:AH:16:LEU:HD12	13:AH:17:GLU:N	2.32	0.44
40:BB:17:LEU:HD21	40:BB:233:TRP:HH2	1.81	0.44
40:BB:233:TRP:CD1	40:BB:265:ALA:HB1	2.53	0.44
64:BZ:75:LEU:HD11	64:BZ:134:ALA:O	2.17	0.44
80:CA:571:GLU:HB3	80:CA:575:TYR:CE2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1363:ILE:HD11	80:CA:1374:ILE:HD11	1.98	0.44
1:2:59:C:O2'	1:2:60:U:O4'	2.35	0.44
1:2:427:C:C2	1:2:428:A:C8	3.05	0.44
1:2:694:U:N3	13:AH:96:ARG:O	2.41	0.44
1:2:1401:A:OP1	23:AR:56:HIS:NE2	2.46	0.44
4:5:170:G:N2	4:5:248:U:O2	2.27	0.44
4:5:735:C:H2'	4:5:736:A:O4'	2.18	0.44
4:5:1493:G:O2'	75:Bk:48:LYS:NZ	2.50	0.44
6:AA:62:ARG:HG2	6:AA:184:LEU:HD21	1.99	0.44
7:AB:32:ILE:HD12	7:AB:32:ILE:H	1.83	0.44
14:AI:106:ALA:CB	14:AI:165:LEU:HG	2.48	0.44
18:AM:130:THR:OG1	18:AM:131:ASP:N	2.38	0.44
24:AS:116:LEU:HD23	24:AS:123:ARG:HB2	1.99	0.44
28:AW:87:GLU:OE1	28:AW:117:ARG:NH2	2.46	0.44
36:Ae:52:GLY:O	36:Ae:53:LYS:HE2	2.17	0.44
38:Ag:61:PHE:HB3	38:Ag:92:TRP:CZ3	2.53	0.44
38:Ag:242:SER:HB3	38:Ag:255:ALA:HB3	2.00	0.44
42:BD:55:PHE:CE2	42:BD:159:VAL:HA	2.53	0.44
46:BH:21:LYS:HD2	46:BH:21:LYS:HA	1.69	0.44
48:BJ:54:VAL:HG11	48:BJ:57:PHE:CD2	2.53	0.44
49:BK:32:LYS:O	49:BK:36:ARG:HG3	2.18	0.44
80:CA:1142:PRO:HG3	82:CC:332:LEU:HG	2.00	0.44
80:CA:1400:ARG:O	80:CA:1400:ARG:HG2	2.17	0.44
1:2:138:A:H2'	1:2:139:C:C6	2.53	0.44
1:2:841:U:H2'	1:2:842:C:H6	1.81	0.44
1:2:1372:U:H2'	1:2:1373:C:H6	1.82	0.44
1:2:1623:C:H2'	1:2:1624:C:H6	1.82	0.44
2:3:40:A:H2'	2:3:41:A:C8	2.52	0.44
4:5:75:G:H5''	49:BK:58:VAL:HG22	2.00	0.44
4:5:374:A:N3	4:5:376:G:H5''	2.32	0.44
4:5:994:G:N3	4:5:2638:A:H2'	2.33	0.44
4:5:2422:U:H2'	4:5:2423:C:O4'	2.18	0.44
4:5:3095:A:OP1	59:BU:14:SER:OG	2.25	0.44
29:AX:93:LEU:HD21	36:Ae:8:LEU:HD23	2.00	0.44
34:Ac:42:ARG:HD2	34:Ac:42:ARG:HA	1.72	0.44
35:Ad:22:ARG:NH1	35:Ad:36:LEU:O	2.49	0.44
38:Ag:266:ASP:HB2	38:Ag:267:PRO:HD3	1.99	0.44
39:BA:119:LYS:N	39:BA:122:ASP:OD2	2.44	0.44
45:BG:74:THR:O	45:BG:77:GLN:NE2	2.34	0.44
57:BS:102:ARG:HE	57:BS:105:PHE:HD2	1.64	0.44
80:CA:1370:LYS:HD3	80:CA:1473:HIS:CG	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1661:ARG:HD3	80:CA:1696:THR:HG22	2.00	0.44
80:CA:1908:GLY:O	80:CA:1916:MET:N	2.51	0.44
82:CC:322:ASN:OD1	82:CC:323:PRO:HD2	2.18	0.44
1:2:78:A:H5''	12:AG:159:ARG:HH22	1.83	0.44
1:2:498:G:N2	1:2:499:U:H3	2.16	0.44
1:2:588:U:H2'	1:2:589:C:C6	2.53	0.44
1:2:823:G:C6	1:2:850:A:N6	2.86	0.44
1:2:845:G:H2'	1:2:846:G:H5''	1.99	0.44
1:2:1060:U:H3'	1:2:1061:A:H5''	1.98	0.44
4:5:1012:A:H2'	4:5:1013:G:H8	1.82	0.44
4:5:1091:G:H2'	4:5:1092:A:H8	1.81	0.44
4:5:1142:C:O2'	4:5:1154:A:N3	2.47	0.44
4:5:2214:A:H2'	4:5:2215:A:H8	1.81	0.44
4:5:3232:U:H2'	4:5:3233:G:C8	2.51	0.44
30:AY:91:LEU:HD13	30:AY:96:LEU:HD22	1.99	0.44
40:BB:41:VAL:HA	40:BB:185:GLY:HA3	2.00	0.44
58:BT:58:GLU:HG2	58:BT:60:GLY:H	1.83	0.44
69:Be:16:TYR:OH	69:Be:89:LEU:O	2.24	0.44
80:CA:476:PHE:CG	80:CA:738:TYR:HB2	2.53	0.44
80:CA:821:PRO:HG3	80:CA:919:TRP:CE2	2.52	0.44
80:CA:1664:SER:O	80:CA:1709:HIS:ND1	2.43	0.44
1:2:68:A:H5'	12:AG:160:ARG:HH12	1.82	0.43
1:2:1260:U:H2'	1:2:1261:G:C8	2.53	0.43
1:2:1738:U:H2'	1:2:1739:C:H6	1.82	0.43
2:3:7:U:H2'	2:3:8:C:C6	2.53	0.43
4:5:619:C:OP1	53:BO:173:ARG:NH2	2.51	0.43
4:5:1282:G:C2	4:5:1283:G:C8	3.06	0.43
4:5:1449:U:H2'	4:5:1450:A:H8	1.83	0.43
4:5:2178:G:OP2	39:BA:128:ARG:HD3	2.18	0.43
4:5:2353:A:H2'	4:5:2354:G:C8	2.53	0.43
4:5:3120:U:H4'	76:Bl:104:PRO:HG2	1.99	0.43
4:5:3279:C:O2	4:5:3279:C:H2'	2.17	0.43
8:AC:243:TYR:HB3	8:AC:246:GLU:OE2	2.18	0.43
11:AF:125:THR:HG22	11:AF:125:THR:O	2.18	0.43
18:AM:67:THR:O	18:AM:68:GLU:HG3	2.18	0.43
22:AQ:98:ASP:HB3	22:AQ:100:GLN:OE1	2.18	0.43
27:AV:69:LEU:O	27:AV:69:LEU:HD23	2.18	0.43
29:AX:62:LYS:O	29:AX:65:ASN:HB2	2.17	0.43
38:Ag:185:GLN:HE22	38:Ag:187:GLN:HB2	1.83	0.43
51:BM:47:LYS:HD2	51:BM:50:ARG:NH1	2.32	0.43
53:BO:18:ARG:NH2	53:BO:147:GLU:OE1	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BQ:151:ARG:HG2	55:BQ:151:ARG:HH11	1.82	0.43
80:CA:270:LEU:HB2	80:CA:288:LEU:HD11	2.00	0.43
80:CA:1035:PHE:HB2	80:CA:1053:PHE:HD2	1.83	0.43
82:CC:331:ARG:HA	82:CC:334:ARG:HB3	2.00	0.43
1:2:10:G:H1'	8:AC:89:GLN:OE1	2.18	0.43
1:2:52:U:H2'	1:2:53:G:C8	2.53	0.43
1:2:81:G:H2'	1:2:82:U:C6	2.53	0.43
1:2:551:G:H2'	1:2:552:G:H8	1.83	0.43
1:2:684:A:H2'	1:2:685:A:C8	2.53	0.43
1:2:1345:A:OP1	26:AU:54:GLY:HA3	2.18	0.43
1:2:1430:U:HO2'	1:2:1431:C:P	2.39	0.43
1:2:1504:G:N3	1:2:1563:C:O2'	2.45	0.43
1:2:1565:C:H2'	1:2:1566:U:H6	1.83	0.43
4:5:439:C:H5'	4:5:495:G:N2	2.33	0.43
4:5:1019:G:O6	4:5:1035:U:O4	2.36	0.43
4:5:1387:A:H5''	41:BC:141:ARG:NH2	2.33	0.43
4:5:1858:C:O2	70:Bf:4:ARG:HD2	2.18	0.43
4:5:2496:C:O2'	4:5:2497:C:OP1	2.30	0.43
4:5:2940:G:P	40:BB:3:HIS:NE2	2.91	0.43
8:AC:158:THR:HG21	8:AC:221:THR:HA	1.99	0.43
10:AE:35:PRO:HG2	10:AE:36:HIS:CD2	2.52	0.43
11:AF:49:GLU:O	11:AF:51:VAL:HG23	2.18	0.43
11:AF:134:VAL:O	11:AF:138:THR:HG23	2.18	0.43
13:AH:39:ARG:HH11	13:AH:40:PRO:CD	2.29	0.43
20:AO:47:LYS:HE2	20:AO:47:LYS:HA	1.99	0.43
20:AO:99:GLN:NE2	32:Aa:45:VAL:O	2.51	0.43
21:AP:32:ASP:HA	21:AP:35:LYS:HD3	2.00	0.43
28:AW:53:ILE:N	28:AW:60:LYS:O	2.51	0.43
31:AZ:80:LEU:HD13	31:AZ:101:TYR:HE2	1.82	0.43
39:BA:103:PRO:HA	39:BA:163:ARG:HA	1.99	0.43
46:BH:92:TYR:CE1	46:BH:101:VAL:HG21	2.53	0.43
51:BM:137:PRO:O	51:BM:143:ARG:HD3	2.18	0.43
55:BQ:122:VAL:O	55:BQ:126:GLU:HG2	2.18	0.43
56:BR:24:LEU:O	57:BS:148:PRO:HA	2.19	0.43
56:BR:41:TYR:CZ	56:BR:45:LEU:HD11	2.54	0.43
80:CA:416:ASP:N	80:CA:416:ASP:OD1	2.48	0.43
81:CB:74:ARG:NH2	81:CB:78:ARG:HH21	2.16	0.43
81:CB:157:ILE:HG22	81:CB:159:THR:HG23	2.00	0.43
1:2:168:A:P	12:AG:140:ASN:HD22	2.41	0.43
1:2:1348:A:H2'	1:2:1349:G:O4'	2.18	0.43
4:5:1383:G:P	41:BC:188:ARG:HH22	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1564:C:H2'	4:5:1565:U:C6	2.53	0.43
4:5:1581:A:OP2	4:5:2523:G:N2	2.46	0.43
6:AA:90:ALA:HA	6:AA:95:ALA:HB3	2.01	0.43
7:AB:137:ILE:HG21	7:AB:172:LEU:HD22	1.99	0.43
10:AE:156:VAL:HG12	10:AE:157:ASN:OD1	2.18	0.43
11:AF:32:GLU:O	11:AF:35:GLN:NE2	2.40	0.43
20:AO:30:VAL:HG13	20:AO:39:ILE:HB	1.99	0.43
23:AR:73:LEU:O	23:AR:76:GLU:HB3	2.17	0.43
32:Aa:58:VAL:HG23	32:Aa:59:TYR:CD2	2.54	0.43
40:BB:262:TRP:CD1	40:BB:262:TRP:H	2.35	0.43
45:BG:146:LYS:HE2	45:BG:173:MET:HE2	2.01	0.43
45:BG:162:LEU:HD23	51:BM:7:LEU:HD21	1.99	0.43
50:BL:103:ILE:O	50:BL:107:GLU:HG2	2.17	0.43
53:BO:84:PRO:HB2	53:BO:87:SER:HB2	2.00	0.43
55:BQ:13:SER:OG	55:BQ:38:ARG:NH2	2.51	0.43
71:Bg:30:GLU:O	71:Bg:33:VAL:HG22	2.18	0.43
81:CB:291:LEU:HD23	81:CB:291:LEU:H	1.83	0.43
1:2:17:C:H2'	1:2:18:C:C6	2.53	0.43
1:2:732:G:O2'	1:2:734:A:N6	2.50	0.43
1:2:885:G:OP1	7:AB:216:LYS:NZ	2.36	0.43
1:2:1429:G:H2'	1:2:1430:U:C6	2.53	0.43
1:2:1584:G:HO2'	1:2:1610:G:H1	1.66	0.43
1:2:1693:A:H2'	1:2:1694:A:H8	1.83	0.43
2:3:53:A:H2'	2:3:54:A:H8	1.83	0.43
4:5:138:U:H2'	4:5:139:G:H8	1.84	0.43
4:5:312:C:H2'	4:5:313:A:H8	1.82	0.43
4:5:508:U:H2'	4:5:509:U:C6	2.53	0.43
4:5:699:U:H2'	4:5:700:A:O4'	2.19	0.43
4:5:847:A:H2'	4:5:848:A:N7	2.34	0.43
4:5:1449:U:H2'	4:5:1450:A:C8	2.53	0.43
4:5:1552:C:H2'	4:5:1553:G:O4'	2.18	0.43
4:5:2246:C:O2'	39:BA:220:GLY:O	2.36	0.43
30:AY:35:VAL:HB	30:AY:40:LEU:HD11	1.99	0.43
41:BC:350:LYS:HE3	41:BC:350:LYS:HA	2.01	0.43
43:BE:152:THR:HG23	43:BE:155:LEU:HB2	2.01	0.43
45:BG:71:VAL:HG12	51:BM:21:PHE:CZ	2.53	0.43
53:BO:169:THR:HG21	53:BO:171:ARG:NH2	2.33	0.43
63:BY:95:VAL:O	63:BY:100:THR:OG1	2.29	0.43
77:Bm:2:ARG:NH2	77:Bm:4:LYS:HD2	2.32	0.43
80:CA:651:LYS:HG2	80:CA:655:ILE:HD13	2.00	0.43
80:CA:994:ARG:HD3	80:CA:1023:VAL:HB	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1202:VAL:HG21	80:CA:1219:GLU:HG3	2.00	0.43
80:CA:1906:LEU:N	80:CA:1918:LYS:O	2.45	0.43
1:2:1486:G:N2	1:2:1522:U:O4	2.52	0.43
2:3:110:C:O2'	2:3:112:U:OP2	2.23	0.43
3:4:23:A:H2'	3:4:24:A:C8	2.53	0.43
4:5:314:U:H2'	4:5:315:C:H6	1.83	0.43
4:5:440:A:H4'	4:5:492:C:C5	2.53	0.43
4:5:801:G:H22	41:BC:101:ALA:HA	1.84	0.43
4:5:1383:G:OP2	41:BC:188:ARG:NH1	2.44	0.43
4:5:1598:C:H2'	4:5:1599:G:C8	2.53	0.43
4:5:1670:C:OP1	70:Bf:24:LYS:NZ	2.40	0.43
4:5:1689:U:H2'	4:5:1690:U:C6	2.54	0.43
4:5:1700:A:H4'	74:Bj:3:ARG:HH12	1.83	0.43
4:5:2509:U:H2'	4:5:2510:U:C6	2.53	0.43
4:5:3357:G:H2'	4:5:3358:U:C6	2.54	0.43
15:Aj:105:LEU:HD12	15:Aj:108:ARG:HD2	1.99	0.43
18:AM:108:ARG:O	18:AM:110:GLY:N	2.51	0.43
25:AT:108:LEU:HD12	25:AT:108:LEU:H	1.83	0.43
26:AU:80:GLU:OE2	35:Ad:44:ARG:NH1	2.45	0.43
41:BC:170:LYS:HD2	41:BC:175:HIS:ND1	2.33	0.43
42:BD:120:LYS:O	42:BD:248:ARG:NH2	2.51	0.43
55:BQ:159:ALA:O	55:BQ:163:ARG:HG2	2.19	0.43
56:BR:8:GLN:HB3	56:BR:64:ILE:HD11	2.00	0.43
62:BX:38:GLU:OE1	62:BX:38:GLU:N	2.52	0.43
63:BY:105:SER:OG	63:BY:106:GLN:OE1	2.32	0.43
74:Bj:32:ASN:OD1	74:Bj:33:LYS:N	2.48	0.43
80:CA:1380:ARG:HG2	80:CA:1384:LEU:HD13	2.01	0.43
80:CA:1483:PHE:HB2	80:CA:1490:TYR:CE1	2.53	0.43
80:CA:1760:THR:O	80:CA:1764:MET:HG2	2.18	0.43
1:2:567:A:H1'	36:Ae:14:VAL:HG23	2.00	0.43
1:2:623:A:O2'	1:2:624:G:OP1	2.26	0.43
1:2:828:U:H2'	1:2:829:A:O4'	2.18	0.43
1:2:851:U:HO2'	1:2:852:C:H6	1.63	0.43
1:2:1318:G:H2'	1:2:1319:A:C8	2.54	0.43
2:3:36:G:OP1	73:Bi:66:TYR:OH	2.33	0.43
4:5:586:A:H2'	4:5:587:C:C6	2.54	0.43
4:5:1118:G:OP1	65:Ba:4:SER:HB2	2.19	0.43
4:5:1129:U:OP1	47:BI:4:ARG:NH1	2.37	0.43
4:5:1144:A:H5'	4:5:1369:U:H1'	2.01	0.43
4:5:1474:G:H5'	55:BQ:24:LEU:O	2.18	0.43
4:5:3296:A:H2'	4:5:3297:A:H8	1.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AB:26:ARG:HA	7:AB:50:LYS:NZ	2.33	0.43
7:AB:97:LEU:HD23	7:AB:232:HIS:CD2	2.54	0.43
15:AJ:179:ARG:HH11	80:CA:573:ASP:HB2	1.83	0.43
17:AL:14:GLN:HB3	17:AL:54:ILE:HG13	1.99	0.43
17:AL:94:ILE:HD12	29:AX:12:ALA:HB1	2.00	0.43
21:AP:22:LEU:HD22	21:AP:25:LEU:HD21	2.00	0.43
25:AT:52:GLY:C	25:AT:54:PHE:H	2.27	0.43
25:AT:86:ARG:NH2	25:AT:89:ARG:HE	2.16	0.43
28:AW:50:PHE:HB3	28:AW:63:VAL:HG13	1.99	0.43
38:Ag:156:VAL:HG12	38:Ag:169:ILE:HG22	2.00	0.43
39:BA:180:LEU:HD21	79:Bo:22:LEU:HB3	2.00	0.43
42:BD:55:PHE:HE2	42:BD:159:VAL:HA	1.82	0.43
42:BD:222:LEU:H	42:BD:222:LEU:HD23	1.83	0.43
44:BF:86:VAL:HG22	44:BF:136:TYR:HB3	2.01	0.43
53:BO:25:SER:OG	53:BO:28:ASN:HB2	2.18	0.43
54:BP:176:ARG:HA	54:BP:182:LYS:O	2.19	0.43
56:BR:81:TYR:CE1	56:BR:90:MET:HE3	2.53	0.43
80:CA:799:GLY:O	80:CA:802:SER:OG	2.30	0.43
80:CA:1119:ARG:NH2	82:CC:191:ASN:O	2.34	0.43
80:CA:1187:LYS:HD2	80:CA:1187:LYS:O	2.17	0.43
80:CA:1215:ASP:HB3	80:CA:1235:THR:HB	2.01	0.43
80:CA:1434:HIS:CE1	80:CA:1464:LEU:HD11	2.54	0.43
81:CB:74:ARG:O	81:CB:78:ARG:HG2	2.18	0.43
1:2:5:U:H2'	1:2:6:G:C8	2.54	0.43
1:2:158:U:O2'	1:2:160:C:H5'	2.19	0.43
1:2:285:G:H2'	1:2:286:C:C6	2.53	0.43
1:2:419:G:H5'	12:AG:72:ARG:HH21	1.83	0.43
1:2:647:G:N2	1:2:687:G:H22	2.17	0.43
1:2:864:U:OP2	33:Ab:26:GLN:NE2	2.47	0.43
1:2:1261:G:H2'	1:2:1262:U:C6	2.54	0.43
1:2:1450:U:H1'	35:Ad:7:TRP:CZ3	2.54	0.43
1:2:1524:A:H2	1:2:1590:G:H1'	1.83	0.43
1:2:1552:U:H3	1:2:1556:A:H62	1.56	0.43
4:5:180:C:H2'	4:5:181:U:H6	1.84	0.43
4:5:226:C:H2'	4:5:227:G:O4'	2.18	0.43
4:5:2140:A:O2'	73:Bi:3:LYS:NZ	2.51	0.43
4:5:2725:U:OP2	4:5:2727:C:N4	2.52	0.43
4:5:3270:U:H4'	4:5:3271:U:O5'	2.19	0.43
11:AF:82:PHE:CG	34:Ac:49:ARG:HD2	2.54	0.43
18:AM:126:TRP:HD1	18:AM:128:ALA:HB3	1.84	0.43
33:Ab:36:LYS:HB3	33:Ab:78:SER:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Ab:48:SER:HG	33:Ab:49:HIS:HD1	1.63	0.43
38:Ag:64:HIS:NE2	38:Ag:82:SER:OG	2.52	0.43
38:Ag:112:SER:HB3	38:Ag:154:VAL:HG22	2.00	0.43
38:Ag:258:THR:O	38:Ag:275:ARG:NH1	2.50	0.43
52:BN:181[A]:ALA:O	52:BN:184[A]:THR:OG1	2.27	0.43
62:BX:88:GLU:OE1	62:BX:88:GLU:N	2.51	0.43
77:Bm:23:ARG:HG2	77:Bm:23:ARG:HH11	1.84	0.43
80:CA:1079:GLN:HE21	80:CA:1099:SER:HB2	1.83	0.43
80:CA:1546:LEU:HA	80:CA:1549:HIS:CE1	2.53	0.43
80:CA:1614:SER:HA	80:CA:1644:ARG:HB3	1.99	0.43
1:2:1089:U:O2'	1:2:1093:A:N1	2.46	0.43
1:2:1273:G:H4'	1:2:1274:C:O5'	2.18	0.43
1:2:1390:U:C6	23:AR:3:ARG:HG3	2.54	0.43
1:2:1584:G:O2'	1:2:1585:U:P	2.76	0.43
1:2:1733:C:H2'	1:2:1734:U:C6	2.53	0.43
3:4:86:U:OP1	44:BF:218:ARG:NH2	2.52	0.43
4:5:89:A:N7	54:BP:171:LYS:NZ	2.66	0.43
4:5:729:G:H5''	54:BP:43:PRO:HB2	2.01	0.43
4:5:1581:A:H5''	4:5:2523:G:C2	2.54	0.43
4:5:2153:A:H2'	4:5:2154:U:H6	1.83	0.43
4:5:3255:G:H2'	4:5:3256:U:C6	2.54	0.43
6:AA:117:GLU:OE1	6:AA:117:GLU:N	2.51	0.43
29:AX:69:ARG:HD3	29:AX:69:ARG:HA	1.75	0.43
32:Aa:85:ARG:HG3	32:Aa:86:VAL:N	2.34	0.43
38:Ag:211:ILE:HB	38:Ag:223:TRP:HB2	2.00	0.43
41:BC:91:GLY:O	41:BC:97:GLY:HA3	2.19	0.43
41:BC:334:PHE:HA	41:BC:339:LEU:HD12	2.01	0.43
48:BJ:82:ARG:HD2	48:BJ:112:LEU:HD12	2.01	0.43
48:BJ:134:PRO:O	48:BJ:152:HIS:NE2	2.43	0.43
56:BR:93:GLU:HG3	56:BR:137:ARG:HG3	2.00	0.43
60:BV:57:LYS:HE3	60:BV:57:LYS:HB3	1.87	0.43
78:Bn:28:TYR:HB3	78:Bn:69:VAL:HB	2.00	0.43
79:Bo:28:LYS:O	79:Bo:32:GLN:HG3	2.19	0.43
80:CA:292:GLN:HA	80:CA:295:VAL:HG22	2.00	0.43
80:CA:638:CYS:SG	80:CA:680:THR:OG1	2.74	0.43
80:CA:1371:PRO:HB3	80:CA:1450:PHE:CE1	2.53	0.43
80:CA:1562:LYS:NZ	80:CA:1601:SER:OG	2.50	0.43
1:2:110:U:OP1	1:2:753:A:O2'	2.34	0.43
1:2:278:U:OP2	1:2:279:G:N2	2.52	0.43
1:2:1434:U:H4'	35:Ad:24:CYS:HB2	2.01	0.43
1:2:1606:C:H2'	1:2:1607:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1787:C:H2'	1:2:1788:G:H8	1.83	0.43
2:3:6:U:H2'	2:3:7:U:H6	1.84	0.43
4:5:440:A:H5''	4:5:495:G:H22	1.84	0.43
4:5:1563:C:O2'	4:5:1564:C:O5'	2.32	0.43
4:5:1815:A:H4'	4:5:1816:U:H5'	2.01	0.43
4:5:2428:U:H2'	4:5:2429:U:C6	2.54	0.43
4:5:3090:C:H2'	4:5:3091:U:O4'	2.18	0.43
4:5:3297:A:H2'	4:5:3298:U:C6	2.54	0.43
