



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 08:09 PM UTC

PDB ID : 8CF5 / pdb_00008cf5
EMDB ID : EMD-16616
Title : Translocation intermediate 1 (TI-1) of 80S *S. cerevisiae* ribosome with ligands and eEF2 in the presence of sordarin
Authors : Milicevic, N.; Jenner, L.; Myasnikov, A.; Yusupov, M.; Yusupova, G.
Deposited on : 2023-02-02
Resolution : 2.71 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

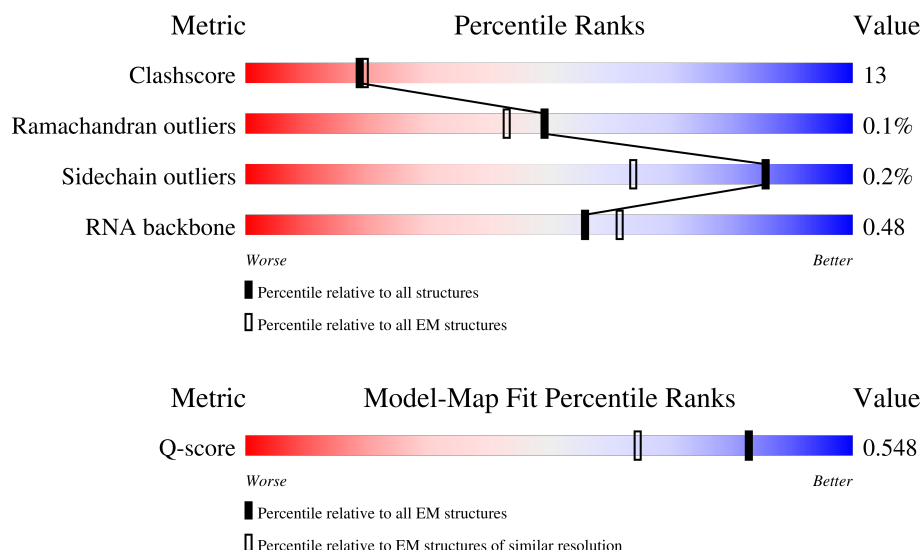
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.71 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.



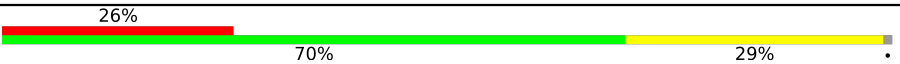
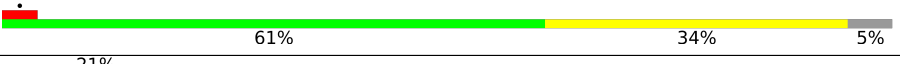
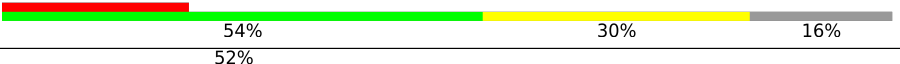
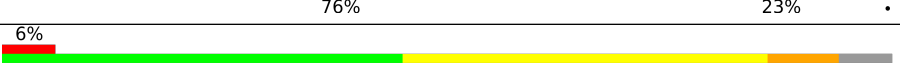
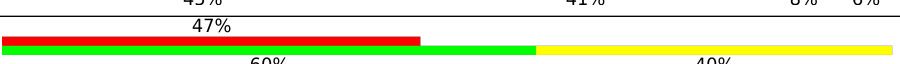
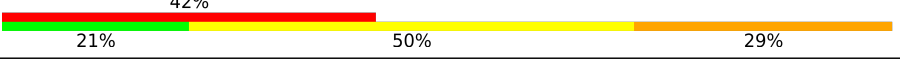
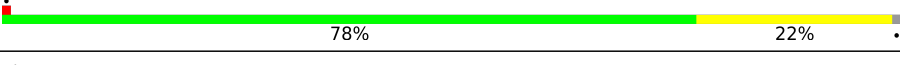
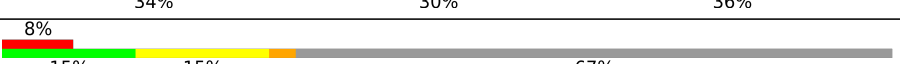
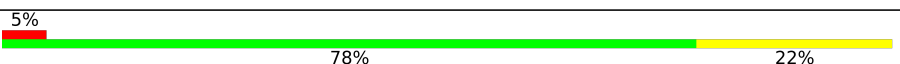
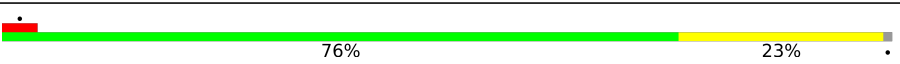
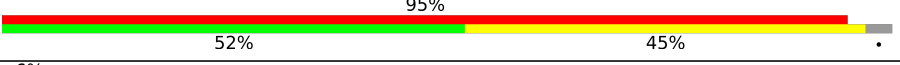
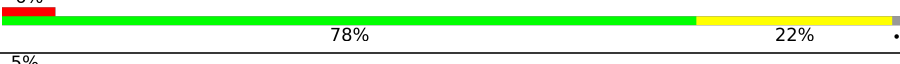
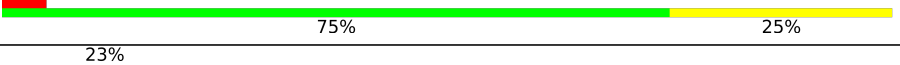
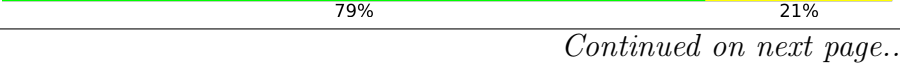
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	10297 (2.21 - 3.21)

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	36% 65% 34% .
2	1	108	32% 33% 31% 35%
3	2	119	. 62% 19% 18%

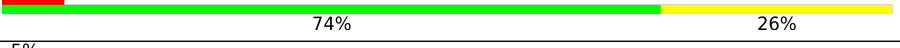
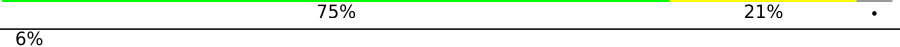
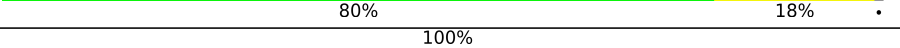
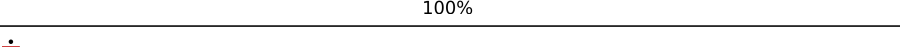
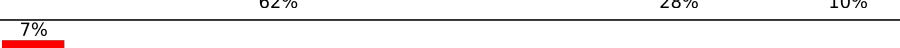
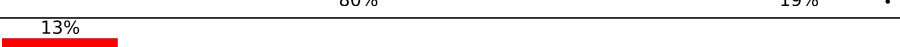
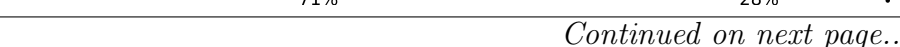
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Mol	Chain	Length	Quality of chain
4	3	82	
5	4	67	
6	5	56	
7	6	63	
8	7	319	
9	8	152	
10	A	199	
11	AA	3396	
12	Aa	842	
13	B	184	
14	BB	121	
15	Bb	76	
16	C	186	
17	CC	158	
18	Cc	77	
19	D	189	
20	DD	312	
21	Dd	39	
22	E	172	
23	EE	254	
24	Ee	165	
25	F	160	
26	FF	387	
27	G	121	
28	GG	362	

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Mol	Chain	Length	Quality of chain
29	H	137	
30	HH	297	
31	I	155	
32	II	176	
33	J	142	
34	JJ	244	
35	K	127	
36	KK	256	
37	L	136	
38	LL	191	
39	M	149	
40	MM	221	
41	N	59	
42	NN	174	
43	O	105	
44	OO	199	
45	P	113	
46	PP	138	
47	Pp	2	
48	Q	130	
49	QQ	204	
50	R	107	
51	S	121	
52	T	120	
53	U	100	

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Mol	Chain	Length	Quality of chain
54	V	88	
55	W	78	
56	X	51	
57	Y	128	
58	Z	25	
59	a	106	
60	b	92	
61	c	1800	
62	d	252	
63	e	255	
64	f	254	
65	g	240	
66	h	261	
67	i	225	
68	j	236	
69	k	190	
70	l	200	
71	m	197	
72	n	105	
73	o	156	
74	p	151	
75	q	137	
76	r	142	
77	s	143	
78	t	136	

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Mol	Chain	Length	Quality of chain
79	u	146	
80	v	144	
81	w	121	
82	x	87	
83	y	130	
84	z	145	

2 Entry composition

There are 91 unique types of molecules in this entry. The entry contains 208161 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	53	Total	C	N	O	S	0	0
			442	274	92	72	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	3190	Total	C	N	O	P	0	0
			68285	30524	12313	22258	3190		

- Molecule 12 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Aa	842	Total	C	N	O	S	0	0
			6569	4173	1126	1239	31		

- Molecule 13 is a protein called 60S ribosomal protein L17-A.

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

- Molecule 14 is a RNA chain called 5S ribosomal RNA.

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

- Molecule 15 is a RNA chain called Transfer RNA Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Bb	76	Total	C	N	O	P	0	0
			1638	736	294	533	75		

- Molecule 16 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 17 is a RNA chain called 5.8S ribosomal RNA.

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

- Molecule 18 is a RNA chain called Transfer RNA fMet.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 19 is a protein called 60S ribosomal protein L19-A.

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

- Molecule 20 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	DD	200	Total	C	N	O	S	0	0
			1551	994	269	284	4		

- Molecule 21 is a RNA chain called Messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Dd	13	Total	C	N	O	P	0	0
			278	125	50	90	13		

- Molecule 22 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 23 is a protein called 60S ribosomal protein L2-A.

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

- Molecule 24 is a protein called 60S ribosomal protein L12-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Ee	160	Total	C	N	O	S	0	0
			1211	759	218	232	2		

- Molecule 25 is a protein called 60S ribosomal protein L21-A.

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

- Molecule 26 is a protein called 60S ribosomal protein L3.

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

- Molecule 27 is a protein called 60S ribosomal protein L22-A.

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

- Molecule 28 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 29 is a protein called 60S ribosomal protein L23-A.

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

- Molecule 30 is a protein called 60S ribosomal protein L5.

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

- Molecule 31 is a protein called 60S ribosomal protein L24-A.

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

- Molecule 32 is a protein called 60S ribosomal protein L6-A.

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

- Molecule 33 is a protein called 60S ribosomal protein L25.

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

- Molecule 34 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 35 is a protein called 60S ribosomal protein L26-A.

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

- Molecule 36 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 37 is a protein called 60S ribosomal protein L27-A.

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

- Molecule 38 is a protein called RPL9A isoform 1.

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

- Molecule 39 is a protein called 60S ribosomal protein L28.

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

- Molecule 40 is a protein called 60S ribosomal protein L10.

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

- Molecule 41 is a protein called 60S ribosomal protein L29.

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

- Molecule 42 is a protein called 60S ribosomal protein L11-A.

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

- Molecule 43 is a protein called 60S ribosomal protein L30.

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

- Molecule 44 is a protein called 60S ribosomal protein L13-A.

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

- Molecule 45 is a protein called 60S ribosomal protein L31-A.

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

- Molecule 46 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 47 is a protein called Polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Pp	2	Total	C	N	O	S	0	0
			19	14	2	2	1		

- Molecule 48 is a protein called 60S ribosomal protein L32.

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

- Molecule 49 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 50 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 51 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 52 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 53 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 54 is a protein called 60S ribosomal protein L37-A.

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

- Molecule 55 is a protein called 60S ribosomal protein L38.

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

- Molecule 56 is a protein called 60S ribosomal protein L39.

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

- Molecule 57 is a protein called Ubiquitin-60S ribosomal protein L40.

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

- Molecule 58 is a protein called 60S ribosomal protein L41.

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

- Molecule 59 is a protein called 60S ribosomal protein L42-A.

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

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

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

- Molecule 61 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	c	1604	Total	C	N	O	P	0	0
			34236	15322	6079	11231	1604		

- Molecule 62 is a protein called 40S ribosomal protein S0-A.

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

- Molecule 63 is a protein called 40S ribosomal protein S1-A.

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

- Molecule 64 is a protein called 40S ribosomal protein S2.

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

- Molecule 65 is a protein called RPS3 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	g	206	Total	C	N	O	S	0	0
			1601	1014	294	287	6		

- Molecule 66 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 67 is a protein called 40S ribosomal protein S5.

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

- Molecule 68 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	j	219	Total	C	N	O	S	0	0
			1766	1108	341	314	3		

- Molecule 69 is a protein called 40S ribosomal protein S7-A.

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

- Molecule 70 is a protein called 40S ribosomal protein S8-B.

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

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

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

- Molecule 72 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	n	91	Total	C	N	O	S		
			772	503	123	144	2	0	0

- Molecule 73 is a protein called 40S ribosomal protein S11-A.

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

- Molecule 74 is a protein called 40S ribosomal protein S13.

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

- Molecule 75 is a protein called 40S ribosomal protein S14-A.

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

- Molecule 76 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	r	104	Total	C	N	O	S	0	0
			837	533	155	143	6		

- Molecule 77 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 78 is a protein called 40S ribosomal protein S17-A.

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

- Molecule 79 is a protein called 40S ribosomal protein S18-A.

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

- Molecule 80 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 81 is a protein called 40S ribosomal protein S20.

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

- Molecule 82 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 83 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 84 is a protein called 40S ribosomal protein S23-A.

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

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

Mol	Chain	Residues	Atoms		AltConf
85	2	1	Total	Zn	0
			1	1	
85	5	1	Total	Zn	0
			1	1	
85	8	1	Total	Zn	0
			1	1	
85	S	1	Total	Zn	0
			1	1	
85	V	1	Total	Zn	0
			1	1	
85	Y	1	Total	Zn	0
			1	1	
85	a	1	Total	Zn	0
			1	1	
85	b	1	Total	Zn	0
			1	1	

- Molecule 86 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
86	2	1	Total	Mg	0
			1	1	
86	AA	178	Total	Mg	0
			178	178	
86	Aa	1	Total	Mg	0
			1	1	
86	B	1	Total	Mg	0
			1	1	
86	BB	4	Total	Mg	0
			4	4	

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Mol	Chain	Residues	Atoms		AltConf
86	CC	3	Total 3	Mg 3	0
86	Cc	1	Total 1	Mg 1	0
86	D	1	Total 1	Mg 1	0
86	EE	1	Total 1	Mg 1	0
86	F	1	Total 1	Mg 1	0
86	H	1	Total 1	Mg 1	0
86	c	48	Total 48	Mg 48	0

- Molecule 87 is POTASSIUM ION (CCD ID: K) (formula: K).

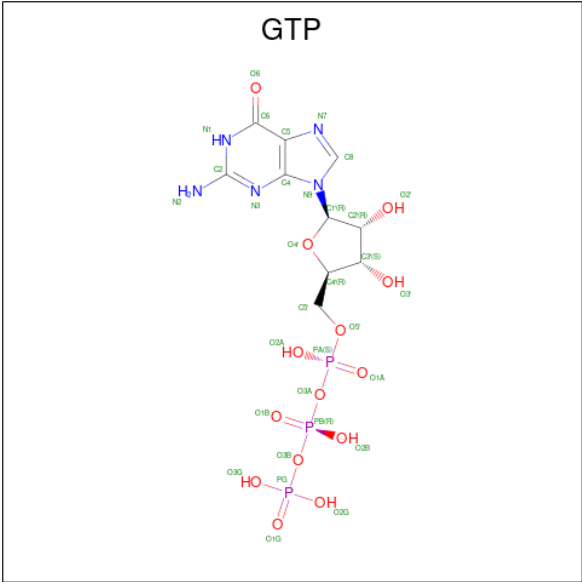
Mol	Chain	Residues	Atoms		AltConf
87	AA	12	Total 12	K 12	0
87	BB	1	Total 1	K 1	0
87	EE	1	Total 1	K 1	0
87	MM	1	Total 1	K 1	0
87	Q	1	Total 1	K 1	0
87	S	1	Total 1	K 1	0
87	a	1	Total 1	K 1	0
87	c	3	Total 3	K 3	0

- Molecule 88 is SPERMIDINE (CCD ID: SPD) (formula: C₇H₁₉N₃).



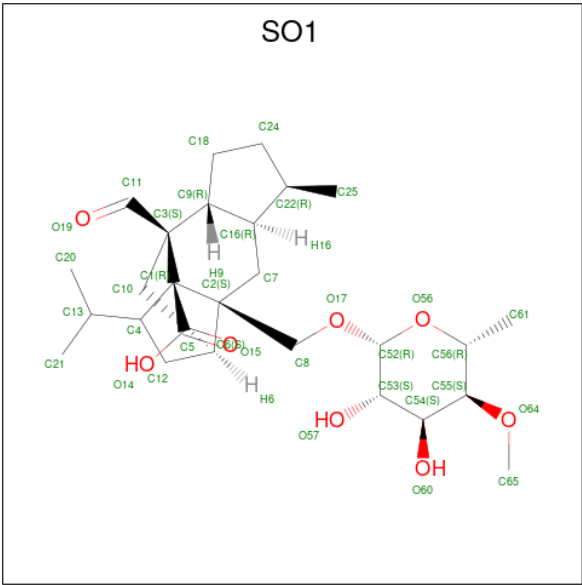
Mol	Chain	Residues	Atoms			AltConf
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	QQ	1	Total	C	N	0
			10	7	3	
88	c	1	Total	C	N	0
			10	7	3	
88	c	1	Total	C	N	0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

- Molecule 89 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
89	Aa	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 90 is [1R-(1.ALPHA.,3A.BETA.,4.BETA.,4A.BETA.,7.BETA.,7A.ALPHA.,8A.BETA.)]8A-[(6-DEOXY-4-O-METHYL-BETA-D-ALTROPYRANOSYLOXY)METHYL]-4-FORMYL-4,4A,5,6,7,7A,8,8A-OCTAHYDRO-7-METHYL-3-(1-METHYLETHYL)-1,4-METHANO-S-INDACENE-3A(1H)-CARBOXYLIC ACID (CCD ID: SO1) (formula: C₂₇H₄₂O₈) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
90	Aa	1	Total	C	O	0
			35	27	8	

- Molecule 91 is water.

Mol	Chain	Residues	Atoms	AltConf
91	2	2	Total O 2 2	0
91	A	1	Total O 1 1	0
91	AA	738	Total O 738 738	0
91	Aa	2	Total O 2 2	0
91	B	2	Total O 2 2	0
91	BB	6	Total O 6 6	0
91	CC	15	Total O 15 15	0
91	Cc	5	Total O 5 5	0
91	D	2	Total O 2 2	0
91	Dd	4	Total O 4 4	0
91	EE	6	Total O 6 6	0
91	F	3	Total O 3 3	0
91	FF	2	Total O 2 2	0
91	GG	2	Total O 2 2	0
91	H	3	Total O 3 3	0
91	HH	1	Total O 1 1	0
91	J	1	Total O 1 1	0
91	JJ	3	Total O 3 3	0
91	LL	1	Total O 1 1	0
91	M	4	Total O 4 4	0
91	MM	1	Total O 1 1	0

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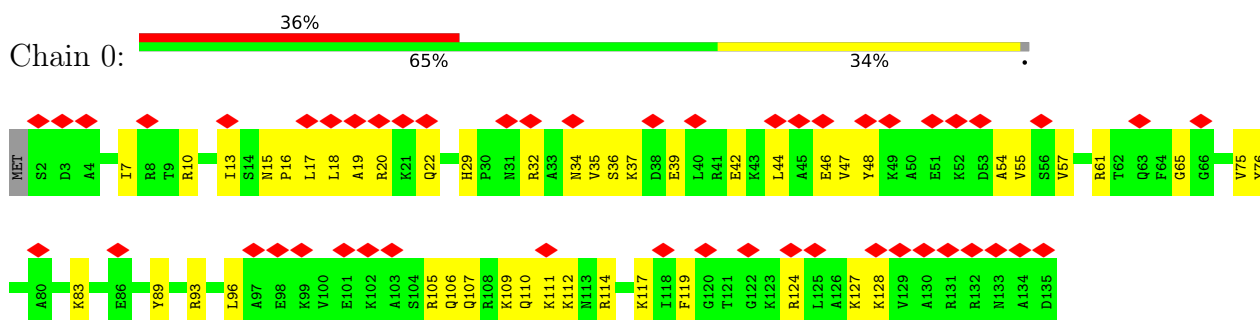
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Mol	Chain	Residues	Atoms		AltConf
91	N	1	Total 1	O 1	0
91	P	2	Total 2	O 2	0
91	Q	4	Total 4	O 4	0
91	QQ	4	Total 4	O 4	0
91	S	2	Total 2	O 2	0
91	V	2	Total 2	O 2	0
91	a	2	Total 2	O 2	0
91	c	161	Total 161	O 161	0
91	e	1	Total 1	O 1	0
91	h	1	Total 1	O 1	0
91	p	1	Total 1	O 1	0
91	q	2	Total 2	O 2	0
91	z	1	Total 1	O 1	0

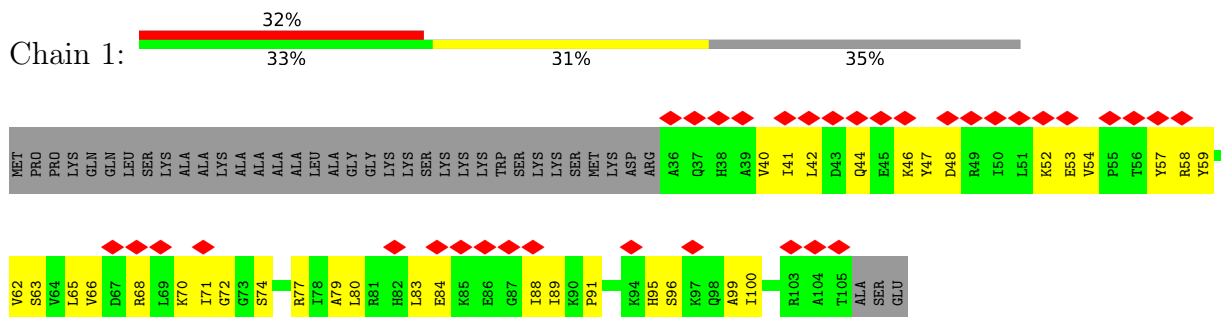
3 Residue-property plots [i](#)

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

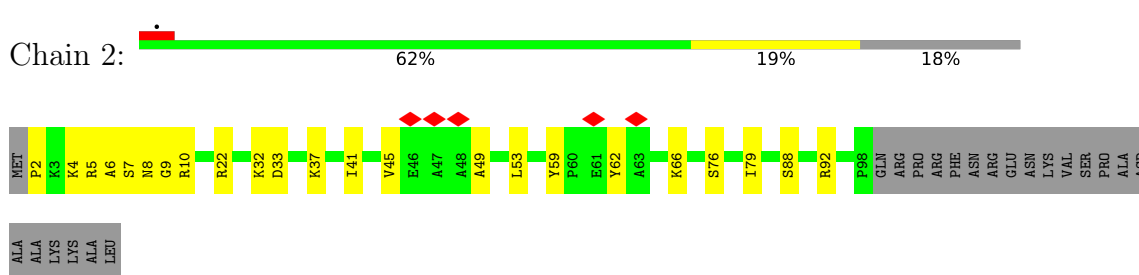
- Molecule 1: 40S ribosomal protein S24-A



- Molecule 2: 40S ribosomal protein S25-A

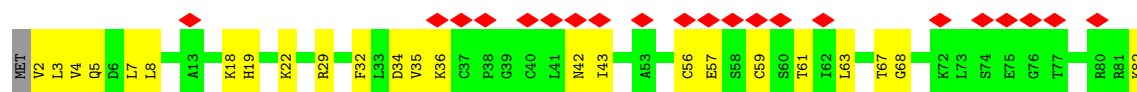


- Molecule 3: 40S ribosomal protein S26

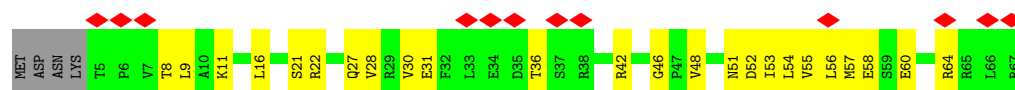


- Molecule 4: 40S ribosomal protein S27-A





- Molecule 5: 40S ribosomal protein S28-A



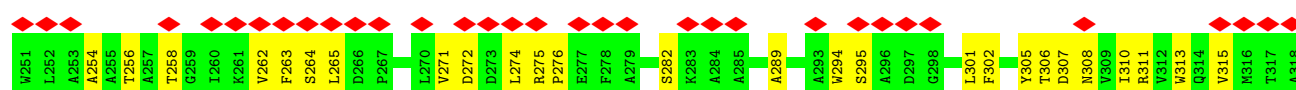
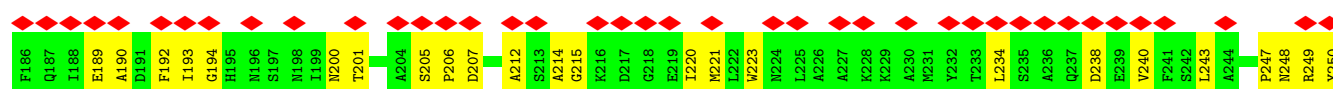
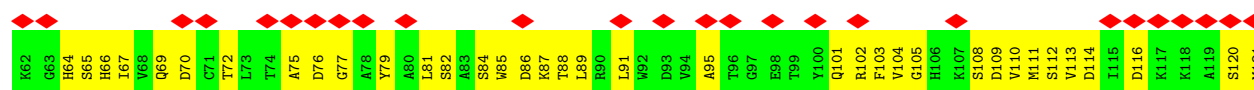
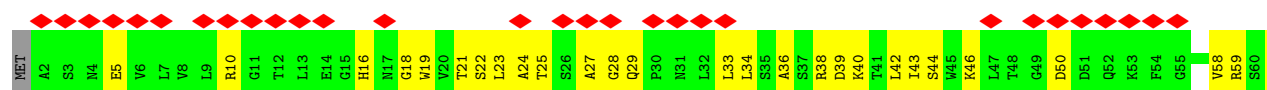
- Molecule 6: HLJ1_G0030400.mRNA.1.CDS.1



- Molecule 7: 40S ribosomal protein S30-A



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





- Molecule 9: Ubiquitin-40S ribosomal protein S31

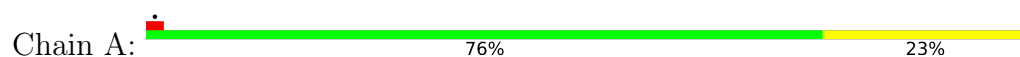


MET GLN ILE PHE VAL LYS THR LEU THR THR GLY LYS THR THR ILE THR LEU GLU VAL GLY SER SER ASP THR ILE ILE LYS LYS LYS GLN ASP LYS LYS GLY ILE ILE PRO PRO ASP GLN ARG ARG LEU ILE PHE ALA GLY LYS GLN LEU LEU ASP ARG THR LEU SER ASP TYR ASN

ILE GLN LYS GLU SER THR THR HIS LEU VAL ARG LEU ARG GLY GLY LYS LYS ARG ARG LYS LYS LYS VAL TYR THR PRO LYS LYS ILE ILE ASP LYS HIS K94 K95 K96 K97 K98 K99 L100 L101 V102 L103 SER TYR TYR GLN LYS VAL ASP ALA GLY THR VAL THR LYS VAL THR LYS ARG R119 E120

C121 S122 N123 P124 T125 C126 G127 A128 G129 V130 F131 A132 L133 A133 N134 H135 K136 D137 R138 L139 Y140 C141 G142 K143 G144 HIS SER VAL TYR LYS VAL ASN ALA

- Molecule 10: 60S ribosomal protein L16-A



MET SER V3 V7 V8 I9 D10 G17 V22 K25 Q26 L27 I33 V34 I43 S44 F47 F48 F49 D56 R59 T62 N65 R68 F80 A83 S89 G95 A98 L102 K103 V104 I108 R117 V118 V119 P121 L124

R125 V126 L138 L141 R160 R172 A173 F174 T175 K176 K177 A183 E187 A191 L194 L197 G198 Y199

- Molecule 11: 25S ribosomal RNA



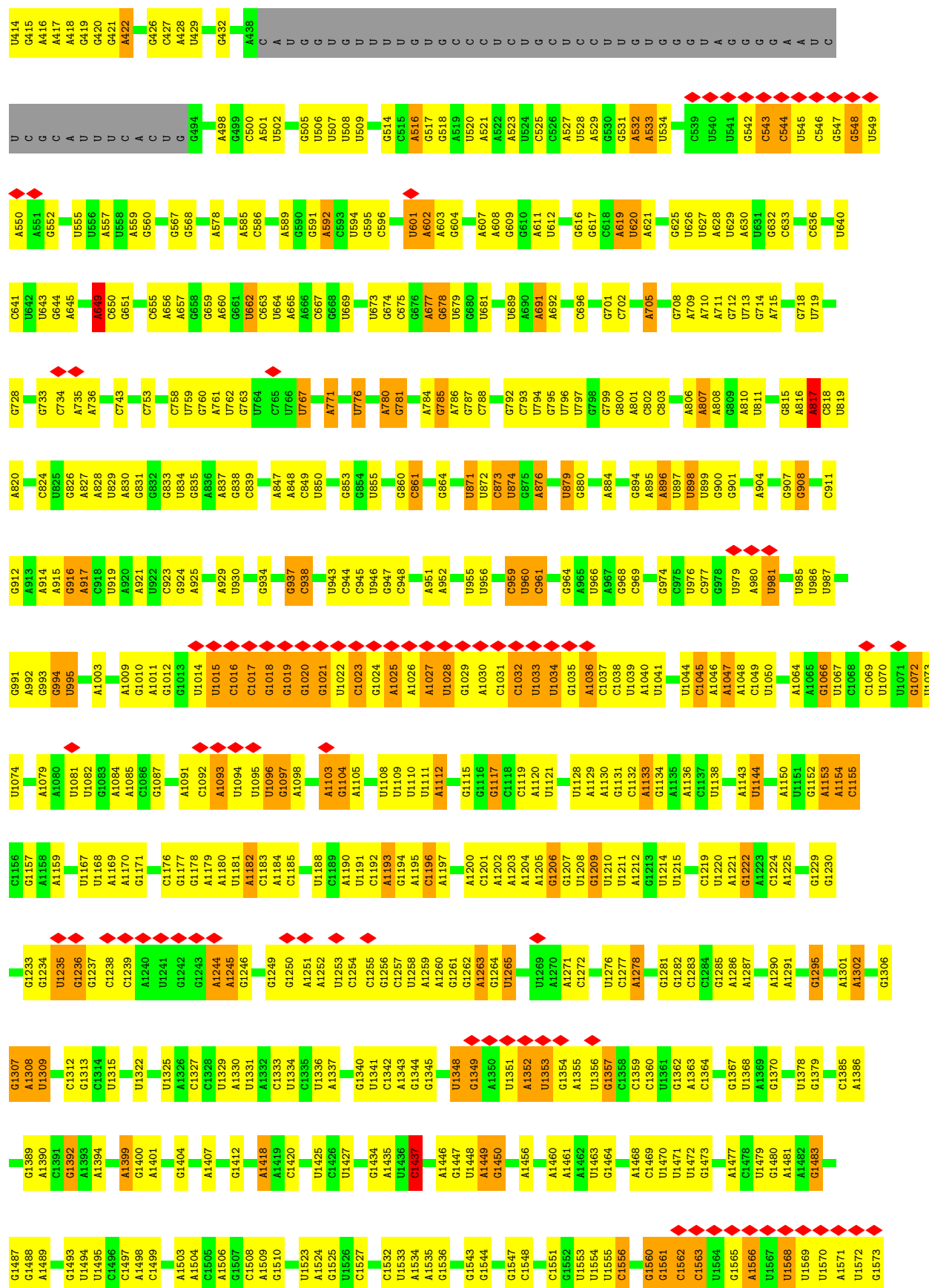
G U U3 U4 G5 A6 C7 C8 U9 A12 A13 U14 U19 A20 G21 G22 A26 C27 C28 C29 G30 G31 U32 A35 C36 U37 U38 A39 A40 A43 U44 A45 A49 G56 A57 G58 G59 A60 A61 A62 A63 G64 A65 A66 A67 C68 C69 A70 A71 C72 G75 G76

A77 U78 U79 G80 U84 A85 G86 A89 G92 C93 G94 A95 G96 G97 G98 G101 C102 G103 G104 A107 A108 A109 G110 C111 C113 C114 A115 A116 U117 U118 U119 A122 A123 G127 G128 U129 A130 C135 G136 G137 U138 G139 C140 G145 U146 U147 G148 U149 A150 A151

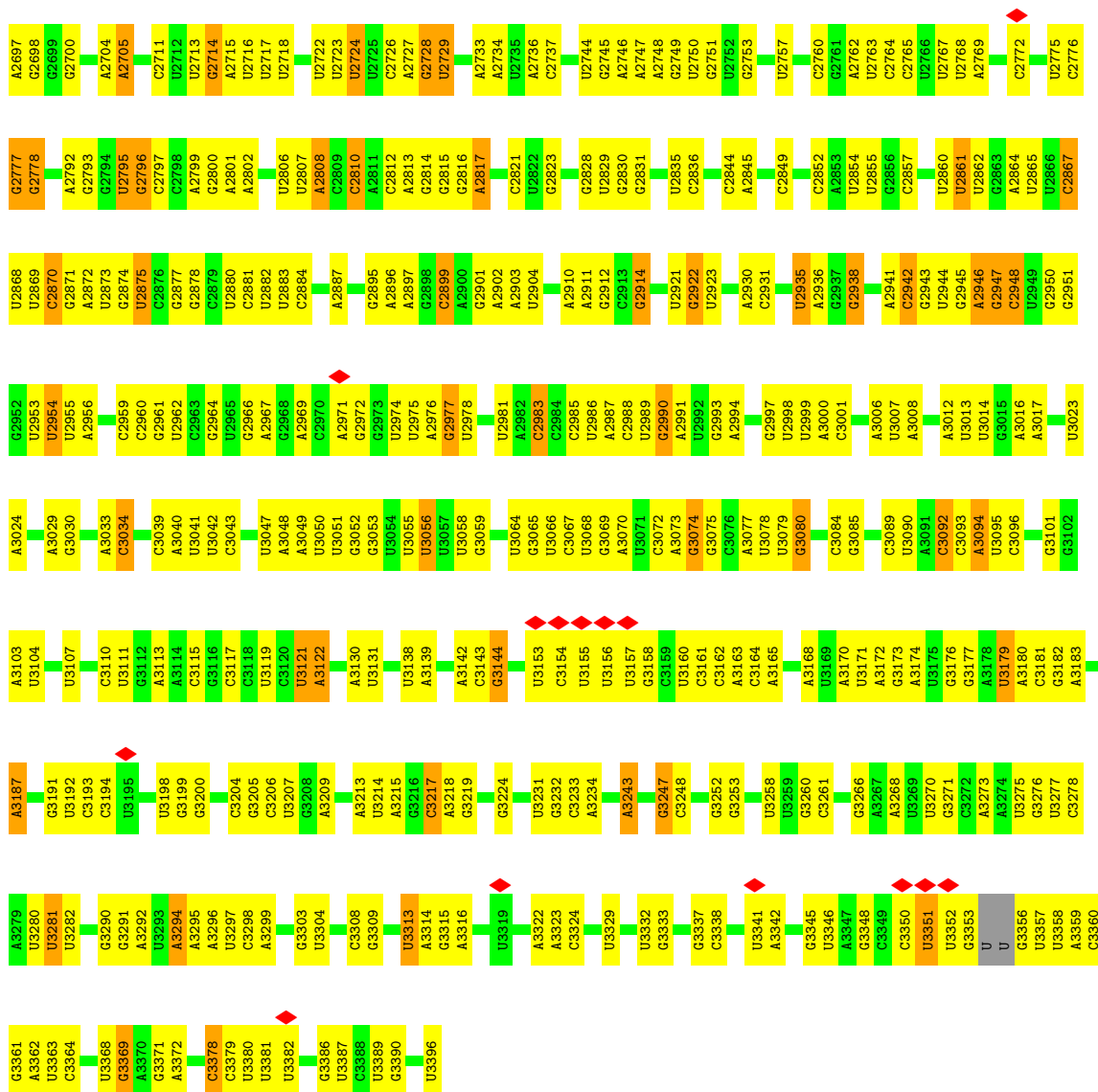
U152 U153 G156 A157 G158 A159 G160 A165 C166 U167 U168 U169 G170 G171 G172 G173 G174 C175 U182 G183 C185 U186 U190 U191 C192 U195 G196 C200 A201 G202 G206 U207 C208 A209 U210 A211 A219 G220 U228 G229 U230 G231 G234 G239 U240 G241 C242 G243

G244 U245 U246 C247 U248 U249 U250 G251 U252 A253 C263 G264 A265 G269 U270 C271 U275 U276 U279 U280 G281 G282 G283 A284 U285 U286 G287 C288 A289 G290 C291 U292 C293 U294 A295 G296 G297 U298 G301 G302 G303 G304 U305 C306 A307 A308 A313 U314 C315 U322 A323 A324

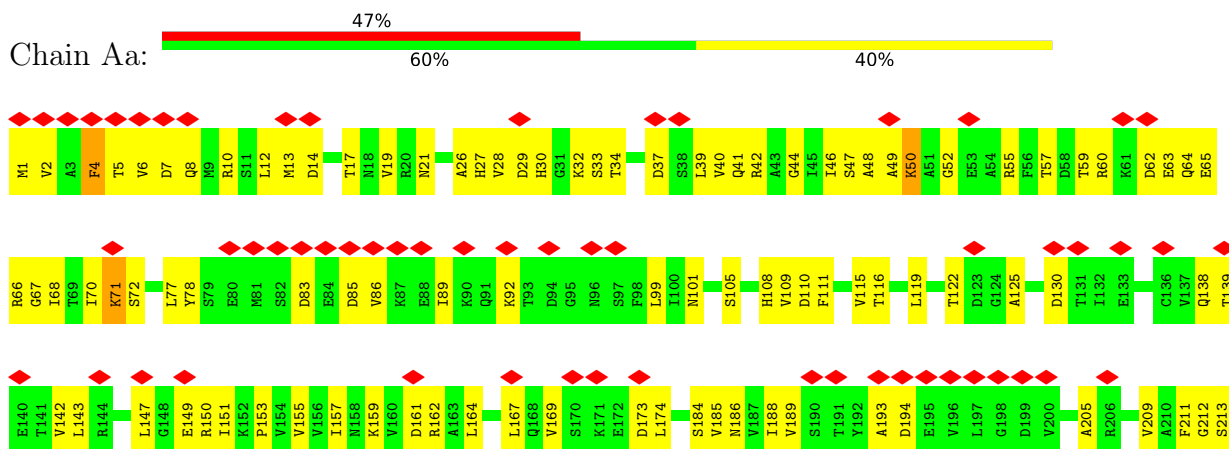
U329 G335 A338 C339 C340 G341 A348 A351 A352 G353 U354 A355 C356 A357 G358 U359 G360 A361 U362 G363 U370 G371 A374 A375 G376 A377 U381 U382 C383 A384 A385 A386 G392 U393 G394 A397 A398 A399 G400 U401 A402 C403 G404 U405 G406 A407 A408 U411 G412 U413

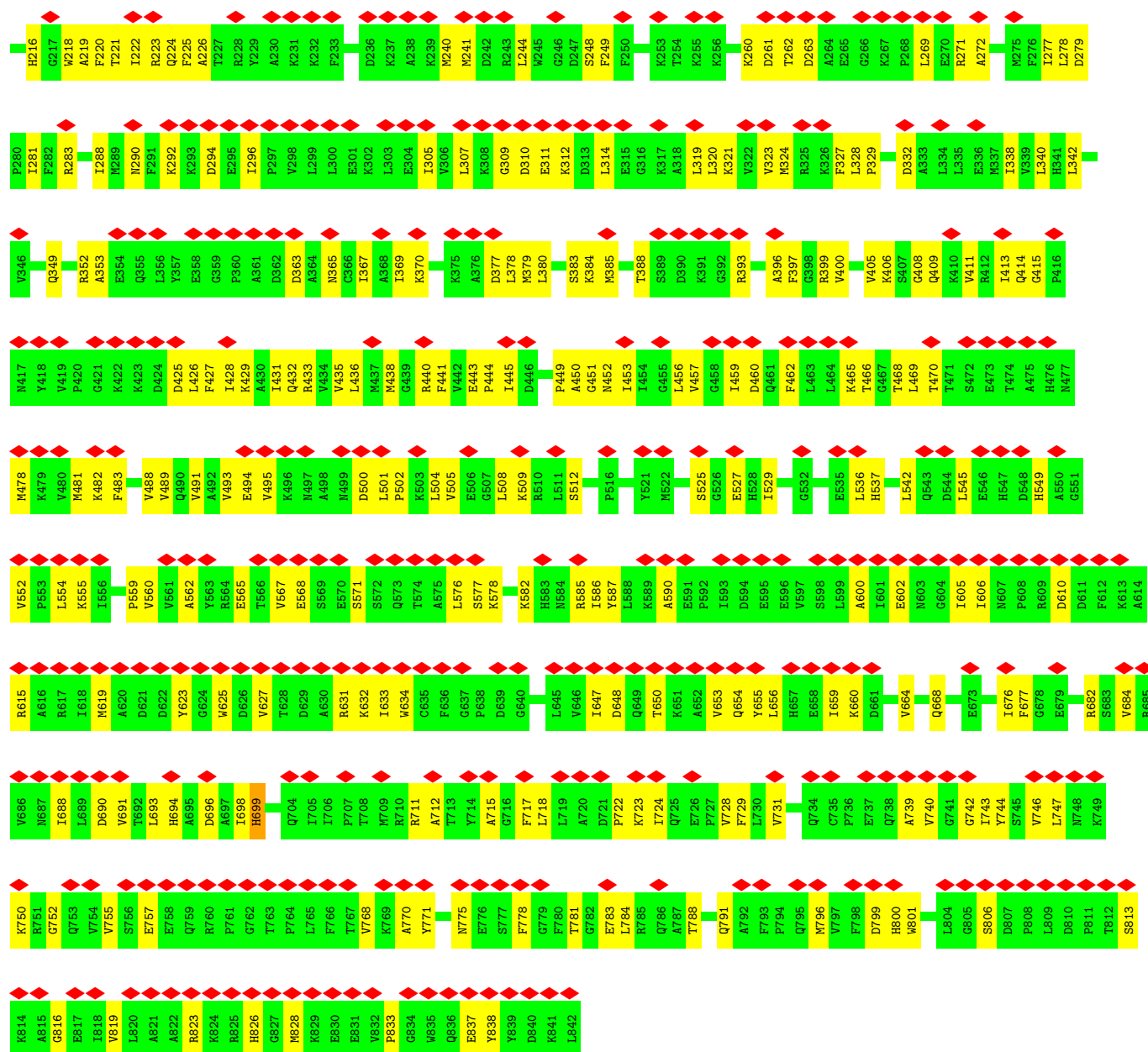




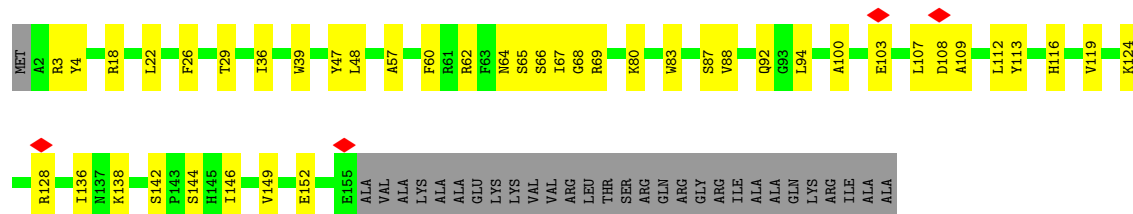


• Molecule 12: Elongation factor 2

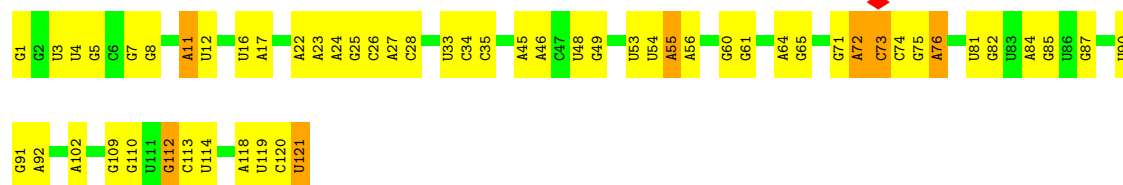




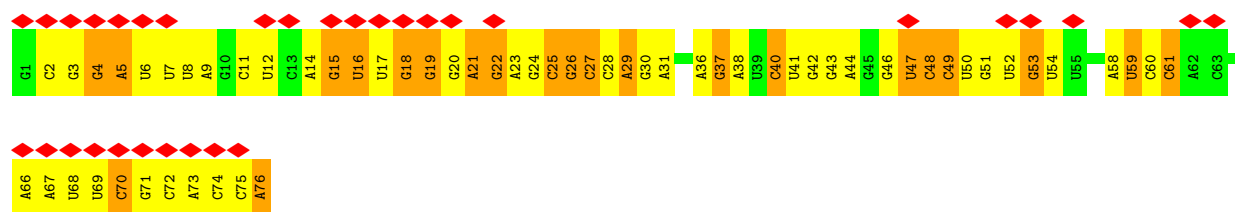
• Molecule 13: 60S ribosomal protein L17-A



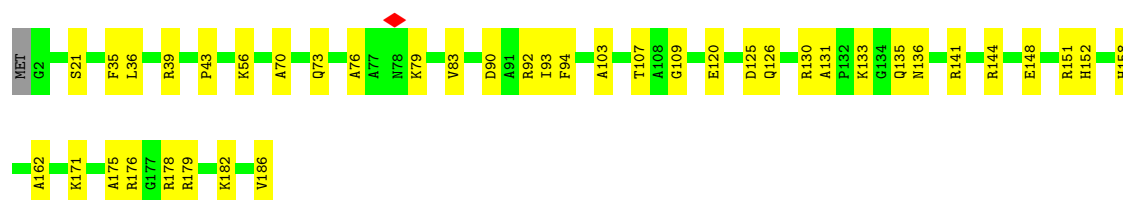
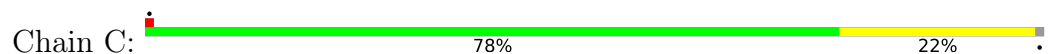
• Molecule 14: 5S ribosomal RNA



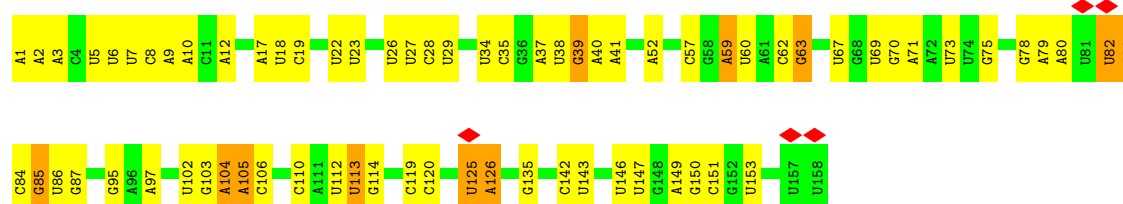
• Molecule 15: Transfer RNA Phe



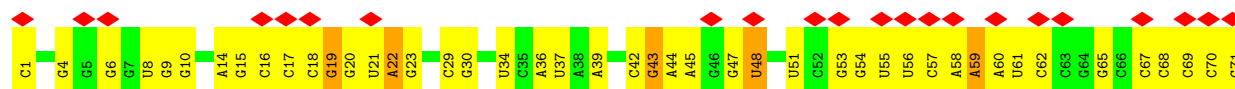
• Molecule 16: 60S ribosomal protein L18-A

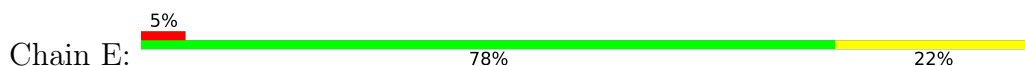


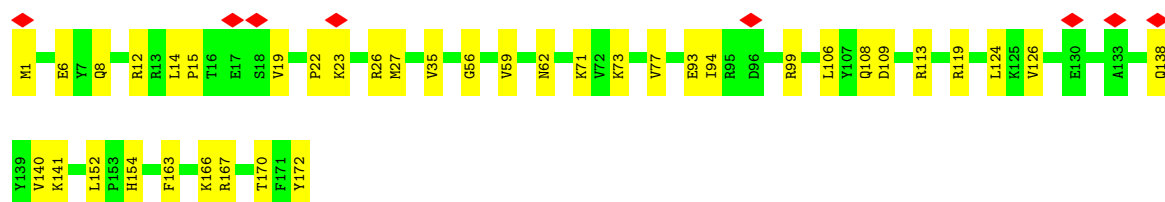
• Molecule 17: 5.8S ribosomal RNA



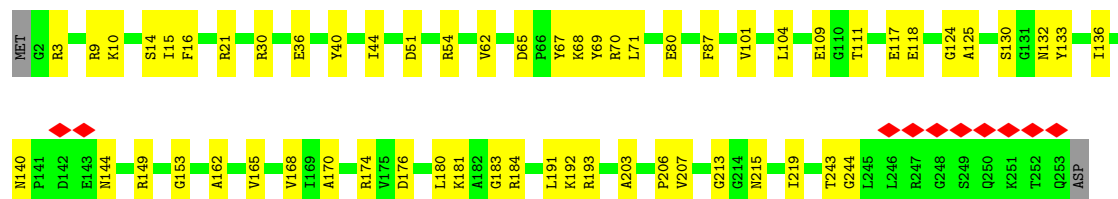
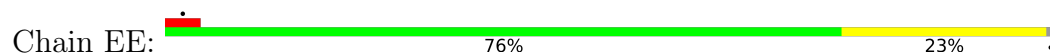
• Molecule 18: Transfer RNA fMet







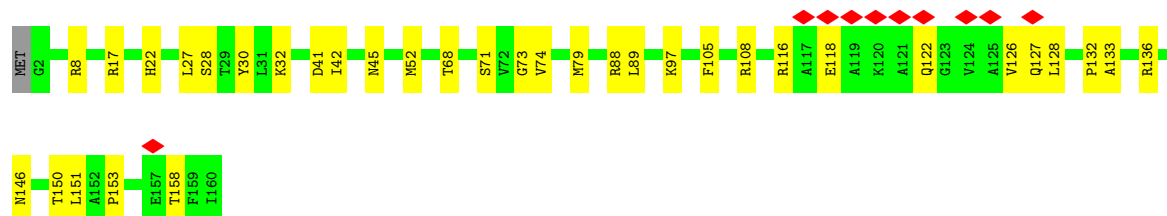
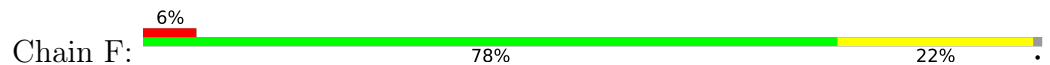
- Molecule 23: 60S ribosomal protein L2-A



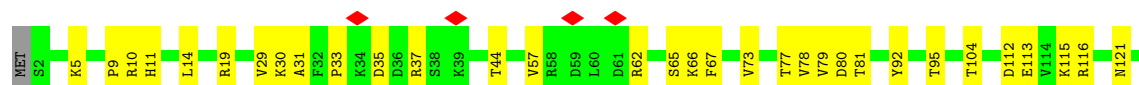
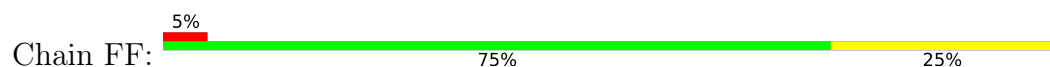
- Molecule 24: 60S ribosomal protein L12-A

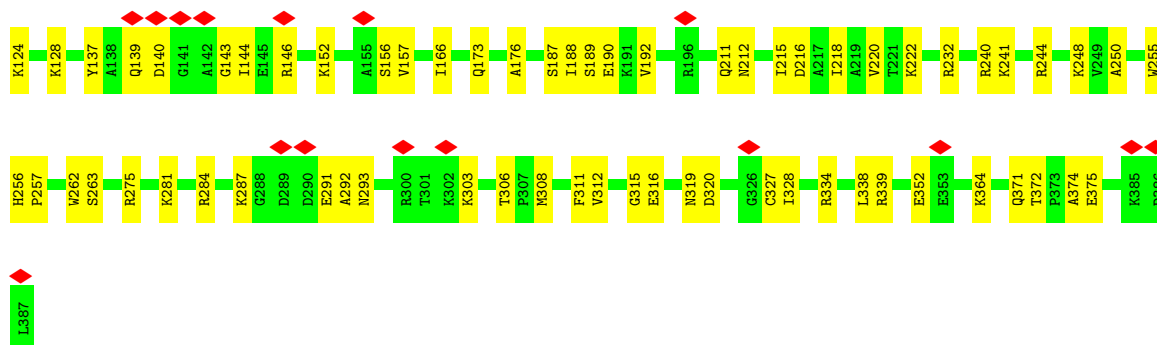


- Molecule 25: 60S ribosomal protein L21-A

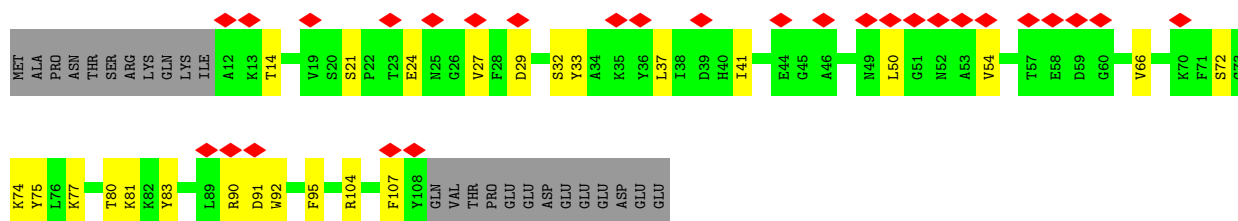


- Molecule 26: 60S ribosomal protein L3

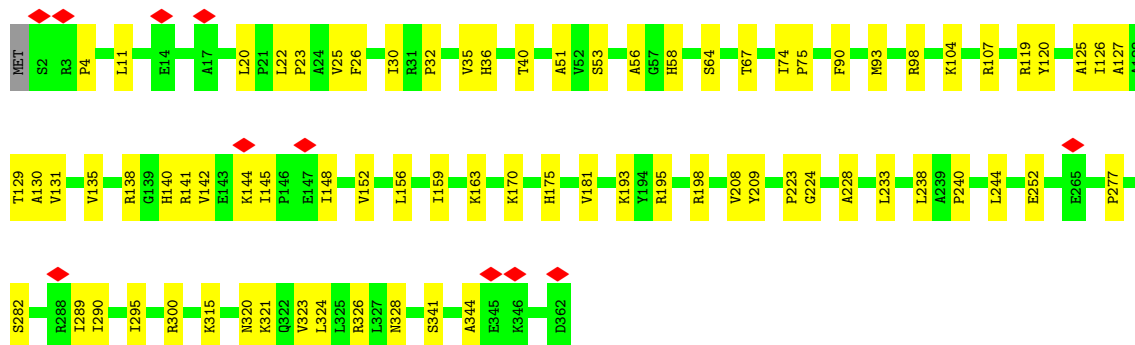
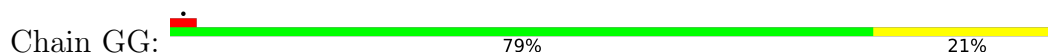




