



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 03:25 AM UTC

PDB ID : 8CGN / pdb_00008cgn
EMDB ID : EMD-16648
Title : Non-rotated 80S *S. cerevisiae* ribosome with ligands
Authors : Milicevic, N.; Jenner, L.; Myasnikov, A.; Yusupov, M.; Yusupova, G.
Deposited on : 2023-02-06
Resolution : 2.28 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:

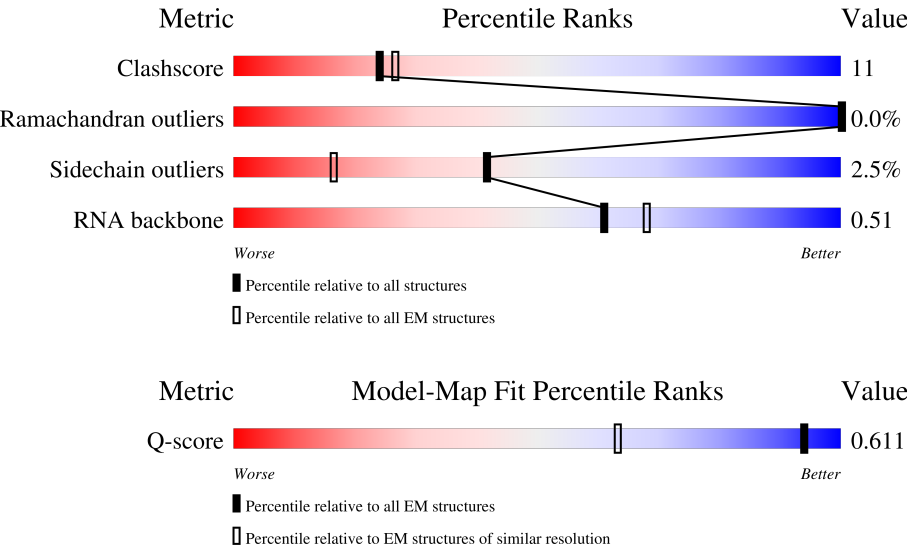
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.28 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.



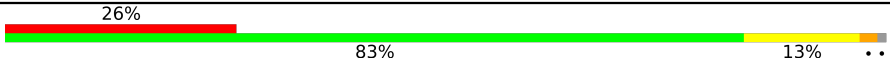
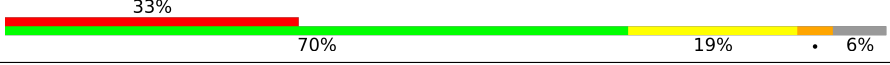
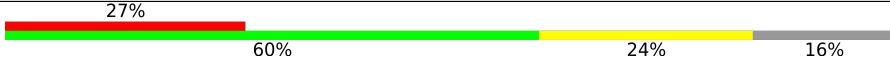
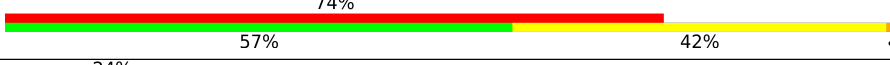
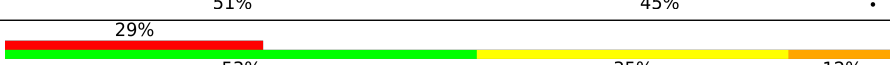
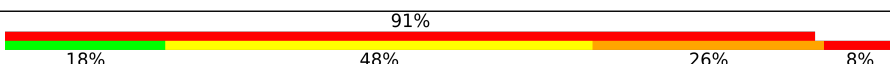
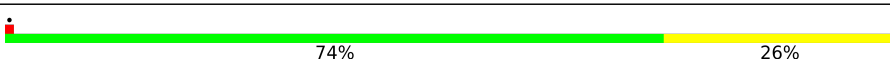
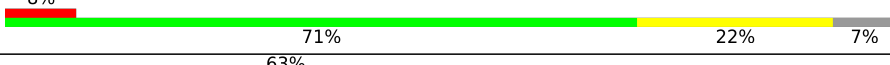
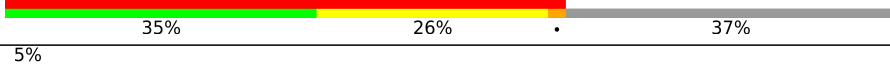
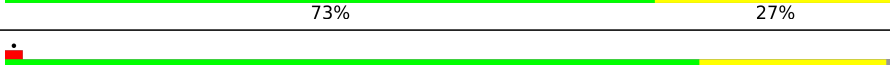
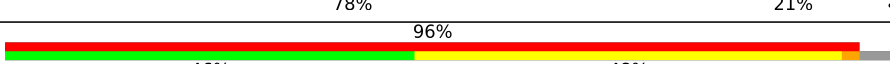
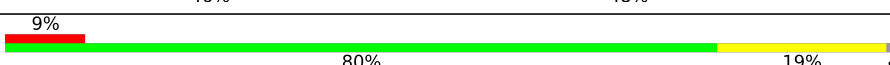
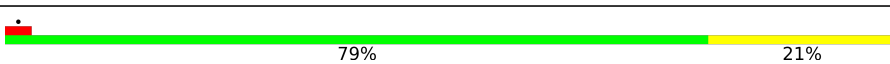
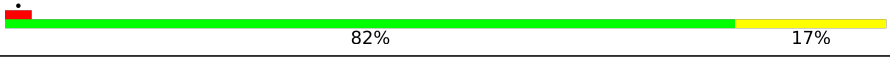
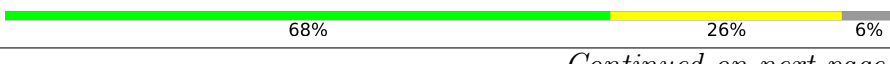
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	3643 (1.78 - 2.78)

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	0	135	
2	1	108	
3	2	119	

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Mol	Chain	Length	Quality of chain
4	3	82	
5	4	67	
6	5	56	
7	6	63	
8	7	319	
9	8	152	
10	A	199	
11	AA	3396	
12	B	338	
13	BB	121	
14	Bb	77	
14	Cc	77	
15	C	186	
16	CC	158	
17	D	189	
18	DD	312	
19	Dd	39	
20	E	172	
21	EE	254	
22	Ee	165	
23	F	160	
24	FF	387	
25	G	121	
26	GG	362	
27	H	137	

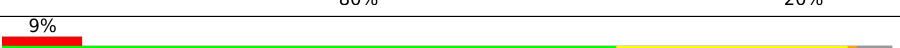
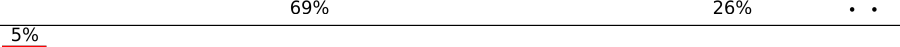
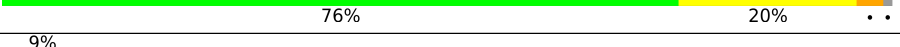
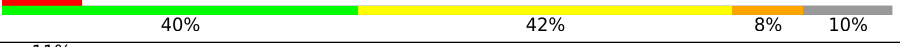
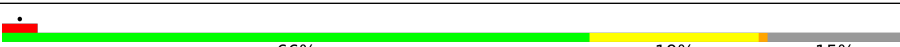
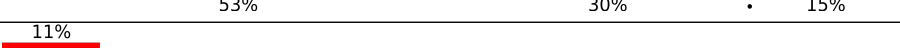
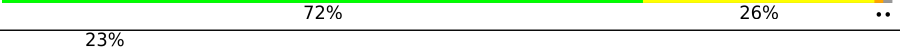
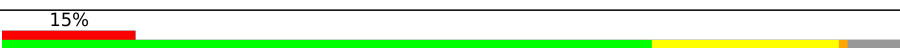
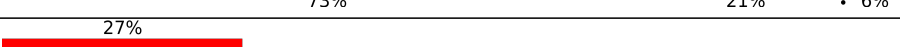
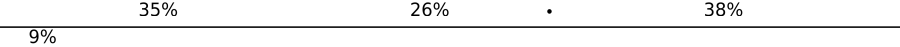
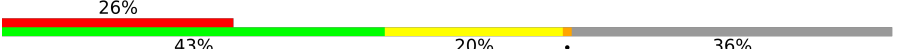
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Mol	Chain	Length	Quality of chain
28	HH	297	
29	I	155	
30	II	176	
31	J	142	
32	JJ	244	
33	K	127	
34	KK	256	
35	L	136	
36	LL	191	
37	M	149	
38	MM	221	
39	N	59	
40	NN	174	
41	O	105	
42	OO	199	
43	P	113	
44	PP	138	
45	Q	130	
46	QQ	204	
47	R	107	
48	S	121	
49	T	120	
50	U	100	
51	V	88	
52	W	78	

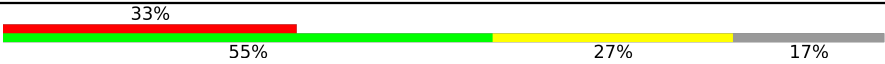
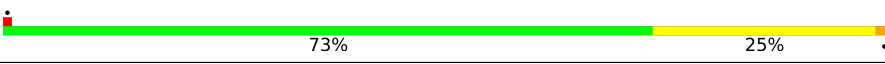
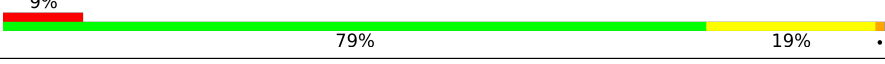
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Mol	Chain	Length	Quality of chain
53	X	51	
54	Y	128	
55	Z	25	
56	a	106	
57	b	92	
58	c	1800	
59	d	252	
60	e	255	
61	f	254	
62	g	240	
63	h	261	
64	i	225	
65	j	236	
66	k	190	
67	l	200	
68	m	197	
69	n	105	
70	o	156	
71	p	151	
72	q	137	
73	r	142	
74	s	143	
75	t	136	
76	u	146	
77	v	144	

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Mol	Chain	Length	Quality of chain
78	w	121	
79	x	87	
80	y	130	
81	z	145	

2 Entry composition

There are 87 unique types of molecules in this entry. The entry contains 201528 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	0	134	Total	C	N	O	0	0
			1073	676	208	189		

- Molecule 2 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	1	70	Total	C	N	O	0	0
			563	360	104	99		

- Molecule 3 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 4 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 5 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	63	Total	C	N	O	S	0	0
			497	306	99	91	1		

- Molecule 6 is a protein called HLJ1_G0030400.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	49	Total	C	N	O	S	0	0
			404	249	86	65	4		

- Molecule 7 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	53	Total	C	N	O	S	0	0
			427	269	88	69	1		

- Molecule 8 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	318	Total	C	N	O	S	0	0
			2436	1541	418	469	8		

- Molecule 9 is a protein called Ubiquitin-40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	8	36	Total	C	N	O	S	0	0
			276	173	54	45	4		

- Molecule 10 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 11 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AA	3197	Total	C	N	O	P	0	0
			68429	30589	12334	22309	3197		

- Molecule 12 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	B	154	Total	C	N	O	0	0
			1222	761	237	224		

- Molecule 13 is a RNA chain called 5S ribosomal RNA.

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

- Molecule 14 is a RNA chain called Transfer RNA fMet.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Bb	77	Total	C	N	O	P	0	0
			1644	732	298	537	77		
14	Cc	77	Total	C	N	O	P	0	0
			1644	732	298	537	77		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Bb	18	C	U	conflict	GB 170517292
Cc	18	C	U	conflict	GB 170517292

- Molecule 15 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 16 is a RNA chain called 5.8S ribosomal RNA.

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

- Molecule 17 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	D	176	Total	C	N	O		0	0
			1423	875	308	240			

- Molecule 18 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	DD	197	Total	C	N	O	S	0	0
			1531	980	266	281	4		

- Molecule 19 is a RNA chain called Messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Dd	6	Total	C	N	O	P	0	0
			131	59	27	39	6		

- Molecule 20 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	E	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 21 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	EE	252	Total	C	N	O	S	0	0
			1914	1191	388	334	1		

- Molecule 22 is a protein called 60S ribosomal protein L12-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Ee	158	Total	C	N	O	S	0	0
			1196	750	216	228	2		

- Molecule 23 is a protein called 60S ribosomal protein L21-A.

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

- Molecule 24 is a protein called 60S ribosomal protein L3.

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

- Molecule 25 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	G	97	Total	C	N	O	0	0
			770	499	126	145		

- Molecule 26 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 27 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	H	129	Total	C	N	O	S	0	0
			963	607	180	169	7		

- Molecule 28 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	HH	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 29 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	I	63	Total	C	N	O	S	0	0
			521	336	102	82	1		

- Molecule 30 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	II	155	Total	C	N	O	S	0	0
			1230	795	221	213	1		

- Molecule 31 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	J	120	Total	C	N	O	S	0	0
			959	617	168	172	2		

- Molecule 32 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 33 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	K	126	Total	C	N	O	0	0
			993	625	192	176		

- Molecule 34 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 35 is a protein called 60S ribosomal protein L27-A.

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

- Molecule 36 is a protein called RPL9A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	LL	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 37 is a protein called 60S ribosomal protein L28.

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

- Molecule 38 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	MM	215	Total	C	N	O	S	0	0
			1743	1102	331	303	7		

- Molecule 39 is a protein called 60S ribosomal protein L29.

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

- Molecule 40 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	NN	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 41 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	O	97	Total	C	N	O	S	0	0
			742	479	124	138	1		

- Molecule 42 is a protein called 60S ribosomal protein L13-A.

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

- Molecule 43 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	P	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 44 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 45 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Q	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 46 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 47 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 48 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	S	109	Total	C	N	O	S	0	0
			861	533	175	149	4		

- Molecule 49 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 50 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	U	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 51 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	V	84	Total	C	N	O	S	0	0
			665	405	145	110	5		

- Molecule 52 is a protein called 60S ribosomal protein L38.

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

- Molecule 53 is a protein called 60S ribosomal protein L39.

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

- Molecule 54 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Y	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 55 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	Z	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 56 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	a	102	Total	C	N	O	S	0	0
			819	514	166	134	5		

- Molecule 57 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 58 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	c	1624	Total	C	N	O	P	0	0
			34663	15513	6155	11371	1624		

- Molecule 59 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	d	206	Total	C	N	O	S	0	0
			1583	1017	281	283	2		

- Molecule 60 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	e	212	Total	C	N	O	S	0	0
			1689	1073	303	309	4		

- Molecule 61 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	f	217	Total	C	N	O	S	0	0
			1635	1047	289	297	2		

- Molecule 62 is a protein called RPS3 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	g	205	Total	C	N	O	S	0	0
			1593	1008	293	286	6		

- Molecule 63 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 64 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	i	199	Total	C	N	O	S	0	0
			1572	987	290	292	3		

- Molecule 65 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	j	223	Total	C	N	O	S	0	0
			1798	1128	347	320	3		

- Molecule 66 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	k	184	Total	C	N	O	S	0	0
			1481	951	265	265			

- Molecule 67 is a protein called 40S ribosomal protein S8-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	l	184	Total	C	N	O	S	0	0
			1457	906	291	258	2		

- Molecule 68 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	m	185	Total	C	N	O	S	0	0
			1494	943	289	261	1		

- Molecule 69 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
69	n	65	Total	C	N	O	0	0
			556	361	90	105		

- Molecule 70 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	o	142	Total	C	N	O	S	0	0
			1146	735	217	191	3		

- Molecule 71 is a protein called 40S ribosomal protein S13.

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

- Molecule 72 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	q	127	Total	C	N	O	S	0	0
			891	545	182	163	1		

- Molecule 73 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	r	91	Total	C	N	O	S	0	0
			732	469	138	120	5		

- Molecule 74 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
74	s	137	Total	C	N	O	0	0
			1080	692	199	189		

- Molecule 75 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	t	121	Total	C	N	O	S	0	0
			961	599	182	178	2		

- Molecule 76 is a protein called 40S ribosomal protein S18-A.

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

- Molecule 77 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 78 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	w	100	Total	C	N	O	S	0	0
			800	509	144	146	1		

- Molecule 79 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	x	87	Total	C	N	O	S	0	0
			684	420	125	137	2		

- Molecule 80 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 81 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 82 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
82	2	1	Total	Zn	0
			1	1	
82	5	1	Total	Zn	0
			1	1	
82	8	1	Total	Zn	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
82	S	1	Total 1	Zn 1	0
82	V	1	Total 1	Zn 1	0
82	Y	1	Total 1	Zn 1	0
82	a	1	Total 1	Zn 1	0
82	b	1	Total 1	Zn 1	0

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

Mol	Chain	Residues	Atoms		AltConf
83	AA	199	Total 199	Mg 199	0
83	B	1	Total 1	Mg 1	0
83	BB	5	Total 5	Mg 5	0
83	Bb	2	Total 2	Mg 2	0
83	CC	3	Total 3	Mg 3	0
83	FF	1	Total 1	Mg 1	0
83	H	1	Total 1	Mg 1	0
83	MM	1	Total 1	Mg 1	0
83	QQ	1	Total 1	Mg 1	0
83	c	49	Total 49	Mg 49	0

- Molecule 84 is POTASSIUM ION (CCD ID: K) (formula: K).

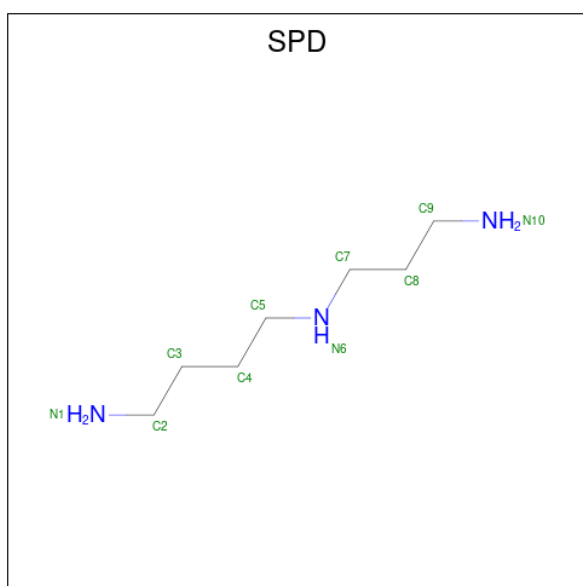
Mol	Chain	Residues	Atoms		AltConf
84	AA	13	Total 13	K 13	0
84	EE	1	Total 1	K 1	0

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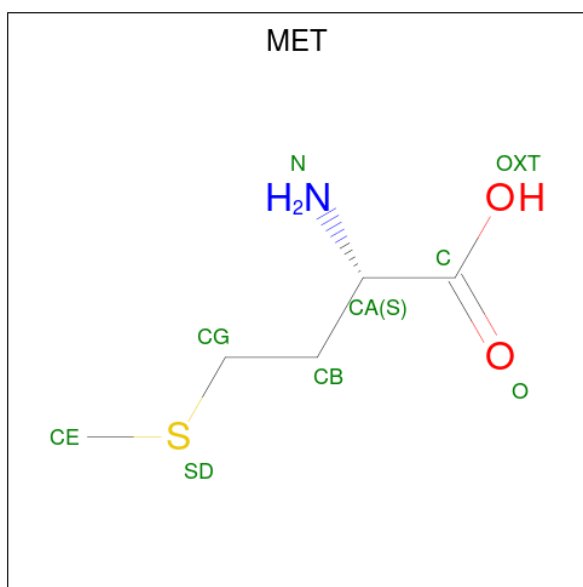
Mol	Chain	Residues	Atoms	AltConf
84	MM	1	Total K 1 1	0
84	Q	1	Total K 1 1	0
84	S	1	Total K 1 1	0
84	c	1	Total K 1 1	0
84	q	1	Total K 1 1	0

- Molecule 85 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms	AltConf
85	AA	1	Total C N 10 7 3	0
85	AA	1	Total C N 10 7 3	0
85	AA	1	Total C N 10 7 3	0
85	c	1	Total C N 10 7 3	0

- Molecule 86 is METHIONINE (CCD ID: MET) (formula: $C_5H_{11}NO_2S$).



Mol	Chain	Residues	Atoms					AltConf
86	Bb	1	Total	C	N	O	S	0
			8	5	1	1	1	

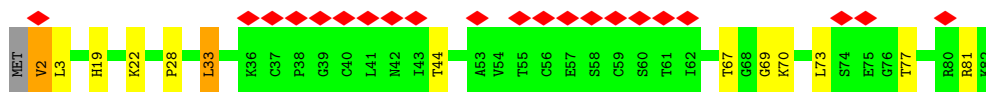
- Molecule 87 is water.

Mol	Chain	Residues	Atoms		AltConf
87	2	1	Total	O	0
			1	1	
87	A	2	Total	O	0
			2	2	
87	AA	774	Total	O	0
			774	774	
87	B	4	Total	O	0
			4	4	
87	BB	13	Total	O	0
			13	13	
87	Bb	5	Total	O	0
			5	5	
87	CC	13	Total	O	0
			13	13	
87	Cc	1	Total	O	0
			1	1	
87	D	1	Total	O	0
			1	1	
87	Dd	3	Total	O	0
			3	3	
87	EE	11	Total	O	0
			11	11	

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Mol	Chain	Residues	Atoms		AltConf
87	F	2	Total 2	O 2	0
87	FF	4	Total 4	O 4	0
87	GG	3	Total 3	O 3	0
87	H	3	Total 3	O 3	0
87	HH	1	Total 1	O 1	0
87	J	1	Total 1	O 1	0
87	JJ	1	Total 1	O 1	0
87	M	2	Total 2	O 2	0
87	MM	1	Total 1	O 1	0
87	N	1	Total 1	O 1	0
87	P	1	Total 1	O 1	0
87	Q	4	Total 4	O 4	0
87	QQ	7	Total 7	O 7	0
87	V	4	Total 4	O 4	0
87	a	1	Total 1	O 1	0
87	c	122	Total 122	O 122	0
87	e	1	Total 1	O 1	0
87	h	2	Total 2	O 2	0
87	o	2	Total 2	O 2	0
87	p	1	Total 1	O 1	0



- Molecule 5: 40S ribosomal protein S28-A



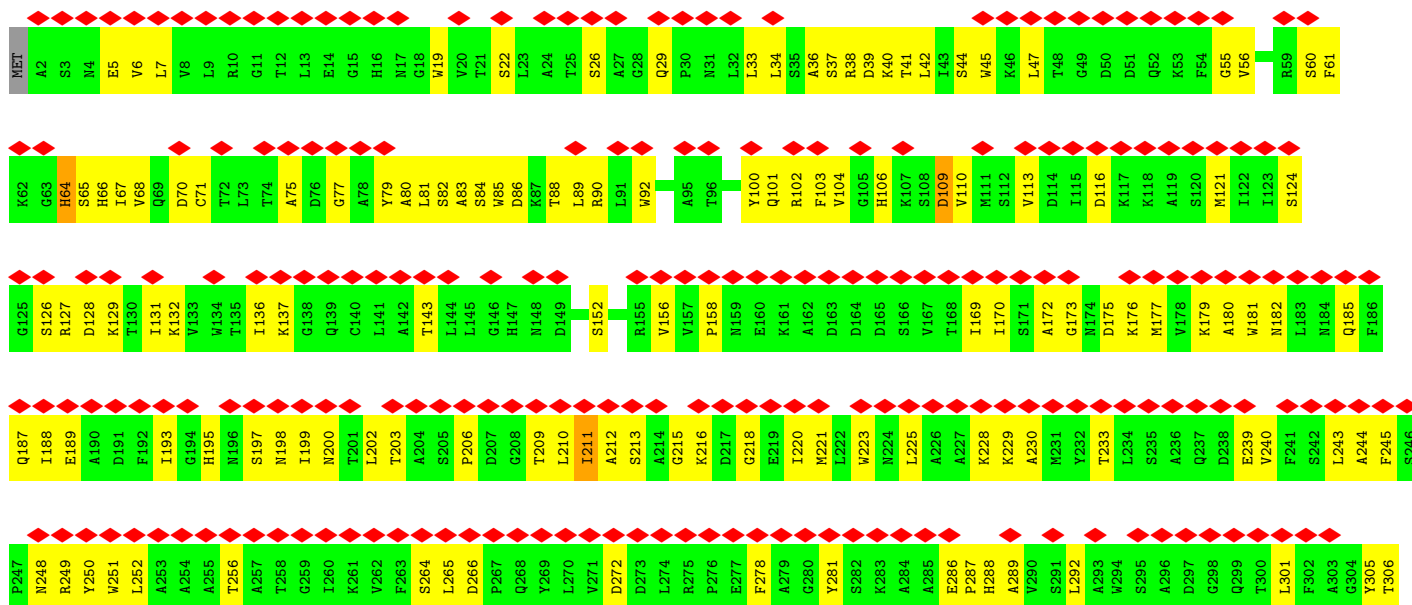
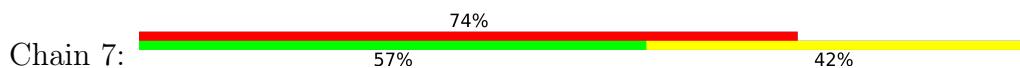
- Molecule 6: HLJ1_G0030400.mRNA.1.CDS.1



- Molecule 7: 40S ribosomal protein S30-A

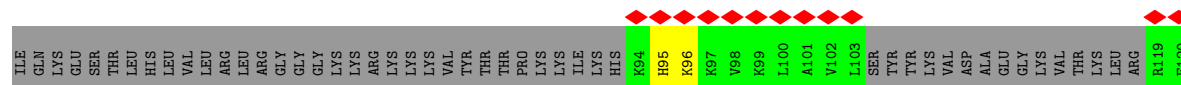
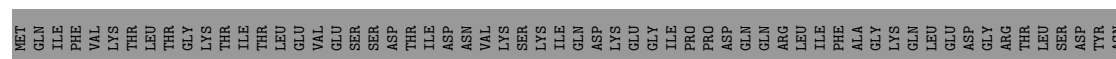


- Molecule 8: Guanine nucleotide-binding protein subunit beta-like protein

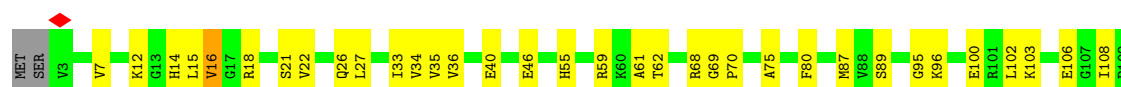
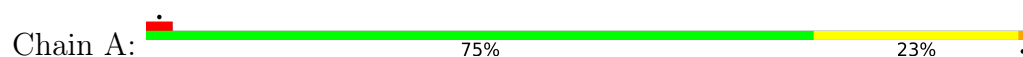




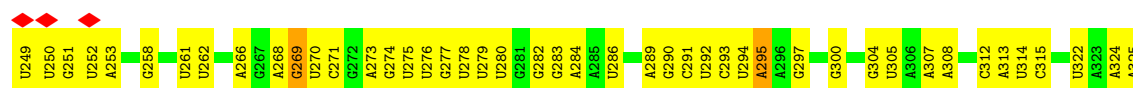
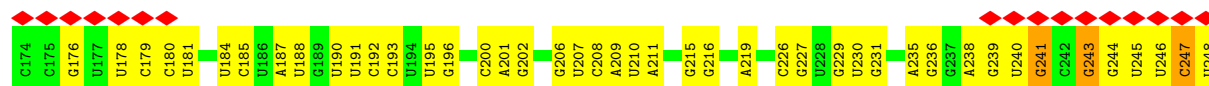
• Molecule 9: Ubiquitin-40S ribosomal protein S31



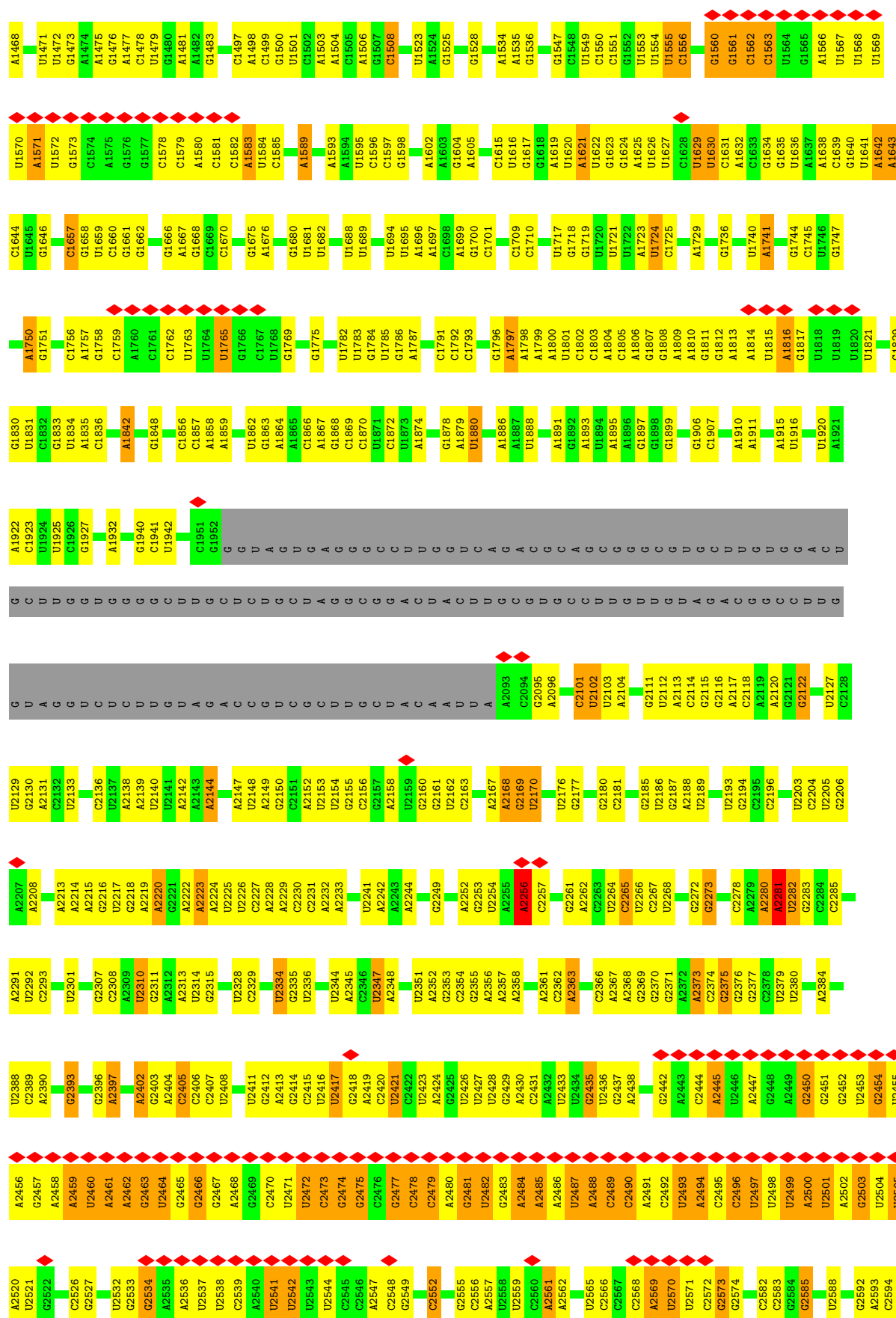
• Molecule 10: 60S ribosomal protein L16-A

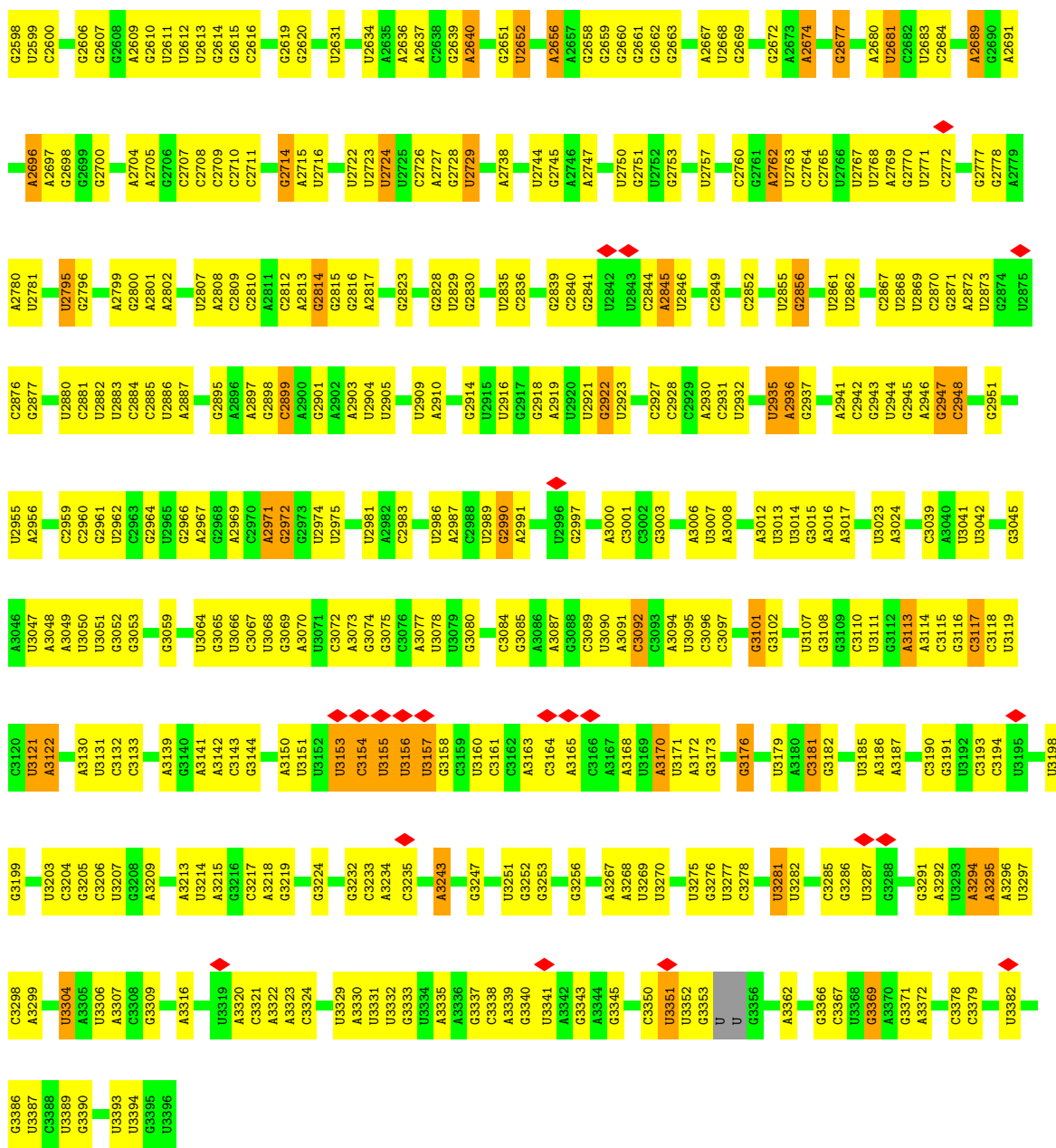


• Molecule 11: 25S ribosomal RNA



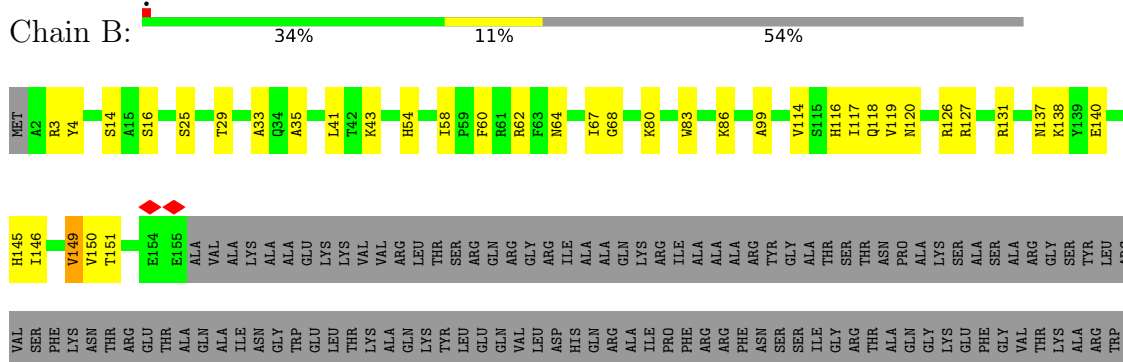




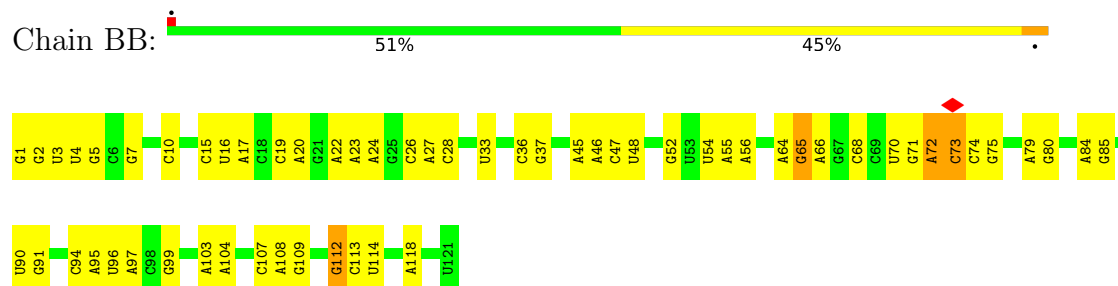


• Molecule 12: 60S ribosomal protein L17-A

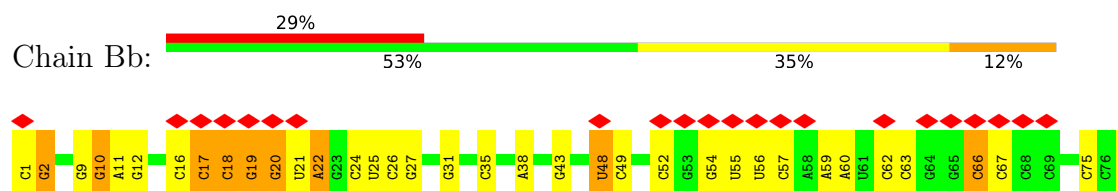
Chain B:



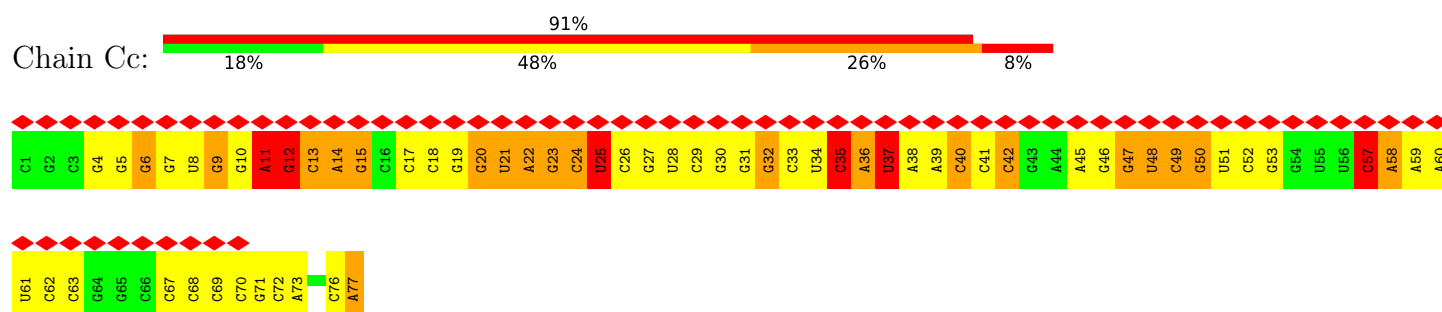
- Molecule 13: 5S ribosomal RNA



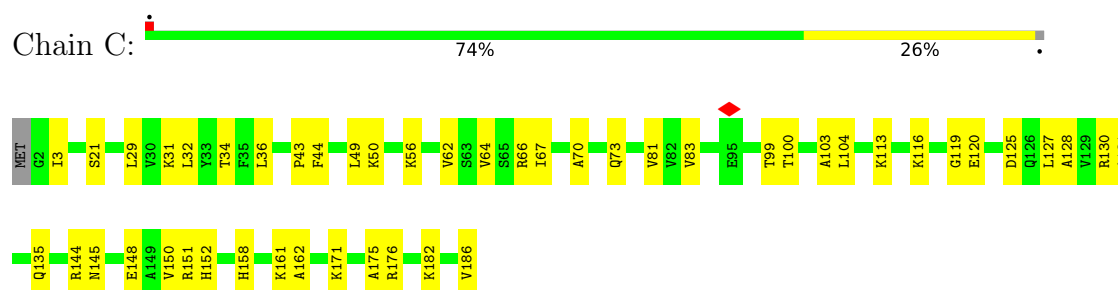
- Molecule 14: Transfer RNA fMet



- Molecule 14: Transfer RNA fMet



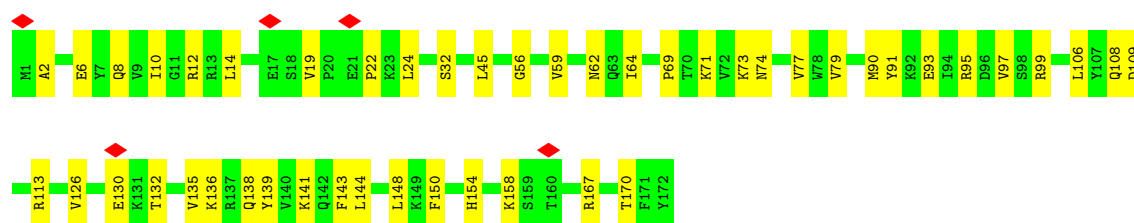
- Molecule 15: 60S ribosomal protein L18-A



- Molecule 16: 5.8S ribosomal RNA

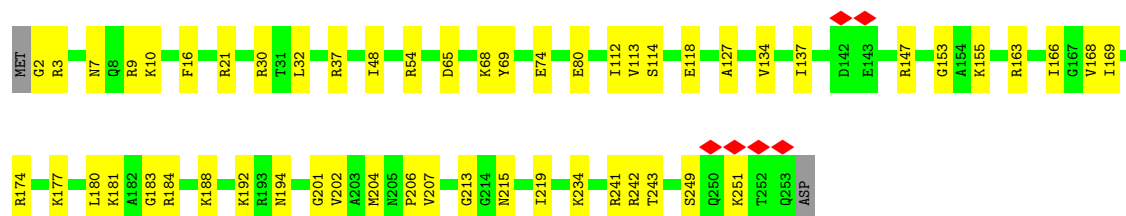


Chain E:  73% 27%



- Molecule 21: 60S ribosomal protein L2-A

Chain EE:  78% 21%



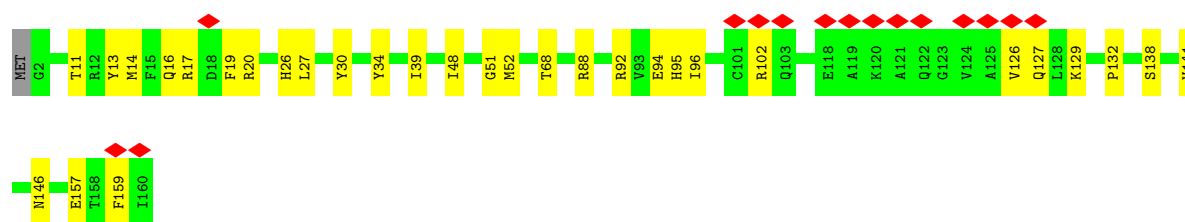
- Molecule 22: 60S ribosomal protein L12-A

Chain Ee:  46% 96% 48%



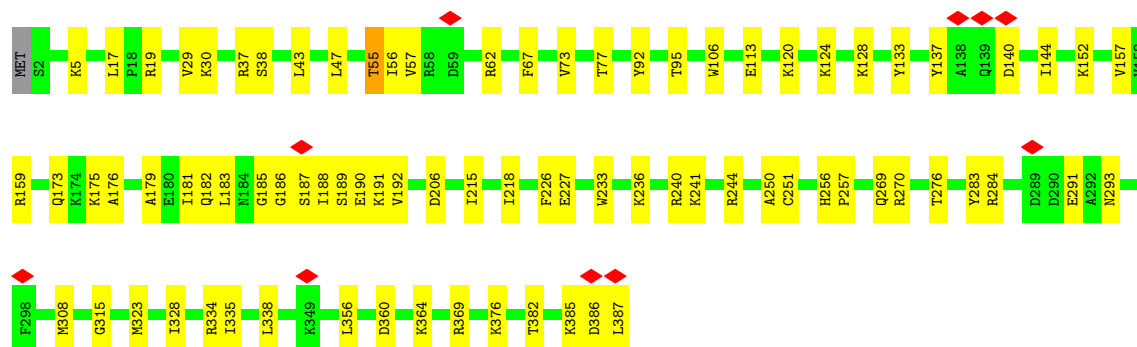
- Molecule 23: 60S ribosomal protein L21-A

Chain F:  9% 80% 19%

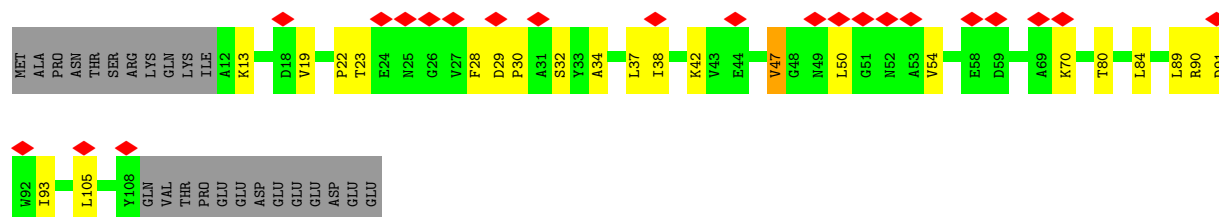


- Molecule 24: 60S ribosomal protein L3

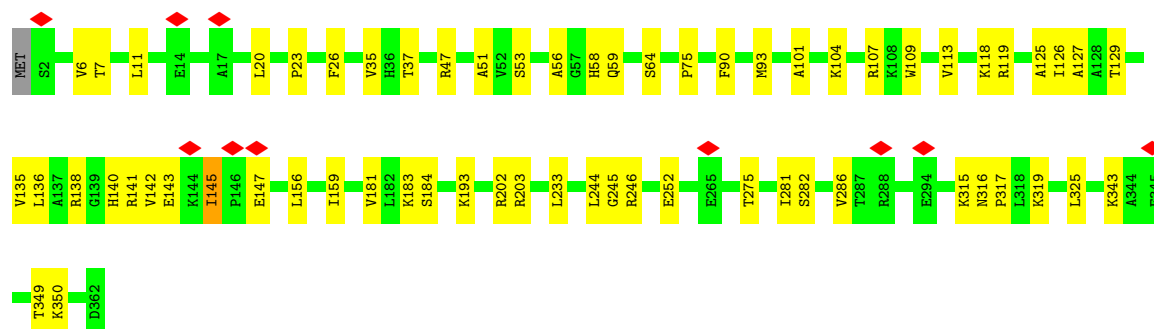
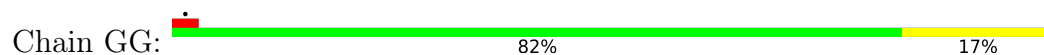
Chain FF:  79% 21%



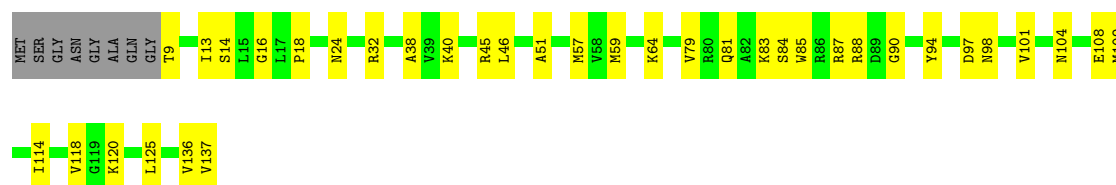
• Molecule 25: 60S ribosomal protein L22-A



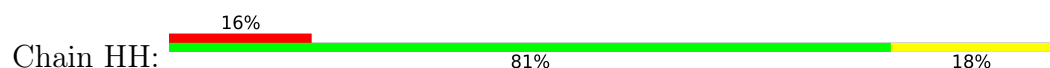
• Molecule 26: 60S ribosomal protein L4-A

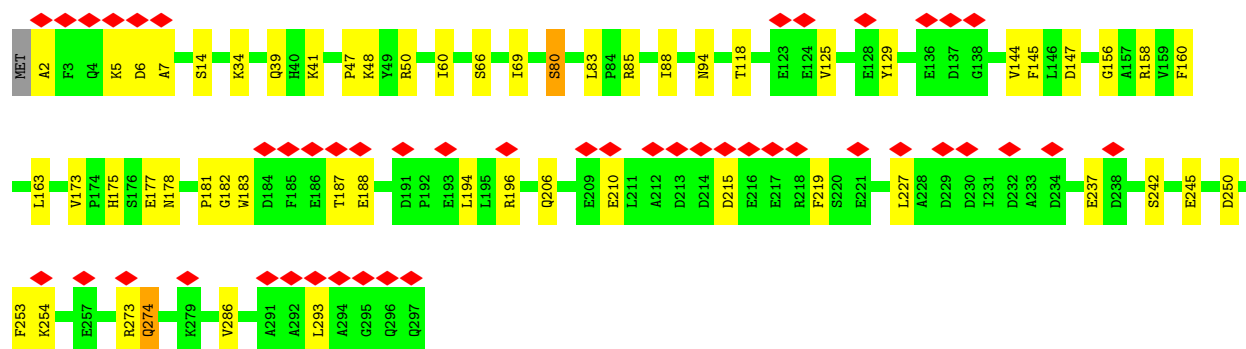


• Molecule 27: 60S ribosomal protein L23-A

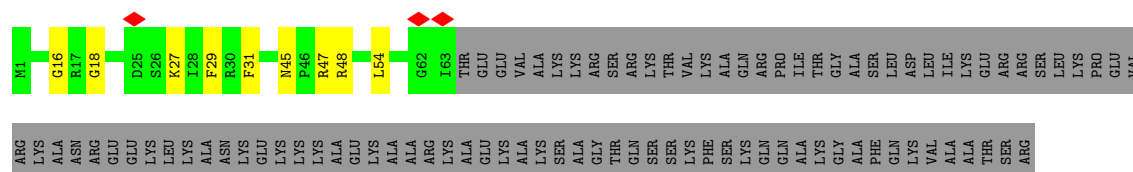
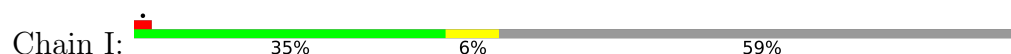


• Molecule 28: 60S ribosomal protein L5

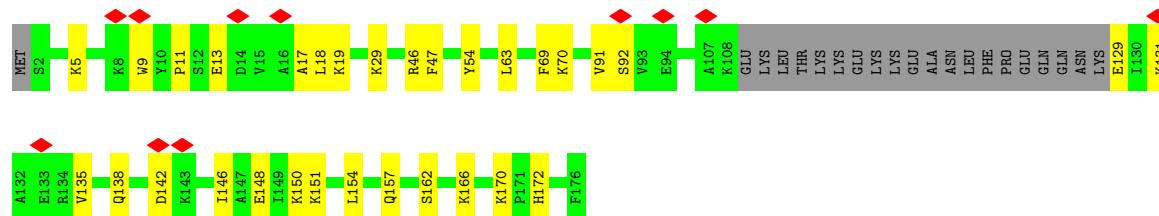




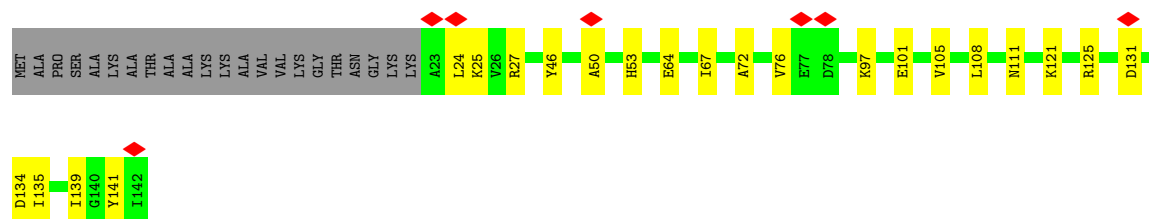
• Molecule 29: 60S ribosomal protein L24-A



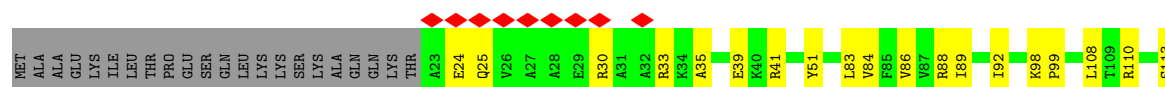
• Molecule 30: 60S ribosomal protein L6-A



• Molecule 31: 60S ribosomal protein L25

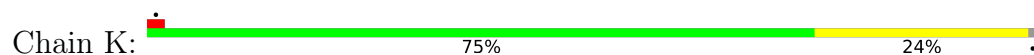


• Molecule 32: 60S ribosomal protein L7-A

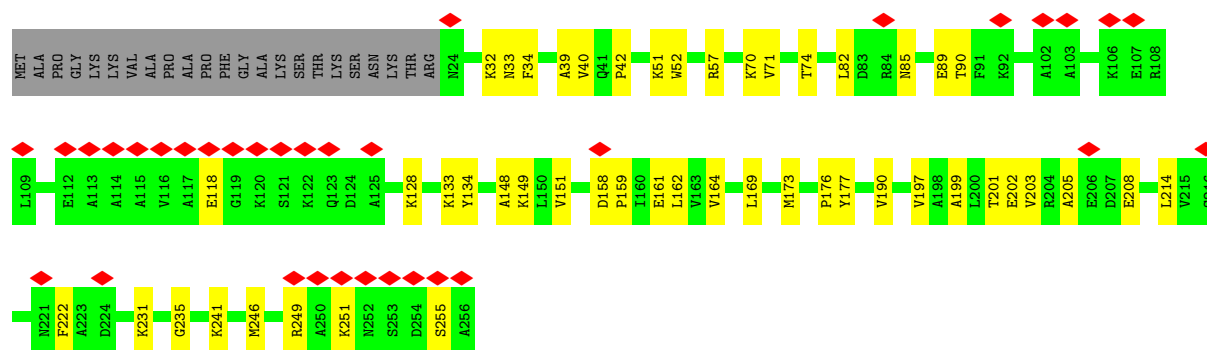
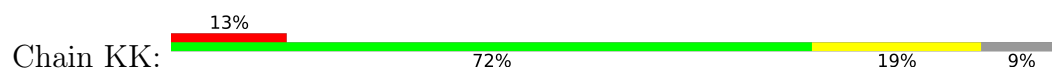




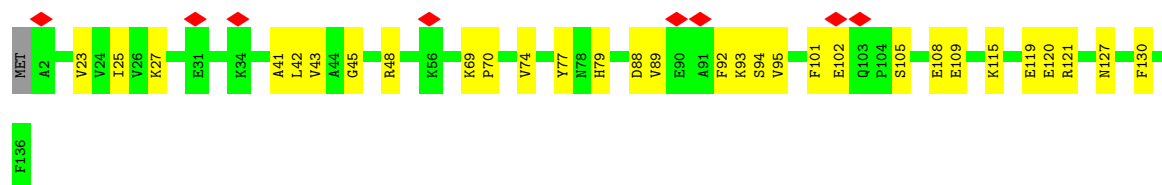
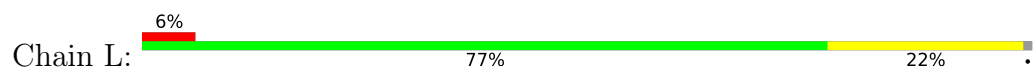
- Molecule 33: 60S ribosomal protein L26-A



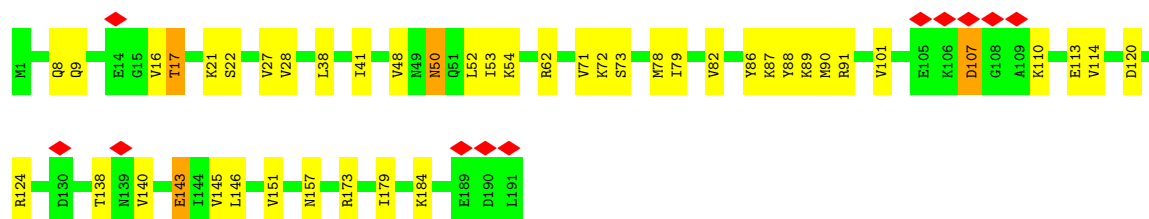
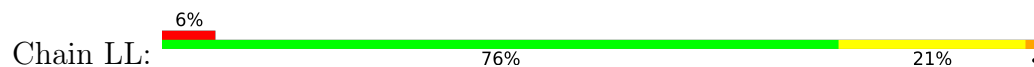
- Molecule 34: 60S ribosomal protein L8-A



- Molecule 35: 60S ribosomal protein L27-A

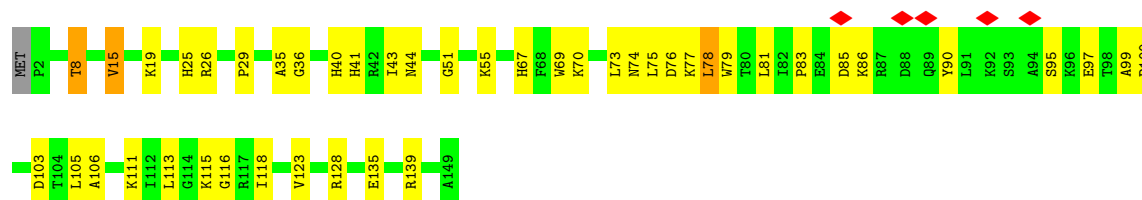


- Molecule 36: RPL9A isoform 1

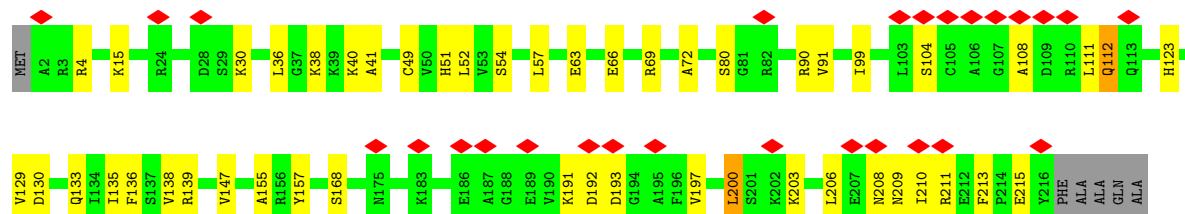
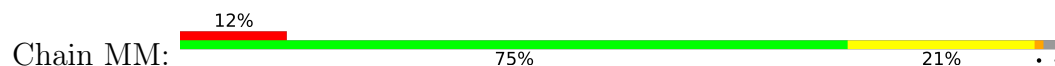


- Molecule 37: 60S ribosomal protein L28

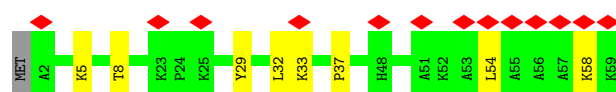
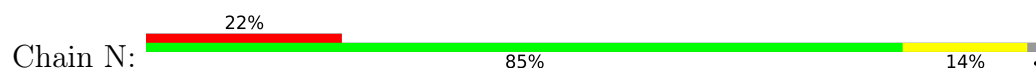




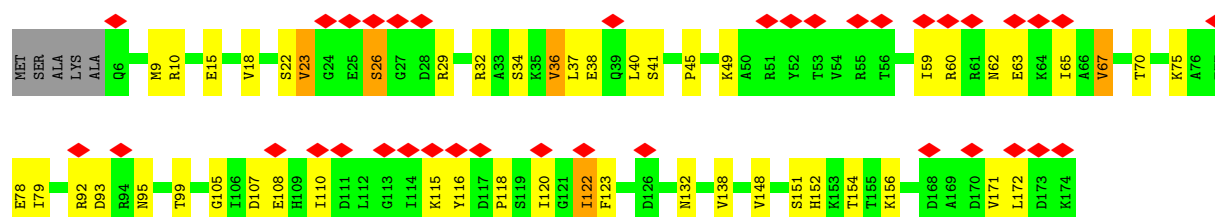
• Molecule 38: 60S ribosomal protein L10



• Molecule 39: 60S ribosomal protein L29



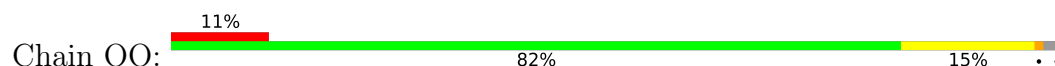
• Molecule 40: 60S ribosomal protein L11-A

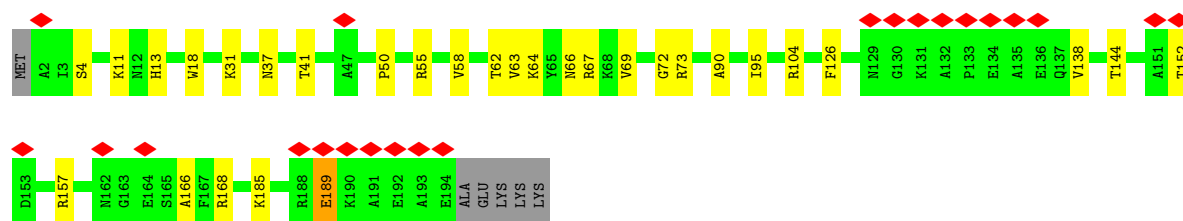


• Molecule 41: 60S ribosomal protein L30

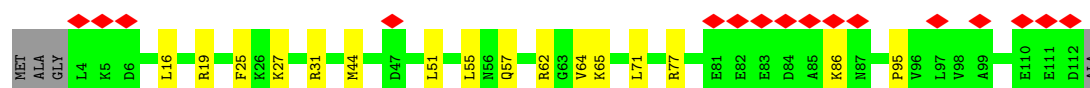
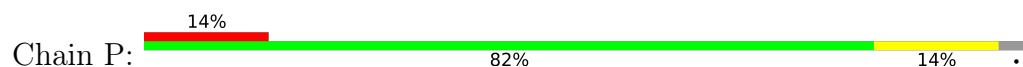


• Molecule 42: 60S ribosomal protein L13-A

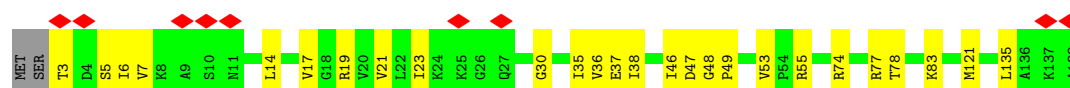
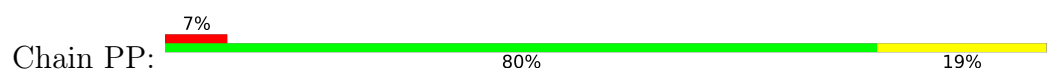




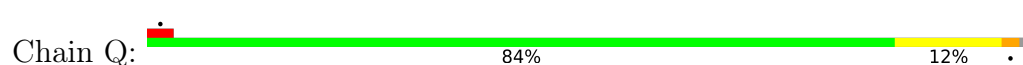
- Molecule 43: 60S ribosomal protein L31-A



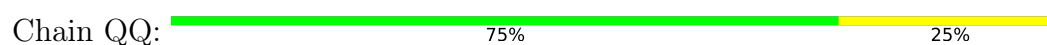
- Molecule 44: 60S ribosomal protein L14-A



- Molecule 45: 60S ribosomal protein L32



- Molecule 46: 60S ribosomal protein L15-A



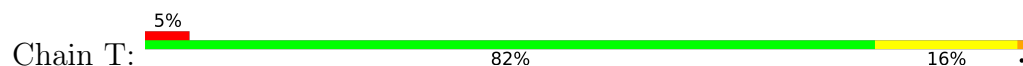
- Molecule 47: 60S ribosomal protein L33-A



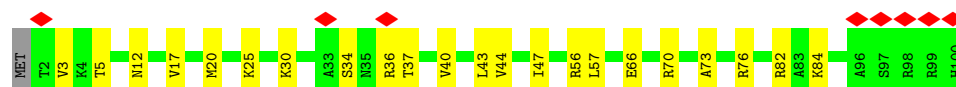
- Molecule 48: 60S ribosomal protein L34-A



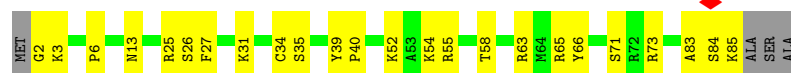
- Molecule 49: 60S ribosomal protein L35-A



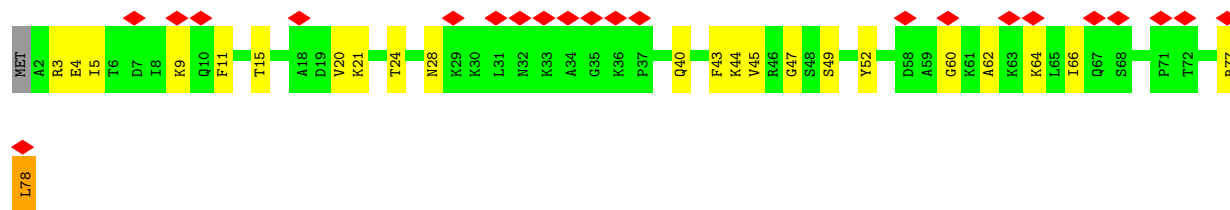
- Molecule 50: 60S ribosomal protein L36-A



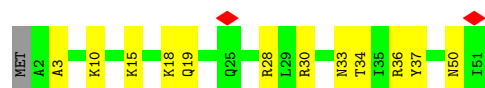
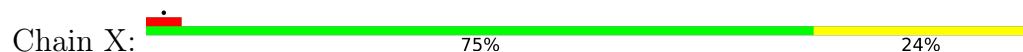
- Molecule 51: 60S ribosomal protein L37-A



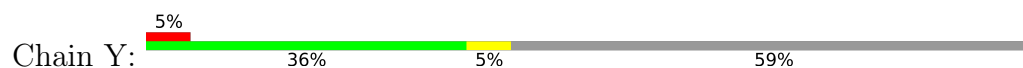
- Molecule 52: 60S ribosomal protein L38

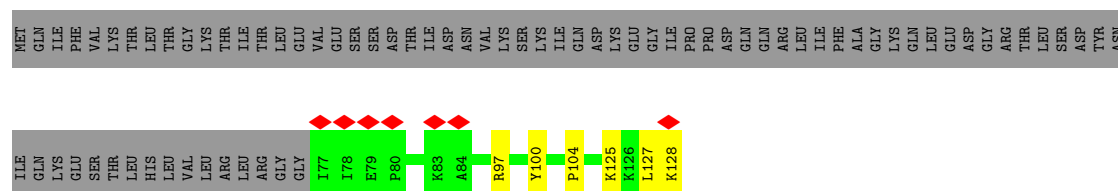


- Molecule 53: 60S ribosomal protein L39

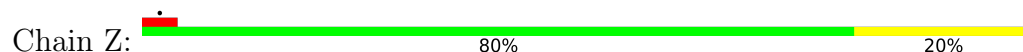


- Molecule 54: Ubiquitin-60S ribosomal protein L40

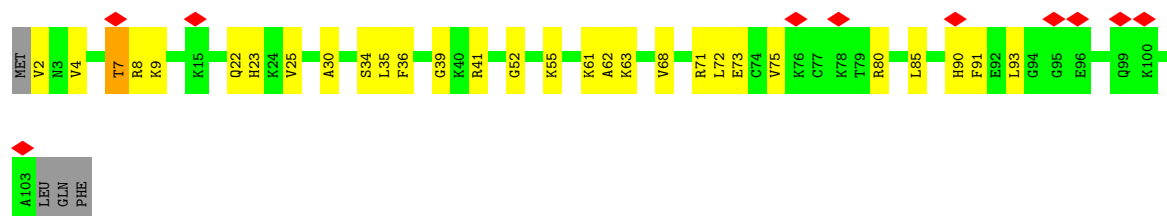




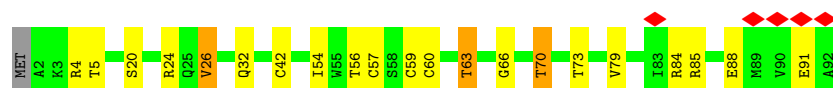
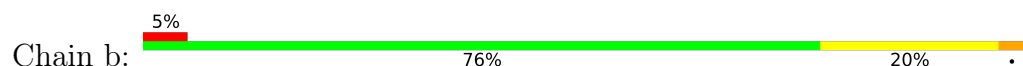
- Molecule 55: 60S ribosomal protein L41



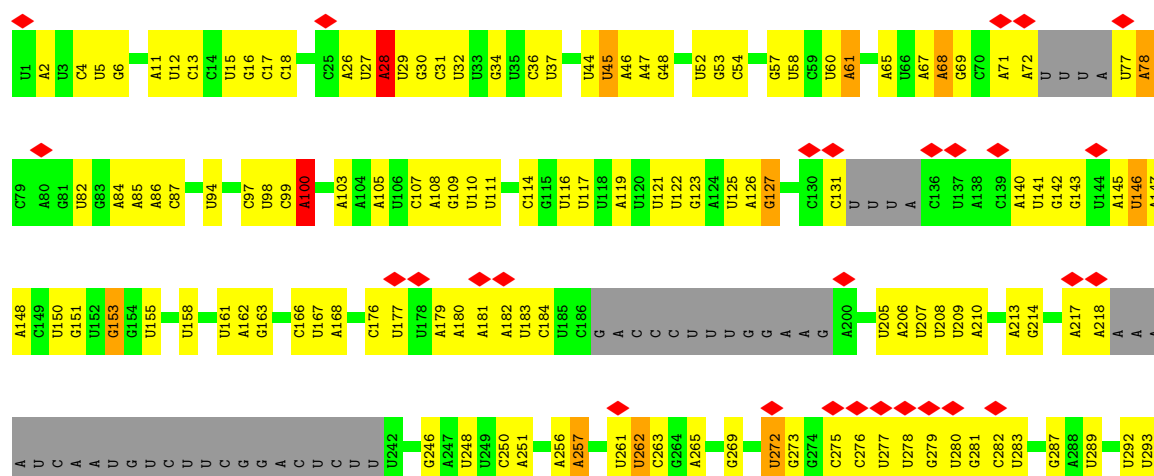
- Molecule 56: 60S ribosomal protein L42-A