7:AB:29:TRP:HE3	7:AB:45:LYS:HG2	1.84	0.43
8:AC:54:GLU:OE1	8:AC:54:GLU:HA	2.18	0.43
18:AM:124:LYS:C	18:AM:126:TRP:H	2.27	0.43
24:AS:29:VAL:HB	24:AS:54:LEU:HD12	2.01	0.43
26:AU:61:LYS:HG3	26:AU:86:ILE:HB	2.01	0.43
30:AY:135:ASP:OD1	30:AY:135:ASP:N	2.45	0.43
32:Aa:83:ILE:HG22	32:Aa:84:VAL:HG13	2.01	0.43
45:BG:144:GLU:HA	45:BG:173:MET:SD	2.59	0.43
55:BQ:23:TRP:CE3	55:BQ:51:VAL:HG22	2.53	0.43
57:BS:119:ALA:O	57:BS:123:GLY:N	2.39	0.43
69:Be:59:VAL:HG23	69:Be:60:ARG:N	2.34	0.43
80:CA:571:GLU:HB3	80:CA:575:TYR:HE2	1.84	0.43
1:2:85:A:N3	1:2:148:A:O2'	2.50	0.43
1:2:139:C:H4'	1:2:140:A:O5'	2.18	0.43
1:2:280:U:H4'	1:2:281:G:O5'	2.19	0.43
1:2:413:U:H2'	1:2:414:C:C6	2.53	0.43
1:2:559:C:O5'	80:CA:982:LYS:HB2	2.19	0.43
1:2:708:C:H2'	1:2:710:U:C2	2.54	0.43
1:2:1453:G:O3'	21:AP:81:ARG:HD3	2.19	0.43
4:5:242:C:O2'	4:5:243:G:H8	2.02	0.43
4:5:1130:A:H2'	4:5:1131:A:C8	2.54	0.43
4:5:1177:C:OP1	52:BN:25[A]:LYS:NZ	2.46	0.43
4:5:1313:C:H2'	4:5:1314:G:O4'	2.19	0.43
4:5:1487:G:H21	70:Bf:6:THR:HG22	1.84	0.43
4:5:1623:U:H2'	4:5:1624:G:H8	1.84	0.43
7:AB:24:PHE:CE2	20:AO:39:ILE:HG23	2.54	0.43
9:AD:211:PRO:HG3	23:AR:20:TYR:CE1	2.47	0.43
18:AM:29:LYS:HG2	18:AM:100:TRP:HE1	1.84	0.43
25:AT:108:LEU:HA	25:AT:111:ILE:HG12	2.00	0.43
53:BO:179:GLN:HA	53:BO:182:ILE:HG22	2.00	0.43
64:BZ:91:LEU:HA	64:BZ:121:VAL:HG21	2.00	0.43
80:CA:391:ILE:HG12	80:CA:417:LEU:HD11	2.00	0.43
80:CA:989:TYR:O	80:CA:993:SER:OG	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1152:TYR:HD1	80:CA:1177:TRP:HB3	1.84	0.43
1:2:434:G:N2	1:2:436:A:H3'	2.34	0.42
1:2:526:A:OP1	30:AY:93:ARG:HD2	2.19	0.42
4:5:40:A:H5''	64:BZ:35:ALA:HB1	2.01	0.42
4:5:68:C:O3'	51:BM:177:GLY:HA2	2.19	0.42
4:5:180:C:H2'	4:5:181:U:C6	2.54	0.42
4:5:819:C:H2'	4:5:820:U:O4'	2.19	0.42
4:5:1240:C:H2'	4:5:1241:A:C8	2.54	0.42
4:5:2425:A:N1	39:BA:230:VAL:HG11	2.34	0.42
4:5:3065:U:H2'	4:5:3066:G:H8	1.83	0.42
8:AC:242:ILE:HG22	8:AC:243:TYR:CD2	2.53	0.42
22:AQ:54:LEU:HD11	22:AQ:112:TYR:CD2	2.53	0.42
25:AT:34:VAL:O	25:AT:35:ASP:OD1	2.37	0.42
50:BL:133:LYS:O	50:BL:137:LYS:NZ	2.52	0.42
59:BU:18:PRO:HA	59:BU:51:ALA:HA	2.01	0.42
67:Bc:28:ARG:HB2	67:Bc:64:VAL:O	2.20	0.42
77:Bm:23:ARG:HG2	77:Bm:23:ARG:NH1	2.34	0.42
82:CC:339:GLN:NE2	82:CC:340:ASP:OD1	2.52	0.42
1:2:405:C:O2'	12:AG:92:ARG:O	2.31	0.42
1:2:888:U:H2'	1:2:889:U:C6	2.54	0.42
1:2:913:G:N7	7:AB:12:GLY:N	2.67	0.42
1:2:978:A:H1'	1:2:1788:G:H1'	2.01	0.42
1:2:1247:U:H2'	1:2:1248:C:H6	1.84	0.42
1:2:1435:G:H4'	1:2:1436:A:H5'	2.01	0.42
3:4:38:U:N3	3:4:41:G:OP2	2.43	0.42
4:5:47:C:OP2	4:5:48:A:O2'	2.24	0.42
4:5:107:A:O2'	4:5:324:A:N3	2.48	0.42
4:5:147:U:C4	45:BG:157:VAL:HG13	2.54	0.42
4:5:184:U:H2'	4:5:185:C:C6	2.54	0.42
4:5:442:G:C8	4:5:443:G:N2	2.87	0.42
4:5:651:C:H2'	4:5:652:G:C8	2.54	0.42
4:5:847:A:H8	4:5:848:A:N7	2.17	0.42
4:5:3333:U:H2'	4:5:3334:G:O4'	2.20	0.42
4:5:3377:A:H5'	4:5:3378:G:H5''	2.00	0.42
7:AB:134:VAL:HB	7:AB:219:LYS:HG2	2.00	0.42
7:AB:164:ILE:HG21	7:AB:207:LEU:HD21	2.00	0.42
9:AD:158:ILE:HG13	9:AD:164:VAL:HG22	2.01	0.42
13:AH:67:LEU:HD13	13:AH:94:ALA:HB2	2.00	0.42
13:AH:80:GLU:HA	13:AH:83:LYS:NZ	2.33	0.42
14:AI:168:CYS:HB2	14:AI:184:LEU:HD21	2.00	0.42
20:AO:60:ALA:HB1	20:AO:101:ALA:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AR:57:LEU:O	23:AR:61:ILE:HD12	2.19	0.42
32:Aa:53:LEU:O	32:Aa:57:SER:HB2	2.18	0.42
39:BA:102:LEU:HD22	39:BA:166:ILE:HD11	2.01	0.42
40:BB:232:ARG:HD3	40:BB:233:TRP:NE1	2.34	0.42
40:BB:287:LYS:HE3	40:BB:287:LYS:HB3	1.79	0.42
80:CA:230:ALA:HA	80:CA:237:PRO:HA	2.01	0.42
80:CA:1186:LYS:HD2	80:CA:1259:ASP:OD2	2.18	0.42
80:CA:1627:THR:O	80:CA:1631:SER:N	2.51	0.42
80:CA:1925:MET:HE2	80:CA:1930:ILE:HD11	2.01	0.42
1:2:436:A:H8	1:2:436:A:OP2	2.02	0.42
1:2:448:C:OP1	10:AE:29:PRO:HG3	2.19	0.42
1:2:496:G:H2'	1:2:497:G:H8	1.79	0.42
1:2:1253:U:H2'	1:2:1254:U:C6	2.54	0.42
1:2:1423:U:H2'	1:2:1424:A:O4'	2.19	0.42
2:3:4:C:H2'	2:3:5:U:H6	1.84	0.42
2:3:6:U:H2'	2:3:7:U:C6	2.54	0.42
4:5:168:U:H2'	4:5:169:U:C6	2.55	0.42
4:5:307:A:H2'	4:5:308:A:H8	1.85	0.42
4:5:517:A:H2'	4:5:518:G:C8	2.54	0.42
4:5:718:C:H2'	4:5:719:G:O4'	2.19	0.42
4:5:986:U:O3'	44:BF:98:LYS:NZ	2.52	0.42
4:5:1109:U:H2'	4:5:1110:U:H6	1.83	0.42
4:5:1337:U:H2'	4:5:1338:A:H8	1.83	0.42
4:5:1337:U:H2'	4:5:1338:A:C8	2.54	0.42
4:5:1767:G:H2'	4:5:1768:C:C6	2.55	0.42
4:5:2430:G:H2'	4:5:2431:A:C8	2.53	0.42
4:5:2527:C:H2'	4:5:2528:G:C8	2.54	0.42
4:5:3067:U:H2'	4:5:3068:C:C6	2.55	0.42
7:AB:70:LEU:HD23	7:AB:82:ARG:HE	1.85	0.42
7:AB:205:PHE:HB3	7:AB:207:LEU:HD13	2.01	0.42
15:AJ:133:HIS:O	15:AJ:134:ILE:HD13	2.19	0.42
25:AT:100:ILE:HG13	25:AT:101:ASN:N	2.34	0.42
30:AY:89:TYR:OH	30:AY:90:ARG:NH2	2.40	0.42
38:Ag:134:TRP:NE1	38:Ag:140:CYS:HB2	2.35	0.42
42:BD:104:LEU:HD11	42:BD:108:ARG:HH21	1.84	0.42
45:BG:173:MET:HE2	45:BG:173:MET:HB3	1.96	0.42
51:BM:190:THR:O	51:BM:194:GLN:HG2	2.19	0.42
56:BR:132:THR:C	56:BR:134:ASP:H	2.26	0.42
72:Bh:76:ARG:HA	72:Bh:76:ARG:HD3	1.87	0.42
80:CA:227:MET:SD	80:CA:239:GLY:HA2	2.60	0.42
80:CA:538:PHE:O	80:CA:642:LYS:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:CA:1139:TYR:HE2	82:CC:331:ARG:HH21	1.67	0.42
1:2:30:G:H2'	1:2:31:C:C6	2.54	0.42
1:2:640:U:H2'	1:2:641:G:O4'	2.20	0.42
1:2:913:G:N7	7:AB:11:LYS:HB3	2.35	0.42
3:4:44:C:H4'	42:BD:152:ARG:HD3	2.02	0.42
4:5:940:U:O2'	4:5:2403:A:N1	2.51	0.42
4:5:1616:C:H2'	4:5:1617:U:H6	1.85	0.42
4:5:2116:G:O2'	55:BQ:82:LYS:HE3	2.19	0.42
4:5:2233:A:H2'	4:5:2234:A:C8	2.55	0.42
4:5:2430:G:H2'	4:5:2431:A:H8	1.83	0.42
4:5:2533:U:N3	4:5:2534:G:N7	2.67	0.42
4:5:2778:G:C2	64:BZ:60:TYR:CE1	3.08	0.42
4:5:3237:U:H1'	4:5:3253:G:N2	2.33	0.42
6:AA:117:GLU:HG2	6:AA:117:GLU:O	2.19	0.42
8:AC:67:GLN:OE1	8:AC:67:GLN:N	2.53	0.42
22:AQ:127:LYS:HE2	22:AQ:131:GLY:O	2.19	0.42
28:AW:106:THR:OG1	28:AW:111:MET:HE3	2.20	0.42
38:Ag:69:GLN:N	38:Ag:83:ALA:O	2.44	0.42
38:Ag:250:TYR:C	38:Ag:251:TRP:HD1	2.27	0.42
43:BE:149:ILE:HG23	43:BE:155:LEU:HD23	2.01	0.42
49:BK:74:GLY:CA	49:BK:98:ASP:HB2	2.49	0.42
70:Bf:8:ARG:NH1	70:Bf:31:ARG:HD3	2.34	0.42
80:CA:600:ALA:C	80:CA:607:ARG:HH22	2.28	0.42
80:CA:1187:LYS:NZ	80:CA:1257:VAL:HA	2.34	0.42
80:CA:1346:LEU:HB3	80:CA:1350:PRO:HD2	2.01	0.42
81:CB:100:VAL:HG13	81:CB:103:GLN:HE21	1.85	0.42
81:CB:237:ILE:HG23	81:CB:273:MET:HE1	2.01	0.42
1:2:71:A:H2'	1:2:72:A:O4'	2.19	0.42
1:2:172:C:H2'	1:2:173:A:O4'	2.18	0.42
1:2:1236:A:H2'	1:2:1237:G:H8	1.84	0.42
1:2:1501:C:H2'	1:2:1502:G:C8	2.54	0.42
1:2:1622:G:H2'	1:2:1623:C:H6	1.84	0.42
4:5:822:U:H2'	4:5:823:G:C8	2.55	0.42
4:5:1802:U:H2'	4:5:1803:C:C6	2.54	0.42
4:5:3163:C:C4	4:5:3164:A:N6	2.86	0.42
7:AB:127:VAL:HB	7:AB:173:THR:HG22	2.01	0.42
9:AD:70:THR:HG22	9:AD:86:LEU:HD13	2.01	0.42
11:AF:57:SER:H	34:Ac:53:ILE:HD11	1.83	0.42
12:AG:169:TYR:CE2	12:AG:171:LYS:HD2	2.54	0.42
22:AQ:31:VAL:N	22:AQ:34:SER:O	2.35	0.42
34:Ac:29:ARG:HH11	34:Ac:39:THR:HG23	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ac:58:GLU:OE2	34:Ac:59:SER:N	2.52	0.42
40:BB:283:TYR:CD1	40:BB:354:VAL:HG11	2.55	0.42
47:BI:82:ARG:O	47:BI:82:ARG:HD2	2.19	0.42
50:BL:32:LEU:HD11	50:BL:94:TRP:CG	2.55	0.42
59:BU:90:GLY:O	60:BV:16:GLY:HA2	2.19	0.42
63:BY:54:THR:H	63:BY:57:HIS:HD2	1.65	0.42
80:CA:1043:ASP:OD1	80:CA:1043:ASP:N	2.51	0.42
81:CB:258:ILE:HD11	81:CB:267:TYR:HD2	1.84	0.42
1:2:159:U:H5'	30:AY:117:LYS:HB3	2.02	0.42
1:2:189:C:H2'	1:2:190:C:C6	2.54	0.42
1:2:204:G:H2'	1:2:205:U:O4'	2.20	0.42
1:2:502:U:H2'	1:2:503:G:H8	1.84	0.42
1:2:561:G:C6	1:2:585:A:C6	3.08	0.42
1:2:610:G:H21	29:AX:19:ARG:NH2	2.17	0.42
1:2:968:U:OP1	1:2:1033:C:O2'	2.38	0.42
1:2:1081:A:N3	1:2:1082:C:N4	2.67	0.42
1:2:1487:A:H2'	1:2:1488:G:H8	1.81	0.42
1:2:1639:C:H2'	1:2:1640:C:O4'	2.19	0.42
2:3:26:U:O2'	41:BC:51:ALA:O	2.36	0.42
3:4:81:U:H2'	3:4:82:G:H8	1.84	0.42
4:5:383:G:N2	4:5:386:A:OP2	2.41	0.42
4:5:442:G:P	4:5:443:G:H22	2.43	0.42
4:5:442:G:H3'	4:5:443:G:C4	2.55	0.42
4:5:1392:C:C2	68:Bd:103:LYS:HD3	2.54	0.42
6:AA:180:GLU:H	6:AA:180:GLU:CD	2.25	0.42
13:AH:29:ASN:OD1	13:AH:30:SER:N	2.51	0.42
14:AI:82:VAL:HG21	14:AI:166:TYR:CE1	2.54	0.42
37:Af:135:HIS:HE1	37:Af:140:TYR:HB3	1.85	0.42
38:Ag:245:PHE:CE1	38:Ag:252:LEU:HD13	2.55	0.42
40:BB:103:THR:HG21	40:BB:147:GLU:HB3	2.01	0.42
48:BJ:44:THR:HA	48:BJ:45:PRO:HD3	1.87	0.42
54:BP:90:ASP:OD1	54:BP:92:ARG:NE	2.37	0.42
57:BS:112:ASN:OD1	57:BS:128:LEU:HB3	2.19	0.42
61:BW:73:MET:HE1	61:BW:141:TYR:CD2	2.54	0.42
74:Bj:21:LYS:HA	74:Bj:21:LYS:HE2	2.01	0.42
80:CA:502:LEU:HB2	80:CA:683:LEU:O	2.19	0.42
80:CA:1159:PHE:HB3	80:CA:1323:LEU:HD12	2.01	0.42
80:CA:1194:MET:HG3	80:CA:1196:ALA:H	1.85	0.42
80:CA:1264:ILE:HG22	80:CA:1300:LEU:HD23	2.02	0.42
80:CA:1380:ARG:CZ	81:CB:2:LEU:HB3	2.50	0.42
81:CB:20:LEU:HA	81:CB:21:PRO:HD3	1.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:393:C:H2'	1:2:394:C:C6	2.55	0.42
1:2:508:U:H5''	80:CA:605:SER:HB2	2.02	0.42
1:2:903:U:O2'	1:2:905:A:N7	2.37	0.42
1:2:1350:U:H2'	1:2:1351:G:C8	2.54	0.42
1:2:1357:A:C6	1:2:1367:G:C5	3.07	0.42
1:2:1382:A:H2'	1:2:1383:G:C8	2.55	0.42
1:2:1660:A:H2'	1:2:1661:U:C6	2.55	0.42
3:4:96:U:H2'	3:4:97:A:H8	1.84	0.42
4:5:75:G:H5''	49:BK:58:VAL:CG2	2.50	0.42
4:5:157:A:N7	72:Bh:26:ILE:HG12	2.35	0.42
4:5:650:A:OP2	4:5:2869:U:O2'	2.37	0.42
4:5:1307:G:O6	4:5:2367:C:O2'	2.37	0.42
4:5:1661:C:H2'	4:5:1662:G:H8	1.85	0.42
4:5:2108:A:H2	4:5:3345:A:C8	2.37	0.42
4:5:2274:G:O2'	4:5:2312:G:O6	2.28	0.42
5:6:69:G:H2'	5:6:70:G:C8	2.55	0.42
6:AA:38:PHE:CD2	23:AR:109:LEU:HD13	2.54	0.42
10:AE:181:VAL:HG21	10:AE:195:ILE:HG13	2.01	0.42
12:AG:21:GLU:O	12:AG:25:ARG:NH1	2.53	0.42
13:AH:74:GLN:HG3	13:AH:92:PHE:CD2	2.55	0.42
14:AI:62:THR:HG22	14:AI:77:ARG:HA	2.00	0.42
20:AO:103:ARG:NH1	32:Aa:52:ASP:OD2	2.52	0.42
23:AR:77:GLU:C	23:AR:79:GLU:H	2.28	0.42
24:AS:68:ARG:O	24:AS:72:ILE:HG12	2.20	0.42
25:AT:79:LEU:HD22	25:AT:80:TYR:CD2	2.54	0.42
26:AU:44:ASN:C	26:AU:48:HIS:HD1	2.22	0.42
31:AZ:25:LYS:HG3	31:AZ:27:TRP:CD1	2.54	0.42
32:Aa:82:ARG:HA	32:Aa:85:ARG:NH1	2.35	0.42
43:BE:54:TYR:CE1	43:BE:63:LEU:HD22	2.55	0.42
45:BG:76:ALA:O	45:BG:79:GLN:NE2	2.53	0.42
47:BI:66:GLU:CD	47:BI:69:ARG:HH21	2.26	0.42
52:BN:18[A]:ARG:O	52:BN:22[A]:VAL:HG23	2.20	0.42
64:BZ:136:GLU:HA	64:BZ:139:ARG:HG2	2.00	0.42
66:Bb:103:THR:HG22	66:Bb:104:LEU:N	2.34	0.42
79:Bo:88:GLU:OE1	79:Bo:88:GLU:N	2.52	0.42
80:CA:257:ASP:OD1	80:CA:257:ASP:N	2.51	0.42
80:CA:545:THR:HG21	80:CA:599:HIS:HB3	2.02	0.42
80:CA:952:ASN:HD21	80:CA:981:ASN:HD22	1.68	0.42
81:CB:18:ILE:O	81:CB:69:THR:OG1	2.35	0.42
81:CB:93:SER:HA	81:CB:96:ILE:HD12	2.02	0.42
1:2:1471:A:O2'	1:2:1472:C:OP1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1739:C:H2'	1:2:1740:A:H8	1.85	0.42
4:5:38:U:H2'	4:5:39:A:O4'	2.19	0.42
4:5:496:G:N2	4:5:620:A:H1'	2.33	0.42
4:5:542:U:O4	4:5:543:G:O6	2.37	0.42
4:5:939:C:C5	64:BZ:26:ARG:HD2	2.55	0.42
4:5:1065:A:H4'	4:5:1066:A:O5'	2.18	0.42
4:5:1498:C:H2'	4:5:1499:A:C8	2.54	0.42
4:5:1817:A:O2'	4:5:1818:G:OP1	2.33	0.42
4:5:2954:U:H2'	4:5:2955:U:H2'	2.01	0.42
21:AP:32:ASP:OD1	21:AP:32:ASP:N	2.53	0.42
23:AR:107:SER:HB3	23:AR:121:VAL:HG21	2.01	0.42
28:AW:115:GLU:HG2	28:AW:118:ARG:NH1	2.35	0.42
30:AY:129:VAL:O	30:AY:133:ASN:N	2.53	0.42
37:Af:120:GLU:OE1	37:Af:130:VAL:N	2.51	0.42
40:BB:57:VAL:HG22	40:BB:73:VAL:HG22	2.02	0.42
43:BE:52:VAL:HG22	43:BE:65:VAL:HG22	2.02	0.42
54:BP:125:ASP:OD1	54:BP:126:GLN:N	2.52	0.42
63:BY:87:LEU:HD11	63:BY:121:ARG:HD3	2.01	0.42
80:CA:404:TRP:HD1	80:CA:443:LEU:HD22	1.85	0.42
80:CA:609:LEU:O	80:CA:613:MET:HG3	2.19	0.42
80:CA:902:ASN:O	80:CA:906:ILE:HG12	2.20	0.42
80:CA:912:LEU:HA	80:CA:915:VAL:HG22	2.02	0.42
1:2:837:G:H2'	1:2:838:G:H8	1.85	0.42
1:2:870:C:H1'	33:Ab:51:GLN:NE2	2.35	0.42
1:2:931:C:H5''	7:AB:116:LYS:HB3	2.01	0.42
1:2:1259:U:H2'	1:2:1260:U:C6	2.55	0.42
1:2:1380:U:C2	1:2:1381:U:C5	3.07	0.42
1:2:1484:G:H2'	1:2:1485:C:H6	1.84	0.42
1:2:1584:G:O2'	1:2:1610:G:N1	2.53	0.42
1:2:1584:G:H1'	1:2:1585:U:H5	1.85	0.42
4:5:248:U:H3'	4:5:249:U:H5''	2.02	0.42
4:5:443:G:H2'	4:5:444:U:C6	2.54	0.42
4:5:572:U:H2'	4:5:573:A:H8	1.84	0.42
4:5:1209:U:H4'	4:5:1210:G:OP1	2.20	0.42
4:5:1661:C:H2'	4:5:1662:G:C8	2.55	0.42
4:5:2108:A:H2	4:5:3345:A:H8	1.67	0.42
4:5:2787:G:N2	64:BZ:58:MET:SD	2.82	0.42
4:5:2814:A:H2'	4:5:2815:G:O4'	2.20	0.42
4:5:2898:A:OP2	76:Bl:124:LYS:NZ	2.52	0.42
6:AA:52:LYS:HB3	27:AV:82:VAL:HG23	2.02	0.42
8:AC:38:VAL:HG13	8:AC:38:VAL:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AC:111:VAL:HG11	8:AC:218:ILE:HD12	2.02	0.42
12:AG:70:PRO:HA	12:AG:98:ARG:HH12	1.85	0.42
17:AL:109:VAL:HG12	17:AL:137:PHE:HB2	2.02	0.42
32:Aa:83:ILE:C	32:Aa:85:ARG:N	2.77	0.42
40:BB:211:GLN:NE2	40:BB:284:ARG:HA	2.34	0.42
48:BJ:60:ARG:HH12	78:Bn:104:LEU:N	2.16	0.42
49:BK:180:ARG:HG2	49:BK:180:ARG:NH1	2.34	0.42
58:BT:80:THR:HG21	58:BT:95:PHE:CD1	2.55	0.42
80:CA:1482:PHE:HB3	80:CA:1493:MET:HE1	2.01	0.42
81:CB:181:GLY:N	81:CB:228:ARG:HH22	2.18	0.42
82:CC:363:LEU:HD12	82:CC:363:LEU:O	2.20	0.42
1:2:1:U:O2	15:AJ:54:ARG:NH2	2.53	0.42
1:2:329:G:H2'	1:2:330:G:C8	2.55	0.42
1:2:795:U:C2	1:2:796:A:C8	3.07	0.42
1:2:1157:A:H2'	1:2:1160:A:N7	2.35	0.42
1:2:1294:G:C4'	6:AA:109:ASN:HB3	2.50	0.42
1:2:1483:A:OP2	1:2:1521:G:N2	2.52	0.42
3:4:96:U:OP1	56:BR:43:TYR:OH	2.24	0.42
4:5:442:G:C8	4:5:443:G:C2	3.08	0.42
4:5:446:U:H2'	4:5:448:U:C4	2.55	0.42
4:5:506:G:P	41:BC:320:ASN:HD22	2.43	0.42
4:5:544:C:H2'	4:5:545:C:O4'	2.19	0.42
4:5:969:G:H2'	4:5:970:C:C6	2.55	0.42
4:5:1617:U:H2'	4:5:1618:G:C8	2.55	0.42