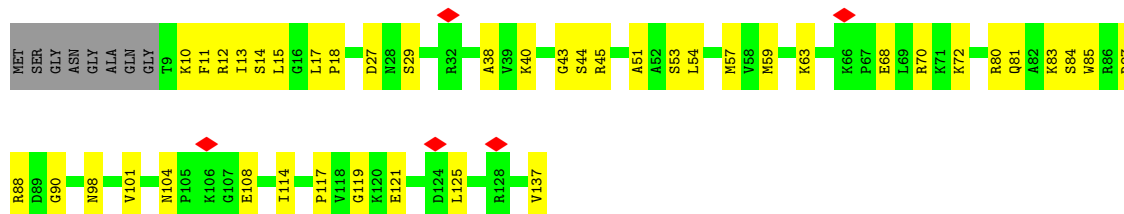
• Molecule 27: 60S ribosomal protein L22-A



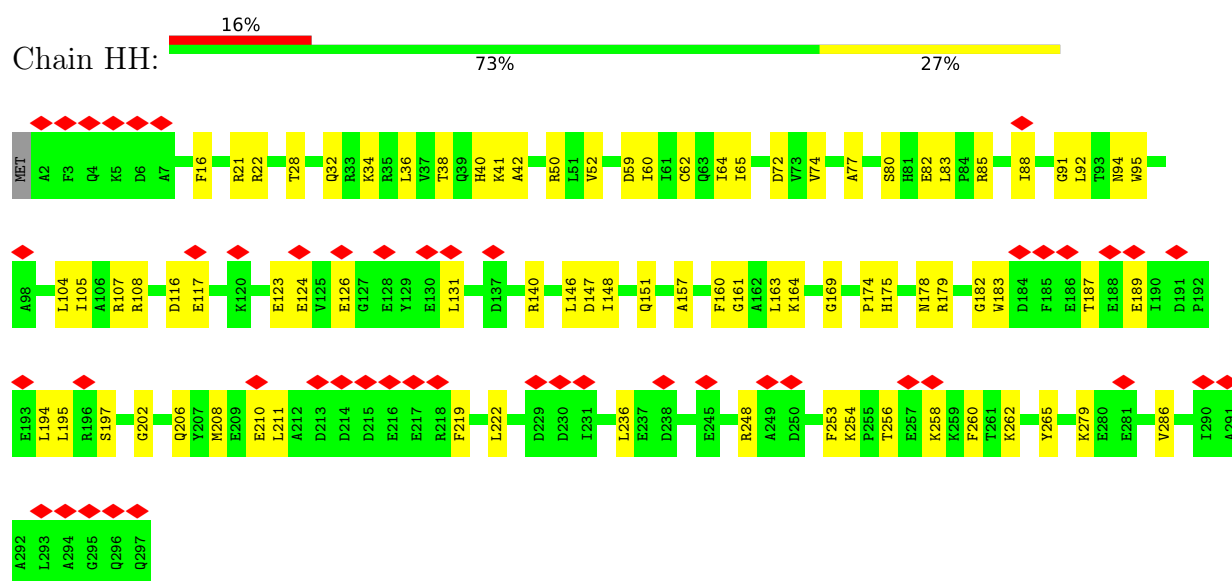
• Molecule 28: 60S ribosomal protein L4-A



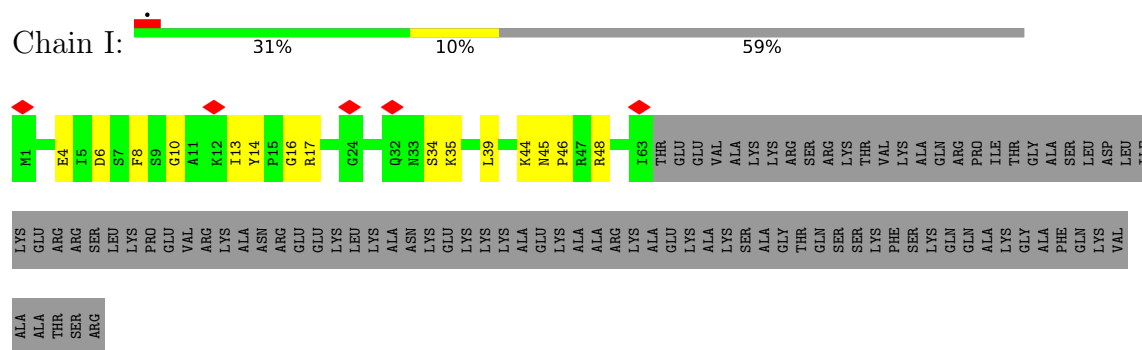
• Molecule 29: 60S ribosomal protein L23-A



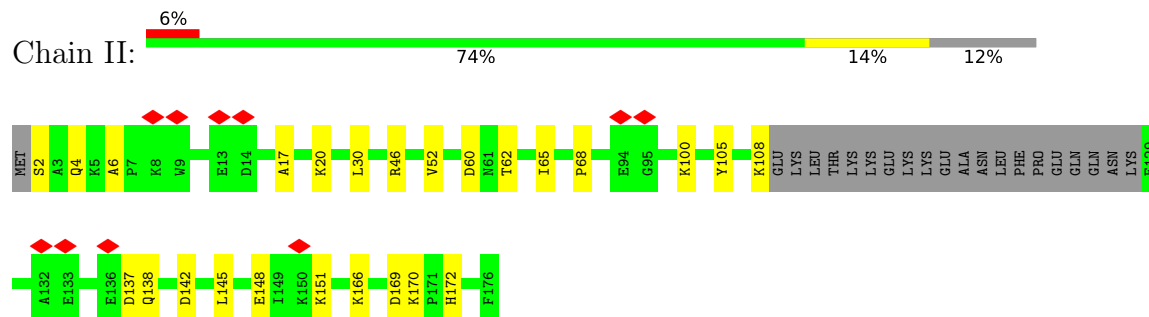
• Molecule 30: 60S ribosomal protein L5



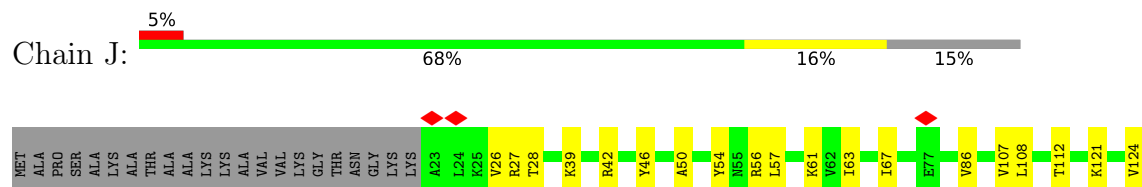
- Molecule 31: 60S ribosomal protein L24-A



- Molecule 32: 60S ribosomal protein L6-A



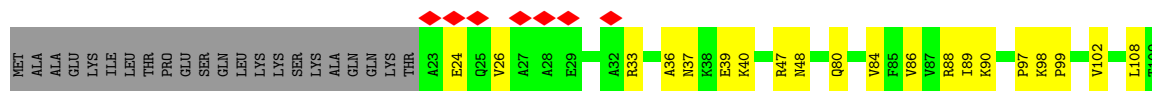
- Molecule 33: 60S ribosomal protein L25





- Molecule 34: 60S ribosomal protein L7-A

Chain JJ: 67% 24% 9%



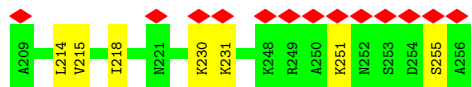
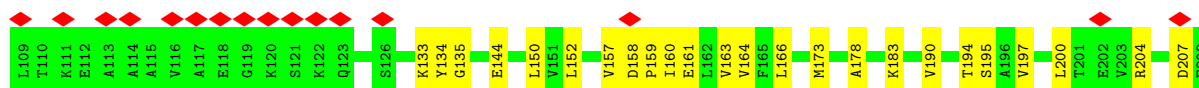
- Molecule 35: 60S ribosomal protein L26-A

Chain K: 70% 29% .



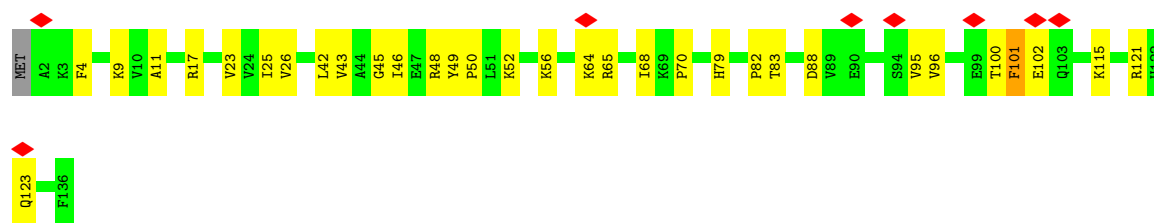
- Molecule 36: 60S ribosomal protein L8-A

Chain KK: 13% 72% 19% 9%

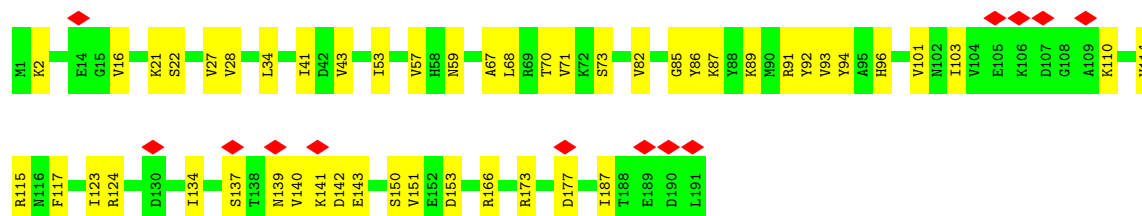
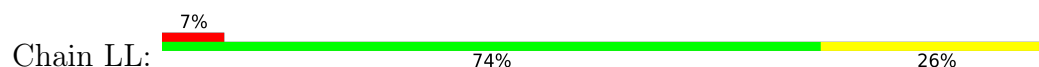


- Molecule 37: 60S ribosomal protein L27-A

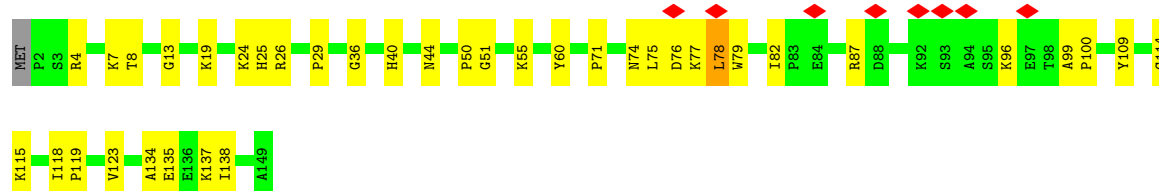
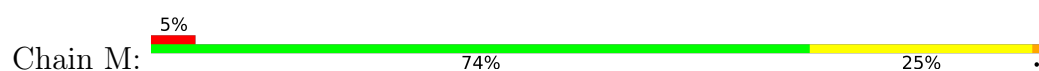
Chain L: 6% 76% 23% ..



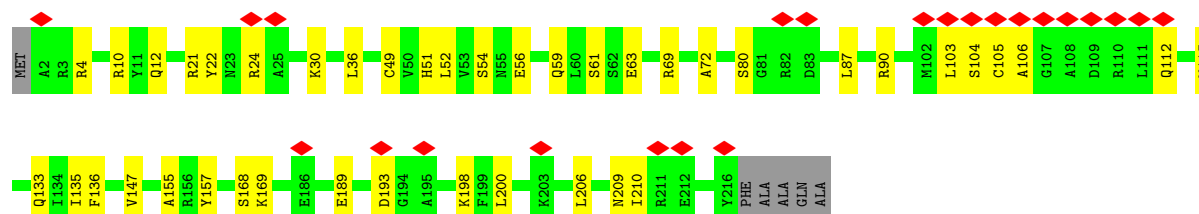
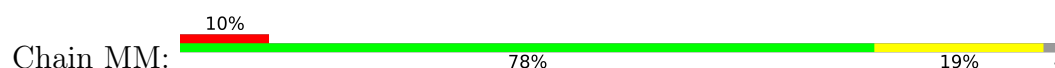
- Molecule 38: RPL9A isoform 1



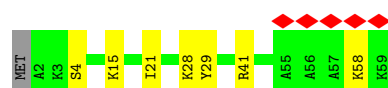
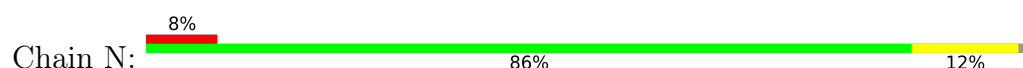
- Molecule 39: 60S ribosomal protein L28



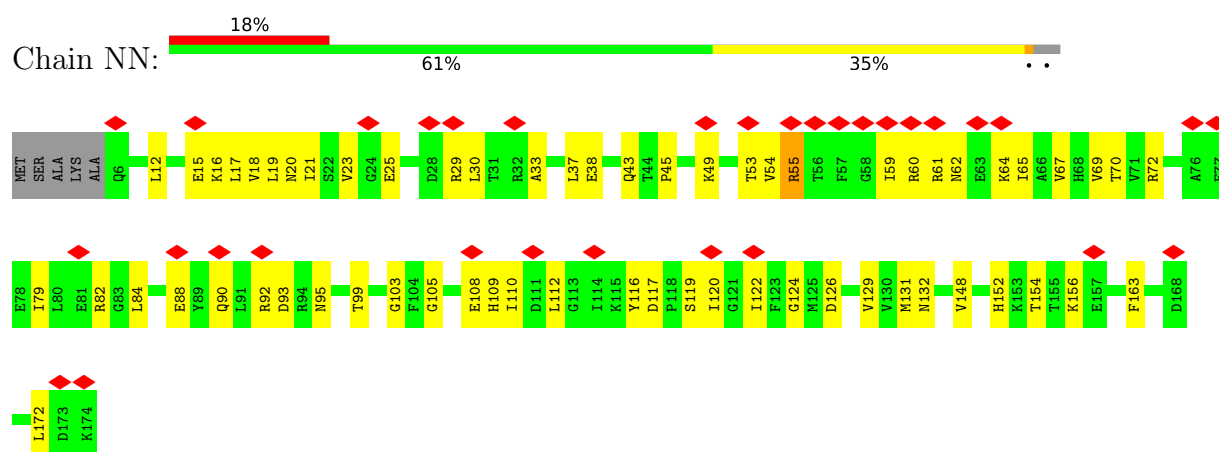
- Molecule 40: 60S ribosomal protein L10



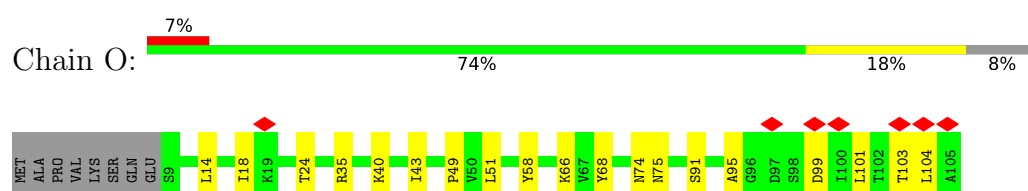
- Molecule 41: 60S ribosomal protein L29



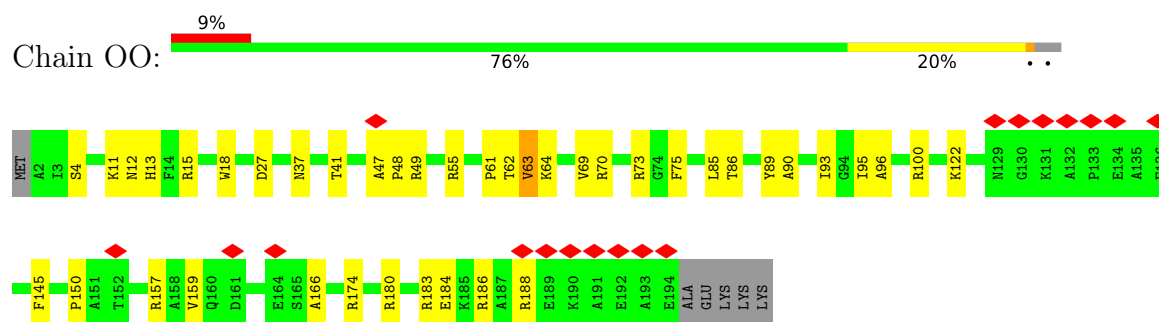
- Molecule 42: 60S ribosomal protein L11-A



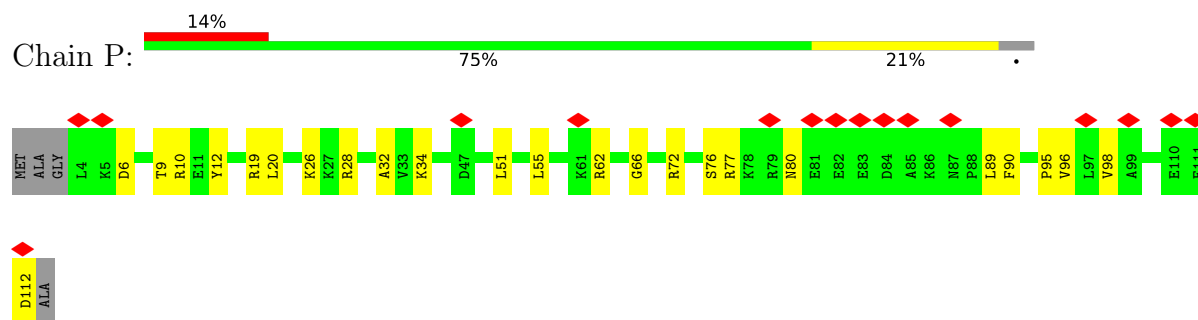
- Molecule 43: 60S ribosomal protein L30



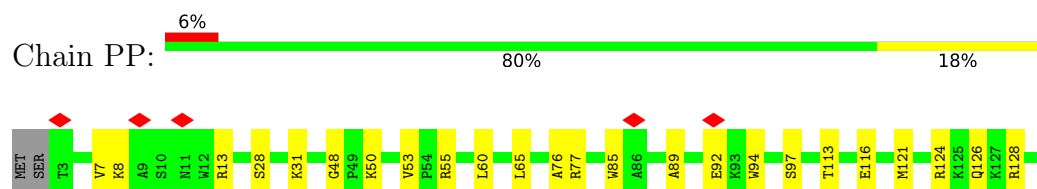
- Molecule 44: 60S ribosomal protein L13-A



- Molecule 45: 60S ribosomal protein L31-A



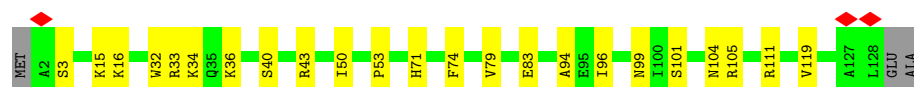
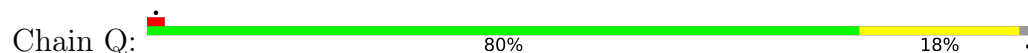
- Molecule 46: 60S ribosomal protein L14-A



- Molecule 47: Polypeptide



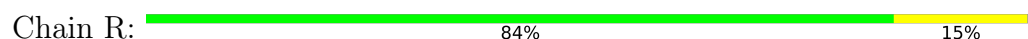
- Molecule 48: 60S ribosomal protein L32



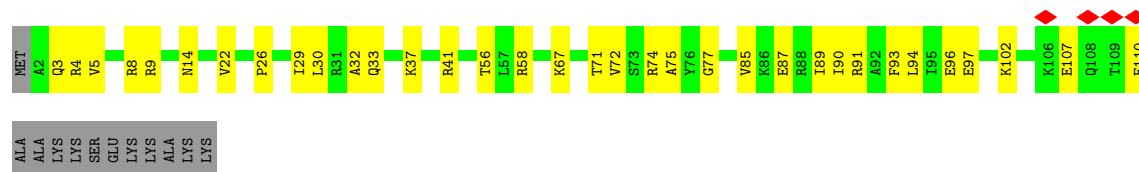
- Molecule 49: 60S ribosomal protein L15-A



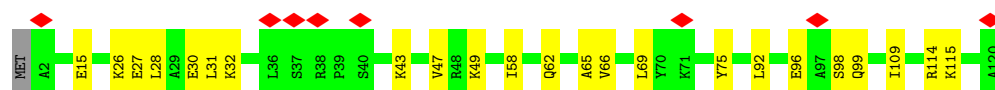
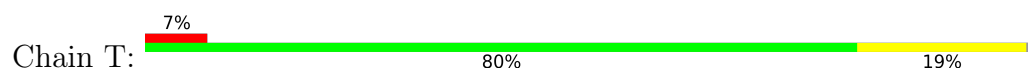
- Molecule 50: 60S ribosomal protein L33-A



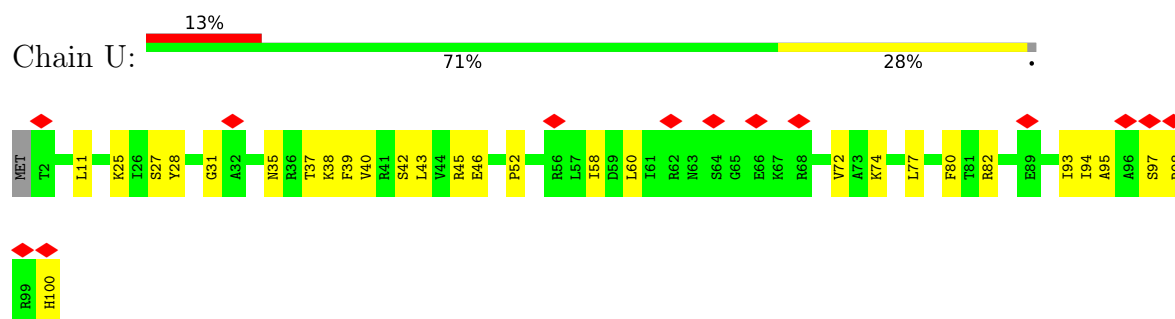
- Molecule 51: 60S ribosomal protein L34-A



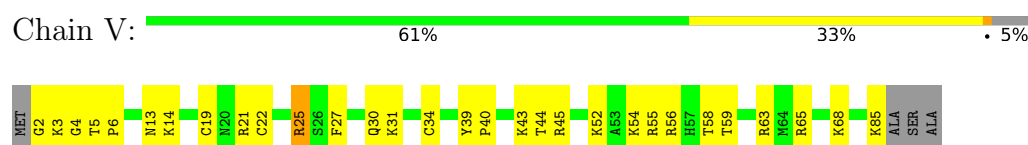
- Molecule 52: 60S ribosomal protein L35-A



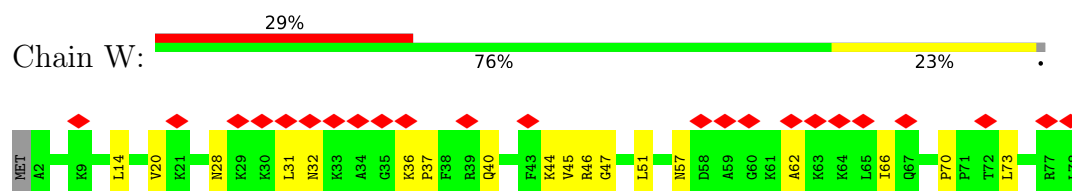
- Molecule 53: 60S ribosomal protein L36-A



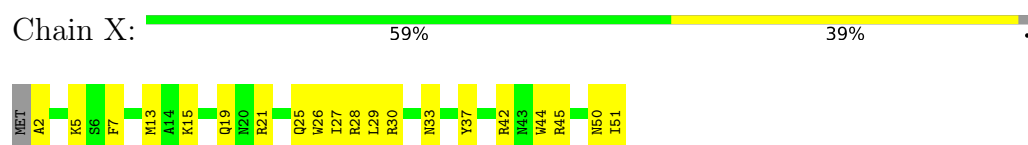
- Molecule 54: 60S ribosomal protein L37-A



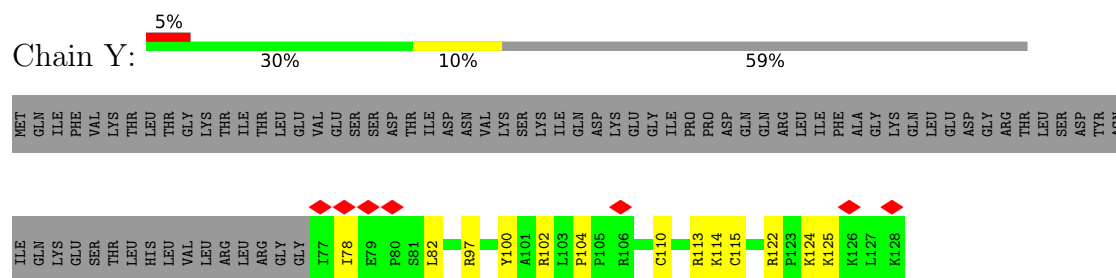
- Molecule 55: 60S ribosomal protein L38



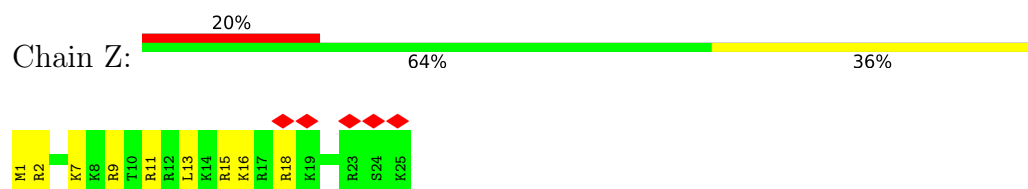
- Molecule 56: 60S ribosomal protein L39



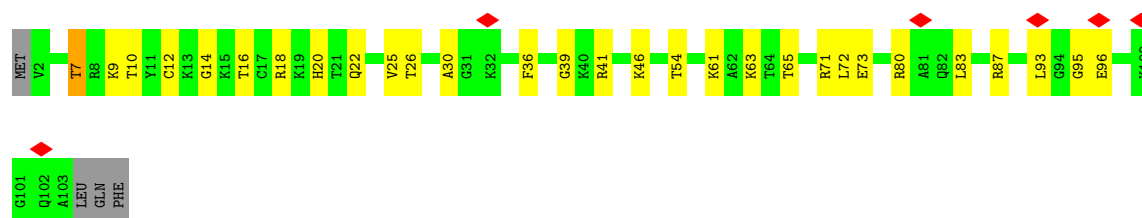
- Molecule 57: Ubiquitin-60S ribosomal protein L40



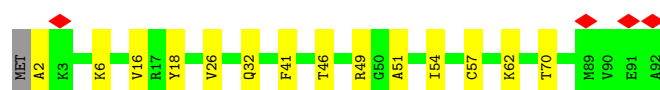
- Molecule 58: 60S ribosomal protein L41



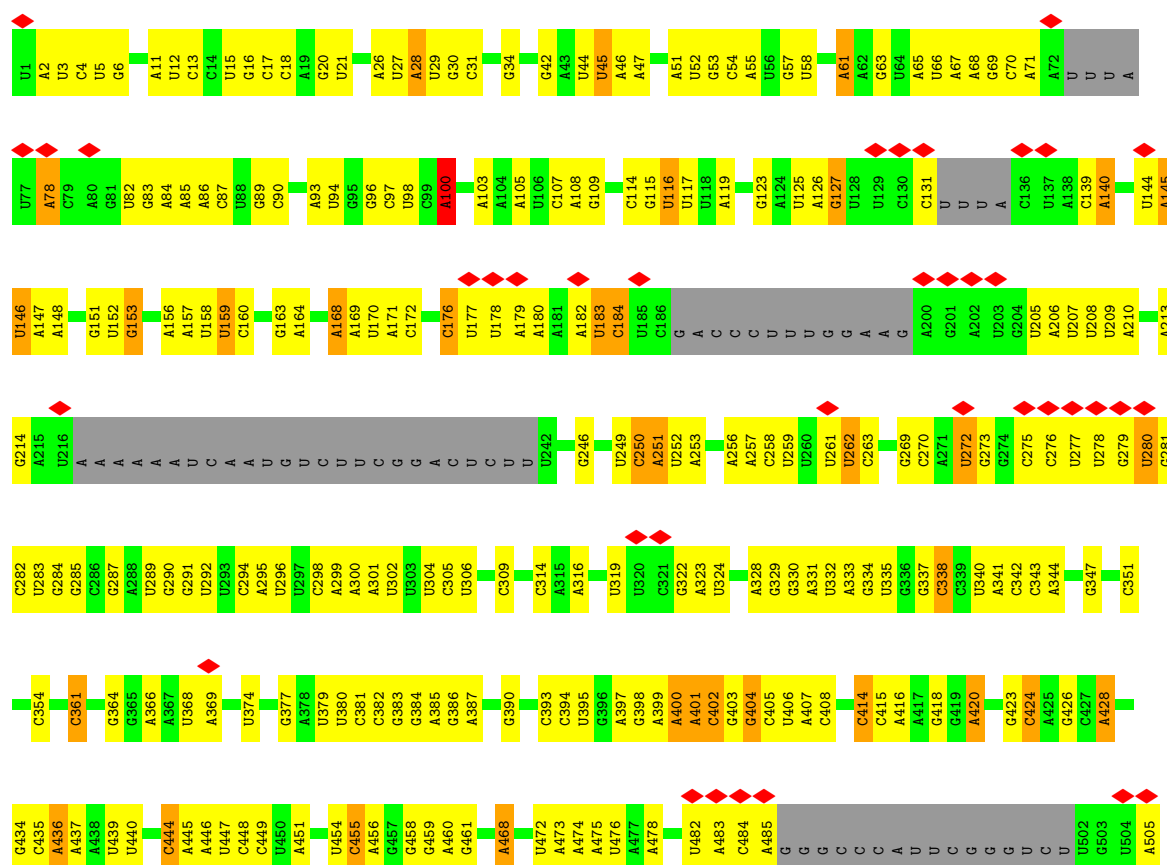
Chain a:

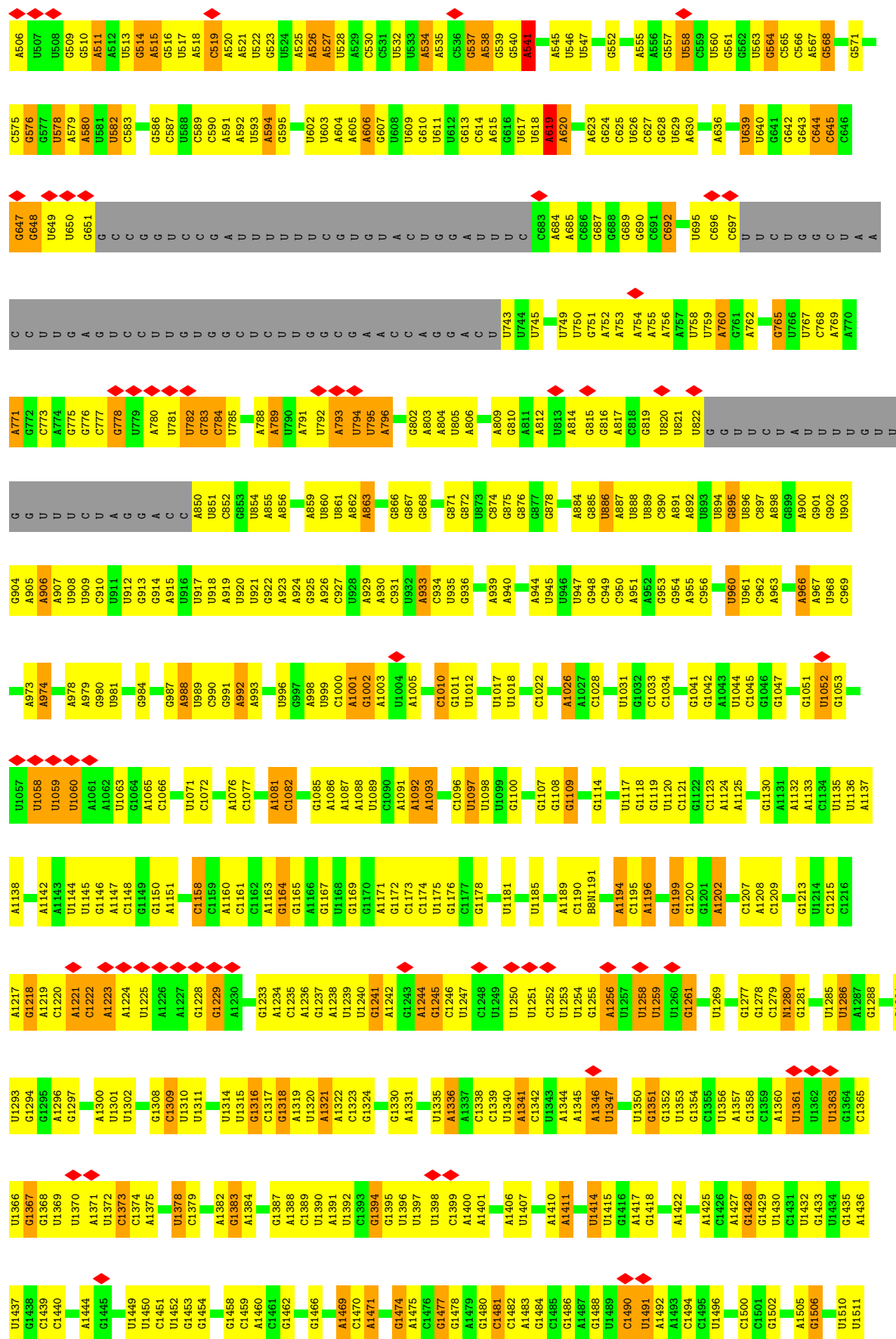


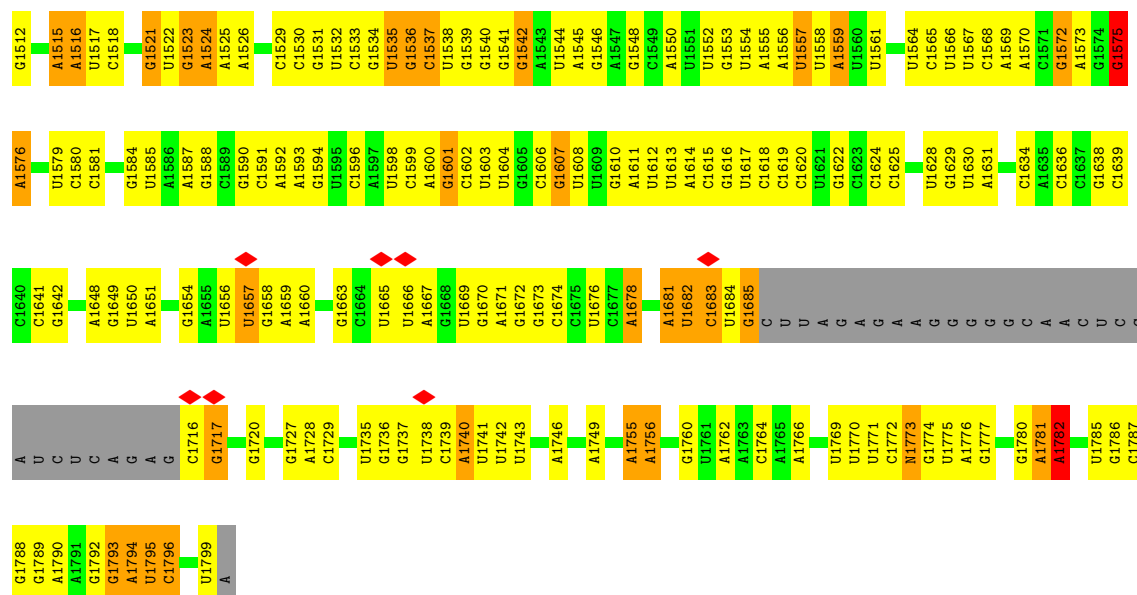
Chain b:



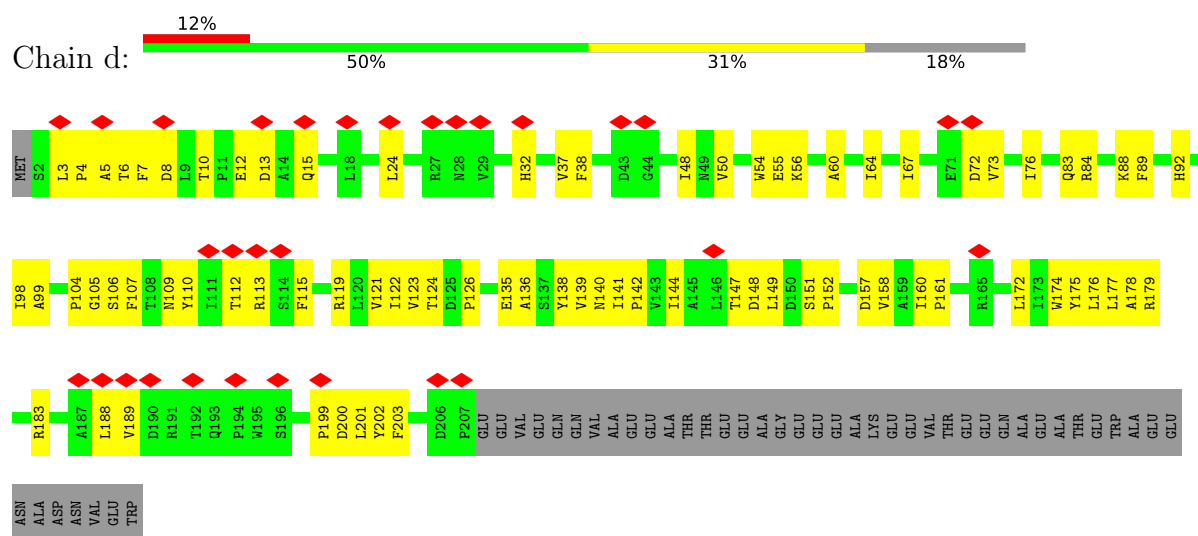
Chain c:



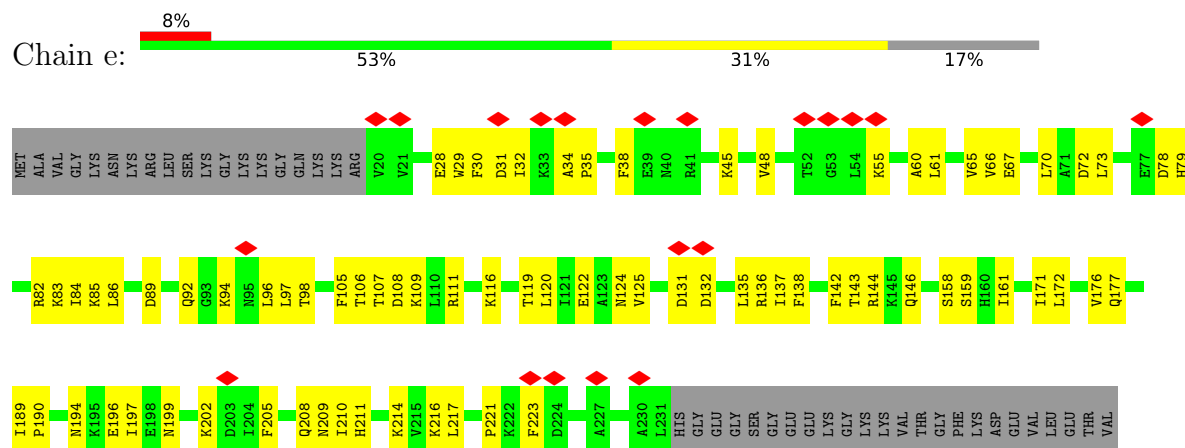




• Molecule 62: 40S ribosomal protein S0-A

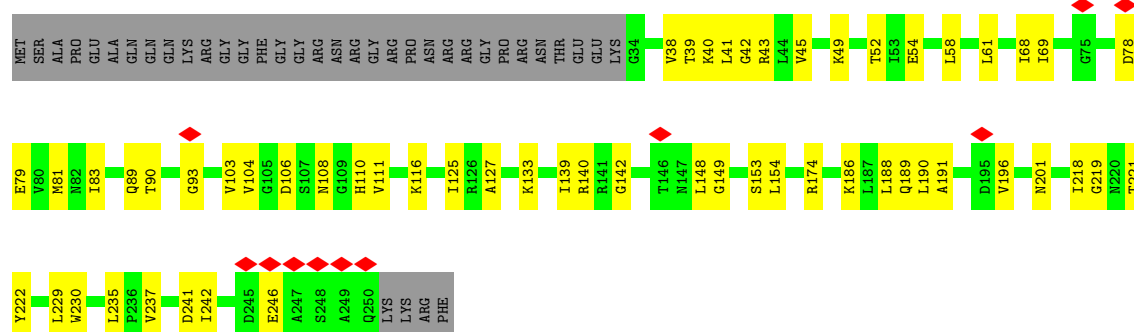


• Molecule 63: 40S ribosomal protein S1-A



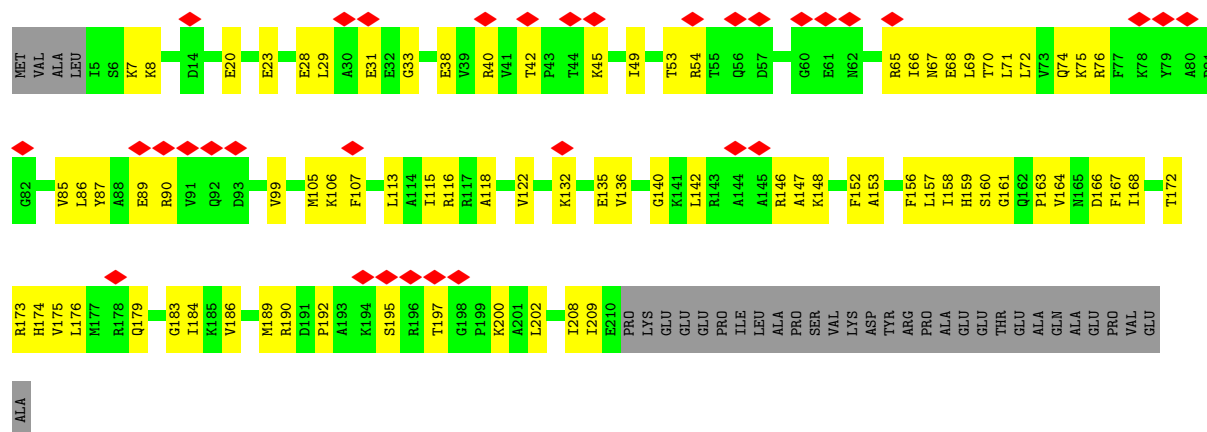
- Molecule 64: 40S ribosomal protein S2

Chain f: 



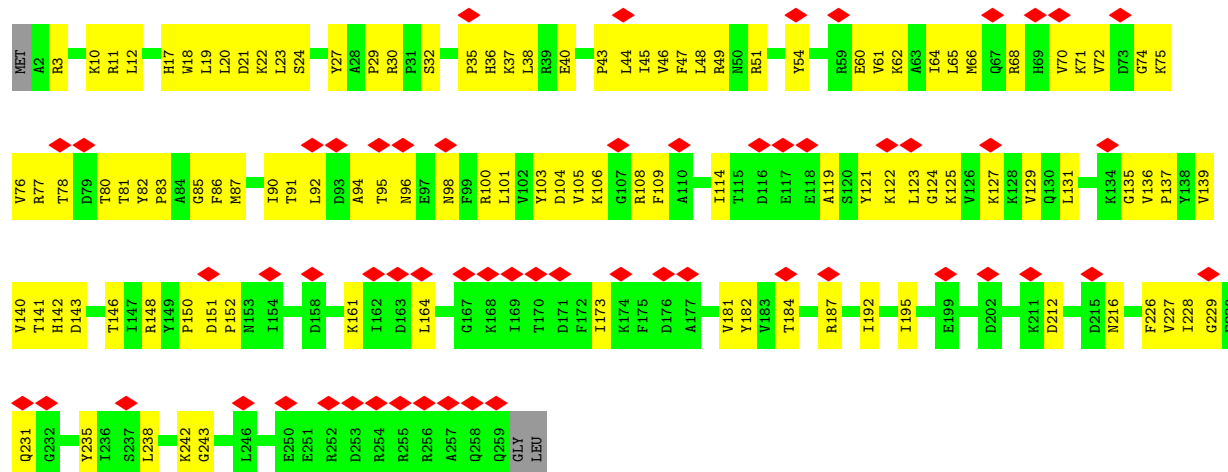
- Molecule 65: RPS3 isoform 1

Chain g: 

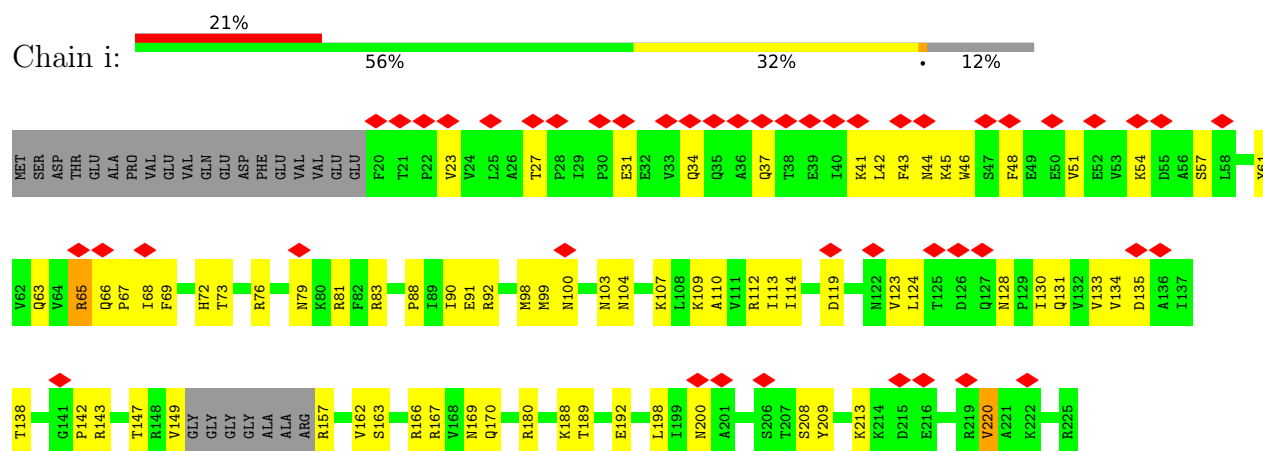


- Molecule 66: 40S ribosomal protein S4-A

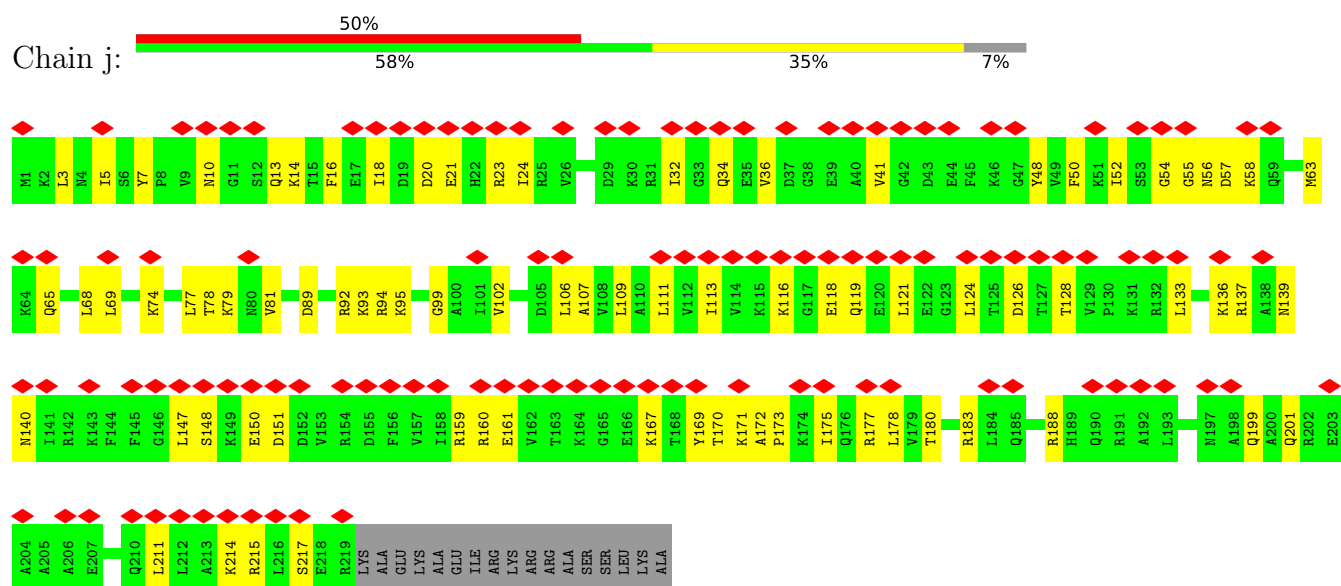
Chain h: 



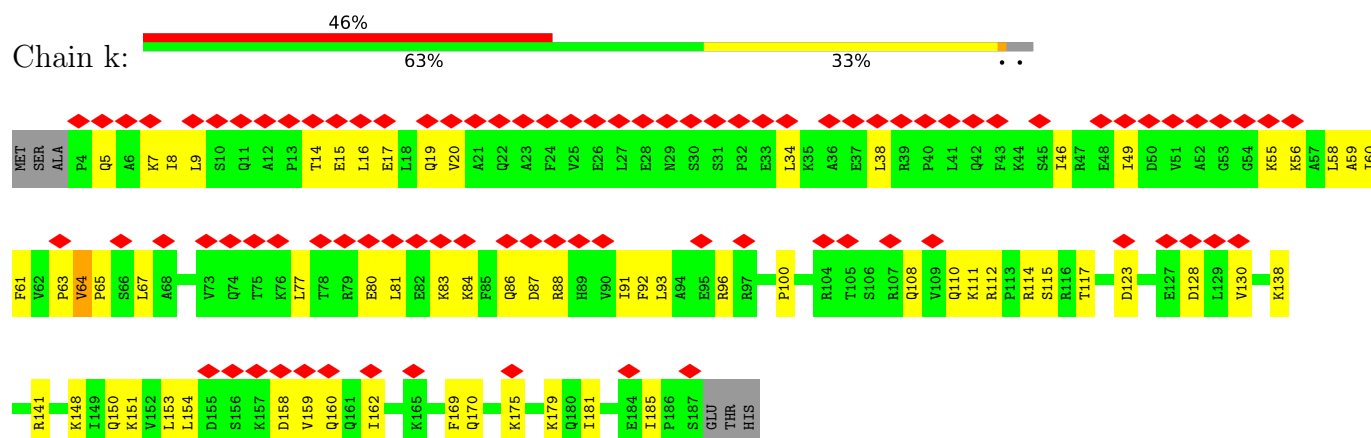
- Molecule 67: 40S ribosomal protein S5



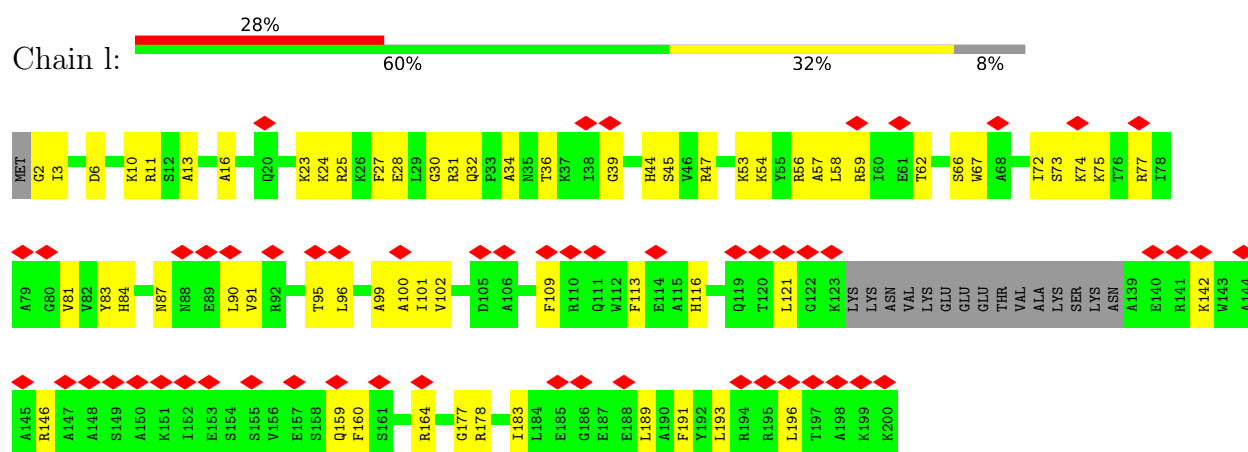
- Molecule 68: 40S ribosomal protein S6-A



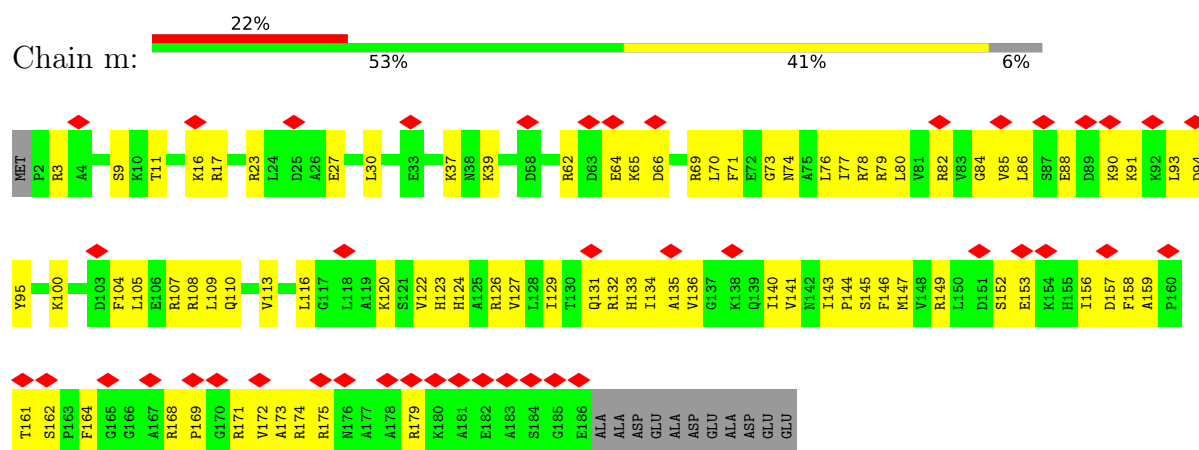
- Molecule 69: 40S ribosomal protein S7-A