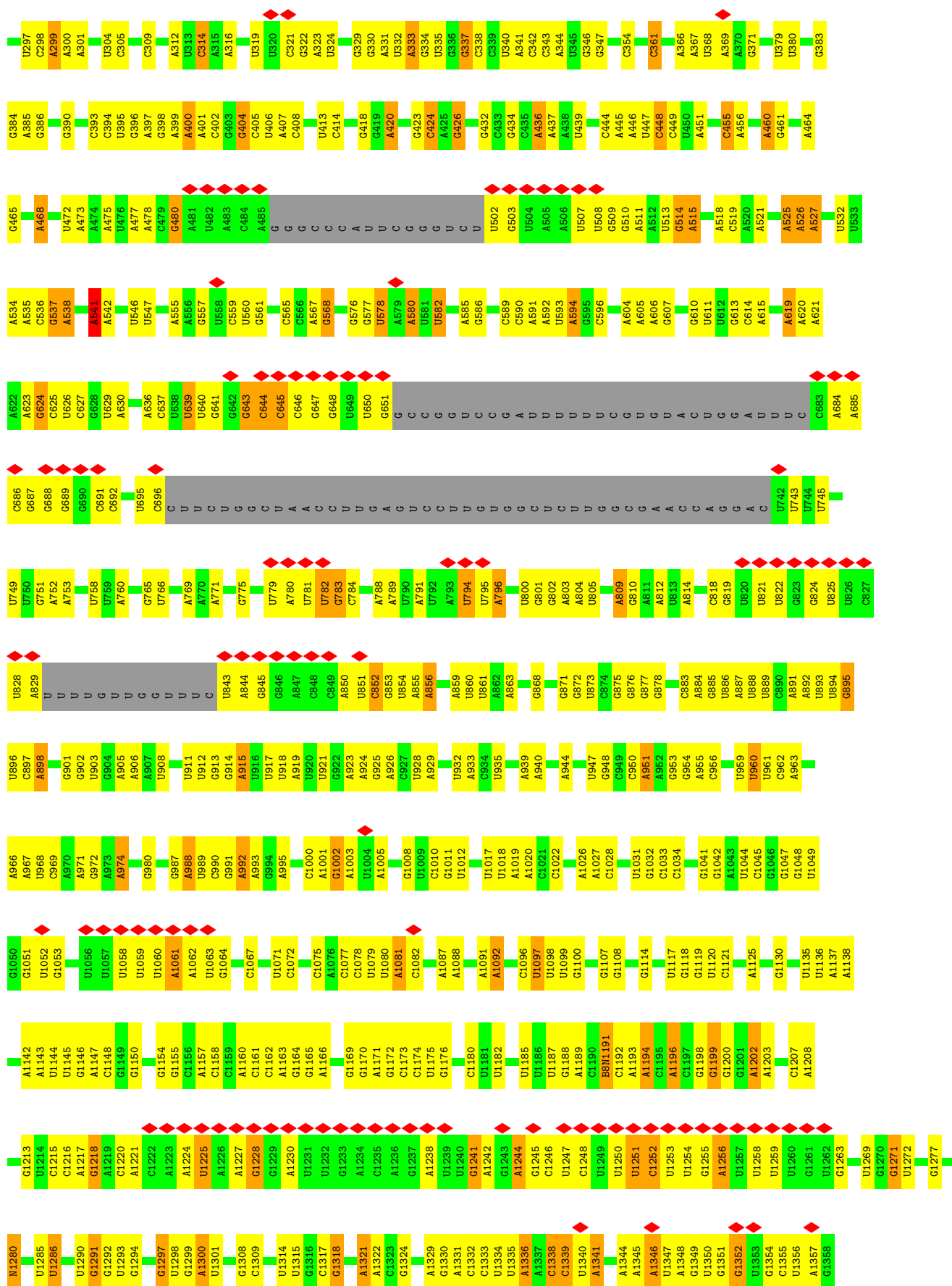


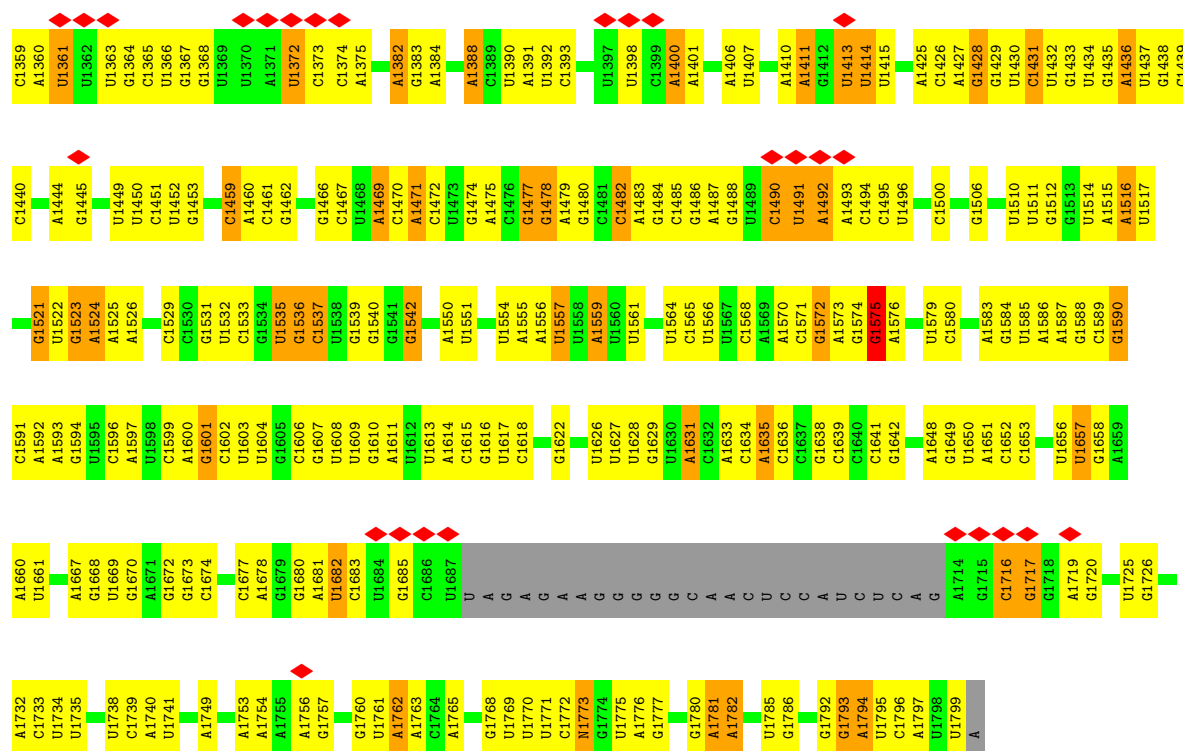
- Molecule 57: 60S ribosomal protein L43-A



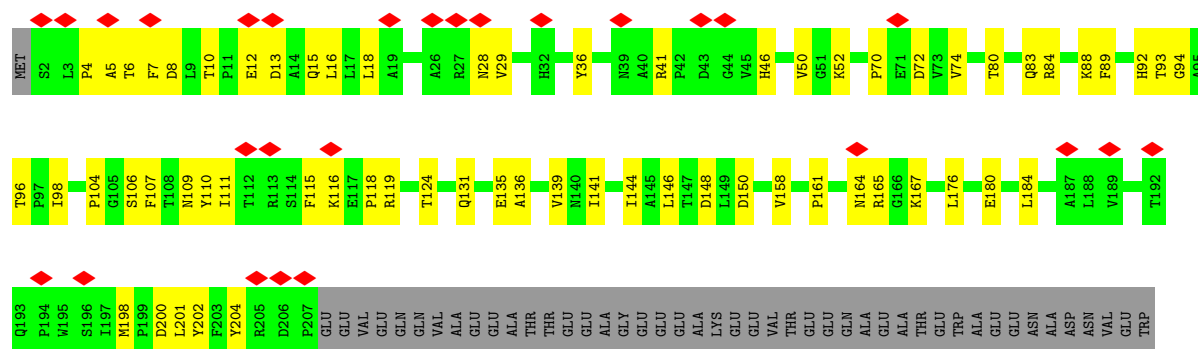
- Molecule 58: 18S ribosomal RNA



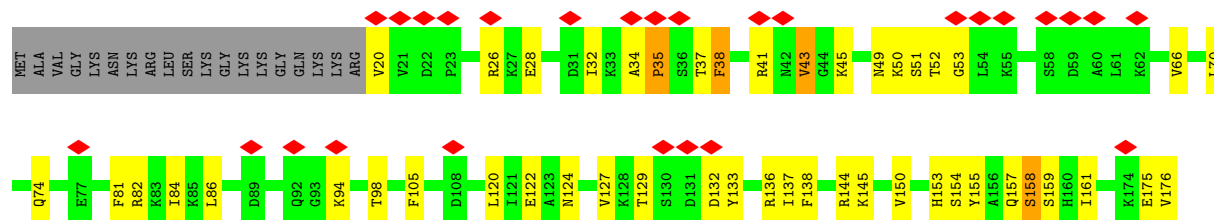


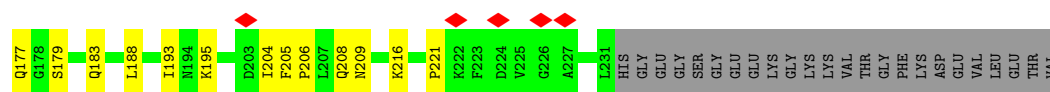


• Molecule 59: 40S ribosomal protein S0-A



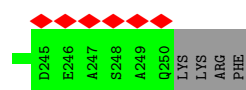
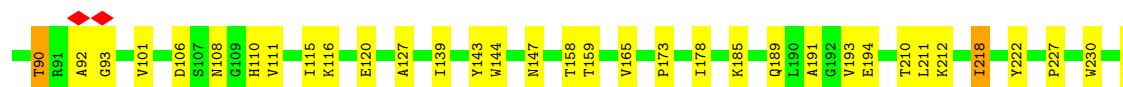
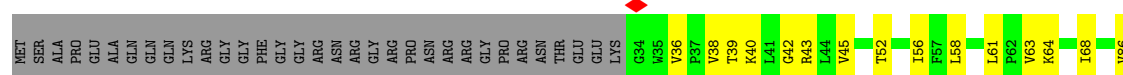
• Molecule 60: 40S ribosomal protein S1-A





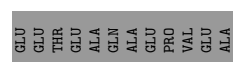
• Molecule 61: 40S ribosomal protein S2

Chain f: 66% 19% 15%



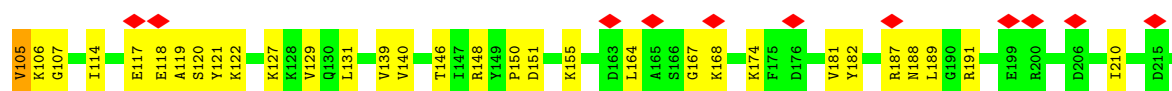
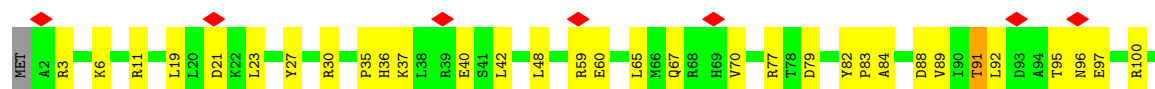
• Molecule 62: RPS3 isoform 1

Chain g: 24% 53% 30% 15%

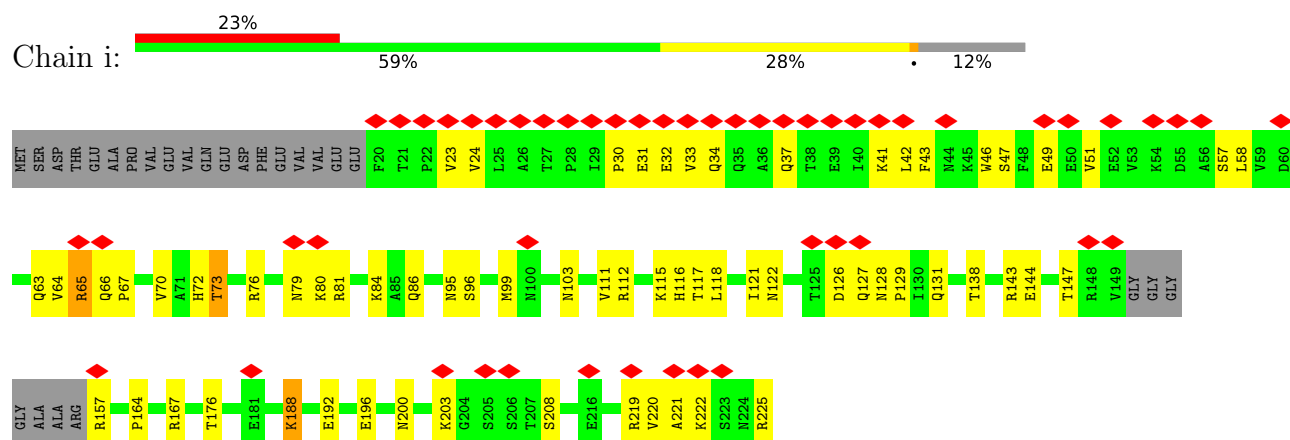


• Molecule 63: 40S ribosomal protein S4-A

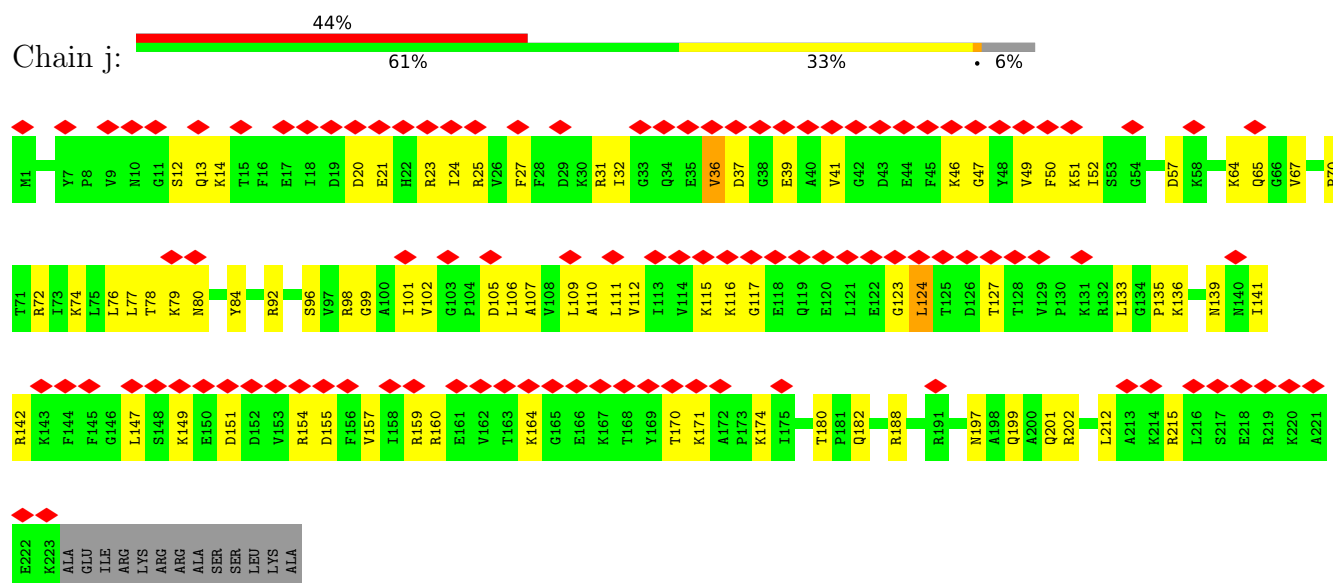
Chain h: 11% 72% 26%



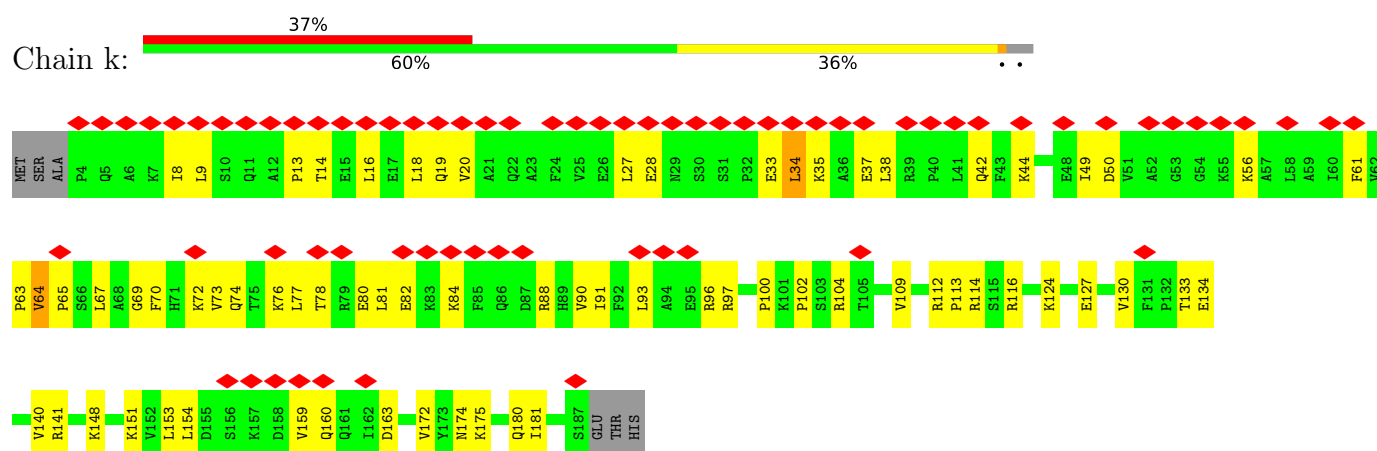
- Molecule 64: 40S ribosomal protein S5



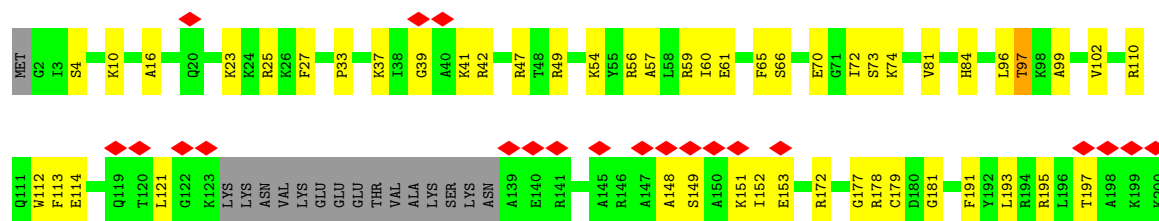
- Molecule 65: 40S ribosomal protein S6-A



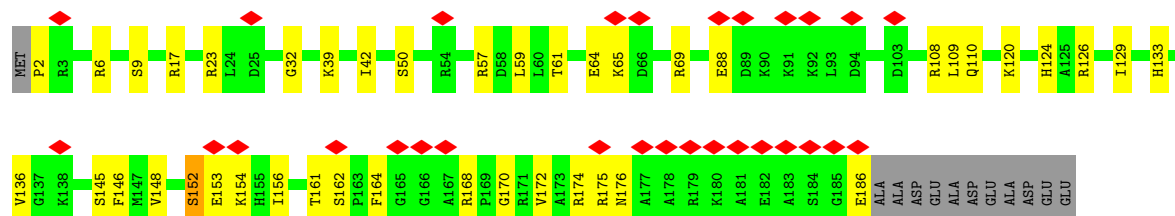
- Molecule 66: 40S ribosomal protein S7-A



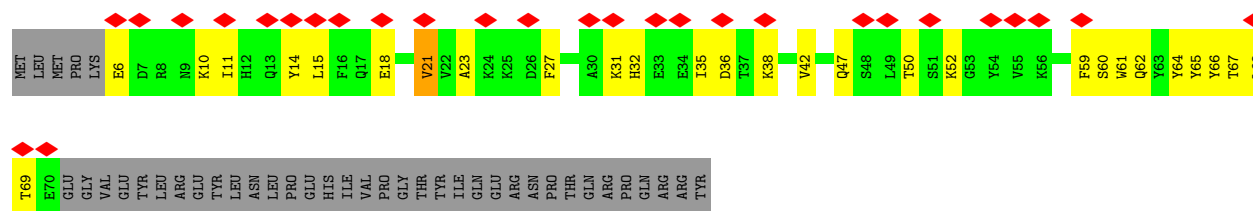
- Molecule 67: 40S ribosomal protein S8-B



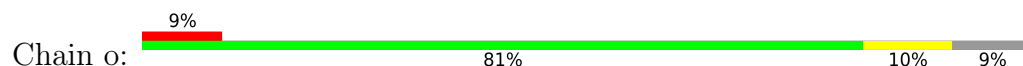
• Molecule 68: 40S ribosomal protein S9-A



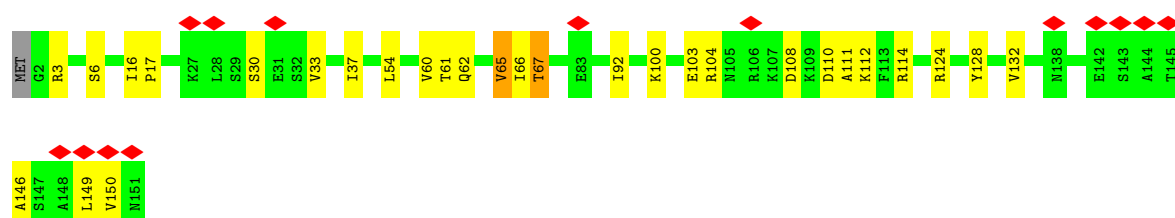
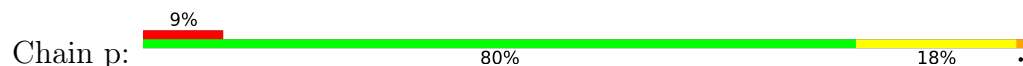
• Molecule 69: 40S ribosomal protein S10-A



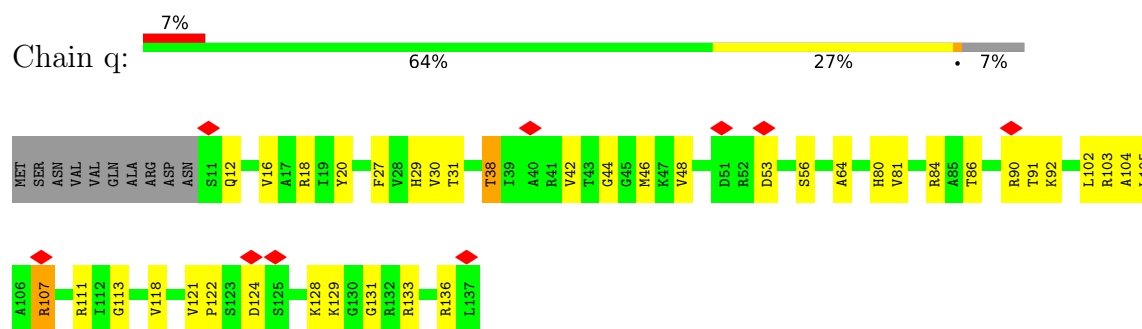
• Molecule 70: 40S ribosomal protein S11-A



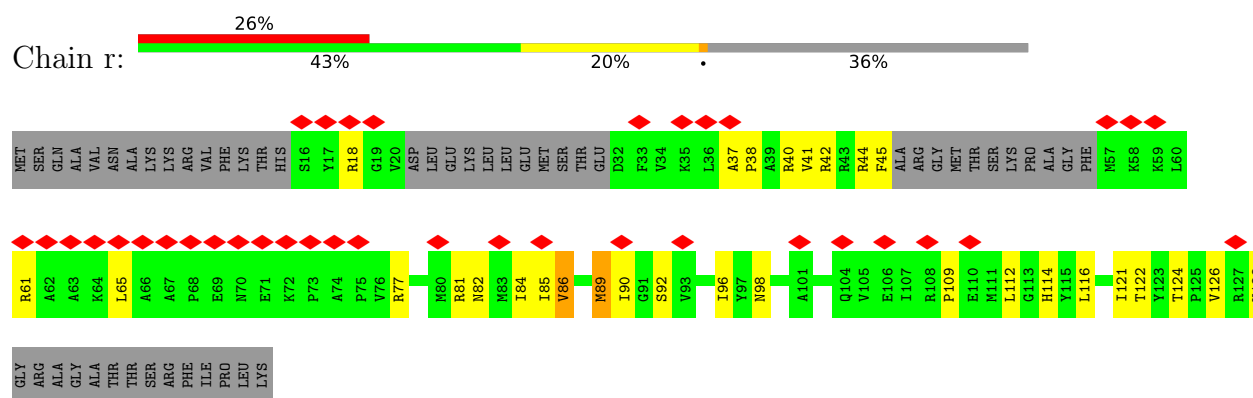
• Molecule 71: 40S ribosomal protein S13



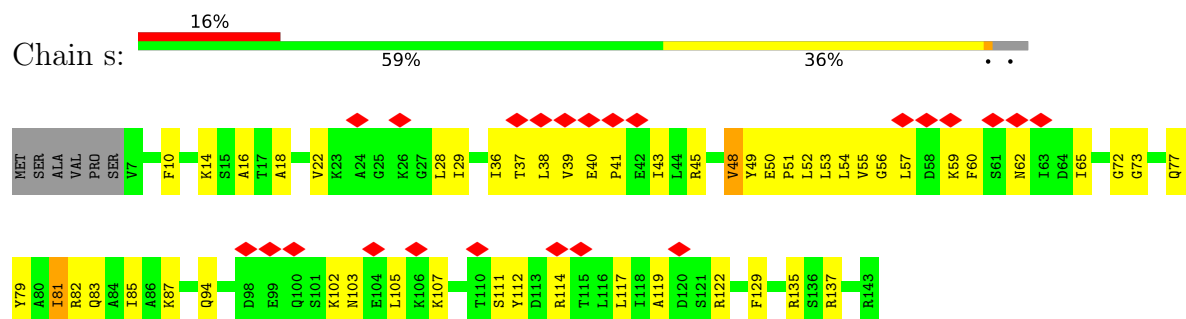
- Molecule 72: 40S ribosomal protein S14-A



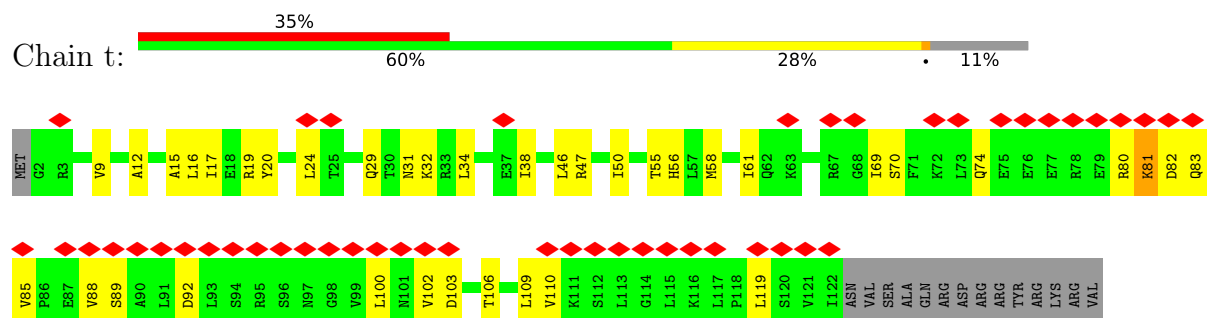
- Molecule 73: 40S ribosomal protein S15



- Molecule 74: 40S ribosomal protein S16-A

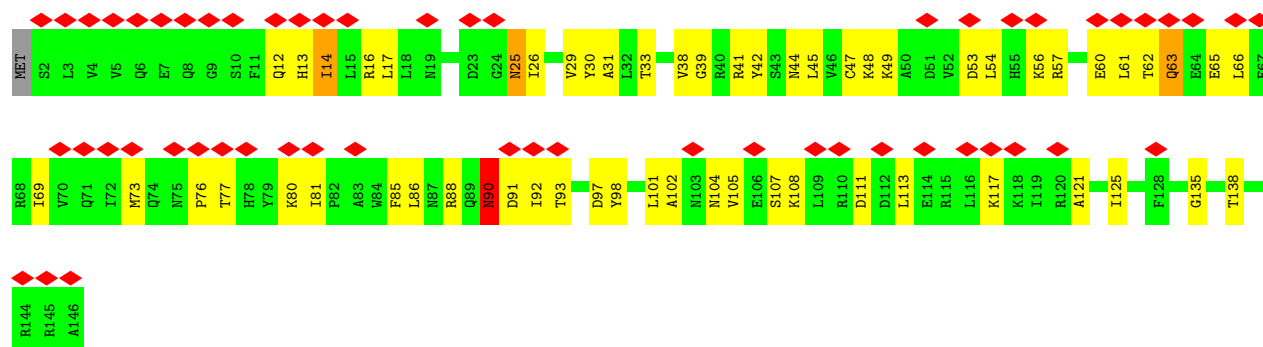


- Molecule 75: 40S ribosomal protein S17-A

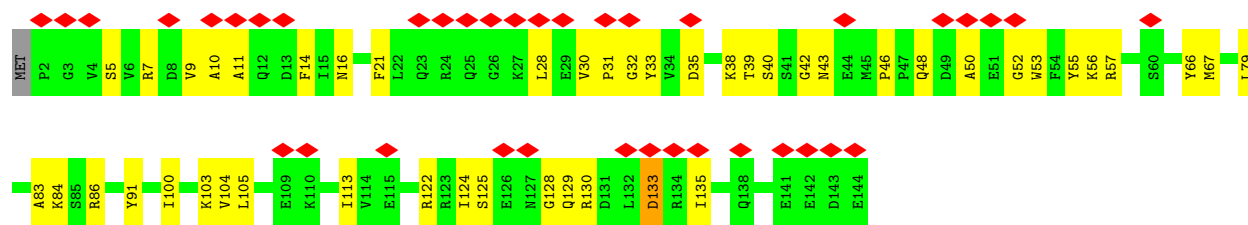


- Molecule 76: 40S ribosomal protein S18-A

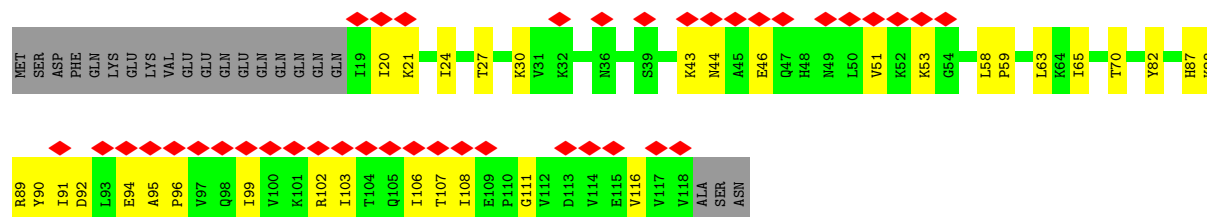




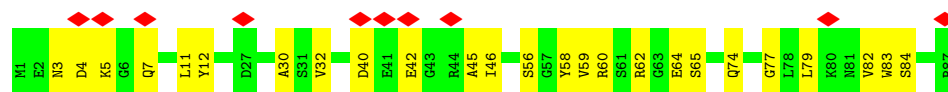
• Molecule 77: 40S ribosomal protein S19-A



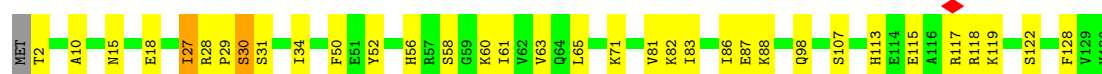
• Molecule 78: 40S ribosomal protein S20



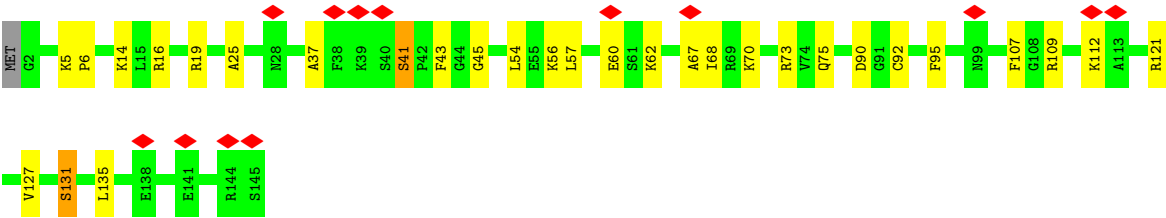
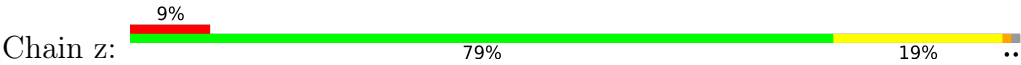
• Molecule 79: 40S ribosomal protein S21-A



• Molecule 80: 40S ribosomal protein S22-A



• Molecule 81: 40S ribosomal protein S23-A



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	21458	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	1000	Depositor
Magnification	270000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.688	Depositor
Minimum map value	-0.693	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.055	Depositor
Recommended contour level	0.249	Depositor
Map size (Å)	540.0, 540.0, 540.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.9, 0.9, 0.9	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, A2M, B8N, OMU, K, 1MA, MA6, 5MC, OMG, SPD, G7M, UR3, 4AC, OMC, ZN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.13	0/1087	0.31	0/1449
2	1	0.22	0/571	0.63	3/768 (0.4%)
3	2	0.11	0/782	0.36	0/1047
4	3	0.10	0/620	0.37	0/838
5	4	0.15	0/499	0.39	0/670
6	5	0.11	0/412	0.28	0/544
7	6	0.11	0/433	0.35	0/575
8	7	0.15	0/2489	0.44	0/3389
9	8	0.12	0/279	0.44	0/369
10	A	0.14	0/1585	0.34	0/2128
11	AA	0.14	0/75545	0.28	0/117782
12	B	0.15	0/1245	0.31	0/1676
13	BB	0.10	0/2883	0.23	0/4491
14	Bb	0.11	0/1836	0.26	0/2859
14	Cc	0.41	5/1836 (0.3%)	0.52	3/2859 (0.1%)
15	C	0.11	0/1465	0.29	0/1965
16	CC	0.11	0/3746	0.27	0/5832
17	D	0.13	0/1440	0.31	0/1921
18	DD	0.17	0/1558	0.50	2/2107 (0.1%)
19	Dd	0.17	0/147	0.46	0/227
20	E	0.12	0/1481	0.36	0/1990
21	EE	0.11	0/1948	0.31	0/2617
22	Ee	0.22	0/1210	0.52	0/1627
23	F	0.12	0/1300	0.32	0/1743
24	FF	0.12	0/3146	0.34	0/4228
25	G	0.11	0/786	0.33	0/1065
26	GG	0.11	0/2800	0.32	0/3790
27	H	0.11	0/978	0.31	0/1316
28	HH	0.10	0/2425	0.29	0/3271
29	I	0.11	0/533	0.28	0/707
30	II	0.12	0/1251	0.31	0/1682
31	J	0.11	0/974	0.31	0/1314

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	JJ	0.13	0/1821	0.33	0/2451
33	K	0.11	0/1004	0.27	0/1341
34	KK	0.12	0/1836	0.31	0/2481
35	L	0.12	0/1118	0.31	0/1497
36	LL	0.13	0/1539	0.35	0/2073
37	M	0.12	0/1204	0.35	0/1612
38	MM	0.11	0/1779	0.30	0/2386
39	N	0.11	0/473	0.29	0/629
40	NN	0.13	0/1374	0.35	0/1842
41	O	0.09	0/750	0.25	0/1008
42	OO	0.13	0/1568	0.36	0/2106
43	P	0.12	0/897	0.31	0/1205
44	PP	0.10	0/1068	0.27	0/1438
45	Q	0.11	0/1041	0.28	0/1394
46	QQ	0.12	0/1757	0.34	0/2354
47	R	0.13	0/868	0.32	0/1168
48	S	0.12	0/871	0.29	0/1164
49	T	0.11	0/978	0.29	0/1301
50	U	0.13	0/778	0.35	0/1034
51	V	0.14	0/680	0.36	0/901
52	W	0.13	0/618	0.35	0/826
53	X	0.13	0/443	0.40	0/588
54	Y	0.08	0/423	0.27	0/562
55	Z	0.13	0/234	0.24	0/300
56	a	0.13	0/831	0.40	0/1097
57	b	0.12	0/701	0.36	0/934
58	c	0.14	0/38143	0.28	0/59408
59	d	0.12	0/1623	0.35	0/2222
60	e	0.14	0/1714	0.39	0/2308
61	f	0.13	0/1665	0.38	0/2263
62	g	0.15	0/1614	0.37	0/2169
63	h	0.12	0/2097	0.32	0/2823
64	i	0.14	0/1591	0.41	2/2151 (0.1%)
65	j	0.11	0/1822	0.31	0/2434
66	k	0.13	0/1506	0.39	0/2028
67	l	0.15	0/1482	0.37	0/1980
68	m	0.11	0/1519	0.32	0/2035
69	n	0.14	0/569	0.44	0/767
70	o	0.10	0/1172	0.29	0/1580
71	p	0.11	0/1215	0.30	0/1638
72	q	0.15	0/901	0.44	1/1217 (0.1%)
73	r	0.14	0/747	0.38	0/1002
74	s	0.17	0/1099	0.49	0/1473

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	t	0.14	0/971	0.44	0/1303
76	u	0.15	0/1211	0.41	0/1628
77	v	0.13	0/1130	0.34	0/1517
78	w	0.15	0/810	0.40	0/1095
79	x	0.13	0/693	0.41	0/935
80	y	0.15	0/1038	0.37	0/1395
81	z	0.11	0/1139	0.35	0/1518
All	All	0.14	5/213415 (0.0%)	0.31	11/313427 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	1	0	1
18	DD	0	1
32	JJ	0	1
35	L	0	1
56	a	0	1
60	e	0	2
64	i	0	1
66	k	0	1
72	q	0	1
74	s	0	1
76	u	0	1
All	All	0	12

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	Cc	37	U	C1'-N1	6.19	1.57	1.48
14	Cc	25	U	C1'-N1	5.98	1.57	1.48
14	Cc	24	C	C1'-N1	5.73	1.57	1.48
14	Cc	35	C	C1'-N1	5.63	1.56	1.48
14	Cc	11	A	C1'-N9	-5.07	1.40	1.48

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	Cc	57	C	O4'-C1'-C2'	-6.43	99.37	105.80
2	1	53	GLU	CA-C-N	6.29	124.20	120.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	1	53	GLU	C-N-CA	6.29	124.20	120.24
64	i	219	ARG	CA-C-N	-5.67	116.32	121.65
64	i	219	ARG	C-N-CA	-5.67	116.32	121.65
14	Cc	57	C	C2'-C3'-O3'	-5.46	101.30	109.50
14	Cc	12	G	C2'-C3'-O3'	-5.29	105.76	113.70
18	DD	58	MET	CA-CB-CG	5.17	124.44	114.10
2	1	68	ARG	CG-CD-NE	-5.07	100.85	112.00
18	DD	53	MET	N-CA-CB	-5.01	105.78	111.79
72	q	107	ARG	CG-CD-NE	-5.01	100.98	112.00