4:5:1783:U:H2'	4:5:1784:U:O4'	2.20	0.42
4:5:1946:A:H2'	4:5:1947:A:H8	1.85	0.42
4:5:2951:G:OP2	4:5:2951:G:N2	2.44	0.42
4:5:3165:C:O2'	4:5:3166:A:O5'	2.36	0.42
7:AB:88:VAL:HA	7:AB:98:THR:HG22	2.02	0.42
31:AZ:82:HIS:HA	31:AZ:85:LYS:NZ	2.34	0.42
40:BB:256:HIS:HA	40:BB:257:PRO:C	2.45	0.42
42:BD:219:PHE:CE2	42:BD:227:LEU:HD11	2.55	0.42
48:BJ:86:VAL:HG11	48:BJ:106:ILE:HB	2.01	0.42
59:BU:38:ALA:HB3	59:BU:59:MET:HB2	2.02	0.42
68:Bd:86:THR:HG23	68:Bd:87:MET:HG2	2.02	0.42
80:CA:1261:SER:O	80:CA:1298:ARG:HB2	2.20	0.42
1:2:156:A:H2'	1:2:157:A:O4'	2.20	0.41
1:2:158:U:O2'	1:2:159:U:H3'	2.20	0.41
1:2:190:C:C4	1:2:191:C:H1'	2.55	0.41
1:2:518:A:H1'	1:2:534:A:N6	2.35	0.41
1:2:986:G:H2'	1:2:987:G:O4'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:28:C:O2'	4:5:692:A:N1	2.44	0.41
2:3:37:A:OP2	71:Bg:86:ARG:HD2	2.20	0.41
2:3:132:G:H5''	61:BW:94:GLN:NE2	2.35	0.41
4:5:189:G:C6	4:5:206:G:C6	3.08	0.41
4:5:2259:U:C2	4:5:2260:A:C8	3.08	0.41
6:AA:88:LYS:HZ1	23:AR:82:ASP:C	2.28	0.41
9:AD:178:ARG:NH1	9:AD:179:GLN:HB3	2.35	0.41
13:AH:51:VAL:HG12	13:AH:171:ALA:HB3	2.01	0.41
14:AI:76:THR:HG22	14:AI:108:PRO:HG2	2.02	0.41
23:AR:77:GLU:CB	23:AR:81:LYS:HZ3	2.32	0.41
23:AR:77:GLU:CB	23:AR:81:LYS:NZ	2.83	0.41
28:AW:115:GLU:HG2	28:AW:118:ARG:HH12	1.83	0.41
31:AZ:64:VAL:HG12	31:AZ:68:ARG:HD3	2.02	0.41
31:AZ:91:PRO:HA	31:AZ:101:TYR:HD1	1.85	0.41
49:BK:47:ALA:HB3	49:BK:48:PRO:HD3	2.02	0.41
54:BP:64:VAL:HA	54:BP:67:ILE:HD12	2.00	0.41
55:BQ:157:GLU:O	55:BQ:160:GLU:HG3	2.20	0.41
55:BQ:166:ASN:HB3	55:BQ:167:ARG:HH12	1.85	0.41
70:Bf:58:ARG:HA	70:Bf:58:ARG:HD2	1.90	0.41
80:CA:1425:LEU:H	80:CA:1425:LEU:HD23	1.85	0.41
81:CB:17:ASP:C	81:CB:19:SER:H	2.28	0.41
81:CB:237:ILE:HD12	81:CB:240:SER:HB2	2.01	0.41
1:2:867:G:OP1	19:AN:3:ARG:HA	2.20	0.41
1:2:907:A:H1'	1:2:997:G:O2'	2.19	0.41
1:2:956:C:OP1	1:2:1072:C:O2'	2.37	0.41
1:2:1365:C:OP1	22:AQ:66:ARG:NH2	2.54	0.41
1:2:1638:G:H2'	1:2:1639:C:O4'	2.20	0.41
2:3:63:G:N3	2:3:63:G:H2'	2.35	0.41
3:4:9:C:OP1	57:BS:28:SER:OG	2.31	0.41
4:5:184:U:H2'	4:5:185:C:H6	1.85	0.41
4:5:711:A:H2'	4:5:712:A:C8	2.55	0.41
4:5:797:U:H2'	4:5:798:U:C6	2.55	0.41
4:5:819:C:O2'	4:5:2139:A:N1	2.52	0.41
4:5:993:A:O2'	4:5:994:G:H5'	2.19	0.41
4:5:1064:G:C6	57:BS:109:VAL:HG22	2.55	0.41
4:5:1662:G:H2'	4:5:1663:G:H8	1.75	0.41
4:5:1906:G:O6	40:BB:241:LYS:NZ	2.51	0.41
4:5:3087:A:H3'	4:5:3088:A:H8	1.86	0.41
5:6:52:G:H2'	5:6:53:U:H6	1.85	0.41
10:AE:122:LYS:HB3	10:AE:164:LEU:HD21	2.01	0.41
16:AK:77:ARG:O	16:AK:81:ASN:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AM:67:THR:C	18:AM:69:ALA:H	2.29	0.41
21:AP:60:LEU:HD23	21:AP:89:MET:SD	2.60	0.41
27:AV:17:CYS:HB2	27:AV:56:SER:HB3	2.02	0.41
47:BI:80:SER:HB3	47:BI:147:VAL:HG11	2.02	0.41
54:BP:123:THR:OG1	54:BP:125:ASP:OD1	2.30	0.41
64:BZ:112:ILE:HB	64:BZ:130:VAL:HG23	2.02	0.41
80:CA:234:PHE:CG	80:CA:235:THR:N	2.88	0.41
80:CA:523:ASP:O	80:CA:526:SER:OG	2.33	0.41
1:2:333:A:H62	14:AI:27:PHE:HB2	1.86	0.41
1:2:656:G:N3	1:2:656:G:H2'	2.35	0.41
1:2:987:G:N1	39:BA:248:GLY:O	2.53	0.41
1:2:1064:G:O2'	7:AB:204:ILE:O	2.39	0.41
1:2:1732:A:H2'	1:2:1733:C:H6	1.84	0.41
2:3:42:G:O6	73:BI:65:ARG:NH2	2.53	0.41
4:5:340:C:OP2	41:BC:195:ARG:NH1	2.38	0.41
4:5:1144:A:H4'	4:5:1145:U:OP2	2.20	0.41
4:5:1258:C:O2	4:5:1262:G:O6	2.38	0.41
4:5:1487:G:N2	70:Bf:6:THR:HG22	2.34	0.41
4:5:1568:U:O2	4:5:1572:A:N6	2.53	0.41
4:5:1717:U:O2'	4:5:1718:U:H4'	2.20	0.41
4:5:2540:C:H4'	4:5:2542:U:O4	2.21	0.41
4:5:3323:A:H2'	4:5:3324:A:H8	1.85	0.41
6:AA:179:ARG:HG3	6:AA:195:TRP:CE3	2.55	0.41
10:AE:51:ARG:HD3	10:AE:51:ARG:HA	1.83	0.41
12:AG:46:LYS:HD2	12:AG:46:LYS:HA	1.92	0.41
13:AH:63:PRO:HB2	13:AH:65:PRO:HD2	2.02	0.41
18:AM:68:GLU:OE1	18:AM:70:ASN:HB2	2.20	0.41
23:AR:25:THR:OG1	23:AR:26:LEU:N	2.52	0.41
24:AS:68:ARG:HG3	24:AS:71:GLN:NE2	2.35	0.41
38:Ag:205:SER:HA	38:Ag:245:PHE:CD2	2.55	0.41
39:BA:33:ASP:O	39:BA:37:ARG:NH2	2.53	0.41
39:BA:68:LYS:HD3	39:BA:70:ARG:NH1	2.35	0.41
41:BC:156:LEU:HD12	41:BC:159:ILE:HD12	2.02	0.41
49:BK:165:SER:C	49:BK:167:PHE:H	2.27	0.41
57:BS:73:GLY:HA2	57:BS:89:LEU:O	2.20	0.41
64:BZ:77:LYS:HB3	64:BZ:80:THR:HG23	2.01	0.41
75:Bk:24:PRO:HD2	75:Bk:27:ILE:HD12	2.02	0.41
80:CA:319:ILE:H	80:CA:319:ILE:HD12	1.86	0.41
80:CA:1140:PHE:HE2	80:CA:1148:PHE:CD1	2.37	0.41
80:CA:1307:SER:HB3	80:CA:1537:PRO:HA	2.02	0.41
1:2:600:U:OP2	29:AX:108:GLY:HA2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:753:A:OP1	10:AE:187:ARG:N	2.54	0.41
1:2:1590:G:H2'	1:2:1591:C:H6	1.85	0.41
1:2:1718:G:H2'	1:2:1719:A:C8	2.54	0.41
4:5:314:U:H2'	4:5:315:C:C6	2.55	0.41
4:5:560:A:O2'	50:BL:84:LYS:NZ	2.45	0.41
4:5:617:G:H2'	4:5:618:G:H8	1.85	0.41
4:5:847:A:H8	4:5:848:A:C5	2.37	0.41
4:5:2384:C:H2'	4:5:2385:A:O4'	2.21	0.41
4:5:2417:U:H2'	4:5:2418:U:H6	1.85	0.41
4:5:2446:A:H2	4:5:2503:A:N6	2.16	0.41
4:5:3016:G:H2'	4:5:3017:A:C8	2.56	0.41
4:5:3358:U:H2'	4:5:3359:U:C6	2.55	0.41
7:AB:67:GLU:HA	7:AB:85:LYS:HA	2.03	0.41
7:AB:104:ASP:OD1	7:AB:105:PHE:N	2.52	0.41
9:AD:222:VAL:HG11	38:Ag:228:LYS:HB3	2.01	0.41
23:AR:26:LEU:HD21	23:AR:62:GLN:HG2	2.03	0.41
23:AR:74:GLN:HG2	23:AR:75:GLU:N	2.34	0.41
26:AU:88:LYS:C	26:AU:89:ARG:HD3	2.46	0.41
28:AW:47:ILE:HG13	28:AW:48:GLY:H	1.85	0.41
39:BA:104:LEU:HD23	39:BA:104:LEU:HA	1.89	0.41
40:BB:72:VAL:HG12	59:BU:88:ARG:HB3	2.02	0.41
40:BB:209:PHE:HE1	40:BB:340:LYS:HG2	1.85	0.41
41:BC:42:VAL:HG13	41:BC:236:LEU:HD21	2.02	0.41
41:BC:55:LYS:HE3	41:BC:55:LYS:HB2	1.82	0.41
44:BF:221:LYS:HB2	44:BF:227:GLY:HA3	2.01	0.41
48:BJ:9:MET:HE3	48:BJ:9:MET:HB2	1.90	0.41
68:Bd:109:LEU:HD23	68:Bd:109:LEU:HA	1.92	0.41
74:Bj:30:LYS:NZ	74:Bj:40:GLN:OE1	2.48	0.41
78:Bn:23:HIS:HD2	78:Bn:72:LEU:HB3	1.85	0.41
80:CA:595:PHE:O	80:CA:622:LEU:HA	2.20	0.41
80:CA:1164:THR:HG22	80:CA:1165:GLY:N	2.27	0.41
80:CA:1288:TYR:OH	80:CA:1567:ASP:O	2.36	0.41
80:CA:1375:PHE:CD2	80:CA:1501:MET:HE1	2.56	0.41
80:CA:1951:ILE:HG12	80:CA:1958:ARG:HG3	2.01	0.41
1:2:406:U:H2'	1:2:407:A:C8	2.54	0.41
1:2:845:G:C5	1:2:846:G:N2	2.89	0.41
1:2:909:U:H2'	1:2:910:C:C6	2.56	0.41
1:2:1048:G:O3'	33:Ab:69:GLY:HA3	2.21	0.41
1:2:1482:C:P	1:2:1521:G:H1	2.43	0.41
1:2:1528:U:OP1	11:AF:109:LYS:HG3	2.20	0.41
4:5:432:G:H2'	4:5:433:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:659:G:N2	41:BC:93:MET:HB2	2.35	0.41
4:5:986:U:H2'	4:5:987:U:H6	1.85	0.41
4:5:1499:A:H2'	4:5:1500:C:C6	2.55	0.41
4:5:1786:U:H2'	4:5:1787:G:C8	2.55	0.41
4:5:2107:A:H2'	4:5:2108:A:C8	2.54	0.41
4:5:2218:U:H2'	4:5:2219:G:H8	1.85	0.41
4:5:3160:C:H2'	4:5:3161:U:C6	2.55	0.41
12:AG:59:GLN:OE1	12:AG:72:ARG:NH1	2.54	0.41
15:AJ:52:ILE:HD13	15:AJ:80:LEU:HD21	2.02	0.41
18:AM:67:THR:C	18:AM:68:GLU:HG3	2.45	0.41
27:AV:4:ASP:OD1	27:AV:5:LYS:N	2.53	0.41
33:Ab:48:SER:HG	33:Ab:49:HIS:CE1	2.38	0.41
42:BD:244:HIS:O	42:BD:248:ARG:HG3	2.19	0.41
45:BG:158:ASP:OD1	45:BG:158:ASP:N	2.53	0.41
49:BK:98:ASP:HB3	49:BK:101:ARG:HG2	2.03	0.41
59:BU:2:SER:N	59:BU:57:MET:H	2.18	0.41
70:Bf:74:ARG:HG2	70:Bf:75:ALA:N	2.35	0.41
80:CA:240:THR:HG22	80:CA:241:THR:N	2.36	0.41
80:CA:765:GLU:HG2	81:CB:228:ARG:HD2	2.02	0.41
80:CA:1287:ASN:HB3	80:CA:1571:TRP:HE3	1.85	0.41
81:CB:11:ILE:HD12	81:CB:11:ILE:HA	1.88	0.41
81:CB:25:PHE:HE1	81:CB:83:GLU:HG3	1.86	0.41
81:CB:42:TRP:CE2	81:CB:46:ILE:HD11	2.56	0.41
1:2:67:A:H2'	1:2:69:G:H8	1.85	0.41
1:2:78:A:H62	12:AG:154:ARG:HD3	1.84	0.41
1:2:107:C:OP1	1:2:383:G:O2'	2.31	0.41
1:2:292:U:H2'	1:2:293:U:C6	2.55	0.41
1:2:1160:A:H2'	1:2:1161:C:H6	1.86	0.41
4:5:176:G:C2	4:5:243:G:C5	3.09	0.41
4:5:1461:A:H2'	4:5:1462:A:C8	2.56	0.41
4:5:1493:G:N7	75:Bk:2:ALA:N	2.68	0.41
4:5:2524:A:OP1	61:BW:31:THR:HG22	2.20	0.41
4:5:3199:U:C2	46:BH:21:LYS:HB2	2.56	0.41
7:AB:222:LYS:HA	7:AB:222:LYS:HE2	2.02	0.41
8:AC:89:GLN:OE1	8:AC:94:GLN:NE2	2.48	0.41
8:AC:242:ILE:C	8:AC:243:TYR:HD2	2.29	0.41
9:AD:26:THR:O	9:AD:30:ALA:HB2	2.20	0.41
12:AG:71:THR:OG1	12:AG:72:ARG:N	2.54	0.41
17:AL:118:GLN:OE1	17:AL:118:GLN:HA	2.21	0.41
20:AO:20:TYR:HB3	20:AO:27:PHE:HB2	2.02	0.41
20:AO:53:ASP:O	20:AO:56:SER:OG	2.22	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BM:4:TYR:O	51:BM:8:GLU:HG2	2.21	0.41
66:Bb:92:ILE:HG21	66:Bb:100:ILE:HD11	2.02	0.41
67:Bc:44:MET:HE3	67:Bc:75:ILE:HG22	2.01	0.41
80:CA:249:GLU:HA	80:CA:504:CYS:HB2	2.03	0.41
80:CA:996:PRO:HG2	80:CA:1089:TRP:CD1	2.56	0.41
80:CA:1027:ARG:HG3	80:CA:1028:ILE:HG23	2.03	0.41
1:2:200:A:H2'	1:2:201:G:H8	1.86	0.41
1:2:227:U:H2'	1:2:228:G:C8	2.54	0.41
1:2:399:A:H4'	10:AE:3:ARG:HG2	2.02	0.41
1:2:568:G:H4'	29:AX:90:ASP:HA	2.02	0.41
1:2:815:G:N3	55:BQ:162:ARG:HD2	2.36	0.41
1:2:1113:A:H5'	1:2:1115:U:O4'	2.21	0.41
1:2:1236:A:H1'	37:Af:138:ARG:NH1	2.35	0.41
1:2:1391:A:H2'	1:2:1392:U:C6	2.55	0.41
1:2:1483:A:N3	1:2:1607:G:O2'	2.44	0.41
1:2:1571:C:OP2	31:AZ:26:LYS:NZ	2.54	0.41
2:3:52:A:N6	75:Bk:27:ILE:HD13	2.34	0.41
2:3:85:G:H4'	2:3:86:U:OP1	2.20	0.41
4:5:72:C:H4'	49:BK:63:VAL:HB	2.01	0.41
4:5:609:A:H5''	4:5:610:G:OP2	2.20	0.41
4:5:1089:U:C2	4:5:1090:G:C8	3.09	0.41
4:5:1453:A:N3	4:5:2347:C:O2'	2.51	0.41
4:5:1577:G:H2'	4:5:1578:G:C8	2.55	0.41
4:5:1837:C:H2'	4:5:1838:U:C6	2.55	0.41
8:AC:59:HIS:CE1	8:AC:239:PRO:HD3	2.56	0.41
10:AE:68:ARG:HH11	10:AE:76:VAL:HG21	1.86	0.41
10:AE:123:LEU:HB3	10:AE:159:THR:CG2	2.51	0.41
11:AF:26:ALA:HB3	22:AQ:28:LEU:HB3	2.02	0.41
15:AJ:38:ASN:HB2	15:AJ:41:GLU:HG2	2.02	0.41
18:AM:29:LYS:HE3	18:AM:29:LYS:HB3	1.94	0.41
19:AN:125:LEU:HD23	19:AN:125:LEU:HA	1.89	0.41
24:AS:27:LYS:HA	24:AS:57:ARG:HA	2.02	0.41
30:AY:57:VAL:HB	30:AY:60:PHE:CE2	2.56	0.41
32:Aa:39:MET:HE2	32:Aa:39:MET:HB2	1.95	0.41
37:Af:133:ALA:HB3	37:Af:140:TYR:HD2	1.85	0.41
38:Ag:83:ALA:HB1	38:Ag:110:VAL:HG13	2.03	0.41
40:BB:85:VAL:HG22	40:BB:202:THR:HG22	2.03	0.41
48:BJ:32:ARG:HE	48:BJ:120:ILE:HA	1.85	0.41
48:BJ:92:ARG:HH12	48:BJ:94:ARG:HD3	1.86	0.41
49:BK:46:ILE:O	49:BK:49:ARG:N	2.42	0.41
62:BX:70:ILE:HD13	62:BX:82:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Bj:12:LEU:O	74:Bj:16:ARG:NH2	2.54	0.41
79:Bo:36:ARG:HG2	79:Bo:48:LYS:HD3	2.02	0.41
80:CA:341:ASP:OD1	80:CA:342:ILE:N	2.53	0.41
80:CA:1349:CYS:HB2	80:CA:1350:PRO:HD3	2.03	0.41
80:CA:1641:LEU:HD11	80:CA:1667:VAL:HG11	2.03	0.41
1:2:144:U:H2'	1:2:145:A:H8	1.83	0.41
1:2:322:G:H3'	1:2:322:G:P	2.61	0.41
1:2:628:G:N1	1:2:970:A:OP2	2.49	0.41
1:2:1078:C:H2'	1:2:1079:U:C6	2.56	0.41
4:5:67:A:O2'	4:5:315:C:O2	2.37	0.41
4:5:313:A:H2'	4:5:314:U:C6	2.56	0.41
4:5:1838:U:H2'	4:5:1839:G:O4'	2.21	0.41
4:5:2206:U:H5'	4:5:2207:G:OP2	2.21	0.41
4:5:2537:A:H2'	4:5:2538:U:O2	2.21	0.41
4:5:2610:A:H2'	4:5:2611:G:C8	2.55	0.41
9:AD:113:LEU:HD12	9:AD:114:ALA:N	2.36	0.41
17:AL:70:ILE:HD13	17:AL:126:GLY:HA2	2.03	0.41
21:AP:28:MET:N	21:AP:28:MET:SD	2.93	0.41
29:AX:56:LYS:NZ	29:AX:97:ASP:HA	2.36	0.41
32:Aa:36:ILE:HD13	32:Aa:78:ALA:HB1	2.03	0.41
32:Aa:85:ARG:HG3	32:Aa:86:VAL:H	1.86	0.41
38:Ag:149:ASP:OD1	38:Ag:150:TRP:N	2.48	0.41
42:BD:22:ARG:HA	42:BD:25:GLU:HB2	2.02	0.41
54:BP:83:VAL:O	54:BP:103:ALA:HA	2.20	0.41
57:BS:116:ARG:HA	57:BS:126:VAL:HG11	2.03	0.41
62:BX:49:PRO:O	62:BX:115:ARG:NH2	2.48	0.41
62:BX:118:LEU:HD13	62:BX:121:ARG:HH21	1.85	0.41
70:Bf:83:ASN:O	70:Bf:87:GLU:HG2	2.21	0.41
73:Bi:39:TYR:CD1	73:Bi:40:PRO:HA	2.56	0.41
79:Bo:39:CYS:HB3	79:Bo:42:CYS:SG	2.60	0.41
80:CA:321:LEU:HD12	80:CA:324:ILE:HB	2.03	0.41
80:CA:404:TRP:CD1	80:CA:443:LEU:HD22	2.56	0.41
80:CA:449:ARG:NH2	80:CA:723:SER:O	2.37	0.41
80:CA:539:VAL:HG22	80:CA:544:GLU:OE2	2.21	0.41
80:CA:1257:VAL:HG13	80:CA:1257:VAL:O	2.21	0.41
80:CA:1320:ASP:N	80:CA:1320:ASP:OD1	2.54	0.41
80:CA:1554:ILE:HD12	80:CA:1558:SER:HB2	2.03	0.41
1:2:448:C:P	10:AE:49:ARG:HH12	2.44	0.41
1:2:477:A:H5''	36:Ae:34:ALA:HB2	2.02	0.41
1:2:798:C:H2'	1:2:799:A:H8	1.85	0.41
1:2:906:A:H2'	1:2:907:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1086:A:H2'	1:2:1087:A:C8	2.55	0.41
1:2:1182:U:H4'	21:AP:124:THR:OG1	2.20	0.41
1:2:1292:G:H2'	1:2:1293:U:C6	2.56	0.41
1:2:1317:C:O2'	1:2:1400:A:N3	2.46	0.41
1:2:1534:G:OP1	24:AS:57:ARG:NH2	2.53	0.41
1:2:1648:A:H2'	1:2:1649:G:C8	2.56	0.41
1:2:1699:G:C2	1:2:1700:C:H1'	2.55	0.41
2:3:11:C:H1'	53:BO:6:ALA:HB2	2.03	0.41
2:3:18:U:H2'	2:3:19:C:C6	2.55	0.41
2:3:145:U:H2'	2:3:146:U:C6	2.56	0.41
4:5:245:U:H2'	4:5:246:U:C6	2.56	0.41
4:5:639:C:OP1	68:Bd:21:HIS:NE2	2.42	0.41
4:5:1030:G:H2'	4:5:1031:A:C8	2.51	0.41
4:5:1279:A:O2'	4:5:1280:C:H6	2.04	0.41
4:5:1352:U:O2'	4:5:1353:A:H5'	2.21	0.41
4:5:1545:G:H5'	51:BM:67:ARG:HG3	2.03	0.41
4:5:1567:A:H2'	4:5:1568:U:C6	2.56	0.41
4:5:1593:G:OP1	70:Bf:58:ARG:NH2	2.41	0.41
4:5:2442:A:H2'	4:5:2443:G:H8	1.86	0.41
4:5:2499:U:H5'	4:5:2500:U:OP2	2.20	0.41
7:AB:138:PHE:O	7:AB:213:ARG:HB2	2.21	0.41
10:AE:185:GLY:N	10:AE:189:LEU:HD13	2.29	0.41
11:AF:187:ILE:H	11:AF:187:ILE:HD12	1.86	0.41
12:AG:169:TYR:HE2	12:AG:171:LYS:HD2	1.84	0.41
16:AK:29:GLN:H	16:AK:39:ASN:HD21	1.68	0.41
18:AM:73:LYS:HZ2	37:Af:108:VAL:HG21	1.85	0.41
21:AP:88:GLU:O	21:AP:89:MET:HE2	2.21	0.41
22:AQ:42:GLU:OE2	22:AQ:45:ARG:NH2	2.53	0.41
24:AS:27:LYS:O	24:AS:31:ALA:N	2.50	0.41
28:AW:122:SER:OG	28:AW:123:GLY:N	2.54	0.41
31:AZ:25:LYS:HE2	31:AZ:27:TRP:CE2	2.56	0.41
31:AZ:29:LYS:HA	31:AZ:29:LYS:HD3	1.87	0.41
31:AZ:88:ILE:HG13	31:AZ:89:ILE:HG23	2.02	0.41
34:Ac:36:THR:HG22	34:Ac:37:SER:N	2.35	0.41
35:Ad:30:LEU:HA	35:Ad:39:CYS:HA	2.02	0.41
38:Ag:182:ASN:ND2	38:Ag:184:ASN:OD1	2.35	0.41
38:Ag:214:ALA:HB2	38:Ag:243:LEU:HD11	2.03	0.41
38:Ag:262:VAL:C	38:Ag:263:PHE:HD2	2.29	0.41
39:BA:206:PRO:HD3	39:BA:213:GLY:CA	2.51	0.41