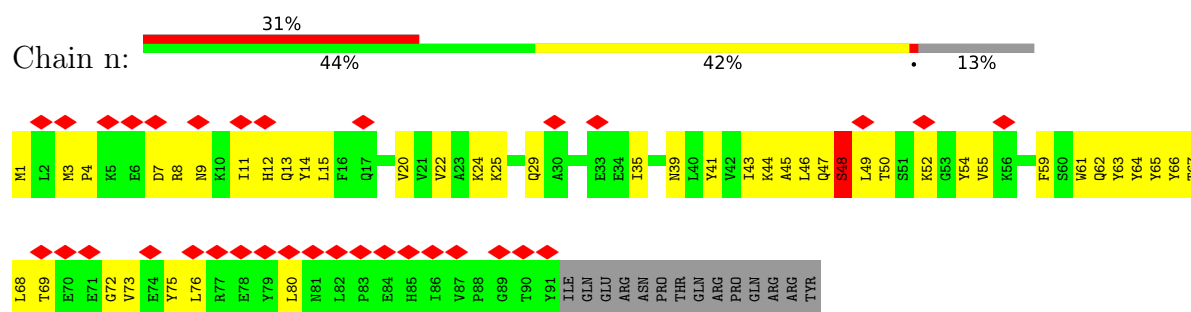
- Molecule 70: 40S ribosomal protein S8-B



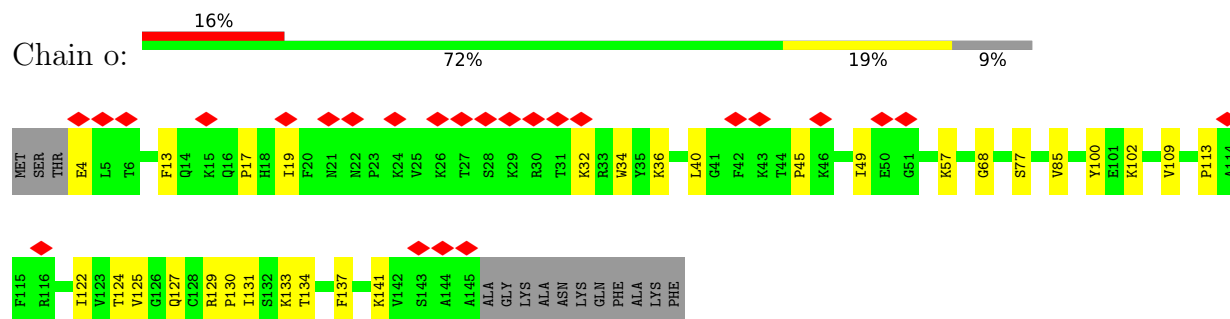
• Molecule 71: 40S ribosomal protein S9-A



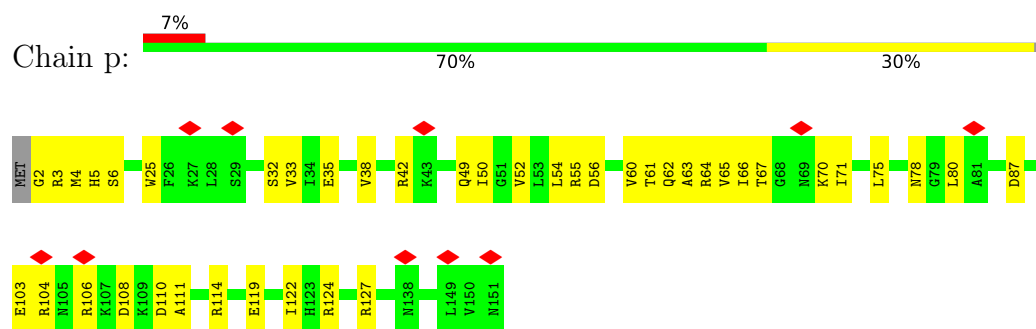
• Molecule 72: 40S ribosomal protein S10-A



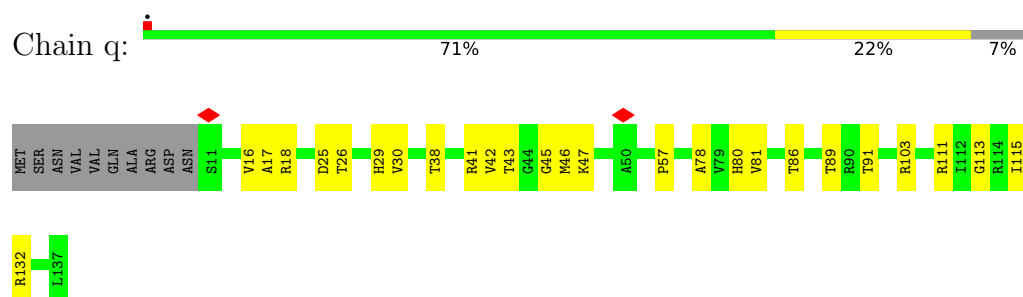
• Molecule 73: 40S ribosomal protein S11-A



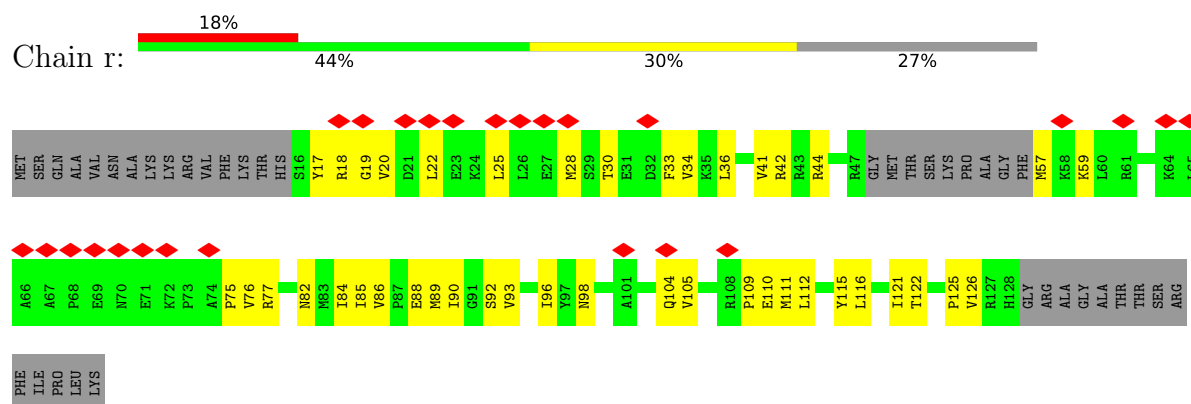
- Molecule 74: 40S ribosomal protein S13



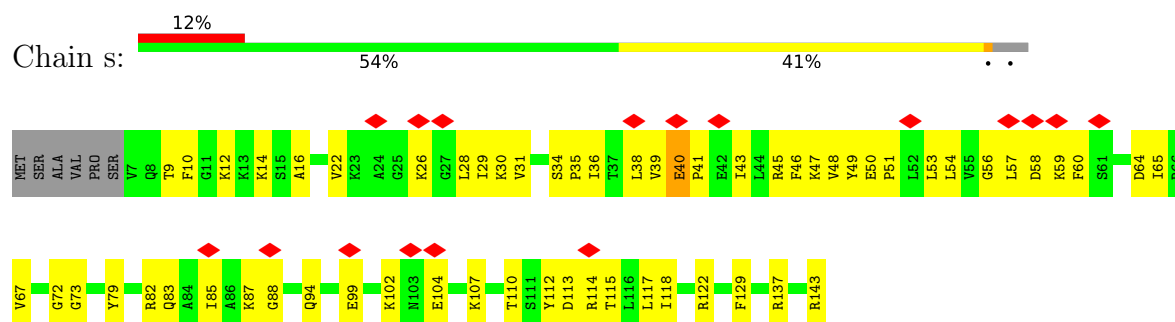
- Molecule 75: 40S ribosomal protein S14-A



- Molecule 76: 40S ribosomal protein S15

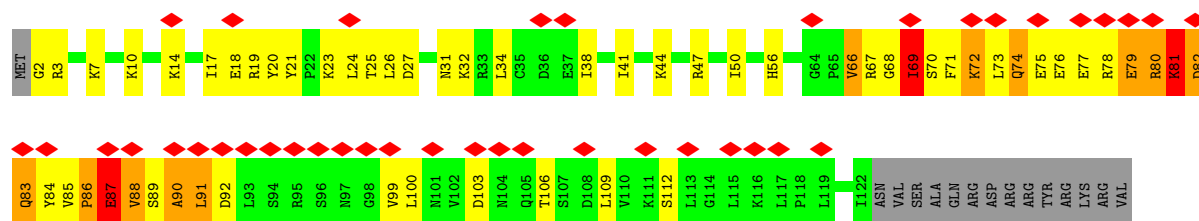


- Molecule 77: 40S ribosomal protein S16-A

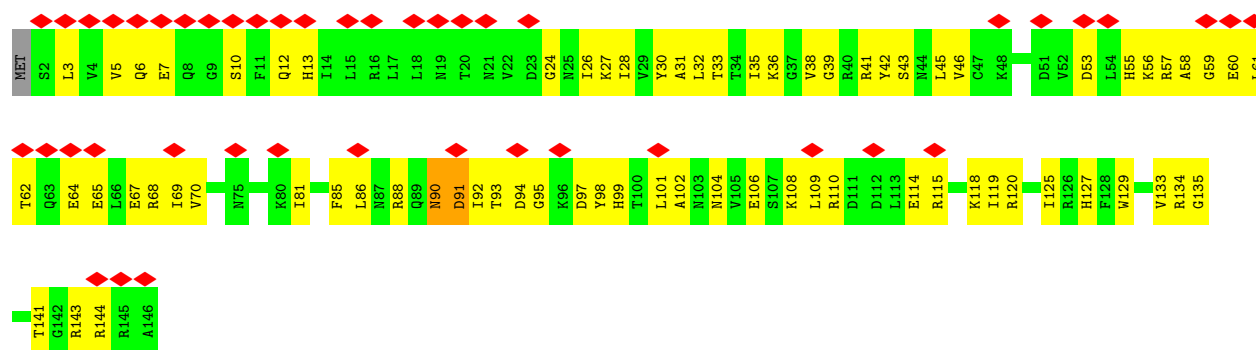


- Molecule 78: 40S ribosomal protein S17-A

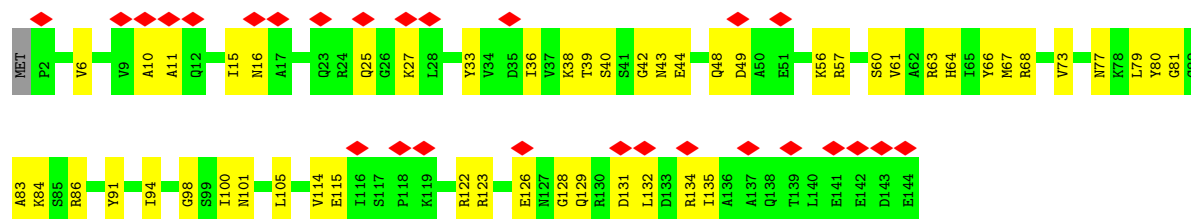




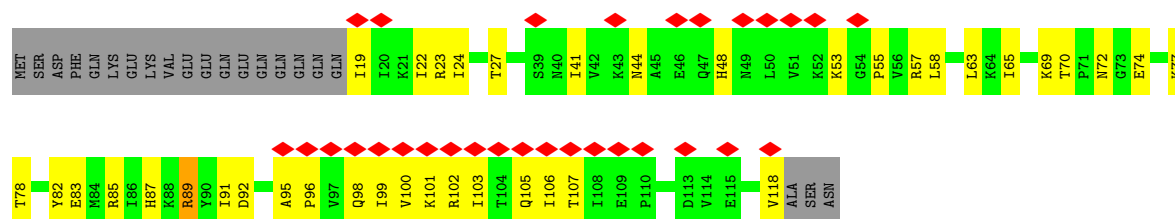
• Molecule 79: 40S ribosomal protein S18-A



• Molecule 80: 40S ribosomal protein S19-A



• Molecule 81: 40S ribosomal protein S20



• Molecule 82: 40S ribosomal protein S21-A

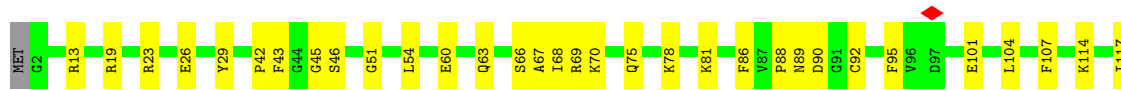




- Molecule 83: 40S ribosomal protein S22-A



- Molecule 84: 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	23096	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	1.234	Depositor
Minimum map value	-0.552	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.052	Depositor
Recommended contour level	0.232	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, OMC, SPD, 4AC, A2M, GTP, B8N, UR3, DDE, MA6, G7M, OMU, K, 1MA, OMG, 5MC, SO1, YYG, 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	0.22	0/1087	0.43	0/1449
2	1	0.20	0/571	0.53	0/768
3	2	0.23	0/782	0.39	0/1047
4	3	0.21	0/620	0.46	0/838
5	4	0.25	0/499	0.46	0/670
6	5	0.23	0/452	0.37	0/600
7	6	0.19	0/433	0.44	0/575
8	7	0.19	0/2489	0.48	0/3389
9	8	0.14	0/279	0.43	0/369
10	A	0.26	0/1585	0.39	0/2128
11	AA	0.28	0/75384	0.31	0/117530
12	Aa	0.22	0/6673	0.44	0/9032
13	B	0.26	0/1245	0.40	0/1676
14	BB	0.25	0/2883	0.27	0/4491
15	Bb	0.16	0/1788	0.30	0/2786
16	C	0.25	0/1465	0.34	0/1965
17	CC	0.27	0/3746	0.30	0/5832
18	Cc	0.18	0/1836	0.28	0/2859
19	D	0.23	0/1440	0.40	0/1921
20	DD	0.22	0/1578	0.55	0/2134
21	Dd	0.22	0/311	0.26	0/482
22	E	0.27	0/1481	0.42	0/1990
23	EE	0.27	0/1948	0.37	0/2617
24	Ee	0.19	0/1226	0.45	0/1650
25	F	0.24	0/1300	0.36	0/1743
26	FF	0.24	0/3146	0.38	0/4228
27	G	0.18	0/786	0.37	0/1065
28	GG	0.25	0/2800	0.37	0/3790
29	H	0.24	0/978	0.37	0/1316
30	HH	0.22	0/2425	0.39	0/3271
31	I	0.21	0/533	0.40	0/707

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	II	0.23	0/1251	0.36	0/1682
33	J	0.23	0/974	0.36	0/1314
34	JJ	0.24	0/1821	0.36	0/2451
35	K	0.23	0/1004	0.38	0/1341
36	KK	0.21	0/1836	0.35	0/2481
37	L	0.22	0/1118	0.35	0/1497
38	LL	0.23	0/1539	0.40	0/2073
39	M	0.24	0/1204	0.38	0/1612
40	MM	0.23	0/1779	0.35	0/2386
41	N	0.21	0/473	0.36	0/629
42	NN	0.23	0/1374	0.48	0/1842
43	O	0.21	0/750	0.32	0/1008
44	OO	0.24	0/1568	0.40	0/2106
45	P	0.22	0/897	0.36	0/1205
46	PP	0.22	0/1068	0.31	0/1438
47	Pp	0.33	0/19	0.68	0/23
48	Q	0.25	0/1041	0.32	0/1394
49	QQ	0.27	0/1757	0.41	0/2354
50	R	0.29	0/868	0.36	0/1168
51	S	0.24	0/871	0.36	0/1164
52	T	0.22	0/978	0.37	0/1301
53	U	0.22	0/778	0.46	0/1034
54	V	0.26	0/680	0.38	0/901
55	W	0.21	0/618	0.37	0/826
56	X	0.25	0/443	0.42	0/588
57	Y	0.18	0/423	0.31	0/562
58	Z	0.23	0/234	0.42	0/300
59	a	0.25	0/831	0.46	0/1097
60	b	0.24	0/701	0.40	0/934
61	c	0.25	0/37665	0.31	0/58663
62	d	0.22	0/1623	0.41	0/2222
63	e	0.26	0/1714	0.47	0/2308
64	f	0.23	0/1665	0.46	0/2263
65	g	0.21	0/1622	0.42	0/2180
66	h	0.20	0/2097	0.40	0/2823
67	i	0.21	0/1591	0.45	0/2151
68	j	0.19	0/1790	0.41	0/2393
69	k	0.21	0/1506	0.43	0/2028
70	l	0.21	0/1482	0.40	0/1980
71	m	0.20	0/1519	0.40	0/2035
72	n	0.25	0/792	0.60	0/1071
73	o	0.19	0/1172	0.34	0/1580
74	p	0.23	0/1215	0.38	0/1638

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	q	0.23	0/901	0.45	0/1217
76	r	0.22	0/853	0.42	0/1145
77	s	0.23	0/1099	0.51	0/1473
78	t	0.40	0/971	0.63	1/1303 (0.1%)
79	u	0.23	0/1211	0.43	0/1628
80	v	0.22	0/1130	0.43	0/1517
81	w	0.26	0/810	0.48	0/1095
82	x	0.22	0/693	0.42	0/935
83	y	0.26	0/1038	0.41	0/1395
84	z	0.23	0/1139	0.43	0/1518
All	All	0.25	0/219965	0.36	1/322190 (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
12	Aa	0	2
34	JJ	0	1
37	L	0	2
42	NN	0	1
54	V	0	1
59	a	0	1
67	i	0	2
69	k	0	1
72	n	0	1
77	s	0	1
79	u	0	1
84	z	0	1
All	All	0	15

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
78	t	81	LYS	N-CA-C	-6.62	102.49	111.55

There are no chirality outliers.

All (15) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	Aa	2	VAL	Peptide
12	Aa	4	PHE	Peptide
34	JJ	232	ARG	Peptide
37	L	101	PHE	Peptide
37	L	102	GLU	Peptide
42	NN	55	ARG	Peptide
54	V	25	ARG	Sidechain
59	a	7	THR	Peptide
67	i	220	VAL	Peptide
67	i	65	ARG	Peptide
69	k	64	VAL	Peptide
72	n	48	SER	Peptide
77	s	40	GLU	Peptide
79	u	90	ASN	Peptide
84	z	88	PRO	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	52	0
2	1	563	0	603	30	0
3	2	769	0	814	24	0
4	3	610	0	633	22	0
5	4	497	0	535	21	0
6	5	442	0	429	16	0
7	6	427	0	476	15	0
8	7	2436	0	2386	106	0
9	8	276	0	287	8	0
10	A	1555	0	1659	35	0
11	AA	68285	0	34370	1258	0
12	Aa	6569	0	6640	268	0
13	B	1222	0	1231	31	0
14	BB	2579	0	1304	46	0
15	Bb	1638	0	835	45	0
16	C	1441	0	1543	37	0
17	CC	3353	0	1695	56	0
18	Cc	1644	0	837	35	0
19	D	1423	0	1510	41	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	DD	1551	0	1596	88	0
21	Dd	278	0	139	8	0
22	E	1445	0	1487	34	0
23	EE	1914	0	1981	46	0
24	Ee	1211	0	1268	70	0
25	F	1276	0	1323	26	0
26	FF	3075	0	3142	75	0
27	G	770	0	780	19	0
28	GG	2748	0	2859	62	0
29	H	963	0	1014	30	0
30	HH	2375	0	2325	59	0
31	I	521	0	551	13	0
32	II	1230	0	1320	18	0
33	J	959	0	1023	19	0
34	JJ	1784	0	1862	43	0
35	K	993	0	1081	30	0
36	KK	1804	0	1877	38	0
37	L	1092	0	1155	21	0
38	LL	1518	0	1587	36	0
39	M	1173	0	1215	36	0
40	MM	1743	0	1785	34	0
41	N	462	0	491	6	0
42	NN	1353	0	1383	45	0
43	O	742	0	797	12	0
44	OO	1543	0	1608	37	0
45	P	883	0	918	21	0
46	PP	1053	0	1149	19	0
47	Pp	19	0	20	6	0
48	Q	1020	0	1090	17	0
49	QQ	1720	0	1779	62	0
50	R	850	0	880	13	0
51	S	861	0	918	25	0
52	T	969	0	1078	17	0
53	U	771	0	849	21	0
54	V	665	0	668	29	0
55	W	612	0	682	12	0
56	X	436	0	475	16	0
57	Y	417	0	455	12	0
58	Z	233	0	282	10	0
59	a	819	0	886	22	0
60	b	694	0	734	11	0
61	c	34236	0	17249	847	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	d	1583	0	1578	63	0
63	e	1689	0	1763	60	0
64	f	1635	0	1723	45	0
65	g	1601	0	1682	69	0
66	h	2056	0	2140	106	0
67	i	1572	0	1639	73	0
68	j	1766	0	1859	72	0
69	k	1481	0	1572	55	0
70	l	1457	0	1488	61	0
71	m	1494	0	1573	79	0
72	n	772	0	760	39	0
73	o	1146	0	1213	24	0
74	p	1192	0	1255	38	0
75	q	891	0	883	23	0
76	r	837	0	868	36	0
77	s	1080	0	1140	53	0
78	t	961	0	999	74	0
79	u	1192	0	1222	60	0
80	v	1112	0	1124	41	0
81	w	800	0	869	37	0
82	x	684	0	672	25	0
83	y	1021	0	1060	41	0
84	z	1121	0	1196	38	0
85	2	1	0	0	0	0
85	5	1	0	0	0	0
85	8	1	0	0	0	0
85	S	1	0	0	0	0
85	V	1	0	0	0	0
85	Y	1	0	0	0	0
85	a	1	0	0	0	0
85	b	1	0	0	0	0
86	2	1	0	0	0	0
86	AA	178	0	0	0	0
86	Aa	1	0	0	0	0
86	B	1	0	0	0	0
86	BB	4	0	0	0	0
86	CC	3	0	0	0	0
86	Cc	1	0	0	0	0
86	D	1	0	0	0	0
86	EE	1	0	0	0	0
86	F	1	0	0	0	0
86	H	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
86	c	48	0	0	0	0
87	AA	12	0	0	0	0
87	BB	1	0	0	0	0
87	EE	1	0	0	0	0
87	MM	1	0	0	0	0
87	Q	1	0	0	0	0
87	S	1	0	0	0	0
87	a	1	0	0	0	0
87	c	3	0	0	0	0
88	AA	70	0	133	8	0
88	QQ	10	0	19	1	0
88	c	30	0	57	1	0
89	Aa	32	0	12	4	0
90	Aa	35	0	41	6	0
91	2	2	0	0	0	0
91	A	1	0	0	0	0
91	AA	738	0	0	57	0
91	Aa	2	0	0	0	0
91	B	2	0	0	0	0
91	BB	6	0	0	0	0
91	CC	15	0	0	0	0
91	Cc	5	0	0	0	0
91	D	2	0	0	0	0
91	Dd	4	0	0	0	0
91	EE	6	0	0	0	0
91	F	3	0	0	0	0
91	FF	2	0	0	0	0
91	GG	2	0	0	0	0
91	H	3	0	0	0	0
91	HH	1	0	0	0	0
91	J	1	0	0	1	0
91	JJ	3	0	0	0	0
91	LL	1	0	0	0	0
91	M	4	0	0	1	0
91	MM	1	0	0	0	0
91	N	1	0	0	0	0
91	P	2	0	0	0	0
91	Q	4	0	0	0	0
91	QQ	4	0	0	1	0
91	S	2	0	0	0	0
91	V	2	0	0	0	0
91	a	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
91	c	161	0	0	14	0
91	e	1	0	0	0	0
91	h	1	0	0	0	0
91	p	1	0	0	0	0
91	q	2	0	0	0	0
91	z	1	0	0	0	0
All	All	208161	0	155220	4606	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 13.

