



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 03:54 AM UTC

PDB ID : 8IFE / pdb_00008ife
EMDB ID : EMD-35414
Title : Arbekacin-added human 80S ribosome
Authors : Tomono, J.; Asano, K.; Chiashi, T.; Tanaka, Y.; Yokoyama, T.
Deposited on : 2023-02-17
Resolution : 2.57 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

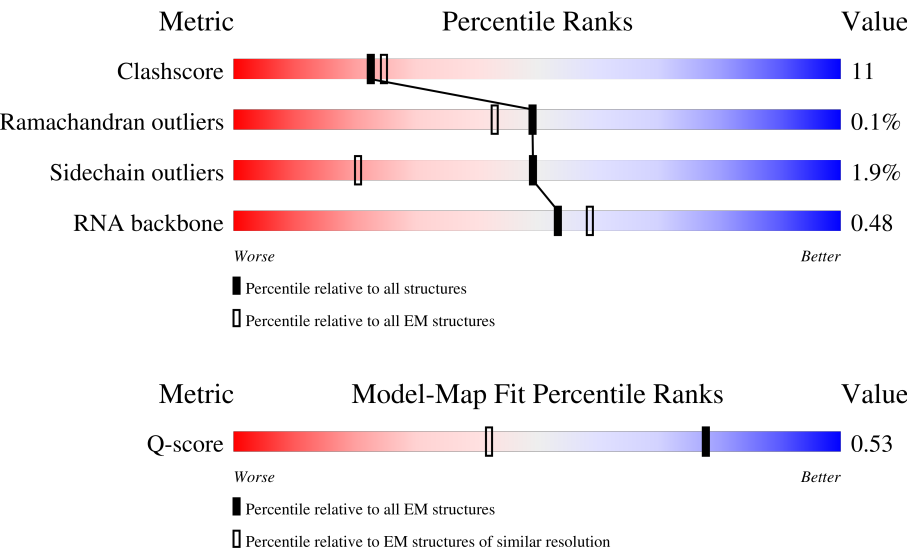
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.57 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



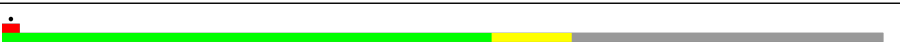
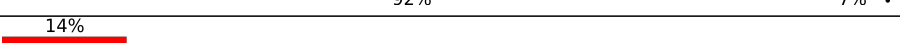
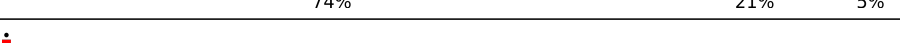
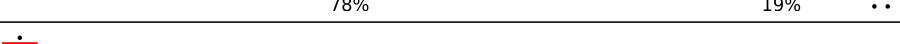
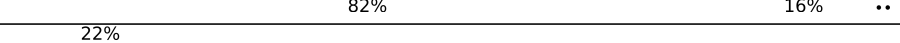
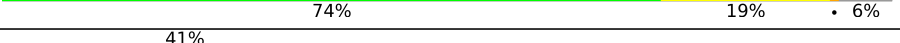
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	7615 (2.07 - 3.07)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1A	5070	10% 39% 28% 7% 27%
2	1B	121	69% 22% 7%
3	1C	157	6% 59% 34% 6%

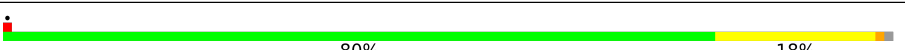
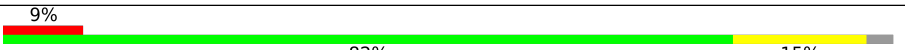
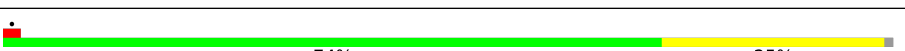
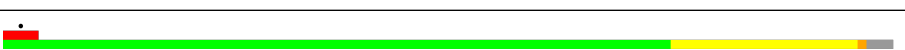
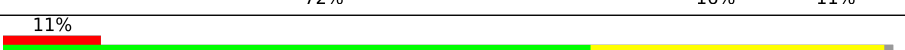
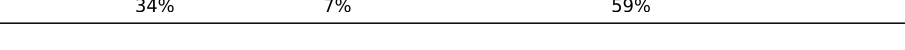
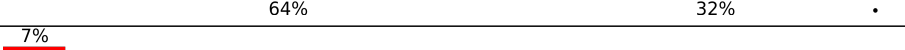
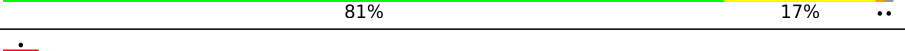
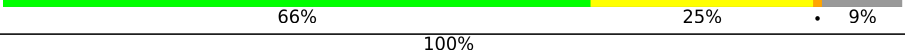
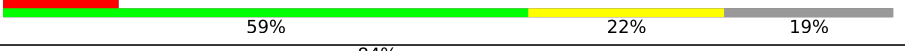
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Mol	Chain	Length	Quality of chain
4	1D	257	
5	1E	403	
6	1F	427	
7	1G	297	
8	1H	288	
9	2A	248	
10	2B	266	
11	2C	192	
12	2D	214	
13	2E	178	
14	2F	211	
15	2G	215	
16	2H	204	
17	2I	203	
18	2J	184	
19	2K	188	
20	2L	196	
21	2M	176	
22	2N	160	
23	2O	128	
24	2P	140	
25	2Q	157	
26	2R	156	
27	2S	145	
28	2T	136	

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Mol	Chain	Length	Quality of chain
29	2U	148	
30	2V	159	
31	2W	115	
32	2X	125	
33	2Y	135	
34	2Z	110	
35	2a	117	
36	2b	123	
37	2c	105	
38	2d	97	
39	2e	70	
40	2f	51	
41	2g	128	
42	2h	25	
43	2i	106	
44	2j	92	
45	2k	137	
46	2l	217	
47	2m	1869	
48	2n	295	
49	2o	264	
50	2p	243	
51	2q	263	
52	2r	204	
53	2s	194	

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Mol	Chain	Length	Quality of chain
54	2t	208	
55	2u	165	
56	2v	158	
57	2w	145	
58	2x	146	
59	2y	135	
60	2z	152	
61	20	145	
62	21	119	
63	3A	83	
64	3B	143	
65	3C	115	
66	3D	69	
67	3E	56	
68	3F	317	
69	3G	293	
70	3H	249	
71	3I	194	
72	3J	132	
73	3K	151	
74	3L	151	
75	3M	130	
76	3N	133	
77	3O	125	
78	3P	84	

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Mol	Chain	Length	Quality of chain
79	3Q	59	53% 78% 20%
80	3R	156	43% 31% 12% 57%

2 Entry composition [i](#)

There are 83 unique types of molecules in this entry. The entry contains 219097 atoms, of which 1012 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 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1A	3717	Total	C	N	O	P	0	0
			79676	35480	14585	25895	3716		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1A	2113	C	G	conflict	GB 86475748

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1B	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	1C	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	1D	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	1E	402	Total	C	N	O	S	0	0
			3238	2060	608	556	14		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	1F	368	Total	C	N	O	S	0	0
			2927	1840	583	489	15		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	1G	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	1H	236	Total	C	N	O	S	0	0
			1904	1222	361	317	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
9	2A	225	Total	C	N	O	S	1	0
			1878	1207	361	301	9		

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	2B	241	Total	C	N	O	S	1	0
			1935	1233	374	324	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
11	2C	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	2D	213	Total	C	N	O	S	0	0
			1711	1082	329	285	15		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	2E	176	Total	C	N	O	S	0	0
			1410	888	263	253	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
14	2F	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
15	2G	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
16	2H	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	2I	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	2J	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	2K	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	2L	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	2M	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	2N	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	2O	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	2P	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	2Q	124	Total	C	N	O	S	0	0
			1015	634	207	170	4		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	2R	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	2S	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	2T	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 29 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	2U	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	2V	109	Total	C	N	O	S	0	0
			882	549	192	137	4		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	2W	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	2X	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	2Y	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	2Z	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	2a	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	2b	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 37 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	2c	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 38 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	2d	86	Total	C	N	O	S	1	0
			713	439	158	111	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	2e	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	2f	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	2g	52	Total	C	N	O	S	0	0
			430	267	90	67	6		

- Molecule 42 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	2h	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 43 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	2i	105	Total	C	N	O	S	1	0
			870	547	178	139	6		

- Molecule 44 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	2j	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 45 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	2k	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 46 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	2l	217	Total	C	N	O	S	0	0
			1741	1113	312	307	9		

- Molecule 47 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	2m	1742	Total	C	N	O	P	0	0
			36900	16458	6595	12106	1741		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2m	582	C	U	conflict	GB 36162
2m	583	C	A	conflict	GB 36162
2m	584	G	A	conflict	GB 36162
2m	798	A	G	conflict	GB 36162
2m	1095	U	C	conflict	GB 36162

- Molecule 48 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	2n	221	Total	C	N	O	S	0	0
			1741	1106	305	322	8		

- Molecule 49 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	2o	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 50 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	2p	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 51 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	2q	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 52 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	2r	189	Total	C	N	O	S	0	0
			1495	934	284	270	7		

- Molecule 53 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	2s	186	Total	C	N	O	S	0	0
			1497	956	274	266	1		

- Molecule 54 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	2t	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 55 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	2u	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 56 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	2v	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 57 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	2w	127	Total	C	N	O	S	0	0
			1045	663	198	177	7		

- Molecule 58 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	2x	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 59 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	2y	135	Total	C	N	O	S	0	0
			1090	685	202	198	5		

- Molecule 60 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	2z	145	Total	C	N	O	S	0	0
			1198	751	242	203	2		

- Molecule 61 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	20	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 62 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	21	103	Total	C	N	O	S	0	0
			817	511	155	147	4		

- Molecule 63 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	3A	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 64 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	3B	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 65 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	3C	102	Total	C	N	O	S	1	0
			829	517	174	133	5		

- Molecule 66 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	3D	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 67 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	3E	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 68 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	3F	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 69 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	3G	222	Total	C	N	O	S	1	0
			1733	1120	301	302	10		

- Molecule 70 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	3H	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 71 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	3I	185	Total	C	N	O	S	1	0
			1533	974	309	248	2		

- Molecule 72 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	3J	122	Total	C	N	O	S	0	0
			942	590	165	179	8		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
3J	52	GLN	LEU	conflict	UNP P25398
3J	69	LEU	CYS	conflict	UNP P25398
3J	99	ASN	LYS	conflict	UNP P25398

- Molecule 73 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	3K	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 74 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	3L	140	Total	C	N	O	S	0	0
			1049	642	204	197	6		

- Molecule 75 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	3M	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 76 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	3N	131	Total	C	N	O	S	1	0
			1073	678	212	178	5		

- Molecule 77 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	3O	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 78 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	3P	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

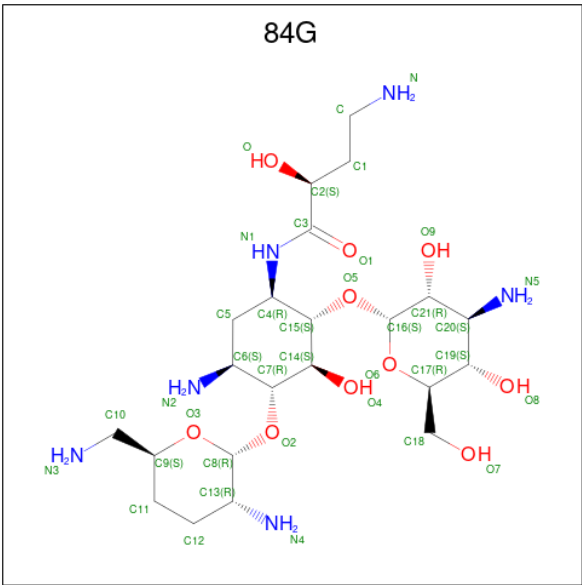
- Molecule 79 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	3Q	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 80 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	3R	67	Total	C	N	O	S	0	0
			548	346	102	93	7		

- Molecule 81 is Arbekacin (CCD ID: 84G) (formula: C₂₂H₄₄N₆O₁₀) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	

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Mol	Chain	Residues	Atoms					AltConf
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	1A	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	2D	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	2i	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	2m	1	Total	C	H	N	O	0
			82	22	44	6	10	
81	2m	1	Total	C	H	N	O	0
			82	22	44	6	10	

- Molecule 82 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
82	1A	268	Total	Mg	0
			268	268	
82	1B	3	Total	Mg	0
			3	3	
82	1C	5	Total	Mg	0
			5	5	
82	1D	1	Total	Mg	0
			1	1	
82	1E	1	Total	Mg	0
			1	1	
82	2H	1	Total	Mg	0
			1	1	
82	2J	1	Total	Mg	0
			1	1	
82	2L	1	Total	Mg	0
			1	1	
82	2M	2	Total	Mg	0
			2	2	
82	2P	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
82	2Y	1	Total 1	Mg 1	0
82	2Z	1	Total 1	Mg 1	0
82	2a	1	Total 1	Mg 1	0
82	2d	1	Total 1	Mg 1	0
82	2m	120	Total 120	Mg 120	0
82	20	1	Total 1	Mg 1	0
82	3H	1	Total 1	Mg 1	0

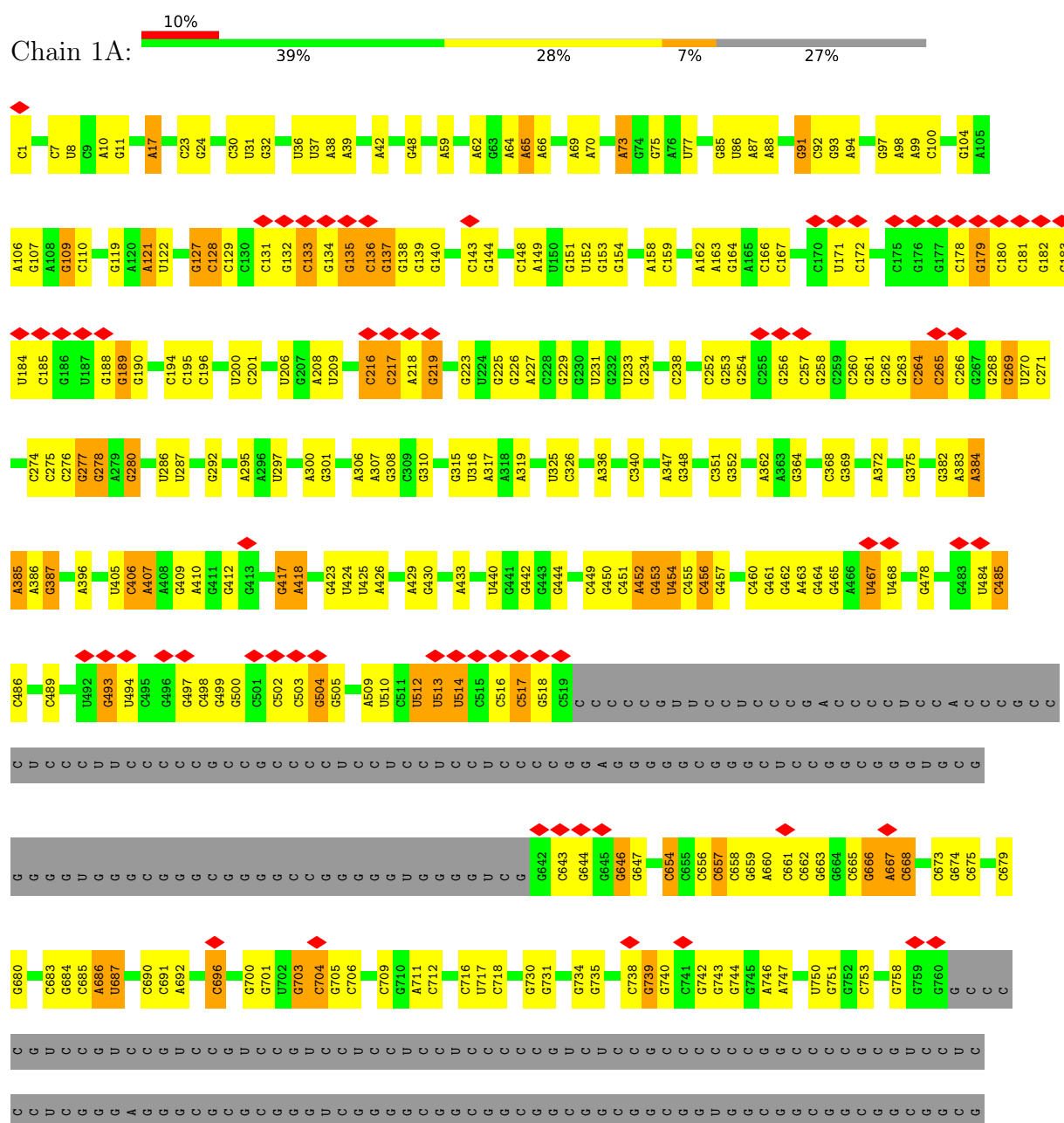
- Molecule 83 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
83	2d	1	Total 1	Zn 1	0
83	2g	1	Total 1	Zn 1	0
83	2i	1	Total 1	Zn 1	0
83	2j	1	Total 1	Zn 1	0
83	3C	1	Total 1	Zn 1	0
83	3E	1	Total 1	Zn 1	0

3 Residue-property plots

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

• Molecule 1: 28S ribosomal RNA



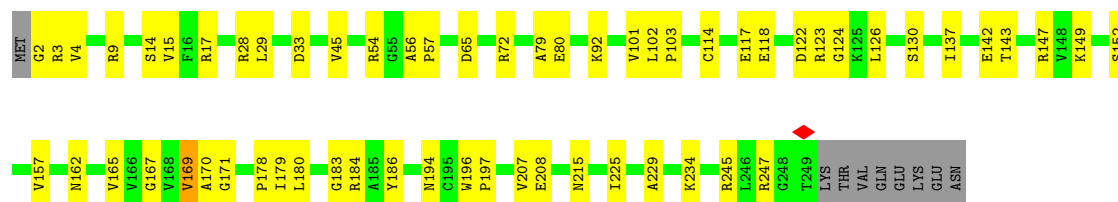




C4252	G4146	U4066	G3946	A3871	U3773	U3697	A3611	G	C	U3583
A4253	G4147	U4067	A3947	A3872	A3774	G3698	G3615	C	C	C3584
G4254	C4148	U4068	C3948	G3873	A3775	C3699	C3616	C	C	G3585
A4255	G4151	U4069	A3949	G3874	G3776	C3700	C3617	C	C	C3586
A4256	U4070	U4070	U3950	A3877	G3777	C3701	C3618	C	C	C3587
C4257	G4154	U4071	C3951	C3878	A3783	A3702	C3619	C	C	C3588
C4258	G4155	C4072	C3952	G3879	A3784	G3703	G3620	C	C	C3589
C4259	C4160	G4073	A3953	G3880	A3785	U3704	G3621	C	C	G3590
U4260	G4161	G4074	C3954	G3881	U3786	C3706	A3622	C	C	C3591
C4261	G4162	U4075	A3955	G3882	G3787	U3707	C3623	C	C	C3592
U4262	C4163	G4076	C3956	G3883	C3788	C3708	C3624	C	C	C3593
A4268	G4084	G4084	G3957	G3889	C3789	U3709	G3625	C	C	C3594
A4273	A4085	A4085	U3957	A3890	U3790	G3710	G3626	C	C	U3595
A4274	G4086	G4086	G3958	C3893	U3802	A3711	G3627	C	C	A3596
G4275	U4174	C4088	U3959	A3894	A3803	A3712	G3628	C	C	C3597
U4279	G4175	G4089	A3960	G3895	A3803	U3713	G3629	C	C	C3598
U4280	G4183	G4093	C3961	C3897	G3811	G3714	G3630	C	C	C3599
A4281	G4184	G4094	A3962	G3898	U3814	C3715	U3637	C	C	C3600
A4282	G4185	G4095	A3963	G3899	G3815	C3716	U3638	C	C	C3601
C4288	G4187	C4096	U3964	G3900	A3816	A3717	U3639	C	C	C3602
G4291	U4188	C4097	A3965	G3901	A3817	A3718	U3640	C	C	C3603
A4292	U4189	C4098	A3966	A3902	U3818	A3719	U3641	C	C	C3604
U4293	U4190	A4098	A3967	A3903	G3819	G3720	A3642	C	C	C3605
U4302	G4191	C4099	U3968	G3904	G3820	U3721	A3643	C	C	C3606
C4303	A4192	C4100	C3969	A3905	A3821	G3722	U3644	C	C	C3607
A4304	C4193	C4101	C3970	A3906	U3822	A3723	U3645	C	C	C3608
U4305	U4194	C4102	G3971	G3907	G3823	A3724	A3646	C	C	C3609
U4306	G4201	C4103	C3972	A3908	U3824	G3725	A3647	C	C	C3610
C4314	U4202	A4104	A3973	C3909	C3832	A3726	A3648	C	C	C3611
A4315	C4203	A4105	C3974	C3910	C3833	G3727	A3649	C	C	C3612
G4316	U4204	G4106	G3975	U3911	C3834	U3728	A3650	C	C	C3613
A4317	U4205	G4107	C3976	C3912	U3835	A3729	A3651	C	C	C3614
C4318	A4213	A4108	C3977	U3913	C3836	A3730	A3652	C	C	C3615
U4321	A4214	G4109	C3978	C3914	U3837	A3731	G3653	C	C	C3616
C4322	U4215	C4110	G3979	U3915	U3838	A3732	A3654	C	C	C3617
A4323	A4216	U4111	C3980	C3916	G3839	A3733	G3655	C	C	C3618
A4324	G4228	C4112	C3981	A3917	U3840	A3734	U3656	C	C	C3619
C4325	U4229	U4113	C3982	G3918	C3841	A3735	U3657	C	C	C3620
G4326	A4233	C4114	A3928	C3919	U3842	G3754	A3658	C	C	C3621
C4327	U4234	U4115	G3929	C3920	A3843	G3755	A3659	C	C	C3622
U4328	G4235	C4116	U3930	C3921	C3844	U3756	A3660	C	C	C3623
G4329	A4236	U4117	C3931	C3922	A3845	A3757	A3661	C	C	C3624
C4330	C4237	U4118	C3932	G3923	C3846	A3758	A3662	C	C	C3625
C4331	G4238	C4119	C3933	C3924	C3847	A3759	A3663	C	C	C3626
C4332	C4239	U4120	G3934	A3925	U3848	A3760	G3664	C	C	C3627
C4333	U4240	G4121	C3935	C3926	A3849	C3761	G3665	C	C	C3628
U4334	C4241	C4122	A3936	C3927	C3849	U3762	C3666	C	C	C3629
C4335	U4242	U4123	G3937	C3928	A3850	A3763	C3667	C	C	C3630
C4336	A4243	A4124	G3938	A3929	A3851	G3764	A3668	C	C	C3631
G4337	G4244	C4125	C3939	G3930	A3852	G3765	A3669	C	C	C3632
A4338	U4245	U4126	G3940	U3931	A3853	A3766	A3670	C	C	C3633
A4339	G4246	A4127	C3941	C3932	A3854	C3767	A3671	C	C	C3634
U4340	C4247	G4128	U4056	C3933	A3855	U3768	G3672	C	C	C3635
C4341	U4248	U4129	U4057	C3934	A3856	A3769	C3673	C	C	C3636
		C4130	U4058	G3935	A3857	A3770	A3674	C	C	C3637
		C4131	C4059	C3936	C3858		C3685	C	C	C3638
		C4132	U4060	A3937	C3859		A3686	C	C	C3639
		C4133	G4061	G3938	A3860		A3687	C	C	C3640
		C4134	U4062	C3939	A3861		A3688	C	C	C3641
		C4135	A4063	A3944	A3862		A3689	C	C	C3642
		C4136	U4064	C3945	A3867		A3690	C	C	C3643
		C4137	C4065		G3868		A3691	C	C	C3644
		C4138	C		G3869		A3692	C	C	C3645
		C4139	C		C3870		A3693	C	C	C3646
		C4140	C					C	C	C3647
		C4141	C					C	C	C3648
		C4142	A					C	C	C3649
		C4143	G					C	C	C3650
		C4144	G					C	C	C3651
		C4145	G					C	C	C3652

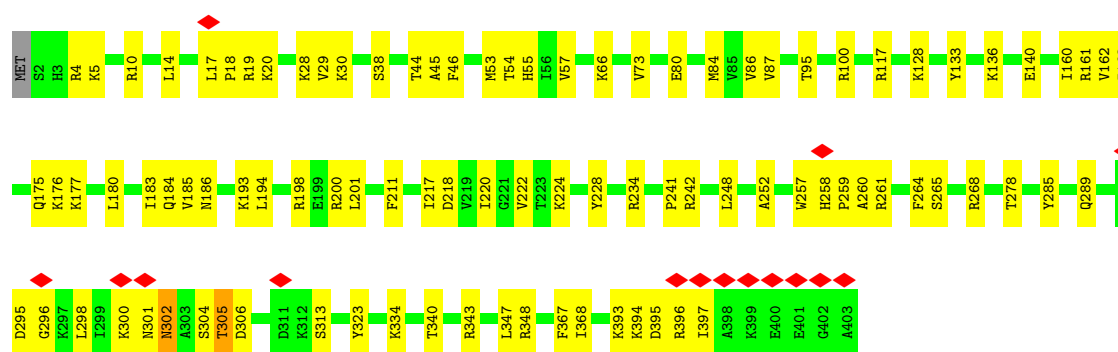
- Molecule 4: 60S ribosomal protein L8

Chain 1D: 



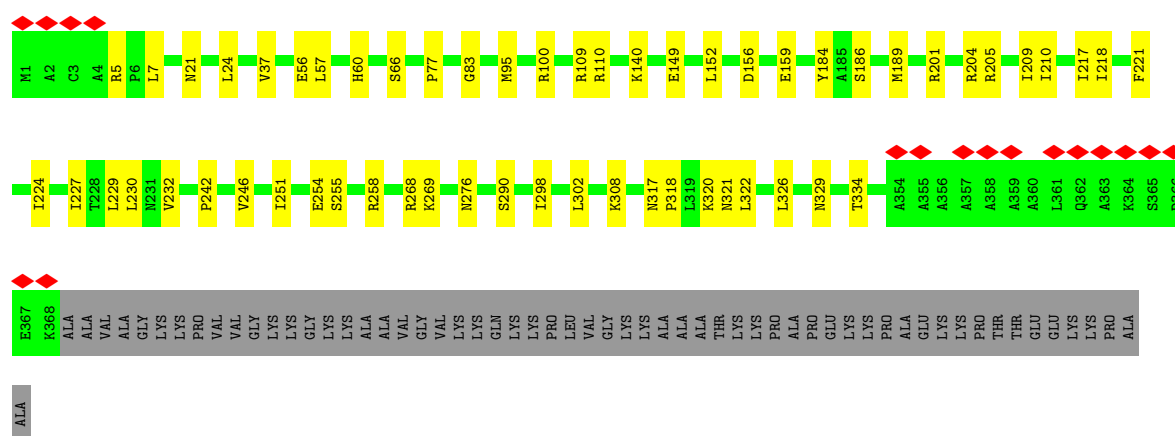
- Molecule 5: 60S ribosomal protein L3

Chain 1E: 



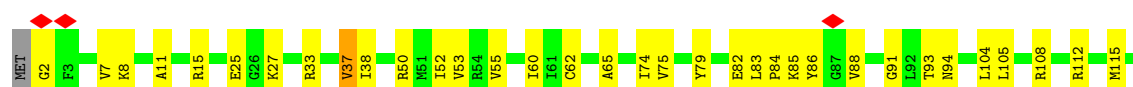
- Molecule 6: 60S ribosomal protein L4

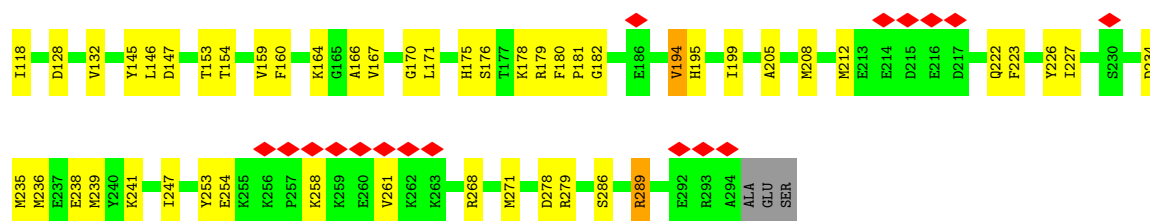
Chain 1F: 



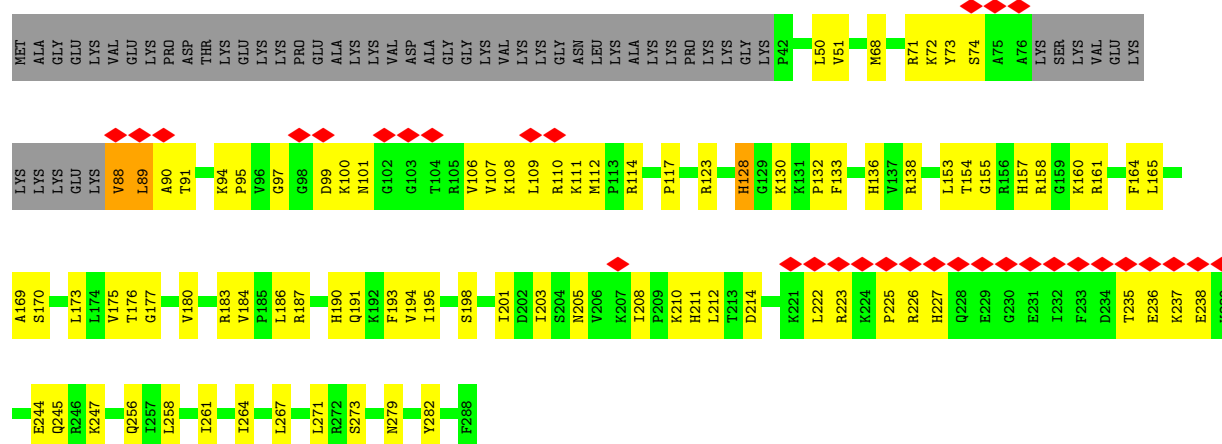
- Molecule 7: 60S ribosomal protein L5

Chain 1G: 

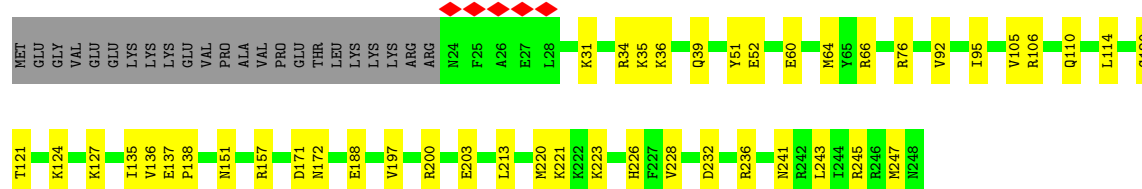
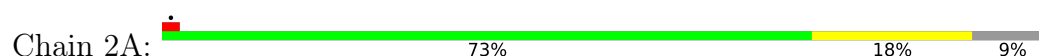




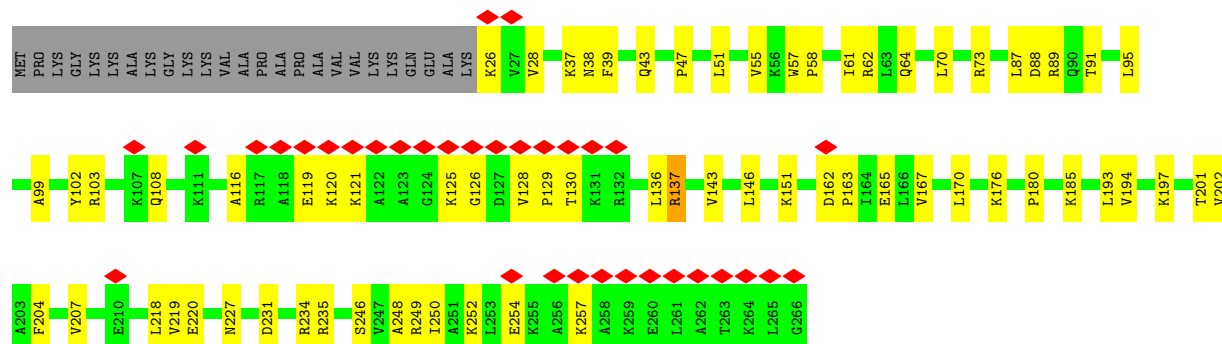
• Molecule 8: 60S ribosomal protein L6



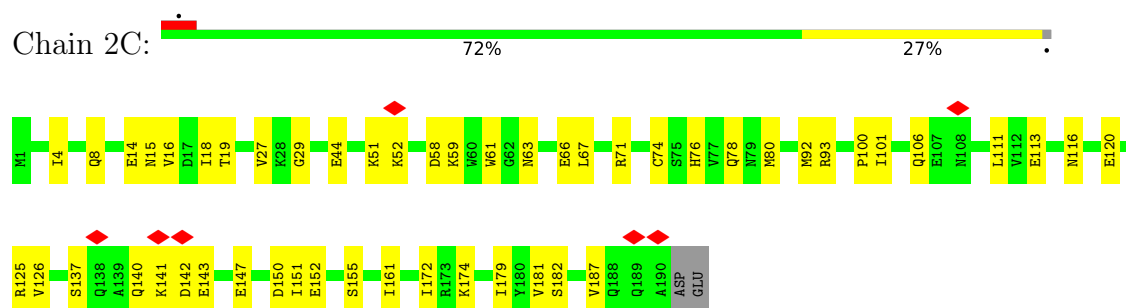
• Molecule 9: 60S ribosomal protein L7



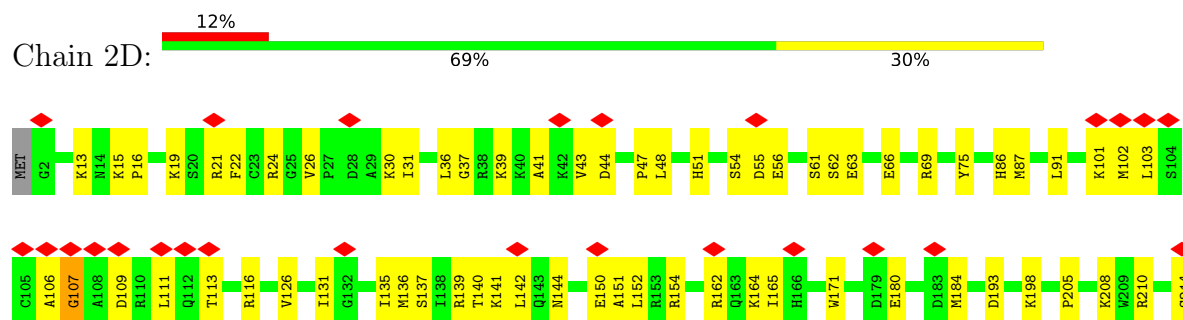
• Molecule 10: 60S ribosomal protein L7a



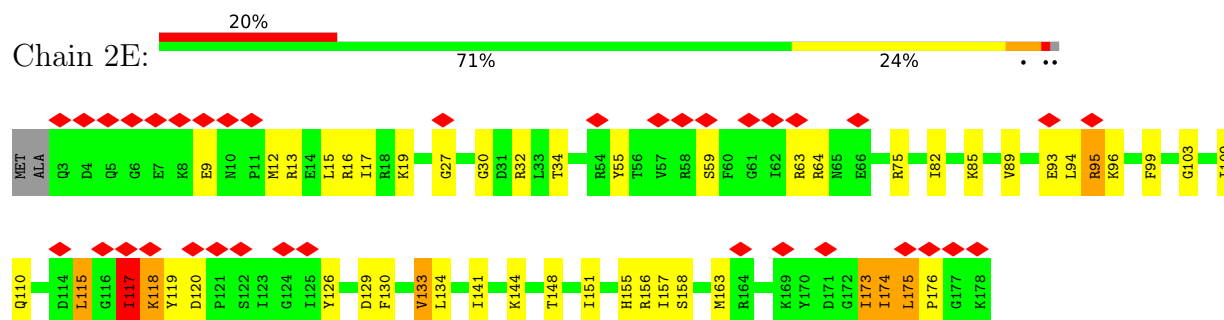
- Molecule 11: 60S ribosomal protein L9



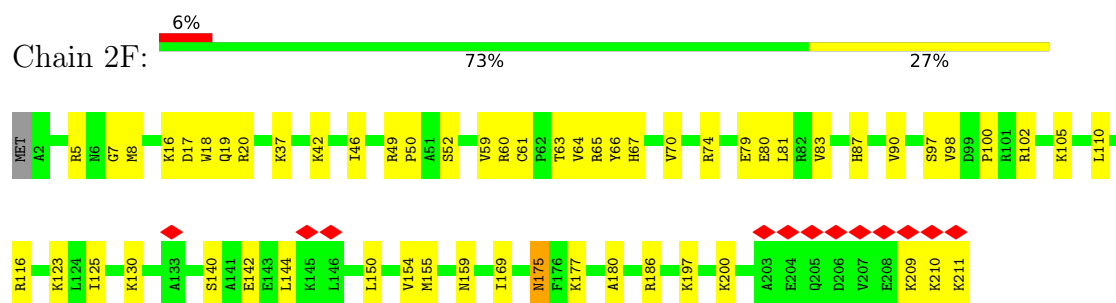
- Molecule 12: 60S ribosomal protein L10-like



- Molecule 13: 60S ribosomal protein L11



- Molecule 14: 60S ribosomal protein L13

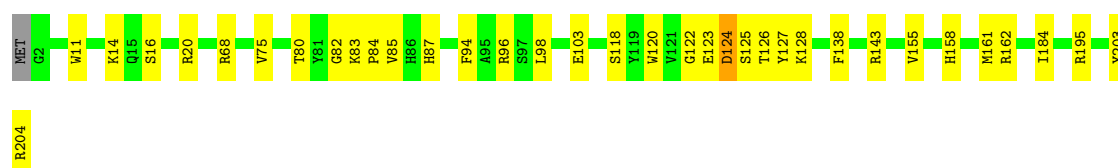


- Molecule 15: 60S ribosomal protein L14

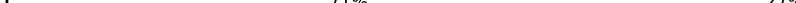


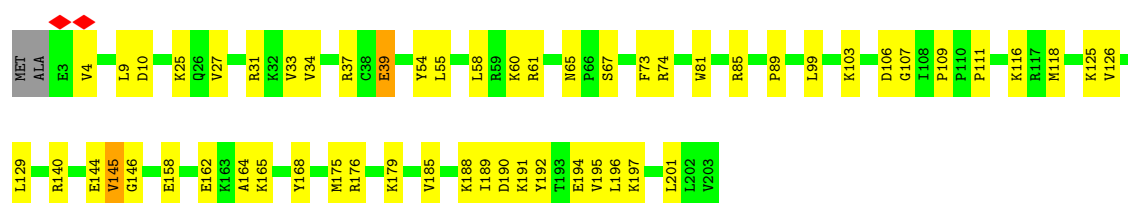
- Molecule 16: 60S ribosomal protein L15

Chain 2H:  82% 17%



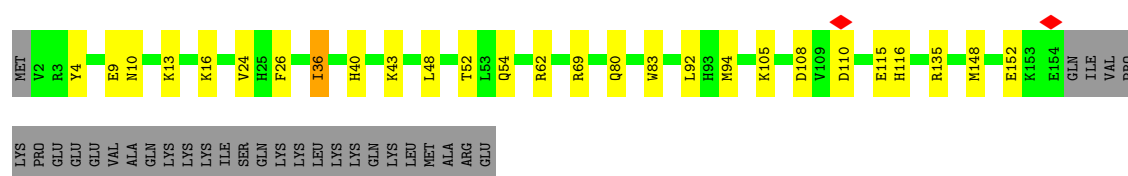
- Molecule 17: 60S ribosomal protein L13a

Chain 2I:  71% 27%

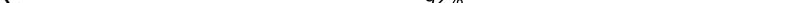


- Molecule 18: 60S ribosomal protein L17

Chain 2J: 68% 14% 17%

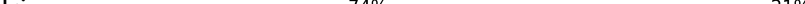


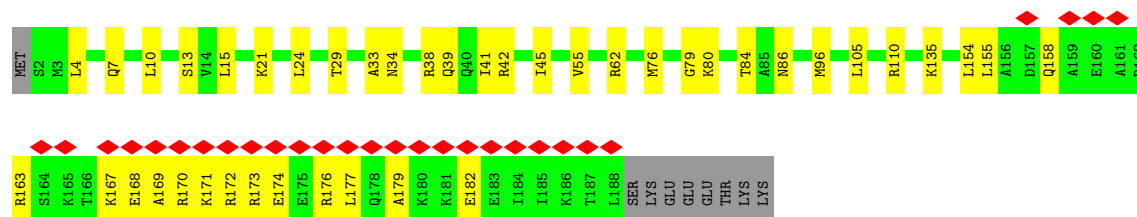
- Molecule 19: 60S ribosomal protein L18

Chain 2K:  92% 7%

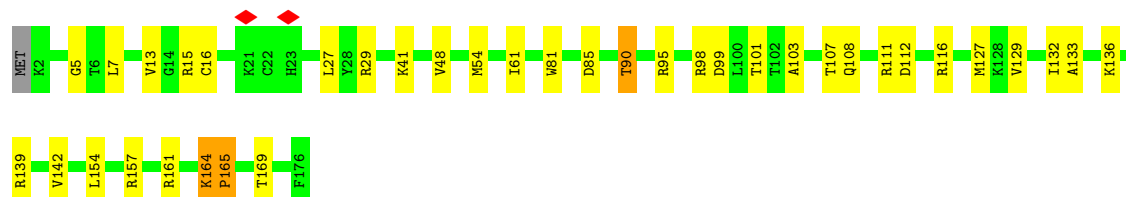
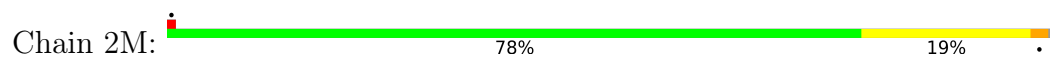


- Molecule 20: 60S ribosomal protein L19

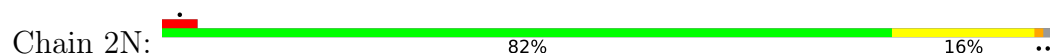
Chain 2L: 



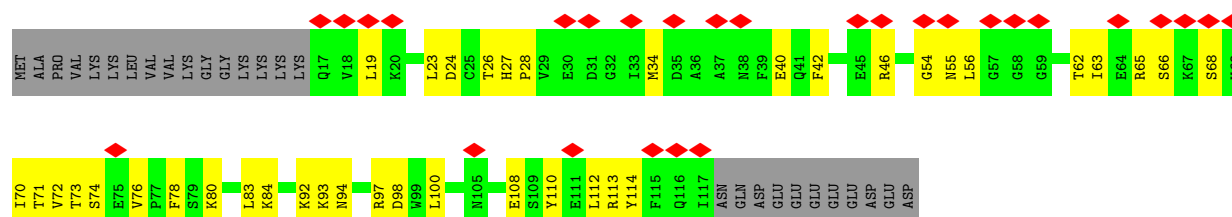
- Molecule 21: 60S ribosomal protein L18a



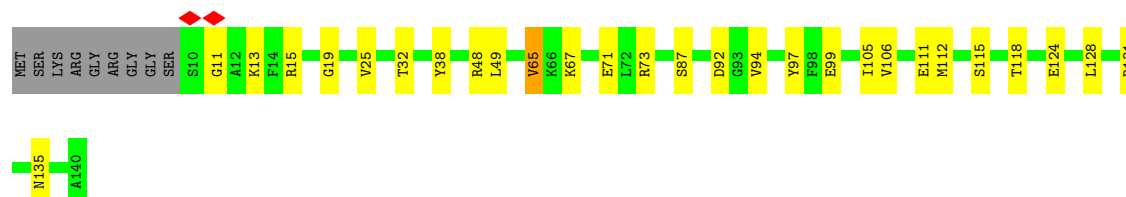
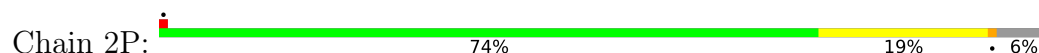
- Molecule 22: 60S ribosomal protein L21



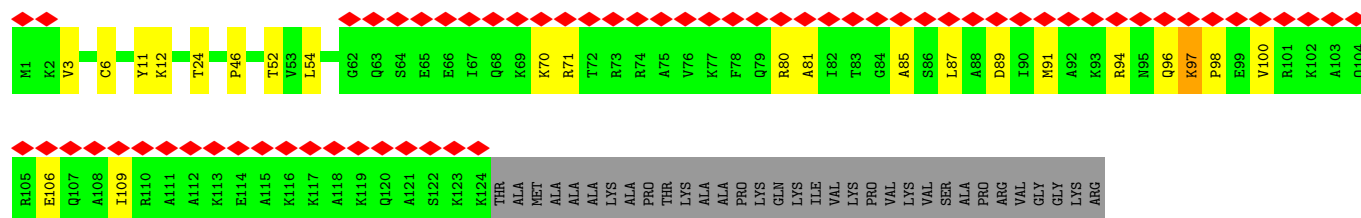
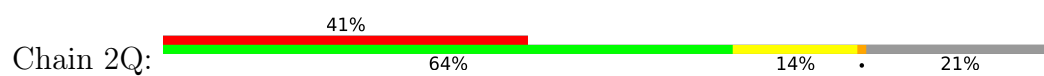
- Molecule 23: 60S ribosomal protein L22



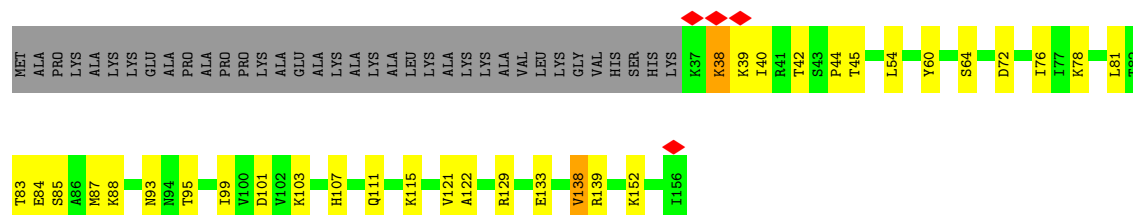
- Molecule 24: 60S ribosomal protein L23



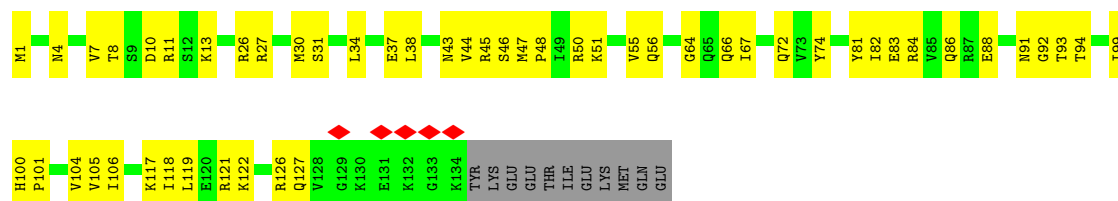
- Molecule 25: 60S ribosomal protein L24



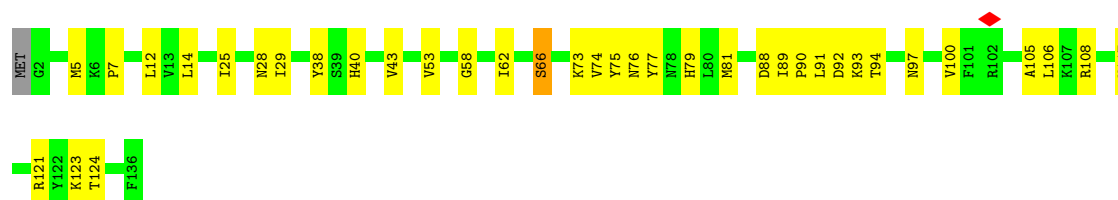
- Molecule 26: 60S ribosomal protein L23a



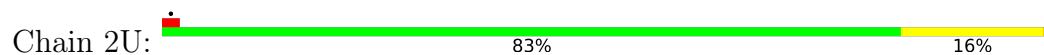
- Molecule 27: 60S ribosomal protein L26



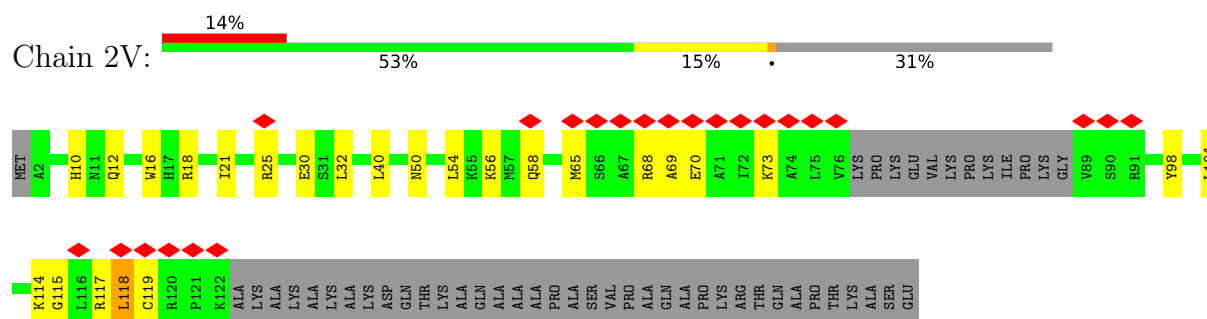
- Molecule 28: 60S ribosomal protein L27



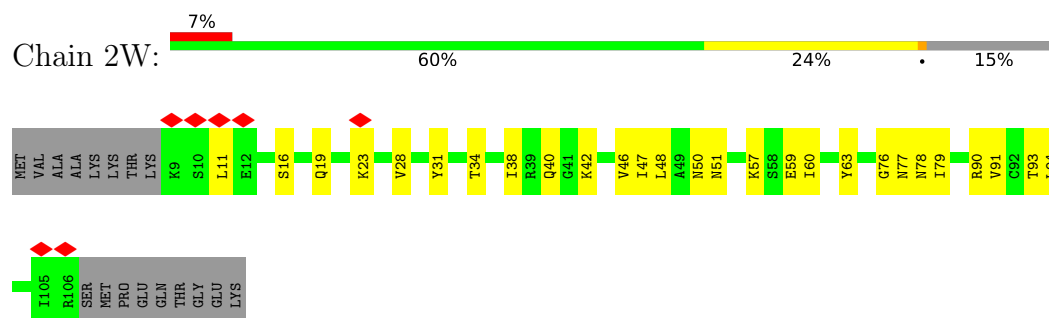
- Molecule 29: 60S ribosomal protein L27a



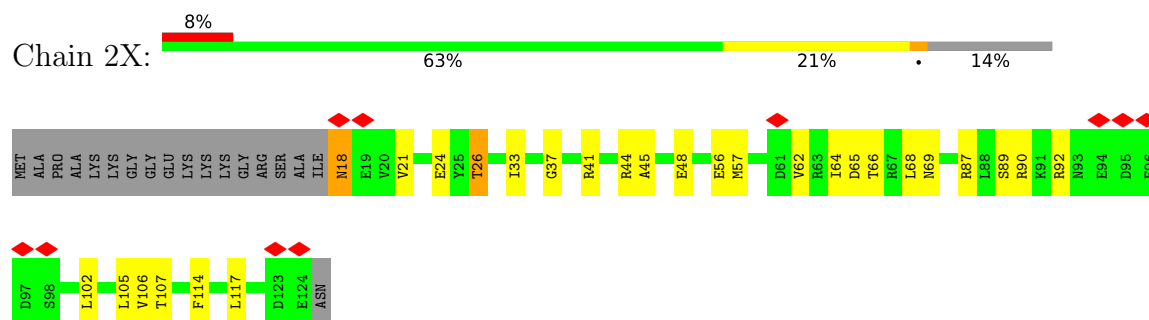
- Molecule 30: 60S ribosomal protein L29



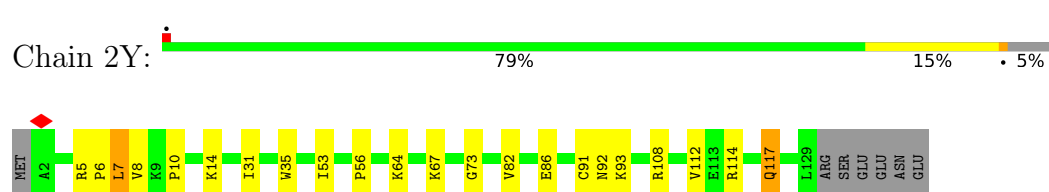
- Molecule 31: 60S ribosomal protein L30



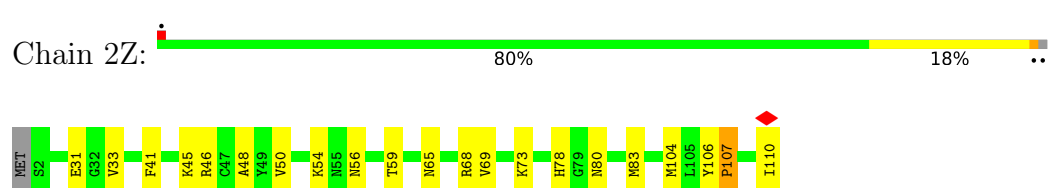
- Molecule 32: 60S ribosomal protein L31



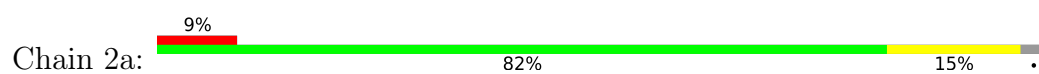
- Molecule 33: 60S ribosomal protein L32



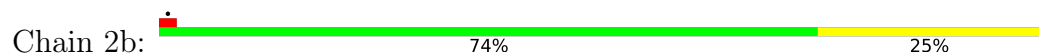
- Molecule 34: 60S ribosomal protein L35a



- Molecule 35: 60S ribosomal protein L34



- Molecule 36: 60S ribosomal protein L35



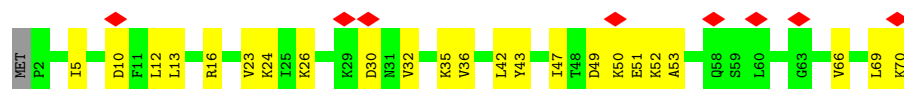
- Molecule 37: 60S ribosomal protein L36



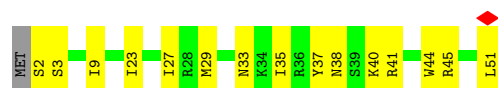
- Molecule 38: 60S ribosomal protein L37



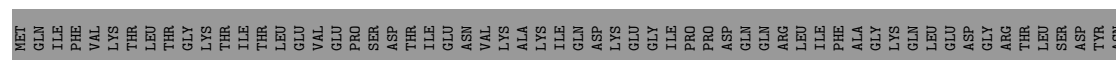
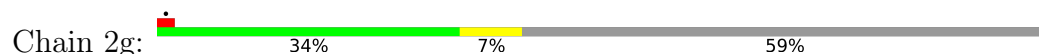
- Molecule 39: 60S ribosomal protein L38



- Molecule 40: 60S ribosomal protein L39



- Molecule 41: Ubiquitin-60S ribosomal protein L40





- Molecule 42: 60S ribosomal protein L41

Chain 2h: 64% 32% .



- Molecule 43: 60S ribosomal protein L36a

Chain 2i: 7% 81% 17% ..



- Molecule 44: 60S ribosomal protein L37a

Chain 2j: 84% 15% .



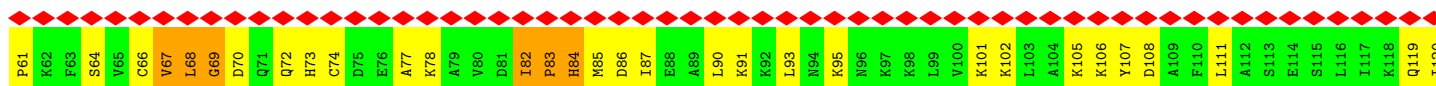
- Molecule 45: 60S ribosomal protein L28

Chain 2k: 66% 25% 9% .



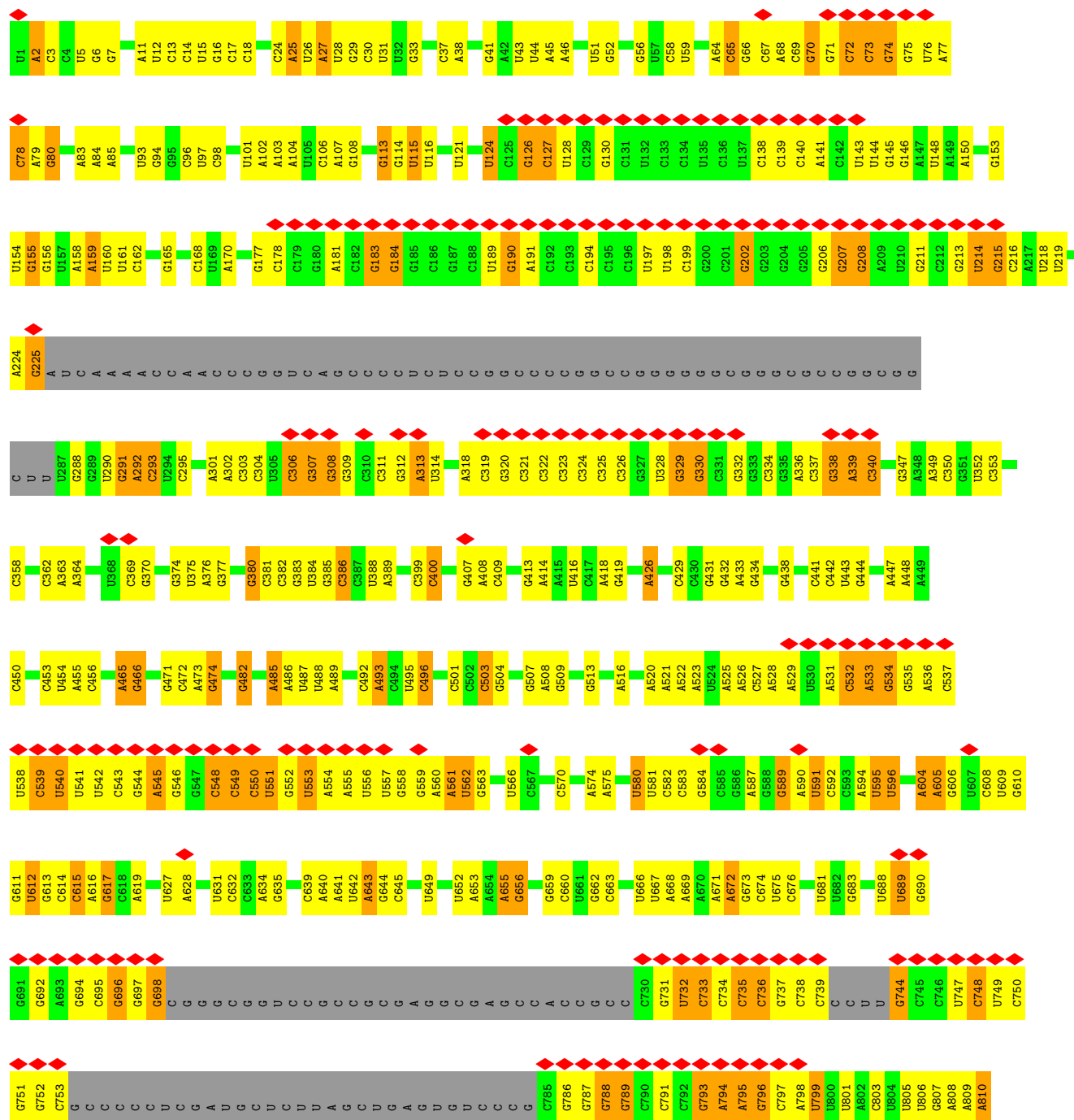
- Molecule 46: 60S ribosomal protein L10a

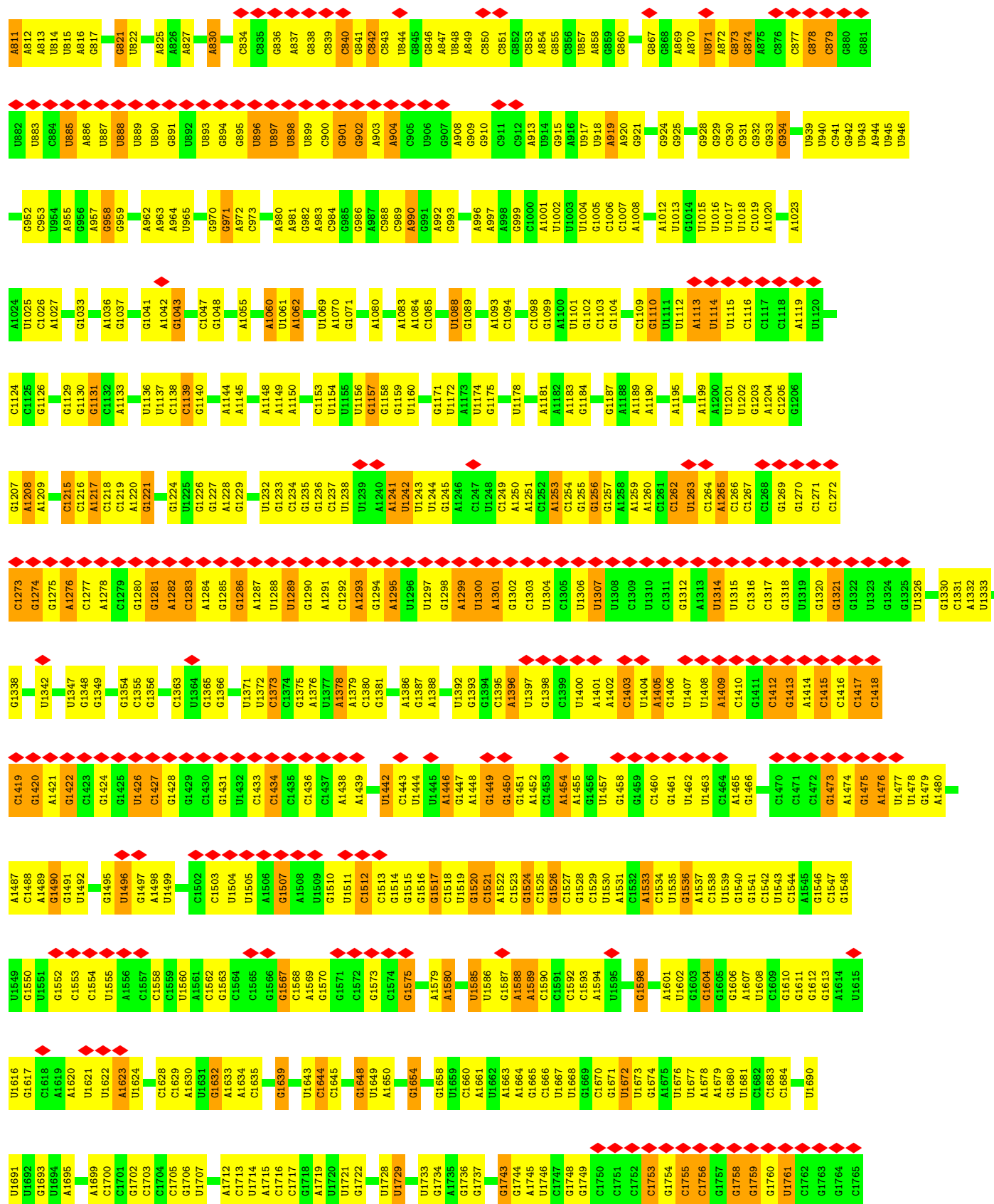
Chain 2l: 100% 64% 33% .

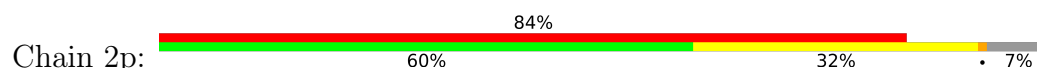


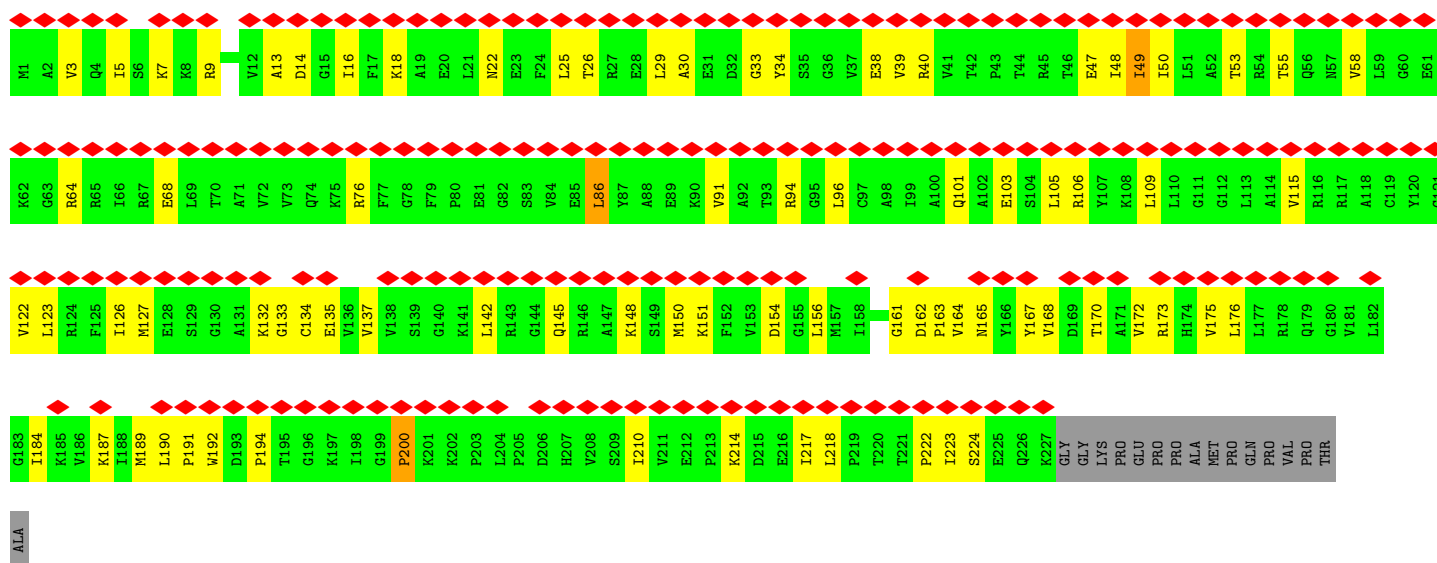


• Molecule 47: 18S ribosomal RNA

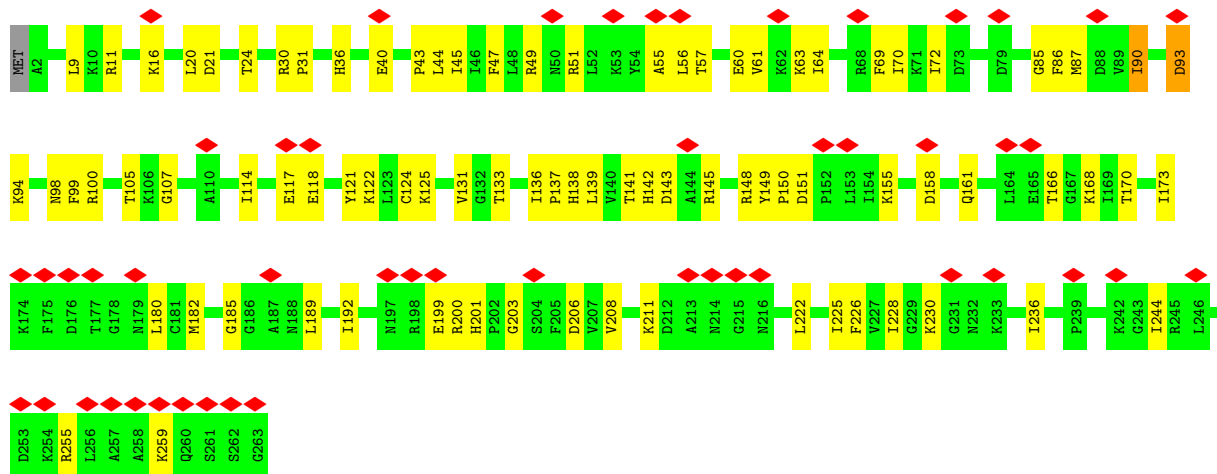




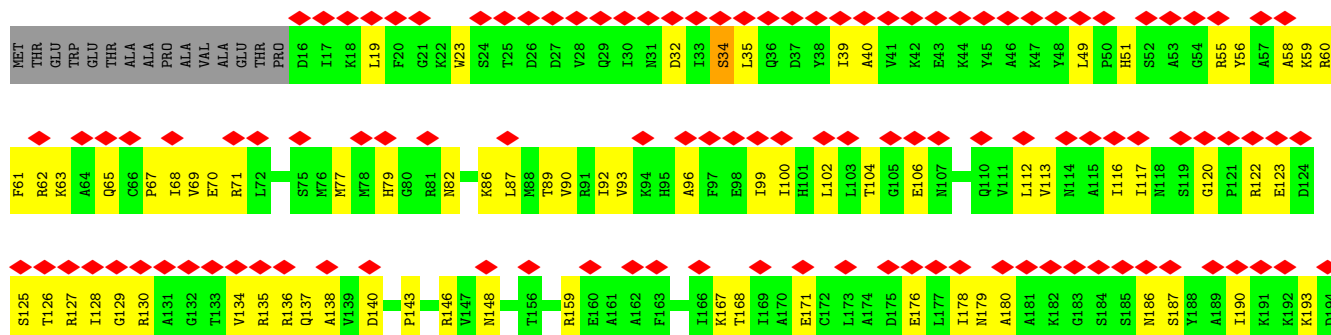


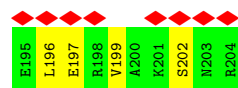


- Molecule 51: 40S ribosomal protein S4, X isoform

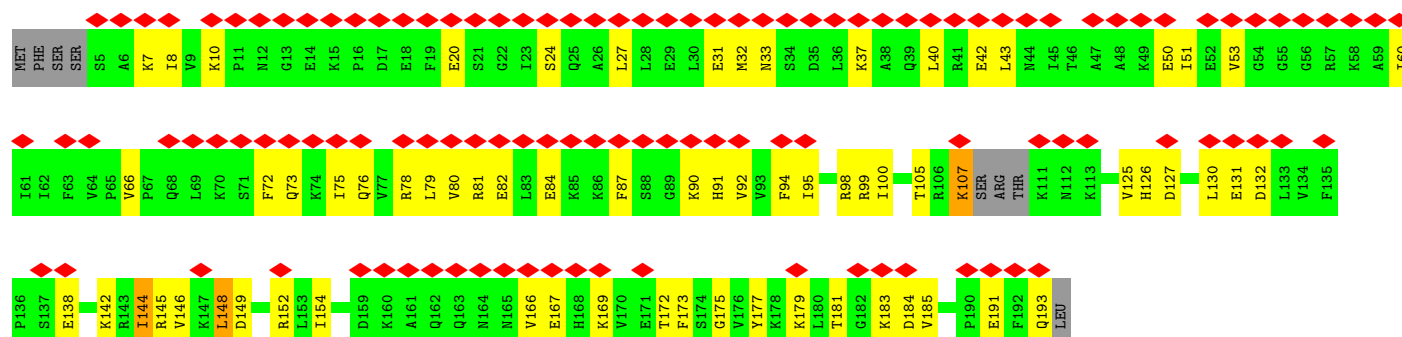


- Molecule 52: 40S ribosomal protein S5

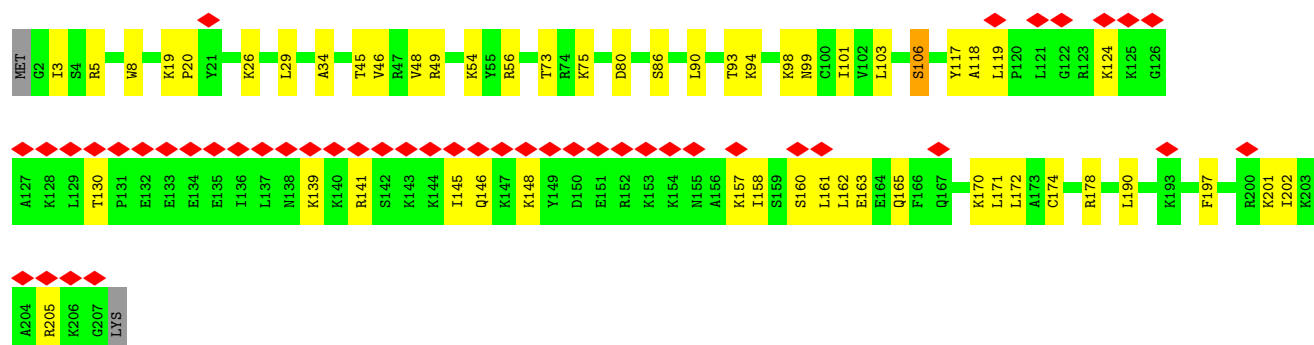
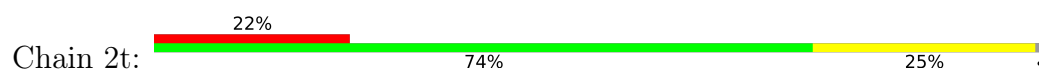




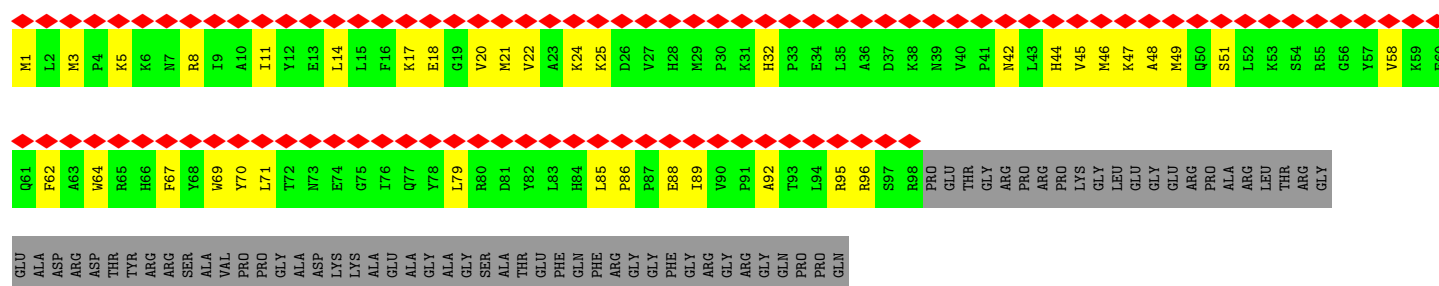
• Molecule 53: 40S ribosomal protein S7



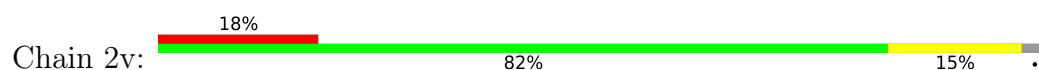
• Molecule 54: 40S ribosomal protein S8



• Molecule 55: 40S ribosomal protein S10

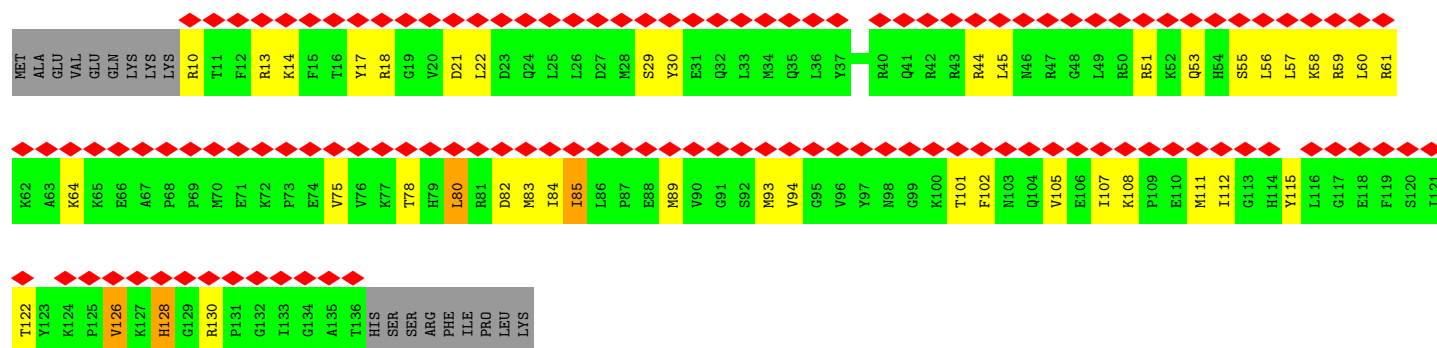
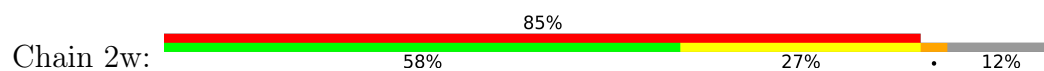


• Molecule 56: 40S ribosomal protein S11

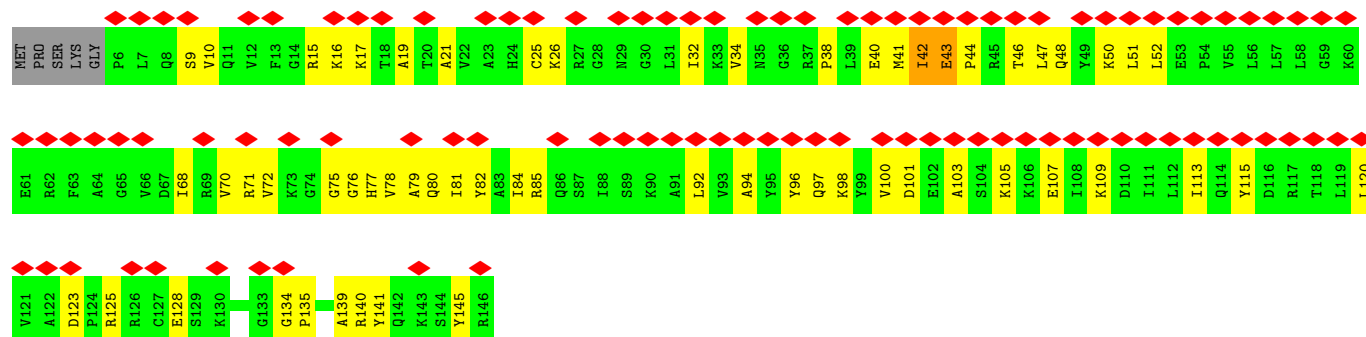




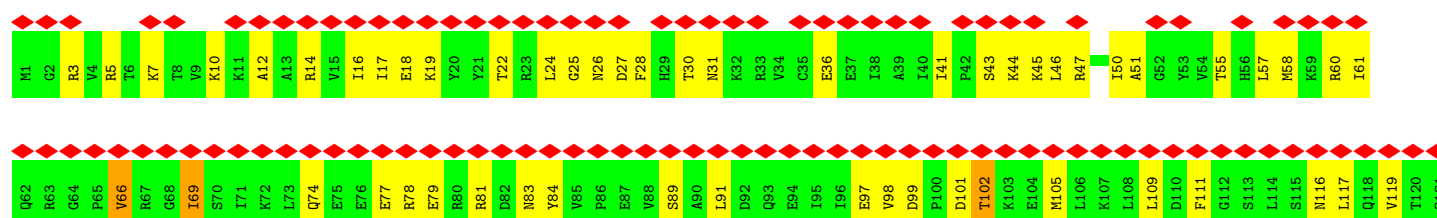
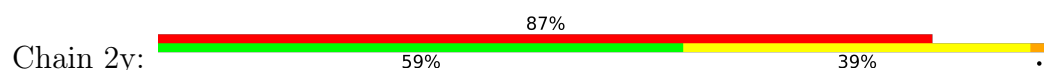
• Molecule 57: 40S ribosomal protein S15



• Molecule 58: 40S ribosomal protein S16

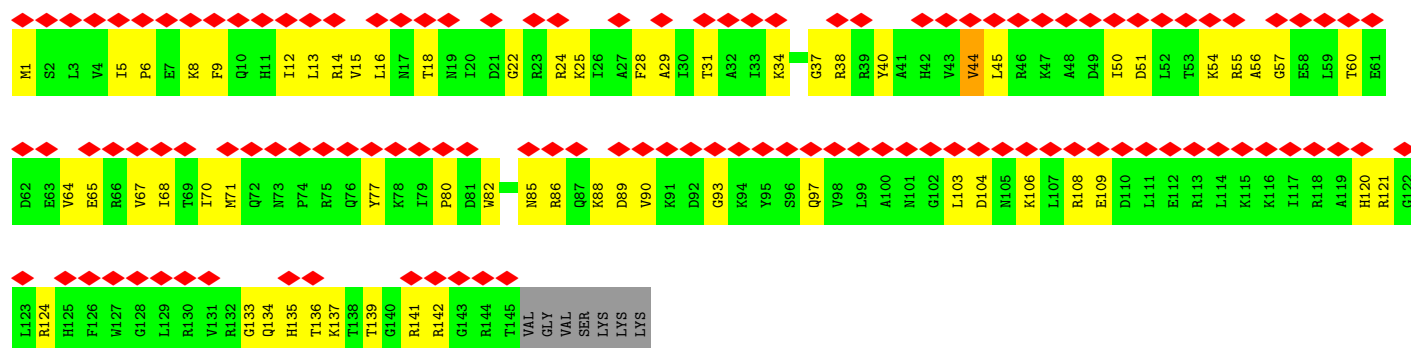
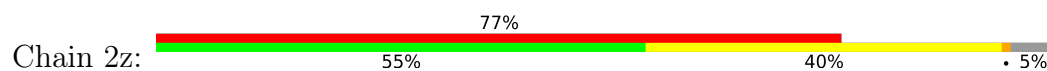


• Molecule 59: 40S ribosomal protein S17

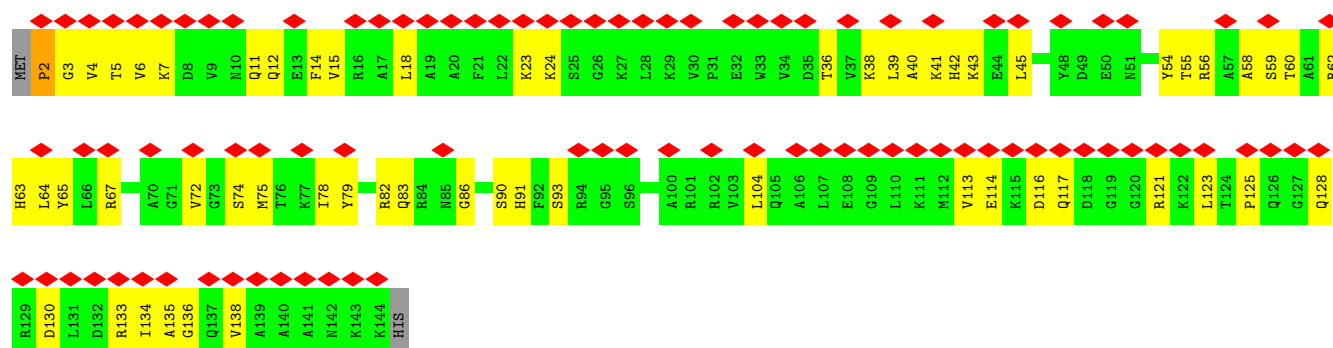




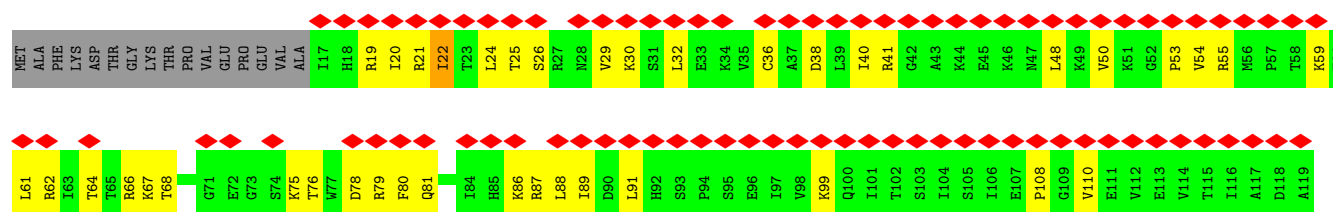
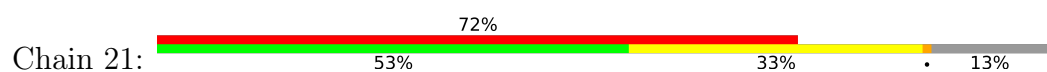
• Molecule 60: 40S ribosomal protein S18



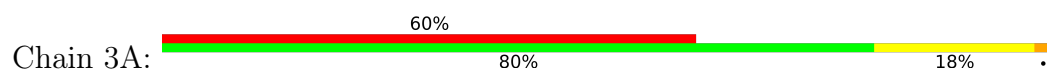
• Molecule 61: 40S ribosomal protein S19

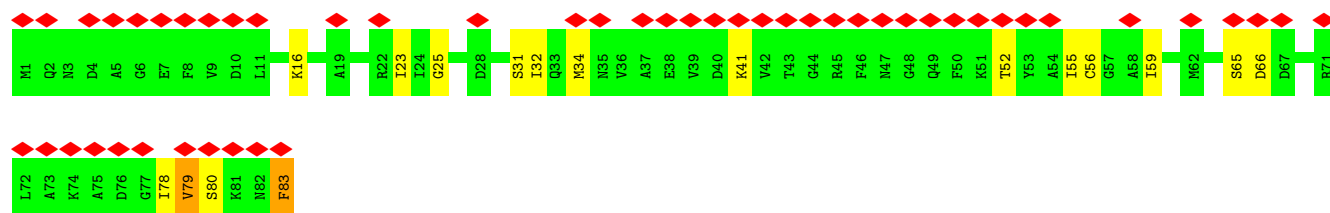


• Molecule 62: 40S ribosomal protein S20

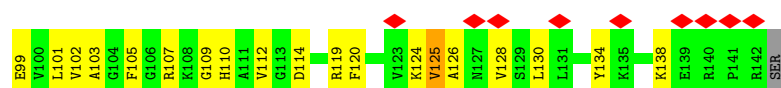
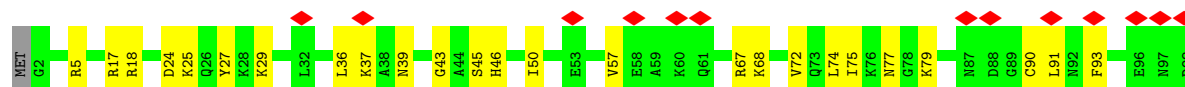