40:BB:71:GLU:OE2	40:BB:357:LYS:HE2	2.21	0.41
40:BB:188:ILE:HG22	40:BB:191:LYS:HE3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BD:141:PRO:HG2	42:BD:172:TYR:HB2	2.02	0.41
42:BD:240:TYR:O	42:BD:244:HIS:ND1	2.54	0.41
45:BG:190:VAL:O	45:BG:190:VAL:HG12	2.20	0.41
47:BI:38:LYS:NZ	47:BI:45:GLU:OE2	2.53	0.41
47:BI:207:GLU:HG3	47:BI:211:ARG:HH21	1.86	0.41
48:BJ:31:THR:HG22	48:BJ:35:LYS:NZ	2.35	0.41
49:BK:180:ARG:HE	72:Bh:11:LEU:HD22	1.85	0.41
52:BN:138[A]:LEU:HD12	52:BN:138[A]:LEU:HA	1.80	0.41
53:BO:67:ILE:HD11	53:BO:80:LYS:HB3	2.02	0.41
56:BR:19:VAL:O	56:BR:19:VAL:HG13	2.21	0.41
58:BT:90:ARG:O	58:BT:92:TRP:N	2.54	0.41
59:BU:66:LYS:HB3	59:BU:69:LEU:HD12	2.01	0.41
63:BY:102:GLU:H	63:BY:107:ARG:HH21	1.69	0.41
70:Bf:97:GLU:O	70:Bf:101:VAL:N	2.37	0.41
80:CA:482:GLN:OE1	80:CA:482:GLN:N	2.54	0.41
80:CA:727:VAL:HG13	80:CA:771:ILE:HG21	2.03	0.41
80:CA:849:LYS:HE3	80:CA:849:LYS:HB3	1.91	0.41
80:CA:1119:ARG:HH12	82:CC:189:ALA:HA	1.86	0.41
80:CA:1174:LEU:HA	80:CA:1177:TRP:HE3	1.86	0.41
80:CA:1395:MET:SD	81:CB:90:LYS:HD2	2.60	0.41
80:CA:1531:PHE:O	80:CA:1535:GLY:N	2.51	0.41
1:2:1338:C:H2'	1:2:1339:C:C6	2.56	0.41
1:2:1483:A:H2	1:2:1607:G:H1'	1.86	0.41
4:5:440:A:H2	4:5:441:U:HO2'	1.68	0.41
4:5:888:G:H2'	4:5:889:A:C8	2.56	0.41
4:5:1348:U:H2'	4:5:1356:A:H61	1.85	0.41
4:5:2353:A:H2'	4:5:2354:G:H8	1.85	0.41
4:5:3314:U:H4'	40:BB:173:GLN:HG3	2.03	0.41
6:AA:131:GLN:NE2	6:AA:135:GLU:OE2	2.37	0.41
6:AA:170:ILE:HD13	6:AA:170:ILE:HA	1.91	0.41
9:AD:113:LEU:HD12	9:AD:114:ALA:H	1.86	0.41
10:AE:15:PRO:HG2	10:AE:18:TRP:CE2	2.56	0.41
26:AU:58:LEU:HB2	26:AU:88:LYS:HB3	2.03	0.41
28:AW:102:VAL:HB	28:AW:113:HIS:HB3	2.03	0.41
33:Ab:56:CYS:SG	33:Ab:63:LEU:HD21	2.60	0.41
41:BC:3:ARG:HE	41:BC:22:LEU:HB2	1.85	0.41
41:BC:190:GLY:O	41:BC:193:LYS:NZ	2.53	0.41
42:BD:61:ILE:HG12	42:BD:79:TYR:CE2	2.55	0.41
42:BD:290:ILE:O	42:BD:294:ALA:HB3	2.21	0.41
45:BG:81:THR:HG21	45:BG:181:LYS:HG3	2.03	0.41
51:BM:9:GLU:OE1	51:BM:9:GLU:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BT:46:ALA:HB3	58:BT:49:ASN:HD21	1.86	0.41
80:CA:254:PRO:HD2	80:CA:499:GLN:HB2	2.03	0.41
80:CA:539:VAL:HG23	80:CA:642:LYS:O	2.21	0.41
80:CA:802:SER:HA	80:CA:807:LEU:HD12	2.01	0.41
81:CB:57:MET:O	81:CB:117:LYS:NZ	2.54	0.41
1:2:213:A:H2'	1:2:214:G:O4'	2.21	0.40
1:2:446:A:C6	1:2:447:U:C4	3.09	0.40
1:2:759:U:C2	1:2:760:A:C8	3.09	0.40
1:2:1332:C:OP1	23:AR:43:SER:OG	2.31	0.40
1:2:1690:G:H2'	1:2:1691:A:C8	2.47	0.40
4:5:53:G:OP2	73:Bi:48:ASN:ND2	2.50	0.40
4:5:432:G:H2'	4:5:433:A:H8	1.87	0.40
4:5:1034:U:H2'	4:5:1035:U:C6	2.56	0.40
4:5:1461:A:H2'	4:5:1462:A:H8	1.86	0.40
4:5:1640:C:H5'	70:Bf:52:GLN:HG3	2.01	0.40
4:5:2118:A:C8	4:5:3065:U:H1'	2.56	0.40
4:5:2509:U:H2'	4:5:2510:U:H6	1.86	0.40
6:AA:74:VAL:HG23	6:AA:118:PRO:HB3	2.03	0.40
12:AG:10:ASN:ND2	12:AG:127:THR:O	2.54	0.40
12:AG:43:ASP:O	12:AG:46:LYS:HG2	2.21	0.40
15:AJ:179:ARG:HD2	15:AJ:179:ARG:HA	1.82	0.40
18:AM:41:LEU:HD23	18:AM:41:LEU:HA	1.92	0.40
19:AN:21:ASN:OD1	19:AN:21:ASN:N	2.52	0.40
22:AQ:99:GLU:HG2	38:Ag:60:SER:OG	2.20	0.40
22:AQ:113:ASP:OD2	22:AQ:116:LEU:N	2.55	0.40
23:AR:117:LEU:HD12	23:AR:118:PRO:HD2	2.02	0.40
26:AU:57:ARG:HG2	26:AU:89:ARG:HD2	2.03	0.40
31:AZ:40:VAL:C	31:AZ:75:LEU:HD11	2.46	0.40
40:BB:277:SER:OG	40:BB:280:HIS:NE2	2.30	0.40
54:BP:64:VAL:HG13	54:BP:88:THR:O	2.21	0.40
58:BT:50:LEU:HD23	58:BT:50:LEU:H	1.86	0.40
64:BZ:117:ARG:HA	64:BZ:117:ARG:HD3	1.80	0.40
71:Bg:15:GLU:H	71:Bg:15:GLU:CD	2.29	0.40
80:CA:316:LYS:H	80:CA:316:LYS:HG2	1.75	0.40
80:CA:1116:LEU:HD11	80:CA:1118:LEU:HD23	2.02	0.40
80:CA:1190:TYR:HE1	80:CA:1192:ALA:HB2	1.85	0.40
1:2:201:G:H2'	1:2:202:A:C8	2.56	0.40
1:2:782:U:H6	1:2:782:U:H2'	1.73	0.40
1:2:918:U:H2'	1:2:919:A:H8	1.86	0.40
1:2:1225:U:H2'	1:2:1226:A:O4'	2.21	0.40
1:2:1241:G:H21	1:2:1241:G:P	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1404:C:H2'	1:2:1405:G:C8	2.56	0.40
2:3:4:C:H2'	2:3:5:U:C6	2.56	0.40
3:4:113:C:H2'	3:4:114:U:O4'	2.21	0.40
4:5:132:C:H2'	4:5:133:U:H5''	2.03	0.40
4:5:880:U:HO2'	53:BO:135:ARG:HH22	1.61	0.40
4:5:1494:G:OP2	4:5:1494:G:N2	2.52	0.40
4:5:1785:G:H2'	4:5:1786:U:O4'	2.21	0.40
4:5:2598:U:H2'	4:5:2599:G:H8	1.86	0.40
10:AE:103:TYR:HD1	10:AE:182:TYR:HE2	1.67	0.40
17:AL:17:PRO:HG3	17:AL:63:LEU:HD11	2.03	0.40
22:AQ:39:VAL:C	22:AQ:41:PRO:HD3	2.46	0.40
36:Ae:39:LEU:O	36:Ae:43:ARG:HG2	2.21	0.40
36:Ae:49:LEU:HD13	36:Ae:56:MET:HA	2.03	0.40
38:Ag:309:VAL:HB	38:Ag:311:ARG:HH11	1.86	0.40
42:BD:289:LYS:O	42:BD:293:LEU:HG	2.22	0.40
44:BF:137:GLY:HA3	44:BF:236:ILE:HB	2.03	0.40
59:BU:14:SER:O	59:BU:81:GLN:NE2	2.50	0.40
64:BZ:34:MET:HE2	64:BZ:34:MET:HB2	1.84	0.40
80:CA:263:ASN:HA	80:CA:266:TYR:CZ	2.56	0.40
80:CA:645:GLN:HE22	80:CA:654:PHE:CB	2.33	0.40
81:CB:125:ILE:HG23	81:CB:129:SER:HB2	2.03	0.40
1:2:260:U:H3	14:AI:43:ILE:HD12	1.85	0.40
1:2:798:C:H2'	1:2:799:A:C8	2.56	0.40
1:2:919:A:H2'	1:2:920:U:H6	1.85	0.40
1:2:1183:A:H2'	1:2:1184:A:C8	2.57	0.40
1:2:1273:G:H4'	1:2:1274:C:H3'	2.03	0.40
1:2:1565:C:H2'	1:2:1566:U:C6	2.56	0.40
1:2:1729:C:H2'	1:2:1730:A:O4'	2.21	0.40
3:4:31:U:O2'	42:BD:218:ARG:NH2	2.55	0.40
4:5:428:A:H2'	4:5:429:U:C6	2.56	0.40
4:5:956:U:H2'	4:5:957:U:C6	2.56	0.40
4:5:1268:U:H3'	4:5:1269:G:H8	1.87	0.40
4:5:1759:G:H2'	4:5:1760:C:C6	2.57	0.40
4:5:1897:A:H61	4:5:2340:C:H42	1.70	0.40
4:5:2168:A:H2'	4:5:2169:A:C8	2.55	0.40
7:AB:45:LYS:HE2	7:AB:45:LYS:HB2	1.96	0.40
7:AB:87:ARG:NE	7:AB:89:ASP:OD1	2.49	0.40
7:AB:137:ILE:HD13	7:AB:215:VAL:HG23	2.04	0.40
7:AB:157:GLN:C	7:AB:159:SER:H	2.29	0.40
10:AE:198:LYS:HA	10:AE:208:VAL:HA	2.03	0.40
11:AF:76:ARG:HD3	11:AF:79:ASN:ND2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AR:24:LEU:HD12	23:AR:24:LEU:O	2.21	0.40
24:AS:15:LEU:H	24:AS:15:LEU:HD23	1.85	0.40
27:AV:38:LYS:NZ	27:AV:49:GLU:OE2	2.48	0.40
39:BA:26:ALA:HB1	39:BA:28:LYS:HE2	2.04	0.40
40:BB:140:ASP:OD1	40:BB:140:ASP:N	2.54	0.40
40:BB:236:LYS:HE2	40:BB:236:LYS:HB2	1.94	0.40
44:BF:88:ARG:NH2	44:BF:92:ILE:HA	2.36	0.40
45:BG:134:TYR:CD2	45:BG:190:VAL:HG11	2.56	0.40
80:CA:815:PHE:HA	80:CA:831:MET:HE3	2.03	0.40
80:CA:964:MET:HE2	80:CA:964:MET:HB2	1.85	0.40
80:CA:1138:LYS:HB3	82:CC:324:GLU:HG3	2.03	0.40
80:CA:1413:TYR:O	80:CA:1416:SER:OG	2.31	0.40
80:CA:1477:ILE:HB	80:CA:1518:VAL:HA	2.04	0.40
80:CA:1495:LEU:HD12	80:CA:1536:PHE:CD2	2.57	0.40
81:CB:55:TYR:O	81:CB:61:ASN:ND2	2.43	0.40
1:2:444:C:OP2	30:AY:108:ARG:NH2	2.54	0.40
1:2:765:G:H21	1:2:765:G:P	2.43	0.40
1:2:870:C:H1'	33:Ab:51:GLN:HE21	1.85	0.40
1:2:1211:A:H2'	1:2:1212:G:O4'	2.21	0.40
1:2:1375:A:H2'	1:2:1376:C:H6	1.85	0.40
1:2:1459:C:H5'	24:AS:131:LEU:HD22	2.03	0.40
1:2:1498:G:H5''	25:AT:72:GLY:HA3	2.04	0.40
4:5:208:C:H2'	4:5:209:A:O4'	2.22	0.40
4:5:675:G:OP1	41:BC:31:ARG:NH2	2.51	0.40
4:5:2236:C:O2'	5:6:70:G:H5''	2.21	0.40
4:5:2306:G:OP2	4:5:2306:G:N2	2.36	0.40
4:5:2728:A:C2	64:BZ:43:ILE:HG23	2.57	0.40
4:5:2746:G:N2	4:5:2748:A:H3'	2.36	0.40
4:5:2837:C:H2'	4:5:2838:A:O4'	2.22	0.40
4:5:2881:U:O2	40:BB:250:ALA:HB3	2.22	0.40
4:5:3102:G:H2'	4:5:3103:G:C8	2.57	0.40
6:AA:8:ASP:OD1	6:AA:9:LEU:N	2.54	0.40
7:AB:138:PHE:C	7:AB:213:ARG:HB2	2.47	0.40
8:AC:49:LYS:HE2	8:AC:243:TYR:CE1	2.55	0.40
9:AD:42:THR:HB	9:AD:45:LYS:O	2.21	0.40
11:AF:43:PHE:CG	11:AF:44:ASN:N	2.89	0.40
12:AG:139:ASN:CG	12:AG:142:ARG:HH21	2.29	0.40
15:AJ:99:LEU:O	15:AJ:100:LYS:HB2	2.21	0.40
15:AJ:149:ARG:C	15:AJ:151:ASP:H	2.29	0.40
16:AK:43:ILE:HG13	16:AK:44:LYS:N	2.37	0.40
16:AK:77:ARG:HH22	16:AK:87:VAL:H	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Af:107:LYS:HD2	37:Af:117:LEU:HD12	2.03	0.40
38:Ag:123:ILE:HG12	38:Ag:169:ILE:HG21	2.02	0.40
38:Ag:198:ASN:OD1	38:Ag:216:LYS:HB2	2.22	0.40
38:Ag:273:ASP:O	38:Ag:275:ARG:HG2	2.20	0.40
48:BJ:60:ARG:HH12	78:Bn:104:LEU:H	1.70	0.40
48:BJ:116:TYR:HE2	48:BJ:118:PRO:HB3	1.87	0.40
61:BW:137:ASN:HB3	61:BW:142:ILE:HD13	2.02	0.40
63:BY:26:VAL:HG21	63:BY:96:VAL:HB	2.03	0.40
66:Bb:100:ILE:HG13	66:Bb:101:LEU:N	2.36	0.40
73:Bi:64:MET:O	73:Bi:68:LYS:HG3	2.22	0.40
80:CA:616:ASP:OD1	80:CA:616:ASP:N	2.55	0.40
80:CA:638:CYS:HG	80:CA:680:THR:HG1	1.61	0.40
80:CA:710:LYS:HE2	80:CA:710:LYS:HB2	1.87	0.40
80:CA:1194:MET:HB3	80:CA:1197:LEU:HD13	2.03	0.40
1:2:200:A:H2'	1:2:201:G:C8	2.57	0.40
1:2:678:A:H2'	1:2:679:U:C6	2.57	0.40
1:2:844:A:H2'	1:2:845:G:C8	2.56	0.40
1:2:1612:U:H2'	1:2:1613:U:O4'	2.21	0.40
1:2:1623:C:H2'	1:2:1624:C:C6	2.56	0.40
1:2:1684:U:H2'	1:2:1685:G:C8	2.56	0.40
4:5:543:G:H2'	4:5:544:C:C5	2.57	0.40
4:5:1245:A:O2'	4:5:1250:G:O6	2.39	0.40
4:5:1318:A:O2'	4:5:1319:A:H3'	2.22	0.40
4:5:2842:G:O6	4:5:2845:C:H2'	2.21	0.40
4:5:3287:G:H2'	4:5:3288:U:O4'	2.22	0.40
8:AC:207:LEU:HA	8:AC:207:LEU:HD12	1.85	0.40
10:AE:158:ASP:OD2	10:AE:174:LYS:NZ	2.41	0.40
10:AE:212:ASP:OD1	10:AE:212:ASP:N	2.53	0.40
14:AI:67:TRP:NE1	14:AI:185:GLU:OE2	2.47	0.40
23:AR:104:ASN:O	23:AR:107:SER:OG	2.31	0.40
25:AT:52:GLY:O	25:AT:53:TRP:CG	2.75	0.40
28:AW:31:SER:H	28:AW:34:ILE:HD12	1.87	0.40
32:Aa:32:LYS:O	32:Aa:37:LYS:NZ	2.51	0.40
49:BK:76:THR:HG21	49:BK:103:ASN:OD1	2.22	0.40
50:BL:12:TRP:HB2	56:BR:172:TYR:O	2.21	0.40
56:BR:21:GLU:OE1	56:BR:21:GLU:N	2.55	0.40
57:BS:75:ILE:HG23	57:BS:86:GLU:HG3	2.03	0.40
64:BZ:58:MET:HE2	64:BZ:58:MET:HB3	1.92	0.40
74:Bj:39:ARG:HG3	74:Bj:39:ARG:NH1	2.36	0.40
80:CA:588:LYS:HE3	80:CA:588:LYS:HB3	1.92	0.40
80:CA:1346:LEU:HB2	80:CA:1351:LEU:HB2	2.02	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	
6	AA	204/206 (99%)	188 (92%)	16 (8%)	0	100	100
7	AB	222/255 (87%)	208 (94%)	14 (6%)	0	100	100
8	AC	214/216 (99%)	207 (97%)	7 (3%)	0	100	100
9	AD	220/222 (99%)	219 (100%)	1 (0%)	0	100	100
10	AE	256/258 (99%)	247 (96%)	8 (3%)	1 (0%)	30	68
11	AF	204/206 (99%)	199 (98%)	5 (2%)	0	100	100
12	AG	226/228 (99%)	217 (96%)	8 (4%)	1 (0%)	30	68
13	AH	182/184 (99%)	172 (94%)	10 (6%)	0	100	100
14	AI	183/200 (92%)	171 (93%)	10 (6%)	2 (1%)	12	46
15	AJ	182/184 (99%)	172 (94%)	10 (6%)	0	100	100
16	AK	90/92 (98%)	85 (94%)	5 (6%)	0	100	100
17	AL	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
18	AM	119/121 (98%)	98 (82%)	20 (17%)	1 (1%)	16	53
19	AN	148/150 (99%)	143 (97%)	5 (3%)	0	100	100
20	AO	125/127 (98%)	121 (97%)	4 (3%)	0	100	100
21	AP	115/117 (98%)	115 (100%)	0	0	100	100
22	AQ	139/141 (99%)	133 (96%)	5 (4%)	1 (1%)	19	56
23	AR	117/136 (86%)	104 (89%)	10 (8%)	3 (3%)	4	25
24	AS	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
25	AT	141/143 (99%)	132 (94%)	9 (6%)	0	100	100
26	AU	98/100 (98%)	97 (99%)	1 (1%)	0	100	100
27	AV	85/87 (98%)	75 (88%)	10 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	AW	127/129 (98%)	124 (98%)	3 (2%)	0	100	100
29	AX	142/144 (99%)	131 (92%)	11 (8%)	0	100	100
30	AY	132/134 (98%)	125 (95%)	7 (5%)	0	100	100
31	AZ	80/82 (98%)	77 (96%)	3 (4%)	0	100	100
32	Aa	95/97 (98%)	81 (85%)	12 (13%)	2 (2%)	5	30
33	Ab	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
34	Ac	61/63 (97%)	60 (98%)	1 (2%)	0	100	100
35	Ad	51/53 (96%)	51 (100%)	0	0	100	100
36	Ae	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
37	Af	71/73 (97%)	66 (93%)	5 (7%)	0	100	100
38	Ag	310/312 (99%)	306 (99%)	4 (1%)	0	100	100
39	BA	249/251 (99%)	238 (96%)	10 (4%)	1 (0%)	30	68
40	BB	384/386 (100%)	368 (96%)	15 (4%)	1 (0%)	37	72
41	BC	359/361 (99%)	347 (97%)	11 (3%)	1 (0%)	37	72
42	BD	292/294 (99%)	281 (96%)	10 (3%)	1 (0%)	37	72
43	BE	163/176 (93%)	160 (98%)	3 (2%)	0	100	100
44	BF	220/222 (99%)	215 (98%)	5 (2%)	0	100	100
45	BG	231/233 (99%)	222 (96%)	9 (4%)	0	100	100
46	BH	189/191 (99%)	183 (97%)	6 (3%)	0	100	100
47	BI	216/218 (99%)	212 (98%)	4 (2%)	0	100	100
48	BJ	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
49	BK	191/193 (99%)	180 (94%)	9 (5%)	2 (1%)	13	48
50	BL	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
51	BM	201/203 (99%)	195 (97%)	6 (3%)	0	100	100
52	BN	195/197 (99%)	189 (97%)	4 (2%)	2 (1%)	13	48
53	BO	181/183 (99%)	176 (97%)	5 (3%)	0	100	100
54	BP	183/185 (99%)	178 (97%)	5 (3%)	0	100	100
55	BQ	186/188 (99%)	183 (98%)	3 (2%)	0	100	100
56	BR	169/171 (99%)	167 (99%)	2 (1%)	0	100	100
57	BS	157/159 (99%)	150 (96%)	7 (4%)	0	100	100
58	BT	98/100 (98%)	97 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
59	BU	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
60	BV	124/126 (98%)	121 (98%)	3 (2%)	0	100	100
61	BW	119/121 (98%)	116 (98%)	2 (2%)	1 (1%)	16	53
62	BX	123/125 (98%)	122 (99%)	1 (1%)	0	100	100
63	BY	133/135 (98%)	131 (98%)	2 (2%)	0	100	100
64	BZ	146/148 (99%)	135 (92%)	9 (6%)	2 (1%)	9	40
65	Ba	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
66	Bb	94/96 (98%)	94 (100%)	0	0	100	100
67	Bc	107/109 (98%)	102 (95%)	5 (5%)	0	100	100
68	Bd	125/127 (98%)	122 (98%)	3 (2%)	0	100	100
69	Be	104/106 (98%)	104 (100%)	0	0	100	100
70	Bf	110/112 (98%)	109 (99%)	1 (1%)	0	100	100
71	Bg	117/119 (98%)	115 (98%)	2 (2%)	0	100	100
72	Bh	97/99 (98%)	95 (98%)	2 (2%)	0	100	100
73	Bi	83/85 (98%)	83 (100%)	0	0	100	100
74	Bj	75/77 (97%)	75 (100%)	0	0	100	100
75	Bk	48/50 (96%)	48 (100%)	0	0	100	100
76	Bl	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
77	Bm	23/25 (92%)	23 (100%)	0	0	100	100
78	Bn	101/103 (98%)	99 (98%)	2 (2%)	0	100	100
79	Bo	89/91 (98%)	89 (100%)	0	0	100	100
80	CA	1738/1967 (88%)	1657 (95%)	73 (4%)	8 (0%)	25	64
81	CB	295/297 (99%)	291 (99%)	3 (1%)	1 (0%)	37	72
82	CC	110/530 (21%)	104 (94%)	6 (6%)	0	100	100
All	All	13123/13996 (94%)	12621 (96%)	471 (4%)	31 (0%)	45	78