All (4606) 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)
78:t:91:LEU:CD2	78:t:91:LEU:N	2.11	1.13
78:t:89:SER:O	78:t:91:LEU:HD22	1.50	1.11
78:t:91:LEU:HD22	78:t:91:LEU:H	1.15	1.11
78:t:89:SER:O	78:t:91:LEU:N	1.85	1.10
11:AA:1018:G:OP1	11:AA:1035:G:N2	1.85	1.10
78:t:91:LEU:N	78:t:91:LEU:HD22	1.64	1.08
15:Bb:76:A:H4'	47:Pp:2:PHE:HB3	1.36	1.03
33:J:112:THR:O	91:J:201:HOH:O	1.78	1.01
61:c:69:G:H1	61:c:82:U:H3	1.10	1.00
61:c:1229:G:N2	61:c:1256:A:N6	2.12	0.97
11:AA:3348:G:H1	11:AA:3357:U:H3	1.04	0.95
12:Aa:388:THR:HG21	12:Aa:393:ARG:HB2	1.47	0.95
11:AA:2196:C:HO2'	11:AA:2270:A:H8	0.98	0.94
61:c:1684:U:H3	61:c:1717:G:H1	1.06	0.93
11:AA:2448:G:H1	11:AA:2499:U:H3	0.95	0.93
61:c:1357:A:N6	61:c:1367:G:N3	2.18	0.92
61:c:895:G:H1	61:c:917:U:H3	1.17	0.91
78:t:24:LEU:HD23	78:t:34:LEU:HD22	1.52	0.91
10:A:27:LEU:HD21	10:A:102:LEU:HB2	1.52	0.90
61:c:402:C:P	91:c:2001:HOH:O	2.30	0.89
62:d:200:ASP:OD2	78:t:90:ALA:HA	1.71	0.89
61:c:1358:G:N2	61:c:1366:U:O2	2.06	0.87
64:f:90:THR:H	64:f:93:GLY:HA2	1.39	0.87
11:AA:2193:U:H5'	11:AA:2194:G:H5'	1.56	0.87
1:O:20:ARG:HH12	1:O:22:GLN:HB3	1.39	0.87
24:Ee:124:THR:HG23	24:Ee:127:SER:H	1.40	0.86
61:c:1585:U:H3	61:c:1611:A:H2	1.22	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1229:G:N2	61:c:1256:A:C6	2.42	0.86
2:1:44:GLN:HA	2:1:47:TYR:HB2	1.56	0.86
13:B:48:LEU:HD12	13:B:88:VAL:HG13	1.56	0.85
61:c:1531:G:N2	80:v:48:GLN:OE1	2.09	0.85
66:h:129:VAL:HG12	66:h:139:VAL:HG22	1.58	0.85
9:8:126:CYS:HB3	9:8:130:VAL:HG21	1.60	0.84
76:r:75:PRO:HB3	76:r:104:GLN:HE22	1.42	0.84
61:c:992:A:H2	61:c:1012:U:H3	1.24	0.84
11:AA:1017:C:H3'	11:AA:1035:G:H22	1.41	0.84
62:d:124:THR:HG22	62:d:174:TRP:HE1	1.43	0.84
78:t:84:TYR:CE2	78:t:85:VAL:HG12	2.12	0.83
13:B:116:HIS:HB3	13:B:149:VAL:HG22	1.60	0.83
61:c:361:C:O5'	91:c:2004:HOH:O	1.95	0.82
61:c:868:G:H1	61:c:960:U:H3	1.21	0.82
11:AA:2534:G:N2	11:AA:2545:C:O2	2.11	0.82
8:7:19:TRP:HB3	8:7:38:ARG:HB3	1.60	0.81
83:y:15:ASN:ND2	83:y:72:CYS:O	2.12	0.81
12:Aa:380:LEU:HD12	12:Aa:400:VAL:HG22	1.62	0.81
61:c:1034:C:HO2'	83:y:2:THR:N	1.77	0.81
12:Aa:633:ILE:HG12	12:Aa:647:ILE:HG22	1.63	0.81
61:c:1727:G:N2	70:l:32:GLN:OE1	2.14	0.81
80:v:60:SER:HG	80:v:80:TYR:HH	1.27	0.81
20:DD:114:VAL:HG22	20:DD:164:LYS:HG2	1.63	0.81
42:NN:53:THR:HG23	42:NN:60:ARG:HA	1.63	0.81
71:m:157:ASP:OD1	71:m:158:PHE:N	2.13	0.81
11:AA:627:U:H4'	11:AA:1399:A:H1'	1.63	0.81
61:c:961:U:H5''	74:p:71:ILE:HD13	1.61	0.80
67:i:65:ARG:HA	67:i:67:PRO:HD3	1.63	0.80
12:Aa:718:LEU:HA	12:Aa:722:PRO:HG3	1.63	0.80
11:AA:1863:G:N1	11:AA:1866:C:OP2	2.13	0.80
20:DD:100:ILE:HG21	20:DD:187:VAL:HG13	1.64	0.80
57:Y:97:ARG:HE	57:Y:122:ARG:HB3	1.47	0.80
11:AA:406:G:C8	91:AA:3609:HOH:O	2.35	0.79
27:G:81:LYS:HD2	27:G:90:ARG:HH22	1.44	0.79
78:t:89:SER:C	78:t:91:LEU:H	1.90	0.79
11:AA:1896:A:H61	11:AA:2339:C:H42	1.27	0.79
11:AA:2455:U:H3	11:AA:2483:G:H4'	1.47	0.79
15:Bb:4:G:H1	15:Bb:69:U:H3	1.29	0.79
38:LL:41:ILE:HD11	38:LL:67:ALA:HB1	1.64	0.79
76:r:44:ARG:NH1	76:r:82:ASN:O	2.15	0.79
61:c:1663:G:H1	61:c:1738:U:H3	0.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:m:110:GLN:NE2	71:m:122:VAL:O	2.16	0.79
11:AA:1301:A:H4'	11:AA:1302:A:H5''	1.62	0.79
62:d:88:LYS:HD3	62:d:201:LEU:HG	1.64	0.79
68:j:32:ILE:HD12	68:j:54:GLY:H	1.47	0.79
29:H:81:GLN:O	29:H:98:ASN:ND2	2.15	0.78
11:AA:785:G:N7	39:M:77:LYS:NZ	2.31	0.78
12:Aa:55:ARG:NH2	12:Aa:63:GLU:O	2.16	0.78
78:t:91:LEU:N	78:t:91:LEU:HD23	1.99	0.78
12:Aa:110:ASP:HB3	12:Aa:537:HIS:HB2	1.65	0.78
12:Aa:743:ILE:HG22	12:Aa:784:LEU:HD11	1.65	0.78
11:AA:1020:G:N2	11:AA:1033:U:O2	2.17	0.78
29:H:10:LYS:HD2	29:H:125:LEU:HD11	1.65	0.78
5:4:55:VAL:HG11	67:i:143:ARG:HD2	1.66	0.78
12:Aa:223:ARG:HG2	12:Aa:241:MET:HE1	1.65	0.78
61:c:567:A:OP1	84:z:70:LYS:NZ	2.16	0.78
8:7:240:VAL:HG22	8:7:256:THR:HG22	1.66	0.77
61:c:642:G:O6	61:c:692:C:N4	2.18	0.77
24:Ee:85:LEU:HD12	24:Ee:104:ILE:HD11	1.64	0.77
11:AA:901:G:OP1	54:V:13:ASN:ND2	2.17	0.77
12:Aa:26:ALA:HB3	12:Aa:32:LYS:HE3	1.65	0.77
61:c:1548:G:OP1	76:r:18:ARG:NH2	2.11	0.77
67:i:43:PHE:HB2	67:i:46:TRP:H	1.46	0.77
81:w:55:PRO:HA	81:w:91:ILE:HG22	1.65	0.77
8:7:42:LEU:HB2	8:7:61:PHE:HB2	1.66	0.77
11:AA:68:C:OP2	11:AA:301:G:N2	2.17	0.77
11:AA:592:A:O2'	32:II:20:LYS:NZ	2.18	0.77
69:k:15:GLU:O	69:k:19:GLN:NE2	2.16	0.77
11:AA:3068:U:OP2	19:D:62:ARG:NH2	2.16	0.77
49:QQ:96:ARG:NH1	49:QQ:104:GLU:OE2	2.18	0.77
61:c:1588:G:H1	61:c:1608:U:H3	1.33	0.77
61:c:1673:G:O6	61:c:1728:A:N1	2.18	0.76
78:t:89:SER:O	78:t:91:LEU:CD2	2.31	0.76
11:AA:394:G:H22	11:AA:397:A:H5'	1.49	0.76
20:DD:48:ARG:NH1	20:DD:95:GLU:OE1	2.19	0.76
61:c:1213:G:H1	61:c:1450:U:H3	1.33	0.76
12:Aa:587:TYR:HD2	12:Aa:690:ASP:HB3	1.49	0.76
61:c:1171:A:H2'	61:c:1172:G:C8	2.20	0.76
65:g:53:THR:O	65:g:90:ARG:NH1	2.19	0.76
79:u:92:ILE:HG23	79:u:93:THR:HG23	1.68	0.76
8:7:69:GLN:NE2	8:7:111:MET:SD	2.59	0.75
26:FF:92:TYR:HB2	26:FF:157:VAL:HB	1.66	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:153:U:O2	11:AA:265:A:N6	2.19	0.75
11:AA:1017:C:H3'	11:AA:1035:G:N2	2.00	0.75
11:AA:3024:A:OP1	12:Aa:162:ARG:NH2	2.19	0.75
61:c:1081:A:H2	61:c:1082:C:H41	1.34	0.75
11:AA:113:C:OP1	49:QQ:147:ARG:NH1	2.20	0.75
18:Cc:23:G:N7	18:Cc:47:G:N2	2.33	0.75
8:7:84:SER:OG	8:7:86:ASP:OD1	2.03	0.75
11:AA:1479:U:P	91:AA:3602:HOH:O	2.37	0.75
11:AA:2302:G:H21	61:c:1746:A:H8	1.34	0.75
45:P:6:ASP:O	45:P:77:ARG:NH1	2.18	0.75
11:AA:1034:U:H2'	11:AA:1035:G:H8	1.49	0.75
61:c:1564:U:OP1	80:v:38:LYS:NZ	2.19	0.75
8:7:135:THR:HG23	8:7:141:LEU:HD11	1.68	0.75
24:Ee:93:LYS:O	24:Ee:96:LYS:NZ	2.19	0.75
65:g:160:SER:HB3	65:g:164:VAL:HG21	1.68	0.75
65:g:157:LEU:HD23	65:g:189:MET:HB2	1.69	0.74
84:z:107:PHE:HD1	84:z:123:LYS:HB3	1.51	0.74
67:i:72:HIS:O	77:s:79:TYR:OH	2.06	0.74
11:AA:1256:G:H4'	24:Ee:127:SER:HB2	1.69	0.74
61:c:1681:A:N7	68:j:65:GLN:NE2	2.34	0.74
37:L:88:ASP:O	37:L:121:ARG:NH2	2.20	0.74
61:c:1613:U:OP1	67:i:92:ARG:NH2	2.21	0.74
30:HH:50:ARG:NH1	30:HH:147:ASP:OD2	2.21	0.74
28:GG:35:VAL:HG21	28:GG:244:LEU:HD21	1.70	0.73
72:n:25:LYS:HD3	72:n:59:PHE:HZ	1.52	0.73
2:1:54:VAL:HG11	2:1:88:ILE:HD12	1.70	0.73
42:NN:92:ARG:HD3	42:NN:172:LEU:HB2	1.69	0.73
49:QQ:15:GLN:HG2	53:U:52:PRO:HD2	1.68	0.73
61:c:1480:G:OP1	80:v:63:ARG:NH2	2.20	0.73
71:m:84:GLY:HA3	71:m:107:ARG:HE	1.54	0.73
11:AA:1238:C:OP1	24:Ee:16:ARG:NH2	2.22	0.73
11:AA:3348:G:N2	11:AA:3357:U:O2	2.17	0.73
5:4:64:ARG:HH12	75:q:57:PRO:HG2	1.53	0.73
6:5:52:PHE:HB3	81:w:82:TYR:HB3	1.71	0.73
20:DD:46:ARG:NH2	24:Ee:123:ARG:O	2.22	0.73
61:c:163:G:N2	61:c:163:G:OP2	2.21	0.73
67:i:31:GLU:HA	67:i:34:GLN:HB2	1.70	0.73
11:AA:2969:A:N7	23:EE:215:ASN:ND2	2.36	0.72
61:c:1480:G:H4'	80:v:11:ALA:HB1	1.70	0.72
12:Aa:801:TRP:CZ2	90:Aa:1002:SO1:H242	2.23	0.72
61:c:1229:G:C2	61:c:1256:A:N6	2.57	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:10:ARG:NH1	12:Aa:14:ASP:OD1	2.23	0.72
20:DD:141:VAL:HG13	20:DD:156:VAL:HG21	1.71	0.72
69:k:151:LYS:HE3	69:k:153:LEU:HD21	1.70	0.72
49:QQ:36:ILE:HG12	49:QQ:64:VAL:HG23	1.72	0.72
11:AA:3324:C:OP1	45:P:19:ARG:NH1	2.23	0.72
44:OO:47:ALA:HB1	52:T:115:LYS:HG3	1.72	0.72
61:c:871:G:H2'	61:c:872:G:C8	2.23	0.72
61:c:1557:U:OP2	61:c:1559:A:O2'	2.08	0.72
65:g:135:GLU:HG3	65:g:153:ALA:HB2	1.70	0.72
78:t:83:GLN:HB3	78:t:86:PRO:HG3	1.69	0.72
82:x:38:LYS:HD2	82:x:49:GLU:HB3	1.69	0.72
11:AA:2489:C:H3'	11:AA:2490:C:H2'	1.71	0.72
12:Aa:433:ARG:NH1	61:c:440:U:O4	2.22	0.72
24:Ee:16:ARG:HA	24:Ee:59:THR:HA	1.71	0.72
30:HH:107:ARG:HD2	30:HH:248:ARG:HD3	1.72	0.72
78:t:73:LEU:HD12	78:t:73:LEU:H	1.54	0.72
36:KK:163:VAL:HA	36:KK:166:LEU:HD13	1.72	0.72
61:c:125:U:H5'	66:h:148:ARG:HD2	1.70	0.72
61:c:1755:A:O2'	61:c:1756:A:O5'	2.07	0.72
68:j:10:ASN:HB3	68:j:128:THR:HG23	1.72	0.72
74:p:60:VAL:HG23	74:p:66:ILE:HD12	1.71	0.72
61:c:1401:A:OP1	78:t:56:HIS:NE2	2.23	0.72
23:EE:3:ARG:HB2	23:EE:207:VAL:HG22	1.72	0.71
11:AA:1095:U:H4'	11:AA:1096:U:H5'	1.72	0.71
12:Aa:750:LYS:NZ	12:Aa:783:GLU:OE2	2.19	0.71
18:Cc:47:G:H2'	18:Cc:48:U:H4'	1.72	0.71
61:c:257:A:O2'	70:l:73:SER:O	2.07	0.71
11:AA:1017:C:C3'	11:AA:1035:G:H22	2.02	0.71
68:j:16:PHE:HZ	68:j:121:LEU:HD21	1.55	0.71
11:AA:1717:U:H2'	11:AA:1718:G:C8	2.26	0.71
23:EE:149:ARG:NH1	23:EE:153:GLY:O	2.23	0.71
61:c:639:U:OP1	69:k:112:ARG:NH2	2.23	0.71
61:c:1041:G:H2'	61:c:1042:G:C8	2.25	0.71
11:AA:1450:OMG:C8	91:AA:3749:HOH:O	2.43	0.71
77:s:50:GLU:OE1	77:s:114:ARG:NH1	2.23	0.71
11:AA:1661:G:H2'	11:AA:1662:G:C8	2.25	0.71
26:FF:187:SER:O	26:FF:190:GLU:N	2.23	0.71
67:i:37:GLN:H	77:s:57:LEU:HD21	1.54	0.71
68:j:23:ARG:NH1	68:j:41:VAL:O	2.23	0.71
11:AA:1724:U:OP1	19:D:128:LYS:NZ	2.24	0.71
61:c:762:A:OP1	71:m:79:ARG:NH1	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:e:199:ASN:O	63:e:202:LYS:NZ	2.23	0.71
11:AA:1765:U:H5''	19:D:43:LYS:HE3	1.73	0.71
71:m:78:ARG:HH12	71:m:82:ARG:HH11	1.39	0.71
1:0:17:LEU:HD11	66:h:92:LEU:HD13	1.73	0.71
11:AA:1447:G:OP1	13:B:65:SER:OG	2.07	0.71
8:7:158:PRO:HG2	8:7:206:PRO:HA	1.73	0.71
11:AA:549:U:H2'	11:AA:550:A:C8	2.25	0.71
11:AA:655:C:H2'	11:AA:656:A:H8	1.56	0.71
11:AA:3233:C:H2'	11:AA:3234:A:C8	2.26	0.71
56:X:25:GLN:OE1	56:X:28:ARG:NH1	2.23	0.71
61:c:687:G:H5'	83:y:119:LYS:HG2	1.73	0.71
64:f:52:THR:OG1	64:f:54:GLU:OE1	2.09	0.71
76:r:90:ILE:HD11	76:r:112:LEU:HD11	1.72	0.71
5:4:31:GLU:OE2	5:4:36:THR:OG1	2.09	0.70
11:AA:1604:G:P	91:AA:3604:HOH:O	2.44	0.70
40:MM:21:ARG:O	40:MM:24:ARG:NH1	2.24	0.70
61:c:1219:A:O2'	72:n:47:GLN:O	2.08	0.70
11:AA:3315:G:OP1	26:FF:116:ARG:NH2	2.24	0.70
61:c:1171:A:H2'	61:c:1172:G:H8	1.56	0.70
11:AA:1639:C:OP2	51:S:74:ARG:NH1	2.23	0.70
14:BB:64:A:N7	40:MM:209:ASN:ND2	2.40	0.70
61:c:576:G:H22	84:z:67:ALA:HB2	1.54	0.70
72:n:24:LYS:HB2	72:n:39:ASN:HD21	1.55	0.70
1:0:55:VAL:HG12	1:0:75:VAL:HG22	1.73	0.70
39:M:75:LEU:HD22	39:M:78:LEU:HD22	1.71	0.70
61:c:44:U:OP2	61:c:437:A:N6	2.23	0.70
61:c:401:A:P	91:c:2005:HOH:O	2.48	0.70
8:7:126:SER:OG	8:7:128:ASP:OD1	2.10	0.70
11:AA:284:A:OP2	59:a:41:ARG:NH1	2.25	0.70
11:AA:2196:C:O2'	11:AA:2270:A:H8	1.74	0.70
77:s:47:LYS:NZ	77:s:79:TYR:OH	2.25	0.70
11:AA:3139:A:OP2	26:FF:30:LYS:NZ	2.21	0.70
42:NN:110:ILE:HG21	42:NN:116:TYR:HA	1.74	0.70
61:c:256:A:O2'	70:l:72:ILE:O	2.10	0.70
66:h:44:LEU:HD23	66:h:82:TYR:HB3	1.74	0.70
78:t:89:SER:C	78:t:91:LEU:N	2.47	0.70
79:u:67:GLU:HA	79:u:70:VAL:HG12	1.74	0.70
11:AA:649:A2M:OP2	11:AA:2868:U:O2'	2.10	0.70
45:P:77:ARG:HD2	45:P:89:LEU:HD13	1.72	0.70
61:c:514:G:HO2'	61:c:515:A:H8	1.40	0.70
61:c:1346:A:H4'	61:c:1347:U:H5'	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:288:C:OP1	49:QQ:170:LYS:NZ	2.25	0.69
69:k:159:VAL:HG21	69:k:185:ILE:HG12	1.74	0.69
8:7:102:ARG:NH1	61:c:1342:C:OP1	2.24	0.69
8:7:157:VAL:HB	8:7:168:THR:HG23	1.74	0.69
11:AA:158:G:H2'	11:AA:159:A:H8	1.56	0.69
11:AA:864:G:N7	91:AA:3667:HOH:O	2.25	0.69
72:n:1:MET:HE1	72:n:41:TYR:HA	1.73	0.69
68:j:3:LEU:HD13	68:j:18:ILE:HD13	1.75	0.69
81:w:70:THR:OG1	81:w:72:ASN:OD1	2.11	0.69
11:AA:351:A:N6	56:X:37:TYR:O	2.25	0.69
11:AA:894:G:H4'	11:AA:895:A:H5'	1.74	0.69
11:AA:549:U:H2'	11:AA:550:A:H8	1.56	0.69
11:AA:1364:C:OP1	34:JJ:110:ARG:NH2	2.26	0.69
17:CC:59:A:O2'	33:J:61:LYS:NZ	2.24	0.69
20:DD:26:PHE:HB2	20:DD:87:VAL:HB	1.74	0.69
49:QQ:95:GLN:NE2	91:QQ:401:HOH:O	2.24	0.69
61:c:817:A:O4'	69:k:110:GLN:NE2	2.25	0.69
11:AA:2194:G:N7	91:AA:3676:HOH:O	2.26	0.69
12:Aa:309:GLY:O	12:Aa:312:LYS:NZ	2.25	0.69
12:Aa:491:VAL:HG21	12:Aa:542:LEU:HD11	1.74	0.69
22:E:93:GLU:HG2	22:E:140:VAL:HG21	1.75	0.69
61:c:1502:G:N2	61:c:1505:A:OP2	2.25	0.69
80:v:77:ASN:OD1	80:v:101:ASN:ND2	2.22	0.69
8:7:22:SER:HB3	8:7:36:ALA:HB3	1.75	0.69
18:Cc:51:U:H3	18:Cc:65:G:H1	1.41	0.69
20:DD:28:VAL:O	20:DD:84:VAL:HA	1.93	0.69
33:J:108:LEU:HD23	33:J:125:ARG:HD3	1.73	0.69
66:h:35:PRO:HD2	66:h:83:PRO:HG2	1.74	0.69
78:t:14:LYS:O	78:t:18:GLU:HG2	1.92	0.69
11:AA:2160:G:H2'	11:AA:2161:G:H8	1.56	0.69
12:Aa:744:TYR:OH	12:Aa:757:GLU:OE2	2.11	0.69
38:LL:21:LYS:HG3	38:LL:22:SER:H	1.57	0.69
11:AA:595:G:OP1	34:JJ:33:ARG:NH2	2.26	0.69
16:C:125:ASP:OD1	16:C:126:GLN:N	2.26	0.69
16:C:182:LYS:NZ	39:M:55:LYS:O	2.26	0.69
61:c:1358:G:C2	61:c:1366:U:O2	2.46	0.69
1:0:16:PRO:HB2	66:h:94:ALA:HB1	1.75	0.68
12:Aa:72:SER:O	12:Aa:384:LYS:NZ	2.26	0.68
17:CC:142:C:OP1	49:QQ:38:ARG:NH1	2.24	0.68
68:j:137:ARG:HD3	68:j:177:ARG:HD2	1.75	0.68
78:t:24:LEU:HB3	78:t:34:LEU:HD13	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:112:LYS:NZ	61:c:57:G:OP1	2.27	0.68
11:AA:1010:G:N2	40:MM:193:ASP:OD2	2.26	0.68
61:c:1474:G:H2'	61:c:1475:A:H8	1.58	0.68
72:n:20:VAL:HG12	72:n:67:THR:HA	1.75	0.68
61:c:1414:U:OP2	78:t:2:GLY:N	2.25	0.68
20:DD:25:LEU:HB3	20:DD:191:TYR:HB3	1.74	0.68
51:S:22:VAL:HG12	51:S:30:LEU:HD12	1.75	0.68
68:j:118:GLU:HG3	68:j:119:GLN:H	1.56	0.68
11:AA:107:A:O2'	11:AA:324:A:N3	2.25	0.68
11:AA:1896:A:H61	11:AA:2339:C:N4	1.90	0.68
42:NN:30:LEU:HD11	42:NN:67:VAL:HG23	1.75	0.68
61:c:885:G:H2'	61:c:886:U:C6	2.28	0.68
66:h:140:VAL:HG22	66:h:146:THR:HG22	1.76	0.68
61:c:298:C:H5''	66:h:38:LEU:HB2	1.75	0.68
67:i:43:PHE:HE2	67:i:130:ILE:HD11	1.58	0.68
20:DD:130:PRO:HA	20:DD:150:ILE:HD11	1.76	0.68
51:S:3:GLN:HE22	51:S:29:ILE:HB	1.59	0.68
61:c:992:A:O2'	61:c:1785:U:O2	2.11	0.68
61:c:1537:C:H5''	61:c:1572:OMG:HN21	1.57	0.68
11:AA:84:U:OP1	91:AA:3619:HOH:O	2.11	0.68
11:AA:591:G:N2	11:AA:612:U:OP1	2.24	0.68
11:AA:715:A:H5''	39:M:115:LYS:HA	1.76	0.68
19:D:166:ASN:HD22	61:c:815:G:H5''	1.58	0.68
29:H:54:LEU:HD21	29:H:119:GLY:HA3	1.75	0.68
40:MM:30:LYS:HG3	40:MM:63:GLU:HG3	1.75	0.68
70:l:36:THR:O	70:l:96:LEU:N	2.21	0.68
12:Aa:396:ALA:HB3	12:Aa:456:LEU:HB2	1.76	0.68
23:EE:130:SER:OG	23:EE:174:ARG:NH1	2.26	0.68
61:c:1223:A:H2'	61:c:1224:A:C8	2.29	0.68
79:u:26:ILE:HB	79:u:31:ALA:HB2	1.76	0.68
11:AA:664:U:H2'	11:AA:665:A:C8	2.28	0.68
11:AA:2488:A:N6	11:AA:2490:C:OP2	2.27	0.68
61:c:340:U:H2'	61:c:341:A:H8	1.58	0.68
1:0:109:LYS:NZ	61:c:459:G:OP1	2.27	0.67
11:AA:1302:A:N7	11:AA:2857:C:O2'	2.26	0.67
12:Aa:676:ILE:O	12:Aa:823:ARG:NH1	2.27	0.67
67:i:48:PHE:O	67:i:65:ARG:NH1	2.26	0.67
11:AA:3008:A:N7	91:AA:3684:HOH:O	2.27	0.67
20:DD:60:ARG:NH1	20:DD:80:VAL:O	2.27	0.67
54:V:14:LYS:HD2	56:X:51:ILE:HD11	1.76	0.67
61:c:17:C:O2'	61:c:1137:A:N1	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:65:A:H2	61:c:84:A:H62	1.42	0.67
71:m:161:THR:HG22	71:m:162:SER:H	1.59	0.67
11:AA:2767:U:O2'	59:a:30:ALA:O	2.10	0.67
20:DD:28:VAL:HA	20:DD:187:VAL:HA	1.76	0.67
61:c:20:G:OP2	91:c:2008:HOH:O	2.11	0.67
61:c:1477:G:H2'	61:c:1478:G:H8	1.59	0.67
65:g:158:ILE:HD13	65:g:202:LEU:HD11	1.75	0.67
2:1:65:LEU:HD23	2:1:71:ILE:HD13	1.77	0.67
8:7:116:ASP:HB3	8:7:121:MET:HB2	1.76	0.67
11:AA:994:G:N2	11:AA:995:U:O4	2.25	0.67
12:Aa:13:MET:HE3	12:Aa:449:PRO:HD2	1.76	0.67
26:FF:35:ASP:OD2	26:FF:37:ARG:NH1	2.28	0.67
61:c:1672:G:H2'	61:c:1673:G:C8	2.28	0.67
64:f:116:LYS:HG2	64:f:127:ALA:HB3	1.76	0.67
12:Aa:28:VAL:HG22	12:Aa:108:HIS:HA	1.76	0.67
30:HH:60:ILE:H	30:HH:80:SER:HB3	1.59	0.67
64:f:186:LYS:HD2	64:f:189:GLN:HE21	1.59	0.67
11:AA:1480:G:C8	91:AA:3773:HOH:O	2.47	0.67
11:AA:2555:G:N1	51:S:96:GLU:OE2	2.24	0.67
15:Bb:66:A:H2'	15:Bb:67:A:H8	1.59	0.67
61:c:861:U:OP1	74:p:64:ARG:NH2	2.25	0.67
69:k:123:ASP:OD1	69:k:138:LYS:NZ	2.28	0.67
24:Ee:13:LEU:HD13	24:Ee:64:ILE:HD13	1.76	0.67
11:AA:1167:U:OP1	91:AA:3621:HOH:O	2.13	0.67
12:Aa:5:THR:HG23	12:Aa:6:VAL:H	1.59	0.67
61:c:361:C:N4	61:c:379:U:OP1	2.27	0.67
62:d:83:GLN:HG3	62:d:99:ALA:HB1	1.77	0.67
12:Aa:731:VAL:HG12	12:Aa:796:MET:HB3	1.77	0.67
45:P:10:ARG:NH1	45:P:12:TYR:OH	2.22	0.67
61:c:1486:G:N2	61:c:1522:U:O4	2.27	0.67
71:m:116:LEU:HD12	71:m:156:ILE:HD11	1.75	0.67
71:m:168:ARG:HH11	71:m:169:PRO:HD2	1.60	0.67
11:AA:170:G:H2'	11:AA:171:G:C8	2.30	0.67
8:7:289:ALA:HA	8:7:305:TYR:HA	1.75	0.66
61:c:778:G:H1	61:c:783:G:N2	1.93	0.66
11:AA:2551:U:OP1	51:S:102:LYS:NZ	2.29	0.66
12:Aa:578:LYS:HD3	12:Aa:582:LYS:HG2	1.77	0.66
23:EE:68:LYS:HD3	23:EE:70:ARG:HD3	1.75	0.66
61:c:1297:G:N2	61:c:1300:A:OP2	2.20	0.66
61:c:1484:G:N2	61:c:1606:C:O2	2.28	0.66
26:FF:375:GLU:OE2	31:I:14:TYR:OH	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1058:U:O2'	61:c:1060:U:OP2	2.14	0.66
61:c:1481:C:OP2	80:v:63:ARG:NH2	2.28	0.66
63:e:108:ASP:OD1	63:e:109:LYS:N	2.29	0.66
11:AA:57:A:OP2	91:AA:3622:HOH:O	2.13	0.66
11:AA:904:A:OP2	54:V:30:GLN:NE2	2.28	0.66
11:AA:2269:U:H1'	11:AA:2270:A:H2	1.60	0.66
20:DD:108:PRO:HA	20:DD:179:SER:HA	1.77	0.66
37:L:42:LEU:HD22	37:L:101:PHE:HE2	1.58	0.66
61:c:1483:A:H2'	61:c:1484:G:C8	2.30	0.66
68:j:57:ASP:HA	68:j:106:LEU:HA	1.76	0.66
11:AA:3206:C:OP1	22:E:166:LYS:NZ	2.28	0.66
12:Aa:205:ALA:HA	12:Aa:222:ILE:HD11	1.77	0.66
18:Cc:39:A:O2'	61:c:1001:A:OP1	2.14	0.66
43:O:14:LEU:O	43:O:18:ILE:HG12	1.96	0.66
61:c:1673:G:H1	61:c:1728:A:H2	1.43	0.66
78:t:84:TYR:CZ	78:t:85:VAL:HG12	2.30	0.66
9:8:138:ARG:HH12	61:c:1236:A:H1'	1.61	0.66
55:W:40:GLN:NE2	55:W:57:ASN:OD1	2.28	0.66
66:h:131:LEU:HD21	66:h:135:GLY:HA2	1.75	0.66
68:j:78:THR:HG22	68:j:79:LYS:H	1.59	0.66
6:5:46:LYS:NZ	65:g:23:GLU:OE1	2.29	0.66
66:h:100:ARG:NH2	66:h:121:TYR:O	2.28	0.66
11:AA:1264:G:N2	11:AA:1265:U:O4	2.24	0.66
11:AA:1472:U:H5''	19:D:24:LEU:HD12	1.77	0.66
35:K:116:LYS:HG2	35:K:127:GLU:HB3	1.77	0.66
40:MM:103:LEU:HD23	40:MM:112:GLN:HE21	1.58	0.66
2:1:70:LYS:HB3	2:1:71:ILE:HD12	1.77	0.66
11:AA:1412:G:OP1	48:Q:105:ARG:NH2	2.29	0.66
61:c:1665:U:H3	61:c:1736:G:H1	1.44	0.66
78:t:23:LYS:HG3	78:t:24:LEU:H	1.60	0.66
84:z:43:PHE:HZ	84:z:104:LEU:HB2	1.61	0.66
5:4:16:LEU:HB2	5:4:27:GLN:HB2	1.76	0.66
12:Aa:155:VAL:HG21	12:Aa:185:VAL:HG11	1.78	0.66
26:FF:113:GLU:OE2	26:FF:166:ILE:N	2.29	0.66
11:AA:3294:A:OP1	26:FF:128:LYS:NZ	2.29	0.65
12:Aa:105:SER:HB2	12:Aa:115:VAL:HG22	1.76	0.65
22:E:71:LYS:O	22:E:73:LYS:NZ	2.27	0.65
26:FF:113:GLU:HG2	26:FF:176:ALA:HB2	1.78	0.65
28:GG:90:PHE:O	28:GG:98:ARG:NH2	2.30	0.65
49:QQ:5:LYS:HG2	53:U:40:VAL:HG11	1.78	0.65
61:c:1515:A:O2'	61:c:1517:U:OP2	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1524:A:H2'	61:c:1525:A:C8	2.30	0.65
63:e:32:ILE:HD13	63:e:66:VAL:HG11	1.76	0.65
79:u:41:ARG:NH2	80:v:36:ILE:O	2.29	0.65
1:0:18:LEU:HD23	1:0:20:ARG:HE	1.60	0.65
11:AA:919:U:OP2	91:AA:3625:HOH:O	2.14	0.65
11:AA:2763:U:O2	88:AA:3533:SPD:N1	2.29	0.65
25:F:126:VAL:HB	25:F:128:LEU:HG	1.78	0.65
1:0:48:TYR:HD2	1:0:75:VAL:HG21	1.61	0.65
11:AA:1222:G:N2	11:AA:1285:G:O2'	2.27	0.65
11:AA:2557:A:OP1	23:EE:69:TYR:OH	2.14	0.65
11:AA:2399:A:N7	91:AA:3700:HOH:O	2.30	0.65
28:GG:142:VAL:HG12	28:GG:145:ILE:HD12	1.78	0.65
45:P:55:LEU:HB2	45:P:95:PRO:HD3	1.77	0.65
61:c:183:U:H2'	61:c:184:C:C6	2.31	0.65
64:f:39:THR:O	64:f:42:GLY:N	2.28	0.65
68:j:20:ASP:O	68:j:23:ARG:N	2.29	0.65
12:Aa:799:ASP:OD1	12:Aa:800:HIS:ND1	2.30	0.65
34:JJ:239:LEU:O	34:JJ:243:MET:HG3	1.96	0.65
49:QQ:159:ARG:HB2	49:QQ:164:LEU:HB2	1.77	0.65
11:AA:1786:G:H2'	11:AA:1787:A:C8	2.31	0.65
11:AA:2370:G:N7	91:AA:3703:HOH:O	2.30	0.65
11:AA:2895:G:O2'	57:Y:100:TYR:O	2.15	0.65
12:Aa:155:VAL:O	12:Aa:209:VAL:HA	1.97	0.65
58:Z:1:MET:HE2	61:c:1782:MA6:H5'	1.79	0.65
78:t:32:LYS:HD2	78:t:47:ARG:HH12	1.60	0.65
26:FF:57:VAL:HG22	26:FF:73:VAL:HG22	1.78	0.65
61:c:1474:G:H2'	61:c:1475:A:C8	2.31	0.65
61:c:1482:C:O2'	77:s:72:GLY:O	2.14	0.65
74:p:63:ALA:O	74:p:67:THR:OG1	2.12	0.65
10:A:118:VAL:HG11	22:E:163:PHE:HB3	1.79	0.65
11:AA:307:A:H2'	11:AA:308:A:H8	1.61	0.65
15:Bb:15:G:H22	15:Bb:48:C:H42	1.44	0.65
19:D:21:LYS:HE3	19:D:55:VAL:HA	1.79	0.65
36:KK:161:GLU:HA	36:KK:164:VAL:HG22	1.78	0.65
45:P:12:TYR:O	45:P:72:ARG:HD2	1.97	0.65
63:e:82:ARG:HG3	63:e:105:PHE:HE1	1.60	0.65
72:n:46:LEU:O	72:n:50:THR:HB	1.95	0.65
11:AA:1169:A:OP1	91:AA:3624:HOH:O	2.13	0.64
11:AA:1473:G:N7	91:AA:3699:HOH:O	2.29	0.64
11:AA:2677:G:O6	11:AA:2680:A:N6	2.30	0.64
12:Aa:465:LYS:NZ	12:Aa:512:SER:O	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:j:160:ARG:HG3	68:j:171:LYS:HG3	1.77	0.64
8:7:271:VAL:HG22	8:7:272:ASP:H	1.62	0.64
11:AA:567:G:H2'	11:AA:568:G:C8	2.32	0.64
11:AA:3050:U:O2'	31:I:16:GLY:O	2.15	0.64
12:Aa:4:PHE:HB3	12:Aa:8:GLN:HB2	1.79	0.64
12:Aa:833:PRO:HB3	12:Aa:837:GLU:HG3	1.77	0.64
25:F:132:PRO:HB2	34:JJ:120:THR:HB	1.78	0.64
61:c:415:C:O2'	61:c:418:G:O6	2.13	0.64
66:h:100:ARG:HB2	66:h:114:ILE:HD13	1.78	0.64
78:t:77:GLU:HA	78:t:80:ARG:HG2	1.78	0.64
11:AA:404:G:OP2	91:AA:3628:HOH:O	2.15	0.64
61:c:85:A:N3	61:c:148:A:O2'	2.29	0.64
1:0:32:ARG:HH21	1:0:35:VAL:HA	1.62	0.64
11:AA:2453:U:O4	11:AA:2484:A:N6	2.30	0.64
28:GG:20:LEU:HD11	28:GG:252:GLU:HG3	1.78	0.64
43:O:24:THR:HG22	43:O:91:SER:HB3	1.80	0.64
61:c:472:U:O2'	61:c:769:A:N3	2.25	0.64
61:c:1237:G:H2'	61:c:1238:A:H8	1.62	0.64
78:t:90:ALA:C	78:t:91:LEU:HD23	2.23	0.64
1:0:54:ALA:HB1	1:0:76:TYR:HB2	1.78	0.64
11:AA:417:A:H2'	11:AA:418:A:C8	2.33	0.64
11:AA:543:C:H2'	11:AA:544:C:C2	2.33	0.64
14:BB:1:G:O6	30:HH:262:LYS:NZ	2.30	0.64
14:BB:118:A:H5''	30:HH:253:PHE:HZ	1.63	0.64
61:c:1535:U:O2'	61:c:1536:G:N3	2.30	0.64
7:6:55:ARG:NH2	61:c:558:U:OP2	2.30	0.64
8:7:89:LEU:HD11	8:7:110:VAL:HG11	1.79	0.64
11:AA:307:A:H2'	11:AA:308:A:C8	2.33	0.64
11:AA:358:G:N2	11:AA:361:A:OP2	2.28	0.64
11:AA:1635:G:N2	11:AA:1638:A:OP2	2.27	0.64
11:AA:2270:A:H2'	11:AA:2271:A:C8	2.33	0.64
17:CC:143:U:OP1	49:QQ:38:ARG:NH2	2.29	0.64
61:c:1331:A:H61	65:g:161:GLY:HA3	1.62	0.64
61:c:1360:A:H2'	61:c:1361:U:H4'	1.80	0.64
70:l:84:HIS:HD2	70:l:100:ALA:HB2	1.63	0.64
5:4:53:ILE:HB	67:i:57:SER:HA	1.79	0.64
11:AA:714:G:HO2'	11:AA:753:C:HO2'	1.44	0.64
22:E:99:ARG:NH2	22:E:126:VAL:O	2.30	0.64
61:c:1663:G:O6	61:c:1738:U:O4	2.15	0.64
63:e:119:THR:HG21	63:e:161:ILE:HD11	1.78	0.64
65:g:195:SER:OG	65:g:197:THR:O	2.14	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:170:ILE:HA	8:7:181:TRP:HZ2	1.62	0.64
11:AA:63:A:N3	11:AA:78:U:O2'	2.28	0.64
49:QQ:27:VAL:HB	49:QQ:122:ASN:ND2	2.13	0.64
61:c:885:G:N2	75:q:124:ASP:OD1	2.31	0.64
65:g:105:MET:HB2	65:g:122:VAL:HG21	1.77	0.64
76:r:75:PRO:HB3	76:r:104:GLN:NE2	2.12	0.64
10:A:121:PRO:HA	10:A:124:LEU:HD23	1.79	0.64
25:F:8:ARG:HD2	25:F:52:MET:HE1	1.78	0.64
62:d:112:THR:HG23	62:d:113:ARG:HG3	1.79	0.64
80:v:43:ASN:OD1	80:v:44:GLU:N	2.30	0.64
11:AA:2102:U:H2'	11:AA:2103:U:C6	2.33	0.64
11:AA:3084:C:O2'	11:AA:3332:U:OP1	2.16	0.64
13:B:62:ARG:NH1	17:CC:5:U:OP2	2.31	0.64
23:EE:181:LYS:HB2	23:EE:184:ARG:HG3	1.80	0.64
61:c:58:U:O2'	61:c:451:A:N3	2.31	0.64
11:AA:151:A:OP1	49:QQ:147:ARG:NH2	2.31	0.63
11:AA:655:C:H2'	11:AA:656:A:C8	2.32	0.63
11:AA:2176:U:OP1	23:EE:54:ARG:NH2	2.29	0.63
11:AA:2673:A:OP1	42:NN:95:ASN:ND2	2.30	0.63
11:AA:3275:U:O2'	50:R:99:ARG:NH1	2.30	0.63
11:AA:3295:A:H2'	11:AA:3296:A:C8	2.33	0.63
39:M:77:LYS:C	39:M:79:TRP:H	2.06	0.63
69:k:14:THR:HB	69:k:17:GLU:HG2	1.79	0.63
11:AA:874:U:OP2	11:AA:1907:C:O2'	2.14	0.63
12:Aa:149:GLU:OE2	12:Aa:352:ARG:NH1	2.31	0.63
15:Bb:4:G:O6	15:Bb:69:U:O4	2.14	0.63
40:MM:189:GLU:HB2	40:MM:200:LEU:HB3	1.79	0.63
61:c:753:A:OP1	66:h:187:ARG:N	2.31	0.63
62:d:76:ILE:HG12	62:d:98:ILE:HB	1.80	0.63
71:m:133:HIS:ND1	71:m:162:SER:HB2	2.13	0.63
72:n:48:SER:O	72:n:50:THR:N	2.32	0.63
11:AA:542:G:O6	11:AA:550:A:N6	2.31	0.63
11:AA:824:C:H5''	23:EE:21:ARG:HD3	1.81	0.63
11:AA:1179:A:N7	91:AA:3702:HOH:O	2.30	0.63
61:c:66:U:OP2	68:j:136:LYS:NZ	2.29	0.63
69:k:83:LYS:O	69:k:86:GLN:NE2	2.30	0.63
8:7:168:THR:HA	8:7:183:LEU:HD13	1.81	0.63
11:AA:341:G:O2'	17:CC:22:U:O4	2.14	0.63
11:AA:2831:G:O6	91:AA:3620:HOH:O	2.13	0.63
23:EE:133:TYR:HB3	23:EE:168:VAL:HG12	1.80	0.63
30:HH:286:VAL:HG13	40:MM:206:LEU:HD11	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:KK:178:ALA:HB2	36:KK:218:ILE:HG21	1.80	0.63
70:l:87:ASN:HB3	70:l:90:LEU:HG	1.80	0.63
8:7:23:LEU:HD21	8:7:310:ILE:HD12	1.79	0.63
11:AA:3371:G:H2'	11:AA:3372:A:C8	2.34	0.63
12:Aa:438:MET:HE2	12:Aa:441:PHE:HE1	1.63	0.63
61:c:1169:G:N1	61:c:1575:G7M:OP2	2.30	0.63
65:g:106:LYS:NZ	65:g:174:HIS:O	2.32	0.63
66:h:103:TYR:HE2	66:h:184:THR:HG22	1.63	0.63
6:5:10:HIS:HB2	6:5:11:PRO:HD2	1.81	0.63
50:R:16:TYR:OH	50:R:89:LEU:O	2.15	0.63
54:V:52:LYS:HG3	54:V:55:ARG:HH21	1.64	0.63
61:c:400:A:H5''	70:l:25:ARG:HA	1.80	0.63
11:AA:1758:G:H5''	27:G:104:ARG:HH21	1.63	0.63
11:AA:3160:U:H5''	11:AA:3396:U:H3'	1.81	0.63
12:Aa:164:LEU:HD21	12:Aa:174:LEU:HD22	1.79	0.63
12:Aa:576:LEU:HD21	12:Aa:585:ARG:HH21	1.64	0.63
17:CC:52:A:OP1	56:X:21:ARG:NH1	2.30	0.63
20:DD:143:THR:HG22	20:DD:152:ILE:HA	1.80	0.63
29:H:101:VAL:HG11	29:H:114:ILE:HD12	1.80	0.63
36:KK:95:ASN:OD1	36:KK:98:ARG:NH2	2.32	0.63
60:b:46:THR:OG1	60:b:57:CYS:SG	2.55	0.63
61:c:447:U:O2'	66:h:27:TYR:O	2.16	0.63
4:3:2:VAL:N	82:x:64:GLU:OE1	2.32	0.63
5:4:8:THR:HG23	5:4:56:LEU:HB2	1.80	0.63
11:AA:2213:A:H2'	11:AA:2214:A:C8	2.34	0.63
11:AA:2899:C:O2'	11:AA:2901:G:OP2	2.15	0.63
36:KK:183:LYS:HB2	36:KK:194:THR:HG23	1.81	0.63
61:c:1654:G:H21	61:c:1746:A:H2	1.45	0.63
63:e:61:LEU:HD13	63:e:96:LEU:HD21	1.81	0.63
8:7:169:ILE:HG23	8:7:183:LEU:HD21	1.81	0.62
11:AA:3042:U:OP2	11:AA:3092:C:N4	2.29	0.62
18:Cc:72:C:H2'	18:Cc:73:A:H8	1.64	0.62
62:d:140:ASN:ND2	82:x:31:SER:O	2.25	0.62
66:h:11:ARG:NH1	66:h:21:ASP:O	2.32	0.62
70:l:10:LYS:HG3	73:o:133:LYS:HE3	1.79	0.62
4:3:5:GLN:HG2	83:y:24:GLN:HE21	1.64	0.62
9:8:135:HIS:H	9:8:138:ARG:HG3	1.65	0.62
12:Aa:747:LEU:O	12:Aa:752:GLY:N	2.27	0.62
16:C:120:GLU:OE2	16:C:130:ARG:NH1	2.24	0.62
40:MM:206:LEU:O	40:MM:210:ILE:HG12	1.99	0.62
61:c:209:U:H2'	61:c:210:A:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:407:A:C2	17:CC:17:A:H1'	2.34	0.62
11:AA:3160:U:H3	11:AA:3290:G:H1	1.48	0.62
4:3:19:HIS:HB3	4:3:22:LYS:HG3	1.80	0.62
11:AA:2561:A:H2'	11:AA:2562:A:H8	1.62	0.62
11:AA:2662:G:H2'	11:AA:2663:G:H8	1.64	0.62
11:AA:3261:C:OP1	46:PP:126:GLN:NE2	2.32	0.62
12:Aa:32:LYS:NZ	89:Aa:1001:GTP:O1G	2.32	0.62
30:HH:91:GLY:O	30:HH:94:ASN:ND2	2.32	0.62
35:K:119:ILE:HG22	35:K:124:GLY:HA3	1.81	0.62
61:c:1316:G:OP1	78:t:7:LYS:N	2.33	0.62
61:c:1610:G:H4'	67:i:98:MET:HE1	1.82	0.62
11:AA:2676:A:H4'	11:AA:2677:G:H5''	1.80	0.62
11:AA:2795:U:OP2	59:a:63:LYS:HG2	2.00	0.62
12:Aa:305:ILE:HD11	12:Aa:327:PHE:HB2	1.80	0.62
16:C:125:ASP:OD2	28:GG:282:SER:N	2.26	0.62
53:U:42:SER:O	53:U:46:GLU:HG2	1.99	0.62
61:c:1594:G:OP2	61:c:1596:C:N4	2.32	0.62
79:u:53:ASP:HB3	79:u:56:LYS:HZ1	1.64	0.62
11:AA:3107:U:OP1	57:Y:114:LYS:NZ	2.26	0.62
12:Aa:147:LEU:HD12	12:Aa:193:ALA:HA	1.81	0.62
12:Aa:307:LEU:HD22	12:Aa:312:LYS:HA	1.81	0.62
77:s:40:GLU:H	77:s:45:ARG:HE	1.46	0.62
25:F:158:THR:OG1	40:MM:169:LYS:NZ	2.32	0.62
38:LL:117:PHE:HB3	38:LL:124:ARG:HH21	1.63	0.62
61:c:525:A:H2'	61:c:526:A:C8	2.34	0.62
61:c:924:A:H2'	61:c:925:G:C8	2.35	0.62
83:y:26:LEU:HD21	83:y:60:LYS:HE2	1.82	0.62
84:z:107:PHE:CD2	84:z:114:LYS:HB3	2.34	0.62
5:4:22:ARG:HH11	5:4:22:ARG:HG3	1.65	0.62
11:AA:2722:U:O2'	25:F:88:ARG:O	2.17	0.62
15:Bb:19:G:H5'	15:Bb:60:C:H42	1.64	0.62
61:c:405:C:O2'	68:j:92:ARG:O	2.18	0.62
11:AA:2747:A:H5'	30:HH:175:HIS:HA	1.82	0.62
15:Bb:8:U:O2'	15:Bb:21:A:N1	2.33	0.62
61:c:1755:A:O2'	61:c:1756:A:O4'	2.17	0.62
77:s:129:PHE:O	77:s:137:ARG:NH1	2.25	0.62
80:v:115:GLU:OE2	80:v:123:ARG:NE	2.30	0.62
1:0:34:ASN:ND2	61:c:532:U:O2	2.32	0.62
2:1:68:ARG:O	2:1:70:LYS:HD3	1.99	0.62
4:3:5:GLN:HG2	83:y:24:GLN:NE2	2.15	0.62
11:AA:1203:A:H2'	11:AA:1204:A:C8	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1404:G:O6	91:AA:3623:HOH:O	2.13	0.62
11:AA:1896:A:N6	11:AA:2339:C:H42	1.97	0.62
12:Aa:221:THR:HG23	12:Aa:224:GLN:H	1.64	0.62
26:FF:372:THR:HG22	26:FF:374:ALA:H	1.64	0.62
61:c:1591:C:H2'	61:c:1592:A:H8	1.65	0.62
78:t:85:VAL:HG22	78:t:88:VAL:HG21	1.82	0.62
11:AA:363:G:OP2	54:V:56:ARG:NH2	2.31	0.61
11:AA:799:G:O2'	44:OO:18:TRP:NE1	2.29	0.61
11:AA:1152:G:OP2	11:AA:1152:G:N2	2.31	0.61
11:AA:3119:U:H4'	57:Y:104:PRO:HG2	1.81	0.61
20:DD:130:PRO:O	20:DD:133:THR:HG23	1.99	0.61
36:KK:134:TYR:HB3	36:KK:190:VAL:HG11	1.82	0.61
61:c:103:A:H4'	61:c:105:A:C8	2.35	0.61
76:r:17:TYR:CE2	76:r:112:LEU:HB2	2.34	0.61
84:z:69:ARG:HG3	84:z:117:ILE:HG12	1.81	0.61
4:3:8:LEU:HD21	83:y:51:GLU:HG3	1.80	0.61
11:AA:1631:C:OP2	37:L:48:ARG:NH2	2.28	0.61
11:AA:2160:G:H2'	11:AA:2161:G:C8	2.34	0.61
56:X:30:ARG:HB2	56:X:33:ASN:HB2	1.82	0.61
71:m:162:SER:O	71:m:164:PHE:N	2.32	0.61
11:AA:1805:C:H2'	11:AA:1806:A:H8	1.65	0.61
12:Aa:568:GLU:OE1	12:Aa:723:LYS:NZ	2.32	0.61
12:Aa:799:ASP:OD1	12:Aa:800:HIS:N	2.33	0.61
16:C:39:ARG:NH2	28:GG:300:ARG:O	2.32	0.61
39:M:36:GLY:HA3	39:M:40:HIS:CE1	2.35	0.61
54:V:21:ARG:NH2	54:V:44:THR:OG1	2.34	0.61
77:s:39:VAL:HG12	77:s:41:PRO:HD3	1.82	0.61
11:AA:2433:U:H1'	49:QQ:125:SER:HB3	1.82	0.61
61:c:778:G:O6	61:c:783:G:N1	2.34	0.61
61:c:939:A:H2'	61:c:940:A:C8	2.35	0.61
10:A:10:ASP:OD1	22:E:167:ARG:NH2	2.33	0.61
11:AA:1132:C:H2'	11:AA:1133:A2M:H8	1.82	0.61
11:AA:2951:G:P	91:AA:3611:HOH:O	2.58	0.61
38:LL:93:VAL:HG22	57:Y:82:LEU:HB3	1.81	0.61
11:AA:874:U:N3	11:AA:2978:U:OP1	2.29	0.61
11:AA:3121:U:H1'	11:AA:3122:A:H5''	1.82	0.61
24:Ee:146:LYS:HB2	24:Ee:151:ILE:HD11	1.81	0.61
26:FF:10:ARG:NH1	26:FF:263:SER:O	2.29	0.61
61:c:428:A:N3	61:c:440:U:O2'	2.28	0.61
61:c:789:A:OP1	66:h:108:ARG:NH1	2.33	0.61
63:e:32:ILE:HG22	63:e:34:ALA:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2490:C:H1'	11:AA:2491:A:C8	2.35	0.61
11:AA:2895:G:OP1	38:LL:166:ARG:NH2	2.34	0.61
24:Ee:63:LYS:HB3	24:Ee:70:ALA:HB3	1.82	0.61
61:c:329:G:H2'	61:c:330:G:H8	1.64	0.61
69:k:46:ILE:HG12	69:k:60:ILE:HA	1.82	0.61
72:n:25:LYS:HD3	72:n:59:PHE:CZ	2.34	0.61
11:AA:733:G:N2	11:AA:736:A:OP2	2.34	0.61
61:c:1388:A:OP2	78:t:32:LYS:NZ	2.33	0.61
75:q:89:THR:HG22	75:q:125:SER:HB2	1.83	0.61
11:AA:2406:C:H2'	11:AA:2407:C:C6	2.36	0.61
11:AA:3085:G:OP1	31:I:34:SER:OG	2.16	0.61
33:J:50:ALA:O	52:T:66:VAL:HG21	2.01	0.61
61:c:610:G:H21	84:z:19:ARG:HH22	1.49	0.61
11:AA:2877:G:N7	91:AA:3712:HOH:O	2.31	0.61
19:D:176:ARG:HH22	61:c:852:C:H5''	1.65	0.61
79:u:53:ASP:HB3	79:u:56:LYS:NZ	2.15	0.61
3:2:76:SER:OG	61:c:1793:G:N2	2.33	0.60
11:AA:361:A:O3'	54:V:45:ARG:NH2	2.33	0.60
11:AA:2473:C:H3'	11:AA:2474:G:O4'	2.01	0.60
11:AA:3016:A:H2'	11:AA:3017:A:C8	2.36	0.60
61:c:1676:U:H5''	70:l:58:LEU:HD21	1.82	0.60
68:j:148:SER:N	68:j:151:ASP:OD2	2.32	0.60
81:w:41:ILE:HD11	81:w:107:THR:HG21	1.83	0.60
84:z:51:GLY:O	84:z:101:GLU:HA	2.01	0.60
11:AA:2374:C:OP2	91:AA:3630:HOH:O	2.15	0.60
11:AA:2466:G:H2'	11:AA:2467:G:O4'	2.01	0.60
11:AA:3329:U:H5''	26:FF:308:MET:HE2	1.82	0.60
61:c:446:A:N6	61:c:461:G:H21	1.99	0.60
61:c:918:U:H4'	75:q:18:ARG:HD3	1.81	0.60
6:5:13:ARG:NH2	61:c:1554:U:OP1	2.34	0.60
11:AA:589:A:H1'	11:AA:1337:A:H5''	1.83	0.60
23:EE:111:THR:HB	23:EE:136:ILE:HD13	1.81	0.60
28:GG:328:ASN:OD1	34:JJ:48:ASN:ND2	2.33	0.60
59:a:12:CYS:O	59:a:18:ARG:HA	2.02	0.60
70:l:39:GLY:O	70:l:59:ARG:HB3	2.01	0.60
8:7:120:SER:O	8:7:121:MET:HE2	2.02	0.60
11:AA:72:C:H4'	44:OO:63:VAL:HG13	1.83	0.60
11:AA:1920:U:O2'	11:AA:1932:A:N7	2.30	0.60
11:AA:2563:G:OP2	37:L:56:LYS:NZ	2.34	0.60
12:Aa:739:ALA:HB2	12:Aa:791:GLN:HE21	1.65	0.60
67:i:209:TYR:OH	67:i:213:LYS:NZ	2.27	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:m:136:VAL:HG12	71:m:156:ILE:HG22	1.83	0.60
2:1:58:ARG:HD2	67:i:124:LEU:HA	1.81	0.60
3:2:5:ARG:HH21	61:c:1795:U:H3'	1.65	0.60
11:AA:2373:A:OP1	91:AA:3629:HOH:O	2.15	0.60
35:K:3:LYS:HD3	35:K:8:VAL:HG23	1.82	0.60
61:c:151:G:N3	68:j:13:GLN:NE2	2.49	0.60
79:u:88:ARG:NE	79:u:91:ASP:OD1	2.34	0.60
66:h:103:TYR:O	66:h:182:TYR:OH	2.19	0.60
70:l:90:LEU:HD22	70:l:95:THR:HG21	1.84	0.60
80:v:16:ASN:OD1	80:v:56:LYS:NZ	2.35	0.60
11:AA:627:U:H2'	11:AA:628:A:C8	2.37	0.60
11:AA:662:U:H2'	11:AA:663:OMC:C6	2.37	0.60
12:Aa:715:ALA:HB2	12:Aa:838:TYR:HB2	1.82	0.60
17:CC:41:A:HO2'	54:V:59:THR:HG1	1.50	0.60
26:FF:303:LYS:NZ	26:FF:371:GLN:OE1	2.30	0.60
61:c:1171:A:O2'	61:c:1570:A:N3	2.31	0.60
61:c:1356:U:O2	61:c:1368:G:N1	2.35	0.60
1:0:20:ARG:NH1	1:0:22:GLN:HB3	2.12	0.60
11:AA:619:A:O2'	11:AA:620:U:OP2	2.18	0.60
11:AA:633:C:O2'	50:R:21:ARG:O	2.19	0.60
11:AA:1523:U:OP2	11:AA:1604:G:O2'	2.19	0.60
11:AA:1799:A:H2'	11:AA:1800:A:C8	2.36	0.60
12:Aa:226:ALA:HA	12:Aa:240:MET:HE3	1.83	0.60
20:DD:16:ARG:HG3	20:DD:66:PHE:CZ	2.37	0.60
30:HH:182:GLY:HA2	30:HH:194:LEU:HD23	1.84	0.60
61:c:1521:G:O6	80:v:68:ARG:NH1	2.34	0.60
11:AA:1134:G:O2'	11:AA:2642:A:N3	2.27	0.60
11:AA:1207:G:O2'	11:AA:1209:G:OP2	2.12	0.60
11:AA:2896:A:OP1	57:Y:124:LYS:NZ	2.34	0.60
11:AA:3297:U:O4	26:FF:124:LYS:NZ	2.34	0.60
12:Aa:40:VAL:HA	12:Aa:77:LEU:HD21	1.82	0.60
44:OO:184:GLU:HB3	44:OO:188:ARG:NH1	2.17	0.60
61:c:119:A:H1'	61:c:397:A:C4	2.37	0.60
62:d:105:GLY:N	62:d:135:GLU:OE2	2.25	0.60
63:e:35:PRO:HG3	63:e:73:LEU:HD11	1.83	0.60
1:0:37:LYS:HG2	1:0:57:VAL:HG23	1.83	0.60
11:AA:3258:U:O2'	11:AA:3260:G:OP1	2.20	0.60
11:AA:3371:G:H2'	11:AA:3372:A:H8	1.67	0.60
12:Aa:413:ILE:HD13	12:Aa:469:LEU:HD22	1.82	0.60
17:CC:103:G:H4'	54:V:21:ARG:HG2	1.84	0.60
42:NN:59:ILE:HG22	42:NN:65:ILE:HG21	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:300:A:H2'	61:c:301:A:C8	2.37	0.60