• Molecule 63: 40S ribosomal protein S21

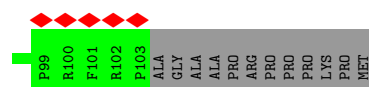
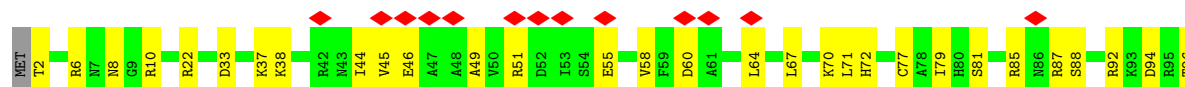




- Molecule 64: 40S ribosomal protein S23



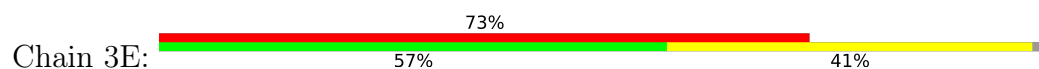
- Molecule 65: 40S ribosomal protein S26



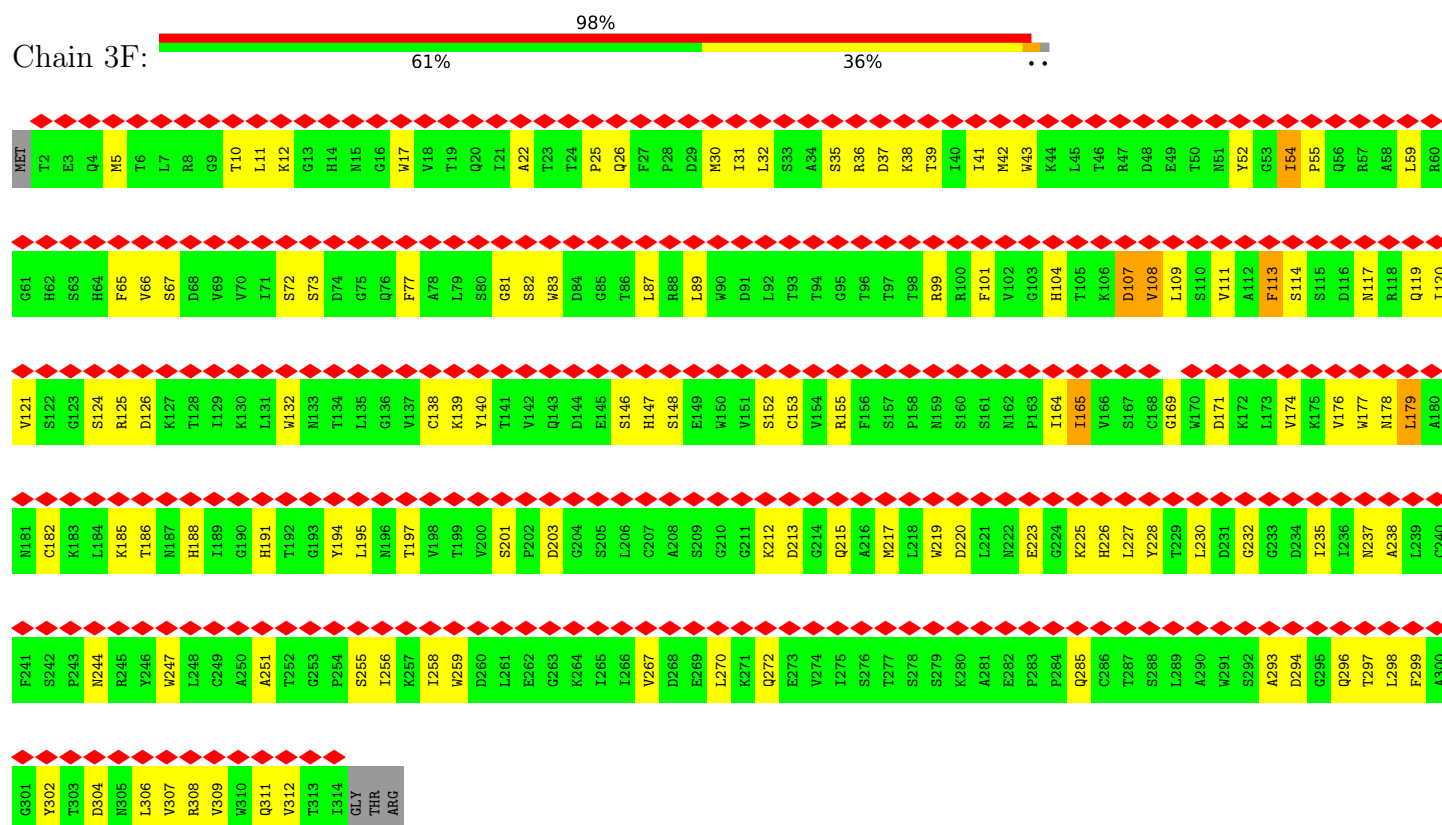
- Molecule 66: 40S ribosomal protein S28



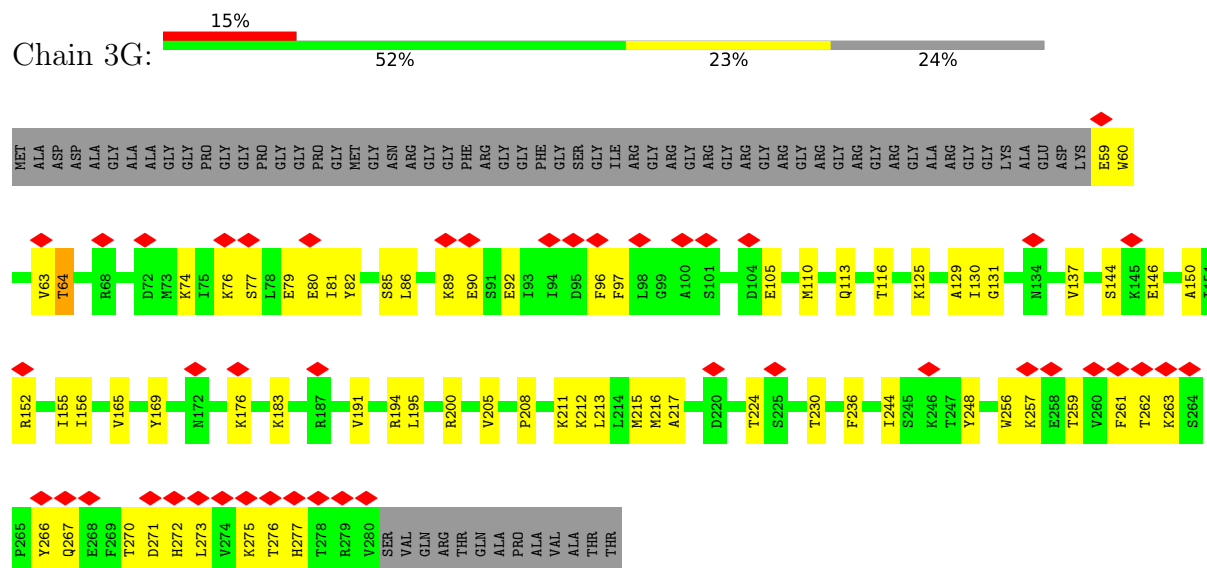
- Molecule 67: 40S ribosomal protein S29



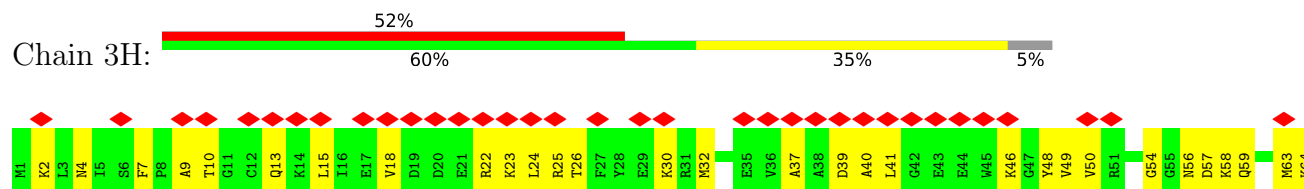
- Molecule 68: Receptor of activated protein C kinase 1

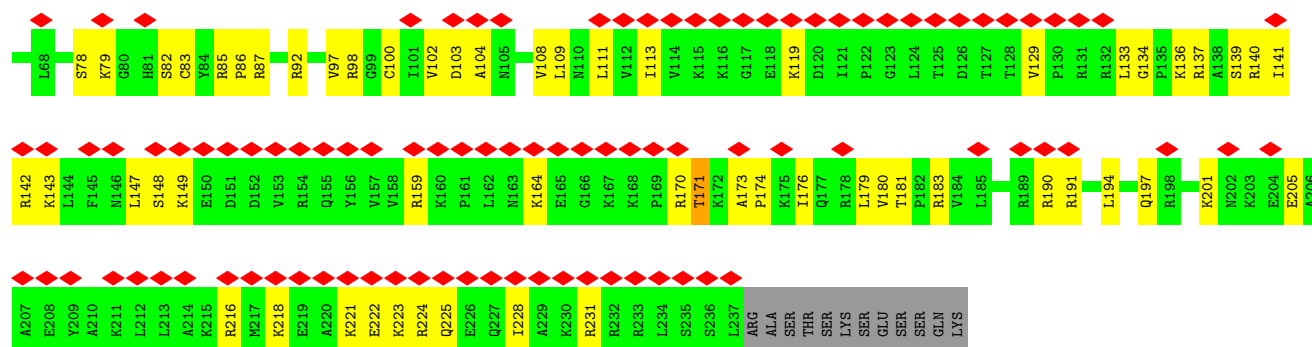


- Molecule 69: 40S ribosomal protein S2

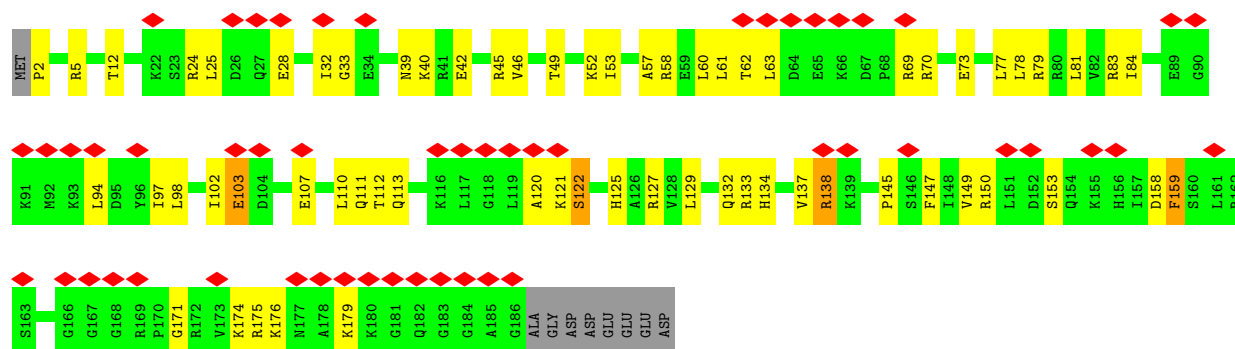


- Molecule 70: 40S ribosomal protein S6





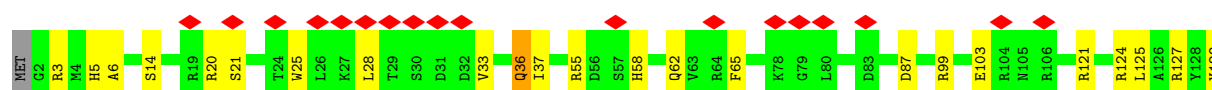
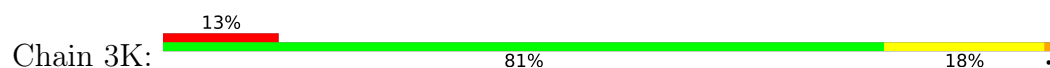
• Molecule 71: 40S ribosomal protein S9



• Molecule 72: 40S ribosomal protein S12

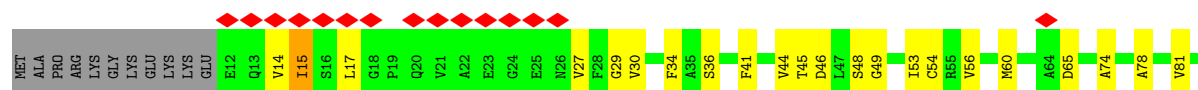


• Molecule 73: 40S ribosomal protein S13

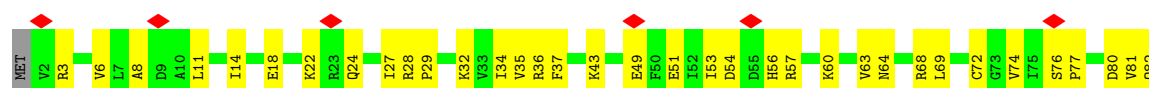




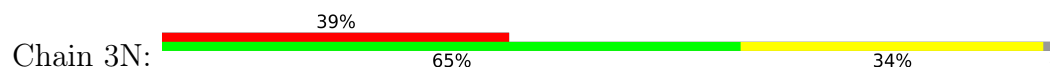
• Molecule 74: 40S ribosomal protein S14



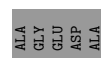
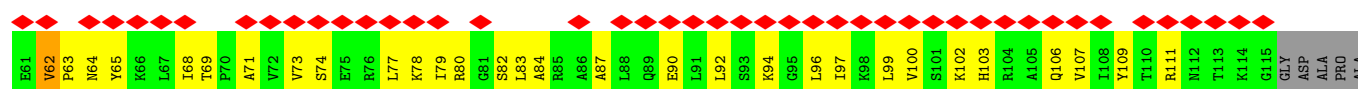
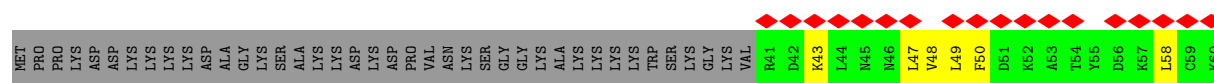
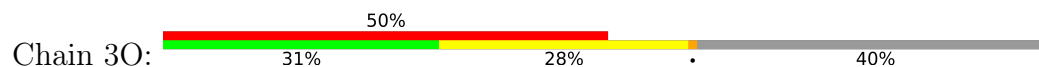
• Molecule 75: 40S ribosomal protein S15a



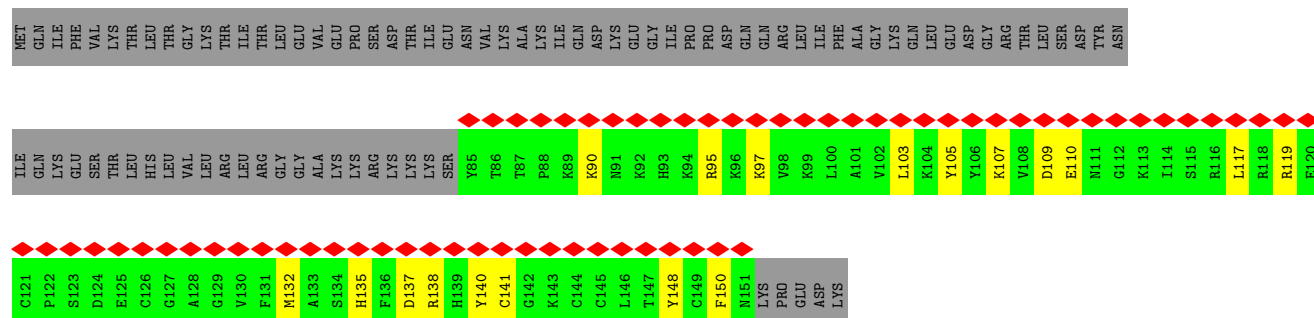
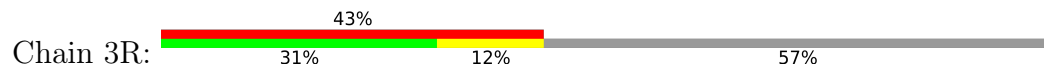
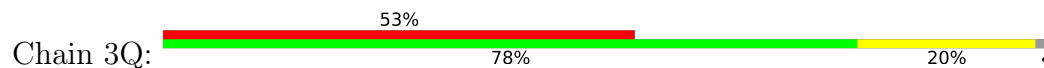
• Molecule 76: 40S ribosomal protein S24



• Molecule 77: 40S ribosomal protein S25



Chain 3P: 63% 62% 35%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	29424	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1100	Depositor
Maximum defocus (nm)	2300	Depositor
Magnification	60000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.099	Depositor
Minimum map value	-0.030	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.013	Depositor
Map size ($\text{\AA}$)	504.32, 504.32, 504.32	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.788, 0.788, 0.788	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, 84G, ZN, MLZ

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	1A	0.21	0/89129	0.26	0/139038
2	1B	0.20	0/2858	0.25	0/4455
3	1C	0.21	0/3701	0.25	0/5766
4	1D	0.18	0/1936	0.32	0/2596
5	1E	0.19	0/3306	0.33	0/4424
6	1F	0.17	0/2981	0.31	0/4002
7	1G	0.16	0/2428	0.35	0/3252
8	1H	0.17	0/1942	0.36	0/2606
9	2A	0.18	0/1916	0.31	0/2553
10	2B	0.17	0/1971	0.33	0/2651
11	2C	0.16	0/1537	0.36	0/2066
12	2D	0.15	0/1751	0.39	0/2340
13	2E	0.17	0/1433	0.40	0/1915
14	2F	0.16	0/1732	0.30	0/2315
15	2G	0.17	0/1161	0.31	0/1554
16	2H	0.19	0/1746	0.33	0/2338
17	2I	0.18	0/1682	0.30	0/2250
18	2J	0.18	0/1268	0.32	0/1701
19	2K	0.18	0/1537	0.31	0/2052
20	2L	0.15	0/1582	0.27	0/2091
21	2M	0.19	0/1493	0.40	3/2003 (0.1%)
22	2N	0.17	0/1326	0.29	0/1770
23	2O	0.14	0/839	0.41	0/1126
24	2P	0.17	0/993	0.32	0/1332
25	2Q	0.14	0/1030	0.31	0/1364
26	2R	0.15	0/1002	0.29	0/1345
27	2S	0.18	0/1132	0.33	0/1504
28	2T	0.18	0/1130	0.36	0/1507
29	2U	0.18	0/1191	0.28	0/1591
30	2V	0.20	0/895	0.38	0/1182
31	2W	0.18	0/774	0.33	0/1038
32	2X	0.17	0/903	0.33	0/1216

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	2Y	0.18	0/1071	0.31	0/1429
34	2Z	0.20	0/895	0.35	0/1198
35	2a	0.14	0/916	0.26	0/1220
36	2b	0.17	0/1023	0.30	0/1351
37	2c	0.14	0/843	0.27	0/1115
38	2d	0.20	0/731	0.36	0/966
39	2e	0.16	0/575	0.35	0/761
40	2f	0.17	0/454	0.28	0/599
41	2g	0.14	0/425	0.28	0/561
42	2h	0.15	0/231	0.24	0/294
43	2i	0.21	0/887	0.36	0/1170
44	2j	0.17	0/718	0.26	0/953
45	2k	0.18	0/1017	0.32	0/1364
46	2l	0.45	7/1769 (0.4%)	0.49	3/2371 (0.1%)
47	2m	0.19	6/41243 (0.0%)	0.26	0/64257
48	2n	0.12	0/1778	0.32	0/2416
49	2o	0.12	0/1765	0.30	0/2362
50	2p	0.22	1/1793 (0.1%)	0.52	3/2414 (0.1%)
51	2q	0.17	1/2118 (0.0%)	0.33	0/2849
52	2r	0.14	0/1516	0.38	0/2037
53	2s	1.23	1/1519 (0.1%)	0.44	2/2033 (0.1%)
54	2t	0.13	0/1715	0.34	0/2287
55	2u	0.13	0/851	0.36	0/1147
56	2v	0.15	0/1268	0.30	0/1696
57	2w	0.13	0/1065	0.37	0/1423
58	2x	0.13	0/1142	0.39	0/1528
59	2y	0.18	0/1105	0.45	0/1484
60	2z	0.13	0/1216	0.37	2/1628 (0.1%)
61	20	0.27	1/1131 (0.1%)	0.40	0/1515
62	21	0.17	0/827	0.40	0/1110
63	3A	0.12	0/643	0.33	0/860
64	3B	0.13	0/1116	0.30	0/1490
65	3C	0.16	0/847	0.35	0/1135
66	3D	0.12	0/508	0.38	0/680
67	3E	0.17	0/470	0.39	0/623
68	3F	0.11	0/2493	0.36	0/3394
69	3G	0.15	0/1773	0.37	0/2395
70	3H	0.12	0/1946	0.32	0/2590
71	3I	0.13	0/1561	0.33	0/2083
72	3J	0.24	0/952	0.31	0/1279
73	3K	0.18	0/1232	0.28	0/1656
74	3L	0.14	0/1062	0.35	0/1425
75	3M	0.16	0/1051	0.35	0/1406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	3N	0.17	0/1094	0.40	0/1452
77	3O	0.16	0/604	0.52	0/810
78	3P	0.09	0/665	0.30	0/891
79	3Q	0.10	0/465	0.30	0/612
80	3R	0.11	0/560	0.37	0/745
All	All	0.22	17/232954 (0.0%)	0.30	13/342007 (0.0%)

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	2s	107	LYS	CD-CE	47.63	2.95	1.52
47	2m	744	G	C6-N1	12.48	1.64	1.39
47	2m	744	G	N1-C2	12.31	1.62	1.37
47	2m	744	G	C2-N3	9.86	1.52	1.32
47	2m	744	G	C5-C6	9.66	1.61	1.42
47	2m	744	G	N3-C4	9.62	1.54	1.35
47	2m	744	G	C5-C4	7.92	1.54	1.38
46	2l	84	HIS	CD2-NE2	-6.95	1.30	1.37
46	2l	68	LEU	CA-C	-6.67	1.42	1.52
50	2p	200	PRO	CG-CD	-6.59	1.28	1.50
46	2l	84	HIS	CG-ND1	-5.88	1.31	1.38
51	2q	149	TYR	C-O	-5.56	1.21	1.23
46	2l	69	GLY	N-CA	5.51	1.51	1.45
46	2l	84	HIS	CE1-NE2	-5.50	1.27	1.32
46	2l	67	VAL	CB-CG2	-5.42	1.34	1.52
46	2l	84	HIS	CG-CD2	-5.16	1.30	1.35
61	20	2	PRO	CA-C	5.03	1.63	1.52