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	AI	10	LYS
23	AR	74	GLN
23	AR	76	GLU
32	Aa	84	VAL
80	CA	224	THR

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Mol	Chain	Res	Type
80	CA	621	VAL
80	CA	633	ASN
80	CA	1123	THR
81	CB	9	ILE
23	AR	75	GLU
40	BB	128	LYS
49	BK	77	LEU
52	BN	111[A]	PRO
61	BW	44	PRO
49	BK	63	VAL
52	BN	110[A]	PRO
64	BZ	40	HIS
80	CA	248	HIS
64	BZ	78	LEU
80	CA	1148	PHE
10	AE	43	PRO
12	AG	173	PRO
14	AI	9	HIS
42	BD	20	PHE
80	CA	507	LYS
80	CA	1481	GLN
18	AM	109	GLU
32	Aa	9	GLY
39	BA	126	LEU
41	BC	4	PRO
22	AQ	33	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	
6	AA	170/173 (98%)	170 (100%)	0	100	100
7	AB	200/224 (89%)	200 (100%)	0	100	100
8	AC	175/175 (100%)	175 (100%)	0	100	100
9	AD	182/182 (100%)	182 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	AE	220/220 (100%)	220 (100%)	0	100	100
11	AF	172/173 (99%)	172 (100%)	0	100	100
12	AG	189/195 (97%)	189 (100%)	0	100	100
13	AH	163/165 (99%)	163 (100%)	0	100	100
14	AI	148/161 (92%)	148 (100%)	0	100	100
15	AJ	156/157 (99%)	156 (100%)	0	100	100
16	AK	77/85 (91%)	77 (100%)	0	100	100
17	AL	129/129 (100%)	129 (100%)	0	100	100
18	AM	88/98 (90%)	88 (100%)	0	100	100
19	AN	127/127 (100%)	127 (100%)	0	100	100
20	AO	91/96 (95%)	91 (100%)	0	100	100
21	AP	95/98 (97%)	95 (100%)	0	100	100
22	AQ	117/117 (100%)	117 (100%)	0	100	100
23	AR	101/124 (82%)	96 (95%)	5 (5%)	20	42
24	AS	128/128 (100%)	128 (100%)	0	100	100
25	AT	115/115 (100%)	115 (100%)	0	100	100
26	AU	93/93 (100%)	93 (100%)	0	100	100
27	AV	71/74 (96%)	71 (100%)	0	100	100
28	AW	110/110 (100%)	110 (100%)	0	100	100
29	AX	119/119 (100%)	119 (100%)	0	100	100
30	AY	112/112 (100%)	112 (100%)	0	100	100
31	AZ	67/73 (92%)	67 (100%)	0	100	100
32	Aa	83/83 (100%)	83 (100%)	0	100	100
33	Ab	70/70 (100%)	70 (100%)	0	100	100
34	Ac	55/56 (98%)	55 (100%)	0	100	100
35	Ad	47/47 (100%)	47 (100%)	0	100	100
36	Ae	47/48 (98%)	47 (100%)	0	100	100
37	Af	56/64 (88%)	56 (100%)	0	100	100
38	Ag	250/257 (97%)	250 (100%)	0	100	100
39	BA	190/193 (98%)	190 (100%)	0	100	100
40	BB	319/322 (99%)	318 (100%)	1 (0%)	91	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	BC	288/288 (100%)	288 (100%)	0	100	100
42	BD	241/243 (99%)	241 (100%)	0	100	100
43	BE	138/155 (89%)	138 (100%)	0	100	100
44	BF	186/186 (100%)	186 (100%)	0	100	100
45	BG	187/191 (98%)	187 (100%)	0	100	100
46	BH	168/171 (98%)	168 (100%)	0	100	100
47	BI	185/185 (100%)	185 (100%)	0	100	100
48	BJ	146/147 (99%)	146 (100%)	0	100	100
49	BK	154/154 (100%)	154 (100%)	0	100	100
50	BL	107/107 (100%)	107 (100%)	0	100	100
51	BM	175/175 (100%)	175 (100%)	0	100	100
52	BN	160/160 (100%)	160 (100%)	0	100	100
53	BO	138/145 (95%)	138 (100%)	0	100	100
54	BP	150/150 (100%)	150 (100%)	0	100	100
55	BQ	152/153 (99%)	152 (100%)	0	100	100
56	BR	155/155 (100%)	155 (100%)	0	100	100
57	BS	136/136 (100%)	136 (100%)	0	100	100
58	BT	87/87 (100%)	87 (100%)	0	100	100
59	BU	104/104 (100%)	104 (100%)	0	100	100
60	BV	56/107 (52%)	56 (100%)	0	100	100
61	BW	104/105 (99%)	104 (100%)	0	100	100
62	BX	108/108 (100%)	108 (100%)	0	100	100
63	BY	115/115 (100%)	115 (100%)	0	100	100
64	BZ	118/118 (100%)	118 (100%)	0	100	100
65	Ba	46/46 (100%)	46 (100%)	0	100	100
66	Bb	81/81 (100%)	81 (100%)	0	100	100
67	Bc	92/96 (96%)	92 (100%)	0	100	100
68	Bd	108/109 (99%)	108 (100%)	0	100	100
69	Be	90/90 (100%)	90 (100%)	0	100	100
70	Bf	95/95 (100%)	95 (100%)	0	100	100
71	Bg	104/104 (100%)	104 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
72	Bh	80/81 (99%)	80 (100%)	0	100	100
73	Bi	69/69 (100%)	69 (100%)	0	100	100
74	Bj	68/68 (100%)	67 (98%)	1 (2%)	60	75
75	Bk	45/45 (100%)	45 (100%)	0	100	100
76	Bl	47/47 (100%)	47 (100%)	0	100	100
77	Bm	22/23 (96%)	22 (100%)	0	100	100
78	Bn	87/88 (99%)	87 (100%)	0	100	100
79	Bo	71/71 (100%)	71 (100%)	0	100	100
80	CA	1560/1770 (88%)	1560 (100%)	0	100	100
81	CB	266/266 (100%)	266 (100%)	0	100	100
82	CC	97/482 (20%)	97 (100%)	0	100	100
All	All	11118/11939 (93%)	11111 (100%)	7 (0%)	92	94