61:c:560:U:H2'	61:c:561:G:H8	1.66	0.60
61:c:1280:4AC:H5'	81:w:69:LYS:HE3	1.83	0.60
61:c:1357:A:N3	80:v:129:GLN:NE2	2.49	0.60
61:c:1682:U:O4	61:c:1720:G:N2	2.35	0.60
11:AA:1200:A:OP2	88:AA:3584:SPD:N10	2.35	0.59
11:AA:1729:A:C6	43:O:49:PRO:HD3	2.37	0.59
11:AA:2219:A:H2'	11:AA:2220:A2M:H8	1.83	0.59
26:FF:284:ARG:NH1	26:FF:293:ASN:O	2.35	0.59
39:M:24:LYS:NZ	91:M:201:HOH:O	2.28	0.59
61:c:791:A:OP1	66:h:187:ARG:NH2	2.33	0.59
61:c:1437:U:H4'	65:g:176:LEU:HD11	1.83	0.59
63:e:82:ARG:HG3	63:e:105:PHE:CE1	2.37	0.59
65:g:7:LYS:HD2	81:w:27:THR:HG21	1.84	0.59
1:O:124:ARG:NH2	61:c:152:U:O4	2.36	0.59
12:Aa:281:ILE:HG12	12:Aa:324:MET:HE1	1.84	0.59
12:Aa:729:PHE:HE1	90:Aa:1002:SO1:H53	1.67	0.59
15:Bb:66:A:H2'	15:Bb:67:A:C8	2.36	0.59
61:c:765:G:C6	71:m:149:ARG:HG3	2.37	0.59
61:c:1684:U:O4	61:c:1717:G:O6	2.20	0.59
81:w:22:ILE:HG22	81:w:118:VAL:HG22	1.83	0.59
81:w:48:HIS:CE1	81:w:102:ARG:HH22	2.20	0.59
82:x:16:LYS:HG2	82:x:23:ILE:HD13	1.84	0.59
11:AA:2878:G:H5''	26:FF:5:LYS:HE2	1.83	0.59
13:B:119:VAL:HG22	13:B:146:ILE:HG23	1.84	0.59
66:h:182:TYR:HD1	66:h:192:ILE:HG12	1.67	0.59
11:AA:1034:U:H2'	11:AA:1035:G:C8	2.33	0.59
11:AA:1251:A:H2'	11:AA:1252:A:H8	1.67	0.59
11:AA:1879:A:N7	91:AA:3711:HOH:O	2.31	0.59
11:AA:3006:A:H2'	11:AA:3007:U:O4'	2.01	0.59
37:L:26:VAL:HG11	37:L:96:VAL:HB	1.84	0.59
44:OO:55:ARG:NH1	44:OO:73:ARG:O	2.34	0.59
61:c:1229:G:HO2'	61:c:1255:G:H1	1.50	0.59
8:7:109:ASP:HB2	8:7:127:ARG:HE	1.67	0.59
16:C:70:ALA:O	16:C:73:GLN:HB2	2.02	0.59
26:FF:287:LYS:O	26:FF:293:ASN:ND2	2.29	0.59
29:H:15:LEU:HD23	29:H:53:SER:HB3	1.84	0.59
60:b:32:GLN:HE21	60:b:70:THR:HB	1.67	0.59
11:AA:84:U:O2'	11:AA:101:G:O6	2.14	0.59
11:AA:265:A:O2'	49:QQ:5:LYS:NZ	2.24	0.59
11:AA:548:G:H2'	11:AA:549:U:C6	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:952:A:H4'	11:AA:968:G:N2	2.18	0.59
11:AA:964:G:H5'	39:M:29:PRO:HB2	1.83	0.59
11:AA:1534:A:H2'	11:AA:1535:A:C8	2.37	0.59
11:AA:2357:A:H2'	11:AA:2358:A:H8	1.66	0.59
20:DD:157:LYS:HE2	20:DD:160:ASP:HB3	1.84	0.59
42:NN:93:ASP:OD2	42:NN:156:LYS:NZ	2.36	0.59
61:c:1471:A:H2	61:c:1474:G:N3	2.00	0.59
61:c:1676:U:OP1	70:l:44:HIS:ND1	2.36	0.59
66:h:141:THR:OG1	66:h:143:ASP:OD1	2.20	0.59
74:p:99:ARG:NH2	74:p:119:GLU:OE2	2.34	0.59
8:7:70:ASP:HB3	8:7:113:VAL:HG12	1.84	0.59
11:AA:785:G:H5''	16:C:92:ARG:HH22	1.67	0.59
11:AA:1940:G:H21	11:AA:3362:A:H8	1.50	0.59
12:Aa:493:VAL:HG23	12:Aa:554:LEU:HD13	1.84	0.59
13:B:47:TYR:OH	13:B:57:ALA:O	2.18	0.59
61:c:884:A:H2'	61:c:885:G:C8	2.37	0.59
61:c:1477:G:H2'	61:c:1478:G:C8	2.36	0.59
11:AA:208:C:OP2	28:GG:163:LYS:NZ	2.35	0.59
11:AA:289:A:O2'	49:QQ:93:LYS:O	2.21	0.59
11:AA:1050:U:H3'	88:AA:3521:SPD:H102	1.67	0.59
26:FF:244:ARG:O	26:FF:248:LYS:NZ	2.29	0.59
34:JJ:88:ARG:HB2	34:JJ:108:LEU:HB3	1.85	0.59
68:j:50:PHE:HE1	68:j:113:ILE:HG12	1.68	0.59
79:u:42:TYR:HA	79:u:85:PHE:HE2	1.66	0.59
11:AA:776:U:OP2	41:N:41:ARG:NH1	2.36	0.59
11:AA:1793:C:OP2	60:b:49:ARG:NH2	2.32	0.59
42:NN:37:LEU:HD12	42:NN:69:VAL:HG12	1.85	0.59
42:NN:54:VAL:HG23	42:NN:55:ARG:H	1.67	0.59
46:PP:48:GLY:HA3	46:PP:53:VAL:HB	1.85	0.59
61:c:399:A:H4'	66:h:3:ARG:HG3	1.85	0.59
65:g:49:ILE:HD13	65:g:87:TYR:HB2	1.83	0.59
76:r:85:ILE:HG22	76:r:112:LEU:HD23	1.84	0.59
78:t:25:THR:O	78:t:31:ASN:ND2	2.28	0.59
11:AA:411:U:H2'	11:AA:412:G:H8	1.67	0.59
17:CC:29:U:H5''	44:OO:27:ASP:HB3	1.85	0.59
34:JJ:138:TYR:CD2	34:JJ:233:GLU:HB2	2.38	0.59
34:JJ:138:TYR:CE2	34:JJ:233:GLU:HB2	2.38	0.59
61:c:1590:G:OP1	80:v:91:TYR:HB2	2.03	0.59
83:y:80:ASN:OD1	83:y:124:LYS:NZ	2.36	0.59
1:0:20:ARG:HH12	1:0:22:GLN:CB	2.12	0.58
11:AA:895:A:O2'	11:AA:896:A:OP2	2.20	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3138:U:H4'	26:FF:275:ARG:HH21	1.68	0.58
12:Aa:10:ARG:HG2	12:Aa:13:MET:HE2	1.84	0.58
30:HH:131:LEU:HD21	30:HH:174:PRO:HA	1.85	0.58
61:c:1739:C:H2'	61:c:1740:A:H8	1.68	0.58
64:f:38:VAL:HG23	64:f:39:THR:HG23	1.84	0.58
67:i:51:VAL:HG11	67:i:130:ILE:HG22	1.85	0.58
68:j:5:ILE:HG12	68:j:111:LEU:HD21	1.85	0.58
1:0:117:LYS:HD3	61:c:159:U:H5'	1.85	0.58
11:AA:1259:A:N6	11:AA:1260:A:N1	2.51	0.58
11:AA:2945:G:O2'	11:AA:2948:OMC:OP2	2.21	0.58
11:AA:2950:G:O3'	91:AA:3611:HOH:O	2.17	0.58
12:Aa:405:VAL:HG11	12:Aa:456:LEU:HD11	1.84	0.58
13:B:67:ILE:HD11	13:B:80:LYS:HB3	1.85	0.58
42:NN:117:ASP:OD1	42:NN:119:SER:OG	2.20	0.58
65:g:89:GLU:HG2	65:g:90:ARG:N	2.18	0.58
68:j:48:TYR:OH	68:j:116:LYS:NZ	2.32	0.58
11:AA:1812:G:O6	37:L:64:LYS:NZ	2.24	0.58
20:DD:65:GLY:O	20:DD:68:SER:OG	2.14	0.58
24:Ee:110:ILE:O	24:Ee:114:ARG:HG3	2.03	0.58
42:NN:15:GLU:HB2	42:NN:132:ASN:OD1	2.03	0.58
49:QQ:31:ARG:NH1	49:QQ:124:ASP:OD2	2.36	0.58
61:c:1506:G:HO2'	61:c:1550:A:HO2'	1.50	0.58
65:g:136:VAL:HG22	65:g:186:VAL:HG22	1.84	0.58
12:Aa:338:ILE:HG23	12:Aa:342:LEU:HD12	1.84	0.58
14:BB:118:A:H5''	30:HH:253:PHE:CZ	2.38	0.58
15:Bb:4:G:H3'	15:Bb:5:A:H8	1.67	0.58
20:DD:26:PHE:HD2	20:DD:187:VAL:HG11	1.68	0.58
59:a:72:LEU:HD13	59:a:83:LEU:HD13	1.84	0.58
61:c:552:G:OP1	91:c:2011:HOH:O	2.17	0.58
61:c:1097:U:O4	64:f:201:ASN:ND2	2.36	0.58
61:c:1358:G:H1	61:c:1366:U:H3	1.51	0.58
61:c:1678:A:OP2	70:l:59:ARG:NH1	2.32	0.58
62:d:67:ILE:HG21	62:d:73:VAL:HG23	1.84	0.58
69:k:77:LEU:HD11	69:k:92:PHE:HZ	1.68	0.58
12:Aa:615:ARG:O	12:Aa:619:MET:HG3	2.04	0.58
14:BB:72:A:O2'	14:BB:73:C:OP1	2.18	0.58
61:c:127:G:N3	61:c:178:U:O2'	2.28	0.58
63:e:143:THR:HB	63:e:205:PHE:HE2	1.66	0.58
11:AA:1354:G:H2'	11:AA:1357:G:H4'	1.84	0.58
11:AA:2697:A:H2'	11:AA:2698:G:C8	2.38	0.58
11:AA:2810:C:OP2	11:AA:2955:U:O2'	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3164:C:H2'	11:AA:3165:A:H8	1.69	0.58
12:Aa:12:LEU:HD13	12:Aa:78:TYR:HE1	1.68	0.58
16:C:158:HIS:H	16:C:186:VAL:CG1	2.17	0.58
17:CC:103:G:OP2	17:CC:105:A:O2'	2.22	0.58
24:Ee:135:THR:O	24:Ee:138:SER:OG	2.18	0.58
54:V:19:CYS:SG	54:V:34:CYS:HB2	2.42	0.58
61:c:625:C:H2'	61:c:626:U:C6	2.37	0.58
66:h:48:LEU:HD21	66:h:70:VAL:HG21	1.86	0.58
73:o:57:LYS:HE2	73:o:131:ILE:HB	1.85	0.58
12:Aa:576:LEU:HD13	12:Aa:587:TYR:CD1	2.39	0.58
43:O:95:ALA:HB2	43:O:101:LEU:HD23	1.86	0.58
61:c:583:C:OP2	91:c:2010:HOH:O	2.17	0.58
61:c:767:U:H1'	71:m:141:VAL:HG12	1.84	0.58
62:d:147:THR:HG23	62:d:151:SER:HB2	1.85	0.58
64:f:49:LYS:NZ	64:f:246:GLU:OE1	2.36	0.58
67:i:128:ASN:O	67:i:131:GLN:N	2.36	0.58
71:m:175:ARG:HB3	71:m:179:ARG:HH12	1.68	0.58
79:u:61:LEU:O	79:u:62:THR:OG1	2.19	0.58
11:AA:743:C:N3	16:C:141:ARG:NH2	2.41	0.58
11:AA:911:C:OP1	23:EE:14:SER:OG	2.22	0.58
11:AA:1097:G:N7	25:F:116:ARG:NH2	2.51	0.58
11:AA:1547:G:OP1	49:QQ:108:ARG:NH2	2.36	0.58
12:Aa:586:ILE:HG12	12:Aa:691:VAL:HG22	1.86	0.58
30:HH:52:VAL:HA	30:HH:147:ASP:HB3	1.86	0.58
61:c:1316:G:O2'	78:t:10:LYS:NZ	2.36	0.58
61:c:1368:G:H2'	61:c:1369:U:O4'	2.04	0.58
79:u:12:GLN:N	79:u:59:GLY:O	2.34	0.58
79:u:35:ILE:HB	79:u:38:VAL:HG22	1.86	0.58
1:O:29:HIS:ND1	1:O:32:ARG:O	2.36	0.58
11:AA:67:A:O2'	11:AA:315:C:O2	2.20	0.58
11:AA:3016:A:H2'	11:AA:3017:A:H8	1.68	0.58
20:DD:115:ALA:HB2	20:DD:165:VAL:HG13	1.86	0.58
38:LL:92:TYR:HD2	38:LL:142:ASP:HB3	1.68	0.58
42:NN:38:GLU:HB2	42:NN:45:PRO:HD3	1.86	0.58
54:V:39:TYR:CD1	54:V:40:PRO:HA	2.39	0.58
64:f:219:GLY:O	82:x:25:LYS:NZ	2.37	0.58
68:j:52:ILE:HD11	68:j:102:VAL:HG21	1.86	0.58
74:p:55:ARG:NH1	74:p:56:ASP:OD1	2.37	0.58
1:O:93:ARG:NE	61:c:526:A:OP2	2.35	0.58
11:AA:2344:U:H2'	11:AA:2345:A:C8	2.39	0.58
12:Aa:19:VAL:HG12	12:Aa:99:LEU:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:380:LEU:HD22	12:Aa:469:LEU:HD12	1.86	0.58
38:LL:34:LEU:HD12	38:LL:82:VAL:HG13	1.85	0.58
73:o:68:GLY:HA3	73:o:127:GLN:HB3	1.86	0.58
73:o:100:TYR:OH	83:y:80:ASN:ND2	2.36	0.58
82:x:4:ASP:O	82:x:5:LYS:HG2	2.03	0.58
11:AA:276:U:O2'	49:QQ:91:GLU:OE1	2.21	0.57
11:AA:304:G:P	91:AA:3678:HOH:O	2.63	0.57
11:AA:1025:A:H3'	11:AA:1026:A:H8	1.69	0.57
12:Aa:305:ILE:HG21	12:Aa:323:VAL:HG23	1.85	0.57
12:Aa:414:GLN:HG3	12:Aa:468:THR:HG23	1.86	0.57
12:Aa:429:LYS:HZ2	12:Aa:462:PHE:HB2	1.69	0.57
19:D:162:ARG:NH2	61:c:815:G:N7	2.52	0.57
28:GG:26:PHE:HA	28:GG:127:ALA:HA	1.86	0.57
39:M:78:LEU:HD23	39:M:118:ILE:HG21	1.84	0.57
61:c:1382:A:HO2'	61:c:1383:G:H8	1.51	0.57
61:c:1556:A:OP1	76:r:44:ARG:HD2	2.04	0.57
69:k:55:LYS:HZ2	69:k:87:ASP:HA	1.69	0.57
77:s:104:GLU:O	77:s:107:LYS:HG3	2.04	0.57
83:y:86:ILE:O	83:y:90:THR:HG23	2.04	0.57
14:BB:4:U:H2'	14:BB:5:G:H8	1.69	0.57
61:c:395:U:O2'	68:j:89:ASP:OD2	2.23	0.57
67:i:98:MET:SD	67:i:107:LYS:HD3	2.44	0.57
68:j:50:PHE:CG	68:j:111:LEU:HD12	2.39	0.57
8:7:19:TRP:HB3	8:7:38:ARG:CB	2.33	0.57
11:AA:2615:G:H2'	11:AA:2616:C:H6	1.69	0.57
11:AA:2696:A:H2'	11:AA:2697:A:C8	2.40	0.57
11:AA:3052:G:OP2	91:AA:3633:HOH:O	2.17	0.57
12:Aa:587:TYR:CD2	12:Aa:690:ASP:HB3	2.37	0.57
61:c:1406:A:H2'	61:c:1407:U:C6	2.40	0.57
65:g:179:GLN:O	65:g:179:GLN:HG2	2.04	0.57
11:AA:1437:OMC:HM22	28:GG:93:MET:HG3	1.85	0.57
11:AA:1612:A:N6	91:AA:3752:HOH:O	2.37	0.57
12:Aa:746:VAL:HG21	12:Aa:784:LEU:HA	1.86	0.57
14:BB:121:U:H4'	30:HH:260:PHE:HD2	1.68	0.57
25:F:27:LEU:HD11	30:HH:34:LYS:HA	1.84	0.57
38:LL:87:LYS:HD2	38:LL:187:ILE:HA	1.86	0.57
10:A:68:ARG:NH2	11:AA:2987:A:OP1	2.34	0.57
10:A:108:ILE:HD12	10:A:160:ARG:CZ	2.35	0.57
11:AA:1385:C:HO2'	32:II:2:SER:N	2.02	0.57
11:AA:1597:C:H5'	11:AA:1696:A:H1'	1.86	0.57
11:AA:2448:G:O6	11:AA:2499:U:O4	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:D:4:LEU:HD22	19:D:32:ILE:HG22	1.86	0.57
19:D:28:GLU:HG3	19:D:31:GLU:HG2	1.84	0.57
39:M:77:LYS:O	39:M:79:TRP:N	2.38	0.57
61:c:636:A:H5''	83:y:31:SER:HB2	1.86	0.57
61:c:886:U:OP1	63:e:214:LYS:NZ	2.37	0.57
61:c:923:A:H2'	61:c:924:A:C8	2.39	0.57
65:g:20:GLU:OE2	65:g:76:ARG:NH2	2.37	0.57
76:r:30:THR:O	76:r:34:VAL:HG23	2.05	0.57
11:AA:269:G:H5''	49:QQ:14:LYS:HE2	1.85	0.57
11:AA:383:G:N2	11:AA:386:A:OP2	2.36	0.57
11:AA:1427:U:OP2	39:M:4:ARG:NH1	2.33	0.57
11:AA:1641:U:O2'	11:AA:1642:A:H3'	2.04	0.57
11:AA:3252:G:H2'	11:AA:3253:G:C8	2.39	0.57
12:Aa:260:LYS:HD2	12:Aa:262:THR:H	1.69	0.57
28:GG:4:PRO:HB2	28:GG:22:LEU:HD23	1.86	0.57
49:QQ:64:VAL:HG11	49:QQ:102:ALA:HB1	1.86	0.57
61:c:340:U:H2'	61:c:341:A:C8	2.39	0.57
61:c:861:U:O2'	83:y:56:HIS:O	2.21	0.57
75:q:16:VAL:O	75:q:30:VAL:HA	2.04	0.57
78:t:66:VAL:HG22	78:t:69:ILE:HG23	1.87	0.57
11:AA:303:G:O2'	11:AA:2778:G:OP2	2.22	0.57
11:AA:938:C:OP2	39:M:26:ARG:NH1	2.35	0.57
11:AA:1895:A:N6	11:AA:2335:G:O2'	2.38	0.57
11:AA:2180:G:OP1	23:EE:174:ARG:NH2	2.38	0.57
11:AA:2662:G:H2'	11:AA:2663:G:C8	2.40	0.57
45:P:51:LEU:HB3	45:P:55:LEU:HD23	1.87	0.57
63:e:144:ARG:HB3	63:e:208:GLN:HB3	1.86	0.57
71:m:17:ARG:O	71:m:23:ARG:NH1	2.37	0.57
81:w:44:ASN:OD1	81:w:102:ARG:NH2	2.38	0.57
11:AA:1206:G:OP1	40:MM:157:TYR:OH	2.19	0.57
11:AA:2102:U:H2'	11:AA:2103:U:H6	1.68	0.57
11:AA:2129:U:H2'	11:AA:2130:G:C8	2.39	0.57
11:AA:2357:A:H2'	11:AA:2358:A:C8	2.40	0.57
11:AA:3144:G:N7	91:AA:3677:HOH:O	2.33	0.57
12:Aa:653:VAL:HG23	12:Aa:656:LEU:HB2	1.86	0.57
15:Bb:59:U:H2'	15:Bb:60:C:O4'	2.04	0.57
20:DD:32:ASN:HB3	20:DD:183:PHE:CD1	2.40	0.57
25:F:30:TYR:HB3	30:HH:38:THR:HG23	1.86	0.57
38:LL:94:TYR:HA	38:LL:177:ASP:OD1	2.05	0.57
83:y:14:ILE:HG12	83:y:25:VAL:HG11	1.86	0.57
11:AA:432:G:OP1	50:R:65:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1750:A:OP1	55:W:44:LYS:NZ	2.26	0.57
11:AA:2150:G:O2'	11:AA:2189:U:OP1	2.20	0.57
11:AA:2897:A:H2'	11:AA:2899:C:H5''	1.87	0.57
27:G:50:LEU:HD22	27:G:54:VAL:HB	1.86	0.57
61:c:609:U:O2	84:z:19:ARG:NH1	2.38	0.57
61:c:967:A:OP2	74:p:124:ARG:NH2	2.35	0.57
61:c:1352:G:H1	61:c:1373:C:H42	1.52	0.57
65:g:140:GLY:O	65:g:147:ALA:HA	2.04	0.57
69:k:55:LYS:NZ	69:k:87:ASP:HA	2.20	0.57
11:AA:158:G:H2'	11:AA:159:A:C8	2.40	0.57
11:AA:2875:U:H4'	47:Pp:2:PHE:CE1	2.40	0.57
51:S:85:VAL:O	51:S:89:ILE:HG12	2.05	0.57
61:c:12:U:H2'	61:c:13:C:C6	2.39	0.57
61:c:591:A:H2'	61:c:592:A:C8	2.39	0.57
62:d:48:ILE:HG12	62:d:149:LEU:HD21	1.86	0.57
65:g:42:THR:OG1	65:g:45:LYS:O	2.15	0.57
66:h:66:MET:SD	66:h:78:THR:OG1	2.62	0.57
72:n:59:PHE:CZ	72:n:62:GLN:HA	2.40	0.57
11:AA:542:G:H2'	11:AA:543:C:C6	2.40	0.56
11:AA:1219:C:O2'	11:AA:1286:A:N1	2.35	0.56
34:JJ:178:ILE:HG23	34:JJ:183:ASP:HB3	1.87	0.56
61:c:867:G:H5'	74:p:4:MET:HE3	1.86	0.56
68:j:161:GLU:OE1	68:j:170:THR:OG1	2.23	0.56
70:l:45:SER:HB2	70:l:53:LYS:HD2	1.86	0.56
70:l:81:VAL:HG22	70:l:102:VAL:HG12	1.87	0.56
80:v:39:THR:HA	80:v:100:ILE:HD12	1.87	0.56
8:7:154:VAL:O	8:7:155:ARG:NH1	2.38	0.56
11:AA:94:G:H2'	11:AA:95:A:C8	2.40	0.56
11:AA:1236:G:H22	11:AA:1244:A:P	2.27	0.56
11:AA:3092:C:O2'	11:AA:3094:A:OP2	2.20	0.56
12:Aa:433:ARG:HH12	61:c:51:A:H2	1.53	0.56
18:Cc:42:C:H2'	18:Cc:43:G:C8	2.40	0.56
23:EE:140:ASN:O	23:EE:144:ASN:HA	2.04	0.56
52:T:27:GLU:OE2	52:T:43:LYS:NZ	2.37	0.56
61:c:256:A:N3	70:l:73:SER:OG	2.36	0.56
61:c:455:C:H3'	61:c:456:A:H8	1.70	0.56
61:c:931:C:H5''	63:e:116:LYS:HG3	1.86	0.56
61:c:1449:U:H2'	61:c:1450:U:H6	1.70	0.56
61:c:1529:C:OP1	67:i:112:ARG:NH1	2.38	0.56
83:y:31:SER:H	83:y:34:ILE:HD12	1.70	0.56
11:AA:31:C:OP2	49:QQ:188:ARG:NH2	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:669:U:H1'	11:AA:1110:U:H4'	1.88	0.56
11:AA:1239:C:O2'	24:Ee:97:ASN:OD1	2.23	0.56
11:AA:1591:G:N7	91:AA:3721:HOH:O	2.33	0.56
11:AA:2180:G:H2'	11:AA:2181:C:C6	2.40	0.56
11:AA:3174:A:OP1	50:R:97:SER:OG	2.21	0.56
12:Aa:62:ASP:HA	12:Aa:65:GLU:HG2	1.87	0.56
12:Aa:600:ALA:HB1	12:Aa:605:ILE:HB	1.85	0.56
12:Aa:619:MET:HA	12:Aa:623:TYR:HD2	1.70	0.56
20:DD:45:LEU:HD22	20:DD:49:ALA:HB3	1.86	0.56
20:DD:91:GLU:HB3	20:DD:92:PRO:HD2	1.87	0.56
22:E:6:GLU:OE2	22:E:99:ARG:NH1	2.37	0.56
36:KK:251:LYS:O	36:KK:255:SER:OG	2.20	0.56
44:OO:62:THR:O	44:OO:64:LYS:N	2.38	0.56
61:c:146:U:H2'	61:c:147:A:H8	1.69	0.56
61:c:384:G:O6	91:c:2012:HOH:O	2.18	0.56
61:c:963:A:N7	74:p:70:LYS:NZ	2.53	0.56
61:c:1490:C:O2	61:c:1491:U:N3	2.38	0.56
64:f:40:LYS:HA	64:f:43:ARG:HB2	1.86	0.56
64:f:111:VAL:HB	64:f:191:ALA:HA	1.86	0.56
69:k:60:ILE:HD12	69:k:92:PHE:HE1	1.70	0.56
10:A:34:VAL:HG22	10:A:103:LYS:HB2	1.86	0.56
11:AA:292:U:OP2	49:QQ:68:ARG:NH2	2.32	0.56
15:Bb:73:A:H1'	40:MM:105:CYS:HA	1.88	0.56
15:Bb:76:A:C4'	47:Pp:2:PHE:HB3	2.24	0.56
61:c:279:G:H2'	61:c:280:U:H3'	1.88	0.56
61:c:647:G:N2	61:c:648:G:O6	2.38	0.56
61:c:1001:A:H2'	61:c:1002:G:C8	2.41	0.56
61:c:1164:G:H2'	61:c:1165:G:C8	2.41	0.56
71:m:70:LEU:O	71:m:74:ASN:ND2	2.38	0.56
76:r:89:MET:O	76:r:92:SER:OG	2.23	0.56
4:3:42:ASN:ND2	4:3:57:GLU:OE1	2.39	0.56
11:AA:97:U:O2'	91:AA:3634:HOH:O	2.18	0.56
11:AA:348:A:N3	11:AA:352:A:O2'	2.39	0.56
61:c:454:U:OP1	61:c:455:C:N4	2.38	0.56
61:c:1665:U:O2	61:c:1736:G:N2	2.36	0.56
61:c:1776:A:H2'	61:c:1777:G:C8	2.40	0.56
75:q:18:ARG:HB2	75:q:29:HIS:O	2.05	0.56
84:z:107:PHE:CD1	84:z:123:LYS:HB3	2.38	0.56
8:7:156:VAL:HG22	8:7:169:ILE:HG22	1.87	0.56
11:AA:156:G:OP2	53:U:25:LYS:HB3	2.05	0.56
11:AA:705:A:N7	39:M:74:ASN:ND2	2.48	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1385:C:OP1	28:GG:141:ARG:NH1	2.38	0.56
11:AA:1613:A:OP1	55:W:51:LEU:N	2.32	0.56
11:AA:2407:C:H2'	11:AA:2408:U:H6	1.69	0.56
17:CC:78:G:H2'	17:CC:79:A:H8	1.71	0.56
30:HH:187:THR:HG23	30:HH:189:GLU:H	1.70	0.56
32:II:166:LYS:N	32:II:169:ASP:OD2	2.29	0.56
61:c:296:U:OP1	66:h:127:LYS:NZ	2.39	0.56
61:c:1373:C:H2'	61:c:1374:C:H6	1.70	0.56
65:g:29:LEU:HD21	65:g:69:LEU:HD11	1.88	0.56
70:l:81:VAL:HG12	70:l:91:VAL:HG22	1.86	0.56
10:A:49:ARG:NH1	11:AA:1193:A:OP1	2.30	0.56
11:AA:289:A:H2'	11:AA:290:G:H8	1.71	0.56
11:AA:1039:U:H2'	11:AA:1040:A:C8	2.41	0.56
11:AA:1255:C:H2'	11:AA:1256:G:C8	2.41	0.56
12:Aa:602:GLU:OE2	12:Aa:682:ARG:NH1	2.38	0.56
12:Aa:728:VAL:HG11	12:Aa:771:TYR:HB3	1.87	0.56
61:c:407:A:O2'	61:c:1671:A:N3	2.36	0.56
61:c:1242:A:OP1	76:r:59:LYS:NZ	2.39	0.56
72:n:13:GLN:NE2	72:n:80:LEU:HD22	2.21	0.56
75:q:80:HIS:HA	75:q:113:GLY:O	2.05	0.56
5:4:28:VAL:HG11	5:4:48:VAL:HG11	1.88	0.56
11:AA:119:U:O2'	36:KK:133:LYS:NZ	2.28	0.56
11:AA:1334:U:O2'	34:JJ:151:ARG:NH2	2.39	0.56
11:AA:2500:A:O2'	11:AA:2501:U:OP1	2.24	0.56
11:AA:2977:G:N7	91:AA:3719:HOH:O	2.33	0.56
12:Aa:27:HIS:CG	12:Aa:28:VAL:H	2.23	0.56
61:c:1630:U:HO2'	61:c:1764:C:HO2'	1.54	0.56
62:d:124:THR:HG22	62:d:174:TRP:NE1	2.16	0.56
67:i:68:ILE:HD11	67:i:90:ILE:HD11	1.88	0.56
77:s:82:ARG:HH22	77:s:114:ARG:HB2	1.70	0.56
11:AA:98:G:N7	44:OO:13:HIS:NE2	2.54	0.56
11:AA:1066:G:H2'	11:AA:1067:U:C6	2.41	0.56
11:AA:3204:C:H2'	11:AA:3205:G:C8	2.41	0.56
12:Aa:757:GLU:HG2	12:Aa:768:VAL:HG22	1.87	0.56
61:c:1229:G:H1'	61:c:1255:G:C2	2.40	0.56
65:g:208:ILE:HB	78:t:19:ARG:HH21	1.70	0.56
68:j:214:LYS:O	68:j:217:SER:OG	2.22	0.56
11:AA:1032:C:H2'	11:AA:1033:U:C6	2.41	0.56
11:AA:1560:G:O2'	11:AA:1561:G:O4'	2.21	0.56
11:AA:3298:C:C2	11:AA:3299:A:C8	2.94	0.56
12:Aa:288:ILE:HD13	12:Aa:320:LEU:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:G:37:LEU:HD12	27:G:41:ILE:HD11	1.88	0.56
37:L:95:VAL:O	37:L:100:THR:OG1	2.23	0.56
61:c:3:U:O2	71:m:17:ARG:NH2	2.38	0.56
72:n:46:LEU:O	72:n:50:THR:CB	2.54	0.56
76:r:28:MET:HE1	76:r:36:LEU:HD22	1.88	0.56
11:AA:959:C:H5''	11:AA:960:U:H6	1.70	0.55
11:AA:1644:C:H5''	11:AA:1645:U:H5''	1.89	0.55
11:AA:2821:C:C6	47:Pp:1:MET:HG3	2.40	0.55
11:AA:2953:U:H2'	11:AA:2954:U:H2'	1.88	0.55
21:Dd:24:U:H5'	84:z:63:GLN:NE2	2.20	0.55
24:Ee:18:VAL:HA	24:Ee:57:LYS:HA	1.88	0.55
24:Ee:90:ARG:HD2	24:Ee:98:VAL:HG21	1.87	0.55
36:KK:150:LEU:HD13	36:KK:215:VAL:HG22	1.88	0.55
61:c:324:U:OP1	73:o:133:LYS:NZ	2.24	0.55
61:c:407:A:H2'	61:c:408:C:C6	2.41	0.55
61:c:448:C:OP1	66:h:49:ARG:NH2	2.28	0.55
61:c:878:G:O2'	74:p:108:ASP:OD1	2.22	0.55
61:c:1525:A:H2'	61:c:1526:A:C8	2.40	0.55
61:c:1591:C:H2'	61:c:1592:A:C8	2.41	0.55
69:k:49:ILE:HD12	69:k:175:LYS:HG2	1.89	0.55
3:2:32:LYS:NZ	61:c:930:A:OP1	2.39	0.55
6:5:21:CYS:HB2	6:5:39:CYS:HB2	1.88	0.55
11:AA:1157:G:OP1	34:JJ:90:LYS:NZ	2.39	0.55
20:DD:89:THR:HG22	20:DD:91:GLU:H	1.71	0.55
43:O:58:TYR:HE1	51:S:97:GLU:HG3	1.72	0.55
61:c:1449:U:H2'	61:c:1450:U:C6	2.41	0.55
65:g:70:THR:HG22	65:g:86:LEU:HD13	1.87	0.55
11:AA:129:U:H3	11:AA:139:G:H1	1.54	0.55
11:AA:2711:C:O2'	11:AA:2744:U:OP1	2.23	0.55
61:c:386:G:OP2	70:l:25:ARG:NH2	2.25	0.55
61:c:802:G:N2	83:y:107:SER:OG	2.39	0.55
61:c:918:U:H2'	61:c:919:A:H8	1.71	0.55
67:i:63:GLN:HE22	67:i:66:GLN:HB3	1.70	0.55
79:u:28:ILE:O	79:u:32:LEU:HB2	2.06	0.55
8:7:262:VAL:HG13	8:7:271:VAL:HG13	1.88	0.55
11:AA:1221:A:H1'	20:DD:8:LYS:HD2	1.88	0.55
11:AA:2566:C:H2'	11:AA:2567:C:H6	1.71	0.55
11:AA:2930:A:H2'	11:AA:2931:C:C6	2.41	0.55
11:AA:3358:U:H2'	11:AA:3359:A:H8	1.71	0.55
12:Aa:567:VAL:HG22	12:Aa:684:VAL:HG22	1.88	0.55
17:CC:69:U:H2'	17:CC:70:G:O4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:EE:117:GLU:HG2	23:EE:124:GLY:H	1.70	0.55
26:FF:306:THR:HG21	26:FF:316:GLU:HG2	1.86	0.55
39:M:135:GLU:OE2	44:OO:166:ALA:N	2.39	0.55
44:OO:47:ALA:O	44:OO:49:ARG:N	2.35	0.55
61:c:343:C:H2'	61:c:344:A:H8	1.71	0.55
61:c:1085:G:N2	61:c:1088:A:OP2	2.31	0.55
61:c:1470:C:OP1	61:c:1540:G:O2'	2.25	0.55
65:g:163:PRO:HA	65:g:166:ASP:HB2	1.88	0.55
67:i:48:PHE:CD2	67:i:67:PRO:HB3	2.41	0.55
67:i:110:ALA:O	67:i:114:ILE:HG12	2.06	0.55
78:t:84:TYR:CZ	78:t:85:VAL:CG1	2.89	0.55
2:1:59:TYR:HE1	2:1:100:ILE:HG23	1.72	0.55
9:8:95:HIS:N	61:c:1247:U:OP1	2.40	0.55
11:AA:170:G:H1	11:AA:249:U:H5''	1.71	0.55
11:AA:1696:A:H2'	11:AA:1697:A:C8	2.41	0.55
11:AA:2901:G:O2'	11:AA:3024:A:N1	2.34	0.55
14:BB:120:C:H2'	30:HH:265:TYR:CE1	2.41	0.55
17:CC:82:U:H2'	17:CC:83:C:H4'	1.89	0.55
19:D:97:ARG:O	19:D:101:VAL:HG13	2.07	0.55
20:DD:8:LYS:HG2	20:DD:58:MET:HE2	1.88	0.55
61:c:387:A:OP1	70:l:23:LYS:NZ	2.37	0.55
61:c:1596:C:O2'	61:c:1598:U:OP2	2.23	0.55
73:o:4:GLU:HG3	73:o:113:PRO:HB3	1.89	0.55
79:u:7:GLU:OE1	79:u:10:SER:OG	2.15	0.55
11:AA:900:G:H1'	11:AA:1589:A:N6	2.21	0.55
11:AA:985:U:H2'	11:AA:986:U:H6	1.71	0.55
11:AA:2364:G:H22	11:AA:2396:G:H1'	1.70	0.55
11:AA:2468:A:H1'	11:AA:2477:G:H1	1.71	0.55
11:AA:2960:C:H2'	11:AA:2961:G:C8	2.41	0.55
11:AA:2964:G:N2	11:AA:2967:A:OP2	2.34	0.55
12:Aa:288:ILE:HA	12:Aa:296:ILE:HD11	1.89	0.55
18:Cc:42:C:H2'	18:Cc:43:G:H8	1.71	0.55
31:I:4:GLU:HB2	31:I:13:ILE:HB	1.89	0.55
71:m:108:ARG:HG2	71:m:145:SER:HA	1.87	0.55
76:r:86:VAL:HG23	76:r:88:GLU:HG2	1.88	0.55
11:AA:12:A:H2'	11:AA:13:A:C8	2.41	0.55
11:AA:20:A:H2'	11:AA:21:G:C8	2.42	0.55
11:AA:1157:G:O2'	11:AA:1169:A:N3	2.36	0.55
11:AA:3213:A:N7	46:PP:124:ARG:NH2	2.55	0.55
11:AA:3231:U:H2'	11:AA:3232:G:H8	1.71	0.55
12:Aa:189:VAL:O	12:Aa:193:ALA:HB2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:755:VAL:HG23	12:Aa:770:ALA:HA	1.89	0.55
14:BB:4:U:H2'	14:BB:5:G:C8	2.42	0.55
61:c:754:A:H5''	61:c:755:A:H5'	1.87	0.55
62:d:144:ILE:HG12	62:d:158:VAL:HB	1.89	0.55
64:f:81:MET:HE3	64:f:103:VAL:HB	1.89	0.55
4:3:82:LYS:HD2	74:p:25:TRP:CG	2.42	0.55
8:7:25:THR:OG1	8:7:295:SER:O	2.22	0.55
12:Aa:747:LEU:HD12	12:Aa:752:GLY:HA3	1.88	0.55
18:Cc:22:A:O2'	18:Cc:23:G:O4'	2.20	0.55
34:JJ:110:ARG:O	34:JJ:113:SER:OG	2.18	0.55
59:a:25:VAL:HG22	59:a:72:LEU:HG	1.88	0.55
61:c:406:U:H2'	61:c:407:A:H8	1.72	0.55
61:c:525:A:O2'	61:c:526:A:OP1	2.23	0.55
61:c:1254:U:H2'	61:c:1255:G:C8	2.42	0.55
65:g:28:GLU:HG2	65:g:69:LEU:HD21	1.89	0.55
11:AA:129:U:H2'	11:AA:130:A:C8	2.42	0.55
11:AA:689:U:O4	28:GG:209:TYR:OH	2.20	0.55
11:AA:912:G:OP2	23:EE:9:ARG:NH2	2.38	0.55
11:AA:1021:G:N1	11:AA:1032:C:N3	2.55	0.55
11:AA:1378:U:H2'	11:AA:1379:G:H8	1.72	0.55
11:AA:2881:C:H2'	11:AA:2882:U:C6	2.42	0.55
11:AA:3361:G:H2'	11:AA:3362:A:C2	2.42	0.55
16:C:175:ALA:O	16:C:182:LYS:HB2	2.07	0.55
40:MM:72:ALA:HB2	40:MM:155:ALA:HB2	1.88	0.55
61:c:1096:C:OP2	83:y:71:LYS:NZ	2.38	0.55
67:i:79:ASN:HB2	67:i:83:ARG:NH2	2.22	0.55
83:y:41:MET:HG2	83:y:129:VAL:HG21	1.89	0.55
11:AA:993:G:N3	11:AA:2637:A:H2'	2.22	0.55
11:AA:1495:U:H5	11:AA:1835:A:N1	2.05	0.55
11:AA:2416:U:H2'	11:AA:2417:OMU:H6	1.88	0.55
12:Aa:21:ASN:HD22	12:Aa:399:ARG:HH21	1.53	0.55
12:Aa:42:ARG:NH2	12:Aa:332:ASP:OD1	2.36	0.55
12:Aa:161:ASP:OD1	12:Aa:162:ARG:N	2.40	0.55
15:Bb:50:U:H2'	15:Bb:51:G:H8	1.72	0.55
17:CC:9:A:H2'	17:CC:10:A:C8	2.41	0.55
26:FF:62:ARG:NH2	26:FF:352:GLU:OE1	2.39	0.55
61:c:338:C:H5''	70:l:10:LYS:HG2	1.89	0.55
61:c:751:G:H2'	61:c:752:A:H8	1.70	0.55
62:d:84:ARG:NH1	62:d:203:PHE:O	2.40	0.55
63:e:35:PRO:HB3	63:e:38:PHE:HD2	1.72	0.55
11:AA:1237:G:N3	24:Ee:138:SER:HB2	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1678:G:O6	27:G:74:LYS:NZ	2.40	0.54
11:AA:2999:U:H2'	11:AA:3000:A:C8	2.43	0.54
12:Aa:488:VAL:HB	12:Aa:796:MET:HE3	1.90	0.54
27:G:33:TYR:OH	27:G:80:THR:OG1	2.21	0.54
30:HH:22:ARG:NE	30:HH:28:THR:OG1	2.27	0.54
38:LL:91:ARG:NH2	38:LL:141:LYS:O	2.39	0.54
61:c:866:G:H5''	74:p:2:GLY:HA2	1.89	0.54
61:c:895:G:H21	75:q:38:THR:HG21	1.71	0.54
61:c:968:U:OP1	61:c:1033:C:O2'	2.25	0.54
2:1:62:VAL:O	2:1:66:VAL:HG23	2.07	0.54
4:3:36:LYS:HD3	4:3:43:ILE:HG22	1.90	0.54
11:AA:116:A:OP2	49:QQ:2:GLY:N	2.40	0.54
11:AA:831:G:O2'	11:AA:1864:A:N3	2.29	0.54
11:AA:1555:U:H5'	11:AA:1556:C:OP2	2.07	0.54
11:AA:2453:U:O2'	11:AA:2454:G:H5'	2.08	0.54
12:Aa:34:THR:HG23	12:Aa:52:GLY:HA2	1.88	0.54
14:BB:87:G:O2'	22:E:119:ARG:NH2	2.39	0.54
44:OO:184:GLU:HB3	44:OO:188:ARG:HH12	1.71	0.54
61:c:592:A:H2'	61:c:593:U:O4'	2.08	0.54
61:c:1584:G:OP2	67:i:76:ARG:NH2	2.39	0.54
75:q:86:THR:HB	75:q:91:THR:HG22	1.89	0.54
81:w:98:GLN:HG2	81:w:99:ILE:HG12	1.90	0.54
11:AA:137:G:H2'	11:AA:138:U:C6	2.42	0.54
11:AA:1084:A:H2'	11:AA:1085:A:C8	2.43	0.54
20:DD:26:PHE:HE1	20:DD:93:LEU:HD22	1.71	0.54
22:E:77:VAL:HG13	22:E:126:VAL:HG22	1.89	0.54
30:HH:60:ILE:HB	30:HH:80:SER:HB2	1.89	0.54
40:MM:51:HIS:CD2	40:MM:168:SER:HB2	2.42	0.54
46:PP:94:TRP:O	46:PP:97:SER:OG	2.17	0.54
61:c:525:A:H2'	61:c:526:A:H8	1.73	0.54
61:c:1360:A:OP1	80:v:134:ARG:NH1	2.38	0.54
63:e:67:GLU:OE2	63:e:83:LYS:HE2	2.07	0.54
64:f:41:LEU:HD13	64:f:61:LEU:HD13	1.88	0.54
79:u:62:THR:HG22	79:u:64:GLU:H	1.72	0.54
8:7:112:SER:HB3	8:7:153:GLN:HA	1.88	0.54
11:AA:1117:G:OP1	41:N:4:SER:HB2	2.08	0.54
11:AA:2489:C:H2'	11:AA:2490:C:C2	2.42	0.54
61:c:922:G:H2'	61:c:923:A:C8	2.43	0.54
61:c:980:G:H4'	61:c:1776:A:H4'	1.89	0.54
61:c:1553:G:N1	61:c:1556:A:OP2	2.40	0.54
61:c:1587:A:O2'	67:i:104:ASN:OD1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:f:45:VAL:HG21	64:f:68:ILE:HG23	1.88	0.54
67:i:109:LYS:O	67:i:113:ILE:HG12	2.08	0.54
84:z:60:GLU:HA	84:z:68:ILE:HG22	1.88	0.54
11:AA:394:G:N1	11:AA:397:A:OP2	2.35	0.54
25:F:118:GLU:OE2	25:F:122:GLN:NE2	2.41	0.54
48:Q:79:VAL:HG13	48:Q:111:ARG:HG2	1.90	0.54
61:c:918:U:H2'	61:c:919:A:C8	2.42	0.54
61:c:1296:A:OP1	62:d:138:TYR:OH	2.17	0.54
61:c:1628:U:H2'	61:c:1629:G:C8	2.43	0.54
66:h:106:LYS:HB2	66:h:108:ARG:NE	2.22	0.54
67:i:189:THR:N	67:i:192:GLU:OE1	2.36	0.54
74:p:38:VAL:HG21	74:p:78:ASN:ND2	2.23	0.54
1:0:83:LYS:HG2	1:0:96:LEU:HD23	1.87	0.54
11:AA:294:U:H4'	53:U:77:LEU:HD23	1.89	0.54
11:AA:2497:U:H3'	11:AA:2498:U:C6	2.43	0.54
11:AA:2525:G:N7	23:EE:67:TYR:OH	2.38	0.54
14:BB:23:A:H2'	14:BB:24:A:C8	2.43	0.54
20:DD:170:ALA:O	20:DD:174:ASN:ND2	2.36	0.54
24:Ee:46:ILE:HD11	24:Ee:62:LEU:HD11	1.88	0.54
36:KK:90:THR:HG23	36:KK:214:LEU:HD21	1.88	0.54
38:LL:93:VAL:HG13	57:Y:78:ILE:HG21	1.90	0.54
45:P:20:LEU:O	45:P:28:ARG:NH1	2.40	0.54
81:w:91:ILE:O	81:w:91:ILE:HG13	2.07	0.54
4:3:42:ASN:HD22	4:3:57:GLU:HB3	1.73	0.54
10:A:7:VAL:HB	10:A:33:ILE:HD13	1.89	0.54
11:AA:656:A:H2'	11:AA:657:A:C8	2.43	0.54
11:AA:911:C:H5''	23:EE:15:ILE:HD13	1.90	0.54
11:AA:1456:A:N7	45:P:26:LYS:NZ	2.46	0.54
11:AA:2186:U:H2'	11:AA:2187:G:O4'	2.08	0.54
11:AA:2930:A:H2'	11:AA:2931:C:H6	1.73	0.54
11:AA:2960:C:H2'	11:AA:2961:G:H8	1.72	0.54
11:AA:3205:G:OP2	11:AA:3206:C:N4	2.40	0.54
14:BB:12:U:O2	14:BB:110:G:O2'	2.24	0.54
20:DD:28:VAL:HG21	20:DD:185:LEU:HD12	1.88	0.54
24:Ee:32:ILE:HB	24:Ee:37:LEU:HB2	1.89	0.54
26:FF:62:ARG:HG2	26:FF:65:SER:HB2	1.89	0.54
54:V:21:ARG:HD3	54:V:39:TYR:HB2	1.90	0.54
61:c:256:A:H2'	61:c:257:A:O4'	2.07	0.54
64:f:140:ARG:HB3	64:f:221:THR:HB	1.88	0.54
67:i:100:ASN:HB2	67:i:180:ARG:HD3	1.88	0.54
7:6:42:ARG:NH2	61:c:589:C:H5''	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2991:A:O2'	11:AA:3309:G:N7	2.38	0.54
11:AA:3198:U:H1'	38:LL:21:LYS:HB2	1.88	0.54
12:Aa:504:LEU:O	12:Aa:508:LEU:HD23	2.08	0.54
38:LL:150:SER:OG	38:LL:153:ASP:HB2	2.08	0.54
58:Z:7:LYS:NZ	61:c:1774:G:OP1	2.26	0.54
61:c:29:U:H2'	61:c:30:G:C8	2.42	0.54
61:c:126:A:OP2	68:j:201:GLN:NE2	2.41	0.54
61:c:689:G:H2'	61:c:690:G:H8	1.72	0.54
61:c:947:U:H2'	61:c:948:G:H8	1.72	0.54
61:c:1147:A:O2'	61:c:1636:C:OP2	2.25	0.54
61:c:1466:G:O2'	61:c:1602:C:OP1	2.23	0.54
63:e:197:ILE:HG22	63:e:210:ILE:HD13	1.89	0.54
71:m:82:ARG:CZ	71:m:149:ARG:HH21	2.20	0.54
78:t:70:SER:HA	78:t:74:GLN:HE22	1.72	0.54
11:AA:32:U:OP2	91:AA:3636:HOH:O	2.18	0.54
11:AA:1203:A:N3	11:AA:2855:U:O2'	2.39	0.54
11:AA:2582:C:H2'	11:AA:2583:C:C6	2.43	0.54
11:AA:3073:A:H2'	11:AA:3074:G:O4'	2.08	0.54
11:AA:3122:A:N1	38:LL:70:THR:OG1	2.37	0.54
12:Aa:823:ARG:HG2	12:Aa:828:MET:HB2	1.89	0.54
13:B:128:ARG:HD2	13:B:136:ILE:HD12	1.89	0.54
28:GG:36:HIS:O	28:GG:40:THR:HG23	2.08	0.54
34:JJ:37:ASN:HA	34:JJ:40:LYS:HE3	1.89	0.54
42:NN:49:LYS:HA	42:NN:64:LYS:H	1.73	0.54
42:NN:49:LYS:HB3	42:NN:62:ASN:HA	1.90	0.54
61:c:751:G:H2'	61:c:752:A:C8	2.43	0.54
68:j:137:ARG:HD2	68:j:140:ASN:OD1	2.07	0.54
69:k:58:LEU:HD13	69:k:88:ARG:HB3	1.90	0.54
7:6:51:ASN:HB3	7:6:55:ARG:HG3	1.90	0.54
11:AA:1646:G:O2'	11:AA:1808:G:N2	2.39	0.54
11:AA:2569:A:O2'	11:AA:2570:U:H5''	2.08	0.54
11:AA:2768:U:H2'	11:AA:2769:A:H8	1.72	0.54
11:AA:2999:U:H2'	11:AA:3000:A:H8	1.72	0.54
11:AA:3066:U:H2'	11:AA:3067:C:C6	2.43	0.54
11:AA:3295:A:H2'	11:AA:3296:A:H8	1.72	0.54
29:H:104:ASN:OD1	29:H:108:GLU:N	2.41	0.54
34:JJ:24:GLU:O	34:JJ:26:VAL:HG13	2.08	0.54
37:L:50:PRO:HD3	37:L:68:ILE:HG12	1.90	0.54
41:N:28:LYS:HG3	41:N:29:TYR:CD2	2.43	0.54
61:c:765:G:C5	71:m:149:ARG:HD2	2.43	0.54
61:c:1071:U:H2'	61:c:1072:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1144:U:H2'	61:c:1145:U:C6	2.43	0.54
64:f:174:ARG:HD2	71:m:94:ASP:OD1	2.08	0.54
67:i:142:PRO:HG2	67:i:170:GLN:HG2	1.88	0.54
71:m:65:LYS:HA	71:m:70:LEU:HD11	1.89	0.54
83:y:114:GLU:HA	83:y:117:ARG:HG2	1.89	0.54
11:AA:28:C:O2'	11:AA:61:A:N3	2.38	0.53
11:AA:353:G:O6	54:V:52:LYS:NZ	2.35	0.53
11:AA:915:A:H8	11:AA:2136:C:O2'	1.91	0.53
11:AA:1596:C:H2'	11:AA:1597:C:C6	2.42	0.53
11:AA:1798:A:H2'	11:AA:1799:A:C8	2.43	0.53
11:AA:2167:A:H2'	11:AA:2168:A:C8	2.42	0.53
11:AA:2922:OMG:H5''	11:AA:2922:OMG:C8	2.43	0.53
11:AA:3041:U:O2'	29:H:43:GLY:HA3	2.07	0.53
12:Aa:385:MET:HE1	12:Aa:460:ASP:HB2	1.89	0.53
12:Aa:435:VAL:HG12	12:Aa:444:PRO:HA	1.89	0.53
21:Dd:13:A:H2'	21:Dd:14:A:C8	2.43	0.53
30:HH:256:THR:OG1	30:HH:258:LYS:NZ	2.36	0.53
34:JJ:47:ARG:NH1	34:JJ:183:ASP:OD2	2.40	0.53
42:NN:21:ILE:HG13	42:NN:37:LEU:HD22	1.90	0.53
55:W:28:ASN:HB2	55:W:40:GLN:HB3	1.89	0.53
61:c:538:A:H1'	61:c:541:A2M:HM'2	1.89	0.53
61:c:684:A:H2'	61:c:685:A:C8	2.42	0.53
61:c:1641:C:H2'	61:c:1642:G:C8	2.43	0.53
68:j:137:ARG:HB3	68:j:140:ASN:OD1	2.07	0.53
5:4:46:GLY:HA3	67:i:166:ARG:HB2	1.89	0.53
11:AA:516:A:H2'	11:AA:517:G:C8	2.43	0.53
11:AA:2111:G:H1'	31:I:44:LYS:HD2	1.90	0.53
11:AA:2472:U:C2	11:AA:2473:C:H1'	2.43	0.53
12:Aa:162:ARG:HB2	89:Aa:1001:GTP:N2	2.24	0.53
30:HH:83:LEU:HB3	30:HH:88:ILE:HB	1.90	0.53
61:c:281:G:H2'	61:c:282:C:C6	2.43	0.53
61:c:1361:U:O2	61:c:1363:U:N3	2.40	0.53
71:m:76:LEU:HD23	71:m:93:LEU:HD11	1.90	0.53
71:m:109:LEU:HB2	71:m:146:PHE:HB3	1.91	0.53
79:u:27:LYS:HA	79:u:57:ARG:HA	1.90	0.53
8:7:5:GLU:HB3	8:7:315:VAL:HG12	1.89	0.53
11:AA:280:U:O2'	11:AA:282:G:N7	2.34	0.53
11:AA:2600:C:OP1	49:QQ:93:LYS:NZ	2.40	0.53
16:C:133:LYS:HB2	16:C:135:GLN:OE1	2.07	0.53
28:GG:125:ALA:HB1	28:GG:238:LEU:HB3	1.90	0.53
28:GG:126:ILE:O	28:GG:129:THR:OG1	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:KK:26:LEU:HD11	37:L:123:GLN:HE22	1.72	0.53
61:c:29:U:H2'	61:c:30:G:H8	1.73	0.53
61:c:511:A:H5'	71:m:173:ALA:HB2	1.89	0.53
70:l:67:TRP:HH2	70:l:160:PHE:HE2	1.56	0.53
76:r:75:PRO:HA	76:r:93:VAL:HG23	1.91	0.53
8:7:101:GLN:NE2	8:7:137:LYS:O	2.41	0.53
11:AA:945:C:H2'	11:AA:946:U:C6	2.44	0.53
11:AA:1348:U:H4'	11:AA:1349:G:OP1	2.08	0.53
11:AA:1704:A:H2'	11:AA:1705:U:C6	2.43	0.53
11:AA:2106:A:H2'	11:AA:2107:A:C8	2.44	0.53
11:AA:2896:A:OP1	57:Y:102:ARG:NE	2.41	0.53
12:Aa:1:MET:H2	12:Aa:44:GLY:HA3	1.74	0.53
13:B:88:VAL:O	13:B:92:GLN:HG3	2.08	0.53
17:CC:142:C:H2'	17:CC:143:U:C6	2.43	0.53
61:c:850:A:H2'	61:c:851:U:O4'	2.09	0.53
63:e:171:ILE:HD13	63:e:196:GLU:HG2	1.90	0.53
66:h:65:LEU:HD13	66:h:80:THR:HA	1.90	0.53
1:0:124:ARG:HA	1:0:127:LYS:HD3	1.91	0.53
11:AA:66:A:N6	11:AA:76:G:H1'	2.24	0.53
11:AA:297:G:OP2	11:AA:297:G:N2	2.31	0.53
11:AA:692:A:OP1	49:QQ:201:ARG:NH2	2.28	0.53
11:AA:1176:C:H2'	11:AA:1177:G:N2	2.23	0.53
11:AA:2228:A:H2'	11:AA:2229:A:C8	2.44	0.53
11:AA:2661:G:H2'	11:AA:2662:G:H8	1.73	0.53
11:AA:2808:A:O2'	11:AA:2969:A:OP1	2.18	0.53
12:Aa:408:GLY:H	12:Aa:431:ILE:HB	1.74	0.53
15:Bb:50:U:H2'	15:Bb:51:G:C8	2.43	0.53
26:FF:152:LYS:HG2	26:FF:189:SER:HA	1.90	0.53
34:JJ:84:VAL:HG23	34:JJ:117:VAL:HB	1.91	0.53
61:c:1087:A:H2'	61:c:1088:A:C8	2.43	0.53
61:c:1250:U:H2'	61:c:1251:U:C6	2.44	0.53
66:h:60:GLU:O	66:h:64:ILE:HG12	2.09	0.53
81:w:57:ARG:HA	81:w:89:ARG:HG3	1.91	0.53
1:0:17:LEU:HD21	66:h:92:LEU:HB3	1.91	0.53
11:AA:170:G:H5''	52:T:109:ILE:HD12	1.89	0.53
11:AA:664:U:H5'	28:GG:107:ARG:HA	1.89	0.53
11:AA:1016:C:H4'	11:AA:1017:C:OP2	2.09	0.53
11:AA:2507:C:H2'	11:AA:2508:U:C6	2.43	0.53
11:AA:2812:C:H2'	11:AA:2813:A:C8	2.44	0.53
20:DD:119:ILE:HD11	20:DD:180:PRO:HG3	1.90	0.53
27:G:33:TYR:HA	27:G:83:TYR:CE2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1164:G:H2'	61:c:1165:G:H8	1.72	0.53
69:k:64:VAL:HG23	69:k:67:LEU:HB2	1.90	0.53
77:s:112:TYR:OH	77:s:114:ARG:NH1	2.41	0.53
78:t:66:VAL:O	78:t:69:ILE:HG12	2.09	0.53
9:8:130:VAL:HA	61:c:1253:U:H5''	1.91	0.53
11:AA:767:U:O5'	44:OO:186:ARG:NH1	2.41	0.53
11:AA:2389:C:OP1	13:B:66:SER:N	2.39	0.53
20:DD:191:TYR:HA	20:DD:196:VAL:HG22	1.89	0.53
22:E:15:PRO:HB3	22:E:22:PRO:HD3	1.90	0.53
30:HH:146:LEU:HD22	30:HH:163:LEU:HD13	1.91	0.53
33:J:27:ARG:HD3	36:KK:50:VAL:HG21	1.89	0.53
35:K:72:SER:OG	35:K:81:GLN:OE1	2.27	0.53
49:QQ:94:TYR:O	49:QQ:96:ARG:N	2.37	0.53
61:c:802:G:N2	83:y:107:SER:HG	2.07	0.53
67:i:54:LYS:HB3	67:i:138:THR:HG21	1.90	0.53
11:AA:412:G:H2'	11:AA:413:U:C6	2.43	0.53
11:AA:2874:G:C6	91:AA:3605:HOH:O	2.47	0.53
11:AA:2883:U:H2'	11:AA:2884:C:H6	1.73	0.53
11:AA:3294:A:H5'	26:FF:128:LYS:HG3	1.91	0.53
11:AA:3379:C:H4'	26:FF:315:GLY:HA2	1.91	0.53
12:Aa:1:MET:N	12:Aa:44:GLY:HA3	2.24	0.53
61:c:335:U:O2'	73:o:130:PRO:O	2.23	0.53
61:c:1482:C:N4	61:c:1524:A:OP1	2.41	0.53
67:i:112:ARG:HH21	77:s:43:ILE:HD13	1.73	0.53
71:m:90:LYS:HB3	71:m:95:TYR:CD2	2.44	0.53
83:y:101:TYR:HE1	83:y:114:GLU:OE1	1.92	0.53
8:7:23:LEU:HD22	8:7:33:LEU:HD11	1.91	0.53
8:7:159:ASN:ND2	8:7:163:ASP:HA	2.23	0.53
11:AA:411:U:H2'	11:AA:412:G:C8	2.43	0.53
11:AA:1498:A:H2'	11:AA:1499:C:C6	2.43	0.53