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	2p	200	PRO	N-CD-CG	-13.47	83.00	103.20
50	2p	200	PRO	CA-CB-CG	-11.27	83.10	104.50
46	2l	84	HIS	CG-CD2-NE2	9.12	116.32	107.20
53	2s	107	LYS	CG-CD-CE	7.37	128.26	111.30
53	2s	107	LYS	CD-CE-NZ	6.47	132.60	111.90
46	2l	84	HIS	ND1-CG-CD2	-6.28	99.82	106.10
60	2z	80	PRO	N-CD-CG	-5.73	94.60	103.20
60	2z	80	PRO	CA-N-CD	-5.67	104.07	112.00
21	2M	164	LYS	CA-C-N	5.32	126.49	119.84
21	2M	164	LYS	C-N-CA	5.32	126.49	119.84
21	2M	164	LYS	N-CA-C	-5.26	105.59	112.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	2p	200	PRO	CA-N-CD	-5.22	104.69	112.00
46	2l	84	HIS	CE1-NE2-CD2	-5.19	103.81	109.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1A	79676	0	40260	1021	0
2	1B	2558	0	1296	23	0
3	1C	3314	0	1683	35	0
4	1D	1898	0	1993	51	0
5	1E	3238	0	3376	69	0
6	1F	2927	0	3104	42	0
7	1G	2382	0	2410	68	0
8	1H	1904	0	2055	92	0
9	2A	1878	0	2009	35	0
10	2B	1935	0	2087	54	0
11	2C	1518	0	1601	45	0
12	2D	1711	0	1749	57	0
13	2E	1410	0	1441	84	0
14	2F	1701	0	1818	49	0
15	2G	1138	0	1204	20	0
16	2H	1701	0	1749	34	0
17	2I	1650	0	1794	46	0
18	2J	1242	0	1269	22	0
19	2K	1513	0	1628	11	0
20	2L	1566	0	1729	38	0
21	2M	1453	0	1490	30	0
22	2N	1298	0	1366	23	0
23	2O	825	0	850	29	0
24	2P	979	0	1039	16	0
25	2Q	1015	0	1079	22	0
26	2R	985	0	1066	24	0
27	2S	1115	0	1205	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	2T	1107	0	1182	30	0
29	2U	1162	0	1213	21	0
30	2V	882	0	959	33	0
31	2W	764	0	804	23	0
32	2X	888	0	930	16	0
33	2Y	1053	0	1147	14	0
34	2Z	876	0	912	21	0
35	2a	906	0	1002	15	0
36	2b	1015	0	1148	24	0
37	2c	832	0	917	18	0
38	2d	713	0	750	14	0
39	2e	569	0	637	24	0
40	2f	444	0	483	13	0
41	2g	430	0	466	9	0
42	2h	230	0	276	7	0
43	2i	870	0	944	28	0
44	2j	708	0	756	11	0
45	2k	1002	0	1068	28	0
46	2l	1741	0	1854	101	0
47	2m	36900	0	18596	763	0
48	2n	1741	0	1746	74	0
49	2o	1738	0	1809	41	0
50	2p	1765	0	1865	68	0
51	2q	2076	0	2177	62	0
52	2r	1495	0	1549	69	0
53	2s	1497	0	1590	84	0
54	2t	1686	0	1772	37	0
55	2u	827	0	854	32	0
56	2v	1247	0	1323	22	0
57	2w	1045	0	1095	57	0
58	2x	1124	0	1193	75	0
59	2y	1090	0	1149	72	0
60	2z	1198	0	1261	54	0
61	20	1112	0	1146	82	0
62	21	817	0	882	47	0
63	3A	636	0	637	21	0
64	3B	1098	0	1167	37	0
65	3C	829	0	883	21	0
66	3D	506	0	536	28	0
67	3E	459	0	448	32	0
68	3F	2436	0	2393	89	0
69	3G	1733	0	1826	57	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
70	3H	1923	0	2089	79	0
71	3I	1533	0	1653	61	0
72	3J	942	0	961	41	0
73	3K	1208	0	1294	20	0
74	3L	1049	0	1073	44	0
75	3M	1034	0	1080	47	0
76	3N	1073	0	1155	44	0
77	3O	598	0	656	35	0
78	3P	651	0	672	23	0
79	3Q	459	0	503	20	0
80	3R	548	0	555	16	0
81	1A	722	836	0	25	0
81	2D	38	44	0	3	0
81	2i	38	44	0	3	0
81	2m	76	88	0	2	0
82	1A	268	0	0	0	0
82	1B	3	0	0	0	0
82	1C	5	0	0	0	0
82	1D	1	0	0	0	0
82	1E	1	0	0	0	0
82	20	1	0	0	0	0
82	2H	1	0	0	0	0
82	2J	1	0	0	0	0
82	2L	1	0	0	0	0
82	2M	2	0	0	0	0
82	2P	1	0	0	0	0
82	2Y	1	0	0	0	0
82	2Z	1	0	0	0	0
82	2a	1	0	0	0	0
82	2d	1	0	0	0	0
82	2m	120	0	0	0	0
82	3H	1	0	0	0	0
83	2d	1	0	0	0	0
83	2g	1	0	0	0	0
83	2i	1	0	0	0	0
83	2j	1	0	0	0	0
83	3C	1	0	0	0	0
83	3E	1	0	0	0	0
All	All	218085	1012	161386	4220	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (4220) 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)
47:2m:1421:A:H2'	61:20:2:PRO:N	1.17	1.48
58:2x:43:GLU:CG	58:2x:44:PRO:HD3	1.47	1.44
13:2E:93:GLU:OE1	13:2E:173:ILE:CG1	1.70	1.40
47:2m:744:G:C2	53:2s:107:LYS:CE	2.06	1.38
46:2l:69:GLY:CA	46:2l:84:HIS:NE2	1.71	1.38
47:2m:1237:C:O2'	57:2w:128:HIS:CB	1.70	1.38
59:2y:41:ILE:CG2	59:2y:46:LEU:HD11	1.53	1.35
47:2m:744:G:C2	53:2s:107:LYS:CD	2.10	1.32
47:2m:744:G:N1	53:2s:107:LYS:CE	1.94	1.30
30:2V:70:GLU:HA	30:2V:73:LYS:NZ	1.42	1.30
47:2m:744:G:C6	53:2s:107:LYS:CE	2.19	1.26
43:2i:104:ILE:HD12	43:2i:104:ILE:O	1.27	1.26
46:2l:69:GLY:HA3	46:2l:84:HIS:CE1	1.68	1.24
47:2m:1521:C:H5'	57:2w:126:VAL:CG2	1.67	1.24
48:2n:89:LYS:CE	48:2n:201:LEU:HG	1.68	1.23
47:2m:744:G:N1	53:2s:107:LYS:CD	2.01	1.23
47:2m:744:G:C6	53:2s:107:LYS:CD	2.21	1.23
13:2E:175:LEU:CD1	13:2E:176:PRO:HD3	1.71	1.20
58:2x:43:GLU:OE2	58:2x:77:HIS:CB	1.89	1.20
47:2m:744:G:C4	53:2s:107:LYS:CD	2.24	1.20
47:2m:1237:C:O2'	57:2w:128:HIS:HB3	1.02	1.19
47:2m:744:G:C4	53:2s:107:LYS:CE	2.28	1.16
43:2i:104:ILE:O	43:2i:104:ILE:CD1	1.92	1.16
47:2m:1421:A:C2'	61:20:2:PRO:N	2.09	1.16
47:2m:744:G:C2	53:2s:107:LYS:HE3	1.78	1.15
58:2x:43:GLU:HB3	58:2x:44:PRO:CD	1.77	1.14
47:2m:744:G:C5	53:2s:107:LYS:CD	2.30	1.14
47:2m:744:G:C5	53:2s:107:LYS:CE	2.32	1.12
61:20:75:MET:HE2	61:20:75:MET:HA	1.17	1.12
58:2x:43:GLU:CB	58:2x:44:PRO:CD	2.28	1.11
34:2Z:106:TYR:HB3	34:2Z:107:PRO:CD	1.79	1.11
48:2n:89:LYS:HE3	48:2n:201:LEU:HG	1.32	1.11
13:2E:93:GLU:OE1	13:2E:173:ILE:HG12	1.49	1.10
58:2x:43:GLU:HG2	58:2x:44:PRO:HD3	1.18	1.10
47:2m:1521:C:H5'	57:2w:126:VAL:HG21	1.25	1.10
58:2x:43:GLU:OE2	58:2x:77:HIS:HB3	0.94	1.10
47:2m:744:G:C6	53:2s:107:LYS:HE2	1.84	1.10
13:2E:63:ARG:NH2	43:2i:106:PHE:HB2	1.67	1.09
13:2E:175:LEU:HD12	13:2E:176:PRO:HD3	1.25	1.09
21:2M:164:LYS:HB3	21:2M:165:PRO:HD3	1.32	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1421:A:O2'	61:20:3:GLY:N	1.84	1.09
59:2y:41:ILE:CG2	59:2y:46:LEU:CD1	2.30	1.09
34:2Z:106:TYR:CB	34:2Z:107:PRO:HD2	1.80	1.09
8:1H:223:ARG:HH22	8:1H:238:GLU:HB3	1.06	1.08
8:1H:89:LEU:HD12	8:1H:89:LEU:O	1.54	1.08
13:2E:93:GLU:OE1	13:2E:173:ILE:HG13	1.32	1.07
13:2E:63:ARG:HH22	43:2i:106:PHE:HB2	1.05	1.07
10:2B:121:LYS:HE2	10:2B:121:LYS:HA	1.34	1.07
47:2m:744:G:N3	53:2s:107:LYS:CE	2.18	1.06
12:2D:111:LEU:HD13	12:2D:111:LEU:O	1.52	1.06
46:2l:85:MET:HE1	46:2l:90:LEU:HD13	1.34	1.05
46:2l:68:LEU:HD13	46:2l:85:MET:HE2	1.11	1.05
47:2m:744:G:N3	53:2s:107:LYS:CD	2.18	1.05
47:2m:744:G:C5	53:2s:107:LYS:HD3	1.91	1.04
55:2u:3:MET:HE3	55:2u:48:ALA:HB2	1.34	1.04
58:2x:43:GLU:CB	58:2x:44:PRO:HD3	1.83	1.04
58:2x:43:GLU:CG	58:2x:44:PRO:CD	2.38	1.01
59:2y:41:ILE:HG23	59:2y:46:LEU:HD11	1.01	1.01
1:1A:686:A:H4'	8:1H:97:GLY:O	1.62	0.99
1:1A:1850:A:OP2	14:2F:5:ARG:NH2	1.95	0.99
46:2l:67:VAL:HG21	46:2l:111:LEU:HB3	1.42	0.99
58:2x:42:ILE:HD13	58:2x:51:LEU:HD13	1.42	0.99
1:1A:4758:U:H1'	17:2I:164:ALA:HB1	1.44	0.99
51:2q:255:ARG:HG2	51:2q:259:LYS:HZ1	1.28	0.99
46:2l:159:MET:HE3	46:2l:159:MET:H	1.28	0.98
72:3J:42:LEU:HD13	72:3J:69:LEU:HD21	1.45	0.98
58:2x:43:GLU:HB3	58:2x:44:PRO:HD2	1.42	0.97
59:2y:43:SER:OG	59:2y:46:LEU:HD23	1.65	0.97
47:2m:1113:A:H3'	47:2m:1114:U:H5'	1.45	0.97
13:2E:85:LYS:HB3	13:2E:115:LEU:CD1	1.94	0.97
4:1D:245:ARG:HE	4:1D:247:ARG:NH2	1.60	0.96
34:2Z:46:ARG:HD2	34:2Z:106:TYR:CD2	2.01	0.96
46:2l:68:LEU:HB3	46:2l:84:HIS:HA	1.46	0.96
13:2E:175:LEU:CG	13:2E:176:PRO:HD3	1.95	0.96
1:1A:2638:G:N2	1:1A:2697:A:N1	2.14	0.95
74:3L:14:VAL:O	74:3L:15:ILE:HG12	1.66	0.95
72:3J:52:GLN:NE2	72:3J:65:VAL:HG11	1.82	0.94
13:2E:89:VAL:CG2	13:2E:115:LEU:HB2	1.98	0.94
47:2m:878:G:O6	47:2m:908:A:N1	1.99	0.94
55:2u:25:LYS:HA	55:2u:46:MET:HE1	1.49	0.94
47:2m:1748:G:H1	47:2m:1786:U:H3	0.96	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1521:C:H5'	57:2w:126:VAL:HG23	1.47	0.94
46:2l:68:LEU:HD23	46:2l:83:PRO:O	1.68	0.93
12:2D:111:LEU:HD11	12:2D:116:ARG:HD3	1.48	0.93
46:2l:159:MET:H	46:2l:159:MET:CE	1.83	0.92
58:2x:42:ILE:HG13	58:2x:43:GLU:H	1.33	0.92
1:1A:1241:C:C6	30:2V:118:LEU:HD12	2.03	0.92
58:2x:42:ILE:CD1	58:2x:51:LEU:HD13	1.98	0.92
1:1A:2557:G:H1	1:1A:2570:U:H3	0.96	0.92
72:3J:42:LEU:HD22	72:3J:69:LEU:HD21	1.51	0.92
5:1E:17:LEU:HD11	5:1E:264:PHE:HE2	1.34	0.91
61:20:75:MET:HA	61:20:75:MET:CE	1.99	0.91
1:1A:654:C:H5'	6:1F:268:ARG:HH21	1.34	0.91
48:2n:89:LYS:HE2	48:2n:201:LEU:HG	1.50	0.91
1:1A:3937:C:H1'	16:2H:125:SER:HB3	1.52	0.91
72:3J:52:GLN:HE21	72:3J:65:VAL:HG11	1.34	0.91
34:2Z:46:ARG:HD2	34:2Z:106:TYR:HD2	1.33	0.91
62:21:55:ARG:HG2	62:21:87:ARG:HE	1.37	0.90
13:2E:175:LEU:HD12	13:2E:176:PRO:CD	2.01	0.90
21:2M:164:LYS:CB	21:2M:165:PRO:HD3	2.02	0.90
1:1A:3717:A:H2'	1:1A:3718:A:C8	2.06	0.90
72:3J:42:LEU:CD1	72:3J:69:LEU:HD21	2.02	0.90
61:20:4:VAL:CG1	61:20:136:GLY:HA2	2.02	0.90
12:2D:48:LEU:HB2	12:2D:142:LEU:HD23	1.52	0.90
1:1A:2533:C:H5'	26:2R:93:ASN:HD21	1.34	0.89
18:2J:94:MET:HG2	18:2J:148:MET:HE3	1.54	0.89
21:2M:164:LYS:HE2	21:2M:164:LYS:HA	1.54	0.89
10:2B:121:LYS:HZ3	10:2B:125:LYS:HB3	1.38	0.89
47:2m:744:G:N3	53:2s:107:LYS:HD2	1.85	0.89
30:2V:70:GLU:HA	30:2V:73:LYS:HZ2	1.08	0.89
7:1G:205:ALA:HB2	7:1G:236:MET:HE2	1.51	0.88
72:3J:50:CYS:SG	72:3J:69:LEU:HD12	2.12	0.88
46:2l:69:GLY:HA3	46:2l:84:HIS:NE2	1.23	0.88
47:2m:1421:A:H2'	61:20:2:PRO:CA	2.02	0.88
47:2m:1347:U:H2'	47:2m:1348:G:C8	2.08	0.88
48:2n:89:LYS:CE	48:2n:201:LEU:CG	2.52	0.88
26:2R:133:GLU:OE1	26:2R:133:GLU:N	2.06	0.88
26:2R:38:LYS:HE2	26:2R:38:LYS:HA	1.55	0.87
1:1A:2705:G:N2	1:1A:2710:C:O2	2.07	0.87
13:2E:63:ARG:NH2	43:2i:106:PHE:CB	2.37	0.87
68:3F:139:LYS:NZ	68:3F:182:CYS:SG	2.47	0.87
32:2X:18:ASN:HD22	32:2X:18:ASN:N	1.67	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:744:G:N2	53:2s:105:THR:OG1	2.07	0.87
5:1E:17:LEU:HD11	5:1E:264:PHE:CE2	2.09	0.87
31:2W:40:GLN:HE21	31:2W:42:LYS:NZ	1.72	0.87
46:2l:68:LEU:HD22	46:2l:85:MET:CG	2.05	0.87
48:2n:10:MET:HE3	48:2n:15:VAL:HG22	1.56	0.87
47:2m:1237:C:HO2'	57:2w:128:HIS:CB	1.88	0.87
61:20:6:VAL:HG22	61:20:65:TYR:HE2	1.39	0.86
72:3J:42:LEU:HD22	72:3J:69:LEU:CD2	2.03	0.86
39:2e:49:ASP:OD2	39:2e:52:LYS:HG3	1.76	0.86
48:2n:89:LYS:HE2	48:2n:201:LEU:CD1	2.05	0.86
46:2l:67:VAL:CG2	46:2l:111:LEU:H	1.89	0.86
59:2y:14:ARG:O	59:2y:17:ILE:HG22	1.74	0.86
14:2F:175:ASN:O	14:2F:175:ASN:ND2	2.09	0.86
30:2V:69:ALA:C	30:2V:73:LYS:HE3	2.01	0.86
72:3J:99:ASN:HB3	72:3J:100:PRO:HD2	1.57	0.86
46:2l:67:VAL:HG21	46:2l:111:LEU:CB	2.06	0.86
72:3J:52:GLN:NE2	72:3J:65:VAL:CG1	2.38	0.86
47:2m:925:G:H1	47:2m:1017:U:H3	1.22	0.85
65:3C:51:ARG:HB2	65:3C:51:ARG:HH11	1.39	0.85
1:1A:1:C:H3'	26:2R:38:LYS:HG3	1.57	0.85
1:1A:2505:C:H41	1:1A:4084:G:H5'	1.39	0.85
1:1A:2705:G:N1	1:1A:2710:C:N3	2.23	0.85
14:2F:63:THR:HG22	14:2F:65:ARG:H	1.40	0.85
10:2B:121:LYS:HE2	10:2B:121:LYS:CA	2.07	0.85
59:2y:41:ILE:HG21	59:2y:46:LEU:CD1	2.04	0.85
1:1A:2742:G:OP2	81:1A:5113:84G:O8	1.95	0.85
72:3J:42:LEU:CD2	72:3J:69:LEU:HD21	2.06	0.84
8:1H:223:ARG:NH2	8:1H:238:GLU:HB3	1.91	0.84
48:2n:89:LYS:HE2	48:2n:201:LEU:CG	2.08	0.83
1:1A:1767:A:H62	57:2w:10:ARG:HD3	1.43	0.83
46:2l:67:VAL:CG2	46:2l:111:LEU:HB3	2.07	0.83
28:2T:89:ILE:CD1	28:2T:91:LEU:HG	2.08	0.83
47:2m:1277:C:O2	47:2m:1320:G:N2	2.10	0.83
19:2K:94:GLU:N	19:2K:94:GLU:OE1	2.10	0.83
1:1A:4745:G:H22	1:1A:4954:G:H1	1.25	0.83
50:2p:132:LYS:HE3	50:2p:191:PRO:HA	1.61	0.83
47:2m:1144:A:H5'	47:2m:1355:C:H41	1.41	0.83
59:2y:41:ILE:HG21	59:2y:46:LEU:HD11	1.61	0.83
70:3H:23:LYS:HD3	70:3H:41:LEU:HA	1.61	0.83
62:21:36:CYS:O	62:21:40:ILE:HD12	1.78	0.82
1:1A:3717:A:H2'	1:1A:3718:A:H8	1.41	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:2D:111:LEU:HD11	12:2D:116:ARG:CD	2.08	0.82
47:2m:1521:C:C5'	57:2w:126:VAL:HG21	2.09	0.82
1:1A:1100:U:H3	1:1A:1195:G:H1	1.26	0.82
46:2l:85:MET:CE	46:2l:90:LEU:HD13	2.10	0.82
81:1A:5103:84G:O4	81:1A:5103:84G:O8	1.98	0.82
47:2m:750:C:H42	47:2m:794:A:H1'	1.44	0.82
52:2r:99:ILE:HD11	77:3O:106:GLN:HE22	1.44	0.82
1:1A:2422:C:H5'	1:1A:3858:C:H4'	1.60	0.82
1:1A:3692:A:H62	1:1A:3823:G:H21	1.24	0.82
58:2x:43:GLU:CD	58:2x:44:PRO:HD3	2.04	0.82
52:2r:49:LEU:HD12	58:2x:50:LYS:HG2	1.62	0.81
1:1A:319:A:H1'	1:1A:3726:A:H8	1.46	0.81
25:2Q:91:MET:HA	25:2Q:91:MET:HE3	1.62	0.81
12:2D:111:LEU:HD21	12:2D:116:ARG:HH11	1.46	0.81
11:2C:113:GLU:HG2	11:2C:125:ARG:HG2	1.61	0.81
46:2l:67:VAL:CG2	46:2l:111:LEU:CB	2.58	0.81
50:2p:33:GLY:HA3	50:2p:53:THR:HG23	1.63	0.81
55:2u:24:LYS:O	55:2u:42:ASN:ND2	2.14	0.81
8:1H:222:LEU:HB3	8:1H:237:LYS:HG3	1.63	0.80
51:2q:60:GLU:HA	51:2q:63:LYS:HG2	1.63	0.80
1:1A:4137:C:O2	1:1A:4147:G:N2	2.13	0.80
30:2V:70:GLU:HA	30:2V:73:LYS:HZ1	1.41	0.80
47:2m:1109:C:N4	47:2m:1124:C:O2	2.15	0.80
46:2l:68:LEU:CB	46:2l:84:HIS:HA	2.12	0.80
80:3R:132:MET:HE1	80:3R:141:CYS:HB2	1.64	0.80
30:2V:70:GLU:HA	30:2V:73:LYS:CE	2.11	0.80
34:2Z:106:TYR:HB3	34:2Z:107:PRO:HD2	0.89	0.80
46:2l:77:ALA:HB1	46:2l:82:ILE:HD11	1.63	0.80
21:2M:164:LYS:HE2	21:2M:164:LYS:CA	2.11	0.80
77:3O:47:LEU:HD11	77:3O:50:PHE:HD1	1.46	0.80
7:1G:205:ALA:HB2	7:1G:236:MET:CE	2.10	0.79
4:1D:245:ARG:HH21	4:1D:247:ARG:HH22	1.30	0.79
58:2x:42:ILE:HG13	58:2x:43:GLU:N	1.97	0.79
47:2m:902:G:C6	47:2m:904:A:C6	2.71	0.79
8:1H:222:LEU:N	8:1H:237:LYS:HE3	1.97	0.79
65:3C:44:ILE:HG22	65:3C:67:LEU:HB2	1.64	0.79
53:2s:7:LYS:NZ	53:2s:20:GLU:OE1	2.15	0.78
12:2D:48:LEU:HB2	12:2D:142:LEU:CD2	2.13	0.78
6:1F:149:GLU:HG2	45:2k:72:LYS:HD3	1.62	0.78
62:21:55:ARG:HG2	62:21:87:ARG:HH21	1.47	0.78
62:21:55:ARG:HG2	62:21:87:ARG:NE	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:3H:59:GLN:N	70:3H:59:GLN:OE1	2.15	0.78
1:1A:453:G:N2	1:1A:1293:G:O6	2.16	0.78
1:1A:4302:U:OP2	1:1A:4303:C:N4	2.16	0.78
1:1A:4765:G:H22	1:1A:4869:U:H3	1.26	0.78
1:1A:2669:C:O2'	1:1A:2670:C:O5'	2.02	0.78
47:2m:1277:C:N3	47:2m:1320:G:N1	2.27	0.78
47:2m:1363:C:O2	47:2m:1375:G:N2	2.12	0.78
13:2E:63:ARG:HH22	43:2i:106:PHE:CB	1.91	0.78
46:2l:212:LYS:CD	46:2l:212:LYS:H	1.97	0.78
47:2m:1363:C:N3	47:2m:1375:G:N1	2.29	0.78
47:2m:873:G:H2'	47:2m:874:G:C8	2.18	0.78
47:2m:377:G:H5'	54:2t:98:LYS:HB3	1.64	0.77
47:2m:744:G:C2	53:2s:107:LYS:HD2	2.17	0.77
56:2v:27:GLU:O	56:2v:31:GLU:OE1	2.01	0.77
72:3J:42:LEU:HD13	72:3J:69:LEU:CD2	2.14	0.77
1:1A:2574:G:N1	1:1A:2762:G:O6	2.15	0.77
47:2m:794:A:H2'	47:2m:795:A:H4'	1.64	0.77
77:3O:77:LEU:HD12	77:3O:78:LYS:N	1.99	0.77
21:2M:164:LYS:HA	21:2M:164:LYS:CE	2.11	0.77
28:2T:89:ILE:HD13	28:2T:91:LEU:HG	1.65	0.77
46:2l:212:LYS:HE2	46:2l:214:GLN:CD	2.09	0.77
47:2m:546:G:O6	47:2m:548:C:N4	2.18	0.77
68:3F:17:TRP:HB2	68:3F:36:ARG:HD3	1.66	0.77
10:2B:121:LYS:NZ	10:2B:125:LYS:HB3	1.98	0.77
81:1A:5103:84G:N5	81:1A:5103:84G:O7	2.17	0.77
12:2D:131:ILE:HB	81:2D:301:84G:C	2.14	0.77
1:1A:2789:A:O2'	40:2f:45:ARG:NH2	2.18	0.77
47:2m:536:A:N6	47:2m:548:C:O2	2.17	0.77
46:2l:212:LYS:H	46:2l:212:LYS:HD3	1.49	0.77
1:1A:4769:G:H1	1:1A:4865:C:H42	1.29	0.77
59:2y:69:ILE:HG23	59:2y:69:ILE:O	1.84	0.77
1:1A:690:C:OP1	45:2k:87:ARG:NH1	2.17	0.76
1:1A:1762:C:N4	1:1A:1772:C:O2	2.19	0.76
8:1H:133:PHE:O	8:1H:138:ARG:NH2	2.18	0.76
46:2l:68:LEU:HB3	46:2l:83:PRO:O	1.85	0.76
46:2l:210:MET:HE2	46:2l:210:MET:HA	1.67	0.76
47:2m:1348:G:H22	47:2m:1381:G:H1	1.33	0.76
58:2x:43:GLU:CD	58:2x:77:HIS:HB3	2.06	0.76
77:3O:48:VAL:HG12	77:3O:49:LEU:HG	1.65	0.76
77:3O:79:ILE:HG21	77:3O:84:ALA:HB2	1.68	0.76
13:2E:175:LEU:HG	13:2E:176:PRO:HD3	1.65	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:2H:124:ASP:HB3	16:2H:127:TYR:H	1.50	0.76
47:2m:1237:C:O2'	57:2w:128:HIS:HB2	1.83	0.76
62:21:21:ARG:HG2	62:21:88:LEU:HD12	1.68	0.76
8:1H:72:LYS:HD3	30:2V:118:LEU:O	1.84	0.76
12:2D:111:LEU:HD21	12:2D:116:ARG:NH1	2.00	0.76
13:2E:85:LYS:HE2	13:2E:115:LEU:CD1	2.15	0.76
46:2l:68:LEU:HD22	46:2l:85:MET:HG3	1.66	0.76
5:1E:306:ASP:OD1	5:1E:306:ASP:O	2.02	0.76
76:3N:106:GLN:OE1	76:3N:106:GLN:HA	1.85	0.75
48:2n:10:MET:HE3	48:2n:15:VAL:CG2	2.16	0.75
50:2p:200:PRO:HG2	50:2p:200:PRO:O	1.79	0.75
47:2m:1546:G:N2	47:2m:1670:C:O2	2.18	0.75
67:3E:5:GLN:HB3	67:3E:6:LEU:HD22	1.68	0.75
70:3H:48:TYR:OH	70:3H:119:LYS:O	2.04	0.75
78:3P:36:LYS:HB2	78:3P:78:SER:HB3	1.68	0.75
64:3B:18:ARG:HH11	64:3B:18:ARG:HG2	1.50	0.75
70:3H:22:ARG:HG3	70:3H:25:ARG:HH21	1.51	0.75
1:1A:3944:G:H1	1:1A:4069:U:H3	1.34	0.75
49:2o:90:ASP:HB3	49:2o:97:LEU:HD12	1.69	0.75
51:2q:255:ARG:HG2	51:2q:259:LYS:NZ	1.99	0.75
1:1A:2647:A:H62	1:1A:2686:G:H8	1.34	0.75
9:2A:105:VAL:HG13	9:2A:136:VAL:HG12	1.68	0.75
1:1A:3773:U:O2'	1:1A:3774:A:OP2	2.05	0.74
1:1A:137:G:H2'	1:1A:138:G:C8	2.23	0.74
46:2l:159:MET:HE3	46:2l:159:MET:N	2.01	0.74
48:2n:10:MET:CE	48:2n:15:VAL:HG22	2.17	0.74
30:2V:70:GLU:CA	30:2V:73:LYS:NZ	2.37	0.74
50:2p:103:GLU:HA	50:2p:103:GLU:OE1	1.88	0.74
1:1A:4744:A:H61	1:1A:4955:A:H61	1.34	0.74
30:2V:69:ALA:O	30:2V:73:LYS:HE3	1.87	0.74
1:1A:499:G:N3	1:1A:504:G:N2	2.34	0.74
8:1H:89:LEU:O	8:1H:89:LEU:CD1	2.35	0.74
46:2l:142:GLU:OE2	46:2l:144:MET:HE3	1.88	0.74
77:3O:68:ILE:HB	77:3O:109:TYR:HB2	1.70	0.74
47:2m:128:U:OP2	47:2m:214:U:O2'	2.04	0.74
30:2V:69:ALA:O	30:2V:73:LYS:HG3	1.88	0.73
50:2p:94:ARG:O	50:2p:101:GLN:NE2	2.21	0.73
1:1A:2744:A:H5'	81:1A:5113:84G:C10	2.18	0.73
12:2D:36:LEU:HD12	12:2D:37:GLY:H	1.52	0.73
46:2l:161:LYS:H	46:2l:161:LYS:HD3	1.53	0.73
48:2n:89:LYS:HE3	48:2n:201:LEU:CG	2.13	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2r:61:PHE:HE1	66:3D:49:PRO:HB2	1.53	0.73
61:20:6:VAL:CG2	61:20:65:TYR:HE2	2.01	0.73
64:3B:37:LYS:HD2	64:3B:37:LYS:C	2.13	0.73
69:3G:275:LYS:HG3	69:3G:276:THR:HG23	1.69	0.73
1:1A:2422:C:O2	1:1A:3857:G:N2	2.21	0.73
13:2E:85:LYS:HE2	13:2E:115:LEU:HD11	1.69	0.73
48:2n:30:LEU:HD12	48:2n:150:THR:HB	1.70	0.73
69:3G:77:SER:HB2	69:3G:79:GLU:OE1	1.87	0.73
1:1A:1480:C:O2'	1:1A:1482:G:OP2	2.07	0.73
25:2Q:91:MET:HE1	25:2Q:94:ARG:HE	1.53	0.73
13:2E:9:GLU:N	13:2E:9:GLU:OE1	2.21	0.73
59:2y:24:LEU:HD13	59:2y:58:MET:HE1	1.70	0.73
72:3J:50:CYS:SG	72:3J:69:LEU:CD1	2.77	0.73
47:2m:799:U:O4	47:2m:867:G:N2	2.22	0.73
59:2y:66:VAL:O	59:2y:66:VAL:HG12	1.86	0.73
33:2Y:7:LEU:HB2	33:2Y:93:LYS:HG3	1.70	0.73
47:2m:337:C:H2'	47:2m:338:G:H4'	1.70	0.73
12:2D:131:ILE:HB	81:2D:301:84G:C1	2.19	0.73
13:2E:117:ILE:HD13	13:2E:118:LYS:O	1.89	0.73
14:2F:50:PRO:HB3	14:2F:150:LEU:HB3	1.69	0.73
47:2m:562:U:H1'	71:3I:132:GLN:HG2	1.70	0.73
1:1A:4137:C:N3	1:1A:4147:G:N1	2.29	0.72
60:2z:5:ILE:HD12	60:2z:6:PRO:HD2	1.69	0.72
1:1A:3689:G:O2'	1:1A:3818:U:OP2	2.06	0.72
31:2W:40:GLN:HE21	31:2W:42:LYS:HZ3	1.36	0.72
45:2k:58:LYS:HA	45:2k:58:LYS:HE3	1.71	0.72
47:2m:744:G:C4	53:2s:107:LYS:HD2	2.20	0.72
49:2o:225:LEU:O	49:2o:225:LEU:HD13	1.89	0.72
55:2u:1:MET:HA	55:2u:1:MET:HE3	1.71	0.72
59:2y:66:VAL:O	59:2y:66:VAL:CG1	2.37	0.72
61:20:4:VAL:HG11	61:20:136:GLY:HA2	1.69	0.72
5:1E:258:HIS:HB3	5:1E:259:PRO:HD3	1.72	0.72
31:2W:40:GLN:NE2	31:2W:42:LYS:HZ3	1.85	0.72
46:2l:142:GLU:CD	46:2l:144:MET:HG2	2.15	0.72
46:2l:212:LYS:HE2	46:2l:214:GLN:OE1	1.89	0.72
51:2q:166:THR:HG22	51:2q:168:LYS:HG2	1.71	0.72
48:2n:61:ALA:O	48:2n:65:ILE:HG13	1.88	0.72
53:2s:53:VAL:HG23	53:2s:175:GLY:HA3	1.72	0.72
67:3E:5:GLN:OE1	67:3E:5:GLN:O	2.06	0.72
1:1A:3896:C:O2'	5:1E:268:ARG:NH1	2.21	0.72
1:1A:4094:G:H2'	1:1A:4095:G:H8	1.55	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:3J:52:GLN:HE22	72:3J:65:VAL:CG1	2.03	0.72
1:1A:4874:A:N3	17:2I:175:MET:HE2	2.05	0.72
2:1B:29:C:H5'	13:2E:16:ARG:HH22	1.54	0.72
46:2I:68:LEU:HD22	46:2I:85:MET:HG2	1.70	0.72
80:3R:132:MET:HE2	80:3R:132:MET:HA	1.71	0.72
39:2e:26:LYS:HB2	39:2e:69:LEU:HD12	1.72	0.72
68:3F:77:PHE:HB3	68:3F:89:LEU:HD11	1.72	0.72
1:1A:2758:G:O2'	1:1A:2764:A:N3	2.22	0.72
13:2E:93:GLU:CD	13:2E:173:ILE:HG12	2.15	0.72
21:2M:164:LYS:HB3	21:2M:165:PRO:CD	2.16	0.72
31:2W:40:GLN:NE2	31:2W:42:LYS:NZ	2.36	0.72
47:2m:71:G:O2'	70:3H:170:ARG:NH2	2.23	0.72
76:3N:85:ASN:OD1	76:3N:85:ASN:O	2.08	0.72
29:2U:72:THR:HG22	29:2U:110:LYS:HB3	1.72	0.71
65:3C:51:ARG:HH11	65:3C:51:ARG:CB	2.03	0.71
10:2B:121:LYS:NZ	10:2B:128:VAL:CB	2.53	0.71
1:1A:3786:U:OP1	1:1A:4550:G:O2'	2.06	0.71
1:1A:4635:A:H2	1:1A:4663:G:H21	1.35	0.71
62:21:55:ARG:HG2	62:21:87:ARG:NH2	2.05	0.71
70:3H:7:PHE:CE2	70:3H:10:THR:HG22	2.25	0.71
1:1A:1332:C:H2'	1:1A:1333:A:H8	1.56	0.71
47:2m:696:G:N2	47:2m:737:G:O6	2.24	0.71
47:2m:902:G:O6	47:2m:904:A:C5	2.44	0.71
47:2m:744:G:N1	53:2s:107:LYS:CG	2.54	0.71
8:1H:264:ILE:HD11	8:1H:267:LEU:HD22	1.71	0.71
23:2O:42:PHE:HE1	23:2O:46:ARG:HD3	1.54	0.71
30:2V:65:MET:SD	30:2V:68:ARG:NH2	2.64	0.71
47:2m:1707:U:O2'	47:2m:1849:G:N2	2.23	0.71
48:2n:80:ARG:NH2	48:2n:165:ASN:O	2.23	0.71
69:3G:263:LYS:HB3	69:3G:267:GLN:HE21	1.55	0.71
74:3L:100:THR:HG21	74:3L:104:ARG:HE	1.56	0.71
13:2E:85:LYS:CG	13:2E:115:LEU:HD11	2.19	0.71
56:2v:18:GLN:HG2	56:2v:33:LEU:HD11	1.72	0.71
3:1C:55:U:H3	3:1C:62:A:H2	1.38	0.71
48:2n:198:MET:HE2	59:2y:89:SER:HB2	1.73	0.71
13:2E:85:LYS:HB3	13:2E:115:LEU:HD12	1.73	0.70
47:2m:902:G:O6	47:2m:904:A:C6	2.44	0.70
76:3N:21:LYS:HB2	76:3N:75:ILE:HG12	1.72	0.70
47:2m:191:A:N6	47:2m:208:G:O2'	2.24	0.70
70:3H:7:PHE:HB2	70:3H:113:ILE:HD12	1.73	0.70
4:1D:245:ARG:HE	4:1D:247:ARG:HH22	1.36	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:2E:93:GLU:CD	13:2E:173:ILE:CG1	2.62	0.70
78:3P:36:LYS:HE3	78:3P:43:ILE:HD13	1.72	0.70
39:2e:24:LYS:HD3	39:2e:69:LEU:HD21	1.73	0.70
1:1A:1837:A:OP2	22:2N:130:ARG:NH1	2.25	0.70
4:1D:245:ARG:NE	4:1D:247:ARG:NH2	2.39	0.70
25:2Q:81:ALA:HB2	25:2Q:87:LEU:HG	1.73	0.70
47:2m:127:C:N4	47:2m:181:A:O2'	2.25	0.70
47:2m:984:C:O2'	74:3L:138:ASP:O	2.06	0.70
51:2q:44:LEU:HD21	51:2q:70:ILE:HG21	1.73	0.70
46:2l:67:VAL:HG23	46:2l:111:LEU:HB2	1.73	0.70
1:1A:4910:G:N2	17:2I:106:ASP:O	2.24	0.70
47:2m:1521:C:OP2	60:2z:136:THR:OG1	2.08	0.70
47:2m:30:C:O2'	47:2m:596:U:OP1	2.08	0.70
52:2r:40:ALA:HB3	52:2r:67:PRO:HA	1.74	0.70
58:2x:76:GLY:H	58:2x:79:ALA:HB3	1.55	0.70
32:2X:44:ARG:O	32:2X:48:GLU:HG2	1.91	0.70
59:2y:43:SER:OG	59:2y:46:LEU:CD2	2.39	0.70
1:1A:2533:C:H5'	26:2R:93:ASN:ND2	2.07	0.69
1:1A:4896:G:H2'	1:1A:4897:G:C8	2.27	0.69
10:2B:121:LYS:HD3	10:2B:126:GLY:O	1.92	0.69
47:2m:1280:G:O6	47:2m:1317:C:N4	2.25	0.69
1:1A:375:G:OP2	38:2d:52:LYS:NZ	2.25	0.69
1:1A:1270:A:O2'	1:1A:1439:C:O2	2.10	0.69
1:1A:4162:C:H5	10:2B:73:ARG:HH12	1.40	0.69
45:2k:89:THR:O	45:2k:93:ILE:HG13	1.92	0.69
59:2y:24:LEU:CB	59:2y:58:MET:HE2	2.22	0.69
68:3F:244:ASN:ND2	68:3F:294:ASP:O	2.25	0.69
19:2K:39:THR:HG22	19:2K:41:SER:H	1.57	0.69
22:2N:43:LYS:O	22:2N:58:HIS:ND1	2.25	0.69
47:2m:1273:C:H5'	47:2m:1274:G:H2'	1.74	0.69
68:3F:299:PHE:HD1	68:3F:309:VAL:HG12	1.57	0.69
1:1A:2786:C:H5''	1:1A:2787:A:H5'	1.72	0.69
47:2m:1400:U:O2	62:21:55:ARG:NH2	2.24	0.69
68:3F:153:CYS:SG	68:3F:155:ARG:NH1	2.66	0.69
1:1A:3736:A:H2'	1:1A:3737:A:C8	2.27	0.69
57:2w:44:ARG:HG2	57:2w:84:ILE:HD11	1.74	0.69
69:3G:152:ARG:O	69:3G:156:ILE:HD12	1.92	0.69
72:3J:42:LEU:CG	72:3J:69:LEU:HD21	2.22	0.69
1:1A:1802:A:N3	22:2N:130:ARG:NH2	2.39	0.69
1:1A:1931:C:N4	1:1A:2040:A:O2'	2.25	0.69
1:1A:2092:G:O2'	1:1A:2262:G:N2	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:3921:U:O2'	1:1A:4543:G:N2	2.26	0.69
46:2l:50:SER:HA	46:2l:159:MET:SD	2.33	0.69
48:2n:78:SER:OG	48:2n:125:THR:OG1	2.09	0.69
78:3P:49:HIS:ND1	78:3P:69:GLY:O	2.26	0.69
47:2m:64:A:H2	47:2m:83:A:H62	1.38	0.69
47:2m:189:U:OP2	54:2t:148:LYS:NZ	2.25	0.69
53:2s:7:LYS:HB3	53:2s:10:LYS:HE2	1.74	0.69
47:2m:65:C:N4	70:3H:134:GLY:O	2.25	0.69
47:2m:114:G:O2'	47:2m:382:C:O2'	2.11	0.69
12:2D:111:LEU:O	12:2D:111:LEU:CD1	2.36	0.68
1:1A:493:G:O6	1:1A:660:A:N1	2.25	0.68
47:2m:928:G:H2'	47:2m:929:G:C8	2.28	0.68
49:2o:193:ILE:O	49:2o:197:ILE:HG12	1.92	0.68
51:2q:137:PRO:HG2	51:2q:150:PRO:HD2	1.75	0.68
1:1A:4322:G:O2'	1:1A:4324:A:N6	2.26	0.68
8:1H:128:HIS:ND1	8:1H:128:HIS:O	2.26	0.68
11:2C:76:HIS:O	11:2C:80:MET:HG3	1.94	0.68
47:2m:1158:G:H5''	75:3M:76:SER:HB3	1.75	0.68
4:1D:245:ARG:NH2	4:1D:247:ARG:HH22	1.90	0.68
8:1H:99:ASP:OD2	8:1H:100:LYS:HG3	1.94	0.68
71:3I:78:LEU:HD21	71:3I:97:ILE:HD11	1.75	0.68
1:1A:4623:G:OP1	5:1E:19:ARG:NH2	2.26	0.68
58:2x:97:GLN:HB3	58:2x:105:LYS:HD3	1.75	0.68
9:2A:35:LYS:O	9:2A:39:GLN:HG3	1.94	0.68
13:2E:94:LEU:O	13:2E:174:ILE:HD13	1.93	0.68
13:2E:174:ILE:O	13:2E:174:ILE:HG13	1.94	0.68
47:2m:558:G:N3	47:2m:559:G:N2	2.36	0.68
4:1D:117:GLU:O	4:1D:162:ASN:ND2	2.26	0.68
7:1G:223:PHE:HB3	7:1G:226:TYR:HB2	1.75	0.68
46:2l:59:PRO:HB3	46:2l:170:GLY:HA3	1.74	0.68
47:2m:338:G:H5'	47:2m:339:A:C8	2.28	0.68
47:2m:1289:U:H5	80:3R:97:LYS:HE2	1.58	0.68
59:2y:57:LEU:O	59:2y:61:ILE:HG23	1.93	0.68
1:1A:1326:A:OP2	1:1A:4445:U:O2'	2.12	0.68
10:2B:121:LYS:HZ1	10:2B:128:VAL:CB	2.06	0.68
53:2s:167:GLU:OE1	53:2s:167:GLU:HA	1.94	0.68
1:1A:196:C:H4'	27:2S:126:ARG:HG3	1.75	0.67
49:2o:35:ALA:HB2	49:2o:44:ILE:HD11	1.74	0.67
7:1G:88:VAL:HA	7:1G:239:MET:HE2	1.73	0.67
27:2S:10:ASP:HB3	27:2S:13:LYS:HB2	1.76	0.67
53:2s:80:VAL:O	53:2s:84:GLU:HG3	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:2w:84:ILE:HD12	57:2w:84:ILE:H	1.58	0.67
50:2p:7:LYS:HE2	62:21:25:THR:HG21	1.77	0.67
1:1A:91:G:H5'	1:1A:92:C:H5''	1.75	0.67
47:2m:11:A:H5'	69:3G:113:GLN:HE21	1.59	0.67
47:2m:1563:G:OP1	61:20:121:ARG:NH1	2.28	0.67
54:2t:103:LEU:HD22	54:2t:170:LYS:HB3	1.77	0.67
1:1A:2062:C:O2'	21:2M:5:GLY:HA2	1.95	0.67
59:2y:24:LEU:HB3	59:2y:58:MET:HE2	1.76	0.67
68:3F:174:VAL:HB	68:3F:188:HIS:HB2	1.76	0.67
1:1A:4620:U:OP2	1:1A:4670:C:N4	2.28	0.67
27:2S:30:MET:HB3	27:2S:101:PRO:HG3	1.76	0.67
47:2m:744:G:C4	53:2s:107:LYS:NZ	2.62	0.67
1:1A:4767:C:O2'	1:1A:4874:A:N6	2.25	0.67
47:2m:1516:G:H4'	57:2w:122:THR:HG21	1.75	0.67
50:2p:48:ILE:O	50:2p:86:LEU:HD13	1.95	0.67
54:2t:101:ILE:HD12	54:2t:190:LEU:HD11	1.75	0.67
69:3G:152:ARG:HA	69:3G:155:ILE:HD12	1.76	0.67
17:2I:54:TYR:CD1	17:2I:145:VAL:HG21	2.30	0.67
47:2m:363:A:N6	47:2m:400:C:O2'	2.28	0.67
53:2s:100:ILE:HG12	53:2s:125:VAL:HG21	1.77	0.67
59:2y:69:ILE:O	59:2y:69:ILE:CG2	2.42	0.67
71:3I:42:GLU:H	71:3I:42:GLU:CD	2.03	0.67
1:1A:3961:G:N2	1:1A:4046:A:OP1	2.28	0.67
1:1A:4323:A:O2'	7:1G:176:SER:N	2.28	0.67
1:1A:5040:U:OP2	5:1E:396:ARG:NH2	2.28	0.67
12:2D:51:HIS:ND1	12:2D:137:SER:OG	2.25	0.67
16:2H:158:HIS:ND1	16:2H:161:MET:HE3	2.10	0.67
49:2o:229:MET:HA	49:2o:229:MET:HE3	1.77	0.67
69:3G:64:THR:OG1	69:3G:90:GLU:OE2	2.11	0.67
77:3O:47:LEU:O	77:3O:47:LEU:HG	1.92	0.67
1:1A:4980:C:N3	18:2J:69:ARG:NH2	2.43	0.66
1:1A:4992:G:H2'	1:1A:4993:G:C8	2.29	0.66
5:1E:66:LYS:HD3	24:2P:11:GLY:HA3	1.76	0.66
28:2T:123:LYS:O	28:2T:124:THR:OG1	2.11	0.66
57:2w:53:GLN:NE2	57:2w:83:MET:SD	2.68	0.66
1:1A:1656:U:OP2	29:2U:26:ARG:NH2	2.28	0.66
7:1G:208:MET:O	7:1G:212:MET:HG2	1.95	0.66
27:2S:4:ASN:HB3	27:2S:7:VAL:HG22	1.77	0.66
47:2m:1221:G:O2'	47:2m:1676:U:O2	2.13	0.66
47:2m:1348:G:N2	47:2m:1381:G:H22	1.93	0.66
48:2n:14:ASP:HB2	48:2n:177:MET:HE1	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:2q:151:ASP:OD2	70:3H:216:ARG:NH2	2.27	0.66
68:3F:11:LEU:HB2	68:3F:307:VAL:HB	1.76	0.66
68:3F:26:GLN:NE2	68:3F:73:SER:O	2.28	0.66
1:1A:1759:G:H1	1:1A:1773:U:H3	1.43	0.66
1:1A:2486:G:O6	1:1A:2493:G:O6	2.13	0.66
1:1A:3754:G:H2'	1:1A:3755:G:C8	2.31	0.66
28:2T:100:VAL:HG13	28:2T:106:LEU:HD23	1.76	0.66
47:2m:98:C:OP2	47:2m:426:A:O2'	2.12	0.66
47:2m:525:A:H2'	47:2m:526:A:H8	1.60	0.66
61:20:125:PRO:HA	61:20:128:GLN:HG2	1.76	0.66
1:1A:3974:G:N2	1:1A:4051:C:OP1	2.29	0.66
28:2T:5:MET:O	28:2T:28:ASN:ND2	2.29	0.66
61:20:75:MET:HE2	61:20:78:ILE:CG2	2.26	0.66
61:20:75:MET:CE	61:20:78:ILE:HG21	2.26	0.66
68:3F:272:GLN:NE2	68:3F:302:TYR:OH	2.28	0.66
1:1A:3974:G:H1	1:1A:4037:C:H42	1.40	0.66
48:2n:66:VAL:HG21	48:2n:185:MET:HB2	1.76	0.66
70:3H:142:ARG:HB2	70:3H:147:LEU:HB2	1.78	0.66
1:1A:4076:G:OP1	10:2B:73:ARG:NE	2.28	0.66
81:1A:5102:84G:O1	81:1A:5102:84G:O9	2.13	0.66
62:21:61:LEU:O	62:21:81:GLN:HA	1.96	0.66
27:2S:83:GLU:OE1	27:2S:84:ARG:NH2	2.29	0.66
47:2m:1236:G:O6	60:2z:137:LYS:NZ	2.28	0.66
47:2m:1409:A:H4'	58:2x:26:LYS:HD3	1.77	0.66
52:2r:102:LEU:HD11	77:3O:100:VAL:HG21	1.77	0.66
47:2m:1238:U:H5'	57:2w:128:HIS:HA	1.77	0.66
68:3F:54:ILE:HG13	68:3F:55:PRO:HD2	1.76	0.66
1:1A:2337:C:H4'	45:2k:19:LYS:HB2	1.78	0.66
1:1A:3736:A:H2'	1:1A:3737:A:H8	1.59	0.66
1:1A:3765:G:O2'	47:2m:1849:G:N1	2.27	0.66
14:2F:211:LYS:HE2	46:2l:184:HIS:HB2	1.77	0.66
79:3Q:31:ARG:NH1	79:3Q:31:ARG:HB3	2.11	0.66
47:2m:291:G:H5''	51:2q:203:GLY:H	1.61	0.66
50:2p:101:GLN:HG2	50:2p:126:ILE:HD11	1.76	0.66
62:21:20:ILE:HD11	62:21:91:LEU:HD12	1.78	0.66
67:3E:5:GLN:C	67:3E:6:LEU:HD22	2.20	0.66
81:1A:5119:84G:O4	81:1A:5119:84G:O6	2.15	0.65
13:2E:175:LEU:HG	13:2E:176:PRO:CD	2.26	0.65
46:2l:93:LEU:O	46:2l:102:LYS:NZ	2.27	0.65
47:2m:1237:C:O2'	57:2w:128:HIS:CA	2.44	0.65
47:2m:1237:C:C2'	57:2w:128:HIS:HB3	2.19	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:2q:208:VAL:HG21	51:2q:225:ILE:HG13	1.78	0.65
10:2B:99:ALA:HB1	10:2B:136:LEU:HD11	1.79	0.65
22:2N:63:ARG:NH2	30:2V:30:GLU:OE1	2.30	0.65
69:3G:110:MET:HG2	69:3G:125:LYS:HB3	1.77	0.65
5:1E:224:LYS:HG2	5:1E:340:THR:HG22	1.78	0.65
13:2E:89:VAL:HG21	13:2E:115:LEU:HB2	1.78	0.65
1:1A:478:G:OP1	45:2k:66:ARG:NH1	2.30	0.65
31:2W:34:THR:HG23	31:2W:95:ALA:HB2	1.79	0.65
50:2p:164:VAL:HG23	50:2p:168:VAL:HB	1.78	0.65
69:3G:183:LYS:HD3	69:3G:194:ARG:HH21	1.61	0.65
74:3L:44:VAL:HG13	74:3L:53:ILE:HB	1.78	0.65
1:1A:121:A:H2	1:1A:152:U:H3	1.43	0.65
1:1A:4472:G:O2'	41:2g:100:TYR:O	2.13	0.65
13:2E:151:ILE:HD11	13:2E:156:ARG:HG2	1.77	0.65
20:2L:169:ALA:HA	20:2L:172:ARG:HE	1.60	0.65
47:2m:106:C:OP1	47:2m:431:G:O2'	2.15	0.65
49:2o:175:GLU:HG2	49:2o:193:ILE:HG12	1.77	0.65
56:2v:90:ARG:HD2	56:2v:109:MET:HE2	1.78	0.65
53:2s:144:ILE:HG12	53:2s:154:ILE:HG23	1.78	0.65
75:3M:76:SER:OG	75:3M:77:PRO:HD3	1.96	0.65
1:1A:1175:A:H2	1:1A:1185:G:H1	1.42	0.65
5:1E:222:VAL:O	5:1E:343:ARG:NH1	2.30	0.65
53:2s:127:ASP:O	53:2s:131:GLU:HG2	1.97	0.65
58:2x:48:GLN:O	58:2x:52:LEU:HG	1.96	0.65
8:1H:161:ARG:NH1	8:1H:273:SER:OG	2.30	0.65
11:2C:93:ARG:HG2	11:2C:182:SER:HB3	1.78	0.65
14:2F:175:ASN:HD22	14:2F:175:ASN:C	2.05	0.65
47:2m:1497:G:H22	55:2u:67:PHE:HE1	1.43	0.65
47:2m:1606:G:H22	47:2m:1632:G:H2'	1.59	0.65
47:2m:1677:U:OP1	52:2r:148:ASN:ND2	2.30	0.65
1:1A:2669:C:O2'	1:1A:2670:C:O4'	2.13	0.65
1:1A:3722:G:H2'	1:1A:3723:A:H8	1.62	0.65
4:1D:247:ARG:HD3	47:2m:1069:U:H4'	1.79	0.65
13:2E:85:LYS:HB3	13:2E:115:LEU:HD11	1.77	0.65
47:2m:1396:A:O2'	47:2m:1398:G:N7	2.30	0.65
52:2r:96:ALA:O	52:2r:100:ILE:HG12	1.97	0.65
47:2m:695:C:H5	47:2m:736:C:H42	1.43	0.65
78:3P:8:LEU:HD23	78:3P:8:LEU:H	1.62	0.65
1:1A:2350:U:H5''	1:1A:2351:C:H5''	1.79	0.64
58:2x:43:GLU:CD	58:2x:44:PRO:CD	2.69	0.64
47:2m:145:G:H2'	47:2m:146:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1276:A:H62	47:2m:1321:G:H8	1.44	0.64
71:3I:58:ARG:O	71:3I:62:THR:HG23	1.96	0.64
11:2C:51:LYS:H	11:2C:51:LYS:HD3	1.61	0.64
11:2C:140:GLN:NE2	11:2C:143:GLU:OE1	2.29	0.64
47:2m:358:C:OP1	64:3B:18:ARG:HD3	1.98	0.64
47:2m:1232:U:H2'	47:2m:1233:G:H8	1.63	0.64
1:1A:3783:A:H2	1:1A:3790:U:H3	1.44	0.64
32:2X:18:ASN:N	32:2X:18:ASN:ND2	2.37	0.64
49:2o:170:GLU:OE2	49:2o:171:ILE:HG13	1.97	0.64
64:3B:125:VAL:CG1	64:3B:130:LEU:HD13	2.28	0.64
1:1A:137:G:H2'	1:1A:138:G:H8	1.62	0.64
48:2n:17:LYS:HB3	59:2y:91:LEU:HD23	1.80	0.64
46:2l:105:LYS:NZ	46:2l:127:GLY:O	2.31	0.64
47:2m:43:U:OP2	47:2m:485:A:N6	2.28	0.64
47:2m:1277:C:H2'	47:2m:1278:A:H8	1.63	0.64
1:1A:181:C:H2'	1:1A:182:G:H8	1.61	0.64
31:2W:50:ASN:ND2	31:2W:76:GLY:O	2.31	0.64
60:2z:28:PHE:O	60:2z:31:THR:OG1	2.14	0.64
71:3I:137:VAL:HG12	71:3I:138[B]:ARG:H	1.63	0.64
32:2X:105:LEU:HD22	32:2X:107:THR:HG22	1.78	0.64
46:2l:68:LEU:HB3	46:2l:84:HIS:CA	2.24	0.64
47:2m:1497:G:N2	55:2u:67:PHE:HE1	1.95	0.64
76:3N:76:TYR:HD2	76:3N:82:ALA:HA	1.62	0.64
1:1A:2489:C:O2'	1:1A:2491:C:N4	2.31	0.64
7:1G:181:PRO:HD2	7:1G:195:HIS:HD2	1.62	0.64
47:2m:1004:U:H2'	47:2m:1005:G:H8	1.63	0.64
47:2m:1113:A:H8	47:2m:1114:U:H2'	1.62	0.64
47:2m:1228:A:H2'	47:2m:1229:G:C8	2.32	0.64
50:2p:22:ASN:O	50:2p:26:THR:OG1	2.13	0.64
8:1H:222:LEU:HB3	8:1H:237:LYS:HE3	1.79	0.64
13:2E:89:VAL:CG2	13:2E:115:LEU:CB	2.75	0.64
52:2r:134:VAL:C	52:2r:135:ARG:HD2	2.23	0.64
68:3F:5:MET:HE2	68:3F:312:VAL:HG12	1.80	0.64
1:1A:1378:C:N4	14:2F:159:ASN:O	2.31	0.63
25:2Q:91:MET:HE1	25:2Q:94:ARG:NE	2.13	0.63
62:21:55:ARG:CG	62:21:87:ARG:HH21	2.11	0.63
1:1A:4618:G:H5''	24:2P:15:ARG:HB2	1.81	0.63
47:2m:170:A:OP2	70:3H:140:ARG:NH1	2.31	0.63
47:2m:981:A:H2'	47:2m:982:G:C8	2.33	0.63
47:2m:1408:U:H3	47:2m:1442:U:H3	1.46	0.63
76:3N:7:ILE:HG13	76:3N:27:VAL:HG22	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:667:A:H5''	1:1A:668:C:H5''	1.80	0.63
1:1A:1578:U:OP1	1:1A:3637:U:O2'	2.13	0.63
10:2B:176:LYS:HD2	37:2c:43:MET:HE1	1.80	0.63
11:2C:92:MET:HB2	11:2C:181:VAL:HA	1.80	0.63
43:2i:104:ILE:O	43:2i:104:ILE:HD13	1.93	0.63
46:2l:212:LYS:HD3	46:2l:212:LYS:N	2.14	0.63
47:2m:96:C:H1'	47:2m:474:G:H5'	1.81	0.63
47:2m:1421:A:C2'	61:20:2:PRO:C	2.71	0.63
52:2r:179:ASN:HB3	52:2r:187:SER:HB3	1.80	0.63
56:2v:82:MET:HG2	56:2v:85:THR:HB	1.81	0.63
1:1A:3702:A:O2'	1:1A:3774:A:OP1	2.11	0.63
15:2G:81:ASP:OD2	15:2G:84:THR:OG1	2.13	0.63
31:2W:31:TYR:HA	31:2W:93:THR:HG21	1.80	0.63
47:2m:165:G:N2	47:2m:165:G:OP2	2.31	0.63
47:2m:840:C:H5'	47:2m:841:G:H5''	1.80	0.63
63:3A:32:ILE:HG12	63:3A:55:ILE:HG12	1.79	0.63
68:3F:107:ASP:OD2	68:3F:125:ARG:NH1	2.31	0.63
73:3K:99:ARG:O	73:3K:103:GLU:HG2	1.98	0.63
1:1A:3944:G:H4'	49:2o:54:GLY:HA2	1.80	0.63
1:1A:4220:A:OP2	22:2N:2:THR:N	2.32	0.63
13:2E:175:LEU:CG	13:2E:176:PRO:CD	2.74	0.63
47:2m:1347:U:H2'	47:2m:1348:G:H8	1.62	0.63
64:3B:72:VAL:HG11	64:3B:102:VAL:HG21	1.79	0.63
71:3I:137:VAL:HG12	71:3I:138[A]:ARG:H	1.63	0.63
1:1A:1552:G:O2'	1:1A:1574:G:N2	2.26	0.63
1:1A:1802:A:H5''	1:1A:1803:G:H5'	1.81	0.63
1:1A:2395:A:N3	1:1A:2806:A:O2'	2.30	0.63
1:1A:4594:U:H2'	1:1A:4595:G:H8	1.64	0.63
13:2E:175:LEU:H	13:2E:176:PRO:HD2	1.62	0.63
51:2q:173:ILE:HG23	51:2q:230:LYS:HG3	1.80	0.63
51:2q:185:GLY:H	51:2q:189:LEU:HD13	1.64	0.63
1:1A:1768:C:O2'	1:1A:1770:A:N6	2.30	0.63
5:1E:218:ASP:OD2	5:1E:348:ARG:NH1	2.32	0.63
8:1H:72:LYS:CD	30:2V:118:LEU:O	2.46	0.63
14:2F:177:LYS:HB3	14:2F:180:ALA:HB3	1.80	0.63
47:2m:878:G:O6	47:2m:908:A:C6	2.52	0.63
71:3I:127:ARG:HD3	79:3Q:31:ARG:HD3	1.79	0.63
1:1A:1849:U:H3'	14:2F:5:ARG:NH2	2.14	0.63
38:2d:20:ARG:NH2	38:2d:39:TYR:OH	2.32	0.63
46:2l:67:VAL:HG21	46:2l:111:LEU:H	1.64	0.63
52:2r:106:GLU:OE1	52:2r:106:GLU:N	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:2B:108:GLN:OE1	10:2B:108:GLN:N	2.30	0.63
47:2m:69:C:OP1	70:3H:164:LYS:NZ	2.29	0.63
58:2x:46:THR:OG1	58:2x:47:LEU:HD12	1.99	0.63
61:20:6:VAL:CG2	61:20:65:TYR:CE2	2.81	0.63
1:1A:1732:C:OP1	22:2N:43:LYS:NZ	2.31	0.62
1:1A:1942:A:H2'	1:1A:1943:A:C8	2.33	0.62
47:2m:1263:U:O2'	67:3E:28:HIS:NE2	2.31	0.62
71:3I:113:GLN:HG3	71:3I:149:VAL:HG11	1.80	0.62
1:1A:2652:G:N2	44:2j:59:SER:O	2.32	0.62
8:1H:109:LEU:HD12	8:1H:110:ARG:HD3	1.81	0.62
47:2m:1520:G:H5''	47:2m:1521:C:H5	1.64	0.62
51:2q:161:GLN:HG2	51:2q:170:THR:HB	1.81	0.62
54:2t:163:GLU:OE1	54:2t:163:GLU:C	2.42	0.62
68:3F:12:LYS:HG3	68:3F:306:LEU:HD21	1.81	0.62
7:1G:75:VAL:HG22	7:1G:112:ARG:NH1	2.15	0.62
52:2r:67:PRO:HD2	52:2r:70:GLU:CD	2.24	0.62
1:1A:2835:A:O2'	5:1E:228:TYR:O	2.17	0.62
1:1A:3888:G:O2'	1:1A:3889:G:OP1	2.17	0.62
45:2k:85:ASN:O	45:2k:89:THR:HG23	1.99	0.62
47:2m:507:G:OP1	76:3N:108:LYS:NZ	2.31	0.62
72:3J:48:HIS:HB2	72:3J:111:VAL:HG23	1.80	0.62
1:1A:2856:C:O2	5:1E:242:ARG:NH2	2.30	0.62
1:1A:4094:G:H2'	1:1A:4095:G:C8	2.35	0.62
81:1A:5110:84G:O4	81:1A:5110:84G:O6	2.16	0.62
52:2r:87:LEU:HG	58:2x:47:LEU:HD11	1.81	0.62
61:20:75:MET:HE1	61:20:78:ILE:HG21	1.80	0.62
70:3H:57:ASP:OD1	70:3H:58:LYS:N	2.32	0.62
71:3I:57:ALA:O	71:3I:61:LEU:HD22	1.99	0.62
6:1F:56:GLU:OE1	6:1F:57:LEU:HD13	2.00	0.62
36:2b:13:LYS:HG3	36:2b:15:GLU:OE2	2.00	0.62
52:2r:143:PRO:HD3	66:3D:56:LEU:HD13	1.82	0.62
60:2z:28:PHE:HE2	60:2z:38:ARG:HE	1.48	0.62
68:3F:5:MET:HE1	68:3F:298:LEU:HD12	1.79	0.62
1:1A:4413:C:H5	1:1A:4429:C:H42	1.46	0.62
1:1A:4734:A:H2'	1:1A:4735:G:C8	2.35	0.62
12:2D:140:THR:HG21	12:2D:144:ASN:HB2	1.82	0.62
47:2m:913:A:N6	53:2s:98:ARG:O	2.29	0.62
47:2m:1292:C:O2	47:2m:1295:A:N6	2.32	0.62
49:2o:168:MET:O	49:2o:172:MET:HG3	2.00	0.62
60:2z:85:ASN:N	60:2z:97:GLN:OE1	2.26	0.62
69:3G:176:LYS:O	69:3G:200[A]:ARG:NH2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:3N:55:ILE:CD1	76:3N:75:ILE:HG22	2.30	0.62
11:2C:14:GLU:H	11:2C:14:GLU:CD	2.07	0.62
47:2m:942:G:H21	74:3L:137:SER:HB2	1.65	0.62
59:2y:41:ILE:HD12	59:2y:47:ARG:HG2	1.81	0.62
71:3I:69:ARG:O	71:3I:73:GLU:HG3	1.99	0.62
11:2C:61:TRP:CE3	15:2G:33:GLN:OE1	2.53	0.62
28:2T:89:ILE:HD11	28:2T:91:LEU:HG	1.81	0.62
47:2m:1834:A:H2	47:2m:1837:G:H1	1.48	0.62
48:2n:34:MET:HE2	48:2n:149:ASN:O	2.00	0.62
59:2y:51:ALA:O	59:2y:55:THR:HG23	2.00	0.62
1:1A:2553:A:H2	1:1A:2764:A:H62	1.47	0.62
1:1A:4748:U:H3	1:1A:4951:G:H1	1.46	0.62
7:1G:104:LEU:HB2	7:1G:247:ILE:HD12	1.82	0.62
21:2M:161:ARG:NH1	21:2M:164:LYS:HE3	2.15	0.62
51:2q:255:ARG:CG	51:2q:259:LYS:HZ1	2.09	0.62
1:1A:513:U:H3'	1:1A:514:U:H4'	1.82	0.61
1:1A:2260:C:OP1	8:1H:108:LYS:NZ	2.31	0.61
1:1A:2806:A:H1'	35:2a:4:ARG:HD3	1.80	0.61
46:2l:108:ASP:HA	46:2l:133:LYS:HD3	1.82	0.61
47:2m:1217:A:H2'	47:2m:1218:C:C6	2.34	0.61
47:2m:1546:G:H22	47:2m:1654:G:N2	1.97	0.61
77:3O:48:VAL:HA	77:3O:83:LEU:HD11	1.80	0.61
1:1A:662:C:H2'	1:1A:663:G:H8	1.65	0.61
12:2D:54:SER:HB3	12:2D:135:ILE:HD11	1.81	0.61
76:3N:110:ARG:HD3	76:3N:130:LYS:HE3	1.81	0.61
1:1A:2743:A:H5'	81:1A:5113:84G:O7	2.00	0.61
1:1A:2898:G:OP2	20:2L:135:LYS:NZ	2.31	0.61
14:2F:17:ASP:OD1	14:2F:17:ASP:O	2.17	0.61
37:2c:45:ARG:HH11	37:2c:45:ARG:HG2	1.64	0.61
46:2l:66:CYS:HB3	46:2l:82:ILE:HD12	1.82	0.61
52:2r:67:PRO:HD2	52:2r:70:GLU:OE2	2.00	0.61
5:1E:305:THR:HG21	5:1E:367:PHE:HA	1.81	0.61
35:2a:94:ALA:O	35:2a:98:GLU:HG3	2.00	0.61
47:2m:1408:U:O2	58:2x:71:ARG:NH2	2.33	0.61
51:2q:118:GLU:HG2	51:2q:121:TYR:HE1	1.65	0.61
51:2q:206:ASP:HB3	51:2q:222:LEU:HB2	1.82	0.61
53:2s:51:ILE:HG21	53:2s:179:LYS:HE3	1.82	0.61
67:3E:6:LEU:HA	67:3E:9:SER:HB3	1.81	0.61
71:3I:122:SER:O	71:3I:125:HIS:N	2.28	0.61
1:1A:1763:C:H41	1:1A:1764:G:H21	1.48	0.61
37:2c:88:GLU:OE2	37:2c:92:ASN:ND2	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:902:G:N1	47:2m:904:A:C2	2.69	0.61
52:2r:113:VAL:O	52:2r:117:ILE:HG12	2.00	0.61
67:3E:17:GLY:O	67:3E:27:ARG:NH2	2.32	0.61
72:3J:52:GLN:HE22	72:3J:65:VAL:HG13	1.63	0.61
3:1C:121:G:H2'	3:1C:122:G:C8	2.36	0.61
26:2R:107:HIS:O	26:2R:111:GLN:HG3	2.00	0.61
30:2V:70:GLU:CA	30:2V:73:LYS:HZ2	1.98	0.61
47:2m:732:U:OP1	47:2m:733:C:N4	2.34	0.61
47:2m:1452:A:N6	47:2m:1473:G:O2'	2.34	0.61
1:1A:2695:A:H4'	1:1A:2696:A:O5'	1.99	0.61
1:1A:3732:A:H2'	1:1A:3733:A:C8	2.35	0.61
31:2W:40:GLN:HE21	31:2W:42:LYS:HZ2	1.48	0.61
31:2W:48:LEU:HD21	31:2W:60:ILE:HG21	1.82	0.61
47:2m:993:G:OP1	47:2m:1131:G:N2	2.27	0.61
48:2n:5:LEU:HD13	63:3A:41:LYS:HA	1.83	0.61
1:1A:2667:C:O4'	20:2L:96:MET:HG3	2.00	0.61
81:1A:5118:84G:N5	81:1A:5118:84G:O7	2.34	0.61
4:1D:28:ARG:HG3	4:1D:123:ARG:HH11	1.65	0.61
4:1D:245:ARG:NE	4:1D:247:ARG:HH22	1.96	0.61
52:2r:127:ARG:HD2	52:2r:137:GLN:OE1	2.00	0.61
62:21:26:SER:HG	62:21:110:VAL:HA	1.65	0.61
75:3M:114:GLU:OE1	75:3M:114:GLU:HA	2.00	0.61
21:2M:99:ASP:OD2	21:2M:108:GLN:NE2	2.34	0.61
46:2l:47:LYS:NZ	46:2l:159:MET:O	2.32	0.61
56:2v:48:LYS:HD3	56:2v:51:ILE:HD12	1.83	0.61
64:3B:107:ARG:HG3	64:3B:110:HIS:HB3	1.81	0.61
1:1A:2744:A:C5'	81:1A:5113:84G:C10	2.78	0.61
13:2E:85:LYS:HG2	13:2E:115:LEU:HD11	1.82	0.61
47:2m:527:C:H2'	47:2m:528:A:H8	1.66	0.61
52:2r:134:VAL:O	52:2r:135:ARG:HD2	2.00	0.61
53:2s:87:PHE:HB3	53:2s:90:LYS:HB3	1.82	0.61
61:20:62:ARG:HH21	61:20:63:HIS:CD2	2.19	0.61
1:1A:364:G:O6	38:2d:55:ARG:NH2	2.33	0.60
5:1E:17:LEU:CB	5:1E:18:PRO:HD3	2.31	0.60
7:1G:91:GLY:O	7:1G:94:ASN:ND2	2.33	0.60
59:2y:61:ILE:C	59:2y:61:ILE:HD12	2.25	0.60
68:3F:201:SER:OG	68:3F:203:ASP:O	2.18	0.60
1:1A:2562:G:O2'	1:1A:2564:G:N7	2.29	0.60
1:1A:4691:A:H4'	11:2C:71:ARG:HD2	1.83	0.60
20:2L:163:ARG:HH12	47:2m:872:A:H5'	1.66	0.60
20:2L:174:GLU:HA	20:2L:177:LEU:HG	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:2P:112:MET:HE2	24:2P:135:ASN:HD21	1.67	0.60
47:2m:1263:U:H4'	67:3E:27:ARG:HD3	1.83	0.60
67:3E:19:ARG:CD	67:3E:32:ARG:HH11	2.14	0.60
71:3I:134:HIS:HB3	71:3I:159:PHE:HE1	1.65	0.60
77:3O:74:SER:HA	77:3O:79:ILE:HB	1.83	0.60
79:3Q:28:LYS:HE2	79:3Q:36:MET:CE	2.31	0.60
4:1D:142:GLU:O	4:1D:143:THR:OG1	2.18	0.60
6:1F:254:GLU:OE2	6:1F:258:ARG:NE	2.33	0.60
13:2E:96:LYS:N	13:2E:174:ILE:HD11	2.17	0.60
1:1A:5054:C:H4'	1:1A:5055:G:H5'	1.82	0.60
63:3A:16:LYS:H	69:3G:259:THR:HG21	1.66	0.60
68:3F:139:LYS:HG3	68:3F:140:TYR:H	1.66	0.60
1:1A:383:A:O2'	1:1A:384:A:O5'	2.18	0.60
1:1A:1100:U:O2	1:1A:1195:G:N2	2.28	0.60
62:21:25:THR:HG22	62:21:86:LYS:HG3	1.83	0.60
1:1A:1718:C:OP2	9:2A:200:ARG:NH2	2.33	0.60
1:1A:3641:U:OP2	1:1A:3646:A:N6	2.34	0.60
11:2C:92:MET:HA	11:2C:182:SER:H	1.66	0.60
46:2l:67:VAL:C	46:2l:68:LEU:HD12	2.26	0.60
47:2m:1540:G:OP1	61:20:39:LEU:HD22	2.02	0.60
49:2o:83:LYS:HE3	49:2o:106:THR:HG22	1.84	0.60
1:1A:705:G:OP1	33:2Y:5:ARG:NH2	2.35	0.60
8:1H:223:ARG:HD2	8:1H:237:LYS:HD2	1.84	0.60
32:2X:65:ASP:OD1	32:2X:66:THR:N	2.35	0.60
46:2l:54:ARG:NH1	46:2l:148:VAL:O	2.34	0.60
47:2m:1420:G:N2	47:2m:1427:C:O2'	2.34	0.60
50:2p:14:ASP:OD1	50:2p:18:LYS:NZ	2.35	0.60
62:21:55:ARG:HG2	62:21:87:ARG:CZ	2.31	0.60
68:3F:297:THR:HG22	68:3F:311:GLN:HG2	1.84	0.60
71:3I:111:GLN:NE2	71:3I:127:ARG:HG3	2.16	0.60
1:1A:2522:G:OP1	35:2a:29:ARG:NH1	2.34	0.60
47:2m:1677:U:OP1	52:2r:71:ARG:NH2	2.34	0.60
47:2m:1677:U:H5''	52:2r:148:ASN:HD22	1.67	0.60
60:2z:67:VAL:O	60:2z:71:MET:HG3	2.02	0.60
68:3F:107:ASP:OD1	68:3F:107:ASP:N	2.25	0.60
1:1A:964:A:H2'	1:1A:965:G:H4'	1.84	0.60
1:1A:2811:G:N1	1:1A:2814:C:OP2	2.27	0.60
47:2m:639:C:H2'	47:2m:640:A:H8	1.66	0.60
47:2m:1373:C:H5'	59:2y:7:LYS:HG3	1.83	0.60
55:2u:21:MET:SD	55:2u:49:MET:HE1	2.41	0.60
1:1A:1994:C:H2'	1:1A:1995:G:H4'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:2003:G:H1	1:1A:2016:C:H42	1.50	0.60
45:2k:21:ASN:N	45:2k:21:ASN:OD1	2.35	0.60
47:2m:178:C:H3'	47:2m:313:A:H61	1.66	0.60
47:2m:1611:G:OP2	60:2z:121:ARG:NH2	2.35	0.60
54:2t:174:CYS:HB2	54:2t:190:LEU:HD21	1.84	0.60
62:21:21:ARG:CG	62:21:88:LEU:HD12	2.32	0.60
66:3D:14:VAL:HG23	66:3D:32:VAL:HG12	1.82	0.60
1:1A:3671:G:H2'	1:1A:3672:G:C8	2.37	0.59
1:1A:3719:A:H2'	1:1A:3720:G:H8	1.67	0.59
4:1D:137:ILE:HD11	4:1D:149:LYS:HB2	1.83	0.59
47:2m:909:G:H2'	47:2m:910:G:C8	2.37	0.59
1:1A:2694:G:H4'	1:1A:2695:A:H5'	1.84	0.59
7:1G:75:VAL:CG2	7:1G:112:ARG:NH1	2.65	0.59
8:1H:112:MET:SD	45:2k:94:ARG:NH1	2.75	0.59
27:2S:46:SER:O	27:2S:122:LYS:NZ	2.28	0.59
27:2S:91:ASN:OD1	27:2S:93:THR:HG23	2.03	0.59
47:2m:1513:C:H2'	47:2m:1514:G:C8	2.37	0.59
50:2p:192:TRP:HE1	50:2p:194:PRO:HB3	1.67	0.59
54:2t:161:LEU:HD23	54:2t:161:LEU:H	1.65	0.59
78:3P:8:LEU:HA	78:3P:24:LEU:HD11	1.84	0.59
1:1A:2465:C:H1'	1:1A:3672:G:H1	1.67	0.59
8:1H:157:HIS:HD2	8:1H:187:ARG:HH11	1.49	0.59
17:2I:39:GLU:OE2	17:2I:107:GLY:N	2.27	0.59
47:2m:671:A:H4'	47:2m:672:A:H5''	1.84	0.59
47:2m:915:G:OP2	47:2m:915:G:N2	2.32	0.59
61:20:6:VAL:HG12	61:20:135:ALA:HB2	1.84	0.59
68:3F:148:SER:OG	68:3F:171:ASP:OD1	2.18	0.59
77:3O:58:LEU:O	77:3O:62:VAL:HG22	2.02	0.59
1:1A:2745:A:H2'	1:1A:2746:A:H8	1.66	0.59
1:1A:5006:U:H4'	1:1A:5007:A:H5'	1.85	0.59
11:2C:74:CYS:O	11:2C:78:GLN:HG3	2.01	0.59
12:2D:55:ASP:O	12:2D:56:GLU:HG2	2.02	0.59
13:2E:85:LYS:CB	13:2E:115:LEU:HD11	2.33	0.59
28:2T:89:ILE:HD12	28:2T:89:ILE:O	2.02	0.59
32:2X:24:GLU:OE2	32:2X:87:ARG:NH2	2.34	0.59
33:2Y:8:VAL:HG12	33:2Y:10:PRO:HD3	1.83	0.59
47:2m:101:U:H5''	54:2t:19:LYS:HD2	1.84	0.59
47:2m:339:A:H4'	47:2m:340:C:O5'	2.01	0.59
47:2m:1227:G:N2	47:2m:1635:C:O2'	2.36	0.59
47:2m:1232:U:H2'	47:2m:1233:G:C8	2.37	0.59
48:2n:120:ARG:HD2	69:3G:266:TYR:HB3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:2p:33:GLY:HA3	50:2p:53:THR:CG2	2.32	0.59
60:2z:1:MET:O	60:2z:1:MET:SD	2.60	0.59
61:20:5:THR:O	61:20:135:ALA:HB1	2.03	0.59
80:3R:107:LYS:HE2	80:3R:117:LEU:HD11	1.83	0.59
1:1A:989:U:O2'	1:1A:990:C:O4'	2.20	0.59
1:1A:4546:A:N7	4:1D:215:ASN:ND2	2.51	0.59
7:1G:238:GLU:HA	7:1G:241:LYS:HB2	1.85	0.59
20:2L:172:ARG:NH2	47:2m:909:G:OP2	2.36	0.59
47:2m:382:C:H2'	47:2m:383:G:H8	1.67	0.59
47:2m:639:C:H2'	47:2m:640:A:C8	2.37	0.59
47:2m:1513:C:H2'	47:2m:1514:G:H8	1.66	0.59
47:2m:1673:U:OP1	58:2x:79:ALA:N	2.34	0.59
75:3M:11:LEU:HD12	75:3M:74:VAL:HB	1.85	0.59
1:1A:128:C:H2'	1:1A:129:C:C6	2.37	0.59
5:1E:217:ILE:HD12	5:1E:347:LEU:HB3	1.85	0.59
9:2A:114:LEU:HD21	9:2A:121:THR:HG22	1.84	0.59
47:2m:73:C:H42	70:3H:170:ARG:HH22	1.51	0.59
47:2m:616:A:H1'	79:3Q:12:VAL:HG23	1.85	0.59
47:2m:1413:G:N1	47:2m:1433:C:O2	2.36	0.59
57:2w:60:LEU:O	57:2w:64:LYS:HG2	2.01	0.59
58:2x:19:ALA:HB2	58:2x:75:GLY:HA3	1.84	0.59
62:21:67:LYS:HB2	62:21:78:ASP:HB2	1.85	0.59
1:1A:2299:G:O2'	1:1A:2300:A:OP1	2.17	0.59
53:2s:43:LEU:HD13	53:2s:72:PHE:CE1	2.38	0.59
66:3D:15:THR:HG22	66:3D:16:LYS:H	1.67	0.59
76:3N:27:VAL:HG21	76:3N:40:ILE:HD13	1.84	0.59
1:1A:1942:A:H2'	1:1A:1943:A:H8	1.66	0.59
1:1A:4322:G:N2	1:1A:4325:A:OP2	2.32	0.59
2:1B:92:C:OP1	81:2D:301:84G:O	2.20	0.59
11:2C:8:GLN:HG2	11:2C:74:CYS:SG	2.43	0.59
15:2G:25:VAL:HG21	15:2G:38:VAL:HG13	1.84	0.59
27:2S:34:LEU:HD23	27:2S:38:LEU:HB3	1.84	0.59
47:2m:453:C:O2'	70:3H:92:ARG:O	2.19	0.59
54:2t:34:ALA:HB2	54:2t:56:ARG:HH11	1.68	0.59
1:1A:4075:U:OP1	10:2B:249:ARG:NH2	2.36	0.59
33:2Y:91:CYS:O	33:2Y:93:LYS:N	2.36	0.59
47:2m:495:U:OP1	51:2q:49:ARG:NH1	2.35	0.59
56:2v:30:LYS:HG3	56:2v:30:LYS:O	2.02	0.59
68:3F:247:TRP:HB3	68:3F:258:ILE:HG23	1.85	0.59
74:3L:34:PHE:CE1	74:3L:36:SER:HB3	2.38	0.59
76:3N:21:LYS:HD2	76:3N:75:ILE:HD11	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:923:C:H2'	1:1A:925:C:H5	1.68	0.59
1:1A:1686:C:O2'	30:2V:18:ARG:NH1	2.35	0.59
1:1A:3877:A:N3	1:1A:4401:G:O2'	2.30	0.59
2:1B:120:U:H2'	7:1G:258:LYS:HE2	1.85	0.59
47:2m:1748:G:O6	47:2m:1786:U:O4	2.20	0.59
50:2p:64:ARG:O	50:2p:68:GLU:HG3	2.02	0.59
55:2u:3:MET:HE1	55:2u:44:HIS:O	2.02	0.59
62:21:64:THR:HG23	62:21:79:ARG:HG3	1.84	0.59
68:3F:42:MET:CE	68:3F:59:LEU:HD23	2.33	0.59
74:3L:130:GLU:HA	74:3L:130:GLU:OE1	2.03	0.59
1:1A:262:G:H2'	1:1A:263:G:H8	1.68	0.58
1:1A:4894:A:OP2	17:2I:188:LYS:NZ	2.32	0.58
13:2E:89:VAL:HG22	13:2E:115:LEU:HB2	1.82	0.58
29:2U:88:VAL:O	29:2U:92:LYS:HG3	2.02	0.58
52:2r:67:PRO:HD2	52:2r:70:GLU:OE1	2.03	0.58
66:3D:18:LEU:HD11	66:3D:31:ARG:HB2	1.83	0.58
70:3H:50:VAL:HG21	70:3H:111:LEU:HD23	1.84	0.58
72:3J:31:LEU:HD22	72:3J:112:LYS:H	1.67	0.58
74:3L:14:VAL:C	74:3L:15:ILE:HG12	2.26	0.58
74:3L:14:VAL:HB	74:3L:17:LEU:HG	1.85	0.58
1:1A:2848:G:O2'	1:1A:3838:U:O4	2.14	0.58
10:2B:246:SER:O	10:2B:250:ILE:HG23	2.03	0.58
17:2I:109:PRO:HB2	17:2I:111:PRO:HD2	1.85	0.58
22:2N:94:GLU:OE1	22:2N:94:GLU:N	2.20	0.58
43:2i:41:TYR:CE2	81:2i:201:84G:O7	2.55	0.58
47:2m:1521:C:N4	60:2z:137:LYS:HD2	2.19	0.58
64:3B:18:ARG:HH11	64:3B:18:ARG:CG	2.16	0.58
70:3H:79:LYS:HB2	70:3H:86:PRO:HG3	1.85	0.58
1:1A:2544:G:OP2	1:1A:2546:G:N2	2.37	0.58
47:2m:1277:C:H2'	47:2m:1278:A:C8	2.38	0.58
62:21:68:THR:O	67:3E:40:ARG:NH1	2.36	0.58
64:3B:125:VAL:HG12	64:3B:130:LEU:HD13	1.86	0.58
72:3J:42:LEU:HD22	72:3J:69:LEU:HD22	1.85	0.58
74:3L:34:PHE:HB3	74:3L:41:PHE:HB2	1.84	0.58
1:1A:691:C:OP2	8:1H:114:ARG:NH2	2.35	0.58
1:1A:2580:U:O2'	28:2T:79:HIS:ND1	2.31	0.58
16:2H:158:HIS:HD1	16:2H:161:MET:HE3	1.69	0.58
28:2T:92:ASP:C	28:2T:92:ASP:OD1	2.46	0.58
30:2V:114:LYS:O	30:2V:118:LEU:HB2	2.04	0.58
47:2m:1743:G:H21	47:2m:1791:A:H62	1.51	0.58
58:2x:21:ALA:HB2	58:2x:72:VAL:HG13	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:2z:14:ARG:NH2	60:2z:16:LEU:O	2.29	0.58
68:3F:22:ALA:HB3	68:3F:32:LEU:HG	1.86	0.58
68:3F:42:MET:HE1	68:3F:59:LEU:HD23	1.85	0.58
1:1A:268:G:H2'	1:1A:269:G:H8	1.68	0.58
1:1A:1378:C:H5	14:2F:159:ASN:H	1.50	0.58
1:1A:4927:G:OP2	1:1A:4927:G:N2	2.31	0.58
10:2B:254:GLU:HA	10:2B:254:GLU:OE2	2.02	0.58
11:2C:92:MET:HE2	11:2C:179:ILE:HG22	1.84	0.58
13:2E:117:ILE:C	13:2E:117:ILE:HD12	2.29	0.58
20:2L:173:ARG:HA	20:2L:176:ARG:HE	1.69	0.58
25:2Q:80:ARG:NH2	70:3H:129:VAL:O	2.36	0.58
46:2l:60:ARG:HB2	46:2l:61:PRO:HD3	1.86	0.58
47:2m:1587:G:C6	61:20:67:ARG:HD2	2.38	0.58
47:2m:1623:A:O4'	60:2z:133:GLY:HA3	2.03	0.58
50:2p:132:LYS:HD2	50:2p:189:MET:HE2	1.84	0.58
59:2y:24:LEU:CD1	59:2y:58:MET:HE1	2.31	0.58
70:3H:137:ARG:O	70:3H:141:ILE:HG22	2.03	0.58
1:1A:362:A:N6	40:2f:37:TYR:O	2.36	0.58
1:1A:935:A:O2'	15:2G:44:GLN:O	2.19	0.58
1:1A:4600:G:H4'	1:1A:4601:U:O5'	2.03	0.58
10:2B:121:LYS:CA	10:2B:121:LYS:CE	2.81	0.58
10:2B:235:ARG:HB3	10:2B:235:ARG:CZ	2.32	0.58
14:2F:80:GLU:OE2	14:2F:102:ARG:NH2	2.36	0.58
46:2l:145:VAL:HG23	46:2l:146:ALA:N	2.19	0.58
48:2n:123:VAL:HG22	48:2n:145:ILE:HB	1.83	0.58
52:2r:179:ASN:HD21	52:2r:186:ASN:HB3	1.68	0.58
75:3M:14:ILE:HG13	75:3M:27:ILE:HD11	1.85	0.58
1:1A:4966:A:H5'	5:1E:128:LYS:HG3	1.84	0.58
21:2M:13:VAL:HG22	21:2M:29:ARG:HB2	1.85	0.58
47:2m:124:U:OP1	51:2q:148:ARG:NH1	2.35	0.58
47:2m:963:A:H2'	47:2m:964:A:C8	2.39	0.58
1:1A:93:G:H2'	1:1A:94:A:C8	2.38	0.58
16:2H:138:PHE:HA	16:2H:143:ARG:HD2	1.84	0.58
1:1A:4910:G:H4'	5:1E:95:THR:HG22	1.84	0.58
1:1A:4989:U:H1'	1:1A:4990:C:H5	1.69	0.58
14:2F:142:GLU:OE1	14:2F:142:GLU:N	2.37	0.58
23:2O:98:ASP:OD1	23:2O:98:ASP:N	2.37	0.58
61:20:75:MET:HE2	61:20:75:MET:CA	2.11	0.58
70:3H:18:VAL:HG11	70:3H:24:LEU:HD21	1.86	0.58
1:1A:2745:A:H2'	1:1A:2746:A:C8	2.39	0.58
4:1D:229:ALA:HB3	4:1D:234:LYS:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:114:G:H1'	47:2m:383:G:O4'	2.04	0.58
47:2m:1693:G:N2	47:2m:1834:A:H8	2.02	0.58
52:2r:87:LEU:CD2	58:2x:47:LEU:HD11	2.34	0.58
1:1A:1339:U:H2'	1:1A:1340:C:C6	2.39	0.57
1:1A:1629:G:H1	4:1D:208:GLU:HG2	1.69	0.57
1:1A:2318:G:N2	1:1A:2321:G:OP2	2.29	0.57
1:1A:2520:C:O2	1:1A:2640:G:N2	2.37	0.57
1:1A:4635:A:OP1	1:1A:4636:U:O2'	2.22	0.57
5:1E:133:TYR:O	5:1E:136:LYS:HG2	2.04	0.57
7:1G:205:ALA:CB	7:1G:236:MET:HE2	2.29	0.57
23:2O:78:PHE:HZ	23:2O:83:LEU:HD21	1.69	0.57
39:2e:5:ILE:HD11	39:2e:43:TYR:HB3	1.85	0.57
47:2m:1403:C:OP2	47:2m:1405:A:N6	2.31	0.57
58:2x:47:LEU:HD12	58:2x:47:LEU:N	2.19	0.57
74:3L:74:ALA:HB1	74:3L:115:ALA:HB2	1.86	0.57
1:1A:3766:A:N3	1:1A:3766:A:H3'	2.20	0.57
1:1A:4635:A:H8	1:1A:5048:A:H61	1.51	0.57
5:1E:393:LYS:HG3	5:1E:396:ARG:HH21	1.69	0.57
10:2B:137[A]:ARG:HD2	10:2B:146:LEU:HD11	1.86	0.57
12:2D:21:ARG:O	12:2D:24:ARG:NH1	2.35	0.57
49:2o:225:LEU:HD13	49:2o:225:LEU:C	2.29	0.57
61:20:63:HIS:HE1	61:20:78:ILE:HG12	1.69	0.57
1:1A:4274:A:H2'	1:1A:4275:G:H8	1.70	0.57
1:1A:4768:G:O5'	1:1A:4874:A:N6	2.38	0.57
81:1A:5103:84G:O8	81:1A:5103:84G:O5	2.22	0.57
22:2N:111:GLU:OE1	22:2N:115:LYS:HG3	2.04	0.57
31:2W:16:SER:O	31:2W:19:GLN:HG3	2.04	0.57
32:2X:64:ILE:HG23	32:2X:68:LEU:HD23	1.86	0.57
47:2m:944:A:H1'	74:3L:136:PRO:HB3	1.85	0.57
52:2r:35:LEU:HD11	52:2r:146:ARG:HD3	1.85	0.57
58:2x:43:GLU:OE1	58:2x:44:PRO:HD2	2.03	0.57
70:3H:63:MET:HE1	70:3H:98:ARG:HD3	1.86	0.57
1:1A:418:A:N6	3:1C:16:G:H1'	2.19	0.57
1:1A:1437:C:O2'	1:1A:2099:G:OP2	2.21	0.57
1:1A:4194:U:O2'	12:2D:116:ARG:NH2	2.36	0.57
46:2l:68:LEU:CD2	46:2l:83:PRO:O	2.48	0.57
47:2m:1562:C:H2'	47:2m:1563:G:C8	2.40	0.57
50:2p:50:ILE:HD11	50:2p:86:LEU:HD11	1.86	0.57
52:2r:193:LYS:O	52:2r:197:GLU:HG3	2.03	0.57
53:2s:53:VAL:HG21	53:2s:172:THR:HA	1.86	0.57
56:2v:88:ILE:HD11	56:2v:109:MET:HE3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:2x:43:GLU:HG2	58:2x:44:PRO:CD	2.12	0.57
1:1A:138:G:H2'	1:1A:139:G:H8	1.69	0.57
1:1A:406:C:O2'	1:1A:407:A:OP1	2.23	0.57
1:1A:3766:A:H5''	47:2m:1849:G:O6	2.04	0.57
61:20:23:LYS:HA	61:20:54:TYR:HE2	1.69	0.57
65:3C:38:LYS:HG2	65:3C:71:LEU:HB2	1.87	0.57
74:3L:53:ILE:HG23	74:3L:88:LEU:HD22	1.86	0.57
1:1A:4670:C:O2'	1:1A:4672:A:OP2	2.20	0.57
5:1E:57:VAL:HG22	5:1E:73:VAL:HG22	1.86	0.57
12:2D:103:LEU:HD21	12:2D:106:ALA:O	2.04	0.57
13:2E:93:GLU:OE1	13:2E:173:ILE:CD1	2.50	0.57
16:2H:123:GLU:O	16:2H:124:ASP:HB2	2.04	0.57
44:2j:32:SER:OG	44:2j:69:TRP:O	2.22	0.57
49:2o:32:ASP:OD1	49:2o:95:ASN:ND2	2.35	0.57
68:3F:124:SER:OG	68:3F:126:ASP:OD1	2.15	0.57
76:3N:76:TYR:CD2	76:3N:82:ALA:HA	2.39	0.57
1:1A:1332:C:H2'	1:1A:1333:A:C8	2.37	0.57
5:1E:289:GLN:OE1	5:1E:301:ASN:ND2	2.38	0.57
13:2E:63:ARG:CZ	43:2i:106:PHE:HB2	2.33	0.57
31:2W:78:ASN:HB2	31:2W:90:ARG:HB3	1.87	0.57
42:2h:10:MET:HE2	47:2m:1172:U:H5''	1.87	0.57
47:2m:1488:C:O2'	47:2m:1490:G:OP2	2.12	0.57
50:2p:134:CYS:SG	50:2p:135:GLU:N	2.78	0.57
77:3O:47:LEU:HD11	77:3O:50:PHE:CD1	2.34	0.57
77:3O:99:LEU:HD12	77:3O:102:LYS:HB2	1.86	0.57
1:1A:277:G:O2'	37:2c:30:ARG:NH1	2.37	0.57
1:1A:2102:G:H1'	1:1A:2103:G:C8	2.39	0.57
1:1A:3732:A:H2'	1:1A:3733:A:H8	1.69	0.57
4:1D:245:ARG:CZ	4:1D:245:ARG:HB2	2.35	0.57
12:2D:75:TYR:HD2	12:2D:151:ALA:HB2	1.70	0.57
25:2Q:46:PRO:HB2	25:2Q:52:THR:HG21	1.86	0.57
47:2m:744:G:C6	53:2s:107:LYS:HD3	2.16	0.57
47:2m:1228:A:H2'	47:2m:1229:G:H8	1.69	0.57
47:2m:1421:A:C2'	61:20:3:GLY:N	2.67	0.57
47:2m:1758:G:H21	47:2m:1775:U:H3	1.53	0.57
60:2z:68:ILE:HA	60:2z:71:MET:HE2	1.87	0.57
61:20:39:LEU:HD21	61:20:56:ARG:HH22	1.69	0.57
68:3F:65:PHE:O	68:3F:83:TRP:N	2.36	0.57
1:1A:451:C:H3'	1:1A:1294:A:H2	1.70	0.57
1:1A:1577:G:O2'	1:1A:1612:G:H4'	2.05	0.57
10:2B:55:VAL:HG12	26:2R:44:PRO:HA	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:2D:111:LEU:CD2	12:2D:116:ARG:HH11	2.16	0.57
36:2b:22:ASP:OD1	36:2b:23:ASP:N	2.38	0.57
47:2m:1617:G:H4'	67:3E:14:PHE:CZ	2.40	0.57
47:2m:1845:A:H2'	47:2m:1846:G:C8	2.39	0.57
48:2n:14:ASP:HA	48:2n:17:LYS:HG3	1.87	0.57
54:2t:106:SER:HB3	54:2t:171:LEU:HG	1.87	0.57
68:3F:111:VAL:O	68:3F:155:ARG:NH2	2.38	0.57
68:3F:304:ASP:OD2	68:3F:306:LEU:HB2	2.05	0.57
71:3I:25:LEU:HD23	71:3I:40:LYS:NZ	2.20	0.57
1:1A:153:G:H2'	1:1A:154:G:H8	1.69	0.57
1:1A:1503:A:H4'	1:1A:1504:G:H5'	1.87	0.57
1:1A:1604:G:H2'	1:1A:1605:G:C8	2.40	0.57
32:2X:33:ILE:HD11	32:2X:45:ALA:HA	1.86	0.57
37:2c:51:ALA:HB3	37:2c:54:GLU:HG3	1.86	0.57
39:2e:12:LEU:HB3	39:2e:16:ARG:HH12	1.70	0.57
47:2m:1016:U:H5''	73:3K:14:SER:HB3	1.86	0.57
47:2m:1203:G:H4'	69:3G:116:THR:HA	1.86	0.57
55:2u:14:LEU:HA	55:2u:17:LYS:HG2	1.87	0.57
1:1A:216:C:OP2	1:1A:219:G:O2'	2.22	0.56
1:1A:2583:C:OP2	35:2a:76:ARG:NH1	2.35	0.56
6:1F:140:LYS:O	6:1F:204:ARG:NH2	2.38	0.56
8:1H:88:VAL:O	8:1H:89:LEU:HG	2.05	0.56
9:2A:171:ASP:OD1	9:2A:172:ASN:N	2.37	0.56
13:2E:32:ARG:HH11	13:2E:32:ARG:HG3	1.70	0.56
47:2m:144:U:OP1	70:3H:139:SER:OG	2.22	0.56
47:2m:1446:A:HO2'	47:2m:1447:G:H8	1.52	0.56
47:2m:1776:G:H2'	47:2m:1777:G:C8	2.40	0.56
56:2v:111:VAL:HG12	56:2v:140:PHE:HB2	1.87	0.56
1:1A:444:G:H22	1:1A:1303:A:H2	1.52	0.56
1:1A:1646:A:O2'	38:2d:49:TRP:O	2.21	0.56
1:1A:3868:G:H22	1:1A:3900:G:H1'	1.70	0.56
1:1A:4281:A:H2'	1:1A:4282:A:H2'	1.86	0.56
1:1A:4323:A:C4	7:1G:160:PHE:HE1	2.24	0.56
7:1G:254:GLU:OE1	7:1G:254:GLU:N	2.38	0.56
22:2N:85:LEU:HD13	22:2N:87:LYS:HD3	1.87	0.56
26:2R:64:SER:OG	36:2b:82:ASP:OD2	2.18	0.56
74:3L:44:VAL:HG12	74:3L:54:CYS:O	2.04	0.56
1:1A:1684:A:OP1	29:2U:47:LYS:NZ	2.39	0.56
1:1A:1818:G:OP2	1:1A:1818:G:N2	2.27	0.56
7:1G:65:ALA:HB2	7:1G:74:ILE:HD13	1.87	0.56
8:1H:106:VAL:HG23	8:1H:106:VAL:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:2k:105:ASP:OD1	45:2k:105:ASP:N	2.39	0.56
47:2m:628:A:N7	50:2p:145:GLN:NE2	2.53	0.56
47:2m:1259:A:H62	47:2m:1518:C:H3'	1.70	0.56
47:2m:1421:A:N6	47:2m:1426:U:O4	2.38	0.56
50:2p:48:ILE:HB	50:2p:86:LEU:HD22	1.86	0.56
61:20:114:GLU:HA	61:20:114:GLU:OE1	2.05	0.56
70:3H:181:THR:HG22	70:3H:183:ARG:H	1.70	0.56
71:3I:153:SER:O	71:3I:153:SER:OG	2.22	0.56
76:3N:110:ARG:HD2	76:3N:130:LYS:HB2	1.87	0.56
1:1A:62:A:N3	1:1A:77:U:O2'	2.34	0.56
1:1A:307:A:N3	1:1A:310:G:O2'	2.32	0.56
1:1A:1961:G:N2	1:1A:2024:G:O2'	2.35	0.56
1:1A:4056:A:H2'	1:1A:4057:C:C5	2.40	0.56
1:1A:4734:A:H2'	1:1A:4735:G:H8	1.70	0.56
17:2I:125:LYS:HG3	17:2I:129:LEU:HD12	1.87	0.56
47:2m:688:U:H4'	47:2m:689:U:O5'	2.06	0.56
48:2n:89:LYS:HE2	48:2n:201:LEU:HD11	1.86	0.56
52:2r:168:THR:HG23	52:2r:171:GLU:H	1.69	0.56
75:3M:18:GLU:OE1	75:3M:18:GLU:C	2.49	0.56
1:1A:2846:G:O2'	24:2P:19:GLY:O	2.20	0.56
5:1E:394:LYS:HG2	5:1E:395:ASP:N	2.18	0.56
8:1H:244:GLU:OE1	8:1H:244:GLU:HA	2.05	0.56
46:2I:67:VAL:HG21	46:2I:111:LEU:N	2.21	0.56
61:20:6:VAL:HG22	61:20:65:TYR:CE2	2.31	0.56
67:3E:6:LEU:HD22	67:3E:6:LEU:N	2.20	0.56
1:1A:4933:C:H2'	1:1A:4934:A:C8	2.41	0.56
7:1G:75:VAL:O	7:1G:112:ARG:NH1	2.39	0.56
10:2B:26:LYS:HG3	10:2B:28:VAL:HG13	1.87	0.56
11:2C:51:LYS:HD3	11:2C:51:LYS:N	2.20	0.56
17:2I:31:ARG:O	17:2I:33:VAL:HG23	2.06	0.56
18:2J:48:LEU:HD23	18:2J:92:LEU:HG	1.88	0.56
23:2O:72:VAL:O	23:2O:72:VAL:HG12	2.06	0.56
47:2m:1293:A:H5'	80:3R:138:ARG:HH21	1.70	0.56
72:3J:36:ARG:NH1	72:3J:36:ARG:O	2.39	0.56
1:1A:989:U:O2	1:1A:1064:G:O6	2.23	0.56
10:2B:162:ASP:HB3	10:2B:163:PRO:HD3	1.88	0.56
47:2m:197:U:H3	47:2m:202:G:H1	1.54	0.56
58:2x:42:ILE:CG1	58:2x:43:GLU:H	2.03	0.56
60:2z:25:LYS:HA	60:2z:55:ARG:HA	1.88	0.56
76:3N:20:ARG:HD2	76:3N:74:MET:HG2	1.87	0.56
1:1A:1933:G:H2'	1:1A:1934:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:4771:C:OP2	1:1A:4772:C:N4	2.38	0.56
1:1A:4913:G:H4'	1:1A:4914:C:O5'	2.06	0.56
11:2C:147:GLU:HA	11:2C:147:GLU:OE1	2.06	0.56
46:2l:172:VAL:O	46:2l:174:MET:HG3	2.06	0.56
47:2m:786:G:OP2	70:3H:231:ARG:NE	2.39	0.56
53:2s:191:GLU:O	53:2s:193:GLN:NE2	2.26	0.56
56:2v:30:LYS:O	56:2v:30:LYS:CG	2.54	0.56
69:3G:263:LYS:HB3	69:3G:267:GLN:NE2	2.20	0.56
2:1B:30:C:N3	2:1B:48:G:N1	2.51	0.56
17:2l:158:GLU:O	17:2l:162:GLU:HG2	2.06	0.56
20:2L:154:LEU:O	20:2L:158:GLN:HG3	2.05	0.56
23:2O:27:HIS:HB3	23:2O:114:TYR:HE2	1.71	0.56
47:2m:24:C:HO2'	47:2m:25:A:H8	1.52	0.56
47:2m:170:A:H5'	70:3H:137:ARG:HG3	1.87	0.56
47:2m:619:A:N6	64:3B:114:ASP:OD1	2.38	0.56
47:2m:1541:G:OP1	61:20:56:ARG:NE	2.29	0.56
1:1A:4291:G:H5''	1:1A:4293:U:C6	2.41	0.56
7:1G:86:TYR:CD1	7:1G:86:TYR:C	2.84	0.56
13:2E:85:LYS:HB3	13:2E:115:LEU:CG	2.35	0.56
36:2b:6:ALA:O	36:2b:10:ARG:HG3	2.06	0.56
43:2i:26:TYR:HB3	43:2i:67:VAL:HB	1.88	0.56
46:2l:54:ARG:HA	46:2l:154:THR:HG21	1.88	0.56
52:2r:100:ILE:HD12	52:2r:178:ILE:HG12	1.88	0.56
1:1A:1827:C:H1'	30:2V:50:ASN:HD21	1.71	0.55
1:1A:3640:U:OP1	81:1A:5112:84G:N3	2.39	0.55
6:1F:209:ILE:HB	6:1F:229:LEU:HD13	1.88	0.55
13:2E:30:GLY:O	13:2E:34:THR:HG22	2.05	0.55
30:2V:54:LEU:HD22	30:2V:58:GLN:OE1	2.06	0.55
30:2V:98:TYR:CE1	30:2V:104:LEU:HB3	2.41	0.55
47:2m:153:G:N3	70:3H:13:GLN:NE2	2.53	0.55
47:2m:509:G:OP1	71:3l:2:PRO:HA	2.07	0.55
47:2m:1270:G:O2'	47:2m:1301:A:N7	2.39	0.55
47:2m:1608:U:O4	47:2m:1632:G:N2	2.39	0.55
48:2n:11:LYS:HA	48:2n:11:LYS:HE3	1.88	0.55
50:2p:50:ILE:HG12	50:2p:86:LEU:HD12	1.88	0.55
67:3E:5:GLN:HB3	67:3E:6:LEU:CD2	2.35	0.55
79:3Q:8:ARG:HG3	79:3Q:8:ARG:O	2.07	0.55
1:1A:1754:U:H2'	1:1A:1755:C:C6	2.41	0.55
1:1A:1867:A:OP1	12:2D:13:LYS:NZ	2.31	0.55
14:2F:100:PRO:O	37:2c:25:ARG:NH2	2.40	0.55
47:2m:525:A:H5''	79:3Q:32:ALA:HB2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1608:U:OP1	60:2z:134:GLN:NE2	2.39	0.55
47:2m:1628:C:OP1	61:20:38:LYS:NZ	2.33	0.55
58:2x:43:GLU:OE1	58:2x:44:PRO:CD	2.54	0.55
71:3I:158:ASP:N	71:3I:158:ASP:OD1	2.38	0.55
76:3N:83:LYS:O	76:3N:83:LYS:HD3	2.06	0.55
1:1A:73:A:H5''	14:2F:105:LYS:HD3	1.87	0.55
1:1A:3709:U:H5'	1:1A:3710:G:OP2	2.07	0.55
1:1A:4699:U:H1'	1:1A:4700:A:H5''	1.87	0.55
46:2l:67:VAL:CG2	46:2l:111:LEU:N	2.66	0.55
47:2m:640:A:H2'	47:2m:641:A:C8	2.41	0.55
51:2q:44:LEU:HD13	51:2q:72:ILE:HD11	1.87	0.55
64:3B:109:GLY:O	64:3B:119:ARG:NH1	2.39	0.55
1:1A:442:G:OP1	34:2Z:68:ARG:NH1	2.38	0.55
1:1A:4327:C:OP1	22:2N:70:HIS:NE2	2.39	0.55
3:1C:67:U:H2'	3:1C:68:G:H8	1.72	0.55
5:1E:200:ARG:HG2	5:1E:200:ARG:HH11	1.70	0.55
7:1G:278:ASP:C	7:1G:278:ASP:OD1	2.49	0.55
47:2m:17:C:H2'	47:2m:18:C:C6	2.41	0.55
47:2m:1524:G:N7	60:2z:141:ARG:NH2	2.54	0.55
69:3G:146:GLU:OE1	69:3G:146:GLU:HA	2.06	0.55
71:3I:49:THR:O	71:3I:53:ILE:HG13	2.06	0.55
1:1A:4288:C:O2'	1:1A:4321:U:OP1	2.24	0.55
1:1A:4591:U:H2'	1:1A:4592:C:C6	2.42	0.55
46:2l:64:SER:HG	46:2l:107:TYR:HH	1.55	0.55
57:2w:56:LEU:HD22	57:2w:80:LEU:HD11	1.87	0.55
1:1A:106:A:H1'	1:1A:336:A:H8	1.71	0.55
1:1A:654:C:H5'	6:1F:268:ARG:NH2	2.14	0.55
1:1A:709:C:OP1	34:2Z:46:ARG:NH2	2.40	0.55
1:1A:1756:U:O2'	1:1A:1758:G:OP2	2.24	0.55
8:1H:72:LYS:HG3	30:2V:119:CYS:HB2	1.88	0.55
13:2E:12:MET:HA	13:2E:12:MET:HE3	1.87	0.55
15:2G:118:MET:O	15:2G:122:ILE:HD12	2.06	0.55
39:2e:32:VAL:CG2	39:2e:50:LYS:NZ	2.70	0.55
52:2r:32:ASP:OD2	52:2r:34:SER:OG	2.24	0.55
69:3G:79:GLU:H	69:3G:79:GLU:CD	2.12	0.55
1:1A:280:G:H5''	16:2H:14:LYS:HE2	1.88	0.55
1:1A:4504:C:H2'	1:1A:4505:C:C6	2.42	0.55
8:1H:74:SER:HA	30:2V:117:ARG:HG2	1.89	0.55
10:2B:220:GLU:CD	10:2B:220:GLU:H	2.15	0.55
13:2E:89:VAL:HG21	13:2E:115:LEU:CB	2.37	0.55
47:2m:1157:G:O2'	75:3M:76:SER:N	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:3M:60:LYS:NZ	78:3P:23:ARG:O	2.36	0.55
3:1C:82:A:N6	3:1C:85:U:OP1	2.33	0.55
4:1D:65:ASP:OD2	4:1D:72:ARG:NE	2.40	0.55
8:1H:222:LEU:HD12	8:1H:222:LEU:O	2.06	0.55
10:2B:167:VAL:HG12	10:2B:170:LEU:HD12	1.88	0.55
15:2G:25:VAL:CG2	15:2G:38:VAL:HG13	2.37	0.55
47:2m:527:C:H2'	47:2m:528:A:C8	2.41	0.55
51:2q:69:PHE:CE1	76:3N:17:LEU:HD12	2.41	0.55
75:3M:28:ARG:HB3	75:3M:29:PRO:HD2	1.89	0.55
1:1A:2520:C:H2'	1:1A:2521:G:H8	1.72	0.55
1:1A:3720:G:H22	1:1A:3733:A:H2	1.55	0.55
1:1A:3950:U:H3	1:1A:4064:C:H42	1.55	0.55
1:1A:4760:G:N2	1:1A:4766:C:OP1	2.39	0.55
4:1D:130:SER:HB2	4:1D:171:GLY:HA3	1.88	0.55
13:2E:32:ARG:HE	13:2E:126:TYR:HE1	1.54	0.55
47:2m:989:C:OP2	49:2o:155:TYR:OH	2.20	0.55
48:2n:135:THR:O	48:2n:138:SER:OG	2.24	0.55
54:2t:117:TYR:HB3	54:2t:119:LEU:HD12	1.88	0.55
58:2x:38:PRO:HD2	58:2x:41:MET:HB2	1.89	0.55
59:2y:41:ILE:HG21	59:2y:46:LEU:HD12	1.86	0.55
73:3K:142:GLU:OE1	73:3K:142:GLU:HA	2.07	0.55
76:3N:94:HIS:O	76:3N:96:LEU:HD12	2.06	0.55
1:1A:703:G:H2'	1:1A:704:C:H4'	1.87	0.55
1:1A:3911:C:H2'	1:1A:3912:U:H6	1.72	0.55
47:2m:224:A:H2'	47:2m:225:G:O4'	2.08	0.55
47:2m:528:A:H2'	47:2m:529:A:H8	1.71	0.55
47:2m:550:C:H2'	47:2m:551:U:C6	2.42	0.55
53:2s:76:GLN:HE22	53:2s:94:PHE:HB2	1.72	0.55
56:2v:149:ALA:HB1	73:3K:133:ARG:HH12	1.72	0.55
1:1A:1095:A:H2	1:1A:1200:G:H1	1.55	0.54
1:1A:4279:A:H5'	1:1A:4281:A:H1'	1.89	0.54
46:2l:157:PHE:HB3	46:2l:167:VAL:HG21	1.89	0.54
47:2m:957:A:O2'	47:2m:958:G:N3	2.28	0.54
47:2m:1277:C:OP1	55:2u:51:SER:OG	2.24	0.54
53:2s:91:HIS:CD2	53:2s:169:LYS:HD3	2.42	0.54
57:2w:57:LEU:HA	57:2w:60:LEU:HD12	1.88	0.54
62:2l:67:LYS:HG3	62:2l:67:LYS:O	2.06	0.54
70:3H:32:MET:HE1	70:3H:100:CYS:HA	1.89	0.54
77:3O:77:LEU:HD12	77:3O:78:LYS:H	1.71	0.54
1:1A:162:A:H2'	1:1A:163:A:H8	1.72	0.54
1:1A:499:G:H2'	1:1A:504:G:N2	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:1952:G:OP1	21:2M:139:ARG:NE	2.37	0.54
1:1A:4474:A:H2'	1:1A:4476:C:H5''	1.89	0.54
46:2l:50:SER:HA	46:2l:159:MET:CE	2.36	0.54
47:2m:380:G:N1	47:2m:383:G:OP2	2.27	0.54
47:2m:1244:U:H2'	47:2m:1245:G:H8	1.73	0.54
47:2m:1533:A:H62	47:2m:1602:U:H3	1.54	0.54
48:2n:50:ASN:HB3	48:2n:53:ARG:HG2	1.90	0.54
68:3F:215:GLN:NE2	68:3F:217:MET:HE3	2.22	0.54
76:3N:110:ARG:O	76:3N:114:MET:HG2	2.07	0.54
1:1A:2297:G:H5'	6:1F:205:ARG:HG2	1.88	0.54
1:1A:3722:G:H2'	1:1A:3723:A:C8	2.42	0.54
1:1A:3963:A:H8	1:1A:3965:A:OP2	1.90	0.54
6:1F:317:ASN:HD22	6:1F:320:LYS:HE2	1.73	0.54
46:2l:159:MET:HA	46:2l:165:LEU:HD11	1.89	0.54
47:2m:1254:C:H4'	62:21:75:LYS:HE3	1.89	0.54
75:3M:3:ARG:HH22	75:3M:28:ARG:HH21	1.54	0.54
1:1A:2457:G:N3	1:1A:3672:G:N2	2.55	0.54
1:1A:4233:A:H4'	43:2i:98:LYS:HE2	1.89	0.54
20:2L:163:ARG:HH22	47:2m:872:A:H3'	1.72	0.54
27:2S:37:GLU:H	27:2S:37:GLU:CD	2.14	0.54
46:2l:55:LEU:HD22	46:2l:183:ILE:HG12	1.90	0.54
47:2m:1412:C:H5'	47:2m:1413:G:OP2	2.06	0.54
50:2p:50:ILE:CG1	50:2p:86:LEU:HD12	2.37	0.54
57:2w:55:SER:HA	57:2w:58:LYS:HE3	1.89	0.54
59:2y:24:LEU:HB2	59:2y:58:MET:HE2	1.89	0.54
60:2z:45:LEU:HD22	60:2z:50:ILE:HD11	1.90	0.54
68:3F:87:LEU:HB2	68:3F:101:PHE:HB2	1.90	0.54
70:3H:7:PHE:CZ	70:3H:9:ALA:HB3	2.43	0.54
70:3H:216:ARG:C	70:3H:218:LYS:H	2.16	0.54
1:1A:181:C:H2'	1:1A:182:G:C8	2.41	0.54
1:1A:2111:G:N1	1:1A:2252:G:O4'	2.36	0.54
1:1A:4242:U:H3	1:1A:4281:A:H2	1.54	0.54
1:1A:4522:G:O2'	1:1A:4525:C:OP2	2.20	0.54
18:2J:40:HIS:NE2	18:2J:110:ASP:O	2.37	0.54
24:2P:124:GLU:O	24:2P:128:LEU:HD12	2.07	0.54
47:2m:957:A:O2'	47:2m:958:G:O5'	2.24	0.54
47:2m:1208:A:H2'	47:2m:1209:A:H8	1.72	0.54
47:2m:1533:A:N3	47:2m:1536:G:O2'	2.39	0.54
48:2n:8:LEU:HD23	48:2n:8:LEU:H	1.72	0.54
57:2w:57:LEU:HA	57:2w:60:LEU:CD1	2.37	0.54
62:21:29:VAL:HG23	62:21:30:LYS:HE2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:3F:25:PRO:HG3	68:3F:293:ALA:HB1	1.89	0.54
1:1A:1968:G:OP2	1:1A:1970:A:N6	2.41	0.54
81:1A:5115:84G:O6	81:1A:5115:84G:O4	2.26	0.54
5:1E:14:LEU:O	5:1E:17:LEU:HG	2.07	0.54
47:2m:1612:G:OP1	57:2w:18:ARG:NH2	2.38	0.54
70:3H:37:ALA:HA	70:3H:49:VAL:HG12	1.89	0.54
1:1A:662:C:H2'	1:1A:663:G:C8	2.42	0.54
1:1A:3832:U:H2'	1:1A:3833:C:H6	1.73	0.54
1:1A:4274:A:H2'	1:1A:4275:G:C8	2.41	0.54
1:1A:4753:U:H5	8:1H:279:ASN:H	1.55	0.54
1:1A:4967:A:H2'	1:1A:4968:A:H8	1.73	0.54
4:1D:180:LEU:HD11	44:2j:26:VAL:HG21	1.90	0.54
47:2m:1512:C:HO2'	47:2m:1513:C:H6	1.55	0.54
49:2o:174:ARG:O	49:2o:178:THR:OG1	2.25	0.54
51:2q:122:LYS:NZ	51:2q:143:ASP:OD2	2.39	0.54
54:2t:46:VAL:HG13	54:2t:54:LYS:HG3	1.89	0.54
54:2t:160:SER:HA	54:2t:163:GLU:HG3	1.89	0.54
68:3F:220:ASP:OD2	68:3F:223:GLU:N	2.37	0.54
71:3I:42:GLU:CD	71:3I:42:GLU:N	2.65	0.54
74:3L:45:THR:OG1	74:3L:49:GLY:HA2	2.08	0.54
1:1A:4477:A:H4'	11:2C:174:LYS:HD3	1.89	0.54
11:2C:126:VAL:HG11	11:2C:161:ILE:HG22	1.90	0.54
47:2m:944:A:H5'	74:3L:134:PRO:HB3	1.89	0.54
47:2m:1562:C:H2'	47:2m:1563:G:H8	1.72	0.54
47:2m:1610:G:H2'	47:2m:1611:G:C8	2.42	0.54
61:20:63:HIS:CE1	61:20:78:ILE:HG12	2.43	0.54
65:3C:77:CYS:O	65:3C:81:SER:OG	2.24	0.54
68:3F:225:LYS:HG2	68:3F:226:HIS:H	1.73	0.54
69:3G:165:VAL:HG11	69:3G:217:ALA:HB1	1.89	0.54
76:3N:55:ILE:HD12	76:3N:75:ILE:HG22	1.89	0.54
1:1A:659:G:H2'	1:1A:660:A:H8	1.73	0.54
1:1A:4238:G:H2'	1:1A:4239:A:H8	1.73	0.54
1:1A:4537:C:H2'	1:1A:4538:G:H8	1.73	0.54
3:1C:110:U:O2'	3:1C:111:U:H4'	2.08	0.54
7:1G:182:GLY:HA2	7:1G:194:VAL:HG22	1.90	0.54
8:1H:222:LEU:HB3	8:1H:237:LYS:CG	2.36	0.54
47:2m:986:G:OP2	47:2m:988:C:N4	2.41	0.54
47:2m:1859:A:OP1	65:3C:10:ARG:NH1	2.40	0.54
61:20:130:ASP:HA	61:20:133:ARG:HG2	1.88	0.54
75:3M:93:LEU:HD22	75:3M:102:ILE:HG12	1.90	0.54
1:1A:1508:A:OP1	6:1F:110:ARG:NH2	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:1628:C:H42	4:1D:3:ARG:HH11	1.56	0.54
1:1A:1802:A:H4'	22:2N:105:PHE:CE1	2.42	0.54
1:1A:1872:G:O2'	1:1A:4219:A:N3	2.38	0.54
10:2B:102:TYR:HD2	10:2B:204:PHE:HE1	1.56	0.54
12:2D:55:ASP:OD2	12:2D:164:LYS:HD3	2.08	0.54
13:2E:85:LYS:CB	13:2E:115:LEU:CD1	2.78	0.54
13:2E:175:LEU:N	13:2E:176:PRO:HD2	2.22	0.54
47:2m:51:U:H2'	47:2m:52:G:H8	1.73	0.54
47:2m:1304:U:H5'	80:3R:95:ARG:HB2	1.89	0.54
47:2m:1617:G:N1	47:2m:1620:A:OP2	2.40	0.54
57:2w:130:ARG:CZ	57:2w:130:ARG:HB2	2.37	0.54
68:3F:119:GLN:C	68:3F:120:ILE:HD13	2.33	0.54
71:3I:133:ARG:HH22	76:3N:65:GLY:HA2	1.72	0.54
1:1A:1669:A:H4'	1:1A:1685:G:N2	2.23	0.53
1:1A:2112:G:H4'	1:1A:2251:G:H1	1.73	0.53
13:2E:115:LEU:HD13	13:2E:115:LEU:C	2.33	0.53
28:2T:90:PRO:O	28:2T:117:LYS:NZ	2.30	0.53
46:2I:12:GLU:HB2	46:2I:216:LEU:HD12	1.90	0.53
47:2m:830:A:OP2	47:2m:846:G:N2	2.40	0.53
47:2m:958:G:H2'	47:2m:959:G:C8	2.43	0.53
47:2m:1253:A:OP2	47:2m:1526:G:N2	2.39	0.53
47:2m:1616:U:H3	47:2m:1620:A:H2	1.55	0.53
47:2m:1753:C:O2'	47:2m:1755:C:N4	2.38	0.53
62:2I:80:PHE:HB3	67:3E:52:PHE:HB3	1.90	0.53
69:3G:211:LYS:O	69:3G:215:MET:HG3	2.08	0.53
1:1A:2005:G:H2'	1:1A:2006:U:H5	1.73	0.53