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
23	AR	62	GLN
23	AR	73	LEU
23	AR	75	GLU
23	AR	76	GLU
23	AR	77	GLU
40	BB	104	THR
74	Bj	67	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (129) such sidechains are listed below:

Mol	Chain	Res	Type
6	AA	49	ASN
6	AA	140	ASN
6	AA	168	HIS
7	AB	40	ASN
7	AB	149	GLN
7	AB	194	ASN
7	AB	209	ASN
7	AB	220	GLN
7	AB	232	HIS
9	AD	101	GLN

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Mol	Chain	Res	Type
10	AE	36	HIS
10	AE	197	HIS
10	AE	209	HIS
10	AE	224	ASN
11	AF	44	ASN
11	AF	79	ASN
12	AG	119	GLN
13	AH	71	HIS
13	AH	74	GLN
13	AH	180	GLN
14	AI	52	ASN
15	AJ	176	ASN
16	AK	39	ASN
16	AK	81	ASN
17	AL	16	GLN
18	AM	96	GLN
19	AN	78	ASN
20	AO	99	GLN
22	AQ	77	GLN
23	AR	62	GLN
23	AR	83	GLN
23	AR	105	GLN
24	AS	74	GLN
24	AS	78	HIS
24	AS	104	ASN
24	AS	122	HIS
24	AS	127	HIS
26	AU	40	ASN
26	AU	47	GLN
28	AW	42	GLN
28	AW	92	ASN
29	AX	10	ASN
30	AY	15	ASN
30	AY	22	GLN
30	AY	110	GLN
30	AY	113	ASN
31	AZ	38	HIS
33	Ab	51	GLN
37	Af	135	HIS
38	Ag	174	ASN
38	Ag	198	ASN
38	Ag	288	HIS

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Mol	Chain	Res	Type
39	BA	47	GLN
39	BA	140	ASN
39	BA	205	ASN
40	BB	139	GLN
40	BB	173	GLN
40	BB	182	GLN
40	BB	256	HIS
41	BC	229	ASN
41	BC	291	ASN
42	BD	81	HIS
42	BD	296	GLN
44	BF	81	HIS
44	BF	172	ASN
44	BF	225	GLN
45	BG	45	ASN
45	BG	79	GLN
45	BG	191	ASN
45	BG	243	GLN
46	BH	9	GLN
46	BH	96	HIS
46	BH	102	ASN
46	BH	125	ASN
46	BH	149	ASN
46	BH	162	GLN
46	BH	169	ASN
48	BJ	62	ASN
48	BJ	68	HIS
49	BK	120	GLN
50	BL	27	GLN
50	BL	62	GLN
51	BM	95	GLN
53	BO	97	ASN
53	BO	121	GLN
54	BP	45	ASN
56	BR	65	ASN
56	BR	88	HIS
57	BS	5	HIS
57	BS	26	HIS
57	BS	58	GLN
57	BS	90	ASN
58	BT	49	ASN
58	BT	87	ASN

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Mol	Chain	Res	Type
60	BV	45	ASN
63	BY	29	HIS
63	BY	57	HIS
64	BZ	67	HIS
66	Bb	71	GLN
68	Bd	52	GLN
68	Bd	104	ASN
69	Be	24	ASN
69	Be	26	ASN
69	Be	88	ASN
73	Bi	12	HIS
73	Bi	69	HIS
75	Bk	11	GLN
78	Bn	59	HIS
79	Bo	25	GLN
80	CA	248	HIS
80	CA	261	ASN
80	CA	292	GLN
80	CA	592	GLN
80	CA	608	ASN
80	CA	645	GLN
80	CA	700	GLN
80	CA	981	ASN
80	CA	1079	GLN
80	CA	1391	HIS
80	CA	1456	GLN
80	CA	1651	HIS
80	CA	1670	ASN
80	CA	1746	GLN
80	CA	1963	HIS
81	CB	103	GLN
82	CC	177	ASN
82	CC	212	HIS
82	CC	358	ASN
82	CC	380	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1768/1798 (98%)	417 (23%)	38 (2%)
2	3	157/158 (99%)	25 (15%)	1 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	4	120/121 (99%)	10 (8%)	1 (0%)
4	5	3181/3396 (93%)	549 (17%)	32 (1%)
5	6	74/75 (98%)	17 (22%)	2 (2%)
All	All	5300/5548 (95%)	1018 (19%)	74 (1%)

All (1018) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	13	C
1	2	14	C
1	2	25	C
1	2	26	A
1	2	34	G
1	2	43	A
1	2	47	A
1	2	56	U
1	2	57	G
1	2	62	A
1	2	65	A
1	2	68	A
1	2	69	G
1	2	71	A
1	2	73	U
1	2	74	U
1	2	75	U
1	2	76	A
1	2	78	A
1	2	79	C
1	2	81	G
1	2	100	A
1	2	104	A
1	2	114	C
1	2	116	U
1	2	121	U
1	2	126	A
1	2	127	G
1	2	129	U
1	2	130	C
1	2	131	C
1	2	132	U

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Mol	Chain	Res	Type
1	2	134	U
1	2	135	A
1	2	136	C
1	2	138	A
1	2	140	A
1	2	141	U
1	2	142	G
1	2	155	U
1	2	156	A
1	2	168	A
1	2	171	A
1	2	174	U
1	2	176	C
1	2	178	U
1	2	179	A
1	2	180	A
1	2	184	C
1	2	186	C
1	2	188	A
1	2	191	C
1	2	193	U
1	2	195	G
1	2	197	A
1	2	198	A
1	2	215	A
1	2	216	U
1	2	217	A
1	2	218	A
1	2	224	C
1	2	225	A
1	2	227	U
1	2	228	G
1	2	230	C
1	2	232	U
1	2	233	C
1	2	234	G
1	2	236	A
1	2	240	U
1	2	241	U
1	2	250	C
1	2	257	A
1	2	260	U

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Mol	Chain	Res	Type
1	2	265	A
1	2	272	U
1	2	274	G
1	2	276	C
1	2	278	U
1	2	279	G
1	2	280	U
1	2	281	G
1	2	287	G
1	2	299	A
1	2	314	C
1	2	316	A
1	2	320	U
1	2	322	G
1	2	323	A
1	2	330	G
1	2	333	A
1	2	337	G
1	2	338	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	370	A
1	2	373	G
1	2	388	G
1	2	399	A
1	2	400	A
1	2	401	A
1	2	402	C
1	2	404	G
1	2	415	C
1	2	416	A
1	2	417	A
1	2	419	G
1	2	423	G
1	2	424	C
1	2	425	A
1	2	426	G
1	2	434	G
1	2	436	A
1	2	437	A

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Mol	Chain	Res	Type
1	2	439	U
1	2	444	C
1	2	445	A
1	2	460	A
1	2	468	A
1	2	482	U
1	2	483	A
1	2	485	A
1	2	487	G
1	2	491	C
1	2	492	A
1	2	493	U
1	2	494	U
1	2	495	C
1	2	496	G
1	2	499	U
1	2	500	C
1	2	502	U
1	2	505	A
1	2	506	A
1	2	510	G
1	2	511	A
1	2	515	A
1	2	527	A
1	2	534	A
1	2	538	A
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	546	U
1	2	548	G
1	2	549	G
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	559	C
1	2	565	C
1	2	568	G
1	2	579	A
1	2	582	U

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Mol	Chain	Res	Type
1	2	594	A
1	2	595	G
1	2	606	A
1	2	610	G
1	2	611	U
1	2	619	A
1	2	620	A
1	2	622	A
1	2	623	A
1	2	624	G
1	2	629	U
1	2	639	U
1	2	640	U
1	2	641	G
1	2	645	C
1	2	650	U
1	2	651	G
1	2	653	C
1	2	655	G
1	2	678	A
1	2	679	U
1	2	680	U
1	2	681	U
1	2	684	A
1	2	687	G
1	2	694	U
1	2	696	C
1	2	698	U
1	2	700	C
1	2	702	G
1	2	704	C
1	2	705	U
1	2	706	A
1	2	707	A
1	2	708	C
1	2	709	C
1	2	710	U
1	2	711	U
1	2	712	G
1	2	713	A
1	2	714	G
1	2	728	U

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Mol	Chain	Res	Type
1	2	730	G
1	2	732	G
1	2	733	A
1	2	734	A
1	2	736	C
1	2	737	A
1	2	739	G
1	2	741	C
1	2	742	U
1	2	743	U
1	2	745	U
1	2	765	G
1	2	766	U
1	2	767	U
1	2	774	A
1	2	775	G
1	2	778	G
1	2	779	U
1	2	780	A
1	2	781	U
1	2	782	U
1	2	783	G
1	2	789	A
1	2	812	A
1	2	813	U
1	2	814	A
1	2	815	G
1	2	816	G
1	2	820	U
1	2	821	U
1	2	823	G
1	2	833	U
1	2	835	U
1	2	840	U
1	2	841	U
1	2	846	G
1	2	852	C
1	2	855	A
1	2	856	A
1	2	857	U
1	2	863	A
1	2	876	G

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Mol	Chain	Res	Type
1	2	899	G
1	2	902	G
1	2	912	U
1	2	913	G
1	2	914	G
1	2	915	A
1	2	921	U
1	2	929	A
1	2	933	A
1	2	934	C
1	2	935	U
1	2	942	G
1	2	960	U
1	2	964	U
1	2	966	A
1	2	970	A
1	2	971	A
1	2	988	A
1	2	989	U
1	2	992	A
1	2	993	A
1	2	998	A
1	2	1004	U
1	2	1005	A
1	2	1012	U
1	2	1023	A
1	2	1024	U
1	2	1026	A
1	2	1028	C
1	2	1039	A
1	2	1053	G
1	2	1058	U
1	2	1060	U
1	2	1061	A
1	2	1076	A
1	2	1082	C
1	2	1092	A
1	2	1096	C
1	2	1098	U
1	2	1100	G
1	2	1138	A
1	2	1150	G

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Mol	Chain	Res	Type
1	2	1151	A
1	2	1153	G
1	2	1156	C
1	2	1158	C
1	2	1160	A
1	2	1164	G
1	2	1167	G
1	2	1170	G
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1199	G
1	2	1200	G
1	2	1202	A
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1228	G
1	2	1229	G
1	2	1243	G
1	2	1244	A
1	2	1245	G
1	2	1246	C
1	2	1252	C
1	2	1256	A
1	2	1257	U
1	2	1274	C
1	2	1275	A
1	2	1276	U
1	2	1285	U
1	2	1300	A
1	2	1301	U
1	2	1306	C
1	2	1314	U
1	2	1315	U
1	2	1316	G
1	2	1317	C
1	2	1319	A
1	2	1321	A
1	2	1322	A
1	2	1323	C
1	2	1344	A

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Mol	Chain	Res	Type
1	2	1345	A
1	2	1346	A
1	2	1348	A
1	2	1349	G
1	2	1360	A
1	2	1361	U
1	2	1363	U
1	2	1367	G
1	2	1370	U
1	2	1371	A
1	2	1381	U
1	2	1382	A
1	2	1383	G
1	2	1389	C
1	2	1390	U
1	2	1398	U
1	2	1399	C
1	2	1400	A
1	2	1402	G
1	2	1410	A
1	2	1414	U
1	2	1418	G
1	2	1427	A
1	2	1431	C
1	2	1432	U
1	2	1433	G
1	2	1446	A
1	2	1459	C
1	2	1460	A
1	2	1469	A
1	2	1472	C
1	2	1479	A
1	2	1491	U
1	2	1493	A
1	2	1496	U
1	2	1503	A
1	2	1506	G
1	2	1514	U
1	2	1516	A
1	2	1517	U
1	2	1520	U
1	2	1521	G

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Mol	Chain	Res	Type
1	2	1524	A
1	2	1531	G
1	2	1535	U
1	2	1537	C
1	2	1540	G
1	2	1542	G
1	2	1543	A
1	2	1554	U
1	2	1557	U
1	2	1558	U
1	2	1559	A
1	2	1570	A
1	2	1573	A
1	2	1574	G
1	2	1576	A
1	2	1583	A
1	2	1585	U
1	2	1601	G
1	2	1607	G
1	2	1611	A
1	2	1614	A
1	2	1616	G
1	2	1631	A
1	2	1634	C
1	2	1637	C
1	2	1657	U
1	2	1658	G
1	2	1682	U
1	2	1688	U
1	2	1700	C
1	2	1701	A
1	2	1708	U
1	2	1709	C
1	2	1711	C
1	2	1715	G
1	2	1717	G
1	2	1756	A
1	2	1766	A
1	2	1767	G
1	2	1769	U
1	2	1780	G
1	2	1783	C

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Mol	Chain	Res	Type
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1796	C
1	2	1799	U
2	3	23	U
2	3	34	U
2	3	35	C
2	3	59	A
2	3	62	C
2	3	63	G
2	3	80	A
2	3	81	U
2	3	82	U
2	3	83	C
2	3	84	C
2	3	85	G
2	3	86	U
2	3	87	G
2	3	90	U
2	3	95	G
2	3	104	A
2	3	106	C
2	3	111	A
2	3	112	U
2	3	113	U
2	3	125	U
2	3	126	A
2	3	148	G
2	3	152	G
3	4	22	A
3	4	53	U
3	4	54	U
3	4	65	G
3	4	74	C
3	4	76	A
3	4	77	G
3	4	102	A
3	4	112	G
3	4	121	U
4	5	13	A
4	5	14	U

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Mol	Chain	Res	Type
4	5	18	G
4	5	26	A
4	5	40	A
4	5	43	A
4	5	49	A
4	5	59	G
4	5	60	A
4	5	65	A
4	5	66	A
4	5	67	A
4	5	83	U
4	5	92	G
4	5	109	A
4	5	110	G
4	5	111	C
4	5	116	A
4	5	118	U
4	5	121	A
4	5	122	A
4	5	133	U
4	5	135	C
4	5	136	G
4	5	148	G
4	5	156	G
4	5	157	A
4	5	166	C
4	5	187	A
4	5	190	U
4	5	191	U
4	5	200	C
4	5	210	U
4	5	213	A
4	5	218	G
4	5	219	A
4	5	231	G
4	5	240	U
4	5	241	G
4	5	243	G
4	5	248	U
4	5	249	U
4	5	252	U
4	5	269	G

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Mol	Chain	Res	Type
4	5	283	G
4	5	286	U
4	5	291	C
4	5	295	A
4	5	305	U
4	5	323	A
4	5	329	U
4	5	339	C
4	5	350	C
4	5	351	A
4	5	376	G
4	5	398	A
4	5	401	U
4	5	402	A
4	5	403	C
4	5	421	G
4	5	422	A
4	5	440	A
4	5	441	U
4	5	442	G
4	5	443	G
4	5	447	U
4	5	448	U
4	5	450	G
4	5	487	U
4	5	488	U
4	5	489	U
4	5	491	A
4	5	492	C
4	5	493	U
4	5	494	G
4	5	495	G
4	5	517	A
4	5	518	G
4	5	522	A
4	5	524	A
4	5	536	G
4	5	544	C
4	5	546	U
4	5	548	G
4	5	549	G
4	5	553	G

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Mol	Chain	Res	Type
4	5	556	U
4	5	558	A
4	5	560	A
4	5	580	G
4	5	590	A
4	5	591	G
4	5	593	A
4	5	601	G
4	5	602	U
4	5	603	A
4	5	610	G
4	5	611	G
4	5	612	A
4	5	621	U
4	5	622	A
4	5	623	A
4	5	638	C
4	5	639	C
4	5	650	A
4	5	661	A
4	5	678	A
4	5	682	U
4	5	692	A
4	5	706	A
4	5	713	G
4	5	716	A
4	5	717	A
4	5	720	U
4	5	721	A
4	5	765	U
4	5	767	U
4	5	768	U
4	5	769	C
4	5	777	U
4	5	778	U
4	5	781	A
4	5	782	G
4	5	786	G
4	5	787	A
4	5	807	A
4	5	817	A
4	5	818	A

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Mol	Chain	Res	Type
4	5	831	A
4	5	847	A
4	5	848	A
4	5	850	C
4	5	862	C
4	5	875	U
4	5	880	U
4	5	881	G
4	5	891	C
4	5	897	A
4	5	898	U
4	5	908	G
4	5	909	G
4	5	915	A
4	5	917	G
4	5	918	A
4	5	922	A
4	5	924	C
4	5	938	G
4	5	945	C
4	5	960	C
4	5	961	U
4	5	982	U
4	5	983	C
4	5	1001	C
4	5	1002	G
4	5	1003	A
4	5	1011	G
4	5	1018	C
4	5	1021	G
4	5	1025	G
4	5	1029	U
4	5	1033	C
4	5	1037	A
4	5	1048	A
4	5	1050	C
4	5	1065	A
4	5	1066	A
4	5	1073	G
4	5	1082	U
4	5	1094	A
4	5	1095	U

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Mol	Chain	Res	Type
4	5	1096	U
4	5	1098	G
4	5	1099	A
4	5	1104	A
4	5	1105	G
4	5	1118	G
4	5	1132	G
4	5	1144	A
4	5	1145	U
4	5	1154	A
4	5	1160	A
4	5	1161	C
4	5	1180	A
4	5	1181	A
4	5	1182	U
4	5	1192	U
4	5	1193	C
4	5	1194	A
4	5	1197	C
4	5	1202	C
4	5	1203	A
4	5	1209	U
4	5	1218	A
4	5	1223	G
4	5	1226	A
4	5	1228	C
4	5	1233	C
4	5	1236	U
4	5	1237	G
4	5	1239	C
4	5	1241	A
4	5	1242	U
4	5	1243	G
4	5	1246	A
4	5	1247	G
4	5	1252	A
4	5	1254	U
4	5	1255	C
4	5	1259	U
4	5	1263	G
4	5	1264	A
4	5	1265	G

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Mol	Chain	Res	Type
4	5	1267	G
4	5	1270	U
4	5	1271	A
4	5	1272	A
4	5	1275	A
4	5	1279	A
4	5	1280	C
4	5	1287	A
4	5	1288	A
4	5	1308	G
4	5	1310	U
4	5	1314	G
4	5	1331	A
4	5	1333	A
4	5	1350	G
4	5	1352	U
4	5	1353	A
4	5	1356	A
4	5	1357	U
4	5	1358	G
4	5	1387	A
4	5	1393	G
4	5	1400	A
4	5	1401	G
4	5	1418	G
4	5	1419	A
4	5	1420	A
4	5	1435	G
4	5	1438	C
4	5	1447	A
4	5	1482	A
4	5	1483	A
4	5	1484	G
4	5	1489	G
4	5	1495	U
4	5	1497	C
4	5	1509	C
4	5	1537	G
4	5	1540	A
4	5	1557	C
4	5	1558	A
4	5	1561	G

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Mol	Chain	Res	Type
4	5	1563	C
4	5	1564	C
4	5	1566	G
4	5	1567	A
4	5	1568	U
4	5	1569	U
4	5	1570	U
4	5	1573	U
4	5	1574	G
4	5	1576	A
4	5	1577	G
4	5	1581	A
4	5	1583	C
4	5	1584	A
4	5	1589	A
4	5	1590	A
4	5	1594	A
4	5	1606	A
4	5	1608	U
4	5	1630	U
4	5	1640	C
4	5	1643	A
4	5	1644	A
4	5	1646	U
4	5	1647	G
4	5	1658	C
4	5	1684	A
4	5	1717	U
4	5	1718	U
4	5	1725	U
4	5	1726	C
4	5	1737	G
4	5	1742	A
4	5	1743	U
4	5	1751	A
4	5	1752	G
4	5	1761	A
4	5	1766	U
4	5	1767	G
4	5	1771	G
4	5	1776	G
4	5	1781	G

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Mol	Chain	Res	Type
4	5	1798	A
4	5	1815	A
4	5	1817	A
4	5	1818	G
4	5	1820	U
4	5	1821	U
4	5	1822	U
4	5	1836	A
4	5	1840	A
4	5	1841	U
4	5	1843	A
4	5	1847	C
4	5	1859	A
4	5	1867	C
4	5	1868	A
4	5	1879	G
4	5	1881	U
4	5	1894	A
4	5	1907	G
4	5	1953	G
4	5	1954	G
4	5	1955	G
4	5	2102	C
4	5	2103	U
4	5	2108	A
4	5	2111	G
4	5	2112	G
4	5	2113	U
4	5	2114	A
4	5	2122	G
4	5	2123	G
4	5	2132	A
4	5	2141	U
4	5	2145	A
4	5	2159	A
4	5	2161	G
4	5	2170	G
4	5	2171	U
4	5	2172	G
4	5	2189	A
4	5	2193	C
4	5	2202	G

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Mol	Chain	Res	Type
4	5	2205	C
4	5	2206	U
4	5	2207	G
4	5	2208	A
4	5	2210	U
4	5	2211	G
4	5	2224	A
4	5	2250	G
4	5	2251	G
4	5	2257	A
4	5	2258	C
4	5	2273	G
4	5	2274	G
4	5	2280	A
4	5	2282	A
4	5	2283	U
4	5	2289	G
4	5	2308	G
4	5	2311	U
4	5	2314	A
4	5	2315	U
4	5	2316	G
4	5	2319	U
4	5	2335	U
4	5	2336	G
4	5	2374	A
4	5	2375	C
4	5	2376	G
4	5	2386	G
4	5	2389	U
4	5	2394	G
4	5	2398	A
4	5	2403	A
4	5	2404	G
4	5	2405	A
4	5	2412	U
4	5	2413	G
4	5	2420	A
4	5	2436	G
4	5	2440	A
4	5	2446	A
4	5	2447	U

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Mol	Chain	Res	Type
4	5	2448	A
4	5	2450	A
4	5	2453	G
4	5	2495	A
4	5	2497	C
4	5	2499	U
4	5	2500	U
4	5	2502	U
4	5	2503	A
4	5	2507	U
4	5	2508	C
4	5	2515	U
4	5	2516	A
4	5	2527	C
4	5	2532	C
4	5	2538	U
4	5	2539	U
4	5	2540	C
4	5	2541	A
4	5	2542	U
4	5	2543	U
4	5	2545	U
4	5	2548	A
4	5	2549	C
4	5	2550	G
4	5	2553	C
4	5	2562	A
4	5	2570	A
4	5	2571	U
4	5	2572	U
4	5	2573	C
4	5	2574	G
4	5	2586	G
4	5	2594	A
4	5	2595	C
4	5	2607	G
4	5	2608	G
4	5	2615	G
4	5	2627	A
4	5	2652	G
4	5	2653	U
4	5	2657	A