20:DD:4:ILE:HB	20:DD:8:LYS:HE2	1.89	0.53
22:E:109:ASP:OD1	22:E:113:ARG:NE	2.26	0.53
61:c:207:U:O2	70:l:178:ARG:NH1	2.42	0.53
61:c:526:A:H2'	61:c:527:A:O4'	2.09	0.53
63:e:107:THR:O	63:e:111:ARG:HG2	2.09	0.53
65:g:23:GLU:OE1	72:n:61:TRP:NE1	2.35	0.53
76:r:90:ILE:HD13	76:r:109:PRO:HA	1.91	0.53
11:AA:528:U:H2'	11:AA:529:A:C8	2.43	0.53
11:AA:1281:G:C2	11:AA:1282:G:C8	2.97	0.53
11:AA:1925:U:O2'	11:AA:1927:G:N7	2.41	0.53
11:AA:2216:G:H22	11:AA:2229:A:H2	1.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2568:C:O2'	11:AA:2569:A:O5'	2.27	0.53
24:Ee:111:GLU:HG3	24:Ee:115:GLN:HE21	1.73	0.53
43:O:99:ASP:O	43:O:103:THR:OG1	2.20	0.53
61:c:366:A:OP1	61:c:758:U:O2'	2.22	0.53
61:c:482:U:H3	61:c:505:A:H61	1.57	0.53
67:i:135:ASP:HA	67:i:138:THR:HG22	1.90	0.53
67:i:149:VAL:HG22	67:i:157:ARG:HB2	1.90	0.53
70:l:116:HIS:CE1	70:l:146:ARG:HD3	2.44	0.53
72:n:9:ASN:O	72:n:13:GLN:HG2	2.09	0.53
80:v:57:ARG:O	80:v:61:VAL:HG23	2.09	0.53
84:z:107:PHE:CE2	84:z:114:LYS:HB3	2.44	0.53
8:7:263:PHE:HA	8:7:271:VAL:HG12	1.91	0.52
10:A:22:VAL:HG11	10:A:120:VAL:HG11	1.91	0.52
11:AA:1814:A:H5'	11:AA:1816:A:O2'	2.09	0.52
11:AA:3193:C:H2'	11:AA:3194:C:C6	2.43	0.52
12:Aa:116:THR:HG21	12:Aa:483:PHE:HB3	1.91	0.52
12:Aa:664:VAL:O	12:Aa:668:GLN:HG2	2.10	0.52
20:DD:89:THR:HG21	20:DD:96:ILE:HG13	1.91	0.52
20:DD:136:PHE:CZ	20:DD:176:LEU:HD11	2.44	0.52
26:FF:216:ASP:HB2	26:FF:339:ARG:HG2	1.90	0.52
39:M:75:LEU:HD12	39:M:137:LYS:HD2	1.91	0.52
44:OO:75:PHE:N	44:OO:96:ALA:O	2.25	0.52
61:c:955:A:OP1	74:p:3:ARG:NH1	2.36	0.52
61:c:1213:G:O2'	61:c:1244:A:N6	2.41	0.52
61:c:1236:A:H2'	61:c:1237:G:C8	2.44	0.52
61:c:1237:G:H2'	61:c:1238:A:C8	2.44	0.52
61:c:1294:G:H4'	62:d:109:ASN:H	1.74	0.52
61:c:1374:C:H2'	61:c:1375:A:C8	2.45	0.52
62:d:92:HIS:ND1	62:d:202:TYR:OH	2.40	0.52
67:i:27:THR:HB	77:s:28:LEU:HD12	1.91	0.52
80:v:60:SER:OG	80:v:80:TYR:OH	2.12	0.52
11:AA:1143:A:H5'	11:AA:1368:U:H1'	1.91	0.52
11:AA:1791:C:H2'	11:AA:1792:C:C6	2.44	0.52
11:AA:2446:U:H2'	11:AA:2447:A:C8	2.45	0.52
12:Aa:225:PHE:CE2	12:Aa:277:ILE:HA	2.44	0.52
12:Aa:413:ILE:HB	12:Aa:427:PHE:HB2	1.91	0.52
18:Cc:17:C:OP1	18:Cc:61:U:O2'	2.20	0.52
20:DD:107:ALA:HB3	20:DD:183:PHE:HE2	1.73	0.52
25:F:17:ARG:NH1	25:F:45:ASN:OD1	2.42	0.52
39:M:100:PRO:HG2	39:M:123:VAL:HG12	1.91	0.52
61:c:560:U:H2'	61:c:561:G:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1167:G:O3'	91:c:2013:HOH:O	2.19	0.52
61:c:1525:A:H2'	61:c:1526:A:H8	1.74	0.52
71:m:168:ARG:HH12	71:m:174:ARG:HD3	1.73	0.52
79:u:24:GLY:HA2	79:u:58:ALA:HB3	1.91	0.52
8:7:29:GLN:HE22	8:7:77:GLY:HA3	1.74	0.52
11:AA:1009:A:H2'	11:AA:1010:G:C8	2.44	0.52
11:AA:1616:U:H2'	11:AA:1617:G:H8	1.74	0.52
15:Bb:2:C:H2'	15:Bb:3:G:H8	1.74	0.52
42:NN:43:GLN:NE2	42:NN:70:THR:O	2.42	0.52
61:c:1218:G:N2	61:c:1444:A:OP2	2.28	0.52
61:c:1347:U:C4	81:w:58:LEU:HD11	2.44	0.52
63:e:55:LYS:NZ	63:e:60:ALA:HB2	2.24	0.52
65:g:31:GLU:O	65:g:54:ARG:NH2	2.42	0.52
66:h:11:ARG:NH2	66:h:24:SER:OG	2.42	0.52
66:h:92:LEU:O	66:h:96:ASN:HA	2.08	0.52
66:h:125:LYS:HB3	66:h:142:HIS:HB3	1.90	0.52
66:h:139:VAL:HG23	66:h:150:PRO:HG3	1.91	0.52
67:i:23:VAL:HG23	77:s:58:ASP:HB3	1.91	0.52
68:j:32:ILE:HD11	68:j:63:MET:HE2	1.91	0.52
71:m:159:ALA:HB3	71:m:162:SER:OG	2.10	0.52
11:AA:191:U:H2'	11:AA:192:C:H6	1.74	0.52
11:AA:1024:G:H22	11:AA:1027:A:H5''	1.73	0.52
11:AA:1322:U:O2	22:E:108:GLN:NE2	2.22	0.52
11:AA:2429:G:H2'	11:AA:2430:A:C8	2.44	0.52
12:Aa:634:TRP:NE1	12:Aa:660:LYS:HG2	2.25	0.52
26:FF:31:ALA:O	26:FF:339:ARG:NH1	2.42	0.52
61:c:1175:U:H2'	61:c:1176:G:C8	2.45	0.52
77:s:38:LEU:HD13	80:v:10:ALA:HB2	1.91	0.52
84:z:90:ASP:O	84:z:136:TRP:NE1	2.31	0.52
8:7:79:TYR:HB3	8:7:91:LEU:HD11	1.90	0.52
11:AA:228:U:O4	91:AA:3632:HOH:O	2.17	0.52
11:AA:847:A:H2'	11:AA:848:A:C8	2.45	0.52
11:AA:1615:C:H2'	11:AA:1616:U:C6	2.45	0.52
11:AA:2103:U:H2'	11:AA:2104:A:C8	2.44	0.52
11:AA:2942:C:H5''	11:AA:2943:G:H5''	1.91	0.52
11:AA:3291:G:H2'	11:AA:3292:A:C8	2.44	0.52
12:Aa:577:SER:HB2	12:Aa:712:ALA:HB2	1.91	0.52
16:C:148:GLU:O	16:C:151:ARG:HG2	2.08	0.52
23:EE:118:GLU:HG3	23:EE:125:ALA:HB3	1.91	0.52
26:FF:220:VAL:O	26:FF:334:ARG:NH1	2.28	0.52
29:H:38:ALA:HB3	29:H:59:MET:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:V:25:ARG:HH11	56:X:50:ASN:HB3	1.74	0.52
61:c:1521:G:O2'	61:c:1523:G:OP2	2.21	0.52
61:c:1669:U:H2'	61:c:1670:G:O4'	2.10	0.52
76:r:22:LEU:HD13	76:r:109:PRO:HB3	1.90	0.52
4:3:4:VAL:HG22	83:y:23:ARG:HG3	1.92	0.52
11:AA:629:U:H2'	11:AA:630:A:C8	2.45	0.52
11:AA:673:U:H2'	11:AA:674:G:C8	2.44	0.52
11:AA:815:G:OP2	54:V:31:LYS:NZ	2.41	0.52
14:BB:119:U:P	30:HH:258:LYS:HZ1	2.32	0.52
61:c:1222:C:H2'	61:c:1223:A:C4	2.45	0.52
61:c:1321:A:H5''	62:d:104:PRO:HG3	1.91	0.52
65:g:132:LYS:HG2	65:g:156:PHE:CE1	2.45	0.52
66:h:122:LYS:HG2	66:h:164:LEU:HD13	1.91	0.52
1:0:105:ARG:NH1	61:c:444:C:O5'	2.43	0.52
4:3:2:VAL:HG23	4:3:3:LEU:H	1.73	0.52
11:AA:67:A:N6	11:AA:271:C:O2'	2.43	0.52
11:AA:230:U:H2'	11:AA:231:G:O4'	2.10	0.52
11:AA:339:C:H3'	28:GG:195:ARG:HH12	1.74	0.52
11:AA:1640:G:OP1	91:AA:3643:HOH:O	2.19	0.52
11:AA:2407:C:H2'	11:AA:2408:U:C6	2.45	0.52
11:AA:2765:C:O3'	59:a:39:GLY:HA3	2.09	0.52
11:AA:2882:U:H2'	11:AA:2883:U:C6	2.45	0.52
12:Aa:139:THR:HA	12:Aa:142:VAL:HG22	1.92	0.52
30:HH:148:ILE:HG22	30:HH:151:GLN:HB3	1.92	0.52
44:OO:47:ALA:HB3	44:OO:49:ARG:HD3	1.91	0.52
54:V:27:PHE:HA	54:V:34:CYS:HA	1.91	0.52
61:c:513:U:H2'	61:c:514:G:C8	2.45	0.52
61:c:1091:A:H4'	61:c:1092:A:O4'	2.10	0.52
61:c:1117:U:H2'	61:c:1118:G:C8	2.45	0.52
61:c:1414:U:O5'	78:t:3:ARG:NH1	2.42	0.52
61:c:1469:A:H4'	61:c:1541:G:H4'	1.91	0.52
69:k:170:GLN:HG2	69:k:181:ILE:HG23	1.92	0.52
77:s:56:GLY:HA3	77:s:59:LYS:HD2	1.91	0.52
2:1:66:VAL:HA	2:1:71:ILE:O	2.10	0.52
7:6:41:THR:O	7:6:45:VAL:HG22	2.10	0.52
11:AA:1073:U:H2'	11:AA:1074:U:C6	2.45	0.52
11:AA:1257:C:O2'	20:DD:42:ARG:HD2	2.08	0.52
11:AA:2101:C:O2'	11:AA:2102:U:OP1	2.24	0.52
11:AA:2468:A:O2'	11:AA:2469:G:O4'	2.21	0.52
11:AA:3332:U:H2'	11:AA:3333:G:O4'	2.10	0.52
12:Aa:545:LEU:HA	12:Aa:549:HIS:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CC:60:U:OP1	33:J:54:TYR:OH	2.26	0.52
61:c:123:G:P	66:h:77:ARG:HH22	2.32	0.52
61:c:1422:A:H5''	65:g:159:HIS:CD2	2.45	0.52
61:c:1630:U:O2'	61:c:1764:C:O2'	2.27	0.52
66:h:104:ASP:N	66:h:108:ARG:O	2.28	0.52
70:l:34:ALA:HB2	70:l:56:ARG:HD2	1.90	0.52
1:0:7:ILE:HG21	1:0:44:LEU:HD21	1.92	0.52
10:A:62:THR:HA	11:AA:1306:G:C6	2.45	0.52
11:AA:239:G:H2'	11:AA:240:U:C6	2.45	0.52
11:AA:2483:G:H8	11:AA:2485:A:OP2	1.93	0.52
11:AA:2585:G:N3	11:AA:2585:G:H2'	2.25	0.52
13:B:124:LYS:NZ	13:B:142:SER:OG	2.42	0.52
22:E:27:MET:HG2	25:F:151:LEU:O	2.10	0.52
25:F:79:MET:HE1	41:N:21:ILE:HD12	1.92	0.52
51:S:74:ARG:HG2	51:S:75:ALA:H	1.74	0.52
61:c:262:U:H2'	61:c:263:C:C6	2.44	0.52
61:c:407:A:H2'	61:c:408:C:H6	1.74	0.52
61:c:1258:U:HO2'	61:c:1259:U:H6	1.56	0.52
61:c:1351:G:H3'	61:c:1352:G:C8	2.45	0.52
62:d:122:ILE:HA	62:d:144:ILE:O	2.10	0.52
63:e:142:PHE:HD1	63:e:209:ASN:HB3	1.75	0.52
67:i:79:ASN:HB2	67:i:83:ARG:HH22	1.75	0.52
68:j:102:VAL:HG11	68:j:109:LEU:HD12	1.91	0.52
78:t:14:LYS:O	78:t:17:ILE:HG22	2.10	0.52
83:y:29:PRO:HB2	83:y:58:SER:HB2	1.92	0.52
3:2:6:ALA:N	61:c:1796:C:N3	2.51	0.52
11:AA:1480:G:O2'	11:AA:1871:U:O4	2.22	0.52
11:AA:1781:C:H2'	11:AA:1782:U:C6	2.45	0.52
11:AA:2828:G:O2'	40:MM:4:ARG:NH2	2.39	0.52
11:AA:2935:U:O4	29:H:44:SER:OG	2.28	0.52
11:AA:3089:C:OP1	26:FF:222:LYS:NZ	2.28	0.52
14:BB:112:G:H2'	14:BB:113:C:C6	2.44	0.52
20:DD:106:ALA:HA	20:DD:182:THR:HA	1.91	0.52
61:c:259:U:OP1	70:l:75:LYS:NZ	2.42	0.52
61:c:1533:C:H4'	61:c:1539:G:C6	2.45	0.52
62:d:126:PRO:HB2	62:d:152:PRO:HG2	1.92	0.52
62:d:126:PRO:HG2	62:d:151:SER:HB3	1.92	0.52
67:i:43:PHE:CE2	67:i:130:ILE:HD11	2.43	0.52
69:k:56:LYS:O	69:k:88:ARG:HA	2.09	0.52
78:t:10:LYS:O	78:t:14:LYS:HG2	2.10	0.52
78:t:66:VAL:HG22	78:t:69:ILE:CG2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:u:90:ASN:OD1	79:u:95:GLY:HA2	2.10	0.52
2:l:53:GLU:OE1	2:l:57:TYR:OH	2.17	0.51
8:7:18:GLY:N	8:7:308:ASN:OD1	2.43	0.51
11:AA:1192:C:N4	91:AA:3797:HOH:O	2.43	0.51
11:AA:1717:U:H2'	11:AA:1718:G:H8	1.72	0.51
15:Bb:43:G:H2'	15:Bb:44:A:C8	2.45	0.51
30:HH:85:ARG:HH12	30:HH:254:LYS:H	1.56	0.51
36:KK:33:ASN:O	36:KK:39:ALA:HB3	2.10	0.51
61:c:169:A:OP1	68:j:137:ARG:NE	2.32	0.51
62:d:84:ARG:HH12	78:t:84:TYR:HE2	1.54	0.51
64:f:38:VAL:O	64:f:39:THR:OG1	2.26	0.51
68:j:57:ASP:HA	68:j:107:ALA:H	1.75	0.51
72:n:15:LEU:HD21	72:n:68:LEU:HD13	1.92	0.51
74:p:103:GLU:HA	74:p:106:ARG:HH21	1.75	0.51
80:v:63:ARG:HH11	80:v:67:MET:HG3	1.74	0.51
10:A:27:LEU:HD23	10:A:98:ALA:O	2.10	0.51
11:AA:507:U:H2'	11:AA:508:U:C6	2.45	0.51
11:AA:674:G:O6	16:C:56:LYS:NZ	2.43	0.51
11:AA:1551:C:HO2'	11:AA:2170:U:HO2'	1.57	0.51
11:AA:3368:U:H4'	11:AA:3369:G:H5'	1.92	0.51
12:Aa:729:PHE:CE1	90:Aa:1002:SO1:H53	2.44	0.51
19:D:25:ASP:HB3	19:D:28:GLU:HB3	1.91	0.51
23:EE:109:GLU:HG3	61:c:922:G:H4'	1.92	0.51
24:Ee:126:ALA:O	24:Ee:130:LYS:HG3	2.10	0.51
39:M:19:LYS:HG2	39:M:25:HIS:HB2	1.91	0.51
61:c:52:U:H2'	61:c:53:G:H8	1.75	0.51
61:c:514:G:H5''	71:m:132:ARG:HH22	1.76	0.51
61:c:968:U:H2'	61:c:969:C:O4'	2.11	0.51
62:d:175:TYR:CD2	62:d:199:PRO:HB3	2.45	0.51
63:e:208:GLN:HG3	63:e:209:ASN:HB2	1.92	0.51
77:s:51:PRO:HG2	77:s:85:ILE:HD11	1.92	0.51
7:6:33:ARG:HH12	61:c:478:A:H5'	1.75	0.51
11:AA:1119:C:H2'	11:AA:1120:A:H8	1.75	0.51
11:AA:1667:A:H2'	11:AA:1668:G:C8	2.46	0.51
11:AA:2213:A:H2'	11:AA:2214:A:H8	1.74	0.51
11:AA:3041:U:H2'	11:AA:3042:U:C6	2.45	0.51
14:BB:71:G:H2'	14:BB:72:A:C8	2.45	0.51
35:K:70:ILE:HD13	35:K:82:VAL:HG22	1.91	0.51
40:MM:80:SER:HB3	40:MM:147:VAL:HG11	1.92	0.51
61:c:341:A:H2'	61:c:342:C:C6	2.45	0.51
61:c:472:U:H2'	61:c:473:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:g:76:ARG:HA	72:n:22:VAL:HG11	1.92	0.51
78:t:18:GLU:OE2	78:t:69:ILE:HA	2.09	0.51
8:7:214:ALA:HB2	8:7:220:ILE:HG12	1.92	0.51
10:A:10:ASP:HB2	10:A:117:ARG:HB3	1.92	0.51
11:AA:371:G:N1	11:AA:374:A:OP2	2.35	0.51
11:AA:651:G:O2'	11:AA:1435:A:OP1	2.28	0.51
11:AA:675:C:O2'	11:AA:679:U:OP1	2.26	0.51
11:AA:966:U:OP1	39:M:44:ASN:ND2	2.42	0.51
11:AA:1261:G:O6	20:DD:35:SER:OG	2.27	0.51
11:AA:2966:G:OP1	91:AA:3635:HOH:O	2.18	0.51
24:Ee:41:LYS:HZ3	24:Ee:69:ALA:N	2.09	0.51
61:c:1450:U:H2'	61:c:1451:C:H6	1.76	0.51
62:d:201:LEU:HD12	78:t:83:GLN:HG2	1.92	0.51
64:f:83:ILE:HD11	64:f:125:ILE:HD11	1.91	0.51
65:g:164:VAL:HA	65:g:168:ILE:HG12	1.92	0.51
65:g:209:ILE:O	78:t:20:TYR:OH	2.25	0.51
66:h:151:ASP:HB3	68:j:215:ARG:HH12	1.75	0.51
69:k:20:VAL:HG11	69:k:46:ILE:HD12	1.93	0.51
70:l:83:TYR:HB2	70:l:196:LEU:HD21	1.93	0.51
72:n:24:LYS:HB2	72:n:39:ASN:ND2	2.25	0.51
1:0:32:ARG:NH2	1:0:35:VAL:HA	2.24	0.51
4:3:56:CYS:SG	4:3:61:THR:OG1	2.69	0.51
8:7:169:ILE:H	8:7:183:LEU:HD11	1.73	0.51
11:AA:109:A:N1	11:AA:322:U:O2'	2.42	0.51
11:AA:498:A:O2'	11:AA:3273:A:N1	2.43	0.51
11:AA:669:U:HO2'	11:AA:1109:U:HO2'	1.50	0.51
11:AA:1497:C:H2'	11:AA:1498:A:H8	1.75	0.51
11:AA:1709:C:H2'	11:AA:1710:C:C6	2.46	0.51
14:BB:26:C:H2'	14:BB:27:A:O4'	2.11	0.51
14:BB:45:A:OP1	30:HH:151:GLN:NE2	2.29	0.51
15:Bb:19:G:H3'	15:Bb:20:G:H8	1.74	0.51
18:Cc:69:C:H2'	18:Cc:70:C:C6	2.46	0.51
24:Ee:130:LYS:HD2	24:Ee:152:ILE:HG23	1.92	0.51
30:HH:77:ALA:O	30:HH:108:ARG:NH1	2.44	0.51
39:M:77:LYS:C	39:M:79:TRP:N	2.69	0.51
61:c:15:U:O2'	61:c:620:A:N6	2.44	0.51
61:c:406:U:H2'	61:c:407:A:C8	2.46	0.51
61:c:643:G:O2'	61:c:644:C:OP1	2.26	0.51
61:c:1410:A:H4'	77:s:118:ILE:HG23	1.93	0.51
61:c:1483:A:N3	61:c:1607:G:O2'	2.39	0.51
65:g:135:GLU:HB2	65:g:157:LEU:HD11	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:i:72:HIS:O	67:i:72:HIS:ND1	2.44	0.51
72:n:45:ALA:O	72:n:48:SER:HB3	2.10	0.51
76:r:17:TYR:CZ	76:r:112:LEU:HB2	2.45	0.51
1:0:10:ARG:NH2	61:c:778:G:N7	2.58	0.51
2:1:84:GLU:OE1	2:1:91:PRO:HD3	2.10	0.51
5:4:52:ASP:OD2	67:i:61:TYR:OH	2.25	0.51
8:7:307:ASP:CG	8:7:311:ARG:HH22	2.19	0.51
11:AA:166:C:H2'	11:AA:167:U:C6	2.46	0.51
11:AA:359:U:H4'	11:AA:817:A2M:H61	1.76	0.51
11:AA:1301:A:H4'	11:AA:1302:A:C5'	2.38	0.51
11:AA:1864:A:OP1	19:D:88:ARG:NH1	2.44	0.51
11:AA:2456:A:H2'	11:AA:2457:G:C8	2.46	0.51
11:AA:2566:C:H2'	11:AA:2567:C:C6	2.45	0.51
11:AA:2768:U:H2'	11:AA:2769:A:C8	2.45	0.51
12:Aa:174:LEU:HD23	12:Aa:278:LEU:HD13	1.93	0.51
12:Aa:634:TRP:CZ3	12:Aa:688:ILE:HD12	2.45	0.51
17:CC:78:G:H2'	17:CC:79:A:C8	2.46	0.51
21:Dd:15:G:N2	61:c:904:G:O3'	2.43	0.51
28:GG:140:HIS:O	28:GG:142:VAL:N	2.43	0.51
29:H:81:GLN:HG2	29:H:83:LYS:H	1.75	0.51
61:c:647:G:H21	61:c:687:G:H1	1.57	0.51
68:j:36:VAL:HG12	68:j:50:PHE:HB2	1.91	0.51
71:m:152:SER:O	71:m:156:ILE:HG23	2.10	0.51
8:7:38:ARG:HH12	78:t:27:ASP:CG	2.18	0.51
11:AA:1807:G:O2'	11:AA:2559:U:O4	2.21	0.51
11:AA:2504:U:H2'	11:AA:2505:U:C6	2.46	0.51
11:AA:3049:A:H4'	26:FF:364:LYS:HD2	1.91	0.51
12:Aa:30:HIS:HA	12:Aa:130:ASP:OD2	2.10	0.51
14:BB:81:U:H2'	14:BB:82:G:C8	2.46	0.51
17:CC:83:C:H2'	17:CC:85:G:H21	1.74	0.51
18:Cc:29:C:H2'	18:Cc:30:G:C8	2.46	0.51
24:Ee:32:ILE:HD11	24:Ee:39:PRO:HA	1.93	0.51
24:Ee:61:GLN:HE21	24:Ee:72:SER:HB3	1.76	0.51
26:FF:311:PHE:HB2	26:FF:315:GLY:O	2.11	0.51
49:QQ:155:VAL:O	49:QQ:162:ARG:NH2	2.43	0.51
50:R:14:LEU:HD11	50:R:31:LYS:HB2	1.91	0.51
52:T:96:GLU:C	52:T:98:SER:H	2.18	0.51
61:c:341:A:H2'	61:c:342:C:H6	1.74	0.51
61:c:472:U:C2	61:c:473:A:C8	2.99	0.51
61:c:521:A:H2'	61:c:522:U:C6	2.45	0.51
61:c:1044:U:H2'	61:c:1045:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1462:G:N7	79:u:143:ARG:NH1	2.58	0.51
61:c:1674:C:OP1	68:j:92:ARG:NH1	2.43	0.51
70:l:74:LYS:HB2	70:l:109:PHE:CE1	2.45	0.51
78:t:18:GLU:OE1	78:t:70:SER:HB2	2.11	0.51
81:w:19:ILE:HD13	81:w:96:PRO:HD3	1.92	0.51
2:1:74:SER:OG	61:c:1534:G:OP2	2.28	0.51
11:AA:19:U:H2'	11:AA:20:A:C8	2.46	0.51
11:AA:242:C:O2'	11:AA:243:G:H8	1.94	0.51
11:AA:250:U:H2'	11:AA:251:G:C8	2.46	0.51
11:AA:640:U:H2'	11:AA:641:C:C6	2.46	0.51
11:AA:1020:G:H2'	11:AA:1021:G:C8	2.45	0.51
11:AA:1616:U:H2'	11:AA:1617:G:C8	2.45	0.51
11:AA:2344:U:H2'	11:AA:2345:A:H8	1.76	0.51
11:AA:3013:U:H2'	11:AA:3014:U:C6	2.46	0.51
11:AA:3333:G:N2	11:AA:3369:G:O2'	2.43	0.51
12:Aa:21:ASN:HD22	12:Aa:399:ARG:NH2	2.08	0.51
12:Aa:212:GLY:HA3	12:Aa:219:ALA:HA	1.92	0.51
12:Aa:650:THR:HG22	12:Aa:690:ASP:HA	1.93	0.51
12:Aa:653:VAL:HG21	12:Aa:656:LEU:HD13	1.93	0.51
14:BB:22:A:H2'	14:BB:23:A:C8	2.46	0.51
34:JJ:116:PHE:O	34:JJ:199:ASN:ND2	2.41	0.51
39:M:75:LEU:HG	39:M:114:GLY:HA2	1.92	0.51
51:S:93:PHE:HD2	51:S:94:LEU:HD22	1.74	0.51
61:c:246:G:N3	73:o:40:LEU:HG	2.25	0.51
61:c:794:U:O2'	61:c:795:U:OP1	2.21	0.51
61:c:804:A:C8	83:y:107:SER:HA	2.45	0.51
61:c:1378:U:H2'	61:c:1379:C:H6	1.76	0.51
61:c:1500:C:OP1	80:v:122:ARG:NH2	2.39	0.51
64:f:78:ASP:HB3	64:f:104:VAL:HG12	1.93	0.51
65:g:8:LYS:HG2	81:w:63:LEU:HD11	1.93	0.51
66:h:152:PRO:HD2	68:j:215:ARG:HH11	1.75	0.51
69:k:114:ARG:O	69:k:117:THR:OG1	2.26	0.51
74:p:87:ASP:N	74:p:87:ASP:OD1	2.42	0.51
79:u:99:HIS:CD2	79:u:101:LEU:HD21	2.46	0.51
11:AA:853:G:N7	60:b:2:ALA:N	2.59	0.51
11:AA:2966:G:H2'	11:AA:2967:A:C8	2.46	0.51
11:AA:2976:A:N1	91:AA:3722:HOH:O	2.33	0.51
11:AA:3386:G:H2'	11:AA:3387:U:C6	2.46	0.51
28:GG:23:PRO:HD2	28:GG:26:PHE:CD2	2.46	0.51
38:LL:16:VAL:HA	38:LL:28:VAL:O	2.11	0.51
40:MM:52:LEU:HB3	40:MM:136:PHE:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Q:32:TRP:CZ2	48:Q:53:PRO:HD2	2.46	0.51
51:S:41:ARG:HG2	51:S:56:THR:HG21	1.92	0.51
58:Z:2:ARG:HH22	61:c:1773:4AC:HM72	1.76	0.51
65:g:106:LYS:HG3	65:g:175:VAL:HG22	1.93	0.51
73:o:124:THR:HB	73:o:141:LYS:HB3	1.92	0.51
8:7:282:SER:N	61:c:1394:G:OP1	2.40	0.51
11:AA:784:A:C6	16:C:93:ILE:HG22	2.45	0.51
11:AA:1169:A:H4'	34:JJ:219:LYS:HD3	1.93	0.51
11:AA:1687:U:H1'	27:G:75:TYR:CG	2.45	0.51
11:AA:2454:G:H2'	11:AA:2455:U:H6	1.76	0.51
15:Bb:52:U:H2'	15:Bb:53:G:O4'	2.10	0.51
19:D:69:SER:HA	19:D:72:GLU:HG2	1.93	0.51
23:EE:65:ASP:HB3	23:EE:68:LYS:O	2.10	0.51
24:Ee:132:ILE:O	24:Ee:135:THR:OG1	2.24	0.51
35:K:32:SER:HA	35:K:49:PRO:HA	1.93	0.51
61:c:639:U:O2	69:k:112:ARG:NH2	2.43	0.51
61:c:950:C:O2'	74:p:104:ARG:NH2	2.44	0.51
61:c:1373:C:H2'	61:c:1374:C:C6	2.45	0.51
61:c:1739:C:H2'	61:c:1740:A:C8	2.45	0.51
64:f:188:LEU:HD13	64:f:196:VAL:HG11	1.92	0.51
3:2:62:TYR:OH	75:q:115:ILE:N	2.43	0.50
11:AA:1904:C:O2'	11:AA:1905:G:OP1	2.24	0.50
11:AA:2615:G:H2'	11:AA:2616:C:C6	2.46	0.50
12:Aa:37:ASP:OD2	12:Aa:55:ARG:HA	2.11	0.50
18:Cc:72:C:H2'	18:Cc:73:A:C8	2.44	0.50
24:Ee:99:LYS:NZ	24:Ee:101:SER:HB2	2.26	0.50
40:MM:54:SER:HB2	40:MM:135:ILE:HD11	1.92	0.50
61:c:169:A:C4	61:c:171:A:C8	2.99	0.50
61:c:1610:G:N7	77:s:14:LYS:NZ	2.43	0.50
64:f:106:ASP:C	64:f:108:ASN:H	2.18	0.50
11:AA:516:A:H2'	11:AA:517:G:H8	1.75	0.50
11:AA:1018:G:C2	11:AA:1035:G:H1'	2.46	0.50
11:AA:1020:G:H2'	11:AA:1021:G:H8	1.76	0.50
11:AA:1261:G:O2'	11:AA:1278:A:N1	2.37	0.50
11:AA:1390:A:N6	11:AA:1418:A:O2'	2.44	0.50
11:AA:1448:U:H2'	11:AA:1449:A2M:H8	1.93	0.50
11:AA:1578:C:OP1	36:KK:43:LYS:NZ	2.44	0.50
11:AA:2352:A:H5''	13:B:83:TRP:O	2.11	0.50
18:Cc:56:U:N3	18:Cc:59:A:OP2	2.44	0.50
37:L:9:LYS:HD2	37:L:83:THR:O	2.11	0.50
45:P:10:ARG:HH11	45:P:12:TYR:HH	1.56	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:304:U:H2'	61:c:305:C:C6	2.46	0.50
61:c:607:G:H5'	61:c:613:G:N2	2.26	0.50
63:e:78:ASP:OD1	63:e:78:ASP:N	2.43	0.50
65:g:142:LEU:HD12	65:g:148:LYS:HG3	1.94	0.50
67:i:99:MET:O	67:i:103:ASN:HB2	2.10	0.50
3:2:4:LYS:HD3	3:2:5:ARG:HH12	1.76	0.50
6:5:31:ILE:HD12	81:w:65:ILE:HD11	1.94	0.50
8:7:159:ASN:HD21	8:7:163:ASP:HA	1.76	0.50
11:AA:45:A:H5''	88:AA:3594:SPD:H71	1.93	0.50
11:AA:166:C:H2'	11:AA:167:U:H6	1.74	0.50
11:AA:708:G:N2	11:AA:711:A:OP2	2.38	0.50
11:AA:2369:G:H2'	11:AA:2370:G:C8	2.46	0.50
11:AA:2477:G:N2	11:AA:2478:C:O4'	2.44	0.50
12:Aa:70:ILE:HG22	12:Aa:71:LYS:HZ1	1.76	0.50
17:CC:110:C:O2'	17:CC:112:U:OP2	2.26	0.50
18:Cc:36:A:H2'	18:Cc:37:U:C6	2.47	0.50
35:K:51:ARG:HD2	35:K:115:ARG:NH1	2.26	0.50
39:M:79:TRP:CE3	39:M:82:ILE:HD12	2.47	0.50
39:M:134:ALA:O	39:M:138:ILE:HG12	2.11	0.50
61:c:329:G:H2'	61:c:330:G:C8	2.45	0.50
61:c:897:C:O2'	61:c:914:G:N2	2.44	0.50
61:c:1374:C:H2'	61:c:1375:A:H8	1.77	0.50
61:c:1546:G:N7	79:u:134:ARG:NH2	2.58	0.50
61:c:1610:G:OP1	67:i:72:HIS:NE2	2.39	0.50
61:c:1770:U:H2'	61:c:1771:U:C6	2.46	0.50
62:d:157:ASP:OD1	82:x:60:ARG:NE	2.34	0.50
63:e:70:LEU:HB2	63:e:82:ARG:O	2.11	0.50
63:e:120:LEU:HD21	63:e:122:GLU:HG3	1.94	0.50
64:f:229:LEU:O	82:x:16:LYS:NZ	2.40	0.50
77:s:79:TYR:HA	77:s:82:ARG:HG2	1.94	0.50
78:t:23:LYS:HD2	78:t:34:LEU:HD11	1.93	0.50
10:A:194:LEU:HD22	10:A:199:TYR:HB2	1.93	0.50
11:AA:39:A:C8	91:AA:3800:HOH:O	2.55	0.50
11:AA:760:G:H1'	11:AA:771:A:N6	2.26	0.50
11:AA:871:U:H2'	11:AA:872:U:C6	2.46	0.50
11:AA:1460:A:H2'	11:AA:1461:A:C8	2.46	0.50
12:Aa:656:LEU:HD12	12:Aa:659:ILE:HD11	1.93	0.50
25:F:133:ALA:HB3	34:JJ:121:LYS:HB2	1.94	0.50
39:M:99:ALA:N	44:OO:157:ARG:O	2.44	0.50
61:c:1241:G:OP1	76:r:77:ARG:NH2	2.36	0.50
61:c:1482:C:OP2	61:c:1521:G:N2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:g:167:PHE:CZ	65:g:192:PRO:HB3	2.46	0.50
66:h:212:ASP:OD1	66:h:216:ASN:N	2.43	0.50
66:h:228:ILE:HD12	66:h:238:LEU:HD21	1.93	0.50
69:k:34:LEU:HB3	69:k:38:LEU:HD23	1.93	0.50
69:k:77:LEU:HD11	69:k:92:PHE:CZ	2.46	0.50
72:n:44:LYS:NZ	72:n:47:GLN:OE1	2.41	0.50
76:r:22:LEU:HA	76:r:25:LEU:HB2	1.92	0.50
84:z:92:CYS:HG	84:z:136:TRP:CD1	2.29	0.50
4:3:56:CYS:SG	4:3:63:LEU:HD11	2.52	0.50
11:AA:911:C:H42	23:EE:3:ARG:HD3	1.77	0.50
11:AA:1246:G:O2'	11:AA:1264:G:OP2	2.26	0.50
11:AA:1460:A:H2'	11:AA:1461:A:H8	1.76	0.50
11:AA:2655:U:H1'	11:AA:2656:A:C2	2.47	0.50
18:Cc:44:A:H2'	18:Cc:45:A:C8	2.46	0.50
18:Cc:54:G:H2'	18:Cc:55:U:C6	2.46	0.50
20:DD:129:GLU:HG2	20:DD:130:PRO:HD2	1.93	0.50
51:S:107:GLU:HA	51:S:110:GLU:HG2	1.94	0.50
56:X:44:TRP:CH2	56:X:45:ARG:HD3	2.46	0.50
61:c:209:U:H2'	61:c:210:A:C8	2.45	0.50
61:c:1483:A:OP2	61:c:1521:G:N2	2.42	0.50
66:h:23:LEU:HD13	71:m:3:ARG:HH12	1.76	0.50
78:t:21:TYR:HD2	78:t:73:LEU:HD13	1.77	0.50
79:u:106:GLU:HA	79:u:109:LEU:HD12	1.93	0.50
11:AA:37:U:O4	49:QQ:83:LYS:NZ	2.45	0.50
11:AA:1230:G:H4'	20:DD:34:SER:HA	1.94	0.50
11:AA:1493:G:O6	56:X:2:ALA:N	2.44	0.50
11:AA:1911:A:H2	11:AA:2122:G:C8	2.30	0.50
11:AA:2483:G:N1	11:AA:2486:A:H2'	2.27	0.50
12:Aa:125:ALA:O	12:Aa:153:PRO:HA	2.12	0.50
12:Aa:143:LEU:HD21	12:Aa:189:VAL:HG12	1.93	0.50
14:BB:8:G:O6	30:HH:21:ARG:NH2	2.44	0.50
15:Bb:37:YYG:H142	21:Dd:22:U:O4	2.12	0.50
20:DD:4:ILE:HG13	20:DD:5:ARG:N	2.26	0.50
20:DD:75:LYS:HE2	20:DD:196:VAL:HB	1.92	0.50
21:Dd:24:U:H5'	84:z:63:GLN:HE21	1.77	0.50
24:Ee:114:ARG:HG2	24:Ee:125:LEU:HD21	1.94	0.50
45:P:9:THR:OG1	45:P:112:ASP:O	2.27	0.50
51:S:8:ARG:HD2	51:S:32:ALA:O	2.12	0.50
61:c:127:G:O6	68:j:199:GLN:NE2	2.44	0.50
61:c:284:G:N7	68:j:188:ARG:NE	2.56	0.50
61:c:888:U:H2'	61:c:889:U:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:891:A:H2'	61:c:892:A:C8	2.46	0.50
61:c:1592:A:H2'	61:c:1593:A:C8	2.46	0.50
69:k:162:ILE:HB	69:k:169:PHE:HE2	1.76	0.50
77:s:129:PHE:CE1	81:w:78:THR:HA	2.47	0.50
84:z:54:LEU:HD11	84:z:75:GLN:HB2	1.93	0.50
1:0:61:ARG:NH1	61:c:530:C:O2	2.32	0.50
11:AA:1011:A:H2'	11:AA:1012:G:H8	1.75	0.50
11:AA:1525:G:H5'	11:AA:1830:G:OP2	2.11	0.50
11:AA:1560:G:H2'	11:AA:1561:G:C8	2.47	0.50
11:AA:2154:U:H2'	11:AA:2155:G:C8	2.47	0.50
11:AA:2413:A:H2'	11:AA:2414:G:H8	1.77	0.50
11:AA:3160:U:H2'	11:AA:3161:C:C6	2.46	0.50
20:DD:60:ARG:HD2	20:DD:64:ARG:HH12	1.77	0.50
20:DD:110:ARG:HB3	20:DD:181:PHE:CD2	2.46	0.50
46:PP:113:THR:OG1	46:PP:116:GLU:HG3	2.11	0.50
61:c:947:U:H2'	61:c:948:G:C8	2.47	0.50
61:c:1175:U:H2'	61:c:1176:G:H8	1.76	0.50
61:c:1592:A:H2'	61:c:1593:A:H8	1.76	0.50
66:h:37:LYS:HB3	66:h:40:GLU:HG2	1.94	0.50
66:h:87:MET:N	66:h:101:LEU:O	2.34	0.50
68:j:159:ARG:HG2	68:j:172:ALA:HB2	1.93	0.50
4:3:7:LEU:HD12	83:y:62:VAL:HG13	1.94	0.50
6:5:20:GLN:HB2	6:5:25:SER:HA	1.94	0.50
11:AA:1144:U:OP1	11:AA:1367:G:O2'	2.26	0.50
11:AA:1255:C:H2'	11:AA:1256:G:H8	1.77	0.50
11:AA:1553:U:H4'	11:AA:1554:U:H5'	1.94	0.50
11:AA:2144:A:H1'	11:AA:2281:A2M:N6	2.26	0.50
11:AA:2551:U:O2	23:EE:40:TYR:OH	2.23	0.50
11:AA:2713:U:OP1	59:a:9:LYS:HD2	2.12	0.50
11:AA:3164:C:H2'	11:AA:3165:A:C8	2.47	0.50
61:c:384:G:H2'	61:c:385:A:C8	2.47	0.50
61:c:981:U:O2'	61:c:1123:C:N3	2.38	0.50
61:c:1114:G:O2'	61:c:1130:G:O6	2.18	0.50
61:c:1579:U:H2'	61:c:1580:C:C6	2.47	0.50
66:h:43:PRO:HB2	66:h:45:ILE:HG22	1.93	0.50
66:h:122:LYS:NZ	66:h:143:ASP:OD2	2.42	0.50
70:l:159:GLN:HB3	70:l:164:ARG:O	2.12	0.50
76:r:41:VAL:HG12	76:r:84:ILE:HG12	1.92	0.50
76:r:110:GLU:OE1	79:u:115:ARG:HG3	2.12	0.50
8:7:84:SER:HB3	8:7:88:THR:H	1.76	0.50
11:AA:56:G:OP2	91:AA:3645:HOH:O	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1110:U:H2'	11:AA:1111:U:C6	2.47	0.50
11:AA:1666:G:H2'	11:AA:1667:A:H8	1.77	0.50
11:AA:2423:U:H2'	11:AA:2424:A:C8	2.46	0.50
11:AA:2455:U:N3	11:AA:2483:G:H4'	2.23	0.50
11:AA:2714:G:H4'	11:AA:2715:A:H5''	1.94	0.50
11:AA:3308:C:N3	13:B:69:ARG:NH2	2.51	0.50
12:Aa:12:LEU:HD13	12:Aa:78:TYR:CE1	2.47	0.50
13:B:36:ILE:HD13	13:B:48:LEU:HD21	1.93	0.50
24:Ee:142:ARG:HD2	24:Ee:145:PHE:HA	1.94	0.50
61:c:108:A:H2'	61:c:109:G:C8	2.47	0.50
61:c:1617:U:H2'	61:c:1618:C:C6	2.47	0.50
61:c:1624:C:H2'	61:c:1625:C:H6	1.77	0.50
62:d:4:PRO:HD2	62:d:7:PHE:CD1	2.47	0.50
68:j:139:ASN:O	68:j:139:ASN:ND2	2.42	0.50
71:m:175:ARG:HB3	71:m:179:ARG:NH1	2.26	0.50
80:v:73:VAL:HG22	80:v:105:LEU:HD12	1.94	0.50
8:7:72:THR:HG21	8:7:114:ASP:HA	1.94	0.49
11:AA:2367:A:H2'	11:AA:2368:A:C8	2.47	0.49
11:AA:2611:U:H2'	11:AA:2612:U:C6	2.47	0.49
11:AA:2633:U:OP1	91:AA:3641:HOH:O	2.19	0.49
11:AA:2812:C:H2'	11:AA:2813:A:H8	1.76	0.49
11:AA:3065:G:H2'	11:AA:3066:U:C6	2.47	0.49
18:Cc:57:C:N3	18:Cc:58:A:N6	2.60	0.49
28:GG:125:ALA:O	28:GG:129:THR:HG23	2.12	0.49
42:NN:53:THR:OG1	42:NN:61:ARG:N	2.43	0.49
49:QQ:6:TYR:HE1	53:U:43:LEU:HD23	1.77	0.49
61:c:571:G:H5''	84:z:114:LYS:HE3	1.94	0.49
61:c:782:U:H4'	61:c:783:G:O5'	2.12	0.49
61:c:894:U:H2'	61:c:895:G:C8	2.47	0.49
66:h:18:TRP:O	66:h:51:ARG:NH1	2.42	0.49
66:h:47:PHE:HE2	66:h:90:ILE:HD13	1.77	0.49
76:r:125:PRO:HG3	79:u:129:TRP:CH2	2.47	0.49
79:u:65:GLU:HG2	79:u:68:ARG:NH2	2.26	0.49
6:5:21:CYS:HB3	6:5:26:SER:H	1.77	0.49
11:AA:93:C:OP2	11:AA:2764:C:O2'	2.24	0.49
11:AA:514:G:N3	28:GG:341:SER:OG	2.40	0.49
11:AA:643:U:O2'	11:AA:1153:A:N1	2.42	0.49
11:AA:1604:G:H4'	11:AA:1835:A:H4'	1.94	0.49
11:AA:1899:G:O2'	11:AA:2334:U:O4	2.27	0.49
11:AA:2901:G:N2	11:AA:3030:G:O2'	2.45	0.49
11:AA:3161:C:H2'	11:AA:3162:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Bb:8:U:O2	15:Bb:14:A:N7	2.45	0.49
16:C:178:ARG:HD3	39:M:50:PRO:HG2	1.94	0.49
26:FF:152:LYS:NZ	26:FF:189:SER:OG	2.39	0.49
28:GG:144:LYS:HD2	28:GG:144:LYS:O	2.11	0.49
39:M:79:TRP:O	39:M:87:ARG:NH1	2.36	0.49
64:f:89:GLN:OE1	64:f:93:GLY:HA3	2.12	0.49
64:f:149:GLY:HA2	82:x:3:ASN:HB2	1.93	0.49
78:t:21:TYR:CD2	78:t:73:LEU:HD13	2.48	0.49
2:l:48:ASP:O	2:l:52:LYS:HG3	2.13	0.49
5:4:30:VAL:HG11	5:4:54:LEU:HD12	1.94	0.49
11:AA:129:U:H2'	11:AA:130:A:H8	1.77	0.49
11:AA:1864:A:H5'	19:D:88:ARG:HG2	1.93	0.49
11:AA:2429:G:H2'	11:AA:2430:A:H8	1.78	0.49
12:Aa:70:ILE:HG22	12:Aa:71:LYS:NZ	2.27	0.49
36:KK:160:ILE:HG13	36:KK:164:VAL:HG13	1.95	0.49
45:P:20:LEU:HD11	45:P:32:ALA:HB2	1.94	0.49
49:QQ:64:VAL:CG1	49:QQ:102:ALA:HB1	2.41	0.49
50:R:19:SER:OG	50:R:20:LYS:N	2.45	0.49
61:c:319:U:OP1	70:l:11:ARG:NH1	2.45	0.49
61:c:509:G:H2'	61:c:510:G:C8	2.47	0.49
61:c:1086:A:H2'	61:c:1087:A:C8	2.47	0.49
62:d:12:GLU:O	62:d:15:GLN:HG3	2.12	0.49
62:d:54:TRP:HH2	62:d:179:ARG:HH22	1.60	0.49
64:f:186:LYS:HE2	64:f:190:LEU:HD21	1.94	0.49
79:u:99:HIS:O	79:u:101:LEU:HG	2.13	0.49
80:v:6:VAL:HB	80:v:66:TYR:CE1	2.48	0.49
10:A:44:SER:OG	11:AA:1315:U:OP2	2.25	0.49
11:AA:1263:A:N6	24:Ee:138:SER:HB3	2.27	0.49
11:AA:1695:U:O2'	11:AA:1749:A:N1	2.35	0.49
12:Aa:433:ARG:HG2	12:Aa:457:VAL:HB	1.95	0.49
13:B:107:LEU:HB3	13:B:152:GLU:OE2	2.11	0.49
16:C:152:HIS:ND1	16:C:162:ALA:O	2.32	0.49
20:DD:178:ILE:HG22	20:DD:180:PRO:HD3	1.95	0.49
32:II:4:GLN:HB3	48:Q:74:PHE:CE1	2.47	0.49
42:NN:23:VAL:HB	42:NN:30:LEU:HD13	1.95	0.49
54:V:63:ARG:HH21	54:V:65:ARG:HD3	1.78	0.49
61:c:329:G:H5'	70:l:99:ALA:HB3	1.93	0.49
65:g:132:LYS:HG2	65:g:156:PHE:CZ	2.47	0.49
69:k:14:THR:HG22	69:k:16:LEU:H	1.78	0.49
74:p:54:LEU:HB3	74:p:60:VAL:CG1	2.42	0.49
77:s:114:ARG:O	77:s:115:THR:OG1	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:118:VAL:CG1	22:E:163:PHE:HB3	2.41	0.49
11:AA:528:U:H2'	11:AA:529:A:H8	1.78	0.49
11:AA:585:A:H2'	11:AA:586:C:C6	2.47	0.49
11:AA:1188:U:OP1	11:AA:1210:U:O2'	2.18	0.49
11:AA:1257:C:H5''	24:Ee:123:ARG:HD2	1.95	0.49
11:AA:2631:U:OP1	11:AA:2757:U:O2'	2.24	0.49
35:K:43:TYR:O	35:K:124:GLY:HA2	2.13	0.49
36:KK:144:GLU:OE2	49:QQ:6:TYR:OH	2.27	0.49
49:QQ:70:ASN:HB3	49:QQ:92:LEU:O	2.12	0.49
61:c:323:A:OP2	70:l:10:LYS:HD2	2.12	0.49
61:c:1181:U:O2'	76:r:126:VAL:HA	2.12	0.49
62:d:135:GLU:O	62:d:139:VAL:HG22	2.13	0.49
78:t:84:TYR:CD2	78:t:85:VAL:HG12	2.48	0.49
79:u:120:ARG:HD2	79:u:125:ILE:HD11	1.94	0.49
1:0:18:LEU:HD23	1:0:20:ARG:NE	2.27	0.49
1:0:34:ASN:O	61:c:521:A:O2'	2.31	0.49
3:2:49:ALA:HB2	75:q:103:ARG:NH1	2.28	0.49
11:AA:297:G:O6	49:QQ:12:ARG:NH1	2.26	0.49
11:AA:1470:U:H2'	11:AA:1471:U:C6	2.48	0.49
11:AA:1524:A:P	91:AA:3638:HOH:O	2.70	0.49
11:AA:1799:A:H2'	11:AA:1800:A:H8	1.75	0.49
11:AA:3332:U:OP1	31:I:35:LYS:HD3	2.12	0.49
12:Aa:89:ILE:HG12	12:Aa:340:LEU:HD22	1.93	0.49
18:Cc:29:C:H2'	18:Cc:30:G:H8	1.78	0.49
20:DD:35:SER:O	20:DD:39:HIS:ND1	2.29	0.49
28:GG:193:LYS:HA	28:GG:198:ARG:HA	1.93	0.49
38:LL:173:ARG:NH1	57:Y:125:LYS:O	2.44	0.49
46:PP:55:ARG:NH1	46:PP:76:ALA:O	2.38	0.49
61:c:912:U:O2	61:c:914:G:N1	2.46	0.49
61:c:1195:C:N4	77:s:143:ARG:O	2.32	0.49
61:c:1535:U:O2'	61:c:1536:G:H5''	2.12	0.49
61:c:1716:C:O2'	61:c:1717:G:O5'	2.18	0.49
61:c:1776:A:H2'	61:c:1777:G:H8	1.77	0.49
63:e:125:VAL:O	63:e:136:ARG:HA	2.12	0.49
65:g:72:LEU:HD22	72:n:65:TYR:HD2	1.78	0.49
67:i:42:LEU:HB2	67:i:46:TRP:O	2.12	0.49
68:j:102:VAL:HG13	68:j:106:LEU:HG	1.95	0.49
74:p:49:GLN:HA	74:p:52:VAL:HG12	1.94	0.49
84:z:60:GLU:HG3	84:z:68:ILE:HG22	1.94	0.49
11:AA:13:A:H4'	33:J:39:LYS:HD2	1.94	0.49
11:AA:501:A:H2'	11:AA:502:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:761:A:H2'	11:AA:762:U:H6	1.77	0.49
11:AA:1023:C:H3'	11:AA:1024:G:H8	1.77	0.49
11:AA:1334:U:H5''	34:JJ:206:LYS:HB3	1.94	0.49
11:AA:1666:G:H2'	11:AA:1667:A:C8	2.48	0.49
11:AA:2427:U:H2'	11:AA:2428:U:C6	2.47	0.49
12:Aa:155:VAL:HB	12:Aa:209:VAL:HG22	1.94	0.49
12:Aa:377:ASP:N	12:Aa:377:ASP:OD1	2.44	0.49
29:H:90:GLY:O	31:I:16:GLY:HA2	2.13	0.49
40:MM:193:ASP:HB2	40:MM:198:LYS:HD2	1.94	0.49
56:X:5:LYS:HE2	56:X:13:MET:HE1	1.95	0.49
61:c:30:G:H2'	61:c:31:C:C6	2.47	0.49
61:c:86:A:H2'	61:c:87:C:H6	1.76	0.49
61:c:126:A:N1	61:c:263:C:O2'	2.44	0.49
61:c:405:C:N4	91:c:2048:HOH:O	2.46	0.49
61:c:1160:A:H2'	61:c:1161:C:C6	2.48	0.49
61:c:1575:G7M:H2'	61:c:1576:A:C8	2.46	0.49
88:c:1937:SPD:H21	74:p:127:ARG:HD2	1.94	0.49
84:z:69:ARG:HB3	84:z:86:PHE:HE1	1.78	0.49
11:AA:1688:U:H2'	11:AA:1689:U:C6	2.48	0.49
11:AA:2578:U:H2'	11:AA:2579:G:O4'	2.12	0.49
14:BB:16:U:H2'	14:BB:17:A:C8	2.47	0.49
14:BB:60:G:H2'	14:BB:61:G:C8	2.48	0.49
15:Bb:27:C:H2'	15:Bb:28:C:C6	2.47	0.49
17:CC:73:U:OP1	35:K:24:SER:OG	2.27	0.49
18:Cc:43:G:H2'	18:Cc:44:A:H8	1.78	0.49
26:FF:152:LYS:HE2	26:FF:192:VAL:HB	1.94	0.49
42:NN:99:THR:O	42:NN:154:THR:OG1	2.27	0.49
61:c:468:A:N1	61:c:594:A:O2'	2.43	0.49
71:m:64:GLU:HG3	71:m:65:LYS:HG3	1.94	0.49
71:m:168:ARG:HD2	71:m:169:PRO:HD2	1.95	0.49
74:p:42:ARG:HG2	74:p:80:LEU:HD11	1.95	0.49
78:t:71:PHE:O	78:t:72:LYS:C	2.55	0.49
8:7:67:ILE:HB	8:7:85:TRP:HB2	1.95	0.49
11:AA:516:A:H5''	28:GG:344:ALA:HB2	1.94	0.49
11:AA:1120:A:H2'	11:AA:1121:U:C6	2.48	0.49
11:AA:2254:U:H2'	11:AA:2261:G:N2	2.28	0.49
12:Aa:41:GLN:HG3	12:Aa:48:ALA:HA	1.93	0.49
12:Aa:119:LEU:O	12:Aa:151:ILE:HD11	2.13	0.49
12:Aa:311:GLU:HA	12:Aa:314:LEU:HD23	1.95	0.49
12:Aa:619:MET:HB3	12:Aa:625:TRP:HD1	1.78	0.49
34:JJ:233:GLU:HG2	34:JJ:234:GLU:H	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LL:103:ILE:HD11	38:LL:134:ILE:HG21	1.95	0.49
61:c:333:A:OP2	70:l:54:LYS:NZ	2.38	0.49
61:c:1357:A:N6	61:c:1368:G:C6	2.81	0.49
66:h:103:TYR:CE2	66:h:184:THR:HG22	2.46	0.49
78:t:70:SER:HA	78:t:74:GLN:NE2	2.28	0.49
82:x:77:GLY:O	82:x:79:LEU:N	2.46	0.49
11:AA:191:U:H2'	11:AA:192:C:C6	2.47	0.49
11:AA:248:U:H3'	11:AA:249:U:H5'	1.95	0.49
11:AA:2416:U:H2'	11:AA:2417:OMU:C6	2.43	0.49
11:AA:2881:C:H2'	11:AA:2882:U:H6	1.78	0.49
14:BB:3:U:O2'	14:BB:25:G:N3	2.42	0.49
25:F:136:ARG:HB2	34:JJ:80:GLN:HG3	1.94	0.49
44:OO:11:LYS:O	44:OO:13:HIS:ND1	2.42	0.49
61:c:1566:U:H5''	79:u:39:GLY:H	1.78	0.49
66:h:103:TYR:CD1	66:h:109:PHE:HE1	2.30	0.49
70:l:36:THR:HG22	70:l:96:LEU:HB2	1.95	0.49
71:m:80:LEU:HB3	71:m:86:LEU:HB2	1.95	0.49
8:7:64:HIS:HE1	8:7:84:SER:HB2	1.77	0.48
11:AA:527:A:H2'	11:AA:528:U:C6	2.48	0.48
11:AA:802:C:H2'	11:AA:803:C:H6	1.78	0.48
11:AA:1257:C:O2	20:DD:39:HIS:NE2	2.46	0.48
11:AA:1722:U:O4'	19:D:96:ILE:HG12	2.13	0.48
11:AA:1813:A:H2'	11:AA:1814:A:C8	2.47	0.48
11:AA:2668:U:H2'	11:AA:2669:G:C8	2.48	0.48
12:Aa:600:ALA:HA	12:Aa:605:ILE:HD12	1.95	0.48
24:Ee:147:ASN:O	24:Ee:151:ILE:HD12	2.13	0.48
26:FF:212:ASN:O	26:FF:281:LYS:NZ	2.43	0.48
28:GG:315:LYS:HB2	28:GG:323:VAL:HG21	1.95	0.48
37:L:11:ALA:HA	37:L:83:THR:HG23	1.95	0.48
61:c:1542:G:N2	61:c:1568:C:H1'	2.28	0.48
69:k:7:LYS:HD2	69:k:8:ILE:HG13	1.94	0.48
70:l:6:ASP:HB3	70:l:28:GLU:CD	2.38	0.48
73:o:109:VAL:HG21	73:o:125:VAL:HG11	1.95	0.48
74:p:63:ALA:HB3	74:p:71:ILE:HD11	1.94	0.48
76:r:98:ASN:ND2	76:r:121:ILE:O	2.34	0.48
77:s:46:PHE:O	77:s:50:GLU:HG3	2.12	0.48
83:y:82:LYS:O	83:y:86:ILE:HG13	2.13	0.48
84:z:137:LYS:HB3	84:z:139:LYS:HG3	1.95	0.48
11:AA:156:G:O6	91:AA:3646:HOH:O	2.20	0.48
11:AA:1120:A:H2'	11:AA:1121:U:H6	1.78	0.48
11:AA:1565:G:H3'	11:AA:1566:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2218:G:H2'	11:AA:2219:A:H8	1.78	0.48
11:AA:2883:U:H2'	11:AA:2884:C:C6	2.47	0.48
11:AA:2981:U:OP1	91:AA:3644:HOH:O	2.19	0.48
11:AA:3040:A:H5''	29:H:12:ARG:HB2	1.95	0.48
12:Aa:169:VAL:HB	12:Aa:173:ASP:HB3	1.94	0.48
14:BB:81:U:H2'	14:BB:82:G:H8	1.78	0.48
17:CC:126:A:OP2	17:CC:126:A:H8	1.96	0.48
20:DD:64:ARG:NH1	20:DD:77:LEU:HG	2.28	0.48
25:F:17:ARG:HG3	25:F:22:HIS:HA	1.95	0.48
25:F:68:THR:O	30:HH:41:LYS:HB2	2.13	0.48
30:HH:169:GLY:HA2	30:HH:248:ARG:HH12	1.78	0.48
59:a:61:LYS:NZ	59:a:63:LYS:O	2.29	0.48
59:a:71:ARG:HD3	59:a:80:ARG:HD3	1.94	0.48
61:c:153:G:N2	68:j:56:ASN:OD1	2.42	0.48
61:c:768:C:C2	71:m:143:ILE:HG21	2.48	0.48
61:c:1160:A:H2'	61:c:1161:C:H6	1.78	0.48
63:e:30:PHE:CD2	63:e:94:LYS:HA	2.48	0.48
1:0:16:PRO:HA	1:0:19:ALA:HA	1.95	0.48
8:7:152:SER:H	8:7:173:GLY:HA2	1.77	0.48
11:AA:186:U:OP1	35:K:122:LYS:NZ	2.32	0.48
11:AA:247:C:H2'	11:AA:248:U:O4'	2.13	0.48
11:AA:249:U:H4'	11:AA:250:U:O4'	2.12	0.48
11:AA:592:A:H5'	32:II:17:ALA:O	2.13	0.48