6:1F:298:ILE:O	6:1F:302:LEU:HG	2.08	0.53
12:2D:152:LEU:HB3	12:2D:165:ILE:HD12	1.88	0.53
23:2O:70:ILE:HD12	23:2O:70:ILE:N	2.23	0.53
47:2m:154:U:O2'	70:3H:4:ASN:OD1	2.18	0.53
47:2m:1015:U:O2'	73:3K:55:ARG:NH1	2.41	0.53
47:2m:1606:G:H1'	47:2m:1633:A:N6	2.24	0.53
48:2n:120:ARG:NH1	69:3G:267:GLN:HB3	2.23	0.53
48:2n:205:ARG:HH12	59:2y:84:TYR:HD2	1.54	0.53
57:2w:130:ARG:CB	57:2w:130:ARG:NH1	2.72	0.53
76:3N:41:ARG:HB2	76:3N:55:ILE:HG21	1.90	0.53
5:1E:10:ARG:NH2	5:1E:265:SER:O	2.41	0.53
8:1H:208:ILE:HG23	8:1H:212:LEU:HD12	1.88	0.53
47:2m:549:C:H2'	47:2m:550:C:C6	2.43	0.53
47:2m:562:U:H2'	47:2m:563:G:C8	2.43	0.53
47:2m:1497:G:H5'	47:2m:1499:U:OP2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:2y:61:ILE:HG22	59:2y:66:VAL:CB	2.38	0.53
68:3F:30:MET:HE2	68:3F:30:MET:HA	1.90	0.53
1:1A:319:A:H1'	1:1A:3726:A:C8	2.34	0.53
47:2m:558:G:H2'	47:2m:559:G:N2	2.24	0.53
47:2m:1217:A:H2'	47:2m:1218:C:H6	1.73	0.53
47:2m:1499:U:H4'	50:2p:176:LEU:HD13	1.90	0.53
57:2w:56:LEU:O	57:2w:60:LEU:HG	2.09	0.53
65:3C:51:ARG:CB	65:3C:51:ARG:NH1	2.71	0.53
1:1A:106:A:H1'	1:1A:336:A:C8	2.43	0.53
1:1A:1414:C:H2'	1:1A:1415:G:H8	1.72	0.53
1:1A:2001:G:N2	1:1A:2003:G:O6	2.41	0.53
3:1C:19:C:H2'	3:1C:20:A:C8	2.43	0.53
21:2M:15:ARG:HD2	21:2M:16:CYS:O	2.09	0.53
22:2N:159:MET:N	22:2N:159:MET:SD	2.81	0.53
47:2m:1112:U:O2	47:2m:1113:A:O2'	2.26	0.53
50:2p:50:ILE:HD11	50:2p:86:LEU:CD1	2.39	0.53
53:2s:27:LEU:HD11	53:2s:40:LEU:HD21	1.90	0.53
1:1A:2756:G:H2'	1:1A:2757:A:C8	2.44	0.53
1:1A:3670:C:O2'	1:1A:3671:G:H8	1.90	0.53
10:2B:193:LEU:HD12	10:2B:194:VAL:HG13	1.89	0.53
12:2D:140:THR:CG2	12:2D:144:ASN:HB2	2.38	0.53
20:2L:84:THR:HG22	20:2L:86:ASN:H	1.73	0.53
47:2m:1348:G:H22	47:2m:1381:G:H22	1.56	0.53
47:2m:1801:A:H2'	47:2m:1802:C:H6	1.73	0.53
50:2p:96:LEU:HG	50:2p:190:LEU:HD12	1.90	0.53
61:20:23:LYS:HA	61:20:54:TYR:CE2	2.42	0.53
68:3F:113:PHE:CE1	68:3F:120:ILE:HD12	2.44	0.53
1:1A:947:C:H5''	8:1H:51:VAL:HG21	1.89	0.53
1:1A:1464:C:H5''	30:2V:32:LEU:HD12	1.89	0.53
1:1A:2664:G:OP1	20:2L:110:ARG:NH1	2.41	0.53
1:1A:4239:A:H2'	1:1A:4240:G:C8	2.43	0.53
10:2B:58:PRO:HG2	10:2B:61:ILE:HD12	1.91	0.53
26:2R:38:LYS:HA	26:2R:38:LYS:CE	2.32	0.53
42:2h:1:MET:HG2	42:2h:6:ARG:HB2	1.91	0.53
46:2l:85:MET:SD	46:2l:90:LEU:HB2	2.49	0.53
47:2m:523:A:P	71:3I:127:ARG:HH21	2.32	0.53
47:2m:615:C:O2'	79:3Q:8:ARG:HD2	2.08	0.53
47:2m:656:G:N2	47:2m:663:C:H5''	2.24	0.53
47:2m:698:G:O2'	47:2m:731:G:O6	2.26	0.53
47:2m:928:G:H1	47:2m:1013:U:H3	1.57	0.53
49:2o:227:LYS:HA	49:2o:230:GLU:OE2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:2q:124:CYS:HB3	51:2q:141:THR:HB	1.91	0.53
52:2r:87:LEU:CG	58:2x:47:LEU:HD11	2.38	0.53
53:2s:98:ARG:HB3	53:2s:125:VAL:HG22	1.90	0.53
62:21:22:ILE:O	62:21:89:ILE:HD12	2.08	0.53
68:3F:197:THR:OG1	68:3F:237:ASN:O	2.27	0.53
70:3H:201:LYS:O	70:3H:205:GLU:HG2	2.09	0.53
1:1A:1768:C:HO2'	1:1A:1770:A:H62	1.53	0.53
1:1A:2033:A:O2'	1:1A:2034:G:O5'	2.22	0.53
5:1E:54:THR:HG22	5:1E:55:HIS:H	1.73	0.53
11:2C:106:GLN:OE1	11:2C:106:GLN:HA	2.08	0.53
12:2D:66:GLU:HG2	12:2D:69:ARG:HH21	1.73	0.53
14:2F:63:THR:HG21	29:2U:66:ASN:HB3	1.89	0.53
28:2T:66:SER:O	28:2T:66:SER:OG	2.26	0.53
47:2m:84:A:N3	47:2m:150:A:O2'	2.41	0.53
47:2m:113:G:N2	47:2m:293:C:O4'	2.42	0.53
47:2m:338:G:H3'	47:2m:339:A:H2'	1.91	0.53
47:2m:983:A:H2	74:3L:139:SER:HB3	1.74	0.53
47:2m:1520:G:H5''	47:2m:1521:C:C5	2.44	0.53
68:3F:225:LYS:HG2	68:3F:226:HIS:N	2.24	0.53
72:3J:52:GLN:NE2	72:3J:65:VAL:HG13	2.22	0.53
75:3M:126:LEU:C	75:3M:126:LEU:HD23	2.33	0.53
78:3P:42:LYS:HD2	78:3P:57:VAL:HB	1.91	0.53
1:1A:1243:C:C2	1:1A:1244:G:C8	2.97	0.53
1:1A:1581:G:OP1	81:1A:5110:84G:O7	2.26	0.53
1:1A:1971:C:N4	1:1A:2001:G:O5'	2.39	0.53
1:1A:4038:C:N4	1:1A:4050:A:O3'	2.41	0.53
2:1B:48:G:O2'	7:1G:222:GLN:O	2.22	0.53
4:1D:101:VAL:HG22	4:1D:165:VAL:HG22	1.91	0.53
50:2p:33:GLY:O	50:2p:53:THR:HG23	2.08	0.53
51:2q:200:ARG:HA	51:2q:206:ASP:OD1	2.09	0.53
69:3G:79:GLU:OE2	69:3G:79:GLU:N	2.31	0.53
75:3M:8:ALA:HA	75:3M:74:VAL:HG11	1.91	0.53
1:1A:1333:A:H2'	1:1A:1334:A:C8	2.43	0.53
1:1A:1890:G:N2	1:1A:1890:G:OP2	2.36	0.53
1:1A:2611:A:H2'	1:1A:2612:G:C8	2.44	0.53
1:1A:4126:C:OP1	10:2B:37:LYS:NZ	2.40	0.53
7:1G:75:VAL:HG22	7:1G:112:ARG:HH11	1.74	0.53
7:1G:181:PRO:HD2	7:1G:195:HIS:CD2	2.42	0.53
11:2C:15:ASN:N	11:2C:15:ASN:OD1	2.39	0.53
25:2Q:6:CYS:HB3	25:2Q:11:TYR:H	1.74	0.53
30:2V:117:ARG:HD2	30:2V:117:ARG:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:2W:28:VAL:HG12	31:2W:95:ALA:HB3	1.91	0.53
47:2m:962:A:N1	47:2m:1055:A:O2'	2.42	0.53
47:2m:1139:C:H2'	47:2m:1140:G:O4'	2.08	0.53
47:2m:1834:A:H2	47:2m:1837:G:N1	2.06	0.53
48:2n:10:MET:O	48:2n:10:MET:SD	2.67	0.53
48:2n:30:LEU:CD1	48:2n:150:THR:HB	2.39	0.53
55:2u:3:MET:HE1	55:2u:44:HIS:C	2.33	0.53
1:1A:308:G:OP2	1:1A:308:G:N2	2.33	0.52
1:1A:2907:G:O2'	1:1A:3589:G:N2	2.42	0.52
1:1A:3598:C:H2'	1:1A:3599:A:H8	1.74	0.52
1:1A:4967:A:H2'	1:1A:4968:A:C8	2.44	0.52
9:2A:127:LYS:HB2	22:2N:133:ALA:HB3	1.91	0.52
10:2B:129:PRO:O	10:2B:130:THR:OG1	2.26	0.52
10:2B:165:GLU:CD	16:2H:11:TRP:HE1	2.17	0.52
13:2E:93:GLU:OE2	13:2E:173:ILE:HD11	2.09	0.52
17:2I:194:GLU:OE2	17:2I:195:VAL:HG23	2.09	0.52
32:2X:56:GLU:OE2	32:2X:56:GLU:HA	2.09	0.52
45:2k:26:SER:OG	45:2k:28:GLU:OE2	2.26	0.52
47:2m:1521:C:N4	60:2z:137:LYS:HG3	2.24	0.52
47:2m:1849:G:H1'	47:2m:1850:A:H5'	1.90	0.52
58:2x:42:ILE:HD13	58:2x:51:LEU:CD1	2.28	0.52
70:3H:63:MET:HE1	70:3H:98:ARG:CD	2.38	0.52
1:1A:135:G:H22	36:2b:94:ARG:HE	1.57	0.52
1:1A:1972:G:OP2	1:1A:2013:A:N6	2.42	0.52
4:1D:207:VAL:HG13	4:1D:208:GLU:HG3	1.91	0.52
9:2A:60:GLU:O	9:2A:64:MET:HG3	2.09	0.52
13:2E:141:ILE:HA	13:2E:144:LYS:HG2	1.91	0.52
47:2m:589:G:H21	47:2m:591:U:H3	1.56	0.52
50:2p:142:LEU:HD12	50:2p:148:LYS:HG3	1.91	0.52
71:3I:60:LEU:HB3	71:3I:94:LEU:HD21	1.91	0.52
1:1A:262:G:H2'	1:1A:263:G:C8	2.45	0.52
1:1A:383:A:HO2'	1:1A:384:A:H8	1.56	0.52
1:1A:1725:U:H2'	1:1A:1726:U:H6	1.74	0.52
3:1C:38:U:O2'	36:2b:86:LYS:NZ	2.34	0.52
24:2P:99:GLU:OE1	25:2Q:24:THR:HG22	2.09	0.52
43:2i:32:SER:O	43:2i:33:LEU:HB3	2.10	0.52
61:20:75:MET:CE	61:20:78:ILE:CG2	2.87	0.52
62:21:20:ILE:HG12	62:21:91:LEU:HB2	1.91	0.52
1:1A:1726:U:H5'	9:2A:135:ILE:HD11	1.92	0.52
1:1A:2464:C:O2'	1:1A:2465:C:H6	1.92	0.52
1:1A:2519:U:O2'	1:1A:2530:U:O2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:3664:G:H2'	1:1A:3665:G:H8	1.73	0.52
1:1A:3707:U:H2'	1:1A:3708:C:H6	1.74	0.52
4:1D:54:ARG:HG2	4:1D:56:ALA:H	1.75	0.52
7:1G:236:MET:HA	7:1G:239:MET:HB3	1.92	0.52
13:2E:17:ILE:HA	13:2E:134:LEU:HD12	1.91	0.52
47:2m:414:A:OP1	47:2m:814:U:O2'	2.27	0.52
47:2m:1466:G:OP2	59:2y:5:ARG:NH1	2.42	0.52
47:2m:1693:G:H21	47:2m:1834:A:H8	1.56	0.52
50:2p:47:GLU:OE2	50:2p:49:ILE:HG23	2.09	0.52
50:2p:192:TRP:C	50:2p:192:TRP:CD1	2.87	0.52
70:3H:140:ARG:O	70:3H:143:LYS:HG3	2.09	0.52
1:1A:1346:C:H2'	1:1A:1347:G:H8	1.75	0.52
1:1A:3700:C:H1'	1:1A:3775:A:H8	1.73	0.52
1:1A:4478:G:O2'	1:1A:4602:A:N1	2.41	0.52
6:1F:329:ASN:ND2	9:2A:188:GLU:OE1	2.43	0.52
10:2B:103:ARG:HE	10:2B:193:LEU:HA	1.74	0.52
13:2E:9:GLU:HB2	13:2E:13:ARG:HB2	1.91	0.52
13:2E:173:ILE:HG13	13:2E:173:ILE:O	2.10	0.52
18:2J:48:LEU:O	18:2J:52:THR:HG23	2.10	0.52
28:2T:25:ILE:HA	28:2T:43:VAL:HG12	1.91	0.52
43:2i:41:TYR:HB2	81:2i:201:84G:N5	2.24	0.52
46:2l:145:VAL:HG23	46:2l:146:ALA:H	1.75	0.52
47:2m:416:U:O2'	47:2m:652:U:O2'	2.27	0.52
47:2m:860:G:H21	75:3M:107:SER:HB2	1.75	0.52
69:3G:183:LYS:HA	69:3G:195:LEU:O	2.08	0.52
70:3H:100:CYS:O	70:3H:100:CYS:SG	2.67	0.52
71:3I:134:HIS:HB3	71:3I:159:PHE:CE1	2.45	0.52
1:1A:4208:U:OP1	1:1A:4334:U:O2'	2.26	0.52
1:1A:4751:G:H4'	17:2I:4:VAL:HG11	1.91	0.52
81:1A:5118:84G:O5	81:1A:5118:84G:O8	2.28	0.52
3:1C:144:U:H2'	3:1C:145:C:C6	2.44	0.52
20:2L:39:GLN:OE1	20:2L:42:ARG:NH1	2.43	0.52
23:2O:42:PHE:CE1	23:2O:46:ARG:HD3	2.40	0.52
24:2P:13:LYS:HD3	24:2P:128:LEU:HD11	1.91	0.52
25:2Q:3:VAL:HG11	25:2Q:12:LYS:HG3	1.91	0.52
46:2l:50:SER:HB3	46:2l:138:LEU:HD13	1.91	0.52
47:2m:375:U:H2'	47:2m:376:A:C8	2.44	0.52
47:2m:562:U:H2'	47:2m:563:G:H8	1.74	0.52
47:2m:1004:U:H2'	47:2m:1005:G:C8	2.44	0.52
47:2m:1119:A:H5'	78:3P:72:ARG:HH22	1.75	0.52
47:2m:1241:A:HO2'	47:2m:1266:C:HO2'	1.50	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1266:C:N3	47:2m:1517:G:N2	2.58	0.52
48:2n:30:LEU:HD22	48:2n:47:TYR:CE1	2.45	0.52
50:2p:48:ILE:HB	50:2p:86:LEU:CD2	2.40	0.52
51:2q:107:GLY:HA2	51:2q:189:LEU:HG	1.91	0.52
53:2s:42:GLU:HG2	53:2s:43:LEU:N	2.25	0.52
62:21:40:ILE:HD12	62:21:40:ILE:H	1.74	0.52
66:3D:62:GLU:OE2	74:3L:121:ARG:NH2	2.38	0.52
71:3I:137:VAL:HG12	71:3I:138[A]:ARG:HG3	1.91	0.52
1:1A:99:A:H2'	1:1A:100:C:O2	2.10	0.52
1:1A:1100:U:O3'	1:1A:1167:C:N4	2.42	0.52
1:1A:2492:C:H2'	1:1A:2493:G:H8	1.75	0.52
1:1A:3707:U:H2'	1:1A:3708:C:C6	2.44	0.52
6:1F:152:LEU:HD23	6:1F:251:ILE:HG12	1.92	0.52
9:2A:243:LEU:O	9:2A:247:MET:HB2	2.10	0.52
14:2F:81:LEU:HD11	14:2F:98:VAL:HG22	1.91	0.52
23:2O:63:ILE:HA	23:2O:71:THR:O	2.09	0.52
47:2m:921:G:C6	78:3P:22:LYS:HA	2.44	0.52
47:2m:940:U:H3	47:2m:1002:U:H3	1.58	0.52
47:2m:1413:G:H21	47:2m:1415:C:H5'	1.75	0.52
48:2n:7:VAL:O	48:2n:191:ARG:NH2	2.43	0.52
52:2r:120:GLY:O	52:2r:146:ARG:NH2	2.43	0.52
63:3A:25:GLY:O	69:3G:85:SER:OG	2.26	0.52
66:3D:18:LEU:HB2	66:3D:29:GLN:HB2	1.92	0.52
75:3M:54:ASP:C	75:3M:54:ASP:OD1	2.53	0.52
77:3O:47:LEU:HD23	77:3O:78:LYS:C	2.35	0.52
1:1A:691:C:H2'	1:1A:692:A:C8	2.45	0.52
1:1A:965:G:O2'	1:1A:966:A:N3	2.42	0.52
1:1A:1974:U:H4'	1:1A:1975:G:H2'	1.92	0.52
1:1A:4253:A:H5'	1:1A:4254:G:C8	2.45	0.52
4:1D:245:ARG:CZ	4:1D:247:ARG:HH22	2.23	0.52
20:2L:163:ARG:HA	20:2L:163:ARG:NE	2.24	0.52
47:2m:924:G:H1	47:2m:1018:U:H3	1.57	0.52
68:3F:235:ILE:C	68:3F:235:ILE:HD12	2.35	0.52
76:3N:27:VAL:HG11	76:3N:35:VAL:HG21	1.90	0.52
76:3N:88:LYS:HD3	76:3N:97:TYR:CZ	2.45	0.52
79:3Q:31:ARG:HB3	79:3Q:31:ARG:CZ	2.39	0.52
1:1A:252:C:H2'	1:1A:253:G:C8	2.44	0.52
1:1A:2536:A:H5'	39:2e:42:LEU:HD22	1.90	0.52
1:1A:3845:A:H2'	1:1A:3846:C:H6	1.75	0.52
1:1A:4503:A:H2'	1:1A:4504:C:C6	2.45	0.52
1:1A:4953:G:H2'	1:1A:4954:G:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:1H:190:HIS:HB3	8:1H:193:PHE:HD2	1.75	0.52
11:2C:18:ILE:HG22	11:2C:27:VAL:HA	1.92	0.52
14:2F:46:ILE:HB	14:2F:49:ARG:HB2	1.92	0.52
20:2L:170:ARG:HB3	20:2L:171:LYS:HE2	1.92	0.52
21:2M:107:THR:O	21:2M:111:ARG:HG2	2.10	0.52
35:2a:5:LEU:HD21	35:2a:30:ILE:HG22	1.91	0.52
36:2b:67:GLU:OE1	36:2b:71:LYS:NZ	2.43	0.52
43:2i:33:LEU:HA	43:2i:38:LYS:HG2	1.91	0.52
47:2m:1232:U:OP2	60:2z:135:HIS:ND1	2.43	0.52
47:2m:1535:U:H1'	52:2r:92:ILE:HD11	1.91	0.52
57:2w:22:LEU:H	57:2w:22:LEU:HD12	1.74	0.52
59:2y:31:ASN:HD22	59:2y:31:ASN:N	2.08	0.52
64:3B:50:ILE:HG12	64:3B:75:ILE:HD11	1.91	0.52
1:1A:3654:G:O2'	1:1A:3693:U:OP1	2.24	0.52
1:1A:3848:U:H2'	1:1A:3849:A:H8	1.75	0.52
1:1A:3861:A:H2'	1:1A:3862:A:H8	1.74	0.52
1:1A:4761:G:H2'	1:1A:4762:A:C4	2.45	0.52
1:1A:4935:C:H2'	1:1A:4936:G:C8	2.45	0.52
4:1D:14:SER:H	4:1D:17:ARG:HG3	1.74	0.52
14:2F:125:ILE:HD11	36:2b:122:LYS:HD2	1.91	0.52
25:2Q:52:THR:HG22	25:2Q:54:LEU:H	1.75	0.52
27:2S:37:GLU:OE1	27:2S:37:GLU:N	2.33	0.52
38:2d:34:CYS:HB3	38:2d:39:TYR:H	1.74	0.52
46:2l:141:ASN:OD1	46:2l:143:ASN:ND2	2.40	0.52
47:2m:744:G:H22	53:2s:107:LYS:H	1.57	0.52
47:2m:996:A:H2'	47:2m:997:A:C8	2.45	0.52
50:2p:127:MET:HA	50:2p:127:MET:HE3	1.92	0.52
70:3H:159:ARG:HG2	70:3H:173:ALA:HB2	1.92	0.52
1:1A:742:G:H2'	1:1A:743:G:H8	1.74	0.51
1:1A:2478:C:H2'	1:1A:2479:G:O4'	2.10	0.51
1:1A:3861:A:H2'	1:1A:3862:A:C8	2.45	0.51
11:2C:92:MET:CE	11:2C:179:ILE:HG22	2.40	0.51
18:2J:36:ILE:HD11	18:2J:48:LEU:HD13	1.91	0.51
47:2m:508:A:H3'	47:2m:509:G:H8	1.74	0.51
48:2n:30:LEU:HB2	48:2n:47:TYR:CE2	2.46	0.51
54:2t:90:LEU:HA	54:2t:93:THR:HG22	1.92	0.51
1:1A:1772:C:H2'	1:1A:1773:U:H6	1.75	0.51
1:1A:2389:A:H2'	1:1A:2390:G:C8	2.45	0.51
11:2C:92:MET:CB	11:2C:181:VAL:HA	2.39	0.51
39:2e:12:LEU:O	39:2e:16:ARG:HG2	2.10	0.51
47:2m:566:U:H3	47:2m:584:G:H1	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:2s:7:LYS:NZ	53:2s:20:GLU:O	2.34	0.51
64:3B:24:ASP:OD1	64:3B:27:TYR:HB3	2.11	0.51
67:3E:17:GLY:HA2	67:3E:27:ARG:HE	1.75	0.51
1:1A:1772:C:H2'	1:1A:1773:U:C6	2.45	0.51
1:1A:2416:G:N2	1:1A:2427:G:N7	2.55	0.51
3:1C:53:G:H4'	40:2f:40:LYS:HD2	1.92	0.51
46:2l:12:GLU:HG3	46:2l:216:LEU:HA	1.91	0.51
47:2m:1601:A:H1'	47:2m:1604:G:O6	2.10	0.51
49:2o:137:LEU:HG	49:2o:215:VAL:HG22	1.92	0.51
58:2x:94:ALA:HA	58:2x:97:GLN:HG2	1.92	0.51
77:3O:62:VAL:HA	77:3O:65:TYR:CE1	2.45	0.51
1:1A:257:C:H2'	1:1A:258:G:C8	2.45	0.51
1:1A:956:A:H1'	1:1A:2076:G:H5''	1.93	0.51
1:1A:1345:A:H2'	1:1A:1346:C:C6	2.46	0.51
1:1A:4992:G:H2'	1:1A:4993:G:H8	1.72	0.51
17:2I:175:MET:HE3	17:2I:179:LYS:HG2	1.92	0.51
22:2N:85:LEU:CD1	22:2N:87:LYS:HD3	2.41	0.51
24:2P:92:ASP:OD1	24:2P:94:VAL:HG12	2.10	0.51
27:2S:99:ILE:HD11	27:2S:104:VAL:HG13	1.93	0.51
46:2l:159:MET:N	46:2l:159:MET:SD	2.78	0.51
47:2m:308:G:O2'	54:2t:45:THR:HG21	2.11	0.51
47:2m:748:C:H4'	47:2m:796:G:C5	2.46	0.51
47:2m:878:G:H5'	47:2m:879:C:H5	1.74	0.51
47:2m:1521:C:N4	60:2z:137:LYS:CG	2.74	0.51
47:2m:1678:A:OP2	52:2r:63:LYS:NZ	2.41	0.51
47:2m:1860:A:O5'	65:3C:8:ASN:HB3	2.10	0.51
52:2r:56:TYR:HE1	52:2r:65:GLN:HG2	1.75	0.51
53:2s:78:ARG:HG3	53:2s:82:GLU:OE1	2.11	0.51
54:2t:141:ARG:HB3	54:2t:146:GLN:HG2	1.91	0.51
71:3I:53:ILE:HG23	71:3I:77:LEU:HD11	1.93	0.51
75:3M:6:VAL:HG23	75:3M:34:ILE:HD11	1.91	0.51
1:1A:98:A:HO2'	1:1A:292:G:H1	1.59	0.51
12:2D:205:PRO:HG2	12:2D:208:LYS:HG2	1.93	0.51
47:2m:1421:A:O2'	61:20:2:PRO:C	2.53	0.51
50:2p:223:ILE:HD12	50:2p:223:ILE:O	2.11	0.51
58:2x:43:GLU:OE2	58:2x:77:HIS:CG	2.60	0.51
60:2z:1:MET:HE2	60:2z:1:MET:HA	1.92	0.51
1:1A:493:G:N1	1:1A:661:C:O2	2.44	0.51
1:1A:711:A:H2'	1:1A:712:C:C6	2.45	0.51
1:1A:3753:G:H1	1:1A:3770:U:H3	1.56	0.51
20:2L:15:LEU:HD13	20:2L:45:ILE:HD13	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:2Z:78:HIS:HB3	34:2Z:83:MET:O	2.10	0.51
46:2l:66:CYS:SG	46:2l:82:ILE:HD12	2.50	0.51
47:2m:520:A:H5''	71:3l:12:THR:HG23	1.92	0.51
47:2m:1541:G:H4'	61:20:15:VAL:HG11	1.93	0.51
47:2m:1648:G:N7	58:2x:17:LYS:HE3	2.26	0.51
49:2o:171:ILE:HG12	49:2o:174:ARG:HH21	1.75	0.51
49:2o:197:ILE:HB	49:2o:210:VAL:HG11	1.93	0.51
53:2s:169:LYS:HG3	53:2s:169:LYS:O	2.09	0.51
64:3B:90:CYS:HA	64:3B:93:PHE:HD2	1.75	0.51
72:3J:24:THR:HA	72:3J:27:ILE:HG12	1.92	0.51
72:3J:126:GLU:O	72:3J:129:LYS:HG3	2.10	0.51
1:1A:1095:A:N1	1:1A:1200:G:O6	2.43	0.51
1:1A:1391:A:N3	29:2U:58:MET:HE2	2.26	0.51
1:1A:2079:G:H2'	1:1A:2080:U:C6	2.46	0.51
1:1A:3585:G:O6	1:1A:3586:G:N2	2.43	0.51
1:1A:3595:U:OP1	1:1A:3597:G:H1'	2.11	0.51
1:1A:4698:C:H3'	41:2g:111:ARG:HH21	1.75	0.51
1:1A:4996:C:H4'	32:2X:26:THR:HG23	1.92	0.51
28:2T:14:LEU:HB3	35:2a:88:ARG:HG3	1.93	0.51
39:2e:32:VAL:CG2	39:2e:50:LYS:HZ2	2.23	0.51
47:2m:1041:G:N2	47:2m:1043:G:H22	2.08	0.51
47:2m:1281:G:O2'	47:2m:1282:A:H5'	2.11	0.51
47:2m:1452:A:H61	47:2m:1474:A:H2'	1.76	0.51
47:2m:1476:A:N6	52:2r:58:ALA:O	2.32	0.51
47:2m:1588:A:HO2'	47:2m:1589:A:H8	1.54	0.51
56:2v:82:MET:CG	56:2v:82:MET:O	2.59	0.51
1:1A:383:A:O2'	1:1A:384:A:H8	1.92	0.51
1:1A:1935:C:N4	81:1A:5101:84G:N4	2.59	0.51
1:1A:4467:A:O2'	1:1A:4510:A:N3	2.34	0.51
20:2L:176:ARG:NH2	47:2m:909:G:H5'	2.26	0.51
47:2m:1259:A:N6	47:2m:1518:C:H3'	2.26	0.51
65:3C:46:GLU:O	65:3C:49:ALA:N	2.38	0.51
69:3G:137:VAL:HG21	69:3G:244:ILE:HD12	1.93	0.51
1:1A:300:A:H2'	1:1A:301:G:H8	1.75	0.51
1:1A:966:A:H5''	1:1A:2092:G:H22	1.76	0.51
1:1A:4063:U:H5''	1:1A:4064:C:H5	1.76	0.51
1:1A:4239:A:H2'	1:1A:4240:G:H8	1.75	0.51
1:1A:4339:A:H2'	1:1A:4340:U:H6	1.75	0.51
11:2C:4:ILE:HG12	11:2C:61:TRP:CH2	2.46	0.51
12:2D:193:ASP:OD1	12:2D:198:LYS:HG2	2.10	0.51
27:2S:26:ARG:O	27:2S:30:MET:HG3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:2b:80:PRO:HD2	36:2b:83:LEU:HD12	1.93	0.51
41:2g:106:ARG:HG2	41:2g:106:ARG:HH11	1.76	0.51
47:2m:213:G:O2'	47:2m:214:U:OP1	2.28	0.51
47:2m:521:A:OP1	71:3I:45:ARG:NH1	2.35	0.51
47:2m:1262:C:H5''	47:2m:1263:U:H5	1.76	0.51
47:2m:1845:A:H2'	47:2m:1846:G:H8	1.74	0.51
60:2z:135:HIS:O	60:2z:139:THR:OG1	2.28	0.51
1:1A:325:U:H2'	1:1A:326:C:C6	2.46	0.51
1:1A:2400:G:H21	35:2a:6:THR:HG22	1.75	0.51
1:1A:4037:C:H3'	1:1A:4039:G:H22	1.74	0.51
1:1A:4537:C:H2'	1:1A:4538:G:C8	2.46	0.51
8:1H:153:LEU:HD11	8:1H:195:ILE:HG13	1.93	0.51
11:2C:106:GLN:HB2	11:2C:111:LEU:HB3	1.92	0.51
21:2M:41:LYS:HG2	21:2M:61:ILE:HG13	1.93	0.51
23:2O:100:LEU:HD23	23:2O:112:LEU:HD23	1.92	0.51
28:2T:73:LYS:HD3	28:2T:75:TYR:CZ	2.46	0.51
32:2X:57:MET:HE3	32:2X:90:ARG:HG3	1.93	0.51
47:2m:454:U:H2'	47:2m:455:A:H8	1.74	0.51
47:2m:465:A:H5'	47:2m:466:G:C5	2.46	0.51
47:2m:955:A:N6	47:2m:971:G:O2'	2.39	0.51
47:2m:1380:C:H2'	47:2m:1381:G:C8	2.46	0.51
47:2m:1620:A:OP1	57:2w:115:TYR:OH	2.28	0.51
62:2I:26:SER:OG	62:2I:110:VAL:HA	2.11	0.51
70:3H:39:ASP:OD1	70:3H:46:LYS:HA	2.11	0.51
1:1A:347:A:OP2	27:2S:8:THR:OG1	2.25	0.50
1:1A:485:C:O2	1:1A:485:C:H2'	2.11	0.50
27:2S:91:ASN:OD1	27:2S:91:ASN:C	2.55	0.50
30:2V:70:GLU:CA	30:2V:73:LYS:HZ1	2.15	0.50
35:2a:60:ARG:HB2	35:2a:63:VAL:HG12	1.93	0.50
52:2r:167:LYS:HA	77:3O:71:ALA:HB1	1.92	0.50
55:2u:17:LYS:NZ	55:2u:18:GLU:OE2	2.41	0.50
58:2x:16:LYS:C	58:2x:17:LYS:HG3	2.36	0.50
61:20:75:MET:CE	61:20:75:MET:CA	2.83	0.50
1:1A:969:C:O2	1:1A:969:C:H2'	2.11	0.50
1:1A:3684:G:H2'	1:1A:3685:C:C6	2.47	0.50
1:1A:4064:C:H2'	1:1A:4065:G:C8	2.46	0.50
10:2B:57:TRP:O	10:2B:62:ARG:NH1	2.45	0.50
43:2i:74:GLU:OE1	43:2i:76:ASN:N	2.44	0.50
47:2m:788:G:H2'	47:2m:789:G:N7	2.27	0.50
47:2m:1534:C:H4'	47:2m:1535:U:H5''	1.92	0.50
48:2n:57:LYS:NZ	48:2n:160:ALA:O	2.33	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2r:19:LEU:N	52:2r:23:TRP:O	2.44	0.50
52:2r:128:ILE:HG23	66:3D:23:SER:HB3	1.93	0.50
5:1E:117:ARG:HA	5:1E:177:LYS:HD2	1.93	0.50
8:1H:157:HIS:HB3	8:1H:160:LYS:HG3	1.92	0.50
8:1H:222:LEU:H	8:1H:237:LYS:HE3	1.74	0.50
20:2L:163:ARG:NH1	47:2m:871:U:O2'	2.38	0.50
47:2m:980:A:H2'	47:2m:981:A:C8	2.47	0.50
47:2m:1801:A:H2'	47:2m:1802:C:C6	2.46	0.50
48:2n:22:GLY:O	48:2n:24:HIS:ND1	2.34	0.50
48:2n:38:ILE:HD11	48:2n:47:TYR:HB3	1.93	0.50
69:3G:79:GLU:HA	69:3G:82:TYR:HB2	1.92	0.50
72:3J:31:LEU:HA	72:3J:112:LYS:HE2	1.93	0.50
1:1A:1177:U:O2'	7:1G:286:SER:OG	2.29	0.50
1:1A:4587:G:OP1	17:2I:61:ARG:HD2	2.12	0.50
5:1E:302:ASN:HB3	5:1E:313:SER:HA	1.92	0.50
10:2B:88:ASP:OD1	10:2B:89:ARG:N	2.44	0.50
16:2H:68:ARG:HA	16:2H:98:LEU:HD21	1.93	0.50
31:2W:98:ASP:C	31:2W:98:ASP:OD2	2.54	0.50
37:2c:58:MET:HG2	37:2c:94:LEU:HD13	1.93	0.50
48:2n:145:ILE:HG23	48:2n:159:ILE:HB	1.94	0.50
56:2v:49:GLU:OE1	56:2v:49:GLU:N	2.39	0.50
60:2z:104:ASP:O	60:2z:108:ARG:HG2	2.11	0.50
68:3F:132:TRP:CE3	68:3F:138:CYS:HB2	2.47	0.50
71:3I:39:ASN:O	71:3I:42:GLU:OE1	2.28	0.50
1:1A:2539:C:H2'	1:1A:2540:C:C6	2.47	0.50
1:1A:3971:G:H22	1:1A:4040:C:H1'	1.76	0.50
1:1A:4187:G:H4'	16:2H:82:GLY:HA2	1.93	0.50
1:1A:4744:A:N6	1:1A:4955:A:H61	2.06	0.50
8:1H:222:LEU:CB	8:1H:237:LYS:HG3	2.40	0.50
13:2E:117:ILE:C	13:2E:117:ILE:CD1	2.84	0.50
15:2G:103:LYS:O	15:2G:103:LYS:HG2	2.12	0.50
23:2O:23:LEU:HD11	23:2O:83:LEU:HD13	1.94	0.50
28:2T:93:LYS:O	28:2T:97:ASN:ND2	2.45	0.50
39:2e:12:LEU:HB3	39:2e:16:ARG:NH1	2.26	0.50
39:2e:36:VAL:HG13	39:2e:43:TYR:HB2	1.92	0.50
47:2m:634:A:H2'	47:2m:635:G:H8	1.76	0.50
47:2m:744:G:N1	53:2s:107:LYS:HG3	2.24	0.50
47:2m:1446:A:N3	62:21:55:ARG:HD2	2.27	0.50
48:2n:119:PRO:HG2	48:2n:142:LEU:HD13	1.94	0.50
54:2t:172:LEU:HD12	54:2t:172:LEU:O	2.11	0.50
55:2u:11:ILE:HG21	55:2u:45:VAL:HG23	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:3J:17:ALA:HA	72:3J:20:GLU:HG2	1.93	0.50
73:3K:124:ARG:O	73:3K:127:ARG:HG2	2.11	0.50
77:3O:102:LYS:HA	77:3O:107:VAL:HG23	1.94	0.50
1:1A:1450:C:H2'	1:1A:1451:G:O4'	2.11	0.50
1:1A:3910:C:H2'	1:1A:3911:C:C6	2.46	0.50
8:1H:94:LYS:HG3	8:1H:95:PRO:HD2	1.92	0.50
14:2F:7:GLY:O	29:2U:49:HIS:NE2	2.34	0.50
27:2S:117:LYS:NZ	27:2S:121:ARG:HD3	2.26	0.50
34:2Z:46:ARG:HD2	34:2Z:106:TYR:CE2	2.44	0.50
45:2k:57:GLY:O	45:2k:121:GLN:HG2	2.12	0.50
46:2l:69:GLY:HA2	46:2l:84:HIS:NE2	2.07	0.50
47:2m:1495:G:H4'	67:3E:26:ASN:HD22	1.76	0.50
48:2n:37:TYR:OH	63:3A:66:ASP:OD1	2.25	0.50
49:2o:170:GLU:C	49:2o:170:GLU:OE1	2.55	0.50
51:2q:60:GLU:O	51:2q:64:ILE:HG12	2.12	0.50
57:2w:128:HIS:CD2	57:2w:128:HIS:H	2.29	0.50
64:3B:37:LYS:C	64:3B:37:LYS:CD	2.83	0.50
69:3G:105:GLU:OE1	69:3G:105:GLU:N	2.45	0.50
74:3L:29:GLY:O	74:3L:93:LEU:HA	2.12	0.50
74:3L:30:VAL:HG11	74:3L:96:LYS:HE3	1.94	0.50
1:1A:433:A:C2	1:1A:3867:A:H4'	2.47	0.50
1:1A:730:G:OP2	9:2A:76:ARG:NE	2.38	0.50
1:1A:1241:C:C5	30:2V:118:LEU:HD12	2.47	0.50
1:1A:1442:C:H42	1:1A:2105:A:H1'	1.75	0.50
1:1A:4088:C:H2'	1:1A:4089:G:H8	1.77	0.50
2:1B:110:G:H2'	2:1B:111:C:C6	2.46	0.50
7:1G:278:ASP:OD1	7:1G:279:ARG:N	2.44	0.50
8:1H:157:HIS:HD2	8:1H:187:ARG:NH1	2.10	0.50
11:2C:150:ASP:OD1	11:2C:152:GLU:N	2.44	0.50
27:2S:86:GLN:HB3	27:2S:94:THR:HG22	1.92	0.50
47:2m:1839:U:H2'	47:2m:1840:U:C6	2.47	0.50
50:2p:29:LEU:HD22	50:2p:58:VAL:HG12	1.93	0.50
50:2p:40:ARG:HE	62:21:108:PRO:CG	2.24	0.50
74:3L:44:VAL:HG11	74:3L:85:CYS:SG	2.51	0.50
1:1A:659:G:H2'	1:1A:660:A:C8	2.47	0.50
1:1A:1269:G:O2'	1:1A:1440:U:O3'	2.30	0.50
1:1A:1309:C:H2'	1:1A:1310:C:C6	2.47	0.50
1:1A:1459:A:OP1	19:2K:65:ARG:NH1	2.45	0.50
1:1A:3911:C:H2'	1:1A:3912:U:C6	2.47	0.50
2:1B:119:U:C4	7:1G:261:VAL:HG11	2.47	0.50
8:1H:180:VAL:HG21	8:1H:258:LEU:HD11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:2A:157:ARG:HD2	9:2A:213:LEU:HD23	1.93	0.50
10:2B:87:LEU:HG	10:2B:91:THR:HG23	1.93	0.50
13:2E:115:LEU:CD1	13:2E:115:LEU:C	2.85	0.50
28:2T:76:ASN:OD1	28:2T:77:TYR:N	2.45	0.50
47:2m:611:G:H2'	47:2m:612:U:H6	1.77	0.50
47:2m:888:U:H2'	47:2m:898:U:H3	1.76	0.50
47:2m:1348:G:C2	47:2m:1349:G:N7	2.80	0.50
47:2m:1518:C:H5''	47:2m:1519:U:H5''	1.94	0.50
52:2r:51:HIS:CD2	52:2r:86:LYS:HG2	2.47	0.50
64:3B:39:ASN:ND2	64:3B:43:GLY:H	2.10	0.50
68:3F:258:ILE:HG22	68:3F:267:VAL:HB	1.94	0.50
1:1A:216:C:H5'	1:1A:219:G:N3	2.27	0.50
1:1A:382:G:N1	1:1A:385:A:OP2	2.41	0.50
1:1A:667:A:OP1	45:2k:67:ARG:NH2	2.45	0.50
1:1A:2045:G:O6	1:1A:3870:C:O2'	2.29	0.50
1:1A:4093:G:O2'	1:1A:4094:G:O4'	2.26	0.50
1:1A:4188:U:H2'	1:1A:4189:U:C6	2.47	0.50
1:1A:4323:A:H2'	1:1A:4324:A:H5'	1.94	0.50
1:1A:5004:C:H2'	1:1A:5005:G:O4'	2.11	0.50
3:1C:149:G:H21	10:2B:64:GLN:HE22	1.59	0.50
5:1E:17:LEU:HB2	5:1E:18:PRO:HD3	1.93	0.50
12:2D:31:ILE:HG22	12:2D:62:SER:HB2	1.93	0.50
47:2m:429:C:O2'	47:2m:811:A:N1	2.45	0.50
47:2m:1592:C:H4'	58:2x:44:PRO:HB3	1.94	0.50
48:2n:18:PHE:HD1	48:2n:173:LEU:HD21	1.77	0.50
64:3B:134:TYR:O	79:3Q:13:ARG:NH2	2.45	0.50
68:3F:114:SER:O	68:3F:117:ASN:ND2	2.45	0.50
72:3J:93:LYS:O	72:3J:100:PRO:HA	2.12	0.50
1:1A:690:C:OP2	8:1H:111:LYS:NZ	2.45	0.49
1:1A:1207:C:H2'	1:1A:1208:G:H8	1.76	0.49
1:1A:4064:C:H2'	1:1A:4065:G:H8	1.77	0.49
10:2B:180:PRO:HA	10:2B:227:ASN:OD1	2.12	0.49
16:2H:123:GLU:CG	16:2H:124:ASP:H	2.25	0.49
26:2R:121:VAL:HG13	26:2R:138:VAL:HG23	1.94	0.49
47:2m:1433:C:OP2	47:2m:1434:C:N4	2.45	0.49
62:21:55:ARG:CG	62:21:87:ARG:HE	2.17	0.49
71:3I:69:ARG:NH1	71:3I:73:GLU:OE1	2.45	0.49
1:1A:148:C:OP2	10:2B:197:LYS:NZ	2.40	0.49
1:1A:162:A:H2'	1:1A:163:A:C8	2.46	0.49
1:1A:1433:A:N6	1:1A:1451:G:O2'	2.45	0.49
1:1A:1633:G:H5'	1:1A:1634:A:OP1	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:1942:A:N3	1:1A:4432:C:O2'	2.41	0.49
1:1A:2264:C:H2'	1:1A:2265:G:O4'	2.13	0.49
17:2I:74:ARG:HD3	17:2I:146:GLY:HA3	1.93	0.49
26:2R:78:LYS:HE3	26:2R:99:ILE:HG22	1.93	0.49
26:2R:129:ARG:NE	26:2R:133:GLU:OE2	2.45	0.49
36:2b:16:GLU:OE1	36:2b:16:GLU:O	2.30	0.49
47:2m:30:C:OP1	64:3B:138:LYS:NZ	2.34	0.49
47:2m:314:U:OP1	70:3H:191:ARG:NH2	2.45	0.49
47:2m:744:G:C2	53:2s:107:LYS:CG	2.92	0.49
47:2m:857:U:H2'	47:2m:858:A:C8	2.47	0.49
47:2m:1503:C:H2'	47:2m:1504:U:C6	2.46	0.49
47:2m:1546:G:H22	47:2m:1654:G:H22	1.58	0.49
51:2q:87:MET:HE1	51:2q:236:ILE:HD13	1.93	0.49
57:2w:75:VAL:HA	57:2w:93:MET:HB3	1.94	0.49
57:2w:101:THR:OG1	57:2w:102:PHE:N	2.39	0.49
62:21:48:LEU:O	62:21:50:VAL:HG23	2.12	0.49
69:3G:63:VAL:O	69:3G:64:THR:HG23	2.12	0.49
73:3K:62:GLN:HB3	73:3K:65:PHE:HB2	1.93	0.49
1:1A:1084:C:H2'	1:1A:1085:C:H6	1.77	0.49
1:1A:1763:C:N4	1:1A:1770:A:N1	2.54	0.49
1:1A:1779:U:H2'	1:1A:1780:A:C8	2.47	0.49
1:1A:2318:G:OP2	33:2Y:14:LYS:NZ	2.45	0.49
1:1A:3719:A:C4	1:1A:3720:G:C8	3.00	0.49
1:1A:4071:U:H2'	1:1A:4072:C:C6	2.47	0.49
1:1A:4342:C:O3'	43:2i:37:GLY:HA3	2.12	0.49
1:1A:4507:A:H2'	1:1A:4508:C:C6	2.46	0.49
21:2M:85:ASP:OD1	21:2M:90:THR:HB	2.12	0.49
28:2T:88:ASP:O	28:2T:121:ARG:NH2	2.45	0.49
47:2m:901:G:N2	47:2m:902:G:H1'	2.27	0.49
50:2p:38:GLU:HB3	50:2p:49:ILE:HG13	1.94	0.49
58:2x:80:GLN:O	58:2x:84:ILE:HG13	2.12	0.49
61:20:65:TYR:HB2	61:20:123:LEU:HD12	1.93	0.49
64:3B:105:PHE:HB3	64:3B:112:VAL:HG21	1.95	0.49
71:3I:79:ARG:HH22	71:3I:83:ARG:HH11	1.61	0.49
1:1A:1175:A:H4'	7:1G:268:ARG:HH21	1.77	0.49
1:1A:2611:A:H2'	1:1A:2612:G:H8	1.76	0.49
1:1A:4425:G:OP1	41:2g:100:TYR:OH	2.21	0.49
3:1C:65:A:O2'	36:2b:10:ARG:NH2	2.46	0.49
8:1H:165:LEU:HD13	8:1H:176:THR:HG22	1.95	0.49
10:2B:95:LEU:HD12	10:2B:218:LEU:HD23	1.94	0.49
18:2J:4:TYR:CZ	18:2J:16:LYS:HD3	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:2M:161:ARG:CZ	21:2M:164:LYS:HG2	2.42	0.49
21:2M:164:LYS:CB	21:2M:165:PRO:CD	2.80	0.49
46:2l:161:LYS:H	46:2l:161:LYS:CD	2.24	0.49
57:2w:51:ARG:O	57:2w:55:SER:OG	2.29	0.49
57:2w:56:LEU:HG	57:2w:60:LEU:HD21	1.94	0.49
66:3D:14:VAL:HG23	66:3D:30:VAL:HB	1.94	0.49
68:3F:228:TYR:CE2	68:3F:230:LEU:HB3	2.47	0.49
75:3M:24:GLN:HB2	78:3P:7:LEU:HD13	1.94	0.49
77:3O:69:THR:O	77:3O:73:VAL:HG23	2.13	0.49
1:1A:504:G:N3	1:1A:504:G:H2'	2.27	0.49
1:1A:1297:U:OP1	34:2Z:56:ASN:HB2	2.12	0.49
1:1A:2268:A:OP2	45:2k:11:ARG:HD2	2.12	0.49
1:1A:4317:A:H2'	1:1A:4318:C:C6	2.48	0.49
5:1E:80:GLU:OE1	5:1E:323:TYR:OH	2.27	0.49
5:1E:160:ILE:HG12	5:1E:193:LYS:HG3	1.94	0.49
6:1F:318:PRO:C	6:1F:320:LYS:H	2.20	0.49
27:2S:82:ILE:HG22	27:2S:83:GLU:H	1.77	0.49
47:2m:70:G:N2	47:2m:80:G:C6	2.80	0.49
47:2m:375:U:H2'	47:2m:376:A:H8	1.78	0.49
47:2m:1276:A:O2'	55:2u:51:SER:HA	2.13	0.49
47:2m:1589:A:N6	47:2m:1672:U:O2'	2.38	0.49
50:2p:103:GLU:OE1	50:2p:106:ARG:NE	2.44	0.49
53:2s:60:ILE:HG13	53:2s:92:VAL:HA	1.94	0.49
59:2y:61:ILE:HG22	59:2y:66:VAL:HG21	1.94	0.49
60:2z:82:TRP:CD1	60:2z:82:TRP:H	2.29	0.49
63:3A:79:VAL:HG13	63:3A:80:SER:H	1.76	0.49
1:1A:1344:C:O3'	14:2F:8:MET:HE3	2.13	0.49
1:1A:4750:G:H3'	1:1A:4751:G:H21	1.77	0.49
14:2F:17:ASP:OD2	14:2F:20:ARG:NH2	2.45	0.49
17:2I:10:ASP:OD2	17:2I:37:ARG:NH2	2.43	0.49
20:2L:10:LEU:HB3	20:2L:41:ILE:HG13	1.94	0.49
39:2e:66:VAL:HG13	39:2e:66:VAL:O	2.11	0.49
47:2m:964:A:H2'	47:2m:965:U:C6	2.48	0.49
47:2m:1567:G:OP1	47:2m:1567:G:N2	2.43	0.49
47:2m:1713:C:H2'	47:2m:1714:U:C6	2.48	0.49
50:2p:76:ARG:HB2	55:2u:22:VAL:HG11	1.95	0.49
51:2q:57:THR:N	51:2q:60:GLU:OE2	2.29	0.49
51:2q:138:HIS:CD2	51:2q:148:ARG:HG2	2.47	0.49
68:3F:30:MET:CE	68:3F:43:TRP:O	2.61	0.49
72:3J:99:ASN:HB3	72:3J:100:PRO:CD	2.35	0.49
75:3M:93:LEU:HD21	75:3M:128:PHE:CG	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:3N:86:GLU:OE2	76:3N:90:ARG:HD2	2.13	0.49
1:1A:418:A:OP2	3:1C:16:G:N2	2.45	0.49
1:1A:1308:C:H2'	1:1A:1309:C:C6	2.48	0.49
1:1A:4238:G:H2'	1:1A:4239:A:C8	2.48	0.49
1:1A:4927:G:OP2	1:1A:4928:C:N4	2.45	0.49
2:1B:117:G:OP1	7:1G:253:TYR:OH	2.30	0.49
12:2D:44:ASP:OD1	12:2D:44:ASP:N	2.44	0.49
40:2f:23:ILE:HD11	40:2f:27:ILE:HG21	1.94	0.49
42:2h:10:MET:HE1	42:2h:17:ARG:HH12	1.77	0.49
42:2h:11:ARG:NH2	47:2m:1184:G:OP1	2.46	0.49
47:2m:65:C:C6	70:3H:174:PRO:HB3	2.48	0.49
47:2m:96:C:H2'	47:2m:97:U:C6	2.47	0.49
47:2m:138:C:H5''	47:2m:139:C:H5	1.77	0.49
47:2m:466:G:H1'	70:3H:59:GLN:HE21	1.77	0.49
47:2m:559:G:O2'	47:2m:560:A:H5''	2.12	0.49
47:2m:786:G:H8	70:3H:231:ARG:HH22	1.60	0.49
47:2m:1300:U:O2'	57:2w:51:ARG:NH1	2.41	0.49
47:2m:1702:G:H2'	47:2m:1703:C:O4'	2.13	0.49
53:2s:40:LEU:HA	53:2s:43:LEU:HD11	1.95	0.49
54:2t:197:PHE:O	54:2t:201:LYS:HG2	2.12	0.49
65:3C:55:GLU:N	65:3C:55:GLU:OE1	2.46	0.49
70:3H:221:LYS:HA	70:3H:224:ARG:HG2	1.94	0.49
73:3K:20:ARG:HH21	75:3M:56:HIS:HB3	1.78	0.49
75:3M:37:PHE:HD2	75:3M:126:LEU:CD2	2.25	0.49
1:1A:1281:G:N1	8:1H:128:HIS:HB2	2.28	0.49
1:1A:2448:G:H2'	1:1A:2449:A:C8	2.47	0.49
5:1E:161:ARG:HG2	5:1E:184:GLN:HB2	1.93	0.49
7:1G:84:PRO:HA	7:1G:88:VAL:O	2.12	0.49
8:1H:164:PHE:HE1	8:1H:173:LEU:HB3	1.77	0.49
13:2E:85:LYS:HB3	13:2E:115:LEU:HG	1.95	0.49
25:2Q:91:MET:HE1	25:2Q:94:ARG:HH21	1.78	0.49
31:2W:47:ILE:HB	31:2W:94:LEU:HG	1.95	0.49
43:2i:106:PHE:N	43:2i:106:PHE:HD1	2.11	0.49
47:2m:107:A:H2'	47:2m:108:G:C8	2.48	0.49
47:2m:1386:A:H2'	47:2m:1387:G:O4'	2.13	0.49
47:2m:1760:G:C5	47:2m:1761:U:H1'	2.48	0.49
57:2w:60:LEU:HD13	57:2w:89:MET:HB3	1.95	0.49
68:3F:121:VAL:HG21	68:3F:165:ILE:HD11	1.94	0.49
71:3I:107:GLU:O	71:3I:112:THR:OG1	2.25	0.49
75:3M:37:PHE:HD2	75:3M:126:LEU:HD21	1.77	0.49
1:1A:1986:U:H4'	1:1A:2003:G:H2'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:2768:C:H3'	1:1A:2769:U:H5'	1.94	0.49
1:1A:4138:C:H2'	1:1A:4139:G:C8	2.47	0.49
46:2l:95:LYS:HD3	46:2l:127:GLY:HA3	1.95	0.49
47:2m:885:U:H1'	47:2m:901:G:N2	2.27	0.49
47:2m:1480:A:O2'	67:3E:56:ASP:OXT	2.29	0.49
47:2m:1671:G:H2'	47:2m:1672:U:C6	2.47	0.49
47:2m:1779:G:H2'	47:2m:1780:G:C8	2.48	0.49
47:2m:1822:A:H2'	47:2m:1823:A:C8	2.48	0.49
70:3H:7:PHE:CE2	70:3H:10:THR:CG2	2.96	0.49
71:3l:138[A]:ARG:HE	71:3l:153:SER:HB2	1.78	0.49
1:1A:679:C:H2'	1:1A:680:G:H8	1.76	0.49
2:1B:24:C:H2'	2:1B:25:G:O4'	2.12	0.49
3:1C:148:A:H2'	3:1C:149:G:C8	2.48	0.49
24:2P:87:SER:HA	24:2P:97:TYR:HB3	1.95	0.49
46:2l:67:VAL:HG21	46:2l:111:LEU:CA	2.43	0.49
46:2l:119:GLN:HA	46:2l:122:ARG:HH21	1.77	0.49
47:2m:59:U:H5''	47:2m:503:C:C4	2.48	0.49
47:2m:465:A:H4'	47:2m:466:G:O5'	2.13	0.49
47:2m:1201:U:H2'	47:2m:1202:U:C6	2.48	0.49
47:2m:1497:G:N2	55:2u:67:PHE:CE1	2.75	0.49
51:2q:93:ASP:C	51:2q:93:ASP:OD1	2.56	0.49
52:2r:67:PRO:O	52:2r:70:GLU:OE1	2.30	0.49
54:2t:172:LEU:HD13	54:2t:190:LEU:HD12	1.95	0.49
57:2w:89:MET:HB3	57:2w:89:MET:HE2	1.76	0.49
64:3B:128:VAL:CG2	64:3B:138:LYS:HB3	2.42	0.49
75:3M:49:GLU:O	75:3M:64:ASN:ND2	2.36	0.49
1:1A:135:G:H1	36:2b:94:ARG:HH21	1.61	0.48
1:1A:1962:A:H2	1:1A:2024:G:H21	1.61	0.48
1:1A:2505:C:H1'	1:1A:2506:G:N2	2.28	0.48
1:1A:2632:U:C2	1:1A:2633:U:C5	3.01	0.48
1:1A:4745:G:N2	1:1A:4954:G:H22	2.11	0.48
4:1D:225:ILE:HG12	4:1D:234:LYS:HA	1.94	0.48
14:2F:42:LYS:O	14:2F:46:ILE:HG12	2.12	0.48
25:2Q:91:MET:HA	25:2Q:91:MET:CE	2.35	0.48
40:2f:29:MET:HA	40:2f:29:MET:HE2	1.93	0.48
47:2m:1475:G:O2'	47:2m:1476:A:OP2	2.30	0.48
47:2m:1585:U:N3	47:2m:1587:G:O6	2.46	0.48
51:2q:47:PHE:HE2	51:2q:90:ILE:HG21	1.78	0.48
53:2s:142:LYS:HB2	75:3M:54:ASP:HB3	1.95	0.48
71:3l:63:LEU:O	71:3l:70:ARG:NH1	2.46	0.48
71:3l:110:LEU:HB2	71:3l:147:PHE:HB3	1.93	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:424:U:H2'	1:1A:425:U:C6	2.48	0.48
1:1A:1190:C:H2'	1:1A:1191:C:C6	2.48	0.48
1:1A:2276:A:H2'	1:1A:2277:C:O4'	2.13	0.48
1:1A:2422:C:H2'	1:1A:2423:A:N3	2.28	0.48
1:1A:2762:G:H1'	1:1A:2763:U:O4'	2.13	0.48
1:1A:3640:U:H3'	1:1A:3646:A:N6	2.28	0.48
11:2C:151:ILE:O	11:2C:155:SER:OG	2.27	0.48
47:2m:16:G:H2'	47:2m:17:C:C6	2.48	0.48
47:2m:130:G:OP2	47:2m:183:G:N2	2.46	0.48
47:2m:441:C:H2'	47:2m:442:C:C6	2.48	0.48
47:2m:806:U:H2'	47:2m:807:G:H8	1.77	0.48
47:2m:1449:G:O2'	47:2m:1450:G:H5'	2.14	0.48
47:2m:1798:C:H2'	47:2m:1799:G:O4'	2.13	0.48
51:2q:180:LEU:HD23	51:2q:228:ILE:HG13	1.94	0.48
52:2r:55:ARG:HD3	58:2x:125:ARG:HD3	1.94	0.48
52:2r:89:THR:HA	52:2r:92:ILE:HB	1.95	0.48
54:2t:162:LEU:HD12	54:2t:165:GLN:HE21	1.77	0.48
58:2x:78:VAL:HG12	58:2x:82:TYR:HE1	1.77	0.48
1:1A:656:C:H2'	1:1A:657:C:C6	2.48	0.48
1:1A:1238:A:O2'	9:2A:52:GLU:OE2	2.31	0.48
1:1A:1548:G:O2'	1:1A:2812:A:N3	2.37	0.48
1:1A:2465:C:H2'	1:1A:2466:G:O4'	2.14	0.48
1:1A:3656:A:H2'	1:1A:3657:U:H6	1.78	0.48
1:1A:3845:A:H2'	1:1A:3846:C:C6	2.49	0.48
18:2J:54:GLN:HA	18:2J:83:TRP:CD1	2.48	0.48
25:2Q:85:ALA:HB1	25:2Q:89:ASP:HB3	1.95	0.48
34:2Z:59:THR:OG1	34:2Z:65:ASN:OD1	2.32	0.48
45:2k:108:MET:O	45:2k:112:ARG:HG2	2.14	0.48
53:2s:138:GLU:OE1	73:3K:21:SER:OG	2.22	0.48
59:2y:61:ILE:HG22	59:2y:66:VAL:HG11	1.95	0.48
61:20:38:LYS:HD3	61:20:41:LYS:HA	1.95	0.48
1:1A:1442:C:N4	1:1A:2104:G:H21	2.11	0.48
1:1A:1662:C:H2'	1:1A:1663:C:C6	2.49	0.48
1:1A:1812:C:H5''	30:2V:56:LYS:HE3	1.95	0.48
1:1A:4587:G:O2'	5:1E:17:LEU:HD12	2.13	0.48
13:2E:32:ARG:HG3	13:2E:32:ARG:NH1	2.27	0.48
14:2F:154:VAL:HG12	14:2F:155:MET:HG2	1.95	0.48
23:2O:40:GLU:CD	23:2O:65:ARG:HD2	2.38	0.48
47:2m:24:C:O2'	47:2m:25:A:H8	1.97	0.48
47:2m:611:G:H2'	47:2m:612:U:C6	2.49	0.48
47:2m:986:G:O4'	74:3L:138:ASP:HB2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1113:A:H3'	47:2m:1114:U:C5'	2.29	0.48
47:2m:1679:A:H2'	52:2r:60:ARG:HD2	1.94	0.48
47:2m:1679:A:OP2	52:2r:60:ARG:NE	2.45	0.48
49:2o:150:ILE:HG22	59:2y:131:PRO:HD3	1.94	0.48
70:3H:159:ARG:HD2	70:3H:171:THR:HG22	1.94	0.48
77:3O:62:VAL:HG22	77:3O:63:PRO:HD3	1.94	0.48
1:1A:1517:G:OP1	14:2F:19:GLN:NE2	2.46	0.48
1:1A:1528:U:H2'	1:1A:1529:G:C8	2.49	0.48
1:1A:1613:A:H5''	4:1D:183:GLY:CA	2.44	0.48
1:1A:2651:C:O2'	1:1A:2653:C:OP1	2.24	0.48
1:1A:3917:A:H2'	1:1A:3918:G:H8	1.79	0.48
1:1A:4120:U:C4	35:2a:97:ILE:HG12	2.48	0.48
1:1A:4731:G:O2'	1:1A:4732:G:OP2	2.23	0.48
1:1A:4759:C:H2'	1:1A:4760:G:C4	2.48	0.48
12:2D:41:ALA:O	12:2D:139:ARG:NH2	2.39	0.48
28:2T:29:ILE:HG13	28:2T:40:HIS:NE2	2.28	0.48
29:2U:76:ASP:OD1	29:2U:77:LYS:N	2.46	0.48
47:2m:1148:A:OP1	65:3C:6:ARG:NH2	2.46	0.48
47:2m:1854:U:H2'	47:2m:1855:G:H8	1.78	0.48
52:2r:67:PRO:CD	52:2r:70:GLU:OE1	2.62	0.48
55:2u:3:MET:CE	55:2u:48:ALA:HB2	2.24	0.48
57:2w:17:TYR:CD2	57:2w:18:ARG:HG3	2.49	0.48
77:3O:47:LEU:CD1	77:3O:50:PHE:HA	2.44	0.48
1:1A:268:G:H2'	1:1A:269:G:C8	2.47	0.48
1:1A:368:C:O4'	6:1F:83:GLY:HA3	2.14	0.48
1:1A:383:A:O2'	1:1A:384:A:C8	2.67	0.48
1:1A:429:A:H2'	1:1A:430:G:C8	2.49	0.48
1:1A:512:U:H3	1:1A:647:G:H1	1.59	0.48
1:1A:1244:G:H2'	1:1A:1245:C:C6	2.48	0.48
1:1A:2063:G:H2'	1:1A:2064:G:C8	2.49	0.48
1:1A:2389:A:H2'	1:1A:2390:G:H8	1.77	0.48
1:1A:3870:C:H2'	1:1A:3871:A:H8	1.78	0.48
5:1E:46:PHE:CZ	5:1E:84:MET:HG3	2.49	0.48
9:2A:31:LYS:NZ	9:2A:34:ARG:NH1	2.62	0.48
12:2D:61:SER:HA	12:2D:126:VAL:HG12	1.94	0.48
16:2H:123:GLU:HG3	16:2H:124:ASP:H	1.79	0.48
36:2b:12:LYS:HE3	36:2b:16:GLU:HG3	1.95	0.48
41:2g:106:ARG:HG2	41:2g:106:ARG:NH1	2.28	0.48
47:2m:106:C:H2'	47:2m:107:A:H8	1.78	0.48
47:2m:1103:C:H2'	47:2m:1104:G:C8	2.49	0.48
48:2n:33:GLN:HB3	48:2n:154:LEU:HD12	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:2o:46:LYS:HB3	49:2o:46:LYS:HE3	1.64	0.48
49:2o:185:VAL:HA	49:2o:188:LEU:HG	1.96	0.48
57:2w:85:ILE:HG23	57:2w:112:ILE:HD12	1.96	0.48
59:2y:79:GLU:O	59:2y:83:ASN:HB2	2.14	0.48
60:2z:60:THR:O	60:2z:64:VAL:HG23	2.14	0.48
63:3A:16:LYS:NZ	69:3G:259:THR:HG22	2.29	0.48
1:1A:132:G:N7	1:1A:133:C:O2'	2.47	0.48
1:1A:2520:C:H2'	1:1A:2521:G:C8	2.48	0.48
3:1C:126:C:O2'	3:1C:127:U:O4'	2.19	0.48
6:1F:159:GLU:HA	6:1F:217:ILE:HB	1.96	0.48
9:2A:95:ILE:O	9:2A:223:LYS:HD2	2.14	0.48
21:2M:101:THR:HG22	21:2M:103:ALA:N	2.29	0.48
22:2N:36:LYS:HA	22:2N:64:VAL:HG12	1.94	0.48
33:2Y:6:PRO:HG3	33:2Y:73:GLY:HA3	1.96	0.48
46:2l:74:CYS:O	46:2l:78:LYS:HG2	2.13	0.48
47:2m:552:G:H2'	47:2m:553:U:C2	2.49	0.48
47:2m:841:G:N7	76:3N:12:PHE:N	2.61	0.48
47:2m:849:A:H2'	47:2m:850:C:C6	2.49	0.48
47:2m:1589:A:H4'	61:20:82:ARG:HG3	1.96	0.48
47:2m:1616:U:H2'	47:2m:1617:G:C8	2.49	0.48
49:2o:68:GLU:HA	49:2o:84:PHE:O	2.13	0.48
52:2r:138:ALA:O	66:3D:63:ARG:NH1	2.47	0.48
1:1A:1749:A:H2'	1:1A:1750:G:C8	2.49	0.48
1:1A:1846:G:H2'	1:1A:1847:C:C6	2.48	0.48
1:1A:2876:G:C8	44:2j:16:THR:HG22	2.49	0.48
1:1A:3633:C:H2'	1:1A:3634:G:C8	2.49	0.48
1:1A:3719:A:H2'	1:1A:3720:G:C8	2.47	0.48
5:1E:300:LYS:HD3	5:1E:300:LYS:N	2.28	0.48
6:1F:221:PHE:HD2	6:1F:227:ILE:HD13	1.78	0.48
8:1H:138:ARG:NH1	8:1H:169:ALA:O	2.44	0.48
8:1H:164:PHE:HA	8:1H:175:VAL:HG23	1.95	0.48
12:2D:30:LYS:HG3	12:2D:63:GLU:HG3	1.95	0.48
47:2m:549:C:H2'	47:2m:550:C:C5	2.49	0.48
47:2m:928:G:N2	78:3P:68:GLY:O	2.44	0.48
47:2m:1611:G:N2	60:2z:85:ASN:O	2.46	0.48
47:2m:1648:G:H5''	58:2x:125:ARG:HB3	1.96	0.48
47:2m:1797:U:H2'	47:2m:1798:C:C6	2.48	0.48
47:2m:1849:G:H1'	47:2m:1850:A:C5'	2.44	0.48
53:2s:75:ILE:HD12	53:2s:79:LEU:HD21	1.95	0.48
57:2w:130:ARG:HB3	57:2w:130:ARG:HH11	1.77	0.48
58:2x:135:PRO:HD3	58:2x:141:TYR:CE1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:3F:35:SER:HB2	68:3F:37:ASP:OD1	2.14	0.48
68:3F:104:HIS:CD2	68:3F:124:SER:HB3	2.49	0.48
69:3G:208:PRO:O	69:3G:212:LYS:HG2	2.14	0.48
79:3Q:28:LYS:HE2	79:3Q:36:MET:HE2	1.95	0.48
1:1A:217:C:H5	1:1A:219:G:H4'	1.79	0.48
1:1A:1084:C:H2'	1:1A:1085:C:C6	2.49	0.48
1:1A:2775:C:HO2'	1:1A:2776:G:P	2.35	0.48
1:1A:4938:A:H61	8:1H:247:LYS:HG3	1.77	0.48
4:1D:117:GLU:HG2	4:1D:124:GLY:H	1.78	0.48
5:1E:4:ARG:O	5:1E:5:LYS:HG2	2.13	0.48
15:2G:116:LYS:HD3	17:2I:196:LEU:HD21	1.95	0.48
27:2S:56:GLN:HB3	27:2S:67:ILE:HD13	1.95	0.48
33:2Y:82:VAL:O	33:2Y:86:GLU:OE1	2.31	0.48
34:2Z:41:PHE:HE1	34:2Z:110:ILE:HD13	1.78	0.48
39:2e:32:VAL:HG22	39:2e:50:LYS:HZ2	1.78	0.48
46:2l:73:HIS:NE2	46:2l:111:LEU:HD21	2.29	0.48
47:2m:520:A:O2'	47:2m:825:A:N3	2.43	0.48
47:2m:674:C:H2'	47:2m:675:U:C6	2.49	0.48
47:2m:1314:U:O2'	55:2u:1:MET:O	2.30	0.48
48:2n:209:GLU:O	48:2n:213:GLU:HB3	2.13	0.48
49:2o:128:LYS:HE2	49:2o:132:GLY:HA2	1.95	0.48
51:2q:55:ALA:HB1	51:2q:60:GLU:HG2	1.96	0.48
52:2r:56:TYR:HA	52:2r:62:ARG:HG2	1.95	0.48
54:2t:157:LYS:HA	54:2t:157:LYS:HD3	1.64	0.48
59:2y:36:GLU:OE1	59:2y:47:ARG:NH1	2.47	0.48
61:20:11:GLN:OE1	61:20:62:ARG:HD2	2.14	0.48
68:3F:37:ASP:C	68:3F:38:LYS:HD2	2.39	0.48
69:3G:96:PHE:CD1	69:3G:96:PHE:C	2.90	0.48
75:3M:24:GLN:HA	75:3M:63:VAL:O	2.14	0.48
75:3M:32:LYS:HA	75:3M:35:VAL:HG22	1.96	0.48
76:3N:10:ARG:HD2	76:3N:11:LYS:HG3	1.96	0.48
1:1A:98:A:O2'	1:1A:292:G:N1	2.47	0.48
1:1A:980:U:H2'	1:1A:981:C:C6	2.49	0.48
1:1A:1964:A:H2'	1:1A:1965:G:C8	2.49	0.48
1:1A:2622:G:OP2	23:2O:84:LYS:NZ	2.44	0.48
1:1A:2758:G:H1'	1:1A:2765:A:H1'	1.96	0.48
1:1A:2775:C:O2'	1:1A:2776:G:OP1	2.26	0.48
1:1A:4538:G:H2'	1:1A:4539:U:C6	2.49	0.48
1:1A:4911:A:OP2	5:1E:100:ARG:HD3	2.14	0.48
1:1A:5055:G:H2'	1:1A:5056:A:C8	2.49	0.48
2:1B:7:G:OP1	7:1G:33:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:1E:257:TRP:CD1	5:1E:257:TRP:C	2.90	0.48
11:2C:51:LYS:HG2	11:2C:52:LYS:HG2	1.96	0.48
18:2J:94:MET:CG	18:2J:148:MET:HE3	2.35	0.48
47:2m:2:A:H5'	69:3G:205:VAL:HG11	1.95	0.48
47:2m:177:G:H21	47:2m:178:C:H41	1.62	0.48
47:2m:604:A:H4'	47:2m:605:A:OP1	2.14	0.48
47:2m:744:G:N1	53:2s:107:LYS:HE3	2.00	0.48
47:2m:1249:C:OP2	47:2m:1250:A:O2'	2.23	0.48
51:2q:11:ARG:HH12	51:2q:20:LEU:HD22	1.78	0.48
66:3D:7:GLN:HB3	66:3D:60:GLU:HA	1.96	0.48
66:3D:14:VAL:HG12	66:3D:53:GLY:H	1.77	0.48
72:3J:49:LEU:HA	72:3J:74:ILE:HG23	1.96	0.48
76:3N:21:LYS:HB2	76:3N:75:ILE:CG1	2.43	0.48
1:1A:7:C:H2'	1:1A:8:U:C6	2.49	0.47
1:1A:3873:G:H2'	1:1A:3874:G:C8	2.48	0.47
1:1A:4392:G:N2	1:1A:4395:U:O2	2.43	0.47
1:1A:4473:A:OP1	41:2g:124:LYS:NZ	2.44	0.47
5:1E:194:LEU:O	5:1E:198:ARG:HG3	2.14	0.47
6:1F:60:HIS:NE2	6:1F:100:ARG:HD3	2.28	0.47
7:1G:195:HIS:CE1	7:1G:199:ILE:HD11	2.49	0.47
43:2i:41:TYR:CD2	81:2i:201:84G:O7	2.67	0.47
47:2m:1535:U:O4	52:2r:159:ARG:HG3	2.14	0.47
50:2p:33:GLY:CA	50:2p:53:THR:HG23	2.38	0.47
50:2p:162:ASP:OD1	50:2p:165:ASN:ND2	2.39	0.47
50:2p:163:PRO:O	50:2p:167:TYR:HB2	2.13	0.47
51:2q:100:ARG:HB2	51:2q:114:ILE:HD13	1.95	0.47
53:2s:33:ASN:ND2	53:2s:82:GLU:OE2	2.31	0.47
61:20:6:VAL:CG1	61:20:135:ALA:HB2	2.44	0.47
64:3B:18:ARG:CG	64:3B:18:ARG:NH1	2.75	0.47
68:3F:212:LYS:O	68:3F:235:ILE:HG22	2.13	0.47
75:3M:69:LEU:HD11	75:3M:72:CYS:HB3	1.96	0.47
76:3N:11:LYS:HD3	76:3N:24:VAL:HG21	1.95	0.47
1:1A:1576:G:H8	1:1A:1576:G:OP2	1.97	0.47
1:1A:2107:C:N4	1:1A:2108:G:O6	2.47	0.47
1:1A:2579:G:N2	1:1A:2582:A:OP2	2.37	0.47
1:1A:4042:G:OP1	46:2l:101:LYS:NZ	2.33	0.47
1:1A:4460:U:H2'	1:1A:4461:C:C6	2.48	0.47
6:1F:7:LEU:HG	6:1F:21:ASN:HB3	1.95	0.47
8:1H:117:PRO:O	45:2k:112:ARG:HD2	2.15	0.47
13:2E:85:LYS:CE	13:2E:115:LEU:HD11	2.41	0.47
43:2i:106:PHE:N	43:2i:106:PHE:CD1	2.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1101:U:H2'	47:2m:1102:G:H8	1.79	0.47
47:2m:1156:U:O4	69:3G:194:ARG:NH1	2.47	0.47
47:2m:1610:G:P	60:2z:121:ARG:HH21	2.37	0.47
51:2q:94:LYS:HG2	76:3N:16:ARG:HG3	1.95	0.47
56:2v:124:ASP:N	56:2v:124:ASP:OD1	2.47	0.47
57:2w:82:ASP:OD1	57:2w:82:ASP:N	2.46	0.47
68:3F:176:VAL:HG12	68:3F:186:THR:HB	1.97	0.47
68:3F:256:ILE:HB	68:3F:270:LEU:HB2	1.96	0.47
79:3Q:28:LYS:HE2	79:3Q:36:MET:HE3	1.93	0.47
80:3R:119:ARG:O	80:3R:132:MET:N	2.46	0.47
1:1A:742:G:H2'	1:1A:743:G:C8	2.49	0.47
1:1A:1896:A:OP1	9:2A:223:LYS:NZ	2.44	0.47
10:2B:38:ASN:ND2	10:2B:43:GLN:OE1	2.48	0.47
11:2C:106:GLN:NE2	11:2C:113:GLU:OE1	2.45	0.47
17:2I:54:TYR:HD1	17:2I:145:VAL:HG21	1.74	0.47
47:2m:1406:G:H2'	47:2m:1407:U:O4'	2.13	0.47
47:2m:1496:U:H1'	67:3E:24:CYS:HB2	1.97	0.47
47:2m:1538:C:H4'	61:20:45:LEU:HD12	1.96	0.47
47:2m:1550:G:H3'	47:2m:1579:A:H61	1.78	0.47
47:2m:1809:A:H2'	47:2m:1810:U:C6	2.50	0.47
1:1A:229:G:H5''	27:2S:11:ARG:HG3	1.97	0.47
1:1A:965:G:H21	1:1A:2092:G:H1'	1.79	0.47
1:1A:4873:G:H1	15:2G:98:ARG:HH21	1.61	0.47
1:1A:4953:G:H2'	1:1A:4954:G:H8	1.78	0.47
5:1E:298:LEU:HB2	5:1E:300:LYS:HG2	1.97	0.47
12:2D:140:THR:CG2	12:2D:141:LYS:N	2.77	0.47
27:2S:64:GLY:HA3	27:2S:66:GLN:HE22	1.79	0.47
47:2m:803:C:O2'	75:3M:80:ASP:OD1	2.22	0.47
48:2n:108:PHE:HB2	48:2n:136:GLU:HG2	1.95	0.47
48:2n:173:LEU:HD11	48:2n:177:MET:HE3	1.96	0.47
50:2p:210:ILE:HD13	59:2y:19:LYS:HD3	1.96	0.47
59:2y:41:ILE:CG2	59:2y:46:LEU:CG	2.92	0.47
66:3D:45:ASN:OD1	66:3D:45:ASN:N	2.47	0.47
70:3H:181:THR:HG22	70:3H:183:ARG:N	2.30	0.47
72:3J:58:GLU:HB2	72:3J:60:MET:SD	2.54	0.47
77:3O:47:LEU:HD22	77:3O:78:LYS:HB2	1.97	0.47
1:1A:158:A:N1	1:1A:276:C:O2'	2.41	0.47
1:1A:369:G:N2	1:1A:372:A:OP2	2.41	0.47
1:1A:460:C:H2'	1:1A:461:G:H8	1.80	0.47
1:1A:687:U:O2'	8:1H:94:LYS:HG2	2.15	0.47
1:1A:2376:A:H2'	1:1A:2377:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:1E:285:TYR:CZ	5:1E:334:LYS:HG3	2.50	0.47
5:1E:302:ASN:O	5:1E:304:SER:N	2.46	0.47
9:2A:241:ASN:O	9:2A:245:ARG:HG2	2.15	0.47
38:2d:19:CYS:SG	38:2d:39:TYR:HB2	2.55	0.47
45:2k:97:ILE:HD13	45:2k:107:ARG:HA	1.96	0.47
46:2l:172:VAL:HG23	46:2l:173:LYS:N	2.30	0.47
47:2m:842:C:H2'	47:2m:843:C:C6	2.49	0.47
47:2m:1736:G:H2'	47:2m:1737:G:H8	1.78	0.47
59:2y:36:GLU:HB2	59:2y:47:ARG:HH11	1.80	0.47
65:3C:10:ARG:HB3	65:3C:33:ASP:OD2	2.15	0.47
77:3O:94:LYS:HB2	77:3O:96:LEU:HD22	1.96	0.47
1:1A:911:U:H2'	1:1A:912:G:O4'	2.15	0.47
1:1A:1371:A:N1	3:1C:28:C:O2'	2.46	0.47
1:1A:3910:C:H2'	1:1A:3911:C:H6	1.79	0.47
1:1A:3923:A:H2'	1:1A:3924:C:C6	2.50	0.47
1:1A:4594:U:H2'	1:1A:4595:G:C8	2.45	0.47
5:1E:140:GLU:N	5:1E:140:GLU:OE1	2.48	0.47
36:2b:89:ARG:O	36:2b:93:ARG:HG2	2.14	0.47
45:2k:63:VAL:HG22	45:2k:79:ARG:HG2	1.97	0.47
47:2m:558:G:C2	47:2m:559:G:N2	2.79	0.47
47:2m:1643:U:H5''	58:2x:145:TYR:HE2	1.79	0.47
47:2m:1733:U:H2'	47:2m:1734:G:O4'	2.15	0.47
50:2p:106:ARG:HD3	50:2p:175:VAL:HG22	1.96	0.47
58:2x:15:ARG:HA	58:2x:19:ALA:O	2.15	0.47
59:2y:28:PHE:HA	59:2y:55:THR:HG21	1.96	0.47
68:3F:10:THR:HB	68:3F:306:LEU:HD22	1.97	0.47
70:3H:85:ARG:NH1	70:3H:87:ARG:HH12	2.12	0.47
72:3J:84:LYS:HD3	72:3J:88:TRP:CZ2	2.50	0.47
74:3L:101:GLY:HA2	74:3L:106:LYS:HD3	1.97	0.47
1:1A:127:G:H2'	1:1A:128:C:H5'	1.97	0.47
1:1A:178:C:H2'	1:1A:179:G:C8	2.50	0.47
1:1A:683:C:H2'	1:1A:684:G:O4'	2.14	0.47
1:1A:1333:A:H2'	1:1A:1334:A:H8	1.80	0.47
1:1A:1414:C:H2'	1:1A:1415:G:C8	2.49	0.47
1:1A:1437:C:H1'	1:1A:2098:G:C8	2.49	0.47
1:1A:2003:G:H1	1:1A:2016:C:N4	2.12	0.47
1:1A:3938:G:H4'	1:1A:3939:G:O5'	2.15	0.47
1:1A:3968:U:H3	1:1A:4054:C:H41	1.61	0.47
1:1A:4065:G:H2'	1:1A:4065:G:N3	2.30	0.47
1:1A:4758:U:OP1	17:2I:116:LYS:NZ	2.37	0.47
2:1B:4:U:H2'	2:1B:5:A:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1B:30:C:C2	2:1B:48:G:N2	2.82	0.47
4:1D:186:TYR:HB2	4:1D:196:TRP:CZ3	2.49	0.47
7:1G:286:SER:HA	7:1G:289:ARG:HE	1.79	0.47
9:2A:31:LYS:HZ3	9:2A:34:ARG:NH1	2.13	0.47
9:2A:221:LYS:O	9:2A:221:LYS:HG3	2.14	0.47
26:2R:54:LEU:HD23	26:2R:54:LEU:H	1.78	0.47
28:2T:53:VAL:HG11	28:2T:62:ILE:HG23	1.97	0.47
39:2e:10:ASP:HA	39:2e:13:LEU:HG	1.96	0.47
46:2l:145:VAL:CG2	46:2l:146:ALA:N	2.78	0.47
47:2m:12:U:H2'	47:2m:13:C:C6	2.49	0.47
47:2m:84:A:H5''	76:3N:122:LYS:HD2	1.96	0.47
47:2m:321:C:H3'	47:2m:322:C:C6	2.49	0.47
47:2m:872:A:O2'	47:2m:873:G:H8	1.98	0.47
47:2m:929:G:H2'	47:2m:930:C:O4'	2.15	0.47
47:2m:1101:U:H2'	47:2m:1102:G:C8	2.50	0.47
47:2m:1114:U:H3'	47:2m:1114:U:OP2	2.15	0.47
47:2m:1189:A:H2'	47:2m:1190:A:C8	2.49	0.47
47:2m:1215:C:H42	47:2m:1220:A:H61	1.61	0.47
47:2m:1450:G:H2'	47:2m:1451:G:O4'	2.14	0.47
47:2m:1628:C:H2'	47:2m:1629:C:C6	2.50	0.47
47:2m:1759:G:H2'	47:2m:1760:G:C8	2.50	0.47
50:2p:133:GLY:HA3	50:2p:156:LEU:O	2.14	0.47
51:2q:36:HIS:CG	51:2q:85:GLY:HA3	2.50	0.47
51:2q:155:LYS:O	51:2q:158:ASP:HB2	2.15	0.47
61:20:75:MET:SD	61:20:79:TYR:HE2	2.38	0.47
63:3A:16:LYS:HB2	63:3A:16:LYS:HZ3	1.80	0.47
68:3F:30:MET:SD	68:3F:42:MET:HG3	2.55	0.47
68:3F:152:SER:H	68:3F:169:GLY:HA2	1.79	0.47
70:3H:103:ASP:OD1	70:3H:104:ALA:N	2.43	0.47
72:3J:19:GLN:HE22	72:3J:88:TRP:CD1	2.33	0.47
73:3K:33:VAL:O	73:3K:37:ILE:HG12	2.15	0.47
76:3N:41:ARG:HB2	76:3N:55:ILE:CG2	2.45	0.47
76:3N:130:LYS:HB3	76:3N:131:PRO:HD3	1.96	0.47
1:1A:385:A:N3	1:1A:387:G:H5''	2.30	0.47
1:1A:1171:G:N7	1:1A:1172:C:N4	2.62	0.47
1:1A:1449:C:H2'	1:1A:1450:C:C6	2.50	0.47
1:1A:4258:C:H2'	1:1A:4259:C:C6	2.50	0.47
1:1A:4742:G:H2'	1:1A:4743:G:C8	2.50	0.47
1:1A:4744:A:H61	1:1A:4955:A:N6	2.09	0.47
4:1D:196:TRP:HB3	4:1D:197:PRO:HD3	1.96	0.47
5:1E:200:ARG:HG2	5:1E:200:ARG:NH1	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:1H:155:GLY:O	8:1H:158:ARG:HG3	2.14	0.47
9:2A:31:LYS:NZ	9:2A:34:ARG:HH12	2.12	0.47
10:2B:180:PRO:HG3	10:2B:219:VAL:HG13	1.96	0.47
14:2F:50:PRO:O	14:2F:52:SER:N	2.48	0.47
14:2F:209:LYS:HG2	14:2F:210:LYS:HG3	1.97	0.47
25:2Q:106:GLU:O	25:2Q:109:ILE:HG22	2.15	0.47
28:2T:74:VAL:O	28:2T:74:VAL:HG12	2.15	0.47
32:2X:114:PHE:HA	32:2X:117:LEU:HD12	1.96	0.47
47:2m:1419:C:O5'	61:20:128:GLN:NE2	2.34	0.47
47:2m:1442:U:H2'	47:2m:1443:C:C6	2.50	0.47
47:2m:1658:G:OP2	47:2m:1660:C:N4	2.47	0.47
48:2n:77:ILE:CD1	48:2n:99:ILE:HD12	2.45	0.47
57:2w:108:LYS:N	57:2w:111:MET:SD	2.85	0.47
58:2x:34:VAL:HG12	58:2x:70:VAL:HB	1.97	0.47
61:20:75:MET:HE2	61:20:78:ILE:HG22	1.95	0.47
74:3L:56:VAL:HA	74:3L:60:MET:HE1	1.97	0.47
77:3O:43:LYS:HD3	77:3O:43:LYS:HA	1.76	0.47
1:1A:1210:C:H41	9:2A:66:ARG:CZ	2.28	0.47
1:1A:1305:C:OP1	3:1C:7:U:O2'	2.31	0.47
1:1A:1847:C:H2'	1:1A:1848:C:C6	2.50	0.47
1:1A:2706:G:N2	1:1A:2709:C:OP1	2.42	0.47
1:1A:3903:A:H2'	1:1A:3904:G:O4'	2.15	0.47
1:1A:4988:U:O2'	1:1A:4989:U:OP2	2.26	0.47
11:2C:44:GLU:CG	11:2C:58:ASP:HB2	2.45	0.47
26:2R:115:LYS:C	26:2R:115:LYS:HD3	2.40	0.47
47:2m:963:A:OP1	74:3L:65:ASP:HB3	2.15	0.47
47:2m:1033:G:N1	47:2m:1080:A:O2'	2.37	0.47
47:2m:1126:G:OP2	59:2y:129:LYS:NZ	2.48	0.47
47:2m:1473:G:H21	47:2m:1475:G:H2'	1.80	0.47
47:2m:1593:C:O2	61:20:12:GLN:NE2	2.47	0.47
47:2m:1755:C:H2'	47:2m:1756:C:C6	2.50	0.47
68:3F:191:HIS:CD2	68:3F:195:LEU:HD21	2.50	0.47
70:3H:176:ILE:HG22	70:3H:179:LEU:HB2	1.97	0.47
74:3L:46:ASP:OD1	74:3L:48:SER:N	2.45	0.47
1:1A:23:C:H2'	1:1A:24:G:O4'	2.14	0.47
1:1A:2638:G:H22	1:1A:2697:A:N6	2.12	0.47
1:1A:3692:A:H62	1:1A:3823:G:N2	2.01	0.47
4:1D:2:GLY:HA2	4:1D:207:VAL:HG23	1.97	0.47
7:1G:108:ARG:CZ	7:1G:253:TYR:HB2	2.45	0.47
24:2P:25:VAL:HG22	24:2P:38:TYR:HD1	1.79	0.47
46:2l:120:ILE:HD12	46:2l:124:LEU:HD22	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:26:U:H2'	47:2m:27:A:C8	2.50	0.47
47:2m:528:A:H2'	47:2m:529:A:C8	2.50	0.47
47:2m:604:A:H1'	47:2m:639:C:O2'	2.14	0.47
47:2m:1144:A:H2'	47:2m:1145:A:C8	2.49	0.47
47:2m:1589:A:H2'	47:2m:1590:C:C6	2.50	0.47
50:2p:39:VAL:HG22	50:2p:48:ILE:HG12	1.97	0.47
60:2z:15:VAL:HG12	60:2z:16:LEU:HD12	1.96	0.47
65:3C:70:LYS:HE2	65:3C:72:HIS:HE1	1.79	0.47
68:3F:108:VAL:HA	68:3F:124:SER:HA	1.97	0.47
1:1A:264:C:O2'	1:1A:265:C:O4'	2.26	0.46
1:1A:461:G:H2'	1:1A:462:G:H8	1.80	0.46
1:1A:746:A:H2'	1:1A:747:A:C8	2.50	0.46
1:1A:1241:C:O2	30:2V:115:GLY:HA2	2.14	0.46
1:1A:1702:C:O2'	6:1F:308:LYS:NZ	2.43	0.46
1:1A:2000:G:O2'	1:1A:2017:A:N1	2.46	0.46
1:1A:2744:A:OP1	81:1A:5113:84G:O3	2.33	0.46
1:1A:2844:A:O2'	1:1A:4631:G:H4'	2.14	0.46
1:1A:3697:U:H5''	1:1A:3698:G:H5'	1.97	0.46
1:1A:4258:C:H2'	1:1A:4259:C:H6	1.80	0.46
1:1A:4460:U:H2'	1:1A:4461:C:H6	1.79	0.46
2:1B:54:A:C5	13:2E:12:MET:HG3	2.50	0.46
4:1D:57:PRO:HB3	44:2j:54:ILE:HD11	1.96	0.46
5:1E:53:MET:HE2	5:1E:53:MET:HB3	1.77	0.46
8:1H:223:ARG:HH12	8:1H:238:GLU:HA	1.80	0.46
15:2G:77:TRP:O	15:2G:81:ASP:HA	2.15	0.46
15:2G:99:GLU:C	15:2G:99:GLU:OE1	2.58	0.46
27:2S:55:VAL:HG12	27:2S:106:ILE:HA	1.98	0.46
33:2Y:64:LYS:HA	33:2Y:67:LYS:HB2	1.96	0.46
47:2m:329:G:O6	47:2m:330:G:O6	2.33	0.46
47:2m:1103:C:H2'	47:2m:1104:G:H8	1.80	0.46
47:2m:1189:A:H2'	47:2m:1190:A:H8	1.79	0.46
47:2m:1388:A:H5''	59:2y:45:LYS:HZ3	1.80	0.46
47:2m:1528:G:O2'	47:2m:1666:C:OP1	2.31	0.46
47:2m:1547:C:O2'	62:21:62:ARG:NH2	2.42	0.46
47:2m:1623:A:H3'	47:2m:1623:A:N3	2.31	0.46
49:2o:25:PHE:HA	49:2o:28:LYS:HD2	1.97	0.46
50:2p:142:LEU:HD13	50:2p:150:MET:SD	2.55	0.46
53:2s:167:GLU:OE1	53:2s:167:GLU:CA	2.63	0.46
64:3B:125:VAL:HG11	64:3B:130:LEU:HD13	1.96	0.46
67:3E:5:GLN:OE1	67:3E:5:GLN:C	2.58	0.46
68:3F:304:ASP:OD1	68:3F:308:ARG:NH1	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:3I:83:ARG:HE	71:3I:150:ARG:HD3	1.79	0.46
74:3L:94:HIS:C	74:3L:95:ILE:HD13	2.40	0.46
78:3P:43:ILE:HD12	78:3P:44:THR:H	1.80	0.46
1:1A:2055:G:H4'	1:1A:2056:G:OP2	2.16	0.46
1:1A:3871:A:H2'	1:1A:3872:A:C8	2.50	0.46
1:1A:4688:C:H2'	1:1A:4689:U:C6	2.50	0.46
5:1E:394:LYS:O	5:1E:397:ILE:HG13	2.15	0.46
7:1G:55:VAL:HG22	7:1G:60:ILE:HD12	1.96	0.46
7:1G:82:GLU:O	7:1G:85:LYS:HG3	2.16	0.46
8:1H:245:GLN:OE1	8:1H:245:GLN:HA	2.15	0.46
20:2L:4:LEU:HD13	20:2L:24:LEU:HD23	1.97	0.46
35:2a:103:VAL:O	35:2a:106:VAL:HG12	2.15	0.46
38:2d:39:TYR:CD1	38:2d:39:TYR:C	2.93	0.46
39:2e:23:VAL:HA	39:2e:35:LYS:O	2.15	0.46
43:2i:33:LEU:HD12	43:2i:33:LEU:O	2.16	0.46
47:2m:1060:A:O2'	47:2m:1062:A:N7	2.36	0.46
47:2m:1098:C:H2'	47:2m:1099:G:C8	2.51	0.46
50:2p:137:VAL:HG22	50:2p:151:LYS:HB3	1.96	0.46
68:3F:302:TYR:CE2	68:3F:308:ARG:HD2	2.51	0.46
69:3G:256:TRP:CD2	75:3M:68:ARG:HD3	2.51	0.46
70:3H:139:SER:O	70:3H:142:ARG:HG2	2.16	0.46
1:1A:1739:G:H2'	1:1A:1740:C:C6	2.50	0.46
1:1A:2632:U:H2'	1:1A:2633:U:C6	2.50	0.46
1:1A:2693:G:OP1	39:2e:35:LYS:HE3	2.16	0.46
1:1A:3597:G:H2'	1:1A:3598:C:C6	2.49	0.46
1:1A:3971:G:O2'	1:1A:3973:G:O2'	2.20	0.46
1:1A:4174:U:H2'	1:1A:4175:G:H8	1.79	0.46
10:2B:51:LEU:O	10:2B:55:VAL:HG13	2.15	0.46
11:2C:51:LYS:N	11:2C:51:LYS:CD	2.78	0.46
12:2D:19:LYS:HD2	12:2D:26:VAL:HG21	1.97	0.46
19:2K:49:LYS:HG3	19:2K:53:MET:HE3	1.97	0.46
23:2O:26:THR:HG22	23:2O:68:SER:OG	2.15	0.46
25:2Q:91:MET:CE	25:2Q:94:ARG:HE	2.24	0.46
25:2Q:96:GLN:HB3	25:2Q:100:VAL:HB	1.97	0.46
35:2a:24:ARG:HE	35:2a:30:ILE:HD11	1.80	0.46
43:2i:55:ILE:HG22	43:2i:56:PHE:H	1.80	0.46
46:2l:145:VAL:CG2	46:2l:146:ALA:H	2.27	0.46
47:2m:303:C:H5''	54:2t:75:LYS:HD3	1.97	0.46
47:2m:560:A:OP2	71:3I:174:LYS:HG3	2.15	0.46
47:2m:1007:C:H2'	47:2m:1008:A:C8	2.51	0.46
47:2m:1446:A:O2'	47:2m:1447:G:H5''	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1860:A:O2'	47:2m:1861:G:OP2	2.26	0.46
52:2r:125:SER:O	52:2r:126:THR:HG23	2.14	0.46
52:2r:129:GLY:HA3	52:2r:136:ARG:NH1	2.31	0.46
54:2t:48:VAL:HG11	54:2t:54:LYS:HE3	1.95	0.46
57:2w:83:MET:HE3	57:2w:84:ILE:N	2.30	0.46
61:20:5:THR:HG23	61:20:7:LYS:H	1.79	0.46
62:21:61:LEU:HD22	67:3E:34:TYR:CZ	2.50	0.46
66:3D:31:ARG:HA	66:3D:43:ILE:HA	1.97	0.46
69:3G:59:GLU:OE1	69:3G:59:GLU:N	2.49	0.46
73:3K:3:ARG:HB3	73:3K:6:ALA:O	2.15	0.46
1:1A:17:A:OP2	26:2R:60:TYR:OH	2.27	0.46
1:1A:1875:C:H2'	1:1A:1876:U:C6	2.51	0.46
1:1A:2638:G:H22	1:1A:2697:A:H61	1.63	0.46
1:1A:2875:C:H5'	44:2j:8:VAL:HG13	1.97	0.46
1:1A:4481:U:H2'	1:1A:4482:U:H6	1.80	0.46
1:1A:4717:A:OP2	5:1E:30:LYS:NZ	2.32	0.46
8:1H:183:ARG:HA	8:1H:183:ARG:HD2	1.67	0.46
8:1H:223:ARG:NH2	8:1H:238:GLU:OE1	2.48	0.46
43:2i:104:ILE:HD12	43:2i:104:ILE:C	2.15	0.46
47:2m:535:G:N2	47:2m:536:A:N7	2.64	0.46
47:2m:945:U:H2'	47:2m:946:U:C6	2.50	0.46
47:2m:1539:U:OP1	61:20:43:LYS:HB2	2.15	0.46
48:2n:70:ASN:HB3	48:2n:73:ASP:HB2	1.98	0.46
49:2o:113:MET:HE2	49:2o:113:MET:HB2	1.78	0.46
55:2u:49:MET:SD	55:2u:69:TRP:CD2	3.09	0.46
56:2v:126:VAL:HG22	56:2v:145:VAL:HG22	1.97	0.46
60:2z:34:LYS:HG2	60:2z:103:LEU:HD23	1.97	0.46
61:20:125:PRO:HA	61:20:128:GLN:CG	2.43	0.46
70:3H:22:ARG:HG3	70:3H:25:ARG:NH2	2.25	0.46
70:3H:64:LYS:HB2	70:3H:97:VAL:HG21	1.97	0.46
1:1A:277:G:O2'	1:1A:278:G:OP2	2.30	0.46
1:1A:512:U:O4	1:1A:647:G:O6	2.33	0.46
1:1A:2259:G:C2	8:1H:90:ALA:HB2	2.50	0.46
1:1A:3641:U:H5	1:1A:3646:A:N7	2.13	0.46
1:1A:4237:C:OP1	1:1A:4327:C:O2'	2.34	0.46
1:1A:5015:G:H2'	1:1A:5016:A:C2	2.50	0.46
4:1D:29:LEU:O	4:1D:123:ARG:NH1	2.48	0.46
7:1G:75:VAL:HG23	7:1G:112:ARG:HH12	1.81	0.46
13:2E:175:LEU:N	13:2E:176:PRO:CD	2.78	0.46
14:2F:80:GLU:HB3	14:2F:110:LEU:HD12	1.97	0.46
17:2I:54:TYR:OH	17:2I:73:PHE:O	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:2O:54:GLY:O	23:2O:55:ASN:OD1	2.34	0.46
46:2l:106:LYS:H	46:2l:106:LYS:CD	2.29	0.46
47:2m:5:U:OP2	69:3G:230:THR:OG1	2.22	0.46
47:2m:338:G:H5'	47:2m:339:A:H8	1.75	0.46
47:2m:1208:A:H2'	47:2m:1209:A:C8	2.51	0.46
47:2m:1242:U:O2	47:2m:1517:G:H4'	2.15	0.46
47:2m:1307:U:H3	80:3R:135:HIS:CE1	2.34	0.46
47:2m:1409:A:H2'	47:2m:1410:C:H6	1.80	0.46
51:2q:199:GLU:OE2	51:2q:201:HIS:NE2	2.48	0.46
60:2z:24:ARG:HB2	60:2z:29:ALA:HB2	1.98	0.46
64:3B:37:LYS:HD2	64:3B:37:LYS:O	2.16	0.46
64:3B:128:VAL:CG2	64:3B:138:LYS:CB	2.94	0.46
68:3F:67:SER:H	68:3F:82:SER:HA	1.80	0.46
69:3G:191:VAL:HG11	69:3G:236:PHE:HA	1.98	0.46
79:3Q:8:ARG:O	79:3Q:8:ARG:CG	2.64	0.46
79:3Q:28:LYS:HD3	79:3Q:36:MET:HE3	1.97	0.46
1:1A:1294:A:H1'	1:1A:1296:G:N1	2.31	0.46
1:1A:5057:C:H2'	1:1A:5058:A:C8	2.51	0.46
3:1C:87:G:H4'	3:1C:88:A:O5'	2.16	0.46
7:1G:33:ARG:O	7:1G:37:VAL:HB	2.15	0.46
25:2Q:91:MET:HE1	25:2Q:94:ARG:NH2	2.30	0.46
28:2T:97:ASN:H	28:2T:100:VAL:HG21	1.81	0.46
47:2m:115:U:H2'	47:2m:116:U:C6	2.51	0.46
47:2m:896:U:O2'	47:2m:897:U:OP1	2.30	0.46
52:2r:87:LEU:HD21	58:2x:47:LEU:HD11	1.97	0.46
69:3G:273:LEU:O	69:3G:277:HIS:HB3	2.15	0.46
1:1A:716:C:OP1	6:1F:317:ASN:HB2	2.16	0.46
1:1A:990:C:C4	1:1A:992:C:H1'	2.51	0.46
1:1A:1504:G:H2'	1:1A:1505:C:C6	2.50	0.46
1:1A:3870:C:H2'	1:1A:3871:A:C8	2.51	0.46
1:1A:3880:G:H2'	1:1A:3881:G:C8	2.50	0.46
1:1A:4323:A:C5	7:1G:160:PHE:HE1	2.34	0.46
81:1A:5106:84G:O6	81:1A:5106:84G:O4	2.34	0.46
5:1E:305:THR:HG22	5:1E:368:ILE:HD12	1.97	0.46
6:1F:189:MET:HE1	6:1F:201:ARG:HG3	1.98	0.46
7:1G:82:GLU:OE2	7:1G:108:ARG:NH2	2.36	0.46
8:1H:50:LEU:HD12	8:1H:51:VAL:N	2.31	0.46
10:2B:235:ARG:HB3	10:2B:235:ARG:NH1	2.31	0.46
17:2I:55:LEU:HD23	17:2I:58:LEU:HD12	1.96	0.46
47:2m:28:U:H2'	47:2m:29:G:H8	1.80	0.46
47:2m:641:A:OP1	71:3I:40:LYS:HD2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:1496:U:H2'	47:2m:1497:G:H3'	1.98	0.46
47:2m:1758:G:N2	47:2m:1775:U:H3	2.14	0.46
47:2m:1769:C:H5''	47:2m:1770:G:H5''	1.98	0.46
49:2o:149:GLN:HE22	49:2o:154:SER:HB3	1.80	0.46
60:2z:22:GLY:HA2	60:2z:56:ALA:HB3	1.98	0.46
65:3C:58:VAL:HG12	74:3L:125:LYS:HB3	1.98	0.46
70:3H:82:SER:OG	70:3H:83:CYS:SG	2.72	0.46
72:3J:113:ASP:OD1	72:3J:113:ASP:N	2.49	0.46
74:3L:142:ARG:HG3	74:3L:143:LYS:N	2.30	0.46
1:1A:65:A:N6	1:1A:75:G:H1'	2.31	0.46
1:1A:1176:C:H42	1:1A:1184:A:H61	1.64	0.46
1:1A:1309:C:H2'	1:1A:1310:C:H6	1.79	0.46
1:1A:1580:C:H2'	1:1A:1581:G:O4'	2.16	0.46
1:1A:2485:U:O3'	1:1A:2486:G:N2	2.49	0.46
1:1A:2527:A:OP1	20:2L:38:ARG:NH2	2.35	0.46
1:1A:2732:G:H2'	1:1A:2733:C:C6	2.51	0.46
1:1A:2738:C:O2'	1:1A:2740:U:O2	2.33	0.46
1:1A:3713:U:H3	1:1A:3740:G:N2	2.14	0.46
1:1A:4582:C:H2'	1:1A:4583:C:O4'	2.15	0.46
5:1E:175:GLN:NE2	5:1E:177:LYS:O	2.38	0.46
13:2E:82:ILE:HG22	13:2E:130:PHE:HE2	1.81	0.46
14:2F:37:LYS:HB3	14:2F:37:LYS:HE2	1.70	0.46
14:2F:140:SER:O	14:2F:144:LEU:HD12	2.15	0.46
17:2I:34:VAL:HG22	17:2I:103:LYS:HB2	1.98	0.46
22:2N:92:ARG:HB3	22:2N:94:GLU:OE1	2.15	0.46
47:2m:113:G:C2	47:2m:292:A:H1'	2.50	0.46
47:2m:908:A:N6	47:2m:909:G:O6	2.49	0.46
49:2o:167:LYS:HA	49:2o:170:GLU:HG3	1.98	0.46
58:2x:134:GLY:HA2	58:2x:141:TYR:CD1	2.51	0.46
62:21:81:GLN:NE2	67:3E:55:LEU:HD12	2.30	0.46
75:3M:57:ARG:H	75:3M:57:ARG:HD2	1.80	0.46
1:1A:136:C:H4'	1:1A:137:G:C8	2.51	0.46
1:1A:429:A:H2'	1:1A:430:G:H8	1.80	0.46
1:1A:3961:G:N2	1:1A:4046:A:P	2.89	0.46
1:1A:4747:C:H5''	34:2Z:54:LYS:HD2	1.98	0.46
1:1A:4896:G:O2'	1:1A:4897:G:OP1	2.34	0.46
9:2A:203:GLU:OE1	9:2A:203:GLU:N	2.45	0.46
9:2A:236:ARG:HG2	9:2A:236:ARG:O	2.15	0.46
12:2D:30:LYS:HE3	12:2D:30:LYS:HB3	1.73	0.46
16:2H:123:GLU:HB3	16:2H:128:LYS:HG3	1.97	0.46
45:2k:47:LYS:HB2	45:2k:102:TYR:CZ	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:65:C:C2	70:3H:133:LEU:HD22	2.51	0.46
47:2m:917:U:H2'	47:2m:918:U:C6	2.50	0.46
51:2q:124:CYS:HA	51:2q:142:HIS:CE1	2.51	0.46
56:2v:82:MET:HG2	56:2v:82:MET:O	2.15	0.46
57:2w:130:ARG:HB2	57:2w:130:ARG:NH1	2.31	0.46
60:2z:106:LYS:HA	60:2z:109:GLU:HG2	1.97	0.46
68:3F:11:LEU:HB3	68:3F:43:TRP:CH2	2.51	0.46
74:3L:14:VAL:HG21	74:3L:17:LEU:HD21	1.98	0.46
77:3O:64:ASN:O	77:3O:111:ARG:NE	2.49	0.46
1:1A:1988:G:H8	1:1A:1989:G:H21	1.63	0.46
1:1A:4348:A:H5''	1:1A:4349:C:OP2	2.16	0.46
2:1B:6:C:O3'	7:1G:50:ARG:NH2	2.48	0.46
3:1C:123:U:O2'	3:1C:128:C:N4	2.49	0.46
23:2O:80:LYS:HE3	23:2O:108:GLU:HA	1.97	0.46
32:2X:37:GLY:O	32:2X:41:ARG:HG3	2.16	0.46
47:2m:38:A:OP1	71:3I:5:ARG:HG3	2.16	0.46
47:2m:73:C:N4	70:3H:170:ARG:HH22	2.13	0.46
47:2m:85:A:H5''	76:3N:118:ARG:HE	1.80	0.46
47:2m:1159:G:OP2	64:3B:5:ARG:NH1	2.49	0.46
47:2m:1478:U:H2'	47:2m:1479:G:C8	2.51	0.46
51:2q:9:LEU:HB2	51:2q:30:ARG:HD3	1.98	0.46
77:3O:78:LYS:HB3	77:3O:78:LYS:HE3	1.73	0.46
79:3Q:28:LYS:HD3	79:3Q:36:MET:CE	2.46	0.46
1:1A:270:U:H2'	1:1A:271:C:H6	1.81	0.45
1:1A:1186:U:H2'	1:1A:1187:G:N3	2.31	0.45
1:1A:3611:A:H2	1:1A:5016:A:H8	1.64	0.45
1:1A:4758:U:C4	1:1A:4759:C:C4	3.03	0.45
3:1C:153:C:OP1	10:2B:185:LYS:HD2	2.16	0.45
4:1D:147:ARG:HG3	4:1D:157:VAL:HG22	1.98	0.45
7:1G:223:PHE:O	7:1G:227:ILE:HG12	2.16	0.45
20:2L:167:LYS:O	20:2L:171:LYS:HG2	2.16	0.45
47:2m:806:U:H2'	47:2m:807:G:C8	2.51	0.45
47:2m:940:U:H2'	47:2m:941:C:C6	2.51	0.45
47:2m:1365:G:H2'	47:2m:1366:G:H8	1.80	0.45
47:2m:1409:A:H2'	47:2m:1410:C:C6	2.51	0.45
47:2m:1534:C:N3	47:2m:1536:G:N2	2.63	0.45
47:2m:1673:U:H2'	47:2m:1674:G:O4'	2.16	0.45
48:2n:37:TYR:CG	48:2n:162:PRO:HG3	2.51	0.45
64:3B:25:LYS:O	64:3B:29:LYS:HB2	2.16	0.45
71:3I:33:GLY:HA3	79:3Q:38:TYR:CG	2.50	0.45
74:3L:27:VAL:HG23	74:3L:90:ILE:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:3M:126:LEU:HD23	75:3M:126:LEU:O	2.16	0.45
1:1A:1621:A:O2'	4:1D:14:SER:OG	2.28	0.45
1:1A:2695:A:H1'	1:1A:2696:A:OP2	2.17	0.45
1:1A:3759:A:HO2'	47:2m:1826:G:HO2'	1.55	0.45
1:1A:4762:A:C8	17:2I:126:VAL:HG21	2.51	0.45
81:1A:5107:84G:N2	81:1A:5107:84G:O3	2.50	0.45
7:1G:37:VAL:HG12	7:1G:38:ILE:HD13	1.97	0.45
8:1H:154:THR:CG2	8:1H:193:PHE:HB3	2.46	0.45
11:2C:59:LYS:HA	11:2C:59:LYS:HD2	1.85	0.45
47:2m:842:C:H2'	47:2m:843:C:H6	1.80	0.45
47:2m:1650:A:H5''	58:2x:139:ALA:HB2	1.97	0.45
52:2r:123:GLU:OE2	66:3D:63:ARG:NH2	2.49	0.45
52:2r:127:ARG:HH21	52:2r:128:ILE:HD11	1.82	0.45
57:2w:85:ILE:HD11	57:2w:107:ILE:HD13	1.97	0.45
64:3B:57:VAL:HG22	64:3B:67:ARG:HB2	1.97	0.45
66:3D:14:VAL:CG2	66:3D:30:VAL:HB	2.47	0.45
69:3G:267:GLN:HA	69:3G:270:THR:HG23	1.98	0.45
74:3L:34:PHE:CD1	74:3L:34:PHE:C	2.93	0.45
79:3Q:33:LYS:HA	79:3Q:36:MET:HG2	1.99	0.45
80:3R:135:HIS:NE2	80:3R:140:TYR:HB3	2.31	0.45
1:1A:139:G:H2'	1:1A:140:G:C8	2.51	0.45
1:1A:696:C:H4'	8:1H:226:ARG:NH2	2.30	0.45
1:1A:1394:G:OP1	14:2F:186:ARG:NH1	2.42	0.45
1:1A:1733:G:N3	1:1A:4214:A:H2'	2.32	0.45
1:1A:4415:A:OP1	12:2D:154:ARG:NH2	2.49	0.45
1:1A:4642:U:H2'	1:1A:4643:G:H8	1.81	0.45
8:1H:136:HIS:HB2	8:1H:138:ARG:HH21	1.80	0.45
11:2C:63:ASN:OD1	11:2C:66:GLU:HG3	2.15	0.45
25:2Q:52:THR:HG22	25:2Q:54:LEU:N	2.32	0.45
26:2R:72:ASP:O	26:2R:76:ILE:HG12	2.16	0.45
47:2m:1136:U:H2'	47:2m:1137:U:C6	2.50	0.45
47:2m:1446:A:O2'	47:2m:1447:G:H8	1.99	0.45
47:2m:1678:A:OP2	52:2r:148:ASN:ND2	2.49	0.45
51:2q:136:ILE:HG13	51:2q:138:HIS:CE1	2.51	0.45
59:2y:99:ASP:OD1	59:2y:99:ASP:N	2.45	0.45
64:3B:77:ASN:OD1	64:3B:79:LYS:HG3	2.17	0.45
68:3F:104:HIS:HD2	68:3F:108:VAL:HB	1.81	0.45
1:1A:996:G:H4'	1:1A:1048:G:C6	2.52	0.45
1:1A:1097:C:H2'	1:1A:1098:G:C8	2.51	0.45
1:1A:1308:C:H2'	1:1A:1309:C:H6	1.81	0.45
7:1G:166:ALA:HB1	7:1G:171:LEU:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:2F:142:GLU:H	14:2F:142:GLU:CD	2.23	0.45
16:2H:84:PRO:HA	16:2H:87:HIS:CG	2.50	0.45
20:2L:172:ARG:HH22	47:2m:909:G:P	2.39	0.45
39:2e:26:LYS:HE3	39:2e:70:LYS:HZ2	1.81	0.45
39:2e:47:ILE:HD11	39:2e:53:ALA:HA	1.99	0.45
40:2f:44:TRP:CZ3	40:2f:45:ARG:HD2	2.52	0.45
47:2m:1580:A:OP2	62:21:59:LYS:NZ	2.39	0.45
48:2n:53:ARG:HB3	63:3A:83:PHE:CE2	2.50	0.45
50:2p:109:LEU:HD22	50:2p:115:VAL:HG22	1.98	0.45
51:2q:86:PHE:CE2	51:2q:87:MET:HG2	2.51	0.45
54:2t:124:LYS:H	54:2t:124:LYS:HD2	1.81	0.45
56:2v:30:LYS:CD	56:2v:30:LYS:C	2.89	0.45
60:2z:51:ASP:OD1	60:2z:51:ASP:N	2.45	0.45
61:20:6:VAL:HG12	61:20:14:PHE:CE1	2.52	0.45
68:3F:255:SER:C	68:3F:256:ILE:HD13	2.41	0.45
69:3G:144:SER:HB3	69:3G:150:ALA:HB2	1.97	0.45
70:3H:32:MET:CE	70:3H:100:CYS:HA	2.46	0.45
1:1A:36:U:O4	16:2H:83:LYS:NZ	2.50	0.45
1:1A:425:U:H2'	1:1A:426:A:H8	1.82	0.45
1:1A:454:U:H2'	1:1A:455:C:O4'	2.16	0.45
1:1A:3759:A:N1	1:1A:3765:G:N7	2.64	0.45
1:1A:3937:C:OP2	1:1A:3938:G:O2'	2.29	0.45
1:1A:4173:G:H2'	1:1A:4174:U:C6	2.51	0.45
1:1A:4237:C:O3'	1:1A:4326:G:N2	2.49	0.45
1:1A:4693:C:O2'	1:1A:4695:C:N4	2.45	0.45
1:1A:4873:G:H4'	1:1A:4874:A:H5'	1.99	0.45
2:1B:54:A:H1'	13:2E:13:ARG:HG3	1.99	0.45
3:1C:102:G:OP2	3:1C:104:A:O2'	2.27	0.45
7:1G:52:ILE:HA	7:1G:147:ASP:HB3	1.97	0.45
7:1G:146:LEU:HG	7:1G:147:ASP:N	2.30	0.45
12:2D:55:ASP:OD2	12:2D:162:ARG:NH1	2.49	0.45
27:2S:1:MET:HE2	27:2S:1:MET:HB2	1.90	0.45
27:2S:82:ILE:HG22	27:2S:83:GLU:N	2.32	0.45
31:2W:50:ASN:OD1	31:2W:51:ASN:N	2.49	0.45
41:2g:99:CYS:HB2	41:2g:114:LYS:HD2	1.98	0.45
47:2m:1519:U:H1'	60:2z:135:HIS:NE2	2.32	0.45
47:2m:1736:G:H2'	47:2m:1737:G:C8	2.52	0.45
50:2p:25:LEU:HB2	50:2p:34:TYR:OH	2.16	0.45
50:2p:172:VAL:O	50:2p:173:ARG:HD3	2.16	0.45
51:2q:31:PRO:HB3	51:2q:43:PRO:HB3	1.99	0.45
58:2x:135:PRO:HD3	58:2x:141:TYR:HE1	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:3G:76:LYS:HA	69:3G:97:PHE:HE1	1.81	0.45
75:3M:22:LYS:HA	78:3P:3:LEU:HD22	1.99	0.45
1:1A:452:A:H4'	1:1A:453:G:H5'	1.98	0.45
1:1A:666:G:H4'	1:1A:667:A:N7	2.31	0.45
1:1A:2671:C:H2'	1:1A:2672:C:C6	2.51	0.45
1:1A:3598:C:H2'	1:1A:3599:A:C8	2.52	0.45
1:1A:3673:C:N4	16:2H:127:TYR:OH	2.50	0.45
1:1A:3848:U:H2'	1:1A:3849:A:C8	2.51	0.45
5:1E:220:ILE:HG12	5:1E:278:THR:HG23	1.98	0.45
7:1G:60:ILE:HD11	7:1G:93:THR:HA	1.98	0.45
16:2H:68:ARG:HD3	16:2H:125:SER:O	2.17	0.45
20:2L:169:ALA:HA	20:2L:172:ARG:NE	2.29	0.45
36:2b:23:ASP:OD1	36:2b:24:LEU:N	2.49	0.45
47:2m:5:U:H2'	47:2m:6:G:H8	1.81	0.45
47:2m:455:A:H2'	47:2m:456:C:C6	2.52	0.45
47:2m:522:A:H5''	71:3I:145:PRO:HD2	1.99	0.45
47:2m:853:C:C2	47:2m:854:A:C8	3.04	0.45
47:2m:1419:C:H5'	61:20:125:PRO:O	2.17	0.45
47:2m:1511:U:HO2'	47:2m:1512:C:H6	1.62	0.45
48:2n:151:ASP:OD1	48:2n:151:ASP:N	2.48	0.45
50:2p:105:LEU:HG	50:2p:184:ILE:HD13	1.98	0.45
59:2y:25:GLY:O	59:2y:31:ASN:OD1	2.35	0.45
60:2z:8:LYS:HB3	60:2z:8:LYS:HE3	1.82	0.45
68:3F:213:ASP:HB3	68:3F:215:GLN:OE1	2.16	0.45
70:3H:159:ARG:HB3	70:3H:171:THR:CG2	2.47	0.45
74:3L:14:VAL:O	74:3L:15:ILE:CG1	2.53	0.45
1:1A:1893:C:H1'	1:1A:1937:C:O2	2.17	0.45
1:1A:2481:G:H2'	1:1A:2482:C:C6	2.51	0.45
1:1A:3619:G:H22	1:1A:3624:A:H1'	1.81	0.45
1:1A:4406:U:C2	1:1A:4407:G:C8	3.04	0.45
1:1A:4874:A:C2	17:2I:175:MET:HG3	2.51	0.45
1:1A:5053:U:H3'	1:1A:5054:C:C6	2.51	0.45
5:1E:241:PRO:O	5:1E:248:LEU:HD22	2.17	0.45
6:1F:37:VAL:HG11	6:1F:246:VAL:HG13	1.99	0.45
8:1H:164:PHE:CE1	8:1H:173:LEU:HB3	2.52	0.45
11:2C:137:SER:OG	11:2C:143:GLU:HG2	2.16	0.45
12:2D:111:LEU:HD11	12:2D:116:ARG:HH11	1.82	0.45
13:2E:95:ARG:H	13:2E:95:ARG:HG2	1.54	0.45
18:2J:115:GLU:HG3	18:2J:116:HIS:N	2.30	0.45
29:2U:36:GLY:HA3	29:2U:40:HIS:CE1	2.52	0.45
47:2m:213:G:HO2'	47:2m:214:U:P	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:605:A:N3	47:2m:639:C:H1'	2.32	0.45
47:2m:1667:U:H2'	47:2m:1668:U:C6	2.52	0.45
50:2p:222:PRO:HB3	68:3F:219:TRP:HH2	1.81	0.45
59:2y:109:LEU:HG	59:2y:111:PHE:CD1	2.52	0.45
60:2z:40:TYR:CE2	60:2z:97:GLN:HG2	2.51	0.45
61:20:90:SER:O	61:20:91:HIS:ND1	2.50	0.45
77:3O:92:LEU:HD11	77:3O:99:LEU:HD23	1.99	0.45
1:1A:423:G:OP1	18:2J:62:ARG:NH1	2.47	0.45
1:1A:1097:C:H2'	1:1A:1098:G:H8	1.82	0.45
1:1A:1244:G:H2'	1:1A:1245:C:H6	1.82	0.45
1:1A:1317:U:H2'	1:1A:1318:C:C6	2.52	0.45
1:1A:1359:G:H4'	16:2H:203:TYR:HB2	1.99	0.45
1:1A:1596:U:O2'	18:2J:135:ARG:NH2	2.45	0.45
1:1A:1693:U:P	19:2K:143:ARG:HH22	2.40	0.45
1:1A:2608:G:H2'	1:1A:2609:G:H8	1.82	0.45
1:1A:3610:A:H2'	1:1A:3611:A:C8	2.52	0.45
1:1A:3934:G:H2'	1:1A:3935:C:C6	2.52	0.45
1:1A:4358:U:H4'	14:2F:197:LYS:HD3	1.99	0.45
13:2E:63:ARG:CZ	43:2i:106:PHE:CB	2.93	0.45
14:2F:87:HIS:HB3	14:2F:90:VAL:HG22	1.99	0.45
34:2Z:45:LYS:HD3	34:2Z:106:TYR:O	2.16	0.45
38:2d:39:TYR:HB3	38:2d:40:PRO:HD3	1.99	0.45
47:2m:913:A:OP1	53:2s:99:ARG:NH1	2.50	0.45
47:2m:1215:C:O2'	47:2m:1645:C:OP2	2.31	0.45
47:2m:1285:G:O2'	47:2m:1286:G:H5'	2.16	0.45
47:2m:1415:C:H2'	47:2m:1417:C:H4'	1.98	0.45
48:2n:189:ILE:HG22	48:2n:191:ARG:H	1.82	0.45
52:2r:176:GLU:OE2	52:2r:187:SER:HB2	2.17	0.45
53:2s:130:LEU:HG	53:2s:177:TYR:CZ	2.52	0.45
54:2t:80:ASP:HB2	54:2t:94:LYS:HE2	1.98	0.45
65:3C:22:ARG:HA	65:3C:22:ARG:HD2	1.77	0.45
1:1A:417:G:H1'	1:1A:418:A:OP2	2.17	0.45
1:1A:513:U:N3	1:1A:516:C:OP2	2.47	0.45
1:1A:654:C:O2'	6:1F:269:LYS:HD2	2.17	0.45
1:1A:922:C:H2'	1:1A:923:C:O4'	2.17	0.45
1:1A:1327:C:H2'	1:1A:1328:G:C8	2.52	0.45
1:1A:1344:C:O2'	14:2F:8:MET:HG3	2.17	0.45
1:1A:1516:G:O2'	14:2F:18:TRP:NE1	2.39	0.45
1:1A:1617:G:H1'	1:1A:2513:A:N6	2.32	0.45
1:1A:1720:C:H2'	1:1A:1721:G:O4'	2.17	0.45
1:1A:2407:G:O6	40:2f:2:SER:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:2461:G:H2'	1:1A:2462:C:C6	2.52	0.45
1:1A:2550:G:H22	1:1A:2767:U:H3	1.65	0.45
1:1A:2656:U:H5''	28:2T:38:TYR:HB3	1.99	0.45
1:1A:3607:U:H2'	1:1A:3608:A:C8	2.52	0.45
1:1A:3656:A:H2'	1:1A:3657:U:C6	2.51	0.45
6:1F:322:LEU:O	6:1F:326:LEU:HG	2.17	0.45
11:2C:141:LYS:HG3	11:2C:142:ASP:OD1	2.17	0.45
12:2D:111:LEU:HD11	12:2D:116:ARG:HD2	1.94	0.45
21:2M:133:ALA:HB3	21:2M:136:LYS:HG3	1.99	0.45
23:2O:113:ARG:HD3	23:2O:113:ARG:HA	1.73	0.45
47:2m:59:U:H5''	47:2m:503:C:N4	2.31	0.45
47:2m:1408:U:H1'	58:2x:71:ARG:NH1	2.32	0.45
47:2m:1606:G:HO2'	47:2m:1607:A:H8	1.61	0.45