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1	68	ARG	Sidechain
18	DD	20	GLU	Peptide
32	JJ	232	ARG	Peptide
35	L	102	GLU	Peptide
56	a	7	THR	Peptide
60	e	35	PRO	Peptide
60	e	38	PHE	Peptide
64	i	65	ARG	Peptide
66	k	64	VAL	Peptide
72	q	107	ARG	Sidechain
74	s	40	GLU	Peptide
76	u	90	ASN	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	1073	0	1132	39	0
2	1	563	0	603	25	0
3	2	769	0	814	23	0
4	3	610	0	633	9	0
5	4	497	0	535	11	0
6	5	404	0	398	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	6	427	0	476	11	0
8	7	2436	0	2386	99	0
9	8	276	0	289	5	0
10	A	1555	0	1659	31	0
11	AA	68429	0	34441	1215	0
12	B	1222	0	1231	25	0
13	BB	2579	0	1304	48	0
14	Bb	1644	0	836	17	0
14	Cc	1644	0	837	95	0
15	C	1441	0	1543	32	0
16	CC	3353	0	1695	57	0
17	D	1423	0	1510	29	0
18	DD	1531	0	1571	66	0
19	Dd	131	0	66	4	0
20	E	1445	0	1487	37	0
21	EE	1914	0	1981	42	0
22	Ee	1196	0	1257	66	0
23	F	1276	0	1323	22	0
24	FF	3075	0	3142	60	0
25	G	770	0	780	15	0
26	GG	2748	0	2859	46	0
27	H	963	0	1015	24	0
28	HH	2375	0	2325	38	0
29	I	521	0	551	6	0
30	II	1230	0	1320	20	0
31	J	959	0	1023	17	0
32	JJ	1784	0	1862	28	0
33	K	993	0	1081	21	0
34	KK	1804	0	1877	29	0
35	L	1092	0	1155	17	0
36	LL	1518	0	1587	30	0
37	M	1173	0	1215	38	0
38	MM	1743	0	1785	34	0
39	N	462	0	491	8	0
40	NN	1353	0	1383	41	0
41	O	742	0	797	14	0
42	OO	1543	0	1608	22	0
43	P	883	0	918	13	0
44	PP	1053	0	1149	19	0
45	Q	1020	0	1090	15	0
46	QQ	1720	0	1779	42	0
47	R	850	0	880	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	S	861	0	918	15	0
49	T	969	0	1078	24	0
50	U	771	0	849	15	0
51	V	665	0	668	20	0
52	W	612	0	682	20	0
53	X	436	0	475	11	0
54	Y	417	0	455	5	0
55	Z	233	0	284	7	0
56	a	819	0	886	30	0
57	b	694	0	734	15	0
58	c	34663	0	17463	704	0
59	d	1583	0	1578	46	0
60	e	1689	0	1763	49	0
61	f	1635	0	1723	37	0
62	g	1593	0	1671	51	0
63	h	2056	0	2140	50	0
64	i	1572	0	1639	57	0
65	j	1798	0	1896	66	0
66	k	1481	0	1572	53	0
67	l	1457	0	1488	42	0
68	m	1494	0	1573	33	0
69	n	556	0	542	23	0
70	o	1146	0	1213	12	0
71	p	1192	0	1255	19	0
72	q	891	0	883	31	0
73	r	732	0	760	22	0
74	s	1080	0	1140	42	0
75	t	961	0	999	33	0
76	u	1192	0	1222	51	0
77	v	1112	0	1124	40	0
78	w	800	0	869	31	0
79	x	684	0	672	19	0
80	y	1021	0	1060	29	0
81	z	1121	0	1196	22	0
82	2	1	0	0	0	0
82	5	1	0	0	0	0
82	8	1	0	0	0	0
82	S	1	0	0	0	0
82	V	1	0	0	0	0
82	Y	1	0	0	0	0
82	a	1	0	0	0	0
82	b	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
83	AA	199	0	0	0	0
83	B	1	0	0	0	0
83	BB	5	0	0	0	0
83	Bb	2	0	0	0	0
83	CC	3	0	0	0	0
83	FF	1	0	0	0	0
83	H	1	0	0	0	0
83	MM	1	0	0	0	0
83	QQ	1	0	0	0	0
83	c	49	0	0	0	0
84	AA	13	0	0	0	0
84	EE	1	0	0	0	0
84	MM	1	0	0	0	0
84	Q	1	0	0	0	0
84	S	1	0	0	0	0
84	c	1	0	0	0	0
84	q	1	0	0	0	0
85	AA	30	0	57	3	0
85	c	10	0	19	0	0
86	Bb	8	0	8	2	0
87	2	1	0	0	0	0
87	A	2	0	0	0	0
87	AA	774	0	0	14	0
87	B	4	0	0	0	0
87	BB	13	0	0	0	0
87	Bb	5	0	0	2	0
87	CC	13	0	0	0	0
87	Cc	1	0	0	0	0
87	D	1	0	0	0	0
87	Dd	3	0	0	0	0
87	EE	11	0	0	0	0
87	F	2	0	0	0	0
87	FF	4	0	0	0	0
87	GG	3	0	0	0	0
87	H	3	0	0	0	0
87	HH	1	0	0	0	0
87	J	1	0	0	0	0
87	JJ	1	0	0	0	0
87	M	2	0	0	0	0
87	MM	1	0	0	0	0
87	N	1	0	0	0	0
87	P	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
87	Q	4	0	0	0	0
87	QQ	7	0	0	0	0
87	V	4	0	0	1	0
87	a	1	0	0	0	0
87	c	122	0	0	2	0
87	e	1	0	0	0	0
87	h	2	0	0	0	0
87	o	2	0	0	0	0
87	p	1	0	0	0	0
All	All	201528	0	148233	3721	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 (3721) 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)
11:AA:1018:G:OP1	11:AA:1035:G:N2	1.72	1.21
14:Cc:32:G:H21	64:i:157:ARG:NH1	1.44	1.14
11:AA:1257:C:H42	11:AA:1261:G:N2	1.45	1.14
14:Cc:32:G:N2	64:i:157:ARG:HH12	1.47	1.11
11:AA:1257:C:N4	11:AA:1261:G:H22	1.48	1.11
11:AA:1268:G:H21	11:AA:1273:A:H62	1.07	0.93
76:u:92:ILE:HG23	76:u:93:THR:HG23	1.52	0.90
58:c:273:G:H1	58:c:283:U:H3	0.91	0.89
61:f:90:THR:H	61:f:93:GLY:HA2	1.37	0.89
14:Bb:38:A:N7	87:Bb:1401:HOH:O	2.06	0.88
58:c:1588:G:H1	58:c:1608:U:H3	1.14	0.87
58:c:868:G:H1	58:c:960:U:H3	1.21	0.87
14:Cc:39:A:C5	14:Cc:40:C:C5	2.65	0.85
16:CC:49:G:H5'	49:T:44:ILE:HD11	1.59	0.84
66:k:70:PHE:O	66:k:74:GLN:HB2	1.77	0.84
58:c:1291:G:H1	58:c:1324:G:H22	1.24	0.84
11:AA:394:G:H22	11:AA:397:A:H5'	1.43	0.84
73:r:41:VAL:HG12	73:r:84:ILE:HD13	1.58	0.84
11:AA:240:U:H4'	11:AA:241:G:H5'	1.59	0.83
14:Cc:23:G:H2'	14:Cc:24:C:H6	1.42	0.83
46:QQ:5:LYS:HD2	50:U:40:VAL:HG21	1.60	0.83
11:AA:1940:G:H21	11:AA:3362:A:H8	1.26	0.82
8:7:19:TRP:HB3	8:7:38:ARG:HG3	1.62	0.82
11:AA:2450:G:H1	11:AA:2497:U:H3	1.26	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1357:A:H61	58:c:1367:G:H2'	1.45	0.82
14:Cc:11:A:C2	14:Cc:26:C:C2	2.68	0.82
62:g:177:MET:HE1	62:g:182:LEU:HD13	1.62	0.81
11:AA:2462:A:H5'	11:AA:2463:G:H5''	1.63	0.81
58:c:687:G:H5'	80:y:119:LYS:HG2	1.63	0.81
14:Cc:45:A:H2'	14:Cc:46:G:H8	1.46	0.81
3:2:43:ASN:HB2	3:2:46:GLU:HG3	1.64	0.80
58:c:1521:G:O2'	58:c:1523:G:OP2	2.00	0.80
11:AA:1423:C:H4'	30:II:5:LYS:HD2	1.63	0.80
14:Cc:27:G:H1	14:Cc:45:A:H2	1.27	0.79
56:a:8:ARG:HB3	56:a:23:HIS:HB2	1.61	0.79
78:w:44:ASN:HD21	78:w:106:ILE:HD13	1.48	0.79
11:AA:2700:G:H5''	23:F:17:ARG:HG2	1.65	0.79
11:AA:1017:C:H3'	11:AA:1035:G:H22	1.47	0.79
76:u:41:ARG:HH11	77:v:46:PRO:HG3	1.46	0.79
78:w:58:LEU:HB2	78:w:88:LYS:HB3	1.65	0.79
11:AA:2193:U:H5'	11:AA:2194:G:H5'	1.65	0.79
61:f:38:VAL:HG23	61:f:39:THR:HG23	1.64	0.79
11:AA:655:C:H2'	11:AA:656:A:H8	1.46	0.78
23:F:39:ILE:HD12	23:F:102:ARG:HG3	1.65	0.78
11:AA:2969:A:N7	21:EE:215:ASN:ND2	2.30	0.78
66:k:69:GLY:HA2	66:k:72:LYS:HE3	1.65	0.78
11:AA:2445:A:H61	11:AA:2501:U:H3	1.30	0.78
75:t:24:LEU:HD23	75:t:34:LEU:HD23	1.63	0.78
8:7:152:SER:H	8:7:173:GLY:HA2	1.46	0.78
69:n:21:VAL:HG23	69:n:66:TYR:HB2	1.63	0.78
65:j:52:ILE:HD11	65:j:102:VAL:HG21	1.64	0.78
67:l:39:GLY:HA2	67:l:61:GLU:HG3	1.65	0.78
5:4:57:MET:HE1	64:i:143:ARG:HE	1.49	0.78
14:Cc:9:G:H21	14:Cc:46:G:H3'	1.49	0.77
44:PP:48:GLY:HA3	44:PP:53:VAL:HB	1.66	0.77
11:AA:1661:G:H2'	11:AA:1662:G:C8	2.20	0.77
38:MM:30:LYS:HG2	38:MM:63:GLU:HG3	1.67	0.77
41:O:30:THR:HG23	41:O:91:SER:HB2	1.66	0.77
14:Cc:39:A:C6	14:Cc:40:C:C4	2.73	0.76
11:AA:2568:C:O2	11:AA:2573:G:N2	2.17	0.76
10:A:22:VAL:HG22	10:A:122:GLN:HE21	1.49	0.76
16:CC:58:G:O6	51:V:63:ARG:NH2	2.19	0.76
18:DD:30:VAL:HG23	18:DD:83:ASN:HB3	1.68	0.76
11:AA:1268:G:N2	11:AA:1273:A:H62	1.82	0.76
64:i:76:ARG:HB3	64:i:79:ASN:HD21	1.50	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3306:U:OP1	24:FF:269:GLN:NE2	2.20	0.75
37:M:75:LEU:HD22	37:M:78:LEU:HD22	1.69	0.75
61:f:39:THR:O	61:f:42:GLY:N	2.18	0.75
18:DD:28:VAL:HG21	18:DD:185:LEU:HG	1.68	0.75
58:c:992:A:H2	58:c:1012:U:H3	1.31	0.75
14:Cc:8:U:H2'	14:Cc:13:C:H41	1.52	0.75
58:c:1585:U:H3	58:c:1611:A:H2	1.33	0.75
58:c:256:A:O2'	67:l:72:ILE:O	2.05	0.74
58:c:1171:A:H2'	58:c:1172:G:C8	2.21	0.74
18:DD:98:ASN:O	18:DD:102:SER:HB3	1.86	0.74
11:AA:2484:A:N3	14:Cc:57:C:H5'	2.02	0.74
58:c:576:G:H22	81:z:67:ALA:HB2	1.52	0.74
11:AA:1562:C:H42	11:AA:1578:C:H42	1.33	0.74
37:M:19:LYS:HG2	37:M:25:HIS:HB2	1.69	0.74
72:q:80:HIS:HA	72:q:113:GLY:O	1.87	0.74
66:k:56:LYS:O	66:k:88:ARG:HA	1.87	0.74
11:AA:2897:A:H5''	54:Y:125:LYS:HG3	1.70	0.74
11:AA:1222:G:N2	11:AA:1285:G:O2'	2.21	0.74
14:Cc:8:U:H1'	14:Cc:22:A:C2	2.23	0.74
11:AA:1103:A:N6	11:AA:1363:A:O2'	2.20	0.74
11:AA:2442:G:H1	11:AA:2505:U:H3	1.34	0.74
63:h:246:LEU:HB3	63:h:250:GLU:HG3	1.70	0.73
69:n:47:GLN:O	69:n:50:THR:OG1	2.06	0.73
73:r:44:ARG:NH1	73:r:82:ASN:O	2.21	0.73
27:H:81:GLN:O	27:H:98:ASN:ND2	2.21	0.73
14:Cc:11:A:N1	14:Cc:26:C:N3	2.37	0.73
14:Cc:57:C:H4'	14:Cc:58:A:OP1	1.86	0.73
58:c:1559:A:H5''	76:u:135:GLY:HA3	1.71	0.73
73:r:98:ASN:ND2	73:r:121:ILE:O	2.18	0.73
80:y:115:GLU:HA	80:y:118:ARG:HG2	1.70	0.73
11:AA:173:G:H1	11:AA:245:U:H3	1.37	0.73
11:AA:2396:G:N7	87:AA:3713:HOH:O	2.21	0.73
8:7:216:LYS:HA	8:7:239:GLU:HG3	1.68	0.73
12:B:67:ILE:HD11	12:B:80:LYS:HB3	1.71	0.73
11:AA:1717:U:H2'	11:AA:1718:G:C8	2.24	0.72
64:i:73:THR:HG22	74:s:114:ARG:HH21	1.52	0.72
11:AA:627:U:H4'	11:AA:1399:A:H1'	1.69	0.72
60:e:28:GLU:HB3	60:e:94:LYS:HZ3	1.54	0.72
64:i:49:GLU:OE2	64:i:65:ARG:NH2	2.22	0.72
59:d:18:LEU:HD13	75:t:102:VAL:HG11	1.72	0.72
56:a:61:LYS:NZ	56:a:63:LYS:O	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:964:G:H5'	37:M:29:PRO:HB2	1.72	0.72
14:Cc:23:G:H2'	14:Cc:24:C:C6	2.24	0.72
58:c:1290:U:H2'	58:c:1291:G:C8	2.25	0.72
36:LL:91:ARG:HD2	36:LL:143:GLU:HG3	1.70	0.72
40:NN:32:ARG:HG2	40:NN:120:ILE:HA	1.72	0.72
11:AA:2160:G:H2'	11:AA:2161:G:H8	1.56	0.71
22:Ee:155:ILE:HG22	22:Ee:160:ILE:HG23	1.72	0.71
11:AA:1334:U:O2'	32:JJ:151:ARG:NH2	2.22	0.71
58:c:871:G:H2'	58:c:872:G:C8	2.24	0.71
61:f:116:LYS:HG2	61:f:127:ALA:HB3	1.72	0.71
58:c:1474:G:H2'	58:c:1475:A:C8	2.26	0.71
60:e:82:ARG:NH2	60:e:188:LEU:O	2.21	0.71
76:u:88:ARG:HE	76:u:91:ASP:HB2	1.55	0.71
22:Ee:57:LYS:O	22:Ee:79:SER:OG	2.09	0.71
20:E:95:ARG:NH2	44:PP:38:ILE:O	2.24	0.70
57:b:57:CYS:SG	57:b:59:CYS:O	2.49	0.70
58:c:1474:G:H2'	58:c:1475:A:H8	1.55	0.70
64:i:72:HIS:O	74:s:79:TYR:OH	2.09	0.70
65:j:52:ILE:HG13	65:j:109:LEU:HD21	1.72	0.70
11:AA:3297:U:O4	24:FF:124:LYS:NZ	2.22	0.70
11:AA:3016:A:H2'	11:AA:3017:A:H8	1.56	0.70
66:k:72:LYS:HD2	66:k:73:VAL:HG13	1.74	0.70
11:AA:664:U:H2'	11:AA:665:A:C8	2.26	0.70
22:Ee:15:LEU:HD21	22:Ee:31:LYS:HD2	1.74	0.70
14:Cc:45:A:H2'	14:Cc:46:G:C8	2.26	0.70
58:c:1557:U:OP2	58:c:1559:A:O2'	2.07	0.70
58:c:1672:G:H2'	58:c:1673:G:C8	2.26	0.70
11:AA:1203:A:H2'	11:AA:1204:A:C8	2.26	0.70
11:AA:2468:A:N6	11:AA:2478:C:O2'	2.25	0.70
58:c:992:A:O2'	58:c:1785:U:O2	2.09	0.70
77:v:28:LEU:HG	77:v:30:VAL:H	1.55	0.70
11:AA:2213:A:H2'	11:AA:2214:A:C8	2.27	0.69
80:y:18:GLU:HG2	80:y:65:LEU:HD13	1.72	0.69
23:F:48:ILE:HG13	23:F:94:GLU:HG2	1.74	0.69
62:g:8:LYS:HG2	78:w:63:LEU:HD11	1.74	0.69
65:j:180:THR:HG22	65:j:182:GLN:H	1.56	0.69
77:v:105:LEU:HD13	77:v:122:ARG:HD3	1.74	0.69
8:7:116:ASP:HB3	8:7:121:MET:HB2	1.74	0.69
11:AA:655:C:H2'	11:AA:656:A:C8	2.26	0.69
60:e:179:SER:HB2	60:e:183:GLN:HB2	1.73	0.69
4:3:2:VAL:N	79:x:64:GLU:OE2	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:H:40:LYS:HG3	27:H:57:MET:HG2	1.74	0.69
52:W:15:THR:HG22	52:W:45:VAL:HG11	1.75	0.69
35:L:115:LYS:NZ	35:L:119:GLU:OE2	2.25	0.69
11:AA:307:A:H2'	11:AA:308:A:C8	2.27	0.69
58:c:354:C:H5''	67:l:16:ALA:HB2	1.73	0.69
58:c:821:U:H3	58:c:851:U:H3	1.40	0.69
24:FF:360:ASP:OD2	24:FF:364:LYS:NZ	2.25	0.69
8:7:38:ARG:HD2	8:7:67:ILE:HD13	1.73	0.68
11:AA:327:A:OP2	42:OO:31:LYS:NZ	2.25	0.68
18:DD:93:LEU:HD21	18:DD:190:VAL:HG11	1.75	0.68
58:c:319:U:H4'	58:c:323:A:C8	2.28	0.68
58:c:1594:G:OP2	58:c:1596:C:N4	2.26	0.68
63:h:105:VAL:HG21	63:h:245:LYS:H	1.58	0.68
26:GG:142:VAL:HG12	26:GG:145:ILE:HD12	1.76	0.68
60:e:35:PRO:HB3	60:e:38:PHE:HD2	1.59	0.68
34:KK:205:ALA:HA	34:KK:208:GLU:HG3	1.74	0.68
50:U:66:GLU:OE1	50:U:70:ARG:NH2	2.27	0.68
67:l:70:GLU:HB2	67:l:72:ILE:HD11	1.75	0.68
11:AA:1236:G:N1	11:AA:1244:A:OP1	2.22	0.68
20:E:99:ARG:NH2	20:E:126:VAL:O	2.25	0.68
38:MM:72:ALA:HB2	38:MM:155:ALA:HB2	1.76	0.68
11:AA:3295:A:H2'	11:AA:3296:A:C8	2.29	0.68
14:Bb:38:A:C8	87:Bb:1401:HOH:O	2.46	0.68
14:Cc:11:A:C2	14:Cc:26:C:O2	2.46	0.68
77:v:39:THR:HA	77:v:100:ILE:HD12	1.74	0.68
58:c:591:A:H2'	58:c:592:A:C8	2.29	0.67
58:c:1338:C:HO2'	58:c:1339:C:H6	1.41	0.67
8:7:37:SER:OG	8:7:39:ASP:OD1	2.11	0.67
8:7:203:THR:HG21	8:7:244:ALA:HA	1.77	0.67
11:AA:3291:G:H2'	11:AA:3292:A:H8	1.60	0.67
11:AA:627:U:H2'	11:AA:628:A:C8	2.29	0.67
11:AA:2493:U:H3'	11:AA:2494:A:H8	1.59	0.67
14:Cc:6:G:H1	14:Cc:68:C:H42	1.42	0.67
21:EE:80:GLU:HG3	57:b:66:GLY:HA2	1.76	0.67
58:c:967:A:OP2	71:p:124:ARG:NH2	2.26	0.67
59:d:150:ASP:OD2	59:d:165:ARG:NH2	2.28	0.67
11:AA:1196:C:OP2	11:AA:1309:U:O2'	2.12	0.67
16:CC:8:C:H2'	16:CC:9:A:H8	1.60	0.67
58:c:12:U:H2'	58:c:13:C:C6	2.29	0.67
59:d:98:ILE:HD11	59:d:116:LYS:HD2	1.77	0.67
58:c:1034:C:HO2'	80:y:2:THR:N	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2960:C:H2'	11:AA:2961:G:C8	2.30	0.66
62:g:109:LEU:HD12	62:g:184:ILE:HD11	1.75	0.66
74:s:129:PHE:O	74:s:137:ARG:NH1	2.28	0.66
11:AA:307:A:H2'	11:AA:308:A:H8	1.60	0.66
11:AA:351:A:N6	53:X:37:TYR:O	2.26	0.66
11:AA:1132:C:H2'	11:AA:1133:A2M:H8	1.77	0.66
11:AA:2219:A:H2'	11:AA:2220:A2M:H8	1.76	0.66
8:7:126:SER:OG	8:7:128:ASP:OD1	2.11	0.66
11:AA:1437:OMC:HM22	26:GG:93:MET:HG3	1.77	0.66
26:GG:156:LEU:HD12	26:GG:159:ILE:HD12	1.76	0.66
56:a:73:GLU:OE1	56:a:80:ARG:NH1	2.28	0.66
58:c:1041:G:H2'	58:c:1042:G:C8	2.29	0.66
63:h:92:LEU:O	63:h:96:ASN:HA	1.95	0.66
11:AA:1551:C:HO2'	11:AA:2170:U:HO2'	1.39	0.66
58:c:386:G:H5''	67:l:23:LYS:HD2	1.76	0.66
67:l:39:GLY:O	67:l:59:ARG:HB3	1.95	0.66
11:AA:3329:U:H5''	24:FF:308:MET:HE3	1.77	0.66
16:CC:9:A:H2'	16:CC:10:A:C8	2.31	0.66
11:AA:900:G:H1'	11:AA:1589:A:N6	2.10	0.66
8:7:172:ALA:HB1	8:7:199:ILE:HG21	1.76	0.66
58:c:65:A:H2	58:c:84:A:H62	1.42	0.66
11:AA:1230:G:H4'	18:DD:34:SER:HA	1.75	0.66
58:c:791:A:OP1	63:h:187:ARG:NH2	2.29	0.66
11:AA:815:G:OP2	51:V:31:LYS:NZ	2.29	0.66
11:AA:2697:A:H2'	11:AA:2698:G:C8	2.31	0.66
11:AA:3016:A:H2'	11:AA:3017:A:C8	2.31	0.66
11:AA:3322:A:H2'	11:AA:3323:A:C8	2.30	0.66
30:II:142:ASP:O	30:II:146:ILE:HG13	1.96	0.66
62:g:140:GLY:O	62:g:147:ALA:HA	1.96	0.66
11:AA:1831:U:O2'	16:CC:114:G:OP1	2.12	0.66
18:DD:51:VAL:HG22	18:DD:87:VAL:HG13	1.78	0.66
58:c:1591:C:H2'	58:c:1592:A:H8	1.61	0.66
11:AA:1033:U:H2'	11:AA:1034:U:C6	2.31	0.65
42:OO:37:ASN:O	42:OO:41:THR:HG23	1.96	0.65
58:c:1533:C:H4'	58:c:1539:G:C6	2.30	0.65
2:1:54:VAL:HG22	2:1:88:ILE:HG21	1.78	0.65
14:Cc:29:C:H2'	14:Cc:30:G:H8	1.62	0.65
11:AA:2180:G:OP1	21:EE:174:ARG:NH2	2.28	0.65
14:Cc:29:C:H2'	14:Cc:30:G:C8	2.31	0.65
74:s:39:VAL:HG21	74:s:48:VAL:HG21	1.78	0.65
68:m:17:ARG:O	68:m:23:ARG:NH1	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:u:76:PRO:HD2	76:u:77:THR:H	1.61	0.65
5:4:56:LEU:HD13	5:4:59:SER:HA	1.77	0.65
11:AA:1219:C:O2'	11:AA:1286:A:N1	2.27	0.65
11:AA:2901:G:O2'	11:AA:3024:A:N1	2.27	0.65
22:Ee:110:ILE:HG22	22:Ee:114:ARG:HE	1.61	0.65
73:r:61:ARG:O	73:r:65:LEU:HD23	1.97	0.65
1:0:26:ASP:OD1	1:0:68:LYS:NZ	2.28	0.65
10:A:22:VAL:HG21	10:A:120:VAL:HG11	1.79	0.65
14:Cc:22:A:H8	14:Cc:22:A:H5'	1.62	0.65
14:Cc:27:G:N1	14:Cc:45:A:C2	2.61	0.65
13:BB:52:G:H21	40:NN:9:MET:HE1	1.61	0.65
27:H:24:ASN:ND2	27:H:97:ASP:OD2	2.25	0.65
58:c:1601:G:OP1	77:v:86:ARG:NH2	2.29	0.65
77:v:7:ARG:NH2	77:v:67:MET:O	2.30	0.65
11:AA:683:U:OP1	46:QQ:204:LYS:NZ	2.30	0.65
74:s:50:GLU:OE1	74:s:114:ARG:NH1	2.30	0.65
79:x:74:GLN:NE2	79:x:83:TRP:O	2.29	0.65
64:i:33:VAL:HG12	74:s:53:LEU:HD21	1.78	0.65
22:Ee:63:LYS:H	22:Ee:70:ALA:HB3	1.61	0.65
65:j:21:GLU:HA	65:j:24:ILE:HG22	1.78	0.65
77:v:16:ASN:OD1	77:v:56:LYS:NZ	2.30	0.65
11:AA:2960:C:H2'	11:AA:2961:G:H8	1.59	0.64
11:AA:3233:C:H2'	11:AA:3234:A:C8	2.32	0.64
11:AA:3251:U:H2'	11:AA:3252:G:C8	2.31	0.64
18:DD:34:SER:HB3	18:DD:37:GLN:HE21	1.62	0.64
64:i:73:THR:HG22	74:s:114:ARG:NH2	2.11	0.64
3:2:44:ILE:HG23	3:2:45:VAL:HG23	1.79	0.64
11:AA:1167:U:OP1	87:AA:3705:HOH:O	2.14	0.64
10:A:96:LYS:O	10:A:100:GLU:HG3	1.97	0.64
11:AA:1322:U:O2	20:E:108:GLN:NE2	2.28	0.64
11:AA:2568:C:N3	11:AA:2573:G:N1	2.33	0.64
11:AA:3050:U:O2'	29:I:16:GLY:O	2.13	0.64
26:GG:35:VAL:HG21	26:GG:244:LEU:HD21	1.80	0.64
1:0:36:SER:OG	58:c:521:A:H4'	1.97	0.64
8:7:5:GLU:OE1	8:7:249:ARG:NH2	2.31	0.64
11:AA:1874:A:OP2	17:D:21:LYS:NZ	2.30	0.64
11:AA:1750:A:OP1	52:W:44:LYS:NZ	2.23	0.64
11:AA:2457:G:H1	11:AA:2460:U:H5'	1.63	0.64
58:c:955:A:OP1	71:p:3:ARG:NH1	2.30	0.64
71:p:146:ALA:O	71:p:150:VAL:HG22	1.97	0.64
8:7:156:VAL:HG12	8:7:169:ILE:HG22	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:799:G:O2'	42:OO:18:TRP:NE1	2.30	0.64
46:QQ:96:ARG:NH2	46:QQ:104:GLU:OE1	2.30	0.64
11:AA:1301:A:H4'	11:AA:1302:A:H5''	1.80	0.64
11:AA:1786:G:H2'	11:AA:1787:A:C8	2.32	0.64
16:CC:83:C:H41	33:K:52:ARG:HH12	1.44	0.64
40:NN:15:GLU:OE1	40:NN:132:ASN:ND2	2.30	0.64
54:Y:127:LEU:HG	54:Y:128:LYS:HG2	1.79	0.64
58:c:1001:A:H2'	58:c:1002:G:C8	2.33	0.64
8:7:110:VAL:HG12	8:7:126:SER:HB3	1.79	0.64
16:CC:38:U:O2'	49:T:83:LYS:NZ	2.31	0.64
11:AA:1257:C:H42	11:AA:1261:G:H22	0.72	0.64
11:AA:3068:U:OP2	17:D:62:ARG:NH2	2.26	0.64
31:J:139:ILE:HD11	31:J:141:TYR:HE1	1.63	0.64
58:c:902:G:OP1	72:q:90:ARG:NH1	2.31	0.64
58:c:924:A:H2'	58:c:925:G:C8	2.33	0.64
58:c:1537:C:H5''	58:c:1572:OMG:HN21	1.63	0.64
68:m:59:LEU:HD22	68:m:69:ARG:HA	1.79	0.64
11:AA:1017:C:C3'	11:AA:1035:G:H22	2.11	0.64
11:AA:2714:G:H8	11:AA:2751:G:H2'	1.63	0.64
11:AA:370:U:H4'	11:AA:404:G:H5'	1.80	0.63
68:m:57:ARG:O	68:m:61:THR:HG23	1.98	0.63
7:6:42:ARG:NH1	58:c:589:C:OP1	2.31	0.63
11:AA:2477:G:H5''	11:AA:2481:G:H1	1.62	0.63
11:AA:2526:C:OP1	21:EE:37:ARG:NH2	2.28	0.63
14:Cc:32:G:H21	64:i:157:ARG:HH12	0.72	0.63
22:Ee:75:PRO:HB2	22:Ee:80:LEU:HD11	1.79	0.63
22:Ee:125:LEU:HB2	22:Ee:164:GLU:HA	1.80	0.63
53:X:15:LYS:O	53:X:19:GLN:HG2	1.98	0.63
11:AA:289:A:O2'	46:QQ:93:LYS:O	2.16	0.63
11:AA:1119:C:H2'	11:AA:1120:A:H8	1.63	0.63
11:AA:2393:G:OP2	87:AA:3706:HOH:O	2.15	0.63
12:B:116:HIS:HB3	12:B:149:VAL:HG13	1.80	0.63
58:c:110:U:OP1	58:c:753:A:O2'	2.16	0.63
11:AA:2697:A:H2'	11:AA:2698:G:H8	1.63	0.63
28:HH:196:ARG:NH2	28:HH:237:GLU:OE2	2.30	0.63
11:AA:284:A:OP2	56:a:41:ARG:NH1	2.29	0.63
11:AA:2213:A:H2'	11:AA:2214:A:H8	1.64	0.63
14:Bb:9:G:O2'	14:Bb:10:G:N7	2.31	0.63
41:O:26:GLY:O	41:O:30:THR:OG1	2.16	0.63
63:h:129:VAL:HG22	63:h:139:VAL:HG12	1.79	0.63
11:AA:2899:C:O2'	11:AA:2901:G:OP2	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:R:14:LEU:HD11	47:R:31:LYS:HB2	1.80	0.63
47:R:16:TYR:OH	47:R:89:LEU:O	2.14	0.63
58:c:1591:C:H2'	58:c:1592:A:C8	2.34	0.63
58:c:1629:G:N2	58:c:1765:A:H8	1.96	0.63
41:O:17:VAL:HG11	41:O:92:ILE:HD12	1.80	0.63
43:P:64:VAL:HG13	43:P:65:LYS:HG3	1.81	0.63
11:AA:1258:U:OP1	18:DD:42:ARG:NH1	2.32	0.63
11:AA:1277:C:H2'	11:AA:1278:A:H8	1.62	0.63
11:AA:1477:A:OP1	11:AA:3075:G:O2'	2.15	0.63
14:Cc:11:A:N1	14:Cc:26:C:C2	2.67	0.63
42:OO:126:PHE:HB2	49:T:115:LYS:HB3	1.79	0.63
43:P:51:LEU:HG	43:P:55:LEU:HD23	1.80	0.63
65:j:57:ASP:HB3	65:j:98:ARG:HD2	1.81	0.63
77:v:42:GLY:HA2	77:v:84:LYS:HG3	1.81	0.63
81:z:6:PRO:HG3	81:z:14:LYS:HG2	1.81	0.63
11:AA:3042:U:OP2	11:AA:3092:C:N4	2.32	0.63
58:c:908:U:H6	58:c:1008:G:H21	1.47	0.63
62:g:53:THR:HB	62:g:94:ARG:HD3	1.81	0.63
79:x:4:ASP:O	79:x:5:LYS:HG2	1.99	0.63
10:A:96:LYS:NZ	11:AA:2384:A:N1	2.43	0.62
16:CC:8:C:H2'	16:CC:9:A:C8	2.34	0.62
46:QQ:45:PRO:O	46:QQ:49:ARG:HG3	1.99	0.62
58:c:407:A:H2'	58:c:408:C:H6	1.64	0.62
58:c:1357:A:N3	77:v:129:GLN:NE2	2.41	0.62
11:AA:985:U:H2'	11:AA:986:U:H6	1.64	0.62
40:NN:37:LEU:O	40:NN:41:SER:OG	2.16	0.62
62:g:208:ILE:HD12	75:t:16:LEU:HD23	1.80	0.62
11:AA:1567:U:H3	11:AA:1571:A:H1'	1.63	0.62
11:AA:1765:U:OP2	17:D:43:LYS:NZ	2.31	0.62
13:BB:64:A:N7	38:MM:209:ASN:ND2	2.43	0.62
16:CC:9:A:H2'	16:CC:10:A:H8	1.64	0.62
28:HH:50:ARG:NH1	28:HH:147:ASP:OD2	2.31	0.62
67:l:66:SER:HA	67:l:73:SER:HA	1.80	0.62
22:Ee:152:ILE:HA	22:Ee:155:ILE:HD11	1.80	0.62
58:c:418:G:O2'	65:j:72:ARG:NH2	2.32	0.62
60:e:38:PHE:O	60:e:74:GLN:NE2	2.30	0.62
2:1:62:VAL:O	2:1:66:VAL:HG23	1.99	0.62
11:AA:126:U:OP1	46:QQ:144:ARG:NH1	2.33	0.62
11:AA:1009:A:H2'	11:AA:1010:G:C8	2.34	0.62
11:AA:2450:G:O6	11:AA:2497:U:O4	2.17	0.62
11:AA:2768:U:H2'	11:AA:2769:A:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:OO:144:THR:HG21	49:T:118:ILE:HG21	1.81	0.62
50:U:70:ARG:HD3	50:U:84:LYS:HG2	1.82	0.62
58:c:1251:U:O2'	58:c:1252:C:O5'	2.18	0.62
58:c:1291:G:H22	58:c:1324:G:N2	1.96	0.62
60:e:144:ARG:HD3	60:e:208:GLN:HB3	1.81	0.62
80:y:113:HIS:O	80:y:117:ARG:HG3	1.98	0.62
8:7:109:ASP:N	8:7:109:ASP:OD1	2.25	0.62
11:AA:894:G:H4'	11:AA:895:A:H5'	1.82	0.62
11:AA:1024:G:O2'	11:AA:1027:A:N6	2.33	0.62
59:d:52:LYS:HD3	79:x:82:VAL:HA	1.79	0.62
61:f:222:TYR:OH	79:x:11:LEU:O	2.11	0.62
4:3:73:LEU:HB3	4:3:77:THR:HG21	1.82	0.62
58:c:625:C:H2'	58:c:626:U:C6	2.35	0.62
1:0:57:VAL:HB	1:0:60:PHE:HE2	1.63	0.62
11:AA:1268:G:H21	11:AA:1273:A:N6	1.90	0.62
18:DD:42:ARG:NH2	18:DD:51:VAL:O	2.33	0.62
18:DD:51:VAL:HG13	18:DD:87:VAL:HG22	1.81	0.62
58:c:163:G:OP2	58:c:163:G:N2	2.27	0.62
58:c:1171:A:H2'	58:c:1172:G:H8	1.65	0.62
62:g:163:PRO:HA	62:g:166:ASP:HB2	1.81	0.62
68:m:161:THR:HG22	68:m:162:SER:H	1.65	0.62
7:6:29:LYS:HG3	7:6:30:PRO:HD2	1.82	0.62
11:AA:435:C:H2'	11:AA:436:A:H8	1.65	0.62
13:BB:112:G:H2'	13:BB:113:C:C6	2.34	0.62
33:K:3:LYS:HD3	33:K:8:VAL:HG13	1.81	0.62
37:M:83:PRO:HG2	37:M:86:LYS:HD3	1.82	0.62
11:AA:269:G:H5''	46:QQ:14:LYS:HE2	1.82	0.62
22:Ee:121:PHE:O	22:Ee:123:ARG:NH1	2.29	0.62
41:O:27:TYR:OH	41:O:55:GLU:OE2	2.11	0.62
56:a:71:ARG:HH11	56:a:71:ARG:HG2	1.65	0.62
65:j:31:ARG:HG2	65:j:101:ILE:HG12	1.80	0.62
8:7:85:TRP:HA	8:7:109:ASP:HB3	1.81	0.61
11:AA:1724:U:H1'	11:AA:1725:C:C6	2.35	0.61
58:c:205:U:H2'	58:c:206:A:H8	1.65	0.61
58:c:45:U:O2'	58:c:46:A:H2'	2.00	0.61
58:c:283:U:H5''	65:j:188:ARG:HD3	1.82	0.61
58:c:406:U:H2'	58:c:407:A:H8	1.64	0.61
63:h:95:THR:O	63:h:97:GLU:HG2	2.00	0.61
4:3:67:THR:OG1	4:3:70:LYS:O	2.17	0.61
11:AA:824:C:H5''	21:EE:21:ARG:HD3	1.82	0.61
22:Ee:36:GLY:HA3	22:Ee:67:ARG:HH21	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:J:50:ALA:HB1	49:T:66:VAL:HG11	1.83	0.61
37:M:100:PRO:HG2	37:M:123:VAL:HG22	1.80	0.61
58:c:407:A:H2'	58:c:408:C:C6	2.35	0.61
81:z:60:GLU:HA	81:z:68:ILE:HG22	1.83	0.61
11:AA:2278:5MC:OP1	55:Z:23:ARG:NH2	2.28	0.61
11:AA:3324:C:OP1	43:P:19:ARG:NH1	2.32	0.61
14:Bb:35:C:OP1	58:c:1191:B8N:N34	2.33	0.61
22:Ee:45:ASP:HB2	22:Ee:71:ALA:HB2	1.83	0.61
55:Z:2:ARG:HH22	58:c:1773:4AC:HM72	1.64	0.61
1:0:7:ILE:HD13	1:0:40:LEU:HD13	1.81	0.61
18:DD:55:LYS:O	18:DD:59:VAL:HG23	2.01	0.61
47:R:9:VAL:HG21	47:R:44:TYR:HE2	1.65	0.61
58:c:1220:C:H5''	69:n:52:LYS:HE2	1.83	0.61
68:m:120:LYS:H	68:m:124:HIS:HD2	1.48	0.61
10:A:27:LEU:HD21	10:A:102:LEU:HB2	1.83	0.61
15:C:152:HIS:ND1	15:C:162:ALA:O	2.26	0.61
58:c:896:U:OP1	60:e:26:ARG:NH2	2.34	0.61
11:AA:1237:G:N2	22:Ee:138:SER:O	2.33	0.61
11:AA:1523:U:O2'	31:J:111:ASN:ND2	2.33	0.61
35:L:42:LEU:HD22	35:L:74:VAL:HG22	1.81	0.61
58:c:265:A:H62	58:c:289:U:H3	1.47	0.61
58:c:337:G:H3'	70:o:133:LYS:HB2	1.81	0.61
58:c:447:U:O2'	63:h:27:TYR:O	2.17	0.61
58:c:928:U:O2'	87:c:2001:HOH:O	2.16	0.61
58:c:1524:A:H2'	58:c:1525:A:C8	2.36	0.61
59:d:118:PRO:HG2	59:d:141:ILE:HD13	1.83	0.61
79:x:40:ASP:HB3	79:x:46:ILE:HD11	1.82	0.61
6:5:43:PHE:O	6:5:47:ALA:HB2	2.01	0.61
11:AA:1281:G:O2'	18:DD:83:ASN:OD1	2.12	0.61
14:Cc:6:G:N2	14:Cc:68:C:N3	2.41	0.61
14:Cc:37:U:H2'	14:Cc:38:A:C8	2.36	0.61
24:FF:29:VAL:HG22	24:FF:218:ILE:HD12	1.83	0.61
51:V:63:ARG:HD2	51:V:65:ARG:HG2	1.83	0.61
9:8:135:HIS:NE2	58:c:1250:U:O2'	2.33	0.61
11:AA:528:U:H2'	11:AA:529:A:C8	2.36	0.61
11:AA:2435:G:O2'	46:QQ:24:ARG:NH1	2.31	0.61
16:CC:63:G:H22	16:CC:97:A:H2	1.48	0.61
16:CC:103:G:OP2	16:CC:105:A:O2'	2.17	0.61
46:QQ:33:LYS:O	46:QQ:65:ARG:NH2	2.33	0.61
58:c:77:U:O2'	58:c:78:A:OP2	2.19	0.61
68:m:109:LEU:HB2	68:m:146:PHE:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:y:29:PRO:HB2	80:y:58:SER:HB2	1.83	0.61
11:AA:1033:U:O2'	11:AA:1034:U:OP1	2.17	0.61
18:DD:79:PHE:HE2	18:DD:196:VAL:HG11	1.65	0.61
20:E:8:GLN:HB3	20:E:64:ILE:HD11	1.82	0.61
8:7:83:ALA:HB1	8:7:110:VAL:HG23	1.83	0.60
11:AA:3294:A:H2'	11:AA:3295:A:O4'	2.00	0.60
13:BB:4:U:H2'	13:BB:5:G:H8	1.66	0.60
58:c:52:U:H2'	58:c:53:G:H8	1.66	0.60
58:c:1765:A:H2	58:c:1768:G:H1	1.48	0.60
40:NN:49:LYS:HB3	40:NN:62:ASN:HA	1.83	0.60
78:w:99:ILE:HA	78:w:102:ARG:HG2	1.83	0.60
11:AA:1203:A:H2'	11:AA:1204:A:H8	1.65	0.60
58:c:1776:A:H2'	58:c:1777:G:C8	2.35	0.60
11:AA:896:A:H5'	21:EE:183:GLY:HA2	1.83	0.60
11:AA:1940:G:N2	11:AA:3362:A:H8	1.99	0.60
11:AA:2557:A:OP1	21:EE:69:TYR:OH	2.17	0.60
15:C:44:PHE:HZ	15:C:127:LEU:HD21	1.66	0.60
52:W:60:GLY:O	52:W:64:LYS:HG2	2.00	0.60
58:c:1160:A:H2'	58:c:1161:C:C6	2.36	0.60
3:2:32:LYS:O	3:2:37:LYS:NZ	2.33	0.60
11:AA:1022:U:N3	11:AA:1023:C:N4	2.49	0.60
11:AA:2895:G:O2'	54:Y:100:TYR:O	2.20	0.60
14:Cc:15:G:H8	14:Cc:15:G:O5'	1.85	0.60
14:Cc:37:U:H2'	14:Cc:38:A:H8	1.67	0.60
18:DD:112:GLY:HA2	18:DD:164:LYS:HD3	1.82	0.60
23:F:13:TYR:HA	23:F:16:GLN:HG3	1.84	0.60
58:c:460:A:O2'	63:h:27:TYR:OH	2.15	0.60
66:k:28:GLU:HB2	66:k:35:LYS:HG3	1.83	0.60
11:AA:1596:C:H2'	11:AA:1597:C:C6	2.35	0.60
11:AA:2129:U:H2'	11:AA:2130:G:C8	2.37	0.60
11:AA:2371:G:N1	11:AA:2375:G:OP1	2.19	0.60
11:AA:2767:U:O2'	56:a:30:ALA:O	2.17	0.60
58:c:455:C:H3'	58:c:456:A:H8	1.66	0.60
59:d:41:ARG:NH1	75:t:103:ASP:OD2	2.35	0.60
11:AA:394:G:N1	11:AA:397:A:OP2	2.33	0.60
11:AA:591:G:N2	11:AA:612:U:OP1	2.32	0.60
11:AA:1497:C:H2'	11:AA:1498:A:H8	1.65	0.60
25:G:34:ALA:O	25:G:38:ILE:HG13	2.02	0.60
58:c:103:A:H4'	58:c:105:A:C8	2.37	0.60
58:c:343:C:H2'	58:c:344:A:H8	1.66	0.60
11:AA:407:A:C2	16:CC:17:A:H1'	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:656:A:H2'	11:AA:657:A:C8	2.37	0.60
11:AA:1475:A:H4'	43:P:57:GLN:HG3	1.82	0.60
14:Cc:11:A:C6	14:Cc:26:C:N3	2.69	0.60
29:I:45:ASN:HB3	29:I:48:ARG:HG2	1.83	0.60
58:c:1213:G:O2'	58:c:1244:A:N6	2.33	0.60
66:k:37:GLU:HB3	66:k:72:LYS:NZ	2.17	0.60
66:k:63:PRO:HB2	66:k:65:PRO:HD2	1.84	0.60
11:AA:2964:G:N2	11:AA:2967:A:OP2	2.29	0.60
77:v:31:PRO:HB3	77:v:103:LYS:HD2	1.83	0.60
1:0:36:SER:HG	58:c:521:A:H4'	1.65	0.60
11:AA:1836:C:H41	53:X:3:ALA:HB2	1.66	0.60
14:Cc:39:A:N6	14:Cc:40:C:N4	2.50	0.60
67:l:57:ALA:HB2	67:l:177:GLY:HA2	1.83	0.60
9:8:136:LYS:H	9:8:138:ARG:HG2	1.67	0.59
11:AA:1236:G:N7	22:Ee:16:ARG:NH1	2.49	0.59
11:AA:1666:G:H2'	11:AA:1667:A:H8	1.66	0.59
11:AA:1646:G:O2'	11:AA:1808:G:N2	2.32	0.59
11:AA:2442:G:O6	11:AA:2505:U:O4	2.20	0.59
11:AA:3291:G:H2'	11:AA:3292:A:C8	2.36	0.59
38:MM:108:ALA:O	38:MM:112:GLN:HB2	2.01	0.59
61:f:56:ILE:HG23	61:f:61:LEU:HB2	1.84	0.59
1:0:34:ASN:ND2	58:c:521:A:N3	2.49	0.59
11:AA:2406:C:H2'	11:AA:2407:C:H6	1.67	0.59
14:Cc:52:C:H2'	14:Cc:53:G:H8	1.66	0.59
36:LL:41:ILE:HD13	36:LL:71:VAL:HG22	1.84	0.59
58:c:142:G:H2'	58:c:143:G:C8	2.37	0.59
58:c:1610:G:N7	74:s:14:LYS:NZ	2.44	0.59
63:h:181:VAL:HG21	63:h:210:ILE:HD12	1.83	0.59
11:AA:1206:G:OP1	38:MM:157:TYR:OH	2.16	0.59
11:AA:1799:A:H2'	11:AA:1800:A:C8	2.38	0.59
11:AA:2986:U:H2'	11:AA:2987:A:H8	1.67	0.59
20:E:14:LEU:H	20:E:56:GLY:HA2	1.67	0.59
34:KK:133:LYS:HB2	34:KK:199:ALA:HB3	1.83	0.59
6:5:52:PHE:HB3	78:w:82:TYR:HB3	1.84	0.59
11:AA:662:U:H2'	11:AA:663:OMC:C6	2.38	0.59
11:AA:675:C:O2'	11:AA:679:U:OP1	2.20	0.59
11:AA:1095:U:H1'	23:F:129:LYS:HG3	1.83	0.59
33:K:83:ASP:O	33:K:84:LYS:HG2	2.02	0.59
37:M:95:SER:OG	37:M:97:GLU:O	2.17	0.59
58:c:1648:A:H2'	58:c:1649:G:H8	1.68	0.59
65:j:49:VAL:HG23	65:j:115:LYS:HE2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:j:79:LYS:HG3	65:j:80:ASN:N	2.16	0.59
11:AA:12:A:H2'	11:AA:13:A:C8	2.37	0.59
11:AA:1863:G:N1	11:AA:1866:C:OP2	2.24	0.59
11:AA:2180:G:H2'	11:AA:2181:C:C6	2.38	0.59
11:AA:3087:A:P	87:AA:3704:HOH:O	2.60	0.59
58:c:1483:A:OP2	58:c:1521:G:N2	2.36	0.59
74:s:87:LYS:HG2	74:s:117:LEU:HD13	1.84	0.59
2:1:65:LEU:HA	2:1:70:LYS:HE3	1.83	0.59
8:7:176:LYS:HB3	8:7:195:HIS:HB3	1.85	0.59
11:AA:417:A:H2'	11:AA:418:A:C8	2.37	0.59
11:AA:2722:U:O2'	23:F:88:ARG:O	2.20	0.59
14:Cc:12:G:H1	14:Cc:24:C:H42	1.51	0.59
14:Cc:19:G:H22	14:Cc:58:A:H2'	1.66	0.59
58:c:1466:G:O2'	58:c:1602:C:OP1	2.21	0.59
11:AA:1907:C:O2	24:FF:240:ARG:NH2	2.35	0.59
11:AA:2490:C:H1'	11:AA:2491:A:C8	2.37	0.59
22:Ee:75:PRO:HG2	22:Ee:116:MET:HE1	1.84	0.59
58:c:1401:A:OP1	75:t:56:HIS:NE2	2.31	0.59
58:c:1413:U:O2'	58:c:1414:U:OP1	2.20	0.59
77:v:30:VAL:HG12	77:v:32:GLY:H	1.66	0.59
11:AA:821:U:H2'	11:AA:822:G:H8	1.68	0.59
11:AA:2961:G:H2'	11:AA:2962:U:C6	2.38	0.59
18:DD:139:LEU:HD12	18:DD:172:LEU:HD23	1.83	0.59
22:Ee:36:GLY:HA3	22:Ee:67:ARG:HE	1.67	0.59
37:M:76:ASP:HB3	37:M:116:GLY:HA3	1.85	0.59
60:e:145:LYS:HG2	60:e:154:SER:HB3	1.85	0.59
58:c:1352:G:N2	58:c:1374:C:C2	2.71	0.59
63:h:35:PRO:HD2	63:h:83:PRO:HG2	1.85	0.59
11:AA:129:U:H2'	11:AA:130:A:C8	2.38	0.58
13:BB:94:C:H2'	13:BB:95:A:H8	1.67	0.58
58:c:1648:A:H2'	58:c:1649:G:C8	2.38	0.58
58:c:1765:A:H2	58:c:1768:G:N1	2.00	0.58
63:h:11:ARG:NE	63:h:21:ASP:O	2.31	0.58
66:k:113:PRO:HG2	66:k:116:ARG:HD3	1.85	0.58
67:l:148:ALA:O	67:l:151:LYS:NZ	2.36	0.58
3:2:27:SER:HB2	72:q:128:LYS:HE2	1.85	0.58
11:AA:544:C:O2	11:AA:548:G:N2	2.36	0.58
16:CC:143:U:OP1	46:QQ:38:ARG:NH2	2.33	0.58
58:c:1096:C:OP2	80:y:71:LYS:NZ	2.33	0.58
59:d:10:THR:OG1	59:d:13:ASP:OD2	2.21	0.58
61:f:165:VAL:HG11	61:f:210:THR:HA	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1667:A:H2'	11:AA:1668:G:C8	2.38	0.58
11:AA:1696:A:H2'	11:AA:1697:A:C8	2.38	0.58
11:AA:2795:U:OP2	56:a:63:LYS:HG2	2.03	0.58
11:AA:3144:G:N7	87:AA:3729:HOH:O	2.31	0.58
14:Cc:39:A:C5	14:Cc:40:C:C4	2.91	0.58
14:Cc:48:U:H2'	14:Cc:49:C:H5	1.67	0.58
24:FF:218:ILE:HG12	24:FF:276:THR:HG23	1.85	0.58
58:c:1682:U:O4	58:c:1720:G:N2	2.37	0.58
59:d:201:LEU:HD11	75:t:82:ASP:HB3	1.85	0.58
10:A:189:ASP:O	10:A:193:GLN:HG3	2.03	0.58
11:AA:358:G:N2	11:AA:361:A:OP2	2.33	0.58
11:AA:1863:G:N7	87:AA:3753:HOH:O	2.31	0.58
11:AA:2406:C:H2'	11:AA:2407:C:C6	2.38	0.58
29:I:18:GLY:HA3	29:I:31:PHE:O	2.03	0.58
58:c:58:U:O2'	58:c:451:A:N3	2.36	0.58
10:A:87:MET:HG2	11:AA:1312:C:O2	2.03	0.58
11:AA:289:A:H2'	11:AA:290:G:H8	1.67	0.58
11:AA:2696:A:H2'	11:AA:2697:A:C8	2.39	0.58
13:BB:72:A:O2'	13:BB:73:C:OP1	2.20	0.58
58:c:567:A:OP1	81:z:70:LYS:NZ	2.36	0.58
58:c:1098:U:OP1	61:f:159:THR:OG1	2.22	0.58
80:y:31:SER:H	80:y:34:ILE:HD12	1.68	0.58
11:AA:952:A:H4'	11:AA:968:G:N2	2.18	0.58
11:AA:2922:OMG:H5''	11:AA:2922:OMG:H8	1.67	0.58
12:B:67:ILE:HG13	12:B:68:GLY:H	1.67	0.58
13:BB:16:U:H4'	28:HH:7:ALA:H	1.68	0.58
32:JJ:86:VAL:HG13	32:JJ:136:TYR:HB3	1.84	0.58
41:O:74:ASN:N	41:O:74:ASN:OD1	2.37	0.58
58:c:1220:C:H2'	58:c:1221:A:H8	1.67	0.58
11:AA:1799:A:H2'	11:AA:1800:A:H8	1.66	0.58
42:OO:62:THR:O	42:OO:64:LYS:N	2.36	0.58
57:b:59:CYS:O	57:b:60:CYS:SG	2.61	0.58
58:c:1241:G:OP1	73:r:77:ARG:NH2	2.37	0.58
11:AA:567:G:H2'	11:AA:568:G:C8	2.38	0.58
11:AA:837:A:OP1	57:b:5:THR:OG1	2.20	0.58
3:2:2:PRO:HB3	58:c:1142:A:H5''	1.84	0.58
11:AA:627:U:H2'	11:AA:628:A:H8	1.69	0.58
11:AA:2357:A:H2'	11:AA:2358:A:H8	1.68	0.58
30:II:154:LEU:HA	30:II:157:GLN:NE2	2.19	0.58
32:JJ:178:ILE:HG23	32:JJ:183:ASP:HB3	1.86	0.58
58:c:209:U:H2'	58:c:210:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:751:G:H2'	58:c:752:A:H8	1.69	0.58
58:c:1477:G:H1'	77:v:48:GLN:HG3	1.85	0.58
59:d:5:ALA:HA	59:d:8:ASP:HB2	1.86	0.58
69:n:60:SER:HB3	69:n:65:TYR:CE1	2.39	0.58
11:AA:595:G:OP2	32:JJ:30:ARG:NH2	2.36	0.58
58:c:1511:U:H2'	58:c:1512:G:C8	2.39	0.58
58:c:1738:U:H2'	58:c:1739:C:C6	2.39	0.58
59:d:4:PRO:HD2	59:d:7:PHE:HD2	1.69	0.58
63:h:148:ARG:NH1	65:j:201:GLN:OE1	2.37	0.58
11:AA:999:G:N3	11:AA:1002:A:N6	2.52	0.57
11:AA:1128:U:OP1	38:MM:4:ARG:NH1	2.22	0.57
11:AA:1497:C:H2'	11:AA:1498:A:C8	2.38	0.57
11:AA:1619:A:H2'	11:AA:1620:U:O4'	2.04	0.57
11:AA:3379:C:H4'	24:FF:315:GLY:HA2	1.85	0.57
16:CC:57:C:H4'	16:CC:63:G:N7	2.19	0.57
18:DD:28:VAL:HA	18:DD:187:VAL:HA	1.85	0.57
23:F:51:GLY:HA3	23:F:92:ARG:HG3	1.86	0.57
58:c:52:U:H2'	58:c:53:G:C8	2.38	0.57
58:c:1592:A:H2'	58:c:1593:A:H8	1.69	0.57
66:k:151:LYS:HE3	66:k:153:LEU:HD21	1.85	0.57
69:n:15:LEU:HD11	69:n:68:LEU:HG	1.86	0.57
74:s:38:LEU:HD13	77:v:10:ALA:HB2	1.85	0.57
11:AA:945:C:H2'	11:AA:946:U:C6	2.39	0.57
11:AA:1404:G:O6	45:Q:16:LYS:NZ	2.33	0.57
11:AA:1659:U:H2'	11:AA:1660:C:C6	2.39	0.57
11:AA:2228:A:H2'	11:AA:2229:A:C8	2.39	0.57
11:AA:2922:OMG:H5''	11:AA:2922:OMG:C8	2.39	0.57
11:AA:3139:A:OP2	24:FF:30:LYS:NZ	2.35	0.57
14:Cc:23:G:C4	14:Cc:24:C:C5	2.92	0.57
28:HH:182:GLY:HA2	28:HH:194:LEU:HD23	1.87	0.57
37:M:78:LEU:HD23	37:M:118:ILE:HG21	1.86	0.57
58:c:903:U:O2'	58:c:905:A:N7	2.34	0.57
58:c:1331:A:H61	62:g:161:GLY:HA3	1.68	0.57
58:c:1732:A:H2'	58:c:1733:C:C6	2.39	0.57
11:AA:2484:A:H5'	14:Cc:57:C:C2	2.39	0.57
11:AA:3006:A:H2'	11:AA:3007:U:O4'	2.05	0.57
11:AA:3023:U:H2'	11:AA:3024:A:H8	1.68	0.57
11:AA:3298:C:C2	11:AA:3299:A:C8	2.91	0.57
21:EE:153:GLY:O	21:EE:155:LYS:NZ	2.35	0.57
28:HH:39:GLN:O	28:HH:41:LYS:NZ	2.37	0.57
38:MM:52:LEU:HB3	38:MM:136:PHE:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:887:A:H1'	72:q:122:PRO:HB3	1.86	0.57
62:g:106:LYS:HG3	62:g:175:VAL:HG22	1.85	0.57
63:h:127:LYS:N	63:h:140:VAL:O	2.33	0.57
66:k:49:ILE:HD12	66:k:175:LYS:HG2	1.86	0.57
11:AA:2600:C:OP1	46:QQ:93:LYS:NZ	2.35	0.57
11:AA:2882:U:H2'	11:AA:2883:U:C6	2.39	0.57
40:NN:116:TYR:HE1	40:NN:122:ILE:HG12	1.69	0.57
58:c:511:A:OP2	68:m:176:ASN:ND2	2.25	0.57
58:c:749:U:H5''	80:y:83:ILE:HG13	1.86	0.57
58:c:1525:A:H2'	58:c:1526:A:C8	2.39	0.57
11:AA:353:G:O6	51:V:55:ARG:NH2	2.36	0.57
11:AA:424:G:O2'	45:Q:23:ASP:OD1	2.19	0.57
11:AA:1336:U:H2'	11:AA:1337:A:H8	1.68	0.57
11:AA:1394:A:OP2	87:AA:3707:HOH:O	2.17	0.57
13:BB:10:C:OP2	23:F:26:HIS:ND1	2.28	0.57
30:II:148:GLU:HA	30:II:151:LYS:HE3	1.87	0.57
60:e:35:PRO:HD2	60:e:41:ARG:HA	1.86	0.57
74:s:39:VAL:HG12	74:s:41:PRO:HD3	1.87	0.57
11:AA:2662:G:H2'	11:AA:2663:G:C8	2.39	0.57
20:E:130:GLU:H	20:E:130:GLU:CD	2.12	0.57
58:c:85:A:N3	58:c:148:A:O2'	2.37	0.57
58:c:181:A:H2'	58:c:182:A:C8	2.39	0.57
58:c:939:A:H2'	58:c:940:A:C8	2.40	0.57
58:c:1641:C:H2'	58:c:1642:G:C8	2.39	0.57
65:j:20:ASP:HB3	65:j:23:ARG:HG2	1.87	0.57
11:AA:20:A:H2'	11:AA:21:G:C8	2.39	0.57
11:AA:1682:U:O4	25:G:90:ARG:NH1	2.38	0.57
14:Bb:10:G:N2	14:Bb:27:G:H1'	2.19	0.57
26:GG:7:THR:N	26:GG:147:GLU:OE2	2.30	0.57
37:M:135:GLU:O	37:M:139:ARG:HG2	2.05	0.57
48:S:3:GLN:HB2	48:S:30:LEU:HD12	1.86	0.57
58:c:771:A:O2'	68:m:6:ARG:NH1	2.38	0.57
58:c:1298:U:O3'	61:f:212:LYS:NZ	2.37	0.57
58:c:1716:C:O2'	58:c:1717:G:O5'	2.23	0.57
58:c:1753:A:H2'	58:c:1754:A:C8	2.38	0.57
66:k:9:LEU:HD11	66:k:13:PRO:HG3	1.85	0.57
74:s:41:PRO:HG3	74:s:78:VAL:HG21	1.86	0.57
74:s:54:LEU:HD11	74:s:112:TYR:CD2	2.39	0.57
75:t:31:ASN:ND2	75:t:55:THR:OG1	2.34	0.57
8:7:200:ASN:H	8:7:215:GLY:HA2	1.69	0.57
11:AA:2467:G:O2'	11:AA:2468:A:O4'	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Ee:152:ILE:HA	22:Ee:155:ILE:CD1	2.35	0.57
28:HH:293:LEU:HG	38:MM:210:ILE:HD12	1.87	0.57
34:KK:161:GLU:OE1	46:QQ:26:ARG:NH2	2.30	0.57
42:OO:126:PHE:HD2	49:T:115:LYS:HD3	1.69	0.57
43:P:25:PHE:HB3	43:P:65:LYS:HG2	1.85	0.57
58:c:1382:A:HO2'	58:c:1383:G:H8	1.51	0.57
11:AA:1243:G:N2	11:AA:1270:A:O2'	2.38	0.57
11:AA:2561:A:H2'	11:AA:2562:A:H8	1.69	0.57
11:AA:2904:U:H2'	11:AA:2905:U:H6	1.70	0.57
21:EE:48:ILE:HG22	57:b:54:ILE:HG12	1.85	0.57
58:c:68:A:OP1	65:j:160:ARG:NH2	2.30	0.57
58:c:894:U:H2'	58:c:895:G:C8	2.40	0.57
2:1:53:GLU:OE1	2:1:57:TYR:OH	2.19	0.57
11:AA:619:A:O2'	11:AA:620:U:OP2	2.20	0.57
11:AA:649:A2M:OP2	11:AA:2868:U:O2'	2.22	0.57
11:AA:2474:G:O2'	11:AA:2475:G:N7	2.37	0.57
48:S:41:ARG:HG2	48:S:56:THR:HG21	1.86	0.57
72:q:18:ARG:HB2	72:q:29:HIS:O	2.05	0.57
76:u:30:TYR:O	76:u:33:THR:OG1	2.23	0.57
8:7:84:SER:OG	8:7:86:ASP:OD2	2.19	0.56
10:A:162:VAL:O	10:A:166:GLU:HG3	2.05	0.56
11:AA:664:U:H2'	11:AA:665:A:H8	1.70	0.56
11:AA:994:G:N2	11:AA:995:U:O4	2.34	0.56
11:AA:2244:A:H5''	21:EE:243:THR:HB	1.87	0.56
14:Cc:57:C:H1'	14:Cc:58:A:H5'	1.86	0.56
58:c:895:G:H21	72:q:38:THR:HG21	1.70	0.56
76:u:65:GLU:O	76:u:69:ILE:HG13	2.05	0.56
1:0:112:LYS:NZ	58:c:57:G:OP1	2.38	0.56
3:2:7:SER:HB2	3:2:13:LYS:HE2	1.86	0.56
11:AA:1110:U:H2'	11:AA:1111:U:C6	2.40	0.56
11:AA:1534:A:H2'	11:AA:1535:A:C8	2.40	0.56
11:AA:1729:A:O4'	41:O:52:ARG:NH1	2.36	0.56
53:X:28:ARG:HA	53:X:33:ASN:OD1	2.04	0.56
58:c:127:G:O6	65:j:202:ARG:NH2	2.37	0.56
80:y:30:SER:O	80:y:30:SER:OG	2.23	0.56
10:A:12:LYS:HA	10:A:40:GLU:HB3	1.87	0.56
11:AA:158:G:H2'	11:AA:159:A:H8	1.68	0.56
11:AA:715:A:H5''	37:M:115:LYS:HA	1.87	0.56
11:AA:769:G:O2'	42:OO:168:ARG:NH2	2.38	0.56
11:AA:1497:C:O2'	11:AA:1602:A:N3	2.35	0.56
11:AA:2389:C:H2'	11:AA:2390:A:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2930:A:H2'	11:AA:2931:C:C6	2.40	0.56
11:AA:3092:C:O2'	11:AA:3094:A:OP2	2.15	0.56
13:BB:3:U:H2'	13:BB:4:U:C6	2.40	0.56
14:Cc:27:G:O6	14:Cc:45:A:N1	2.38	0.56
22:Ee:79:SER:O	22:Ee:83:THR:HG23	2.05	0.56
58:c:30:G:H4'	81:z:131:SER:HB2	1.87	0.56
58:c:647:G:H21	58:c:687:G:H1	1.52	0.56
58:c:1529:C:OP1	64:i:112:ARG:NH1	2.31	0.56
58:c:1628:U:H2'	58:c:1629:G:C8	2.40	0.56
59:d:176:LEU:O	59:d:180:GLU:HG2	2.05	0.56
60:e:144:ARG:HG3	60:e:206:PRO:HB2	1.87	0.56
68:m:170:GLY:O	68:m:174:ARG:NE	2.38	0.56
8:7:88:THR:HG22	8:7:104:VAL:HG12	1.88	0.56
11:AA:129:U:H2'	11:AA:130:A:H8	1.71	0.56
11:AA:2160:G:H2'	11:AA:2161:G:C8	2.39	0.56
14:Bb:22:A:N6	14:Bb:48:U:O2'	2.38	0.56
24:FF:57:VAL:HG22	24:FF:73:VAL:HG22	1.87	0.56
40:NN:93:ASP:OD1	40:NN:156:LYS:NZ	2.37	0.56
36:LL:89:LYS:HG2	36:LL:145:VAL:HG22	1.87	0.56
48:S:85:VAL:O	48:S:89:ILE:HG12	2.05	0.56
58:c:257:A:O2'	67:l:73:SER:O	2.20	0.56
63:h:117:GLU:CD	63:h:117:GLU:H	2.14	0.56
5:4:38:ARG:HH22	5:4:60:GLU:CD	2.14	0.56
11:AA:1631:C:OP2	35:L:48:ARG:NH2	2.39	0.56
11:AA:1807:G:O2'	11:AA:2559:U:O4	2.22	0.56
11:AA:2677:G:H22	11:AA:2680:A:H2	1.53	0.56
11:AA:3285:C:H2'	11:AA:3286:G:C8	2.41	0.56
13:BB:118:A:H5''	28:HH:253:PHE:CZ	2.41	0.56
58:c:182:A:H2'	58:c:183:U:C6	2.41	0.56
58:c:1290:U:H2'	58:c:1291:G:H8	1.70	0.56
68:m:39:LYS:HA	68:m:42:ILE:HD12	1.86	0.56
8:7:158:PRO:HG2	8:7:206:PRO:HA	1.87	0.56
11:AA:601:U:O2'	11:AA:602:A:OP1	2.24	0.56
11:AA:3275:U:O2'	47:R:99:ARG:NH1	2.38	0.56
37:M:36:GLY:HA3	37:M:40:HIS:CE1	2.41	0.56
58:c:1250:U:O2'	58:c:1251:U:O4'	2.17	0.56
58:c:1486:G:N2	58:c:1522:U:O4	2.39	0.56
62:g:118:ALA:O	62:g:122:VAL:HG12	2.05	0.56
4:3:19:HIS:HB3	4:3:22:LYS:HG3	1.88	0.56
11:AA:2489:C:H3'	11:AA:2490:C:H2'	1.88	0.56
11:AA:2880:U:H1'	24:FF:250:ALA:HB3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:E:79:VAL:HG11	20:E:106:LEU:HD11	1.86	0.56
46:QQ:94:TYR:O	46:QQ:96:ARG:N	2.34	0.56
58:c:16:G:H2'	58:c:17:C:C6	2.40	0.56
58:c:68:A:OP2	65:j:171:LYS:NZ	2.39	0.56
8:7:85:TRP:CZ3	75:t:29:GLN:HB3	2.41	0.56
11:AA:19:U:H2'	11:AA:20:A:C8	2.40	0.56
11:AA:1022:U:H2'	11:AA:1023:C:C6	2.41	0.56
11:AA:2763:U:O2	85:AA:3611:SPD:N1	2.39	0.56
14:Cc:8:U:H1'	14:Cc:22:A:H2	1.68	0.56
58:c:11:A:N3	58:c:1300:A:O2'	2.37	0.56
58:c:335:U:O2'	70:o:130:PRO:O	2.20	0.56
75:t:61:ILE:HD11	75:t:69:ILE:HG21	1.87	0.56
4:3:70:LYS:HD2	58:c:1049:U:H5''	1.87	0.56
11:AA:831:G:O2'	11:AA:1864:A:N3	2.30	0.56
11:AA:1083:G:H2'	11:AA:1084:A:H8	1.71	0.56
11:AA:1084:A:H2'	11:AA:1085:A:C8	2.40	0.56
11:AA:1211:U:H2'	11:AA:1212:A:C8	2.41	0.56
11:AA:1506:A:H1'	11:AA:1848:G:O6	2.06	0.56
11:AA:2846:U:H3'	54:Y:97:ARG:HH21	1.71	0.56
32:JJ:83:LEU:HD11	32:JJ:116:PHE:HB3	1.87	0.56
50:U:57:LEU:HD21	50:U:73:ALA:HB2	1.87	0.56
59:d:80:THR:HA	59:d:83:GLN:HG3	1.88	0.56
59:d:106:SER:O	59:d:115:PHE:HA	2.06	0.56
61:f:45:VAL:HG21	61:f:68:ILE:HG23	1.88	0.56
65:j:51:LYS:HB3	65:j:112:VAL:HB	1.88	0.56
75:t:34:LEU:O	75:t:38:ILE:HG12	2.05	0.56
76:u:113:LEU:O	76:u:117:LYS:HG2	2.06	0.56
11:AA:3013:U:H2'	11:AA:3014:U:C6	2.41	0.55
11:AA:3204:C:H2'	11:AA:3205:G:C8	2.41	0.55
12:B:33:ALA:HB1	12:B:117:ILE:HG12	1.88	0.55
35:L:23:VAL:HG12	35:L:45:GLY:HA3	1.89	0.55
38:MM:54:SER:HB2	38:MM:135:ILE:HD11	1.87	0.55
48:S:104:VAL:O	48:S:108:GLN:HG2	2.06	0.55
70:o:55:ASP:OD2	70:o:113:PRO:HD3	2.06	0.55
11:AA:1349:G:H8	11:AA:1349:G:OP1	1.89	0.55
11:AA:2357:A:H2'	11:AA:2358:A:C8	2.41	0.55
11:AA:2472:U:C2	11:AA:2473:C:H1'	2.42	0.55
11:AA:3080:G:OP1	87:AA:3709:HOH:O	2.18	0.55
32:JJ:123:THR:HA	32:JJ:126:LEU:HD12	1.88	0.55
58:c:1365:C:H2'	58:c:1366:U:C6	2.41	0.55
58:c:1583:A:OP1	74:s:135:ARG:NH1	2.26	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:n:11:ILE:HD13	69:n:42:VAL:HA	1.87	0.55
11:AA:1119:C:H2'	11:AA:1120:A:C8	2.41	0.55
11:AA:1241:U:OP2	22:Ee:96:LYS:NZ	2.21	0.55
11:AA:2767:U:H2'	11:AA:2768:U:C6	2.41	0.55
30:II:18:LEU:H	30:II:18:LEU:HD12	1.72	0.55
35:L:27:LYS:NZ	35:L:93:LYS:O	2.39	0.55
58:c:108:A:H2'	58:c:109:G:C8	2.41	0.55
58:c:181:A:H2'	58:c:182:A:H8	1.70	0.55
58:c:1564:U:H2'	58:c:1565:C:C6	2.41	0.55
11:AA:2828:G:O2'	38:MM:4:ARG:NH2	2.36	0.55
16:CC:99:C:OP1	31:J:53:HIS:NE2	2.32	0.55
22:Ee:131:GLU:O	22:Ee:135:THR:HG23	2.06	0.55
50:U:34:SER:OG	50:U:37:THR:HG23	2.07	0.55
58:c:17:C:H2'	58:c:18:C:C6	2.41	0.55
58:c:580:A:O2'	58:c:582:U:OP1	2.25	0.55
58:c:947:U:H2'	58:c:948:G:H8	1.71	0.55
8:7:66:HIS:ND1	8:7:67:ILE:HG13	2.22	0.55
8:7:132:LYS:HG2	8:7:143:THR:HG22	1.87	0.55
11:AA:243:G:H2'	11:AA:244:G:C8	2.42	0.55
11:AA:314:U:H2'	11:AA:315:C:C6	2.41	0.55
11:AA:1011:A:H2'	11:AA:1012:G:H8	1.71	0.55
11:AA:3198:U:O2	36:LL:21:LYS:N	2.39	0.55
13:BB:4:U:H2'	13:BB:5:G:C8	2.41	0.55
30:II:138:GLN:NE2	30:II:142:ASP:OD1	2.39	0.55
58:c:436:A2M:H8	58:c:436:A2M:O5'	2.06	0.55
68:m:162:SER:O	68:m:164:PHE:N	2.36	0.55
73:r:89:MET:O	73:r:92:SER:OG	2.25	0.55
77:v:125:SER:O	77:v:129:GLN:HG3	2.06	0.55
11:AA:1083:G:H2'	11:AA:1084:A:C8	2.40	0.55
11:AA:1616:U:H2'	11:AA:1617:G:C8	2.42	0.55
11:AA:1666:G:H2'	11:AA:1667:A:C8	2.42	0.55
11:AA:2807:U:O2'	11:AA:2809:C:OP1	2.20	0.55
52:W:43:PHE:HE2	52:W:66:ILE:HG12	1.72	0.55
58:c:146:U:H2'	58:c:147:A:H8	1.72	0.55
66:k:69:GLY:O	66:k:73:VAL:HG22	2.07	0.55
7:6:8:LEU:HD21	81:z:56:LYS:HB2	1.89	0.55
11:AA:911:C:H42	21:EE:3:ARG:HD3	1.70	0.55
11:AA:911:C:N4	21:EE:3:ARG:HD3	2.22	0.55
58:c:895:G:H1	58:c:917:U:H3	1.53	0.55
58:c:1064:G:O2'	60:e:204:ILE:O	2.25	0.55
11:AA:282:G:OP1	85:AA:3610:SPD:N1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:629:U:H2'	11:AA:630:A:C8	2.42	0.55
11:AA:2367:A:H2'	11:AA:2368:A:C8	2.42	0.55
11:AA:2620:G:H1	14:Bb:75:C:H5	1.55	0.55
11:AA:3252:G:H2'	11:AA:3253:G:C8	2.41	0.55
11:AA:3322:A:H2'	11:AA:3323:A:H8	1.70	0.55
15:C:158:HIS:H	15:C:186:VAL:CG1	2.20	0.55
14:Cc:11:A:H62	14:Cc:46:G:N2	2.05	0.55
22:Ee:45:ASP:O	22:Ee:48:LYS:HG3	2.06	0.55
58:c:29:U:H2'	58:c:30:G:H8	1.71	0.55
58:c:614:C:OP2	81:z:5:LYS:NZ	2.31	0.55
61:f:111:VAL:HG12	61:f:139:ILE:HD11	1.88	0.55
11:AA:1108:U:H2'	11:AA:1109:U:C6	2.41	0.55
11:AA:2429:G:H2'	11:AA:2430:A:C8	2.42	0.55
11:AA:2489:C:H5''	11:AA:2490:C:H2'	1.88	0.55
39:N:54:LEU:O	39:N:58:LYS:NZ	2.31	0.55
58:c:1564:U:OP1	77:v:38:LYS:NZ	2.39	0.55
74:s:48:VAL:HB	74:s:81:ILE:HD11	1.89	0.55
2:1:53:GLU:HB2	2:1:57:TYR:OH	2.07	0.55
11:AA:520:U:O4	26:GG:349:THR:OG1	2.25	0.55
11:AA:528:U:H2'	11:AA:529:A:H8	1.70	0.55
11:AA:1011:A:H2'	11:AA:1012:G:C8	2.42	0.55
11:AA:1188:U:OP1	11:AA:1210:U:O2'	2.17	0.55
11:AA:1635:G:N2	11:AA:1638:A:OP2	2.37	0.55
11:AA:1829:G:H5''	11:AA:1830:G:H5'	1.87	0.55
14:Cc:70:C:H2'	14:Cc:71:G:H8	1.72	0.55
20:E:91:TYR:CE2	20:E:136:LYS:HE2	2.42	0.55
27:H:18:PRO:HA	27:H:51:ALA:HA	1.89	0.55
40:NN:34:SER:HA	40:NN:67:VAL:HG21	1.89	0.55
58:c:590:C:H2'	58:c:591:A:C8	2.42	0.55
58:c:1449:U:H2'	58:c:1450:U:C6	2.42	0.55
74:s:82:ARG:HH22	74:s:114:ARG:HB2	1.71	0.55
11:AA:761:A:H2'	11:AA:762:U:C6	2.42	0.54
11:AA:1230:G:O2'	18:DD:35:SER:OG	2.14	0.54
22:Ee:78:SER:O	22:Ee:82:ILE:HG13	2.07	0.54
48:S:64:THR:O	48:S:64:THR:OG1	2.22	0.54
58:c:445:A:H1'	58:c:525:A:O5'	2.08	0.54
64:i:34:GLN:HA	74:s:57:LEU:HD12	1.88	0.54
64:i:121:ILE:HB	64:i:129:PRO:HB3	1.89	0.54
74:s:51:PRO:HG2	74:s:85:ILE:HD11	1.89	0.54
2:1:60:VAL:HB	2:1:101:TYR:HB2	1.89	0.54
11:AA:1364:C:H5''	15:C:3:ILE:HD13	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BB:23:A:H2'	13:BB:24:A:C8	2.43	0.54
22:Ee:51:LYS:HD3	22:Ee:54:LYS:HE2	1.89	0.54
51:V:54:LYS:O	51:V:58:THR:HB	2.07	0.54
58:c:30:G:H2'	58:c:31:C:C6	2.43	0.54
58:c:406:U:H2'	58:c:407:A:C8	2.41	0.54
58:c:1170:G:C2	58:c:1171:A:C8	2.95	0.54
58:c:1175:U:H2'	58:c:1176:G:C8	2.42	0.54
8:7:266:ASP:N	8:7:266:ASP:OD1	2.40	0.54
14:Cc:20:G:C8	14:Cc:21:U:C4	2.95	0.54
45:Q:86:THR:HG23	45:Q:115:LEU:HD22	1.89	0.54
58:c:513:U:H2'	58:c:514:G:C8	2.42	0.54
58:c:525:A:O2'	58:c:526:A:OP1	2.25	0.54
76:u:73:MET:SD	76:u:101:LEU:HD13	2.47	0.54
8:7:218:GLY:HA2	8:7:240:VAL:HG23	1.89	0.54
11:AA:875:G:O2'	11:AA:1891:A:OP1	2.23	0.54
11:AA:2426:U:H2'	11:AA:2427:U:C6	2.42	0.54
11:AA:2945:G:O2'	11:AA:2948:OMC:OP2	2.20	0.54
11:AA:3268:A:O2'	11:AA:3269:U:O2	2.22	0.54
11:AA:3285:C:H2'	11:AA:3286:G:H8	1.71	0.54
15:C:158:HIS:H	15:C:186:VAL:HG12	1.72	0.54
16:CC:26:U:O2'	26:GG:51:ALA:O	2.26	0.54
14:Cc:41:C:H2'	14:Cc:42:C:C6	2.43	0.54
21:EE:242:ARG:NH2	21:EE:243:THR:O	2.41	0.54
24:FF:17:LEU:HD21	24:FF:233:TRP:HH2	1.73	0.54
58:c:329:G:H2'	58:c:330:G:H8	1.72	0.54
58:c:886:U:O2'	72:q:121:VAL:O	2.26	0.54
75:t:102:VAL:HB	75:t:106:THR:HB	1.88	0.54
11:AA:243:G:H2'	11:AA:244:G:H8	1.71	0.54
11:AA:819:U:H2'	11:AA:820:A:H8	1.71	0.54
11:AA:1547:G:OP1	46:QQ:108:ARG:NH2	2.38	0.54
11:AA:1639:C:OP2	48:S:74:ARG:NH1	2.27	0.54
14:Cc:70:C:H2'	14:Cc:71:G:C8	2.43	0.54
18:DD:55:LYS:HE3	18:DD:58:MET:HE2	1.89	0.54
24:FF:187:SER:O	24:FF:190:GLU:N	2.41	0.54
56:a:34:SER:OG	56:a:35:LEU:O	2.26	0.54
67:l:72:ILE:HG22	67:l:74:LYS:HG2	1.89	0.54
11:AA:673:U:H2'	11:AA:674:G:C8	2.42	0.54
11:AA:1044:U:OP1	38:MM:90:ARG:NH2	2.38	0.54
17:D:97:ARG:O	17:D:101:VAL:HG13	2.07	0.54
40:NN:38:GLU:HB2	40:NN:45:PRO:HD3	1.90	0.54
76:u:86:LEU:HD12	76:u:97:ASP:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:70:ASP:HB3	8:7:113:VAL:HG12	1.89	0.54
11:AA:1631:C:H5''	11:AA:1632:A:H5''	1.89	0.54
26:GG:126:ILE:O	26:GG:129:THR:OG1	2.25	0.54
63:h:48:LEU:HD11	63:h:70:VAL:HG21	1.90	0.54
68:m:136:VAL:HG13	68:m:152:SER:HB3	1.90	0.54
11:AA:560:G:OP1	44:PP:83:LYS:NZ	2.32	0.54
11:AA:2154:U:OP1	21:EE:242:ARG:NH1	2.40	0.54
11:AA:2500:A:H2'	11:AA:2501:U:C6	2.43	0.54
11:AA:2662:G:H2'	11:AA:2663:G:H8	1.73	0.54
11:AA:3304:U:O2'	24:FF:334:ARG:NH2	2.39	0.54
18:DD:191:TYR:HA	18:DD:196:VAL:HA	1.89	0.54
11:AA:1560:G:O2'	11:AA:1561:G:O4'	2.25	0.54
11:AA:1627:U:H2'	11:AA:1814:A:H61	1.72	0.54
11:AA:2683:U:H2'	11:AA:2684:C:C6	2.43	0.54
20:E:10:ILE:O	20:E:59:VAL:N	2.39	0.54
26:GG:317:PRO:C	26:GG:319:LYS:H	2.14	0.54
56:a:2:VAL:N	56:a:90:HIS:O	2.40	0.54
58:c:877:G:N2	71:p:110:ASP:OD2	2.41	0.54
58:c:884:A:H2'	58:c:885:G:C8	2.43	0.54
58:c:1187:U:H2'	58:c:1188:G:H8	1.73	0.54
58:c:1579:U:H2'	58:c:1580:C:C6	2.42	0.54
77:v:66:TYR:HD1	77:v:124:ILE:HD13	1.71	0.54
8:7:44:SER:HB3	8:7:61:PHE:HE2	1.73	0.54
8:7:109:ASP:OD2	8:7:127:ARG:NH1	2.33	0.54
11:AA:616:G:H2'	11:AA:617:G:C8	2.43	0.54
22:Ee:60:VAL:HA	22:Ee:73:VAL:HG23	1.89	0.54
30:II:54:TYR:CE1	30:II:63:LEU:HB3	2.43	0.54
62:g:68:GLU:OE1	69:n:67:THR:OG1	2.26	0.54
65:j:12:SER:OG	65:j:127:THR:O	2.26	0.54
71:p:62:GLN:HB2	71:p:65:VAL:HG13	1.89	0.54
78:w:53:LYS:HB3	78:w:92:ASP:OD1	2.08	0.54
3:2:84:VAL:HG22	58:c:1797:A:C6	2.43	0.53
11:AA:2185:G:H5'	21:EE:219:ILE:HD11	1.90	0.53
11:AA:2881:C:H2'	11:AA:2882:U:C6	2.43	0.53
11:AA:3121:U:H1'	11:AA:3122:A:H5''	1.89	0.53
26:GG:138:ARG:HE	26:GG:140:HIS:CD2	2.26	0.53
58:c:472:U:C2	58:c:473:A:C8	2.96	0.53
58:c:1515:A:O2'	58:c:1517:U:OP2	2.21	0.53
58:c:1542:G:N2	58:c:1568:C:H1'	2.23	0.53
64:i:41:LYS:NZ	64:i:42:LEU:O	2.41	0.53
64:i:128:ASN:O	64:i:131:GLN:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:k:133:THR:HG21	66:k:154:LEU:HB3	1.90	0.53
11:AA:266:A:H2'	50:U:30:LYS:HE3	1.90	0.53
11:AA:411:U:H2'	11:AA:412:G:H8	1.73	0.53
11:AA:629:U:H2'	11:AA:630:A:H8	1.71	0.53
11:AA:1390:A:N6	11:AA:1418:A:O2'	2.41	0.53
11:AA:1615:C:H2'	11:AA:1616:U:C6	2.42	0.53
11:AA:1805:C:H2'	11:AA:1806:A:H8	1.72	0.53
11:AA:3296:A:H2'	11:AA:3297:U:H6	1.71	0.53
14:Cc:22:A:H62	14:Cc:47:G:H1'	1.73	0.53
22:Ee:32:ILE:HG22	22:Ee:37:LEU:HB2	1.88	0.53
36:LL:9:GLN:HB3	36:LL:52:LEU:HD11	1.89	0.53
37:M:99:ALA:N	42:OO:157:ARG:O	2.40	0.53
58:c:17:C:O2'	58:c:1137:A:N1	2.35	0.53
58:c:1436:A:OP2	62:g:27:ARG:NH2	2.32	0.53
11:AA:2407:C:H2'	11:AA:2408:U:H6	1.72	0.53
11:AA:2556:C:OP1	48:S:88:ARG:NH2	2.41	0.53
18:DD:104:ARG:HD3	18:DD:184:GLY:HA3	1.90	0.53
28:HH:83:LEU:HB3	28:HH:88:ILE:HB	1.89	0.53
58:c:1144:U:H2'	58:c:1145:U:C6	2.43	0.53
58:c:1435:G:O6	69:n:64:TYR:OH	2.21	0.53
59:d:107:PHE:HB3	59:d:139:VAL:HG21	1.89	0.53
60:e:35:PRO:HB2	60:e:38:PHE:H	1.74	0.53
75:t:88:VAL:HG22	75:t:89:SER:H	1.74	0.53
11:AA:39:A:H5''	37:M:35:ALA:HB2	1.90	0.53
11:AA:980:A:H2'	11:AA:981:U:C2	2.43	0.53
11:AA:1010:G:N2	38:MM:193:ASP:OD2	2.41	0.53
11:AA:1032:C:H2'	11:AA:1033:U:C6	2.43	0.53
11:AA:2456:A:O2'	11:AA:2482:U:O2'	2.22	0.53
11:AA:2768:U:H2'	11:AA:2769:A:C8	2.43	0.53
20:E:93:GLU:OE1	20:E:135:VAL:HG13	2.08	0.53
25:G:19:VAL:HG12	25:G:105:LEU:HD23	1.90	0.53
32:JJ:35:ALA:O	32:JJ:39:GLU:HG2	2.08	0.53
58:c:1523:G:H8	77:v:79:LEU:HD13	1.73	0.53
73:r:90:ILE:HD13	73:r:109:PRO:HA	1.90	0.53
79:x:3:ASN:OD1	79:x:7:GLN:HG2	2.09	0.53
79:x:77:GLY:O	79:x:79:LEU:N	2.42	0.53
11:AA:406:G:OP1	11:AA:1415:U:O2'	2.23	0.53
11:AA:547:G:H2'	11:AA:548:G:O4'	2.09	0.53
11:AA:631:U:H2'	11:AA:632:G:C8	2.43	0.53
11:AA:2680:A:H1'	40:NN:65:ILE:HD12	1.89	0.53
11:AA:2981:U:OP2	24:FF:244:ARG:NH2	2.32	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3295:A:H2'	11:AA:3296:A:H8	1.71	0.53
14:Cc:39:A:N7	14:Cc:40:C:C5	2.77	0.53
22:Ee:155:ILE:CG2	22:Ee:160:ILE:HG23	2.39	0.53
52:W:11:PHE:O	52:W:15:THR:HG23	2.09	0.53
58:c:1606:C:H2'	58:c:1607:G:C8	2.43	0.53
67:l:193:LEU:O	67:l:197:THR:HG23	2.09	0.53
11:AA:2261:G:O2'	11:AA:2262:A:N7	2.36	0.53
11:AA:2971:A:H4'	11:AA:2972:G:O5'	2.08	0.53
22:Ee:127:SER:O	22:Ee:131:GLU:HG2	2.08	0.53
52:W:20:VAL:HG12	52:W:47:GLY:HA2	1.90	0.53
58:c:380:U:H4'	68:m:2:PRO:HD2	1.91	0.53
58:c:607:G:H5'	58:c:613:G:N2	2.23	0.53
58:c:1674:C:OP1	65:j:92:ARG:NH1	2.35	0.53
58:c:1776:A:H2'	58:c:1777:G:H8	1.73	0.53
62:g:29:LEU:HD21	62:g:69:LEU:HD11	1.89	0.53
3:2:76:SER:OG	58:c:1793:G:N2	2.38	0.53
8:7:179:LYS:HD2	8:7:181:TRP:HD1	1.73	0.53
11:AA:1246:G:O2'	11:AA:1264:G:OP2	2.26	0.53
11:AA:2413:A:H2'	11:AA:2414:G:H8	1.74	0.53
11:AA:2487:U:H5''	11:AA:2489:C:H42	1.72	0.53
11:AA:3268:A:OP1	30:II:46:ARG:NH2	2.42	0.53
31:J:50:ALA:O	49:T:66:VAL:HG21	2.08	0.53
36:LL:27:VAL:HG12	36:LL:82:VAL:HG21	1.91	0.53
51:V:2:GLY:HA2	51:V:6:PRO:HG2	1.90	0.53
58:c:1471:A:H2	58:c:1474:G:N3	2.06	0.53
62:g:63:GLY:O	62:g:67:ASN:HB2	2.08	0.53
78:w:96:PRO:HG2	78:w:99:ILE:HG13	1.91	0.53
1:0:83:LYS:HZ1	1:0:97:ALA:H	1.55	0.53
11:AA:1597:C:H2'	11:AA:1598:G:C8	2.44	0.53
11:AA:2427:U:H2'	11:AA:2428:U:C6	2.44	0.53
11:AA:2815:OMG:H2'	11:AA:2870:5MC:HM51	1.90	0.53
40:NN:108:GLU:OE2	76:u:16:ARG:NH1	2.42	0.53
40:NN:110:ILE:HG12	40:NN:116:TYR:HA	1.90	0.53
41:O:14:LEU:O	41:O:18:ILE:HG12	2.08	0.53
52:W:62:ALA:O	52:W:66:ILE:HG13	2.08	0.53
57:b:32:GLN:HG2	57:b:70:THR:HG23	1.91	0.53
62:g:99:VAL:HG13	62:g:173:ARG:HH12	1.74	0.53
78:w:95:ALA:HB1	78:w:99:ILE:HB	1.91	0.53
1:0:91:LEU:HD22	1:0:96:LEU:HD22	1.90	0.53
1:0:132:ARG:NH2	58:c:155:U:OP2	2.37	0.53
11:AA:616:G:H2'	11:AA:617:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:792:G:H2'	11:AA:793:C:C6	2.43	0.53
11:AA:2376:G:H2'	11:AA:2377:G:C8	2.43	0.53
11:AA:2714:G:C8	11:AA:2751:G:H2'	2.43	0.53
12:B:67:ILE:HG13	12:B:68:GLY:N	2.24	0.53
26:GG:26:PHE:HA	26:GG:127:ALA:HA	1.91	0.53
27:H:81:GLN:HG2	27:H:83:LYS:H	1.73	0.53
28:HH:156:GLY:HA2	28:HH:181:PRO:HD3	1.90	0.53
34:KK:134:TYR:HB3	34:KK:190:VAL:HG11	1.91	0.53
58:c:886:U:H2'	58:c:887:A:H8	1.74	0.53
58:c:1739:C:H2'	58:c:1740:A:H8	1.74	0.53
3:2:27:SER:O	3:2:27:SER:OG	2.26	0.53
11:AA:167:U:H2'	11:AA:168:U:H6	1.74	0.53
11:AA:1214:U:H2'	11:AA:1215:U:C6	2.44	0.53
11:AA:1498:A:H2'	11:AA:1499:C:C6	2.43	0.53
11:AA:2477:G:O2'	11:AA:2479:C:OP2	2.22	0.53
11:AA:3047:U:O2'	11:AA:3048:A:H5'	2.09	0.53
20:E:6:GLU:OE2	20:E:99:ARG:NH1	2.42	0.53
40:NN:148:VAL:HG13	40:NN:152:HIS:HB3	1.91	0.53
73:r:90:ILE:HD11	73:r:112:LEU:HD21	1.90	0.53
74:s:36:ILE:HG23	74:s:49:TYR:HE1	1.74	0.53
75:t:9:VAL:HA	75:t:50:ILE:HD13	1.91	0.53
75:t:17:ILE:HG12	75:t:58:MET:SD	2.49	0.53
80:y:15:ASN:HD21	80:y:71:LYS:HA	1.72	0.53
8:7:179:LYS:HD2	8:7:181:TRP:CD1	2.44	0.52
11:AA:728:G:H5''	15:C:43:PRO:HB2	1.91	0.52
11:AA:1046:A:H2'	11:AA:1049:C:C5	2.44	0.52
11:AA:2352:A:H5''	12:B:83:TRP:O	2.09	0.52
58:c:5:U:H2'	58:c:6:G:H8	1.75	0.52
58:c:509:G:H2'	58:c:510:G:C8	2.44	0.52
58:c:918:U:H2'	58:c:919:A:H8	1.74	0.52
58:c:1449:U:H2'	58:c:1450:U:H6	1.73	0.52
60:e:52:THR:HG22	60:e:53:GLY:H	1.75	0.52
62:g:113:LEU:HD22	62:g:118:ALA:HB2	1.92	0.52
66:k:44:LYS:HZ1	66:k:63:PRO:HB3	1.74	0.52
1:0:20:ARG:NH2	63:h:60:GLU:OE2	2.36	0.52
6:5:13:ARG:NH1	58:c:1554:U:OP1	2.27	0.52
11:AA:86:G:O2'	11:AA:98:G:O6	2.22	0.52
11:AA:1045:C:OP1	38:MM:133:GLN:NE2	2.42	0.52
11:AA:1272:C:H3'	11:AA:1273:A:H8	1.73	0.52
11:AA:2812:C:H2'	11:AA:2813:A:C8	2.44	0.52
13:BB:19:C:H2'	13:BB:20:A:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BB:27:A:H2'	13:BB:28:C:C6	2.44	0.52
14:Cc:27:G:N1	14:Cc:45:A:H2	2.02	0.52
19:Dd:19:A:O2'	19:Dd:20:U:OP1	2.21	0.52
24:FF:113:GLU:HB3	24:FF:176:ALA:HB2	1.92	0.52
52:W:9:LYS:HE3	52:W:9:LYS:H	1.74	0.52
71:p:37:ILE:HG13	71:p:54:LEU:HD11	1.91	0.52
77:v:21:PHE:CD2	77:v:135:ILE:HD11	2.44	0.52
1:0:125:LEU:O	1:0:129:VAL:HG23	2.08	0.52
11:AA:1255:C:H2'	11:AA:1256:G:C8	2.44	0.52
11:AA:1263:A:H4'	11:AA:1264:G:H8	1.75	0.52
11:AA:1597:C:H5'	11:AA:1696:A:H1'	1.90	0.52
11:AA:3185:U:HO2'	20:E:170:THR:HG1	1.57	0.52
22:Ee:23:GLY:H	22:Ee:43:GLY:HA2	1.74	0.52
34:KK:162:LEU:HA	46:QQ:7:LEU:HD21	1.91	0.52
51:V:13:ASN:ND2	87:V:201:HOH:O	2.42	0.52
58:c:751:G:H2'	58:c:752:A:C8	2.44	0.52
58:c:861:U:O2'	80:y:56:HIS:O	2.26	0.52
58:c:1228:G:OP2	58:c:1256:A:N6	2.40	0.52
65:j:109:LEU:HD23	65:j:110:ALA:H	1.75	0.52
5:4:53:ILE:HB	64:i:57:SER:HA	1.91	0.52
11:AA:2369:G:H2'	11:AA:2370:G:C8	2.44	0.52
11:AA:2904:U:H2'	11:AA:2905:U:C6	2.44	0.52
18:DD:104:ARG:HD2	18:DD:182:THR:HG22	1.90	0.52
34:KK:251:LYS:O	34:KK:255:SER:OG	2.22	0.52
57:b:20:SER:O	57:b:24:ARG:HG3	2.10	0.52
58:c:918:U:H2'	58:c:919:A:C8	2.45	0.52
58:c:1487:A:H2'	58:c:1488:G:C8	2.44	0.52
65:j:57:ASP:HA	65:j:106:LEU:HA	1.91	0.52
75:t:16:LEU:O	75:t:20:TYR:HB2	2.09	0.52
11:AA:2115:G:H22	11:AA:2120:A:H1'	1.75	0.52
11:AA:2466:G:H21	11:AA:2490:C:H42	1.57	0.52
11:AA:2466:G:H21	11:AA:2490:C:N4	2.06	0.52
45:Q:79:VAL:HG12	45:Q:83:GLU:OE2	2.09	0.52
58:c:637:C:O2	66:k:114:ARG:NH1	2.41	0.52
58:c:1198:G:OP1	58:c:1199:G:O2'	2.17	0.52
8:7:116:ASP:CB	8:7:121:MET:HB2	2.40	0.52
11:AA:748:U:H2'	11:AA:749:C:C6	2.45	0.52
11:AA:874:U:OP2	11:AA:1907:C:O2'	2.17	0.52
11:AA:966:U:H2'	11:AA:967:A:C8	2.45	0.52
11:AA:1804:A:H2'	11:AA:1805:C:H6	1.75	0.52
11:AA:2177:G:N2	21:EE:118:GLU:OE2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2503:G:H2'	11:AA:2504:U:C6	2.44	0.52
11:AA:2547:A:H2'	11:AA:2548:C:O4'	2.09	0.52
11:AA:3157:U:H4'	11:AA:3158:G:H5'	1.90	0.52
58:c:151:G:N3	65:j:13:GLN:NE2	2.58	0.52
58:c:1366:U:O2'	77:v:7:ARG:NH1	2.43	0.52
63:h:100:ARG:HH12	63:h:122:LYS:HA	1.74	0.52
65:j:136:LYS:NZ	65:j:174:LYS:O	2.41	0.52
77:v:113:ILE:HD12	77:v:128:GLY:HA2	1.92	0.52
79:x:79:LEU:HD22	79:x:82:VAL:HG21	1.91	0.52
10:A:7:VAL:HB	10:A:33:ILE:HD13	1.91	0.52
11:AA:1282:G:P	18:DD:55:LYS:HG3	2.50	0.52
11:AA:2389:C:H2'	11:AA:2390:A:H8	1.74	0.52
11:AA:2611:U:H2'	11:AA:2612:U:C6	2.45	0.52
11:AA:2747:A:H5'	28:HH:175:HIS:HA	1.91	0.52
11:AA:3096:C:H2'	11:AA:3097:C:C6	2.45	0.52
58:c:15:U:H2'	58:c:16:G:O4'	2.10	0.52
58:c:256:A:H2'	58:c:257:A:O4'	2.09	0.52
58:c:333:A:OP2	67:l:54:LYS:NZ	2.40	0.52
58:c:590:C:H2'	58:c:591:A:H8	1.74	0.52
58:c:782:U:H4'	58:c:783:G:O5'	2.09	0.52
58:c:1087:A:H2'	58:c:1088:A:C8	2.44	0.52
64:i:122:ASN:HA	64:i:126:ASP:HA	1.90	0.52
68:m:162:SER:O	68:m:162:SER:OG	2.28	0.52
8:7:34:LEU:O	8:7:34:LEU:HD13	2.10	0.52
8:7:64:HIS:CD2	8:7:68:VAL:HG22	2.44	0.52
11:AA:1508:C:OP1	12:B:127:ARG:NH2	2.39	0.52
11:AA:2101:C:O2'	11:AA:2102:U:OP1	2.27	0.52
11:AA:2429:G:H2'	11:AA:2430:A:H8	1.75	0.52
11:AA:2461:A:OP1	11:AA:2485:A:N6	2.43	0.52
13:BB:94:C:H2'	13:BB:95:A:C8	2.44	0.52
14:Bb:1:C:H4'	14:Bb:2:G:O5'	2.09	0.52
31:J:131:ASP:HB3	31:J:134:ASP:HB2	1.90	0.52
52:W:28:ASN:HB2	52:W:40:GLN:HB3	1.91	0.52
58:c:1291:G:H22	58:c:1324:G:H22	1.56	0.52
2:1:71:ILE:HG23	2:1:75:LEU:HD12	1.91	0.52
8:7:82:SER:OG	8:7:92:TRP:NE1	2.37	0.52
11:AA:1334:U:H2'	11:AA:1335:C:C6	2.45	0.52
11:AA:1410:U:O2'	45:Q:95:GLU:OE1	2.28	0.52
11:AA:2569:A:O2'	11:AA:2570:U:H5''	2.09	0.52
13:BB:84:A:H2'	13:BB:85:G:C8	2.44	0.52
18:DD:122:ARG:HA	18:DD:155:ASP:OD1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:568:G:H4'	81:z:90:ASP:HA	1.92	0.52
61:f:120:GLU:OE1	62:g:120:TYR:OH	2.17	0.52
66:k:19:GLN:H	66:k:19:GLN:CD	2.18	0.52
66:k:81:LEU:HB3	66:k:90:VAL:HG21	1.91	0.52
67:l:121:LEU:HD11	67:l:152:ILE:HD11	1.91	0.52
8:7:83:ALA:HB2	8:7:113:VAL:HB	1.92	0.52
11:AA:540:U:H2'	11:AA:541:U:C6	2.45	0.52
11:AA:1234:G:OP2	11:AA:1235:U:H3'	2.10	0.52
11:AA:1798:A:H2'	11:AA:1799:A:C8	2.44	0.52
11:AA:2615:G:H2'	11:AA:2616:C:H6	1.75	0.52
16:CC:142:C:H2'	16:CC:143:U:C6	2.45	0.52
32:JJ:180:SER:H	32:JJ:183:ASP:HB2	1.75	0.52
34:KK:82:LEU:HD13	34:KK:222:PHE:HE2	1.75	0.52
58:c:119:A:H1'	58:c:397:A:C5	2.45	0.52
58:c:123:G:H21	63:h:146:THR:HG21	1.75	0.52
58:c:980:G:H4'	58:c:1776:A:H4'	1.91	0.52
59:d:167:LYS:NZ	59:d:204:TYR:O	2.34	0.52
62:g:196:ARG:O	62:g:196:ARG:HG2	2.08	0.52
65:j:32:ILE:HG21	65:j:65:GLN:NE2	2.25	0.52
66:k:124:LYS:HA	66:k:127:GLU:HG2	1.91	0.52
6:5:34:TYR:OH	58:c:1487:A:OP1	2.24	0.51
11:AA:29:C:H4'	11:AA:62:A:H4'	1.92	0.51
11:AA:981:U:O2'	11:AA:1105:A:O2'	2.21	0.51
11:AA:993:G:N3	11:AA:2637:A:H2'	2.26	0.51
11:AA:1224:C:C2	11:AA:1225:A:C8	2.99	0.51
11:AA:1240:A:H5'	22:Ee:96:LYS:HE3	1.92	0.51
11:AA:1709:C:H2'	11:AA:1710:C:H6	1.73	0.51
11:AA:2829:U:C2	11:AA:2830:G:C8	2.98	0.51
46:QQ:159:ARG:HB2	46:QQ:164:LEU:HB2	1.92	0.51
58:c:44:U:OP2	58:c:437:A:N6	2.42	0.51
58:c:891:A:H2'	58:c:892:A:H8	1.74	0.51
58:c:1388:A:OP2	75:t:32:LYS:NZ	2.43	0.51
58:c:1561:U:H4'	58:c:1599:C:H4'	1.91	0.51
62:g:44:THR:HG23	62:g:45:LYS:HG3	1.92	0.51
69:n:60:SER:HB3	69:n:65:TYR:HE1	1.75	0.51
76:u:61:LEU:HD21	76:u:66:LEU:HD13	1.92	0.51
11:AA:1895:A:O2'	11:AA:3053:G:H4'	2.10	0.51
11:AA:3294:A:H5'	24:FF:128:LYS:HG3	1.92	0.51
14:Bb:66:C:H2'	14:Bb:67:C:C6	2.45	0.51
16:CC:10:A:H2'	16:CC:11:C:C6	2.44	0.51
18:DD:77:LEU:HB2	18:DD:78:PRO:HD3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Ee:137:GLN:HB2	22:Ee:148:PRO:HB2	1.91	0.51
28:HH:242:SER:O	28:HH:245:GLU:HG3	2.11	0.51
58:c:809:A:H2'	58:c:810:G:C8	2.46	0.51
58:c:968:U:H2'	58:c:969:C:O4'	2.10	0.51
59:d:144:ILE:HG12	59:d:158:VAL:HB	1.92	0.51
64:i:76:ARG:HH11	74:s:122:ARG:HG3	1.74	0.51
11:AA:417:A:H2'	11:AA:418:A:H8	1.74	0.51
11:AA:1258:U:N3	11:AA:1261:G:OP2	2.34	0.51
11:AA:1312:C:H2'	11:AA:1313:G:O4'	2.10	0.51
11:AA:2484:A:H5'	14:Cc:57:C:N1	2.24	0.51
11:AA:3095:U:H2'	11:AA:3096:C:C6	2.45	0.51
12:B:25:SER:O	12:B:29:THR:OG1	2.27	0.51
32:JJ:156:ILE:HD12	32:JJ:161:VAL:HB	1.92	0.51
35:L:70:PRO:HG3	35:L:115:LYS:HB2	1.93	0.51
37:M:86:LYS:HB3	37:M:90:TYR:CE2	2.45	0.51
58:c:97:C:H2'	58:c:98:U:C6	2.45	0.51
58:c:475:A:OP2	68:m:126:ARG:NH1	2.44	0.51
58:c:1761:U:H1'	58:c:1762:A:N7	2.26	0.51
64:i:73:THR:O	64:i:73:THR:OG1	2.29	0.51
67:l:10:LYS:HG3	70:o:133:LYS:HE3	1.93	0.51
71:p:30:SER:HB2	71:p:67:THR:HA	1.91	0.51
11:AA:723:U:O2'	39:N:29:TYR:OH	2.16	0.51
11:AA:872:U:H2'	11:AA:873:C:C6	2.45	0.51
11:AA:2218:G:H2'	11:AA:2219:A:H8	1.75	0.51
11:AA:2232:A:H2'	11:AA:2233:A:C8	2.46	0.51
11:AA:2639:G:H2'	11:AA:2640:A2M:H8	1.91	0.51
40:NN:26:SER:O	40:NN:26:SER:OG	2.29	0.51
64:i:117:THR:O	64:i:121:ILE:HG12	2.10	0.51
65:j:21:GLU:O	65:j:25:ARG:HG3	2.10	0.51
72:q:53:ASP:O	72:q:56:SER:OG	2.22	0.51
1:0:27:VAL:HG21	1:0:35:VAL:HG11	1.91	0.51
11:AA:1257:C:N3	11:AA:1261:G:N1	2.42	0.51
11:AA:1604:G:H4'	11:AA:1835:A:H4'	1.93	0.51
11:AA:2389:C:O2'	11:AA:3307:A:N1	2.39	0.51
11:AA:2433:U:H1'	46:QQ:125:SER:HB3	1.92	0.51
16:CC:95:G:C6	51:V:83:ALA:HA	2.46	0.51
14:Cc:57:C:C4'	14:Cc:58:A:OP1	2.58	0.51
23:F:126:VAL:HG23	23:F:127:GLN:H	1.76	0.51
58:c:929:A:O4'	72:q:124:ASP:HB2	2.10	0.51
58:c:1061:A:H2'	58:c:1062:A:O4'	2.10	0.51
58:c:1738:U:H2'	58:c:1739:C:H6	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:585:A:H2'	11:AA:586:C:C6	2.45	0.51
11:AA:1411:C:H2'	11:AA:1412:G:H8	1.76	0.51
11:AA:3095:U:H2'	11:AA:3096:C:H6	1.75	0.51
16:CC:81:U:H5''	16:CC:82:U:H5'	1.93	0.51
52:W:77:ARG:HB3	52:W:78:LEU:HD22	1.91	0.51
58:c:329:G:H2'	58:c:330:G:C8	2.45	0.51
58:c:347:G:OP1	70:o:77:SER:OG	2.23	0.51
58:c:639:U:OP1	66:k:112:ARG:NH2	2.41	0.51
60:e:35:PRO:HB2	60:e:37:THR:H	1.76	0.51
60:e:132:ASP:CB	60:e:221:PRO:HB3	2.40	0.51
8:7:29:GLN:NE2	8:7:77:GLY:HA3	2.26	0.51
8:7:288:HIS:O	8:7:306:THR:HG23	2.10	0.51
11:AA:1120:A:H2'	11:AA:1121:U:C6	2.46	0.51
11:AA:1276:U:H2'	11:AA:1277:C:C6	2.46	0.51
11:AA:2407:C:H2'	11:AA:2408:U:C6	2.46	0.51
11:AA:3066:U:H2'	11:AA:3067:C:C6	2.46	0.51
11:AA:3107:U:H2'	11:AA:3108:G:C8	2.46	0.51
11:AA:3281:U:H2'	11:AA:3282:U:C6	2.45	0.51
58:c:262:U:H2'	58:c:263:C:C6	2.46	0.51
58:c:585:A:H2'	58:c:586:G:H8	1.74	0.51
58:c:932:U:OP2	60:e:155:TYR:OH	2.22	0.51
58:c:1525:A:N3	58:c:1589:C:O2'	2.38	0.51
58:c:1772:C:H2'	58:c:1773:4AC:H6	1.93	0.51
64:i:188:LYS:NZ	64:i:196:GLU:OE2	2.36	0.51
76:u:26:ILE:HB	76:u:31:ALA:HB2	1.91	0.51
11:AA:93:C:OP2	11:AA:2764:C:O2'	2.27	0.51
11:AA:1660:C:H2'	11:AA:1661:G:H8	1.74	0.51
11:AA:2533:G:N2	11:AA:2534:G:O6	2.44	0.51
11:AA:2674:A:H5''	40:NN:105:GLY:HA3	1.93	0.51
11:AA:2883:U:H2'	11:AA:2884:C:C6	2.46	0.51
11:AA:2883:U:H2'	11:AA:2884:C:H6	1.76	0.51
16:CC:83:C:H2'	16:CC:85:G:H21	1.75	0.51
37:M:77:LYS:C	37:M:79:TRP:H	2.19	0.51
58:c:585:A:H2'	58:c:586:G:C8	2.46	0.51
58:c:1391:A:H2'	58:c:1392:U:C6	2.46	0.51
58:c:1592:A:H2'	58:c:1593:A:C8	2.46	0.51
61:f:143:TYR:O	80:y:98:GLN:NE2	2.43	0.51
63:h:37:LYS:HG3	63:h:40:GLU:OE2	2.11	0.51
67:l:110:ARG:O	67:l:114:GLU:HG2	2.09	0.51
68:m:108:ARG:NH2	68:m:110:GLN:OE1	2.37	0.51
73:r:85:ILE:HA	73:r:89:MET:HE1	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:400:G:H4'	11:AA:401:U:H5''	1.93	0.51
11:AA:563:U:H2'	11:AA:564:G:H8	1.76	0.51
11:AA:1348:U:H4'	11:AA:1349:G:OP1	2.11	0.51
11:AA:2347:OMU:H2'	11:AA:2348:A:O4'	2.11	0.51
11:AA:2959:OMC:HM22	11:AA:2960:C:O4'	2.10	0.51
12:B:119:VAL:HG22	12:B:146:ILE:HG23	1.93	0.51
23:F:11:THR:HG22	23:F:14:MET:HE3	1.93	0.51
34:KK:90:THR:HG23	34:KK:214:LEU:HD21	1.92	0.51
35:L:88:ASP:O	35:L:121:ARG:NH1	2.44	0.51
42:OO:90:ALA:HB1	42:OO:95:ILE:HB	1.92	0.51
59:d:107:PHE:HB2	59:d:135:GLU:HB3	1.92	0.51
62:g:54:ARG:HH21	62:g:94:ARG:HH12	1.57	0.51
69:n:31:LYS:HE3	69:n:36:ASP:HA	1.92	0.51
8:7:245:PHE:CD1	8:7:252:LEU:HD13	2.46	0.51
11:AA:501:A:H2'	11:AA:502:U:C6	2.45	0.51
11:AA:633:C:O2'	47:R:21:ARG:O	2.29	0.51
11:AA:651:G:O2'	11:AA:1435:A:OP1	2.27	0.51
11:AA:674:G:O6	15:C:56:LYS:NZ	2.44	0.51
11:AA:1886:A:O4'	11:AA:3307:A:H5'	2.10	0.51
13:BB:71:G:H2'	13:BB:72:A:C8	2.45	0.51
33:K:119:ILE:HG22	33:K:124:GLY:HA3	1.93	0.51
58:c:273:G:N2	58:c:283:U:O2	2.29	0.51
58:c:1294:G:O2'	58:c:1321:A:N1	2.43	0.51
61:f:40:LYS:HA	61:f:43:ARG:HB2	1.91	0.51
62:g:133:GLY:HA3	62:g:156:PHE:O	2.11	0.51
8:7:182:ASN:HD21	8:7:185:GLN:H	1.58	0.50
11:AA:1448:U:H2'	11:AA:1449:A2M:H8	1.92	0.50
11:AA:1700:G:H5'	52:W:3:ARG:HH12	1.76	0.50
12:B:120:ASN:OD1	12:B:145:HIS:HB2	2.10	0.50
13:BB:19:C:H2'	13:BB:20:A:C8	2.46	0.50
18:DD:23:LYS:HD3	18:DD:193:ASN:H	1.76	0.50
24:FF:152:LYS:HD3	24:FF:189:SER:HA	1.93	0.50
58:c:684:A:H2'	58:c:685:A:C8	2.45	0.50
58:c:810:G:N2	66:k:109:VAL:O	2.37	0.50
58:c:1760:G:H1'	58:c:1781:MA6:H2	1.93	0.50
59:d:110:TYR:HA	59:d:115:PHE:CG	2.46	0.50
60:e:81:PHE:CD2	60:e:82:ARG:HG3	2.47	0.50
7:6:13:LYS:O	7:6:17:GLN:NE2	2.40	0.50
11:AA:118:U:O2	11:AA:121:A:H5''	2.12	0.50
11:AA:238:A:H2'	11:AA:239:G:O4'	2.11	0.50
11:AA:895:A:O2'	11:AA:896:A:OP2	2.22	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1562:C:O2'	11:AA:1563:C:O5'	2.20	0.50
11:AA:2415:C:OP1	21:EE:2:GLY:HA3	2.11	0.50
11:AA:2430:A:H2'	11:AA:2431:C:C6	2.47	0.50
11:AA:2597:U:H2'	11:AA:2598:G:H8	1.77	0.50
11:AA:2660:G:OP1	11:AA:2750:U:O2'	2.28	0.50
11:AA:2795:U:OP1	56:a:62:ALA:N	2.35	0.50
11:AA:3115:C:OP1	36:LL:62:ARG:NH2	2.43	0.50
11:AA:3160:U:H2'	11:AA:3161:C:C6	2.46	0.50
11:AA:3193:C:H2'	11:AA:3194:C:C6	2.47	0.50
11:AA:3243:A:H4'	24:FF:95:THR:HG23	1.94	0.50
58:c:1169:G:N2	58:c:1575:G7M:OP2	2.45	0.50
58:c:1202:A:H1'	58:c:1207:C:N4	2.26	0.50
59:d:12:GLU:H	59:d:12:GLU:CD	2.19	0.50
64:i:51:VAL:HG12	64:i:64:VAL:HG21	1.93	0.50
74:s:56:GLY:HA3	74:s:59:LYS:HB2	1.93	0.50
11:AA:531:G:H2'	11:AA:532:A:C8	2.47	0.50
11:AA:1615:C:H2'	11:AA:1616:U:H6	1.76	0.50
11:AA:1791:C:H2'	11:AA:1792:C:C6	2.45	0.50
11:AA:1899:G:O2'	11:AA:2334:U:O4	2.21	0.50
11:AA:2947:G:C2	24:FF:250:ALA:HB1	2.46	0.50
11:AA:3251:U:H2'	11:AA:3252:G:H8	1.77	0.50
16:CC:26:U:H2'	16:CC:27:U:C6	2.46	0.50
22:Ee:18:VAL:HA	22:Ee:57:LYS:HA	1.93	0.50
24:FF:291:GLU:H	24:FF:291:GLU:CD	2.20	0.50
58:c:340:U:H2'	58:c:341:A:C8	2.47	0.50
58:c:953:G:H2'	58:c:954:G:C8	2.46	0.50
58:c:1299:G:H2'	58:c:1300:A:C8	2.46	0.50
58:c:1511:U:H2'	58:c:1512:G:H8	1.75	0.50
58:c:1535:U:O2'	58:c:1536:G:N3	2.42	0.50
74:s:82:ARG:NH1	74:s:114:ARG:O	2.44	0.50
11:AA:1473:G:OP2	17:D:8:LYS:NZ	2.37	0.50
11:AA:2241:U:HO2'	21:EE:243:THR:H	1.56	0.50
11:AA:2986:U:H2'	11:AA:2987:A:C8	2.46	0.50
13:BB:118:A:H5''	28:HH:253:PHE:HZ	1.77	0.50
18:DD:57:THR:O	18:DD:61:ARG:HG2	2.11	0.50
18:DD:69:ASP:OD1	18:DD:69:ASP:N	2.40	0.50
40:NN:115:LYS:HD3	76:u:12:GLN:HG2	1.93	0.50
58:c:1091:A:H4'	58:c:1092:A:O4'	2.11	0.50
65:j:102:VAL:HG13	65:j:106:LEU:HD12	1.93	0.50
74:s:59:LYS:HG2	74:s:60:PHE:CE1	2.46	0.50
1:0:83:LYS:NZ	1:0:97:ALA:H	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:542:G:H1	11:AA:549:U:H3	1.59	0.50
11:AA:640:U:H2'	11:AA:641:C:C6	2.46	0.50
13:BB:113:C:H2'	13:BB:114:U:O4'	2.11	0.50
21:EE:112:ILE:HG13	57:b:79:VAL:HG22	1.94	0.50
50:U:5:THR:HG23	50:U:12:ASN:HB2	1.94	0.50
58:c:800:U:H2'	58:c:801:G:C8	2.47	0.50
58:c:1017:U:H2'	58:c:1018:U:H6	1.77	0.50
58:c:1135:U:OP2	81:z:121:ARG:NH1	2.44	0.50
64:i:118:LEU:HD22	64:i:129:PRO:HB2	1.94	0.50
66:k:33:GLU:HG2	66:k:34:LEU:H	1.77	0.50
71:p:100:LYS:O	71:p:103:GLU:HG2	2.12	0.50
76:u:121:ALA:O	76:u:125:ILE:HG13	2.11	0.50
8:7:65:SER:HB2	58:c:1341:A:H1'	1.93	0.50
8:7:182:ASN:ND2	8:7:185:GLN:H	2.08	0.50
11:AA:1120:A:H2'	11:AA:1121:U:H6	1.76	0.50
11:AA:1351:U:H3'	11:AA:1352:A:H2'	1.93	0.50
11:AA:1801:U:H2'	11:AA:1802:C:C6	2.46	0.50
11:AA:2464:U:O4	11:AA:2494:A:O2'	2.22	0.50
11:AA:3000:A:H2'	11:AA:3001:C:C6	2.47	0.50
26:GG:53:SER:HB3	26:GG:56:ALA:HB2	1.93	0.50
33:K:32:SER:HA	33:K:49:PRO:HA	1.92	0.50
58:c:805:U:O4	66:k:104:ARG:NH2	2.40	0.50
58:c:1136:U:OP1	81:z:62:LYS:NZ	2.45	0.50
66:k:20:VAL:HG13	66:k:81:LEU:HD11	1.92	0.50
66:k:78:THR:O	66:k:82:GLU:HG2	2.11	0.50
2:1:74:SER:HB3	76:u:57:ARG:HH22	1.76	0.50
11:AA:130:A:H2'	11:AA:131:C:C6	2.47	0.50
11:AA:1054:A:H5''	11:AA:2637:A:H61	1.77	0.50
11:AA:2947:G:N3	24:FF:250:ALA:HB1	2.27	0.50
11:AA:3039:C:OP1	24:FF:62:ARG:NH1	2.39	0.50
13:BB:73:C:H41	20:E:19:VAL:HG21	1.77	0.50
32:JJ:89:ILE:HD11	32:JJ:229:PHE:HB3	1.93	0.50
33:K:55:GLU:HB2	33:K:108:LYS:HB3	1.94	0.50
58:c:141:U:H2'	58:c:142:G:H8	1.76	0.50
58:c:293:U:H2'	58:c:294:C:C6	2.47	0.50
58:c:502:U:H2'	58:c:503:G:H8	1.76	0.50
58:c:502:U:H2'	58:c:503:G:C8	2.46	0.50
58:c:947:U:H2'	58:c:948:G:C8	2.47	0.50
58:c:1164:G:H2'	58:c:1165:G:C8	2.46	0.50
61:f:144:TRP:CE2	61:f:173:PRO:HG3	2.47	0.50
78:w:99:ILE:HG12	78:w:102:ARG:HH21	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:z:57:LEU:HD11	81:z:73:ARG:HB2	1.93	0.50
11:AA:506:U:H2'	11:AA:507:U:O4'	2.12	0.50
11:AA:612:U:H2'	11:AA:613:G:H8	1.77	0.50
11:AA:696:C:OP2	26:GG:119:ARG:NH2	2.41	0.50
11:AA:1018:G:O6	11:AA:1034:U:O4	2.30	0.50
11:AA:1018:G:P	11:AA:1035:G:N2	2.82	0.50
11:AA:1263:A:N3	11:AA:1263:A:H2'	2.26	0.50
11:AA:1717:U:H2'	11:AA:1718:G:H8	1.75	0.50
11:AA:1941:C:H2'	11:AA:1942:U:C6	2.47	0.50
11:AA:2723:U:H2'	11:AA:2724:OMU:H6	1.93	0.50
11:AA:2813:A:H2'	11:AA:2814:G:O4'	2.12	0.50
16:CC:150:G:OP1	31:J:27:ARG:NH2	2.45	0.50
36:LL:17:THR:HG23	36:LL:28:VAL:HB	1.92	0.50
58:c:304:U:H2'	58:c:305:C:C6	2.46	0.50
58:c:1164:G:H2'	58:c:1165:G:H8	1.76	0.50
61:f:139:ILE:HG13	61:f:218:ILE:HG23	1.93	0.50
72:q:20:TYR:HB3	72:q:27:PHE:HB2	1.94	0.50
11:AA:1404:G:N2	11:AA:1407:A:OP2	2.37	0.50
11:AA:3155:U:H5'	11:AA:3156:U:H4'	1.94	0.50
14:Bb:24:C:H2'	14:Bb:25:U:C6	2.47	0.50
17:D:164:LEU:HD21	58:c:850:A:H4'	1.93	0.50
17:D:166:ASN:O	17:D:170:ARG:HG2	2.11	0.50
18:DD:109:ALA:HA	18:DD:181:PHE:HE1	1.77	0.50
23:F:132:PRO:HB2	32:JJ:120:THR:HB	1.93	0.50
33:K:70:ILE:HD13	33:K:82:VAL:HG22	1.94	0.50
49:T:29:ALA:O	49:T:33:VAL:HG23	2.11	0.50
58:c:771:A:OP1	68:m:9:SER:OG	2.24	0.50
58:c:800:U:H2'	58:c:801:G:H8	1.77	0.50
58:c:971:A:H2'	58:c:972:G:O4'	2.12	0.50
58:c:1001:A:O2'	58:c:1002:G:OP1	2.27	0.50
65:j:47:GLY:HA3	65:j:117:GLY:HA3	1.93	0.50
11:AA:1616:U:H2'	11:AA:1617:G:H8	1.76	0.49
11:AA:2426:U:H2'	11:AA:2427:U:H6	1.76	0.49
11:AA:2568:C:O2'	11:AA:2569:A:O5'	2.30	0.49
11:AA:3045:G:OP1	24:FF:19:ARG:NH2	2.38	0.49
20:E:22:PRO:O	23:F:146:ASN:ND2	2.22	0.49
24:FF:283:TYR:N	24:FF:323:MET:O	2.40	0.49
28:HH:286:VAL:HG13	38:MM:206:LEU:HD11	1.93	0.49
32:JJ:138:TYR:CE2	32:JJ:233:GLU:HB3	2.47	0.49
58:c:992:A:OP2	58:c:1011:G:N1	2.30	0.49
58:c:1114:G:O2'	58:c:1130:G:O6	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1590:G:OP1	77:v:91:TYR:HB2	2.11	0.49
68:m:148:VAL:HG13	68:m:152:SER:HB2	1.94	0.49
76:u:76:PRO:HA	76:u:81:ILE:HD12	1.94	0.49
11:AA:428:A:H2'	11:AA:429:U:C6	2.47	0.49
11:AA:523:A:O2'	20:E:69:PRO:HD2	2.12	0.49
11:AA:1144:U:OP1	11:AA:1367:G:O2'	2.23	0.49
11:AA:1208:U:O2'	11:AA:3115:C:N4	2.45	0.49
11:AA:1662:G:H22	11:AA:1787:A:H2	1.61	0.49
11:AA:2452:G:H2'	11:AA:2462:A:N7	2.26	0.49
21:EE:206:PRO:HG3	21:EE:213:GLY:HA3	1.94	0.49
22:Ee:117:ARG:HD2	22:Ee:128:VAL:HG21	1.94	0.49
27:H:79:VAL:HB	27:H:118:VAL:HG22	1.93	0.49
28:HH:178:ASN:HA	28:HH:183:TRP:CD2	2.47	0.49
29:I:47:ARG:HH21	29:I:54:LEU:HD21	1.76	0.49
34:KK:161:GLU:HA	34:KK:164:VAL:HG22	1.95	0.49
51:V:25:ARG:HD3	53:X:50:ASN:O	2.12	0.49
58:c:448:C:H2'	58:c:449:C:H6	1.78	0.49
58:c:455:C:H3'	58:c:456:A:C8	2.47	0.49
58:c:844:A:H2'	58:c:845:G:C8	2.47	0.49
58:c:1346:A:N6	58:c:1372:U:O4	2.45	0.49
64:i:72:HIS:O	64:i:72:HIS:ND1	2.44	0.49
79:x:32:VAL:HG22	79:x:60:ARG:HD2	1.94	0.49
11:AA:8:C:H2'	11:AA:9:U:C6	2.48	0.49
11:AA:609:G:OP2	26:GG:315:LYS:NZ	2.39	0.49
11:AA:864:G:N7	87:AA:3771:HOH:O	2.35	0.49
11:AA:1525:G:H5'	11:AA:1830:G:OP2	2.12	0.49
11:AA:1757:A:H2'	11:AA:1758:G:C8	2.47	0.49
11:AA:2714:G:H5'	11:AA:2716:U:C6	2.48	0.49
18:DD:107:ALA:HB3	18:DD:181:PHE:HB2	1.93	0.49
27:H:104:ASN:OD1	27:H:108:GLU:N	2.42	0.49
42:OO:55:ARG:NH1	42:OO:73:ARG:O	2.39	0.49
48:S:74:ARG:HG2	48:S:75:ALA:H	1.77	0.49
58:c:125:U:OP1	65:j:201:GLN:NE2	2.38	0.49
66:k:38:LEU:HD11	66:k:77:LEU:HD22	1.94	0.49
67:l:113:PHE:CG	67:l:121:LEU:HD22	2.47	0.49
76:u:49:LYS:NZ	76:u:80:LYS:O	2.44	0.49
11:AA:215:G:OP1	33:K:12:ARG:NH1	2.35	0.49
11:AA:393:U:H2'	11:AA:394:G:O4'	2.12	0.49
11:AA:602:A:H2'	11:AA:603:A:C8	2.46	0.49
11:AA:1018:G:H1	11:AA:1034:U:H3	1.60	0.49
11:AA:2167:A:H2'	11:AA:2168:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2428:U:H2'	11:AA:2429:G:H8	1.77	0.49
11:AA:2451:G:H2'	11:AA:2452:G:O4'	2.13	0.49
11:AA:2651:G:H5''	11:AA:2652:U:O4'	2.12	0.49
11:AA:2927:C:H2'	11:AA:2928:C:C6	2.47	0.49
25:G:50:LEU:HD22	25:G:54:VAL:HB	1.95	0.49
40:NN:36:VAL:HG23	40:NN:120:ILE:HG21	1.94	0.49
58:c:953:G:H2'	58:c:954:G:H8	1.77	0.49
58:c:1482:C:OP2	58:c:1521:G:N2	2.45	0.49
58:c:1739:C:H2'	58:c:1740:A:C8	2.47	0.49
61:f:101:VAL:HG22	61:f:115:ILE:HG12	1.94	0.49
64:i:42:LEU:HB2	64:i:47:SER:HA	1.95	0.49
66:k:14:THR:HG23	66:k:16:LEU:H	1.77	0.49
76:u:62:THR:HG22	76:u:63:GLN:H	1.77	0.49
10:A:15:LEU:HB2	10:A:123:ALA:O	2.12	0.49
11:AA:759:U:H2'	11:AA:760:G:O4'	2.12	0.49
11:AA:987:U:H2'	11:AA:988:U:C6	2.46	0.49
11:AA:1793:C:OP1	21:EE:177:LYS:NZ	2.35	0.49
11:AA:3296:A:H2'	11:AA:3297:U:C6	2.47	0.49
14:Cc:67:C:H2'	14:Cc:68:C:C6	2.48	0.49
22:Ee:135:THR:O	22:Ee:139:VAL:HG23	2.11	0.49
27:H:87:ARG:HH12	27:H:137:VAL:HG11	1.77	0.49
27:H:101:VAL:HG11	27:H:114:ILE:HD12	1.94	0.49
36:LL:86:TYR:CD2	36:LL:151:VAL:HB	2.47	0.49
52:W:66:ILE:HG21	52:W:77:ARG:NH2	2.27	0.49
58:c:333:A:H2'	58:c:334:G:C8	2.48	0.49
58:c:514:G:O2'	58:c:515:A:H5'	2.12	0.49
58:c:1308:G:H2'	58:c:1309:C:C6	2.48	0.49
58:c:1348:A:H2'	58:c:1349:G:O4'	2.12	0.49
76:u:38:VAL:HG11	76:u:73:MET:SD	2.52	0.49
8:7:136:ILE:HG22	8:7:137:LYS:HZ2	1.78	0.49
11:AA:113:C:P	46:QQ:147:ARG:HE	2.36	0.49
11:AA:359:U:O3'	51:V:25:ARG:NH2	2.44	0.49
11:AA:643:U:O2'	11:AA:1153:A:N1	2.44	0.49
11:AA:1340:G:H2'	11:AA:1341:U:C6	2.48	0.49
11:AA:1915:A:H2'	11:AA:1916:U:C6	2.47	0.49
11:AA:2930:A:H2'	11:AA:2931:C:H6	1.78	0.49
11:AA:3094:A:H2'	11:AA:3095:U:C6	2.48	0.49
13:BB:16:U:H2'	13:BB:17:A:H8	1.76	0.49
14:Cc:9:G:N2	14:Cc:46:G:H3'	2.22	0.49
18:DD:60:ARG:O	18:DD:64:ARG:HG3	2.12	0.49
19:Dd:20:U:OP1	58:c:1761:U:H2'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:FF:185:GLY:O	24:FF:191:LYS:NZ	2.26	0.49
34:KK:128:LYS:NZ	34:KK:202:GLU:OE1	2.31	0.49
58:c:1147:A:O2'	58:c:1636:C:OP2	2.25	0.49
58:c:1629:G:H21	58:c:1765:A:H8	1.59	0.49
65:j:147:LEU:HB3	65:j:151:ASP:OD2	2.13	0.49
79:x:12:TYR:CG	79:x:12:TYR:O	2.66	0.49
11:AA:1019:G:H2'	11:AA:1020:G:H8	1.77	0.49
11:AA:1194:G:H2'	11:AA:1195:A:C8	2.47	0.49
11:AA:2526:C:H2'	11:AA:2527:G:H8	1.78	0.49
11:AA:2552:C:N4	41:O:54:SER:OG	2.46	0.49
34:KK:148:ALA:HA	34:KK:201:THR:HG22	1.94	0.49
58:c:886:U:OP2	60:e:216:LYS:NZ	2.45	0.49
58:c:974:A2M:H4'	71:p:112:LYS:HE2	1.95	0.49
58:c:1081:A:H2	58:c:1082:C:H41	1.60	0.49
62:g:164:VAL:O	62:g:168:ILE:HB	2.13	0.49
76:u:42:TYR:HA	76:u:85:PHE:HE2	1.78	0.49
1:O:17:LEU:O	63:h:67:GLN:NE2	2.46	0.49
8:7:38:ARG:HA	8:7:67:ILE:HG23	1.95	0.49
11:AA:1211:U:H2'	11:AA:1212:A:H8	1.78	0.49
11:AA:1381:A:H2'	11:AA:1382:G:H8	1.78	0.49
11:AA:1680:G:H2'	11:AA:1681:U:H6	1.77	0.49
11:AA:2344:U:H2'	11:AA:2345:A:C8	2.48	0.49
16:CC:37:A:OP1	49:T:89:ARG:NH2	2.46	0.49
42:OO:11:LYS:O	42:OO:13:HIS:ND1	2.46	0.49
58:c:1142:A:H2'	58:c:1143:A:C8	2.48	0.49
58:c:1410:A:O2'	58:c:1411:A:OP1	2.29	0.49
61:f:106:ASP:OD1	61:f:110:HIS:HB2	2.13	0.49
65:j:64:LYS:HB3	65:j:67:VAL:HG23	1.94	0.49
68:m:153:GLU:HB3	68:m:154:LYS:HE2	1.95	0.49
1:O:16:PRO:HA	1:O:19:ALA:HA	1.94	0.49
8:7:101:GLN:NE2	8:7:137:LYS:O	2.46	0.49
11:AA:159:A:H2'	11:AA:160:G:H8	1.78	0.49
11:AA:1073:U:H2'	11:AA:1074:U:C6	2.48	0.49
11:AA:1498:A:H2'	11:AA:1499:C:H6	1.78	0.49
14:Cc:8:U:O2'	14:Cc:9:G:H5''	2.13	0.49
14:Cc:76:C:O2	56:a:55:LYS:HD3	2.12	0.49
32:JJ:138:TYR:CD2	32:JJ:233:GLU:HB3	2.48	0.49
34:KK:246:MET:HA	34:KK:249:ARG:HG2	1.95	0.49
36:LL:50:ASN:HD21	44:PP:5:SER:H	1.61	0.49
38:MM:36:LEU:HD13	38:MM:69:ARG:HH11	1.78	0.49
56:a:23:HIS:HA	56:a:73:GLU:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:167:U:H5''	65:j:135:PRO:HA	1.95	0.49
58:c:878:G:O2'	71:p:108:ASP:OD1	2.26	0.49
63:h:100:ARG:HB2	63:h:114:ILE:HD13	1.95	0.49
67:l:152:ILE:HG13	67:l:153:GLU:H	1.78	0.49
11:AA:167:U:H2'	11:AA:168:U:C6	2.48	0.49
11:AA:422:A:C2	11:AA:2363:A:H4'	2.48	0.49
11:AA:791:A:H2'	11:AA:792:G:H8	1.78	0.49
11:AA:901:G:OP1	51:V:13:ASN:ND2	2.27	0.49
11:AA:1003:A:N1	11:AA:1049:C:O2'	2.46	0.49
11:AA:1709:C:H2'	11:AA:1710:C:C6	2.48	0.49
11:AA:1833:G:H5''	53:X:10:LYS:HD3	1.93	0.49
11:AA:2225:U:H2'	11:AA:2226:U:C6	2.48	0.49
11:AA:2273:G:O2'	11:AA:2311:G:O6	2.23	0.49
11:AA:2428:U:H2'	11:AA:2429:G:C8	2.48	0.49
11:AA:2436:U:H4'	34:KK:70:LYS:HD3	1.94	0.49
58:c:183:U:H2'	58:c:184:C:H6	1.78	0.49
58:c:340:U:H2'	58:c:341:A:H8	1.78	0.49
58:c:525:A:H2'	58:c:526:A:C8	2.47	0.49
58:c:802:G:O2'	80:y:107:SER:HB3	2.13	0.49
60:e:132:ASP:HB3	60:e:221:PRO:HB3	1.95	0.49
65:j:79:LYS:HG3	65:j:80:ASN:H	1.77	0.49
66:k:18:LEU:HD12	66:k:19:GLN:N	2.27	0.49
74:s:103:ASN:O	74:s:107:LYS:HG3	2.13	0.49
76:u:53:ASP:HB3	76:u:56:LYS:HE2	1.95	0.49
11:AA:507:U:H2'	11:AA:508:U:C6	2.48	0.48
11:AA:595:G:OP1	32:JJ:33:ARG:NH2	2.45	0.48
11:AA:1920:U:O2'	11:AA:1932:A:N7	2.37	0.48
11:AA:3214:U:C4	44:PP:121:MET:HG3	2.48	0.48
13:BB:3:U:H2'	13:BB:4:U:H6	1.75	0.48
18:DD:160:ASP:OD1	18:DD:161:ALA:N	2.46	0.48
18:DD:195:GLN:NE2	18:DD:196:VAL:O	2.37	0.48
24:FF:284:ARG:NH1	24:FF:293:ASN:O	2.44	0.48
58:c:78:A:H4'	65:j:159:ARG:HH12	1.77	0.48
58:c:107:C:OP1	58:c:383:G:O2'	2.25	0.48
58:c:209:U:H2'	58:c:210:A:H8	1.75	0.48
58:c:1017:U:H2'	58:c:1018:U:C6	2.48	0.48
58:c:1587:A:H2'	58:c:1588:G:C8	2.47	0.48
64:i:80:LYS:HD3	64:i:80:LYS:HA	1.60	0.48
66:k:8:ILE:HG23	66:k:42:GLN:HA	1.95	0.48
75:t:110:VAL:HG21	75:t:119:LEU:HD11	1.94	0.48
78:w:30:LYS:HD2	78:w:111:GLY:HA3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:324:A:H2'	11:AA:325:A:C8	2.47	0.48
11:AA:2455:U:H3'	11:AA:2456:A:C8	2.48	0.48
11:AA:2532:U:H2'	11:AA:2533:G:C8	2.48	0.48
15:C:125:ASP:OD2	26:GG:282:SER:OG	2.26	0.48
14:Cc:39:A:N6	14:Cc:40:C:C4	2.80	0.48
18:DD:170:ALA:O	18:DD:174:ASN:ND2	2.46	0.48
21:EE:181:LYS:HB2	21:EE:184:ARG:HG3	1.96	0.48
46:QQ:124:ASP:OD1	46:QQ:127:TYR:N	2.40	0.48
58:c:300:A:H2'	58:c:301:A:C8	2.48	0.48
58:c:395:U:H2'	58:c:396:G:O4'	2.13	0.48
58:c:1587:A:H2'	58:c:1588:G:H8	1.77	0.48
65:j:39:GLU:HB3	65:j:46:LYS:HD2	1.95	0.48
80:y:30:SER:HB2	80:y:61:ILE:HG13	1.94	0.48
11:AA:89:A:N7	15:C:171:LYS:NZ	2.62	0.48
11:AA:986:U:O2'	32:JJ:122:ALA:O	2.26	0.48
11:AA:1183:C:OP1	20:E:158:LYS:HE2	2.14	0.48
11:AA:1658:G:H2'	11:AA:1659:U:C6	2.47	0.48
11:AA:2148:U:H2'	11:AA:2149:A:C8	2.49	0.48
15:C:175:ALA:O	15:C:182:LYS:HB2	2.12	0.48
17:D:130:ASN:O	17:D:132:PHE:N	2.46	0.48
21:EE:127:ALA:HB2	21:EE:134:VAL:HG23	1.94	0.48
24:FF:386:ASP:HB3	24:FF:387:LEU:HD12	1.95	0.48
30:II:9:TRP:CH2	30:II:11:PRO:HA	2.47	0.48
46:QQ:5:LYS:HE2	50:U:36:ARG:HE	1.79	0.48
58:c:36:C:H2'	58:c:37:U:H6	1.79	0.48
58:c:293:U:H2'	58:c:294:C:H6	1.77	0.48
58:c:368:U:H2'	58:c:369:A:O4'	2.13	0.48
58:c:1673:G:H5''	65:j:76:LEU:HD22	1.95	0.48
59:d:184:LEU:HB3	79:x:45:ALA:HB2	1.95	0.48
63:h:105:VAL:HG21	63:h:245:LYS:N	2.26	0.48
65:j:32:ILE:HG21	65:j:65:GLN:HE22	1.78	0.48
69:n:14:TYR:CZ	69:n:18:GLU:HG3	2.48	0.48
78:w:58:LEU:HD23	78:w:88:LYS:HD2	1.96	0.48
1:O:76:TYR:OH	1:O:86:GLU:OE1	2.21	0.48
8:7:289:ALA:HA	8:7:305:TYR:HA	1.95	0.48
11:AA:760:G:H1'	11:AA:771:A:N6	2.28	0.48
11:AA:947:G:H5''	45:Q:55:ILE:HB	1.94	0.48
11:AA:1021:G:H2'	11:AA:1022:U:O4'	2.14	0.48
11:AA:1023:C:H2'	11:AA:1024:G:O4'	2.11	0.48
11:AA:2223:A:H2'	11:AA:2224:A:C8	2.49	0.48
11:AA:2497:U:H3'	11:AA:2498:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3163:A:H2'	11:AA:3164:C:C6	2.48	0.48
18:DD:158:VAL:HG23	18:DD:159:VAL:H	1.78	0.48
26:GG:325:LEU:O	32:JJ:41:ARG:NH2	2.42	0.48
36:LL:120:ASP:OD2	36:LL:124:ARG:NH2	2.45	0.48
42:OO:58:VAL:HG21	42:OO:72:GLY:HA3	1.95	0.48
43:P:16:LEU:HD12	43:P:71:LEU:HD12	1.96	0.48
56:a:71:ARG:HH11	56:a:80:ARG:HG2	1.79	0.48
58:c:17:C:H2'	58:c:18:C:H6	1.77	0.48
58:c:794:U:O2'	80:y:82:LYS:NZ	2.45	0.48
58:c:928:U:H4'	72:q:124:ASP:HB3	1.95	0.48
58:c:1182:U:H4'	73:r:124:THR:HB	1.94	0.48
58:c:1429:G:H2'	58:c:1430:U:C6	2.49	0.48
61:f:173:PRO:HG2	68:m:57:ARG:HD2	1.95	0.48
74:s:45:ARG:O	74:s:48:VAL:HG22	2.13	0.48
74:s:94:GLN:HB2	74:s:102:LYS:HG3	1.94	0.48
4:3:33:LEU:HD12	4:3:81:ARG:HA	1.95	0.48
11:AA:80:G:H2'	11:AA:81:C:H6	1.78	0.48
11:AA:165:A:H2'	11:AA:166:C:C6	2.48	0.48
11:AA:294:U:P	46:QQ:15:GLN:HE22	2.36	0.48
11:AA:664:U:H5'	26:GG:107:ARG:HA	1.95	0.48
11:AA:861:C:OP1	11:AA:2133:U:O2'	2.18	0.48
11:AA:966:U:OP1	37:M:44:ASN:ND2	2.46	0.48
11:AA:1597:C:H2'	11:AA:1598:G:H8	1.77	0.48
11:AA:2218:G:H2'	11:AA:2219:A:C8	2.48	0.48
11:AA:2419:A:H2'	11:AA:2420:C:C6	2.49	0.48
11:AA:2493:U:H3'	11:AA:2494:A:C8	2.45	0.48
11:AA:2609:A:H2'	11:AA:2610:G:C8	2.48	0.48
18:DD:26:PHE:HE2	18:DD:97:LYS:HB2	1.79	0.48
44:PP:47:ASP:OD2	44:PP:55:ARG:NH1	2.42	0.48
53:X:30:ARG:NH1	53:X:33:ASN:HD22	2.11	0.48
58:c:534:A:OP1	68:m:168:ARG:NH1	2.47	0.48
58:c:902:G:H2'	58:c:903:U:C6	2.48	0.48
58:c:1677:C:OP1	67:l:42:ARG:NH1	2.38	0.48
58:c:1786:G:OP1	72:q:136:ARG:NH2	2.46	0.48
69:n:50:THR:O	69:n:52:LYS:N	2.45	0.48
11:AA:435:C:H2'	11:AA:436:A:C8	2.47	0.48
11:AA:591:G:N3	30:II:19:LYS:HG2	2.28	0.48
11:AA:1378:U:H2'	11:AA:1379:G:H8	1.78	0.48
11:AA:2162:U:OP1	21:EE:234:LYS:NZ	2.40	0.48
11:AA:2203:U:H2'	11:AA:2204:C:C6	2.47	0.48
11:AA:2361:A:H2'	11:AA:2362:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:Cc:14:A:H2'	14:Cc:15:G:C8	2.49	0.48
14:Cc:50:G:O2'	14:Cc:51:U:H5'	2.13	0.48
32:JJ:86:VAL:O	32:JJ:114:GLY:HA2	2.14	0.48
38:MM:200:LEU:HB2	38:MM:213:PHE:CG	2.48	0.48
41:O:74:ASN:HB2	41:O:86:ARG:HB3	1.96	0.48
58:c:472:U:O2'	58:c:769:A:N3	2.36	0.48
58:c:1636:C:C2	58:c:1765:A:N6	2.81	0.48
62:g:40:ARG:HB2	62:g:47:GLU:HG3	1.95	0.48
65:j:67:VAL:HB	65:j:99:GLY:HA2	1.95	0.48
67:l:191:PHE:O	67:l:195:ARG:HG2	2.14	0.48
71:p:92:ILE:HD13	71:p:149:LEU:HD11	1.94	0.48
6:5:19:ARG:HD2	6:5:32:ARG:HD2	1.96	0.48
8:7:42:LEU:HD21	8:7:82:SER:HB3	1.94	0.48
8:7:212:ALA:HA	8:7:221:MET:O	2.14	0.48
11:AA:589:A:H1'	11:AA:1337:A:H5''	1.94	0.48
11:AA:1019:G:H2'	11:AA:1020:G:C8	2.48	0.48
11:AA:1341:U:H2'	11:AA:1342:C:C6	2.48	0.48
11:AA:1460:A:H2'	11:AA:1461:A:C8	2.49	0.48
11:AA:1641:U:O2'	11:AA:1642:A:H3'	2.14	0.48
11:AA:2835:U:H2'	11:AA:2836:C:O2	2.14	0.48
11:AA:2916:U:H5	11:AA:2935:U:HO2'	1.62	0.48
14:Cc:8:U:O2	14:Cc:22:A:H2	1.96	0.48
18:DD:46:ARG:HH11	22:Ee:123:ARG:HG3	1.79	0.48
58:c:366:A:H2'	58:c:367:A:C8	2.49	0.48
58:c:1079:U:H2'	58:c:1080:U:C6	2.49	0.48
58:c:1146:G:H2'	58:c:1147:A:C8	2.49	0.48
58:c:1491:U:O2'	58:c:1492:A:OP2	2.27	0.48
58:c:1523:G:OP1	58:c:1523:G:N2	2.39	0.48
58:c:1617:U:H2'	58:c:1618:C:C6	2.49	0.48
60:e:158:SER:HA	60:e:161:ILE:HB	1.95	0.48
62:g:191:ASP:HB3	62:g:194:LYS:HG2	1.95	0.48
66:k:69:GLY:CA	66:k:72:LYS:HE3	2.42	0.48
67:l:81:VAL:HG22	67:l:102:VAL:HG12	1.94	0.48
72:q:16:VAL:HG12	72:q:18:ARG:HG3	1.95	0.48
8:7:26:SER:OG	8:7:75:ALA:O	2.32	0.48
8:7:292:LEU:HD22	8:7:301:LEU:HD11	1.96	0.48
11:AA:348:A:N3	11:AA:352:A:O2'	2.47	0.48
11:AA:947:G:H2'	11:AA:948:C:C6	2.49	0.48
11:AA:1290:A:H2'	11:AA:1291:A:C8	2.48	0.48
11:AA:1718:G:H2'	11:AA:1719:G:H8	1.78	0.48
11:AA:1744:G:H2'	11:AA:1745:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2661:G:H2'	11:AA:2662:G:H8	1.79	0.48
13:BB:26:C:H2'	13:BB:27:A:O4'	2.14	0.48
20:E:132:THR:HG23	20:E:144:LEU:HD13	1.96	0.48
21:EE:3:ARG:HB2	21:EE:207:VAL:HG22	1.95	0.48
32:JJ:24:GLU:O	32:JJ:25:GLN:HG2	2.13	0.48
56:a:71:ARG:HG2	56:a:71:ARG:NH1	2.28	0.48
58:c:103:A:H4'	58:c:105:A:N7	2.29	0.48
58:c:332:U:P	67:l:56:ARG:HH22	2.35	0.48
58:c:852:C:H2'	58:c:853:G:C8	2.49	0.48
58:c:888:U:H2'	58:c:889:U:C6	2.48	0.48
60:e:28:GLU:HG3	60:e:50:LYS:HG2	1.96	0.48
60:e:208:GLN:HG3	60:e:209:ASN:H	1.79	0.48
61:f:38:VAL:O	61:f:39:THR:OG1	2.31	0.48
65:j:197:ASN:O	65:j:201:GLN:HG2	2.13	0.48
68:m:172:VAL:O	68:m:175:ARG:HG3	2.14	0.48
3:2:30:ILE:HD11	3:2:34:LYS:HG2	1.95	0.48
11:AA:63:A:N3	11:AA:78:U:O2'	2.39	0.48
11:AA:796:U:H2'	11:AA:797:U:C6	2.49	0.48
11:AA:1336:U:H2'	11:AA:1337:A:C8	2.48	0.48
11:AA:1343:A:H2'	11:AA:1344:G:C8	2.49	0.48
11:AA:1472:U:H5''	17:D:24:LEU:HD12	1.96	0.48
11:AA:1503:A:C4	11:AA:1504:A:C8	3.02	0.48
11:AA:1667:A:H2'	11:AA:1668:G:H8	1.76	0.48
11:AA:1804:A:H2'	11:AA:1805:C:C6	2.49	0.48
11:AA:2961:G:H2'	11:AA:2962:U:H6	1.77	0.48
11:AA:2974:U:H2'	11:AA:2975:U:C6	2.49	0.48
16:CC:110:C:O2'	16:CC:112:U:OP2	2.31	0.48
22:Ee:38:SER:HB3	22:Ee:41:LYS:HE2	1.95	0.48
35:L:93:LYS:HG3	35:L:94:SER:N	2.28	0.48
56:a:7:THR:C	56:a:23:HIS:O	2.57	0.48
58:c:851:U:O2'	58:c:852:C:H6	1.97	0.48
58:c:1147:A:H2'	58:c:1148:C:C6	2.49	0.48
58:c:1187:U:H2'	58:c:1188:G:C8	2.48	0.48
58:c:1490:C:N3	58:c:1492:A:N6	2.62	0.48
62:g:20:GLU:HG2	69:n:61:TRP:CZ3	2.49	0.48
64:i:128:ASN:HB3	64:i:131:GLN:HB3	1.96	0.48
65:j:116:LYS:HD3	65:j:124:LEU:HD11	1.96	0.48
69:n:59:PHE:CE2	69:n:62:GLN:HG3	2.49	0.48
74:s:77:GLN:O	74:s:81:ILE:HG23	2.13	0.48
76:u:29:VAL:HG23	76:u:30:TYR:CD1	2.48	0.48
5:4:25:VAL:HG21	64:i:147:THR:HG21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:821:U:H2'	11:AA:822:G:C8	2.49	0.48
11:AA:1072:G:H2'	11:AA:1073:U:C6	2.48	0.48
11:AA:1306:G:O2'	11:AA:1307:G:H5''	2.14	0.48
11:AA:1719:G:N7	17:D:121:HIS:HE1	2.12	0.48
11:AA:2139:A:C4	51:V:3:LYS:HE2	2.49	0.48
11:AA:2585:G:N3	11:AA:2585:G:H2'	2.28	0.48
12:B:60:PHE:HB3	12:B:64:ASN:HB3	1.96	0.48
13:BB:71:G:H2'	13:BB:72:A:H8	1.79	0.48
16:CC:21:C:OP1	26:GG:193:LYS:NZ	2.31	0.48
18:DD:119:ILE:HG12	18:DD:180:PRO:HB3	1.96	0.48
22:Ee:29:ALA:O	22:Ee:34:PRO:HD3	2.14	0.48
58:c:526:A:H2'	58:c:527:A:O4'	2.14	0.48
58:c:1175:U:H2'	58:c:1176:G:H8	1.78	0.48
58:c:1335:U:HO2'	58:c:1336:A:P	2.37	0.48
58:c:1483:A:H2'	58:c:1484:G:C8	2.49	0.48
60:e:175:GLU:HG2	60:e:193:ILE:HG12	1.96	0.48
5:4:35:ASP:O	5:4:38:ARG:HG2	2.14	0.47
8:7:249:ARG:HG2	8:7:251:TRP:H	1.79	0.47
11:AA:671:U:H2'	11:AA:672:A:H8	1.78	0.47
11:AA:916:G:H5'	11:AA:917:A:OP1	2.14	0.47
11:AA:2421:OMU:O2'	56:a:52:GLY:HA3	2.14	0.47
11:AA:3232:G:C6	11:AA:3256:G:C6	3.02	0.47
13:BB:47:C:OP2	28:HH:158:ARG:HD3	2.14	0.47
17:D:126:GLU:O	17:D:131:ALA:HB3	2.14	0.47
22:Ee:126:ALA:O	22:Ee:130:LYS:HG2	2.14	0.47
34:KK:133:LYS:O	34:KK:199:ALA:N	2.41	0.47
36:LL:21:LYS:HG3	36:LL:22:SER:H	1.79	0.47
40:NN:18:VAL:HG22	40:NN:70:THR:HG23	1.95	0.47
43:P:55:LEU:HB2	43:P:95:PRO:HD3	1.95	0.47
58:c:333:A:C5	67:l:49:ARG:HD3	2.50	0.47
58:c:420:A2M:OP1	65:j:96:SER:OG	2.27	0.47
60:e:144:ARG:HB3	60:e:208:GLN:HG2	1.96	0.47
62:g:32:GLU:HG3	62:g:57:ASP:HB2	1.95	0.47
81:z:43:PHE:O	81:z:45:GLY:N	2.44	0.47
11:AA:673:U:H2'	11:AA:674:G:H8	1.78	0.47
11:AA:1105:A:H2'	11:AA:1106:G:C8	2.49	0.47
11:AA:1238:C:H5''	22:Ee:82:ILE:HD11	1.94	0.47
16:CC:39:G:H1'	16:CC:104:A:N6	2.29	0.47
16:CC:46:G:OP1	53:X:18:LYS:NZ	2.43	0.47
14:Cc:9:G:C6	14:Cc:46:G:C6	3.02	0.47
22:Ee:46:ILE:HG12	22:Ee:60:VAL:HG11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Ee:124:THR:OG1	22:Ee:126:ALA:HB3	2.14	0.47
28:HH:85:ARG:NH1	28:HH:254:LYS:H	2.12	0.47
58:c:1203:A:C2	58:c:1556:A:C4	3.02	0.47
58:c:1253:U:H2'	58:c:1254:U:C6	2.49	0.47
63:h:107:GLY:HA2	63:h:189:LEU:HG	1.96	0.47
64:i:99:MET:O	64:i:103:ASN:HB2	2.14	0.47
66:k:50:ASP:OD1	66:k:56:LYS:NZ	2.47	0.47
76:u:45:LEU:HD23	77:v:35:ASP:O	2.15	0.47
77:v:52:GLY:HA2	77:v:55:TYR:HD2	1.79	0.47
3:2:46:GLU:O	3:2:48:ALA:N	2.48	0.47
8:7:223:TRP:CD2	8:7:230:ALA:HB2	2.49	0.47
11:AA:656:A:H2'	11:AA:657:A:H8	1.77	0.47
11:AA:2216:G:H22	11:AA:2229:A:H2	1.62	0.47
11:AA:2812:C:H2'	11:AA:2813:A:H8	1.78	0.47
15:C:131:ALA:HB1	15:C:135:GLN:H	1.78	0.47
14:Cc:41:C:H2'	14:Cc:42:C:H6	1.79	0.47
18:DD:133:THR:O	18:DD:137:GLN:HG3	2.15	0.47
36:LL:38:LEU:HB3	36:LL:41:ILE:HD12	1.97	0.47
37:M:77:LYS:O	37:M:79:TRP:N	2.46	0.47
48:S:97:GLU:O	48:S:101:VAL:HG13	2.15	0.47
58:c:447:U:H2'	58:c:448:C:O4'	2.13	0.47
58:c:525:A:H2'	58:c:526:A:H8	1.79	0.47
58:c:803:A:C4	66:k:104:ARG:HG3	2.50	0.47
58:c:1044:U:H2'	58:c:1045:C:C6	2.48	0.47
60:e:124:ASN:HA	60:e:137:ILE:O	2.15	0.47
61:f:111:VAL:HB	61:f:191:ALA:HA	1.95	0.47
62:g:33:GLY:O	62:g:53:THR:HG23	2.14	0.47
64:i:58:LEU:HD12	64:i:138:THR:HG22	1.96	0.47
66:k:19:GLN:HE21	66:k:20:VAL:H	1.61	0.47
77:v:50:ALA:HA	77:v:53:TRP:HD1	1.79	0.47
2:1:79:ALA:O	2:1:83:LEU:HD13	2.13	0.47
11:AA:1809:A:H2'	11:AA:1810:A:O4'	2.14	0.47
11:AA:2095:G:H2'	11:AA:2096:A:H8	1.79	0.47
11:AA:2103:U:H2'	11:AA:2104:A:C8	2.50	0.47
11:AA:2264:U:HO2'	11:AA:2265:C:H6	1.61	0.47