12:Aa:307:LEU:HA	12:Aa:311:GLU:OE1	2.14	0.48
13:B:108:ASP:N	13:B:152:GLU:OE2	2.46	0.48
17:CC:67:U:H5''	54:V:85:LYS:H	1.78	0.48
61:c:472:U:H5''	71:m:11:THR:HG23	1.95	0.48
61:c:514:G:OP1	71:m:132:ARG:NH1	2.45	0.48
61:c:575:C:H4'	61:c:582:U:C4	2.48	0.48
61:c:759:U:H2'	61:c:760:A:H8	1.78	0.48
61:c:1221:A:OP1	72:n:52:LYS:NZ	2.47	0.48
61:c:1357:A:H2'	61:c:1358:G:C8	2.48	0.48
62:d:142:PRO:HG3	82:x:32:VAL:HG13	1.94	0.48
77:s:28:LEU:HD11	77:s:30:LYS:HE3	1.95	0.48
80:v:81:GLY:HA3	80:v:94:ILE:O	2.13	0.48
2:1:40:VAL:HG13	2:1:41:ILE:N	2.28	0.48
2:1:41:ILE:HD13	79:u:60:GLU:HG2	1.96	0.48
2:1:52:LYS:HD2	2:1:52:LYS:O	2.13	0.48
3:2:45:VAL:HG11	3:2:53:LEU:HG	1.95	0.48
8:7:200:ASN:H	8:7:215:GLY:HA2	1.79	0.48
10:A:8:VAL:HA	10:A:34:VAL:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:408:A:N3	11:AA:655:C:O2'	2.43	0.48
11:AA:1115:G:OP1	91:AA:3639:HOH:O	2.18	0.48
11:AA:1709:C:H2'	11:AA:1710:C:H6	1.79	0.48
11:AA:2426:U:H3	11:AA:2603:G:H1	1.60	0.48
15:Bb:40:C:H2'	15:Bb:41:U:C6	2.48	0.48
27:G:77:LYS:HA	27:G:95:PHE:CD2	2.48	0.48
33:J:57:LEU:HD12	33:J:61:LYS:HG3	1.95	0.48
42:NN:54:VAL:HG23	42:NN:55:ARG:N	2.28	0.48
48:Q:3:SER:HB3	48:Q:71:HIS:CE1	2.48	0.48
61:c:176:C:H2'	61:c:177:U:C6	2.48	0.48
61:c:1318:G:H2'	61:c:1319:A:C8	2.47	0.48
61:c:1736:G:H2'	61:c:1737:G:H8	1.79	0.48
62:d:139:VAL:HG23	62:d:141:ILE:HG12	1.95	0.48
62:d:148:ASP:OD1	62:d:149:LEU:N	2.45	0.48
71:m:62:ARG:O	71:m:69:ARG:NH1	2.46	0.48
71:m:113:VAL:HG21	71:m:134:ILE:HD13	1.95	0.48
78:t:103:ASP:OD1	78:t:106:THR:N	2.35	0.48
84:z:92:CYS:HA	84:z:95:PHE:CD2	2.49	0.48
5:4:42:ARG:NH1	5:4:58:GLU:OE2	2.46	0.48
8:7:104:VAL:HG12	8:7:105:GLY:H	1.78	0.48
8:7:104:VAL:HG12	8:7:105:GLY:N	2.28	0.48
8:7:178:VAL:HG11	8:7:194:GLY:HA2	1.94	0.48
8:7:212:ALA:HA	8:7:221:MET:O	2.12	0.48
11:AA:701:G:H2'	11:AA:702:C:C6	2.49	0.48
11:AA:959:C:H5''	11:AA:960:U:C6	2.48	0.48
11:AA:1176:C:OP2	91:AA:3647:HOH:O	2.20	0.48
11:AA:2947:G:N3	26:FF:250:ALA:HB1	2.28	0.48
11:AA:3043:C:H5'	26:FF:9:PRO:HG2	1.96	0.48
11:AA:3095:U:H2'	11:AA:3096:C:H6	1.78	0.48
11:AA:3163:A:H2'	11:AA:3164:C:C6	2.48	0.48
12:Aa:378:LEU:O	12:Aa:470:THR:HA	2.14	0.48
24:Ee:133:LEU:O	24:Ee:137:GLN:HG3	2.12	0.48
51:S:67:LYS:HD2	51:S:71:THR:HG21	1.95	0.48
53:U:45:ARG:NH1	53:U:93:ILE:HD11	2.28	0.48
61:c:886:U:OP2	63:e:216:LYS:NZ	2.46	0.48
61:c:906:A:H2'	61:c:907:A:C8	2.48	0.48
66:h:173:ILE:HD11	66:h:235:TYR:HD2	1.77	0.48
72:n:75:TYR:HD1	72:n:76:LEU:HD12	1.78	0.48
80:v:25:GLN:O	80:v:27:LYS:NZ	2.45	0.48
3:2:7:SER:OG	3:2:8:ASN:N	2.46	0.48
11:AA:210:U:C2	11:AA:230:U:H4'	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:370:U:H4'	11:AA:404:G:H5'	1.95	0.48
11:AA:542:G:H1	11:AA:549:U:H3	1.62	0.48
11:AA:673:U:H2'	11:AA:674:G:H8	1.77	0.48
11:AA:797:U:O2	44:OO:12:ASN:ND2	2.46	0.48
11:AA:1033:U:H2'	11:AA:1034:U:C6	2.48	0.48
11:AA:1066:G:H2'	11:AA:1067:U:H6	1.79	0.48
11:AA:1619:A:H2'	11:AA:1620:U:O4'	2.13	0.48
11:AA:1900:A:H4'	11:AA:1901:A:O5'	2.14	0.48
12:Aa:249:PHE:HB3	12:Aa:269:LEU:HD11	1.95	0.48
19:D:101:VAL:HG12	19:D:104:ARG:HH12	1.79	0.48
61:c:420:A2M:O5'	61:c:420:A2M:H8	2.13	0.48
61:c:743:U:H5''	69:k:108:GLN:CD	2.38	0.48
61:c:1317:C:H2'	61:c:1318:G:O4'	2.13	0.48
62:d:107:PHE:HB2	62:d:135:GLU:HB3	1.95	0.48
65:g:116:ARG:HG3	65:g:152:PHE:HE2	1.77	0.48
65:g:135:GLU:HB2	65:g:157:LEU:CD1	2.44	0.48
66:h:87:MET:SD	66:h:123:LEU:HB3	2.54	0.48
70:l:57:ALA:HB2	70:l:177:GLY:HA2	1.96	0.48
70:l:189:LEU:O	70:l:193:LEU:HD23	2.13	0.48
79:u:94:ASP:OD2	79:u:98:TYR:OH	2.25	0.48
1:O:20:ARG:HH22	1:O:22:GLN:HB3	1.77	0.48
8:7:271:VAL:HG22	8:7:272:ASP:N	2.29	0.48
11:AA:1047:A:N3	11:AA:2633:U:O2'	2.47	0.48
11:AA:1477:A:OP1	11:AA:3075:G:O2'	2.22	0.48
11:AA:1722:U:OP1	19:D:100:ARG:NE	2.34	0.48
12:Aa:143:LEU:HD22	12:Aa:188:ILE:HG22	1.95	0.48
24:Ee:130:LYS:HA	24:Ee:152:ILE:HG12	1.95	0.48
26:FF:291:GLU:CD	26:FF:292:ALA:H	2.22	0.48
32:II:170:LYS:HB3	32:II:172:HIS:CE1	2.48	0.48
34:JJ:239:LEU:O	34:JJ:242:SER:OG	2.24	0.48
37:L:52:LYS:O	37:L:65:ARG:NH2	2.36	0.48
38:LL:115:ARG:HG2	38:LL:123:ILE:HG22	1.96	0.48
40:MM:49:CYS:HB3	40:MM:168:SER:HB3	1.94	0.48
42:NN:109:HIS:O	42:NN:112:LEU:HD23	2.14	0.48
42:NN:132:ASN:HA	42:NN:154:THR:HG21	1.94	0.48
46:PP:89:ALA:HB1	46:PP:92:GLU:OE2	2.13	0.48
58:Z:2:ARG:HH22	61:c:1773:4AC:CM7	2.27	0.48
61:c:1673:G:C6	61:c:1728:A:N1	2.81	0.48
63:e:124:ASN:HA	63:e:137:ILE:O	2.14	0.48
65:g:75:LYS:HE2	72:n:14:TYR:OH	2.13	0.48
79:u:102:ALA:HB3	79:u:104:ASN:CG	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:10:ARG:HH12	61:c:1790:A:P	2.37	0.48
11:AA:728:G:H5'	16:C:43:PRO:HB2	1.95	0.48
11:AA:1914:G:O2'	19:D:82:LYS:O	2.28	0.48
11:AA:2903:A:H2'	11:AA:2904:U:O4'	2.14	0.48
11:AA:3359:A:H2'	11:AA:3360:C:C6	2.49	0.48
12:Aa:17:THR:OG1	12:Aa:92:LYS:O	2.27	0.48
12:Aa:288:ILE:HG23	12:Aa:319:LEU:HD23	1.95	0.48
20:DD:195:GLN:O	20:DD:195:GLN:HG2	2.14	0.48
28:GG:138:ARG:O	28:GG:138:ARG:HD3	2.14	0.48
29:H:63:LYS:O	29:H:70:ARG:NH1	2.47	0.48
44:OO:85:LEU:HD22	44:OO:89:TYR:HD2	1.78	0.48
61:c:294:C:H2'	61:c:295:A:C8	2.49	0.48
66:h:100:ARG:HH12	66:h:122:LYS:HA	1.79	0.48
66:h:173:ILE:HG12	66:h:229:GLY:HA2	1.96	0.48
67:i:43:PHE:HZ	67:i:90:ILE:HD13	1.79	0.48
70:l:13:ALA:HB2	73:o:134:THR:HG21	1.96	0.48
11:AA:417:A:H2'	11:AA:418:A:H8	1.79	0.48
11:AA:677:A:OP2	16:C:107:THR:HG21	2.14	0.48
11:AA:916:G:H5'	11:AA:917:A:OP1	2.14	0.48
11:AA:955:U:H2'	11:AA:956:U:C6	2.49	0.48
11:AA:1497:C:H2'	11:AA:1498:A:C8	2.49	0.48
11:AA:1740:U:H1'	11:AA:1741:A:H2	1.78	0.48
11:AA:2582:C:H2'	11:AA:2583:C:H6	1.77	0.48
12:Aa:65:GLU:HG3	12:Aa:66:ARG:HG3	1.96	0.48
14:BB:84:A:H2'	14:BB:85:G:C8	2.49	0.48
23:EE:80:GLU:HB3	23:EE:170:ALA:HA	1.95	0.48
23:EE:101:VAL:HG22	23:EE:165:VAL:HG22	1.94	0.48
28:GG:30:ILE:O	28:GG:32:PRO:HD3	2.14	0.48
42:NN:17:LEU:HD13	42:NN:129:VAL:HG22	1.95	0.48
42:NN:82:ARG:HE	42:NN:112:LEU:HD12	1.79	0.48
48:Q:79:VAL:O	48:Q:83:GLU:HG3	2.13	0.48
49:QQ:70:ASN:O	88:QQ:301:SPD:N6	2.44	0.48
61:c:289:U:C2	61:c:290:G:C8	3.02	0.48
61:c:1350:U:H2'	61:c:1351:G:C8	2.48	0.48
61:c:1482:C:O2	61:c:1525:A:N6	2.47	0.48
62:d:172:LEU:O	62:d:176:LEU:HG	2.14	0.48
63:e:132:ASP:HB2	63:e:221:PRO:HB3	1.96	0.48
64:f:142:GLY:N	64:f:153:SER:O	2.39	0.48
65:g:65:ARG:O	65:g:68:GLU:HG2	2.14	0.48
69:k:46:ILE:HD13	69:k:60:ILE:HG12	1.96	0.48
11:AA:761:A:H2'	11:AA:762:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:787:G:H2'	11:AA:788:C:C6	2.49	0.48
11:AA:1184:A:H2'	11:AA:1185:C:C6	2.49	0.48
12:Aa:60:ARG:HH11	12:Aa:71:LYS:HD2	1.79	0.48
12:Aa:261:ASP:C	12:Aa:263:ASP:H	2.22	0.48
16:C:94:PHE:CE2	39:M:119:PRO:HD3	2.49	0.48
24:Ee:14:TYR:HA	24:Ee:61:GLN:HA	1.95	0.48
43:O:40:LYS:HB3	43:O:101:LEU:HD11	1.96	0.48
44:OO:85:LEU:HD22	44:OO:89:TYR:CD2	2.49	0.48
44:OO:180:ARG:O	44:OO:183:ARG:N	2.45	0.48
49:QQ:95:GLN:O	49:QQ:95:GLN:HG2	2.14	0.48
62:d:122:ILE:HG13	62:d:144:ILE:HB	1.96	0.48
66:h:91:THR:HG22	66:h:98:ASN:ND2	2.28	0.48
4:3:18:LYS:O	4:3:29:ARG:NH2	2.47	0.47
7:6:13:LYS:O	7:6:17:GLN:NE2	2.47	0.47
7:6:30:PRO:O	7:6:35:TYR:HB2	2.14	0.47
11:AA:68:C:O3'	49:QQ:177:GLY:HA2	2.13	0.47
11:AA:139:G:H2'	11:AA:140:C:C6	2.49	0.47
11:AA:2138:A:C4	54:V:3:LYS:HB3	2.49	0.47
11:AA:2463:G:H4'	11:AA:2464:U:OP1	2.14	0.47
11:AA:3115:C:H1'	11:AA:3117:C:H41	1.79	0.47
12:Aa:32:LYS:HG2	89:Aa:1001:GTP:O2B	2.14	0.47
13:B:67:ILE:HG13	13:B:68:GLY:N	2.29	0.47
19:D:173:ARG:NH2	61:c:854:U:OP2	2.47	0.47
22:E:22:PRO:O	25:F:146:ASN:ND2	2.33	0.47
27:G:14:THR:HG22	27:G:66:VAL:HG22	1.96	0.47
28:GG:138:ARG:HH21	28:GG:240:PRO:HB2	1.80	0.47
32:II:138:GLN:HE21	32:II:142:ASP:CG	2.22	0.47
42:NN:18:VAL:HG22	42:NN:70:THR:HG22	1.95	0.47
43:O:66:LYS:HG2	43:O:104:LEU:HD13	1.96	0.47
61:c:555:A:N3	61:c:590:C:O2'	2.39	0.47
61:c:1147:A:H2'	61:c:1148:C:C6	2.49	0.47
61:c:1352:G:H1	61:c:1373:C:N4	2.11	0.47
63:e:136:ARG:HG2	63:e:138:PHE:CZ	2.49	0.47
73:o:77:SER:HB3	73:o:85:VAL:HB	1.96	0.47
5:4:60:GLU:OE1	5:4:60:GLU:N	2.46	0.47
8:7:38:ARG:HG3	8:7:67:ILE:HG12	1.96	0.47
11:AA:884:A:OP1	54:V:5:THR:OG1	2.30	0.47
11:AA:1019:G:H2'	11:AA:1020:G:H8	1.78	0.47
11:AA:2430:A:H2'	11:AA:2431:C:C6	2.49	0.47
11:AA:2504:U:H2'	11:AA:2505:U:H6	1.78	0.47
11:AA:3291:G:H2'	11:AA:3292:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:BB:60:G:H2'	14:BB:61:G:H8	1.78	0.47
17:CC:40:A:H2'	17:CC:41:A:C8	2.49	0.47
26:FF:33:PRO:HD2	26:FF:44:THR:HB	1.96	0.47
37:L:25:ILE:HA	37:L:43:VAL:HG12	1.96	0.47
44:OO:86:THR:HG23	44:OO:89:TYR:H	1.79	0.47
49:QQ:19:LEU:HD23	49:QQ:22:LEU:HD12	1.95	0.47
61:c:45:U:O2'	61:c:46:A:H2'	2.13	0.47
61:c:929:A:C8	75:q:123:SER:O	2.67	0.47
62:d:50:VAL:HG22	78:t:109:LEU:HD21	1.96	0.47
63:e:158:SER:HA	63:e:161:ILE:HB	1.95	0.47
65:g:71:LEU:HD22	72:n:20:VAL:HG22	1.96	0.47
68:j:7:TYR:HD1	68:j:113:ILE:HB	1.79	0.47
74:p:32:SER:O	74:p:35:GLU:HG3	2.15	0.47
77:s:94:GLN:HB2	77:s:102:LYS:HG3	1.96	0.47
80:v:15:ILE:HD11	80:v:60:SER:HA	1.96	0.47
1:0:13:ILE:HB	1:0:22:GLN:HG3	1.96	0.47
11:AA:1404:G:N2	11:AA:1407:A:OP2	2.38	0.47
11:AA:1910:A:H2'	11:AA:1911:A:C8	2.49	0.47
11:AA:2447:A:C2	11:AA:2448:G:C5	3.03	0.47
11:AA:2914:G:H5''	26:FF:9:PRO:HG3	1.95	0.47
12:Aa:489:VAL:HG22	12:Aa:781:THR:HG21	1.95	0.47
55:W:14:LEU:HD22	55:W:45:VAL:HG11	1.96	0.47
61:c:163:G:H2'	61:c:164:A:H8	1.78	0.47
61:c:1051:G:H3'	61:c:1052:U:H5''	1.95	0.47
61:c:1189:A:N3	61:c:1194:A:O2'	2.42	0.47
61:c:1666:U:H2'	61:c:1667:A:C8	2.49	0.47
61:c:1787:C:H2'	61:c:1788:G:C8	2.49	0.47
64:f:230:TRP:CE2	83:y:68:ARG:HB3	2.49	0.47
71:m:132:ARG:HG2	71:m:140:ILE:HG21	1.97	0.47
78:t:18:GLU:OE1	78:t:70:SER:N	2.48	0.47
8:7:44:SER:OG	8:7:59:ARG:HB3	2.14	0.47
11:AA:63:A:H5''	49:QQ:174:ILE:HG21	1.96	0.47
11:AA:359:U:H4'	11:AA:817:A2M:N6	2.30	0.47
11:AA:896:A:H5'	23:EE:183:GLY:HA2	1.96	0.47
11:AA:1687:U:H5''	11:AA:1688:U:O4'	2.14	0.47
11:AA:2428:U:H2'	11:AA:2429:G:C8	2.49	0.47
11:AA:2472:U:N3	11:AA:2473:C:H1'	2.29	0.47
11:AA:2480:A:H5''	11:AA:2481:G:C4	2.50	0.47
11:AA:2660:G:OP1	11:AA:2750:U:O2'	2.32	0.47
11:AA:3362:A:H2'	11:AA:3363:U:O4'	2.14	0.47
12:Aa:48:ALA:O	12:Aa:49:ALA:C	2.58	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:55:ARG:NH2	12:Aa:67:GLY:HA2	2.29	0.47
12:Aa:562:ALA:HB3	90:Aa:1002:SO1:H181	1.96	0.47
20:DD:67:LEU:HA	20:DD:70:LEU:O	2.14	0.47
24:Ee:111:GLU:HG3	24:Ee:115:GLN:NE2	2.29	0.47
25:F:73:GLY:HA2	25:F:89:LEU:O	2.15	0.47
52:T:31:LEU:HD22	52:T:47:VAL:HG21	1.96	0.47
61:c:96:G:OP1	66:h:10:LYS:HE2	2.15	0.47
61:c:97:C:H2'	61:c:98:U:C6	2.50	0.47
61:c:298:C:O3'	66:h:30:ARG:NH2	2.47	0.47
61:c:1220:C:HO2'	61:c:1221:A:H8	1.62	0.47
69:k:5:GLN:O	69:k:8:ILE:C	2.58	0.47
76:r:33:PHE:O	76:r:36:LEU:C	2.57	0.47
79:u:55:HIS:ND1	79:u:55:HIS:O	2.48	0.47
11:AA:158:G:N2	11:AA:264:G:H1'	2.29	0.47
11:AA:159:A:H2'	11:AA:160:G:H8	1.80	0.47
11:AA:1194:G:H2'	11:AA:1195:A:C8	2.49	0.47
11:AA:1658:G:H2'	11:AA:1659:U:C6	2.50	0.47
11:AA:1856:C:H2'	11:AA:1857:C:H6	1.77	0.47
11:AA:2406:C:H2'	11:AA:2407:C:H6	1.77	0.47
15:Bb:27:C:H2'	15:Bb:28:C:H6	1.80	0.47
22:E:1:MET:HE1	34:JJ:224:ILE:O	2.15	0.47
28:GG:64:SER:HA	28:GG:75:PRO:HA	1.96	0.47
28:GG:74:ILE:HD12	28:GG:75:PRO:HD2	1.96	0.47
28:GG:130:ALA:HA	28:GG:148:ILE:HG22	1.95	0.47
61:c:445:A:O2'	61:c:525:A:OP1	2.30	0.47
61:c:639:U:H3	69:k:100:PRO:HA	1.80	0.47
61:c:684:A:H2'	61:c:685:A:H8	1.79	0.47
61:c:788:A:H2'	66:h:19:LEU:HD22	1.97	0.47
61:c:1357:A:H1'	80:v:129:GLN:HE22	1.79	0.47
63:e:158:SER:HA	63:e:161:ILE:HD12	1.96	0.47
74:p:71:ILE:O	74:p:75:LEU:HG	2.13	0.47
79:u:144:ARG:HA	79:u:144:ARG:HD2	1.68	0.47
11:AA:1783:U:H2'	11:AA:1784:G:C8	2.50	0.47
11:AA:2103:U:H2'	11:AA:2104:A:H8	1.80	0.47
11:AA:2911:A:H4'	11:AA:2912:G:C8	2.49	0.47
11:AA:2961:G:H2'	11:AA:2962:U:C6	2.50	0.47
11:AA:3029:A:H8	11:AA:3029:A:O5'	1.97	0.47
11:AA:3296:A:H2'	11:AA:3297:U:H6	1.78	0.47
12:Aa:27:HIS:ND1	12:Aa:138:GLN:HB2	2.28	0.47
12:Aa:500:ASP:OD2	12:Aa:552:VAL:HG11	2.14	0.47
14:BB:90:U:H2'	14:BB:91:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:D:175:GLN:NE2	19:D:176:ARG:HG3	2.29	0.47
36:KK:97:TYR:OH	36:KK:204:ARG:HB2	2.15	0.47
61:c:55:A:H3'	61:c:403:G:H22	1.80	0.47
61:c:948:G:H2'	61:c:949:C:C6	2.50	0.47
61:c:1406:A:H2'	61:c:1407:U:H6	1.78	0.47
61:c:1760:G:H1'	61:c:1781:MA6:H2	1.95	0.47
65:g:67:ASN:O	65:g:70:THR:OG1	2.31	0.47
68:j:34:GLN:O	68:j:52:ILE:HG22	2.15	0.47
70:l:62:THR:HG22	70:l:77:ARG:HA	1.97	0.47
73:o:19:ILE:HG12	73:o:34:TRP:HB2	1.96	0.47
80:v:128:GLY:O	80:v:132:LEU:HD23	2.14	0.47
1:0:44:LEU:HA	1:0:47:VAL:HG12	1.97	0.47
2:1:95:HIS:ND1	2:1:96:SER:O	2.47	0.47
8:7:59:ARG:N	77:s:99:GLU:OE2	2.48	0.47
11:AA:393:U:H2'	11:AA:394:G:O4'	2.14	0.47
11:AA:518:G:OP2	11:AA:518:G:N2	2.25	0.47
11:AA:1014:U:H3'	11:AA:1015:U:C5'	2.45	0.47
11:AA:1250:G:H2'	11:AA:1251:A:C8	2.49	0.47
11:AA:1327:C:O2'	50:R:76:GLY:HA2	2.14	0.47
11:AA:1566:A:H2	11:AA:1572:U:C4	2.32	0.47
11:AA:2994:A:O2'	17:CC:1:A:N1	2.43	0.47
11:AA:3215:A:O5'	46:PP:121:MET:HE1	2.15	0.47
12:Aa:186:ASN:HA	12:Aa:189:VAL:HG22	1.95	0.47
14:BB:109:G:H5''	30:HH:279:LYS:HD3	1.97	0.47
15:Bb:40:C:H2'	15:Bb:41:U:H6	1.79	0.47
18:Cc:19:G:N7	18:Cc:57:C:N4	2.63	0.47
20:DD:201:ILE:H	20:DD:201:ILE:HD12	1.80	0.47
21:Dd:23:U:H2'	21:Dd:24:U:C6	2.50	0.47
24:Ee:90:ARG:HE	24:Ee:98:VAL:HG11	1.80	0.47
24:Ee:103:ASN:HD21	24:Ee:144:ASP:HA	1.80	0.47
24:Ee:117:ARG:HD2	24:Ee:125:LEU:HD13	1.96	0.47
24:Ee:127:SER:HA	24:Ee:130:LYS:HE3	1.97	0.47
26:FF:291:GLU:OE1	26:FF:292:ALA:N	2.48	0.47
27:G:92:TRP:HB3	27:G:107:PHE:CE1	2.49	0.47
28:GG:120:TYR:CE2	28:GG:277:PRO:HB3	2.50	0.47
54:V:54:LYS:O	54:V:58:THR:HB	2.15	0.47
55:W:31:LEU:HD23	55:W:37:PRO:HA	1.97	0.47
55:W:70:PRO:HD2	55:W:73:LEU:HD22	1.97	0.47
61:c:5:U:H2'	61:c:6:G:H8	1.80	0.47
61:c:58:U:H3	61:c:89:G:H1	1.62	0.47
61:c:69:G:O6	61:c:82:U:O4	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:604:A:H2'	61:c:605:A:O4'	2.15	0.47
61:c:907:A:H2'	61:c:908:U:H6	1.79	0.47
61:c:1330:G:H2'	61:c:1331:A:O4'	2.15	0.47
61:c:1454:G:O6	91:c:2009:HOH:O	2.17	0.47
64:f:90:THR:H	64:f:93:GLY:CA	2.20	0.47
64:f:188:LEU:HD23	64:f:218:ILE:HD11	1.96	0.47
66:h:12:LEU:HD21	66:h:22:LYS:HG2	1.96	0.47
71:m:135:ALA:HB2	71:m:140:ILE:HD13	1.95	0.47
72:n:1:MET:HE3	72:n:3:MET:HB3	1.97	0.47
80:v:131:ASP:O	80:v:135:ILE:HG12	2.15	0.47
8:7:272:ASP:HB3	8:7:274:LEU:CD2	2.45	0.47
11:AA:427:C:OP1	48:Q:15:LYS:HD3	2.15	0.47
11:AA:1170:A:H2'	11:AA:1171:G:O4'	2.14	0.47
11:AA:1601:U:OP1	19:D:42:ARG:NH2	2.48	0.47
11:AA:1805:C:H2'	11:AA:1806:A:C8	2.49	0.47
11:AA:2347:OMU:H2'	11:AA:2348:A:O4'	2.15	0.47
11:AA:2428:U:H2'	11:AA:2429:G:H8	1.80	0.47
11:AA:2714:G:H8	11:AA:2751:G:H2'	1.80	0.47
11:AA:2760:C:N3	59:a:63:LYS:HE3	2.29	0.47
11:AA:3378:C:H2'	11:AA:3379:C:H6	1.79	0.47
12:Aa:249:PHE:CD2	12:Aa:271:ARG:HA	2.50	0.47
13:B:4:TYR:CZ	13:B:18:ARG:HG3	2.50	0.47
13:B:60:PHE:HB3	13:B:64:ASN:HB3	1.97	0.47
27:G:29:ASP:HB3	27:G:32:SER:OG	2.14	0.47
29:H:27:ASP:OD1	29:H:29:SER:OG	2.20	0.47
34:JJ:208:SER:O	34:JJ:243:MET:HB3	2.14	0.47
52:T:92:LEU:HB3	52:T:96:GLU:HG3	1.97	0.47
61:c:294:C:H2'	61:c:295:A:H8	1.80	0.47
61:c:354:C:H5''	70:l:16:ALA:HB2	1.95	0.47
61:c:568:G:H4'	84:z:90:ASP:HA	1.97	0.47
61:c:819:G:H1	61:c:852:C:H5	1.62	0.47
61:c:1236:A:H2'	61:c:1237:G:H8	1.78	0.47
61:c:1781:MA6:H8	61:c:1781:MA6:O5'	2.15	0.47
62:d:10:THR:OG1	62:d:13:ASP:OD1	2.24	0.47
62:d:107:PHE:HB3	62:d:139:VAL:HG21	1.97	0.47
64:f:79:GLU:OE1	64:f:81:MET:HE2	2.14	0.47
66:h:105:VAL:HG22	66:h:243:GLY:HA2	1.97	0.47
66:h:131:LEU:HA	66:h:137:PRO:HA	1.97	0.47
68:j:147:LEU:HB3	68:j:151:ASP:OD2	2.14	0.47
74:p:33:VAL:HG13	74:p:67:THR:HG22	1.96	0.47
8:7:59:ARG:NH2	8:7:95:ALA:O	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:172:ARG:HA	10:A:175:THR:HG22	1.96	0.47
11:AA:709:A:P	16:C:179:ARG:HH22	2.37	0.47
11:AA:824:C:O2'	11:AA:1534:A:N3	2.42	0.47
11:AA:1025:A:H3'	11:AA:1026:A:C8	2.49	0.47
11:AA:1352:A:H5''	11:AA:1353:U:H5'	1.96	0.47
11:AA:2503:G:H2'	11:AA:2504:U:C6	2.50	0.47
11:AA:2534:G:H2'	11:AA:2535:A:C8	2.49	0.47
11:AA:2674:A:H5''	42:NN:105:GLY:HA3	1.97	0.47
12:Aa:167:LEU:HD21	38:LL:96:HIS:CE1	2.49	0.47
12:Aa:696:ASP:HB2	12:Aa:699:DDE:HD2	1.96	0.47
17:CC:57:C:H4'	17:CC:63:G:N7	2.29	0.47
18:Cc:59:A:O2'	18:Cc:61:U:OP2	2.24	0.47
23:EE:117:GLU:HB2	23:EE:162:ALA:HB1	1.97	0.47
36:KK:161:GLU:OE2	49:QQ:26:ARG:NH1	2.33	0.47
39:M:96:LYS:HE2	44:OO:159:VAL:HB	1.95	0.47
42:NN:33:ALA:O	42:NN:37:LEU:HD23	2.15	0.47
45:P:96:VAL:HG23	45:P:98:VAL:HG13	1.97	0.47
52:T:58:ILE:O	52:T:62:GLN:HG2	2.15	0.47
61:c:689:G:H2'	61:c:690:G:C8	2.50	0.47
66:h:71:LYS:HE2	66:h:74:GLY:HA2	1.97	0.47
72:n:4:PRO:HG2	72:n:7:ASP:OD2	2.14	0.47
8:7:192:PHE:CE2	8:7:193:ILE:HG12	2.50	0.47
11:AA:138:U:C2	11:AA:139:G:C8	3.03	0.47
11:AA:656:A:H2'	11:AA:657:A:H8	1.79	0.47
11:AA:759:U:H2'	11:AA:760:G:O4'	2.15	0.47
11:AA:1018:G:C6	11:AA:1035:G:C4	3.03	0.47
11:AA:1203:A:H2'	11:AA:1204:A:H8	1.80	0.47
11:AA:2139:A:C4	54:V:3:LYS:HE2	2.49	0.47
11:AA:2244:A:H5''	23:EE:243:THR:HB	1.96	0.47
11:AA:2545:C:H2'	11:AA:2546:C:C6	2.50	0.47
11:AA:2830:G:H1'	11:AA:2861:U:C2	2.50	0.47
11:AA:3051:U:C2	11:AA:3052:G:C8	3.03	0.47
12:Aa:59:THR:HA	12:Aa:440:ARG:HE	1.80	0.47
12:Aa:677:PHE:HE1	12:Aa:724:ILE:HD12	1.79	0.47
18:Cc:6:G:O6	18:Cc:69:C:N4	2.48	0.47
18:Cc:51:U:O4	18:Cc:65:G:O6	2.32	0.47
23:EE:176:ASP:OD2	61:c:984:G:H4'	2.14	0.47
29:H:83:LYS:NZ	29:H:84:SER:O	2.48	0.47
61:c:152:U:H4'	68:j:14:LYS:HA	1.97	0.47
61:c:455:C:H3'	61:c:456:A:C8	2.50	0.47
61:c:1552:U:H2'	61:c:1553:G:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:j:50:PHE:CE1	68:j:113:ILE:HG12	2.49	0.47
70:l:3:ILE:O	70:l:30:GLY:N	2.43	0.47
71:m:116:LEU:HD11	71:m:153:GLU:HG2	1.96	0.47
78:t:75:GLU:O	78:t:79:GLU:HG2	2.15	0.47
11:AA:911:C:N4	23:EE:3:ARG:HD3	2.29	0.46
11:AA:1883:A:OP1	45:P:34:LYS:NZ	2.40	0.46
11:AA:2356:A:OP1	13:B:138:LYS:NZ	2.45	0.46
29:H:17:LEU:HD21	29:H:98:ASN:ND2	2.30	0.46
29:H:80:ARG:NH1	29:H:117:PRO:O	2.40	0.46
29:H:87:ARG:HH12	29:H:137:VAL:HG21	1.80	0.46
30:HH:62:CYS:O	30:HH:105:ILE:HD12	2.15	0.46
30:HH:206:GLN:O	30:HH:210:GLU:HG2	2.15	0.46
49:QQ:65:ARG:HG3	49:QQ:129:TYR:CE2	2.50	0.46
51:S:87:GLU:OE2	51:S:91:ARG:NH2	2.49	0.46
53:U:74:LYS:HD2	53:U:80:PHE:HD1	1.81	0.46
61:c:52:U:H2'	61:c:53:G:C8	2.50	0.46
61:c:649:U:H2'	61:c:650:U:C6	2.50	0.46
61:c:771:A:OP1	71:m:9:SER:OG	2.30	0.46
62:d:183:ARG:HG3	62:d:188:LEU:HD12	1.97	0.46
66:h:98:ASN:HD22	66:h:119:ALA:CB	2.29	0.46
70:l:109:PHE:CE2	70:l:183:ILE:HD11	2.49	0.46
72:n:11:ILE:HD13	72:n:35:ILE:HG21	1.96	0.46
74:p:3:ARG:HB3	74:p:6:SER:HB3	1.97	0.46
79:u:45:LEU:HD11	80:v:36:ILE:HD13	1.97	0.46
1:0:34:ASN:HD21	61:c:520:A:H2	1.64	0.46
4:3:35:VAL:HG21	4:3:63:LEU:HD23	1.97	0.46
8:7:39:ASP:C	8:7:40:LYS:HG2	2.39	0.46
8:7:89:LEU:HB2	8:7:103:PHE:CE1	2.50	0.46
8:7:206:PRO:HG3	8:7:247:PRO:HA	1.97	0.46
11:AA:137:G:H2'	11:AA:138:U:H6	1.80	0.46
11:AA:1011:A:H2'	11:AA:1012:G:C8	2.51	0.46
11:AA:1024:G:H1'	11:AA:1029:G:N1	2.30	0.46
11:AA:1214:U:H2'	11:AA:1215:U:C6	2.50	0.46
11:AA:1333:C:H5''	34:JJ:110:ARG:HD3	1.97	0.46
12:Aa:310:ASP:OD1	12:Aa:311:GLU:N	2.48	0.46
14:BB:76:A:N1	14:BB:102:A:H5''	2.30	0.46
17:CC:8:C:H2'	17:CC:9:A:C8	2.51	0.46
33:J:46:TYR:HB3	52:T:75:TYR:O	2.14	0.46
42:NN:20:ASN:HB3	42:NN:126:ASP:HB3	1.96	0.46
59:a:95:GLY:O	59:a:96:GLU:HG2	2.15	0.46
61:c:58:U:O2	61:c:451:A:O2'	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:84:A:H2'	61:c:85:A:O4'	2.15	0.46
61:c:351:C:OP1	61:c:630:A:O2'	2.23	0.46
61:c:1224:A:N1	61:c:1261:G:C6	2.83	0.46
61:c:1345:A:H4'	81:w:53:LYS:HE3	1.97	0.46
61:c:1559:A:H5''	79:u:135:GLY:HA3	1.97	0.46
61:c:1740:A:H2'	61:c:1741:U:C6	2.50	0.46
62:d:64:ILE:HD12	62:d:177:LEU:HD21	1.96	0.46
65:g:33:GLY:HA3	65:g:53:THR:OG1	2.16	0.46
3:2:79:ILE:HD13	61:c:1794:A:H1'	1.98	0.46
4:3:34:ASP:OD1	4:3:82:LYS:HE3	2.15	0.46
8:7:84:SER:HB3	8:7:88:THR:O	2.15	0.46
10:A:65:ASN:ND2	11:AA:2988:C:OP1	2.35	0.46
11:AA:546:C:OP2	11:AA:547:G:N2	2.48	0.46
11:AA:567:G:H2'	11:AA:568:G:H8	1.80	0.46
11:AA:860:G:OP1	60:b:18:TYR:OH	2.32	0.46
11:AA:1003:A:N1	11:AA:1049:C:O2'	2.46	0.46
11:AA:1941:C:H2'	11:AA:1942:U:C6	2.50	0.46
11:AA:2282:U:O2	11:AA:2310:U:H4'	2.15	0.46
11:AA:2508:U:H2'	11:AA:2509:U:C6	2.50	0.46
11:AA:2854:U:OP1	40:MM:61:SER:OG	2.29	0.46
11:AA:3000:A:H2'	11:AA:3001:C:C6	2.50	0.46
11:AA:3322:A:H2'	11:AA:3323:A:H8	1.81	0.46
12:Aa:494:GLU:HG3	12:Aa:555:LYS:HE3	1.96	0.46
14:BB:45:A:H2'	14:BB:46:A:C8	2.51	0.46
20:DD:75:LYS:NZ	20:DD:196:VAL:O	2.26	0.46
23:EE:51:ASP:HB3	23:EE:54:ARG:HB3	1.95	0.46
29:H:13:ILE:HG23	29:H:85:TRP:CG	2.50	0.46
61:c:100:A2M:H8	61:c:100:A2M:O5'	2.16	0.46
61:c:250:C:H2'	61:c:251:A:H8	1.80	0.46
61:c:374:U:O2'	61:c:603:U:OP1	2.32	0.46
61:c:1360:A:C2	61:c:1361:U:H1'	2.51	0.46
63:e:34:ALA:HB1	63:e:86:LEU:HD13	1.97	0.46
64:f:154:LEU:HD22	64:f:221:THR:HG21	1.98	0.46
70:l:6:ASP:HB3	70:l:28:GLU:OE1	2.16	0.46
77:s:39:VAL:HB	77:s:45:ARG:HG2	1.98	0.46
78:t:72:LYS:HA	78:t:72:LYS:HD3	1.73	0.46
79:u:86:LEU:HD12	79:u:97:ASP:HB3	1.97	0.46
2:1:89:ILE:O	2:1:89:ILE:HG13	2.15	0.46
3:2:5:ARG:NH2	61:c:1796:C:OP2	2.49	0.46
11:AA:710:A:H2'	11:AA:711:A:C8	2.50	0.46
11:AA:1340:G:H2'	11:AA:1341:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1632:A:OP1	37:L:48:ARG:NH1	2.47	0.46
11:AA:1662:G:H22	11:AA:1787:A:H2	1.63	0.46
11:AA:1756:C:H2'	11:AA:1757:A:C8	2.50	0.46
11:AA:1757:A:H2'	11:AA:1758:G:C8	2.50	0.46
11:AA:2206:G:H2'	11:AA:2207:A:O4'	2.16	0.46
11:AA:2534:G:N1	11:AA:2545:C:N3	2.36	0.46
15:Bb:3:G:H2'	15:Bb:4:G:O4'	2.16	0.46
15:Bb:23:A:H2'	15:Bb:24:G:C8	2.50	0.46
40:MM:10:ARG:NH2	40:MM:56:GLU:OE1	2.42	0.46
61:c:17:C:H2'	61:c:18:C:C6	2.50	0.46
61:c:252:U:H2'	61:c:253:A:H8	1.80	0.46
61:c:1280:4AC:H2'	61:c:1281:G:C8	2.51	0.46
61:c:1350:U:H2'	61:c:1351:G:H8	1.81	0.46
63:e:34:ALA:O	63:e:98:THR:OG1	2.27	0.46
64:f:139:ILE:HD12	64:f:218:ILE:HG23	1.98	0.46
68:j:93:LYS:HD2	68:j:95:LYS:NZ	2.30	0.46
77:s:49:TYR:HB3	77:s:53:LEU:HD13	1.97	0.46
7:6:17:GLN:NE2	61:c:563:U:H4'	2.31	0.46
8:7:42:LEU:HB2	8:7:61:PHE:CB	2.41	0.46
10:A:83:ALA:O	11:AA:1312:C:O2'	2.32	0.46
11:AA:219:A:O2'	11:AA:220:G:N2	2.33	0.46
11:AA:951:A:H5''	11:AA:1143:A:N1	2.31	0.46
11:AA:1547:G:H2'	11:AA:1548:C:C6	2.50	0.46
11:AA:2106:A:H2'	11:AA:2107:A:H8	1.81	0.46
11:AA:3199:G:H2'	11:AA:3200:G:H8	1.80	0.46
12:Aa:71:LYS:HE3	12:Aa:71:LYS:HB3	1.46	0.46
12:Aa:220:PHE:HB3	12:Aa:328:LEU:HD21	1.96	0.46
12:Aa:432:GLN:HB3	61:c:440:U:C5	2.50	0.46
12:Aa:632:LYS:HD2	12:Aa:648:ASP:HB3	1.97	0.46
26:FF:77:THR:HG21	26:FF:328:ILE:HG12	1.97	0.46
32:II:105:TYR:OH	32:II:137:ASP:OD2	2.30	0.46
42:NN:95:ASN:HB3	42:NN:103:GLY:O	2.15	0.46
61:c:1081:A:H2	61:c:1082:C:N4	2.09	0.46
61:c:1566:U:H5''	79:u:39:GLY:N	2.30	0.46
61:c:1601:G:OP1	80:v:86:ARG:NH1	2.44	0.46
64:f:106:ASP:OD1	64:f:110:HIS:HB2	2.14	0.46
69:k:15:GLU:HG3	69:k:16:LEU:HD22	1.97	0.46
69:k:141:ARG:O	69:k:148:LYS:HA	2.15	0.46
76:r:105:VAL:HG11	76:r:111:MET:HE1	1.97	0.46
4:3:67:THR:HG22	4:3:68:GLY:N	2.31	0.46
6:5:23:VAL:HG22	72:n:61:TRP:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:23:LEU:HD13	8:7:302:PHE:HB2	1.97	0.46
11:AA:243:G:H2'	11:AA:244:G:H8	1.81	0.46
11:AA:291:C:H2'	11:AA:292:U:C6	2.50	0.46
11:AA:1230:G:P	20:DD:110:ARG:HH22	2.38	0.46
11:AA:2469:G:N2	11:AA:2477:G:O2'	2.48	0.46
11:AA:2875:U:OP2	11:AA:2945:G:N1	2.34	0.46
12:Aa:384:LYS:HB2	12:Aa:397:PHE:HB3	1.98	0.46
14:BB:27:A:H2'	14:BB:28:C:C6	2.50	0.46
14:BB:113:C:H2'	14:BB:114:U:O4'	2.15	0.46
26:FF:79:VAL:HG12	26:FF:81:THR:HG23	1.96	0.46
30:HH:208:MET:HE1	30:HH:236:LEU:HD13	1.97	0.46
35:K:106:ILE:HG21	35:K:109:LEU:HD23	1.96	0.46
54:V:2:GLY:HA2	54:V:6:PRO:HG2	1.97	0.46
61:c:107:C:H2'	61:c:108:A:C8	2.51	0.46
61:c:571:G:H5''	84:z:114:LYS:CE	2.45	0.46
61:c:750:U:H2'	61:c:751:G:H8	1.81	0.46
61:c:884:A:H2'	61:c:885:G:H8	1.77	0.46
61:c:1233:G:H2'	61:c:1234:A:O4'	2.16	0.46
61:c:1429:G:H2'	61:c:1430:U:C6	2.51	0.46
64:f:106:ASP:O	64:f:108:ASN:N	2.46	0.46
67:i:73:THR:OG1	67:i:91:GLU:OE1	2.33	0.46
76:r:34:VAL:HG13	76:r:42:ARG:HA	1.98	0.46
8:7:201:THR:HG23	8:7:243:LEU:HD22	1.97	0.46
8:7:248:ASN:OD1	8:7:249:ARG:HG2	2.15	0.46
11:AA:127:G:H2'	11:AA:128:G:H8	1.79	0.46
11:AA:952:A:H5''	41:N:15:LYS:HD3	1.98	0.46
11:AA:1119:C:H2'	11:AA:1120:A:C8	2.51	0.46
11:AA:1597:C:H2'	11:AA:1598:G:C8	2.50	0.46
11:AA:1856:C:H2'	11:AA:1857:C:C6	2.51	0.46
11:AA:2419:A:H2'	11:AA:2420:C:C6	2.51	0.46
11:AA:2491:A:C6	11:AA:2492:C:C2	3.04	0.46
11:AA:3308:C:O2'	13:B:69:ARG:O	2.26	0.46
12:Aa:27:HIS:HB3	12:Aa:30:HIS:CD2	2.51	0.46
14:BB:33:U:H2'	14:BB:34:C:C6	2.51	0.46
22:E:94:ILE:HD11	22:E:106:LEU:HD12	1.97	0.46
32:II:60:ASP:OD1	32:II:62:THR:OG1	2.26	0.46
35:K:51:ARG:HD2	35:K:115:ARG:HH11	1.81	0.46
36:KK:173:MET:HE3	53:U:39:PHE:CZ	2.50	0.46
53:U:60:LEU:CD1	53:U:72:VAL:HG21	2.46	0.46
58:Z:1:MET:HE1	58:Z:9:ARG:CZ	2.46	0.46
61:c:119:A:H1'	61:c:397:A:C5	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:332:U:P	70:l:56:ARG:HH22	2.39	0.46
61:c:1207:C:H4'	61:c:1208:A:O4'	2.15	0.46
61:c:1558:U:H3	76:r:122:THR:HG1	1.57	0.46
78:t:72:LYS:O	78:t:73:LEU:C	2.57	0.46
78:t:74:GLN:O	78:t:77:GLU:HG3	2.15	0.46
3:2:10:ARG:HB2	3:2:33:ASP:OD2	2.15	0.46
4:3:35:VAL:CG2	4:3:63:LEU:HD23	2.46	0.46
11:AA:123:A:C6	11:AA:150:A:C5	3.03	0.46
11:AA:207:U:H2'	11:AA:208:C:H6	1.80	0.46
11:AA:271:C:O2	53:U:82:ARG:NH2	2.36	0.46
11:AA:422:A:C2	11:AA:2363:A:H4'	2.51	0.46
11:AA:1610:G:P	33:J:125:ARG:HH22	2.38	0.46
12:Aa:27:HIS:CG	12:Aa:28:VAL:N	2.84	0.46
12:Aa:696:ASP:CB	12:Aa:699:DDE:HD2	2.45	0.46
61:c:205:U:H2'	61:c:206:A:H8	1.79	0.46
61:c:1536:G:C6	61:c:1538:U:H1'	2.51	0.46
62:d:136:ALA:HB1	62:d:141:ILE:HB	1.97	0.46
77:s:58:ASP:O	77:s:60:PHE:N	2.49	0.46
1:0:65:GLY:H	61:c:532:U:H5''	1.80	0.46
8:7:19:TRP:O	8:7:21:THR:HG23	2.16	0.46
10:A:17:GLY:HA3	11:AA:1313:G:O3'	2.16	0.46
11:AA:828:A:H2'	11:AA:829:U:C6	2.50	0.46
11:AA:2302:G:N2	61:c:1746:A:H8	2.08	0.46
11:AA:2347:OMU:HM23	11:AA:2347:OMU:H1'	1.63	0.46
11:AA:2651:G:H5''	11:AA:2652:U:O4'	2.16	0.46
11:AA:2723:U:H2'	11:AA:2724:OMU:C6	2.46	0.46
11:AA:3033:A:H2'	11:AA:3034:C:C6	2.51	0.46
11:AA:3077:A:N6	11:AA:3080:G:C5	2.84	0.46
12:Aa:290:ASN:HD22	12:Aa:292:LYS:HE3	1.80	0.46
12:Aa:739:ALA:HB2	12:Aa:791:GLN:NE2	2.30	0.46
13:B:22:LEU:HD12	13:B:146:ILE:HD12	1.98	0.46
18:Cc:43:G:H2'	18:Cc:44:A:C8	2.50	0.46
19:D:98:ARG:O	19:D:101:VAL:HG22	2.15	0.46
61:c:331:A:H4'	70:l:31:ARG:O	2.16	0.46
61:c:926:A:H2'	61:c:927:C:O4'	2.15	0.46
63:e:194:ASN:ND2	63:e:211:HIS:HA	2.30	0.46
66:h:45:ILE:HD12	66:h:61:VAL:HG21	1.96	0.46
78:t:68:GLY:O	78:t:69:ILE:C	2.58	0.46
80:v:64:HIS:CE1	80:v:79:LEU:HD13	2.51	0.46
8:7:28:GLY:N	8:7:75:ALA:O	2.48	0.46
8:7:180:ALA:HB3	8:7:189:GLU:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:943:U:H3'	39:M:13:GLY:HA2	1.98	0.46
11:AA:3043:C:OP1	29:H:45:ARG:NE	2.44	0.46
11:AA:3050:U:H4'	31:I:17:ARG:HD2	1.98	0.46
13:B:26:PHE:HA	13:B:144:SER:OG	2.16	0.46
18:Cc:54:G:H2'	18:Cc:55:U:H6	1.81	0.46
24:Ee:103:ASN:HB2	24:Ee:142:ARG:NH2	2.31	0.46
38:LL:41:ILE:HG23	38:LL:43:VAL:HG13	1.98	0.46
60:b:32:GLN:NE2	60:b:70:THR:HB	2.31	0.46
61:c:394:C:H2'	61:c:395:U:C6	2.50	0.46
61:c:511:A:H5''	71:m:172:VAL:HG23	1.97	0.46
61:c:626:U:H2'	61:c:627:C:H6	1.80	0.46
61:c:1022:C:O2'	61:c:1125:A:N1	2.46	0.46
61:c:1417:A:H2'	61:c:1418:G:O4'	2.15	0.46
61:c:1532:U:H2'	61:c:1533:C:O4'	2.16	0.46
61:c:1727:G:H2'	61:c:1728:A:C8	2.50	0.46
72:n:46:LEU:HD13	72:n:66:TYR:CG	2.51	0.46
73:o:17:PRO:O	73:o:19:ILE:HD12	2.16	0.46
3:2:8:ASN:C	3:2:10:ARG:H	2.24	0.45
11:AA:899:U:H2'	11:AA:900:G:H8	1.81	0.45
11:AA:1794:G:H4'	23:EE:191:LEU:HD12	1.98	0.45
11:AA:2881:C:OP1	26:FF:11:HIS:NE2	2.48	0.45
11:AA:2941:A:P	26:FF:255:TRP:HB3	2.57	0.45
11:AA:3095:U:H2'	11:AA:3096:C:C6	2.51	0.45
11:AA:3280:U:O2'	11:AA:3281:U:H5'	2.16	0.45
11:AA:3350:C:O2'	11:AA:3351:U:O5'	2.33	0.45
11:AA:3380:U:H2'	11:AA:3381:U:C6	2.51	0.45
14:BB:53:U:O2	14:BB:55:A:N6	2.42	0.45
20:DD:28:VAL:HG12	20:DD:85:GLY:O	2.15	0.45
20:DD:130:PRO:HB3	20:DD:148:GLY:HA2	1.98	0.45
21:Dd:13:A:H2'	21:Dd:14:A:H8	1.79	0.45
22:E:14:LEU:H	22:E:56:GLY:HA2	1.80	0.45
35:K:109:LEU:HD22	35:K:115:ARG:NH2	2.31	0.45
42:NN:148:VAL:HG13	42:NN:152:HIS:HB3	1.98	0.45
59:a:10:THR:HA	59:a:20:HIS:CD2	2.52	0.45
61:c:398:G:OP2	70:l:47:ARG:NH2	2.27	0.45
61:c:484:C:H2'	61:c:485:A:H8	1.81	0.45
61:c:1302:U:O4	91:c:2015:HOH:O	2.20	0.45
61:c:1565:C:OP1	79:u:41:ARG:HD3	2.15	0.45
61:c:1590:G:H2'	61:c:1591:C:H6	1.81	0.45
61:c:1742:U:H2'	61:c:1743:U:O4'	2.16	0.45
62:d:37:VAL:HG22	62:d:38:PHE:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:e:89:ASP:HB3	63:e:223:PHE:HE1	1.80	0.45
65:g:173:ARG:HB2	65:g:184:ILE:HB	1.96	0.45
74:p:91:LEU:HB3	74:p:122:ILE:HG12	1.97	0.45
81:w:99:ILE:O	81:w:103:ILE:HG12	2.16	0.45
1:0:42:GLU:O	1:0:46:GLU:HG2	2.15	0.45
8:7:116:ASP:CB	8:7:121:MET:HB2	2.44	0.45
8:7:205:SER:C	8:7:207:ASP:H	2.24	0.45
11:AA:1362:G:H2'	11:AA:1363:A:C8	2.51	0.45
11:AA:2228:A:H2'	11:AA:2229:A:H8	1.81	0.45
11:AA:2489:C:H2'	11:AA:2490:C:O2	2.17	0.45
11:AA:2861:U:H2'	11:AA:2862:U:O4'	2.15	0.45
12:Aa:400:VAL:HG12	12:Aa:450:ALA:HA	1.99	0.45
12:Aa:415:GLY:HA3	12:Aa:425:ASP:HB2	1.97	0.45
17:CC:119:C:H2'	17:CC:120:C:H6	1.81	0.45
18:Cc:19:G:N2	18:Cc:59:A:OP2	2.36	0.45
26:FF:211:GLN:HG3	26:FF:212:ASN:ND2	2.32	0.45
28:GG:26:PHE:CD1	28:GG:130:ALA:HB2	2.51	0.45
29:H:68:GLU:O	29:H:72:LYS:NZ	2.45	0.45
30:HH:124:GLU:HG2	30:HH:126:GLU:OE2	2.16	0.45
56:X:26:TRP:O	56:X:29:LEU:HB2	2.16	0.45
61:c:82:U:H2'	61:c:83:G:O4'	2.15	0.45
61:c:514:G:O2'	61:c:515:A:H8	1.97	0.45
61:c:756:A:H1'	66:h:12:LEU:O	2.16	0.45
61:c:1410:A:HO2'	61:c:1411:A:P	2.40	0.45
63:e:70:LEU:HD13	63:e:84:ILE:HG13	1.98	0.45
64:f:222:TYR:OH	82:x:11:LEU:O	2.29	0.45
11:AA:149:U:H4'	49:QQ:56:LYS:HB3	1.98	0.45
11:AA:263:C:H2'	11:AA:264:G:O4'	2.16	0.45
11:AA:894:G:N2	11:AA:1660:C:OP1	2.47	0.45
11:AA:1623:G:H2'	11:AA:1624:G:O4'	2.17	0.45
11:AA:1643:A:H2'	11:AA:1644:C:C2	2.51	0.45
11:AA:1904:C:HO2'	11:AA:1905:G:P	2.39	0.45
11:AA:2496:C:C4	11:AA:2497:U:C4	3.03	0.45
11:AA:2697:A:H2'	11:AA:2698:G:H8	1.80	0.45
11:AA:2736:A:H4'	25:F:71:SER:OG	2.16	0.45
11:AA:2897:A:H5''	57:Y:125:LYS:HG3	1.98	0.45
11:AA:3243:A:H4'	26:FF:95:THR:HG22	1.98	0.45
20:DD:181:PHE:HB3	20:DD:183:PHE:CZ	2.51	0.45
29:H:14:SER:O	29:H:81:GLN:NE2	2.47	0.45
37:L:46:ILE:HG21	37:L:49:TYR:HA	1.98	0.45
37:L:70:PRO:HG3	37:L:115:LYS:HB2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LL:92:TYR:CE1	38:LL:101:VAL:HG21	2.51	0.45
50:R:49:ILE:HA	50:R:99:ARG:O	2.17	0.45
61:c:393:C:OP2	70:l:2:GLY:N	2.49	0.45
61:c:1515:A:H1'	61:c:1518:C:N4	2.31	0.45
61:c:1556:A:H5'	76:r:115:TYR:OH	2.16	0.45
67:i:90:ILE:HG13	67:i:91:GLU:N	2.30	0.45
67:i:220:VAL:HG13	67:i:220:VAL:O	2.16	0.45
82:x:55:LEU:HD13	82:x:65:SER:HB2	1.97	0.45
83:y:40:VAL:HA	83:y:43:LYS:HE3	1.98	0.45
1:0:105:ARG:NH2	61:c:458:G:OP2	2.49	0.45
8:7:192:PHE:CD2	8:7:193:ILE:HG12	2.51	0.45
10:A:174:PHE:HD1	10:A:177:LYS:HD3	1.82	0.45
11:AA:1249:G:C2	11:AA:1250:G:C5	3.04	0.45
11:AA:1483:G:O6	51:S:4:ARG:NH2	2.49	0.45
11:AA:2402:A:H5''	28:GG:67:THR:OG1	2.16	0.45
11:AA:2486:A:O2'	11:AA:2487:U:H5'	2.16	0.45
11:AA:2700:G:O2'	11:AA:2705:A:N1	2.37	0.45
11:AA:2746:A:H2	30:HH:146:LEU:HB3	1.81	0.45
11:AA:2867:C:H2'	11:AA:2868:U:H6	1.81	0.45
12:Aa:576:LEU:HD21	12:Aa:585:ARG:NH2	2.30	0.45
12:Aa:659:ILE:HD13	12:Aa:693:LEU:HD11	1.98	0.45
16:C:176:ARG:N	39:M:51:GLY:HA2	2.31	0.45
20:DD:16:ARG:HG3	20:DD:66:PHE:CE1	2.51	0.45
35:K:87:LYS:HB2	35:K:97:ILE:HD11	1.98	0.45
46:PP:13:ARG:NH1	46:PP:65:LEU:O	2.46	0.45
49:QQ:183:THR:O	49:QQ:183:THR:OG1	2.34	0.45
52:T:96:GLU:HA	52:T:99:GLN:HG2	1.97	0.45
61:c:17:C:H2'	61:c:18:C:H6	1.82	0.45
61:c:116:U:H2'	61:c:117:U:C6	2.51	0.45
61:c:753:A:H8	61:c:753:A:O5'	1.99	0.45
61:c:1451:C:C2	61:c:1452:U:C5	3.04	0.45
63:e:70:LEU:HB3	63:e:79:HIS:HB3	1.97	0.45
68:j:14:LYS:HG2	68:j:124:LEU:HD11	1.98	0.45
72:n:44:LYS:HA	72:n:44:LYS:HD3	1.81	0.45
74:p:50:ILE:O	74:p:54:LEU:HD23	2.17	0.45
77:s:29:ILE:HG23	77:s:65:ILE:HB	1.99	0.45
77:s:87:LYS:HG2	77:s:117:LEU:HD13	1.98	0.45
78:t:87:GLU:O	78:t:87:GLU:HG2	2.16	0.45
80:v:114:VAL:CG2	80:v:122:ARG:HB3	2.46	0.45
11:AA:40:A:OP1	88:AA:3533:SPD:N10	2.49	0.45
11:AA:75:G:O2'	44:OO:70:ARG:NH2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1190:A:H4'	57:Y:113:ARG:HH22	1.82	0.45
11:AA:1219:C:OP1	20:DD:4:ILE:HG21	2.15	0.45
11:AA:2185:G:H5'	23:EE:219:ILE:HD11	1.97	0.45
15:Bb:46:G:HO2'	15:Bb:47:U:HO2'	1.64	0.45
24:Ee:131:GLU:O	24:Ee:135:THR:HG23	2.17	0.45
30:HH:95:TRP:CZ2	30:HH:161:GLY:HA2	2.52	0.45
30:HH:104:LEU:HD11	30:HH:108:ARG:HH21	1.82	0.45
32:II:68:PRO:HG3	32:II:145:LEU:HD23	1.99	0.45
61:c:27:U:H2'	61:c:28:A2M:H8	1.98	0.45
61:c:393:C:H2'	61:c:394:C:C6	2.52	0.45
61:c:472:U:H2'	61:c:473:A:C8	2.52	0.45
61:c:640:U:O2	69:k:179:LYS:HE3	2.17	0.45
61:c:1158:C:O2'	61:c:1581:C:OP2	2.29	0.45
61:c:1174:C:O2'	61:c:1196:A:N6	2.50	0.45
61:c:1439:C:H2'	61:c:1440:C:H6	1.81	0.45
66:h:101:LEU:HD22	66:h:109:PHE:CD2	2.51	0.45