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Mol	Chain	Res	Type
4	5	2658	A
4	5	2673	G
4	5	2675	A
4	5	2678	G
4	5	2682	U
4	5	2689	U
4	5	2690	A
4	5	2692	A
4	5	2695	A
4	5	2697	A
4	5	2705	A
4	5	2715	G
4	5	2729	G
4	5	2730	U
4	5	2738	C
4	5	2753	U
4	5	2754	G
4	5	2756	C
4	5	2763	A
4	5	2773	C
4	5	2778	G
4	5	2779	G
4	5	2789	C
4	5	2797	G
4	5	2800	A
4	5	2801	G
4	5	2802	A
4	5	2804	A
4	5	2811	C
4	5	2818	A
4	5	2819	U
4	5	2820	A
4	5	2822	C
4	5	2843	U
4	5	2845	C
4	5	2846	A
4	5	2860	U
4	5	2868	C
4	5	2872	G
4	5	2873	A
4	5	2876	U
4	5	2888	A

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Mol	Chain	Res	Type
4	5	2899	G
4	5	2912	A
4	5	2915	G
4	5	2924	U
4	5	2934	A
4	5	2936	U
4	5	2937	A
4	5	2948	G
4	5	2972	A
4	5	2984	C
4	5	2991	G
4	5	2993	U
4	5	2997	U
4	5	2998	G
4	5	3013	A
4	5	3057	U
4	5	3060	G
4	5	3079	U
4	5	3081	G
4	5	3087	A
4	5	3093	C
4	5	3102	G
4	5	3105	U
4	5	3114	A
4	5	3120	U
4	5	3123	A
4	5	3131	A
4	5	3132	U
4	5	3143	A
4	5	3144	C
4	5	3152	U
4	5	3155	C
4	5	3156	U
4	5	3157	U
4	5	3158	U
4	5	3166	A
4	5	3171	A
4	5	3173	A
4	5	3174	G
4	5	3175	A
4	5	3177	G
4	5	3180	U

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Mol	Chain	Res	Type
4	5	3182	C
4	5	3188	A
4	5	3197	U
4	5	3207	C
4	5	3208	U
4	5	3218	C
4	5	3219	A
4	5	3220	G
4	5	3230	G
4	5	3240	G
4	5	3244	A
4	5	3246	A
4	5	3248	G
4	5	3260	U
4	5	3261	G
4	5	3271	U
4	5	3274	A
4	5	3277	G
4	5	3282	U
4	5	3288	U
4	5	3289	G
4	5	3290	G
4	5	3295	A
4	5	3296	A
4	5	3305	U
4	5	3315	A
4	5	3317	A
4	5	3319	G
4	5	3320	U
4	5	3321	A
4	5	3342	U
4	5	3343	A
4	5	3346	G
4	5	3352	U
4	5	3353	U
4	5	3354	G
4	5	3355	U
4	5	3356	U
4	5	3370	G
4	5	3376	A
4	5	3379	C
4	5	3383	U

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Mol	Chain	Res	Type
4	5	3391	G
5	6	7	A
5	6	8	U
5	6	15	A
5	6	16	C
5	6	17	G
5	6	19	C
5	6	28	C
5	6	31	G
5	6	42	G
5	6	44	A
5	6	45	G
5	6	46	A
5	6	48	C
5	6	55	C
5	6	59	U
5	6	61	C
5	6	75	A

All (74) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	68	A
1	2	77	U
1	2	139	C
1	2	141	U
1	2	280	U
1	2	322	G
1	2	352	A
1	2	387	A
1	2	400	A
1	2	541	A
1	2	555	A
1	2	609	U
1	2	639	U
1	2	640	U
1	2	705	U
1	2	711	U
1	2	765	G
1	2	819	G
1	2	912	U
1	2	928	U

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Mol	Chain	Res	Type
1	2	1023	A
1	2	1152	A
1	2	1226	A
1	2	1256	A
1	2	1273	G
1	2	1274	C
1	2	1318	G
1	2	1321	A
1	2	1344	A
1	2	1348	A
1	2	1382	A
1	2	1430	U
1	2	1471	A
1	2	1573	A
1	2	1584	G
1	2	1633	A
1	2	1636	C
1	2	1791	A
2	3	85	G
3	4	52	G
4	5	13	A
4	5	239	G
4	5	282	G
4	5	492	C
4	5	493	U
4	5	602	U
4	5	638	C
4	5	716	A
4	5	764	G
4	5	917	G
4	5	1065	A
4	5	1098	G
4	5	1356	A
4	5	1563	C
4	5	1569	U
4	5	1717	U
4	5	1816	U
4	5	1817	A
4	5	1821	U
4	5	2102	C
4	5	2113	U
4	5	2496	C

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Mol	Chain	Res	Type
4	5	2526	G
4	5	2538	U
4	5	2542	U
4	5	3122	U
4	5	3219	A
4	5	3229	C
4	5	3270	U
4	5	3320	U
4	5	3351	C
4	5	3352	U
5	6	7	A
5	6	58	C

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 13 ligands modelled in this entry, 13 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 ⓘ

There are no chain breaks in this entry.

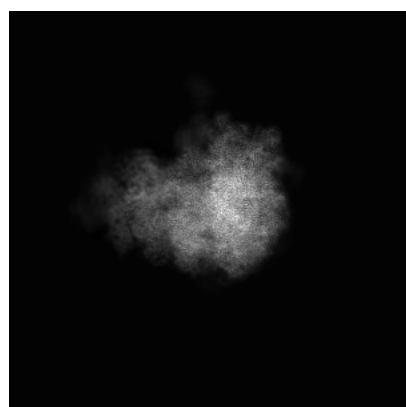
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14921. These allow visual inspection of the internal detail of the map and identification of artifacts.

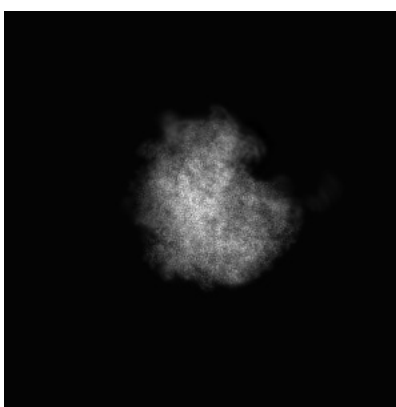
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

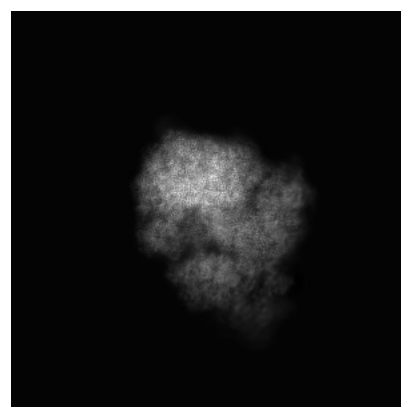
6.1.1 Primary map



X



Y

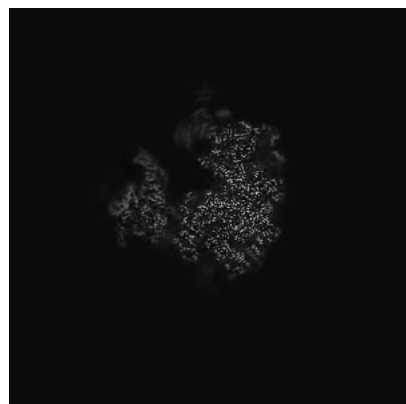


Z

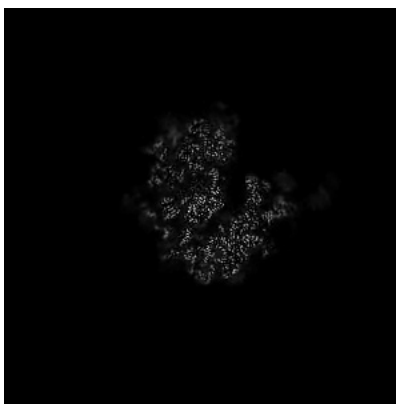
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

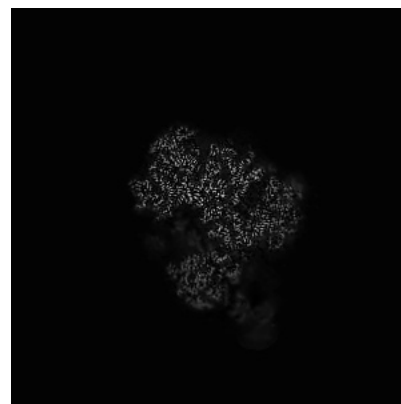
6.2.1 Primary map



X Index: 280



Y Index: 280

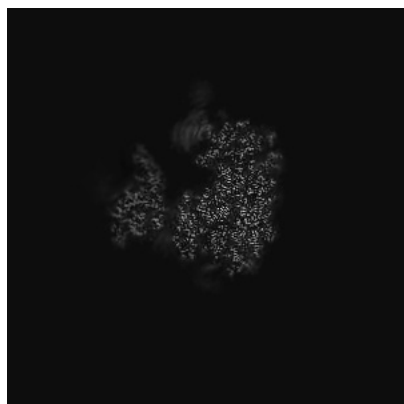


Z Index: 280

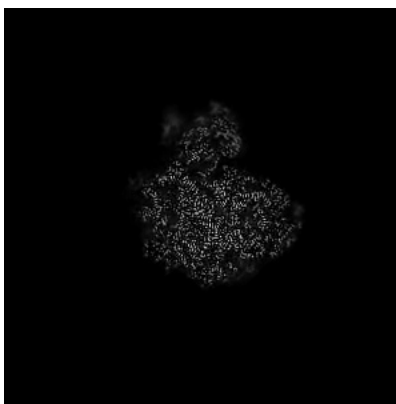
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

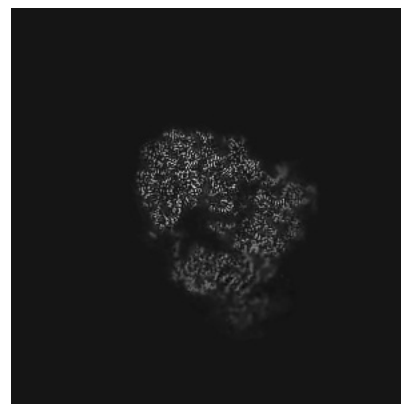
6.3.1 Primary map



X Index: 285



Y Index: 305

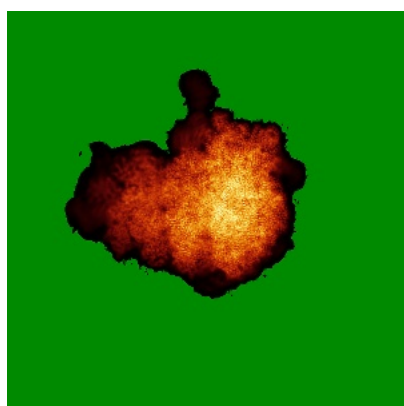


Z Index: 300

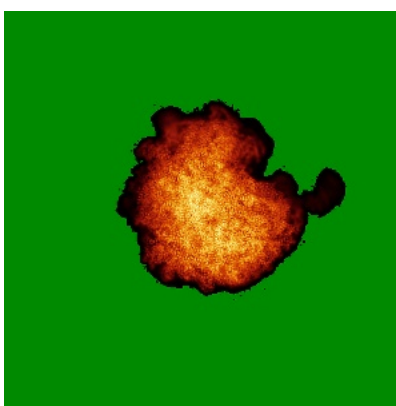
The images above show the largest variance slices of the map in three orthogonal directions.

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

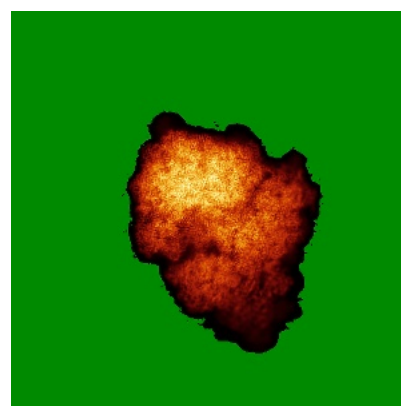
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

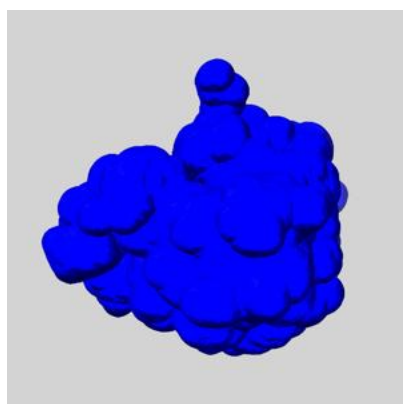
6.6 Mask visualisation [i](#)

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

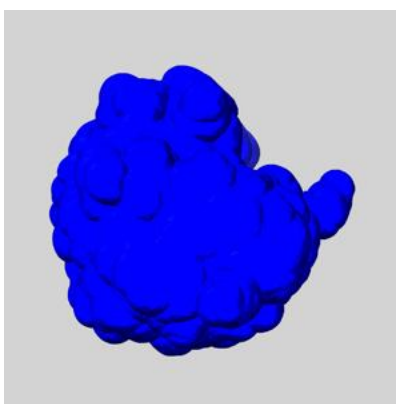
A mask typically either:

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

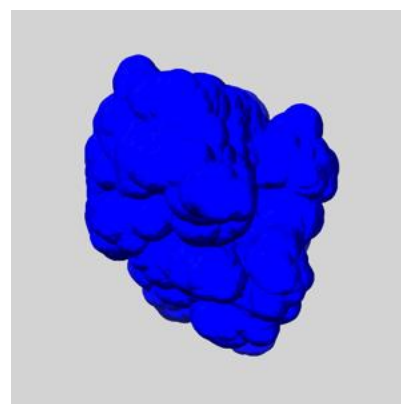
6.6.1 emd_14921_msk_1.map [i](#)



X

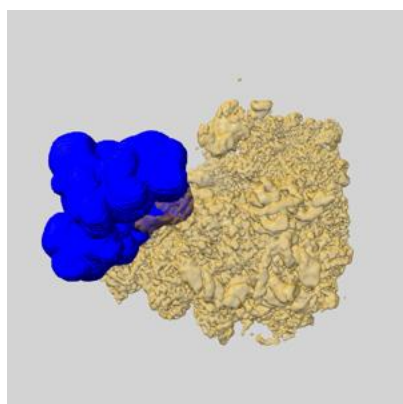


Y

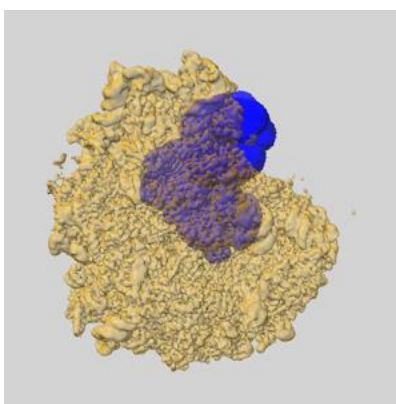


Z

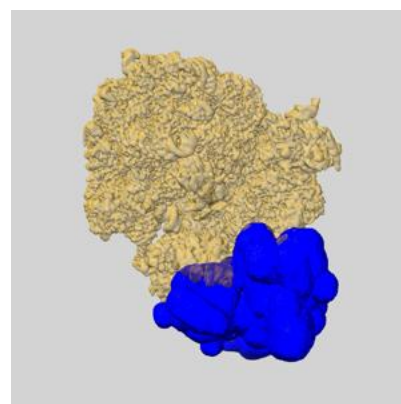
6.6.2 emd_14921_msk_2.map [i](#)



X



Y

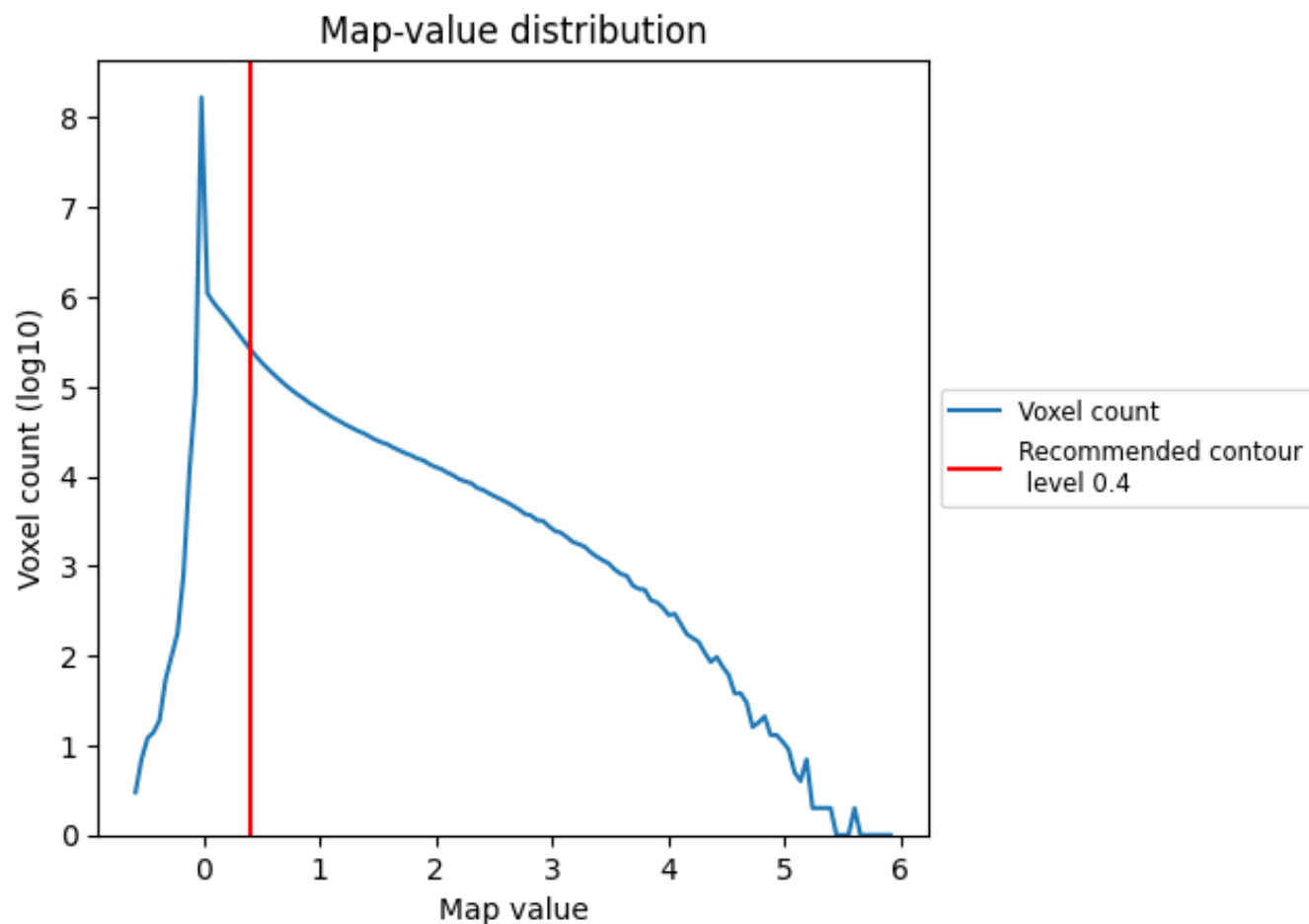


Z

7 Map analysis [i](#)

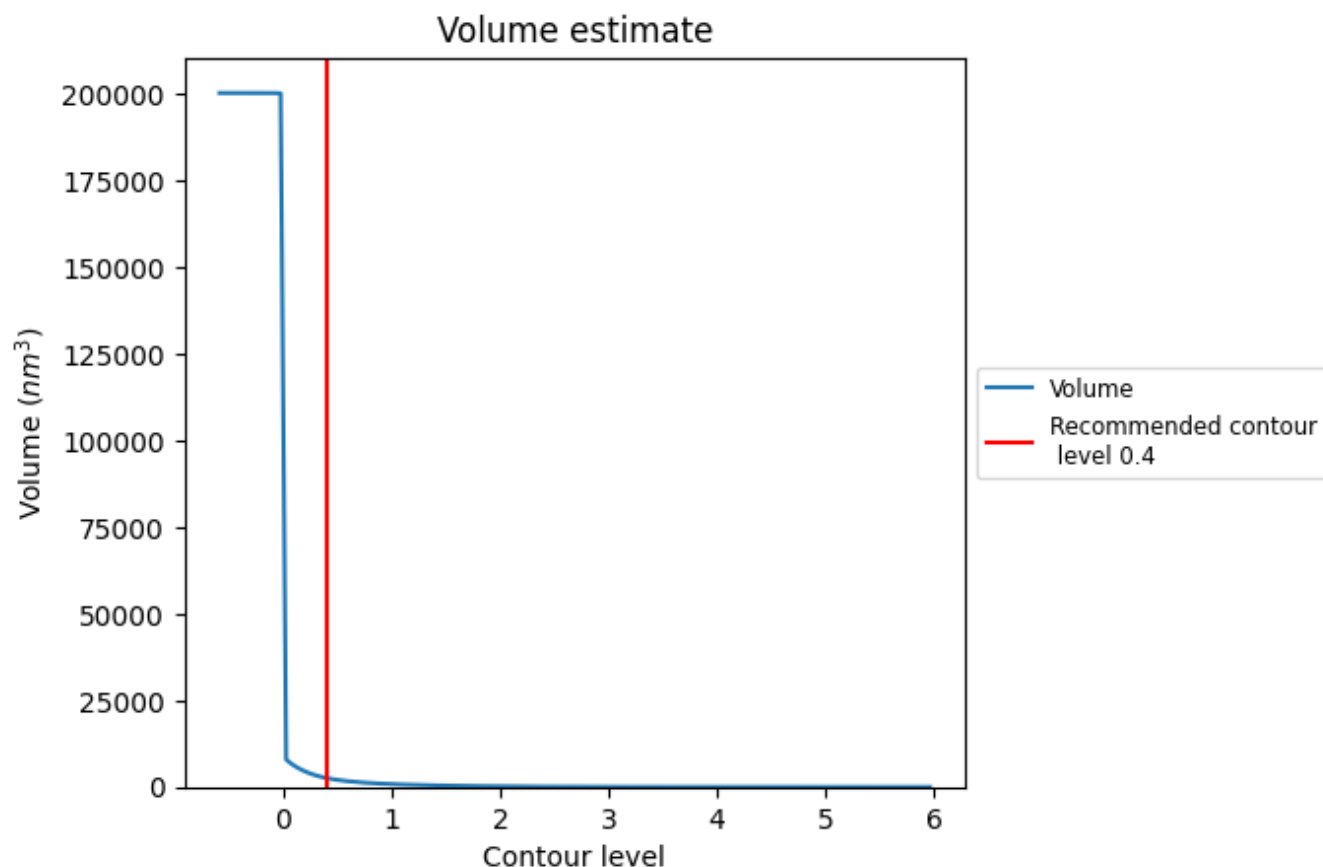
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