14:Cc:71:G:H2'	14:Cc:72:C:C6	2.49	0.47
22:Ee:85:LEU:HD23	22:Ee:104:ILE:HD11	1.96	0.47
34:KK:33:ASN:O	34:KK:39:ALA:HB3	2.15	0.47
38:MM:208:ASN:HA	38:MM:211:ARG:HH12	1.79	0.47
46:QQ:73:ARG:HG2	46:QQ:75:VAL:HG13	1.95	0.47
58:c:125:U:H5'	63:h:148:ARG:HD2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1638:G:H2'	58:c:1639:OMC:O4'	2.14	0.47
59:d:135:GLU:O	59:d:139:VAL:HG22	2.13	0.47
76:u:76:PRO:O	76:u:81:ILE:HB	2.14	0.47
77:v:40:SER:HB3	77:v:43:ASN:ND2	2.30	0.47
77:v:57:ARG:HG3	77:v:104:VAL:HG21	1.96	0.47
8:7:213:SER:O	8:7:220:ILE:HA	2.14	0.47
10:A:126:VAL:O	20:E:154:HIS:NE2	2.36	0.47
10:A:178:VAL:HA	44:PP:135:LEU:HD21	1.95	0.47
11:AA:71:A:P	37:M:67:HIS:HE2	2.36	0.47
11:AA:516:A:H2'	11:AA:517:G:C8	2.49	0.47
11:AA:1176:C:H2'	11:AA:1177:G:N2	2.30	0.47
11:AA:1393:A:N6	11:AA:1417:G:H1'	2.30	0.47
11:AA:1836:C:O2'	11:AA:1842:A:N1	2.38	0.47
11:AA:2103:U:H2'	11:AA:2104:A:H8	1.80	0.47
22:Ee:101:SER:OG	22:Ee:142:ARG:NH2	2.48	0.47
22:Ee:152:ILE:O	22:Ee:156:ASN:ND2	2.47	0.47
24:FF:215:ILE:HD12	24:FF:338:LEU:HB3	1.96	0.47
44:PP:36:VAL:HG12	44:PP:37:GLU:HG2	1.97	0.47
58:c:182:A:H2'	58:c:183:U:H6	1.79	0.47
58:c:923:A:H2'	58:c:924:A:C8	2.50	0.47
58:c:1180:C:O2'	73:r:128:HIS:NE2	2.36	0.47
58:c:1344:A:H2'	58:c:1345:A:C8	2.49	0.47
58:c:1580:C:H4'	74:s:137:ARG:HB2	1.95	0.47
65:j:142:ARG:NH1	65:j:149:LYS:O	2.47	0.47
73:r:38:PRO:O	73:r:42:ARG:HG3	2.14	0.47
81:z:109:ARG:HE	81:z:112:LYS:HD2	1.79	0.47
10:A:68:ARG:NH2	11:AA:2987:A:OP1	2.47	0.47
11:AA:411:U:H2'	11:AA:412:G:C8	2.49	0.47
11:AA:791:A:H2'	11:AA:792:G:C8	2.50	0.47
11:AA:1226:G:H2'	11:AA:1227:C:C6	2.50	0.47
11:AA:1301:A:H4'	11:AA:1302:A:C5'	2.43	0.47
11:AA:1897:G:O2'	27:H:16:GLY:O	2.32	0.47
11:AA:3089:C:H2'	11:AA:3090:U:O4'	2.15	0.47
11:AA:3393:U:H2'	11:AA:3394:U:C6	2.50	0.47
15:C:70:ALA:O	15:C:73:GLN:HB2	2.13	0.47
35:L:89:VAL:HG12	35:L:92:PHE:CZ	2.50	0.47
58:c:844:A:H2'	58:c:845:G:H8	1.78	0.47
58:c:1770:U:H2'	58:c:1771:U:C6	2.49	0.47
62:g:141:LYS:HA	62:g:147:ALA:HA	1.95	0.47
64:i:76:ARG:HB3	64:i:79:ASN:ND2	2.25	0.47
64:i:111:VAL:HG13	74:s:43:ILE:HG12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:w:87:HIS:HB3	78:w:89:ARG:HH12	1.79	0.47
8:7:193:ILE:HG13	8:7:223:TRP:HH2	1.80	0.47
8:7:248:ASN:HD21	8:7:249:ARG:HH11	1.62	0.47
11:AA:84:U:O2'	11:AA:101:G:O6	2.22	0.47
11:AA:612:U:H2'	11:AA:613:G:C8	2.48	0.47
11:AA:787:G:H2'	11:AA:788:C:C6	2.49	0.47
11:AA:800:G:H22	26:GG:101:ALA:HA	1.79	0.47
11:AA:1660:C:H2'	11:AA:1661:G:C8	2.50	0.47
11:AA:2501:U:H2'	11:AA:2502:A:O4'	2.14	0.47
12:B:41:LEU:HD21	12:B:99:ALA:HB2	1.97	0.47
13:BB:16:U:H2'	13:BB:17:A:C8	2.49	0.47
16:CC:149:A:H2'	16:CC:150:G:C8	2.50	0.47
14:Cc:19:G:N2	14:Cc:58:A:H2'	2.30	0.47
22:Ee:84:ALA:HB2	22:Ee:112:ILE:HD11	1.97	0.47
24:FF:43:LEU:HB3	24:FF:181:ILE:HG21	1.97	0.47
24:FF:47:LEU:HD11	24:FF:179:ALA:HB3	1.95	0.47
24:FF:140:ASP:OD1	24:FF:140:ASP:N	2.48	0.47
26:GG:20:LEU:HD11	26:GG:252:GLU:HG3	1.97	0.47
27:H:14:SER:O	27:H:81:GLN:NE2	2.47	0.47
32:JJ:185:ILE:O	32:JJ:189:ILE:HG22	2.14	0.47
35:L:25:ILE:HA	35:L:43:VAL:HG12	1.97	0.47
45:Q:96:ILE:HG21	45:Q:105:ARG:HG2	1.96	0.47
58:c:107:C:H2'	58:c:108:A:H8	1.80	0.47
58:c:206:A:H1'	58:c:262:U:C2	2.50	0.47
58:c:636:A:H5''	80:y:31:SER:HB3	1.95	0.47
58:c:818:C:H2'	58:c:819:G:C8	2.49	0.47
58:c:891:A:H2'	58:c:892:A:C8	2.49	0.47
58:c:968:U:OP1	58:c:1033:C:O2'	2.32	0.47
58:c:1017:U:C2	58:c:1018:U:C5	3.03	0.47
58:c:1022:C:O2'	58:c:1125:A:N1	2.45	0.47
58:c:1107:G:O2'	58:c:1108:G:H5'	2.14	0.47
58:c:1280:4AC:O2'	78:w:70:THR:HB	2.14	0.47
58:c:1466:G:H2'	58:c:1467:C:C6	2.49	0.47
58:c:1584:G:O2'	58:c:1610:G:O6	2.28	0.47
60:e:82:ARG:HG2	60:e:105:PHE:CE1	2.49	0.47
60:e:205:PHE:CD2	60:e:206:PRO:HD2	2.50	0.47
63:h:100:ARG:HH21	63:h:118:GLU:HG3	1.79	0.47
3:2:48:ALA:O	72:q:103:ARG:NH2	2.47	0.47
11:AA:650:OMC:H2'	11:AA:651:G:C8	2.49	0.47
11:AA:715:A:N1	11:AA:781:G:O2'	2.41	0.47
11:AA:1128:U:H2'	11:AA:1129:A:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1886:A:O2'	24:FF:226:PHE:O	2.29	0.47
11:AA:3213:A:H2'	11:AA:3214:U:O4'	2.15	0.47
14:Cc:32:G:H2'	14:Cc:33:C:C6	2.49	0.47
17:D:153:LYS:O	17:D:157:GLU:HG2	2.15	0.47
18:DD:24:SER:O	18:DD:24:SER:OG	2.29	0.47
25:G:89:LEU:HB3	25:G:93:ILE:HD12	1.96	0.47
32:JJ:132:PRO:HG2	32:JJ:133:TYR:CE2	2.50	0.47
58:c:29:U:H2'	58:c:30:G:C8	2.49	0.47
58:c:121:U:H2'	58:c:122:U:C6	2.50	0.47
58:c:246:G:N2	70:o:66:ILE:O	2.43	0.47
58:c:371:G:O2'	80:y:88:LYS:HD2	2.14	0.47
58:c:1391:A:H2'	58:c:1392:U:H6	1.79	0.47
58:c:1614:A:OP2	64:i:84:LYS:NZ	2.47	0.47
62:g:114:ALA:HB3	62:g:117:ARG:HB2	1.96	0.47
1:0:103:ALA:HB3	1:0:108:ARG:HG2	1.95	0.47
8:7:188:ILE:HG13	8:7:188:ILE:O	2.15	0.47
11:AA:1239:C:H2'	11:AA:1240:A:H8	1.79	0.47
11:AA:2520:A:H2'	11:AA:2521:U:C6	2.50	0.47
11:AA:3386:G:H2'	11:AA:3387:U:C6	2.50	0.47
13:BB:22:A:H2'	13:BB:23:A:C8	2.50	0.47
20:E:24:LEU:HD21	23:F:141:VAL:HG11	1.95	0.47
23:F:27:LEU:HD11	28:HH:34:LYS:HA	1.96	0.47
31:J:46:TYR:HB3	49:T:75:TYR:O	2.15	0.47
46:QQ:158:HIS:HB3	46:QQ:161:ALA:HB3	1.97	0.47
52:W:21:LYS:HB2	52:W:21:LYS:HE3	1.59	0.47
58:c:94:U:H4'	63:h:6:LYS:HA	1.96	0.47
58:c:183:U:H2'	58:c:184:C:C6	2.50	0.47
58:c:273:G:O6	58:c:283:U:O4	2.33	0.47
58:c:366:A:OP1	58:c:758:U:O2'	2.24	0.47
58:c:1117:U:H2'	58:c:1118:G:C8	2.50	0.47
58:c:1359:C:OP1	77:v:130:ARG:NH1	2.47	0.47
58:c:1551:U:O4	73:r:40:ARG:NH2	2.47	0.47
66:k:34:LEU:CD1	66:k:37:GLU:HB2	2.45	0.47
71:p:110:ASP:O	71:p:114:ARG:HG2	2.14	0.47
1:0:84:LYS:HE3	1:0:85:PHE:CE1	2.49	0.47
7:6:30:PRO:O	7:6:35:TYR:HB2	2.14	0.47
11:AA:187:A:H2'	11:AA:188:U:C6	2.50	0.47
11:AA:897:U:H2'	11:AA:898:OMU:H6	1.95	0.47
11:AA:1035:G:H3'	11:AA:1036:A:H8	1.80	0.47
11:AA:1182:A:H2'	11:AA:1183:C:C6	2.50	0.47
11:AA:1555:U:H5'	11:AA:1556:C:OP2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1643:A:H2'	11:AA:1644:C:C2	2.50	0.47
11:AA:1688:U:H2'	11:AA:1689:U:C6	2.50	0.47
11:AA:2351:U:H2'	11:AA:2352:A:H8	1.80	0.47
11:AA:2561:A:C4	34:KK:32:LYS:HD2	2.50	0.47
11:AA:2592:G:H4'	11:AA:2594:C:C2	2.50	0.47
13:BB:65:G:OP1	38:MM:203:LYS:HD2	2.14	0.47
14:Cc:9:G:H1'	14:Cc:47:G:H5'	1.96	0.47
26:GG:11:LEU:HD21	26:GG:156:LEU:HB2	1.95	0.47
27:H:9:THR:HB	27:H:125:LEU:HD21	1.96	0.47
51:V:39:TYR:CD1	51:V:40:PRO:HA	2.50	0.47
56:a:8:ARG:HG2	56:a:72:LEU:HD12	1.97	0.47
58:c:205:U:C2	58:c:206:A:C8	3.03	0.47
58:c:646:C:H2'	58:c:647:G:O4'	2.15	0.47
58:c:1218:G:N2	58:c:1444:A:OP2	2.44	0.47
58:c:1480:G:H4'	77:v:11:ALA:HB1	1.97	0.47
66:k:37:GLU:HB3	66:k:72:LYS:HZ3	1.77	0.47
11:AA:49:A:OP1	46:QQ:191:TRP:NE1	2.44	0.46
11:AA:277:G:H2'	11:AA:278:U:C6	2.49	0.46
11:AA:1636:U:O2'	35:L:79:HIS:ND1	2.40	0.46
11:AA:2254:U:H2'	11:AA:2261:G:N2	2.31	0.46
11:AA:2483:G:H2'	11:AA:2484:A:H2'	1.97	0.46
11:AA:2515:A:N1	11:AA:2594:C:N4	2.58	0.46
11:AA:2661:G:H2'	11:AA:2662:G:C8	2.50	0.46
11:AA:3069:G:C2	11:AA:3070:A:C8	3.04	0.46
11:AA:3333:G:N2	11:AA:3369:G:O2'	2.48	0.46
16:CC:63:G:OP1	16:CC:90:U:H5'	2.15	0.46
22:Ee:106:LEU:HD12	22:Ee:109:ILE:HB	1.96	0.46
26:GG:23:PRO:HD2	26:GG:26:PHE:CE2	2.49	0.46
33:K:77:LYS:HD3	33:K:98:ASN:HD21	1.80	0.46
58:c:45:U:HO2'	58:c:46:A:H2'	1.80	0.46
58:c:821:U:H2'	58:c:822:U:C6	2.49	0.46
58:c:1471:A:C8	58:c:1540:G:H1'	2.50	0.46
58:c:1609:U:H2'	58:c:1610:G:O4'	2.14	0.46
59:d:28:ASN:HA	59:d:46:HIS:NE2	2.29	0.46
60:e:120:LEU:HD21	60:e:122:GLU:HG3	1.96	0.46
65:j:164:LYS:HB3	65:j:164:LYS:HE3	1.58	0.46
76:u:48:LYS:NZ	77:v:35:ASP:HA	2.30	0.46
78:w:106:ILE:HG23	78:w:107:THR:HG23	1.97	0.46
80:y:50:PHE:HB3	80:y:63:VAL:HG13	1.97	0.46
8:7:116:ASP:CG	8:7:121:MET:HB2	2.39	0.46
11:AA:1718:G:H2'	11:AA:1719:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1740:U:H1'	11:AA:1741:A:H2	1.80	0.46
11:AA:1856:C:H2'	11:AA:1857:C:H6	1.81	0.46
11:AA:1870:C:OP2	87:AA:3711:HOH:O	2.20	0.46
11:AA:2152:A:H2'	11:AA:2153:U:H6	1.79	0.46
11:AA:2180:G:H2'	11:AA:2181:C:H6	1.81	0.46
11:AA:2222:A:H2'	11:AA:2223:A:C8	2.50	0.46
11:AA:2669:G:H21	28:HH:5:LYS:HE3	1.79	0.46
13:BB:45:A:H2'	13:BB:46:A:C8	2.50	0.46
13:BB:90:U:H2'	13:BB:91:G:O4'	2.14	0.46
17:D:165:LYS:NZ	17:D:169:ALA:HB2	2.30	0.46
40:NN:59:ILE:HG23	40:NN:65:ILE:HG21	1.97	0.46
40:NN:116:TYR:CG	76:u:14:ILE:HG23	2.49	0.46
55:Z:2:ARG:HH22	58:c:1773:4AC:CM7	2.27	0.46
58:c:448:C:H2'	58:c:449:C:C6	2.50	0.46
58:c:1535:U:OP1	58:c:1535:U:H4'	2.15	0.46
59:d:119:ARG:NH2	61:f:241:ASP:OD1	2.35	0.46
62:g:8:LYS:HB3	78:w:63:LEU:HD21	1.97	0.46
63:h:121:TYR:OH	63:h:235:TYR:O	2.24	0.46
66:k:102:PRO:HD3	66:k:112:ARG:HD2	1.97	0.46
11:AA:67:A:N1	11:AA:300:G:O2'	2.45	0.46
11:AA:525:C:OP2	44:PP:77:ARG:NH2	2.46	0.46
11:AA:540:U:H2'	11:AA:541:U:H6	1.80	0.46
11:AA:2454:G:C5	14:Cc:58:A:N1	2.84	0.46
11:AA:2723:U:H2'	11:AA:2724:OMU:C6	2.46	0.46
11:AA:3003:G:HO2'	24:FF:92:TYR:HH	1.62	0.46
14:Bb:20:G:H4'	14:Bb:21:U:O4'	2.15	0.46
18:DD:53:MET:HE2	18:DD:53:MET:HB2	1.84	0.46
18:DD:120:TRP:CE2	18:DD:157:LYS:HB3	2.50	0.46
38:MM:66:GLU:CD	38:MM:69:ARG:HH21	2.23	0.46
58:c:824:G:H2'	58:c:825:U:C6	2.50	0.46
58:c:1329:A:OP2	62:g:160:SER:OG	2.27	0.46
58:c:1450:U:C2	58:c:1451:C:C5	3.03	0.46
58:c:1533:C:H4'	58:c:1539:G:N1	2.30	0.46
58:c:1626:U:H2'	58:c:1627:U:C6	2.50	0.46
66:k:159:VAL:O	66:k:163:ASP:HB2	2.16	0.46
68:m:64:GLU:C	68:m:65:LYS:HG3	2.40	0.46
75:t:81:LYS:HE3	75:t:83:GLN:HA	1.96	0.46
78:w:21:LYS:HD3	78:w:94:GLU:HG3	1.97	0.46
1:0:12:VAL:HG22	1:0:23:PHE:HB3	1.97	0.46
1:0:29:HIS:HB2	1:0:32:ARG:HG2	1.97	0.46
9:8:126:CYS:HB3	9:8:130:VAL:HB	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:828:A:H2'	11:AA:829:U:C6	2.50	0.46
11:AA:830:A:H2'	11:AA:831:G:O4'	2.16	0.46
11:AA:1437:OMC:H1'	11:AA:1437:OMC:HM23	1.64	0.46
11:AA:1803:C:H2'	11:AA:1804:A:C8	2.50	0.46
11:AA:2328:U:H2'	11:AA:2329:C:H6	1.80	0.46
11:AA:2344:U:H2'	11:AA:2345:A:H8	1.80	0.46
11:AA:2582:C:H2'	11:AA:2583:C:C6	2.51	0.46
11:AA:3337:G:H2'	11:AA:3338:C:C6	2.51	0.46
16:CC:7:U:H2'	16:CC:8:C:C6	2.50	0.46
14:Cc:34:U:H5''	14:Cc:35:C:OP2	2.16	0.46
18:DD:55:LYS:NZ	18:DD:57:THR:HB	2.30	0.46
34:KK:52:TRP:O	34:KK:57:ARG:NH2	2.43	0.46
37:M:69:TRP:CE3	42:OO:64:LYS:HA	2.51	0.46
58:c:645:C:H2'	58:c:646:C:C6	2.51	0.46
62:g:142:LEU:HD13	62:g:150:MET:HG3	1.97	0.46
1:0:37:LYS:HD2	1:0:57:VAL:HG23	1.97	0.46
8:7:90:ARG:HH21	8:7:102:ARG:HD2	1.81	0.46
8:7:250:TYR:HD2	8:7:265:LEU:HB2	1.80	0.46
11:AA:38:U:H2'	11:AA:39:A:O4'	2.15	0.46
11:AA:156:G:OP2	50:U:25:LYS:HB3	2.15	0.46
11:AA:184:U:H2'	11:AA:185:C:C6	2.51	0.46
11:AA:291:C:H2'	11:AA:292:U:C6	2.51	0.46
11:AA:655:C:H5''	45:Q:26:HIS:HB3	1.97	0.46
11:AA:749:C:H5''	39:N:32:LEU:HD12	1.98	0.46
11:AA:1097:G:H4'	23:F:129:LYS:HD3	1.97	0.46
11:AA:2186:U:H2'	11:AA:2187:G:O4'	2.16	0.46
11:AA:2828:G:HO2'	38:MM:4:ARG:HH21	1.60	0.46
18:DD:142:PRO:HD2	18:DD:156:VAL:HG21	1.98	0.46
23:F:68:THR:O	28:HH:41:LYS:HB2	2.15	0.46
24:FF:106:TRP:HB2	24:FF:133:TYR:CE1	2.50	0.46
28:HH:47:PRO:HB2	28:HH:66:SER:HB2	1.97	0.46
30:II:70:LYS:HB3	30:II:146:ILE:HD11	1.97	0.46
30:II:154:LEU:HD23	30:II:157:GLN:HE21	1.80	0.46
38:MM:51:HIS:CD2	38:MM:168:SER:HB2	2.50	0.46
58:c:686:C:O3'	80:y:118:ARG:HD2	2.16	0.46
58:c:851:U:O2'	58:c:852:C:O5'	2.32	0.46
58:c:872:G:N2	58:c:1047:G:H4'	2.31	0.46
58:c:898:A:C8	58:c:912:U:C4	3.03	0.46
58:c:1360:A:H2'	58:c:1361:U:H4'	1.98	0.46
58:c:1669:U:H2'	58:c:1670:G:O4'	2.15	0.46
58:c:1785:U:H2'	58:c:1786:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1785:U:OP1	72:q:136:ARG:NH1	2.49	0.46
62:g:177:MET:HE2	62:g:177:MET:HB2	1.72	0.46
64:i:192:GLU:H	64:i:192:GLU:HG2	1.55	0.46
64:i:222:LYS:HB2	64:i:222:LYS:HE2	1.78	0.46
81:z:54:LEU:HD11	81:z:75:GLN:HB2	1.97	0.46
5:4:43:ASN:ND2	5:4:63:ALA:HB1	2.31	0.46
8:7:22:SER:OG	8:7:71:CYS:SG	2.54	0.46
8:7:210:LEU:HD23	8:7:210:LEU:HA	1.84	0.46
11:AA:37:U:O4	46:QQ:83:LYS:NZ	2.49	0.46
11:AA:207:U:H2'	11:AA:208:C:C6	2.51	0.46
11:AA:1018:G:C2	11:AA:1035:G:H1'	2.51	0.46
11:AA:1310:G:OP2	87:AA:3712:HOH:O	2.20	0.46
11:AA:2144:A:H1'	11:AA:2281:A2M:N6	2.30	0.46
16:CC:83:C:H41	33:K:52:ARG:NH1	2.11	0.46
14:Cc:20:G:H4'	14:Cc:21:U:OP1	2.14	0.46
22:Ee:38:SER:O	22:Ee:42:VAL:HG23	2.16	0.46
58:c:420:A2M:HM'3	58:c:420:A2M:H1'	1.76	0.46
58:c:615:A:O2'	58:c:621:A:N1	2.43	0.46
58:c:1436:A:H2'	58:c:1437:U:O4'	2.15	0.46
60:e:158:SER:HA	60:e:161:ILE:HD12	1.98	0.46
62:g:6:SER:OG	62:g:7:LYS:N	2.46	0.46
69:n:32:HIS:HB3	69:n:35:ILE:O	2.15	0.46
11:AA:165:A:H2'	11:AA:166:C:H6	1.81	0.46
11:AA:662:U:OP1	37:M:8:THR:HG21	2.15	0.46
11:AA:838:G:O6	57:b:4:ARG:NH1	2.42	0.46
11:AA:2095:G:H2'	11:AA:2096:A:C8	2.50	0.46
11:AA:2150:G:O2'	11:AA:2189:U:OP1	2.29	0.46
11:AA:2507:C:H2'	11:AA:2508:U:C6	2.51	0.46
11:AA:2536:A:N6	11:AA:2544:U:H3	2.14	0.46
11:AA:3084:C:H2'	11:AA:3085:G:O4'	2.16	0.46
11:AA:3321:C:H2'	11:AA:3322:A:H8	1.80	0.46
13:BB:68:C:OP1	28:HH:14:SER:OG	2.29	0.46
20:E:71:LYS:O	20:E:73:LYS:NZ	2.43	0.46
24:FF:382:THR:HG23	24:FF:387:LEU:C	2.41	0.46
38:MM:38:LYS:HD3	38:MM:41:ALA:HB2	1.98	0.46
47:R:16:TYR:CZ	47:R:91:ALA:HB2	2.50	0.46
49:T:31:LEU:HD11	49:T:43:LYS:HD3	1.98	0.46
58:c:610:G:H21	81:z:19:ARG:HH22	1.62	0.46
58:c:1045:C:OP1	60:e:153:HIS:NE2	2.42	0.46
58:c:1650:U:H2'	58:c:1651:A:C8	2.50	0.46
60:e:34:ALA:HB2	60:e:86:LEU:HD13	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:i:126:ASP:OD1	64:i:127:GLN:N	2.44	0.46
77:v:5:SER:HA	77:v:133:ASP:OD1	2.15	0.46
10:A:16:VAL:HG23	10:A:80:PHE:HD1	1.80	0.46
11:AA:863:C:H2'	11:AA:864:G:O4'	2.16	0.46
11:AA:1020:G:H3'	11:AA:1021:G:H8	1.81	0.46
11:AA:1044:U:P	38:MM:90:ARG:HH21	2.39	0.46
11:AA:2127:U:O2'	11:AA:2301:U:OP1	2.31	0.46
11:AA:2991:A:O2'	11:AA:3309:G:N7	2.47	0.46
11:AA:3015:G:H2'	11:AA:3016:A:H8	1.81	0.46
14:Cc:22:A:C2	14:Cc:49:C:C2	3.04	0.46
17:D:105:LEU:HD23	17:D:138:LEU:HD23	1.98	0.46
22:Ee:151:ILE:O	22:Ee:155:ILE:HG12	2.15	0.46
40:NN:10:ARG:NH2	40:NN:151:SER:O	2.43	0.46
46:QQ:183:THR:HG22	46:QQ:187:ARG:HB2	1.98	0.46
53:X:33:ASN:O	53:X:36:ARG:NH1	2.47	0.46
58:c:30:G:H2'	58:c:31:C:H6	1.80	0.46
58:c:629:U:C2	58:c:630:A:C8	3.04	0.46
62:g:23:GLU:CD	69:n:61:TRP:HE1	2.23	0.46
63:h:21:ASP:OD1	63:h:23:LEU:N	2.49	0.46
78:w:24:ILE:HB	78:w:91:ILE:HG23	1.98	0.46
1:0:109:LYS:HD2	58:c:54:C:O3'	2.15	0.46
8:7:67:ILE:O	8:7:84:SER:HA	2.16	0.46
8:7:203:THR:OG1	8:7:243:LEU:O	2.26	0.46
10:A:18:ARG:O	10:A:22:VAL:HG23	2.15	0.46
11:AA:93:C:C2	37:M:55:LYS:HE2	2.51	0.46
11:AA:113:C:OP1	46:QQ:147:ARG:NE	2.49	0.46
11:AA:123:A:C6	11:AA:150:A:C5	3.04	0.46
11:AA:2196:C:OP1	58:c:995:A:H4'	2.16	0.46
11:AA:2552:C:H2'	41:O:50:VAL:HG11	1.98	0.46
11:AA:2909:U:H2'	11:AA:2910:A:O4'	2.16	0.46
14:Cc:52:C:H2'	14:Cc:53:G:C8	2.47	0.46
17:D:101:VAL:HG12	17:D:104:ARG:HH12	1.80	0.46
18:DD:34:SER:HB3	18:DD:37:GLN:NE2	2.30	0.46
18:DD:146:ALA:O	18:DD:147:ARG:HG3	2.16	0.46
22:Ee:81:VAL:HG11	22:Ee:136:ALA:HA	1.97	0.46
22:Ee:126:ALA:O	22:Ee:129:THR:OG1	2.22	0.46
58:c:78:A:N1	65:j:154:ARG:HG3	2.31	0.46
58:c:399:A:H4'	63:h:3:ARG:HG2	1.98	0.46
58:c:788:A:C5	63:h:19:LEU:HD13	2.51	0.46
58:c:1041:G:H2'	58:c:1042:G:H8	1.76	0.46
58:c:1753:A:H2'	58:c:1754:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:e:35:PRO:HB3	60:e:38:PHE:CD2	2.45	0.46
60:e:157:GLN:C	60:e:159:SER:H	2.24	0.46
62:g:127:MET:HG3	62:g:154:ASP:HB3	1.97	0.46
68:m:120:LYS:H	68:m:124:HIS:CD2	2.32	0.46
70:o:121:ASP:O	70:o:123:VAL:HG13	2.15	0.46
72:q:64:ALA:HB3	72:q:104:ALA:HB3	1.98	0.46
78:w:43:LYS:HA	78:w:46:GLU:HG2	1.98	0.46
78:w:92:ASP:OD1	78:w:92:ASP:N	2.49	0.46
11:AA:760:G:O2'	11:AA:770:G:N2	2.44	0.46
11:AA:1010:G:H4'	38:MM:40:LYS:HG3	1.98	0.46
11:AA:1021:G:N2	11:AA:1032:C:C2	2.84	0.46
11:AA:1340:G:H2'	11:AA:1341:U:H6	1.80	0.46
11:AA:1659:U:H2'	11:AA:1660:C:H6	1.79	0.46
11:AA:1680:G:H2'	11:AA:1681:U:C6	2.51	0.46
11:AA:2176:U:OP1	21:EE:54:ARG:NH2	2.34	0.46
11:AA:2356:A:H5'	12:B:138:LYS:NZ	2.31	0.46
11:AA:2468:A:N6	11:AA:2478:C:HO2'	2.12	0.46
11:AA:2619:OMG:HM23	11:AA:2619:OMG:H1'	1.66	0.46
11:AA:2681:U:H1'	40:NN:22:SER:HB2	1.98	0.46
11:AA:2769:A:O3'	56:a:80:ARG:HB2	2.16	0.46
16:CC:80:A:H2'	16:CC:81:U:C6	2.51	0.46
24:FF:256:HIS:HA	24:FF:257:PRO:C	2.39	0.46
31:J:25:LYS:HD3	31:J:27:ARG:NH2	2.31	0.46
48:S:86:LYS:O	48:S:90:ILE:HG13	2.16	0.46
58:c:990:C:H5''	72:q:129:LYS:HB2	1.98	0.46
58:c:1477:G:H2'	58:c:1478:G:C8	2.51	0.46
58:c:1550:A:H2'	58:c:1551:U:C6	2.51	0.46
60:e:34:ALA:HA	60:e:98:THR:OG1	2.15	0.46
67:l:41:LYS:HA	67:l:59:ARG:O	2.16	0.46
73:r:85:ILE:HG13	73:r:114:HIS:O	2.16	0.46
73:r:98:ASN:HB2	73:r:122:THR:HA	1.98	0.46
74:s:16:ALA:HB2	74:s:72:GLY:HA3	1.98	0.46
8:7:89:LEU:HB2	8:7:103:PHE:CE2	2.51	0.45
11:AA:36:C:H4'	11:AA:808:A:C2	2.50	0.45
11:AA:312:C:H2'	11:AA:313:A:H8	1.79	0.45
11:AA:943:U:OP1	37:M:15:VAL:HA	2.16	0.45
11:AA:1385:C:OP1	26:GG:141:ARG:NH2	2.46	0.45
11:AA:1910:A:H2'	11:AA:1911:A:C8	2.51	0.45
11:AA:2588:U:OP1	34:KK:241:LYS:NZ	2.46	0.45
15:C:83:VAL:O	15:C:103:ALA:HA	2.16	0.45
14:Cc:67:C:H2'	14:Cc:68:C:H6	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:28:GLU:O	17:D:32:ILE:HG13	2.16	0.45
25:G:13:LYS:HB3	25:G:13:LYS:HE2	1.60	0.45
41:O:61:MET:HB3	41:O:61:MET:HE2	1.85	0.45
58:c:166:C:O2'	65:j:133:LEU:O	2.34	0.45
58:c:604:A:H2'	58:c:605:A:O4'	2.16	0.45
58:c:1160:A:H2'	58:c:1161:C:H6	1.79	0.45
58:c:1291:G:N2	58:c:1324:G:H22	2.14	0.45
58:c:1329:A:H2'	58:c:1330:G:O4'	2.16	0.45
58:c:1428:OMG:H5'	58:c:1428:OMG:H8	1.80	0.45
58:c:1635:A:H61	61:f:92:ALA:H	1.64	0.45
58:c:1660:A:H2'	58:c:1661:U:C6	2.51	0.45
59:d:50:VAL:HG22	75:t:109:LEU:HD21	1.98	0.45
63:h:106:LYS:NZ	63:h:251:GLU:OE1	2.50	0.45
64:i:96:SER:HB2	64:i:176:THR:HG21	1.98	0.45
71:p:100:LYS:HE2	71:p:104:ARG:HH12	1.81	0.45
72:q:64:ALA:HB1	72:q:105:LEU:HG	1.98	0.45
1:0:36:SER:HB2	1:0:39:GLU:OE1	2.15	0.45
7:6:12:GLY:O	7:6:16:SER:HB2	2.16	0.45
11:AA:261:U:H2'	11:AA:262:U:C6	2.51	0.45
11:AA:1412:G:OP1	45:Q:105:ARG:NH1	2.49	0.45
11:AA:2283:G:H1'	11:AA:2285:C:N4	2.31	0.45
11:AA:2291:A:H2'	11:AA:2292:U:C6	2.51	0.45
11:AA:2366:C:H2'	11:AA:2367:A:H8	1.81	0.45
11:AA:2486:A:H1'	11:AA:2487:U:H5'	1.98	0.45
11:AA:2840:C:H2'	11:AA:2841:G:O4'	2.17	0.45
11:AA:3190:C:H2'	11:AA:3191:G:H8	1.82	0.45
11:AA:3296:A:OP1	24:FF:120:LYS:N	2.46	0.45
27:H:120:LYS:HD3	27:H:136:VAL:HG11	1.97	0.45
34:KK:34:PHE:CD1	34:KK:42:PRO:HD3	2.51	0.45
35:L:105:SER:O	35:L:109:GLU:HG2	2.16	0.45
40:NN:110:ILE:HD11	40:NN:115:LYS:O	2.17	0.45
50:U:43:LEU:O	50:U:47:ILE:HD12	2.16	0.45
58:c:12:U:H2'	58:c:13:C:H6	1.76	0.45
58:c:384:G:H2'	58:c:385:A:C8	2.51	0.45
58:c:404:G:H2'	58:c:405:C:C6	2.51	0.45
58:c:872:G:H2'	58:c:873:U:O4'	2.16	0.45
58:c:883:C:H2'	58:c:884:A:C8	2.52	0.45
61:f:227:PRO:HA	61:f:230:TRP:CD2	2.51	0.45
66:k:64:VAL:HG23	66:k:67:LEU:HB2	1.98	0.45
69:n:38:LYS:O	69:n:42:VAL:HG23	2.15	0.45
72:q:86:THR:HB	72:q:91:THR:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:u:42:TYR:HE1	76:u:73:MET:HG2	1.81	0.45
8:7:172:ALA:HB2	8:7:202:LEU:HD13	1.98	0.45
11:AA:84:U:OP2	11:AA:85:A:O2'	2.34	0.45
11:AA:594:U:H2'	11:AA:609:G:O6	2.16	0.45
11:AA:976:U:OP1	15:C:144:ARG:NH2	2.45	0.45
11:AA:1553:U:H4'	11:AA:1554:U:H5'	1.99	0.45
11:AA:2217:U:H2'	11:AA:2218:G:H8	1.81	0.45
11:AA:3107:U:H2'	11:AA:3108:G:H8	1.81	0.45
16:CC:5:U:H2'	16:CC:6:U:H6	1.81	0.45
14:Cc:76:C:H2'	14:Cc:77:A:H4'	1.98	0.45
31:J:105:VAL:HG11	31:J:135:ILE:HG13	1.97	0.45
58:c:405:C:O2'	65:j:92:ARG:O	2.23	0.45
58:c:518:A:H1'	58:c:534:A:H61	1.81	0.45
58:c:1077:C:H2'	58:c:1078:C:H6	1.82	0.45
58:c:1682:U:H4'	65:j:65:GLN:HE22	1.80	0.45
65:j:77:LEU:HD13	65:j:84:TYR:HB2	1.98	0.45
76:u:88:ARG:O	76:u:98:TYR:N	2.44	0.45
2:1:74:SER:HB3	76:u:57:ARG:NH2	2.31	0.45
9:8:96:LYS:NZ	58:c:1248:C:OP1	2.30	0.45
11:AA:127:G:H2'	11:AA:128:G:C8	2.51	0.45
11:AA:412:G:OP1	12:B:62:ARG:NH1	2.49	0.45
11:AA:691:A:N1	16:CC:28:C:O2'	2.45	0.45
11:AA:1237:G:H22	11:AA:1251:A:H2	1.64	0.45
11:AA:1381:A:H2'	11:AA:1382:G:C8	2.51	0.45
11:AA:2282:U:O2	11:AA:2310:U:H4'	2.17	0.45
11:AA:2397:A:H8	11:AA:2941:A:N1	2.15	0.45
11:AA:2489:C:H2'	11:AA:2490:C:N3	2.32	0.45
11:AA:3119:U:H4'	54:Y:104:PRO:HG2	1.99	0.45
12:B:35:ALA:HB2	12:B:58:ILE:HG23	1.98	0.45
24:FF:227:GLU:HG2	24:FF:270:ARG:HD3	1.98	0.45
40:NN:116:TYR:CE2	40:NN:118:PRO:HA	2.51	0.45
58:c:324:U:OP1	70:o:133:LYS:NZ	2.40	0.45
58:c:639:U:N3	66:k:100:PRO:HA	2.31	0.45
58:c:1516:A:O2'	58:c:1517:U:H5'	2.17	0.45
61:f:227:PRO:HA	61:f:230:TRP:CG	2.51	0.45
64:i:144:GLU:HG2	64:i:221:ALA:HB1	1.98	0.45
65:j:27:PHE:CE1	65:j:36:VAL:HG21	2.51	0.45
65:j:74:LYS:HG2	65:j:96:SER:HB3	1.98	0.45
72:q:16:VAL:O	72:q:30:VAL:HA	2.16	0.45
75:t:70:SER:O	75:t:70:SER:OG	2.30	0.45
8:7:187:GLN:HG2	8:7:188:ILE:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:192:C:H2'	11:AA:193:C:H6	1.82	0.45
11:AA:207:U:H2'	11:AA:208:C:H6	1.81	0.45
11:AA:2727:A:C2	37:M:43:ILE:HG23	2.52	0.45
13:BB:2:G:H5'	28:HH:273:ARG:HD2	1.98	0.45
16:CC:40:A:H2'	16:CC:41:A:C8	2.51	0.45
17:D:43:LYS:HB2	17:D:43:LYS:HE2	1.68	0.45
18:DD:18:TYR:HD2	18:DD:52:LEU:HD22	1.81	0.45
21:EE:65:ASP:HB3	21:EE:68:LYS:O	2.16	0.45
26:GG:135:VAL:HA	26:GG:245:GLY:O	2.17	0.45
31:J:67:ILE:HD13	31:J:121:LYS:HD3	1.98	0.45
40:NN:75:LYS:HA	40:NN:78:GLU:HG2	1.98	0.45
42:OO:50:PRO:HG3	49:T:118:ILE:HD11	1.97	0.45
58:c:629:U:H2'	58:c:630:A:H8	1.81	0.45
71:p:128:TYR:O	71:p:132:VAL:HG22	2.16	0.45
75:t:106:THR:O	75:t:110:VAL:HG22	2.16	0.45
2:1:90:LYS:HB2	2:1:90:LYS:HE3	1.57	0.45
8:7:177:MET:HG3	8:7:179:LYS:HG2	1.99	0.45
10:A:110:PRO:HA	10:A:113:ASP:OD2	2.17	0.45
11:AA:273:A:H2'	11:AA:274:G:H8	1.82	0.45
11:AA:275:U:H2'	11:AA:276:U:C6	2.52	0.45
11:AA:912:G:OP2	21:EE:9:ARG:NH2	2.37	0.45
11:AA:955:U:H2'	11:AA:956:U:C6	2.52	0.45
11:AA:1067:U:H2'	11:AA:1068:C:C6	2.52	0.45
11:AA:1813:A:O2'	11:AA:1816:A:N3	2.46	0.45
11:AA:1925:U:O2'	11:AA:1927:G:N7	2.49	0.45
11:AA:2714:G:H4'	11:AA:2715:A:H5''	1.99	0.45
11:AA:3072:C:H2'	11:AA:3073:A:O4'	2.16	0.45
11:AA:3330:A:OP2	24:FF:376:LYS:NZ	2.50	0.45
11:AA:3332:U:H2'	11:AA:3333:G:O4'	2.17	0.45
27:H:84:SER:HA	27:H:94:TYR:HB3	1.97	0.45
28:HH:85:ARG:HH12	28:HH:254:LYS:H	1.65	0.45
34:KK:149:LYS:O	34:KK:176:PRO:HG2	2.16	0.45
58:c:1042:G:H5''	59:d:29:VAL:HG12	1.99	0.45
64:i:57:SER:OG	64:i:167:ARG:NH2	2.50	0.45
64:i:65:ARG:NH2	64:i:67:PRO:HG3	2.32	0.45
73:r:37:ALA:HB1	73:r:41:VAL:HG21	1.97	0.45
76:u:108:LYS:HA	76:u:108:LYS:HD2	1.58	0.45
10:A:22:VAL:O	10:A:26:GLN:HG2	2.17	0.45
11:AA:11:A:H2'	11:AA:12:A:C8	2.51	0.45
11:AA:1129:A:H2'	11:AA:1130:A:C8	2.51	0.45
11:AA:1135:A:OP2	39:N:5:LYS:NZ	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1184:A:H2'	11:AA:1185:C:C6	2.52	0.45
11:AA:2405:C:H1'	86:Bb:103:MET:HA	1.99	0.45
11:AA:2526:C:H2'	11:AA:2527:G:C8	2.52	0.45
11:AA:2711:C:O2'	11:AA:2744:U:OP1	2.31	0.45
11:AA:3343:G:H21	11:AA:3362:A:H2	1.63	0.45
20:E:77:VAL:HG13	20:E:126:VAL:HG22	1.98	0.45
21:EE:153:GLY:HA3	21:EE:251:LYS:HE3	1.97	0.45
35:L:41:ALA:HB2	35:L:77:TYR:HE1	1.82	0.45
52:W:5:ILE:HD11	52:W:11:PHE:HD1	1.82	0.45
58:c:804:A:C8	80:y:107:SER:HA	2.52	0.45
58:c:1406:A:H2'	58:c:1407:U:C6	2.51	0.45
58:c:1525:A:H4'	77:v:83:ALA:HB2	1.98	0.45
61:f:185:LYS:O	61:f:189:GLN:HG3	2.17	0.45
63:h:174:LYS:HE2	63:h:174:LYS:HB3	1.66	0.45
66:k:140:VAL:HB	80:y:52:TYR:HB3	1.99	0.45
67:l:96:LEU:HD13	67:l:179:CYS:SG	2.57	0.45
8:7:307:ASP:OD1	8:7:307:ASP:N	2.35	0.45
11:AA:1047:A:H2'	11:AA:1048:A:C8	2.52	0.45
11:AA:1343:A:H2'	11:AA:1344:G:H8	1.82	0.45
11:AA:1696:A:H2'	11:AA:1697:A:H8	1.82	0.45
11:AA:2152:A:H2'	11:AA:2153:U:C6	2.52	0.45
11:AA:2582:C:H2'	11:AA:2583:C:H6	1.82	0.45
11:AA:2724:OMU:OP2	11:AA:2726:C:N4	2.50	0.45
13:BB:56:A:H4'	40:NN:152:HIS:HB2	1.99	0.45
18:DD:42:ARG:CZ	18:DD:51:VAL:HB	2.46	0.45
36:LL:107:ASP:N	36:LL:107:ASP:OD1	2.50	0.45
58:c:386:G:OP2	67:l:25:ARG:NH2	2.42	0.45
58:c:1317:C:H2'	58:c:1318:G:O4'	2.16	0.45
58:c:1438:G:H2'	58:c:1439:C:H6	1.81	0.45
59:d:74:VAL:HG22	59:d:96:THR:HB	1.99	0.45
62:g:113:LEU:HD23	62:g:114:ALA:O	2.16	0.45
63:h:120:SER:O	63:h:164:LEU:HB3	2.17	0.45
65:j:70:PRO:O	65:j:98:ARG:NH2	2.50	0.45
66:k:56:LYS:HD3	66:k:88:ARG:NH2	2.31	0.45
11:AA:663:OMC:HM21	26:GG:104:LYS:HB2	1.99	0.45
11:AA:840:C:H2'	11:AA:841:A:C8	2.52	0.45
11:AA:915:A:H8	11:AA:2136:C:O2'	2.00	0.45
11:AA:1226:G:H5'	11:AA:3117:C:H1'	1.97	0.45
11:AA:1460:A:H2'	11:AA:1461:A:H8	1.81	0.45
11:AA:1699:A:H2'	11:AA:1700:G:H8	1.82	0.45
11:AA:2116:G:OP1	11:AA:2118:C:N4	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2154:U:H2'	11:AA:2155:G:C8	2.52	0.45
11:AA:2640:A2M:HM'3	11:AA:2640:A2M:H1'	1.78	0.45
11:AA:2760:C:N3	56:a:63:LYS:HE3	2.32	0.45
11:AA:3110:C:H2'	11:AA:3111:U:C6	2.52	0.45
12:B:64:ASN:O	12:B:67:ILE:HG12	2.17	0.45
15:C:34:THR:HA	15:C:49:LEU:HD22	1.99	0.45
15:C:64:VAL:HG21	15:C:113:LYS:HD2	1.97	0.45
14:Cc:8:U:H1'	14:Cc:22:A:N1	2.32	0.45
14:Cc:45:A:C4	14:Cc:46:G:N7	2.85	0.45
36:LL:140:VAL:HG11	36:LL:143:GLU:OE1	2.16	0.45
40:NN:63:GLU:HB3	40:NN:65:ILE:HG23	1.97	0.45
55:Z:11:ARG:HH12	58:c:1775:U:P	2.40	0.45
58:c:1000:C:H2'	58:c:1001:A:H3'	1.98	0.45
58:c:1291:G:H1	58:c:1324:G:N2	2.01	0.45
58:c:1382:A:H5''	78:w:59:PRO:HA	1.99	0.45
58:c:1469:A:H2'	58:c:1470:C:C6	2.52	0.45
58:c:1794:A:OP2	87:c:2002:HOH:O	2.21	0.45
67:l:60:ILE:HG21	67:l:179:CYS:HB2	1.98	0.45
2:1:54:VAL:N	2:1:55:PRO:HD2	2.32	0.45
8:7:170:ILE:HG21	8:7:211:ILE:HG21	1.98	0.45
11:AA:127:G:H2'	11:AA:128:G:H8	1.81	0.45
11:AA:130:A:H2'	11:AA:131:C:H6	1.82	0.45
11:AA:139:G:H2'	11:AA:140:C:C6	2.53	0.45
11:AA:432:G:H2'	11:AA:433:A:H8	1.82	0.45
11:AA:673:U:OP1	15:C:21:SER:OG	2.30	0.45
11:AA:929:A:H2'	11:AA:930:U:C6	2.52	0.45
11:AA:964:G:H2'	11:AA:965:A:C8	2.52	0.45
11:AA:1729:A:C6	41:O:49:PRO:HD3	2.51	0.45
11:AA:2226:U:H2'	11:AA:2227:C:C6	2.53	0.45
11:AA:3214:U:O2'	30:II:166:LYS:NZ	2.50	0.45
11:AA:3371:G:H2'	11:AA:3372:A:C8	2.51	0.45
18:DD:158:VAL:HG21	18:DD:173:LEU:HD11	1.98	0.45
25:G:29:ASP:HB3	25:G:32:SER:OG	2.16	0.45
33:K:86:THR:HG22	33:K:96:PRO:HA	1.99	0.45
58:c:150:U:H2'	58:c:151:G:C8	2.52	0.45
58:c:534:A:C4	58:c:535:A:C8	3.05	0.45
58:c:854:U:O4	58:c:855:A:N6	2.49	0.45
58:c:1067:C:H5''	60:e:150:VAL:HG23	1.98	0.45
58:c:1218:G:O6	58:c:1444:A:O2'	2.33	0.45
58:c:1523:G:C8	77:v:79:LEU:HD13	2.52	0.45
67:l:149:SER:O	67:l:149:SER:OG	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:q:29:HIS:NE2	72:q:38:THR:HB	2.32	0.45
75:t:32:LYS:HB2	75:t:47:ARG:NH1	2.32	0.45
4:3:69:GLY:HA3	58:c:1048:G:O3'	2.17	0.44
5:4:42:ARG:HA	5:4:42:ARG:HD2	1.81	0.44
11:AA:592:A:H5'	30:II:17:ALA:O	2.17	0.44
11:AA:1238:C:H4'	22:Ee:139:VAL:HG13	1.99	0.44
11:AA:1478:C:H2'	11:AA:1479:U:C6	2.51	0.44
11:AA:1624:G:C4	11:AA:1625:A:C8	3.04	0.44
11:AA:1810:A:H2'	11:AA:1811:G:C8	2.52	0.44
11:AA:2154:U:H2'	11:AA:2155:G:H8	1.82	0.44
11:AA:2396:G:OP1	11:AA:2397:A:O2'	2.30	0.44
11:AA:2830:G:H1'	11:AA:2861:U:C2	2.52	0.44
11:AA:3286:G:H2'	11:AA:3287:U:C6	2.52	0.44
16:CC:27:U:H2'	16:CC:28:C:H6	1.81	0.44
16:CC:75:G:H2'	16:CC:76:C:C6	2.52	0.44
38:MM:57:LEU:HD12	38:MM:130:ASP:HA	1.99	0.44
48:S:100:ILE:O	48:S:104:VAL:HG13	2.17	0.44
58:c:119:A:H1'	58:c:397:A:C4	2.52	0.44
58:c:1174:C:O2'	58:c:1196:A:N6	2.49	0.44
58:c:1308:G:H2'	58:c:1309:C:H6	1.82	0.44
58:c:1364:G:C6	58:c:1365:C:N4	2.84	0.44
59:d:198:MET:HG3	59:d:200:ASP:H	1.83	0.44
74:s:55:VAL:HG12	74:s:105:LEU:HB2	1.99	0.44
76:u:62:THR:OG1	76:u:65:GLU:OE2	2.35	0.44
79:x:77:GLY:C	79:x:79:LEU:H	2.25	0.44
3:2:51:ARG:NH2	5:4:37:SER:O	2.50	0.44
10:A:62:THR:H	10:A:69:GLY:HA3	1.81	0.44
11:AA:543:C:H2'	11:AA:544:C:C2	2.53	0.44
11:AA:705:A:N7	37:M:74:ASN:ND2	2.60	0.44
11:AA:873:C:H5''	11:AA:874:U:O5'	2.17	0.44
11:AA:1034:U:H2'	11:AA:1035:G:O4'	2.18	0.44
11:AA:2669:G:H21	28:HH:5:LYS:CE	2.29	0.44
11:AA:2931:C:H2'	11:AA:2932:U:O4'	2.17	0.44
12:B:43:LYS:HE3	12:B:43:LYS:HB2	1.80	0.44
16:CC:5:U:H2'	16:CC:6:U:C6	2.52	0.44
16:CC:59:A:H5''	16:CC:61:A:C8	2.52	0.44
18:DD:89:THR:HG21	18:DD:96:ILE:HG21	2.00	0.44
21:EE:180:LEU:HD22	57:b:26:VAL:HG21	1.99	0.44
26:GG:125:ALA:O	26:GG:129:THR:HG23	2.17	0.44
27:H:32:ARG:HB2	27:H:64:LYS:HG3	1.99	0.44
42:OO:126:PHE:CD2	49:T:115:LYS:HD3	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1459:C:OP1	73:r:126:VAL:HG21	2.17	0.44
62:g:113:LEU:CD2	62:g:118:ALA:HB2	2.48	0.44
76:u:102:ALA:C	76:u:104:ASN:H	2.25	0.44
2:l:92:ILE:HB	2:l:100:ILE:HB	1.99	0.44
11:AA:1017:C:H3'	11:AA:1035:G:N2	2.24	0.44
11:AA:1729:A:C6	57:b:42:CYS:HA	2.52	0.44
11:AA:2354:C:H2'	11:AA:2355:G:O4'	2.18	0.44
11:AA:2532:U:H2'	11:AA:2533:G:H8	1.82	0.44
15:C:50:LYS:HB3	15:C:50:LYS:HE3	1.78	0.44
21:EE:10:LYS:HA	21:EE:16:PHE:CD2	2.52	0.44
36:LL:21:LYS:O	36:LL:22:SER:C	2.60	0.44
58:c:208:U:H2'	58:c:209:U:C6	2.52	0.44
58:c:393:C:H2'	58:c:394:C:C6	2.53	0.44
58:c:1438:G:H2'	58:c:1439:C:C6	2.52	0.44
58:c:1575:G7M:H2'	58:c:1576:A:C8	2.52	0.44
66:k:16:LEU:O	66:k:19:GLN:NE2	2.44	0.44
1:0:49:LYS:HE2	1:0:49:LYS:HB2	1.64	0.44
5:4:52:ASP:OD1	64:i:164:PRO:HG2	2.16	0.44
8:7:86:ASP:OD1	8:7:88:THR:OG1	2.21	0.44
11:AA:210:U:C2	11:AA:230:U:H4'	2.52	0.44
11:AA:226:C:H2'	11:AA:227:G:O4'	2.17	0.44
11:AA:268:A:N1	11:AA:295:A:H5'	2.32	0.44
11:AA:506:U:OP1	26:GG:316:ASN:HB2	2.18	0.44
11:AA:985:U:H2'	11:AA:986:U:C6	2.47	0.44
11:AA:2417:OMU:HM23	11:AA:2417:OMU:H1'	1.53	0.44
11:AA:2861:U:H2'	11:AA:2862:U:O4'	2.17	0.44
11:AA:3116:G:OP1	11:AA:3116:G:N2	2.50	0.44
13:BB:48:U:OP2	28:HH:94:ASN:HB3	2.17	0.44
15:C:148:GLU:O	15:C:151:ARG:HG2	2.18	0.44
17:D:21:LYS:HE2	17:D:55:VAL:HA	1.99	0.44
17:D:98:ARG:O	17:D:101:VAL:HG22	2.17	0.44
20:E:2:ALA:HB3	20:E:32:SER:HB3	1.99	0.44
26:GG:343:LYS:HE3	26:GG:343:LYS:HB3	1.76	0.44
27:H:32:ARG:NH2	58:c:1735:U:OP1	2.50	0.44
45:Q:55:ILE:HD12	45:Q:55:ILE:HA	1.82	0.44
58:c:888:U:O2	58:c:988:A:O2'	2.36	0.44
58:c:1001:A:HO2'	58:c:1002:G:P	2.40	0.44
58:c:1253:U:H2'	58:c:1254:U:H6	1.82	0.44
64:i:66:GLN:HA	64:i:67:PRO:HD3	1.91	0.44
66:k:84:LYS:HD2	66:k:84:LYS:HA	1.71	0.44
72:q:44:GLY:O	72:q:48:VAL:HG22	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:t:82:ASP:C	75:t:84:TYR:H	2.25	0.44
8:7:137:LYS:HE2	8:7:137:LYS:HB2	1.86	0.44
11:AA:94:G:H2'	11:AA:95:A:C8	2.53	0.44
11:AA:663:OMC:HM23	11:AA:663:OMC:H1'	1.73	0.44
11:AA:1170:A:H2'	11:AA:1171:G:O4'	2.17	0.44
11:AA:2573:G:H2'	11:AA:2574:G:C8	2.53	0.44
11:AA:2765:C:O3'	56:a:39:GLY:HA3	2.18	0.44
11:AA:3186:A:OP1	20:E:154:HIS:ND1	2.49	0.44
16:CC:34:U:H4'	49:T:85:THR:HG21	2.00	0.44
14:Cc:9:G:N2	14:Cc:46:G:O5'	2.51	0.44
14:Cc:39:A:C4	14:Cc:40:C:C6	3.05	0.44
21:EE:32:LEU:HD13	21:EE:163:ARG:HD3	2.00	0.44
22:Ee:85:LEU:HB3	22:Ee:102:GLY:HA3	1.98	0.44
22:Ee:106:LEU:O	22:Ee:110:ILE:HG13	2.18	0.44
42:OO:185:LYS:HG2	42:OO:189:GLU:OE1	2.17	0.44
58:c:69:G:H1	58:c:82:U:H3	1.64	0.44
58:c:98:U:H2'	58:c:99:C:C6	2.52	0.44
58:c:400:A:H5''	67:l:25:ARG:HA	1.99	0.44
58:c:629:U:OP2	58:c:969:C:N4	2.39	0.44
58:c:1144:U:H2'	58:c:1145:U:H6	1.82	0.44
58:c:1271:OMG:HM23	58:c:1271:OMG:H1'	1.68	0.44
58:c:1382:A:O2'	58:c:1383:G:H8	2.01	0.44
75:t:12:ALA:HB3	75:t:50:ILE:HD12	1.99	0.44
3:2:88:SER:O	3:2:92:ARG:HG3	2.17	0.44
11:AA:1182:A:H2'	11:AA:1183:C:H6	1.82	0.44
11:AA:1259:A:C2	11:AA:1281:G:H4'	2.53	0.44
11:AA:1549:U:H2'	11:AA:1550:C:C6	2.52	0.44
11:AA:2502:A:OP2	11:AA:2502:A:H8	2.01	0.44
12:B:114:VAL:HA	12:B:150:VAL:HG12	1.99	0.44
14:Cc:36:A:H3'	14:Cc:37:U:H5	1.82	0.44
14:Cc:59:A:O2'	14:Cc:61:U:OP2	2.35	0.44
36:LL:78:MET:O	36:LL:82:VAL:HG22	2.18	0.44
49:T:40:SER:O	49:T:40:SER:OG	2.35	0.44
52:W:44:LYS:HA	52:W:52:TYR:O	2.17	0.44
58:c:990:C:H2'	58:c:991:G:O4'	2.16	0.44
58:c:1189:A:N3	58:c:1194:A:O2'	2.44	0.44
61:f:178:ILE:HD12	61:f:189:GLN:HG2	1.99	0.44
63:h:188:ASN:HB3	63:h:191:ARG:HD3	2.00	0.44
73:r:96:ILE:HG12	73:r:116:LEU:HG	1.99	0.44
74:s:55:VAL:HG23	74:s:56:GLY:H	1.82	0.44
1:0:43:LYS:O	1:0:47:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:80:LEU:HB3	2:1:101:TYR:CE2	2.53	0.44
8:7:7:LEU:HD22	8:7:315:VAL:HG12	2.00	0.44
10:A:55:HIS:O	10:A:59:ARG:HG2	2.18	0.44
11:AA:855:U:H5''	17:D:95:TRP:CG	2.52	0.44
11:AA:1157:G:H2'	11:AA:1158:A:O4'	2.18	0.44
11:AA:1373:A:H2'	11:AA:1374:G:C8	2.52	0.44
11:AA:1922:A:H2'	11:AA:1923:C:O4'	2.18	0.44
11:AA:2515:A:H5''	46:QQ:28:TRP:CD1	2.53	0.44
11:AA:3339:A:H2'	11:AA:3340:G:C8	2.52	0.44
14:Cc:8:U:C5	14:Cc:13:C:C5	3.05	0.44
14:Cc:22:A:OP1	14:Cc:22:A:H4'	2.16	0.44
14:Cc:35:C:O2	14:Cc:35:C:H2'	2.17	0.44
22:Ee:117:ARG:NH1	22:Ee:165:ASN:OD1	2.51	0.44
26:GG:140:HIS:O	26:GG:142:VAL:HG22	2.18	0.44
28:HH:129:TYR:CG	28:HH:177:GLU:HB3	2.52	0.44
40:NN:99:THR:O	40:NN:154:THR:OG1	2.31	0.44
56:a:63:LYS:HD3	56:a:63:LYS:HA	1.82	0.44
58:c:1733:C:H2'	58:c:1734:U:C6	2.53	0.44
63:h:155:LYS:HA	63:h:155:LYS:HD3	1.76	0.44
78:w:108:ILE:HD12	78:w:108:ILE:N	2.31	0.44
81:z:95:PHE:HB3	81:z:135:LEU:HD13	2.00	0.44
11:AA:1018:G:H2'	11:AA:1019:G:C4'	2.48	0.44
11:AA:1250:G:H2'	11:AA:1251:A:C8	2.52	0.44
11:AA:1269:U:O2'	11:AA:1271:A:N7	2.39	0.44
11:AA:1349:G:H5''	11:AA:1350:A:OP1	2.17	0.44
11:AA:2130:G:O4'	11:AA:2144:A:H4'	2.18	0.44
11:AA:3006:A:C2	11:AA:3141:A:C4	3.06	0.44
14:Cc:36:A:C4	14:Cc:37:U:C5	3.06	0.44
14:Cc:49:C:C4	14:Cc:60:A:C8	3.06	0.44
46:QQ:14:LYS:HA	46:QQ:19:LEU:HD23	1.99	0.44
58:c:86:A:H2'	58:c:87:C:H6	1.83	0.44
58:c:788:A:H2'	63:h:19:LEU:HD22	2.00	0.44
58:c:1474:G:C2	58:c:1475:A:C5	3.05	0.44
58:c:1484:G:H2'	58:c:1485:C:C6	2.53	0.44
58:c:1682:U:H4'	65:j:65:GLN:NE2	2.32	0.44
59:d:148:ASP:HB2	59:d:164:ASN:CG	2.42	0.44
62:g:126:VAL:HG11	62:g:188:ILE:HG12	2.00	0.44
69:n:27:PHE:N	69:n:27:PHE:CD1	2.85	0.44
6:5:19:ARG:NH2	58:c:1597:A:OP1	2.51	0.44
8:7:180:ALA:HB3	8:7:189:GLU:H	1.82	0.44
11:AA:164:A:N1	11:AA:258:G:C6	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:195:U:H2'	11:AA:196:G:O4'	2.18	0.44
11:AA:313:A:H2'	11:AA:314:U:C6	2.53	0.44
11:AA:734:C:H2'	11:AA:735:A:O4'	2.17	0.44
11:AA:810:A:H2'	11:AA:811:U:C6	2.52	0.44
11:AA:939:U:O2'	11:AA:2402:A:N1	2.50	0.44
11:AA:975:C:H2'	11:AA:976:U:C6	2.53	0.44
11:AA:1104:G:H2'	11:AA:1105:A:C8	2.52	0.44
11:AA:1385:C:P	26:GG:141:ARG:HH21	2.40	0.44
11:AA:1670:C:H4'	11:AA:1859:A:O3'	2.18	0.44
11:AA:2138:A:C4	51:V:3:LYS:HB3	2.53	0.44
11:AA:2267:C:H2'	11:AA:2268:U:O4'	2.18	0.44
11:AA:2457:G:O6	11:AA:2459:A:H3'	2.17	0.44
11:AA:3170:A:H2'	11:AA:3171:U:C6	2.53	0.44
86:Bb:103:MET:O	86:Bb:103:MET:CG	2.66	0.44
32:JJ:98:LYS:HB3	32:JJ:99:PRO:HD3	2.00	0.44
46:QQ:70:ASN:HB3	46:QQ:92:LEU:O	2.18	0.44
58:c:1163:A:H2'	58:c:1164:G:O4'	2.17	0.44
58:c:1216:C:O2'	58:c:1444:A:N1	2.47	0.44
58:c:1285:U:H4'	58:c:1286:U:O5'	2.18	0.44
58:c:1514:U:H5''	58:c:1515:A:O4'	2.17	0.44
58:c:1611:A:O2'	64:i:95:ASN:O	2.35	0.44
59:d:89:PHE:O	59:d:93:THR:OG1	2.33	0.44
59:d:92:HIS:ND1	59:d:202:TYR:OH	2.37	0.44
64:i:143:ARG:HA	64:i:167:ARG:HD3	2.00	0.44
66:k:76:LYS:O	66:k:80:GLU:HG2	2.18	0.44
5:4:8:THR:HG23	5:4:56:LEU:HD12	2.00	0.43
8:7:209:THR:HA	8:7:225:LEU:HB2	2.00	0.43
11:AA:59:G:H4'	11:AA:60:A:H4'	1.99	0.43
11:AA:250:U:H3'	11:AA:251:G:H8	1.83	0.43
11:AA:270:U:H2'	11:AA:271:C:H6	1.83	0.43
11:AA:1018:G:H2'	11:AA:1019:G:O4'	2.18	0.43
11:AA:1203:A:N3	11:AA:2855:U:O2'	2.44	0.43
11:AA:2196:C:H2'	11:AA:2242:A:H61	1.82	0.43
11:AA:2427:U:H2'	11:AA:2428:U:H6	1.82	0.43
11:AA:2855:U:H2'	11:AA:2856:G:O4'	2.18	0.43
13:BB:96:U:H2'	13:BB:97:A:H8	1.83	0.43
22:Ee:107:ASP:OD1	22:Ee:107:ASP:N	2.50	0.43
23:F:157:GLU:HG3	23:F:159:PHE:CD2	2.53	0.43
24:FF:77:THR:HG21	24:FF:328:ILE:HG12	2.00	0.43
30:II:131:LYS:O	30:II:135:VAL:HG23	2.17	0.43
33:K:37:LYS:HE3	33:K:40:ARG:CZ	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:KK:90:THR:HA	34:KK:214:LEU:HD21	2.00	0.43
43:P:86:LYS:HD3	43:P:86:LYS:HA	1.73	0.43
47:R:49:ILE:HD11	47:R:71:VAL:HG23	2.00	0.43
49:T:96:GLU:C	49:T:98:SER:H	2.26	0.43
58:c:207:U:O2	67:l:178:ARG:NH2	2.47	0.43
58:c:331:A:N7	67:l:172:ARG:NH2	2.59	0.43
58:c:366:A:H2'	58:c:367:A:H8	1.82	0.43
58:c:626:U:H2'	58:c:627:C:H6	1.80	0.43
58:c:901:G:H2'	58:c:902:G:C8	2.53	0.43
58:c:950:C:H2'	58:c:951:A:C8	2.53	0.43
58:c:1383:G:OP1	78:w:87:HIS:ND1	2.49	0.43
58:c:1492:A:O2'	58:c:1493:A:N7	2.44	0.43
64:i:43:PHE:HD2	64:i:46:TRP:H	1.66	0.43
65:j:157:VAL:O	65:j:159:ARG:HG3	2.18	0.43
66:k:141:ARG:O	66:k:148:LYS:HA	2.17	0.43
68:m:186:GLU:H	68:m:186:GLU:HG3	1.61	0.43
75:t:46:LEU:O	75:t:50:ILE:HG12	2.18	0.43
76:u:47:CYS:HB3	76:u:54:LEU:HD22	2.00	0.43
76:u:69:ILE:O	76:u:73:MET:HB2	2.18	0.43
79:x:30:ALA:O	79:x:60:ARG:HD3	2.18	0.43
3:2:40:ALA:O	3:2:68:TYR:HA	2.18	0.43
8:7:197:SER:OG	8:7:198:ASN:N	2.51	0.43
11:AA:19:U:H2'	11:AA:20:A:H8	1.82	0.43
11:AA:345:G:O2'	16:CC:25:G:N3	2.50	0.43
11:AA:1153:A:O2'	11:AA:1154:A:H5'	2.18	0.43
11:AA:1213:G:OP1	20:E:139:TYR:OH	2.25	0.43
11:AA:1342:C:H2'	11:AA:1343:A:H8	1.83	0.43
11:AA:1747:G:H4'	52:W:4:GLU:HG3	2.00	0.43
11:AA:2133:U:O4	11:AA:2147:A:H2	2.01	0.43
11:AA:2217:U:H2'	11:AA:2218:G:C8	2.53	0.43
11:AA:2512:C:H2'	11:AA:2513:U:C6	2.53	0.43
11:AA:2955:U:H2'	11:AA:2956:A:O4'	2.19	0.43
20:E:150:PHE:HE2	44:PP:38:ILE:HG21	1.83	0.43
22:Ee:63:LYS:N	22:Ee:70:ALA:HB3	2.30	0.43
36:LL:87:LYS:HA	36:LL:146:LEU:O	2.18	0.43
38:MM:41:ALA:O	38:MM:139:ARG:NH2	2.35	0.43
58:c:48:G:C6	58:c:432:G:C2	3.07	0.43
58:c:292:U:H2'	58:c:293:U:C6	2.53	0.43
58:c:886:U:H2'	58:c:887:A:C8	2.54	0.43
58:c:1071:U:H2'	58:c:1072:C:C6	2.53	0.43
58:c:1635:A:N6	61:f:92:ALA:H	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:e:70:LEU:HD13	60:e:84:ILE:HG13	2.00	0.43
60:e:144:ARG:HB3	60:e:208:GLN:CG	2.48	0.43
62:g:65:ARG:HA	62:g:68:GLU:HG2	1.99	0.43
78:w:44:ASN:ND2	78:w:106:ILE:HD13	2.26	0.43
78:w:108:ILE:HG22	78:w:108:ILE:O	2.18	0.43
80:y:82:LYS:O	80:y:86:ILE:HG13	2.18	0.43
3:2:49:ALA:CB	72:q:103:ARG:HG3	2.49	0.43
7:6:14:VAL:HG21	58:c:567:A:N3	2.33	0.43
10:A:34:VAL:HG22	10:A:103:LYS:HB2	2.01	0.43
10:A:36:VAL:HB	10:A:108:ILE:HG12	2.00	0.43
11:AA:976:U:H2'	11:AA:977:C:O4'	2.18	0.43
11:AA:992:A:O2'	11:AA:993:G:H5'	2.18	0.43
11:AA:1333:C:H2'	11:AA:1334:U:H6	1.82	0.43
11:AA:1460:A:H5'	43:P:51:LEU:O	2.18	0.43
11:AA:2421:OMU:H1'	11:AA:2421:OMU:HM23	1.62	0.43
11:AA:2472:U:N3	11:AA:2473:C:H1'	2.33	0.43
11:AA:3153:U:H3'	11:AA:3154:C:H2'	1.99	0.43
13:BB:107:C:H2'	13:BB:108:A:C8	2.52	0.43
15:C:176:ARG:N	37:M:51:GLY:HA2	2.32	0.43
16:CC:71:A:O2'	33:K:52:ARG:NH1	2.50	0.43
14:Cc:14:A:C2	14:Cc:23:G:C4	3.06	0.43
22:Ee:62:LEU:HA	22:Ee:70:ALA:O	2.18	0.43
25:G:90:ARG:O	25:G:91:ASP:HB2	2.17	0.43
44:PP:35:ILE:HD13	44:PP:46:ILE:HG22	1.99	0.43
55:Z:13:LEU:HD11	58:c:1749:A:O2'	2.19	0.43
58:c:898:A:C2	58:c:915:A:C5	3.06	0.43
58:c:1108:G:H2'	81:z:25:ALA:HB1	2.00	0.43
58:c:1350:U:H2'	58:c:1351:G:H8	1.84	0.43
58:c:1603:U:H2'	58:c:1604:U:C6	2.53	0.43
58:c:1652:C:H2'	58:c:1653:C:H6	1.82	0.43
59:d:124:THR:O	59:d:146:LEU:HB2	2.18	0.43
61:f:178:ILE:HD11	61:f:193:VAL:O	2.18	0.43
63:h:127:LYS:HD2	63:h:127:LYS:HA	1.67	0.43
68:m:110:GLN:HA	68:m:129:ILE:HD11	2.00	0.43
74:s:49:TYR:HA	74:s:52:LEU:HD12	1.99	0.43
74:s:83:GLN:HE22	74:s:119:ALA:HB2	1.82	0.43
76:u:90:ASN:OD1	76:u:90:ASN:N	2.51	0.43
79:x:58:TYR:O	79:x:62:ARG:HG2	2.19	0.43
2:1:70:LYS:C	2:1:71:ILE:HD12	2.43	0.43
8:7:47:LEU:HA	8:7:55:GLY:HA2	1.99	0.43
10:A:21:SER:N	10:A:87:MET:HE1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:170:G:H2'	11:AA:171:G:C8	2.53	0.43
11:AA:404:G:C5	11:AA:405:U:C5	3.06	0.43
11:AA:822:G:H4'	21:EE:194:ASN:HB2	2.01	0.43
11:AA:1583:A:H2'	11:AA:1584:U:O4'	2.19	0.43
11:AA:2412:G:H2'	11:AA:2413:A:C8	2.54	0.43
11:AA:2413:A:H2'	11:AA:2414:G:C8	2.53	0.43
11:AA:2423:U:H2'	11:AA:2424:A:C8	2.53	0.43
11:AA:2466:G:H2'	11:AA:2467:G:N3	2.33	0.43
11:AA:2496:C:H5'	11:AA:2497:U:OP2	2.18	0.43
11:AA:2498:U:H2'	11:AA:2499:U:C6	2.53	0.43
11:AA:2897:A:H2'	11:AA:2899:C:H5''	2.00	0.43
11:AA:3049:A:O2'	24:FF:55:THR:HG22	2.19	0.43
16:CC:128:U:P	16:CC:129:C:H41	2.41	0.43
28:HH:160:PHE:HA	28:HH:163:LEU:HB3	2.00	0.43
40:NN:23:VAL:CG1	40:NN:29:ARG:HD3	2.48	0.43
55:Z:11:ARG:NH2	58:c:1775:U:OP1	2.50	0.43
58:c:32:U:O2'	58:c:594:A:N1	2.47	0.43
58:c:385:A:H2'	58:c:386:G:C8	2.52	0.43
58:c:1157:A:H2'	58:c:1160:A:N7	2.33	0.43
58:c:1272:U:O4	58:c:1431:C:O2'	2.34	0.43
58:c:1615:C:P	64:i:81:ARG:HE	2.41	0.43
59:d:70:PRO:HB2	59:d:94:GLY:HA3	2.01	0.43
60:e:34:ALA:HB3	60:e:35:PRO:HD3	1.99	0.43
63:h:42:LEU:N	63:h:84:ALA:O	2.45	0.43
78:w:96:PRO:HD2	78:w:99:ILE:HD12	2.00	0.43
1:0:56:SER:OG	1:0:86:GLU:OE2	2.33	0.43
8:7:40:LYS:HG2	8:7:66:HIS:O	2.18	0.43
8:7:85:TRP:HZ3	75:t:29:GLN:HB3	1.81	0.43
8:7:240:VAL:HG22	8:7:256:THR:HG22	2.00	0.43
9:8:95:HIS:N	58:c:1247:U:OP1	2.52	0.43
11:AA:110:G:C2	11:AA:111:C:H1'	2.53	0.43
11:AA:542:G:O6	11:AA:550:A:N6	2.52	0.43
11:AA:737:G:H2'	11:AA:738:A:H8	1.83	0.43
11:AA:794:U:H2'	11:AA:795:G:H8	1.84	0.43
11:AA:945:C:H2'	11:AA:946:U:H6	1.81	0.43
11:AA:1634:G:C6	11:AA:1640:G:C6	3.07	0.43
11:AA:1783:U:H2'	11:AA:1784:G:C8	2.52	0.43
11:AA:2416:U:H2'	11:AA:2417:OMU:C6	2.49	0.43
11:AA:2659:G:H4'	11:AA:2751:G:O2'	2.19	0.43
11:AA:2738:A:O4'	39:N:37:PRO:HG2	2.19	0.43
11:AA:2936:A:H2'	11:AA:2937:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2941:A:O5'	11:AA:2943:G:H4'	2.18	0.43
11:AA:3278:C:O2	11:AA:3278:C:H2'	2.17	0.43
14:Bb:19:G:N2	14:Bb:59:A:O5'	2.51	0.43
18:DD:97:LYS:O	18:DD:101:VAL:HG22	2.17	0.43
20:E:8:GLN:HG2	20:E:62:ASN:HB2	1.99	0.43
36:LL:138:THR:C	36:LL:140:VAL:H	2.26	0.43
45:Q:3:SER:HB3	45:Q:71:HIS:CE1	2.54	0.43
58:c:213:A:H2'	58:c:214:G:O4'	2.18	0.43
58:c:275:C:H2'	58:c:276:C:O4'	2.18	0.43
58:c:1593:A:H2'	58:c:1594:G:H8	1.84	0.43
65:j:57:ASP:HA	65:j:107:ALA:H	1.83	0.43
78:w:58:LEU:HD21	78:w:90:TYR:HD2	1.82	0.43
8:7:251:TRP:HE3	8:7:264:SER:HB2	1.83	0.43
11:AA:283:G:O6	11:AA:304:G:H1'	2.18	0.43
11:AA:312:C:H2'	11:AA:313:A:C8	2.54	0.43
11:AA:432:G:H2'	11:AA:433:A:C8	2.54	0.43
11:AA:1700:G:H2'	11:AA:1701:C:C6	2.54	0.43
11:AA:2482:U:H2'	11:AA:2483:G:C4	2.53	0.43
11:AA:2656:A:C5	11:AA:2658:G:C8	3.07	0.43
11:AA:2709:C:H2'	11:AA:2710:C:C6	2.53	0.43
20:E:138:GLN:HA	20:E:141:LYS:HB2	2.01	0.43
45:Q:32:TRP:CZ2	45:Q:53:PRO:HD2	2.53	0.43
58:c:176:C:H2'	58:c:177:U:C6	2.53	0.43
58:c:643:G:O2'	58:c:644:C:OP1	2.35	0.43
58:c:1225:U:H2'	58:c:1230:A:H4'	2.01	0.43
59:d:104:PRO:HB3	59:d:131:GLN:CD	2.43	0.43
62:g:140:GLY:C	62:g:147:ALA:HA	2.44	0.43
63:h:139:VAL:HG13	63:h:150:PRO:HG3	2.01	0.43
65:j:141:ILE:HD13	65:j:157:VAL:HG12	2.00	0.43
66:k:33:GLU:HG2	66:k:34:LEU:N	2.33	0.43
66:k:91:ILE:HD11	66:k:172:VAL:HG21	2.01	0.43
67:l:23:LYS:H	67:l:23:LYS:HG3	1.68	0.43
76:u:102:ALA:HB3	76:u:104:ASN:HB2	1.99	0.43
80:y:10:ALA:HB2	80:y:27:ILE:HD13	1.99	0.43
11:AA:1595:U:C2	11:AA:1596:C:C5	3.06	0.43
11:AA:1803:C:H2'	11:AA:1804:A:H8	1.82	0.43
11:AA:2256:A2M:H8	11:AA:2256:A2M:H2'	1.70	0.43
11:AA:2597:U:H2'	11:AA:2598:G:C8	2.52	0.43
15:C:36:LEU:HD11	15:C:128:ALA:HB1	2.00	0.43
16:CC:27:U:H2'	16:CC:28:C:C6	2.53	0.43
18:DD:109:ALA:HA	18:DD:181:PHE:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:DD:191:TYR:OH	18:DD:194:GLY:HA2	2.19	0.43
22:Ee:153:GLU:HA	22:Ee:156:ASN:HD21	1.83	0.43
27:H:90:GLY:O	29:I:16:GLY:HA2	2.18	0.43
28:HH:60:ILE:HB	28:HH:80:SER:HB2	2.01	0.43
40:NN:29:ARG:HG2	40:NN:123:PHE:CZ	2.53	0.43
44:PP:23:ILE:O	44:PP:30:GLY:N	2.52	0.43
49:T:31:LEU:HB3	49:T:44:ILE:CG2	2.49	0.43
52:W:3:ARG:HG2	52:W:3:ARG:NH1	2.33	0.43
56:a:7:THR:CA	56:a:23:HIS:O	2.66	0.43
56:a:68:VAL:HG22	56:a:85:LEU:HB2	2.00	0.43
58:c:896:U:H2'	58:c:897:C:C6	2.53	0.43
58:c:1321:A:H4'	58:c:1322:A:O5'	2.19	0.43
63:h:89:VAL:HG11	63:h:119:ALA:HB1	2.01	0.43
65:j:105:ASP:OD1	65:j:105:ASP:N	2.52	0.43
69:n:64:TYR:HB3	69:n:66:TYR:CZ	2.54	0.43
74:s:107:LYS:O	74:s:111:SER:HB3	2.18	0.43
75:t:80:ARG:NH2	75:t:81:LYS:HB3	2.33	0.43
3:2:10:ARG:CZ	3:2:12:LYS:HD3	2.48	0.43
7:6:41:THR:O	7:6:45:VAL:HG22	2.19	0.43
8:7:272:ASP:OD1	8:7:272:ASP:N	2.51	0.43
11:AA:291:C:H2'	11:AA:292:U:H6	1.84	0.43
11:AA:756:U:H2'	11:AA:757:C:C6	2.54	0.43
11:AA:1317:A:O2'	11:AA:1318:A:H3'	2.18	0.43
11:AA:2565:U:H2'	11:AA:2566:C:C6	2.54	0.43
11:AA:2612:U:H2'	11:AA:2613:U:O4'	2.18	0.43
11:AA:2656:A:C4	11:AA:2658:G:N7	2.86	0.43
13:BB:107:C:H2'	13:BB:108:A:H8	1.83	0.43
14:Bb:31:G:OP1	58:c:1462:G:O2'	2.35	0.43
15:C:67:ILE:HG23	15:C:81:VAL:HG21	1.99	0.43
36:LL:48:VAL:HG21	36:LL:54:LYS:HE2	1.99	0.43
38:MM:192:ASP:HA	38:MM:197:VAL:HG12	2.01	0.43
46:QQ:65:ARG:HG3	46:QQ:129:TYR:CE2	2.54	0.43
51:V:27:PHE:HA	51:V:34:CYS:HA	2.00	0.43
58:c:100:A2M:H8	58:c:100:A2M:O5'	2.18	0.43
58:c:251:A:H2	63:h:131:LEU:HD22	1.83	0.43
58:c:480:G:O6	58:c:508:U:O2	2.36	0.43
58:c:875:G:O2'	58:c:877:G:OP2	2.36	0.43
58:c:1241:G:H3'	58:c:1242:A:H8	1.84	0.43
58:c:1374:C:C2	58:c:1375:A:C8	3.07	0.43
59:d:109:ASN:O	59:d:111:ILE:N	2.52	0.43
64:i:30:PRO:HB2	64:i:32:GLU:HG2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:r:86:VAL:HG22	73:r:89:MET:SD	2.59	0.43
77:v:9:VAL:HG13	77:v:14:PHE:HB2	2.01	0.43
8:7:6:VAL:HG21	8:7:319:ASN:HD21	1.83	0.43
8:7:220:ILE:O	8:7:233:THR:HA	2.18	0.43
8:7:281:TYR:CE2	8:7:287:PRO:HG3	2.53	0.43
10:A:62:THR:HA	11:AA:1306:G:C6	2.53	0.43
11:AA:598:A:H2'	11:AA:599:C:C6	2.54	0.43
11:AA:879:U:H3'	11:AA:880:G:H5'	2.01	0.43
11:AA:1911:A:H2	11:AA:2122:G:C8	2.37	0.43
11:AA:1915:A:H2'	11:AA:1916:U:H6	1.83	0.43
11:AA:2477:G:H5''	11:AA:2481:G:N1	2.30	0.43
11:AA:3051:U:C2	11:AA:3052:G:C8	3.05	0.43
11:AA:3113:A:H2'	11:AA:3114:A:O4'	2.18	0.43
11:AA:3164:C:H2'	11:AA:3165:A:H8	1.84	0.43
11:AA:3267:A:H2'	30:II:69:PHE:CZ	2.53	0.43
13:BB:66:A:P	38:MM:203:LYS:HE3	2.59	0.43
16:CC:145:U:H2'	16:CC:146:U:C6	2.54	0.43
19:Dd:19:A:H2'	19:Dd:20:U:C6	2.53	0.43
26:GG:136:LEU:HD21	26:GG:143:GLU:HG3	2.00	0.43
28:HH:48:LYS:HG2	28:HH:145:PHE:HE2	1.84	0.43
31:J:97:LYS:HE3	31:J:97:LYS:HB2	1.81	0.43
34:KK:118:GLU:H	34:KK:118:GLU:HG3	1.73	0.43
36:LL:90:MET:HE2	36:LL:179:ILE:HG22	2.01	0.43
58:c:413:U:H3	58:c:420:A2M:C2	2.31	0.43
58:c:468:A:N1	58:c:594:A:O2'	2.42	0.43
58:c:592:A:O2'	58:c:596:C:OP1	2.36	0.43
58:c:876:G:H1'	58:c:944:A:O4'	2.19	0.43
58:c:1500:C:OP1	77:v:122:ARG:NH2	2.48	0.43
58:c:1566:U:H5''	76:u:39:GLY:H	1.84	0.43
60:e:32:ILE:HB	60:e:43:VAL:HG22	2.00	0.43
61:f:58:LEU:HA	79:x:12:TYR:CE1	2.54	0.43
61:f:147:ASN:OD1	79:x:3:ASN:HA	2.19	0.43
76:u:61:LEU:O	76:u:62:THR:OG1	2.27	0.43
76:u:91:ASP:CG	76:u:92:ILE:H	2.26	0.43
81:z:16:ARG:NH1	81:z:16:ARG:HG3	2.34	0.43
1:0:5:VAL:HG21	1:0:32:ARG:HH11	1.83	0.43
1:0:133:ASN:N	1:0:134:ALA:HA	2.33	0.43
8:7:106:HIS:NE2	8:7:124:SER:OG	2.42	0.43
11:AA:180:C:H2'	11:AA:181:U:C6	2.54	0.43
11:AA:229:G:H5''	33:K:4:GLN:HG2	1.99	0.43
11:AA:246:U:H2'	11:AA:247:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:671:U:H2'	11:AA:672:A:C8	2.54	0.43
11:AA:718:G:C2	11:AA:721:G:H1'	2.53	0.43
11:AA:811:U:H2'	11:AA:812:G:C8	2.54	0.43
11:AA:834:U:H2'	11:AA:835:G:O4'	2.18	0.43
11:AA:1203:A:H61	11:AA:1300:G:H2'	1.84	0.43
11:AA:1339:C:H2'	11:AA:1340:G:C8	2.54	0.43
11:AA:3000:A:H2'	11:AA:3001:C:H6	1.83	0.43
12:B:3:ARG:NE	16:CC:12:A:OP1	2.37	0.43
14:Cc:13:C:H42	14:Cc:47:G:H22	1.66	0.43
26:GG:113:VAL:HB	26:GG:118:LYS:HE2	1.99	0.43
27:H:109:MET:HE2	27:H:109:MET:HB3	1.75	0.43
37:M:35:ALA:O	37:M:41:HIS:ND1	2.46	0.43
38:MM:80:SER:HB3	38:MM:147:VAL:HG11	2.00	0.43
43:P:27:LYS:O	43:P:31:ARG:HB2	2.19	0.43
58:c:330:G:HO2'	67:l:33:PRO:HB3	1.83	0.43
58:c:414:OMC:H1'	58:c:414:OMC:HM23	1.63	0.43
58:c:1018:U:C2	58:c:1019:A:C8	3.07	0.43
58:c:1292:G:H2'	58:c:1293:U:C6	2.54	0.43
58:c:1450:U:H2'	58:c:1451:C:H6	1.84	0.43
58:c:1479:A:OP1	77:v:57:ARG:NE	2.40	0.43
65:j:199:GLN:HG3	65:j:202:ARG:NH2	2.34	0.43
72:q:81:VAL:HG11	72:q:102:LEU:HD13	2.01	0.43
77:v:33:TYR:CE2	77:v:103:LYS:HE2	2.54	0.43
80:y:81:VAL:O	80:y:122:SER:OG	2.34	0.43
2:1:42:LEU:HG	2:1:44:GLN:H	1.83	0.42
3:2:10:ARG:HB2	3:2:33:ASP:OD1	2.19	0.42
8:7:33:LEU:HD13	8:7:34:LEU:N	2.34	0.42
8:7:129:LYS:HE2	8:7:129:LYS:HB2	1.88	0.42
11:AA:7:C:H2'	11:AA:8:C:C6	2.54	0.42
11:AA:1334:U:H2'	11:AA:1335:C:H6	1.84	0.42
11:AA:1657:C:C5	11:AA:1797:A:H5''	2.54	0.42
11:AA:2203:U:H2'	11:AA:2204:C:H6	1.85	0.42
11:AA:2219:A:H2'	11:AA:2220:A2M:C8	2.46	0.42
11:AA:2881:C:H2'	11:AA:2882:U:H6	1.82	0.42
11:AA:3041:U:H2'	11:AA:3042:U:C6	2.53	0.42
11:AA:3101:G:H2'	11:AA:3102:G:C8	2.54	0.42
11:AA:3132:C:H2'	11:AA:3133:C:C6	2.54	0.42
11:AA:3320:A:H2'	11:AA:3321:C:C6	2.54	0.42
13:BB:70:U:H2'	13:BB:71:G:C8	2.54	0.42
24:FF:56:ILE:HD13	24:FF:356:LEU:HD22	2.00	0.42
26:GG:23:PRO:HD2	26:GG:26:PHE:CD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:H:13:ILE:HG23	27:H:85:TRP:CG	2.54	0.42
38:MM:49:CYS:HB3	38:MM:168:SER:HB3	2.01	0.42
40:NN:92:ARG:O	40:NN:95:ASN:HB2	2.18	0.42
44:PP:17:VAL:HG11	44:PP:74:ARG:HA	2.00	0.42
53:X:28:ARG:H	53:X:33:ASN:ND2	2.17	0.42
56:a:91:PHE:CZ	56:a:93:LEU:HD13	2.54	0.42
58:c:61:A:H8	58:c:269:G:O2'	2.02	0.42
58:c:650:U:H4'	68:m:65:LYS:NZ	2.34	0.42
58:c:684:A:H2'	58:c:685:A:H8	1.84	0.42
58:c:828:U:H2'	58:c:829:A:C8	2.54	0.42
58:c:1471:A:C2	58:c:1474:G:N3	2.87	0.42
58:c:1531:G:H21	77:v:48:GLN:CD	2.26	0.42
58:c:1585:U:N3	58:c:1611:A:H2	2.09	0.42
59:d:15:GLN:HG3	75:t:100:LEU:HD21	2.01	0.42
66:k:174:ASN:OD1	66:k:180:GLN:NE2	2.52	0.42
68:m:133:HIS:HA	68:m:162:SER:HB2	2.01	0.42
70:o:46:LYS:HA	70:o:46:LYS:HD2	1.72	0.42
1:0:82:ALA:O	1:0:86:GLU:HB2	2.19	0.42
1:0:123:LYS:HE2	1:0:123:LYS:HB2	1.72	0.42
8:7:79:TYR:HE1	8:7:100:TYR:CE2	2.37	0.42
11:AA:952:A:H4'	11:AA:968:G:H22	1.82	0.42
11:AA:1811:G:H2'	11:AA:1812:G:O4'	2.19	0.42
11:AA:2266:U:H2'	11:AA:2267:C:C6	2.54	0.42
11:AA:2631:U:OP1	11:AA:2757:U:O2'	2.31	0.42
11:AA:3074:G:H4'	43:P:62:ARG:HD2	1.99	0.42
15:C:145:ASN:HA	15:C:150:VAL:HG21	2.01	0.42
15:C:161:LYS:HD3	15:C:161:LYS:HA	1.84	0.42
14:Cc:72:C:H2'	14:Cc:73:A:C8	2.54	0.42
22:Ee:130:LYS:CD	22:Ee:155:ILE:HD12	2.49	0.42
24:FF:308:MET:HE3	24:FF:308:MET:HB3	1.80	0.42
33:K:48:LEU:HD23	33:K:48:LEU:HA	1.90	0.42
34:KK:71:VAL:HG23	34:KK:235:GLY:HA3	2.01	0.42
35:L:127:ASN:HB3	35:L:130:PHE:HB3	2.00	0.42
49:T:32:LYS:HE2	49:T:32:LYS:HB2	1.77	0.42
56:a:9:LYS:HD2	56:a:22:GLN:HE22	1.84	0.42
58:c:5:U:H2'	58:c:6:G:C8	2.54	0.42
58:c:77:U:H4'	58:c:78:A:H5''	2.01	0.42
58:c:123:G:OP1	63:h:77:ARG:NH2	2.52	0.42
58:c:248:U:H4'	70:o:36:LYS:HD3	2.02	0.42
58:c:885:G:H2'	58:c:886:U:C6	2.53	0.42
58:c:962:C:H2'	58:c:963:A:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1600:A:H2'	58:c:1600:A:N3	2.34	0.42
59:d:6:THR:OG1	79:x:42:GLU:OE1	2.30	0.42
60:e:136:ARG:HG2	60:e:138:PHE:CZ	2.54	0.42
62:g:157:LEU:HD12	62:g:157:LEU:HA	1.91	0.42
66:k:127:GLU:O	66:k:130:VAL:C	2.61	0.42
6:5:24:CYS:HB2	58:c:1434:U:H4'	2.01	0.42
11:AA:549:U:H2'	11:AA:550:A:C8	2.55	0.42
11:AA:1556:C:H2'	11:AA:2169:G:N2	2.34	0.42
11:AA:1834:U:OP2	53:X:10:LYS:NZ	2.34	0.42
11:AA:2762:A:H2'	11:AA:2763:U:H6	1.85	0.42
12:B:4:TYR:CZ	12:B:16:SER:HB3	2.55	0.42
20:E:143:PHE:HA	20:E:148:LEU:HD22	1.99	0.42
24:FF:92:TYR:HB2	24:FF:157:VAL:HB	2.00	0.42
34:KK:231:LYS:HE2	34:KK:231:LYS:HB2	1.74	0.42
49:T:44:ILE:H	49:T:44:ILE:HG13	1.65	0.42
58:c:424:C:O2'	58:c:426:G:OP1	2.32	0.42
58:c:446:A:C6	58:c:447:U:C4	3.07	0.42
58:c:898:A:N1	58:c:911:U:O2'	2.50	0.42
58:c:1719:A:H2'	58:c:1720:G:O4'	2.19	0.42
59:d:84:ARG:O	59:d:88:LYS:HG2	2.19	0.42
64:i:222:LYS:HA	64:i:225:ARG:HG3	2.02	0.42
65:j:14:LYS:HD2	65:j:123:GLY:HA3	2.01	0.42
67:l:37:LYS:HA	67:l:37:LYS:HD3	1.70	0.42
81:z:37:ALA:HA	81:z:41:SER:HB3	1.99	0.42
11:AA:216:G:OP1	33:K:16:ARG:NH1	2.44	0.42
11:AA:636:C:O2	11:AA:2377:G:O2'	2.35	0.42
11:AA:840:C:H2'	11:AA:841:A:H8	1.84	0.42
11:AA:1203:A:N6	11:AA:1300:G:H2'	2.35	0.42
11:AA:1295:G:H2'	11:AA:1296:C:C6	2.54	0.42
11:AA:1478:C:H2'	11:AA:1479:U:H6	1.84	0.42
11:AA:1694:U:O2'	11:AA:1695:U:H5'	2.20	0.42
11:AA:2379:U:H2'	11:AA:2380:U:C6	2.55	0.42
11:AA:2615:G:H2'	11:AA:2616:C:C6	2.53	0.42
15:C:99:THR:O	15:C:119:GLY:HA3	2.19	0.42
14:Cc:51:U:H2'	14:Cc:52:C:C6	2.55	0.42
24:FF:137:TYR:CZ	24:FF:144:ILE:HG13	2.54	0.42
27:H:125:LEU:HD23	27:H:125:LEU:HA	1.87	0.42
28:HH:85:ARG:NH2	28:HH:250:ASP:OD2	2.52	0.42
36:LL:88:TYR:CE2	36:LL:184:LYS:HE2	2.53	0.42
46:QQ:48:ALA:HB1	46:QQ:53:TYR:HB3	2.01	0.42
48:S:72:VAL:O	48:S:77:GLY:HA2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:855:A:O2'	58:c:856:A:H3'	2.18	0.42
58:c:1355:C:H2'	58:c:1356:U:O4'	2.19	0.42
59:d:72:ASP:HB3	59:d:119:ARG:HG2	2.01	0.42
60:e:34:ALA:HB1	60:e:86:LEU:HD22	2.00	0.42
72:q:12:GLN:HE22	72:q:111:ARG:HG3	1.83	0.42
79:x:56:SER:OG	79:x:59:VAL:HG23	2.19	0.42
81:z:92:CYS:HA	81:z:95:PHE:CD2	2.54	0.42
2:1:36:ALA:HB1	76:u:25:ASN:HB3	2.02	0.42
8:7:251:TRP:CE3	8:7:264:SER:HB2	2.55	0.42
11:AA:654:C:H2'	11:AA:655:C:C6	2.54	0.42
11:AA:887:G:H2'	11:AA:888:A:C8	2.55	0.42
11:AA:949:C:O2'	11:AA:971:G:OP1	2.28	0.42
11:AA:968:G:H2'	11:AA:969:C:H6	1.84	0.42
11:AA:1061:A:H4'	23:F:102:ARG:HD3	2.01	0.42
11:AA:1196:C:H4'	11:AA:1197:A:OP1	2.19	0.42
11:AA:1215:U:H2'	11:AA:1216:C:C6	2.54	0.42
11:AA:1782:U:H2'	11:AA:1783:U:O4'	2.19	0.42
11:AA:2366:C:H2'	11:AA:2367:A:C8	2.54	0.42
11:AA:2680:A:C8	40:NN:59:ILE:HG13	2.54	0.42
13:BB:108:A:H2'	13:BB:109:G:H8	1.84	0.42
17:D:92:GLN:O	17:D:96:ILE:HG13	2.19	0.42
31:J:72:ALA:O	31:J:76:VAL:HG23	2.20	0.42
36:LL:114:VAL:HB	36:LL:124:ARG:HB2	2.01	0.42
41:O:10:ILE:HG12	41:O:68:TYR:CE2	2.53	0.42
52:W:5:ILE:HD13	52:W:52:TYR:HB3	2.00	0.42
57:b:56:THR:HG23	57:b:63:THR:HB	2.01	0.42
58:c:478:A:H2	58:c:510:G:H22	1.66	0.42
58:c:525:A:HO2'	58:c:526:A:P	2.42	0.42
58:c:959:U:O2	71:p:61:THR:HB	2.19	0.42
58:c:1461:C:H2'	58:c:1462:G:H8	1.83	0.42
64:i:122:ASN:HB2	64:i:129:PRO:HG3	2.02	0.42
71:p:108:ASP:HB3	71:p:111:ALA:HB3	2.00	0.42
1:0:66:GLY:HA2	58:c:532:U:H4'	2.00	0.42
2:1:63:SER:OG	64:i:192:GLU:OE2	2.25	0.42
7:6:43:ARG:HH22	58:c:591:A:P	2.42	0.42
8:7:34:LEU:HD11	8:7:80:ALA:HB1	2.01	0.42
10:A:35:VAL:HG21	10:A:80:PHE:HE2	1.85	0.42
11:AA:26:A:N3	11:AA:328:U:O2'	2.43	0.42
11:AA:292:U:OP2	46:QQ:68:ARG:NH2	2.45	0.42
11:AA:1067:U:H2'	11:AA:1068:C:H6	1.85	0.42
11:AA:1272:C:H2'	11:AA:1273:A:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1473:G:H5'	17:D:24:LEU:O	2.19	0.42
11:AA:1629:U:H5	35:L:108:GLU:HG3	1.84	0.42
11:AA:1718:G:H4'	17:D:117:LYS:HD2	2.02	0.42
11:AA:2966:G:H2'	11:AA:2967:A:C8	2.54	0.42
15:C:62:VAL:HG13	15:C:66:ARG:HD2	2.00	0.42
20:E:24:LEU:HD23	20:E:24:LEU:HA	1.89	0.42
22:Ee:112:ILE:O	22:Ee:116:MET:HG2	2.20	0.42
37:M:103:ASP:HB3	37:M:106:ALA:HB3	2.02	0.42
40:NN:108:GLU:HA	40:NN:122:ILE:HG23	2.02	0.42
45:Q:31:ASN:OD1	45:Q:31:ASN:N	2.52	0.42
46:QQ:9:GLU:HG3	50:U:44:VAL:HG11	2.00	0.42
48:S:19:LYS:HA	48:S:19:LYS:HD2	1.71	0.42
58:c:614:C:C2	58:c:615:A:C8	3.08	0.42
58:c:1003:A:H1'	58:c:1005:A:N7	2.34	0.42
58:c:1018:U:H2'	58:c:1019:A:H8	1.84	0.42
59:d:136:ALA:HB1	59:d:141:ILE:HB	2.01	0.42
60:e:129:THR:OG1	60:e:133:TYR:HB2	2.19	0.42
72:q:92:LYS:HD2	72:q:121:VAL:HG22	2.02	0.42
76:u:57:ARG:HB2	76:u:60:GLU:OE1	2.20	0.42
77:v:38:LYS:O	77:v:39:THR:OG1	2.33	0.42
3:2:13:LYS:O	58:c:1075:C:O2'	2.37	0.42
8:7:36:ALA:HB2	8:7:42:LEU:HD23	2.00	0.42
11:AA:40:A:H5''	37:M:35:ALA:HB1	2.01	0.42
11:AA:381:U:H2'	11:AA:382:U:C6	2.54	0.42
11:AA:412:G:H2'	11:AA:413:U:C6	2.55	0.42
11:AA:674:G:H2'	11:AA:675:C:C6	2.54	0.42
11:AA:1378:U:H2'	11:AA:1379:G:C8	2.54	0.42
11:AA:2373:A:O2'	11:AA:2823:G:N2	2.50	0.42
11:AA:2989:U:H2'	11:AA:2990:G:O4'	2.19	0.42
11:AA:3007:U:H2'	11:AA:3008:A:H8	1.85	0.42
16:CC:102:U:H2'	16:CC:103:G:C8	2.55	0.42
17:D:105:LEU:HD22	17:D:135:LYS:HG3	2.02	0.42
17:D:173:ARG:O	17:D:177:VAL:HG22	2.20	0.42
18:DD:12:PHE:CE1	18:DD:62:ALA:HB2	2.55	0.42
18:DD:118:ASP:N	18:DD:118:ASP:OD1	2.52	0.42
20:E:73:LYS:NZ	20:E:97:VAL:O	2.52	0.42
25:G:42:LYS:HG2	25:G:47:VAL:HG23	2.01	0.42
26:GG:64:SER:HA	26:GG:75:PRO:HA	2.01	0.42
34:KK:158:ASP:HB3	34:KK:159:PRO:HD3	2.02	0.42
43:P:16:LEU:HD23	43:P:16:LEU:HA	1.87	0.42
58:c:60:U:H2'	58:c:61:A:H3'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:343:C:H2'	58:c:344:A:C8	2.50	0.42
58:c:1051:G:H3'	58:c:1052:U:H5''	2.01	0.42
58:c:1383:G:H2'	58:c:1384:A:C8	2.54	0.42
58:c:1615:C:OP1	64:i:81:ARG:NH2	2.51	0.42
59:d:139:VAL:HG23	59:d:141:ILE:HG13	2.01	0.42
61:f:64:LYS:HD3	61:f:64:LYS:HA	1.80	0.42
61:f:139:ILE:HG12	61:f:191:ALA:HB1	2.00	0.42
65:j:36:VAL:HG13	65:j:50:PHE:HB2	2.01	0.42
65:j:50:PHE:HB3	65:j:111:LEU:HD22	2.02	0.42
66:k:97:ARG:HE	66:k:97:ARG:HB2	1.51	0.42
66:k:127:GLU:O	66:k:130:VAL:O	2.37	0.42
67:l:72:ILE:HG12	67:l:112:TRP:CE2	2.54	0.42
80:y:28:ARG:HD3	80:y:60:LYS:HE2	2.01	0.42
2:1:80:LEU:HD22	2:1:101:TYR:CD2	2.54	0.42
10:A:89:SER:O	10:A:95:GLY:HA3	2.19	0.42
11:AA:50:U:H2'	11:AA:51:A:H8	1.85	0.42
11:AA:273:A:H2'	11:AA:274:G:C8	2.55	0.42
11:AA:542:G:H2'	11:AA:543:C:C6	2.54	0.42
11:AA:847:A:H2'	11:AA:848:A:C8	2.54	0.42
11:AA:947:G:H2'	11:AA:948:C:H6	1.84	0.42
11:AA:956:U:H2'	11:AA:957:C:C6	2.54	0.42
11:AA:1018:G:N2	11:AA:1035:G:H1'	2.35	0.42
11:AA:2780:A:H2'	11:AA:2781:U:C6	2.55	0.42
11:AA:3215:A:H5''	47:R:2:ALA:HB2	2.02	0.42
11:AA:3350:C:H1'	11:AA:3351:U:C5	2.55	0.42
18:DD:25:LEU:HD12	18:DD:86:PHE:HB3	2.01	0.42
24:FF:5:LYS:O	24:FF:5:LYS:HG3	2.17	0.42
25:G:23:THR:HG21	25:G:30:PRO:HG3	2.01	0.42
25:G:80:THR:O	25:G:84:LEU:HG	2.19	0.42
32:JJ:229:PHE:CD1	32:JJ:229:PHE:C	2.98	0.42
36:LL:8:GLN:HB3	36:LL:72:LYS:HD2	2.02	0.42
37:M:77:LYS:C	37:M:79:TRP:N	2.77	0.42
39:N:33:LYS:HE2	39:N:33:LYS:HB3	1.81	0.42
56:a:8:ARG:HB2	56:a:25:VAL:CG2	2.50	0.42
58:c:107:C:H2'	58:c:108:A:C8	2.55	0.42
58:c:119:A:H1'	58:c:397:A:C8	2.55	0.42
58:c:141:U:H2'	58:c:142:G:C8	2.53	0.42
58:c:272:U:H2'	58:c:273:G:H8	1.84	0.42
58:c:1119:G:H2'	58:c:1120:U:C6	2.55	0.42
58:c:1608:U:O3'	74:s:73:GLY:HA3	2.19	0.42
60:e:127:VAL:HG12	60:e:177:GLN:HG3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:g:167:PHE:HB3	62:g:190:ARG:CZ	2.50	0.42
64:i:58:LEU:HD12	64:i:138:THR:HA	2.01	0.42
80:y:71:LYS:HG2	80:y:128:PHE:HE1	1.83	0.42
11:AA:21:G:H3'	11:AA:22:G:H8	1.84	0.42
11:AA:209:A:H4'	11:AA:211:A:N7	2.34	0.42
11:AA:408:A:N6	16:CC:15:G:H1'	2.35	0.42
11:AA:987:U:H2'	11:AA:988:U:H6	1.84	0.42
11:AA:1225:A:C4	11:AA:1226:G:C8	3.07	0.42
11:AA:1386:A:N7	26:GG:183:LYS:HD3	2.35	0.42
11:AA:1471:U:H2'	11:AA:1472:U:C6	2.55	0.42
11:AA:1632:A:OP1	35:L:69:LYS:NZ	2.52	0.42
11:AA:2101:C:H2'	11:AA:2102:U:C6	2.54	0.42
11:AA:2416:U:H2'	11:AA:2417:OMU:H6	2.01	0.42
11:AA:2636:A:H5''	11:AA:2637:A:H5'	2.01	0.42
11:AA:3023:U:H2'	11:AA:3024:A:C8	2.53	0.42
11:AA:3321:C:H2'	11:AA:3322:A:C8	2.54	0.42
13:BB:74:C:H2'	13:BB:75:G:C8	2.54	0.42
14:Cc:22:A:H8	14:Cc:22:A:C5'	2.30	0.42
20:E:109:ASP:OD1	20:E:113:ARG:NE	2.32	0.42
24:FF:159:ARG:HG2	24:FF:182:GLN:HA	2.02	0.42
24:FF:173:GLN:HG2	24:FF:175:LYS:H	1.85	0.42
44:PP:121:MET:HE2	44:PP:121:MET:HB3	1.81	0.42
58:c:297:U:H2'	58:c:298:C:C6	2.55	0.42
58:c:299:A:P	63:h:30:ARG:HH22	2.43	0.42
58:c:536:C:O2'	58:c:537:G:OP1	2.37	0.42
58:c:592:A:OP1	68:m:39:LYS:HG3	2.20	0.42
58:c:856:A:N6	66:k:96:ARG:HB3	2.35	0.42
58:c:1732:A:H2'	58:c:1733:C:H6	1.83	0.42
59:d:13:ASP:HA	59:d:16:LEU:HB2	2.02	0.42
59:d:36:TYR:CD1	59:d:161:PRO:HG3	2.55	0.42
74:s:22:VAL:HG22	74:s:65:ILE:HG12	2.00	0.42
76:u:44:ASN:OD1	76:u:48:LYS:HE2	2.20	0.42
4:3:28:PRO:HG3	71:p:17:PRO:HG3	2.01	0.42
11:AA:7:C:H2'	11:AA:8:C:H6	1.85	0.42
11:AA:1333:C:H2'	11:AA:1334:U:C6	2.54	0.42
11:AA:1389:G:H5''	45:Q:101:SER:HB3	2.02	0.42
11:AA:1675:G:OP1	25:G:70:LYS:HE2	2.19	0.42
11:AA:1869:C:H4'	11:AA:3077:A:O2'	2.19	0.42
11:AA:2168:A:OP2	11:AA:2168:A:H8	2.03	0.42
11:AA:2266:U:H5'	14:Bb:25:U:H1'	2.02	0.42
11:AA:2361:A:H2'	11:AA:2362:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2599:U:H2'	11:AA:2600:C:C6	2.55	0.42
11:AA:2707:C:H2'	11:AA:2708:C:C6	2.55	0.42
11:AA:2836:C:H5	11:AA:2852:C:H42	1.65	0.42
11:AA:3064:U:H2'	11:AA:3065:G:H8	1.85	0.42
11:AA:3343:G:O2'	11:AA:3362:A:N6	2.53	0.42
11:AA:3371:G:H2'	11:AA:3372:A:H8	1.84	0.42
21:EE:188:LYS:HE3	21:EE:192:LYS:HE3	2.02	0.42
28:HH:219:PHE:HE2	28:HH:227:LEU:HD21	1.85	0.42
29:I:27:LYS:HE2	29:I:29:PHE:CZ	2.55	0.42
34:KK:85:ASN:O	34:KK:89:GLU:HG2	2.20	0.42
37:M:75:LEU:N	37:M:113:LEU:O	2.53	0.42
40:NN:40:LEU:HD23	40:NN:40:LEU:H	1.84	0.42
52:W:3:ARG:HG2	52:W:3:ARG:HH11	1.84	0.42
56:a:4:VAL:HG21	56:a:85:LEU:HD11	2.01	0.42
58:c:250:C:H2'	58:c:251:A:H8	1.85	0.42
58:c:514:G:N3	58:c:515:A:C8	2.88	0.42
58:c:892:A:H2'	58:c:893:U:C6	2.55	0.42
58:c:1451:C:C2	58:c:1452:U:C5	3.08	0.42
58:c:1459:C:H2'	76:u:138:THR:HB	2.01	0.42
58:c:1586:A:H1'	58:c:1611:A:N6	2.35	0.42
58:c:1631:A:N1	58:c:1763:A:O2'	2.47	0.42
76:u:76:PRO:HD2	76:u:77:THR:N	2.32	0.42
2:1:40:VAL:HG13	2:1:41:ILE:H	1.85	0.41
11:AA:109:A:N1	11:AA:322:U:O2'	2.43	0.41
11:AA:279:U:H2'	11:AA:280:U:C6	2.55	0.41
11:AA:649:A2M:H2'	11:AA:650:OMC:C6	2.55	0.41
11:AA:792:G:H2'	11:AA:793:C:H6	1.85	0.41
11:AA:818:C:H2'	11:AA:819:U:O4'	2.20	0.41
11:AA:1117:G:H2'	11:AA:1118:C:C6	2.55	0.41
11:AA:1291:A:H2'	11:AA:1292:C:O4'	2.20	0.41
11:AA:1862:U:H2'	11:AA:1863:G:O4'	2.20	0.41
11:AA:2156:C:OP1	21:EE:241:ARG:NH2	2.51	0.41
11:AA:2656:A:C8	11:AA:2658:G:C8	3.08	0.41
11:AA:2918:G:C2	11:AA:2919:A:N7	2.88	0.41
11:AA:3150:A:H2'	11:AA:3151:U:O4'	2.19	0.41
14:Cc:31:G:H2'	14:Cc:32:G:H5'	2.02	0.41
18:DD:52:LEU:HD12	18:DD:52:LEU:HA	1.88	0.41
20:E:135:VAL:HG12	20:E:141:LYS:HG3	2.02	0.41
23:F:30:TYR:CE1	28:HH:34:LYS:HE3	2.54	0.41
24:FF:385:LYS:HE2	24:FF:385:LYS:HB2	1.66	0.41
28:HH:215:ASP:OD1	28:HH:215:ASP:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:J:64:GLU:O	49:T:32:LYS:HE3	2.20	0.41
31:J:131:ASP:O	31:J:135:ILE:HG12	2.20	0.41
40:NN:15:GLU:HB2	40:NN:132:ASN:ND2	2.35	0.41
41:O:24:THR:OG1	41:O:91:SER:HB3	2.18	0.41
42:OO:62:THR:O	42:OO:62:THR:OG1	2.38	0.41
44:PP:21:VAL:HG11	44:PP:35:ILE:HD11	2.02	0.41
56:a:36:PHE:C	56:a:41:ARG:HE	2.28	0.41
58:c:31:C:O2'	58:c:547:U:OP1	2.38	0.41
58:c:281:G:H2'	58:c:282:C:C6	2.54	0.41
58:c:688:G:H2'	58:c:689:G:C8	2.55	0.41
58:c:1165:G:H2'	58:c:1166:A:C8	2.55	0.41
58:c:1207:C:H4'	58:c:1208:A:O4'	2.20	0.41
60:e:208:GLN:HG3	60:e:209:ASN:N	2.34	0.41
68:m:152:SER:O	68:m:156:ILE:HG13	2.20	0.41
73:r:18:ARG:HD3	76:u:90:ASN:HB3	2.02	0.41
2:1:49:ARG:HD2	2:1:70:LYS:HB3	2.03	0.41
8:7:198:ASN:O	8:7:215:GLY:HA3	2.20	0.41
10:A:46:GLU:HG3	10:A:134:LYS:HD3	2.01	0.41
11:AA:373:A:N1	11:AA:394:G:H4'	2.35	0.41
11:AA:663:OMC:H2'	11:AA:664:U:C6	2.54	0.41
11:AA:995:U:H5'	87:AA:3731:HOH:O	2.19	0.41
11:AA:1070:U:H2'	11:AA:1071:U:O4'	2.20	0.41
11:AA:1340:G:OP2	45:Q:61:LYS:NZ	2.45	0.41
11:AA:1383:G:OP1	26:GG:203:ARG:HD3	2.20	0.41
11:AA:1465:A:H2'	11:AA:1466:G:O4'	2.20	0.41
11:AA:1500:G:H2'	11:AA:1501:U:O4'	2.20	0.41
11:AA:1638:A:N1	11:AA:1736:G:O2'	2.51	0.41
11:AA:3091:A:OP1	87:AA:3716:HOH:O	2.22	0.41
11:AA:3176:G:C6	11:AA:3213:A:C2	3.07	0.41
14:Bb:11:A:H2'	14:Bb:12:G:C8	2.55	0.41
18:DD:75:LYS:NZ	18:DD:195:GLN:HA	2.34	0.41
20:E:90:MET:HE3	20:E:90:MET:HB3	1.84	0.41
22:Ee:41:LYS:HE2	22:Ee:41:LYS:HB3	1.84	0.41
28:HH:274:GLN:H	28:HH:274:GLN:HG3	1.63	0.41
32:JJ:51:TYR:OH	32:JJ:183:ASP:OD1	2.29	0.41
34:KK:74:THR:HG21	50:U:47:ILE:HG23	2.00	0.41
37:M:105:LEU:O	42:OO:67:ARG:HD2	2.20	0.41
37:M:135:GLU:OE2	42:OO:166:ALA:N	2.52	0.41
49:T:95:PHE:O	49:T:99:GLN:HG2	2.20	0.41
58:c:640:U:H2'	58:c:641:G:O4'	2.20	0.41
58:c:1218:G:H1	58:c:1444:A:H2'	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1300:A:H5'	61:f:86:VAL:HG11	2.02	0.41
58:c:1490:C:OP1	58:c:1492:A:H5'	2.21	0.41
58:c:1554:U:H2'	58:c:1555:A:O4'	2.20	0.41
62:g:42:THR:OG1	62:g:45:LYS:O	2.29	0.41
63:h:36:HIS:HE2	63:h:88:ASP:CG	2.26	0.41
69:n:59:PHE:CZ	69:n:62:GLN:HA	2.54	0.41
78:w:20:ILE:HG13	78:w:21:LYS:N	2.36	0.41
1:0:44:LEU:HD23	1:0:44:LEU:HA	1.85	0.41
2:1:62:VAL:HG13	2:1:76:ALA:HB3	2.02	0.41
2:1:95:HIS:CD2	64:i:116:HIS:CD2	3.09	0.41
3:2:44:ILE:HD12	3:2:67:THR:HG23	2.02	0.41
10:A:61:ALA:HA	10:A:70:PRO:HD2	2.02	0.41
11:AA:118:U:C5	11:AA:123:A:N6	2.87	0.41
11:AA:271:C:O2	50:U:82:ARG:NH2	2.46	0.41
11:AA:380:U:H2'	11:AA:381:U:C6	2.55	0.41
11:AA:507:U:H2'	11:AA:508:U:H6	1.84	0.41
11:AA:737:G:H2'	11:AA:738:A:C8	2.56	0.41
11:AA:1021:G:N2	11:AA:1032:C:N3	2.68	0.41
11:AA:1456:A:N1	11:AA:1476:G:O2'	2.49	0.41
11:AA:1630:U:H5''	11:AA:1813:A:N6	2.34	0.41
11:AA:2169:G:OP1	46:QQ:67:ARG:NH2	2.42	0.41
11:AA:2456:A:H2'	11:AA:2457:G:N9	2.35	0.41
11:AA:2537:U:H2'	11:AA:2538:U:C6	2.55	0.41
11:AA:2674:A:O4'	40:NN:105:GLY:HA3	2.20	0.41
18:DD:75:LYS:HE3	18:DD:75:LYS:HB2	1.86	0.41
18:DD:108:PRO:HB2	18:DD:174:ASN:OD1	2.20	0.41
18:DD:185:LEU:HD12	18:DD:185:LEU:HA	1.80	0.41
20:E:12:ARG:O	20:E:22:PRO:HB2	2.19	0.41
21:EE:30:ARG:HG2	21:EE:74:GLU:HG3	2.01	0.41
22:Ee:119:LYS:O	22:Ee:119:LYS:HD2	2.20	0.41
26:GG:140:HIS:NE2	26:GG:246:ARG:HD2	2.34	0.41
26:GG:350:LYS:HE2	26:GG:350:LYS:HB2	1.72	0.41
27:H:109:MET:SD	27:H:114:ILE:HD11	2.60	0.41
28:HH:2:ALA:HB3	28:HH:6:ASP:HB2	2.02	0.41
40:NN:59:ILE:HD12	40:NN:65:ILE:HG21	2.01	0.41
52:W:45:VAL:HG23	52:W:52:TYR:HB2	2.02	0.41
58:c:27:U:H2'	58:c:28:A2M:H8	2.01	0.41
58:c:116:U:H2'	58:c:117:U:C6	2.55	0.41
58:c:895:G:H2'	58:c:896:U:C6	2.55	0.41
58:c:1117:U:H2'	58:c:1118:G:H8	1.85	0.41
58:c:1215:C:H2'	58:c:1216:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1400:A:H2'	58:c:1401:A:C8	2.55	0.41
62:g:108:LYS:HA	62:g:111:ASN:ND2	2.35	0.41
68:m:108:ARG:NH1	68:m:145:SER:HB3	2.35	0.41
74:s:37:THR:HA	74:s:49:TYR:OH	2.20	0.41
74:s:102:LYS:O	74:s:105:LEU:HD23	2.21	0.41
75:t:24:LEU:HD12	75:t:24:LEU:O	2.20	0.41
78:w:58:LEU:H	78:w:58:LEU:HD22	1.85	0.41
3:2:22:ARG:NH2	72:q:131:GLY:O	2.53	0.41
11:AA:276:U:H2'	11:AA:277:G:C8	2.55	0.41
11:AA:293:C:H4'	50:U:76:ARG:HH21	1.84	0.41
11:AA:436:A:H2'	11:AA:437:G:H8	1.85	0.41
11:AA:1143:A:H5'	11:AA:1368:U:H1'	2.01	0.41
11:AA:1468:A:N1	11:AA:1880:U:O2'	2.49	0.41
11:AA:2232:A:H2'	11:AA:2233:A:H8	1.84	0.41
11:AA:2506:U:H2'	11:AA:2507:C:C6	2.56	0.41
11:AA:2882:U:H2'	11:AA:2883:U:H6	1.85	0.41
11:AA:3203:U:H2'	11:AA:3204:C:C6	2.55	0.41
11:AA:3268:A:H4'	30:II:47:PHE:HZ	1.84	0.41
16:CC:47:C:H1'	16:CC:61:A:H2'	2.02	0.41
14:Cc:6:G:N2	14:Cc:69:C:C2	2.89	0.41
14:Cc:57:C:O2	14:Cc:57:C:O2'	2.34	0.41
24:FF:369:ARG:HH11	24:FF:369:ARG:HG3	1.84	0.41
30:II:170:LYS:HB3	30:II:172:HIS:CE1	2.55	0.41
36:LL:16:VAL:HG11	36:LL:79:ILE:HG12	2.03	0.41
40:NN:78:GLU:HG3	40:NN:79:ILE:N	2.35	0.41
58:c:333:A:N6	67:l:27:PHE:HB2	2.36	0.41
58:c:625:C:H2'	58:c:626:U:H6	1.84	0.41
58:c:888:U:H2'	58:c:889:U:H6	1.85	0.41
58:c:1018:U:H2'	58:c:1019:A:C8	2.55	0.41
58:c:1220:C:H2'	58:c:1221:A:C8	2.52	0.41
58:c:1532:U:H2'	58:c:1533:C:O4'	2.20	0.41
58:c:1667:A:H2'	58:c:1668:G:C8	2.56	0.41
58:c:1725:U:H2'	58:c:1726:G:C8	2.55	0.41
63:h:79:ASP:HB3	63:h:82:TYR:HB2	2.03	0.41
63:h:167:GLY:C	63:h:168:LYS:HD2	2.44	0.41
65:j:109:LEU:HD23	65:j:110:ALA:N	2.34	0.41
66:k:27:LEU:HD13	66:k:27:LEU:HA	1.89	0.41
68:m:88:GLU:OE1	68:m:88:GLU:HA	2.20	0.41
2:1:68:ARG:O	2:1:70:LYS:HG2	2.20	0.41
8:7:131:ILE:HG22	8:7:131:ILE:O	2.21	0.41
10:A:15:LEU:HD23	10:A:15:LEU:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:250:U:H3'	11:AA:251:G:C8	2.56	0.41
11:AA:585:A:H4'	47:R:72:THR:HG22	2.03	0.41
11:AA:874:U:OP1	24:FF:241:LYS:HG2	2.21	0.41
11:AA:960:U:H4'	11:AA:963:G:C2	2.56	0.41
11:AA:2744:U:H2'	11:AA:2745:G:C8	2.56	0.41
11:AA:2839:G:O6	11:AA:2845:A:O2'	2.32	0.41
11:AA:2885:C:O2'	11:AA:2886:U:H5'	2.20	0.41
13:BB:79:A:H2'	13:BB:80:G:O4'	2.21	0.41
17:D:47:ASN:OD1	17:D:47:ASN:C	2.63	0.41
18:DD:75:LYS:O	18:DD:78:PRO:HD2	2.20	0.41
18:DD:142:PRO:O	18:DD:153:VAL:HG12	2.20	0.41
21:EE:114:SER:HB2	21:EE:169:ILE:HG12	2.01	0.41
24:FF:183:LEU:HD23	24:FF:183:LEU:HA	1.95	0.41
32:JJ:84:VAL:HG21	32:JJ:127:LEU:HD11	2.02	0.41
38:MM:99:ILE:HG22	38:MM:123:HIS:HB2	2.02	0.41
43:P:44:MET:HB3	43:P:77:ARG:HD3	2.02	0.41
46:QQ:71:ARG:HB2	46:QQ:94:TYR:HB2	2.01	0.41
58:c:126:A:OP1	65:j:201:GLN:HG3	2.21	0.41
58:c:142:G:P	65:j:139:ASN:HD22	2.43	0.41
58:c:607:G:N2	58:c:614:C:H5''	2.36	0.41
58:c:843:U:H2'	58:c:844:A:C8	2.56	0.41
58:c:887:A:H2'	58:c:888:U:H6	1.85	0.41
58:c:1285:U:H1'	58:c:1286:U:OP2	2.19	0.41
58:c:1330:G:H2'	58:c:1331:A:O4'	2.20	0.41
58:c:1333:C:H2'	58:c:1334:U:H6	1.85	0.41
58:c:1740:A:H2'	58:c:1741:U:C6	2.55	0.41
60:e:81:PHE:HD2	60:e:82:ARG:HG3	1.86	0.41
64:i:115:LYS:HB2	64:i:115:LYS:HE2	1.82	0.41
71:p:3:ARG:HB3	71:p:6:SER:HB3	2.01	0.41
73:r:41:VAL:O	73:r:45:PHE:HD1	2.04	0.41
75:t:81:LYS:HG2	75:t:83:GLN:H	1.84	0.41
80:y:27:ILE:HD11	80:y:30:SER:HA	2.03	0.41
2:1:90:LYS:HB3	2:1:102:THR:HG23	2.03	0.41
3:2:2:PRO:HG3	58:c:1143:A:OP2	2.20	0.41
11:AA:1236:G:C6	22:Ee:16:ARG:HG3	2.56	0.41
11:AA:1278:A:H2'	11:AA:1278:A:N3	2.36	0.41
11:AA:1342:C:H2'	11:AA:1343:A:C8	2.55	0.41
11:AA:2102:U:H2'	11:AA:2103:U:C6	2.56	0.41
11:AA:2328:U:H2'	11:AA:2329:C:C6	2.55	0.41
11:AA:2353:G:H5''	12:B:86:LYS:HB2	2.03	0.41
11:AA:2430:A:H2'	11:AA:2431:C:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:B:126:ARG:NH1	12:B:140:GLU:OE2	2.53	0.41
16:CC:118:C:H2'	16:CC:119:C:H6	1.86	0.41
16:CC:126:A:O2'	16:CC:129:C:N4	2.54	0.41
14:Cc:22:A:C5'	14:Cc:22:A:C8	3.04	0.41
18:DD:191:TYR:CZ	18:DD:194:GLY:HA2	2.55	0.41
20:E:2:ALA:HB3	20:E:32:SER:CB	2.51	0.41
36:LL:101:VAL:HA	36:LL:113:GLU:O	2.20	0.41
51:V:26:SER:HB3	51:V:35:SER:OG	2.20	0.41
56:a:22:GLN:O	56:a:75:VAL:HG13	2.20	0.41
58:c:153:G:C6	58:c:162:A:C6	3.08	0.41
58:c:179:A:H2'	58:c:180:A:C8	2.55	0.41
58:c:1097:U:H5''	58:c:1099:U:O4'	2.19	0.41
58:c:1294:G:H4'	59:d:109:ASN:H	1.85	0.41
58:c:1667:A:H2'	58:c:1668:G:H8	1.85	0.41
59:d:15:GLN:HG3	75:t:100:LEU:HD11	2.02	0.41
1:O:109:LYS:O	1:O:112:LYS:HG3	2.21	0.41
11:AA:29:C:OP1	46:QQ:189:LYS:HB2	2.21	0.41
11:AA:293:C:H2'	11:AA:294:U:O4'	2.21	0.41
11:AA:366:A:H2'	11:AA:367:A:O4'	2.20	0.41
11:AA:397:A:H5''	11:AA:399:A:OP1	2.20	0.41
11:AA:562:C:H2'	11:AA:563:U:C6	2.55	0.41
11:AA:584:G:H2'	11:AA:585:A:H8	1.86	0.41
11:AA:780:A:O4'	15:C:162:ALA:HA	2.21	0.41
11:AA:785:G:O6	37:M:77:LYS:NZ	2.54	0.41
11:AA:1125:U:OP1	38:MM:15:LYS:HE2	2.21	0.41
11:AA:1155:C:H1'	11:AA:1198:C:O2	2.21	0.41
11:AA:1506:A:H1'	11:AA:1848:G:C6	2.55	0.41
11:AA:2117:A:C8	11:AA:3064:U:H1'	2.56	0.41
11:AA:2561:A:H2'	11:AA:2562:A:C8	2.54	0.41
13:BB:103:A:H2'	13:BB:104:A:O4'	2.20	0.41
16:CC:2:A:C4	16:CC:3:A:C8	3.09	0.41
16:CC:36:G:OP1	51:V:66:TYR:OH	2.27	0.41
14:Cc:12:G:N2	14:Cc:25:U:C2	2.89	0.41
18:DD:70:LEU:HD12	18:DD:73:PHE:HE1	1.85	0.41
23:F:19:PHE:CZ	23:F:20:ARG:HG3	2.55	0.41
26:GG:11:LEU:HD13	26:GG:159:ILE:HD11	2.03	0.41
30:II:92:SER:HB3	30:II:148:GLU:CD	2.46	0.41
33:K:126:LEU:HD12	33:K:126:LEU:HA	1.88	0.41
58:c:341:A:H2'	58:c:342:C:C6	2.56	0.41
58:c:546:U:H2'	58:c:547:U:C6	2.56	0.41
58:c:592:A:H2'	58:c:593:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:e:176:VAL:O	60:e:177:GLN:HB2	2.20	0.41
63:h:251:GLU:O	63:h:255:ARG:HD3	2.20	0.41
76:u:48:LYS:HZ2	77:v:35:ASP:HA	1.84	0.41
7:6:41:THR:HA	7:6:45:VAL:HG13	2.02	0.41
11:AA:155:G:H5'	11:AA:156:G:H2'	2.02	0.41
11:AA:201:A:H2'	11:AA:202:G:C8	2.55	0.41
11:AA:245:U:H2'	11:AA:246:U:C6	2.56	0.41
11:AA:436:A:H2'	11:AA:437:G:C8	2.56	0.41
11:AA:1867:A:H2'	11:AA:1868:G:C8	2.56	0.41
11:AA:2133:U:OP1	87:AA:3715:HOH:O	2.21	0.41
11:AA:2667:A:H2'	11:AA:2668:U:O4'	2.20	0.41
11:AA:2689:A:H2'	11:AA:2689:A:N3	2.36	0.41
11:AA:2770:G:H2'	11:AA:2771:U:C6	2.55	0.41
11:AA:2869:U:O2'	11:AA:2873:U:OP1	2.35	0.41
11:AA:2943:G:H2'	11:AA:2944:U:O4'	2.20	0.41
17:D:21:LYS:HD2	17:D:53:LYS:O	2.21	0.41
22:Ee:117:ARG:HD3	22:Ee:125:LEU:HG	2.03	0.41
26:GG:184:SER:CB	26:GG:202:ARG:HG2	2.51	0.41
31:J:46:TYR:HD1	49:T:75:TYR:HB3	1.85	0.41
40:NN:59:ILE:HG21	40:NN:65:ILE:HD13	2.03	0.41
46:QQ:116:LEU:HB2	46:QQ:135:VAL:HG23	2.03	0.41
47:R:9:VAL:HG21	47:R:44:TYR:CE2	2.51	0.41
56:a:8:ARG:HD2	56:a:8:ARG:HA	1.61	0.41
58:c:94:U:N1	58:c:94:U:C5	2.89	0.41
58:c:961:U:H2'	58:c:962:C:C6	2.55	0.41
58:c:1570:A:H2'	58:c:1571:C:O4'	2.20	0.41
60:e:26:ARG:HE	60:e:49:ASN:CG	2.28	0.41
61:f:36:VAL:O	61:f:36:VAL:HG12	2.20	0.41
63:h:89:VAL:HG12	63:h:91:THR:HG22	2.03	0.41
66:k:61:PHE:HA	66:k:93:LEU:O	2.21	0.41
74:s:10:PHE:HA	74:s:18:ALA:O	2.20	0.41
75:t:15:ALA:O	75:t:19:ARG:HG2	2.20	0.41
1:0:22:GLN:HB3	1:0:72:PHE:CZ	2.56	0.41
1:0:45:ALA:HB1	1:0:50:ALA:O	2.21	0.41
1:0:104:SER:OG	1:0:107:GLN:HG3	2.21	0.41
8:7:65:SER:HB3	8:7:86:ASP:OD2	2.20	0.41
11:AA:158:G:H2'	11:AA:159:A:C8	2.53	0.41
11:AA:179:C:H2'	11:AA:180:C:H6	1.85	0.41
11:AA:401:U:H1'	11:AA:403:C:C4	2.56	0.41
11:AA:500:C:H2'	11:AA:501:A:C8	2.56	0.41
11:AA:908:OMG:C4	85:AA:3608:SPD:H72	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1245:A:N1	11:AA:1272:C:O2'	2.48	0.41
11:AA:1323:G:O3'	20:E:2:ALA:HA	2.21	0.41
11:AA:1447:G:H3'	12:B:67:ILE:HG22	2.03	0.41
11:AA:1596:C:H2'	11:AA:1597:C:H6	1.82	0.41
11:AA:2215:A:C4	11:AA:2216:G:C8	3.09	0.41
11:AA:2265:C:H4'	14:Bb:26:C:O2'	2.20	0.41
11:AA:2292:U:H2'	11:AA:2293:C:C6	2.56	0.41
11:AA:2459:A:H2'	11:AA:2460:U:H5''	2.02	0.41
11:AA:3199:G:H5''	44:PP:6:ILE:HG21	2.02	0.41
11:AA:3331:U:H2'	11:AA:3332:U:C6	2.56	0.41
13:BB:45:A:H2'	13:BB:46:A:H8	1.86	0.41
14:Bb:17:C:OP2	14:Bb:18:C:H4'	2.21	0.41
15:C:120:GLU:OE1	15:C:130:ARG:NH2	2.44	0.41
14:Cc:22:A:H5'	14:Cc:22:A:C8	2.48	0.41
21:EE:137:ILE:HG12	21:EE:147:ARG:O	2.20	0.41
21:EE:201:GLY:HA2	21:EE:204:MET:SD	2.61	0.41
23:F:34:TYR:CE2	23:F:96:ILE:HD12	2.56	0.41
24:FF:188:ILE:O	24:FF:192:VAL:HG23	2.21	0.41
24:FF:369:ARG:HG3	24:FF:369:ARG:NH1	2.36	0.41
26:GG:59:GLN:O	51:V:52:LYS:NZ	2.43	0.41
26:GG:233:LEU:HD23	26:GG:233:LEU:HA	1.89	0.41
30:II:54:TYR:HE1	30:II:63:LEU:HB3	1.84	0.41
32:JJ:88:ARG:NH1	32:JJ:108:LEU:O	2.43	0.41
34:KK:169:LEU:O	34:KK:173:MET:HG2	2.21	0.41
35:L:42:LEU:HD13	35:L:101:PHE:HE2	1.85	0.41
37:M:73:LEU:HD22	37:M:81:LEU:HD11	2.02	0.41
37:M:128:ARG:NH2	42:OO:66:ASN:OD1	2.54	0.41
48:S:8:ARG:HD2	48:S:32:ALA:O	2.20	0.41
49:T:83:LYS:O	51:V:73:ARG:NH2	2.54	0.41
58:c:158:U:C4	58:c:420:A2M:H4'	2.56	0.41
58:c:207:U:H2'	58:c:208:U:C6	2.56	0.41
58:c:346:G:H5'	70:o:79:LYS:HD2	2.03	0.41
58:c:361:C:N4	58:c:379:U:OP1	2.43	0.41
58:c:394:C:H2'	58:c:395:U:C6	2.56	0.41
58:c:538:A:N3	58:c:541:A2M:HM'3	2.36	0.41
58:c:560:U:H2'	58:c:561:G:H8	1.85	0.41
58:c:610:G:H2'	58:c:614:C:C5	2.55	0.41
58:c:824:G:H2'	58:c:825:U:H6	1.86	0.41
58:c:989:U:H2'	58:c:990:C:C6	2.55	0.41
58:c:1277:G:O3'	62:g:183:GLY:HA3	2.20	0.41
58:c:1297:G:H5'	58:c:1298:U:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:c:1350:U:H2'	58:c:1351:G:C8	2.56	0.41
58:c:1392:U:H2'	58:c:1393:C:C6	2.56	0.41
58:c:1439:C:H2'	58:c:1440:C:H6	1.86	0.41
58:c:1566:U:H5''	76:u:39:GLY:N	2.36	0.41
58:c:1613:U:N3	58:c:1614:A:N7	2.68	0.41
58:c:1656:U:H5''	58:c:1657:U:OP2	2.21	0.41
59:d:74:VAL:HG23	59:d:118:PRO:HB3	2.03	0.41
62:g:7:LYS:HG2	78:w:27:THR:HG21	2.02	0.41
70:o:22:ASN:HB3	70:o:25:VAL:HG22	2.03	0.41
76:u:17:LEU:HD23	76:u:17:LEU:HA	1.79	0.41
77:v:16:ASN:HA	77:v:56:LYS:NZ	2.35	0.41
3:2:20:PRO:HA	3:2:31:PRO:HA	2.03	0.41
10:A:87:MET:HG3	11:AA:1312:C:O2'	2.21	0.41
11:AA:359:U:H4'	11:AA:817:A2M:H61	1.86	0.41
11:AA:371:G:H4'	11:AA:396:A:N1	2.36	0.41
11:AA:875:G:H2'	11:AA:876:A2M:H8	2.02	0.41
11:AA:976:U:P	15:C:144:ARG:HH22	2.44	0.41
11:AA:1020:G:C6	11:AA:1021:G:C6	3.08	0.41
11:AA:1626:U:H2'	11:AA:1627:U:C6	2.56	0.41
11:AA:1675:G:H2'	11:AA:1676:A:C8	2.56	0.41
11:AA:2163:C:H4'	21:EE:7:ASN:O	2.21	0.41
11:AA:2223:A:OP2	11:AA:2223:A:H8	2.03	0.41
16:CC:25:G:N7	33:K:13:ARG:NH1	2.62	0.41
18:DD:31:ASP:OD1	18:DD:31:ASP:N	2.53	0.41
21:EE:80:GLU:OE2	57:b:73:THR:HG23	2.21	0.41
24:FF:67:PHE:CZ	27:H:88:ARG:HB2	2.56	0.41
24:FF:236:LYS:HB2	24:FF:236:LYS:HE2	1.87	0.41
25:G:22:PRO:HB2	25:G:28:PHE:HB2	2.03	0.41
26:GG:47:ARG:NH2	26:GG:109:TRP:O	2.40	0.41
26:GG:58:HIS:HA	26:GG:90:PHE:HE1	1.86	0.41
27:H:38:ALA:HB3	27:H:59:MET:HB2	2.02	0.41
33:K:122:LYS:HE3	33:K:122:LYS:HB3	1.86	0.41
34:KK:151:VAL:O	34:KK:177:TYR:HA	2.21	0.41
36:LL:91:ARG:CD	36:LL:143:GLU:HG3	2.47	0.41
58:c:97:C:H1'	58:c:426:G:H5'	2.03	0.41
58:c:398:G:P	67:l:47:ARG:HH12	2.44	0.41
58:c:472:U:H2'	58:c:473:A:H8	1.86	0.41
58:c:1494:C:H2'	58:c:1495:C:C6	2.56	0.41
58:c:1535:U:O2'	58:c:1536:G:H5''	2.21	0.41
72:q:31:THR:HA	72:q:38:THR:HA	2.03	0.41
72:q:84:ARG:HB3	72:q:118:VAL:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:44:SER:HB3	8:7:61:PHE:CE2	2.55	0.40
11:AA:26:A:C4	11:AA:330:G:C8	3.09	0.40
11:AA:209:A:H4'	11:AA:211:A:C8	2.56	0.40
11:AA:230:U:H2'	11:AA:231:G:O4'	2.20	0.40
11:AA:235:A:H2'	11:AA:236:G:C8	2.56	0.40
11:AA:426:G:H2'	11:AA:427:C:C6	2.56	0.40
11:AA:824:C:H2'	11:AA:825:U:C6	2.56	0.40
11:AA:835:G:O2'	11:AA:857:G:N2	2.34	0.40
11:AA:877:C:O2'	11:AA:880:G:H1'	2.21	0.40
11:AA:999:G:H2'	11:AA:1000:C:C6	2.56	0.40
11:AA:1362:G:H2'	11:AA:1363:A:C8	2.56	0.40
11:AA:2230:C:H2'	11:AA:2231:C:O4'	2.21	0.40
11:AA:3181:C:H2'	11:AA:3182:G:C8	2.57	0.40
14:Cc:40:C:O2	14:Cc:40:C:H2'	2.21	0.40
31:J:108:LEU:HD23	31:J:125:ARG:HG2	2.02	0.40
32:JJ:156:ILE:HG12	32:JJ:172:ASN:CG	2.46	0.40
33:K:50:ILE:HG21	33:K:80:VAL:HG11	2.03	0.40
36:LL:53:ILE:HD12	44:PP:7:VAL:HG21	2.03	0.40
38:MM:191:LYS:HG2	38:MM:213:PHE:CE1	2.56	0.40
40:NN:171:VAL:C	40:NN:172:LEU:HD23	2.46	0.40
42:OO:104:ARG:HA	50:U:20:MET:HB2	2.02	0.40
44:PP:49:PRO:HB3	44:PP:78:THR:HG23	2.03	0.40
46:QQ:155:VAL:O	46:QQ:162:ARG:NH2	2.50	0.40
58:c:312:A:C2	58:c:314:C:H2'	2.56	0.40
58:c:323:A:OP2	67:l:10:LYS:HA	2.21	0.40
58:c:446:A:N6	58:c:461:G:H21	2.20	0.40
58:c:925:G:H2'	58:c:926:A:C8	2.56	0.40
58:c:1125:A:O2'	58:c:1776:A:OP1	2.27	0.40
58:c:1451:C:H2'	58:c:1452:U:H6	1.86	0.40
60:e:66:VAL:HG23	60:e:86:LEU:HB2	2.03	0.40
62:g:90:ARG:HE	62:g:90:ARG:HB3	1.66	0.40
62:g:170:THR:HA	62:g:186:VAL:O	2.22	0.40
63:h:151:ASP:OD2	65:j:215:ARG:NH2	2.54	0.40
69:n:23:ALA:O	69:n:64:TYR:HB2	2.21	0.40
71:p:33:VAL:HG21	71:p:66:ILE:HG21	2.03	0.40
78:w:88:LYS:O	78:w:89:ARG:HD3	2.21	0.40
1:0:87:PRO:HG3	63:h:59:ARG:NH2	2.36	0.40
8:7:170:ILE:O	8:7:170:ILE:HG13	2.21	0.40
10:A:75:ALA:HB1	10:A:106:GLU:OE2	2.21	0.40
11:AA:406:G:N2	16:CC:16:G:C4	2.89	0.40
11:AA:601:U:HO2'	11:AA:602:A:P	2.43	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:938:C:C5	37:M:26:ARG:HD2	2.57	0.40
11:AA:963:G:O2'	37:M:29:PRO:O	2.33	0.40
11:AA:1236:G:C5	22:Ee:16:ARG:HG3	2.55	0.40
11:AA:1327:C:O2'	47:R:76:GLY:HA2	2.21	0.40
11:AA:1620:U:H2'	11:AA:1621:A:C8	2.56	0.40
11:AA:1721:U:O2'	11:AA:1723:A:N7	2.46	0.40
11:AA:1784:G:H2'	11:AA:1785:U:O4'	2.20	0.40
11:AA:2278:5MC:P	55:Z:23:ARG:HH22	2.42	0.40
11:AA:2541:U:H5''	11:AA:2542:U:C6	2.55	0.40
11:AA:2724:OMU:HM23	11:AA:2724:OMU:H1'	1.49	0.40
11:AA:3118:C:H2'	11:AA:3119:U:O4'	2.22	0.40
11:AA:3190:C:H2'	11:AA:3191:G:C8	2.56	0.40
13:BB:36:C:H2'	13:BB:37:G:C8	2.56	0.40
18:DD:13:ALA:HA	18:DD:16:ARG:HD3	2.03	0.40
19:Dd:19:A:HO2'	19:Dd:20:U:P	2.42	0.40
23:F:52:MET:HG3	23:F:95:HIS:CE1	2.55	0.40
24:FF:37:ARG:HB3	24:FF:186:GLY:HA2	2.03	0.40
25:G:93:ILE:HG22	25:G:105:LEU:HD12	2.03	0.40
28:HH:144:VAL:HG22	28:HH:173:VAL:HG22	2.03	0.40
28:HH:206:GLN:O	28:HH:210:GLU:HG3	2.21	0.40
32:JJ:110:ARG:O	32:JJ:113:SER:HB2	2.21	0.40
32:JJ:203:TRP:CD1	32:JJ:204:PRO:HD2	2.56	0.40
37:M:70:LYS:HD3	37:M:111:LYS:HB2	2.02	0.40
39:N:5:LYS:HE3	39:N:8:THR:HB	2.03	0.40
39:N:54:LEU:HD23	39:N:54:LEU:HA	1.84	0.40
46:QQ:103:GLU:HG3	46:QQ:160:GLU:HB2	2.02	0.40
57:b:84:ARG:NH1	57:b:85:ARG:HA	2.35	0.40
58:c:67:A:C6	58:c:84:A:C8	3.09	0.40
58:c:607:G:H21	58:c:614:C:H5''	1.86	0.40
58:c:1173:C:H2'	58:c:1174:C:H6	1.86	0.40
58:c:1716:C:O2'	58:c:1717:G:H8	2.04	0.40
62:g:109:LEU:HD21	62:g:115:ILE:HA	2.02	0.40
65:j:37:ASP:HB3	65:j:39:GLU:CD	2.46	0.40
67:l:65:PHE:HA	67:l:181:GLY:O	2.21	0.40
67:l:84:HIS:HE2	67:l:97:THR:CG2	2.33	0.40
76:u:73:MET:O	76:u:101:LEU:HD21	2.21	0.40
81:z:16:ARG:HG3	81:z:16:ARG:HH11	1.86	0.40
81:z:109:ARG:HH21	81:z:112:LYS:HD2	1.85	0.40
8:7:189:GLU:HG2	8:7:228:LYS:HD3	2.03	0.40
11:AA:374:A:O2'	11:AA:376:G:H5'	2.21	0.40
11:AA:634:C:H5'	47:R:21:ARG:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1039:U:H2'	11:AA:1040:A:C8	2.56	0.40
11:AA:1140:G:H2'	11:AA:1141:C:C6	2.57	0.40
11:AA:1438:U:H2'	11:AA:1439:U:C6	2.55	0.40
11:AA:2407:C:C2	11:AA:2408:U:C5	3.09	0.40
11:AA:2903:A:H2'	11:AA:2904:U:O4'	2.20	0.40
11:AA:2943:G:N2	24:FF:251:CYS:SG	2.94	0.40
11:AA:3007:U:H2'	11:AA:3008:A:C8	2.56	0.40
13:BB:15:C:C2	13:BB:16:U:C5	3.10	0.40
15:C:104:LEU:HD23	15:C:104:LEU:HA	1.87	0.40
16:CC:6:U:H2'	16:CC:7:U:C6	2.56	0.40
20:E:167:ARG:HD3	20:E:167:ARG:HA	1.80	0.40
21:EE:113:VAL:HG12	21:EE:166:ILE:HD13	2.04	0.40
25:G:37:LEU:HD23	25:G:37:LEU:HA	1.93	0.40
28:HH:187:THR:OG1	28:HH:188:GLU:N	2.54	0.40
38:MM:91:VAL:HG11	38:MM:129:VAL:HG12	2.03	0.40
40:NN:60:ARG:O	40:NN:63:GLU:HB2	2.22	0.40
44:PP:14:LEU:H	44:PP:19:ARG:NH2	2.20	0.40
49:T:27:GLU:OE2	49:T:43:LYS:NZ	2.55	0.40
57:b:88:GLU:O	57:b:91:GLU:HG3	2.21	0.40
58:c:624:G:H2'	58:c:625:C:C6	2.56	0.40
58:c:802:G:N2	80:y:107:SER:HG	2.19	0.40
58:c:852:C:H2'	58:c:853:G:H8	1.86	0.40
58:c:1254:U:H2'	58:c:1255:G:C8	2.56	0.40
58:c:1785:U:P	72:q:133:ARG:HH22	2.44	0.40
59:d:198:MET:HE1	75:t:88:VAL:O	2.21	0.40
61:f:211:LEU:HD23	61:f:211:LEU:HA	1.93	0.40
64:i:63:GLN:HG3	64:i:86:GLN:HA	2.04	0.40
74:s:59:LYS:HG2	74:s:60:PHE:CZ	2.56	0.40
1:0:103:ALA:O	1:0:108:ARG:NH1	2.46	0.40
4:3:2:VAL:HB	4:3:3:LEU:H	1.51	0.40
7:6:40:TYR:CG	68:m:32:GLY:HA3	2.57	0.40
11:AA:176:G:C2	11:AA:243:G:C5	3.09	0.40
11:AA:297:G:O6	46:QQ:12:ARG:NH1	2.48	0.40
11:AA:1235:U:C5	22:Ee:135:THR:HG22	2.56	0.40
11:AA:1622:U:C2	11:AA:1623:G:C8	3.10	0.40
11:AA:1872:C:H4'	17:D:58:HIS:HB2	2.02	0.40
11:AA:2185:G:O2'	11:AA:2314:U:OP2	2.31	0.40
11:AA:2487:U:O2'	11:AA:2488:A:P	2.79	0.40
11:AA:2876:C:H2'	11:AA:2877:G:O4'	2.22	0.40
11:AA:3366:G:H2'	11:AA:3367:C:C6	2.56	0.40
12:B:131:ARG:HG3	12:B:137:ASN:OD1	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BB:1:G:C2	13:BB:2:G:C8	3.10	0.40
17:D:7:GLN:HG2	17:D:32:ILE:O	2.21	0.40
22:Ee:90:ARG:HD3	22:Ee:100:HIS:NE2	2.36	0.40
24:FF:187:SER:HB3	24:FF:190:GLU:HG3	2.03	0.40
27:H:45:ARG:HD2	27:H:46:LEU:H	1.86	0.40
36:LL:86:TYR:CE2	36:LL:151:VAL:HB	2.56	0.40
46:QQ:159:ARG:H	46:QQ:159:ARG:HG2	1.71	0.40
58:c:956:C:OP1	58:c:1072:C:O2'	2.36	0.40
58:c:1172:G:H2'	58:c:1173:C:C6	2.56	0.40
58:c:1332:C:O2'	62:g:162:GLN:HB3	2.22	0.40
58:c:1410:A:HO2'	58:c:1411:A:P	2.45	0.40
58:c:1453:G:O3'	73:r:81:ARG:HD3	2.21	0.40
60:e:195:LYS:HB3	60:e:195:LYS:HE3	1.97	0.40
64:i:31:GLU:HA	64:i:34:GLN:HG3	2.02	0.40
64:i:200:ASN:HA	64:i:203:LYS:HG2	2.03	0.40
65:j:23:ARG:HB2	65:j:41:VAL:O	2.22	0.40
69:n:32:HIS:CE1	69:n:35:ILE:HD12	2.56	0.40
74:s:82:ARG:NH2	74:s:114:ARG:HB2	2.36	0.40
8:7:81:LEU:HB3	8:7:113:VAL:HG21	2.03	0.40
8:7:228:LYS:C	8:7:229:LYS:HD2	2.46	0.40
8:7:286:GLU:HA	8:7:287:PRO:HD3	1.92	0.40
11:AA:80:G:H2'	11:AA:81:C:C6	2.55	0.40
11:AA:178:U:H2'	11:AA:179:C:H6	1.87	0.40
11:AA:542:G:O6	11:AA:550:A:C6	2.74	0.40
11:AA:710:A:H2'	11:AA:711:A:C8	2.57	0.40
11:AA:871:U:H2'	11:AA:872:U:C6	2.57	0.40
11:AA:1267:U:H2'	11:AA:1268:G:O4'	2.21	0.40
11:AA:1584:U:H2'	11:AA:1585:C:H6	1.86	0.40
12:B:14:SER:OG	12:B:151:THR:HG22	2.21	0.40
15:C:29:LEU:HG	26:GG:281:ILE:HD12	2.04	0.40
15:C:32:LEU:HB2	26:GG:286:VAL:HG13	2.02	0.40
14:Cc:39:A:C4	14:Cc:40:C:C5	3.08	0.40
22:Ee:20:GLY:HA2	22:Ee:47:ALA:HA	2.03	0.40
33:K:69:LYS:HB3	33:K:69:LYS:HE3	1.91	0.40
36:LL:173:ARG:HE	36:LL:173:ARG:HB2	1.71	0.40
48:S:21:LYS:HE3	48:S:21:LYS:HB3	1.85	0.40
51:V:84:SER:O	51:V:85:LYS:C	2.65	0.40
58:c:329:G:H5'	67:l:99:ALA:HB3	2.04	0.40
58:c:333:A:N7	67:l:49:ARG:HD3	2.36	0.40
58:c:464:A:C2	58:c:465:G:C8	3.09	0.40
58:c:1120:U:C2	58:c:1121:C:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:f:106:ASP:C	61:f:108:ASN:H	2.29	0.40
65:j:74:LYS:HA	65:j:96:SER:HA	2.03	0.40
65:j:155:ASP:OD1	65:j:155:ASP:N	2.53	0.40
69:n:6:GLU:O	69:n:10:LYS:HG3	2.22	0.40
72:q:42:VAL:HG13	72:q:46:MET:HE2	2.02	0.40
76:u:13:HIS:O	76:u:14:ILE:C	2.64	0.40
78:w:107:THR:C	78:w:108:ILE:HD12	2.46	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	132/135 (98%)	127 (96%)	5 (4%)	0	100	100
2	1	68/108 (63%)	62 (91%)	6 (9%)	0	100	100
3	2	95/119 (80%)	89 (94%)	6 (6%)	0	100	100
4	3	79/82 (96%)	74 (94%)	5 (6%)	0	100	100
5	4	61/67 (91%)	60 (98%)	1 (2%)	0	100	100
6	5	47/56 (84%)	47 (100%)	0	0	100	100
7	6	51/63 (81%)	49 (96%)	2 (4%)	0	100	100
8	7	316/319 (99%)	297 (94%)	19 (6%)	0	100	100
9	8	32/152 (21%)	25 (78%)	7 (22%)	0	100	100
10	A	195/199 (98%)	193 (99%)	2 (1%)	0	100	100
12	B	152/338 (45%)	150 (99%)	2 (1%)	0	100	100
15	C	183/186 (98%)	182 (100%)	1 (0%)	0	100	100
17	D	174/189 (92%)	170 (98%)	4 (2%)	0	100	100
18	DD	195/312 (62%)	189 (97%)	6 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	E	170/172 (99%)	163 (96%)	7 (4%)	0	100	100
21	EE	250/254 (98%)	247 (99%)	3 (1%)	0	100	100
22	Ee	156/165 (94%)	150 (96%)	6 (4%)	0	100	100
23	F	157/160 (98%)	154 (98%)	3 (2%)	0	100	100
24	FF	384/387 (99%)	373 (97%)	11 (3%)	0	100	100
25	G	95/121 (78%)	92 (97%)	3 (3%)	0	100	100
26	GG	359/362 (99%)	345 (96%)	14 (4%)	0	100	100
27	H	127/137 (93%)	126 (99%)	1 (1%)	0	100	100
28	HH	294/297 (99%)	288 (98%)	6 (2%)	0	100	100
29	I	61/155 (39%)	61 (100%)	0	0	100	100
30	II	151/176 (86%)	148 (98%)	3 (2%)	0	100	100
31	J	118/142 (83%)	115 (98%)	3 (2%)	0	100	100
32	JJ	220/244 (90%)	217 (99%)	3 (1%)	0	100	100
33	K	124/127 (98%)	123 (99%)	1 (1%)	0	100	100
34	KK	231/256 (90%)	227 (98%)	4 (2%)	0	100	100
35	L	133/136 (98%)	128 (96%)	5 (4%)	0	100	100
36	LL	189/191 (99%)	181 (96%)	8 (4%)	0	100	100
37	M	146/149 (98%)	141 (97%)	4 (3%)	1 (1%)	18	21
38	MM	213/221 (96%)	208 (98%)	5 (2%)	0	100	100
39	N	56/59 (95%)	54 (96%)	2 (4%)	0	100	100
40	NN	167/174 (96%)	161 (96%)	6 (4%)	0	100	100
41	O	95/105 (90%)	95 (100%)	0	0	100	100
42	OO	191/199 (96%)	178 (93%)	12 (6%)	1 (0%)	24	29
43	P	107/113 (95%)	103 (96%)	4 (4%)	0	100	100
44	PP	134/138 (97%)	133 (99%)	1 (1%)	0	100	100
45	Q	125/130 (96%)	125 (100%)	0	0	100	100
46	QQ	201/204 (98%)	194 (96%)	7 (4%)	0	100	100
47	R	104/107 (97%)	103 (99%)	1 (1%)	0	100	100
48	S	107/121 (88%)	107 (100%)	0	0	100	100
49	T	117/120 (98%)	115 (98%)	2 (2%)	0	100	100
50	U	97/100 (97%)	90 (93%)	7 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
51	V	82/88 (93%)	81 (99%)	1 (1%)	0	100	100
52	W	75/78 (96%)	71 (95%)	4 (5%)	0	100	100
53	X	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
54	Y	50/128 (39%)	50 (100%)	0	0	100	100
55	Z	23/25 (92%)	23 (100%)	0	0	100	100
56	a	100/106 (94%)	96 (96%)	4 (4%)	0	100	100
57	b	89/92 (97%)	89 (100%)	0	0	100	100
59	d	204/252 (81%)	194 (95%)	10 (5%)	0	100	100
60	e	210/255 (82%)	195 (93%)	15 (7%)	0	100	100
61	f	215/254 (85%)	203 (94%)	12 (6%)	0	100	100
62	g	203/240 (85%)	196 (97%)	7 (3%)	0	100	100
63	h	256/261 (98%)	248 (97%)	8 (3%)	0	100	100
64	i	195/225 (87%)	186 (95%)	9 (5%)	0	100	100
65	j	221/236 (94%)	215 (97%)	6 (3%)	0	100	100
66	k	182/190 (96%)	175 (96%)	7 (4%)	0	100	100
67	l	180/200 (90%)	164 (91%)	16 (9%)	0	100	100
68	m	183/197 (93%)	178 (97%)	5 (3%)	0	100	100
69	n	63/105 (60%)	58 (92%)	5 (8%)	0	100	100
70	o	140/156 (90%)	132 (94%)	8 (6%)	0	100	100
71	p	148/151 (98%)	145 (98%)	3 (2%)	0	100	100
72	q	125/137 (91%)	118 (94%)	7 (6%)	0	100	100
73	r	85/142 (60%)	82 (96%)	3 (4%)	0	100	100
74	s	135/143 (94%)	125 (93%)	10 (7%)	0	100	100
75	t	119/136 (88%)	111 (93%)	8 (7%)	0	100	100
76	u	143/146 (98%)	132 (92%)	11 (8%)	0	100	100
77	v	141/144 (98%)	137 (97%)	4 (3%)	0	100	100
78	w	98/121 (81%)	98 (100%)	0	0	100	100
79	x	85/87 (98%)	78 (92%)	7 (8%)	0	100	100
80	y	127/130 (98%)	125 (98%)	2 (2%)	0	100	100
81	z	142/145 (98%)	129 (91%)	13 (9%)	0	100	100
All	All	10926/12368 (88%)	10539 (96%)	385 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
42	OO	63	VAL
37	M	78	LEU