50:2p:214:LYS:HA	50:2p:214:LYS:HD3	1.72	0.45
60:2z:120:HIS:CE1	60:2z:124:ARG:HD2	2.52	0.45
63:3A:16:LYS:HG2	63:3A:23:ILE:HD12	1.98	0.45
67:3E:53:ILE:HD12	67:3E:55:LEU:HD21	1.99	0.45
74:3L:14:VAL:O	74:3L:14:VAL:HG12	2.17	0.45
1:1A:467:U:C4	1:1A:468:U:H1'	2.51	0.45
1:1A:1461:C:H2'	1:1A:1462:A:H8	1.81	0.45
1:1A:1479:G:H2'	1:1A:1480:C:C6	2.51	0.45
1:1A:2306:G:H1'	1:1A:2332:A:N6	2.31	0.45
1:1A:2711:G:OP2	1:1A:2712:G:H5''	2.17	0.45
8:1H:205:ASN:O	8:1H:205:ASN:ND2	2.50	0.45
9:2A:36:LYS:HE3	9:2A:36:LYS:HB3	1.84	0.45
12:2D:91:LEU:HD12	12:2D:135:ILE:HG23	1.98	0.45
16:2H:16:SER:O	16:2H:20:ARG:HG3	2.17	0.45
23:2O:93:LYS:HG2	23:2O:94:ASN:OD1	2.17	0.45
27:2S:47:MET:HE1	27:2S:118:ILE:HD11	1.99	0.45
31:2W:38:ILE:HD11	31:2W:46:VAL:HG21	1.99	0.45
33:2Y:86:GLU:OE2	33:2Y:114:ARG:NE	2.50	0.45
47:2m:432:G:H2'	47:2m:433:A:C8	2.52	0.45
47:2m:1124:C:H5''	49:2o:150:ILE:HG13	1.97	0.45
47:2m:1598:G:O2'	77:3O:80:ARG:O	2.18	0.45
49:2o:91:VAL:HG12	49:2o:93:GLY:H	1.82	0.45
53:2s:73:GLN:HA	53:2s:76:GLN:HG2	1.99	0.45
53:2s:107:LYS:CE	53:2s:107:LYS:CD	2.95	0.45
53:2s:130:LEU:HG	53:2s:177:TYR:CE1	2.52	0.45
59:2y:24:LEU:HB2	59:2y:58:MET:CE	2.47	0.45
59:2y:116:ASN:OD1	59:2y:117:LEU:N	2.45	0.45
71:3I:103:GLU:OE1	71:3I:103:GLU:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:406:C:HO2'	1:1A:407:A:P	2.40	0.44
1:1A:467:U:H5	1:1A:686:A:H61	1.65	0.44
1:1A:2743:A:H2'	1:1A:2744:A:C8	2.52	0.44
1:1A:2824:C:H2'	1:1A:2825:A:C8	2.52	0.44
1:1A:3619:G:H4'	20:2L:79:GLY:O	2.17	0.44
1:1A:3969:G:N2	1:1A:4053:A:OP1	2.41	0.44
2:1B:22:A:N3	2:1B:22:A:H2'	2.32	0.44
5:1E:44:THR:HG21	5:1E:186:ASN:ND2	2.33	0.44
5:1E:289:GLN:HB3	5:1E:301:ASN:HB3	1.99	0.44
8:1H:177:GLY:HA3	8:1H:184:VAL:HB	1.98	0.44
12:2D:87:MET:HE2	12:2D:87:MET:HB3	1.79	0.44
13:2E:110:GLN:CD	13:2E:110:GLN:H	2.25	0.44
23:2O:54:GLY:O	23:2O:56:LEU:N	2.50	0.44
23:2O:66:SER:C	23:2O:68:SER:H	2.26	0.44
39:2e:32:VAL:HG22	39:2e:50:LYS:NZ	2.32	0.44
46:2l:46:ASP:OD1	46:2l:46:ASP:N	2.47	0.44
47:2m:51:U:H2'	47:2m:52:G:C8	2.52	0.44
47:2m:604:A:H2'	47:2m:605:A:C8	2.52	0.44
47:2m:681:U:O2'	47:2m:1160:U:OP1	2.35	0.44
47:2m:1421:A:C2'	61:20:2:PRO:CA	2.78	0.44
58:2x:115:TYR:CD1	58:2x:115:TYR:C	2.95	0.44
58:2x:123:ASP:OD1	58:2x:123:ASP:N	2.50	0.44
59:2y:27:ASP:OD1	59:2y:30:THR:HG23	2.17	0.44
59:2y:46:LEU:HD12	59:2y:46:LEU:C	2.42	0.44
60:2z:44:VAL:HG22	60:2z:70:ILE:HG22	1.99	0.44
61:20:4:VAL:HG12	61:20:136:GLY:HA2	1.94	0.44
71:3I:137:VAL:HG12	71:3I:138[B]:ARG:HG3	1.97	0.44
73:3K:87:ASP:OD1	73:3K:87:ASP:N	2.49	0.44
77:3O:87:ALA:HA	77:3O:90:GLU:HG3	1.98	0.44
78:3P:19:HIS:CD2	78:3P:21:LYS:H	2.35	0.44
1:1A:88:A:N7	19:2K:173:LYS:NZ	2.65	0.44
1:1A:423:G:H2'	1:1A:424:U:C6	2.52	0.44
1:1A:981:C:C4	8:1H:73:TYR:CE1	3.05	0.44
1:1A:1218:G:H5''	81:1A:5102:84G:C11	2.47	0.44
1:1A:1346:C:H2'	1:1A:1347:G:C8	2.51	0.44
1:1A:1878:G:H2'	1:1A:1879:C:C6	2.53	0.44
1:1A:2079:G:H2'	1:1A:2080:U:H6	1.82	0.44
1:1A:2389:A:O2'	1:1A:2390:G:OP1	2.28	0.44
1:1A:2744:A:H2'	1:1A:2745:A:C8	2.52	0.44
1:1A:2763:U:H2'	1:1A:2764:A:H8	1.83	0.44
1:1A:2903:G:H5''	1:1A:2904:U:H5	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:3965:A:N7	1:1A:4049:U:O2'	2.35	0.44
1:1A:4260:U:H2'	1:1A:4261:C:C6	2.53	0.44
1:1A:5055:G:H2'	1:1A:5056:A:H8	1.82	0.44
6:1F:56:GLU:H	6:1F:56:GLU:CD	2.26	0.44
9:2A:35:LYS:HA	9:2A:35:LYS:HD3	1.76	0.44
18:2J:10:ASN:OD1	18:2J:10:ASN:N	2.48	0.44
29:2U:88:VAL:HG12	29:2U:92:LYS:HZ3	1.82	0.44
31:2W:48:LEU:HD13	31:2W:57:LYS:HG3	1.99	0.44
41:2g:93:LYS:HD3	41:2g:102:ARG:HG2	1.99	0.44
46:2l:68:LEU:CA	46:2l:84:HIS:HA	2.47	0.44
47:2m:374:G:H2'	47:2m:375:U:C6	2.52	0.44
47:2m:482:G:N1	47:2m:485:A:OP2	2.47	0.44
47:2m:649:U:H1'	64:3B:45:SER:HB3	1.98	0.44
47:2m:1363:C:N4	47:2m:1375:G:O6	2.34	0.44
59:2y:17:ILE:CG2	59:2y:18:GLU:N	2.80	0.44
69:3G:86:LEU:HD22	69:3G:266:TYR:HE2	1.83	0.44
70:3H:223:LYS:HD3	70:3H:223:LYS:HA	1.79	0.44
1:1A:517:C:N4	1:1A:646:G:O2'	2.49	0.44
1:1A:4412:C:H2'	1:1A:4413:C:O2	2.17	0.44
1:1A:4504:C:H2'	1:1A:4505:C:H6	1.82	0.44
4:1D:92:LYS:HA	4:1D:103:PRO:HD2	1.99	0.44
10:2B:116:ALA:O	10:2B:120:LYS:HG2	2.17	0.44
23:2O:76:VAL:C	23:2O:78:PHE:H	2.24	0.44
31:2W:38:ILE:HG21	31:2W:63:TYR:HB3	2.00	0.44
45:2k:21:ASN:O	45:2k:23:GLN:HG2	2.18	0.44
47:2m:349:A:H2'	47:2m:350:C:C6	2.52	0.44
47:2m:642:U:OP2	79:3Q:34:ARG:NH2	2.50	0.44
47:2m:921:G:C5	75:3M:28:ARG:HD2	2.52	0.44
47:2m:1088:U:H4'	47:2m:1089:G:OP2	2.17	0.44
49:2o:30:TRP:O	49:2o:94:LYS:NZ	2.38	0.44
51:2q:21:ASP:OD2	51:2q:24:THR:OG1	2.35	0.44
57:2w:58:LYS:HA	57:2w:61:ARG:NH1	2.33	0.44
57:2w:128:HIS:CD2	57:2w:128:HIS:N	2.85	0.44
58:2x:9:SER:HA	58:2x:25:CYS:O	2.17	0.44
58:2x:92:LEU:HD23	58:2x:92:LEU:HA	1.85	0.44
59:2y:24:LEU:CB	59:2y:58:MET:CE	2.93	0.44
61:20:116:ASP:OD1	61:20:117:GLN:N	2.51	0.44
62:21:26:SER:OG	62:21:32:LEU:HD12	2.17	0.44
64:3B:102:VAL:CG1	64:3B:120:PHE:HB3	2.47	0.44
76:3N:72:PHE:CE2	76:3N:74:MET:SD	3.10	0.44
77:3O:47:LEU:HD23	77:3O:79:ILE:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:3R:137:ASP:OD1	80:3R:138:ARG:N	2.50	0.44
1:1A:758:G:O3'	11:2C:51:LYS:NZ	2.30	0.44
1:1A:982:U:C5	8:1H:71:ARG:HD2	2.52	0.44
1:1A:1461:C:H2'	1:1A:1462:A:C8	2.52	0.44
1:1A:1719:A:H2'	1:1A:1720:C:C6	2.53	0.44
1:1A:2072:C:C2	1:1A:2073:C:C5	3.05	0.44
1:1A:4874:A:C2	17:2I:179:LYS:HG3	2.51	0.44
1:1A:4896:G:O2'	1:1A:4897:G:P	2.75	0.44
8:1H:201:ILE:HD11	8:1H:267:LEU:HD21	1.99	0.44
32:2X:21:VAL:HG23	32:2X:57:MET:HE1	1.99	0.44
44:2j:46:LYS:HB3	44:2j:46:LYS:HE3	1.60	0.44
46:2l:29:LEU:HD11	46:2l:173:LYS:HB3	1.99	0.44
47:2m:127:C:HO2'	47:2m:184:G:H1	1.65	0.44
47:2m:813:A:OP1	51:2q:16:LYS:NZ	2.40	0.44
47:2m:918:U:H2'	47:2m:919:A:O4'	2.17	0.44
47:2m:1373:C:O2'	59:2y:10:LYS:HE3	2.18	0.44
49:2o:144:LYS:HG3	49:2o:208:HIS:HB3	1.99	0.44
52:2r:143:PRO:HA	52:2r:146:ARG:HG2	1.99	0.44
54:2t:158:ILE:HG23	54:2t:162:LEU:HD23	1.99	0.44
61:20:4:VAL:CG1	61:20:136:GLY:CA	2.87	0.44
61:20:74:SER:O	61:20:78:ILE:HG22	2.18	0.44
62:21:66:ARG:HD2	62:21:66:ARG:HA	1.85	0.44
66:3D:29:GLN:NE2	66:3D:66:ARG:O	2.47	0.44
71:3I:81:LEU:O	71:3I:84:ILE:HG22	2.16	0.44
77:3O:47:LEU:HD11	77:3O:50:PHE:HA	1.98	0.44
1:1A:2411:C:H2'	1:1A:2412:A:H8	1.82	0.44
1:1A:3777:G:O2'	1:1A:3815:G:O6	2.32	0.44
1:1A:3856:A:H5''	18:2J:83:TRP:O	2.18	0.44
1:1A:4257:A:H2	13:2E:27:GLY:HA2	1.83	0.44
1:1A:4768:G:H5'	17:2I:176:ARG:HD3	1.99	0.44
1:1A:4876:U:H2'	21:2M:169:THR:HG22	2.00	0.44
1:1A:4883:C:H4'	1:1A:4884:G:H4'	1.99	0.44
11:2C:18:ILE:HG22	11:2C:27:VAL:HG22	1.99	0.44
12:2D:150:GLU:OE2	12:2D:154:ARG:HG3	2.18	0.44
17:2I:39:GLU:CD	17:2I:39:GLU:H	2.24	0.44
32:2X:92:ARG:HA	32:2X:102:LEU:HD13	1.98	0.44
47:2m:957:A:H4'	47:2m:973:C:H1'	1.98	0.44
47:2m:1271:C:H41	47:2m:1511:U:H3	1.65	0.44
47:2m:1276:A:H3'	47:2m:1277:C:C6	2.53	0.44
47:2m:1630:A:H5''	60:2z:37:GLY:H	1.82	0.44
59:2y:31:ASN:N	59:2y:31:ASN:ND2	2.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:3J:60:MET:SD	72:3J:60:MET:N	2.78	0.44
80:3R:107:LYS:HG3	80:3R:117:LEU:HD11	2.00	0.44
1:1A:1645:C:H2'	1:1A:1646:A:C8	2.52	0.44
1:1A:1849:U:H3'	14:2F:5:ARG:HH21	1.81	0.44
1:1A:2065:G:H21	34:2Z:80:ASN:ND2	2.15	0.44
1:1A:3610:A:H2'	1:1A:3611:A:H8	1.82	0.44
1:1A:3953:G:H2'	1:1A:3954:A:C8	2.53	0.44
1:1A:4045:G:C6	1:1A:4048:A:H2'	2.53	0.44
1:1A:4566:U:H2'	1:1A:4567:G:O4'	2.17	0.44
2:1B:4:U:H2'	2:1B:5:A:C8	2.53	0.44
2:1B:92:C:H2'	2:1B:93:G:H8	1.83	0.44
7:1G:75:VAL:CG2	7:1G:112:ARG:HH12	2.31	0.44
7:1G:167:VAL:HG21	7:1G:175:HIS:HE1	1.83	0.44
10:2B:231:ASP:OD1	10:2B:234:ARG:NH2	2.36	0.44
16:2H:16:SER:HB2	37:2c:48:CYS:HB2	1.99	0.44
26:2R:152:LYS:HB2	26:2R:152:LYS:HE2	1.55	0.44
37:2c:73:ILE:O	37:2c:77:VAL:HG22	2.17	0.44
37:2c:81:ILE:HD12	37:2c:81:ILE:HA	1.84	0.44
46:2l:147:LYS:HD3	46:2l:147:LYS:HA	1.74	0.44
47:2m:216:C:H5	47:2m:311:C:N3	2.16	0.44
47:2m:332:G:O5'	70:3H:190:ARG:NH1	2.50	0.44
47:2m:1402:A:H1'	62:2l:54:VAL:HG12	1.98	0.44
47:2m:1569:A:N1	47:2m:1613:G:O2'	2.33	0.44
47:2m:1606:G:H5''	61:20:86:GLY:C	2.42	0.44
47:2m:1850:A:H2'	47:2m:1851:A:C8	2.53	0.44
48:2n:143:PRO:HB2	63:3A:34:MET:CE	2.47	0.44
49:2o:36:PRO:HB2	49:2o:38:MET:HE3	1.99	0.44
51:2q:139:LEU:HD23	51:2q:150:PRO:HB3	2.00	0.44
52:2r:68:ILE:HD12	52:2r:69:VAL:N	2.33	0.44
53:2s:169:LYS:HG2	53:2s:173:PHE:CZ	2.53	0.44
55:2u:25:LYS:HA	55:2u:46:MET:CE	2.34	0.44
57:2w:57:LEU:HA	57:2w:60:LEU:HG	1.99	0.44
61:20:4:VAL:O	61:20:4:VAL:HG13	2.18	0.44
66:3D:14:VAL:CG1	66:3D:53:GLY:H	2.30	0.44
68:3F:226:HIS:O	68:3F:227:LEU:HD23	2.17	0.44
70:3H:85:ARG:HH12	70:3H:87:ARG:HH12	1.66	0.44
71:3I:171:GLY:O	71:3I:175:ARG:HG3	2.18	0.44
73:3K:28:LEU:HD12	73:3K:28:LEU:HA	1.86	0.44
1:1A:86:U:H2'	1:1A:87:A:H8	1.83	0.44
1:1A:238:C:OP2	27:2S:45:ARG:NH2	2.50	0.44
1:1A:1303:A:O2'	1:1A:2314:G:OP2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:2063:G:H2'	1:1A:2064:G:H8	1.83	0.44
2:1B:16:A:H2'	2:1B:17:C:C6	2.53	0.44
3:1C:94:G:C5	38:2d:84:PRO:HG3	2.53	0.44
6:1F:66:SER:HA	6:1F:77:PRO:HA	2.00	0.44
7:1G:234:ASP:O	7:1G:235:MET:SD	2.76	0.44
8:1H:99:ASP:O	8:1H:101:ASN:ND2	2.50	0.44
12:2D:36:LEU:HD12	12:2D:37:GLY:N	2.28	0.44
12:2D:47:PRO:HD2	12:2D:141:LYS:HA	1.98	0.44
20:2L:169:ALA:HA	20:2L:172:ARG:HH21	1.83	0.44
22:2N:102:ARG:HA	22:2N:102:ARG:HD2	1.76	0.44
25:2Q:70:LYS:HG3	25:2Q:71:ARG:HG2	1.99	0.44
28:2T:7:PRO:HD3	28:2T:28:ASN:HD21	1.82	0.44
46:2l:85:MET:HE3	46:2l:85:MET:O	2.18	0.44
46:2l:91:LYS:NZ	46:2l:123:ILE:HG22	2.33	0.44
47:2m:65:C:N4	70:3H:133:LEU:HB3	2.33	0.44
47:2m:156:G:H5''	70:3H:2:LYS:HE3	1.99	0.44
47:2m:1388:A:H61	50:2p:161:GLY:HA3	1.83	0.44
47:2m:1447:G:H2'	47:2m:1448:A:C8	2.53	0.44
47:2m:1491:G:H2'	47:2m:1492:U:C6	2.53	0.44
47:2m:1628:C:O2'	60:2z:82:TRP:O	2.27	0.44
50:2p:210:ILE:HD12	59:2y:16:ILE:HD13	2.00	0.44
55:2u:58:VAL:HG12	55:2u:71:LEU:HA	2.00	0.44
59:2y:102:THR:HA	59:2y:105:MET:HG2	1.99	0.44
66:3D:7:GLN:HB3	66:3D:60:GLU:HG3	1.99	0.44
1:1A:97:G:OP1	14:2F:16:LYS:NZ	2.49	0.44
1:1A:226:G:N7	6:1F:184:TYR:OH	2.46	0.44
1:1A:351:C:H2'	1:1A:352:G:O4'	2.18	0.44
1:1A:384:A:N1	1:1A:405:U:H4'	2.33	0.44
1:1A:467:U:H5	1:1A:686:A:N6	2.16	0.44
1:1A:705:G:H2'	1:1A:706:C:C6	2.53	0.44
1:1A:1613:A:H5''	4:1D:183:GLY:HA2	1.99	0.44
1:1A:2529:A:O2'	1:1A:2531:C:OP2	2.35	0.44
1:1A:2570:U:H2'	1:1A:2571:C:C6	2.53	0.44
1:1A:2909:C:O2'	1:1A:3586:G:N1	2.50	0.44
1:1A:3620:G:OP1	1:1A:3622:C:N4	2.51	0.44
1:1A:4589:A:N1	1:1A:4621:C:O2'	2.47	0.44
1:1A:5066:U:OP1	18:2J:43:LYS:NZ	2.34	0.44
4:1D:33:ASP:N	4:1D:33:ASP:OD1	2.51	0.44
5:1E:211:PHE:HE2	5:1E:347:LEU:HB2	1.83	0.44
8:1H:157:HIS:CD2	8:1H:187:ARG:HH11	2.32	0.44
14:2F:79:GLU:O	14:2F:83:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:2L:13:SER:OG	20:2L:38:ARG:NH1	2.51	0.44
23:2O:23:LEU:CD1	23:2O:83:LEU:HD13	2.47	0.44
23:2O:28:PRO:HB2	23:2O:34:MET:HG2	1.99	0.44
26:2R:122:ALA:N	26:2R:139:ARG:O	2.49	0.44
34:2Z:50:VAL:HG22	34:2Z:69:VAL:HG22	1.99	0.44
45:2k:57:GLY:C	45:2k:58:LYS:HD2	2.42	0.44
47:2m:1047:C:H2'	47:2m:1048:G:O4'	2.18	0.44
47:2m:1109:C:O2'	47:2m:1110:G:H8	1.99	0.44
47:2m:1199:A:H5''	65:3C:2:THR:HB	1.98	0.44
47:2m:1554:C:H5''	47:2m:1555:U:O4'	2.18	0.44
51:2q:133:THR:O	51:2q:136:ILE:HG12	2.18	0.44
57:2w:56:LEU:HD21	57:2w:78:THR:HG21	2.00	0.44
61:20:60:THR:O	61:20:64:LEU:HD23	2.17	0.44
69:3G:130:ILE:HG12	69:3G:131:GLY:N	2.33	0.44
1:1A:418:A:P	1:1A:418:A:H8	2.40	0.44
1:1A:739:G:O2'	1:1A:740:G:H5''	2.17	0.44
1:1A:2431:A:OP1	40:2f:41:ARG:NH1	2.43	0.44
1:1A:2502:G:O2'	1:1A:2504:C:OP2	2.32	0.44
1:1A:2517:A:N3	1:1A:2539:C:O2'	2.49	0.44
1:1A:2837:U:H2'	1:1A:2838:G:O4'	2.18	0.44
1:1A:4303:C:N4	1:1A:4305:G:O6	2.51	0.44
3:1C:6:C:H2'	3:1C:7:U:C6	2.53	0.44
7:1G:132:VAL:HG21	7:1G:170:GLY:HA2	2.00	0.44
16:2H:155:VAL:O	16:2H:162:ARG:NH2	2.50	0.44
24:2P:65:VAL:HG22	24:2P:73:ARG:HA	1.99	0.44
34:2Z:48:ALA:HB3	34:2Z:104:MET:HE1	1.99	0.44
46:2l:66:CYS:CB	46:2l:82:ILE:HD12	2.46	0.44
47:2m:65:C:OP2	70:3H:136:LYS:NZ	2.47	0.44
47:2m:207:G:O2'	47:2m:208:G:OP1	2.33	0.44
47:2m:666:U:H2'	47:2m:667:U:C6	2.52	0.44
47:2m:1037:G:H4'	47:2m:1845:A:H4'	2.00	0.44
47:2m:1204:A:H2'	47:2m:1205:C:O4'	2.18	0.44
47:2m:1589:A:H4'	61:20:82:ARG:CG	2.48	0.44
50:2p:40:ARG:HE	62:21:108:PRO:HG2	1.81	0.44
50:2p:55:THR:HA	50:2p:58:VAL:HG22	1.99	0.44
53:2s:126:HIS:CE1	53:2s:181:THR:HG23	2.53	0.44
61:20:113:VAL:HG12	61:20:123:LEU:HD23	2.00	0.44
66:3D:37:ASP:O	66:3D:40:ARG:HG2	2.18	0.44
69:3G:271:ASP:OD1	69:3G:272:HIS:N	2.51	0.44
70:3H:224:ARG:HH22	70:3H:228:ILE:HD11	1.82	0.44
72:3J:65:VAL:CG2	72:3J:69:LEU:HG	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:3J:69:LEU:HD13	72:3J:74:ILE:HG21	1.98	0.44
76:3N:91:LEU:HD23	76:3N:96:LEU:HD13	2.00	0.44
80:3R:138:ARG:HB2	80:3R:148:TYR:O	2.18	0.44
1:1A:223:G:H4'	1:1A:225:G:N7	2.33	0.43
1:1A:1683:U:H2'	1:1A:1684:A:C8	2.53	0.43
1:1A:3765:G:N3	1:1A:3766:A:H5'	2.33	0.43
1:1A:4881:U:O2'	1:1A:4882:U:O4'	2.36	0.43
3:1C:141:C:H2'	3:1C:142:U:C6	2.54	0.43
4:1D:171:GLY:O	44:2j:68:ALA:HB2	2.18	0.43
8:1H:261:ILE:HG23	8:1H:267:LEU:HD23	2.00	0.43
10:2B:39:PHE:CD1	10:2B:47:PRO:HD3	2.53	0.43
12:2D:210:ARG:O	12:2D:214:SER:OG	2.24	0.43
14:2F:17:ASP:OD1	14:2F:17:ASP:C	2.61	0.43
20:2L:4:LEU:HD11	20:2L:29:THR:HG23	2.00	0.43
20:2L:171:LYS:HA	20:2L:171:LYS:HD3	1.84	0.43
20:2L:179:ALA:HA	20:2L:182:GLU:HB2	1.98	0.43
21:2M:81:TRP:O	21:2M:127:MET:HG2	2.18	0.43
21:2M:101:THR:HG22	21:2M:103:ALA:H	1.82	0.43
24:2P:48:ARG:NH1	24:2P:49:LEU:HB3	2.33	0.43
36:2b:14:LYS:H	36:2b:14:LYS:HG2	1.62	0.43
46:2l:106:LYS:H	46:2l:106:LYS:HD3	1.83	0.43
47:2m:545:A:O2'	47:2m:546:G:H8	2.01	0.43
47:2m:1113:A:C8	47:2m:1114:U:H2'	2.49	0.43
47:2m:1395:C:H1'	47:2m:1474:A:C2	2.53	0.43
47:2m:1856:C:OP1	74:3L:141:ARG:NH2	2.48	0.43
49:2o:48:LEU:C	49:2o:48:LEU:HD12	2.42	0.43
51:2q:211:LYS:HB2	51:2q:211:LYS:HE3	1.59	0.43
53:2s:126:HIS:ND1	53:2s:183:LYS:HE2	2.33	0.43
53:2s:145:ARG:HB2	75:3M:51:GLU:OE1	2.17	0.43
53:2s:146:VAL:HG22	53:2s:152:ARG:HG2	2.00	0.43
55:2u:64:TRP:CD2	67:3E:23:VAL:HG22	2.53	0.43
58:2x:101:ASP:OD1	58:2x:101:ASP:N	2.49	0.43
59:2y:44:LYS:HG3	59:2y:47:ARG:NH2	2.33	0.43
59:2y:46:LEU:O	59:2y:50:ILE:HG13	2.18	0.43
59:2y:69:ILE:HG13	59:2y:74:GLN:HB2	1.99	0.43
60:2z:142:ARG:HA	60:2z:142:ARG:HD2	1.69	0.43
61:20:42:HIS:HB3	61:20:93:SER:OG	2.18	0.43
63:3A:31:SER:HB3	63:3A:56:CYS:HA	1.99	0.43
64:3B:90:CYS:HA	64:3B:93:PHE:CD2	2.53	0.43
68:3F:37:ASP:OD1	68:3F:39:THR:OG1	2.28	0.43
75:3M:88:LYS:HD3	75:3M:88:LYS:HA	1.79	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:86:U:O2'	29:2U:65:ARG:NH2	2.50	0.43
1:1A:717:U:H2'	1:1A:718:C:C6	2.53	0.43
1:1A:1287:G:C6	8:1H:132:PRO:HG3	2.53	0.43
1:1A:1751:A:H2'	1:1A:1752:G:C8	2.53	0.43
1:1A:1914:C:H4'	17:2I:89:PRO:HD3	2.00	0.43
1:1A:4096:C:H2'	1:1A:4097:G:C8	2.53	0.43
1:1A:4192:A:H2'	1:1A:4193:C:H6	1.83	0.43
1:1A:4213:A:H5'	1:1A:4214:A:H5''	2.00	0.43
1:1A:4273:A:H2'	1:1A:4274:A:C8	2.53	0.43
8:1H:222:LEU:CB	8:1H:237:LYS:HE3	2.46	0.43
14:2F:60:ARG:HD2	14:2F:67:HIS:O	2.18	0.43
14:2F:169:ILE:HG12	29:2U:123:ILE:HD11	2.00	0.43
22:2N:71:ALA:HA	22:2N:92:ARG:HA	2.00	0.43
46:2I:87:ILE:HA	46:2I:90:LEU:HB3	2.00	0.43
47:2m:318:A:H2'	47:2m:319:C:C6	2.52	0.43
47:2m:1460:C:N4	47:2m:1461:G:O6	2.51	0.43
50:2p:168:VAL:HG22	50:2p:189:MET:HB2	2.00	0.43
54:2t:8:TRP:CZ3	54:2t:20:PRO:HB3	2.53	0.43
54:2t:118:ALA:HB2	54:2t:141:ARG:HH22	1.82	0.43
60:2z:70:ILE:HA	60:2z:77:TYR:CE2	2.53	0.43
65:3C:94:ASP:OD1	65:3C:96:THR:OG1	2.36	0.43
68:3F:235:ILE:HD11	68:3F:285:GLN:NE2	2.32	0.43
70:3H:54:GLY:O	70:3H:109:LEU:HD12	2.18	0.43
72:3J:33:ARG:HA	72:3J:109:VAL:HG12	2.00	0.43
75:3M:76:SER:HG	75:3M:77:PRO:HD3	1.83	0.43
1:1A:10:A:H2'	1:1A:11:G:C8	2.54	0.43
1:1A:98:A:OP1	16:2H:195:ARG:HD3	2.18	0.43
1:1A:460:C:H2'	1:1A:461:G:C8	2.54	0.43
1:1A:943:A:N6	9:2A:188:GLU:OE2	2.48	0.43
1:1A:2621:A:OP1	23:2O:80:LYS:NZ	2.51	0.43
1:1A:3644:U:H1'	1:1A:4555:U:H5''	1.99	0.43
1:1A:4314:C:C2	1:1A:4315:A:C8	3.06	0.43
1:1A:4541:G:N2	1:1A:4544:A:OP2	2.45	0.43
81:1A:5111:84G:N1	81:1A:5111:84G:N2	2.66	0.43
4:1D:79:ALA:HA	4:1D:169:VAL:HA	1.99	0.43
7:1G:271:MET:HE3	7:1G:271:MET:HB3	1.95	0.43
9:2A:92:VAL:O	9:2A:120:GLY:HA2	2.18	0.43
10:2B:119:GLU:OE2	10:2B:120:LYS:HD3	2.17	0.43
13:2E:63:ARG:NH2	43:2i:106:PHE:HB3	2.28	0.43
13:2E:109:ILE:HD12	13:2E:130:PHE:CE1	2.53	0.43
46:2I:156:LYS:H	46:2I:156:LYS:HD3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:432:G:H2'	47:2m:433:A:H8	1.82	0.43
47:2m:580:U:H2'	47:2m:581:U:C6	2.53	0.43
47:2m:617:G:N7	64:3B:67:ARG:NH1	2.56	0.43
47:2m:1418:C:H1'	47:2m:1419:C:H2'	2.00	0.43
47:2m:1454:A:C8	59:2y:3:ARG:HD2	2.53	0.43
47:2m:1492:U:O2'	47:2m:1495:G:OP1	2.28	0.43
47:2m:1541:G:H5''	61:20:59:SER:HB3	1.99	0.43
47:2m:1643:U:O2'	47:2m:1644:C:H6	2.01	0.43
48:2n:181:GLU:O	48:2n:185:MET:HG2	2.18	0.43
61:20:41:LYS:NZ	61:20:83:GLN:OE1	2.45	0.43
62:21:53:PRO:HD2	62:21:53:PRO:O	2.17	0.43
68:3F:238:ALA:H	68:3F:251:ALA:HB3	1.83	0.43
71:3I:32:ILE:HD11	71:3I:40:LYS:HG2	2.01	0.43
71:3I:103:GLU:H	71:3I:103:GLU:CD	2.25	0.43
75:3M:27:ILE:HG22	75:3M:29:PRO:O	2.18	0.43
75:3M:53:ILE:HD12	75:3M:53:ILE:N	2.33	0.43
1:1A:286:U:H2'	1:1A:287:U:C6	2.53	0.43
1:1A:700:G:H2'	1:1A:701:G:H8	1.84	0.43
1:1A:985:C:C2	1:1A:1069:G:N1	2.86	0.43
1:1A:1730:U:H4'	22:2N:100:LYS:HB2	2.00	0.43
1:1A:1958:A:O2'	1:1A:2025:A:N1	2.49	0.43
1:1A:2347:A:C4	33:2Y:31:ILE:HD11	2.54	0.43
1:1A:2521:G:H2'	1:1A:2522:G:H8	1.82	0.43
1:1A:2845:A:H61	1:1A:3843:C:H42	1.67	0.43
1:1A:2871:A:H2'	1:1A:2872:C:O4'	2.18	0.43
1:1A:3765:G:H22	1:1A:3767:C:H6	1.66	0.43
1:1A:3972:A:H8	1:1A:4041:C:C5	2.36	0.43
1:1A:4694:G:H5''	1:1A:4695:C:H5	1.84	0.43
1:1A:4970:C:C2	1:1A:4971:A:C8	3.07	0.43
1:1A:5003:U:H2'	1:1A:5004:C:C6	2.53	0.43
3:1C:67:U:H2'	3:1C:68:G:C8	2.51	0.43
5:1E:28:LYS:O	5:1E:220:ILE:HG21	2.18	0.43
7:1G:83:LEU:HD12	7:1G:83:LEU:HA	1.79	0.43
15:2G:118:MET:HG2	17:2I:192:TYR:CZ	2.53	0.43
19:2K:188:ASN:OD1	19:2K:188:ASN:C	2.61	0.43
45:2k:119:ARG:O	45:2k:122:LYS:HG2	2.18	0.43
47:2m:1047:C:H5''	74:3L:143:LYS:HB2	2.00	0.43
47:2m:1112:U:H2'	47:2m:1113:A:H4'	2.01	0.43
49:2o:133:TYR:O	49:2o:135:LEU:HG	2.18	0.43
51:2q:125:LYS:HB2	51:2q:226:PHE:CE2	2.53	0.43
52:2r:82:ASN:N	52:2r:82:ASN:OD1	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:2x:16:LYS:HB3	58:2x:79:ALA:O	2.19	0.43
70:3H:56:ASN:HB2	70:3H:108:VAL:HG12	2.00	0.43
72:3J:120:ALA:O	72:3J:123:VAL:HG12	2.18	0.43
73:3K:36:GLN:HE22	73:3K:58:HIS:CE1	2.35	0.43
74:3L:98:ARG:HB3	74:3L:132:VAL:HG23	2.00	0.43
1:1A:686:A:H4'	8:1H:97:GLY:C	2.36	0.43
1:1A:1877:G:O6	30:2V:10:HIS:NE2	2.48	0.43
1:1A:1907:A:C5'	9:2A:220:MET:HE3	2.48	0.43
1:1A:2506:G:N3	1:1A:2506:G:H2'	2.33	0.43
1:1A:4228:G:H5''	1:1A:4229:U:O4'	2.18	0.43
1:1A:4566:U:O2'	5:1E:234:ARG:NH1	2.52	0.43
5:1E:45:ALA:HB3	5:1E:183:ILE:HG23	2.00	0.43
8:1H:94:LYS:HE2	8:1H:107:VAL:HG11	2.00	0.43
16:2H:83:LYS:O	16:2H:85:VAL:N	2.51	0.43
17:2I:175:MET:CE	17:2I:179:LYS:HG2	2.48	0.43
20:2L:172:ARG:CZ	20:2L:172:ARG:HB2	2.47	0.43
23:2O:92:LYS:HB2	23:2O:97:ARG:HD3	2.01	0.43
24:2P:32:THR:HG21	24:2P:105:ILE:HD12	2.00	0.43
27:2S:91:ASN:OD1	27:2S:92:GLY:N	2.51	0.43
46:2l:16:GLU:HG3	46:2l:18:LEU:HB2	2.01	0.43
47:2m:652:U:H2'	47:2m:653:A:C8	2.53	0.43
59:2y:17:ILE:CD1	59:2y:58:MET:SD	3.07	0.43
63:3A:52:THR:HG21	69:3G:261:PHE:HB2	2.01	0.43
74:3L:78:ALA:HB1	74:3L:119:LEU:HG	2.00	0.43
78:3P:5:LYS:HD2	78:3P:5:LYS:HA	1.80	0.43
1:1A:10:A:H2'	1:1A:11:G:H8	1.84	0.43
1:1A:2296:G:O2'	6:1F:242:PRO:O	2.32	0.43
1:1A:2669:C:O2'	1:1A:2670:C:C6	2.71	0.43
1:1A:4584:A:H2'	1:1A:4585:U:O4'	2.18	0.43
5:1E:306:ASP:OD1	5:1E:306:ASP:C	2.60	0.43
21:2M:15:ARG:HB3	21:2M:27:LEU:HD23	2.00	0.43
37:2c:63:VAL:HG23	37:2c:65:LYS:HG3	2.00	0.43
46:2l:212:LYS:CD	46:2l:212:LYS:N	2.69	0.43
47:2m:218:U:C2	47:2m:219:U:C5	3.07	0.43
47:2m:982:G:H2'	47:2m:983:A:C8	2.53	0.43
47:2m:1495:G:H4'	67:3E:26:ASN:ND2	2.34	0.43
47:2m:1680:G:H2'	47:2m:1681:U:C6	2.54	0.43
47:2m:1705:C:H2'	47:2m:1706:G:C8	2.54	0.43
51:2q:56:LEU:HD11	76:3N:72:PHE:CE2	2.53	0.43
61:20:104:LEU:HD13	61:20:121:ARG:NH1	2.34	0.43
78:3P:31:TYR:CE2	78:3P:33:MET:HG2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:952:G:H5''	34:2Z:73:LYS:HD2	2.00	0.43
1:1A:1539:G:H4'	4:1D:194:ASN:HB2	2.00	0.43
1:1A:1558:A:H2'	1:1A:1559:G:C8	2.54	0.43
1:1A:1895:G:H2'	1:1A:1896:A:O4'	2.19	0.43
1:1A:2481:G:H21	1:1A:2498:C:N4	2.17	0.43
1:1A:3599:A:H2'	1:1A:3600:G:C8	2.53	0.43
1:1A:3764:U:O2'	1:1A:3765:G:O5'	2.27	0.43
1:1A:4551:U:H2'	1:1A:4552:U:C6	2.53	0.43
3:1C:93:C:O2'	3:1C:94:G:H8	2.02	0.43
6:1F:189:MET:HE2	6:1F:189:MET:HA	2.01	0.43
7:1G:50:ARG:HA	7:1G:145:TYR:O	2.19	0.43
7:1G:115:MET:HB3	7:1G:118:ILE:HG13	2.01	0.43
18:2J:4:TYR:CE2	18:2J:16:LYS:HB2	2.53	0.43
27:2S:88:GLU:OE2	27:2S:94:THR:HG23	2.19	0.43
28:2T:92:ASP:OD1	28:2T:94:THR:N	2.49	0.43
38:2d:83:THR:HA	38:2d:84:PRO:HD3	1.87	0.43
47:2m:609:U:H2'	47:2m:610:G:H8	1.84	0.43
47:2m:736:C:H2'	47:2m:737:G:C8	2.53	0.43
47:2m:982:G:H2'	47:2m:983:A:H8	1.84	0.43
47:2m:1013:U:OP1	47:2m:1129:G:O2'	2.36	0.43
47:2m:1262:C:C5	67:3E:17:GLY:HA3	2.54	0.43
47:2m:1264:C:H5'	47:2m:1265:A:C4	2.54	0.43
52:2r:34:SER:HB3	66:3D:55:VAL:HG12	2.01	0.43
57:2w:13:ARG:H	57:2w:14:LYS:HE2	1.83	0.43
58:2x:96:TYR:HA	58:2x:100:VAL:HG22	2.00	0.43
64:3B:68:LYS:HB3	64:3B:91:LEU:HD22	2.01	0.43
75:3M:37:PHE:CD2	75:3M:126:LEU:CD2	3.02	0.43
77:3O:102:LYS:HA	77:3O:102:LYS:HD2	1.75	0.43
80:3R:109:ASP:O	80:3R:110:GLU:HG3	2.19	0.43
1:1A:109:G:OP2	14:2F:74:ARG:NH2	2.50	0.43
1:1A:1431:C:H2'	1:1A:1432:G:O4'	2.18	0.43
1:1A:1591:U:H5''	1:1A:4527:G:OP1	2.19	0.43
1:1A:1705:G:H2'	1:1A:1706:A:O4'	2.19	0.43
1:1A:1777:C:H2'	1:1A:1778:C:C6	2.54	0.43
1:1A:4611:A:H2	11:2C:120:GLU:HB3	1.84	0.43
2:1B:27:G:H2'	2:1B:28:C:C6	2.54	0.43
8:1H:176:THR:HB	8:1H:186:LEU:HD23	2.01	0.43
11:2C:92:MET:SD	11:2C:161:ILE:HD11	2.59	0.43
17:2I:190:ASP:OD1	17:2I:191:LYS:N	2.52	0.43
21:2M:132:ILE:HG23	21:2M:136:LYS:HB2	1.99	0.43
27:2S:31:SER:HA	27:2S:48:PRO:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:2W:31:TYR:CA	31:2W:93:THR:HG21	2.47	0.43
37:2c:56:ARG:HD3	37:2c:72:PHE:CZ	2.53	0.43
46:2l:70:ASP:O	46:2l:72:GLN:HG3	2.18	0.43
47:2m:31:U:O2'	47:2m:643:A:N1	2.46	0.43
47:2m:58:C:O2'	81:2m:1901:84G:O9	2.36	0.43
47:2m:155:G:H4'	70:3H:15:LEU:HD13	2.00	0.43
47:2m:374:G:H2'	47:2m:375:U:H6	1.84	0.43
47:2m:1102:G:H22	47:2m:1130:G:N2	2.16	0.43
47:2m:1114:U:O2'	47:2m:1115:U:H2'	2.18	0.43
48:2n:141:ASN:HB2	63:3A:31:SER:O	2.19	0.43
48:2n:205:ARG:NH1	59:2y:84:TYR:HD2	2.17	0.43
50:2p:105:LEU:HB2	50:2p:122:VAL:HG21	2.01	0.43
58:2x:10:VAL:HG11	58:2x:98:LYS:HD3	2.01	0.43
59:2y:74:GLN:HG3	59:2y:78:ARG:HH21	1.82	0.43
69:3G:81:ILE:HG23	69:3G:86:LEU:HB2	2.00	0.43
70:3H:222:GLU:HA	70:3H:225:GLN:HG2	2.00	0.43
74:3L:103:ASN:ND2	74:3L:140:THR:O	2.52	0.43
1:1A:1298:C:H2'	1:1A:1299:G:H8	1.84	0.43
1:1A:1697:G:H2'	1:1A:1698:C:C6	2.52	0.43
1:1A:4140:C:C4	1:1A:4141:G:H1'	2.54	0.43
1:1A:4723:A:H2'	1:1A:4724:A:C8	2.53	0.43
1:1A:4764:A:N6	15:2G:4:ARG:HH22	2.16	0.43
2:1B:109:U:H4'	2:1B:110:G:O5'	2.18	0.43
6:1F:156:ASP:OD2	6:1F:255:SER:OG	2.26	0.43
7:1G:62:CYS:HB3	7:1G:105:LEU:HD22	2.01	0.43
12:2D:15:LYS:O	12:2D:16:PRO:C	2.62	0.43
13:2E:63:ARG:NH1	43:2i:106:PHE:HA	2.33	0.43
20:2L:105:LEU:HD13	20:2L:135:LYS:HD2	2.01	0.43
21:2M:154:LEU:HB3	21:2M:157:ARG:HD3	2.00	0.43
22:2N:17:ARG:HB2	22:2N:22:HIS:CD2	2.53	0.43
22:2N:21:LYS:HB2	22:2N:21:LYS:HE3	1.73	0.43
37:2c:45:ARG:HG2	37:2c:45:ARG:NH1	2.32	0.43
47:2m:26:U:H2'	47:2m:27:A:H8	1.83	0.43
47:2m:306:C:H5''	47:2m:307:G:C5	2.54	0.43
47:2m:808:A:H2	47:2m:855:G:H22	1.65	0.43
47:2m:1093:A:H2'	47:2m:1094:C:H6	1.83	0.43
47:2m:1148:A:H4'	47:2m:1149:A:O4'	2.19	0.43
47:2m:1171:G:O2'	47:2m:1187:G:O6	2.33	0.43
47:2m:1299:A:OP2	57:2w:59:ARG:NH1	2.51	0.43
47:2m:1593:C:OP1	77:3O:103:HIS:NE2	2.38	0.43
49:2o:198:GLU:OE2	49:2o:207:LEU:O	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:2p:5:ILE:HD11	50:2p:9:ARG:HD2	2.00	0.43
53:2s:95:ILE:HG22	53:2s:132:ASP:OD1	2.19	0.43
56:2v:80:MET:HE2	56:2v:80:MET:HB3	1.87	0.43
58:2x:72:VAL:HG11	58:2x:80:GLN:HG2	2.01	0.43
59:2y:12:ALA:O	59:2y:16:ILE:HG12	2.18	0.43
62:21:54:VAL:HG23	62:21:88:LEU:HB2	2.01	0.43
80:3R:103:LEU:HD12	80:3R:105:TYR:CE2	2.54	0.43
1:1A:86:U:H2'	1:1A:87:A:C8	2.54	0.43
1:1A:1824:G:H2'	1:1A:1825:A:C8	2.53	0.43
1:1A:2029:A:H2'	1:1A:2030:A:C8	2.54	0.43
1:1A:2407:G:OP2	1:1A:2407:G:N2	2.49	0.43
1:1A:2600:A:H2	81:1A:5113:84G:C5	2.32	0.43
1:1A:4345:C:H2'	1:1A:4346:U:H6	1.84	0.43
3:1C:47:C:H1'	3:1C:61:A:H2'	2.01	0.43
3:1C:75:G:OP2	27:2S:74:TYR:OH	2.33	0.43
8:1H:222:LEU:HB3	8:1H:237:LYS:CE	2.47	0.43
11:2C:142:ASP:OD1	11:2C:142:ASP:N	2.51	0.43
12:2D:39:LYS:HA	12:2D:86:HIS:CD2	2.54	0.43
13:2E:19:LYS:HD3	13:2E:75:ARG:NH2	2.34	0.43
18:2J:105:LYS:O	18:2J:105:LYS:HG3	2.18	0.43
47:2m:528:A:C4	47:2m:558:G:N2	2.87	0.43
47:2m:793:G:H2'	47:2m:794:A:C8	2.54	0.43
47:2m:1378:A:H4'	47:2m:1379:A:O5'	2.19	0.43
47:2m:1611:G:P	60:2z:121:ARG:HH22	2.41	0.43
47:2m:1690:U:H2'	47:2m:1691:U:C6	2.54	0.43
47:2m:1864:U:H5'	65:3C:79:ILE:HD11	2.01	0.43
53:2s:7:LYS:NZ	53:2s:24:SER:HB3	2.34	0.43
59:2y:77:GLU:O	59:2y:81:ARG:HG3	2.18	0.43
60:2z:1:MET:SD	60:2z:1:MET:C	3.02	0.43
60:2z:89:ASP:HB3	60:2z:93:GLY:H	1.84	0.43
64:3B:74:LEU:HD12	64:3B:77:ASN:HD21	1.83	0.43
1:1A:206:U:H5''	81:1A:5105:84G:C11	2.48	0.42
1:1A:674:G:H2'	1:1A:675:C:C6	2.54	0.42
1:1A:1677:U:H4'	1:1A:1680:G:C2	2.54	0.42
1:1A:1866:U:H2'	1:1A:1867:A:O4'	2.19	0.42
1:1A:2521:G:H2'	1:1A:2522:G:C8	2.54	0.42
1:1A:2560:C:H2'	1:1A:2561:C:H6	1.84	0.42
1:1A:3721:U:H2'	1:1A:3722:G:H8	1.84	0.42
4:1D:117:GLU:HG2	4:1D:124:GLY:N	2.34	0.42
5:1E:260:ALA:O	5:1E:261:ARG:HG3	2.19	0.42
8:1H:210:LYS:HE2	8:1H:210:LYS:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2C:44:GLU:HG2	11:2C:58:ASP:HB2	2.01	0.42
12:2D:101:LYS:HE3	12:2D:102:MET:O	2.19	0.42
15:2G:126:GLU:HG2	17:2I:185:VAL:HG22	2.01	0.42
17:2I:81:TRP:CZ2	17:2I:99:LEU:HD21	2.53	0.42
17:2I:165:LYS:HD2	17:2I:165:LYS:HA	1.90	0.42
23:2O:19:LEU:HB3	23:2O:74:SER:O	2.18	0.42
25:2Q:96:GLN:OE1	25:2Q:96:GLN:N	2.48	0.42
28:2T:14:LEU:HD21	28:2T:81:MET:HB2	2.00	0.42
35:2a:53:LEU:HD23	35:2a:53:LEU:HA	1.90	0.42
46:2l:50:SER:CB	46:2l:159:MET:SD	3.07	0.42
47:2m:447:A:OP1	54:2t:49:ARG:NH1	2.49	0.42
47:2m:1622:U:N3	57:2w:122:THR:OG1	2.35	0.42
47:2m:1712:A:H2'	47:2m:1713:C:C6	2.55	0.42
48:2n:174:MET:HE3	48:2n:174:MET:HB3	1.83	0.42
60:2z:38:ARG:NH2	61:20:45:LEU:HD11	2.34	0.42
61:20:18:LEU:HB3	61:20:58:ALA:HB1	2.01	0.42
68:3F:119:GLN:HE21	68:3F:179:LEU:HD11	1.84	0.42
1:1A:1280:C:O2'	6:1F:321:ASN:OD1	2.22	0.42
1:1A:1298:C:H2'	1:1A:1299:G:C8	2.54	0.42
1:1A:2299:G:HO2'	1:1A:2300:A:P	2.38	0.42
1:1A:3667:C:P	4:1D:234:LYS:HD2	2.58	0.42
1:1A:4099:G:O2'	1:1A:4100:C:O4'	2.33	0.42
1:1A:4500:U:H2'	1:1A:4501:U:C6	2.54	0.42
1:1A:4680:G:H2'	1:1A:4681:A:C8	2.53	0.42
1:1A:4699:U:H4'	1:1A:4700:A:OP1	2.19	0.42
7:1G:79:TYR:O	7:1G:82:GLU:HG2	2.19	0.42
20:2L:7:GLN:NE2	20:2L:33:ALA:O	2.52	0.42
26:2R:84:GLU:H	26:2R:84:GLU:CD	2.27	0.42
46:2l:54:ARG:HG2	46:2l:152:LYS:HD2	2.00	0.42
47:2m:291:G:H1'	47:2m:292:A:H2'	2.01	0.42
47:2m:336:A:H2'	47:2m:337:C:C6	2.54	0.42
47:2m:443:U:H2'	47:2m:444:G:O4'	2.20	0.42
47:2m:454:U:H2'	47:2m:455:A:C8	2.54	0.42
47:2m:942:G:H2'	47:2m:943:U:C6	2.54	0.42
47:2m:1542:C:H3'	61:20:62:ARG:NH2	2.34	0.42
47:2m:1683:C:H2'	47:2m:1684:C:H6	1.84	0.42
51:2q:90:ILE:HG23	51:2q:99:PHE:HB2	2.00	0.42
52:2r:130:ARG:HD3	52:2r:130:ARG:H	1.83	0.42
53:2s:31:GLU:O	53:2s:32:MET:HG2	2.19	0.42
53:2s:149:ASP:OD1	53:2s:149:ASP:N	2.52	0.42
61:20:24:LYS:HE2	61:20:24:LYS:HB2	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:3F:66:VAL:HA	68:3F:82:SER:HA	2.01	0.42
68:3F:194:TYR:CE2	68:3F:212:LYS:HB2	2.54	0.42
69:3G:272:HIS:HA	69:3G:275:LYS:HG2	2.00	0.42
70:3H:22:ARG:HA	70:3H:25:ARG:NE	2.34	0.42
1:1A:153:G:H2'	1:1A:154:G:C8	2.53	0.42
1:1A:270:U:H2'	1:1A:271:C:C6	2.55	0.42
1:1A:705:G:H2'	1:1A:706:C:H6	1.84	0.42
1:1A:1950:U:O2'	21:2M:116:ARG:NH1	2.51	0.42
1:1A:3855:C:H2'	1:1A:3856:A:H8	1.84	0.42
1:1A:4457:U:H1'	5:1E:252:ALA:HB3	2.00	0.42
1:1A:4936:G:O2'	1:1A:4937:C:H5'	2.20	0.42
8:1H:91:THR:HG22	8:1H:108:LYS:HB3	2.00	0.42
14:2F:140:SER:O	14:2F:144:LEU:CD1	2.67	0.42
16:2H:94:PHE:CE2	16:2H:96:ARG:HB2	2.54	0.42
17:2I:9:LEU:HD23	17:2I:118:MET:HB2	2.00	0.42
38:2d:21:ARG:O	38:2d:22:CYS:SG	2.78	0.42
40:2f:9:ILE:CD1	40:2f:51:LEU:HD13	2.49	0.42
45:2k:65:LYS:NZ	45:2k:70:GLN:OE1	2.52	0.42
46:2l:23:ARG:NH2	46:2l:174:MET:O	2.52	0.42
46:2l:54:ARG:HG3	46:2l:154:THR:HB	2.01	0.42
47:2m:1700:C:C2	47:2m:1834:A:N6	2.87	0.42
48:2n:57:LYS:NZ	63:3A:66:ASP:OD2	2.51	0.42
48:2n:157:VAL:O	63:3A:65:SER:HB3	2.19	0.42
49:2o:131:ASP:OD2	49:2o:180:ASP:HB2	2.19	0.42
50:2p:25:LEU:HB2	50:2p:34:TYR:CZ	2.54	0.42
51:2q:98:ASN:O	51:2q:114:ILE:HG12	2.19	0.42
51:2q:182:MET:HG3	51:2q:192:ILE:HG12	2.01	0.42
55:2u:71:LEU:HD21	55:2u:79:LEU:HD12	2.00	0.42
58:2x:32:ILE:HG13	58:2x:68:ILE:HG12	2.01	0.42
64:3B:101:LEU:HB3	64:3B:124:LYS:HB2	2.01	0.42
76:3N:36:PRO:O	76:3N:40:ILE:HG13	2.19	0.42
76:3N:105:LYS:O	76:3N:105:LYS:HD3	2.20	0.42
1:1A:2298:U:OP1	6:1F:204:ARG:NH1	2.53	0.42
1:1A:2669:C:O2'	1:1A:2670:C:H6	2.02	0.42
1:1A:4934:A:H2'	1:1A:4935:C:C6	2.55	0.42
8:1H:211:HIS:CE1	8:1H:245:GLN:HE21	2.38	0.42
8:1H:282:TYR:CE1	34:2Z:31:GLU:HG2	2.54	0.42
11:2C:140:GLN:HE21	11:2C:143:GLU:CD	2.25	0.42
13:2E:119:TYR:CD1	13:2E:119:TYR:C	2.97	0.42
14:2F:63:THR:HG21	29:2U:66:ASN:HD22	1.84	0.42
15:2G:122:ILE:HD13	17:2I:189:ILE:HG22	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:24:C:O2'	47:2m:25:A:O5'	2.36	0.42
47:2m:73:C:H4'	47:2m:74:G:H5'	2.00	0.42
47:2m:126:G:H4'	47:2m:215:G:H22	1.85	0.42
47:2m:1447:G:H2'	47:2m:1448:A:H8	1.84	0.42
47:2m:1512:C:H6	47:2m:1512:C:H2'	1.66	0.42
47:2m:1560:U:O2	47:2m:1575:G:O6	2.37	0.42
47:2m:1777:G:H2'	47:2m:1778:C:C6	2.55	0.42
50:2p:132:LYS:CD	50:2p:189:MET:HE2	2.50	0.42
51:2q:145:ARG:HH11	51:2q:145:ARG:HG3	1.84	0.42
52:2r:60:ARG:HH21	66:3D:49:PRO:HA	1.85	0.42
53:2s:154:ILE:O	53:2s:185:VAL:HA	2.20	0.42
63:3A:16:LYS:HZ3	69:3G:259:THR:CG2	2.32	0.42
68:3F:67:SER:N	68:3F:81:GLY:O	2.51	0.42
70:3H:32:MET:HE1	70:3H:63:MET:SD	2.60	0.42
71:3I:46:VAL:O	71:3I:102:ILE:HD11	2.19	0.42
71:3I:176:LYS:HG3	71:3I:179:LYS:NZ	2.34	0.42
72:3J:75:ASN:OD1	72:3J:75:ASN:N	2.48	0.42
75:3M:43:LYS:HE2	75:3M:43:LYS:HB3	1.86	0.42
1:1A:85:G:O2'	1:1A:97:G:O6	2.29	0.42
1:1A:149:A:H5''	1:1A:151:G:O4'	2.20	0.42
1:1A:1753:G:H21	7:1G:2:GLY:HA3	1.85	0.42
1:1A:2764:A:H2'	1:1A:2765:A:H8	1.85	0.42
1:1A:2815:A:H2'	1:1A:2816:G:C8	2.55	0.42
1:1A:4095:G:H2'	1:1A:4096:C:C6	2.55	0.42
81:1A:5107:84G:O4	81:1A:5107:84G:O6	2.37	0.42
5:1E:29:VAL:HG13	5:1E:348:ARG:HD3	2.01	0.42
6:1F:186:SER:OG	6:1F:204:ARG:HB2	2.19	0.42
12:2D:111:LEU:CG	12:2D:116:ARG:HH11	2.32	0.42
16:2H:120:TRP:CZ2	16:2H:122:GLY:HA2	2.55	0.42
28:2T:105:ALA:O	28:2T:108:ARG:HG2	2.20	0.42
39:2e:32:VAL:HG23	39:2e:50:LYS:NZ	2.34	0.42
47:2m:28:U:H2'	47:2m:29:G:C8	2.54	0.42
47:2m:377:G:O5'	54:2t:99:ASN:HB2	2.19	0.42
47:2m:816:A:H2'	47:2m:817:G:O4'	2.20	0.42
47:2m:1267:C:N3	47:2m:1516:G:N1	2.68	0.42
47:2m:1281:G:N2	47:2m:1317:C:N3	2.67	0.42
47:2m:1550:G:O2'	47:2m:1558:C:O2	2.35	0.42
47:2m:1644:C:H2'	47:2m:1645:C:C6	2.54	0.42
47:2m:1728:U:H2'	47:2m:1729:U:O4'	2.20	0.42
58:2x:113:ILE:HG12	58:2x:120:LEU:HD12	2.01	0.42
76:3N:11:LYS:HB2	76:3N:24:VAL:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:3O:58:LEU:HD22	77:3O:62:VAL:HG21	2.02	0.42
79:3Q:28:LYS:CE	79:3Q:36:MET:HE2	2.50	0.42
1:1A:1270:A:H2'	1:1A:2107:C:O2	2.20	0.42
1:1A:1274:A:O2'	1:1A:1275:G:H8	2.03	0.42
1:1A:1751:A:H2'	1:1A:1752:G:H8	1.84	0.42
1:1A:1972:G:H22	1:1A:1994:C:N4	2.18	0.42
1:1A:2402:G:C2	1:1A:2403:A:C8	3.06	0.42
1:1A:2776:G:H2'	1:1A:2777:G:C8	2.55	0.42
1:1A:2859:G:N2	1:1A:3837:C:O2	2.52	0.42
1:1A:3670:C:H5''	16:2H:75:VAL:O	2.20	0.42
1:1A:3759:A:N7	1:1A:3763:A:N1	2.68	0.42
6:1F:334:THR:HG21	9:2A:51:TYR:OH	2.19	0.42
7:1G:53:VAL:HG11	7:1G:159:VAL:HA	2.00	0.42
8:1H:130:LYS:N	8:1H:130:LYS:HD2	2.34	0.42
9:2A:124:LYS:HD3	9:2A:197:VAL:HG11	2.01	0.42
13:2E:15:LEU:HD11	13:2E:157:ILE:HD12	2.02	0.42
13:2E:129:ASP:N	13:2E:129:ASP:OD1	2.50	0.42
22:2N:79:GLN:HE22	30:2V:21:ILE:HD13	1.85	0.42
29:2U:93:ASN:OD1	29:2U:95:THR:O	2.38	0.42
45:2k:57:GLY:O	45:2k:58:LYS:HD2	2.19	0.42
46:2l:34:LEU:HB3	46:2l:167:VAL:HG13	2.02	0.42
47:2m:388:U:H2'	47:2m:389:A:C8	2.53	0.42
47:2m:531:A:C8	47:2m:532:C:H5	2.38	0.42
47:2m:1269:G:H2'	47:2m:1270:G:C8	2.55	0.42
47:2m:1388:A:H61	50:2p:161:GLY:CA	2.32	0.42
47:2m:1421:A:C1'	61:20:2:PRO:C	2.93	0.42
47:2m:1713:C:H2'	47:2m:1714:U:H6	1.84	0.42
48:2n:128:ARG:NH2	48:2n:153:PRO:HD3	2.35	0.42
51:2q:118:GLU:HG2	51:2q:121:TYR:CE1	2.50	0.42
52:2r:122:ARG:HG2	66:3D:57:THR:HG21	2.01	0.42
52:2r:140:ASP:HB3	66:3D:46:VAL:HG12	2.02	0.42
53:2s:181:THR:HG22	53:2s:183:LYS:HG3	2.02	0.42
55:2u:20:VAL:HG12	55:2u:70:TYR:HA	2.02	0.42
62:2l:55:ARG:NE	62:2l:87:ARG:HH21	2.18	0.42
64:3B:99:GLU:O	64:3B:126:ALA:N	2.42	0.42
72:3J:55:ASN:HB2	72:3J:81:ASP:HA	2.02	0.42
74:3L:102:GLY:N	74:3L:134:PRO:O	2.35	0.42
1:1A:37:U:H2'	1:1A:38:A:O4'	2.19	0.42
1:1A:189:G:H2'	1:1A:190:G:H8	1.85	0.42
1:1A:455:C:C2'	1:1A:456:C:H5'	2.50	0.42
1:1A:1538:U:H2'	1:1A:1539:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:1669:A:H4'	1:1A:1685:G:H22	1.82	0.42
1:1A:1846:G:H2'	1:1A:1847:C:H6	1.84	0.42
1:1A:4063:U:O2	1:1A:4063:U:H2'	2.19	0.42
4:1D:118:GLU:HG3	4:1D:126:LEU:HD21	2.01	0.42
12:2D:31:ILE:HA	12:2D:66:GLU:HG3	2.01	0.42
13:2E:119:TYR:CD2	60:2z:12:ILE:HD11	2.55	0.42
16:2H:103:GLU:OE2	16:2H:118:SER:OG	2.28	0.42
21:2M:98:ARG:HG3	21:2M:142:VAL:HG13	2.00	0.42
24:2P:71:GLU:H	24:2P:71:GLU:CD	2.24	0.42
31:2W:19:GLN:HG2	73:3K:151:ALA:O	2.20	0.42
42:2h:2:ARG:HB3	42:2h:5:TRP:CD1	2.55	0.42
47:2m:96:C:H2'	47:2m:97:U:H6	1.84	0.42
47:2m:1019:C:H2'	47:2m:1020:A:O4'	2.19	0.42
47:2m:1238:U:O2'	57:2w:126:VAL:HG13	2.19	0.42
47:2m:1523:C:O2	47:2m:1523:C:H2'	2.19	0.42
49:2o:101:HIS:HA	49:2o:217:MET:HE2	2.02	0.42
50:2p:123:LEU:HD11	50:2p:154:ASP:OD2	2.19	0.42
51:2q:45:ILE:HA	51:2q:61:VAL:HG11	2.01	0.42
53:2s:50:GLU:CG	53:2s:60:ILE:HG22	2.50	0.42
53:2s:169:LYS:HB2	53:2s:169:LYS:HE2	1.85	0.42
56:2v:90:ARG:CD	56:2v:109:MET:HE2	2.49	0.42
57:2w:18:ARG:CZ	60:2z:88:LYS:HG2	2.49	0.42
58:2x:82:TYR:HD2	58:2x:85:ARG:NH2	2.17	0.42
60:2z:9:PHE:CE1	60:2z:57:GLY:HA3	2.54	0.42
71:3I:24:ARG:NH1	71:3I:28:GLU:OE2	2.53	0.42
75:3M:87:GLU:OE1	75:3M:87:GLU:N	2.52	0.42
1:1A:317:A:C2	1:1A:4361:U:H1'	2.55	0.42
1:1A:1558:A:H2'	1:1A:1559:G:H8	1.85	0.42
1:1A:1773:U:H2'	1:1A:1774:C:O4'	2.20	0.42
1:1A:2730:U:H2'	1:1A:2731:C:C6	2.54	0.42
1:1A:3702:A:C5	1:1A:3703:G:C8	3.07	0.42
1:1A:3723:A:H2'	1:1A:3724:A:H8	1.83	0.42
1:1A:3956:G:H5'	1:1A:3966:A:C4	2.55	0.42
2:1B:55:A:H4'	13:2E:155:HIS:HB2	2.01	0.42
3:1C:92:U:H2'	3:1C:93:C:O4'	2.19	0.42
6:1F:230:LEU:HD23	6:1F:230:LEU:HA	1.84	0.42
8:1H:267:LEU:HG	8:1H:271:LEU:HD13	2.02	0.42
13:2E:19:LYS:HB2	13:2E:133:VAL:HG13	2.02	0.42
13:2E:55:TYR:HA	13:2E:64:ARG:HB2	2.02	0.42
17:2I:25:LYS:HD2	17:2I:25:LYS:HA	1.85	0.42
24:2P:111:GLU:HG2	24:2P:131:ARG:HH21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2U:148:ALA:HB2	37:2c:6:PRO:HB2	2.02	0.42
36:2b:28:LEU:O	36:2b:32:ARG:HG3	2.20	0.42
38:2d:31:LYS:C	38:2d:33:THR:HG1	2.27	0.42
42:2h:16:LYS:HB3	42:2h:16:LYS:HE2	1.73	0.42
47:2m:301:A:H2'	47:2m:302:A:O4'	2.18	0.42
47:2m:809:A:H2'	47:2m:810:A:O4'	2.20	0.42
47:2m:1174:U:H2'	47:2m:1175:G:C8	2.55	0.42
47:2m:1274:G:H4'	55:2u:47:LYS:HD2	2.02	0.42
48:2n:12:GLU:HB2	59:2y:111:PHE:CE2	2.54	0.42
50:2p:170:THR:OG1	50:2p:187:LYS:CD	2.67	0.42
53:2s:75:ILE:O	53:2s:79:LEU:HG	2.20	0.42
55:2u:3:MET:CE	55:2u:44:HIS:O	2.68	0.42
59:2y:97:GLU:OE1	59:2y:97:GLU:N	2.41	0.42
69:3G:60:TRP:CD1	69:3G:92:GLU:HG3	2.55	0.42
70:3H:30:LYS:O	70:3H:102:VAL:HG22	2.20	0.42
73:3K:125:LEU:HG	73:3K:129:TYR:CE2	2.55	0.42
74:3L:119:LEU:O	74:3L:124:MET:HB2	2.20	0.42
76:3N:55:ILE:HD13	76:3N:55:ILE:HA	1.86	0.42
1:1A:1278:C:H2'	1:1A:1279:A:O4'	2.19	0.42
1:1A:2399:G:N2	35:2a:4:ARG:HD2	2.35	0.42
1:1A:3916:G:H2'	1:1A:3917:A:C8	2.55	0.42
1:1A:4062:A:H8	1:1A:4062:A:O5'	2.03	0.42
1:1A:4344:U:H2'	1:1A:4345:C:C6	2.55	0.42
1:1A:4593:C:H2'	1:1A:4594:U:H6	1.85	0.42
3:1C:96:C:H5''	36:2b:66:LYS:HG2	2.01	0.42
5:1E:128:LYS:HA	5:1E:128:LYS:HD2	1.91	0.42
6:1F:109:ARG:O	6:1F:109:ARG:HG2	2.20	0.42
16:2H:80:THR:OG1	16:2H:87:HIS:HA	2.20	0.42
16:2H:123:GLU:HB2	16:2H:128:LYS:HA	2.01	0.42
29:2U:93:ASN:OD1	29:2U:93:ASN:C	2.63	0.42
47:2m:433:A:H2'	47:2m:434:G:C8	2.55	0.42
47:2m:634:A:H2'	47:2m:635:G:C8	2.54	0.42
47:2m:902:G:N3	47:2m:902:G:H2'	2.35	0.42
47:2m:1005:G:H2'	47:2m:1006:C:H6	1.85	0.42
47:2m:1521:C:N4	60:2z:137:LYS:CD	2.82	0.42
47:2m:1628:C:H2'	47:2m:1629:C:H6	1.85	0.42
47:2m:1849:G:H1'	47:2m:1850:A:O5'	2.20	0.42
51:2q:255:ARG:O	51:2q:259:LYS:NZ	2.53	0.42
52:2r:67:PRO:CG	52:2r:70:GLU:OE1	2.67	0.42
53:2s:31:GLU:HA	53:2s:37:LYS:HD2	2.01	0.42
59:2y:45:LYS:HE3	59:2y:45:LYS:HB3	1.76	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:20:134:ILE:O	61:20:138:VAL:HG13	2.19	0.42
62:21:38:ASP:O	62:21:41:ARG:HG3	2.18	0.42
62:21:86:LYS:O	62:21:87:ARG:HD2	2.20	0.42
62:21:99:LYS:HA	62:21:99:LYS:HE3	2.01	0.42
63:3A:16:LYS:HZ3	69:3G:259:THR:HG22	1.83	0.42
68:3F:109:LEU:HD21	68:3F:125:ARG:NH2	2.35	0.42
68:3F:146:SER:OG	68:3F:147:HIS:N	2.53	0.42
72:3J:42:LEU:CD2	72:3J:69:LEU:CD2	2.80	0.42
1:1A:978:G:H2'	1:1A:979:C:C6	2.55	0.42
1:1A:2292:C:H2'	1:1A:2293:U:C6	2.55	0.42
1:1A:2775:C:H2'	1:1A:2776:G:C8	2.55	0.42
1:1A:2864:A:H2'	1:1A:2865:U:C6	2.54	0.42
1:1A:4919:G:H2'	1:1A:4920:C:C6	2.54	0.42
3:1C:94:G:H21	38:2d:82:THR:HB	1.85	0.42
3:1C:144:U:H2'	3:1C:145:C:H6	1.84	0.42
14:2F:61:CYS:HB2	14:2F:66:TYR:O	2.19	0.42
15:2G:96:GLU:O	15:2G:99:GLU:HG3	2.20	0.42
26:2R:40:ILE:HG23	26:2R:42:THR:HG23	2.02	0.42
29:2U:137:ILE:O	29:2U:140:VAL:HG12	2.20	0.42
43:2i:71:GLU:HG3	43:2i:80:LYS:HG3	2.02	0.42
47:2m:323:C:H42	47:2m:330:G:H1'	1.83	0.42
47:2m:805:U:P	75:3M:82:GLN:HG2	2.59	0.42
47:2m:1256:G:P	67:3E:40:ARG:HH21	2.42	0.42
47:2m:1392:U:H2'	47:2m:1393:G:C8	2.55	0.42
48:2n:34:MET:HE3	48:2n:34:MET:HB3	1.92	0.42
48:2n:109:THR:HA	69:3G:89:LYS:NZ	2.35	0.42
53:2s:53:VAL:CG2	53:2s:175:GLY:HA3	2.44	0.42
55:2u:92:ALA:O	55:2u:96:ARG:HG2	2.18	0.42
56:2v:27:GLU:H	56:2v:27:GLU:HG2	1.60	0.42
60:2z:86:ARG:NH2	60:2z:89:ASP:OD1	2.41	0.42
71:3I:120:ALA:HB2	71:3I:129:LEU:HD12	2.01	0.42
71:3I:138[B]:ARG:H	71:3I:138[B]:ARG:HG3	1.60	0.42
73:3K:5:HIS:CD2	73:3K:121:ARG:HG3	2.55	0.42
78:3P:24:LEU:HD23	78:3P:24:LEU:HA	1.83	0.42
1:1A:462:G:H2'	1:1A:463:A:C8	2.55	0.41
1:1A:1100:U:H1'	1:1A:1167:C:H42	1.85	0.41
1:1A:1695:U:H2'	1:1A:1696:C:C6	2.55	0.41
1:1A:2358:G:H2'	1:1A:2359:U:O4'	2.20	0.41
1:1A:2517:A:H5'	35:2a:62:LYS:HB3	2.02	0.41
1:1A:2810:U:H2'	1:1A:2811:G:O4'	2.20	0.41
1:1A:3971:G:O6	1:1A:4049:U:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:1E:17:LEU:CB	5:1E:18:PRO:CD	2.98	0.41
20:2L:168:GLU:O	20:2L:172:ARG:HG3	2.20	0.41
21:2M:16:CYS:SG	21:2M:54:MET:HG3	2.60	0.41
27:2S:118:ILE:C	27:2S:118:ILE:HD12	2.44	0.41
47:2m:14:C:H2'	47:2m:15:U:C6	2.54	0.41
47:2m:93:U:H2'	47:2m:94:G:O4'	2.20	0.41
47:2m:102:A:H4'	47:2m:104:A:C8	2.55	0.41
47:2m:352:U:H2'	47:2m:353:C:C6	2.55	0.41
47:2m:539:C:H5'	47:2m:540:U:H5''	2.02	0.41
47:2m:676:C:O3'	73:3K:5:HIS:HE1	2.03	0.41
47:2m:902:G:C6	47:2m:904:A:N1	2.87	0.41
47:2m:1255:G:O3'	67:3E:40:ARG:NH2	2.52	0.41
47:2m:1507:G:H1	80:3R:90:LYS:HA	1.85	0.41
48:2n:212:LYS:HE2	48:2n:212:LYS:HB2	1.78	0.41
66:3D:26:GLN:OE1	66:3D:26:GLN:N	2.46	0.41
68:3F:10:THR:OG1	68:3F:12:LYS:NZ	2.52	0.41
68:3F:41:ILE:HD11	68:3F:55:PRO:HB3	2.01	0.41
1:1A:194:C:O2	27:2S:121:ARG:NH2	2.53	0.41
1:1A:2362:U:H2'	1:1A:2363:A:H8	1.84	0.41
1:1A:2413:U:H2'	1:1A:2414:G:H8	1.85	0.41
1:1A:3832:U:H2'	1:1A:3833:C:C6	2.52	0.41
1:1A:4256:A:N6	13:2E:59:SER:OG	2.52	0.41
1:1A:4713:G:C5	1:1A:4714:C:C5	3.08	0.41
4:1D:117:GLU:OE2	4:1D:122:ASP:O	2.37	0.41
4:1D:179:ILE:O	4:1D:184:ARG:HD2	2.20	0.41
7:1G:164:LYS:HG2	7:1G:195:HIS:HE1	1.84	0.41
8:1H:73:TYR:CD1	8:1H:73:TYR:N	2.88	0.41
8:1H:170:SER:OG	8:1H:214:ASP:OD2	2.34	0.41
15:2G:85:LYS:O	15:2G:89:THR:HG23	2.20	0.41
17:2I:197:LYS:HA	17:2I:201:LEU:O	2.19	0.41
22:2N:107:LYS:HB3	22:2N:107:LYS:HE2	1.81	0.41
37:2c:26:HIS:O	37:2c:29:ARG:HG3	2.20	0.41
40:2f:38:ASN:HB3	40:2f:41:ARG:HG3	2.02	0.41
46:2l:196:LYS:HD3	46:2l:196:LYS:HA	1.92	0.41
47:2m:386:C:H1'	54:2t:5:ARG:HB2	2.02	0.41
47:2m:1244:U:H2'	47:2m:1245:G:C8	2.52	0.41
47:2m:1375:G:H2'	47:2m:1376:A:C8	2.55	0.41
47:2m:1454:A:OP2	59:2y:3:ARG:NH1	2.53	0.41
47:2m:1541:G:H1'	61:20:12:GLN:OE1	2.20	0.41
48:2n:77:ILE:HD12	48:2n:99:ILE:HD12	2.03	0.41
50:2p:13:ALA:HA	50:2p:16:ILE:HG12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2r:180:ALA:HA	52:2r:190:ILE:HD11	2.02	0.41
53:2s:148:LEU:HB2	75:3M:49:GLU:OE2	2.19	0.41
55:2u:85:LEU:HD21	55:2u:89:ILE:HB	2.02	0.41
56:2v:82:MET:CG	56:2v:85:THR:HB	2.49	0.41
65:3C:87:ARG:HE	65:3C:92:ARG:HA	1.86	0.41
68:3F:31:ILE:HG22	68:3F:43:TRP:HB2	2.03	0.41
68:3F:164:ILE:HG21	68:3F:185:LYS:NZ	2.36	0.41
68:3F:247:TRP:HA	68:3F:259:TRP:O	2.20	0.41
70:3H:194:LEU:HD23	70:3H:197:GLN:OE1	2.20	0.41
70:3H:216:ARG:C	70:3H:218:LYS:N	2.79	0.41
71:3I:79:ARG:NH2	71:3I:83:ARG:HH11	2.18	0.41
75:3M:28:ARG:HB3	75:3M:29:PRO:CD	2.50	0.41
75:3M:36:ARG:NH2	75:3M:110:ILE:O	2.53	0.41
76:3N:18:LEU:C	76:3N:19:GLN:OE1	2.63	0.41
1:1A:968:C:H4'	8:1H:110:ARG:NH1	2.35	0.41
1:1A:991:C:H2'	1:1A:993:G:OP1	2.20	0.41
1:1A:1190:C:H2'	1:1A:1191:C:H6	1.84	0.41
1:1A:1341:U:H2'	1:1A:1342:A:H8	1.85	0.41
1:1A:1672:U:H2'	1:1A:1673:U:C6	2.55	0.41
1:1A:1970:A:H1'	1:1A:2018:C:H42	1.85	0.41
1:1A:1986:U:O4	1:1A:2008:U:H1'	2.20	0.41
1:1A:2404:A:H61	1:1A:2787:A:N6	2.18	0.41
1:1A:3928:A:H2'	1:1A:3929:G:O4'	2.20	0.41
1:1A:4097:G:H2'	1:1A:4098:A:C8	2.55	0.41
1:1A:4748:U:H2'	1:1A:4749:C:O4'	2.20	0.41
81:1A:5111:84G:N2	81:1A:5111:84G:C3	2.84	0.41
3:1C:64:U:C2	3:1C:65:A:C8	3.09	0.41
4:1D:114:CYS:HB3	4:1D:167:GLY:O	2.20	0.41
7:1G:75:VAL:HG23	7:1G:112:ARG:NH1	2.33	0.41
8:1H:89:LEU:O	8:1H:89:LEU:CG	2.67	0.41
11:2C:100:PRO:O	11:2C:116:ASN:HB3	2.20	0.41
16:2H:16:SER:CB	37:2c:48:CYS:HB2	2.49	0.41
17:2I:140:ARG:NE	17:2I:144:GLU:OE2	2.47	0.41
27:2S:127:GLN:OE1	27:2S:127:GLN:HA	2.20	0.41
30:2V:70:GLU:CA	30:2V:73:LYS:CE	2.93	0.41
45:2k:54:ALA:HA	45:2k:61:VAL:HG23	2.01	0.41
46:2l:105:LYS:HE2	46:2l:131:ALA:HB2	2.02	0.41
47:2m:533:A:N6	47:2m:552:G:O6	2.54	0.41
47:2m:561:A:H5'	71:3I:171:GLY:HA3	2.01	0.41
47:2m:1276:A:N3	47:2m:1276:A:H2'	2.36	0.41
47:2m:1753:C:H5''	47:2m:1754:G:OP1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:2t:98:LYS:HG3	54:2t:178:ARG:HG2	2.02	0.41
54:2t:139:LYS:HB2	54:2t:141:ARG:HD2	2.02	0.41
54:2t:202:ILE:O	54:2t:205:ARG:HG2	2.19	0.41
57:2w:29:SER:OG	57:2w:30:TYR:N	2.53	0.41
59:2y:26:ASN:OD1	59:2y:26:ASN:N	2.53	0.41
71:3I:52:LYS:HB2	71:3I:52:LYS:HE3	1.72	0.41
76:3N:77:ASP:OD1	76:3N:77:ASP:N	2.53	0.41
76:3N:105:LYS:HD3	76:3N:105:LYS:C	2.45	0.41
1:1A:657:C:H2'	1:1A:658:C:O4'	2.21	0.41
1:1A:1342:A:OP1	16:2H:204:ARG:HD2	2.20	0.41
1:1A:1555:G:O6	44:2j:4:ARG:NH1	2.44	0.41
1:1A:1806:G:H2'	1:1A:1807:C:H6	1.85	0.41
1:1A:4765:G:N2	1:1A:4869:U:H3	2.05	0.41
5:1E:86:VAL:HG12	5:1E:201:LEU:HD12	2.02	0.41
12:2D:180:GLU:HG3	12:2D:184:MET:HE2	2.02	0.41
13:2E:93:GLU:CD	13:2E:173:ILE:HD11	2.45	0.41
13:2E:175:LEU:H	13:2E:176:PRO:CD	2.29	0.41
14:2F:123:LYS:O	36:2b:122:LYS:HG2	2.20	0.41
15:2G:25:VAL:HG21	15:2G:38:VAL:CG1	2.49	0.41
15:2G:41:PRO:HB2	15:2G:74:ARG:HB2	2.02	0.41
23:2O:19:LEU:HD22	23:2O:73:THR:HG23	2.03	0.41
31:2W:31:TYR:HA	31:2W:93:THR:CG2	2.48	0.41
36:2b:81:LEU:HA	36:2b:84:ARG:HG2	2.03	0.41
40:2f:44:TRP:CH2	40:2f:45:ARG:HD2	2.55	0.41
47:2m:71:G:OP1	47:2m:72:C:N4	2.52	0.41
47:2m:1226:G:N1	47:2m:1639:G:OP2	2.54	0.41
47:2m:1457:U:H2'	47:2m:1458:G:C8	2.56	0.41
47:2m:1649:U:OP1	58:2x:128:GLU:N	2.51	0.41
47:2m:1776:G:N2	47:2m:1776:G:OP2	2.54	0.41
47:2m:1814:G:H5'	47:2m:1815:A:OP1	2.20	0.41
53:2s:76:GLN:NE2	53:2s:94:PHE:HB2	2.35	0.41
58:2x:40:GLU:OE2	58:2x:48:GLN:OE1	2.39	0.41
58:2x:109:LYS:HD2	58:2x:120:LEU:HD13	2.02	0.41
65:3C:45:VAL:HG21	65:3C:64:LEU:HG	2.03	0.41
68:3F:30:MET:HE2	68:3F:43:TRP:O	2.20	0.41
68:3F:52:TYR:CD2	68:3F:309:VAL:HG21	2.55	0.41
69:3G:129:ALA:CB	69:3G:216:MET:HE1	2.50	0.41
69:3G:257:LYS:HB2	69:3G:257:LYS:HE2	1.82	0.41
71:3I:78:LEU:HD23	71:3I:78:LEU:HA	1.77	0.41
74:3L:56:VAL:HB	74:3L:81:VAL:HG23	2.01	0.41
75:3M:101:PHE:HA	75:3M:113:HIS:CE1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:3Q:36:MET:HG3	79:3Q:37:GLN:N	2.35	0.41
1:1A:106:A:H2'	1:1A:107:G:O4'	2.20	0.41
1:1A:1590:C:H4'	1:1A:2857:A:H5'	2.03	0.41
1:1A:2902:G:N2	1:1A:3597:G:H1	2.19	0.41
1:1A:3715:U:H2'	1:1A:3716:C:O4'	2.21	0.41
1:1A:3955:G:H2'	1:1A:3955:G:N3	2.35	0.41
1:1A:4417:C:H2'	1:1A:4418:G:O4'	2.20	0.41
1:1A:4685:U:H2'	1:1A:4686:G:C8	2.54	0.41
1:1A:4964:C:H2'	1:1A:4965:U:C6	2.56	0.41
6:1F:5:ARG:HB3	6:1F:24:LEU:HB3	2.02	0.41
7:1G:11:ALA:O	7:1G:15:ARG:HG2	2.21	0.41
10:2B:116:ALA:O	10:2B:119:GLU:OE2	2.38	0.41
10:2B:119:GLU:OE2	10:2B:120:LYS:CD	2.68	0.41
18:2J:13:LYS:HB3	18:2J:152:GLU:HB3	2.02	0.41
26:2R:38:LYS:HE2	26:2R:38:LYS:CA	2.39	0.41
27:2S:50:ARG:HD2	27:2S:51:LYS:H	1.86	0.41
28:2T:89:ILE:HD12	28:2T:89:ILE:C	2.45	0.41
33:2Y:35:TRP:CZ2	33:2Y:56:PRO:HD2	2.54	0.41
33:2Y:117:GLN:HE21	33:2Y:117:GLN:HB3	1.60	0.41
47:2m:493:A:H1'	47:2m:574:A:H5'	2.01	0.41
47:2m:1112:U:H2'	47:2m:1113:A:O2'	2.21	0.41
47:2m:1219:C:H4'	66:3D:24:GLN:HG2	2.03	0.41
47:2m:1421:A:O3'	61:20:2:PRO:HD2	2.21	0.41
47:2m:1443:C:O2	58:2x:71:ARG:NH2	2.54	0.41
47:2m:1536:G:H2'	47:2m:1537:A:C8	2.55	0.41
47:2m:1622:U:O4	57:2w:122:THR:N	2.54	0.41
48:2n:122:LEU:O	48:2n:144:THR:HA	2.20	0.41
49:2o:36:PRO:CB	49:2o:38:MET:HE3	2.50	0.41
51:2q:51:ARG:HA	51:2q:51:ARG:HD3	1.81	0.41
52:2r:77:MET:HB3	52:2r:89:THR:HG21	2.02	0.41
52:2r:90:VAL:O	52:2r:93:VAL:HG12	2.20	0.41
58:2x:42:ILE:HD12	58:2x:81:ILE:CD1	2.51	0.41
63:3A:56:CYS:SG	63:3A:59:ILE:HG22	2.60	0.41
70:3H:159:ARG:HD3	70:3H:173:ALA:HB2	2.01	0.41
71:3I:58:ARG:HA	71:3I:61:LEU:HD23	2.03	0.41
75:3M:3:ARG:HD3	75:3M:6:VAL:HG12	2.03	0.41
1:1A:31:U:H2'	1:1A:32:G:O4'	2.20	0.41
1:1A:163:A:H2'	1:1A:164:G:H8	1.85	0.41
1:1A:658:C:H2'	1:1A:659:G:C8	2.56	0.41
1:1A:1098:G:H1	1:1A:1197:C:H42	1.69	0.41
1:1A:2822:G:OP2	20:2L:21:LYS:HE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:3710:G:N2	1:1A:3711:A:N1	2.68	0.41
1:1A:3766:A:N7	47:2m:1850:A:C5	2.89	0.41
1:1A:3893:C:H2'	1:1A:3894:A:C8	2.55	0.41
1:1A:4323:A:H62	7:1G:153:THR:HG22	1.85	0.41
1:1A:4989:U:O2	1:1A:4990:C:N4	2.53	0.41
4:1D:80:GLU:HB2	4:1D:170:ALA:HA	2.02	0.41
6:1F:224:ILE:HB	6:1F:227:ILE:HD12	2.02	0.41
7:1G:7:VAL:HG13	7:1G:8:LYS:HG3	2.03	0.41
8:1H:68:MET:HE3	8:1H:68:MET:HB3	1.91	0.41
8:1H:225:PRO:HG2	8:1H:227:HIS:NE2	2.36	0.41
10:2B:70:LEU:HD12	10:2B:70:LEU:HA	1.88	0.41
14:2F:116:ARG:HG3	14:2F:155:MET:HE2	2.02	0.41
23:2O:80:LYS:HE2	23:2O:110:TYR:CE2	2.55	0.41
24:2P:106:VAL:HA	24:2P:112:MET:HA	2.03	0.41
26:2R:101:ASP:OD2	26:2R:103:LYS:HB2	2.21	0.41
27:2S:44:VAL:HG21	27:2S:119:LEU:HD12	2.03	0.41
36:2b:79:LYS:O	36:2b:84:ARG:NH2	2.51	0.41
47:2m:594:A:H4'	47:2m:595:U:H5'	2.03	0.41
47:2m:1025:U:H2'	47:2m:1026:C:O4'	2.20	0.41
47:2m:1119:A:H5'	78:3P:72:ARG:NH2	2.35	0.41
47:2m:1563:G:OP2	61:20:72:VAL:HG22	2.20	0.41
47:2m:1716:C:H2'	47:2m:1717:C:H6	1.86	0.41
48:2n:50:ASN:HB3	48:2n:53:ARG:CG	2.51	0.41
52:2r:39:ILE:HD11	52:2r:116:ILE:HG21	2.03	0.41
52:2r:59:LYS:HB2	52:2r:59:LYS:HE3	1.89	0.41
57:2w:21:ASP:OD1	57:2w:21:ASP:N	2.51	0.41
60:2z:108:ARG:HG3	60:2z:108:ARG:HH11	1.85	0.41
64:3B:46:HIS:CD2	64:3B:103:ALA:HB2	2.55	0.41
68:3F:227:LEU:HD23	68:3F:227:LEU:HA	1.91	0.41
71:3I:97:ILE:H	71:3I:97:ILE:HD12	1.86	0.41
73:3K:55:ARG:HH22	78:3P:51:GLN:NE2	2.17	0.41
1:1A:423:G:H5'	18:2J:26:PHE:HZ	1.86	0.41
1:1A:1172:C:H1'	1:1A:1189:G:H22	1.86	0.41
1:1A:1369:C:OP2	1:1A:1370:G:O2'	2.32	0.41
1:1A:1676:C:H41	1:1A:4378:A:H5''	1.84	0.41
1:1A:1844:G:H4'	30:2V:25:ARG:NH2	2.36	0.41
1:1A:2046:G:N3	17:2I:60:LYS:HE3	2.36	0.41
1:1A:3930:U:H2'	1:1A:3931:C:C6	2.54	0.41
1:1A:4390:A:H2'	1:1A:4391:G:O4'	2.20	0.41
10:2B:151:LYS:HA	10:2B:151:LYS:HD2	1.90	0.41
17:2I:85:ARG:HG3	17:2I:99:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:2L:21:LYS:HE3	20:2L:55:VAL:HA	2.02	0.41
28:2T:97:ASN:H	28:2T:100:VAL:CG2	2.33	0.41
43:2i:69:ARG:NH1	43:2i:69:ARG:HG2	2.36	0.41
45:2k:107:ARG:O	45:2k:111:ILE:HG12	2.21	0.41
47:2m:306:C:H5''	47:2m:307:G:N7	2.36	0.41
47:2m:444:G:O6	54:2t:26:LYS:HE2	2.19	0.41
47:2m:744:G:N1	53:2s:107:LYS:HE2	1.99	0.41
47:2m:1234:C:H2'	47:2m:1235:G:H8	1.86	0.41
47:2m:1283:C:O2	47:2m:1287:A:H1'	2.20	0.41
47:2m:1354:G:H21	47:2m:1356:G:H8	1.68	0.41
47:2m:1786:U:H2'	47:2m:1787:G:H8	1.85	0.41
49:2o:181:LEU:HA	49:2o:184:VAL:HG22	2.02	0.41
61:20:130:ASP:O	61:20:133:ARG:HG2	2.21	0.41
67:3E:5:GLN:CB	67:3E:6:LEU:HD22	2.45	0.41
69:3G:213:LEU:HA	69:3G:216:MET:SD	2.60	0.41
70:3H:148:SER:OG	70:3H:149:LYS:N	2.54	0.41
74:3L:130:GLU:OE1	74:3L:130:GLU:CA	2.67	0.41
78:3P:6:ASP:OD2	78:3P:9:HIS:HB2	2.20	0.41
78:3P:62:VAL:HG13	78:3P:74:THR:HG21	2.02	0.41
78:3P:67:THR:OG1	78:3P:68:GLY:N	2.42	0.41
1:1A:920:C:H2'	1:1A:921:C:C6	2.56	0.41
1:1A:1317:U:OP1	29:2U:21:ARG:NH1	2.48	0.41
1:1A:1609:U:H4'	1:1A:3638:G:OP1	2.21	0.41
1:1A:1725:U:H2'	1:1A:1726:U:C6	2.54	0.41
1:1A:1973:G:C8	1:1A:1974:U:H2'	2.56	0.41
1:1A:3661:G:N7	4:1D:152:SER:OG	2.38	0.41
1:1A:4107:G:H2'	1:1A:4108:G:H8	1.85	0.41
1:1A:4244:A:H2'	1:1A:4245:G:O4'	2.20	0.41
1:1A:4481:U:H2'	1:1A:4482:U:C6	2.55	0.41
1:1A:4625:C:O2'	1:1A:4626:A:H5'	2.20	0.41
1:1A:4986:G:H5''	5:1E:176:LYS:HG3	2.02	0.41
9:2A:220:MET:O	9:2A:232:ASP:OD2	2.38	0.41
11:2C:101:ILE:HG21	11:2C:179:ILE:HD11	2.02	0.41
16:2H:75:VAL:HG11	16:2H:80:THR:HG22	2.02	0.41
20:2L:155:LEU:HD23	20:2L:155:LEU:HA	1.87	0.41
28:2T:58:GLY:O	28:2T:62:ILE:HG13	2.20	0.41
39:2e:30:ASP:OD1	39:2e:30:ASP:N	2.53	0.41
41:2g:94:MET:HE3	41:2g:94:MET:HB3	1.96	0.41
42:2h:1:MET:HB2	47:2m:1706:G:H5'	2.02	0.41
43:2i:32:SER:C	43:2i:34:TYR:H	2.29	0.41
46:2l:67:VAL:C	46:2l:69:GLY:N	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:2m:292:A:H5'	56:2v:41:GLY:H	1.86	0.41
47:2m:525:A:H2'	47:2m:526:A:C8	2.48	0.41
47:2m:655:A:H4'	47:2m:656:G:H5'	2.01	0.41
47:2m:843:C:H2'	47:2m:844:U:C6	2.56	0.41
47:2m:1542:C:H5''	61:20:62:ARG:CZ	2.51	0.41
47:2m:1661:A:C8	67:3E:14:PHE:HB2	2.56	0.41
48:2n:159:ILE:HD11	63:3A:34:MET:SD	2.60	0.41
51:2q:60:GLU:CA	51:2q:63:LYS:HG2	2.44	0.41
51:2q:105:THR:HG21	51:2q:244:ILE:O	2.21	0.41
68:3F:42:MET:CE	68:3F:59:LEU:CD2	2.98	0.41
70:3H:18:VAL:HG11	70:3H:24:LEU:HD11	2.03	0.41
1:1A:253:G:N1	1:1A:254:G:N3	2.67	0.41
1:1A:750:U:C2	1:1A:751:G:C8	3.08	0.41
1:1A:1199:G:H2'	1:1A:1200:G:C8	2.56	0.41
1:1A:1241:C:C5	1:1A:1242:G:C8	3.08	0.41
1:1A:1628:C:OP2	4:1D:9:ARG:HD2	2.21	0.41
1:1A:1743:A:N1	1:1A:1789:C:O2'	2.49	0.41
1:1A:1788:A:H2'	12:2D:22:PHE:CZ	2.56	0.41
1:1A:2417:A:C4	1:1A:2418:A:C8	3.09	0.41
1:1A:2422:C:H5'	1:1A:3858:C:C4'	2.40	0.41
1:1A:2436:U:N3	1:1A:2783:A:C8	2.89	0.41
1:1A:3946:G:C2	1:1A:3947:A:H1'	2.55	0.41
1:1A:3963:A:C8	1:1A:3965:A:OP2	2.72	0.41
1:1A:4646:U:OP2	20:2L:62:ARG:NH2	2.53	0.41
1:1A:4762:A:H8	17:2I:126:VAL:HG21	1.85	0.41
3:1C:70:G:H5''	27:2S:27:ARG:CZ	2.50	0.41
7:1G:25:GLU:HB3	7:1G:27:LYS:HD2	2.03	0.41
8:1H:99:ASP:CG	8:1H:100:LYS:HG3	2.45	0.41
8:1H:223:ARG:CZ	8:1H:236:GLU:O	2.69	0.41
8:1H:226:ARG:HD3	8:1H:226:ARG:N	2.35	0.41
10:2B:176:LYS:HD2	37:2c:43:MET:CE	2.47	0.41
10:2B:248:ALA:O	10:2B:252:LYS:HG2	2.21	0.41
10:2B:257:LYS:HD3	10:2B:257:LYS:C	2.45	0.41
12:2D:140:THR:HG22	12:2D:141:LYS:N	2.36	0.41
13:2E:85:LYS:O	13:2E:89:VAL:HG23	2.20	0.41
13:2E:99:PHE:HD2	13:2E:163:MET:HE1	1.86	0.41
13:2E:103:GLY:HA3	13:2E:157:ILE:HG22	2.03	0.41
18:2J:9:GLU:H	18:2J:9:GLU:CD	2.28	0.41
27:2S:38:LEU:HD23	27:2S:38:LEU:HA	1.92	0.41
27:2S:43:ASN:O	27:2S:126:ARG:NE	2.53	0.41
29:2U:115:GLY:O	29:2U:136:LYS:NZ	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:2V:12:GLN:HB3	30:2V:16:TRP:CZ3	2.56	0.41
31:2W:77:ASN:HD21	31:2W:79:ILE:HD12	1.86	0.41
32:2X:105:LEU:HD23	32:2X:106:VAL:H	1.85	0.41
34:2Z:104:MET:HB2	34:2Z:104:MET:HE2	1.81	0.41
36:2b:3:LYS:HZ2	36:2b:3:LYS:HG2	1.50	0.41
36:2b:48:ARG:O	36:2b:52:LYS:HG2	2.21	0.41
39:2e:10:ASP:N	39:2e:10:ASP:OD1	2.54	0.41
39:2e:32:VAL:HG23	39:2e:50:LYS:HZ3	1.85	0.41
40:2f:33:ASN:O	40:2f:35:ILE:HG22	2.20	0.41
46:2l:67:VAL:O	46:2l:67:VAL:HG12	2.21	0.41
46:2l:69:GLY:CA	46:2l:84:HIS:CE1	2.54	0.41
46:2l:82:ILE:H	46:2l:82:ILE:HG12	1.64	0.41
47:2m:178:C:H3'	47:2m:313:A:N6	2.34	0.41
47:2m:189:U:O2	47:2m:211:G:N2	2.54	0.41
47:2m:190:G:H5''	54:2t:145:ILE:HG12	2.02	0.41
47:2m:455:A:H2'	47:2m:456:C:H6	1.86	0.41
47:2m:641:A:O2'	47:2m:645:C:OP1	2.38	0.41
47:2m:744:G:C4	53:2s:107:LYS:HD3	2.23	0.41
47:2m:913:A:N3	53:2s:66:VAL:HG11	2.36	0.41
47:2m:931:C:H2'	47:2m:932:G:C8	2.56	0.41
47:2m:952:G:H2'	47:2m:953:C:C6	2.56	0.41
47:2m:990:A:OP2	65:3C:37:LYS:HE3	2.21	0.41
47:2m:1070:A:H2'	47:2m:1071:G:O4'	2.20	0.41
47:2m:1298:G:N7	47:2m:1514:G:H1'	2.35	0.41
47:2m:1338:G:H5''	62:21:76:THR:HG21	2.02	0.41
47:2m:1365:G:H2'	47:2m:1366:G:C8	2.56	0.41
47:2m:1388:A:H5''	59:2y:45:LYS:NZ	2.36	0.41
47:2m:1473:G:H21	47:2m:1475:G:H5''	1.85	0.41
47:2m:1511:U:O2'	47:2m:1512:C:H5'	2.20	0.41
47:2m:1644:C:H4'	58:2x:140:ARG:HB2	2.02	0.41
48:2n:12:GLU:HA	48:2n:15:VAL:HG23	2.03	0.41
50:2p:30:ALA:HB1	50:2p:106:ARG:NH2	2.36	0.41
52:2r:112:LEU:O	52:2r:116:ILE:HG12	2.21	0.41
53:2s:95:ILE:HD12	53:2s:95:ILE:O	2.20	0.41
53:2s:154:ILE:HB	53:2s:185:VAL:HG12	2.03	0.41
58:2x:40:GLU:HG2	58:2x:48:GLN:CD	2.46	0.41
58:2x:103:ALA:O	58:2x:107:GLU:HG2	2.21	0.41
61:20:40:ALA:O	61:20:42:HIS:N	2.54	0.41
69:3G:74:LYS:HA	69:3G:74:LYS:HD3	1.87	0.41
70:3H:78:SER:OG	70:3H:79:LYS:N	2.54	0.41
72:3J:94:ILE:HD12	72:3J:100:PRO:HD3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:3K:25:TRP:CD2	78:3P:82:LYS:HE2	2.56	0.41
74:3L:103:ASN:ND2	74:3L:142:ARG:HA	2.36	0.41
1:1A:231:U:H4'	27:2S:100:HIS:CD2	2.56	0.41
1:1A:691:C:H2'	1:1A:692:A:H8	1.84	0.41
1:1A:734:G:C2	1:1A:735:G:C8	3.09	0.41
1:1A:2386:U:H2'	1:1A:2387:G:H8	1.85	0.41
1:1A:2639:U:H2'	1:1A:2694:G:H1	1.86	0.41
1:1A:2659:A:H61	1:1A:2675:G:H1'	1.85	0.41
1:1A:4237:C:H2'	1:1A:4238:G:C8	2.55	0.41
1:1A:4378:A:O2'	1:1A:4379:A:H2'	2.21	0.41
1:1A:5062:G:H2'	1:1A:5063:G:H8	1.85	0.41
6:1F:218:ILE:HG12	6:1F:229:LEU:HG	2.01	0.41
11:2C:67:LEU:HD23	11:2C:67:LEU:HA	1.83	0.41
14:2F:63:THR:CG2	29:2U:66:ASN:HB3	2.51	0.41
21:2M:95:ARG:NH2	21:2M:112:ASP:OD2	2.53	0.41
27:2S:47:MET:HE2	27:2S:119:LEU:HD13	2.03	0.41
27:2S:72:GLN:HB3	27:2S:81:TYR:HB2	2.02	0.41
47:2m:570:C:O2'	76:3N:34:THR:O	2.32	0.41
47:2m:932:G:O2'	47:2m:934:G:OP2	2.30	0.41
47:2m:939:U:H2'	47:2m:940:U:C6	2.56	0.41
47:2m:972:A:C4	47:2m:973:C:C6	3.09	0.41
47:2m:1274:G:N7	67:3E:7:TYR:OH	2.37	0.41
47:2m:1421:A:N3	61:20:2:PRO:O	2.54	0.41
50:2p:40:ARG:HE	62:21:108:PRO:HG3	1.86	0.41
53:2s:130:LEU:HD23	53:2s:130:LEU:HA	1.91	0.41
54:2t:26:LYS:O	54:2t:29:LEU:HD23	2.21	0.41
55:2u:25:LYS:HD3	55:2u:62:PHE:CZ	2.55	0.41
55:2u:86:PRO:HB2	55:2u:88:GLU:OE1	2.21	0.41
57:2w:94:VAL:O	57:2w:105:VAL:HG22	2.21	0.41
62:21:19:ARG:HD3	62:21:91:LEU:O	2.21	0.41
67:3E:23:VAL:HG21	67:3E:46:TYR:HE2	1.85	0.41
69:3G:77:SER:O	69:3G:80:GLU:HB2	2.21	0.41
77:3O:97:ILE:HG23	77:3O:109:TYR:HB3	2.03	0.41
1:1A:206:U:O2'	1:1A:208:A:N7	2.45	0.40
1:1A:1415:G:C2	1:1A:1416:G:C8	3.09	0.40
1:1A:1927:U:OP1	1:1A:1949:U:O2'	2.32	0.40
1:1A:2747:U:H2'	1:1A:2748:C:C6	2.56	0.40
1:1A:3787:G:H1'	1:1A:3789:C:N4	2.37	0.40
1:1A:3890:A:N7	1:1A:4571:A:H1'	2.37	0.40
1:1A:4174:U:H2'	1:1A:4175:G:C8	2.55	0.40
1:1A:4578:G:H2'	1:1A:4579:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:4758:U:C2	17:2I:168:TYR:HB2	2.56	0.40
6:1F:210:ILE:HG22	6:1F:232:VAL:HB	2.02	0.40
7:1G:178:LYS:HE2	7:1G:179:ARG:NH1	2.36	0.40
8:1H:203:ILE:HD13	8:1H:203:ILE:HA	1.81	0.40
8:1H:223:ARG:HH12	8:1H:238:GLU:CA	2.33	0.40
8:1H:226:ARG:N	8:1H:226:ARG:CD	2.84	0.40
9:2A:106:ARG:O	9:2A:110:GLN:HG3	2.21	0.40
9:2A:137:GLU:HB3	9:2A:138:PRO:HD3	2.03	0.40
17:2I:65:ASN:OD1	17:2I:67:SER:OG	2.40	0.40
25:2Q:91:MET:HE1	25:2Q:94:ARG:CZ	2.51	0.40
25:2Q:97:LYS:HD3	25:2Q:98:PRO:N	2.36	0.40
26:2R:81:LEU:HD23	26:2R:81:LEU:HA	1.84	0.40
30:2V:40:LEU:HD12	30:2V:40:LEU:HA	1.86	0.40
39:2e:69:LEU:O	39:2e:70:LYS:HD3	2.20	0.40
44:2j:30:GLU:HA	44:2j:33:GLN:HG2	2.03	0.40
48:2n:65:ILE:HG13	48:2n:65:ILE:H	1.71	0.40
51:2q:117:GLU:OE1	51:2q:117:GLU:N	2.54	0.40
55:2u:5:LYS:HG3	55:2u:8:ARG:NH2	2.36	0.40
68:3F:232:GLY:HA3	68:3F:259:TRP:CZ2	2.57	0.40
1:1A:943:A:H62	9:2A:151:ASN:HD21	1.68	0.40
1:1A:950:G:H2'	1:1A:951:G:H8	1.86	0.40
1:1A:1096:C:H2'	1:1A:1097:C:C6	2.56	0.40
1:1A:1248:C:H2'	1:1A:1249:C:C6	2.56	0.40
1:1A:2361:G:O2'	1:1A:3859:G:O6	2.39	0.40
1:1A:2372:U:H2'	1:1A:2373:C:C6	2.56	0.40
1:1A:2521:G:H4'	35:2a:26:PRO:HD2	2.03	0.40
1:1A:2614:C:O2'	1:1A:2808:G:OP1	2.28	0.40
1:1A:3599:A:H2'	1:1A:3600:G:H8	1.85	0.40
1:1A:3802:U:O2'	1:1A:3803:A:H5'	2.21	0.40
1:1A:4503:A:H2'	1:1A:4504:C:H6	1.84	0.40
1:1A:4708:A:N3	1:1A:4709:U:H5'	2.36	0.40
3:1C:19:C:H2'	3:1C:20:A:H8	1.83	0.40
4:1D:178:PRO:HG2	44:2j:26:VAL:HG23	2.02	0.40
5:1E:295:ASP:OD1	5:1E:296:GLY:N	2.54	0.40
7:1G:178:LYS:HE2	7:1G:179:ARG:HH12	1.86	0.40
9:2A:226:HIS:ND1	9:2A:228:VAL:HG22	2.37	0.40
19:2K:22:ASP:OD1	19:2K:22:ASP:C	2.64	0.40
19:2K:69:LYS:HB2	19:2K:139:LEU:HD21	2.03	0.40
26:2R:83:THR:O	26:2R:87:MET:HG2	2.21	0.40
34:2Z:31:GLU:OE1	34:2Z:31:GLU:O	2.40	0.40
36:2b:110:LYS:HE3	36:2b:110:LYS:HB3	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:2k:28:GLU:HB2	45:2k:31:ASN:HB2	2.03	0.40
47:2m:158:A:H2'	47:2m:159:A:O4'	2.21	0.40
47:2m:659:G:O2'	47:2m:662:G:O2'	2.36	0.40
47:2m:971:G:HO2'	47:2m:972:A:H8	1.63	0.40
47:2m:1036:A:H4'	47:2m:1855:G:N2	2.36	0.40
47:2m:1138:C:H5'	81:2m:1902:84G:C15	2.51	0.40
47:2m:1348:G:H22	47:2m:1381:G:N2	2.18	0.40
50:2p:217:ILE:HG22	50:2p:218:LEU:N	2.36	0.40
51:2q:185:GLY:N	51:2q:189:LEU:HD13	2.31	0.40
60:2z:54:LYS:HG2	60:2z:55:ARG:O	2.21	0.40
60:2z:65:GLU:HA	60:2z:68:ILE:HG22	2.03	0.40
66:3D:21:THR:HG22	66:3D:27:CYS:HB2	2.04	0.40
68:3F:99:ARG:HE	68:3F:99:ARG:HB2	1.59	0.40
1:1A:166:C:H2'	1:1A:167:C:C6	2.57	0.40
1:1A:347:A:H2'	1:1A:348:G:C8	2.56	0.40
1:1A:935:A:HO2'	15:2G:44:GLN:C	2.24	0.40
1:1A:959:G:C8	8:1H:123:ARG:HG2	2.56	0.40
1:1A:1457:G:O5'	19:2K:72:LEU:HD13	2.21	0.40
1:1A:2281:U:C2	1:1A:2282:A:C8	3.09	0.40
1:1A:2467:U:H4'	1:1A:2468:U:H5'	2.03	0.40
1:1A:2654:C:H2'	1:1A:2655:C:H6	1.86	0.40
1:1A:2781:G:O2'	40:2f:3:SER:O	2.39	0.40
1:1A:2894:A:H2'	1:1A:2895:A:C8	2.56	0.40
1:1A:3723:A:H2'	1:1A:3724:A:C8	2.56	0.40
1:1A:3765:G:C2	1:1A:3766:A:H5'	2.57	0.40
1:1A:4063:U:H3'	1:1A:4064:C:C6	2.55	0.40
1:1A:4147:G:H2'	1:1A:4148:C:C6	2.57	0.40
1:1A:4568:A:N3	18:2J:69:ARG:NH1	2.70	0.40
1:1A:4678:G:N2	1:1A:4713:G:H1'	2.36	0.40
10:2B:143:VAL:HG21	10:2B:201:THR:HG23	2.04	0.40
16:2H:158:HIS:HB3	16:2H:161:MET:HG3	2.03	0.40
19:2K:59:PRO:HG3	19:2K:143:ARG:HA	2.03	0.40
23:2O:19:LEU:HD23	23:2O:74:SER:O	2.22	0.40
23:2O:76:VAL:HG23	23:2O:78:PHE:HB2	2.02	0.40
31:2W:31:TYR:OH	31:2W:59:GLU:OE1	2.28	0.40
37:2c:74:LYS:HE2	37:2c:80:HIS:HB2	2.03	0.40
47:2m:70:G:OP2	47:2m:70:G:H8	2.04	0.40
47:2m:78:C:OP1	70:3H:173:ALA:HB3	2.22	0.40
47:2m:815:U:H2'	47:2m:816:A:H8	1.87	0.40
47:2m:1529:C:H2'	47:2m:1530:U:C6	2.57	0.40
48:2n:40:LYS:HD2	59:2y:101:ASP:OD2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:2n:49:ILE:HG21	48:2n:162:PRO:O	2.20	0.40
48:2n:89:LYS:HE3	48:2n:201:LEU:CD2	2.52	0.40
59:2y:61:ILE:HG22	59:2y:66:VAL:CG2	2.51	0.40
66:3D:67:ARG:HE	66:3D:67:ARG:HB2	1.75	0.40
67:3E:31:ILE:HD12	67:3E:31:ILE:HA	1.91	0.40
68:3F:30:MET:HE1	68:3F:43:TRP:O	2.21	0.40
68:3F:164:ILE:HG22	68:3F:178:ASN:HA	2.03	0.40
72:3J:95:ASP:O	72:3J:98:GLY:O	2.39	0.40
1:1A:99:A:H5''	16:2H:184:ILE:HD13	2.04	0.40
1:1A:260:C:H2'	1:1A:261:G:H8	1.85	0.40
1:1A:1355:G:H2'	1:1A:1356:U:C6	2.56	0.40
1:1A:1415:G:C2	1:1A:1416:G:N7	2.90	0.40
1:1A:4088:C:H2'	1:1A:4089:G:C8	2.54	0.40
2:1B:118:C:H2'	2:1B:119:U:O4'	2.21	0.40
4:1D:245:ARG:HB2	4:1D:245:ARG:NH1	2.37	0.40
11:2C:16:VAL:HG12	11:2C:29:GLY:HA3	2.04	0.40
12:2D:56:GLU:HG3	12:2D:162:ARG:H	1.86	0.40
18:2J:108:ASP:OD1	18:2J:108:ASP:N	2.51	0.40
28:2T:12:LEU:HB2	28:2T:81:MET:HB3	2.02	0.40
38:2d:46:LYS:HB3	38:2d:46:LYS:HE3	1.79	0.40
47:2m:496:C:OP1	51:2q:49:ARG:NH2	2.34	0.40
47:2m:533:A:H2'	47:2m:534:G:O4'	2.20	0.40
47:2m:652:U:H2'	47:2m:653:A:H8	1.86	0.40
47:2m:659:G:H21	64:3B:17:ARG:NH2	2.19	0.40
47:2m:735:C:H3'	47:2m:736:C:C5	2.57	0.40
47:2m:821:G:N2	71:3I:150:ARG:HG3	2.36	0.40
48:2n:198:MET:HG2	48:2n:199:PRO:HD2	2.04	0.40
58:2x:34:VAL:HG11	58:2x:84:ILE:HG21	2.03	0.40
63:3A:23:ILE:HG21	69:3G:248:TYR:O	2.21	0.40
69:3G:194:ARG:O	69:3G:224:THR:HA	2.22	0.40
70:3H:26:THR:HG21	70:3H:40:ALA:HB3	2.02	0.40
71:3I:121:LYS:H	71:3I:121:LYS:HD2	1.85	0.40
1:1A:70:A:OP2	29:2U:64:LYS:HE3	2.22	0.40
1:1A:260:C:H2'	1:1A:261:G:C8	2.57	0.40
1:1A:1291:G:H2'	1:1A:1292:C:C6	2.57	0.40
1:1A:1351:G:H2'	1:1A:1352:C:C6	2.57	0.40
1:1A:1577:G:H5'	1:1A:1578:U:H5''	2.04	0.40
1:1A:1806:G:H2'	1:1A:1807:C:C6	2.56	0.40
1:1A:1850:A:H2'	1:1A:1851:G:C8	2.57	0.40
1:1A:3762:U:H2'	1:1A:3763:A:C8	2.56	0.40
1:1A:4060:U:O2'	1:1A:4061:G:P	2.80	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:4345:C:H2'	1:1A:4346:U:C6	2.57	0.40
1:1A:4457:U:O2	5:1E:252:ALA:HB3	2.22	0.40
1:1A:4910:G:H22	17:2I:107:GLY:HA3	1.87	0.40
1:1A:4968:A:H2'	1:1A:4969:C:H6	1.85	0.40
5:1E:163:ILE:HG22	5:1E:180:LEU:HD22	2.03	0.40
6:1F:95:MET:HE3	6:1F:95:MET:HB3	1.98	0.40
12:2D:47:PRO:HB3	12:2D:171:TRP:CZ2	2.57	0.40
12:2D:107:GLY:C	12:2D:109:ASP:H	2.29	0.40
12:2D:136:MET:HE3	12:2D:136:MET:HB2	1.79	0.40
13:2E:119:TYR:CD1	13:2E:119:TYR:O	2.74	0.40
17:2I:191:LYS:H	17:2I:191:LYS:HG2	1.57	0.40
20:2L:76:MET:O	20:2L:80:LYS:HB2	2.21	0.40
21:2M:7:LEU:O	21:2M:103:ALA:HB1	2.21	0.40
33:2Y:108:ARG:O	33:2Y:112:VAL:HG23	2.22	0.40
33:2Y:117:GLN:HA	45:2k:124:VAL:HG21	2.02	0.40
47:2m:486:A:H1'	47:2m:513:G:H22	1.87	0.40
47:2m:616:A:N3	79:3Q:12:VAL:HG21	2.36	0.40
47:2m:1237:C:HO2'	57:2w:128:HIS:HB2	1.69	0.40
47:2m:1276:A:H5'	47:2m:1277:C:OP2	2.21	0.40
47:2m:1287:A:N1	47:2m:1312:G:H1'	2.37	0.40
47:2m:1422:G:H1'	47:2m:1424:G:H8	1.86	0.40
47:2m:1473:G:N2	47:2m:1475:G:H5''	2.37	0.40
49:2o:94:LYS:HA	49:2o:94:LYS:HD2	1.86	0.40
50:2p:96:LEU:HD12	50:2p:96:LEU:HA	1.94	0.40
52:2r:196:LEU:O	52:2r:199:VAL:HG12	2.21	0.40
55:2u:1:MET:HA	55:2u:1:MET:CE	2.48	0.40
56:2v:120:VAL:HG22	56:2v:145:VAL:HG11	2.04	0.40
59:2y:60:ARG:HG2	59:2y:66:VAL:HG21	2.03	0.40
59:2y:98:VAL:HG23	59:2y:119:VAL:HG12	2.04	0.40
61:20:6:VAL:HG21	61:20:65:TYR:CE2	2.55	0.40
67:3E:19:ARG:CD	67:3E:32:ARG:NH1	2.82	0.40
68:3F:72:SER:HA	68:3F:113:PHE:HD2	1.87	0.40
68:3F:294:ASP:HB2	68:3F:296:GLN:NE2	2.37	0.40
69:3G:169:TYR:O	75:3M:98:GLN:NE2	2.54	0.40
70:3H:170:ARG:HG2	70:3H:171:THR:H	1.86	0.40
76:3N:10:ARG:NH1	76:3N:26:ASP:OD2	2.55	0.40
80:3R:137:ASP:O	80:3R:150:PHE:HB3	2.22	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	
4	1D	246/257 (96%)	223 (91%)	23 (9%)	0	100	100
5	1E	400/403 (99%)	384 (96%)	16 (4%)	0	100	100
6	1F	366/427 (86%)	342 (93%)	24 (7%)	0	100	100
7	1G	291/297 (98%)	279 (96%)	12 (4%)	0	100	100
8	1H	232/288 (81%)	209 (90%)	23 (10%)	0	100	100
9	2A	224/248 (90%)	215 (96%)	9 (4%)	0	100	100
10	2B	240/266 (90%)	227 (95%)	13 (5%)	0	100	100
11	2C	188/192 (98%)	178 (95%)	10 (5%)	0	100	100
12	2D	211/214 (99%)	192 (91%)	18 (8%)	1 (0%)	24	44
13	2E	174/178 (98%)	163 (94%)	9 (5%)	2 (1%)	11	24
14	2F	208/211 (99%)	190 (91%)	18 (9%)	0	100	100
15	2G	137/215 (64%)	132 (96%)	5 (4%)	0	100	100
16	2H	201/204 (98%)	191 (95%)	9 (4%)	1 (0%)	24	44
17	2I	199/203 (98%)	193 (97%)	6 (3%)	0	100	100
18	2J	151/184 (82%)	143 (95%)	8 (5%)	0	100	100
19	2K	185/188 (98%)	179 (97%)	6 (3%)	0	100	100
20	2L	185/196 (94%)	178 (96%)	7 (4%)	0	100	100
21	2M	173/176 (98%)	160 (92%)	12 (7%)	1 (1%)	21	39
22	2N	157/160 (98%)	150 (96%)	7 (4%)	0	100	100
23	2O	99/128 (77%)	87 (88%)	12 (12%)	0	100	100
24	2P	129/140 (92%)	123 (95%)	6 (5%)	0	100	100
25	2Q	122/157 (78%)	110 (90%)	12 (10%)	0	100	100
26	2R	118/156 (76%)	113 (96%)	4 (3%)	1 (1%)	16	32
27	2S	132/145 (91%)	129 (98%)	3 (2%)	0	100	100
28	2T	133/136 (98%)	124 (93%)	9 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	2U	145/148 (98%)	134 (92%)	11 (8%)	0	100	100
30	2V	105/159 (66%)	95 (90%)	10 (10%)	0	100	100
31	2W	96/115 (84%)	92 (96%)	4 (4%)	0	100	100
32	2X	105/125 (84%)	100 (95%)	5 (5%)	0	100	100
33	2Y	126/135 (93%)	118 (94%)	7 (6%)	1 (1%)	16	32
34	2Z	107/110 (97%)	102 (95%)	4 (4%)	1 (1%)	14	29
35	2a	112/117 (96%)	111 (99%)	1 (1%)	0	100	100
36	2b	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
37	2c	100/105 (95%)	96 (96%)	4 (4%)	0	100	100
38	2d	85/97 (88%)	83 (98%)	2 (2%)	0	100	100
39	2e	67/70 (96%)	65 (97%)	2 (3%)	0	100	100
40	2f	48/51 (94%)	44 (92%)	4 (8%)	0	100	100
41	2g	49/128 (38%)	47 (96%)	2 (4%)	0	100	100
42	2h	22/25 (88%)	22 (100%)	0	0	100	100
43	2i	104/106 (98%)	96 (92%)	8 (8%)	0	100	100
44	2j	89/92 (97%)	87 (98%)	2 (2%)	0	100	100
45	2k	123/137 (90%)	115 (94%)	8 (6%)	0	100	100
46	2l	215/217 (99%)	171 (80%)	42 (20%)	2 (1%)	14	29
48	2n	219/295 (74%)	205 (94%)	13 (6%)	1 (0%)	24	44
49	2o	212/264 (80%)	205 (97%)	7 (3%)	0	100	100
50	2p	225/243 (93%)	199 (88%)	26 (12%)	0	100	100
51	2q	260/263 (99%)	245 (94%)	15 (6%)	0	100	100
52	2r	187/204 (92%)	164 (88%)	23 (12%)	0	100	100
53	2s	182/194 (94%)	162 (89%)	20 (11%)	0	100	100
54	2t	204/208 (98%)	199 (98%)	5 (2%)	0	100	100
55	2u	96/165 (58%)	87 (91%)	9 (9%)	0	100	100
56	2v	151/158 (96%)	137 (91%)	14 (9%)	0	100	100
57	2w	125/145 (86%)	118 (94%)	7 (6%)	0	100	100
58	2x	139/146 (95%)	127 (91%)	10 (7%)	2 (1%)	9	18
59	2y	133/135 (98%)	120 (90%)	11 (8%)	2 (2%)	8	16
60	2z	143/152 (94%)	126 (88%)	17 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	20	141/145 (97%)	127 (90%)	14 (10%)	0	100	100
62	21	101/119 (85%)	94 (93%)	7 (7%)	0	100	100
63	3A	81/83 (98%)	73 (90%)	8 (10%)	0	100	100
64	3B	139/143 (97%)	129 (93%)	10 (7%)	0	100	100
65	3C	101/115 (88%)	92 (91%)	9 (9%)	0	100	100
66	3D	62/69 (90%)	50 (81%)	12 (19%)	0	100	100
67	3E	53/56 (95%)	49 (92%)	3 (6%)	1 (2%)	6	12
68	3F	311/317 (98%)	284 (91%)	27 (9%)	0	100	100
69	3G	221/293 (75%)	209 (95%)	12 (5%)	0	100	100
70	3H	235/249 (94%)	221 (94%)	14 (6%)	0	100	100
71	3I	184/194 (95%)	164 (89%)	20 (11%)	0	100	100
72	3J	120/132 (91%)	113 (94%)	7 (6%)	0	100	100
73	3K	148/151 (98%)	145 (98%)	3 (2%)	0	100	100
74	3L	138/151 (91%)	122 (88%)	15 (11%)	1 (1%)	18	36
75	3M	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
76	3N	130/133 (98%)	122 (94%)	8 (6%)	0	100	100
77	3O	73/125 (58%)	62 (85%)	11 (15%)	0	100	100
78	3P	81/84 (96%)	70 (86%)	11 (14%)	0	100	100
79	3Q	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
80	3R	65/156 (42%)	55 (85%)	10 (15%)	0	100	100
All	All	11562/12905 (90%)	10759 (93%)	786 (7%)	17 (0%)	49	69