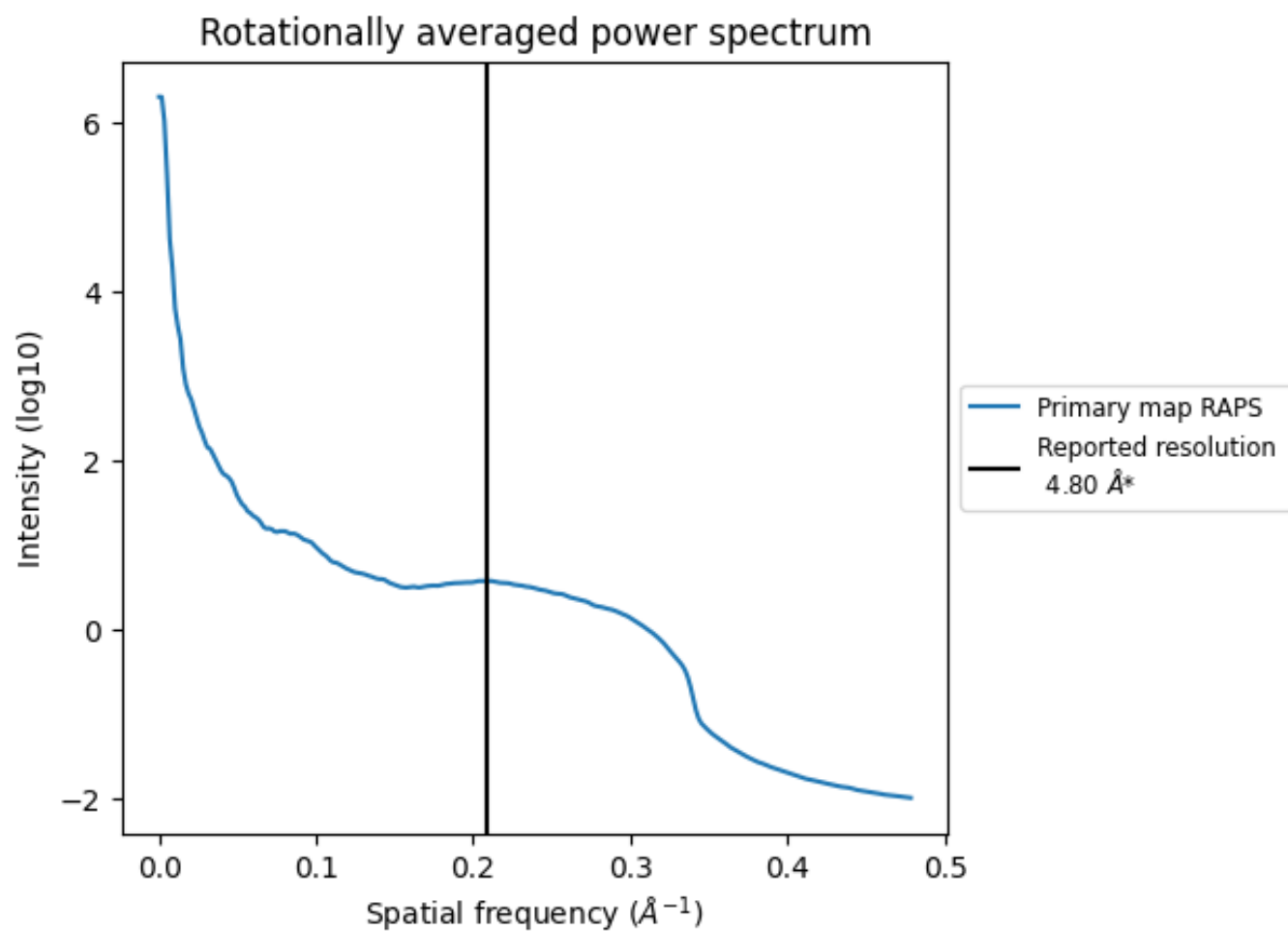
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2583 nm³; this corresponds to an approximate mass of 2333 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 ⓘ

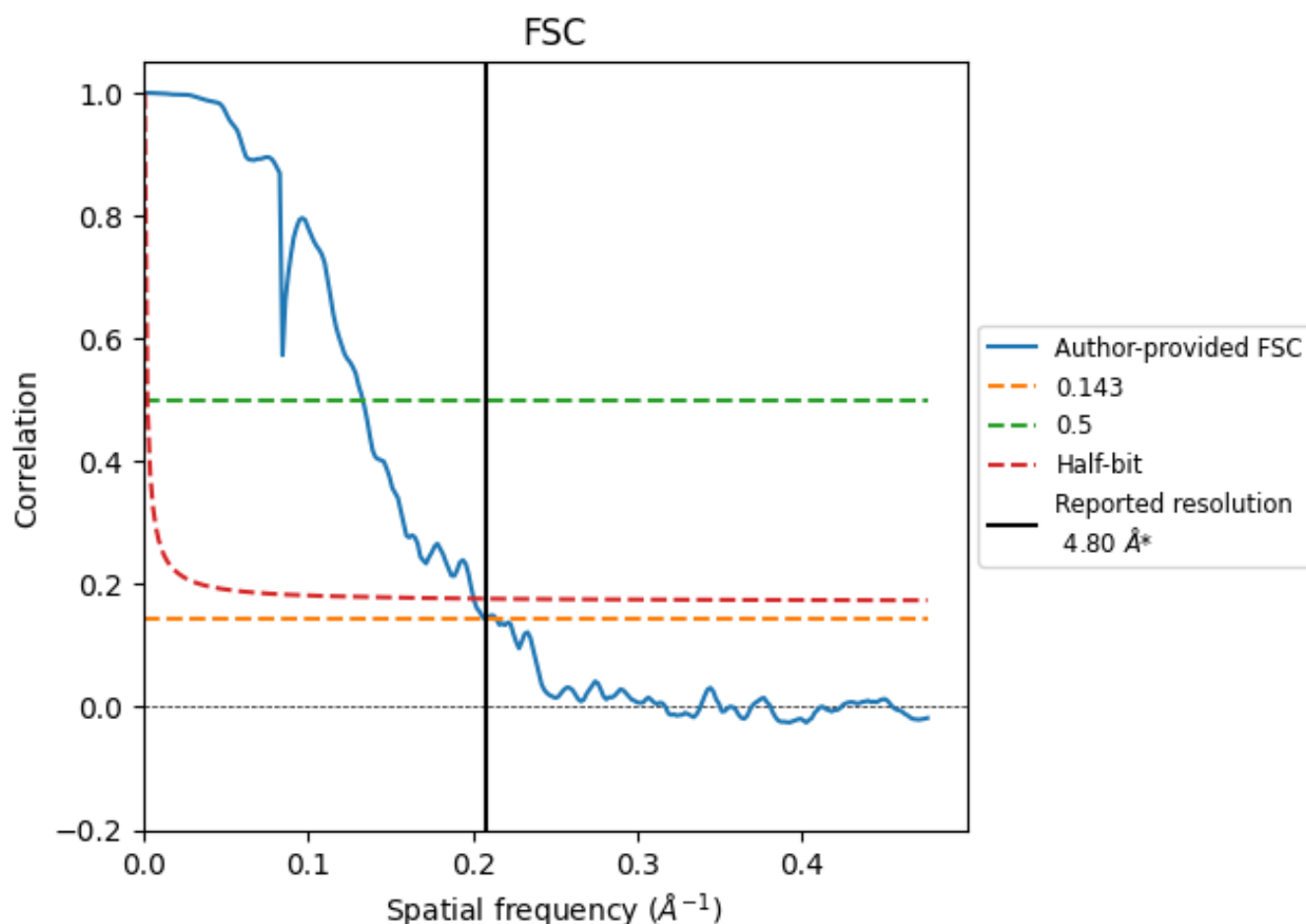


*Reported resolution corresponds to spatial frequency of 0.208 Å⁻¹

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 0.208 Å⁻¹

8.2 Resolution estimates [i](#)

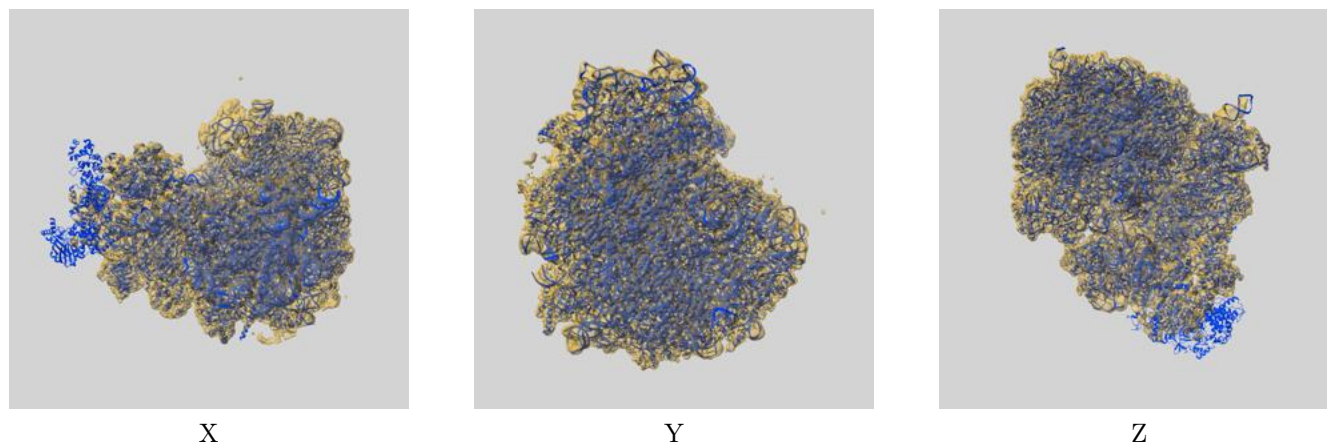
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.80	-	-
Author-provided FSC curve	4.82	7.50	4.99
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

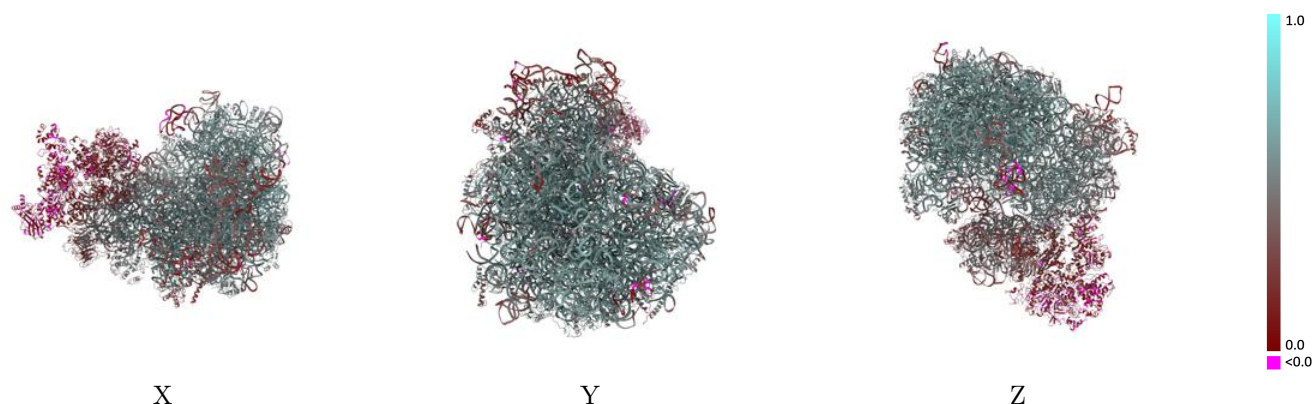
This section contains information regarding the fit between EMDB map EMD-14921 and PDB model 7ZRS. Per-residue inclusion information can be found in section [3](#) on page [20](#).

9.1 Map-model overlay [i](#)



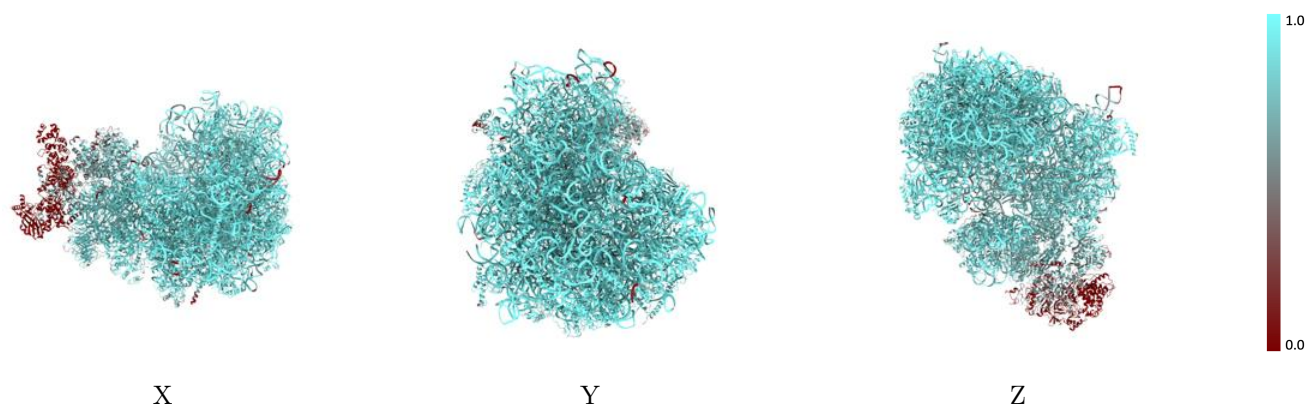
The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



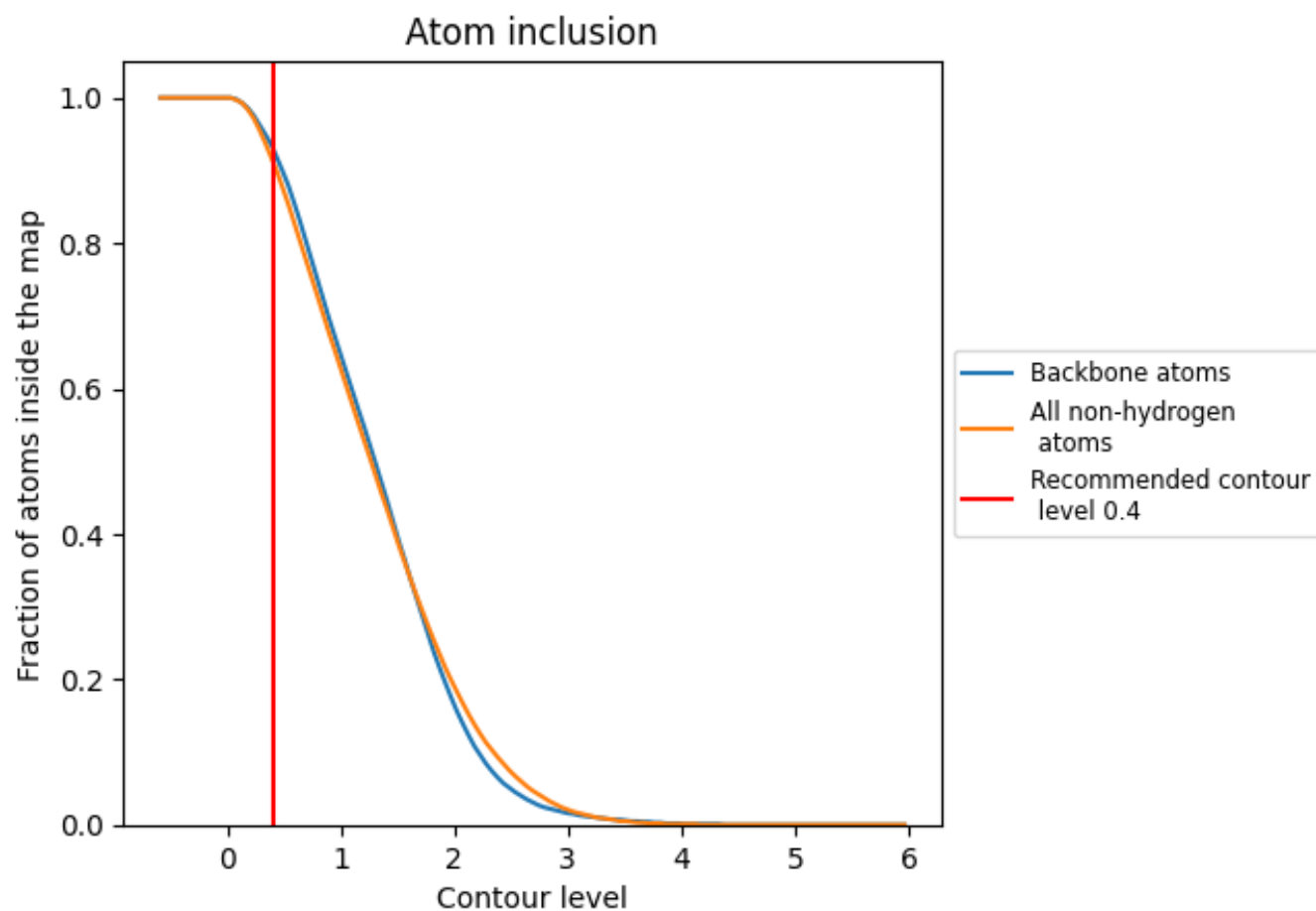
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.4).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 91% 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 (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9140	 0.4900
2	 0.9700	 0.4750
3	 0.9880	 0.5860
4	 0.9980	 0.5700
5	 0.9810	 0.5620
6	 0.7220	 0.2630
AA	 0.9610	 0.4930
AB	 0.9280	 0.4880
AC	 0.9740	 0.5330
AD	 0.9160	 0.3880
AE	 0.9650	 0.5010
AF	 0.8650	 0.3940
AG	 0.9020	 0.4120
AH	 0.8640	 0.4280
AI	 0.9620	 0.5270
AJ	 0.9500	 0.4820
AK	 0.8790	 0.2790
AL	 0.9570	 0.5480
AM	 0.4800	 0.1940
AN	 0.9720	 0.5300
AO	 0.9800	 0.5330
AP	 0.8440	 0.3310
AQ	 0.9240	 0.4390
AR	 0.8910	 0.3950
AS	 0.8500	 0.3420
AT	 0.8960	 0.3760
AU	 0.8900	 0.3520
AV	 0.9500	 0.4830
AW	 0.9920	 0.5670
AX	 0.9700	 0.5530
AY	 0.9330	 0.4540
AZ	 0.6490	 0.2680
Aa	 0.9760	 0.5140
Ab	 0.9420	 0.5010
Ac	 0.8610	 0.3850



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Chain	Atom inclusion	Q-score
Ad	 0.9810	 0.4550
Ae	 0.8190	 0.3940
Af	 0.5880	 0.2110
Ag	 0.8160	 0.3330
BA	 0.9910	 0.6070
BB	 0.9770	 0.5790
BC	 0.9750	 0.5720
BD	 0.9390	 0.5010
BE	 0.9580	 0.5350
BF	 0.9710	 0.5820
BG	 0.9400	 0.5200
BH	 0.9570	 0.5480
BI	 0.9480	 0.5490
BJ	 0.9300	 0.4630
BK	 0.9510	 0.5540
BL	 0.9700	 0.5520
BM	 0.9950	 0.6120
BN	 0.9860	 0.5900
BO	 0.9690	 0.5880
BP	 0.9940	 0.5940
BQ	 0.9220	 0.5360
BR	 0.9770	 0.5900
BS	 0.9720	 0.5670
BT	 0.9410	 0.4860
BU	 0.9650	 0.5810
BV	 0.9490	 0.4910
BW	 0.9680	 0.5560
BX	 0.9750	 0.5680
BY	 0.9590	 0.5360
BZ	 0.9720	 0.5890
Ba	 0.9560	 0.5360
Bb	 0.9810	 0.5560
Bc	 0.9320	 0.5490
Bd	 0.9870	 0.6000
Be	 0.9960	 0.6180
Bf	 0.9730	 0.5730
Bg	 0.9700	 0.5530
Bh	 0.9570	 0.5300
Bi	 0.9970	 0.6170
Bj	 0.9300	 0.4860
Bk	 1.0000	 0.5980
Bl	 0.9600	 0.5690

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Chain	Atom inclusion	Q-score
Bm	 0.9710	 0.5750
Bn	 0.9750	 0.5690
Bo	 0.9750	 0.5900
CA	 0.4790	 0.1540
CB	 0.0140	 0.0800
CC	 0.1670	 0.1150