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	112/113 (99%)	110 (98%)	2 (2%)	51	68
2	1	61/89 (68%)	58 (95%)	3 (5%)	22	31
3	2	83/101 (82%)	80 (96%)	3 (4%)	31	44
4	3	70/71 (99%)	67 (96%)	3 (4%)	26	36
5	4	56/60 (93%)	51 (91%)	5 (9%)	9	10
6	5	43/49 (88%)	42 (98%)	1 (2%)	44	60
7	6	46/54 (85%)	45 (98%)	1 (2%)	45	62
8	7	259/262 (99%)	250 (96%)	9 (4%)	32	45
9	8	30/135 (22%)	30 (100%)	0	100	100
10	A	160/162 (99%)	157 (98%)	3 (2%)	50	66
12	B	125/271 (46%)	122 (98%)	3 (2%)	43	59
15	C	150/151 (99%)	147 (98%)	3 (2%)	48	65
17	D	143/154 (93%)	139 (97%)	4 (3%)	38	53
18	DD	167/254 (66%)	162 (97%)	5 (3%)	36	51
20	E	156/156 (100%)	154 (99%)	2 (1%)	61	76
21	EE	193/196 (98%)	190 (98%)	3 (2%)	55	71
22	Ee	129/136 (95%)	122 (95%)	7 (5%)	20	27
23	F	136/137 (99%)	135 (99%)	1 (1%)	76	86
24	FF	320/323 (99%)	316 (99%)	4 (1%)	61	76
25	G	84/107 (78%)	83 (99%)	1 (1%)	63	77
26	GG	288/289 (100%)	283 (98%)	5 (2%)	53	70