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
33	2Y	92	ASN
34	2Z	107	PRO
48	2n	28	THR
58	2x	42	ILE
58	2x	43	GLU
21	2M	165	PRO
59	2y	66	VAL
59	2y	69	ILE
16	2H	124	ASP
67	3E	3	HIS

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Mol	Chain	Res	Type
26	2R	38	LYS
46	2I	83	PRO
46	2I	86	ASP
74	3L	15	ILE
13	2E	117	ILE
12	2D	107	GLY
13	2E	174	ILE

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	1D	190/199 (96%)	185 (97%)	5 (3%)	40	66
5	1E	348/349 (100%)	341 (98%)	7 (2%)	48	72
6	1F	306/348 (88%)	304 (99%)	2 (1%)	76	88
7	1G	246/250 (98%)	240 (98%)	6 (2%)	43	68
8	1H	209/252 (83%)	201 (96%)	8 (4%)	29	54
9	2A	195/215 (91%)	195 (100%)	0	100	100
10	2B	204/223 (92%)	200 (98%)	4 (2%)	48	72
11	2C	169/171 (99%)	166 (98%)	3 (2%)	51	74
12	2D	180/181 (99%)	178 (99%)	2 (1%)	65	83
13	2E	148/149 (99%)	138 (93%)	10 (7%)	14	31
14	2F	176/177 (99%)	169 (96%)	7 (4%)	28	52
15	2G	118/161 (73%)	117 (99%)	1 (1%)	73	87
16	2H	171/172 (99%)	170 (99%)	1 (1%)	78	89
17	2I	173/174 (99%)	170 (98%)	3 (2%)	53	76
18	2J	134/163 (82%)	131 (98%)	3 (2%)	45	70
19	2K	164/165 (99%)	164 (100%)	0	100	100
20	2L	166/175 (95%)	165 (99%)	1 (1%)	78	89
21	2M	156/157 (99%)	153 (98%)	3 (2%)	50	73

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	2N	139/140 (99%)	136 (98%)	3 (2%)	45	70
23	2O	91/115 (79%)	89 (98%)	2 (2%)	45	70
24	2P	101/107 (94%)	97 (96%)	4 (4%)	28	52
25	2Q	103/126 (82%)	102 (99%)	1 (1%)	68	84
26	2R	108/133 (81%)	102 (94%)	6 (6%)	19	38
27	2S	124/135 (92%)	123 (99%)	1 (1%)	73	87
28	2T	117/118 (99%)	116 (99%)	1 (1%)	70	85
29	2U	120/121 (99%)	119 (99%)	1 (1%)	73	87
30	2V	89/126 (71%)	88 (99%)	1 (1%)	65	83
31	2W	83/97 (86%)	79 (95%)	4 (5%)	23	45
32	2X	98/110 (89%)	93 (95%)	5 (5%)	21	43
33	2Y	114/121 (94%)	111 (97%)	3 (3%)	40	66
34	2Z	88/89 (99%)	87 (99%)	1 (1%)	65	83
35	2a	98/100 (98%)	98 (100%)	0	100	100
36	2b	109/110 (99%)	108 (99%)	1 (1%)	70	85
37	2c	86/89 (97%)	85 (99%)	1 (1%)	63	82
38	2d	74/80 (92%)	74 (100%)	0	100	100
39	2e	64/65 (98%)	63 (98%)	1 (2%)	55	77
40	2f	47/48 (98%)	47 (100%)	0	100	100
41	2g	47/115 (41%)	47 (100%)	0	100	100
42	2h	23/24 (96%)	23 (100%)	0	100	100
43	2i	94/94 (100%)	92 (98%)	2 (2%)	47	71
44	2j	74/75 (99%)	72 (97%)	2 (3%)	39	65
45	2k	109/121 (90%)	108 (99%)	1 (1%)	70	85
46	2l	195/196 (100%)	194 (100%)	1 (0%)	81	91
48	2n	183/243 (75%)	177 (97%)	6 (3%)	33	59
49	2o	195/231 (84%)	195 (100%)	0	100	100
50	2p	190/202 (94%)	185 (97%)	5 (3%)	40	66
51	2q	224/225 (100%)	220 (98%)	4 (2%)	51	74
52	2r	159/170 (94%)	155 (98%)	4 (2%)	42	67
53	2s	166/174 (95%)	160 (96%)	6 (4%)	31	56

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	2t	178/180 (99%)	173 (97%)	5 (3%)	38	64
55	2u	89/136 (65%)	87 (98%)	2 (2%)	45	70
56	2v	137/142 (96%)	136 (99%)	1 (1%)	76	88
57	2w	113/130 (87%)	108 (96%)	5 (4%)	25	48
58	2x	117/121 (97%)	117 (100%)	0	100	100
59	2y	122/122 (100%)	120 (98%)	2 (2%)	55	77
60	2z	126/132 (96%)	122 (97%)	4 (3%)	34	59
61	20	113/115 (98%)	111 (98%)	2 (2%)	51	74
62	21	94/107 (88%)	92 (98%)	2 (2%)	47	71
63	3A	67/67 (100%)	64 (96%)	3 (4%)	24	47
64	3B	113/115 (98%)	111 (98%)	2 (2%)	51	74
65	3C	90/98 (92%)	86 (96%)	4 (4%)	25	48
66	3D	57/62 (92%)	56 (98%)	1 (2%)	51	74
67	3E	48/49 (98%)	47 (98%)	1 (2%)	47	71
68	3F	272/275 (99%)	265 (97%)	7 (3%)	40	66
69	3G	189/225 (84%)	187 (99%)	2 (1%)	65	83
70	3H	207/218 (95%)	205 (99%)	2 (1%)	68	84
71	3I	162/168 (96%)	157 (97%)	5 (3%)	35	60
72	3J	102/108 (94%)	101 (99%)	1 (1%)	68	84
73	3K	130/131 (99%)	127 (98%)	3 (2%)	44	69
74	3L	110/119 (92%)	110 (100%)	0	100	100
75	3M	112/113 (99%)	110 (98%)	2 (2%)	51	74
76	3N	114/115 (99%)	113 (99%)	1 (1%)	70	85
77	3O	66/103 (64%)	64 (97%)	2 (3%)	36	62
78	3P	75/76 (99%)	70 (93%)	5 (7%)	15	31
79	3Q	47/48 (98%)	46 (98%)	1 (2%)	47	71
80	3R	60/140 (43%)	60 (100%)	0	100	100
All	All	10075/10996 (92%)	9877 (98%)	198 (2%)	49	72

All (198) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	1D	4	VAL

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Mol	Chain	Res	Type
4	1D	15	VAL
4	1D	45	VAL
4	1D	102	LEU
4	1D	169	VAL
5	1E	20	LYS
5	1E	38	SER
5	1E	87	VAL
5	1E	162	VAL
5	1E	185	VAL
5	1E	302	ASN
5	1E	305	THR
6	1F	276	ASN
6	1F	290	SER
7	1G	37	VAL
7	1G	128	ASP
7	1G	154	THR
7	1G	180	PHE
7	1G	194	VAL
7	1G	289	ARG
8	1H	88	VAL
8	1H	89	LEU
8	1H	128	HIS
8	1H	191	GLN
8	1H	194	VAL
8	1H	198	SER
8	1H	235	THR
8	1H	256	GLN
10	2B	137[A]	ARG
10	2B	137[B]	ARG
10	2B	202	VAL
10	2B	207	VAL
11	2C	19	THR
11	2C	172	ILE
11	2C	187	VAL
12	2D	43	VAL
12	2D	113	THR
13	2E	95	ARG
13	2E	115	LEU
13	2E	117	ILE
13	2E	118	LYS
13	2E	120	ASP
13	2E	133	VAL

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Mol	Chain	Res	Type
13	2E	148	THR
13	2E	158	SER
13	2E	173	ILE
13	2E	175	LEU
14	2F	59	VAL
14	2F	64	VAL
14	2F	70	VAL
14	2F	97	SER
14	2F	130	LYS
14	2F	175	ASN
14	2F	200	LYS
15	2G	38	VAL
16	2H	126	THR
17	2I	27	VAL
17	2I	39	GLU
17	2I	145	VAL
18	2J	24	VAL
18	2J	36	ILE
18	2J	80	GLN
20	2L	34	ASN
21	2M	48	VAL
21	2M	90	THR
21	2M	129	VAL
22	2N	72	VAL
22	2N	124	THR
22	2N	159	MET
23	2O	24	ASP
23	2O	62	THR
24	2P	65	VAL
24	2P	67	LYS
24	2P	115	SER
24	2P	118	THR
25	2Q	97	LYS
26	2R	39	LYS
26	2R	45	THR
26	2R	85	SER
26	2R	88	LYS
26	2R	95	THR
26	2R	138	VAL
27	2S	105	VAL
28	2T	66	SER
29	2U	140	VAL

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Mol	Chain	Res	Type
30	2V	118	LEU
31	2W	11	LEU
31	2W	23	LYS
31	2W	91	VAL
31	2W	98	ASP
32	2X	18	ASN
32	2X	26	THR
32	2X	62	VAL
32	2X	69	ASN
32	2X	89	SER
33	2Y	7	LEU
33	2Y	53	ILE
33	2Y	117	GLN
34	2Z	33	VAL
36	2b	107	GLN
37	2c	81	ILE
39	2e	51	GLU
43	2i	103	VAL
43	2i	106	PHE
44	2j	40	SER
44	2j	63	THR
45	2k	21	ASN
46	2l	82	ILE
48	2n	23	THR
48	2n	104	THR
48	2n	113	GLN
48	2n	144	THR
48	2n	165	ASN
48	2n	192	GLU
50	2p	3	VAL
50	2p	49	ILE
50	2p	86	LEU
50	2p	91	VAL
50	2p	224	SER
51	2q	40	GLU
51	2q	90	ILE
51	2q	93	ASP
51	2q	131	VAL
52	2r	34	SER
52	2r	79	HIS
52	2r	104	THR
52	2r	202	SER

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Mol	Chain	Res	Type
53	2s	8	ILE
53	2s	81	ARG
53	2s	144	ILE
53	2s	148	LEU
53	2s	166	VAL
53	2s	184	ASP
54	2t	3	ILE
54	2t	73	THR
54	2t	86	SER
54	2t	106	SER
54	2t	130	THR
55	2u	32	HIS
55	2u	95	ARG
56	2v	42	LEU
57	2w	45	LEU
57	2w	80	LEU
57	2w	85	ILE
57	2w	126	VAL
57	2w	128	HIS
59	2y	22	THR
59	2y	102	THR
60	2z	13	LEU
60	2z	18	THR
60	2z	44	VAL
60	2z	90	VAL
61	20	36	THR
61	20	55	THR
62	21	22	ILE
62	21	24	LEU
63	3A	78	ILE
63	3A	79	VAL
63	3A	83	PHE
64	3B	36	LEU
64	3B	125	VAL
65	3C	60	ASP
65	3C	85[A]	ARG
65	3C	85[B]	ARG
65	3C	88	SER
66	3D	68	LEU
67	3E	36	LEU
68	3F	54	ILE
68	3F	107	ASP

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Mol	Chain	Res	Type
68	3F	108	VAL
68	3F	113	PHE
68	3F	165	ILE
68	3F	177	TRP
68	3F	179	LEU
69	3G	64	THR
69	3G	262	THR
70	3H	171	THR
70	3H	180	VAL
71	3I	103	GLU
71	3I	122	SER
71	3I	138[A]	ARG
71	3I	138[B]	ARG
71	3I	159	PHE
72	3J	69	LEU
73	3K	36	GLN
73	3K	144	SER
73	3K	150	VAL
75	3M	81	VAL
75	3M	85	ASP
76	3N	117	VAL
77	3O	62	VAL
77	3O	82	SER
78	3P	14	GLU
78	3P	26	GLN
78	3P	35	VAL
78	3P	44	THR
78	3P	57	VAL
79	3Q	6	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (120) such sidechains are listed below:

Mol	Chain	Res	Type
4	1D	83	HIS
4	1D	97	ASN
4	1D	205	ASN
5	1E	184	GLN
5	1E	186	ASN
5	1E	258	HIS
5	1E	289	GLN
5	1E	301	ASN
5	1E	376	HIS

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Mol	Chain	Res	Type
6	1F	112	HIS
6	1F	299	GLN
6	1F	317	ASN
7	1G	195	HIS
7	1G	225	GLN
8	1H	211	HIS
9	2A	131	ASN
9	2A	239	GLN
10	2B	64	GLN
10	2B	141	ASN
10	2B	153	GLN
10	2B	208	ASN
12	2D	73	ASN
12	2D	166	HIS
14	2F	104	ASN
15	2G	34	ASN
15	2G	69	HIS
16	2H	37	HIS
16	2H	109	HIS
16	2H	149	GLN
17	2I	42	ASN
17	2I	173	GLN
17	2I	180	GLN
17	2I	199	HIS
18	2J	21	ASN
18	2J	25	HIS
18	2J	80	GLN
18	2J	133	HIS
18	2J	137	ASN
19	2K	45	GLN
19	2K	160	HIS
20	2L	178	GLN
22	2N	3	ASN
22	2N	22	HIS
22	2N	79	GLN
22	2N	127	GLN
22	2N	131	GLN
23	2O	50	ASN
26	2R	151	ASN
27	2S	14	ASN
27	2S	56	GLN
27	2S	66	GLN

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Mol	Chain	Res	Type
28	2T	28	ASN
29	2U	60	HIS
29	2U	62	HIS
29	2U	66	ASN
30	2V	6	ASN
31	2W	40	GLN
31	2W	72	HIS
32	2X	79	ASN
32	2X	116	ASN
33	2Y	52	GLN
36	2b	20	GLN
38	2d	57	ASN
41	2g	104	HIS
41	2g	120	ASN
44	2j	56	HIS
45	2k	4	HIS
45	2k	121	GLN
48	2n	132	GLN
48	2n	215	GLN
49	2o	40	ASN
49	2o	92	GLN
51	2q	67	GLN
51	2q	138	HIS
52	2r	74	ASN
52	2r	148	ASN
53	2s	12	ASN
53	2s	25	GLN
53	2s	76	GLN
54	2t	35	ASN
54	2t	52	ASN
55	2u	61	GLN
56	2v	11	GLN
56	2v	154	GLN
57	2w	103	ASN
57	2w	104	GLN
57	2w	128	HIS
58	2x	142	GLN
59	2y	31	ASN
59	2y	118	GLN
60	2z	17	ASN
61	20	63	HIS
61	20	137	GLN

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Mol	Chain	Res	Type
64	3B	61	GLN
67	3E	10	HIS
67	3E	41	GLN
68	3F	188	HIS
68	3F	222	ASN
68	3F	272	GLN
69	3G	267	GLN
69	3G	277	HIS
70	3H	227	GLN
71	3I	39	ASN
71	3I	113	GLN
71	3I	154	GLN
72	3J	19	GLN
72	3J	52	GLN
72	3J	119	GLN
73	3K	5	HIS
73	3K	13	GLN
73	3K	36	GLN
73	3K	58	HIS
74	3L	13	GLN
74	3L	38	ASN
76	3N	85	ASN
76	3N	112	ASN
77	3O	106	GLN
78	3P	51	GLN
79	3Q	37	GLN
79	3Q	39	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1A	3704/5070 (73%)	833 (22%)	30 (0%)
2	1B	119/121 (98%)	18 (15%)	2 (1%)
3	1C	155/157 (98%)	29 (18%)	2 (1%)
47	2m	1714/1869 (91%)	478 (27%)	0
All	All	5692/7217 (78%)	1358 (23%)	34 (0%)

All (1358) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1A	17	A

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Mol	Chain	Res	Type
1	1A	30	C
1	1A	39	A
1	1A	42	A
1	1A	48	G
1	1A	59	A
1	1A	64	A
1	1A	65	A
1	1A	66	A
1	1A	69	A
1	1A	73	A
1	1A	91	G
1	1A	104	G
1	1A	109	G
1	1A	110	C
1	1A	119	G
1	1A	121	A
1	1A	122	U
1	1A	127	G
1	1A	128	C
1	1A	131	C
1	1A	133	C
1	1A	134	G
1	1A	135	G
1	1A	136	C
1	1A	137	G
1	1A	143	C
1	1A	144	G
1	1A	159	C
1	1A	171	U
1	1A	172	C
1	1A	179	G
1	1A	180	C
1	1A	183	C
1	1A	184	U
1	1A	185	C
1	1A	188	G
1	1A	189	G
1	1A	195	C
1	1A	200	U
1	1A	201	C
1	1A	209	U
1	1A	216	C

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Mol	Chain	Res	Type
1	1A	217	C
1	1A	218	A
1	1A	219	G
1	1A	227	A
1	1A	233	U
1	1A	234	G
1	1A	256	G
1	1A	264	C
1	1A	265	C
1	1A	266	C
1	1A	269	G
1	1A	274	C
1	1A	275	C
1	1A	277	G
1	1A	278	G
1	1A	280	G
1	1A	295	A
1	1A	297	U
1	1A	306	A
1	1A	315	G
1	1A	316	U
1	1A	340	C
1	1A	384	A
1	1A	386	A
1	1A	387	G
1	1A	396	A
1	1A	407	A
1	1A	409	G
1	1A	410	A
1	1A	412	G
1	1A	418	A
1	1A	440	U
1	1A	449	C
1	1A	450	G
1	1A	452	A
1	1A	453	G
1	1A	454	U
1	1A	456	C
1	1A	457	G
1	1A	464	G
1	1A	465	G
1	1A	467	U

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Mol	Chain	Res	Type
1	1A	484	U
1	1A	485	C
1	1A	486	C
1	1A	489	C
1	1A	493	G
1	1A	494	U
1	1A	497	G
1	1A	498	C
1	1A	500	G
1	1A	502	C
1	1A	503	C
1	1A	504	G
1	1A	505	G
1	1A	509	A
1	1A	510	U
1	1A	512	U
1	1A	513	U
1	1A	514	U
1	1A	517	C
1	1A	518	G
1	1A	643	C
1	1A	644	G
1	1A	646	G
1	1A	654	C
1	1A	657	C
1	1A	665	C
1	1A	666	G
1	1A	667	A
1	1A	668	C
1	1A	673	C
1	1A	685	C
1	1A	686	A
1	1A	687	U
1	1A	696	C
1	1A	703	G
1	1A	704	C
1	1A	731	G
1	1A	738	C
1	1A	739	G
1	1A	744	G
1	1A	753	C
1	1A	904	C

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Mol	Chain	Res	Type
1	1A	905	C
1	1A	907	C
1	1A	913	U
1	1A	914	U
1	1A	915	A
1	1A	916	C
1	1A	917	A
1	1A	918	G
1	1A	923	C
1	1A	924	C
1	1A	925	C
1	1A	926	G
1	1A	932	A
1	1A	933	G
1	1A	936	C
1	1A	944	A
1	1A	945	U
1	1A	946	C
1	1A	959	G
1	1A	960	A
1	1A	961	G
1	1A	962	C
1	1A	965	G
1	1A	966	A
1	1A	967	C
1	1A	968	C
1	1A	969	C
1	1A	970	G
1	1A	971	U
1	1A	977	C
1	1A	982	U
1	1A	984	C
1	1A	989	U
1	1A	990	C
1	1A	991	C
1	1A	992	C
1	1A	993	G
1	1A	995	C
1	1A	1048	G
1	1A	1051	G
1	1A	1066	G
1	1A	1070	G

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Mol	Chain	Res	Type
1	1A	1071	C
1	1A	1072	C
1	1A	1074	G
1	1A	1075	G
1	1A	1082	C
1	1A	1083	U
1	1A	1095	A
1	1A	1168	G
1	1A	1171	G
1	1A	1172	C
1	1A	1173	G
1	1A	1178	G
1	1A	1179	U
1	1A	1180	C
1	1A	1181	C
1	1A	1182	C
1	1A	1183	C
1	1A	1184	A
1	1A	1187	G
1	1A	1198	G
1	1A	1202	C
1	1A	1203	G
1	1A	1211	G
1	1A	1214	C
1	1A	1215	C
1	1A	1216	C
1	1A	1217	G
1	1A	1218	G
1	1A	1219	G
1	1A	1222	A
1	1A	1241	C
1	1A	1245	C
1	1A	1246	G
1	1A	1253	G
1	1A	1254	A
1	1A	1255	A
1	1A	1260	G
1	1A	1261	G
1	1A	1262	G
1	1A	1265	G
1	1A	1266	G
1	1A	1269	G

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Mol	Chain	Res	Type
1	1A	1270	A
1	1A	1271	G
1	1A	1272	C
1	1A	1273	G
1	1A	1274	A
1	1A	1275	G
1	1A	1277	G
1	1A	1280	C
1	1A	1284	G
1	1A	1287	G
1	1A	1293	G
1	1A	1294	A
1	1A	1295	C
1	1A	1296	G
1	1A	1301	C
1	1A	1302	U
1	1A	1303	A
1	1A	1326	A
1	1A	1337	A
1	1A	1338	G
1	1A	1354	A
1	1A	1358	G
1	1A	1359	G
1	1A	1365	C
1	1A	1378	C
1	1A	1379	C
1	1A	1387	A
1	1A	1393	G
1	1A	1394	G
1	1A	1397	A
1	1A	1398	A
1	1A	1399	G
1	1A	1402	C
1	1A	1405	C
1	1A	1409	C
1	1A	1410	U
1	1A	1420	A
1	1A	1435	G
1	1A	1439	C
1	1A	1441	C
1	1A	1443	A
1	1A	1444	G

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Mol	Chain	Res	Type
1	1A	1446	C
1	1A	1447	C
1	1A	1482	G
1	1A	1483	C
1	1A	1497	A
1	1A	1498	G
1	1A	1502	G
1	1A	1516	G
1	1A	1525	A
1	1A	1527	A
1	1A	1534	A
1	1A	1547	A
1	1A	1564	A
1	1A	1566	C
1	1A	1576	G
1	1A	1578	U
1	1A	1591	U
1	1A	1596	U
1	1A	1624	G
1	1A	1625	G
1	1A	1631	A
1	1A	1633	G
1	1A	1634	A
1	1A	1638	A
1	1A	1641	G
1	1A	1654	G
1	1A	1661	C
1	1A	1663	C
1	1A	1676	C
1	1A	1677	U
1	1A	1678	C
1	1A	1681	G
1	1A	1697	G
1	1A	1699	A
1	1A	1700	G
1	1A	1703	C
1	1A	1704	C
1	1A	1705	G
1	1A	1707	C
1	1A	1731	C
1	1A	1742	A
1	1A	1750	G

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Mol	Chain	Res	Type
1	1A	1753	G
1	1A	1757	U
1	1A	1758	G
1	1A	1761	G
1	1A	1762	C
1	1A	1763	C
1	1A	1764	G
1	1A	1765	A
1	1A	1766	A
1	1A	1768	C
1	1A	1770	A
1	1A	1775	A
1	1A	1787	A
1	1A	1804	A
1	1A	1806	G
1	1A	1810	G
1	1A	1820	C
1	1A	1821	G
1	1A	1822	U
1	1A	1834	U
1	1A	1836	G
1	1A	1837	A
1	1A	1842	G
1	1A	1855	G
1	1A	1869	G
1	1A	1882	U
1	1A	1897	A
1	1A	1918	U
1	1A	1919	G
1	1A	1920	C
1	1A	1921	C
1	1A	1922	G
1	1A	1925	G
1	1A	1931	C
1	1A	1932	A
1	1A	1936	C
1	1A	1940	G
1	1A	1948	G
1	1A	1949	U
1	1A	1959	U
1	1A	1960	A
1	1A	1961	G

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Mol	Chain	Res	Type
1	1A	1962	A
1	1A	1966	C
1	1A	1967	A
1	1A	1968	G
1	1A	1969	G
1	1A	1974	U
1	1A	1975	G
1	1A	1980	U
1	1A	1981	G
1	1A	1982	G
1	1A	1983	A
1	1A	1985	G
1	1A	1987	C
1	1A	1988	G
1	1A	1989	G
1	1A	1991	A
1	1A	1993	C
1	1A	1995	G
1	1A	1996	C
1	1A	1998	A
1	1A	1999	A
1	1A	2002	A
1	1A	2003	G
1	1A	2004	U
1	1A	2006	U
1	1A	2007	G
1	1A	2009	A
1	1A	2010	A
1	1A	2011	C
1	1A	2012	A
1	1A	2013	A
1	1A	2015	U
1	1A	2016	C
1	1A	2018	C
1	1A	2020	U
1	1A	2024	G
1	1A	2025	A
1	1A	2026	A
1	1A	2034	G
1	1A	2046	G
1	1A	2048	U
1	1A	2055	G

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Mol	Chain	Res	Type
1	1A	2056	G
1	1A	2069	A
1	1A	2084	C
1	1A	2085	G
1	1A	2089	G
1	1A	2092	G
1	1A	2093	A
1	1A	2094	G
1	1A	2095	A
1	1A	2096	G
1	1A	2097	U
1	1A	2098	G
1	1A	2101	C
1	1A	2102	G
1	1A	2104	G
1	1A	2106	G
1	1A	2108	G
1	1A	2111	G
1	1A	2112	G
1	1A	2113	C
1	1A	2252	G
1	1A	2253	A
1	1A	2256	C
1	1A	2258	C
1	1A	2261	G
1	1A	2268	A
1	1A	2289	C
1	1A	2300	A
1	1A	2301	G
1	1A	2306	G
1	1A	2316	G
1	1A	2331	G
1	1A	2333	G
1	1A	2348	G
1	1A	2351	C
1	1A	2360	A
1	1A	2370	A
1	1A	2390	G
1	1A	2395	A
1	1A	2397	G
1	1A	2412	A
1	1A	2417	A

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Mol	Chain	Res	Type
1	1A	2421	G
1	1A	2422	C
1	1A	2423	A
1	1A	2441	C
1	1A	2444	U
1	1A	2461	G
1	1A	2465	C
1	1A	2471	G
1	1A	2474	G
1	1A	2475	G
1	1A	2484	A
1	1A	2485	U
1	1A	2487	G
1	1A	2488	C
1	1A	2489	C
1	1A	2491	C
1	1A	2495	U
1	1A	2496	G
1	1A	2503	G
1	1A	2505	C
1	1A	2507	A
1	1A	2512	A
1	1A	2513	A
1	1A	2514	G
1	1A	2529	A
1	1A	2530	U
1	1A	2537	A
1	1A	2544	G
1	1A	2545	U
1	1A	2546	G
1	1A	2547	G
1	1A	2553	A
1	1A	2554	U
1	1A	2555	G
1	1A	2556	G
1	1A	2563	C
1	1A	2564	G
1	1A	2566	G
1	1A	2567	G
1	1A	2583	C
1	1A	2586	G
1	1A	2587	A

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Mol	Chain	Res	Type
1	1A	2589	C
1	1A	2601	A
1	1A	2602	G
1	1A	2607	C
1	1A	2618	G
1	1A	2627	C
1	1A	2638	G
1	1A	2640	G
1	1A	2653	C
1	1A	2662	G
1	1A	2669	C
1	1A	2670	C
1	1A	2675	G
1	1A	2676	A
1	1A	2686	G
1	1A	2687	U
1	1A	2695	A
1	1A	2696	A
1	1A	2708	U
1	1A	2710	C
1	1A	2711	G
1	1A	2712	G
1	1A	2714	G
1	1A	2721	G
1	1A	2724	G
1	1A	2725	A
1	1A	2726	G
1	1A	2739	C
1	1A	2743	A
1	1A	2744	A
1	1A	2753	G
1	1A	2754	G
1	1A	2761	U
1	1A	2762	G
1	1A	2763	U
1	1A	2767	U
1	1A	2768	C
1	1A	2769	U
1	1A	2770	C
1	1A	2776	G
1	1A	2787	A
1	1A	2788	U

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Mol	Chain	Res	Type
1	1A	2790	U
1	1A	2794	C
1	1A	2797	C
1	1A	2798	A
1	1A	2826	U
1	1A	2827	G
1	1A	2829	U
1	1A	2835	A
1	1A	2855	G
1	1A	2860	C
1	1A	2870	A
1	1A	2875	C
1	1A	2902	G
1	1A	2906	G
1	1A	2908	U
1	1A	3585	G
1	1A	3586	G
1	1A	3590	G
1	1A	3591	C
1	1A	3592	G
1	1A	3593	C
1	1A	3595	U
1	1A	3596	A
1	1A	3597	G
1	1A	3605	C
1	1A	3615	G
1	1A	3616	U
1	1A	3618	C
1	1A	3626	G
1	1A	3635	A
1	1A	3642	A
1	1A	3644	U
1	1A	3646	A
1	1A	3648	A
1	1A	3651	A
1	1A	3662	A
1	1A	3670	C
1	1A	3671	G
1	1A	3673	C
1	1A	3705	G
1	1A	3709	U
1	1A	3711	A

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Mol	Chain	Res	Type
1	1A	3712	A
1	1A	3713	U
1	1A	3729	U
1	1A	3748	A
1	1A	3753	G
1	1A	3758	U
1	1A	3760	A
1	1A	3761	C
1	1A	3762	U
1	1A	3763	A
1	1A	3765	G
1	1A	3766	A
1	1A	3767	C
1	1A	3773	U
1	1A	3774	A
1	1A	3776	G
1	1A	3777	G
1	1A	3783	A
1	1A	3784	A
1	1A	3785	A
1	1A	3786	U
1	1A	3787	G
1	1A	3811	G
1	1A	3814	U
1	1A	3817	A
1	1A	3818	U
1	1A	3819	G
1	1A	3821	A
1	1A	3838	U
1	1A	3839	G
1	1A	3840	U
1	1A	3867	A
1	1A	3869	C
1	1A	3874	G
1	1A	3877	A
1	1A	3878	C
1	1A	3879	G
1	1A	3889	G
1	1A	3897	G
1	1A	3898	G
1	1A	3901	A
1	1A	3905	A

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Mol	Chain	Res	Type
1	1A	3906	A
1	1A	3907	G
1	1A	3908	A
1	1A	3909	C
1	1A	3915	U
1	1A	3922	G
1	1A	3938	G
1	1A	3939	G
1	1A	3947	A
1	1A	3949	A
1	1A	3950	U
1	1A	3951	G
1	1A	3952	A
1	1A	3954	A
1	1A	3955	G
1	1A	3956	G
1	1A	3957	U
1	1A	3959	U
1	1A	3960	A
1	1A	3961	G
1	1A	3962	A
1	1A	3963	A
1	1A	3965	A
1	1A	3966	A
1	1A	3968	U
1	1A	3970	G
1	1A	3971	G
1	1A	3973	G
1	1A	3975	C
1	1A	3976	C
1	1A	4035	G
1	1A	4036	G
1	1A	4038	C
1	1A	4039	G
1	1A	4041	C
1	1A	4042	G
1	1A	4043	G
1	1A	4044	U
1	1A	4046	A
1	1A	4048	A
1	1A	4051	C
1	1A	4052	C

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Mol	Chain	Res	Type
1	1A	4053	A
1	1A	4054	C
1	1A	4055	U
1	1A	4057	C
1	1A	4059	C
1	1A	4061	G
1	1A	4063	U
1	1A	4064	C
1	1A	4065	G
1	1A	4066	U
1	1A	4076	G
1	1A	4084	G
1	1A	4085	A
1	1A	4086	G
1	1A	4088	C
1	1A	4099	G
1	1A	4100	C
1	1A	4101	C
1	1A	4102	C
1	1A	4104	G
1	1A	4105	A
1	1A	4106	G
1	1A	4107	G
1	1A	4108	G
1	1A	4109	G
1	1A	4111	U
1	1A	4112	C
1	1A	4114	C
1	1A	4115	G
1	1A	4116	C
1	1A	4120	U
1	1A	4121	G
1	1A	4127	A
1	1A	4141	G
1	1A	4142	C
1	1A	4143	G
1	1A	4144	C
1	1A	4151	G
1	1A	4154	G
1	1A	4160	C
1	1A	4162	C
1	1A	4163	U

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Mol	Chain	Res	Type
1	1A	4170	A
1	1A	4183	G
1	1A	4184	G
1	1A	4191	G
1	1A	4201	G
1	1A	4203	A
1	1A	4204	C
1	1A	4214	A
1	1A	4229	U
1	1A	4233	A
1	1A	4251	A
1	1A	4254	G
1	1A	4256	A
1	1A	4268	A
1	1A	4273	A
1	1A	4275	G
1	1A	4288	C
1	1A	4291	G
1	1A	4304	A
1	1A	4305	G
1	1A	4306	U
1	1A	4314	C
1	1A	4318	C
1	1A	4323	A
1	1A	4324	A
1	1A	4329	G
1	1A	4330	G
1	1A	4332	C
1	1A	4337	C
1	1A	4349	C
1	1A	4350	C
1	1A	4354	U
1	1A	4377	G
1	1A	4378	A
1	1A	4379	A
1	1A	4380	A
1	1A	4387	C
1	1A	4391	G
1	1A	4394	A
1	1A	4420	U
1	1A	4422	A
1	1A	4433	G

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Mol	Chain	Res	Type
1	1A	4448	G
1	1A	4449	A
1	1A	4453	C
1	1A	4464	A
1	1A	4465	U
1	1A	4476	C
1	1A	4479	A
1	1A	4497	U
1	1A	4500	U
1	1A	4501	U
1	1A	4512	U
1	1A	4513	A
1	1A	4519	C
1	1A	4524	G
1	1A	4528	G
1	1A	4545	G
1	1A	4548	A
1	1A	4549	G
1	1A	4555	U
1	1A	4556	U
1	1A	4560	C
1	1A	4564	A
1	1A	4565	C
1	1A	4567	G
1	1A	4573	G
1	1A	4575	G
1	1A	4589	A
1	1A	4590	A
1	1A	4600	G
1	1A	4601	U
1	1A	4617	G
1	1A	4636	U
1	1A	4637	G
1	1A	4647	G
1	1A	4652	G
1	1A	4657	U
1	1A	4670	C
1	1A	4672	A
1	1A	4694	G
1	1A	4695	C
1	1A	4700	A
1	1A	4708	A

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Mol	Chain	Res	Type
1	1A	4709	U
1	1A	4722	G
1	1A	4730	C
1	1A	4731	G
1	1A	4732	G
1	1A	4737	G
1	1A	4743	G
1	1A	4744	A
1	1A	4750	G
1	1A	4753	U
1	1A	4756	C
1	1A	4757	C
1	1A	4758	U
1	1A	4759	C
1	1A	4762	A
1	1A	4764	A
1	1A	4770	U
1	1A	4772	C
1	1A	4775	C
1	1A	4776	G
1	1A	4861	G
1	1A	4862	G
1	1A	4863	G
1	1A	4865	C
1	1A	4869	U
1	1A	4871	C
1	1A	4872	G
1	1A	4873	G
1	1A	4874	A
1	1A	4876	U
1	1A	4882	U
1	1A	4883	C
1	1A	4884	G
1	1A	4887	C
1	1A	4888	U
1	1A	4889	G
1	1A	4890	G
1	1A	4894	A
1	1A	4895	C
1	1A	4897	G
1	1A	4900	C
1	1A	4901	G

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Mol	Chain	Res	Type
1	1A	4910	G
1	1A	4912	G
1	1A	4914	C
1	1A	4923	C
1	1A	4925	U
1	1A	4926	C
1	1A	4937	C
1	1A	4940	C
1	1A	4941	G
1	1A	4943	A
1	1A	4947	U
1	1A	4951	G
1	1A	4960	G
1	1A	4966	A
1	1A	4973	U
1	1A	4976	U
1	1A	4988	U
1	1A	4989	U
1	1A	4991	U
1	1A	5006	U
1	1A	5007	A
1	1A	5009	G
1	1A	5014	A
1	1A	5017	G
1	1A	5022	U
1	1A	5023	C
1	1A	5024	C
1	1A	5030	U
1	1A	5034	A
1	1A	5041	G
1	1A	5050	C
1	1A	5055	G
1	1A	5061	A
1	1A	5069	U
2	1B	7	G
2	1B	11	A
2	1B	22	A
2	1B	23	A
2	1B	24	C
2	1B	27	G
2	1B	31	G
2	1B	34	C

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Mol	Chain	Res	Type
2	1B	51	G
2	1B	53	U
2	1B	54	A
2	1B	63	C
2	1B	64	G
2	1B	97	G
2	1B	100	A
2	1B	110	G
2	1B	111	C
2	1B	120	U
3	1C	13	G
3	1C	23	C
3	1C	34	U
3	1C	35	C
3	1C	39	G
3	1C	48	A
3	1C	59	A
3	1C	63	U
3	1C	82	A
3	1C	83	C
3	1C	84	A
3	1C	86	U
3	1C	87	G
3	1C	88	A
3	1C	94	G
3	1C	103	A
3	1C	105	C
3	1C	110	U
3	1C	112	G
3	1C	114	G
3	1C	123	U
3	1C	124	U
3	1C	125	C
3	1C	126	C
3	1C	127	U
3	1C	129	C
3	1C	150	C
3	1C	151	G
3	1C	153	C
47	2m	2	A
47	2m	3	C
47	2m	7	G

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Mol	Chain	Res	Type
47	2m	25	A
47	2m	27	A
47	2m	33	G
47	2m	37	C
47	2m	41	G
47	2m	44	U
47	2m	45	A
47	2m	46	A
47	2m	56	G
47	2m	65	C
47	2m	66	G
47	2m	67	C
47	2m	68	A
47	2m	70	G
47	2m	72	C
47	2m	73	C
47	2m	74	G
47	2m	75	G
47	2m	76	U
47	2m	77	A
47	2m	78	C
47	2m	79	A
47	2m	80	G
47	2m	103	A
47	2m	113	G
47	2m	115	U
47	2m	121	U
47	2m	124	U
47	2m	126	G
47	2m	127	C
47	2m	140	C
47	2m	141	A
47	2m	143	U
47	2m	148	U
47	2m	155	G
47	2m	159	A
47	2m	160	U
47	2m	161	U
47	2m	162	C
47	2m	168	C
47	2m	183	G
47	2m	184	G

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Mol	Chain	Res	Type
47	2m	190	G
47	2m	194	C
47	2m	198	U
47	2m	199	C
47	2m	202	G
47	2m	206	G
47	2m	207	G
47	2m	208	G
47	2m	214	U
47	2m	215	G
47	2m	225	G
47	2m	288	G
47	2m	290	U
47	2m	291	G
47	2m	292	A
47	2m	293	C
47	2m	295	C
47	2m	304	C
47	2m	306	C
47	2m	307	G
47	2m	308	G
47	2m	309	G
47	2m	312	G
47	2m	313	A
47	2m	320	G
47	2m	324	C
47	2m	325	C
47	2m	326	C
47	2m	328	U
47	2m	329	G
47	2m	330	G
47	2m	334	C
47	2m	338	G
47	2m	339	A
47	2m	340	C
47	2m	347	G
47	2m	362	C
47	2m	364	A
47	2m	369	C
47	2m	370	G
47	2m	380	G
47	2m	381	C

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Mol	Chain	Res	Type
47	2m	384	U
47	2m	385	G
47	2m	386	C
47	2m	399	C
47	2m	400	C
47	2m	407	G
47	2m	408	A
47	2m	409	C
47	2m	413	G
47	2m	418	A
47	2m	419	G
47	2m	426	A
47	2m	438	G
47	2m	448	A
47	2m	450	C
47	2m	465	A
47	2m	466	G
47	2m	471	G
47	2m	472	C
47	2m	473	A
47	2m	474	G
47	2m	482	G
47	2m	485	A
47	2m	487	U
47	2m	488	U
47	2m	489	A
47	2m	492	C
47	2m	493	A
47	2m	496	C
47	2m	501	C
47	2m	503	C
47	2m	504	G
47	2m	516	A
47	2m	532	C
47	2m	533	A
47	2m	534	G
47	2m	537	C
47	2m	538	U
47	2m	539	C
47	2m	540	U
47	2m	541	U
47	2m	542	U