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	H	101/105 (96%)	101 (100%)	0	100	100
28	HH	244/245 (100%)	239 (98%)	5 (2%)	48	65
29	I	55/129 (43%)	55 (100%)	0	100	100
30	II	133/153 (87%)	127 (96%)	6 (4%)	24	35
31	J	104/118 (88%)	102 (98%)	2 (2%)	50	66
32	JJ	186/205 (91%)	184 (99%)	2 (1%)	65	79
33	K	109/110 (99%)	107 (98%)	2 (2%)	51	68
34	KK	187/208 (90%)	183 (98%)	4 (2%)	47	63
35	L	115/116 (99%)	113 (98%)	2 (2%)	53	70
36	LL	171/171 (100%)	164 (96%)	7 (4%)	27	38
37	M	118/119 (99%)	115 (98%)	3 (2%)	42	58
38	MM	184/187 (98%)	178 (97%)	6 (3%)	33	47
39	N	46/47 (98%)	46 (100%)	0	100	100
40	NN	147/150 (98%)	140 (95%)	7 (5%)	23	32
41	O	81/88 (92%)	76 (94%)	5 (6%)	16	21
42	OO	154/159 (97%)	149 (97%)	5 (3%)	34	49
43	P	94/97 (97%)	94 (100%)	0	100	100
44	PP	107/109 (98%)	106 (99%)	1 (1%)	70	82
45	Q	109/111 (98%)	107 (98%)	2 (2%)	51	68
46	QQ	175/176 (99%)	174 (99%)	1 (1%)	78	87
47	R	90/91 (99%)	90 (100%)	0	100	100
48	S	94/103 (91%)	91 (97%)	3 (3%)	34	49
49	T	104/105 (99%)	102 (98%)	2 (2%)	50	66
50	U	81/82 (99%)	78 (96%)	3 (4%)	30	43
51	V	69/71 (97%)	68 (99%)	1 (1%)	59	74
52	W	68/69 (99%)	65 (96%)	3 (4%)	25	35
53	X	45/46 (98%)	44 (98%)	1 (2%)	45	62
54	Y	47/116 (40%)	47 (100%)	0	100	100
55	Z	23/23 (100%)	22 (96%)	1 (4%)	26	36
56	a	87/91 (96%)	87 (100%)	0	100	100
57	b	71/72 (99%)	68 (96%)	3 (4%)	26	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
59	d	165/210 (79%)	165 (100%)	0	100	100
60	e	189/224 (84%)	184 (97%)	5 (3%)	40	56
61	f	176/205 (86%)	170 (97%)	6 (3%)	32	46
62	g	166/195 (85%)	154 (93%)	12 (7%)	13	16
63	h	220/222 (99%)	216 (98%)	4 (2%)	51	68
64	i	172/191 (90%)	164 (95%)	8 (5%)	23	33
65	j	191/201 (95%)	186 (97%)	5 (3%)	40	56
66	k	165/170 (97%)	161 (98%)	4 (2%)	43	59
67	l	146/161 (91%)	144 (99%)	2 (1%)	59	74
68	m	158/166 (95%)	156 (99%)	2 (1%)	61	76
69	n	60/98 (61%)	58 (97%)	2 (3%)	33	47
70	o	127/137 (93%)	124 (98%)	3 (2%)	43	59
71	p	127/128 (99%)	123 (97%)	4 (3%)	35	50
72	q	81/105 (77%)	80 (99%)	1 (1%)	63	77
73	r	77/118 (65%)	75 (97%)	2 (3%)	40	56
74	s	114/119 (96%)	109 (96%)	5 (4%)	25	35
75	t	105/124 (85%)	101 (96%)	4 (4%)	29	42
76	u	128/129 (99%)	121 (94%)	7 (6%)	19	26
77	v	115/116 (99%)	114 (99%)	1 (1%)	70	82
78	w	94/114 (82%)	90 (96%)	4 (4%)	26	36
79	x	74/74 (100%)	72 (97%)	2 (3%)	39	55
80	y	110/111 (99%)	107 (97%)	3 (3%)	39	55
81	z	119/120 (99%)	115 (97%)	4 (3%)	32	46
All	All	9289/10380 (90%)	9054 (98%)	235 (2%)	42	58