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Mol	Chain	Res	Type
47	2m	543	C
47	2m	544	G
47	2m	545	A
47	2m	548	C
47	2m	549	C
47	2m	550	C
47	2m	551	U
47	2m	553	U
47	2m	554	A
47	2m	555	A
47	2m	556	U
47	2m	557	U
47	2m	561	A
47	2m	562	U
47	2m	575	A
47	2m	580	U
47	2m	582	C
47	2m	583	C
47	2m	587	A
47	2m	589	G
47	2m	590	A
47	2m	591	U
47	2m	592	C
47	2m	595	U
47	2m	596	U
47	2m	604	A
47	2m	605	A
47	2m	606	G
47	2m	608	C
47	2m	612	U
47	2m	613	G
47	2m	614	C
47	2m	615	C
47	2m	617	G
47	2m	627	U
47	2m	631	U
47	2m	632	C
47	2m	643	A
47	2m	644	G
47	2m	655	A
47	2m	656	G
47	2m	660	C

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Mol	Chain	Res	Type
47	2m	668	A
47	2m	669	A
47	2m	672	A
47	2m	673	G
47	2m	683	G
47	2m	689	U
47	2m	690	G
47	2m	692	G
47	2m	694	G
47	2m	696	G
47	2m	697	G
47	2m	698	G
47	2m	732	U
47	2m	733	C
47	2m	734	C
47	2m	735	C
47	2m	736	C
47	2m	738	C
47	2m	739	C
47	2m	747	U
47	2m	748	C
47	2m	749	U
47	2m	751	G
47	2m	752	G
47	2m	753	C
47	2m	787	G
47	2m	788	G
47	2m	789	G
47	2m	791	C
47	2m	793	G
47	2m	794	A
47	2m	795	A
47	2m	796	G
47	2m	797	C
47	2m	798	A
47	2m	799	U
47	2m	801	U
47	2m	810	A
47	2m	811	A
47	2m	812	A
47	2m	821	G
47	2m	822	U

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Mol	Chain	Res	Type
47	2m	827	A
47	2m	830	A
47	2m	834	C
47	2m	836	G
47	2m	837	A
47	2m	838	G
47	2m	839	C
47	2m	840	C
47	2m	842	C
47	2m	847	A
47	2m	848	U
47	2m	851	C
47	2m	869	A
47	2m	870	A
47	2m	871	U
47	2m	873	G
47	2m	874	G
47	2m	877	C
47	2m	878	G
47	2m	879	C
47	2m	883	U
47	2m	885	U
47	2m	886	A
47	2m	887	U
47	2m	888	U
47	2m	889	U
47	2m	890	U
47	2m	891	G
47	2m	893	U
47	2m	894	G
47	2m	895	G
47	2m	896	U
47	2m	897	U
47	2m	898	U
47	2m	899	U
47	2m	900	C
47	2m	901	G
47	2m	902	G
47	2m	903	A
47	2m	904	A
47	2m	919	A
47	2m	920	A

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Mol	Chain	Res	Type
47	2m	933	G
47	2m	934	G
47	2m	958	G
47	2m	970	G
47	2m	971	G
47	2m	990	A
47	2m	992	A
47	2m	999	G
47	2m	1001	A
47	2m	1012	A
47	2m	1023	A
47	2m	1027	A
47	2m	1042	A
47	2m	1043	G
47	2m	1060	A
47	2m	1061	U
47	2m	1062	A
47	2m	1083	A
47	2m	1084	A
47	2m	1085	C
47	2m	1088	U
47	2m	1110	G
47	2m	1113	A
47	2m	1114	U
47	2m	1116	C
47	2m	1131	G
47	2m	1133	A
47	2m	1139	C
47	2m	1150	A
47	2m	1153	C
47	2m	1154	U
47	2m	1157	G
47	2m	1178	U
47	2m	1181	A
47	2m	1183	A
47	2m	1195	A
47	2m	1207	G
47	2m	1208	A
47	2m	1215	C
47	2m	1216	C
47	2m	1217	A
47	2m	1221	G

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Mol	Chain	Res	Type
47	2m	1224	G
47	2m	1241	A
47	2m	1242	U
47	2m	1243	U
47	2m	1251	A
47	2m	1253	A
47	2m	1256	G
47	2m	1257	G
47	2m	1260	A
47	2m	1262	C
47	2m	1263	U
47	2m	1265	A
47	2m	1272	C
47	2m	1273	C
47	2m	1274	G
47	2m	1275	G
47	2m	1276	A
47	2m	1281	G
47	2m	1282	A
47	2m	1283	C
47	2m	1284	A
47	2m	1286	G
47	2m	1288	U
47	2m	1289	U
47	2m	1290	G
47	2m	1291	A
47	2m	1293	A
47	2m	1294	G
47	2m	1295	A
47	2m	1297	U
47	2m	1299	A
47	2m	1300	U
47	2m	1301	A
47	2m	1302	G
47	2m	1303	C
47	2m	1306	U
47	2m	1307	U
47	2m	1314	U
47	2m	1315	U
47	2m	1316	C
47	2m	1318	G
47	2m	1321	G

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Mol	Chain	Res	Type
47	2m	1326	U
47	2m	1330	G
47	2m	1331	C
47	2m	1332	A
47	2m	1333	U
47	2m	1342	U
47	2m	1371	U
47	2m	1372	U
47	2m	1373	C
47	2m	1378	A
47	2m	1396	A
47	2m	1397	U
47	2m	1401	A
47	2m	1403	C
47	2m	1404	U
47	2m	1405	A
47	2m	1409	A
47	2m	1412	C
47	2m	1413	G
47	2m	1414	A
47	2m	1415	C
47	2m	1416	C
47	2m	1417	C
47	2m	1418	C
47	2m	1419	C
47	2m	1420	G
47	2m	1422	G
47	2m	1426	U
47	2m	1427	C
47	2m	1428	G
47	2m	1431	G
47	2m	1434	C
47	2m	1436	C
47	2m	1438	A
47	2m	1439	A
47	2m	1442	U
47	2m	1444	U
47	2m	1446	A
47	2m	1449	G
47	2m	1450	G
47	2m	1454	A
47	2m	1455	A

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Mol	Chain	Res	Type
47	2m	1462	U
47	2m	1463	U
47	2m	1465	A
47	2m	1473	G
47	2m	1475	G
47	2m	1476	A
47	2m	1477	U
47	2m	1487	A
47	2m	1489	A
47	2m	1490	G
47	2m	1496	U
47	2m	1498	A
47	2m	1505	U
47	2m	1507	G
47	2m	1510	G
47	2m	1512	C
47	2m	1515	G
47	2m	1517	G
47	2m	1520	G
47	2m	1521	C
47	2m	1522	A
47	2m	1524	G
47	2m	1525	C
47	2m	1526	G
47	2m	1527	C
47	2m	1531	A
47	2m	1533	A
47	2m	1536	G
47	2m	1543	U
47	2m	1544	C
47	2m	1548	G
47	2m	1552	G
47	2m	1553	C
47	2m	1567	G
47	2m	1568	C
47	2m	1570	G
47	2m	1573	G
47	2m	1575	G
47	2m	1580	A
47	2m	1585	U
47	2m	1586	U
47	2m	1588	A

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Mol	Chain	Res	Type
47	2m	1589	A
47	2m	1594	A
47	2m	1598	G
47	2m	1604	G
47	2m	1621	U
47	2m	1623	A
47	2m	1624	U
47	2m	1632	G
47	2m	1634	A
47	2m	1639	G
47	2m	1644	C
47	2m	1648	G
47	2m	1654	G
47	2m	1663	A
47	2m	1664	A
47	2m	1665	G
47	2m	1672	U
47	2m	1695	A
47	2m	1699	A
47	2m	1715	A
47	2m	1719	A
47	2m	1721	U
47	2m	1722	G
47	2m	1729	U
47	2m	1743	G
47	2m	1744	G
47	2m	1745	A
47	2m	1746	U
47	2m	1749	G
47	2m	1753	C
47	2m	1755	C
47	2m	1756	C
47	2m	1758	G
47	2m	1759	G
47	2m	1761	U
47	2m	1773	C
47	2m	1779	G
47	2m	1780	G
47	2m	1783	C
47	2m	1786	U
47	2m	1813	A
47	2m	1819	A

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Mol	Chain	Res	Type
47	2m	1827	U
47	2m	1829	G
47	2m	1831	A
47	2m	1838	U
47	2m	1849	G
47	2m	1850	A
47	2m	1852	C
47	2m	1860	A
47	2m	1861	G
47	2m	1862	G
47	2m	1863	A
47	2m	1865	C
47	2m	1869	A

All (34) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1A	264	C
1	1A	385	A
1	1A	406	C
1	1A	417	G
1	1A	504	G
1	1A	914	U
1	1A	1082	C
1	1A	1633	G
1	1A	2019	C
1	1A	2033	A
1	1A	2112	G
1	1A	2299	G
1	1A	2389	A
1	1A	2639	U
1	1A	2675	G
1	1A	2695	A
1	1A	2760	G
1	1A	2775	C
1	1A	3764	U
1	1A	3773	U
1	1A	3888	G
1	1A	4060	U
1	1A	4065	G
1	1A	4110	C
1	1A	4452	U

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Mol	Chain	Res	Type
1	1A	4600	G
1	1A	4699	U
1	1A	4731	G
1	1A	4896	G
1	1A	4913	G
2	1B	33	U
2	1B	109	U
3	1C	86	U
3	1C	87	G

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
41	MLZ	2g	98	41	8,9,10	0.80	0	4,9,11	0.59	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	MLZ	2g	98	41	-	1/7/8/10	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
41	2g	98	MLZ	CD-CE-NZ-CM

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 439 ligands modelled in this entry, 416 are monoatomic - leaving 23 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
81	84G	1A	5112	-	39,40,40	1.84	7 (17%)	48,57,57	1.27	4 (8%)
81	84G	1A	5117	-	39,40,40	1.85	9 (23%)	48,57,57	1.23	5 (10%)
81	84G	1A	5114	-	39,40,40	1.85	7 (17%)	48,57,57	1.21	4 (8%)
81	84G	1A	5108	-	39,40,40	1.85	8 (20%)	48,57,57	1.14	3 (6%)
81	84G	1A	5102	-	39,40,40	1.89	7 (17%)	48,57,57	1.32	6 (12%)
81	84G	1A	5106	-	39,40,40	1.86	9 (23%)	48,57,57	1.10	5 (10%)
81	84G	1A	5115	-	39,40,40	1.86	8 (20%)	48,57,57	1.25	6 (12%)
81	84G	1A	5105	-	39,40,40	1.85	7 (17%)	48,57,57	1.18	5 (10%)
81	84G	2i	201	-	39,40,40	1.97	9 (23%)	48,57,57	1.29	5 (10%)
81	84G	1A	5107	-	39,40,40	1.85	8 (20%)	48,57,57	1.16	3 (6%)
81	84G	1A	5101	-	39,40,40	1.87	6 (15%)	48,57,57	1.51	8 (16%)
81	84G	1A	5109	-	39,40,40	1.86	7 (17%)	48,57,57	1.25	4 (8%)
81	84G	2m	1901	-	39,40,40	1.80	7 (17%)	48,57,57	2.32	12 (25%)
81	84G	2D	301	-	39,40,40	1.84	7 (17%)	48,57,57	1.32	6 (12%)
81	84G	1A	5104	82	39,40,40	1.87	8 (20%)	48,57,57	1.24	3 (6%)
81	84G	1A	5113	-	39,40,40	1.85	8 (20%)	48,57,57	1.13	3 (6%)
81	84G	1A	5103	-	39,40,40	1.84	8 (20%)	48,57,57	1.12	4 (8%)
81	84G	1A	5110	-	39,40,40	1.89	7 (17%)	48,57,57	1.08	4 (8%)
81	84G	2m	1902	-	39,40,40	1.85	7 (17%)	48,57,57	1.29	5 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
81	84G	1A	5119	-	39,40,40	1.86	8 (20%)	48,57,57	1.13	3 (6%)
81	84G	1A	5116	-	39,40,40	1.84	7 (17%)	48,57,57	1.25	4 (8%)
81	84G	1A	5111	-	39,40,40	1.84	7 (17%)	48,57,57	1.33	4 (8%)
81	84G	1A	5118	-	39,40,40	1.83	7 (17%)	48,57,57	1.19	4 (8%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	84G	1A	5112	-	-	8/23/76/76	0/3/3/3
81	84G	1A	5117	-	-	6/23/76/76	0/3/3/3
81	84G	1A	5114	-	-	9/23/76/76	0/3/3/3
81	84G	1A	5108	-	-	8/23/76/76	0/3/3/3
81	84G	1A	5102	-	-	8/23/76/76	0/3/3/3
81	84G	1A	5106	-	-	10/23/76/76	0/3/3/3
81	84G	1A	5115	-	-	6/23/76/76	0/3/3/3
81	84G	1A	5105	-	-	6/23/76/76	0/3/3/3
81	84G	2i	201	-	-	9/23/76/76	0/3/3/3
81	84G	1A	5107	-	-	10/23/76/76	0/3/3/3
81	84G	1A	5101	-	-	9/23/76/76	1/3/3/3
81	84G	1A	5109	-	-	5/23/76/76	0/3/3/3
81	84G	2m	1901	-	-	3/23/76/76	0/3/3/3
81	84G	2D	301	-	-	7/23/76/76	0/3/3/3
81	84G	1A	5104	82	-	7/23/76/76	0/3/3/3
81	84G	1A	5113	-	-	5/23/76/76	0/3/3/3
81	84G	1A	5103	-	-	7/23/76/76	0/3/3/3
81	84G	1A	5110	-	-	10/23/76/76	0/3/3/3
81	84G	2m	1902	-	-	6/23/76/76	0/3/3/3
81	84G	1A	5119	-	-	7/23/76/76	0/3/3/3
81	84G	1A	5116	-	-	4/23/76/76	0/3/3/3
81	84G	1A	5111	-	-	12/23/76/76	1/3/3/3
81	84G	1A	5118	-	-	5/23/76/76	1/3/3/3

All (173) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	1A	5111	84G	C3-N1	6.76	1.48	1.34
81	1A	5109	84G	C3-N1	6.68	1.48	1.34
81	1A	5119	84G	C3-N1	6.66	1.48	1.34
81	1A	5112	84G	C3-N1	6.65	1.48	1.34
81	1A	5102	84G	C3-N1	6.65	1.48	1.34
81	1A	5107	84G	C3-N1	6.64	1.48	1.34
81	2i	201	84G	C3-N1	6.64	1.48	1.34
81	1A	5103	84G	C3-N1	6.64	1.48	1.34
81	2m	1902	84G	C3-N1	6.63	1.48	1.34
81	2m	1901	84G	C3-N1	6.62	1.48	1.34
81	1A	5115	84G	C3-N1	6.60	1.48	1.34
81	1A	5110	84G	C3-N1	6.58	1.48	1.34
81	1A	5117	84G	C3-N1	6.58	1.48	1.34
81	1A	5114	84G	C3-N1	6.57	1.48	1.34
81	2D	301	84G	C3-N1	6.55	1.48	1.34
81	1A	5116	84G	C3-N1	6.51	1.48	1.34
81	1A	5118	84G	C3-N1	6.51	1.48	1.34
81	1A	5113	84G	C3-N1	6.50	1.48	1.34
81	1A	5105	84G	C3-N1	6.48	1.47	1.34
81	1A	5104	84G	C3-N1	6.48	1.47	1.34
81	1A	5106	84G	C3-N1	6.46	1.47	1.34
81	1A	5101	84G	C3-N1	6.44	1.47	1.34
81	1A	5108	84G	C3-N1	6.42	1.47	1.34
81	2i	201	84G	C19-C20	-5.21	1.47	1.53
81	1A	5110	84G	C19-C20	-5.19	1.47	1.53
81	1A	5101	84G	C19-C20	-5.17	1.47	1.53
81	1A	5104	84G	C19-C20	-5.03	1.47	1.53
81	1A	5102	84G	C19-C20	-5.03	1.47	1.53
81	1A	5113	84G	C19-C20	-5.01	1.47	1.53
81	1A	5111	84G	C19-C20	-4.99	1.47	1.53
81	1A	5108	84G	C19-C20	-4.96	1.47	1.53
81	1A	5114	84G	C19-C20	-4.93	1.47	1.53
81	1A	5109	84G	C19-C20	-4.87	1.47	1.53
81	1A	5105	84G	C19-C20	-4.85	1.47	1.53
81	1A	5115	84G	C19-C20	-4.84	1.47	1.53
81	1A	5117	84G	C19-C20	-4.83	1.47	1.53
81	1A	5112	84G	C19-C20	-4.82	1.47	1.53
81	1A	5103	84G	C19-C20	-4.78	1.47	1.53
81	1A	5106	84G	C19-C20	-4.77	1.47	1.53
81	1A	5116	84G	C19-C20	-4.76	1.47	1.53
81	1A	5107	84G	C19-C20	-4.71	1.47	1.53
81	2m	1902	84G	C19-C20	-4.69	1.47	1.53
81	1A	5119	84G	C19-C20	-4.68	1.47	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	1A	5118	84G	C19-C20	-4.59	1.47	1.53
81	2D	301	84G	C19-C20	-4.47	1.47	1.53
81	2D	301	84G	C21-C20	-4.27	1.48	1.53
81	2m	1901	84G	C20-N5	4.18	1.53	1.47
81	1A	5110	84G	C21-C20	-3.92	1.48	1.53
81	1A	5102	84G	C21-C20	-3.91	1.48	1.53
81	2m	1901	84G	C19-C20	-3.82	1.48	1.53
81	1A	5104	84G	C21-C20	-3.80	1.48	1.53
81	1A	5109	84G	C21-C20	-3.73	1.48	1.53
81	2i	201	84G	C21-C20	-3.73	1.48	1.53
81	1A	5101	84G	C21-C20	-3.68	1.48	1.53
81	1A	5115	84G	C21-C20	-3.60	1.49	1.53
81	1A	5106	84G	C21-C20	-3.58	1.49	1.53
81	1A	5112	84G	C21-C20	-3.58	1.49	1.53
81	1A	5116	84G	C21-C20	-3.51	1.49	1.53
81	1A	5107	84G	C21-C20	-3.51	1.49	1.53
81	1A	5108	84G	C21-C20	-3.48	1.49	1.53
81	1A	5105	84G	C21-C20	-3.48	1.49	1.53
81	2m	1902	84G	C21-C20	-3.40	1.49	1.53
81	1A	5103	84G	C21-C20	-3.40	1.49	1.53
81	1A	5113	84G	C21-C20	-3.37	1.49	1.53
81	1A	5119	84G	C21-C20	-3.37	1.49	1.53
81	1A	5111	84G	C21-C20	-3.37	1.49	1.53
81	1A	5118	84G	C21-C20	-3.33	1.49	1.53
81	1A	5117	84G	C21-C20	-3.32	1.49	1.53
81	1A	5119	84G	C20-N5	3.31	1.52	1.47
81	2m	1902	84G	C20-N5	3.31	1.52	1.47
81	1A	5118	84G	C20-N5	3.31	1.52	1.47
81	1A	5104	84G	C20-N5	3.29	1.52	1.47
81	1A	5114	84G	C21-C20	-3.28	1.49	1.53
81	1A	5111	84G	C20-N5	3.24	1.52	1.47
81	1A	5102	84G	C20-N5	3.22	1.52	1.47
81	1A	5106	84G	C20-N5	3.19	1.52	1.47
81	1A	5108	84G	C20-N5	3.18	1.52	1.47
81	1A	5107	84G	C20-N5	3.17	1.52	1.47
81	1A	5105	84G	C20-N5	3.17	1.52	1.47
81	2i	201	84G	C20-N5	3.16	1.52	1.47
81	1A	5113	84G	C20-N5	3.15	1.52	1.47
81	1A	5117	84G	C20-N5	3.14	1.52	1.47
81	1A	5115	84G	C20-N5	3.12	1.52	1.47
81	1A	5116	84G	C20-N5	3.11	1.52	1.47
81	1A	5114	84G	C20-N5	3.10	1.52	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	1A	5101	84G	C20-N5	3.06	1.51	1.47
81	1A	5110	84G	C20-N5	3.04	1.51	1.47
81	1A	5109	84G	C20-N5	3.04	1.51	1.47
81	1A	5112	84G	C20-N5	3.02	1.51	1.47
81	2D	301	84G	C20-N5	2.99	1.51	1.47
81	1A	5103	84G	C20-N5	2.87	1.51	1.47
81	2i	201	84G	O3-C8	2.86	1.49	1.41
81	1A	5118	84G	O3-C8	2.71	1.48	1.41
81	1A	5113	84G	O3-C8	2.70	1.48	1.41
81	1A	5101	84G	O3-C8	2.63	1.48	1.41
81	1A	5119	84G	O3-C8	2.62	1.48	1.41
81	1A	5114	84G	O3-C8	2.61	1.48	1.41
81	2m	1902	84G	O3-C8	2.61	1.48	1.41
81	2m	1901	84G	O3-C8	2.60	1.48	1.41
81	1A	5107	84G	O3-C8	2.59	1.48	1.41
81	1A	5105	84G	O3-C8	2.57	1.48	1.41
81	1A	5110	84G	O3-C8	2.56	1.48	1.41
81	1A	5101	84G	O1-C3	-2.55	1.18	1.23
81	1A	5103	84G	O3-C8	2.55	1.48	1.41
81	1A	5102	84G	O3-C8	2.52	1.48	1.41
81	1A	5112	84G	O3-C8	2.49	1.48	1.41
81	1A	5116	84G	O3-C8	2.49	1.48	1.41
81	1A	5106	84G	O3-C8	2.48	1.48	1.41
81	1A	5108	84G	O3-C8	2.46	1.48	1.41
81	2i	201	84G	O1-C3	-2.41	1.18	1.23
81	1A	5104	84G	O1-C3	-2.40	1.18	1.23
81	1A	5104	84G	O3-C8	2.40	1.48	1.41
81	1A	5111	84G	O3-C8	2.40	1.48	1.41
81	1A	5109	84G	O3-C8	2.40	1.48	1.41
81	1A	5115	84G	O3-C8	2.39	1.48	1.41
81	1A	5117	84G	O3-C8	2.39	1.48	1.41
81	2D	301	84G	O3-C8	2.39	1.48	1.41
81	1A	5113	84G	O1-C3	-2.38	1.18	1.23
81	1A	5108	84G	O1-C3	-2.38	1.18	1.23
81	2i	201	84G	C2-C3	2.38	1.55	1.52
81	1A	5111	84G	O1-C3	-2.37	1.18	1.23
81	1A	5118	84G	O1-C3	-2.36	1.18	1.23
81	1A	5106	84G	O1-C3	-2.35	1.18	1.23
81	2D	301	84G	O1-C3	-2.35	1.18	1.23
81	1A	5110	84G	O1-C3	-2.33	1.18	1.23
81	1A	5103	84G	O1-C3	-2.32	1.18	1.23
81	2m	1901	84G	O1-C3	-2.32	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	1A	5105	84G	O1-C3	-2.31	1.19	1.23
81	1A	5114	84G	O1-C3	-2.28	1.19	1.23
81	1A	5116	84G	O1-C3	-2.26	1.19	1.23
81	1A	5115	84G	O1-C3	-2.26	1.19	1.23
81	1A	5104	84G	C11-C12	-2.25	1.47	1.52
81	1A	5117	84G	O1-C3	-2.25	1.19	1.23
81	1A	5112	84G	O1-C3	-2.25	1.19	1.23
81	2m	1902	84G	O1-C3	-2.25	1.19	1.23
81	1A	5119	84G	O1-C3	-2.24	1.19	1.23
81	2m	1901	84G	O6-C17	2.20	1.49	1.44
81	1A	5107	84G	O1-C3	-2.20	1.19	1.23
81	1A	5106	84G	C2-C3	2.19	1.55	1.52
81	1A	5102	84G	O1-C3	-2.18	1.19	1.23
81	1A	5109	84G	O1-C3	-2.18	1.19	1.23
81	2i	201	84G	C11-C12	-2.15	1.47	1.52
81	1A	5115	84G	O6-C17	2.15	1.49	1.44
81	2m	1901	84G	O6-C16	2.15	1.47	1.41
81	1A	5118	84G	C11-C12	-2.14	1.47	1.52
81	1A	5113	84G	O6-C16	2.12	1.47	1.41
81	2m	1902	84G	C11-C12	-2.11	1.47	1.52
81	1A	5104	84G	C12-C13	-2.11	1.47	1.53
81	1A	5114	84G	C11-C12	-2.11	1.47	1.52
81	1A	5119	84G	C2-C3	2.09	1.55	1.52
81	1A	5106	84G	C11-C12	-2.09	1.47	1.52
81	1A	5109	84G	C2-C3	2.09	1.55	1.52
81	1A	5107	84G	C11-C12	-2.08	1.47	1.52
81	1A	5119	84G	C11-C12	-2.08	1.47	1.52
81	1A	5116	84G	C11-C12	-2.08	1.47	1.52
81	1A	5108	84G	C11-C12	-2.07	1.47	1.52
81	1A	5103	84G	C11-C12	-2.06	1.47	1.52
81	1A	5105	84G	C11-C12	-2.06	1.47	1.52
81	1A	5115	84G	C11-C12	-2.05	1.47	1.52
81	1A	5110	84G	O6-C17	2.05	1.49	1.44
81	1A	5111	84G	O6-C16	2.04	1.47	1.41
81	1A	5112	84G	C11-C12	-2.04	1.48	1.52
81	1A	5106	84G	O6-C17	2.04	1.49	1.44
81	2D	301	84G	O6-C17	2.03	1.49	1.44
81	1A	5108	84G	C12-C13	-2.02	1.47	1.53
81	1A	5107	84G	O6-C16	2.02	1.47	1.41
81	1A	5117	84G	C11-C12	-2.02	1.48	1.52
81	1A	5117	84G	O6-C17	2.02	1.49	1.44
81	2i	201	84G	O6-C16	2.01	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	1A	5103	84G	C12-C13	-2.01	1.47	1.53
81	1A	5117	84G	C2-C3	2.01	1.55	1.52
81	1A	5113	84G	C11-C12	-2.00	1.48	1.52
81	1A	5102	84G	O6-C17	2.00	1.49	1.44

All (110) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	2m	1901	84G	C17-C19-C20	7.78	119.28	110.67
81	2m	1901	84G	C16-C21-C20	6.30	118.86	110.40
81	1A	5111	84G	C16-O5-C15	-4.63	107.00	117.98
81	2m	1901	84G	O6-C17-C19	4.52	117.84	109.70
81	2m	1901	84G	C16-O6-C17	4.39	122.29	113.72
81	1A	5104	84G	C16-O5-C15	-4.16	108.11	117.98
81	1A	5101	84G	C5-C4-C15	4.11	117.38	109.75
81	1A	5101	84G	C14-C15-C4	3.97	118.10	111.18
81	2i	201	84G	C8-O2-C7	-3.96	108.59	117.98
81	2m	1901	84G	C19-C20-C21	3.94	119.61	111.06
81	1A	5105	84G	C8-O2-C7	-3.80	108.97	117.98
81	1A	5101	84G	C8-O2-C7	-3.78	109.01	117.98
81	2m	1901	84G	O6-C16-C21	3.76	118.10	110.37
81	1A	5111	84G	C8-O2-C7	-3.74	109.11	117.98
81	1A	5102	84G	C8-O2-C7	-3.64	109.35	117.98
81	1A	5102	84G	C16-O5-C15	-3.64	109.36	117.98
81	2m	1901	84G	C8-O2-C7	-3.57	109.52	117.98
81	1A	5119	84G	C8-O2-C7	-3.56	109.54	117.98
81	1A	5109	84G	C8-O2-C7	-3.53	109.60	117.98
81	1A	5112	84G	C8-O2-C7	-3.52	109.63	117.98
81	2m	1902	84G	C16-O5-C15	-3.52	109.63	117.98
81	1A	5114	84G	C8-O2-C7	-3.49	109.70	117.98
81	2m	1902	84G	C8-O2-C7	-3.49	109.71	117.98
81	1A	5114	84G	C16-O5-C15	-3.48	109.73	117.98
81	1A	5107	84G	C16-O5-C15	-3.38	109.97	117.98
81	1A	5109	84G	C16-O5-C15	-3.35	110.03	117.98
81	2D	301	84G	C8-O2-C7	-3.31	110.12	117.98
81	1A	5118	84G	C16-O5-C15	-3.30	110.15	117.98
81	1A	5105	84G	C16-O5-C15	-3.28	110.21	117.98
81	1A	5117	84G	C16-O5-C15	-3.26	110.25	117.98
81	1A	5107	84G	C8-O2-C7	-3.24	110.31	117.98
81	1A	5115	84G	C8-O2-C7	-3.22	110.34	117.98
81	1A	5112	84G	C7-C14-C15	3.22	115.64	109.11
81	2m	1901	84G	C16-O5-C15	-3.18	110.44	117.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	1A	5108	84G	C8-O2-C7	-3.12	110.58	117.98
81	1A	5113	84G	C16-O5-C15	-3.05	110.76	117.98
81	1A	5119	84G	C16-O5-C15	-3.04	110.77	117.98
81	1A	5108	84G	C16-O5-C15	-3.04	110.78	117.98
81	1A	5113	84G	C8-O2-C7	-3.01	110.85	117.98
81	1A	5104	84G	C8-O2-C7	-2.97	110.94	117.98
81	1A	5110	84G	C8-O2-C7	-2.91	111.08	117.98
81	1A	5111	84G	C16-C21-C20	2.91	114.30	110.40
81	1A	5106	84G	C16-O5-C15	-2.89	111.12	117.98
81	1A	5116	84G	C1-C-N	2.89	132.73	112.64
81	2m	1902	84G	C1-C-N	2.88	132.65	112.64
81	1A	5115	84G	C16-O5-C15	-2.88	111.16	117.98
81	1A	5101	84G	C4-N1-C3	-2.88	118.24	123.25
81	2m	1901	84G	O9-C21-C20	-2.80	105.18	110.22
81	1A	5113	84G	C8-O3-C9	-2.79	110.05	113.13
81	2m	1901	84G	O8-C19-C20	-2.78	105.23	110.22
81	1A	5116	84G	C16-O5-C15	-2.75	111.47	117.98
81	2i	201	84G	C5-C4-C15	2.73	114.82	109.75
81	1A	5116	84G	C8-O2-C7	-2.73	111.51	117.98
81	2D	301	84G	O9-C21-C20	-2.73	105.32	110.22
81	1A	5115	84G	C17-C19-C20	2.72	113.68	110.67
81	2i	201	84G	C5-C4-N1	-2.68	106.69	110.78
81	2D	301	84G	C17-C19-C20	2.64	113.59	110.67
81	1A	5103	84G	C17-C19-C20	2.63	113.58	110.67
81	1A	5109	84G	C17-C19-C20	2.61	113.56	110.67
81	1A	5101	84G	C7-C14-C15	2.61	114.39	109.11
81	1A	5117	84G	C8-O2-C7	-2.60	111.81	117.98
81	1A	5101	84G	C15-C4-N1	-2.59	106.34	110.57
81	1A	5102	84G	C17-C19-C20	2.59	113.54	110.67
81	1A	5110	84G	C16-O5-C15	-2.59	111.84	117.98
81	1A	5103	84G	C16-O5-C15	-2.55	111.94	117.98
81	1A	5103	84G	C8-O2-C7	-2.50	112.06	117.98
81	1A	5114	84G	C4-N1-C3	-2.44	119.01	123.25
81	1A	5118	84G	C17-C19-C20	2.41	113.33	110.67
81	1A	5118	84G	C8-O2-C7	-2.40	112.30	117.98
81	2m	1901	84G	C19-C20-N5	-2.35	106.23	111.05
81	1A	5118	84G	C7-C14-C15	2.35	113.87	109.11
81	1A	5101	84G	C16-O5-C15	-2.35	112.42	117.98
81	1A	5117	84G	O3-C9-C11	2.33	112.36	109.91
81	1A	5116	84G	C5-C4-C15	2.29	114.01	109.75
81	1A	5111	84G	C7-C14-C15	2.29	113.74	109.11
81	1A	5104	84G	C4-N1-C3	-2.28	119.28	123.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	2D	301	84G	O5-C15-C14	2.28	113.02	107.23
81	1A	5112	84G	C4-N1-C3	-2.27	119.29	123.25
81	2i	201	84G	C8-O3-C9	2.26	115.63	113.13
81	1A	5106	84G	O1-C3-N1	-2.24	118.94	122.96
81	1A	5102	84G	C4-N1-C3	-2.24	119.34	123.25
81	1A	5119	84G	C5-C4-N1	-2.24	107.35	110.78
81	2m	1901	84G	C4-N1-C3	-2.24	119.35	123.25
81	1A	5115	84G	O6-C17-C19	2.23	113.72	109.70
81	1A	5105	84G	C5-C4-N1	-2.21	107.40	110.78
81	1A	5109	84G	O6-C17-C19	2.20	113.66	109.70
81	1A	5103	84G	C7-C14-C15	2.20	113.56	109.11
81	1A	5106	84G	C4-N1-C3	-2.16	119.49	123.25
81	1A	5114	84G	C11-C9-C10	-2.16	108.71	112.83
81	1A	5106	84G	C7-C14-C15	2.14	113.44	109.11
81	1A	5105	84G	C8-O3-C9	-2.14	110.76	113.13
81	1A	5102	84G	O6-C17-C19	2.13	113.54	109.70
81	1A	5117	84G	C11-C9-C10	-2.13	108.76	112.83
81	1A	5110	84G	C7-C14-C15	2.12	113.41	109.11
81	1A	5110	84G	C8-O3-C9	-2.11	110.79	113.13
81	2D	301	84G	O3-C9-C11	2.11	112.13	109.91
81	1A	5101	84G	O1-C3-N1	-2.10	119.20	122.96
81	1A	5115	84G	O3-C9-C11	2.10	112.11	109.91
81	1A	5105	84G	C5-C4-C15	2.10	113.64	109.75
81	1A	5106	84G	O3-C9-C11	2.08	112.10	109.91
81	2m	1902	84G	O3-C9-C11	2.08	112.10	109.91
81	1A	5115	84G	C7-C14-C15	2.08	113.32	109.11
81	2D	301	84G	C11-C9-C10	-2.08	108.86	112.83
81	1A	5112	84G	C16-O5-C15	-2.07	113.07	117.98
81	1A	5107	84G	C4-N1-C3	-2.07	119.65	123.25
81	2m	1902	84G	C11-C9-C10	-2.06	108.89	112.83
81	1A	5102	84G	O3-C9-C11	2.06	112.08	109.91
81	2i	201	84G	C11-C9-C10	-2.06	108.90	112.83
81	1A	5117	84G	C4-N1-C3	-2.04	119.69	123.25
81	1A	5108	84G	O3-C9-C11	2.04	112.06	109.91

There are no chirality outliers.

All (167) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
81	1A	5101	84G	C-C1-C2-O
81	1A	5101	84G	O-C2-C3-O1
81	1A	5102	84G	C-C1-C2-O

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Mol	Chain	Res	Type	Atoms
81	1A	5102	84G	C1-C2-C3-O1
81	1A	5102	84G	C1-C2-C3-N1
81	1A	5102	84G	O-C2-C3-O1
81	1A	5102	84G	O-C2-C3-N1
81	1A	5102	84G	N3-C10-C9-O3
81	1A	5103	84G	C-C1-C2-O
81	1A	5103	84G	N-C-C1-C2
81	1A	5103	84G	N3-C10-C9-O3
81	1A	5104	84G	N-C-C1-C2
81	1A	5104	84G	O-C2-C3-O1
81	1A	5104	84G	N3-C10-C9-O3
81	1A	5104	84G	N3-C10-C9-C11
81	1A	5105	84G	N-C-C1-C2
81	1A	5105	84G	N3-C10-C9-C11
81	1A	5106	84G	C-C1-C2-C3
81	1A	5106	84G	C-C1-C2-O
81	1A	5106	84G	C1-C2-C3-O1
81	1A	5106	84G	C1-C2-C3-N1
81	1A	5106	84G	O-C2-C3-O1
81	1A	5106	84G	O-C2-C3-N1
81	1A	5106	84G	N3-C10-C9-O3
81	1A	5107	84G	C-C1-C2-O
81	1A	5107	84G	N-C-C1-C2
81	1A	5107	84G	O-C2-C3-O1
81	1A	5107	84G	O-C2-C3-N1
81	1A	5108	84G	C-C1-C2-O
81	1A	5108	84G	N3-C10-C9-O3
81	1A	5108	84G	N3-C10-C9-C11
81	1A	5109	84G	N-C-C1-C2
81	1A	5109	84G	N3-C10-C9-O3
81	1A	5110	84G	N-C-C1-C2
81	1A	5110	84G	C1-C2-C3-O1
81	1A	5110	84G	C1-C2-C3-N1
81	1A	5110	84G	O-C2-C3-O1
81	1A	5110	84G	O-C2-C3-N1
81	1A	5111	84G	N-C-C1-C2
81	1A	5111	84G	C1-C2-C3-O1
81	1A	5111	84G	C1-C2-C3-N1
81	1A	5111	84G	N3-C10-C9-O3
81	1A	5111	84G	N3-C10-C9-C11
81	1A	5112	84G	N-C-C1-C2
81	1A	5112	84G	N3-C10-C9-O3

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Mol	Chain	Res	Type	Atoms
81	1A	5113	84G	C-C1-C2-O
81	1A	5113	84G	N-C-C1-C2
81	1A	5113	84G	N3-C10-C9-O3
81	1A	5114	84G	C-C1-C2-O
81	1A	5114	84G	O-C2-C3-O1
81	1A	5114	84G	O-C2-C3-N1
81	1A	5115	84G	C-C1-C2-O
81	1A	5115	84G	N3-C10-C9-O3
81	1A	5116	84G	N3-C10-C9-C11
81	1A	5117	84G	C-C1-C2-C3
81	1A	5117	84G	C-C1-C2-O
81	1A	5117	84G	N-C-C1-C2
81	1A	5117	84G	N3-C10-C9-O3
81	1A	5118	84G	N3-C10-C9-O3
81	1A	5118	84G	N3-C10-C9-C11
81	1A	5119	84G	O-C2-C3-O1
81	1A	5119	84G	N3-C10-C9-C11
81	2D	301	84G	N-C-C1-C2
81	2D	301	84G	N3-C10-C9-O3
81	2i	201	84G	C-C1-C2-O
81	2i	201	84G	C1-C2-C3-O1
81	2i	201	84G	C1-C2-C3-N1
81	2i	201	84G	O-C2-C3-O1
81	2i	201	84G	O-C2-C3-N1
81	2i	201	84G	N3-C10-C9-O3
81	2i	201	84G	N3-C10-C9-C11
81	2m	1901	84G	C-C1-C2-O
81	2m	1902	84G	O-C2-C3-N1
81	2m	1902	84G	N3-C10-C9-O3
81	1A	5101	84G	O6-C16-O5-C15
81	2i	201	84G	O6-C16-O5-C15
81	1A	5106	84G	O3-C8-O2-C7
81	1A	5101	84G	C21-C16-O5-C15
81	1A	5112	84G	C14-C15-O5-C16
81	2D	301	84G	O6-C16-O5-C15
81	2D	301	84G	C21-C16-O5-C15
81	1A	5118	84G	O3-C8-O2-C7
81	1A	5115	84G	C19-C17-C18-O7
81	1A	5103	84G	O6-C16-O5-C15
81	1A	5119	84G	C19-C17-C18-O7
81	1A	5103	84G	O3-C8-O2-C7
81	2D	301	84G	C14-C15-O5-C16

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Mol	Chain	Res	Type	Atoms
81	1A	5111	84G	C5-C4-N1-C3
81	1A	5115	84G	O6-C17-C18-O7
81	1A	5119	84G	O6-C17-C18-O7
81	1A	5108	84G	C19-C17-C18-O7
81	1A	5114	84G	C19-C17-C18-O7
81	1A	5101	84G	O3-C8-O2-C7
81	1A	5107	84G	O6-C17-C18-O7
81	1A	5108	84G	O6-C17-C18-O7
81	1A	5103	84G	C14-C7-O2-C8
81	1A	5104	84G	C14-C7-O2-C8
81	1A	5114	84G	O6-C17-C18-O7
81	2m	1902	84G	C1-C2-C3-O1
81	2m	1902	84G	C1-C2-C3-N1
81	1A	5107	84G	C14-C15-O5-C16
81	1A	5117	84G	C14-C7-O2-C8
81	1A	5118	84G	C19-C17-C18-O7
81	1A	5108	84G	C-C1-C2-C3
81	2m	1901	84G	C-C1-C2-C3
81	1A	5112	84G	C19-C17-C18-O7
81	1A	5105	84G	O3-C8-O2-C7
81	1A	5111	84G	O-C2-C3-N1
81	1A	5101	84G	C14-C15-O5-C16
81	2m	1901	84G	O3-C8-O2-C7
81	1A	5105	84G	N3-C10-C9-O3
81	1A	5110	84G	N3-C10-C9-O3
81	1A	5114	84G	N3-C10-C9-O3
81	1A	5116	84G	C14-C7-O2-C8
81	1A	5119	84G	C14-C15-O5-C16
81	1A	5102	84G	N-C-C1-C2
81	1A	5115	84G	N-C-C1-C2
81	1A	5116	84G	N-C-C1-C2
81	1A	5119	84G	N-C-C1-C2
81	2m	1902	84G	O-C2-C3-O1
81	1A	5101	84G	C14-C7-O2-C8
81	1A	5111	84G	C19-C17-C18-O7
81	2D	301	84G	C14-C7-O2-C8
81	1A	5110	84G	C19-C17-C18-O7
81	1A	5105	84G	C19-C17-C18-O7
81	1A	5103	84G	N3-C10-C9-C11
81	1A	5106	84G	N3-C10-C9-C11
81	1A	5107	84G	N3-C10-C9-C11
81	1A	5109	84G	N3-C10-C9-C11

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Mol	Chain	Res	Type	Atoms
81	1A	5110	84G	N3-C10-C9-C11
81	1A	5112	84G	N3-C10-C9-C11
81	1A	5113	84G	N3-C10-C9-C11
81	1A	5114	84G	N3-C10-C9-C11
81	1A	5115	84G	N3-C10-C9-C11
81	2m	1902	84G	N3-C10-C9-C11
81	1A	5114	84G	C1-C2-C3-O1
81	1A	5112	84G	O6-C17-C18-O7
81	1A	5111	84G	O6-C17-C18-O7
81	1A	5108	84G	C14-C7-O2-C8
81	1A	5113	84G	O3-C8-O2-C7
81	1A	5118	84G	O6-C17-C18-O7
81	1A	5117	84G	O3-C8-O2-C7
81	1A	5101	84G	C-C1-C2-C3
81	1A	5107	84G	C-C1-C2-C3
81	1A	5111	84G	C14-C7-O2-C8
81	2i	201	84G	C5-C4-N1-C3
81	1A	5110	84G	C14-C15-O5-C16
81	1A	5111	84G	C14-C15-O5-C16
81	1A	5116	84G	O3-C8-O2-C7
81	1A	5104	84G	C1-C2-C3-O1
81	1A	5107	84G	C1-C2-C3-O1
81	1A	5107	84G	C1-C2-C3-N1
81	1A	5114	84G	C1-C2-C3-N1
81	1A	5112	84G	O-C2-C3-N1
81	1A	5119	84G	O-C2-C3-N1
81	1A	5112	84G	C14-C7-O2-C8
81	1A	5106	84G	C14-C15-O5-C16
81	1A	5105	84G	O6-C17-C18-O7
81	1A	5109	84G	O3-C8-O2-C7
81	1A	5110	84G	O6-C17-C18-O7
81	1A	5104	84G	O3-C8-O2-C7
81	1A	5109	84G	C19-C17-C18-O7
81	1A	5111	84G	C-C1-C2-O
81	2D	301	84G	C4-C15-O5-C16
81	1A	5102	84G	N3-C10-C9-C11
81	1A	5101	84G	C1-C2-C3-O1
81	1A	5108	84G	O3-C8-O2-C7

All (3) ring outliers are listed below:

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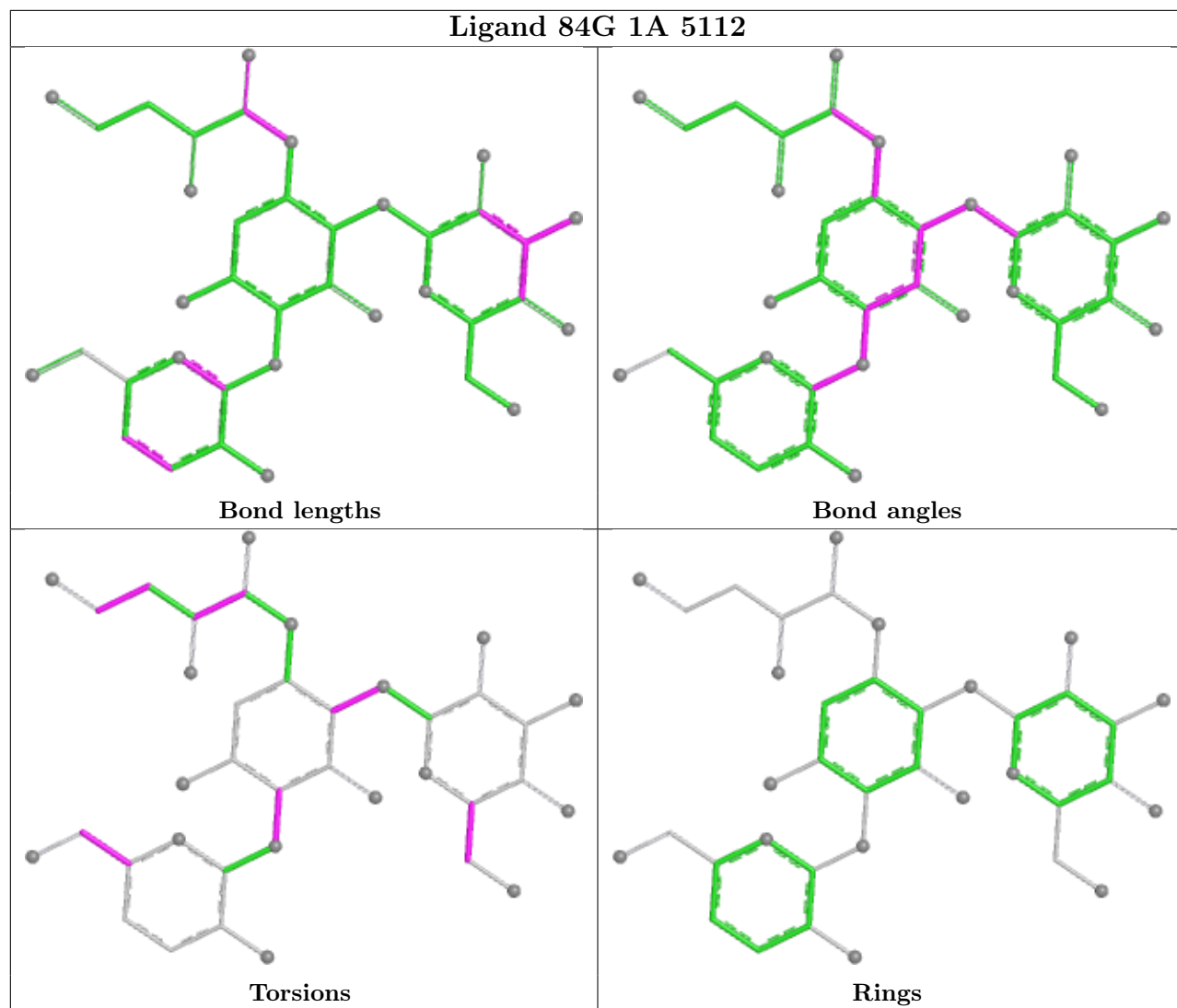
Mol	Chain	Res	Type	Atoms
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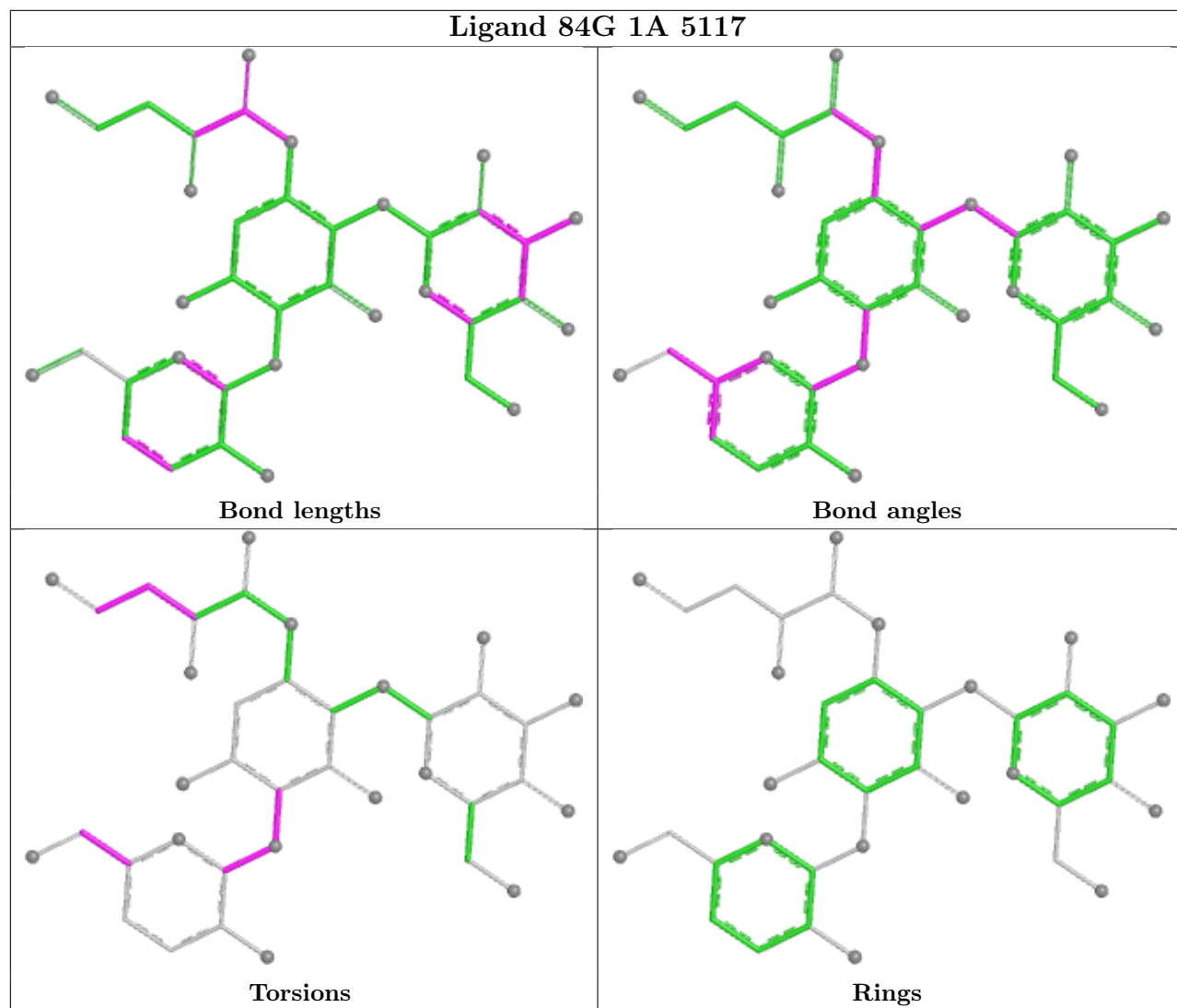
Mol	Chain	Res	Type	Atoms
81	1A	5118	84G	C11-C12-C13-C8-C9-O3
81	1A	5111	84G	C11-C12-C13-C8-C9-O3
81	1A	5101	84G	C11-C12-C13-C8-C9-O3

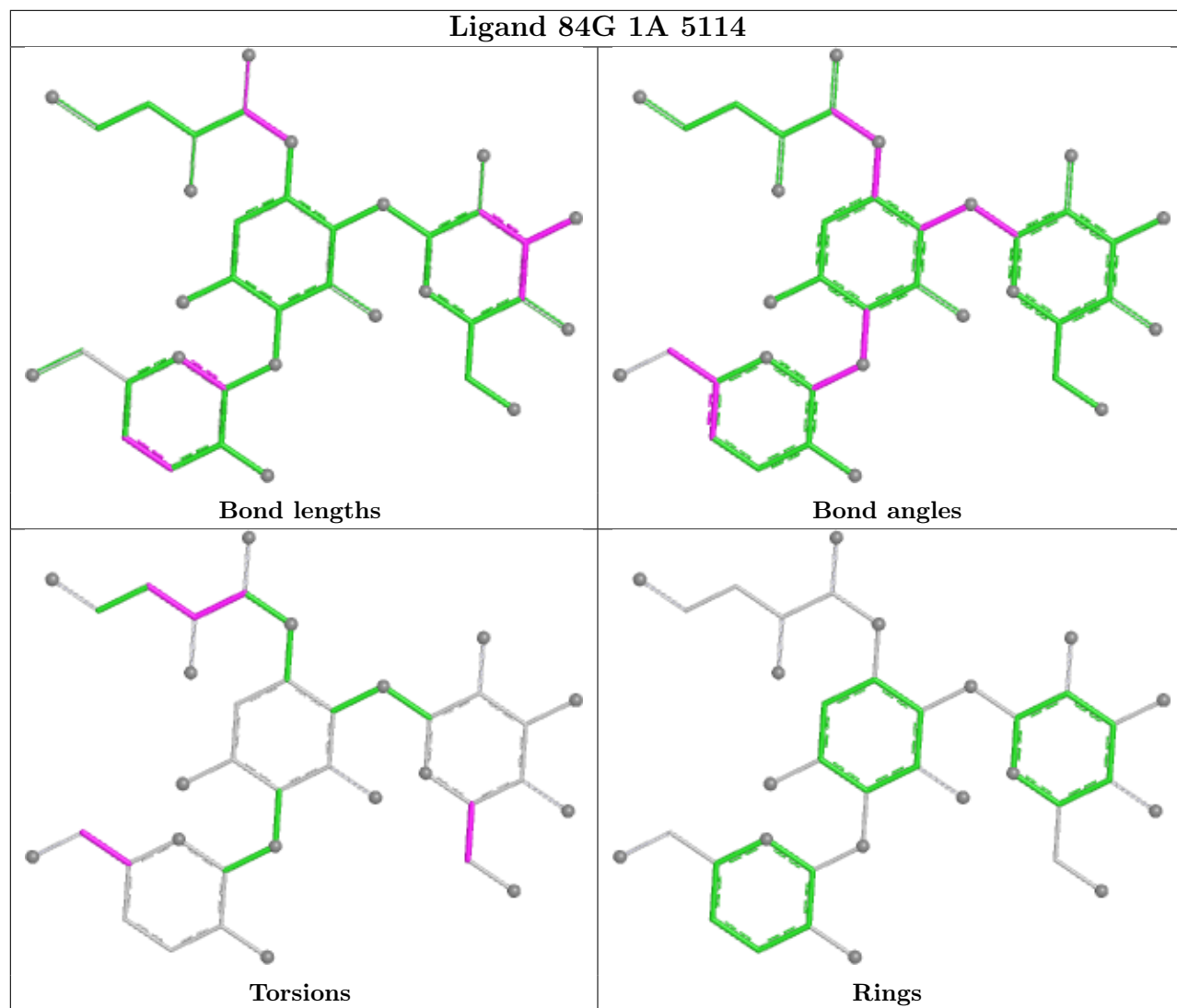
17 monomers are involved in 33 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
81	1A	5112	84G	1	0
81	1A	5102	84G	2	0
81	1A	5106	84G	1	0
81	1A	5115	84G	1	0
81	1A	5105	84G	1	0
81	2i	201	84G	3	0
81	1A	5107	84G	2	0
81	1A	5101	84G	1	0
81	2m	1901	84G	1	0
81	2D	301	84G	3	0
81	1A	5113	84G	6	0
81	1A	5103	84G	3	0
81	1A	5110	84G	2	0
81	2m	1902	84G	1	0
81	1A	5119	84G	1	0
81	1A	5111	84G	2	0
81	1A	5118	84G	2	0

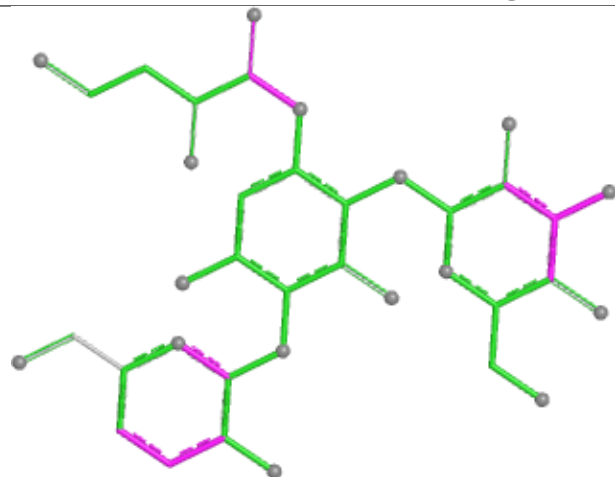
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



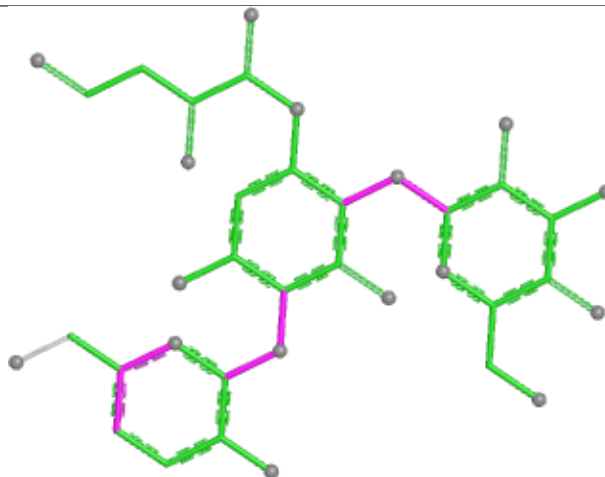




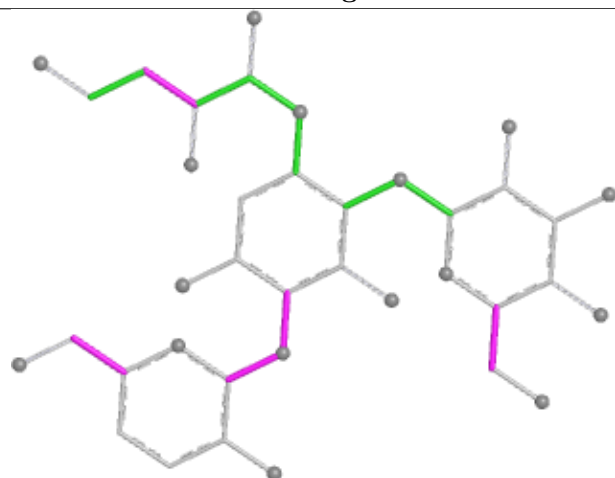
Ligand 84G 1A 5108



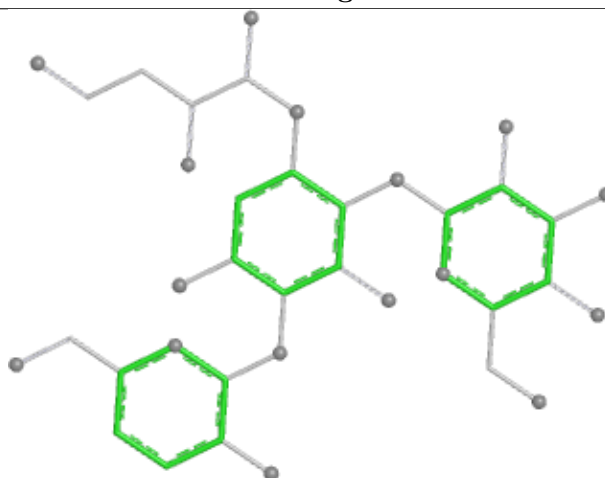
Bond lengths



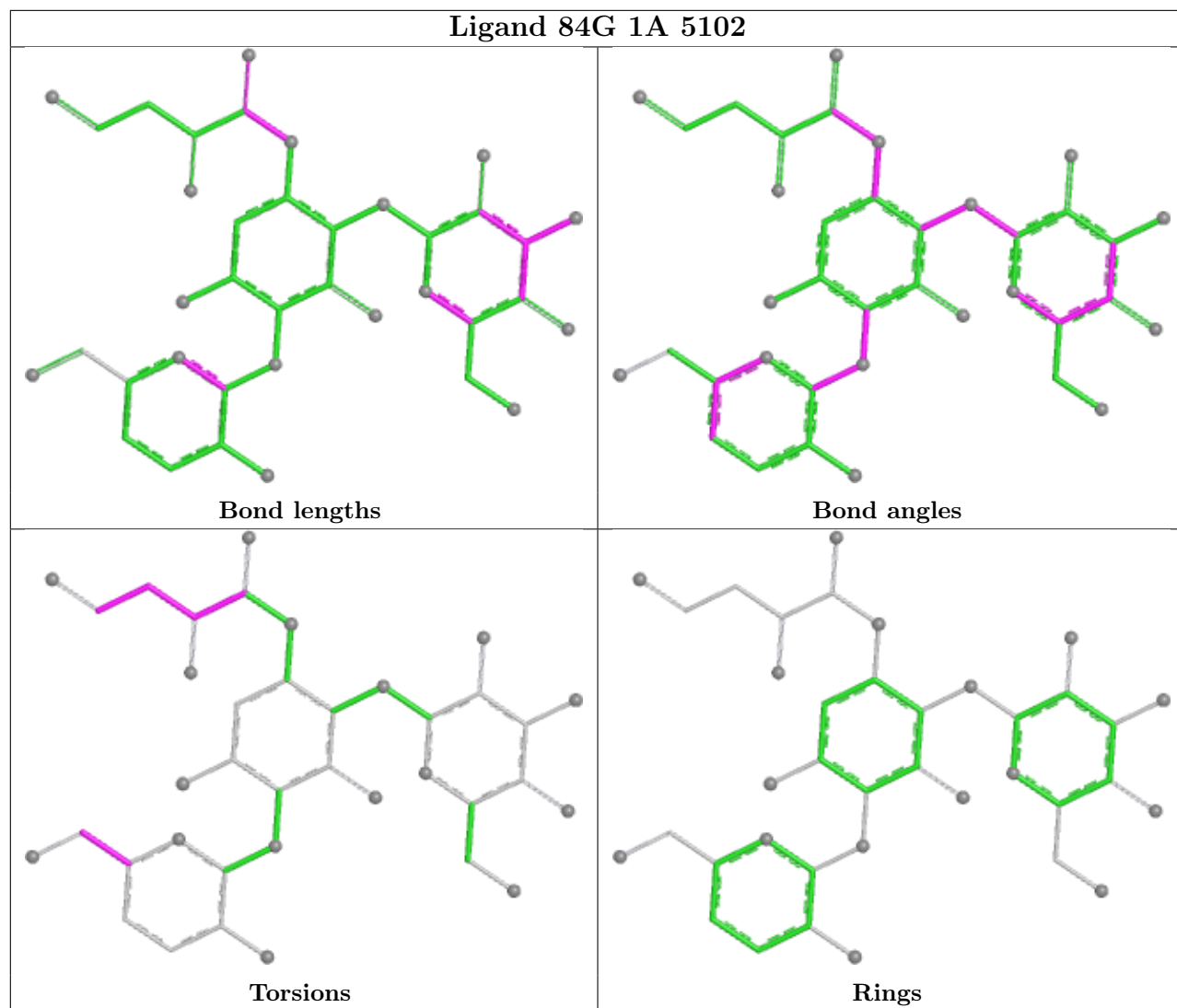
Bond angles



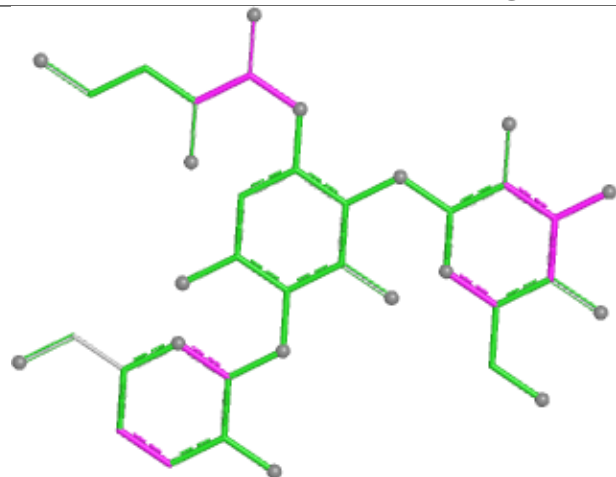
Torsions



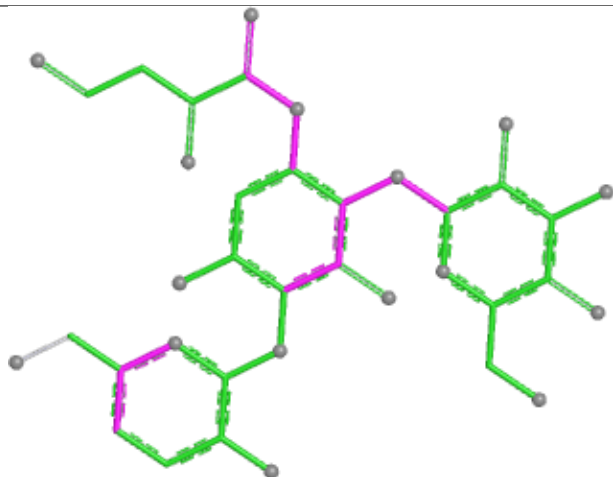
Rings



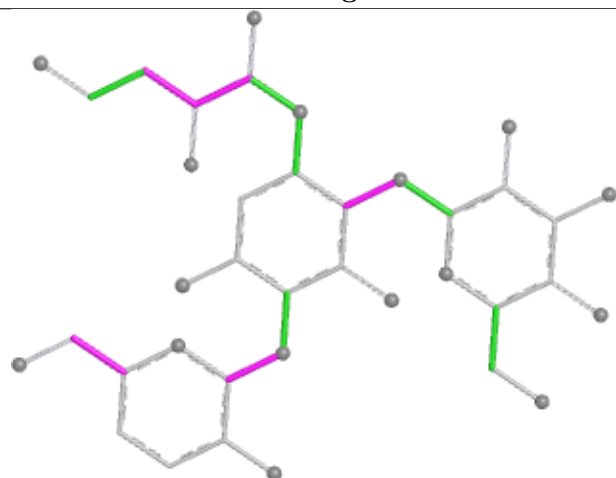
Ligand 84G 1A 5106



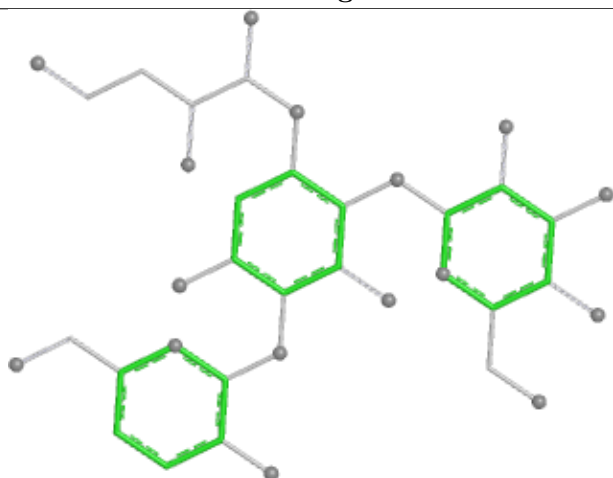
Bond lengths



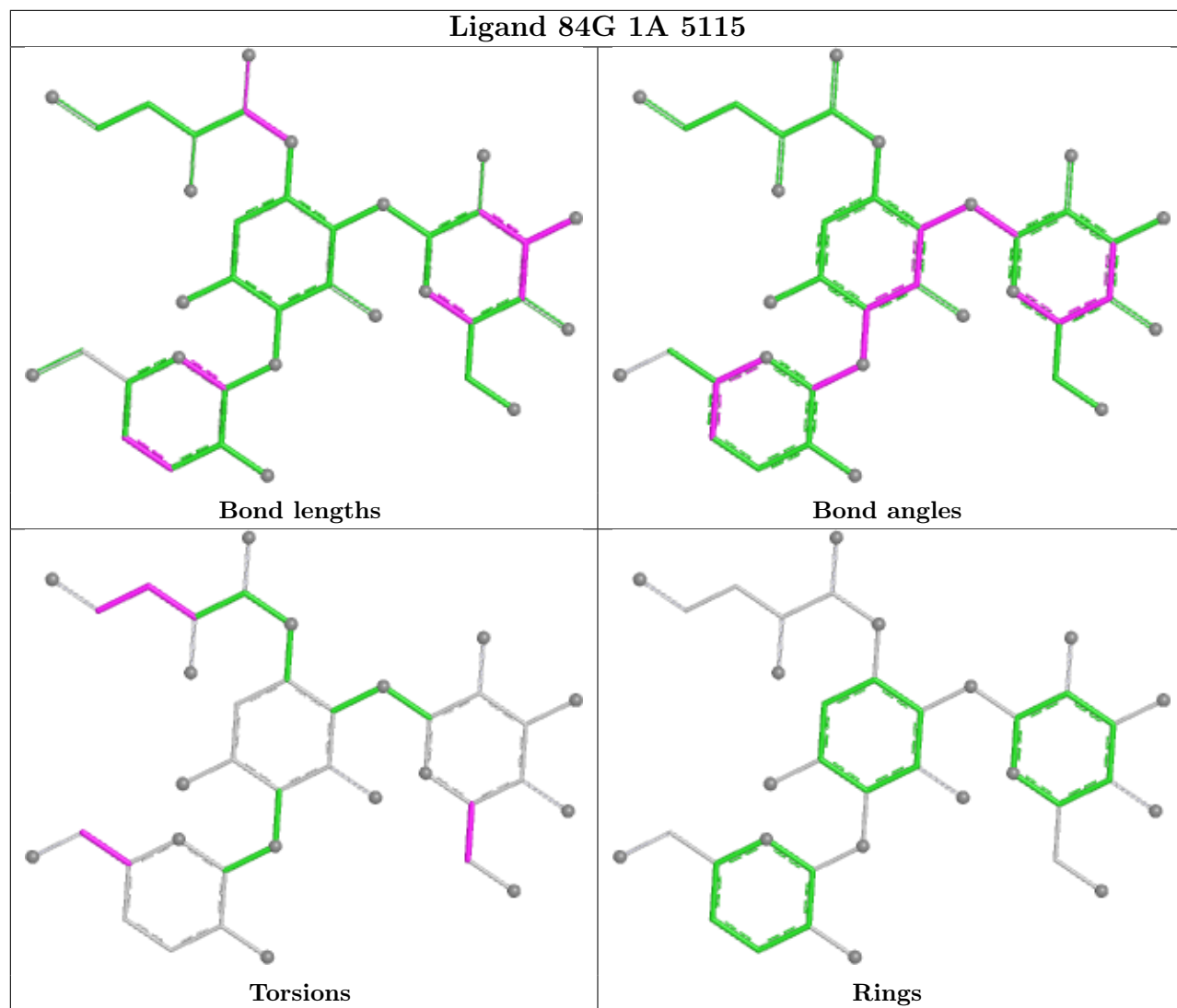
Bond angles

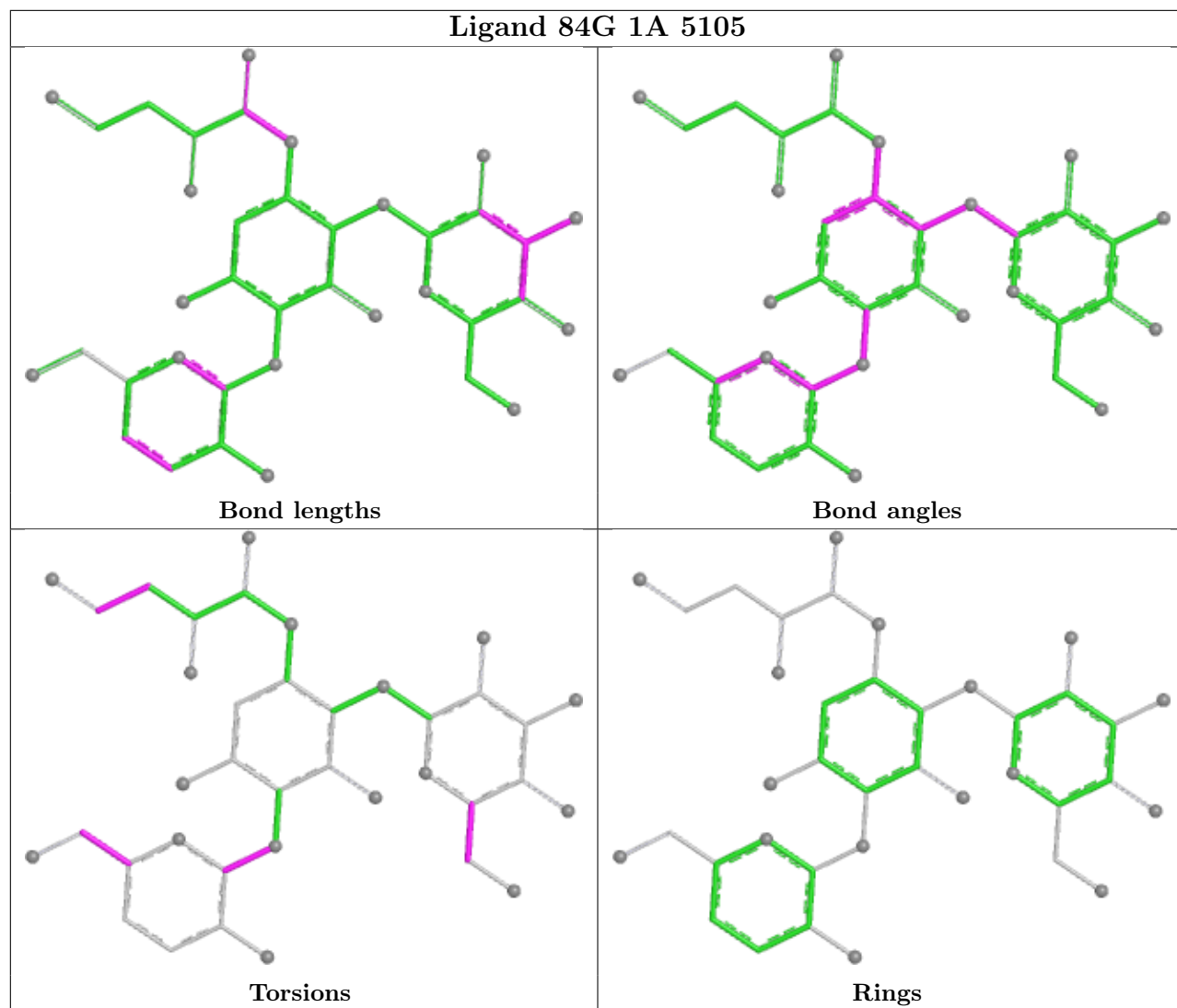


Torsions

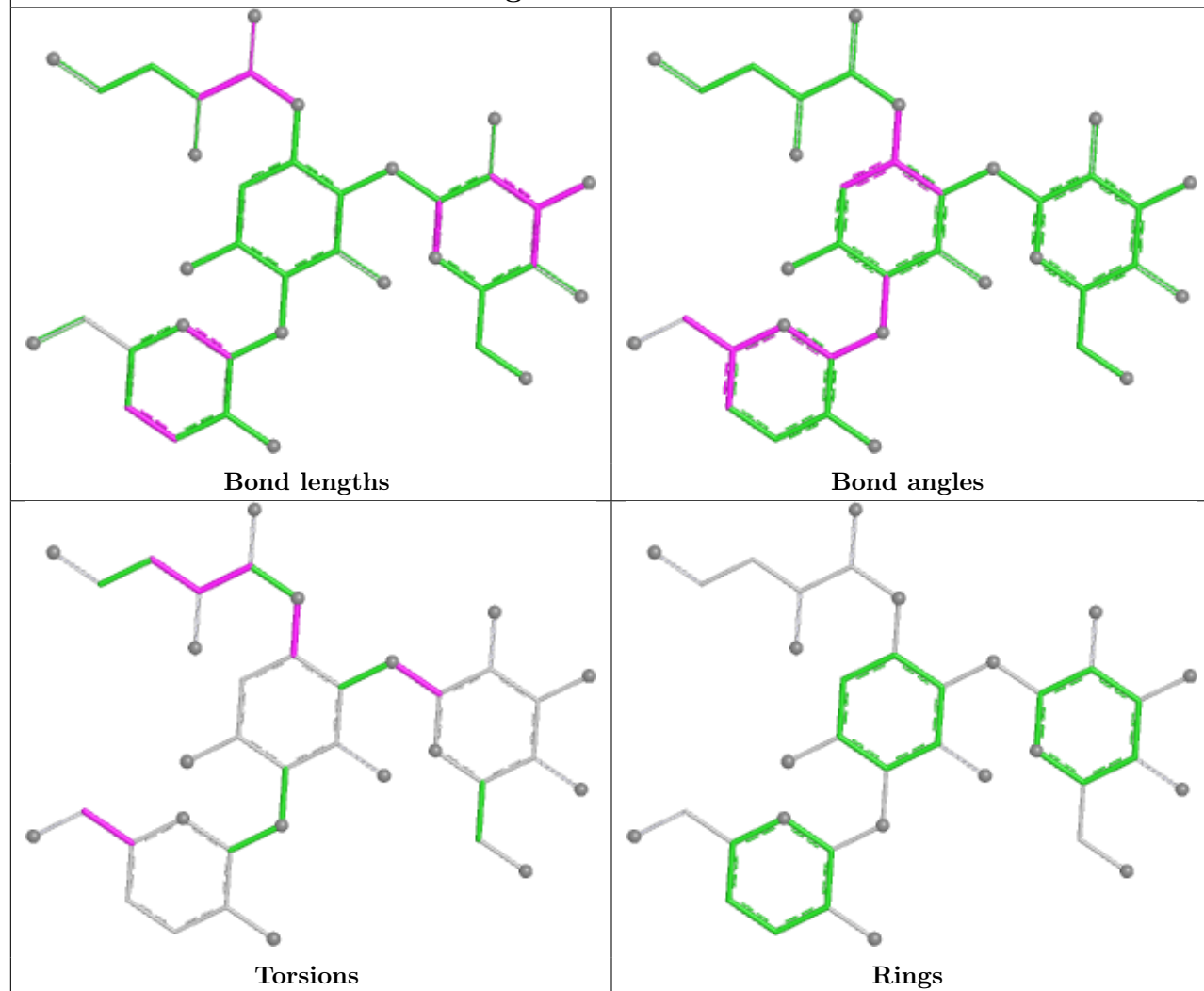


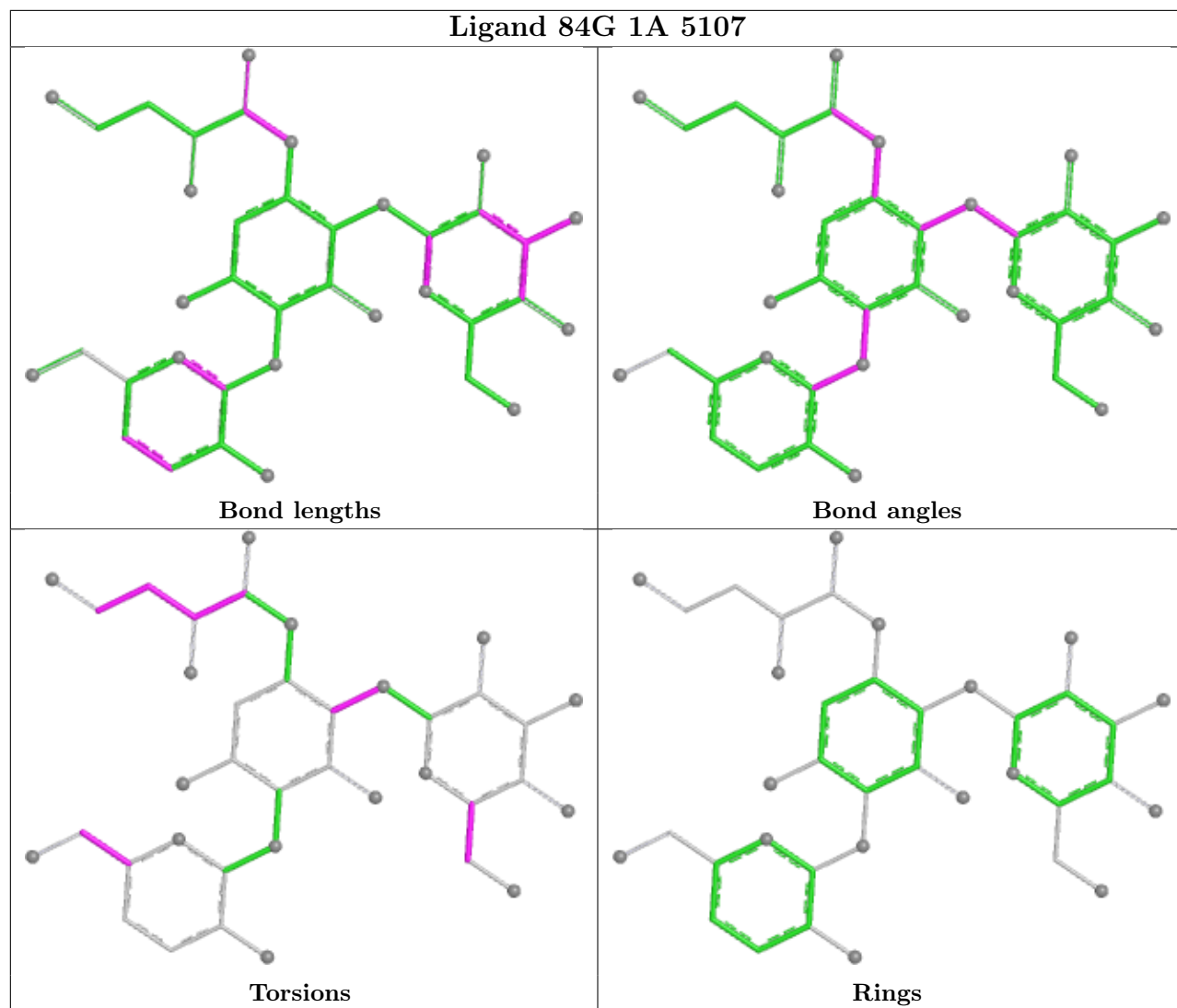
Rings

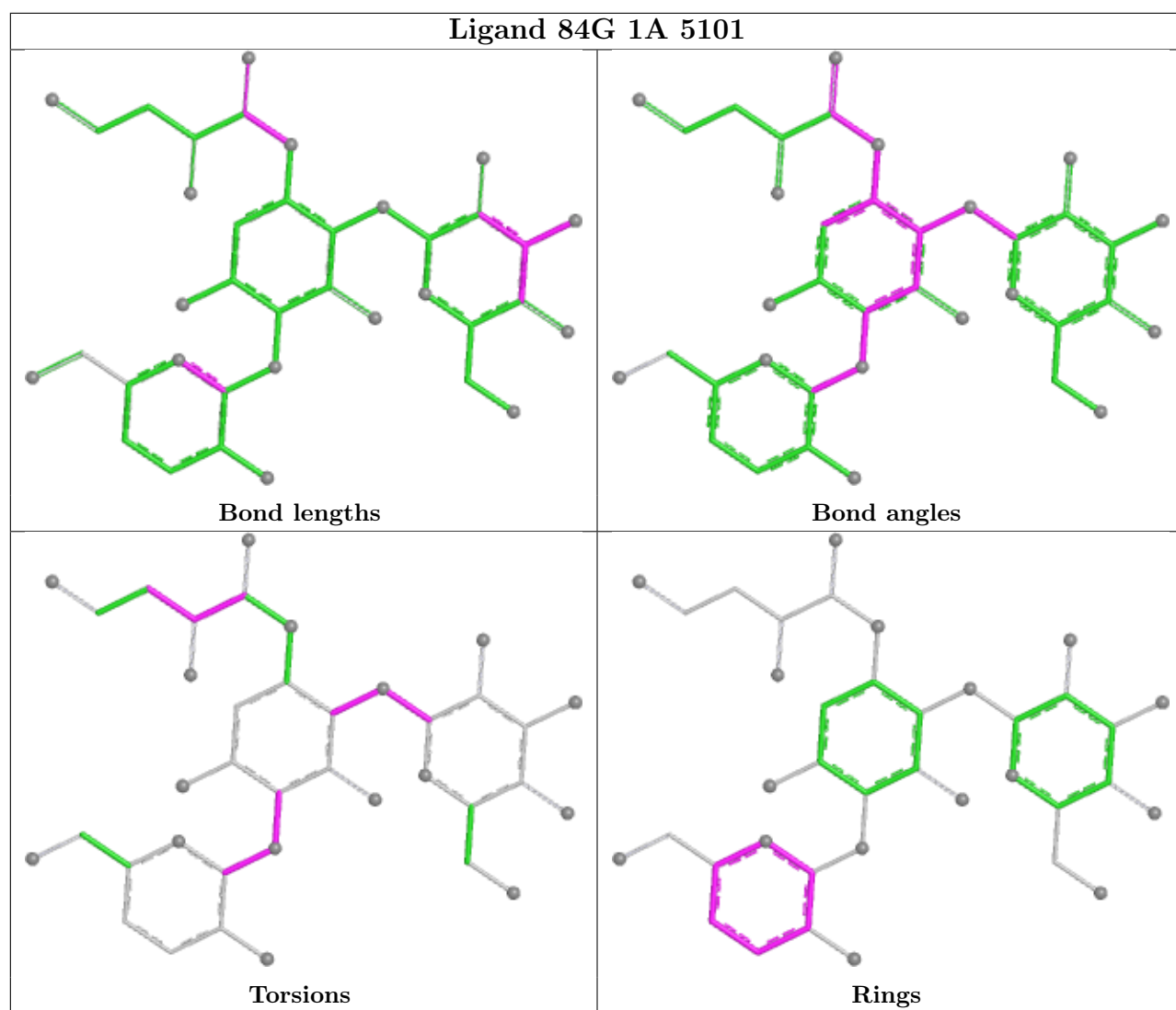


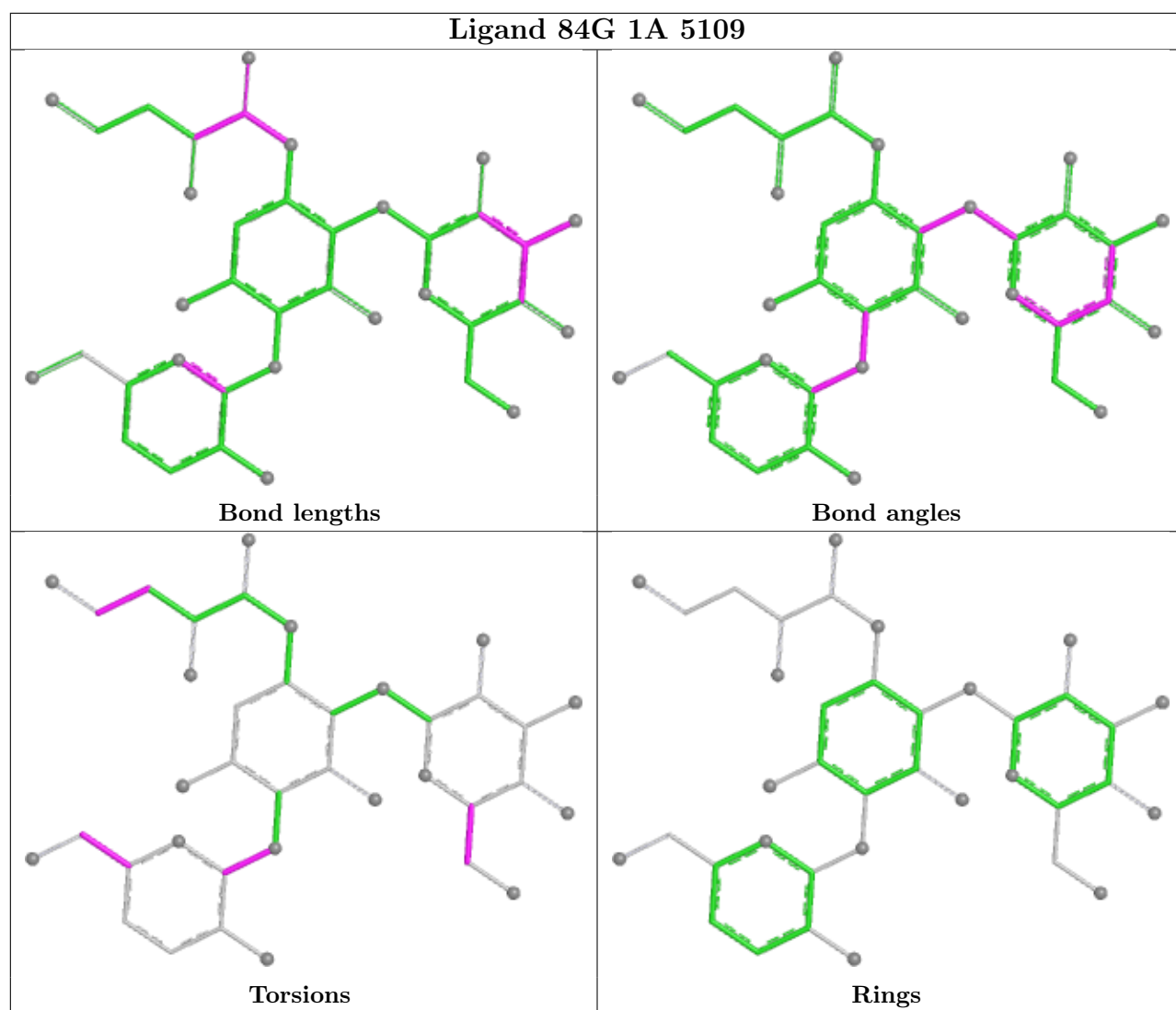


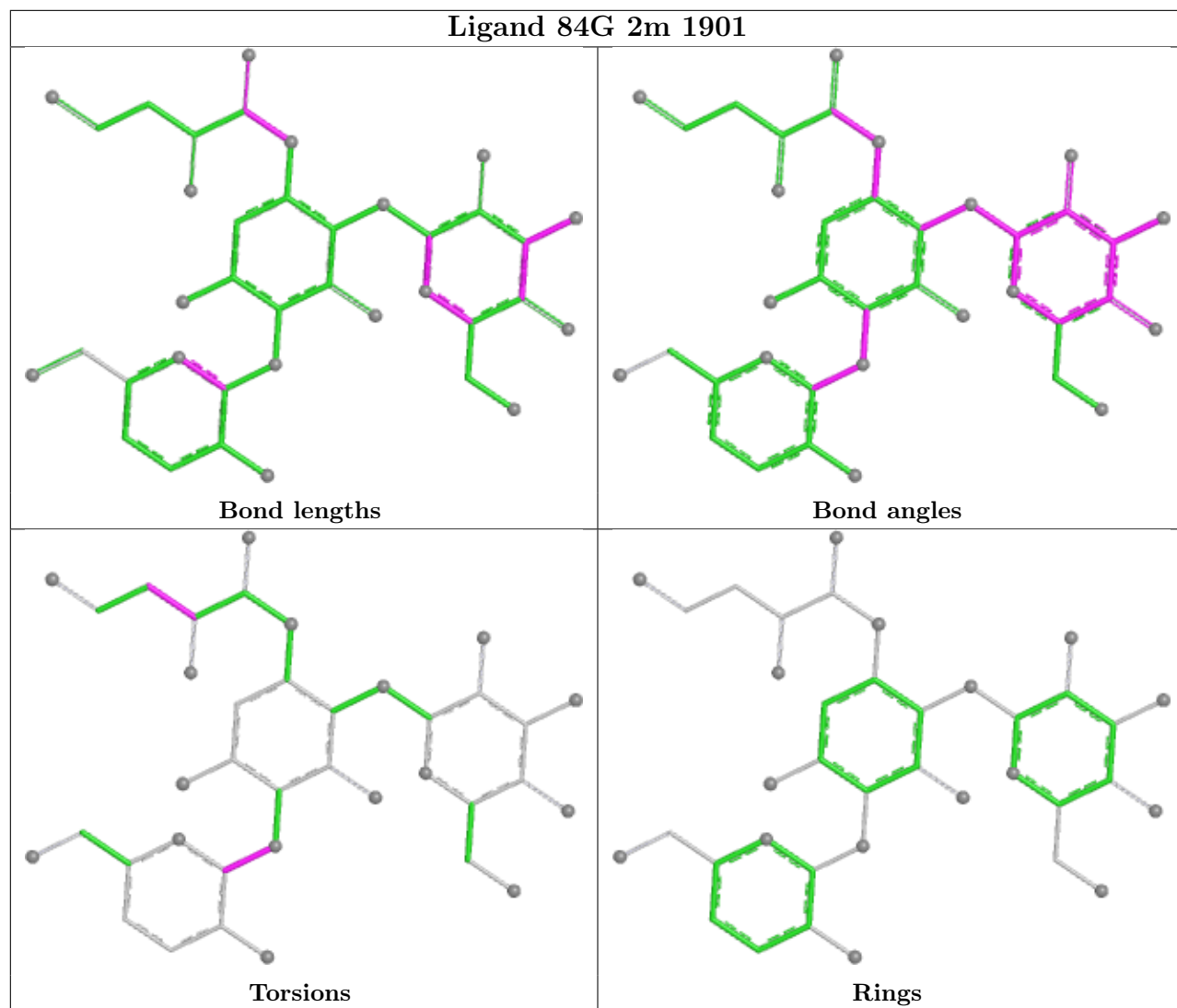
Ligand 84G 2i 201

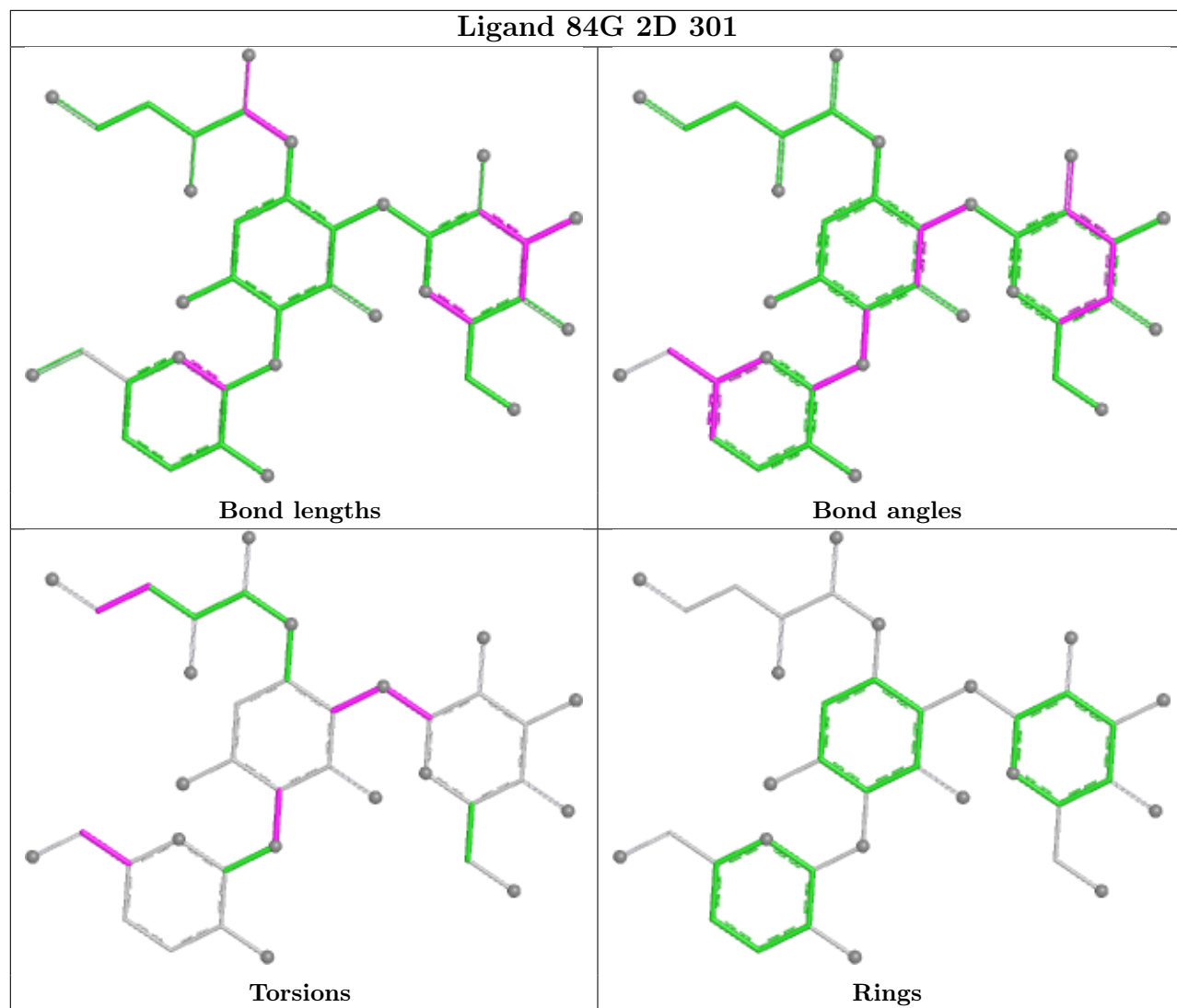


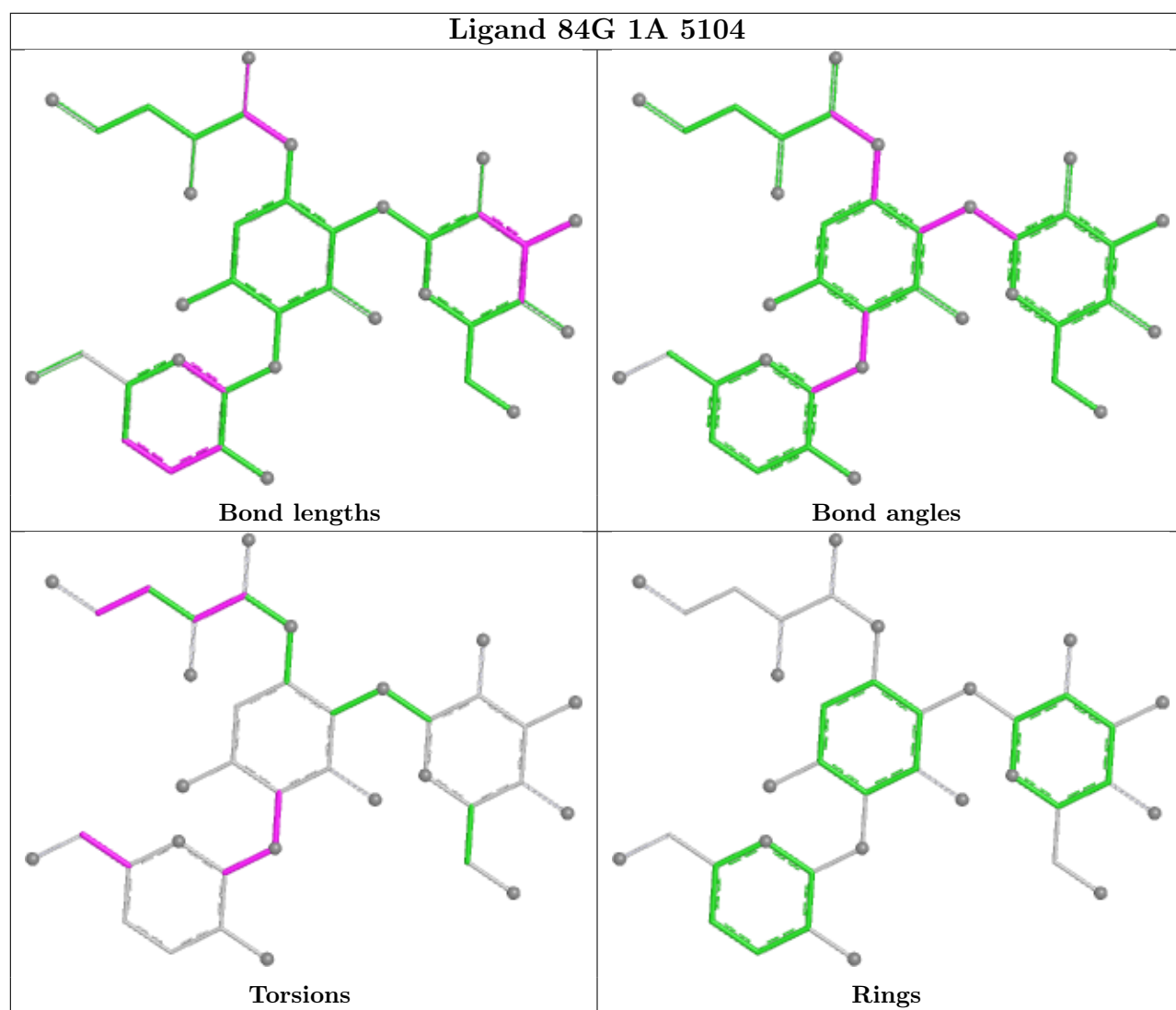


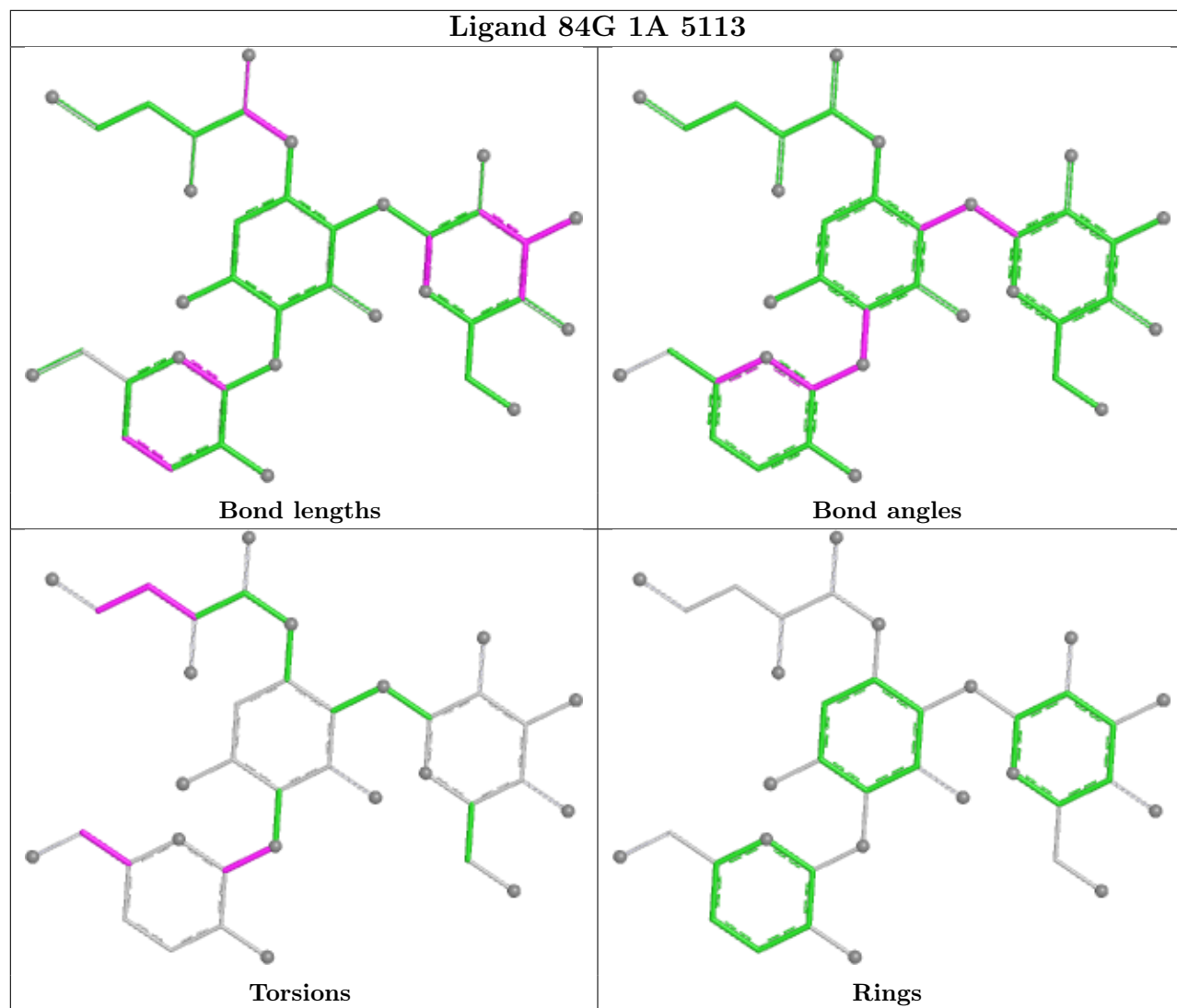




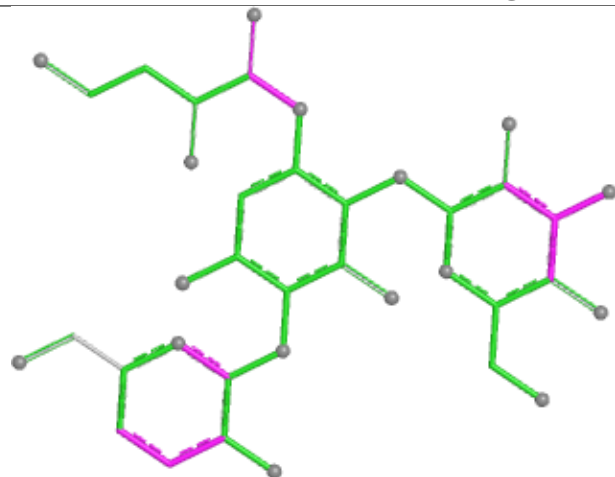




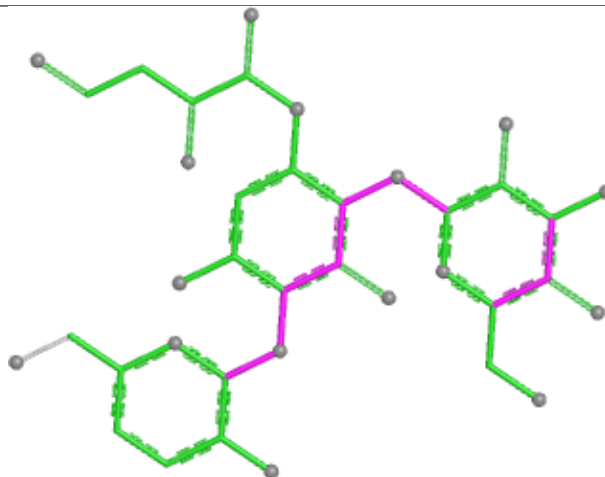




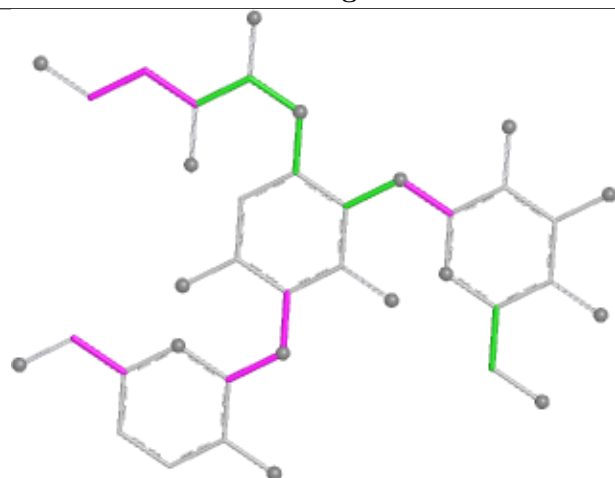
Ligand 84G 1A 5103



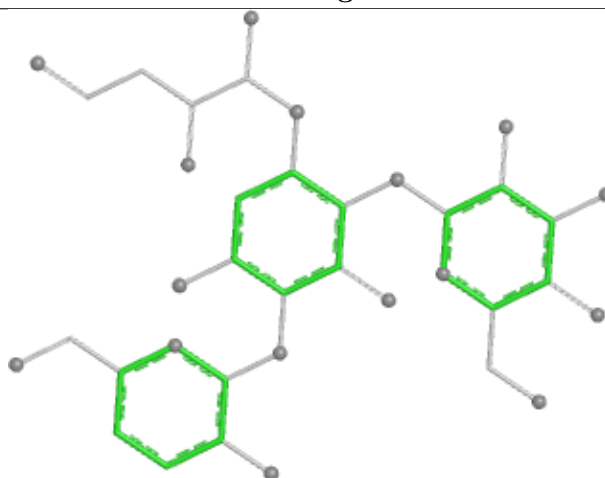
Bond lengths



Bond angles

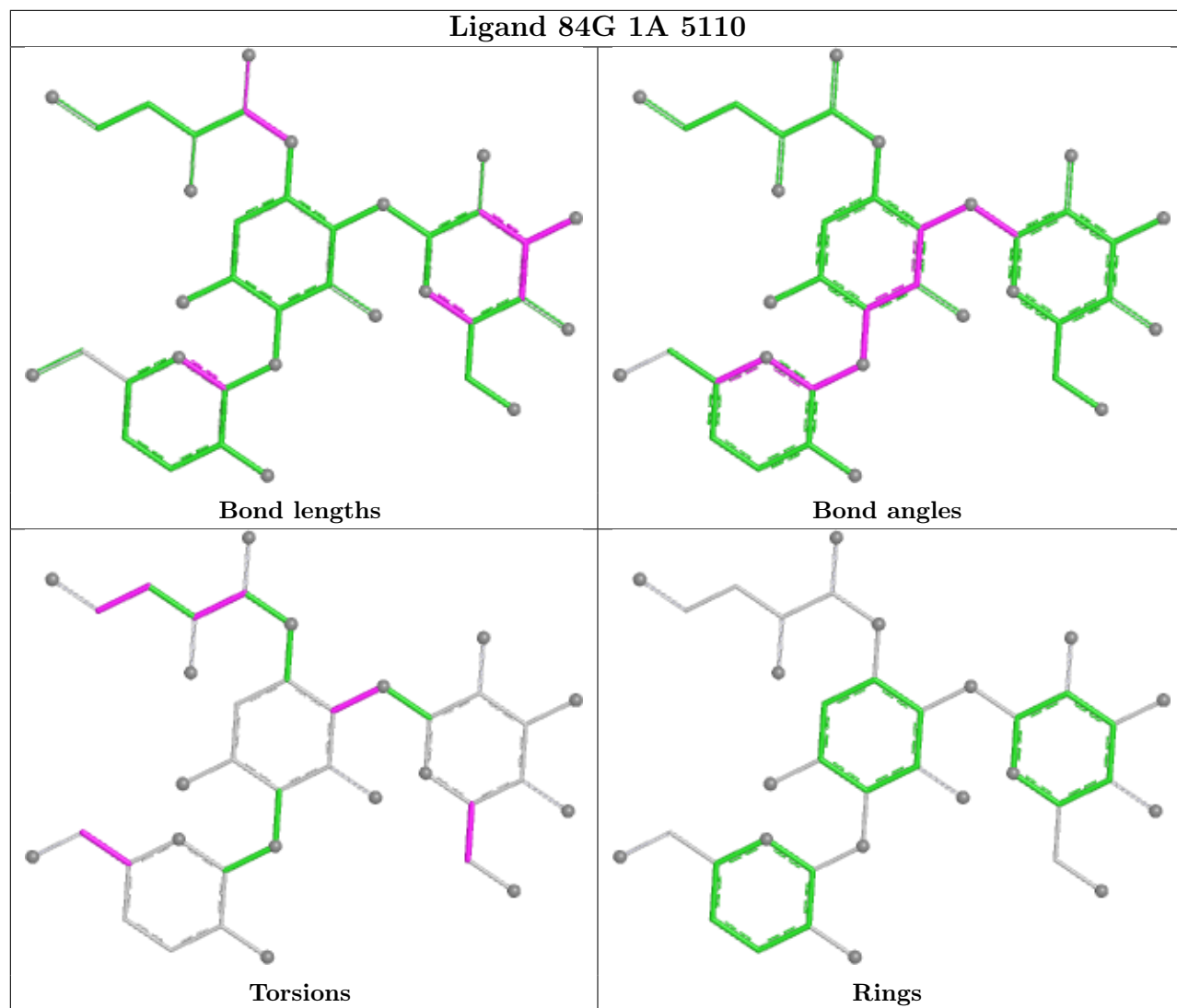


Torsions

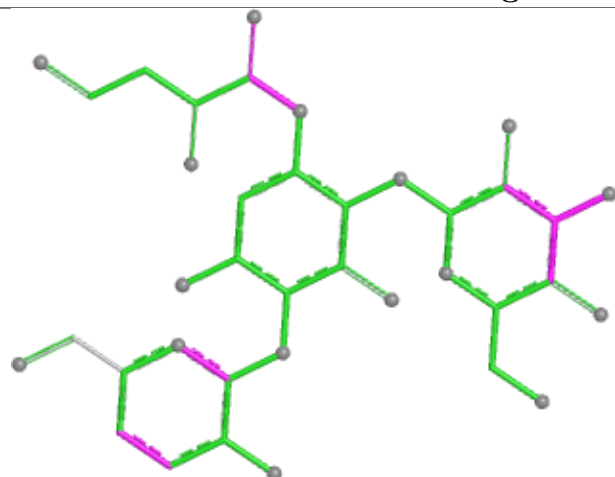


Rings

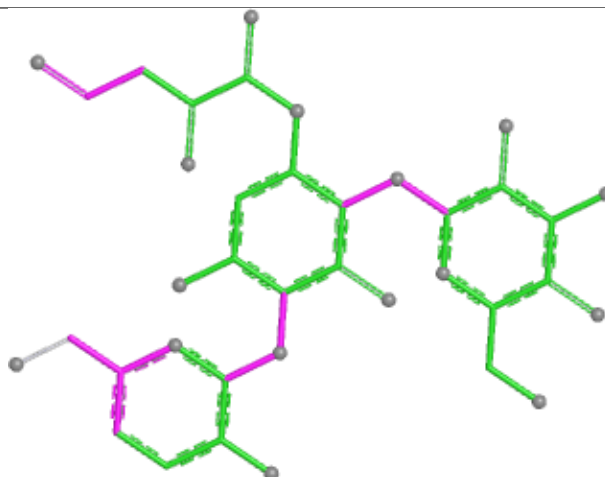
Ligand 84G 1A 5110



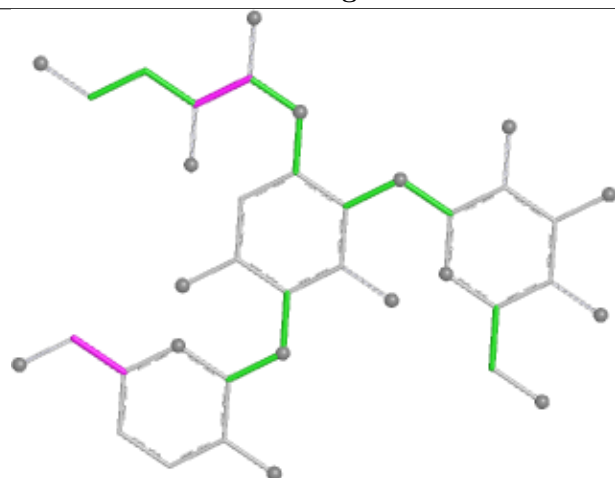
Ligand 84G 2m 1902



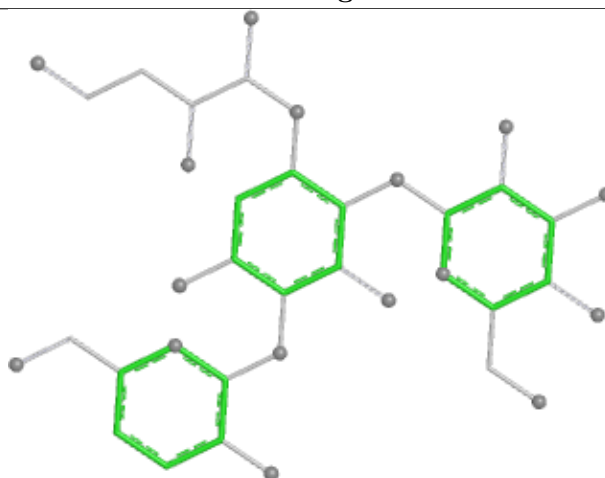
Bond lengths



Bond angles

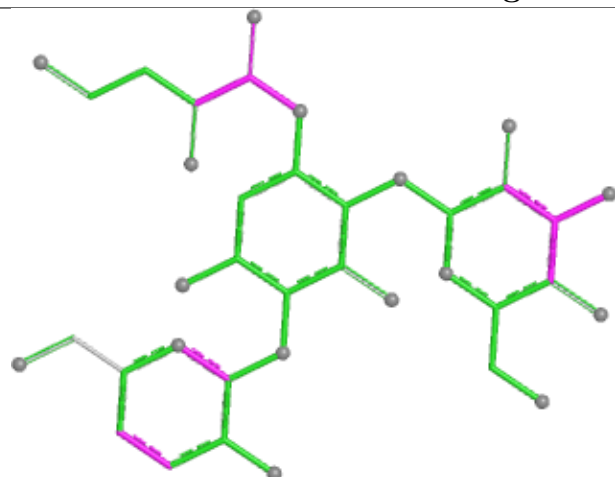


Torsions

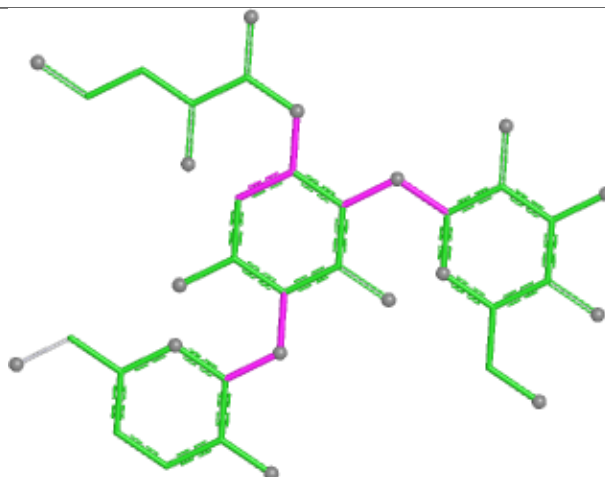


Rings

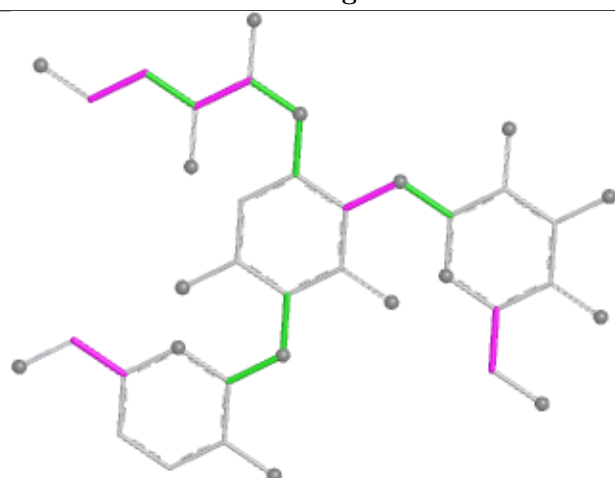
Ligand 84G 1A 5119



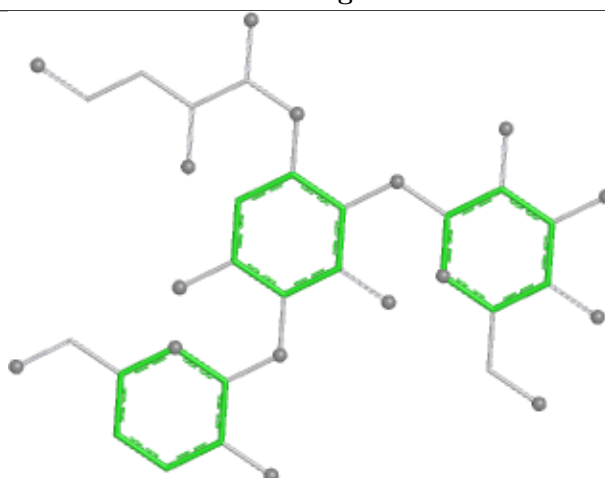
Bond lengths



Bond angles

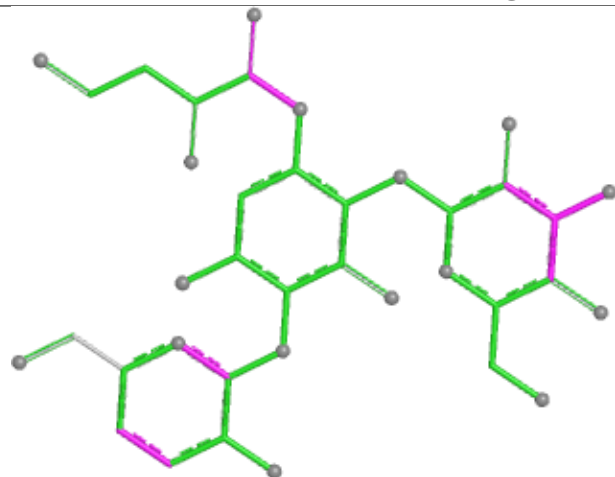


Torsions

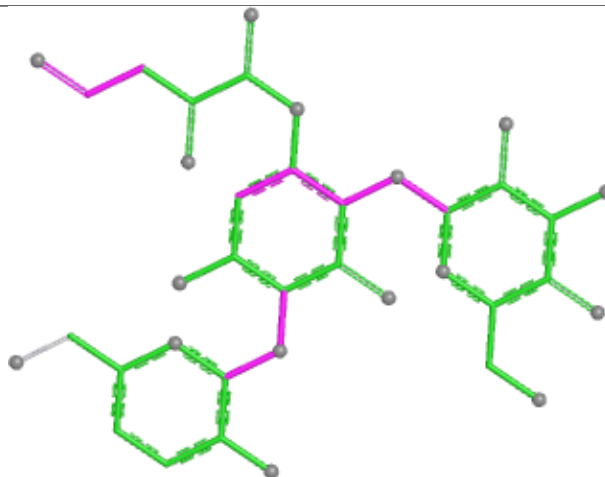


Rings

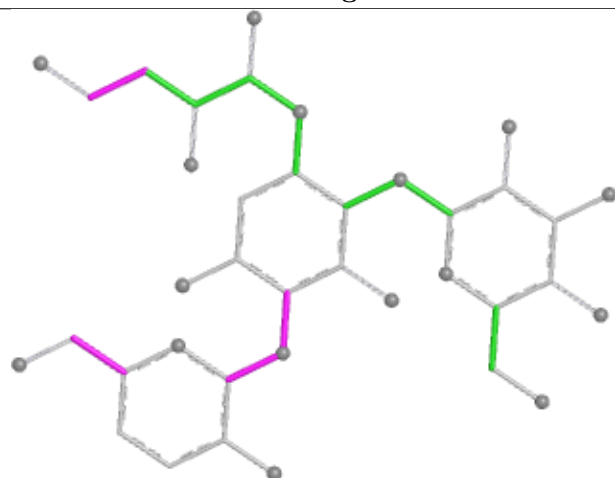
Ligand 84G 1A 5116



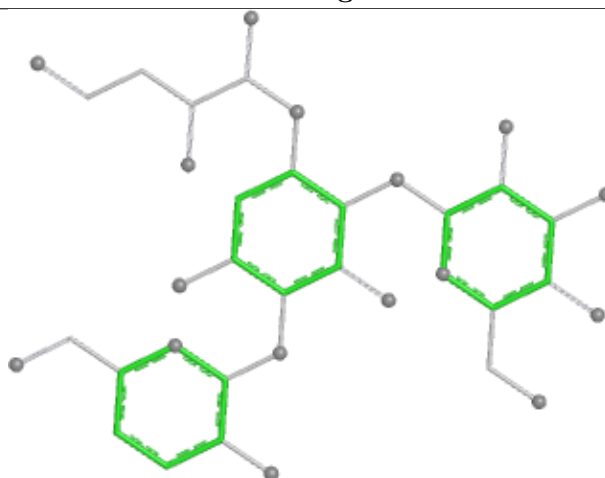
Bond lengths



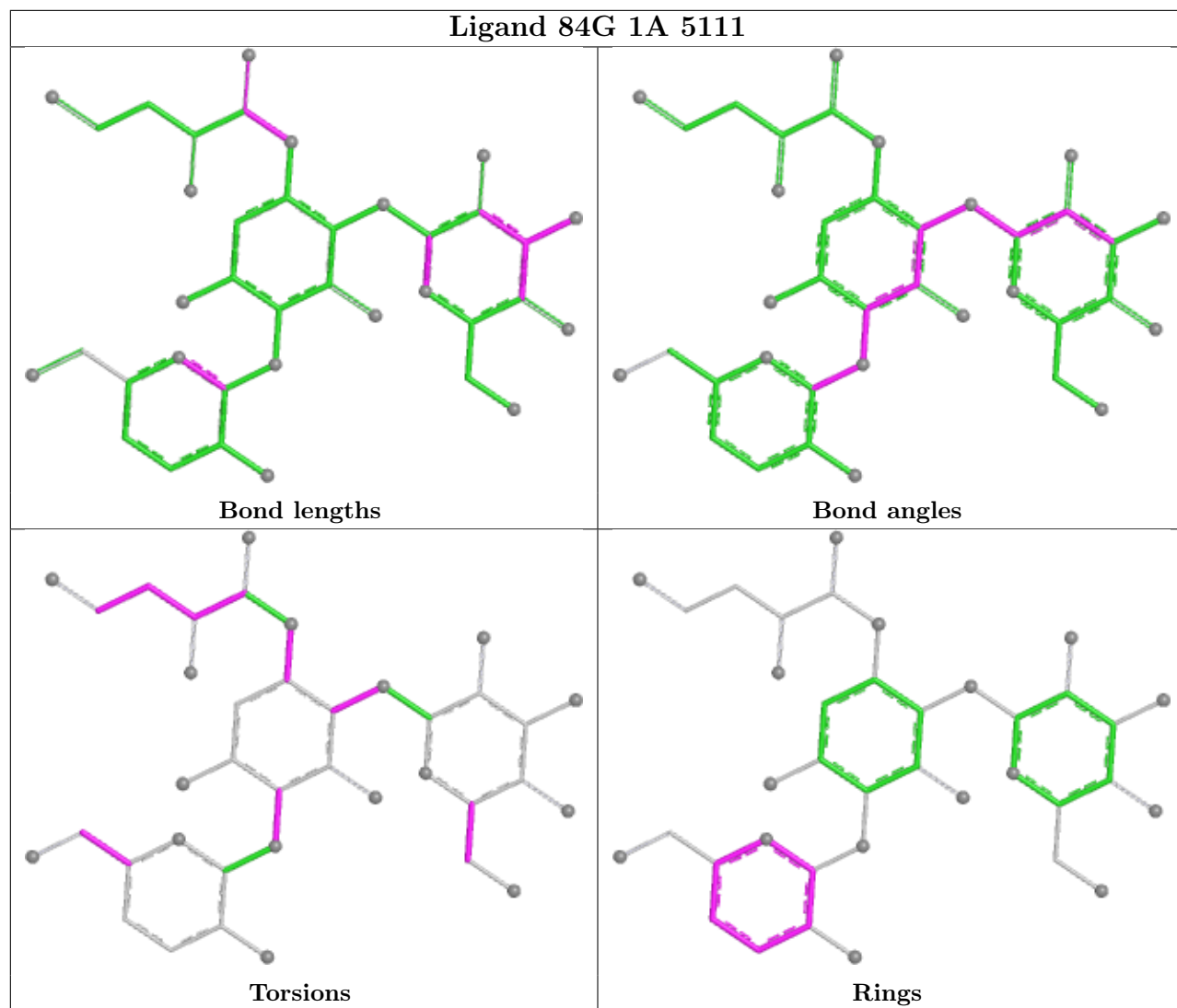
Bond angles

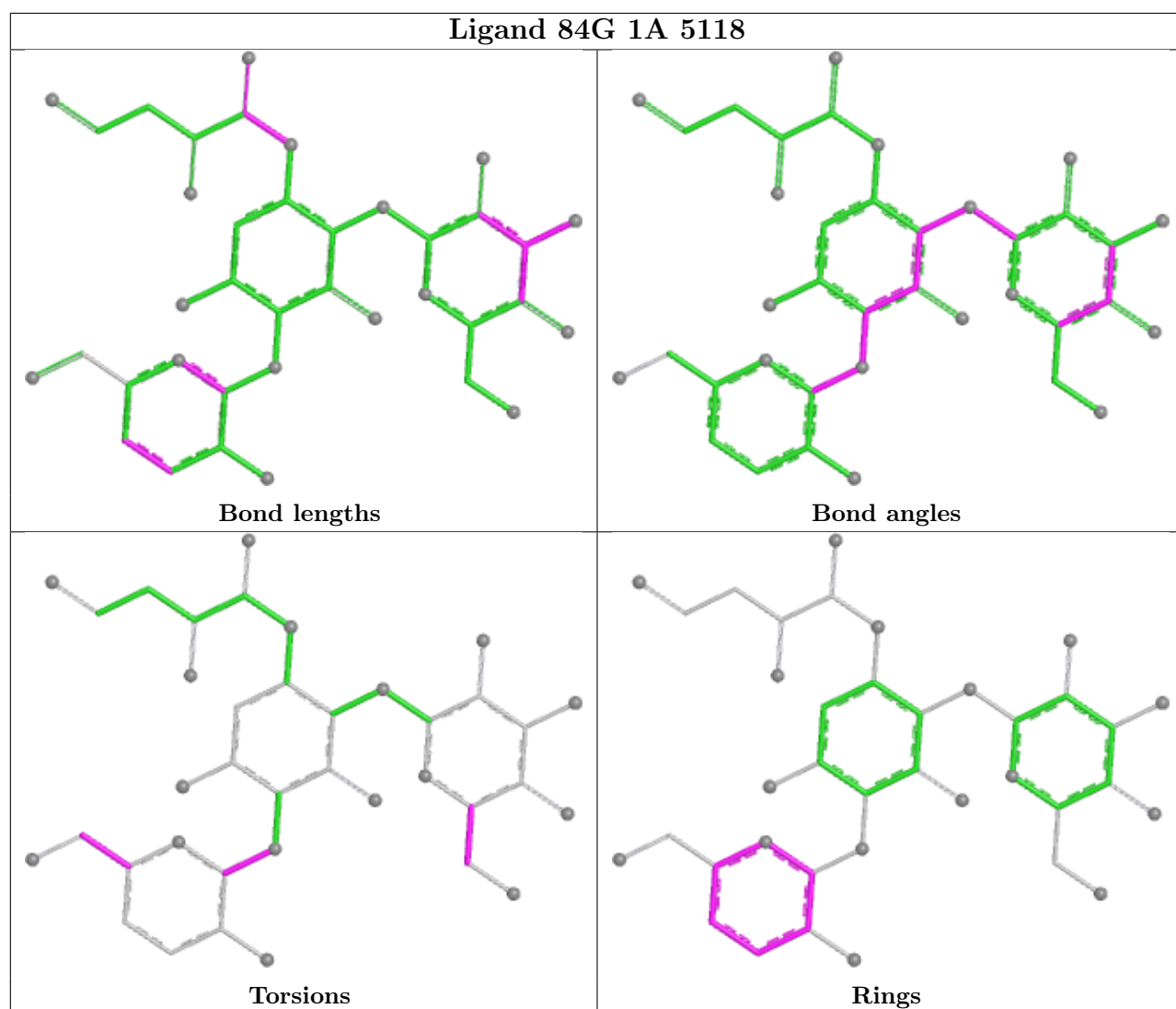


Torsions



Rings





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

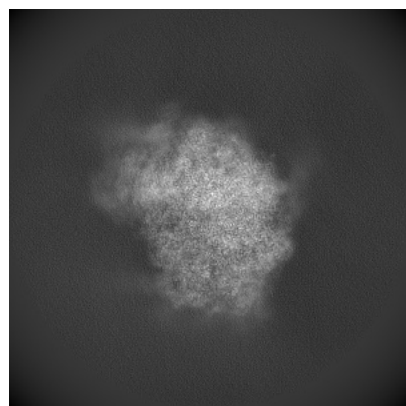
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35414. These allow visual inspection of the internal detail of the map and identification of artifacts.

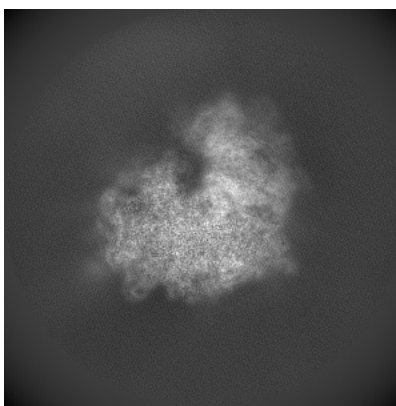
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

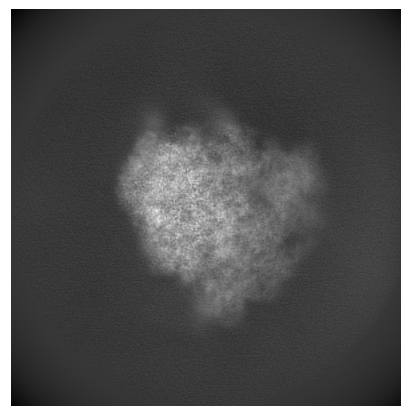
6.1.1 Primary map



X

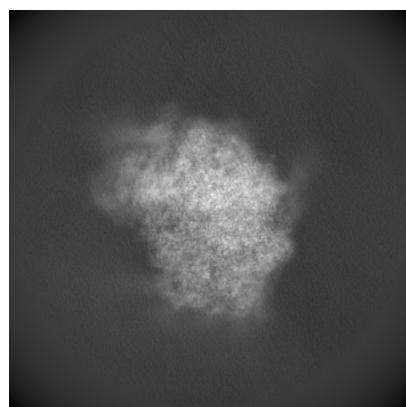


Y

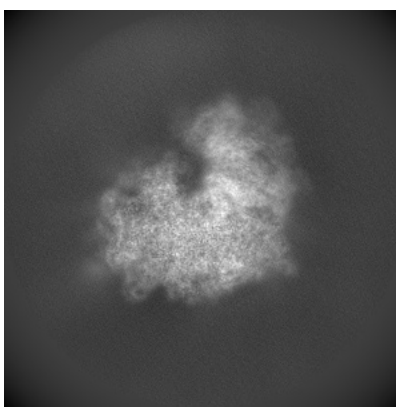


Z

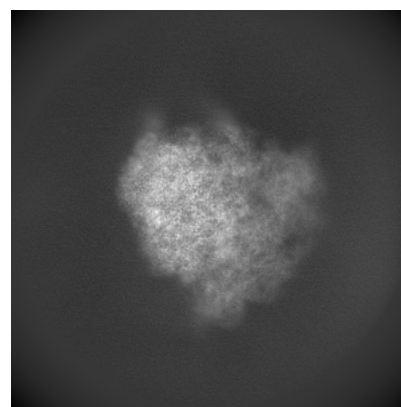
6.1.2 Raw map



X



Y

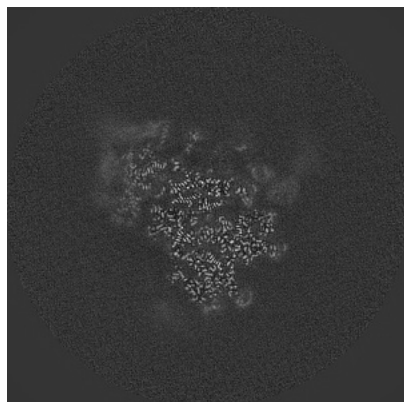


Z

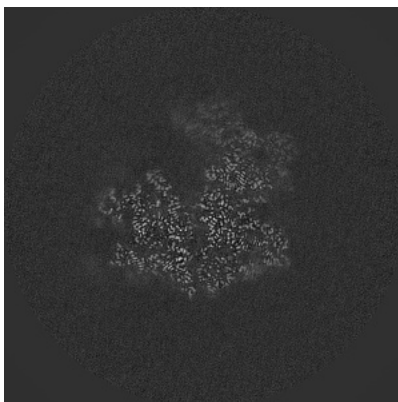
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

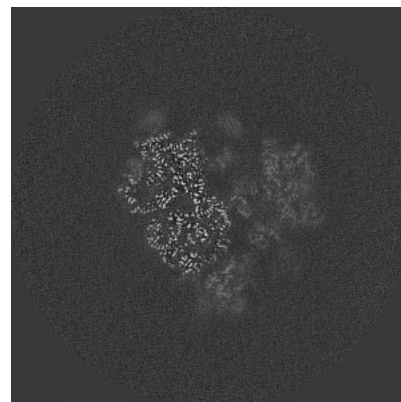
6.2.1 Primary map



X Index: 320

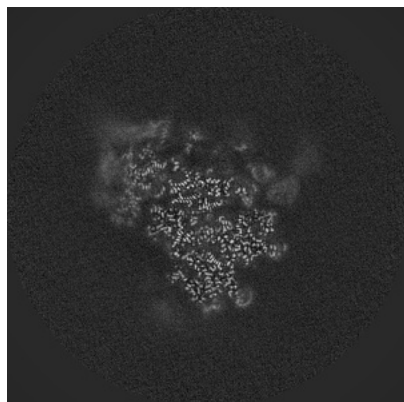


Y Index: 320

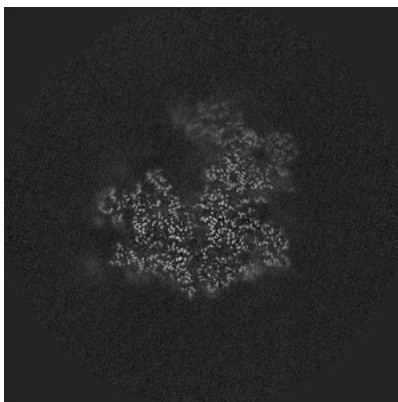


Z Index: 320

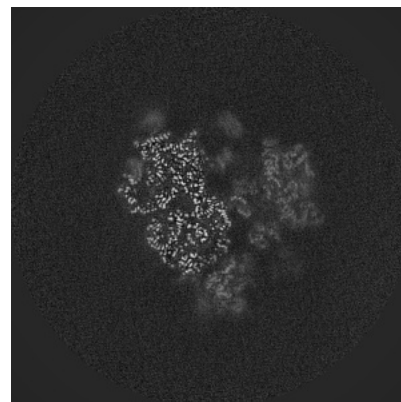
6.2.2 Raw map



X Index: 320



Y Index: 320

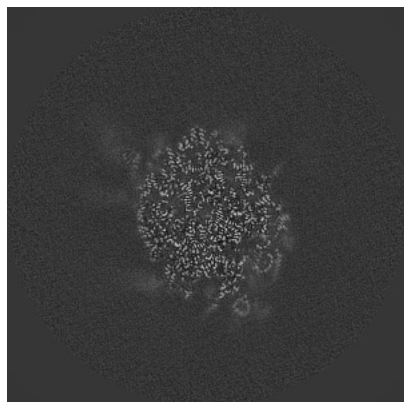


Z Index: 320

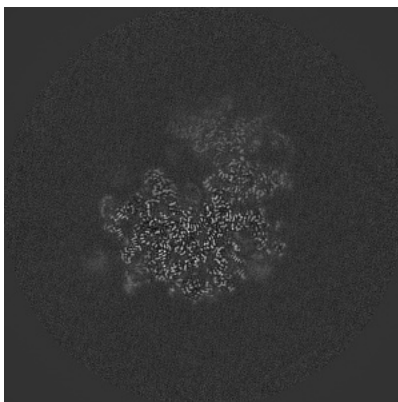
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

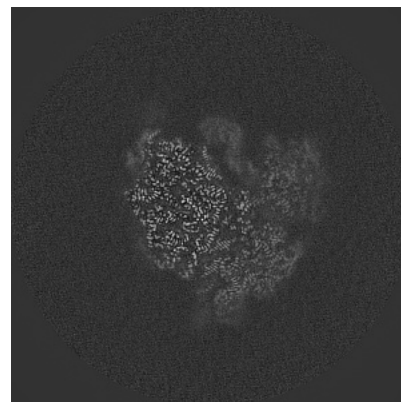
6.3.1 Primary map



X Index: 290

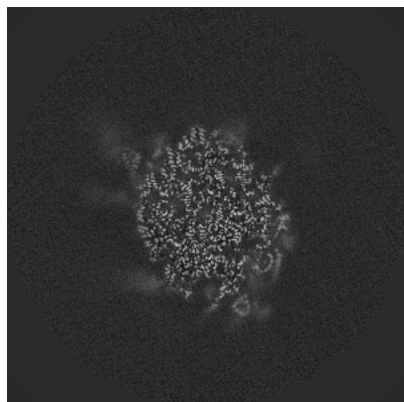


Y Index: 336

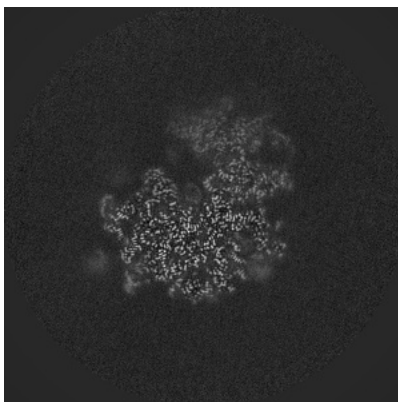


Z Index: 348

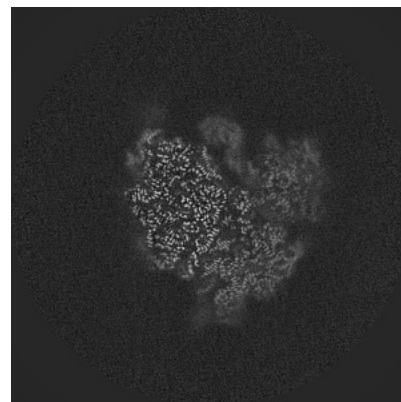
6.3.2 Raw map



X Index: 290



Y Index: 336

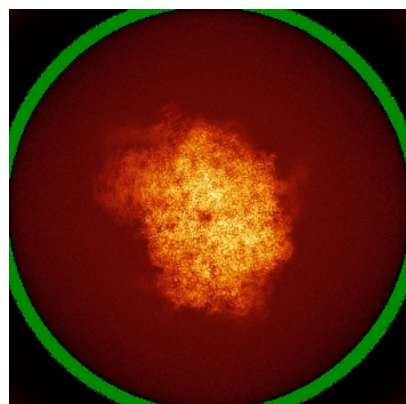


Z Index: 349

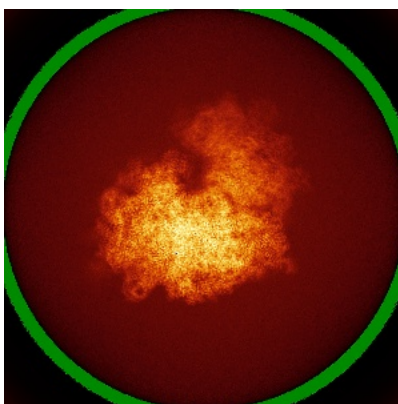
The images above show the largest variance slices of the map in three orthogonal directions.

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

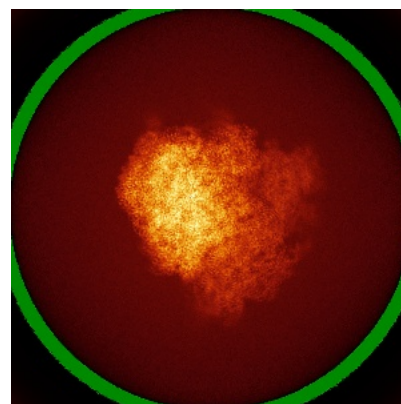
6.4.1 Primary map



X

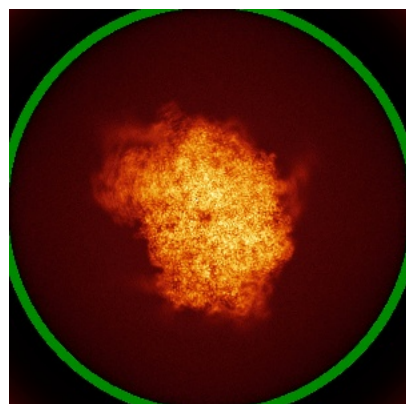


Y

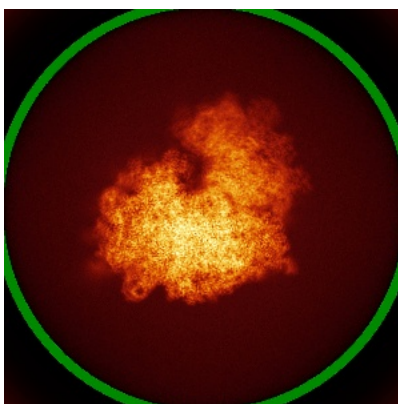


Z

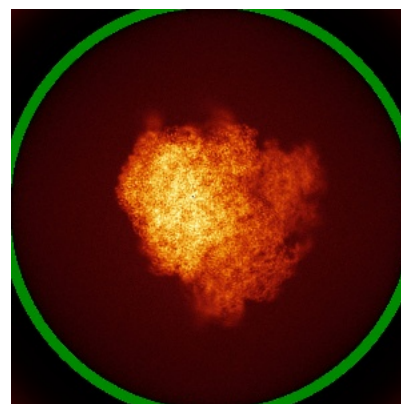
6.4.2 Raw map



X



Y



Z

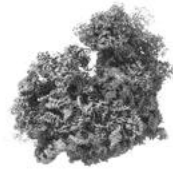
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

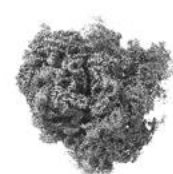
6.5.1 Primary map



X



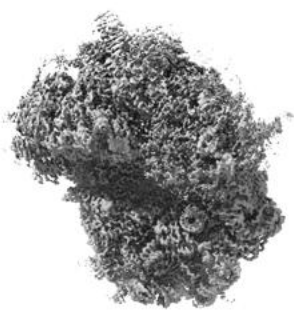
Y



Z

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

6.5.2 Raw map



X



Y



Z

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

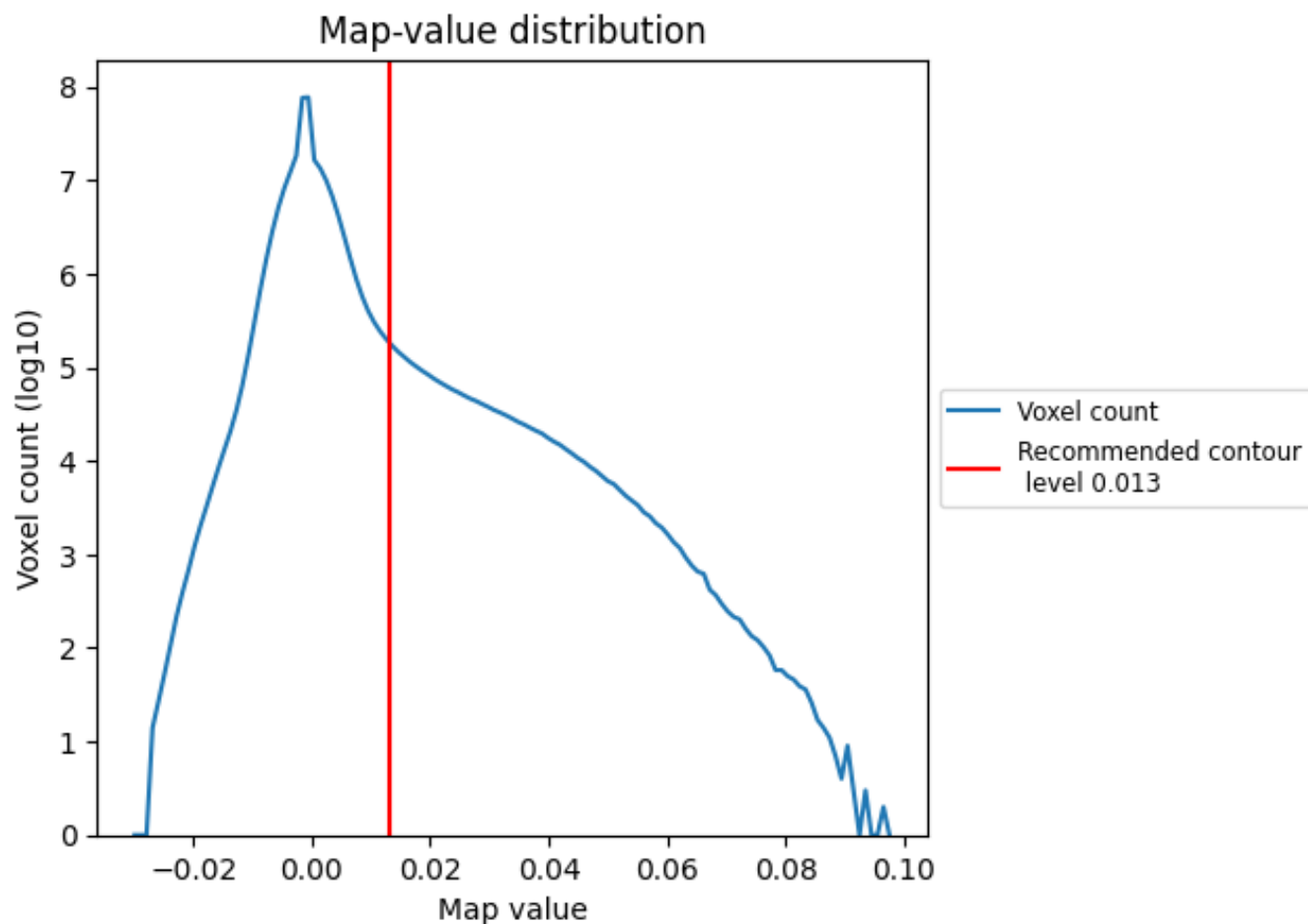
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

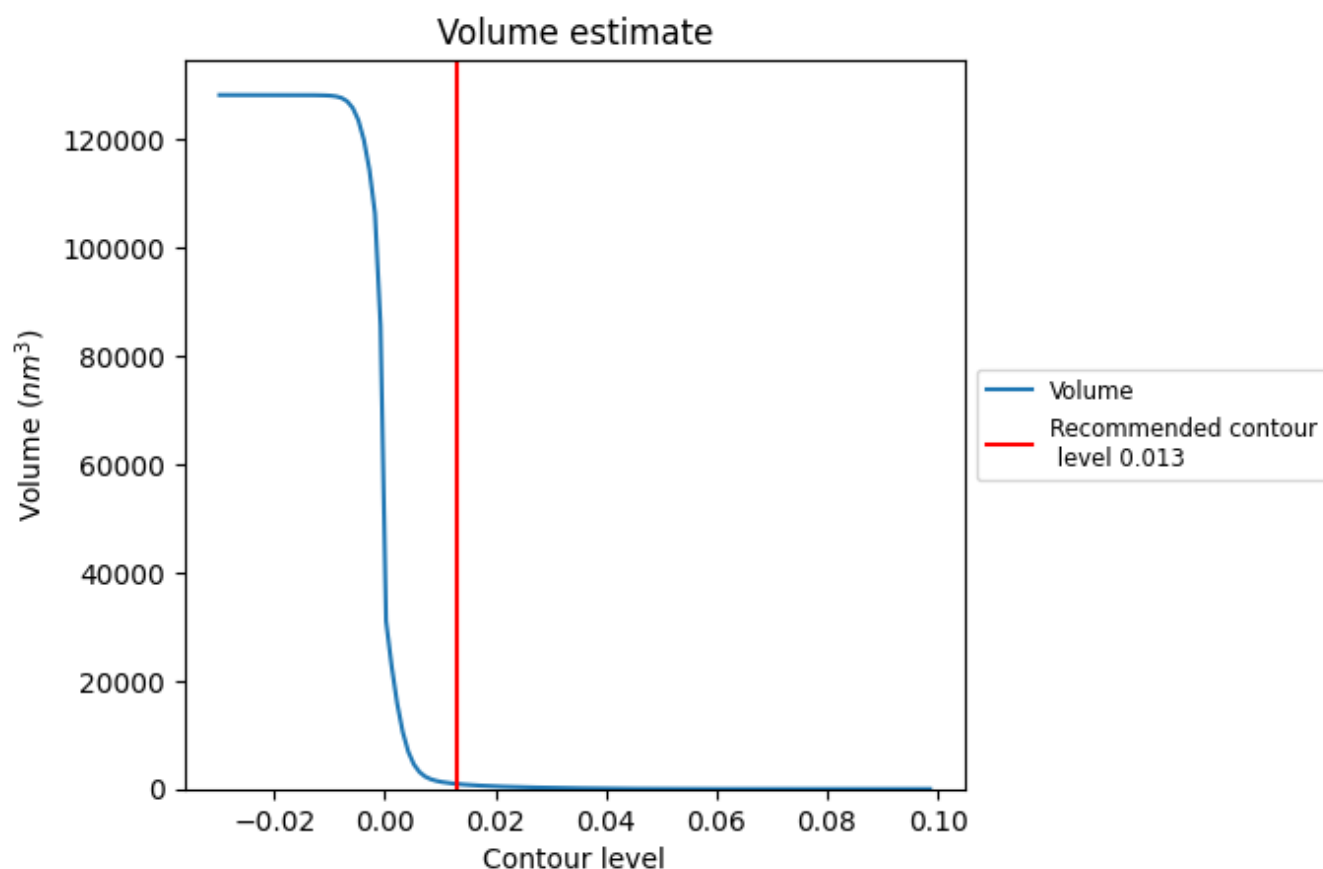
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

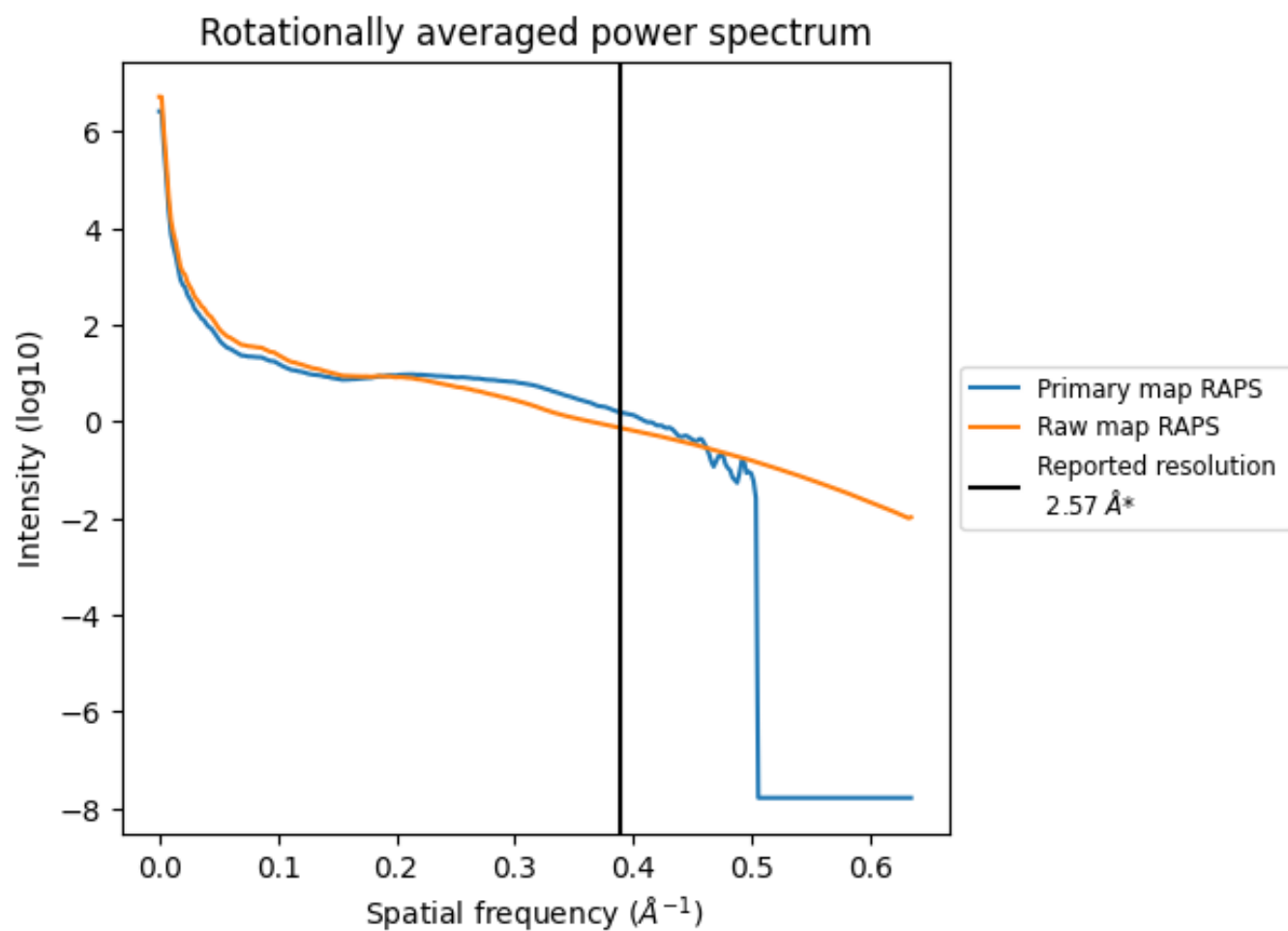
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 931 nm^3 ; this corresponds to an approximate mass of 841 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 ⓘ

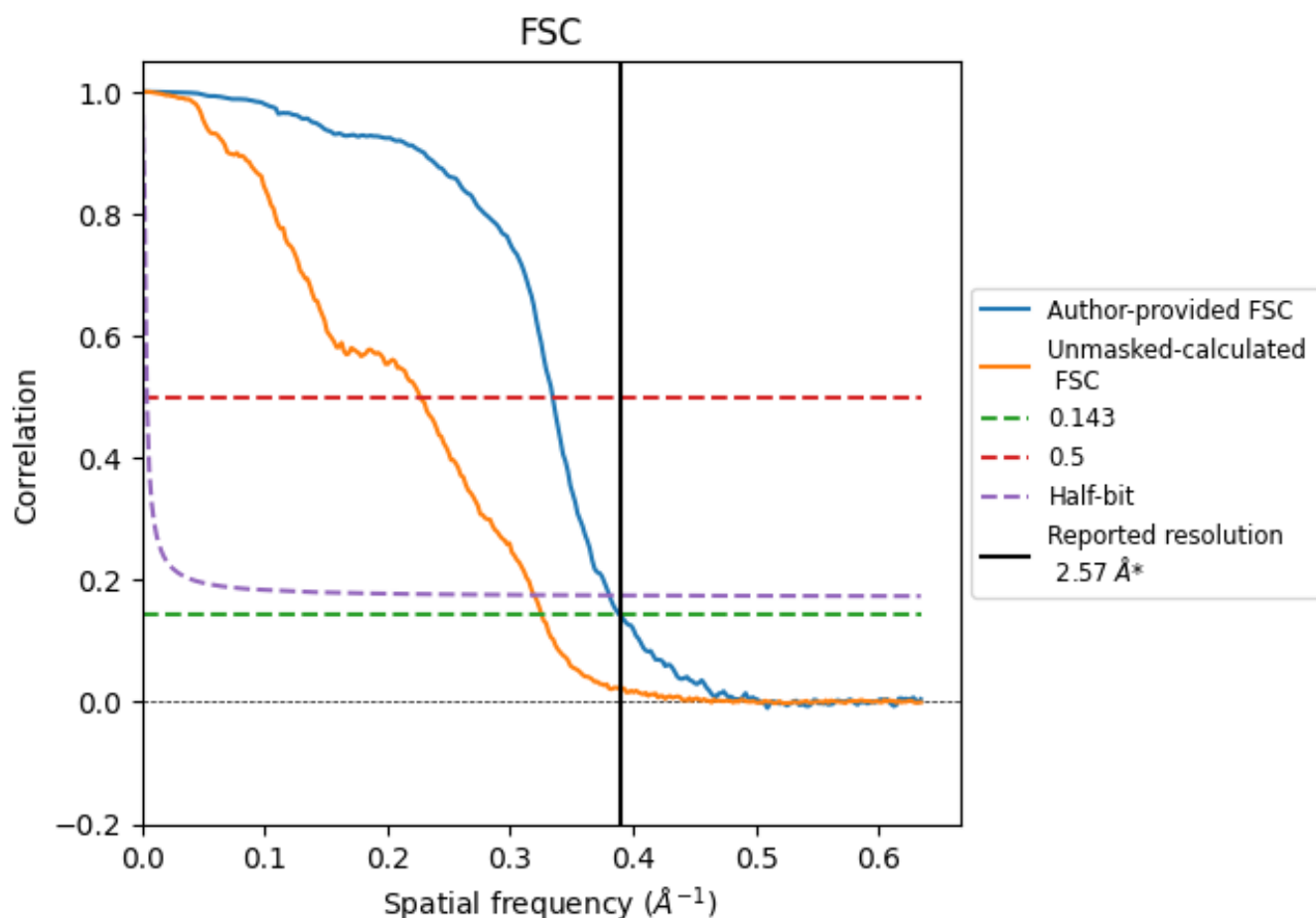


*Reported resolution corresponds to spatial frequency of 0.389 Å⁻¹

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 0.389 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

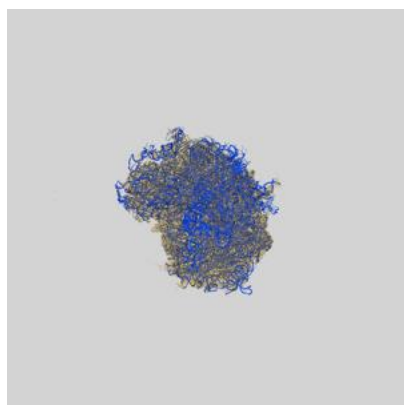
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.57	-	-
Author-provided FSC curve	2.57	2.99	2.63
Unmasked-calculated*	3.07	4.41	3.13

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.07 differs from the reported value 2.57 by more than 10 %

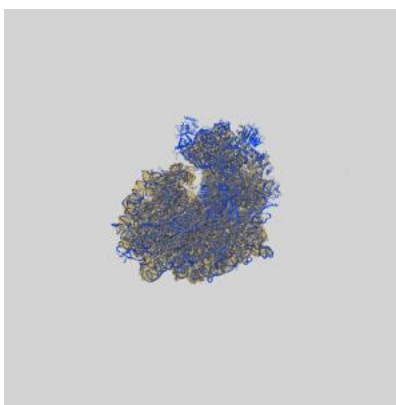
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-35414 and PDB model 8IFE. Per-residue inclusion information can be found in section [3](#) on page [22](#).

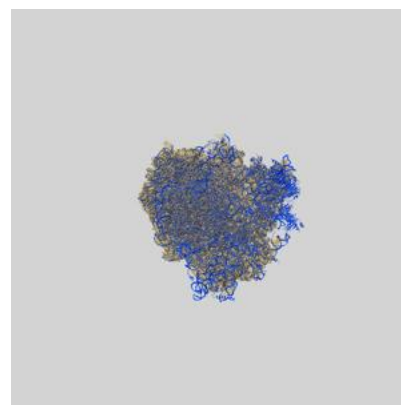
9.1 Map-model overlay [i](#)



X



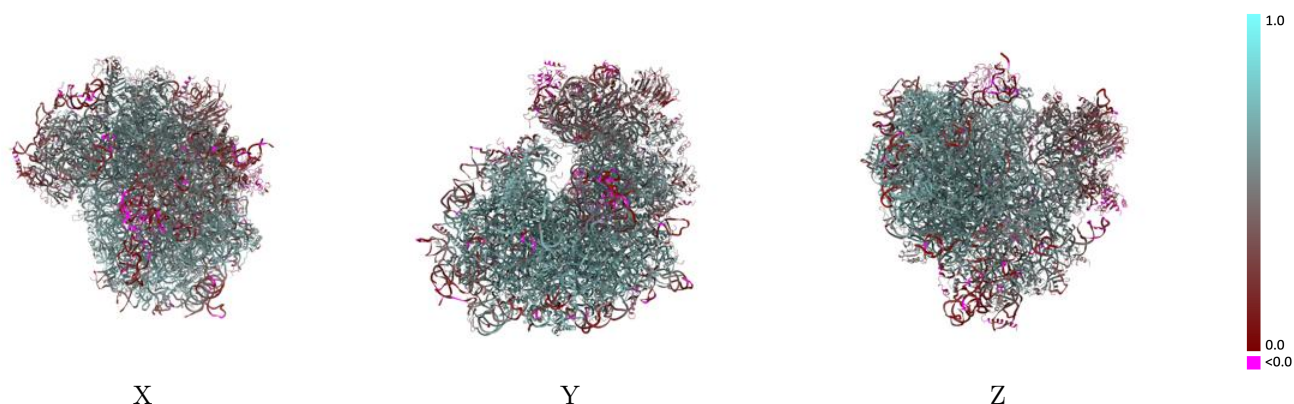
Y



Z

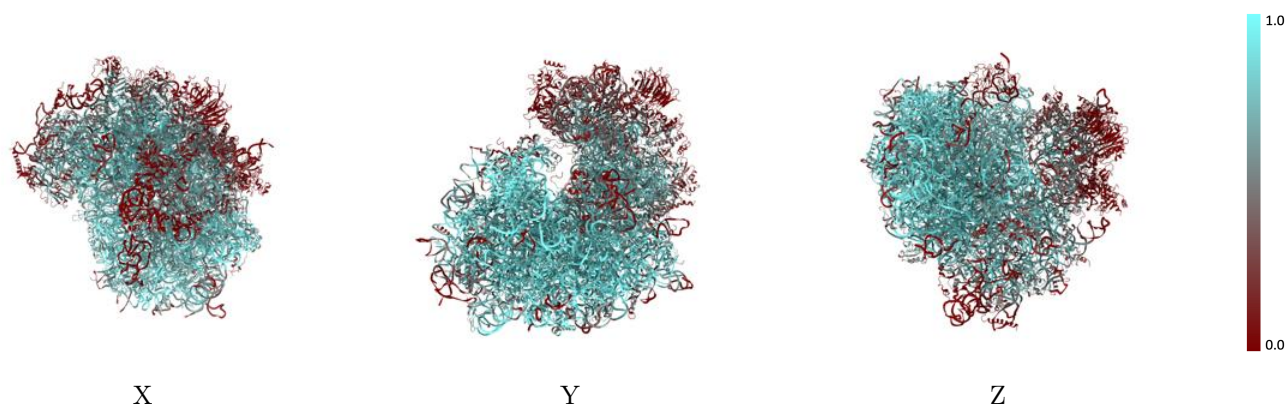
The images above show the 3D surface view of the map at the recommended contour level 0.013 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



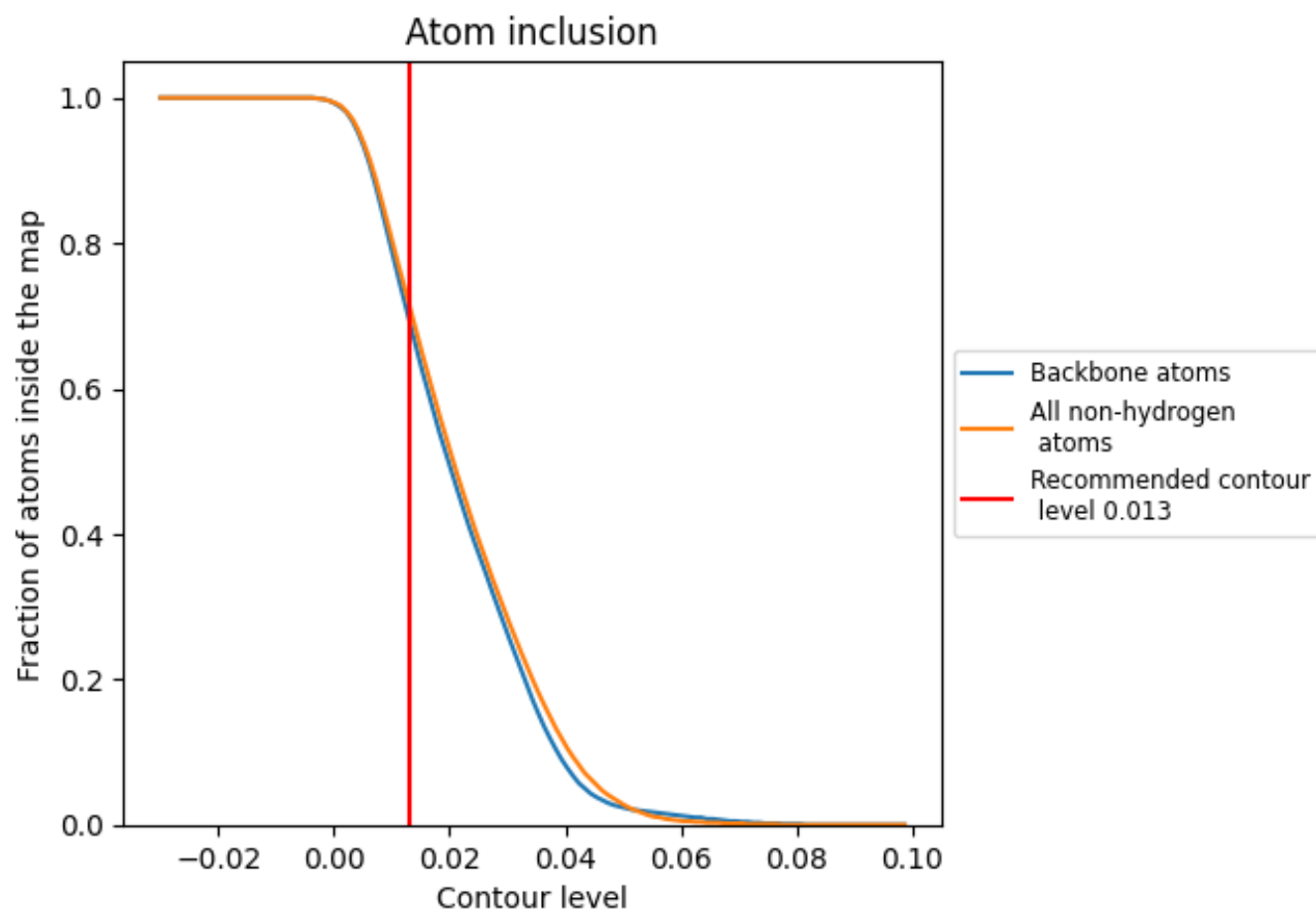
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



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

9.4 Atom inclusion [i](#)



At the recommended contour level, 70% of all backbone atoms, 72% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

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

Chain	Atom inclusion	Q-score
All	 0.7160	 0.5300
1A	 0.8280	 0.5530
1B	 0.9500	 0.6200
1C	 0.9060	 0.6010
1D	 0.9320	 0.6580
1E	 0.8720	 0.6290
1F	 0.8930	 0.6350
1G	 0.8160	 0.5770
1H	 0.7630	 0.5590
20	 0.3210	 0.4190
21	 0.1650	 0.3550
2A	 0.9030	 0.6440
2B	 0.7550	 0.5620
2C	 0.8110	 0.6030
2D	 0.7030	 0.5700
2E	 0.6140	 0.5010
2F	 0.8340	 0.5990
2G	 0.8650	 0.6150
2H	 0.9540	 0.6680
2I	 0.9080	 0.6460
2J	 0.9150	 0.6550
2K	 0.9450	 0.6650
2L	 0.7650	 0.5820
2M	 0.9170	 0.6470
2N	 0.8520	 0.6210
2O	 0.5500	 0.4620
2P	 0.8770	 0.6410
2Q	 0.4250	 0.3940
2R	 0.8600	 0.6270
2S	 0.8660	 0.6270
2T	 0.8310	 0.6070
2U	 0.9320	 0.6590
2V	 0.6920	 0.5440
2W	 0.8110	 0.5930
2X	 0.8340	 0.6150



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Chain	Atom inclusion	Q-score
2Y	 0.9210	 0.6570
2Z	 0.9360	 0.6540
2a	 0.8510	 0.6190
2b	 0.8620	 0.6160
2c	 0.8350	 0.6110
2d	 0.9350	 0.6560
2e	 0.6820	 0.5600
2f	 0.8770	 0.6350
2g	 0.8420	 0.6170
2h	 0.8570	 0.6520
2i	 0.8190	 0.6130
2j	 0.8550	 0.6350
2k	 0.9150	 0.6320
2l	 0.0210	 0.1270
2m	 0.6600	 0.4670
2n	 0.3450	 0.5060
2o	 0.6210	 0.5470
2p	 0.1420	 0.3750
2q	 0.5870	 0.5320
2r	 0.3420	 0.4270
2s	 0.3190	 0.4360
2t	 0.6140	 0.5280
2u	 0.0460	 0.2860
2v	 0.6770	 0.5640
2w	 0.0910	 0.3310
2x	 0.2890	 0.4220
2y	 0.1740	 0.3940
2z	 0.2380	 0.3770
3A	 0.3680	 0.5110
3B	 0.6490	 0.5610
3C	 0.6680	 0.5500
3D	 0.2920	 0.4060
3E	 0.2600	 0.4020
3F	 0.0340	 0.2940
3G	 0.6120	 0.5400
3H	 0.3580	 0.4010
3I	 0.5520	 0.5010
3J	 0.0000	 0.0340
3K	 0.6470	 0.5820
3L	 0.6790	 0.5550
3M	 0.7190	 0.5810
3N	 0.4720	 0.4480

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Chain	Atom inclusion	Q-score
3O	 0.1820	 0.2990
3P	 0.3470	 0.4800
3Q	 0.3690	 0.4350
3R	 0.0000	 0.0470