All (235) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	70	VAL
1	0	111	LYS
2	1	50	ILE
2	1	69	LEU
2	1	71	ILE
3	2	45	VAL

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Mol	Chain	Res	Type
3	2	64	LEU
3	2	84	VAL
4	3	2	VAL
4	3	33	LEU
4	3	44	THR
5	4	8	THR
5	4	12	VAL
5	4	30	VAL
5	4	56	LEU
5	4	59	SER
6	5	10	HIS
7	6	50	VAL
8	7	41	THR
8	7	45	TRP
8	7	56	VAL
8	7	60	SER
8	7	64	HIS
8	7	109	ASP
8	7	175	ASP
8	7	211	ILE
8	7	278	PHE
10	A	14	HIS
10	A	16	VAL
10	A	118	VAL
12	B	54	HIS
12	B	118	GLN
12	B	149	VAL
15	C	31	LYS
15	C	100	THR
15	C	116	LYS
17	D	6	THR
17	D	69	SER
17	D	152	GLU
17	D	155	LEU
18	DD	24	SER
18	DD	93	LEU
18	DD	124	VAL
18	DD	155	ASP
18	DD	200	SER
20	E	45	LEU
20	E	74	ASN
21	EE	168	VAL

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Mol	Chain	Res	Type
21	EE	202	VAL
21	EE	249	SER
22	Ee	11	LYS
22	Ee	12	TYR
22	Ee	18	VAL
22	Ee	74	VAL
22	Ee	91	ASP
22	Ee	107	ASP
22	Ee	125	LEU
23	F	138	SER
24	FF	38	SER
24	FF	55	THR
24	FF	206	ASP
24	FF	335	ILE
25	G	47	VAL
26	GG	6	VAL
26	GG	37	THR
26	GG	145	ILE
26	GG	181	VAL
26	GG	275	THR
28	HH	69	ILE
28	HH	80	SER
28	HH	118	THR
28	HH	125	VAL
28	HH	274	GLN
30	II	13	GLU
30	II	29	LYS
30	II	91	VAL
30	II	129	GLU
30	II	150	LYS
30	II	162	SER
31	J	24	LEU
31	J	101	GLU
32	JJ	92	ILE
32	JJ	190	THR
33	K	39	LEU
33	K	94	SER
34	KK	40	VAL
34	KK	51	LYS
34	KK	197	VAL
34	KK	203	VAL
35	L	95	VAL

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Mol	Chain	Res	Type
35	L	120	GLU
36	LL	17	THR
36	LL	50	ASN
36	LL	73	SER
36	LL	107	ASP
36	LL	110	LYS
36	LL	143	GLU
36	LL	157	ASN
37	M	8	THR
37	M	15	VAL
37	M	85	ASP
38	MM	104	SER
38	MM	111	LEU
38	MM	112	GLN
38	MM	138	VAL
38	MM	200	LEU
38	MM	215	GLU
40	NN	23	VAL
40	NN	26	SER
40	NN	36	VAL
40	NN	67	VAL
40	NN	107	ASP
40	NN	122	ILE
40	NN	138	VAL
41	O	17	VAL
41	O	24	THR
41	O	38	LYS
41	O	74	ASN
41	O	102	THR
42	OO	4	SER
42	OO	69	VAL
42	OO	138	VAL
42	OO	152	THR
42	OO	189	GLU
44	PP	3	THR
45	Q	31	ASN
45	Q	55	ILE
46	QQ	155	VAL
48	S	35	VAL
48	S	64	THR
48	S	65	VAL
49	T	37	SER

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Mol	Chain	Res	Type
49	T	44	ILE
50	U	3	VAL
50	U	17	VAL
50	U	56	ARG
51	V	71	SER
52	W	24	THR
52	W	49	SER
52	W	78	LEU
53	X	34	THR
55	Z	24	SER
57	b	26	VAL
57	b	63	THR
57	b	70	THR
60	e	20	VAL
60	e	43	VAL
60	e	45	LYS
60	e	51	SER
60	e	158	SER
61	f	52	THR
61	f	63	VAL
61	f	90	THR
61	f	158	THR
61	f	194	GLU
61	f	218	ILE
62	g	37	VAL
62	g	44	THR
62	g	48	VAL
62	g	93	ASP
62	g	105	MET
62	g	122	VAL
62	g	129	SER
62	g	146	ARG
62	g	168	ILE
62	g	176	LEU
62	g	177	MET
62	g	189	MET
63	h	65	LEU
63	h	91	THR
63	h	105	VAL
63	h	182	TYR
64	i	23	VAL
64	i	24	VAL

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Mol	Chain	Res	Type
64	i	37	GLN
64	i	70	VAL
64	i	73	THR
64	i	188	LYS
64	i	208	SER
64	i	220	VAL
65	j	36	VAL
65	j	78	THR
65	j	124	LEU
65	j	170	THR
65	j	212	LEU
66	k	34	LEU
66	k	134	GLU
66	k	160	GLN
66	k	181	ILE
67	l	4	SER
67	l	97	THR
68	m	50	SER
68	m	152	SER
69	n	21	VAL
69	n	69	THR
70	o	7	VAL
70	o	31	THR
70	o	98	ASN
71	p	16	ILE
71	p	60	VAL
71	p	65	VAL
71	p	67	THR
72	q	38	THR
73	r	86	VAL
73	r	89	MET
74	s	28	LEU
74	s	29	ILE
74	s	48	VAL
74	s	62	ASN
74	s	81	ILE
75	t	74	GLN
75	t	81	LYS
75	t	85	VAL
75	t	92	ASP
76	u	14	ILE
76	u	25	ASN

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Mol	Chain	Res	Type
76	u	63	GLN
76	u	90	ASN
76	u	105	VAL
76	u	107	SER
76	u	111	ASP
77	v	133	ASP
78	w	51	VAL
78	w	65	ILE
78	w	103	ILE
78	w	116	VAL
79	x	65	SER
79	x	84	SER
80	y	27	ILE
80	y	30	SER
80	y	87	GLU
81	z	41	SER
81	z	107	PHE
81	z	127	VAL
81	z	131	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (87) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	95	HIS
4	3	42	ASN
4	3	51	GLN
5	4	43	ASN
6	5	53	ASN
8	7	182	ASN
8	7	185	GLN
8	7	299	GLN
8	7	314	GLN
10	A	122	GLN
18	DD	174	ASN
20	E	49	HIS
22	Ee	156	ASN
24	FF	182	GLN
24	FF	224	HIS
26	GG	18	ASN
26	GG	260	GLN
28	HH	90	HIS
28	HH	151	GLN

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Mol	Chain	Res	Type
29	I	58	HIS
30	II	57	HIS
30	II	157	GLN
31	J	65	GLN
33	K	81	GLN
33	K	98	ASN
34	KK	77	GLN
34	KK	221	ASN
36	LL	58	HIS
37	M	62	HIS
39	N	6	ASN
43	P	21	HIS
44	PP	119	GLN
45	Q	26	HIS
45	Q	49	ASN
45	Q	78	ASN
46	QQ	15	GLN
46	QQ	23	GLN
46	QQ	95	GLN
48	S	33	GLN
49	T	62	GLN
49	T	68	GLN
50	U	92	ASN
51	V	48	ASN
52	W	28	ASN
52	W	40	GLN
53	X	33	ASN
57	b	25	GLN
59	d	28	ASN
59	d	33	GLN
59	d	49	ASN
59	d	109	ASN
59	d	131	GLN
60	e	49	ASN
60	e	92	GLN
60	e	220	GLN
61	f	59	HIS
61	f	82	ASN
63	h	96	ASN
63	h	258	GLN
64	i	79	ASN
64	i	128	ASN

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Mol	Chain	Res	Type
64	i	158	GLN
64	i	170	GLN
64	i	186	ASN
65	j	189	HIS
66	k	19	GLN
66	k	180	GLN
67	l	9	HIS
67	l	175	GLN
69	n	28	ASN
70	o	14	GLN
70	o	92	HIS
71	p	69	ASN
72	q	80	HIS
73	r	103	ASN
73	r	114	HIS
74	s	103	ASN
75	t	29	GLN
75	t	31	ASN
76	u	12	GLN
76	u	75	ASN
78	w	44	ASN
78	w	47	GLN
78	w	48	HIS
80	y	42	GLN
81	z	18	HIS
81	z	28	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
11	AA	3193/3396 (94%)	478 (14%)	16 (0%)
13	BB	120/121 (99%)	8 (6%)	1 (0%)
14	Bb	76/77 (98%)	21 (27%)	0
14	Cc	76/77 (98%)	34 (44%)	0
16	CC	157/158 (99%)	22 (14%)	1 (0%)
19	Dd	5/39 (12%)	1 (20%)	0
58	c	1614/1800 (89%)	287 (17%)	0
All	All	5241/5668 (92%)	851 (16%)	18 (0%)

All (851) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
11	AA	4	U
11	AA	6	A
11	AA	14	U
11	AA	26	A
11	AA	40	A
11	AA	43	A
11	AA	49	A
11	AA	60	A
11	AA	65	A
11	AA	66	A
11	AA	72	C
11	AA	92	G
11	AA	99	A
11	AA	110	G
11	AA	111	C
11	AA	122	A
11	AA	135	C
11	AA	136	G
11	AA	142	C
11	AA	147	U
11	AA	155	G
11	AA	156	G
11	AA	157	A
11	AA	165	A
11	AA	190	U
11	AA	191	U
11	AA	200	C
11	AA	206	G
11	AA	219	A
11	AA	241	G
11	AA	243	G
11	AA	247	C
11	AA	248	U
11	AA	249	U
11	AA	252	U
11	AA	253	A
11	AA	269	G
11	AA	286	U
11	AA	295	A
11	AA	305	U
11	AA	329	U
11	AA	337	G
11	AA	376	G

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Mol	Chain	Res	Type
11	AA	399	A
11	AA	401	U
11	AA	402	A
11	AA	403	C
11	AA	420	G
11	AA	421	G
11	AA	422	A
11	AA	520	U
11	AA	521	A
11	AA	533	A
11	AA	534	U
11	AA	543	C
11	AA	545	U
11	AA	548	G
11	AA	555	U
11	AA	557	A
11	AA	559	A
11	AA	560	G
11	AA	589	A
11	AA	592	A
11	AA	602	A
11	AA	603	A
11	AA	604	G
11	AA	607	A
11	AA	611	A
11	AA	612	U
11	AA	620	U
11	AA	621	A
11	AA	636	C
11	AA	649	A2M
11	AA	660	A
11	AA	677	A
11	AA	678	G
11	AA	681	U
11	AA	691	A
11	AA	705	A
11	AA	712	G
11	AA	715	A
11	AA	719	U
11	AA	758	C
11	AA	767	U
11	AA	780	A

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Mol	Chain	Res	Type
11	AA	781	G
11	AA	785	G
11	AA	786	A
11	AA	817	A2M
11	AA	830	A
11	AA	849	C
11	AA	861	C
11	AA	867	OMG
11	AA	874	U
11	AA	879	U
11	AA	880	G
11	AA	890	C
11	AA	896	A
11	AA	907	G
11	AA	908	OMG
11	AA	914	A
11	AA	916	G
11	AA	917	A
11	AA	921	A
11	AA	923	C
11	AA	924	G
11	AA	925	A
11	AA	937	G
11	AA	944	C
11	AA	953	G
11	AA	959	C
11	AA	960	U
11	AA	961	C
11	AA	964	G
11	AA	974	G
11	AA	979	U
11	AA	980	A
11	AA	992	A
11	AA	994	G
11	AA	1006	A
11	AA	1015	U
11	AA	1016	C
11	AA	1017	C
11	AA	1018	G
11	AA	1019	G
11	AA	1020	G
11	AA	1025	A

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Mol	Chain	Res	Type
11	AA	1026	A
11	AA	1028	U
11	AA	1029	G
11	AA	1032	C
11	AA	1034	U
11	AA	1036	A
11	AA	1037	C
11	AA	1047	A
11	AA	1064	A
11	AA	1065	A
11	AA	1072	G
11	AA	1081	U
11	AA	1083	G
11	AA	1096	U
11	AA	1097	G
11	AA	1098	A
11	AA	1103	A
11	AA	1117	G
11	AA	1131	G
11	AA	1144	U
11	AA	1153	A
11	AA	1159	A
11	AA	1160	C
11	AA	1179	A
11	AA	1180	A
11	AA	1181	U
11	AA	1182	A
11	AA	1191	U
11	AA	1193	A
11	AA	1196	C
11	AA	1201	C
11	AA	1208	U
11	AA	1209	G
11	AA	1222	G
11	AA	1235	U
11	AA	1236	G
11	AA	1240	A
11	AA	1241	U
11	AA	1245	A
11	AA	1255	C
11	AA	1256	G
11	AA	1258	U

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Mol	Chain	Res	Type
11	AA	1262	G
11	AA	1263	A
11	AA	1265	U
11	AA	1272	C
11	AA	1286	A
11	AA	1287	A
11	AA	1302	A
11	AA	1307	G
11	AA	1308	A
11	AA	1309	U
11	AA	1330	A
11	AA	1331	U
11	AA	1345	G
11	AA	1348	U
11	AA	1349	G
11	AA	1352	A
11	AA	1355	A
11	AA	1356	U
11	AA	1357	G
11	AA	1386	A
11	AA	1392	G
11	AA	1399	A
11	AA	1400	G
11	AA	1425	U
11	AA	1434	G
11	AA	1437	OMC
11	AA	1443	G
11	AA	1446	A
11	AA	1450	OMG
11	AA	1481	A
11	AA	1483	G
11	AA	1508	C
11	AA	1528	G
11	AA	1536	G
11	AA	1555	U
11	AA	1556	C
11	AA	1560	G
11	AA	1561	G
11	AA	1562	C
11	AA	1563	C
11	AA	1566	A
11	AA	1568	U

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Mol	Chain	Res	Type
11	AA	1569	U
11	AA	1570	U
11	AA	1571	A
11	AA	1572	U
11	AA	1573	G
11	AA	1579	C
11	AA	1580	A
11	AA	1581	C
11	AA	1582	C
11	AA	1583	A
11	AA	1589	A
11	AA	1593	A
11	AA	1605	A
11	AA	1621	A
11	AA	1629	U
11	AA	1630	U
11	AA	1642	A
11	AA	1643	A
11	AA	1657	C
11	AA	1724	U
11	AA	1741	A
11	AA	1750	A
11	AA	1751	G
11	AA	1756	C
11	AA	1759	C
11	AA	1762	C
11	AA	1763	U
11	AA	1765	U
11	AA	1769	G
11	AA	1775	G
11	AA	1796	G
11	AA	1797	A
11	AA	1815	U
11	AA	1816	A
11	AA	1817	G
11	AA	1821	U
11	AA	1842	A
11	AA	1858	A
11	AA	1878	G
11	AA	1879	A
11	AA	1880	U
11	AA	1893	A

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Mol	Chain	Res	Type
11	AA	1906	G
11	AA	2102	U
11	AA	2111	G
11	AA	2112	U
11	AA	2113	A
11	AA	2114	C
11	AA	2122	G
11	AA	2131	A
11	AA	2140	U
11	AA	2144	A
11	AA	2158	A
11	AA	2168	A
11	AA	2169	G
11	AA	2170	U
11	AA	2188	A
11	AA	2205	U
11	AA	2206	G
11	AA	2208	A
11	AA	2223	A
11	AA	2249	G
11	AA	2252	A
11	AA	2253	G
11	AA	2256	A2M
11	AA	2257	C
11	AA	2265	C
11	AA	2272	G
11	AA	2273	G
11	AA	2280	A2M
11	AA	2281	A2M
11	AA	2282	U
11	AA	2307	G
11	AA	2308	C
11	AA	2310	U
11	AA	2313	A
11	AA	2315	G
11	AA	2334	U
11	AA	2335	G
11	AA	2336	U
11	AA	2363	A
11	AA	2373	A
11	AA	2374	C
11	AA	2375	G

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Mol	Chain	Res	Type
11	AA	2388	U
11	AA	2393	G
11	AA	2397	A
11	AA	2402	A
11	AA	2403	G
11	AA	2404	A
11	AA	2405	C
11	AA	2411	U
11	AA	2418	G
11	AA	2435	G
11	AA	2437	G
11	AA	2438	A
11	AA	2444	C
11	AA	2445	A
11	AA	2447	A
11	AA	2450	G
11	AA	2453	U
11	AA	2454	G
11	AA	2459	A
11	AA	2460	U
11	AA	2461	A
11	AA	2462	A
11	AA	2463	G
11	AA	2464	U
11	AA	2465	G
11	AA	2466	G
11	AA	2470	C
11	AA	2471	U
11	AA	2472	U
11	AA	2473	C
11	AA	2474	G
11	AA	2475	G
11	AA	2477	G
11	AA	2478	C
11	AA	2479	C
11	AA	2480	A
11	AA	2481	G
11	AA	2482	U
11	AA	2484	A
11	AA	2485	A
11	AA	2487	U
11	AA	2488	A

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Mol	Chain	Res	Type
11	AA	2489	C
11	AA	2490	C
11	AA	2492	C
11	AA	2493	U
11	AA	2494	A
11	AA	2495	C
11	AA	2496	C
11	AA	2497	U
11	AA	2499	U
11	AA	2500	A
11	AA	2501	U
11	AA	2503	G
11	AA	2505	U
11	AA	2506	U
11	AA	2511	A
11	AA	2514	U
11	AA	2515	A
11	AA	2534	G
11	AA	2539	C
11	AA	2541	U
11	AA	2542	U
11	AA	2549	G
11	AA	2552	C
11	AA	2555	G
11	AA	2561	A
11	AA	2569	A
11	AA	2570	U
11	AA	2571	U
11	AA	2572	C
11	AA	2573	G
11	AA	2585	G
11	AA	2593	A
11	AA	2606	G
11	AA	2607	G
11	AA	2614	G
11	AA	2652	U
11	AA	2656	A
11	AA	2672	G
11	AA	2674	A
11	AA	2677	G
11	AA	2681	U
11	AA	2689	A

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Mol	Chain	Res	Type
11	AA	2691	A
11	AA	2696	A
11	AA	2704	A
11	AA	2705	A
11	AA	2714	G
11	AA	2728	G
11	AA	2729	OMU
11	AA	2753	G
11	AA	2762	A
11	AA	2772	C
11	AA	2777	G
11	AA	2778	G
11	AA	2795	U
11	AA	2796	G
11	AA	2799	A
11	AA	2800	G
11	AA	2801	A
11	AA	2802	A
11	AA	2808	A
11	AA	2810	C
11	AA	2814	G
11	AA	2816	G
11	AA	2817	A
11	AA	2844	C
11	AA	2845	A
11	AA	2849	C
11	AA	2856	G
11	AA	2867	C
11	AA	2871	G
11	AA	2872	A
11	AA	2887	A
11	AA	2898	G
11	AA	2899	C
11	AA	2914	G
11	AA	2922	OMG
11	AA	2923	U
11	AA	2935	U
11	AA	2936	A
11	AA	2942	C
11	AA	2947	G
11	AA	2951	G
11	AA	2971	A

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Mol	Chain	Res	Type
11	AA	2972	G
11	AA	2983	C
11	AA	2990	G
11	AA	2997	G
11	AA	3012	A
11	AA	3059	G
11	AA	3078	U
11	AA	3092	C
11	AA	3101	G
11	AA	3113	A
11	AA	3117	C
11	AA	3122	A
11	AA	3130	A
11	AA	3131	U
11	AA	3142	A
11	AA	3143	C
11	AA	3153	U
11	AA	3154	C
11	AA	3155	U
11	AA	3156	U
11	AA	3157	U
11	AA	3168	A
11	AA	3170	A
11	AA	3172	A
11	AA	3173	G
11	AA	3176	G
11	AA	3179	U
11	AA	3181	C
11	AA	3187	A
11	AA	3207	U
11	AA	3209	A
11	AA	3217	C
11	AA	3218	A
11	AA	3219	G
11	AA	3224	G
11	AA	3235	C
11	AA	3243	A
11	AA	3247	G
11	AA	3270	U
11	AA	3276	G
11	AA	3277	U
11	AA	3281	U

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Mol	Chain	Res	Type
11	AA	3294	A
11	AA	3295	A
11	AA	3304	U
11	AA	3316	A
11	AA	3335	A
11	AA	3341	U
11	AA	3345	G
11	AA	3351	U
11	AA	3352	U
11	AA	3353	G
11	AA	3369	G
11	AA	3378	C
11	AA	3382	U
11	AA	3389	U
11	AA	3390	G
13	BB	7	G
13	BB	33	U
13	BB	54	U
13	BB	55	A
13	BB	65	G
13	BB	73	C
13	BB	99	G
13	BB	112	G
14	Bb	2	G
14	Bb	10	G
14	Bb	16	C
14	Bb	17	C
14	Bb	18	C
14	Bb	19	G
14	Bb	20	G
14	Bb	22	A
14	Bb	43	G
14	Bb	48	U
14	Bb	49	C
14	Bb	52	C
14	Bb	54	G
14	Bb	55	U
14	Bb	56	U
14	Bb	57	C
14	Bb	60	A
14	Bb	62	C
14	Bb	63	C

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Mol	Chain	Res	Type
14	Bb	66	C
14	Bb	77	A
16	CC	23	U
16	CC	34	U
16	CC	35	C
16	CC	51	G
16	CC	52	A
16	CC	59	A
16	CC	62	C
16	CC	63	G
16	CC	82	U
16	CC	83	C
16	CC	84	C
16	CC	85	G
16	CC	86	U
16	CC	87	G
16	CC	91	C
16	CC	95	G
16	CC	104	A
16	CC	106	C
16	CC	113	U
16	CC	125	U
16	CC	126	A
16	CC	152	G
14	Cc	4	G
14	Cc	5	G
14	Cc	6	G
14	Cc	7	G
14	Cc	9	G
14	Cc	10	G
14	Cc	11	A
14	Cc	12	G
14	Cc	13	C
14	Cc	14	A
14	Cc	15	G
14	Cc	17	C
14	Cc	18	C
14	Cc	20	G
14	Cc	21	U
14	Cc	22	A
14	Cc	23	G
14	Cc	25	U

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Mol	Chain	Res	Type
14	Cc	28	U
14	Cc	32	G
14	Cc	35	C
14	Cc	36	A
14	Cc	37	U
14	Cc	40	C
14	Cc	42	C
14	Cc	47	G
14	Cc	48	U
14	Cc	49	C
14	Cc	50	G
14	Cc	57	C
14	Cc	58	A
14	Cc	62	C
14	Cc	63	C
14	Cc	77	A
19	Dd	20	U
58	c	2	A
58	c	4	C
58	c	26	A
58	c	28	A2M
58	c	34	G
58	c	45	U
58	c	47	A
58	c	61	A
58	c	68	A
58	c	71	A
58	c	72	A
58	c	78	A
58	c	100	A2M
58	c	111	U
58	c	114	C
58	c	127	G
58	c	131	C
58	c	140	A
58	c	145	A
58	c	146	U
58	c	153	G
58	c	161	U
58	c	168	A
58	c	217	A
58	c	218	A

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Mol	Chain	Res	Type
58	c	257	A
58	c	261	U
58	c	262	U
58	c	272	U
58	c	277	U
58	c	278	U
58	c	279	G
58	c	280	U
58	c	287	G
58	c	299	A
58	c	309	C
58	c	314	C
58	c	316	A
58	c	321	C
58	c	322	G
58	c	333	A
58	c	337	G
58	c	338	C
58	c	361	C
58	c	390	G
58	c	400	A
58	c	401	A
58	c	402	C
58	c	404	G
58	c	423	G
58	c	424	C
58	c	426	G
58	c	434	G
58	c	439	U
58	c	444	C
58	c	448	C
58	c	455	C
58	c	460	A
58	c	468	A
58	c	477	A
58	c	480	G
58	c	507	U
58	c	514	G
58	c	515	A
58	c	519	C
58	c	525	A
58	c	526	A

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Mol	Chain	Res	Type
58	c	527	A
58	c	537	G
58	c	538	A
58	c	541	A2M
58	c	542	A
58	c	555	A
58	c	557	G
58	c	559	C
58	c	565	C
58	c	568	G
58	c	577	G
58	c	578	OMU
58	c	580	A
58	c	582	U
58	c	594	A
58	c	606	A
58	c	611	U
58	c	619	A2M
58	c	620	A
58	c	623	A
58	c	624	G
58	c	639	U
58	c	643	G
58	c	644	C
58	c	645	C
58	c	648	G
58	c	651	G
58	c	691	C
58	c	692	C
58	c	695	U
58	c	696	C
58	c	743	U
58	c	745	U
58	c	760	A
58	c	765	G
58	c	766	U
58	c	775	G
58	c	779	U
58	c	780	A
58	c	781	U
58	c	782	U
58	c	783	G

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Mol	Chain	Res	Type
58	c	784	C
58	c	789	A
58	c	794	U
58	c	795	U
58	c	796	A2M
58	c	809	A
58	c	812	A
58	c	814	A
58	c	852	C
58	c	856	A
58	c	859	A
58	c	860	U
58	c	863	A
58	c	895	G
58	c	898	A
58	c	906	A
58	c	913	G
58	c	914	G
58	c	915	A
58	c	921	U
58	c	933	A
58	c	935	U
58	c	951	A
58	c	960	U
58	c	966	A
58	c	987	G
58	c	988	A
58	c	992	A
58	c	993	A
58	c	1002	G
58	c	1010	C
58	c	1020	A
58	c	1026	A
58	c	1027	A
58	c	1028	C
58	c	1031	U
58	c	1032	G
58	c	1053	G
58	c	1058	U
58	c	1059	U
58	c	1060	U
58	c	1061	A

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Mol	Chain	Res	Type
58	c	1063	U
58	c	1081	A
58	c	1092	A
58	c	1097	U
58	c	1100	G
58	c	1138	A
58	c	1150	G
58	c	1154	G
58	c	1155	G
58	c	1158	C
58	c	1162	C
58	c	1185	U
58	c	1192	C
58	c	1193	A
58	c	1194	A
58	c	1196	A
58	c	1199	G
58	c	1200	G
58	c	1202	A
58	c	1217	A
58	c	1218	G
58	c	1224	A
58	c	1225	U
58	c	1227	A
58	c	1228	G
58	c	1238	A
58	c	1241	G
58	c	1244	A
58	c	1245	G
58	c	1246	C
58	c	1251	U
58	c	1252	C
58	c	1256	A
58	c	1258	U
58	c	1259	U
58	c	1263	G
58	c	1271	OMG
58	c	1286	U
58	c	1291	G
58	c	1297	G
58	c	1300	A
58	c	1301	U

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Mol	Chain	Res	Type
58	c	1314	U
58	c	1315	U
58	c	1318	G
58	c	1321	A
58	c	1336	A
58	c	1338	C
58	c	1339	C
58	c	1340	U
58	c	1341	A
58	c	1346	A
58	c	1347	U
58	c	1352	G
58	c	1354	G
58	c	1361	U
58	c	1363	U
58	c	1368	G
58	c	1372	U
58	c	1373	C
58	c	1382	A
58	c	1388	A
58	c	1390	U
58	c	1398	U
58	c	1400	A
58	c	1411	A
58	c	1413	U
58	c	1414	U
58	c	1415	U
58	c	1425	A
58	c	1426	C
58	c	1427	A
58	c	1428	OMG
58	c	1431	C
58	c	1432	U
58	c	1433	G
58	c	1436	A
58	c	1445	G
58	c	1459	C
58	c	1460	A
58	c	1469	A
58	c	1471	A
58	c	1472	C
58	c	1477	G

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Mol	Chain	Res	Type
58	c	1478	G
58	c	1482	C
58	c	1490	C
58	c	1491	U
58	c	1492	A
58	c	1496	U
58	c	1506	G
58	c	1510	U
58	c	1516	A
58	c	1521	G
58	c	1523	G
58	c	1524	A
58	c	1535	U
58	c	1536	G
58	c	1537	C
58	c	1542	G
58	c	1557	U
58	c	1559	A
58	c	1572	OMG
58	c	1573	A
58	c	1574	G
58	c	1575	G7M
58	c	1590	G
58	c	1601	G
58	c	1616	G
58	c	1622	G
58	c	1631	A
58	c	1633	A
58	c	1634	C
58	c	1635	A
58	c	1657	U
58	c	1658	G
58	c	1678	A
58	c	1680	G
58	c	1681	A
58	c	1682	U
58	c	1683	C
58	c	1685	G
58	c	1716	C
58	c	1717	G
58	c	1756	A
58	c	1757	G

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Mol	Chain	Res	Type
58	c	1762	A
58	c	1769	U
58	c	1780	G
58	c	1782	MA6
58	c	1792	G
58	c	1793	G
58	c	1794	A
58	c	1795	U
58	c	1796	C
58	c	1799	U

All (18) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
11	AA	601	U
11	AA	619	A
11	AA	873	C
11	AA	916	G
11	AA	1028	U
11	AA	1033	U
11	AA	1562	C
11	AA	2101	C
11	AA	2458	A
11	AA	2464	U
11	AA	2477	G
11	AA	2487	U
11	AA	2500	A
11	AA	2971	A
11	AA	3121	U
11	AA	3206	C
13	BB	72	A
16	CC	57	C

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

66 non-standard protein/DNA/RNA residues are 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	$\# Z > 2$
11	A2M	AA	2640	11	22,25,26	3.20	9 (40%)	30,36,39	2.93	10 (33%)
58	A2M	c	100	58,83	22,25,26	3.20	9 (40%)	30,36,39	2.92	10 (33%)
11	OMU	AA	2421	11	19,22,23	3.12	8 (42%)	25,31,34	1.80	4 (16%)
58	A2M	c	541	58	22,25,26	3.20	9 (40%)	30,36,39	2.99	13 (43%)
58	MA6	c	1781	58	23,26,27	1.40	4 (17%)	33,38,41	3.19	12 (36%)
11	1MA	AA	2142	11,83	21,25,26	0.46	0	30,37,40	0.78	1 (3%)
11	1MA	AA	645	11,83	21,25,26	0.46	0	30,37,40	0.77	1 (3%)
58	A2M	c	796	58	22,25,26	3.22	9 (40%)	30,36,39	2.96	12 (40%)
11	OMC	AA	1437	11,83	19,22,23	0.51	0	25,31,34	0.81	1 (4%)
11	A2M	AA	876	11	22,25,26	3.20	9 (40%)	30,36,39	2.90	10 (33%)
11	A2M	AA	2280	11	22,25,26	3.20	9 (40%)	30,36,39	2.91	11 (36%)
58	G7M	c	1575	58,14	23,26,27	2.65	8 (34%)	34,39,42	2.40	10 (29%)
58	MA6	c	1782	58	23,26,27	1.38	4 (17%)	33,38,41	3.26	12 (36%)
11	OMC	AA	2197	84,11	19,22,23	0.50	0	25,31,34	0.60	0
11	OMG	AA	2288	11	23,26,27	0.45	0	32,38,41	0.49	0
11	OMU	AA	2347	11	19,22,23	3.13	8 (42%)	25,31,34	1.79	5 (20%)
11	OMG	AA	2815	11	23,26,27	0.45	0	32,38,41	0.48	0
58	OMU	c	1269	58	19,22,23	3.14	8 (42%)	25,31,34	1.83	5 (20%)
11	OMG	AA	2922	11	23,26,27	0.51	0	32,38,41	0.52	0
11	OMC	AA	2337	11	19,22,23	0.50	0	25,31,34	0.67	0
11	A2M	AA	2946	11,83	22,25,26	3.20	9 (40%)	30,36,39	2.95	11 (36%)
11	OMU	AA	2724	11	19,22,23	3.12	8 (42%)	25,31,34	1.79	5 (20%)
11	5MC	AA	2278	11,83	19,22,23	0.51	0	26,32,35	0.63	0
58	A2M	c	619	58,83	22,25,26	3.20	10 (45%)	30,36,39	2.91	10 (33%)
11	UR3	AA	2634	11	19,22,23	2.95	6 (31%)	26,32,35	1.63	3 (11%)
58	OMG	c	1126	58	23,26,27	0.47	0	32,38,41	0.53	0
58	OMU	c	578	58	19,22,23	3.13	8 (42%)	25,31,34	1.77	5 (20%)
11	OMU	AA	2417	11	19,22,23	3.10	8 (42%)	25,31,34	1.79	5 (20%)
11	OMU	AA	2729	11	19,22,23	3.10	8 (42%)	25,31,34	1.78	5 (20%)
11	OMG	AA	2793	11	23,26,27	0.46	0	32,38,41	0.51	0
11	A2M	AA	649	11	22,25,26	3.18	10 (45%)	30,36,39	2.90	10 (33%)
11	OMG	AA	805	11	23,26,27	0.45	0	32,38,41	0.56	0
58	4AC	c	1280	58	21,24,25	3.51	10 (47%)	28,34,37	1.70	5 (17%)
58	A2M	c	420	58	22,25,26	3.20	10 (45%)	30,36,39	2.91	11 (36%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
11	A2M	AA	807	11	22,25,26	3.22	10 (45%)	30,36,39	2.95	13 (43%)
11	A2M	AA	2256	58,11	22,25,26	3.18	9 (40%)	30,36,39	2.99	13 (43%)
58	OMG	c	1572	58	23,26,27	0.49	0	32,38,41	0.54	0
58	OMC	c	1007	58	19,22,23	0.50	0	25,31,34	0.67	0
11	OMG	AA	2791	11	23,26,27	0.46	0	32,38,41	0.48	0
11	OMG	AA	908	11	23,26,27	0.45	0	32,38,41	0.48	0
58	A2M	c	28	58	22,25,26	3.23	9 (40%)	30,36,39	2.93	11 (36%)
58	OMC	c	1639	58,83	19,22,23	0.51	0	25,31,34	0.63	0
58	OMG	c	1428	58	23,26,27	0.49	0	32,38,41	0.48	0
11	OMG	AA	1450	11	23,26,27	0.45	0	32,38,41	0.42	0
58	A2M	c	436	58	22,25,26	3.22	9 (40%)	30,36,39	2.91	11 (36%)
11	A2M	AA	1133	11,83	22,25,26	3.21	10 (45%)	30,36,39	2.99	11 (36%)
58	OMC	c	414	58	19,22,23	0.49	0	25,31,34	0.69	0
58	A2M	c	974	58	22,25,26	3.20	9 (40%)	30,36,39	2.93	11 (36%)
11	A2M	AA	2281	11	22,25,26	3.20	10 (45%)	30,36,39	3.11	14 (46%)
11	OMG	AA	867	84,11	23,26,27	0.49	0	32,38,41	0.50	0
11	A2M	AA	2220	11	22,25,26	3.20	9 (40%)	30,36,39	2.89	10 (33%)
11	OMC	AA	663	11	19,22,23	0.51	0	25,31,34	0.78	0
11	OMG	AA	2619	11,14	23,26,27	0.46	0	32,38,41	0.44	0
11	OMC	AA	650	11	19,22,23	0.50	0	25,31,34	0.70	0
11	A2M	AA	1449	11,83	22,25,26	3.20	9 (40%)	30,36,39	2.91	10 (33%)
58	OMG	c	562	58	23,26,27	0.44	0	32,38,41	0.47	0
11	OMU	AA	1888	11	19,22,23	3.12	8 (42%)	25,31,34	1.86	5 (20%)
58	OMG	c	1271	58	23,26,27	0.45	0	32,38,41	0.48	0
11	OMC	AA	2959	11,83	19,22,23	0.51	0	25,31,34	0.68	0
11	OMU	AA	2921	11,83	19,22,23	3.12	8 (42%)	25,31,34	1.80	5 (20%)
58	4AC	c	1773	58	21,24,25	3.51	10 (47%)	28,34,37	1.69	5 (17%)
11	5MC	AA	2870	84,11	19,22,23	0.64	0	26,32,35	0.59	0
11	OMC	AA	2948	11	19,22,23	0.51	0	25,31,34	0.87	1 (4%)
11	OMU	AA	898	11	19,22,23	3.12	8 (42%)	25,31,34	1.79	5 (20%)
58	B8N	c	1191	58	25,29,30	3.40	7 (28%)	28,42,45	1.98	6 (21%)
11	A2M	AA	817	11,83	22,25,26	3.18	9 (40%)	30,36,39	2.92	11 (36%)

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
11	A2M	AA	2640	11	-	1/9/27/28	0/3/3/3
58	A2M	c	100	58,83	-	1/9/27/28	0/3/3/3
11	OMU	AA	2421	11	-	1/9/27/28	0/2/2/2
58	A2M	c	541	58	-	2/9/27/28	0/3/3/3
58	MA6	c	1781	58	-	0/11/29/30	0/3/3/3
11	1MA	AA	2142	11,83	-	0/7/25/26	0/3/3/3
11	1MA	AA	645	11,83	-	2/7/25/26	0/3/3/3
58	A2M	c	796	58	-	2/9/27/28	0/3/3/3
11	OMC	AA	1437	11,83	-	2/9/27/28	0/2/2/2
11	A2M	AA	876	11	-	0/9/27/28	0/3/3/3
11	A2M	AA	2280	11	-	2/9/27/28	0/3/3/3
58	G7M	c	1575	58,14	-	3/7/25/26	0/3/3/3
58	MA6	c	1782	58	-	1/11/29/30	0/3/3/3
11	OMC	AA	2197	84,11	-	4/9/27/28	0/2/2/2
11	OMG	AA	2288	11	-	0/9/27/28	0/3/3/3
11	OMU	AA	2347	11	-	0/9/27/28	0/2/2/2
11	OMG	AA	2815	11	-	0/9/27/28	0/3/3/3
58	OMU	c	1269	58	-	2/9/27/28	0/2/2/2
11	OMG	AA	2922	11	-	2/9/27/28	0/3/3/3
11	OMC	AA	2337	11	-	0/9/27/28	0/2/2/2
11	A2M	AA	2946	11,83	-	1/9/27/28	0/3/3/3
11	OMU	AA	2724	11	-	1/9/27/28	0/2/2/2
11	5MC	AA	2278	11,83	-	0/7/25/26	0/2/2/2
58	A2M	c	619	58,83	-	6/9/27/28	0/3/3/3
11	UR3	AA	2634	11	-	0/7/25/26	0/2/2/2
58	OMG	c	1126	58	-	0/9/27/28	0/3/3/3
58	OMU	c	578	58	-	1/9/27/28	0/2/2/2
11	OMU	AA	2417	11	-	1/9/27/28	0/2/2/2
11	OMU	AA	2729	11	-	0/9/27/28	0/2/2/2
11	OMG	AA	2793	11	-	0/9/27/28	0/3/3/3
11	A2M	AA	649	11	-	2/9/27/28	0/3/3/3
11	OMG	AA	805	11	-	0/9/27/28	0/3/3/3
58	4AC	c	1280	58	-	2/11/29/30	0/2/2/2
58	A2M	c	420	58	-	1/9/27/28	0/3/3/3
11	A2M	AA	807	11	-	3/9/27/28	0/3/3/3
11	A2M	AA	2256	58,11	-	4/9/27/28	0/3/3/3
58	OMG	c	1572	58	-	2/9/27/28	0/3/3/3
58	OMC	c	1007	58	-	0/9/27/28	0/2/2/2
11	OMG	AA	2791	11	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	OMG	AA	908	11	-	3/9/27/28	0/3/3/3
58	A2M	c	28	58	-	2/9/27/28	0/3/3/3
58	OMC	c	1639	58,83	-	0/9/27/28	0/2/2/2
58	OMG	c	1428	58	-	2/9/27/28	0/3/3/3
11	OMG	AA	1450	11	-	2/9/27/28	0/3/3/3
58	A2M	c	436	58	-	0/9/27/28	0/3/3/3
11	A2M	AA	1133	11,83	-	0/9/27/28	0/3/3/3
58	OMC	c	414	58	-	1/9/27/28	0/2/2/2
58	A2M	c	974	58	-	0/9/27/28	0/3/3/3
11	A2M	AA	2281	11	-	0/9/27/28	0/3/3/3
11	OMG	AA	867	84,11	-	2/9/27/28	0/3/3/3
11	A2M	AA	2220	11	-	1/9/27/28	0/3/3/3
11	OMC	AA	663	11	-	1/9/27/28	0/2/2/2
11	OMG	AA	2619	11,14	-	1/9/27/28	0/3/3/3
11	OMC	AA	650	11	-	0/9/27/28	0/2/2/2
11	A2M	AA	1449	11,83	-	0/9/27/28	0/3/3/3
58	OMG	c	562	58	-	0/9/27/28	0/3/3/3
11	OMU	AA	1888	11	-	0/9/27/28	0/2/2/2
58	OMG	c	1271	58	-	4/9/27/28	0/3/3/3
11	OMC	AA	2959	11,83	-	0/9/27/28	0/2/2/2
11	OMU	AA	2921	11,83	-	0/9/27/28	0/2/2/2
58	4AC	c	1773	58	-	2/11/29/30	0/2/2/2
11	5MC	AA	2870	84,11	-	4/7/25/26	0/2/2/2
11	OMC	AA	2948	11	-	0/9/27/28	0/2/2/2
11	OMU	AA	898	11	-	0/9/27/28	0/2/2/2
58	B8N	c	1191	58	-	4/16/34/35	0/2/2/2
11	A2M	AA	817	11,83	-	1/9/27/28	0/3/3/3

All (315) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	c	28	A2M	C3'-C4'	-9.03	1.30	1.53
11	AA	807	A2M	C3'-C4'	-8.97	1.30	1.53
58	c	541	A2M	C3'-C4'	-8.90	1.30	1.53
11	AA	2220	A2M	C3'-C4'	-8.87	1.30	1.53
11	AA	1133	A2M	C3'-C4'	-8.86	1.30	1.53
58	c	100	A2M	C3'-C4'	-8.82	1.30	1.53
58	c	619	A2M	C3'-C4'	-8.82	1.30	1.53
11	AA	817	A2M	C3'-C4'	-8.82	1.30	1.53
58	c	796	A2M	C3'-C4'	-8.81	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	c	974	A2M	C3'-C4'	-8.80	1.30	1.53
11	AA	2946	A2M	C3'-C4'	-8.79	1.30	1.53
58	c	420	A2M	C3'-C4'	-8.77	1.30	1.53
11	AA	1449	A2M	C3'-C4'	-8.77	1.30	1.53
58	c	436	A2M	C3'-C4'	-8.76	1.30	1.53
11	AA	2640	A2M	C3'-C4'	-8.75	1.30	1.53
11	AA	876	A2M	C3'-C4'	-8.73	1.30	1.53
11	AA	2280	A2M	C3'-C4'	-8.71	1.30	1.53
11	AA	649	A2M	C3'-C4'	-8.65	1.31	1.53
11	AA	2256	A2M	C3'-C4'	-8.55	1.31	1.53
11	AA	2281	A2M	C3'-C4'	-8.40	1.31	1.53
58	c	1191	B8N	C4-N3	-8.08	1.26	1.40
58	c	1191	B8N	C6-N1	8.06	1.56	1.36
11	AA	2946	A2M	O4'-C4'	7.83	1.62	1.45
11	AA	1133	A2M	O4'-C4'	7.82	1.62	1.45
58	c	796	A2M	O4'-C4'	7.81	1.62	1.45
58	c	100	A2M	O4'-C4'	7.81	1.62	1.45
58	c	436	A2M	O4'-C4'	7.80	1.62	1.45
58	c	420	A2M	O4'-C4'	7.78	1.62	1.45
11	AA	2640	A2M	O4'-C4'	7.76	1.62	1.45
58	c	974	A2M	O4'-C4'	7.76	1.62	1.45
11	AA	2281	A2M	O4'-C4'	7.75	1.62	1.45
11	AA	876	A2M	O4'-C4'	7.74	1.62	1.45
11	AA	1449	A2M	O4'-C4'	7.74	1.62	1.45
11	AA	649	A2M	O4'-C4'	7.72	1.62	1.45
11	AA	2220	A2M	O4'-C4'	7.71	1.62	1.45
11	AA	2256	A2M	O4'-C4'	7.70	1.62	1.45
58	c	28	A2M	O4'-C4'	7.69	1.62	1.45
11	AA	2280	A2M	O4'-C4'	7.69	1.62	1.45
58	c	541	A2M	O4'-C4'	7.65	1.62	1.45
58	c	1280	4AC	C4-N3	7.64	1.45	1.32
11	AA	817	A2M	O4'-C4'	7.57	1.61	1.45
11	AA	807	A2M	O4'-C4'	7.56	1.61	1.45
58	c	1773	4AC	C4-N3	7.56	1.45	1.32
58	c	1191	B8N	C4-C5	7.53	1.64	1.47
11	AA	2347	OMU	C2-N1	7.46	1.50	1.38
58	c	1269	OMU	C2-N1	7.46	1.50	1.38
58	c	619	A2M	O4'-C4'	7.40	1.61	1.45
11	AA	2421	OMU	C2-N1	7.40	1.50	1.38
11	AA	2724	OMU	C2-N1	7.40	1.50	1.38
58	c	578	OMU	C2-N1	7.37	1.50	1.38
11	AA	1888	OMU	C2-N1	7.35	1.50	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2921	OMU	C2-N1	7.32	1.49	1.38
11	AA	898	OMU	C2-N1	7.27	1.49	1.38
11	AA	2634	UR3	C2-N1	7.23	1.48	1.38
11	AA	2417	OMU	C2-N1	7.22	1.49	1.38
11	AA	2729	OMU	C2-N1	7.20	1.49	1.38
58	c	1773	4AC	C6-C5	7.04	1.51	1.35
58	c	578	OMU	C2-N3	7.03	1.50	1.38
11	AA	898	OMU	C2-N3	7.03	1.50	1.38
58	c	1269	OMU	C2-N3	7.02	1.50	1.38
11	AA	2724	OMU	C2-N3	7.02	1.50	1.38
11	AA	2421	OMU	C2-N3	6.98	1.50	1.38
11	AA	2417	OMU	C2-N3	6.97	1.50	1.38
11	AA	2921	OMU	C2-N3	6.96	1.50	1.38
11	AA	2347	OMU	C2-N3	6.95	1.50	1.38
11	AA	1888	OMU	C2-N3	6.94	1.50	1.38
11	AA	2729	OMU	C2-N3	6.92	1.50	1.38
58	c	1280	4AC	C6-C5	6.87	1.51	1.35
11	AA	2634	UR3	C6-C5	6.85	1.50	1.35
58	c	1575	G7M	C4-N3	6.60	1.49	1.34
58	c	1191	B8N	C2-N1	5.97	1.56	1.39
11	AA	2634	UR3	C2-N3	5.76	1.50	1.39
11	AA	1888	OMU	C6-C5	5.76	1.48	1.35
11	AA	2729	OMU	C6-C5	5.75	1.48	1.35
58	c	578	OMU	C6-C5	5.74	1.48	1.35
11	AA	2921	OMU	C6-C5	5.74	1.48	1.35
11	AA	898	OMU	C6-C5	5.73	1.48	1.35
58	c	1269	OMU	C6-C5	5.71	1.48	1.35
11	AA	2421	OMU	C6-C5	5.70	1.48	1.35
11	AA	2417	OMU	C6-C5	5.70	1.48	1.35
11	AA	2724	OMU	C6-C5	5.69	1.48	1.35
11	AA	2347	OMU	C6-C5	5.65	1.48	1.35
58	c	1575	G7M	C2-N3	5.38	1.46	1.33
58	c	1191	B8N	C6-C5	5.38	1.42	1.35
58	c	1280	4AC	C2-N3	5.21	1.46	1.36
58	c	1280	4AC	C7-N4	5.19	1.47	1.37
58	c	1280	4AC	C2-N1	5.16	1.50	1.40
58	c	1773	4AC	C7-N4	5.16	1.47	1.37
58	c	1773	4AC	C2-N1	5.15	1.50	1.40
58	c	1773	4AC	C4-N4	5.13	1.47	1.39
58	c	1773	4AC	C2-N3	5.11	1.46	1.36
11	AA	2281	A2M	O4'-C1'	-5.08	1.30	1.42
58	c	1280	4AC	C4-N4	5.04	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	c	1575	G7M	C5-N7	-4.92	1.33	1.39
58	c	619	A2M	O4'-C1'	-4.88	1.30	1.42
11	AA	2256	A2M	O4'-C1'	-4.86	1.30	1.42
58	c	1575	G7M	C2-N2	4.75	1.45	1.34
58	c	436	A2M	O4'-C1'	-4.75	1.31	1.42
11	AA	649	A2M	O4'-C1'	-4.75	1.31	1.42
11	AA	2280	A2M	O4'-C1'	-4.71	1.31	1.42
11	AA	876	A2M	O4'-C1'	-4.67	1.31	1.42
11	AA	1449	A2M	O4'-C1'	-4.65	1.31	1.42
11	AA	807	A2M	O4'-C1'	-4.64	1.31	1.42
11	AA	2640	A2M	O4'-C1'	-4.64	1.31	1.42
11	AA	817	A2M	O4'-C1'	-4.64	1.31	1.42
58	c	420	A2M	O4'-C1'	-4.63	1.31	1.42
58	c	796	A2M	O4'-C1'	-4.61	1.31	1.42
58	c	541	A2M	O4'-C1'	-4.57	1.31	1.42
58	c	28	A2M	O4'-C1'	-4.57	1.31	1.42
11	AA	2220	A2M	O4'-C1'	-4.56	1.31	1.42
58	c	974	A2M	O4'-C1'	-4.56	1.31	1.42
11	AA	1133	A2M	O4'-C1'	-4.56	1.31	1.42
11	AA	2946	A2M	O4'-C1'	-4.55	1.31	1.42
58	c	100	A2M	O4'-C1'	-4.54	1.31	1.42
58	c	578	OMU	C4-N3	4.50	1.46	1.38
11	AA	2256	A2M	C6-N6	4.47	1.45	1.34
58	c	28	A2M	C6-N6	4.46	1.45	1.34
11	AA	898	OMU	C4-N3	4.45	1.46	1.38
11	AA	2724	OMU	C4-N3	4.44	1.46	1.38
58	c	436	A2M	C6-N6	4.44	1.45	1.34
58	c	420	A2M	C6-N6	4.43	1.45	1.34
11	AA	2729	OMU	C4-N3	4.43	1.46	1.38
58	c	796	A2M	C6-N6	4.43	1.45	1.34
11	AA	1449	A2M	C6-N6	4.43	1.45	1.34
11	AA	2417	OMU	C4-N3	4.43	1.46	1.38
11	AA	2280	A2M	C6-N6	4.42	1.45	1.34
58	c	541	A2M	C6-N6	4.42	1.45	1.34
58	c	1269	OMU	C4-N3	4.42	1.46	1.38
11	AA	2921	OMU	C4-N3	4.42	1.46	1.38
11	AA	876	A2M	C6-N6	4.41	1.45	1.34
11	AA	2640	A2M	C6-N6	4.41	1.45	1.34
58	c	619	A2M	C6-N6	4.41	1.45	1.34
11	AA	807	A2M	C6-N6	4.40	1.45	1.34
11	AA	2220	A2M	C6-N6	4.40	1.45	1.34
58	c	974	A2M	C6-N6	4.40	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2946	A2M	C6-N6	4.39	1.45	1.34
58	c	100	A2M	C6-N6	4.39	1.45	1.34
11	AA	2347	OMU	C4-N3	4.38	1.46	1.38
11	AA	2421	OMU	C4-N3	4.38	1.46	1.38
11	AA	1133	A2M	C6-N6	4.38	1.45	1.34
11	AA	817	A2M	C6-N6	4.38	1.45	1.34
11	AA	649	A2M	C6-N6	4.36	1.45	1.34
11	AA	1888	OMU	C4-N3	4.34	1.46	1.38
11	AA	2281	A2M	C6-N6	4.22	1.45	1.34
58	c	1280	4AC	CM7-C7	4.19	1.59	1.50
58	c	1781	MA6	C6-N6	4.03	1.48	1.36
58	c	1773	4AC	CM7-C7	3.97	1.58	1.50
58	c	1782	MA6	C6-N6	3.92	1.47	1.36
58	c	1773	4AC	C5-C4	3.91	1.49	1.41
58	c	1280	4AC	C5-C4	3.91	1.49	1.41
58	c	1191	B8N	C1'-C5	3.83	1.58	1.50
58	c	1575	G7M	C5-C6	3.81	1.53	1.43
11	AA	2634	UR3	C6-N1	3.40	1.46	1.38
11	AA	2281	A2M	C5-C4	-3.14	1.33	1.39
11	AA	2347	OMU	C6-N1	2.95	1.45	1.38
58	c	619	A2M	C5-C4	-2.95	1.33	1.39
11	AA	898	OMU	O4-C4	-2.94	1.18	1.24
11	AA	2921	OMU	C6-N1	2.94	1.45	1.38
11	AA	1888	OMU	O4-C4	-2.93	1.18	1.24
11	AA	1888	OMU	C6-N1	2.92	1.45	1.38
58	c	578	OMU	C6-N1	2.92	1.45	1.38
11	AA	2417	OMU	C6-N1	2.91	1.45	1.38
11	AA	2347	OMU	O4-C4	-2.91	1.18	1.24
11	AA	2921	OMU	O4-C4	-2.91	1.18	1.24
11	AA	2729	OMU	C6-N1	2.91	1.45	1.38
11	AA	2421	OMU	C6-N1	2.91	1.45	1.38
58	c	100	A2M	C5-C4	-2.90	1.33	1.39
58	c	796	A2M	C5-C4	-2.90	1.33	1.39
11	AA	649	A2M	C5-C4	-2.90	1.33	1.39
11	AA	2729	OMU	O4-C4	-2.90	1.18	1.24
58	c	1269	OMU	C6-N1	2.90	1.45	1.38
58	c	1269	OMU	O4-C4	-2.89	1.18	1.24
11	AA	2946	A2M	C5-C4	-2.89	1.33	1.39
11	AA	2280	A2M	C5-C4	-2.89	1.33	1.39
58	c	578	OMU	O4-C4	-2.89	1.18	1.24
11	AA	807	A2M	C5-C4	-2.88	1.33	1.39
11	AA	1133	A2M	C5-C4	-2.88	1.33	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2220	A2M	C5-C4	-2.88	1.33	1.39
11	AA	2417	OMU	O4-C4	-2.88	1.18	1.24
58	c	1782	MA6	C5-C4	-2.88	1.33	1.39
11	AA	817	A2M	C5-C4	-2.88	1.34	1.39
11	AA	1449	A2M	O3'-C3'	2.88	1.50	1.43
11	AA	2724	OMU	O4-C4	-2.88	1.18	1.24
11	AA	2724	OMU	C6-N1	2.87	1.44	1.38
58	c	974	A2M	C5-C4	-2.87	1.34	1.39
11	AA	898	OMU	C6-N1	2.87	1.44	1.38
11	AA	1449	A2M	C5-C4	-2.86	1.34	1.39
58	c	436	A2M	O3'-C3'	2.86	1.50	1.43
11	AA	2640	A2M	C5-C4	-2.86	1.34	1.39
11	AA	2421	OMU	O4-C4	-2.85	1.18	1.24
11	AA	2280	A2M	O3'-C3'	2.85	1.50	1.43
11	AA	2256	A2M	C5-C4	-2.84	1.34	1.39
58	c	619	A2M	O3'-C3'	2.84	1.50	1.43
58	c	28	A2M	C5-C4	-2.83	1.34	1.39
58	c	436	A2M	C5-C4	-2.83	1.34	1.39
11	AA	876	A2M	C5-C4	-2.83	1.34	1.39
58	c	420	A2M	C5-C4	-2.82	1.34	1.39
11	AA	2281	A2M	O3'-C3'	2.80	1.49	1.43
11	AA	876	A2M	O3'-C3'	2.80	1.49	1.43
11	AA	2256	A2M	O3'-C3'	2.78	1.49	1.43
58	c	420	A2M	O3'-C3'	2.78	1.49	1.43
58	c	28	A2M	O2'-C2'	-2.78	1.35	1.42
58	c	1575	G7M	C2-N1	2.77	1.44	1.37
58	c	796	A2M	O3'-C3'	2.77	1.49	1.43
58	c	1781	MA6	C5-C4	-2.77	1.34	1.39
58	c	100	A2M	O3'-C3'	2.77	1.49	1.43
58	c	541	A2M	C5-C4	-2.77	1.34	1.39
11	AA	2640	A2M	O3'-C3'	2.76	1.49	1.43
11	AA	1133	A2M	O3'-C3'	2.76	1.49	1.43
58	c	796	A2M	O2'-C2'	-2.75	1.35	1.42
11	AA	2220	A2M	O3'-C3'	2.74	1.49	1.43
58	c	541	A2M	O3'-C3'	2.73	1.49	1.43
11	AA	2946	A2M	O3'-C3'	2.73	1.49	1.43
11	AA	807	A2M	O3'-C3'	2.73	1.49	1.43
11	AA	807	A2M	O2'-C2'	-2.72	1.35	1.42
11	AA	1449	A2M	O2'-C2'	-2.72	1.35	1.42
11	AA	649	A2M	O3'-C3'	2.72	1.49	1.43
58	c	974	A2M	O3'-C3'	2.71	1.49	1.43
11	AA	2281	A2M	O2'-C2'	-2.71	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	817	A2M	O2'-C2'	-2.70	1.36	1.42
58	c	28	A2M	O3'-C3'	2.70	1.49	1.43
11	AA	876	A2M	O2'-C2'	-2.69	1.36	1.42
11	AA	1133	A2M	O2'-C2'	-2.69	1.36	1.42
58	c	974	A2M	O2'-C2'	-2.69	1.36	1.42
58	c	541	A2M	O2'-C2'	-2.68	1.36	1.42
11	AA	817	A2M	O3'-C3'	2.68	1.49	1.43
11	AA	2256	A2M	O2'-C2'	-2.67	1.36	1.42
11	AA	807	A2M	C8-N9	-2.67	1.33	1.37
58	c	619	A2M	O2'-C2'	-2.66	1.36	1.42
11	AA	2946	A2M	O2'-C2'	-2.66	1.36	1.42
58	c	436	A2M	O2'-C2'	-2.65	1.36	1.42
11	AA	2634	UR3	C4-N3	2.65	1.45	1.40
58	c	796	A2M	C8-N9	-2.64	1.33	1.37
58	c	1773	4AC	C6-N1	2.64	1.44	1.38
11	AA	2280	A2M	O2'-C2'	-2.64	1.36	1.42
58	c	100	A2M	O2'-C2'	-2.63	1.36	1.42
11	AA	2220	A2M	O2'-C2'	-2.62	1.36	1.42
11	AA	2640	A2M	O2'-C2'	-2.61	1.36	1.42
11	AA	649	A2M	O2'-C2'	-2.59	1.36	1.42
58	c	420	A2M	O2'-C2'	-2.57	1.36	1.42
58	c	1575	G7M	O6-C6	-2.55	1.18	1.23
11	AA	2281	A2M	C8-N9	-2.55	1.33	1.37
11	AA	2220	A2M	C8-N9	-2.55	1.33	1.37
11	AA	876	A2M	C8-N9	-2.54	1.33	1.37
11	AA	2347	OMU	O2-C2	-2.54	1.18	1.23
58	c	1269	OMU	O2-C2	-2.54	1.18	1.23
58	c	1280	4AC	C6-N1	2.52	1.44	1.38
58	c	541	A2M	C8-N9	-2.51	1.33	1.37
58	c	974	A2M	C8-N9	-2.51	1.33	1.37
11	AA	2640	A2M	C8-N9	-2.51	1.33	1.37
11	AA	1133	A2M	C8-N9	-2.51	1.33	1.37
58	c	619	A2M	C8-N9	-2.50	1.33	1.37
11	AA	817	A2M	C8-N9	-2.49	1.33	1.37
58	c	100	A2M	C8-N9	-2.48	1.33	1.37
11	AA	898	OMU	O2-C2	-2.48	1.18	1.23
11	AA	2417	OMU	O2-C2	-2.48	1.18	1.23
11	AA	2724	OMU	O2-C2	-2.48	1.18	1.23
11	AA	1888	OMU	C5-C4	2.47	1.49	1.43
58	c	1575	G7M	C6-N1	2.47	1.43	1.38
58	c	436	A2M	C8-N9	-2.47	1.33	1.37
58	c	578	OMU	C5-C4	2.47	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2280	A2M	C8-N9	-2.47	1.33	1.37
11	AA	649	A2M	C8-N9	-2.46	1.33	1.37
11	AA	1449	A2M	C8-N9	-2.46	1.33	1.37
58	c	28	A2M	C8-N9	-2.46	1.33	1.37
11	AA	2921	OMU	C5-C4	2.46	1.49	1.43
11	AA	2256	A2M	C8-N9	-2.46	1.33	1.37
11	AA	2946	A2M	C8-N9	-2.46	1.33	1.37
58	c	420	A2M	C8-N9	-2.45	1.33	1.37
11	AA	1888	OMU	O2-C2	-2.45	1.18	1.23
11	AA	2729	OMU	O2-C2	-2.44	1.18	1.23
11	AA	2421	OMU	O2-C2	-2.43	1.18	1.23
11	AA	2421	OMU	C5-C4	2.43	1.49	1.43
11	AA	898	OMU	C5-C4	2.43	1.49	1.43
11	AA	2921	OMU	O2-C2	-2.42	1.18	1.23
11	AA	2729	OMU	C5-C4	2.41	1.48	1.43
11	AA	2417	OMU	C5-C4	2.41	1.48	1.43
58	c	1269	OMU	C5-C4	2.41	1.48	1.43
11	AA	2347	OMU	C5-C4	2.41	1.48	1.43
58	c	1781	MA6	C5-N7	-2.40	1.34	1.39
11	AA	876	A2M	C5-N7	-2.36	1.34	1.39
58	c	578	OMU	O2-C2	-2.35	1.18	1.23
11	AA	807	A2M	C5-N7	-2.33	1.34	1.39
58	c	100	A2M	C5-N7	-2.33	1.34	1.39
11	AA	2946	A2M	C5-N7	-2.32	1.34	1.39
58	c	796	A2M	C5-N7	-2.31	1.34	1.39
58	c	1782	MA6	C5-N7	-2.31	1.34	1.39
11	AA	2724	OMU	C5-C4	2.31	1.48	1.43
11	AA	649	A2M	C5-N7	-2.30	1.34	1.39
11	AA	2640	A2M	C5-N7	-2.30	1.34	1.39
11	AA	2634	UR3	C5-C4	2.29	1.49	1.43
58	c	541	A2M	C5-N7	-2.29	1.34	1.39
58	c	28	A2M	C5-N7	-2.28	1.34	1.39
58	c	436	A2M	C5-N7	-2.28	1.34	1.39
11	AA	1449	A2M	C5-N7	-2.28	1.34	1.39
58	c	1773	4AC	O7-C7	-2.27	1.18	1.23
11	AA	2280	A2M	C5-N7	-2.25	1.35	1.39
58	c	420	A2M	C5-N7	-2.25	1.35	1.39
11	AA	2220	A2M	C5-N7	-2.25	1.35	1.39
58	c	1280	4AC	O7-C7	-2.24	1.18	1.23
11	AA	1133	A2M	C5-N7	-2.24	1.35	1.39
58	c	974	A2M	C5-N7	-2.23	1.35	1.39
58	c	1781	MA6	C8-N9	-2.19	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	c	619	A2M	C5-N7	-2.18	1.35	1.39
11	AA	2281	A2M	C5-N7	-2.18	1.35	1.39
58	c	619	A2M	C4-N9	-2.16	1.33	1.37
11	AA	817	A2M	C5-N7	-2.15	1.35	1.39
11	AA	2281	A2M	C4-N9	-2.14	1.33	1.37
11	AA	807	A2M	C4-N9	-2.13	1.33	1.37
58	c	1191	B8N	O4-C4	-2.12	1.18	1.23
11	AA	2256	A2M	C5-N7	-2.12	1.35	1.39
58	c	1782	MA6	C8-N9	-2.06	1.34	1.37
11	AA	1133	A2M	C4-N9	-2.04	1.33	1.37
11	AA	649	A2M	C4-N9	-2.03	1.33	1.37
58	c	420	A2M	C4-N9	-2.02	1.33	1.37

All (329) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	c	1782	MA6	N1-C6-N6	-11.85	102.42	116.86
58	c	1781	MA6	N1-C6-N6	-11.44	102.91	116.86
58	c	1782	MA6	C5-C6-N6	8.01	138.01	125.33
58	c	1781	MA6	C5-C6-N6	7.75	137.61	125.33
11	AA	817	A2M	N6-C6-N1	-6.83	103.16	118.38
11	AA	1449	A2M	N6-C6-N1	-6.70	103.46	118.38
11	AA	807	A2M	N6-C6-N1	-6.68	103.51	118.38
11	AA	2281	A2M	N6-C6-N1	-6.67	103.53	118.38
58	c	619	A2M	N6-C6-N1	-6.65	103.58	118.38
11	AA	2280	A2M	N6-C6-N1	-6.63	103.60	118.38
58	c	436	A2M	N6-C6-N1	-6.63	103.61	118.38
58	c	974	A2M	N6-C6-N1	-6.63	103.61	118.38
58	c	28	A2M	N6-C6-N1	-6.63	103.61	118.38
58	c	100	A2M	N6-C6-N1	-6.62	103.63	118.38
11	AA	1133	A2M	N6-C6-N1	-6.62	103.63	118.38
11	AA	649	A2M	N6-C6-N1	-6.62	103.64	118.38
58	c	541	A2M	N6-C6-N1	-6.61	103.65	118.38
11	AA	876	A2M	N6-C6-N1	-6.61	103.65	118.38
58	c	796	A2M	N6-C6-N1	-6.61	103.65	118.38
11	AA	2220	A2M	N6-C6-N1	-6.61	103.67	118.38
11	AA	2256	A2M	N6-C6-N1	-6.59	103.70	118.38
58	c	420	A2M	N6-C6-N1	-6.58	103.72	118.38
11	AA	2946	A2M	N6-C6-N1	-6.54	103.80	118.38
11	AA	2640	A2M	N6-C6-N1	-6.54	103.81	118.38
11	AA	2281	A2M	N9-C8-N7	-6.21	105.12	113.94
58	c	1575	G7M	CN7-N7-C5	6.18	134.50	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	c	619	A2M	N9-C8-N7	-6.03	105.38	113.94
11	AA	817	A2M	N9-C8-N7	-6.03	105.38	113.94
11	AA	2256	A2M	N9-C8-N7	-6.00	105.43	113.94
58	c	1280	4AC	CM7-C7-N4	5.97	124.90	115.27
11	AA	1133	A2M	N9-C8-N7	-5.93	105.52	113.94
58	c	1773	4AC	CM7-C7-N4	5.91	124.81	115.27
11	AA	649	A2M	N9-C8-N7	-5.90	105.57	113.94
11	AA	2280	A2M	N9-C8-N7	-5.89	105.57	113.94
11	AA	807	A2M	N9-C8-N7	-5.89	105.58	113.94
11	AA	2281	A2M	C4-N9-C8	5.88	111.92	105.74
11	AA	2220	A2M	N9-C8-N7	-5.88	105.59	113.94
58	c	974	A2M	N9-C8-N7	-5.87	105.61	113.94
58	c	420	A2M	N9-C8-N7	-5.87	105.61	113.94
58	c	28	A2M	N9-C8-N7	-5.85	105.64	113.94
11	AA	2640	A2M	N9-C8-N7	-5.84	105.65	113.94
58	c	100	A2M	N9-C8-N7	-5.83	105.66	113.94
11	AA	2946	A2M	N9-C8-N7	-5.83	105.67	113.94
58	c	619	A2M	N3-C2-N1	-5.82	119.77	128.58
11	AA	1133	A2M	N3-C2-N1	-5.79	119.82	128.58
11	AA	2634	UR3	C4-N3-C2	-5.79	119.92	124.58
58	c	796	A2M	N9-C8-N7	-5.78	105.73	113.94
11	AA	1449	A2M	N9-C8-N7	-5.75	105.78	113.94
11	AA	2281	A2M	N3-C2-N1	-5.74	119.90	128.58
58	c	974	A2M	N3-C2-N1	-5.72	119.92	128.58
11	AA	876	A2M	N9-C8-N7	-5.70	105.85	113.94
11	AA	2256	A2M	N3-C2-N1	-5.69	119.96	128.58
58	c	436	A2M	N9-C8-N7	-5.69	105.87	113.94
11	AA	2220	A2M	N3-C2-N1	-5.67	119.99	128.58
11	AA	817	A2M	N3-C2-N1	-5.66	120.01	128.58
11	AA	649	A2M	N3-C2-N1	-5.64	120.05	128.58
58	c	100	A2M	N3-C2-N1	-5.63	120.06	128.58
58	c	28	A2M	N3-C2-N1	-5.62	120.08	128.58
11	AA	1449	A2M	N3-C2-N1	-5.61	120.09	128.58
58	c	420	A2M	N3-C2-N1	-5.59	120.11	128.58
11	AA	2280	A2M	N3-C2-N1	-5.59	120.11	128.58
58	c	436	A2M	N3-C2-N1	-5.59	120.12	128.58
11	AA	2640	A2M	N3-C2-N1	-5.58	120.13	128.58
11	AA	1888	OMU	C4-N3-C2	-5.58	119.69	126.61
58	c	619	A2M	C4-N9-C8	5.58	111.59	105.74
58	c	1782	MA6	N1-C2-N3	-5.58	120.14	128.58
11	AA	876	A2M	N3-C2-N1	-5.58	120.14	128.58
58	c	541	A2M	N9-C8-N7	-5.56	106.04	113.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2946	A2M	N3-C2-N1	-5.55	120.18	128.58
58	c	541	A2M	N3-C2-N1	-5.55	120.18	128.58
11	AA	2421	OMU	C4-N3-C2	-5.54	119.74	126.61
58	c	1781	MA6	N1-C2-N3	-5.53	120.21	128.58
11	AA	2921	OMU	C4-N3-C2	-5.49	119.80	126.61
11	AA	817	A2M	C4-N9-C8	5.49	111.50	105.74
58	c	578	OMU	C4-N3-C2	-5.49	119.80	126.61
58	c	796	A2M	N3-C2-N1	-5.48	120.29	128.58
11	AA	2256	A2M	C4-N9-C8	5.46	111.47	105.74
11	AA	2417	OMU	C4-N3-C2	-5.45	119.84	126.61
11	AA	817	A2M	C5-C6-N6	5.44	136.76	123.29
11	AA	1133	A2M	C4-N9-C8	5.44	111.45	105.74
11	AA	2729	OMU	C4-N3-C2	-5.43	119.88	126.61
11	AA	807	A2M	C5-C6-N6	5.42	136.72	123.29
11	AA	898	OMU	C4-N3-C2	-5.41	119.90	126.61
11	AA	1133	A2M	C5-C6-N6	5.40	136.66	123.29
58	c	619	A2M	C5-C6-N6	5.38	136.61	123.29
11	AA	807	A2M	C4-N9-C8	5.38	111.38	105.74
11	AA	2220	A2M	C4-N9-C8	5.36	111.36	105.74
11	AA	2347	OMU	C4-N3-C2	-5.35	119.97	126.61
58	c	974	A2M	C5-C6-N6	5.35	136.53	123.29
58	c	974	A2M	C4-N9-C8	5.35	111.35	105.74
11	AA	1449	A2M	C5-C6-N6	5.35	136.52	123.29
11	AA	807	A2M	N3-C2-N1	-5.33	120.51	128.58
11	AA	649	A2M	C4-N9-C8	5.33	111.33	105.74
11	AA	2724	OMU	C4-N3-C2	-5.33	120.00	126.61
58	c	1269	OMU	C4-N3-C2	-5.32	120.01	126.61
58	c	420	A2M	C4-N9-C8	5.32	111.32	105.74
11	AA	2220	A2M	C5-C6-N6	5.31	136.44	123.29
58	c	436	A2M	C5-C6-N6	5.31	136.43	123.29
58	c	420	A2M	C5-C6-N6	5.31	136.43	123.29
11	AA	876	A2M	C5-C6-N6	5.31	136.43	123.29
58	c	28	A2M	C5-C6-N6	5.30	136.42	123.29
58	c	100	A2M	C5-C6-N6	5.30	136.40	123.29
58	c	796	A2M	C5-C6-N6	5.29	136.39	123.29
11	AA	2256	A2M	C5-C6-N6	5.29	136.38	123.29
11	AA	649	A2M	C5-C6-N6	5.29	136.38	123.29
11	AA	2946	A2M	C5-C6-N6	5.26	136.32	123.29
11	AA	2280	A2M	C5-C6-N6	5.26	136.31	123.29
11	AA	2280	A2M	C4-N9-C8	5.26	111.26	105.74
11	AA	2640	A2M	C4-N9-C8	5.24	111.24	105.74
58	c	541	A2M	C5-C6-N6	5.23	136.24	123.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2640	A2M	C5-C6-N6	5.23	136.23	123.29
11	AA	2946	A2M	C4-N9-C8	5.21	111.21	105.74
58	c	100	A2M	C4-N9-C8	5.20	111.20	105.74
58	c	28	A2M	C4-N9-C8	5.18	111.18	105.74
58	c	796	A2M	C4-N9-C8	5.17	111.17	105.74
11	AA	2281	A2M	C5-C6-N6	5.17	136.09	123.29
58	c	1191	B8N	C5-C4-N3	5.11	125.43	116.15
11	AA	876	A2M	C4-N9-C8	5.10	111.09	105.74
11	AA	1449	A2M	C4-N9-C8	5.06	111.05	105.74
58	c	541	A2M	C4-N9-C8	5.03	111.02	105.74
58	c	436	A2M	C4-N9-C8	5.00	110.99	105.74
58	c	1575	G7M	CN7-N7-C8	-4.92	117.34	124.79
58	c	1781	MA6	C5-C4-N3	-4.80	120.11	126.72
58	c	1575	G7M	C2-N3-C4	4.70	120.39	112.30
58	c	541	A2M	C5-C4-N3	-4.68	120.27	126.72
58	c	1782	MA6	C5-C4-N3	-4.64	120.32	126.72
11	AA	2640	A2M	C5-C4-N3	-4.58	120.41	126.72
11	AA	1449	A2M	C5-C4-N3	-4.54	120.46	126.72
11	AA	876	A2M	C5-C4-N3	-4.51	120.51	126.72
58	c	436	A2M	C5-C4-N3	-4.49	120.53	126.72
58	c	100	A2M	C5-C4-N3	-4.48	120.55	126.72
58	c	28	A2M	C5-C4-N3	-4.48	120.55	126.72
11	AA	2946	A2M	C5-C4-N3	-4.46	120.58	126.72
58	c	796	A2M	C5-C4-N3	-4.45	120.59	126.72
11	AA	2280	A2M	C5-C4-N3	-4.43	120.61	126.72
11	AA	649	A2M	C5-C4-N3	-4.37	120.69	126.72
58	c	1782	MA6	N9-C8-N7	-4.37	107.74	113.94
11	AA	2220	A2M	C5-C4-N3	-4.31	120.79	126.72
58	c	974	A2M	C5-C4-N3	-4.30	120.80	126.72
58	c	420	A2M	C5-C4-N3	-4.28	120.82	126.72
58	c	1191	B8N	C4-N3-C2	-4.27	120.36	125.62
11	AA	807	A2M	C5-C4-N3	-4.27	120.84	126.72
11	AA	2256	A2M	C5-C4-N3	-4.26	120.85	126.72
58	c	541	A2M	C1'-N9-C8	-4.25	117.67	127.09
11	AA	817	A2M	C5-C4-N3	-4.24	120.88	126.72
58	c	1575	G7M	C5-C4-N3	-4.20	120.22	128.15
11	AA	876	A2M	C1'-N9-C8	-4.16	117.85	127.09
58	c	1781	MA6	N9-C8-N7	-4.16	108.03	113.94
11	AA	1133	A2M	C5-C4-N3	-4.14	121.02	126.72
58	c	1781	MA6	C4-C5-C6	4.13	120.18	115.91
11	AA	2281	A2M	C5-C4-N3	-4.13	121.03	126.72
58	c	1191	B8N	C1'-C5-C4	4.12	123.86	117.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2640	A2M	C1'-N9-C8	-4.12	117.95	127.09
58	c	1575	G7M	C1'-N9-C4	4.10	138.60	126.49
58	c	1575	G7M	C1'-N9-C8	-4.09	112.91	126.74
58	c	28	A2M	C1'-N9-C8	-4.05	118.10	127.09
58	c	1575	G7M	C5-C6-N1	4.00	120.11	111.84
11	AA	1888	OMU	N3-C2-N1	3.98	120.08	114.89
58	c	619	A2M	C5-C4-N3	-3.98	121.23	126.72
11	AA	2921	OMU	N3-C2-N1	3.98	120.07	114.89
58	c	541	A2M	N3-C4-N9	3.96	133.90	127.17
11	AA	2347	OMU	N3-C2-N1	3.95	120.03	114.89
11	AA	1133	A2M	C2'-C1'-N9	-3.91	107.32	113.75
11	AA	807	A2M	C1'-N9-C8	-3.91	118.42	127.09
11	AA	2421	OMU	N3-C2-N1	3.89	119.96	114.89
11	AA	649	A2M	C1'-N9-C8	-3.89	118.47	127.09
11	AA	2417	OMU	N3-C2-N1	3.88	119.94	114.89
11	AA	898	OMU	N3-C2-N1	3.88	119.94	114.89
58	c	100	A2M	C1'-N9-C8	-3.87	118.51	127.09
11	AA	1449	A2M	C1'-N9-C8	-3.86	118.53	127.09
58	c	1782	MA6	C4-C5-C6	3.84	119.88	115.91
11	AA	2640	A2M	N3-C4-N9	3.82	133.67	127.17
11	AA	2220	A2M	C1'-N9-C8	-3.82	118.62	127.09
58	c	796	A2M	C1'-N9-C8	-3.82	118.62	127.09
11	AA	2729	OMU	N3-C2-N1	3.81	119.86	114.89
11	AA	2724	OMU	N3-C2-N1	3.81	119.86	114.89
11	AA	2946	A2M	C1'-N9-C8	-3.78	118.71	127.09
11	AA	876	A2M	N3-C4-N9	3.76	133.57	127.17
58	c	974	A2M	C1'-N9-C8	-3.75	118.77	127.09
58	c	1269	OMU	N3-C2-N1	3.75	119.77	114.89
11	AA	2946	A2M	N3-C4-N9	3.74	133.53	127.17
58	c	436	A2M	C1'-N9-C8	-3.74	118.80	127.09
58	c	100	A2M	N3-C4-N9	3.73	133.50	127.17
11	AA	2634	UR3	C5-C4-N3	3.72	119.94	115.04
11	AA	1449	A2M	N3-C4-N9	3.72	133.49	127.17
58	c	28	A2M	N3-C4-N9	3.70	133.47	127.17
11	AA	2280	A2M	C1'-N9-C8	-3.70	118.89	127.09
58	c	578	OMU	N3-C2-N1	3.69	119.69	114.89
58	c	420	A2M	C1'-N9-C8	-3.67	118.95	127.09
11	AA	2280	A2M	N3-C4-N9	3.66	133.40	127.17
58	c	436	A2M	N3-C4-N9	3.66	133.39	127.17
11	AA	649	A2M	N3-C4-N9	3.66	133.39	127.17
11	AA	2281	A2M	N3-C4-N9	3.62	133.33	127.17
58	c	796	A2M	N3-C4-N9	3.61	133.31	127.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2220	A2M	N3-C4-N9	3.61	133.31	127.17
58	c	578	OMU	C5-C4-N3	3.60	119.85	114.80
11	AA	2256	A2M	C1'-N9-C8	-3.60	119.10	127.09
11	AA	2281	A2M	C1'-N9-C8	-3.60	119.10	127.09
58	c	974	A2M	N3-C4-N9	3.60	133.28	127.17
58	c	420	A2M	N3-C4-N9	3.56	133.22	127.17
11	AA	1888	OMU	C5-C4-N3	3.54	119.76	114.80
11	AA	2256	A2M	N3-C4-N9	3.53	133.17	127.17
11	AA	817	A2M	N3-C4-N9	3.51	133.14	127.17
11	AA	807	A2M	N3-C4-N9	3.51	133.14	127.17
58	c	796	A2M	C2'-C1'-N9	-3.50	107.99	113.75
11	AA	2417	OMU	C5-C4-N3	3.50	119.70	114.80
58	c	1575	G7M	O6-C6-C5	-3.49	120.22	128.01
11	AA	2421	OMU	C5-C4-N3	3.49	119.69	114.80
11	AA	817	A2M	C5-N7-C8	3.49	108.94	103.45
11	AA	2256	A2M	C5-N7-C8	3.49	108.93	103.45
11	AA	1133	A2M	C1'-N9-C8	-3.49	119.36	127.09
11	AA	1133	A2M	N3-C4-N9	3.49	133.10	127.17
11	AA	2921	OMU	C5-C4-N3	3.48	119.68	114.80
58	c	1782	MA6	C2-N1-C6	3.48	120.32	111.83
58	c	28	A2M	C5-N7-C8	3.47	108.90	103.45
58	c	1269	OMU	C5-C4-N3	3.47	119.66	114.80
58	c	1781	MA6	C2-N1-C6	3.46	120.29	111.83
11	AA	2729	OMU	C5-C4-N3	3.46	119.65	114.80
11	AA	2280	A2M	C5-N7-C8	3.46	108.89	103.45
11	AA	2640	A2M	C5-N7-C8	3.46	108.89	103.45
11	AA	817	A2M	C1'-N9-C8	-3.45	119.43	127.09
11	AA	898	OMU	C5-C4-N3	3.45	119.63	114.80
11	AA	2724	OMU	C5-C4-N3	3.45	119.63	114.80
11	AA	807	A2M	C5-N7-C8	3.44	108.85	103.45
58	c	100	A2M	C5-N7-C8	3.43	108.83	103.45
11	AA	2946	A2M	C5-N7-C8	3.42	108.82	103.45
58	c	974	A2M	C5-N7-C8	3.41	108.82	103.45
11	AA	1449	A2M	C5-N7-C8	3.41	108.81	103.45
58	c	420	A2M	C5-N7-C8	3.41	108.81	103.45
58	c	1191	B8N	N3-C2-N1	3.41	120.88	116.72
11	AA	649	A2M	C5-N7-C8	3.40	108.79	103.45
11	AA	2220	A2M	C5-N7-C8	3.40	108.79	103.45
58	c	436	A2M	C5-N7-C8	3.40	108.79	103.45
11	AA	1133	A2M	C5-N7-C8	3.40	108.79	103.45
11	AA	2281	A2M	C5-N7-C8	3.39	108.77	103.45
58	c	796	A2M	C5-N7-C8	3.38	108.77	103.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2347	OMU	C5-C4-N3	3.38	119.53	114.80
11	AA	876	A2M	C5-N7-C8	3.38	108.76	103.45
58	c	619	A2M	C5-N7-C8	3.38	108.76	103.45
58	c	619	A2M	N3-C4-N9	3.33	132.84	127.17
11	AA	2281	A2M	C4'-O4'-C1'	-3.33	102.12	109.47
58	c	619	A2M	C1'-N9-C8	-3.30	119.76	127.09
58	c	541	A2M	C5-N7-C8	3.26	108.58	103.45
58	c	1782	MA6	C2-N3-C4	3.25	119.77	111.83
58	c	541	A2M	C2-N3-C4	3.24	119.75	111.83
11	AA	1449	A2M	C2-N3-C4	3.24	119.75	111.83
58	c	1781	MA6	C2-N3-C4	3.23	119.72	111.83
11	AA	2640	A2M	C2-N3-C4	3.21	119.67	111.83
58	c	28	A2M	C2-N3-C4	3.19	119.63	111.83
11	AA	2280	A2M	C2-N3-C4	3.19	119.63	111.83
58	c	100	A2M	C2-N3-C4	3.19	119.61	111.83
58	c	436	A2M	C2-N3-C4	3.18	119.61	111.83
11	AA	817	A2M	C2-N3-C4	3.17	119.57	111.83
11	AA	2256	A2M	C2-N3-C4	3.17	119.56	111.83
11	AA	649	A2M	C2-N3-C4	3.16	119.56	111.83
11	AA	2220	A2M	C2-N3-C4	3.16	119.55	111.83
11	AA	2946	A2M	C2-N3-C4	3.15	119.53	111.83
11	AA	876	A2M	C2-N3-C4	3.15	119.52	111.83
11	AA	2281	A2M	C2-N3-C4	3.15	119.51	111.83
58	c	974	A2M	C2-N3-C4	3.14	119.50	111.83
58	c	796	A2M	C2-N3-C4	3.12	119.45	111.83
58	c	420	A2M	C2-N3-C4	3.12	119.44	111.83
11	AA	1133	A2M	C2-N3-C4	3.11	119.42	111.83
58	c	619	A2M	C2-N3-C4	3.09	119.38	111.83
58	c	1575	G7M	C2-N1-C6	-3.03	119.62	125.11
11	AA	2724	OMU	O4-C4-C5	-3.01	119.98	125.16
11	AA	807	A2M	C2-N3-C4	3.01	119.17	111.83
58	c	1575	G7M	N9-C4-N3	2.99	131.94	125.95
11	AA	898	OMU	O4-C4-C5	-2.99	120.00	125.16
58	c	578	OMU	O4-C4-C5	-2.99	120.01	125.16
58	c	1280	4AC	C6-C5-C4	2.97	120.58	117.00
11	AA	2417	OMU	O4-C4-C5	-2.96	120.06	125.16
11	AA	2946	A2M	C2'-C1'-N9	-2.95	108.89	113.75
58	c	1782	MA6	C5-N7-C8	2.94	108.07	103.45
11	AA	2921	OMU	O4-C4-C5	-2.94	120.09	125.16
58	c	1269	OMU	O4-C4-C5	-2.93	120.11	125.16
58	c	1773	4AC	C5-C4-N3	-2.93	118.02	122.60
11	AA	2729	OMU	O4-C4-C5	-2.92	120.12	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	1888	OMU	O4-C4-C5	-2.92	120.12	125.16
11	AA	2347	OMU	O4-C4-C5	-2.92	120.13	125.16
11	AA	2421	OMU	O4-C4-C5	-2.91	120.14	125.16
58	c	1781	MA6	C5-N7-C8	2.90	108.02	103.45
11	AA	2281	A2M	O4'-C1'-N9	2.90	113.66	108.09
58	c	1781	MA6	N3-C4-N9	2.88	132.07	127.17
58	c	1280	4AC	O7-C7-N4	-2.84	117.43	121.90
58	c	1191	B8N	O4-C4-N3	-2.80	115.44	119.99
58	c	1280	4AC	C5-C4-N3	-2.73	118.33	122.60
58	c	1782	MA6	N3-C4-N9	2.70	131.75	127.17
11	AA	2281	A2M	O4'-C1'-C2'	-2.69	101.96	106.59
58	c	1773	4AC	O7-C7-CM7	-2.65	117.33	122.05
11	AA	2948	OMC	C1'-N1-C2	2.58	124.15	118.44
58	c	1773	4AC	O7-C7-N4	-2.56	117.86	121.90
58	c	1269	OMU	C1'-N1-C2	2.55	122.17	117.59
58	c	1773	4AC	C6-C5-C4	2.52	120.04	117.00
11	AA	2142	1MA	N1-C6-N6	2.51	126.03	119.71
58	c	1782	MA6	C4-N9-C8	2.47	108.33	105.74
58	c	1280	4AC	O7-C7-CM7	-2.46	117.67	122.05
58	c	420	A2M	C2'-C1'-N9	-2.43	109.75	113.75
11	AA	1437	OMC	C1'-N1-C2	2.37	123.67	118.44
58	c	541	A2M	C4'-O4'-C1'	-2.36	104.25	109.47
11	AA	645	1MA	N1-C6-N6	2.36	125.63	119.71
58	c	1191	B8N	O4'-C1'-C2'	2.34	108.39	105.15
11	AA	2634	UR3	C6-N1-C2	-2.34	119.89	121.80
11	AA	2281	A2M	C2'-C1'-N9	-2.33	109.92	113.75
58	c	1782	MA6	C4-C5-N7	-2.32	107.93	110.58
58	c	541	A2M	O4'-C1'-N9	2.31	112.53	108.09
58	c	1781	MA6	C4-N9-C8	2.29	108.15	105.74
58	c	1781	MA6	C4-C5-N7	-2.27	107.99	110.58
11	AA	807	A2M	C2'-C1'-N9	-2.26	110.03	113.75
11	AA	1888	OMU	O2-C2-N1	-2.23	119.90	122.80
11	AA	898	OMU	O2-C2-N1	-2.21	119.92	122.80
11	AA	2256	A2M	C2'-C3'-C4'	2.21	106.75	101.99
58	c	974	A2M	C2'-C1'-N9	-2.21	110.12	113.75
11	AA	2417	OMU	O2-C2-N1	-2.20	119.94	122.80
11	AA	807	A2M	C4'-O4'-C1'	-2.19	104.63	109.47
58	c	541	A2M	C2'-C1'-N9	-2.19	110.16	113.75
11	AA	2729	OMU	O2-C2-N1	-2.18	119.96	122.80
11	AA	2347	OMU	C1'-N1-C2	2.17	121.50	117.59
11	AA	2921	OMU	O2-C2-N1	-2.16	119.99	122.80
11	AA	807	A2M	C4-C5-N7	-2.11	108.17	110.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2724	OMU	O2-C2-N1	-2.10	120.06	122.80
11	AA	817	A2M	C4-C5-N7	-2.10	108.19	110.58
11	AA	2256	A2M	C4'-O4'-C1'	-2.09	104.84	109.47
11	AA	2256	A2M	C4-C5-N7	-2.09	108.19	110.58
58	c	578	OMU	O2-C2-N1	-2.06	120.11	122.80
58	c	796	A2M	C4-C5-N7	-2.06	108.23	110.58
11	AA	2280	A2M	C4-C5-N7	-2.01	108.28	110.58
58	c	436	A2M	C4-C5-N7	-2.01	108.28	110.58
58	c	28	A2M	C4-C5-N7	-2.00	108.29	110.58

There are no chirality outliers.

All (79) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	AA	649	A2M	C1'-C2'-O2'-CM'
11	AA	663	OMC	C1'-C2'-O2'-CM2
11	AA	908	OMG	O4'-C4'-C5'-O5'
11	AA	1437	OMC	C1'-C2'-O2'-CM2
11	AA	1450	OMG	O4'-C4'-C5'-O5'
11	AA	2197	OMC	C2'-C1'-N1-C6
11	AA	2220	A2M	C1'-C2'-O2'-CM'
11	AA	2417	OMU	C1'-C2'-O2'-CM2
11	AA	2421	OMU	C1'-C2'-O2'-CM2
11	AA	2619	OMG	C1'-C2'-O2'-CM2
11	AA	2640	A2M	C1'-C2'-O2'-CM'
11	AA	2724	OMU	C1'-C2'-O2'-CM2
58	c	414	OMC	C1'-C2'-O2'-CM2
58	c	420	A2M	C1'-C2'-O2'-CM'
58	c	578	OMU	C4'-C5'-O5'-P
58	c	619	A2M	C1'-C2'-O2'-CM'
58	c	1271	OMG	C1'-C2'-O2'-CM2
58	c	1572	OMG	O4'-C4'-C5'-O5'
58	c	1575	G7M	O4'-C4'-C5'-O5'
11	AA	867	OMG	C3'-C4'-C5'-O5'
58	c	28	A2M	O4'-C4'-C5'-O5'
58	c	28	A2M	C3'-C4'-C5'-O5'
58	c	796	A2M	C3'-C4'-C5'-O5'
58	c	1575	G7M	C3'-C4'-C5'-O5'
11	AA	2197	OMC	C2'-C1'-N1-C2
11	AA	2280	A2M	O4'-C4'-C5'-O5'
11	AA	2280	A2M	C3'-C4'-C5'-O5'
11	AA	2922	OMG	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
58	c	796	A2M	O4'-C4'-C5'-O5'
58	c	1271	OMG	O4'-C4'-C5'-O5'
58	c	1271	OMG	C3'-C4'-C5'-O5'
58	c	1191	B8N	N34-C33-C34-O36
11	AA	2256	A2M	C2'-C1'-N9-C8
11	AA	908	OMG	C3'-C2'-O2'-CM2
11	AA	908	OMG	C3'-C4'-C5'-O5'
11	AA	1450	OMG	C3'-C4'-C5'-O5'
58	c	619	A2M	O4'-C4'-C5'-O5'
58	c	619	A2M	C3'-C4'-C5'-O5'
58	c	1572	OMG	C3'-C4'-C5'-O5'
11	AA	867	OMG	O4'-C4'-C5'-O5'
11	AA	2922	OMG	O4'-C4'-C5'-O5'
58	c	1191	B8N	C32-C33-C34-O36
11	AA	2256	A2M	O4'-C4'-C5'-O5'
58	c	100	A2M	O4'-C4'-C5'-O5'
58	c	541	A2M	C4'-C5'-O5'-P
58	c	1269	OMU	O4'-C1'-N1-C6
11	AA	2256	A2M	C2'-C1'-N9-C4
11	AA	2870	5MC	C2'-C1'-N1-C6
58	c	1269	OMU	O4'-C1'-N1-C2
58	c	1191	B8N	C32-C33-C34-O35
58	c	1191	B8N	N34-C33-C34-O35
58	c	1280	4AC	O7-C7-N4-C4
58	c	1280	4AC	CM7-C7-N4-C4
58	c	1773	4AC	O7-C7-N4-C4
58	c	1773	4AC	CM7-C7-N4-C4
11	AA	2946	A2M	C1'-C2'-O2'-CM'
58	c	1428	OMG	O4'-C4'-C5'-O5'
58	c	619	A2M	C2'-C1'-N9-C8
11	AA	2870	5MC	O4'-C1'-N1-C6
11	AA	817	A2M	C4'-C5'-O5'-P
11	AA	2197	OMC	O4'-C1'-N1-C6
58	c	1575	G7M	C4'-C5'-O5'-P
11	AA	2197	OMC	O4'-C1'-N1-C2
11	AA	807	A2M	C3'-C4'-C5'-O5'
58	c	1782	MA6	C4'-C5'-O5'-P
58	c	1428	OMG	C4'-C5'-O5'-P
11	AA	2870	5MC	O4'-C1'-N1-C2
11	AA	645	1MA	C2'-C1'-N9-C8
11	AA	2870	5MC	C2'-C1'-N1-C2
11	AA	1437	OMC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
11	AA	645	1MA	C2'-C1'-N9-C4
58	c	619	A2M	O4'-C1'-N9-C8
58	c	1271	OMG	C4'-C5'-O5'-P
11	AA	807	A2M	C3'-C2'-O2'-CM'
58	c	619	A2M	C2'-C1'-N9-C4
11	AA	807	A2M	O4'-C1'-N9-C8
11	AA	2256	A2M	O4'-C1'-N9-C8
58	c	541	A2M	O4'-C1'-N9-C8
11	AA	649	A2M	C4'-C5'-O5'-P

There are no ring outliers.

41 monomers are involved in 61 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	AA	2640	A2M	2	0
58	c	100	A2M	1	0
11	AA	2421	OMU	2	0
58	c	541	A2M	1	0
58	c	1781	MA6	1	0
11	AA	1437	OMC	2	0
11	AA	876	A2M	1	0
58	c	1575	G7M	2	0
11	AA	2347	OMU	1	0
11	AA	2815	OMG	1	0
11	AA	2922	OMG	2	0
11	AA	2724	OMU	4	0
11	AA	2278	5MC	2	0
11	AA	2417	OMU	3	0
11	AA	649	A2M	2	0
58	c	1280	4AC	1	0
58	c	420	A2M	4	0
11	AA	2256	A2M	1	0
58	c	1572	OMG	1	0
11	AA	908	OMG	1	0
58	c	28	A2M	1	0
58	c	1639	OMC	1	0
58	c	1428	OMG	1	0
58	c	436	A2M	1	0
11	AA	1133	A2M	1	0
58	c	414	OMC	1	0
58	c	974	A2M	1	0
11	AA	2281	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	AA	2220	A2M	2	0
11	AA	663	OMC	4	0
11	AA	2619	OMG	1	0
11	AA	650	OMC	2	0
11	AA	1449	A2M	1	0
58	c	1271	OMG	1	0
11	AA	2959	OMC	1	0
58	c	1773	4AC	3	0
11	AA	2870	5MC	1	0
11	AA	2948	OMC	1	0
11	AA	898	OMU	1	0
58	c	1191	B8N	1	0
11	AA	817	A2M	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 295 ligands modelled in this entry, 290 are monoatomic - leaving 5 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	$\# Z > 2$
85	SPD	AA	3608	-	9,9,9	0.34	0	8,8,8	0.79	0
86	MET	Bb	103	14	6,7,8	0.47	0	2,7,9	0.15	0
85	SPD	AA	3610	-	9,9,9	0.32	0	8,8,8	0.82	0
85	SPD	AA	3611	-	9,9,9	0.32	0	8,8,8	0.91	0
85	SPD	c	1951	-	9,9,9	0.32	0	8,8,8	0.83	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
85	SPD	AA	3608	-	-	4/7/7/7	-
86	MET	Bb	103	14	-	2/5/6/8	-
85	SPD	AA	3610	-	-	0/7/7/7	-
85	SPD	AA	3611	-	-	0/7/7/7	-
85	SPD	c	1951	-	-	1/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
86	Bb	103	MET	C-CA-CB-CG
85	AA	3608	SPD	C3-C4-C5-N6
85	AA	3608	SPD	C4-C5-N6-C7
86	Bb	103	MET	CB-CG-SD-CE
85	AA	3608	SPD	C7-C8-C9-N10
85	AA	3608	SPD	C2-C3-C4-C5
85	c	1951	SPD	C4-C5-N6-C7

There are no ring outliers.

4 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
85	AA	3608	SPD	1	0
86	Bb	103	MET	2	0
85	AA	3610	SPD	1	0
85	AA	3611	SPD	1	0

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.

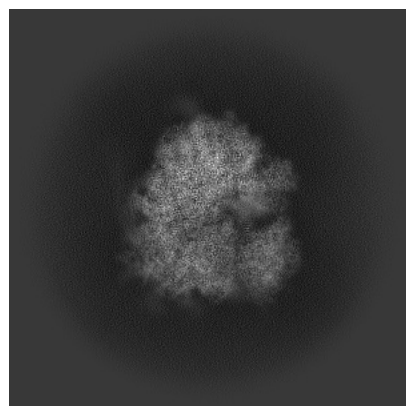
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-16648. These allow visual inspection of the internal detail of the map and identification of artifacts.

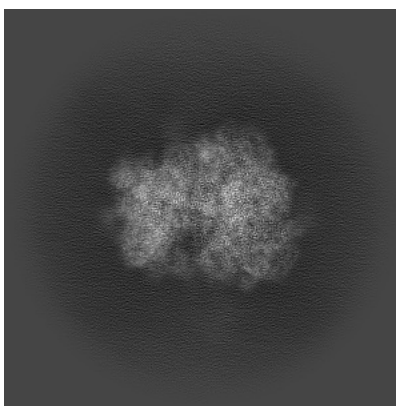
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

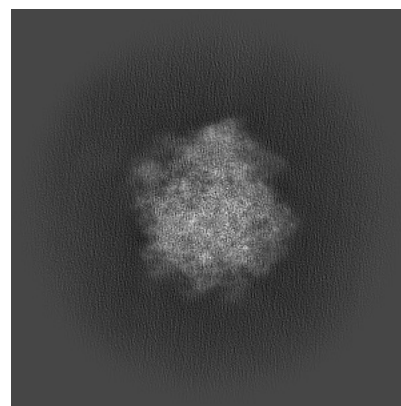
6.1.1 Primary map



X

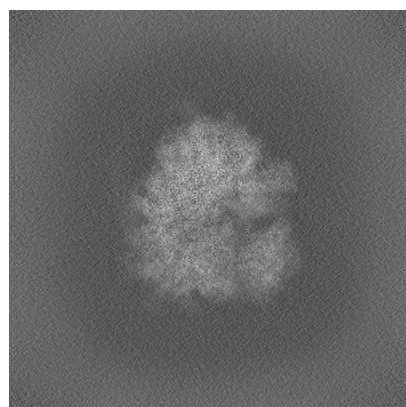


Y

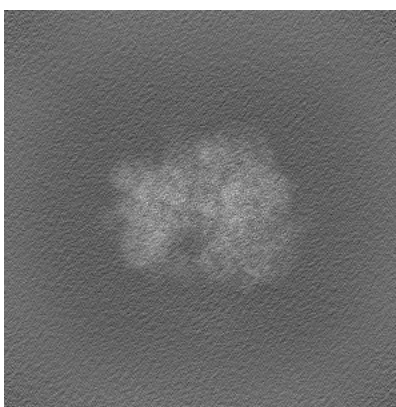


Z

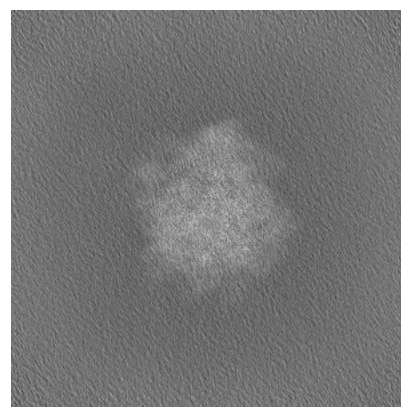
6.1.2 Raw map



X



Y

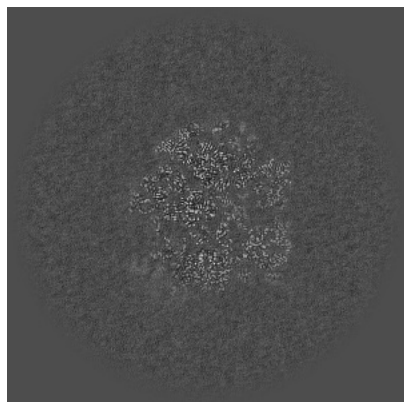


Z

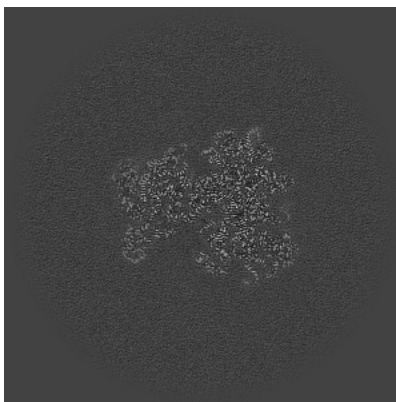
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

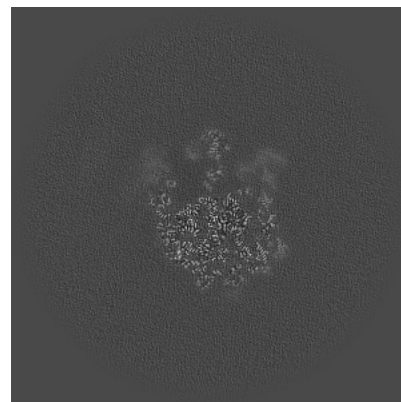
6.2.1 Primary map



X Index: 300

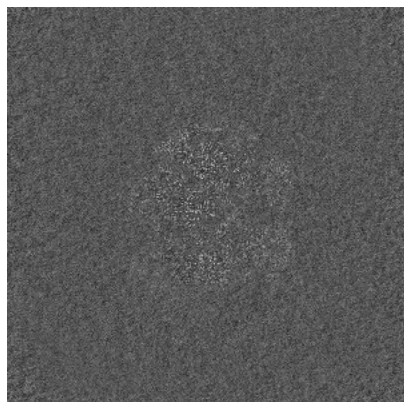


Y Index: 300

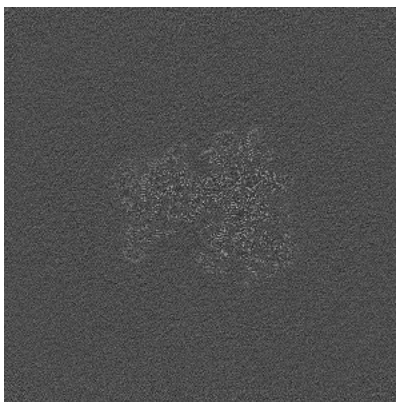


Z Index: 300

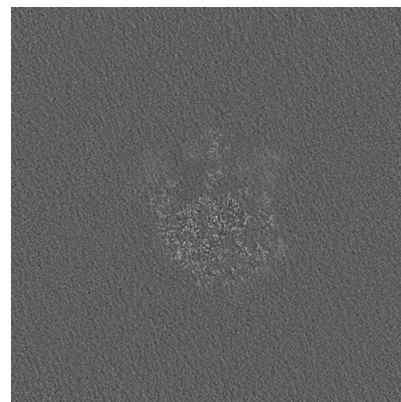
6.2.2 Raw map



X Index: 300



Y Index: 300

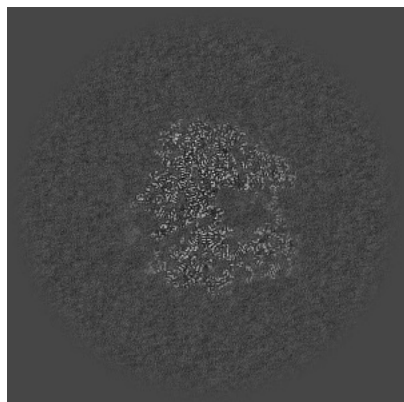


Z Index: 300

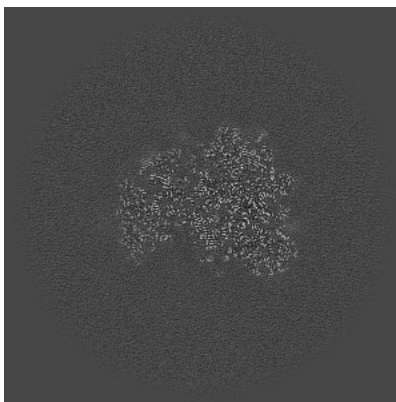
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

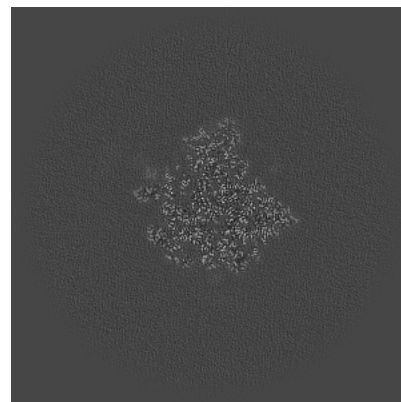
6.3.1 Primary map



X Index: 324

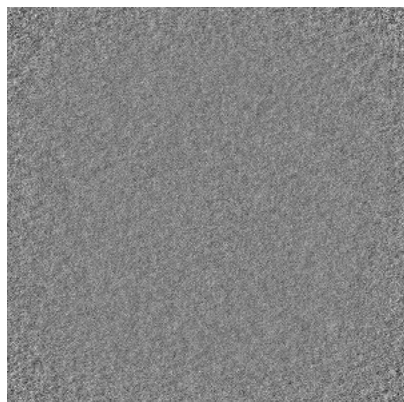


Y Index: 291

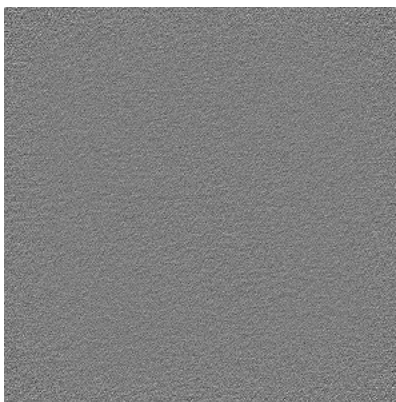


Z Index: 345

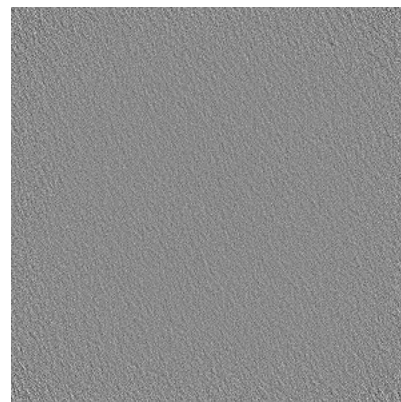
6.3.2 Raw map



X Index: 0



Y Index: 0

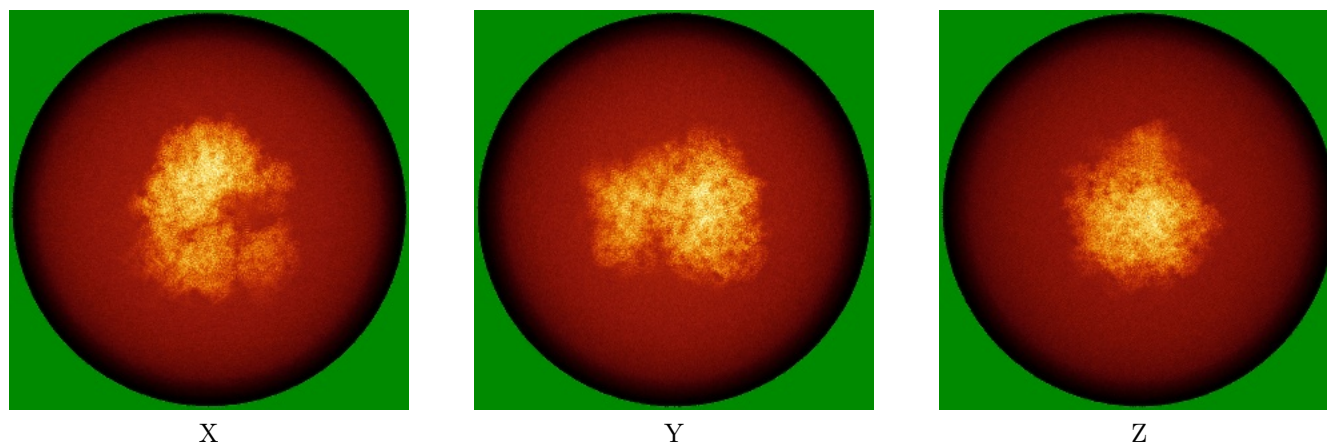


Z Index: 0

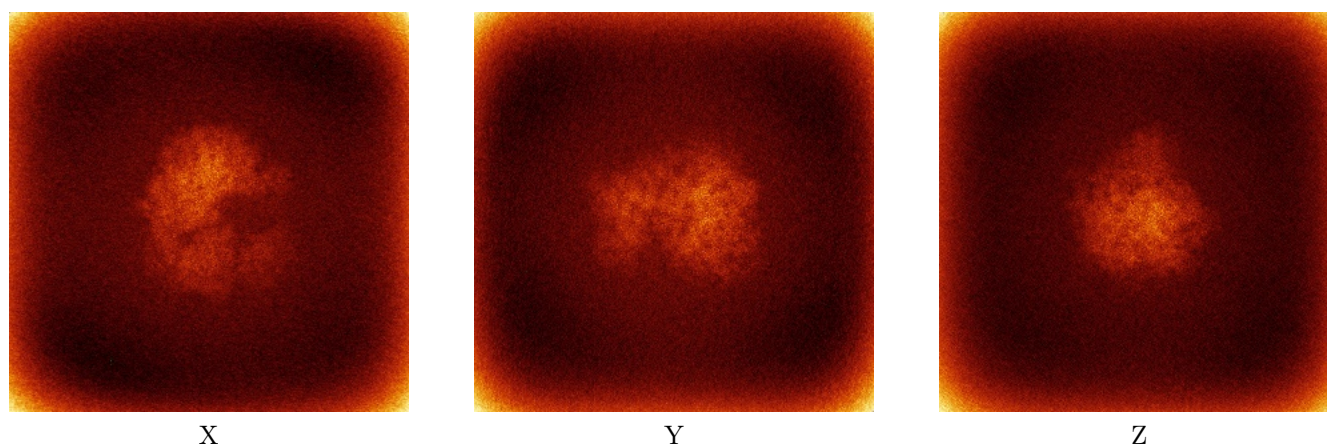
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



6.4.2 Raw map



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](#)

This section was not generated.

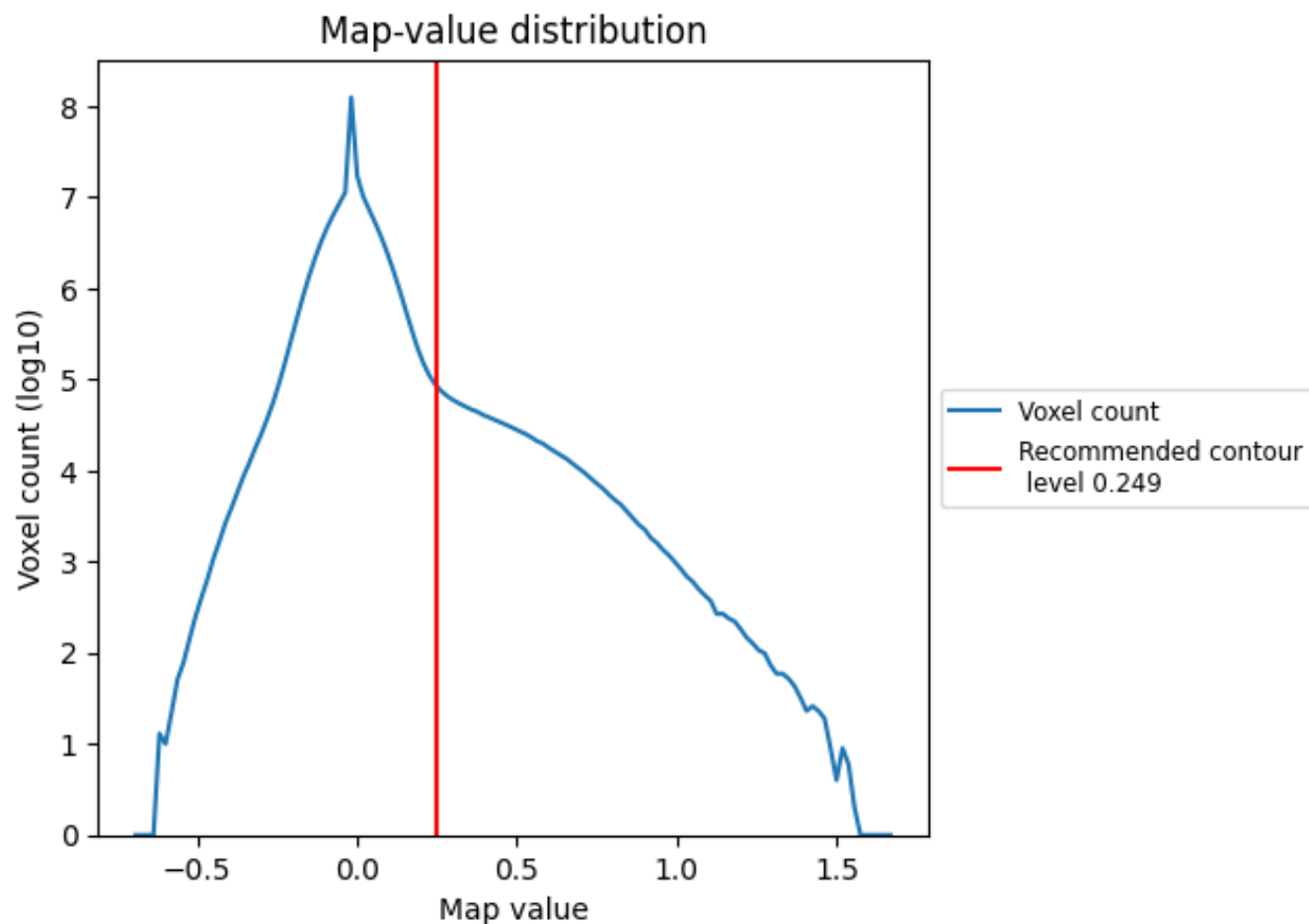
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

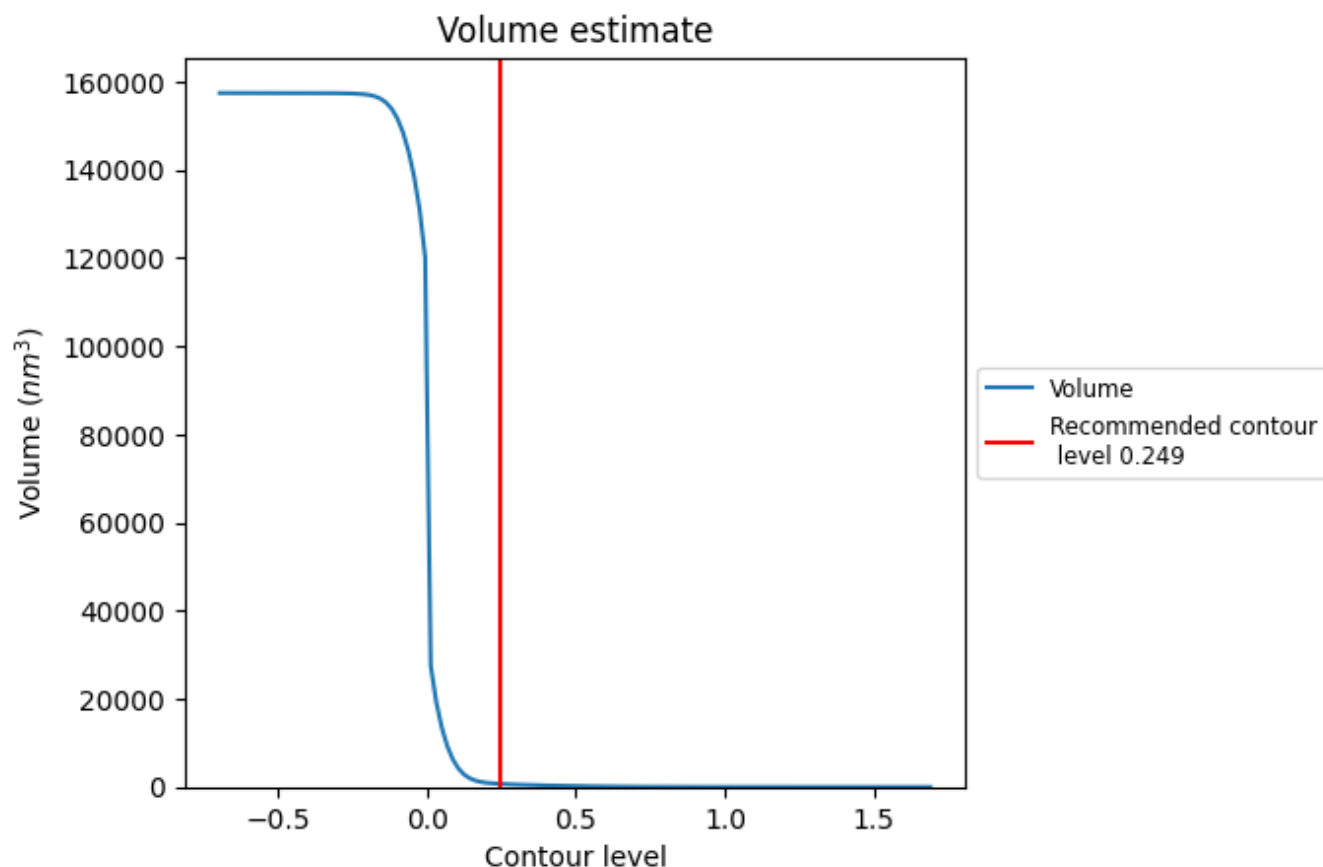
This section contains the results of statistical analysis of the map.

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.

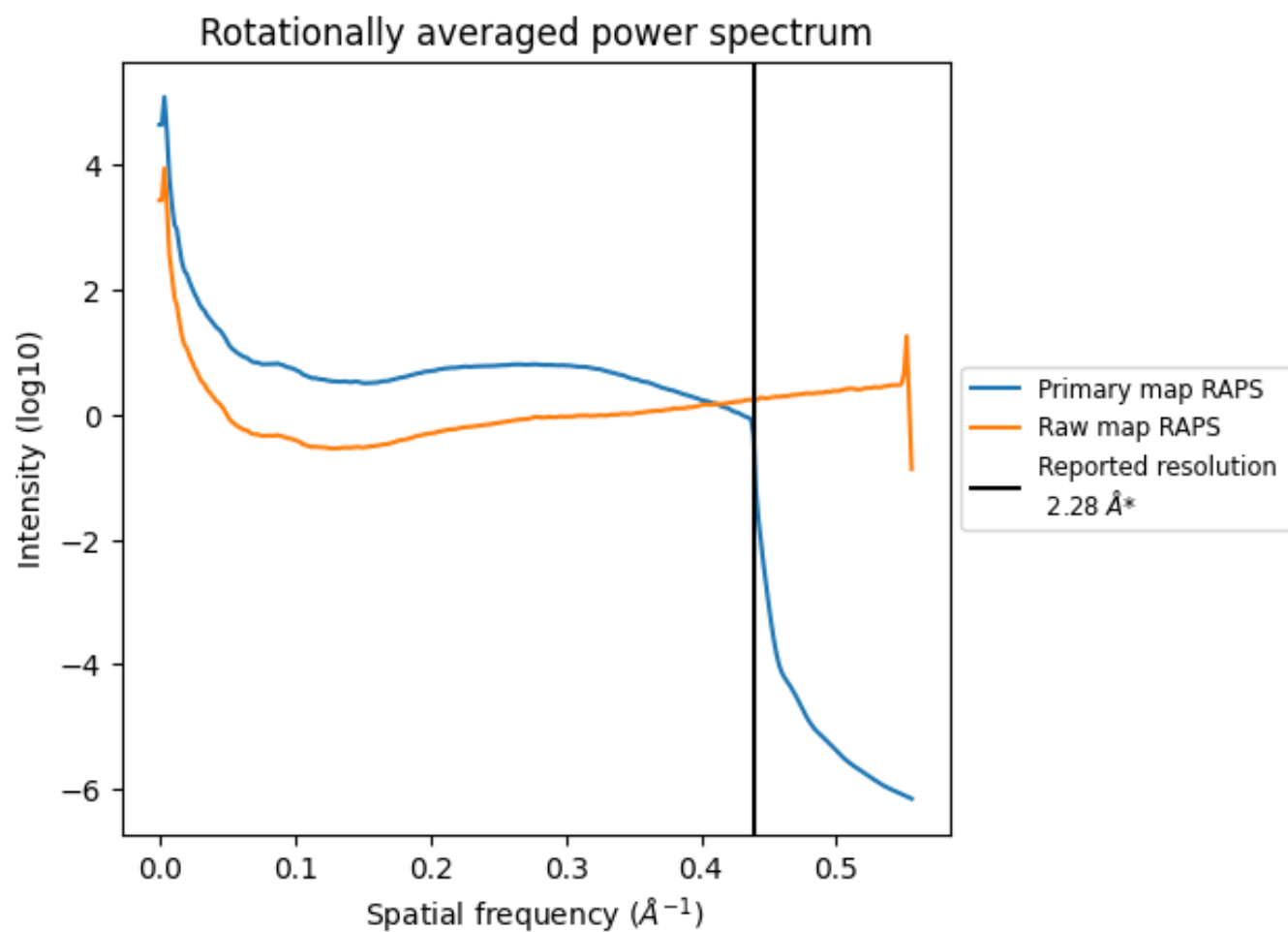
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 688 nm^3 ; this corresponds to an approximate mass of 621 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 ⓘ

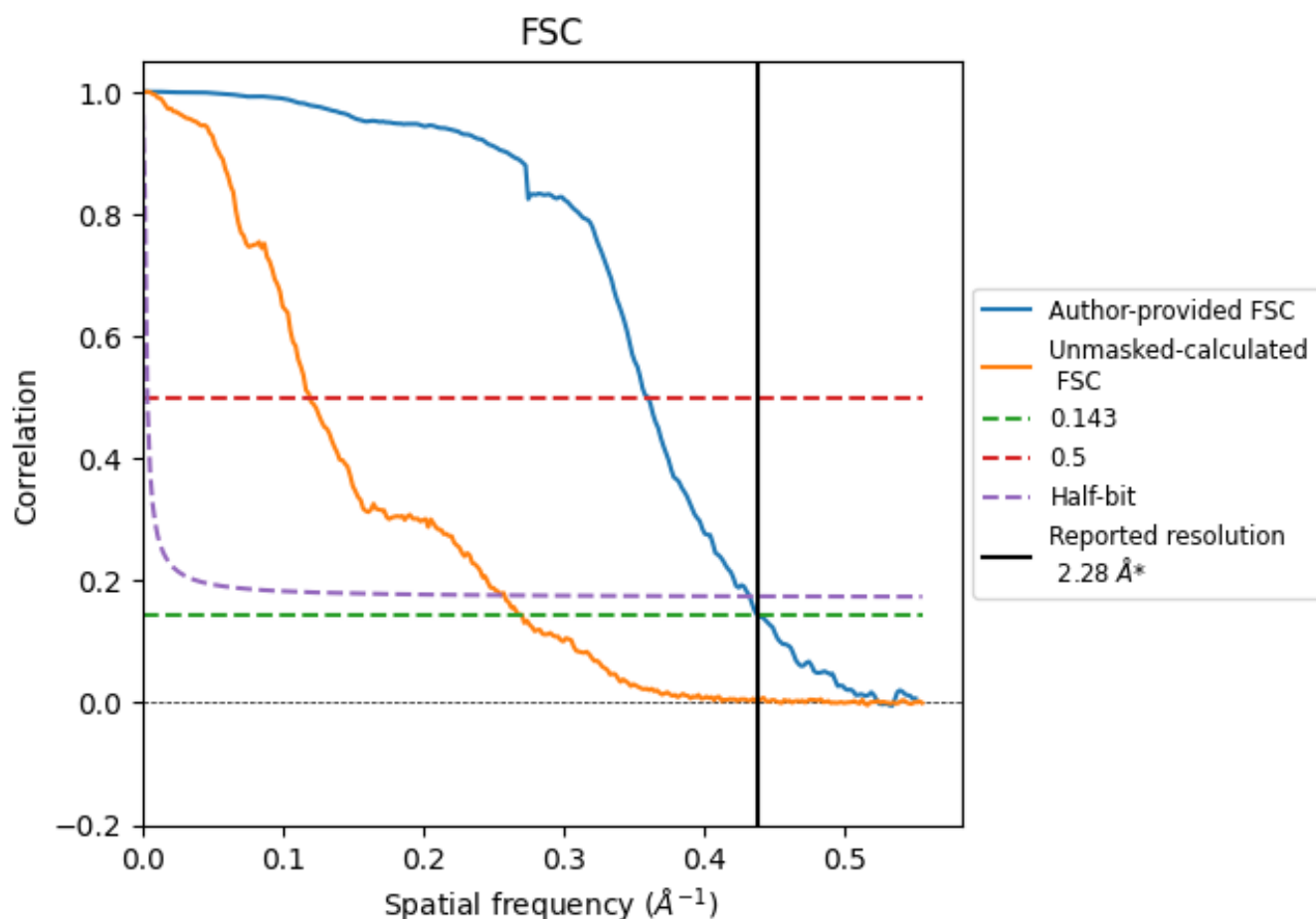


*Reported resolution corresponds to spatial frequency of 0.439 Å⁻¹

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 0.439 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

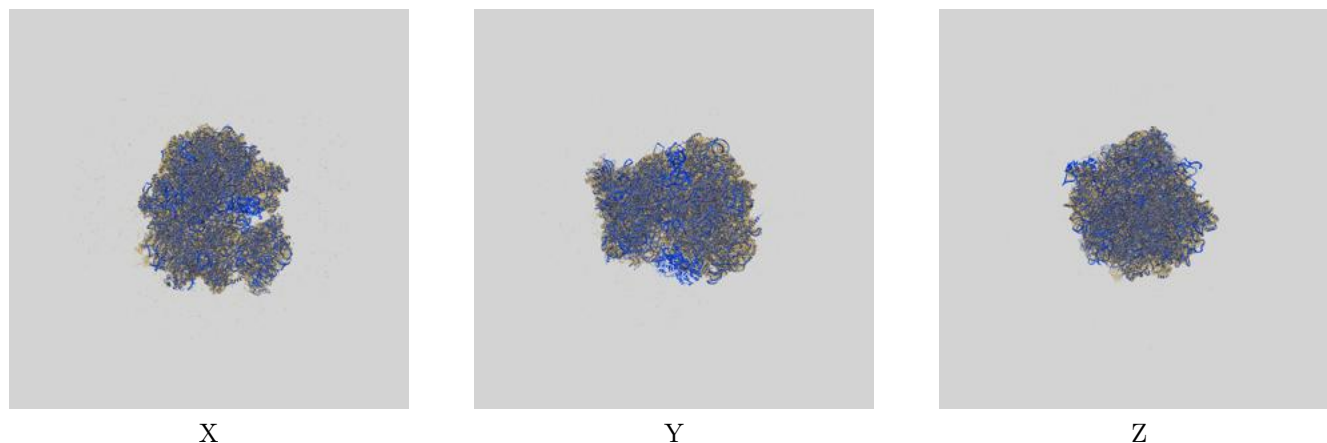
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.28	-	-
Author-provided FSC curve	2.28	2.78	2.31
Unmasked-calculated*	3.70	8.38	3.88

*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 3.70 differs from the reported value 2.28 by more than 10 %

9 Map-model fit [i](#)

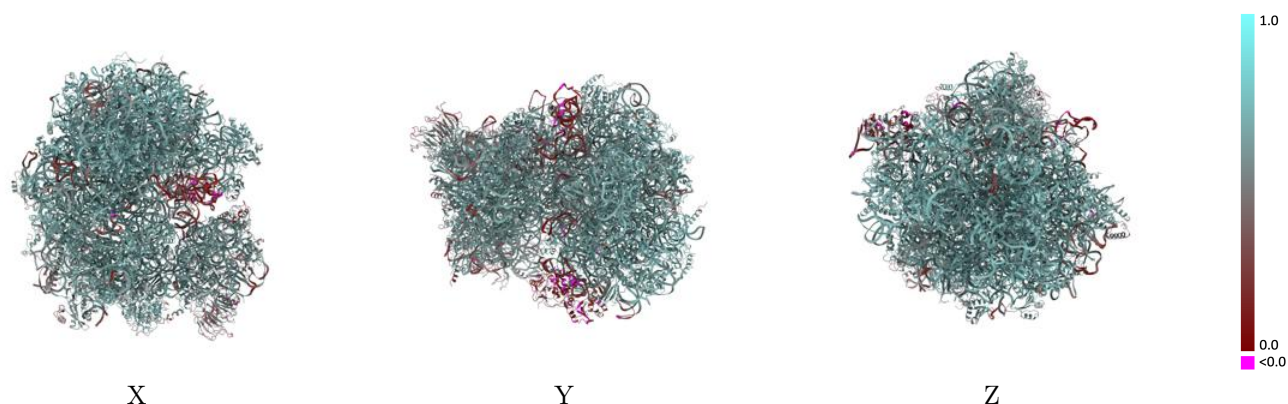
This section contains information regarding the fit between EMDB map EMD-16648 and PDB model 8CGN. Per-residue inclusion information can be found in section [3](#) on page [23](#).

9.1 Map-model overlay [i](#)



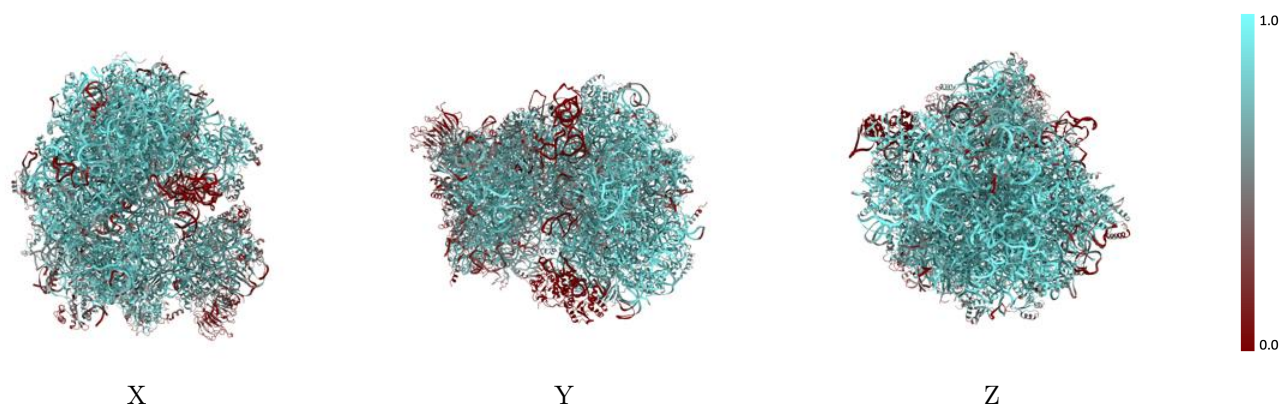
The images above show the 3D surface view of the map at the recommended contour level 0.249 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



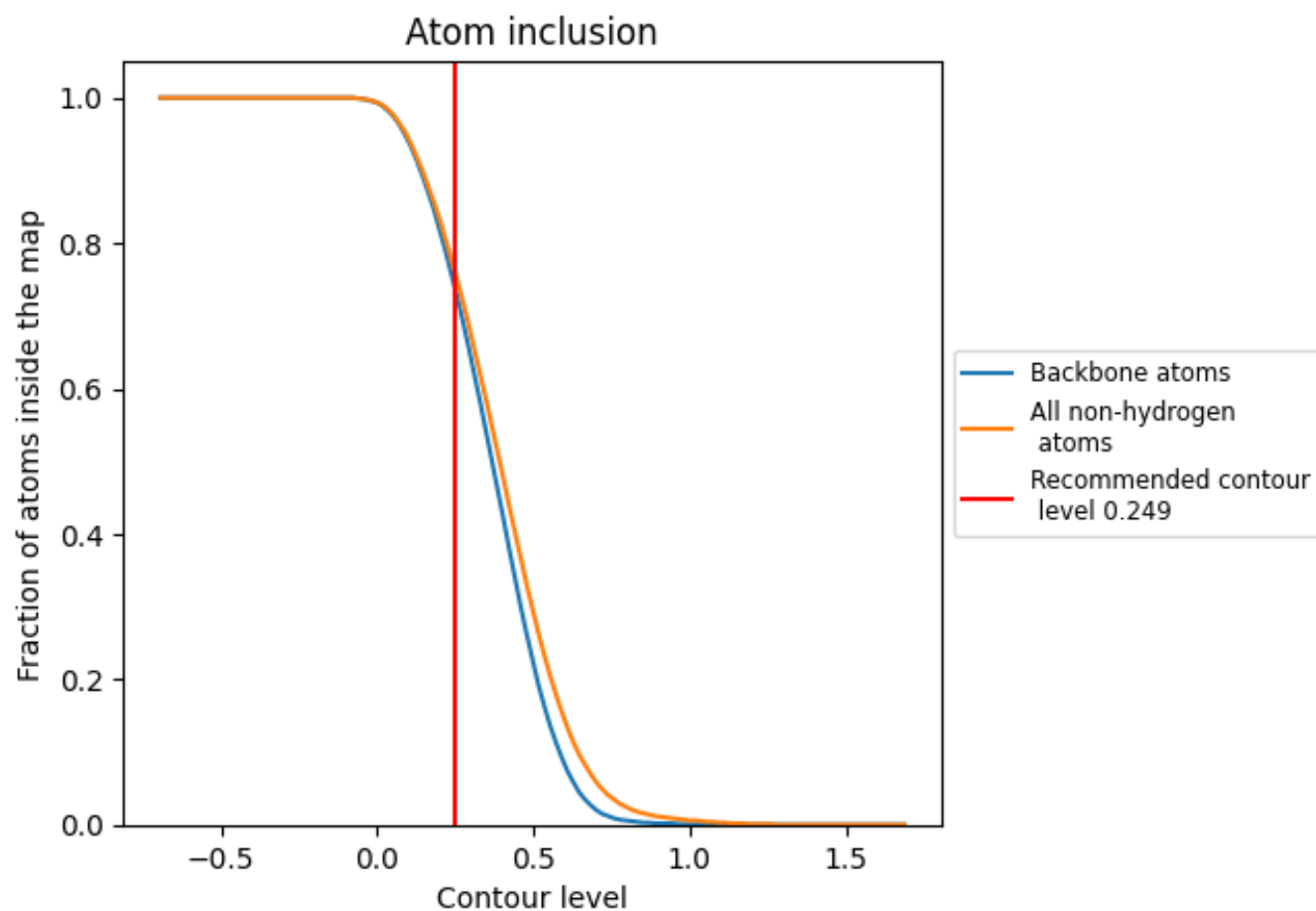
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.249).

9.4 Atom inclusion [i](#)



At the recommended contour level, 74% of all backbone atoms, 76% 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 (0.249) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7600	 0.6110
0	 0.5440	 0.5690
1	 0.2650	 0.3850
2	 0.7770	 0.6370
3	 0.6310	 0.5740
4	 0.4950	 0.5660
5	 0.8110	 0.6460
6	 0.5280	 0.5300
7	 0.2620	 0.4430
8	 0.0590	 0.3080
A	 0.8640	 0.6720
AA	 0.8420	 0.6230
B	 0.8950	 0.6880
BB	 0.9060	 0.6450
Bb	 0.5910	 0.5460
C	 0.8840	 0.6810
CC	 0.9120	 0.6520
Cc	 0.0990	 0.2980
D	 0.7890	 0.6410
DD	 0.0030	 0.2590
Dd	 0.6490	 0.6000
E	 0.8560	 0.6710
EE	 0.8810	 0.6860
Ee	 0.0010	 0.1550
F	 0.8070	 0.6540
FF	 0.8590	 0.6710
G	 0.6090	 0.5880
GG	 0.8620	 0.6730
H	 0.8610	 0.6820
HH	 0.6790	 0.6110
I	 0.8240	 0.6780
II	 0.7560	 0.6480
J	 0.7950	 0.6540
JJ	 0.8590	 0.6760
K	 0.8280	 0.6650



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Chain	Atom inclusion	Q-score
KK	 0.6990	 0.6240
L	 0.7560	 0.6330
LL	 0.7260	 0.6390
M	 0.8790	 0.6770
MM	 0.7610	 0.6600
N	 0.7060	 0.6130
NN	 0.6070	 0.5840
O	 0.8030	 0.6630
OO	 0.7870	 0.6420
P	 0.7400	 0.6310
PP	 0.7940	 0.6580
Q	 0.8760	 0.6840
QQ	 0.9240	 0.6900
R	 0.9260	 0.6940
S	 0.8390	 0.6620
T	 0.7930	 0.6450
U	 0.7170	 0.6220
V	 0.9190	 0.6880
W	 0.5930	 0.5890
X	 0.8510	 0.6550
Y	 0.7050	 0.6560
Z	 0.8020	 0.6610
a	 0.7780	 0.6600
b	 0.7970	 0.6610
c	 0.7890	 0.6040
d	 0.6830	 0.6020
e	 0.6800	 0.6180
f	 0.7750	 0.6430
g	 0.5330	 0.5740
h	 0.6870	 0.6210
i	 0.5580	 0.5640
j	 0.4070	 0.5200
k	 0.4750	 0.5400
l	 0.7320	 0.6200
m	 0.6670	 0.6040
n	 0.4470	 0.5270
o	 0.7660	 0.6360
p	 0.7610	 0.6480
q	 0.7790	 0.6330
r	 0.4530	 0.5400
s	 0.6280	 0.5760
t	 0.4940	 0.5290

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Chain	Atom inclusion	Q-score
u	 0.5030	 0.5370
v	 0.5720	 0.5600
w	 0.4590	 0.5460
x	 0.7210	 0.6210
y	 0.8580	 0.6750
z	 0.7050	 0.6310