70:l:113:PHE:CE2	70:l:121:LEU:HB3	2.51	0.45
76:r:17:TYR:O	76:r:19:GLY:N	2.50	0.45
78:t:41:ILE:HD13	78:t:50:ILE:HD12	1.98	0.45
79:u:43:SER:HA	79:u:46:VAL:HG22	1.99	0.45
5:4:57:MET:HE3	67:i:143:ARG:HB3	1.98	0.45
8:7:19:TRP:CZ3	8:7:306:THR:HB	2.51	0.45
11:AA:248:U:H3'	11:AA:249:U:C5'	2.47	0.45
11:AA:595:G:H2'	11:AA:596:C:C6	2.52	0.45
11:AA:1224:C:C2	11:AA:1225:A:C8	3.05	0.45
11:AA:1336:U:H2'	11:AA:1337:A:H8	1.82	0.45
11:AA:1696:A:O2'	51:S:33:GLN:NE2	2.37	0.45
11:AA:2374:C:OP1	11:AA:2823:G:O2'	2.28	0.45
11:AA:2446:U:C2	11:AA:2447:A:N7	2.84	0.45
11:AA:2457:G:O2'	11:AA:2487:U:O4	2.33	0.45
11:AA:2816:G:O4'	11:AA:2870:5MC:HM53	2.16	0.45
11:AA:3322:A:H2'	11:AA:3323:A:C8	2.50	0.45
12:Aa:33:SER:OG	89:Aa:1001:GTP:O1A	2.35	0.45
12:Aa:244:LEU:HD22	12:Aa:277:ILE:HG13	1.97	0.45
12:Aa:279:ASP:O	12:Aa:283:ARG:HG2	2.17	0.45
12:Aa:481:MET:HE2	12:Aa:481:MET:HB3	1.89	0.45
12:Aa:632:LYS:HB3	12:Aa:648:ASP:HB3	1.98	0.45
90:Aa:1002:SO1:H102	90:Aa:1002:SO1:H16	1.54	0.45
14:BB:48:U:H1'	30:HH:222:LEU:HD22	1.99	0.45
17:CC:37:A:H5''	17:CC:39:G:O4'	2.16	0.45
24:Ee:10:VAL:HA	24:Ee:64:ILE:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Ee:25:SER:HA	24:Ee:28:LEU:HG	1.99	0.45
24:Ee:42:VAL:O	24:Ee:46:ILE:HG12	2.17	0.45
30:HH:82:GLU:O	30:HH:85:ARG:HG2	2.16	0.45
30:HH:179:ARG:HD3	30:HH:179:ARG:HA	1.67	0.45
33:J:63:ILE:HD13	33:J:86:VAL:HG12	1.98	0.45
34:JJ:102:VAL:HG13	34:JJ:126:LEU:HD22	1.98	0.45
61:c:1351:G:C6	61:c:1375:A:N1	2.85	0.45
61:c:1410:A:O2'	61:c:1411:A:OP1	2.30	0.45
61:c:1590:G:H2'	61:c:1591:C:C6	2.51	0.45
61:c:1615:C:H2'	67:i:81:ARG:HD2	1.99	0.45
65:g:113:LEU:HD23	65:g:118:ALA:HB2	1.98	0.45
73:o:45:PRO:O	73:o:49:ILE:HG12	2.17	0.45
77:s:36:ILE:O	77:s:39:VAL:HG23	2.17	0.45
78:t:44:LYS:HA	78:t:47:ARG:HG2	1.99	0.45
79:u:115:ARG:O	79:u:119:ILE:HG12	2.16	0.45
81:w:24:ILE:HD11	81:w:103:ILE:HD12	1.97	0.45
1:0:47:VAL:HG13	1:0:48:TYR:CD1	2.52	0.45
2:1:80:LEU:HD11	2:1:99:ALA:HB1	1.97	0.45
5:4:22:ARG:HG3	5:4:22:ARG:NH1	2.28	0.45
11:AA:168:U:H2'	11:AA:169:U:C6	2.51	0.45
11:AA:279:U:H2'	11:AA:280:U:C6	2.52	0.45
11:AA:1128:U:H2'	11:AA:1129:A:O4'	2.16	0.45
11:AA:1811:G:H2'	11:AA:1812:G:O4'	2.17	0.45
11:AA:2483:G:O6	11:AA:2486:A:H5''	2.16	0.45
12:Aa:122:THR:O	12:Aa:352:ARG:NH2	2.50	0.45
12:Aa:436:LEU:HD23	12:Aa:443:GLU:O	2.15	0.45
20:DD:36:GLN:O	20:DD:40:GLU:OE1	2.35	0.45
28:GG:23:PRO:HD2	28:GG:26:PHE:CE2	2.52	0.45
28:GG:53:SER:HB3	28:GG:56:ALA:HB2	1.99	0.45
30:HH:50:ARG:NH2	30:HH:72:ASP:OD2	2.49	0.45
32:II:100:LYS:NZ	32:II:137:ASP:OD1	2.42	0.45
54:V:25:ARG:O	54:V:25:ARG:HG2	2.17	0.45
58:Z:1:MET:HE3	61:c:1642:G:H4'	1.99	0.45
61:c:436:A2M:H8	61:c:436:A2M:O5'	2.16	0.45
61:c:1474:G:C2	61:c:1475:A:C5	3.04	0.45
61:c:1672:G:H2'	61:c:1673:G:H8	1.76	0.45
63:e:138:PHE:CD1	63:e:214:LYS:HB3	2.51	0.45
69:k:17:GLU:HA	69:k:20:VAL:HG12	1.98	0.45
79:u:38:VAL:HG13	79:u:101:LEU:HD22	1.99	0.45
79:u:99:HIS:HD2	79:u:101:LEU:HD21	1.81	0.45
7:6:49:LEU:HB2	7:6:54:ARG:NH2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:428:A:H2'	11:AA:429:U:C6	2.51	0.45
11:AA:664:U:H2'	11:AA:665:A:H8	1.75	0.45
11:AA:818:C:H2'	11:AA:819:U:O4'	2.17	0.45
11:AA:1046:A:H2'	11:AA:1049:C:C5	2.51	0.45
11:AA:2880:U:H1'	26:FF:250:ALA:HB3	1.99	0.45
11:AA:3182:G:H2'	11:AA:3183:A:O4'	2.17	0.45
12:Aa:363:ASP:O	12:Aa:367:ILE:HG12	2.17	0.45
16:C:107:THR:HG22	16:C:109:GLY:H	1.82	0.45
20:DD:19:LEU:HD12	20:DD:88:PHE:CZ	2.52	0.45
20:DD:92:PRO:HG2	20:DD:95:GLU:HG2	1.99	0.45
20:DD:159:VAL:HG21	20:DD:165:VAL:HG12	1.99	0.45
23:EE:44:ILE:HD13	23:EE:87:PHE:CE1	2.52	0.45
24:Ee:19:GLY:O	24:Ee:54:LYS:HA	2.17	0.45
24:Ee:137:GLN:HG3	24:Ee:148:PRO:HB2	1.99	0.45
25:F:105:PHE:HD1	25:F:108:ARG:NH2	2.15	0.45
36:KK:106:LYS:HA	36:KK:106:LYS:HD2	1.82	0.45
38:LL:139:ASN:OD1	38:LL:140:VAL:HG23	2.17	0.45
44:OO:47:ALA:HB1	44:OO:48:PRO:HD2	1.98	0.45
44:OO:122:LYS:HD3	44:OO:145:PHE:HE2	1.82	0.45
49:QQ:180:PHE:O	49:QQ:184:LYS:HG3	2.17	0.45
53:U:27:SER:O	53:U:28:TYR:HB2	2.16	0.45
55:W:20:VAL:HG12	55:W:47:GLY:HA2	1.99	0.45
61:c:305:C:H2'	61:c:306:U:C6	2.51	0.45
61:c:1163:A:N3	61:c:1613:U:O2'	2.40	0.45
65:g:159:HIS:HA	65:g:160:SER:HA	1.65	0.45
67:i:63:GLN:HB3	67:i:88:PRO:HA	1.98	0.45
68:j:16:PHE:CZ	68:j:121:LEU:HD21	2.44	0.45
71:m:100:LYS:HD3	71:m:100:LYS:HA	1.73	0.45
76:r:57:MET:HG3	76:r:76:VAL:HG11	1.98	0.45
77:s:54:LEU:HD11	77:s:112:TYR:CD2	2.51	0.45
7:6:37:ARG:HB2	71:m:123:HIS:CE1	2.52	0.45
8:7:42:LEU:HD11	8:7:82:SER:OG	2.17	0.45
9:8:103:LEU:H	9:8:103:LEU:HD23	1.81	0.45
11:AA:594:U:H2'	11:AA:609:G:O6	2.17	0.45
11:AA:625:G:N2	11:AA:1401:A:OP1	2.40	0.45
11:AA:884:A:OP2	54:V:4:GLY:HA3	2.17	0.45
11:AA:1069:C:H2'	11:AA:1070:U:C6	2.52	0.45
11:AA:1568:U:O2'	11:AA:1570:U:O2'	2.27	0.45
11:AA:1705:U:H2'	11:AA:1706:C:O4'	2.17	0.45
11:AA:2869:U:O2	47:Pp:1:MET:HE1	2.17	0.45
11:AA:2947:G:C2	26:FF:250:ALA:HB1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:411:VAL:HG21	12:Aa:431:ILE:HD11	1.99	0.45
12:Aa:493:VAL:CG2	12:Aa:554:LEU:HD13	2.46	0.45
18:Cc:36:A:H2'	18:Cc:37:U:H6	1.82	0.45
20:DD:46:ARG:HE	24:Ee:123:ARG:HG3	1.81	0.45
24:Ee:83:THR:O	24:Ee:86:LYS:HG2	2.16	0.45
27:G:27:VAL:O	27:G:27:VAL:HG13	2.16	0.45
28:GG:58:HIS:HA	28:GG:90:PHE:HE1	1.81	0.45
28:GG:170:LYS:HG2	28:GG:175:HIS:HB2	1.99	0.45
30:HH:178:ASN:HA	30:HH:183:TRP:CD2	2.52	0.45
49:QQ:36:ILE:O	49:QQ:109:ARG:NH1	2.49	0.45
61:c:514:G:H5''	71:m:132:ARG:NH2	2.31	0.45
61:c:1569:A:H2'	61:c:1570:A:C8	2.51	0.45
66:h:231:GLN:H	66:h:231:GLN:CD	2.25	0.45
69:k:20:VAL:HG23	69:k:81:LEU:HD11	1.98	0.45
71:m:161:THR:HG22	71:m:162:SER:N	2.26	0.45
77:s:9:THR:HG21	77:s:88:GLY:HA2	1.98	0.45
79:u:56:LYS:HD2	79:u:61:LEU:HA	1.98	0.45
84:z:23:ARG:O	84:z:26:GLU:HG2	2.17	0.45
84:z:46:SER:OG	84:z:78:LYS:NZ	2.50	0.45
1:0:109:LYS:O	1:0:112:LYS:HG3	2.16	0.45
8:7:238:ASP:OD2	8:7:258:THR:OG1	2.19	0.45
10:A:25:LYS:HD2	10:A:25:LYS:HA	1.75	0.45
11:AA:794:U:H2'	11:AA:795:G:H8	1.82	0.45
11:AA:1841:A:H2	56:X:45:ARG:HH12	1.64	0.45
11:AA:2444:C:C2	11:AA:2445:A:C8	3.05	0.45
11:AA:2656:A:C8	11:AA:2658:G:C8	3.04	0.45
12:Aa:70:ILE:HG13	12:Aa:111:PHE:CE2	2.52	0.45
12:Aa:225:PHE:CD2	12:Aa:277:ILE:HG12	2.52	0.45
20:DD:107:ALA:HB3	20:DD:183:PHE:CE2	2.51	0.45
22:E:124:LEU:HA	25:F:153:PRO:HG2	1.99	0.45
23:EE:62:VAL:HG11	23:EE:71:LEU:HD13	1.98	0.45
28:GG:11:LEU:HD13	28:GG:159:ILE:HD11	1.98	0.45
34:JJ:233:GLU:HG2	34:JJ:234:GLU:N	2.32	0.45
38:LL:86:TYR:CE2	38:LL:151:VAL:HB	2.52	0.45
43:O:74:ASN:OD1	43:O:75:ASN:N	2.49	0.45
61:c:168:A:H2'	61:c:169:A:C8	2.52	0.45
61:c:644:C:H2'	61:c:645:C:O4'	2.17	0.45
61:c:687:G:P	83:y:118:ARG:HE	2.39	0.45
61:c:1195:C:OP1	81:w:77:LYS:NZ	2.41	0.45
61:c:1308:G:H2'	61:c:1309:C:C6	2.52	0.45
61:c:1735:U:H2'	61:c:1736:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:e:176:VAL:HG12	63:e:177:GLN:H	1.81	0.45
67:i:44:ASN:HD22	77:s:46:PHE:HE2	1.64	0.45
71:m:85:VAL:HG21	71:m:104:PHE:CD2	2.52	0.45
77:s:16:ALA:HB2	77:s:72:GLY:HA3	1.97	0.45
78:t:92:ASP:N	78:t:92:ASP:OD1	2.50	0.45
81:w:95:ALA:HB1	81:w:99:ILE:HB	1.99	0.45
81:w:101:LYS:O	81:w:105:GLN:HG2	2.17	0.45
84:z:42:PRO:HA	84:z:81:LYS:HD2	1.99	0.45
84:z:135:LEU:HD21	84:z:142:LYS:HB3	1.98	0.45
1:0:20:ARG:NH1	1:0:20:ARG:HG2	2.32	0.44
2:1:42:LEU:HD11	79:u:6:GLN:O	2.16	0.44
10:A:62:THR:HG22	10:A:65:ASN:H	1.81	0.44
11:AA:289:A:H2'	11:AA:290:G:C8	2.50	0.44
11:AA:649:A2M:H5''	11:AA:649:A2M:H8	1.99	0.44
11:AA:861:C:OP1	11:AA:2133:U:O2'	2.24	0.44
11:AA:985:U:H2'	11:AA:986:U:C6	2.52	0.44
11:AA:1659:U:H2'	11:AA:1660:C:C6	2.52	0.44
11:AA:2105:G:H2'	11:AA:2106:A:H8	1.81	0.44
11:AA:2727:A:OP2	11:AA:2728:G:N2	2.43	0.44
12:Aa:216:HIS:O	12:Aa:321:LYS:HE2	2.17	0.44
12:Aa:384:LYS:HE2	12:Aa:384:LYS:HB3	1.83	0.44
15:Bb:73:A:O2'	40:MM:106:ALA:O	2.35	0.44
20:DD:67:LEU:HG	20:DD:71:PRO:HA	1.99	0.44
30:HH:40:HIS:CE1	30:HH:42:ALA:HB3	2.52	0.44
35:K:50:ILE:HG21	35:K:80:VAL:HG11	1.98	0.44
36:KK:97:TYR:OH	36:KK:207:ASP:OD2	2.28	0.44
36:KK:230:LYS:HB3	36:KK:230:LYS:HE2	1.67	0.44
61:c:250:C:H2'	61:c:251:A:C8	2.52	0.44
61:c:290:G:C4	61:c:291:G:C8	3.05	0.44
61:c:537:G:N7	71:m:171:ARG:NH1	2.65	0.44
61:c:901:G:H2'	61:c:902:G:C8	2.52	0.44
61:c:1173:C:H3'	79:u:141:THR:HG21	1.98	0.44
61:c:1654:G:O2'	61:c:1746:A:N6	2.48	0.44
66:h:87:MET:HE1	66:h:226:PHE:CZ	2.52	0.44
71:m:110:GLN:NE2	71:m:126:ARG:HB2	2.32	0.44
74:p:94:LYS:HE2	74:p:94:LYS:HB2	1.86	0.44
79:u:3:LEU:O	79:u:5:VAL:HG23	2.17	0.44
79:u:30:TYR:O	79:u:33:THR:OG1	2.35	0.44
82:x:12:TYR:CG	82:x:12:TYR:O	2.70	0.44
8:7:189:GLU:HG3	8:7:190:ALA:H	1.82	0.44
11:AA:696:C:OP2	28:GG:119:ARG:NH2	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1612:A:H5''	55:W:51:LEU:HD22	1.99	0.44
11:AA:1895:A:O2'	11:AA:3053:G:H4'	2.17	0.44
11:AA:2777:G:C2	39:M:60:TYR:CE2	3.05	0.44
91:AA:3613:HOH:O	33:J:42:ARG:NE	2.40	0.44
12:Aa:85:ASP:HB3	12:Aa:223:ARG:NH2	2.32	0.44
12:Aa:184:SER:O	12:Aa:188:ILE:HG12	2.16	0.44
15:Bb:67:A:H2'	15:Bb:68:U:C6	2.52	0.44
16:C:83:VAL:O	16:C:103:ALA:HA	2.16	0.44
16:C:90:ASP:OD2	16:C:92:ARG:NH2	2.39	0.44
22:E:154:HIS:HA	22:E:170:THR:HB	1.99	0.44
26:FF:10:ARG:HG2	26:FF:11:HIS:N	2.32	0.44
31:I:8:PHE:CD1	31:I:46:PRO:HG3	2.52	0.44
38:LL:27:VAL:HG12	38:LL:82:VAL:HG21	2.00	0.44
61:c:602:U:H2'	61:c:603:U:C6	2.53	0.44
61:c:784:C:H2'	61:c:785:U:O4'	2.17	0.44
61:c:1135:U:H2'	61:c:1136:U:C6	2.52	0.44
61:c:1529:C:H2'	61:c:1530:C:C6	2.52	0.44
62:d:6:THR:OG1	82:x:42:GLU:OE1	2.25	0.44
81:w:24:ILE:HB	81:w:91:ILE:HG13	1.98	0.44
1:0:20:ARG:HG2	1:0:20:ARG:HH11	1.82	0.44
3:2:9:GLY:HA3	61:c:1795:U:O4	2.16	0.44
10:A:174:PHE:O	10:A:177:LYS:HG2	2.17	0.44
11:AA:691:A:N1	17:CC:28:C:O2'	2.43	0.44
11:AA:802:C:H2'	11:AA:803:C:C6	2.52	0.44
11:AA:810:A:H2'	11:AA:811:U:C6	2.51	0.44
11:AA:1029:G:C2	11:AA:1030:A:N7	2.86	0.44
11:AA:1104:G:H2'	11:AA:1105:A:C8	2.52	0.44
11:AA:1255:C:H5''	24:Ee:152:ILE:HG21	1.99	0.44
11:AA:1532:C:H2'	11:AA:1533:U:C6	2.52	0.44
11:AA:2130:G:H5''	88:AA:3494:SPD:H31	2.00	0.44
15:Bb:69:U:H2'	15:Bb:70:C:C6	2.52	0.44
16:C:92:ARG:HG2	39:M:76:ASP:HB3	1.98	0.44
19:D:172:ARG:HA	19:D:175:GLN:HG3	2.00	0.44
22:E:138:GLN:HA	22:E:141:LYS:HB2	1.99	0.44
34:JJ:156:ILE:HD12	34:JJ:161:VAL:HB	1.99	0.44
35:K:39:LEU:HD22	35:K:43:TYR:CE2	2.52	0.44
40:MM:103:LEU:HD23	40:MM:103:LEU:H	1.82	0.44
48:Q:34:LYS:O	48:Q:36:LYS:HD2	2.18	0.44
49:QQ:71:ARG:HB2	49:QQ:94:TYR:HB2	2.00	0.44
51:S:72:VAL:O	51:S:77:GLY:HA2	2.17	0.44
61:c:107:C:H2'	61:c:108:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:330:G:H2'	61:c:331:A:C8	2.53	0.44
61:c:343:C:H2'	61:c:344:A:C8	2.52	0.44
61:c:567:A:O2'	84:z:90:ASP:OD1	2.31	0.44
61:c:1428:OMG:HM23	61:c:1428:OMG:H1'	1.83	0.44
62:d:72:ASP:OD1	64:f:40:LYS:NZ	2.50	0.44
62:d:179:ARG:HE	62:d:183:ARG:CZ	2.30	0.44
63:e:29:TRP:HB3	63:e:45:LYS:HE2	1.99	0.44
71:m:129:ILE:HD13	71:m:144:PRO:HA	1.99	0.44
84:z:128:SER:OG	84:z:143:PRO:HD2	2.18	0.44
3:2:88:SER:O	3:2:92:ARG:HG3	2.17	0.44
10:A:43:ILE:HD11	10:A:138:LEU:HD13	1.99	0.44
11:AA:282:G:OP1	88:AA:3594:SPD:N1	2.51	0.44
11:AA:616:G:H2'	11:AA:617:G:C8	2.52	0.44
11:AA:1597:C:H4'	51:S:26:PRO:HD2	1.99	0.44
11:AA:1721:U:O2'	11:AA:1723:A:N7	2.47	0.44
11:AA:3115:C:H1'	11:AA:3117:C:N4	2.31	0.44
15:Bb:11:C:H2'	15:Bb:12:U:C6	2.52	0.44
17:CC:119:C:H2'	17:CC:120:C:C6	2.52	0.44
22:E:26:ARG:NH1	25:F:150:THR:OG1	2.50	0.44
24:Ee:146:LYS:HB2	24:Ee:151:ILE:CD1	2.48	0.44
26:FF:121:ASN:HB3	26:FF:124:LYS:HG2	1.99	0.44
26:FF:256:HIS:HA	26:FF:257:PRO:C	2.42	0.44
28:GG:208:VAL:HG22	28:GG:228:ALA:HB3	1.99	0.44
42:NN:12:LEU:HG	42:NN:131:MET:HE3	1.98	0.44
60:b:51:ALA:HB3	60:b:54:ILE:HD12	1.99	0.44
61:c:158:U:O2'	61:c:160:C:H5'	2.18	0.44
61:c:564:G:N1	61:c:580:A:OP2	2.39	0.44
61:c:750:U:H2'	61:c:751:G:C8	2.52	0.44
61:c:1277:G:O3'	65:g:183:GLY:HA3	2.17	0.44
61:c:1366:U:H2'	61:c:1367:G:H1'	1.99	0.44
61:c:1516:A:O2'	61:c:1517:U:H5'	2.17	0.44
61:c:1624:C:H2'	61:c:1625:C:C6	2.51	0.44
61:c:1737:G:H2'	61:c:1738:U:H6	1.82	0.44
66:h:136:VAL:HG11	66:h:148:ARG:NH2	2.31	0.44
67:i:42:LEU:HG	67:i:43:PHE:O	2.17	0.44
67:i:92:ARG:HH22	67:i:169:ASN:HB3	1.83	0.44
71:m:88:GLU:O	71:m:91:LYS:HG2	2.18	0.44
72:n:8:ARG:HG2	72:n:12:HIS:CE1	2.52	0.44
78:t:86:PRO:O	78:t:88:VAL:N	2.50	0.44
1:0:110:GLN:HG2	61:c:54:C:H5'	2.00	0.44
2:1:95:HIS:CD2	67:i:112:ARG:HH11	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:176:LYS:HD3	11:AA:3191:G:H5''	1.99	0.44
11:AA:29:C:H4'	11:AA:62:A:H4'	2.00	0.44
11:AA:760:G:H1'	11:AA:771:A:H61	1.82	0.44
11:AA:837:A:H3'	11:AA:838:G:H8	1.82	0.44
11:AA:839:C:H4'	11:AA:1724:U:H2'	1.99	0.44
11:AA:976:U:OP1	16:C:144:ARG:NH2	2.42	0.44
11:AA:1091:A:H2'	11:AA:1092:C:C6	2.52	0.44
11:AA:2115:G:H22	11:AA:2120:A:H1'	1.83	0.44
11:AA:2117:A:N7	11:AA:3064:U:O2'	2.36	0.44
11:AA:2946:A2M:H1'	11:AA:2981:U:C4	2.52	0.44
11:AA:2974:U:H2'	11:AA:2975:U:C6	2.51	0.44
11:AA:3041:U:C4	11:AA:3042:U:C4	3.06	0.44
11:AA:3232:G:H2'	11:AA:3233:C:C6	2.53	0.44
12:Aa:529:ILE:HD12	12:Aa:559:PRO:HB3	1.98	0.44
14:BB:16:U:H2'	14:BB:17:A:H8	1.83	0.44
16:C:125:ASP:HB2	28:GG:289:ILE:HD13	1.99	0.44
17:CC:26:U:H2'	17:CC:27:U:C6	2.52	0.44
20:DD:25:LEU:HD21	20:DD:86:PHE:CD1	2.52	0.44
29:H:18:PRO:HA	29:H:51:ALA:HA	1.98	0.44
29:H:121:GLU:OE1	29:H:121:GLU:N	2.46	0.44
61:c:208:U:H2'	61:c:209:U:C6	2.53	0.44
61:c:290:G:H2'	61:c:291:G:H8	1.82	0.44
61:c:397:A:H2'	61:c:398:G:C8	2.52	0.44
61:c:628:G:P	74:p:5:HIS:HE2	2.40	0.44
61:c:1065:A:N3	63:e:146:GLN:NE2	2.63	0.44
65:g:66:ILE:O	65:g:70:THR:HG23	2.17	0.44
66:h:161:LYS:HB2	66:h:161:LYS:HE3	1.79	0.44
71:m:120:LYS:H	71:m:124:HIS:CD2	2.35	0.44
78:t:24:LEU:O	78:t:24:LEU:HD12	2.17	0.44
80:v:49:ASP:OD1	80:v:49:ASP:N	2.42	0.44
81:w:98:GLN:HG2	81:w:99:ILE:N	2.33	0.44
8:7:87:LYS:HG3	8:7:108:SER:O	2.17	0.44
10:A:126:VAL:O	22:E:154:HIS:NE2	2.49	0.44
11:AA:89:A:N7	16:C:171:LYS:NZ	2.65	0.44
11:AA:201:A:OP1	11:AA:220:G:O2'	2.30	0.44
11:AA:240:U:H4'	11:AA:241:G:H5'	1.99	0.44
11:AA:506:U:H2'	11:AA:507:U:O4'	2.18	0.44
11:AA:508:U:H2'	11:AA:509:U:C6	2.52	0.44
11:AA:1138:U:O3'	34:JJ:97:PRO:HD3	2.17	0.44
11:AA:1306:G:O2'	11:AA:1307:G:H5''	2.18	0.44
11:AA:2292:U:HO2'	61:c:1656:U:HO2'	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2386:A:N6	11:AA:2993:G:O2'	2.40	0.44
11:AA:2733:A:H2'	11:AA:2734:A:O4'	2.18	0.44
11:AA:2955:U:H2'	11:AA:2956:A:O4'	2.17	0.44
13:B:29:THR:HA	13:B:87:SER:HB3	1.99	0.44
14:BB:11:A:N6	30:HH:16:PHE:O	2.50	0.44
18:Cc:67:C:H2'	18:Cc:68:C:C6	2.53	0.44
20:DD:56:ASN:O	20:DD:60:ARG:HG3	2.18	0.44
26:FF:137:TYR:CZ	26:FF:144:ILE:HG13	2.52	0.44
30:HH:59:ASP:OD1	30:HH:60:ILE:N	2.50	0.44
34:JJ:180:SER:H	34:JJ:183:ASP:HB2	1.83	0.44
59:a:73:GLU:OE1	59:a:80:ARG:NH2	2.51	0.44
61:c:123:G:OP1	66:h:77:ARG:NH2	2.44	0.44
61:c:319:U:H4'	61:c:323:A:C8	2.53	0.44
61:c:617:U:H2'	61:c:618:U:C6	2.52	0.44
61:c:1011:G:H2'	61:c:1012:U:C5	2.53	0.44
61:c:1058:U:O2	61:c:1059:U:O2'	2.31	0.44
61:c:1224:A:N1	61:c:1261:G:C5	2.85	0.44
61:c:1450:U:H2'	61:c:1451:C:C6	2.53	0.44
61:c:1619:C:H2'	61:c:1620:C:H6	1.83	0.44
61:c:1656:U:H5''	61:c:1657:U:OP2	2.18	0.44
67:i:73:THR:HG22	77:s:114:ARG:NH2	2.32	0.44
71:m:71:PHE:HA	71:m:74:ASN:HD21	1.82	0.44
79:u:108:LYS:HA	79:u:108:LYS:HD3	1.81	0.44
5:4:9:LEU:HG	5:4:55:VAL:HG22	1.99	0.44
11:AA:525:C:OP2	46:PP:77:ARG:NH2	2.50	0.44
11:AA:734:C:H2'	11:AA:735:A:O4'	2.18	0.44
11:AA:947:G:H2'	11:AA:948:C:C6	2.52	0.44
11:AA:2499:U:H2'	11:AA:2500:A:O4'	2.17	0.44
12:Aa:383:SER:HA	12:Aa:466:THR:HG22	1.99	0.44
18:Cc:34:U:OP2	77:s:143:ARG:NH1	2.39	0.44
19:D:101:VAL:HG12	19:D:104:ARG:NH1	2.33	0.44
24:Ee:128:VAL:O	24:Ee:132:ILE:HG12	2.18	0.44
30:HH:211:LEU:HG	30:HH:219:PHE:HB2	2.00	0.44
36:KK:158:ASP:HB3	36:KK:159:PRO:HD3	2.00	0.44
36:KK:178:ALA:HB2	36:KK:218:ILE:CG2	2.48	0.44
42:NN:25:GLU:OE2	42:NN:29:ARG:HD3	2.17	0.44
49:QQ:5:LYS:HD3	53:U:37:THR:HG22	1.99	0.44
55:W:32:ASN:OD1	55:W:36:LYS:HB2	2.18	0.44
61:c:5:U:H2'	61:c:6:G:C8	2.53	0.44
61:c:474:A:H5''	71:m:144:PRO:HD2	1.99	0.44
61:c:1202:A:H1'	61:c:1207:C:N4	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1383:G:H2'	61:c:1384:A:C8	2.53	0.44
61:c:1469:A:H2'	61:c:1470:C:C6	2.53	0.44
61:c:1650:U:H2'	61:c:1651:A:C8	2.52	0.44
61:c:1738:U:H2'	61:c:1739:C:C6	2.52	0.44
62:d:106:SER:O	62:d:115:PHE:HA	2.17	0.44
65:g:85:VAL:HG13	65:g:87:TYR:CE1	2.53	0.44
66:h:17:HIS:HB2	66:h:108:ARG:HA	2.00	0.44
66:h:192:ILE:HD12	66:h:242:LYS:C	2.43	0.44
68:j:58:LYS:HD3	68:j:107:ALA:HB2	2.00	0.44
78:t:24:LEU:HB2	78:t:31:ASN:ND2	2.33	0.44
78:t:86:PRO:O	78:t:88:VAL:HG13	2.18	0.44
84:z:89:ASN:HB2	84:z:92:CYS:SG	2.57	0.44
1:0:128:LYS:HE2	61:c:153:G:N7	2.33	0.44
8:7:169:ILE:HG12	8:7:183:LEU:HD11	1.99	0.44
11:AA:79:U:C2	11:AA:80:G:C8	3.06	0.44
11:AA:275:U:H2'	11:AA:276:U:C6	2.52	0.44
11:AA:2133:U:O4	11:AA:2147:A:H2	2.01	0.44
11:AA:2477:G:H5''	11:AA:2478:C:H5	1.83	0.44
11:AA:2661:G:H2'	11:AA:2662:G:C8	2.51	0.44
11:AA:2835:U:H2'	11:AA:2836:C:O2	2.18	0.44
11:AA:2956:A:P	91:AA:3724:HOH:O	2.76	0.44
12:Aa:353:ALA:HB3	12:Aa:370:LYS:HG2	2.00	0.44
12:Aa:436:LEU:HD22	12:Aa:445:ILE:HD11	2.00	0.44
12:Aa:610:ASP:HB3	12:Aa:615:ARG:HB2	1.99	0.44
14:BB:71:G:H2'	14:BB:72:A:H8	1.83	0.44
15:Bb:18:G:H21	15:Bb:61:C:H1'	1.83	0.44
18:Cc:1:C:N4	18:Cc:73:A:H61	2.15	0.44
34:JJ:140:SER:N	34:JJ:237:ASN:OD1	2.38	0.44
39:M:7:LYS:HD3	39:M:7:LYS:HA	1.75	0.44
46:PP:8:LYS:HA	46:PP:8:LYS:HD2	1.73	0.44
61:c:140:A:H61	68:j:183:ARG:C	2.26	0.44
61:c:886:U:C2	61:c:887:A:C8	3.05	0.44
61:c:966:A:OP2	74:p:124:ARG:NE	2.44	0.44
61:c:1145:U:O2	64:f:89:GLN:HB3	2.17	0.44
61:c:1580:C:H4'	77:s:137:ARG:HB2	2.00	0.44
65:g:116:ARG:HG3	65:g:152:PHE:CE2	2.52	0.44
65:g:172:THR:HA	65:g:184:ILE:O	2.18	0.44
78:t:20:TYR:O	78:t:23:LYS:HB3	2.18	0.44
7:6:13:LYS:NZ	61:c:563:U:O3'	2.51	0.44
11:AA:632:G:H2'	11:AA:633:C:C6	2.53	0.44
11:AA:834:U:H2'	11:AA:835:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:986:U:H2'	11:AA:987:U:H6	1.82	0.44
11:AA:1079:A:H5''	30:HH:140:ARG:HG3	1.99	0.44
11:AA:1167:U:H2'	11:AA:1168:U:O4'	2.17	0.44
11:AA:1343:A:H2'	11:AA:1344:G:C8	2.52	0.44
11:AA:3192:U:H2'	11:AA:3193:C:C6	2.53	0.44
11:AA:3350:C:H1'	11:AA:3351:U:C5	2.53	0.44
12:Aa:338:ILE:O	12:Aa:342:LEU:HB2	2.18	0.44
12:Aa:365:ASN:HD22	12:Aa:365:ASN:C	2.25	0.44
12:Aa:816:GLY:HA2	12:Aa:819:VAL:HG22	2.00	0.44
16:C:35:PHE:CD2	28:GG:290:ILE:HD12	2.53	0.44
18:Cc:1:C:H42	18:Cc:73:A:H61	1.66	0.44
20:DD:109:ALA:HB2	20:DD:173:LEU:HB2	1.99	0.44
23:EE:180:LEU:HD22	60:b:26:VAL:HG21	1.99	0.44
27:G:41:ILE:HG21	27:G:54:VAL:HG11	2.00	0.44
36:KK:230:LYS:O	36:KK:231:LYS:HE2	2.17	0.44
38:LL:87:LYS:HE2	38:LL:89:LYS:HE3	2.00	0.44
38:LL:137:SER:OG	38:LL:143:GLU:HB3	2.18	0.44
41:N:58:LYS:HD3	41:N:58:LYS:HA	1.83	0.44
42:NN:117:ASP:O	42:NN:120:ILE:HG22	2.18	0.44
44:OO:37:ASN:O	44:OO:41:THR:HG23	2.17	0.44
46:PP:28:SER:HB3	46:PP:31:LYS:HD2	2.00	0.44
59:a:65:THR:O	59:a:87:ARG:NH1	2.51	0.44
61:c:51:A:OP2	61:c:424:C:N4	2.48	0.44
61:c:183:U:H2'	61:c:184:C:H6	1.80	0.44
61:c:805:U:C2	61:c:806:A:C8	3.05	0.44
61:c:1107:G:O2'	61:c:1108:G:H5'	2.17	0.44
66:h:32:SER:OG	66:h:81:THR:OG1	2.32	0.44
66:h:182:TYR:N	66:h:226:PHE:O	2.39	0.44
67:i:57:SER:OG	67:i:167:ARG:NH1	2.50	0.44
74:p:60:VAL:O	74:p:60:VAL:HG13	2.18	0.44
76:r:17:TYR:N	76:r:20:VAL:O	2.51	0.44
2:l:79:ALA:O	2:l:83:LEU:HG	2.18	0.43
6:5:12:ARG:NH1	61:c:1451:C:OP1	2.50	0.43
8:7:307:ASP:OD1	8:7:311:ARG:NH2	2.49	0.43
11:AA:601:U:O2'	11:AA:602:A:OP1	2.36	0.43
11:AA:659:G:N7	91:AA:3746:HOH:O	2.36	0.43
11:AA:1831:U:O2'	17:CC:114:G:OP1	2.23	0.43
11:AA:2127:U:O2'	11:AA:2301:U:OP1	2.25	0.43
11:AA:2356:A:H61	11:AA:2983:C:H5	1.65	0.43
11:AA:2480:A:H2'	11:AA:2481:G:N7	2.33	0.43
11:AA:2744:U:H2'	11:AA:2745:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3094:A:H2'	11:AA:3095:U:C6	2.53	0.43
11:AA:3170:A:H2'	11:AA:3171:U:H6	1.83	0.43
12:Aa:349:GLN:NE2	12:Aa:369:ILE:O	2.51	0.43
13:B:3:ARG:HH21	17:CC:12:A:P	2.41	0.43
15:Bb:15:G:H5''	15:Bb:16:U:C5	2.53	0.43
17:CC:104:A:C8	17:CC:105:A:C8	3.05	0.43
24:Ee:148:PRO:HA	24:Ee:151:ILE:HD13	1.99	0.43
38:LL:2:LYS:HB3	38:LL:59:ASN:OD1	2.18	0.43
61:c:291:G:N2	61:c:292:U:O4	2.51	0.43
61:c:474:A:N6	61:c:595:G:OP1	2.44	0.43
61:c:476:U:O4	71:m:37:LYS:NZ	2.37	0.43
61:c:896:U:O2	75:q:41:ARG:NH1	2.41	0.43
61:c:1310:U:H2'	61:c:1311:U:C6	2.53	0.43
64:f:235:LEU:HD11	82:x:54:ALA:HB2	2.00	0.43
65:g:31:GLU:HA	65:g:107:PHE:CE2	2.52	0.43
65:g:72:LEU:HG	72:n:20:VAL:HG21	2.00	0.43
67:i:51:VAL:HB	67:i:65:ARG:HH12	1.83	0.43
80:v:42:GLY:HA2	80:v:84:LYS:HD2	2.00	0.43
11:AA:401:U:H1'	11:AA:403:C:C4	2.53	0.43
11:AA:500:C:H2'	11:AA:501:A:H8	1.83	0.43
11:AA:1017:C:C2'	11:AA:1035:G:H22	2.29	0.43
11:AA:1780:G:H2'	11:AA:1781:C:C6	2.53	0.43
11:AA:2270:A:H2'	11:AA:2271:A:H8	1.82	0.43
11:AA:2460:U:O2'	11:AA:2461:A:H5'	2.18	0.43
11:AA:2656:A:C5	11:AA:2658:G:C8	3.06	0.43
11:AA:2903:A:N7	91:AA:3745:HOH:O	2.36	0.43
11:AA:3187:A:OP1	38:LL:22:SER:HB2	2.19	0.43
12:Aa:329:PRO:HG2	12:Aa:332:ASP:OD2	2.18	0.43
12:Aa:806:SER:HB2	12:Aa:813:SER:HB2	2.00	0.43
14:BB:45:A:H2'	14:BB:46:A:H8	1.83	0.43
17:CC:135:G:OP2	33:J:56:ARG:NH1	2.44	0.43
28:GG:138:ARG:NH2	28:GG:240:PRO:HB2	2.33	0.43
31:I:35:LYS:O	31:I:39:LEU:HD23	2.18	0.43
33:J:26:VAL:HG12	33:J:28:THR:HG23	1.99	0.43
44:OO:61:PRO:HB2	44:OO:62:THR:HG23	2.00	0.43
61:c:28:A2M:HM'3	61:c:28:A2M:H1'	1.67	0.43
61:c:1429:G:N3	81:w:72:ASN:ND2	2.64	0.43
61:c:1600:A:H2'	61:c:1600:A:N3	2.32	0.43
61:c:1755:A:H5''	84:z:63:GLN:OE1	2.17	0.43
62:d:5:ALA:HA	62:d:8:ASP:OD2	2.18	0.43
65:g:89:GLU:HG2	65:g:90:ARG:H	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:h:45:ILE:HA	66:h:61:VAL:HG11	2.00	0.43
78:t:109:LEU:O	78:t:112:SER:OG	2.26	0.43
79:u:45:LEU:HG	79:u:81:ILE:HD12	2.00	0.43
82:x:56:SER:O	82:x:60:ARG:HG3	2.18	0.43
2:1:71:ILE:HG22	2:1:72:GLY:N	2.33	0.43
10:A:89:SER:O	10:A:95:GLY:HA3	2.18	0.43
11:AA:650:OMC:H2'	11:AA:651:G:C8	2.53	0.43
11:AA:663:OMC:HM21	28:GG:104:LYS:HB2	2.00	0.43
11:AA:827:A:H5''	51:S:14:ASN:O	2.19	0.43
11:AA:897:U:H2'	11:AA:898:OMU:H6	2.01	0.43
11:AA:1282:G:H2'	11:AA:1283:C:H6	1.82	0.43
11:AA:2451:G:H2'	11:AA:2452:G:C8	2.53	0.43
11:AA:2806:U:H2'	11:AA:2807:U:C6	2.52	0.43
12:Aa:248:SER:O	12:Aa:272:ALA:N	2.44	0.43
24:Ee:53:PHE:HB3	24:Ee:56:ILE:HB	2.00	0.43
30:HH:164:LYS:HE2	30:HH:195:LEU:HD21	2.00	0.43
34:JJ:98:LYS:HB3	34:JJ:99:PRO:HD3	2.00	0.43
35:K:119:ILE:CG2	35:K:124:GLY:HA3	2.48	0.43
40:MM:12:GLN:HG2	40:MM:59:GLN:HG3	2.00	0.43
59:a:7:THR:HB	59:a:22:GLN:NE2	2.33	0.43
59:a:14:GLY:C	59:a:16:THR:H	2.25	0.43
61:c:94:U:C5	61:c:94:U:N1	2.86	0.43
61:c:380:U:H3'	61:c:381:C:C5	2.53	0.43
61:c:794:U:HO2'	61:c:795:U:P	2.40	0.43
61:c:1146:G:H2'	61:c:1147:A:C8	2.54	0.43
61:c:1345:A:H5'	81:w:53:LYS:HG2	1.99	0.43
61:c:1357:A:H2'	61:c:1358:G:H8	1.83	0.43
61:c:1545:A:H2'	61:c:1546:G:C8	2.53	0.43
63:e:120:LEU:HD12	63:e:142:PHE:HE2	1.82	0.43
65:g:99:VAL:HG13	65:g:173:ARG:HH21	1.83	0.43
66:h:152:PRO:HD2	68:j:215:ARG:NH1	2.33	0.43
68:j:21:GLU:HA	68:j:24:ILE:HD12	2.01	0.43
68:j:74:LYS:HE3	68:j:94:ARG:HG2	1.99	0.43
75:q:17:ALA:HB3	75:q:81:VAL:HA	2.00	0.43
1:0:16:PRO:C	1:0:19:ALA:H	2.26	0.43
11:AA:375:A:H1'	35:K:87:LYS:HE2	2.00	0.43
11:AA:1234:G:H2'	11:AA:1235:U:C5	2.54	0.43
11:AA:1756:C:H2'	11:AA:1757:A:H8	1.83	0.43
11:AA:2639:G:H2'	11:AA:2640:A2M:H8	2.00	0.43
11:AA:2726:C:O2'	11:AA:2727:A:H2'	2.18	0.43
11:AA:3170:A:H2'	11:AA:3171:U:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:42:ARG:NH1	12:Aa:332:ASP:OD1	2.49	0.43
12:Aa:157:ILE:HD12	12:Aa:211:PHE:CE1	2.54	0.43
12:Aa:406:LYS:HB2	12:Aa:409:GLN:HB2	2.00	0.43
19:D:86:GLU:OE2	19:D:91:SER:OG	2.30	0.43
23:EE:10:LYS:HA	23:EE:16:PHE:CD2	2.54	0.43
30:HH:80:SER:OG	30:HH:92:LEU:O	2.27	0.43
30:HH:116:ASP:OD1	30:HH:117:GLU:N	2.52	0.43
37:L:4:PHE:HE1	37:L:82:PRO:HG3	1.84	0.43
43:O:51:LEU:HD11	51:S:90:ILE:HG22	2.00	0.43
50:R:14:LEU:HD11	50:R:31:LYS:HE3	2.00	0.43
61:c:145:A:H1'	61:c:146:U:C6	2.54	0.43
61:c:610:G:H21	84:z:19:ARG:NH2	2.13	0.43
61:c:791:A:P	66:h:187:ARG:HH21	2.41	0.43
61:c:816:G:O2'	69:k:110:GLN:NE2	2.51	0.43
61:c:1239:U:H2'	61:c:1240:U:C6	2.53	0.43
61:c:1291:G:C8	61:c:1292:G:C8	3.07	0.43
61:c:1357:A:C5	61:c:1368:G:C2	3.06	0.43
61:c:1775:U:H2'	61:c:1776:A:C8	2.53	0.43
66:h:181:VAL:HG12	66:h:227:VAL:HA	2.01	0.43
66:h:192:ILE:HD13	66:h:238:LEU:HD13	2.01	0.43
71:m:73:GLY:O	71:m:77:ILE:HG12	2.18	0.43
79:u:33:THR:HA	79:u:38:VAL:HG23	2.00	0.43
1:0:48:TYR:CD2	1:0:75:VAL:HG21	2.49	0.43
5:4:11:LYS:HE2	5:4:51:ASN:HA	2.00	0.43
11:AA:36:C:H4'	11:AA:808:A:C2	2.54	0.43
11:AA:70:A:H2	11:AA:72:C:H42	1.65	0.43
11:AA:103:G:H2'	11:AA:104:G:H8	1.83	0.43
11:AA:713:U:OP1	44:OO:174:ARG:NH1	2.51	0.43
11:AA:1023:C:N3	11:AA:1029:G:O6	2.52	0.43
11:AA:1155:C:O2'	11:AA:1197:A:N1	2.36	0.43
11:AA:1204:A:H2'	11:AA:1205:A:O4'	2.18	0.43
11:AA:1211:U:H2'	11:AA:1212:A:C8	2.53	0.43
11:AA:1256:G:H1'	24:Ee:131:GLU:OE2	2.18	0.43
11:AA:1404:G:O6	48:Q:16:LYS:NZ	2.51	0.43
11:AA:2221:G:N2	11:AA:2223:A:H3'	2.34	0.43
11:AA:2597:U:H2'	11:AA:2598:G:H8	1.82	0.43
12:Aa:39:LEU:HD23	12:Aa:77:LEU:HD22	2.01	0.43
12:Aa:634:TRP:HE1	12:Aa:660:LYS:HG2	1.83	0.43
14:BB:55:A:O2'	42:NN:152:HIS:ND1	2.41	0.43
19:D:119:LEU:HA	19:D:122:VAL:HG12	2.01	0.43
25:F:41:ASP:OD2	25:F:97:LYS:NZ	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:FF:81:THR:O	26:FF:320:ASP:HB2	2.17	0.43
40:MM:103:LEU:HG	40:MM:104:SER:N	2.34	0.43
44:OO:69:VAL:HG11	44:OO:150:PRO:HD3	2.01	0.43
59:a:36:PHE:C	59:a:41:ARG:HE	2.26	0.43
61:c:272:U:H2'	61:c:273:G:H8	1.84	0.43
61:c:619:A2M:HM'3	61:c:619:A2M:H1'	1.78	0.43
61:c:792:U:H2'	61:c:793:A:C4	2.53	0.43
61:c:886:U:H2'	61:c:887:A:H8	1.84	0.43
61:c:948:G:H2'	61:c:949:C:H6	1.84	0.43
61:c:1041:G:OP1	62:d:32:HIS:HB2	2.19	0.43
61:c:1285:U:H4'	61:c:1286:U:O5'	2.18	0.43
61:c:1335:U:O2'	61:c:1336:A:OP1	2.33	0.43
63:e:137:ILE:HG21	63:e:172:LEU:HD22	2.01	0.43
66:h:98:ASN:HD22	66:h:119:ALA:HB1	1.83	0.43
66:h:125:LYS:HB2	66:h:226:PHE:CD1	2.53	0.43
71:m:104:PHE:O	71:m:147:MET:HE1	2.18	0.43
75:q:78:ALA:HB2	75:q:111:ARG:HB2	2.01	0.43
81:w:103:ILE:HA	81:w:106:ILE:HG22	2.01	0.43
3:2:22:ARG:NH2	75:q:131:GLY:O	2.51	0.43
8:7:234:LEU:HD11	8:7:263:PHE:CZ	2.54	0.43
11:AA:304:G:O6	49:QQ:178:HIS:HB2	2.19	0.43
11:AA:992:A:O2'	11:AA:993:G:H5'	2.18	0.43
11:AA:1290:A:H2'	11:AA:1291:A:C8	2.54	0.43
11:AA:1621:A:H2'	11:AA:1622:U:H6	1.83	0.43
11:AA:1782:U:H2'	11:AA:1783:U:O4'	2.19	0.43
11:AA:1913:A:N3	11:AA:2120:A:H2'	2.34	0.43
11:AA:1922:A:H2'	11:AA:1923:C:O4'	2.18	0.43
11:AA:2456:A:H2'	11:AA:2457:G:H8	1.82	0.43
11:AA:3066:U:H2'	11:AA:3067:C:H6	1.84	0.43
11:AA:3278:C:O2	11:AA:3278:C:H2'	2.19	0.43
11:AA:3337:G:H2'	11:AA:3338:C:C6	2.52	0.43
12:Aa:559:PRO:HG2	12:Aa:778:PHE:CE1	2.54	0.43
17:CC:83:C:H41	35:K:52:ARG:HH12	1.66	0.43
24:Ee:126:ALA:O	24:Ee:129:THR:OG1	2.30	0.43
28:GG:289:ILE:O	28:GG:295:ILE:HD12	2.19	0.43
36:KK:72:PRO:HG3	49:QQ:18:VAL:HA	1.99	0.43
42:NN:110:ILE:HD11	79:u:110:ARG:NH2	2.33	0.43
45:P:6:ASP:OD1	45:P:6:ASP:N	2.51	0.43
61:c:301:A:H4'	70:l:27:PHE:CD1	2.54	0.43
61:c:340:U:C2	61:c:341:A:N7	2.87	0.43
61:c:368:U:H2'	61:c:369:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:400:A:H5'	70:l:25:ARG:HH11	1.83	0.43
64:f:139:ILE:HD12	64:f:218:ILE:HG12	2.00	0.43
64:f:237:VAL:HG11	64:f:242:ILE:HD11	2.01	0.43
65:g:8:LYS:HB3	81:w:63:LEU:HD21	2.00	0.43
68:j:167:LYS:HB3	68:j:169:TYR:HD2	1.83	0.43
75:q:43:THR:H	75:q:46:MET:HE3	1.83	0.43
80:v:77:ASN:HD21	80:v:98:GLY:HA2	1.82	0.43
83:y:30:SER:HB2	83:y:61:ILE:HG13	2.01	0.43
4:3:34:ASP:CG	4:3:82:LYS:HE3	2.43	0.43
8:7:24:ALA:HB3	8:7:34:LEU:HB3	2.00	0.43
10:A:56:ASP:O	10:A:59:ARG:HG2	2.19	0.43
11:AA:62:A:H2'	11:AA:63:A:C8	2.54	0.43
11:AA:937:G:N2	11:AA:961:C:OP1	2.49	0.43
11:AA:976:U:H2'	11:AA:977:C:O4'	2.18	0.43
11:AA:1245:A:N7	11:AA:1271:A:O2'	2.51	0.43
11:AA:2467:G:N1	11:AA:2479:C:OP1	2.51	0.43
11:AA:2592:G:H4'	11:AA:2594:C:C2	2.54	0.43
11:AA:2747:A:H2'	11:AA:2748:A:C8	2.54	0.43
11:AA:2986:U:H2'	11:AA:2987:A:H8	1.84	0.43
11:AA:3214:U:C2	46:PP:121:MET:HE3	2.54	0.43
11:AA:3281:U:H2'	11:AA:3282:U:C6	2.53	0.43
16:C:151:ARG:O	16:C:162:ALA:HB3	2.19	0.43
18:Cc:22:A:N6	18:Cc:48:U:O2'	2.52	0.43
20:DD:145:ILE:HG13	20:DD:150:ILE:HG12	2.01	0.43
26:FF:77:THR:OG1	26:FF:327:CYS:HA	2.18	0.43
26:FF:156:SER:HA	26:FF:188:ILE:HD13	1.99	0.43
40:MM:36:LEU:HD21	40:MM:87:LEU:HD23	2.01	0.43
44:OO:90:ALA:HB1	44:OO:95:ILE:HB	2.00	0.43
44:OO:122:LYS:HD3	44:OO:145:PHE:CE2	2.53	0.43
53:U:35:ASN:HA	53:U:38:LYS:HE3	1.99	0.43
54:V:19:CYS:HB3	54:V:22:CYS:SG	2.58	0.43
61:c:107:C:H5''	61:c:383:G:O2'	2.19	0.43
61:c:523:G:N1	61:c:528:U:OP2	2.49	0.43
61:c:874:C:H2'	61:c:875:G:C8	2.53	0.43
61:c:1065:A:H2'	61:c:1066:C:O4'	2.19	0.43
61:c:1208:A:H5'	61:c:1209:C:OP2	2.19	0.43
61:c:1396:U:H2'	61:c:1397:U:O4'	2.19	0.43
61:c:1564:U:H2'	61:c:1565:C:C6	2.53	0.43
62:d:189:VAL:HA	82:x:44:ARG:HH22	1.83	0.43
65:g:195:SER:HB3	65:g:200:LYS:HD3	2.01	0.43
68:j:126:ASP:OD1	68:j:126:ASP:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:j:150:GLU:OE1	68:j:150:GLU:N	2.52	0.43
69:k:60:ILE:HD12	69:k:92:PHE:CE1	2.53	0.43
71:m:161:THR:O	71:m:162:SER:OG	2.35	0.43
73:o:129:ARG:O	73:o:131:ILE:HG23	2.19	0.43
77:s:39:VAL:HG21	77:s:48:VAL:HG11	2.01	0.43
1:0:15:ASN:HB3	66:h:54:TYR:CD1	2.53	0.43
1:0:111:LYS:HA	1:0:114:ARG:HH21	1.84	0.43
8:7:66:HIS:O	8:7:67:ILE:HG13	2.19	0.43
8:7:258:THR:O	8:7:275:ARG:HD2	2.19	0.43
11:AA:38:U:H2'	11:AA:39:A:O4'	2.18	0.43
11:AA:1108:U:H2'	11:AA:1109:U:C6	2.54	0.43
11:AA:1196:C:OP2	11:AA:1309:U:O2'	2.26	0.43
11:AA:1219:C:OP1	20:DD:4:ILE:HD13	2.18	0.43
11:AA:1943:C:H4'	11:AA:3346:U:H4'	2.00	0.43
11:AA:2094:C:H2'	11:AA:2095:G:C8	2.53	0.43
11:AA:2146:C:H5''	23:EE:203:ALA:HB1	2.01	0.43
11:AA:2180:G:H2'	11:AA:2181:C:H6	1.84	0.43
11:AA:2413:A:H2'	11:AA:2414:G:C8	2.54	0.43
12:Aa:482:LYS:HD2	12:Aa:482:LYS:HA	1.69	0.43
12:Aa:571:SER:OG	12:Aa:590:ALA:N	2.34	0.43
17:CC:125:U:C3'	17:CC:126:A:H5'	2.49	0.43
22:E:12:ARG:HB2	22:E:59:VAL:HG23	1.99	0.43
24:Ee:125:LEU:HD12	24:Ee:125:LEU:HA	1.84	0.43
26:FF:66:LYS:HB2	29:H:11:PHE:CZ	2.54	0.43
27:G:90:ARG:HG2	27:G:91:ASP:H	1.83	0.43
30:HH:108:ARG:CZ	30:HH:253:PHE:HB2	2.48	0.43
35:K:33:ALA:HB3	35:K:106:ILE:HD11	2.01	0.43
38:LL:21:LYS:O	38:LL:22:SER:C	2.61	0.43
49:QQ:165:THR:O	49:QQ:169:LYS:HG3	2.18	0.43
61:c:16:G:H2'	61:c:17:C:C6	2.54	0.43
61:c:21:U:O2'	71:m:16:LYS:O	2.33	0.43
61:c:856:A:N6	69:k:115:SER:O	2.50	0.43
70:l:191:PHE:CD2	73:o:13:PHE:HB2	2.53	0.43
77:s:26:LYS:HG3	77:s:26:LYS:O	2.18	0.43
6:5:31:ILE:HD11	61:c:1199:G:O6	2.19	0.43
8:7:76:ASP:OD1	8:7:76:ASP:N	2.52	0.43
11:AA:291:C:OP1	49:QQ:68:ARG:NE	2.44	0.43
11:AA:2242:A:H5''	23:EE:244:GLY:HA3	1.99	0.43
11:AA:2426:U:H2'	11:AA:2427:U:C6	2.54	0.43
11:AA:2443:A:H2'	11:AA:2444:C:C6	2.54	0.43
11:AA:2454:G:H2'	11:AA:2455:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2922:OMG:H5''	11:AA:2922:OMG:H8	1.82	0.43
11:AA:2985:C:H2'	11:AA:2986:U:C6	2.54	0.43
11:AA:3296:A:H2'	11:AA:3297:U:C6	2.54	0.43
91:AA:3848:HOH:O	39:M:24:LYS:HG3	2.18	0.43
12:Aa:157:ILE:HD12	12:Aa:211:PHE:HE1	1.84	0.43
14:BB:35:C:O2	14:BB:45:A:O2'	2.37	0.43
16:C:76:ALA:HA	16:C:79:LYS:HG3	2.01	0.43
17:CC:71:A:O2'	35:K:52:ARG:NH1	2.51	0.43
17:CC:79:A:H2'	17:CC:80:A:C8	2.53	0.43
20:DD:135:PHE:HB3	20:DD:172:LEU:HD12	2.00	0.43
35:K:74:TYR:CD1	35:K:77:LYS:HB2	2.53	0.43
37:L:4:PHE:CE2	43:O:35:ARG:HA	2.54	0.43
53:U:58:ILE:HG23	53:U:94:ILE:HD11	2.01	0.43
61:c:78:A:H2	68:j:178:LEU:HD22	1.84	0.43
61:c:179:A:H2'	61:c:180:A:O4'	2.19	0.43
62:d:147:THR:O	62:d:161:PRO:HA	2.18	0.43
63:e:48:VAL:HG11	63:e:61:LEU:HD11	1.99	0.43
71:m:90:LYS:HE3	71:m:95:TYR:CG	2.54	0.43
72:n:24:LYS:HD3	72:n:63:TYR:HE1	1.82	0.43
74:p:54:LEU:HD12	74:p:60:VAL:HG11	2.00	0.43
83:y:83:ILE:HD13	83:y:122:SER:OG	2.19	0.43
6:5:42:CYS:O	6:5:46:LYS:HG2	2.19	0.43
11:AA:872:U:H2'	11:AA:873:C:C6	2.54	0.43
11:AA:929:A:H2'	11:AA:930:U:C6	2.54	0.43
11:AA:1069:C:H2'	11:AA:1070:U:H6	1.83	0.43
11:AA:1251:A:H2'	11:AA:1252:A:C8	2.52	0.43
11:AA:1675:G:OP1	27:G:72:SER:OG	2.35	0.43
11:AA:2373:A:O2'	11:AA:2823:G:N2	2.49	0.43
11:AA:2472:U:C4	11:AA:2473:C:H1'	2.54	0.43
11:AA:2655:U:H4'	11:AA:2656:A:O4'	2.19	0.43
11:AA:2829:U:OP2	91:AA:3650:HOH:O	2.21	0.43
12:Aa:740:VAL:HG22	12:Aa:744:TYR:HE2	1.83	0.43
12:Aa:742:GLY:HA3	12:Aa:788:THR:HG22	2.01	0.43
20:DD:192:ASP:HB2	20:DD:197:PHE:HE1	1.84	0.43
26:FF:67:PHE:CE2	29:H:88:ARG:HB2	2.54	0.43
26:FF:143:GLY:HA2	26:FF:146:ARG:HH11	1.84	0.43
30:HH:157:ALA:HB3	30:HH:160:PHE:HD2	1.82	0.43
31:I:6:ASP:HB3	31:I:10:GLY:H	1.84	0.43
33:J:50:ALA:HB1	52:T:66:VAL:HG11	2.01	0.43
38:LL:57:VAL:HG23	38:LL:68:LEU:HD13	2.00	0.43
42:NN:54:VAL:O	42:NN:55:ARG:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:P:20:LEU:HD13	45:P:28:ARG:HG2	2.00	0.43
45:P:26:LYS:HD3	45:P:26:LYS:HA	1.91	0.43
61:c:171:A:C5	61:c:172:C:C5	3.07	0.43
61:c:213:A:H2'	61:c:214:G:O4'	2.18	0.43
61:c:518:A:C2'	61:c:519:C:H5''	2.49	0.43
61:c:1293:U:C2	61:c:1294:G:C8	3.07	0.43
61:c:1648:A:H2'	61:c:1649:G:C8	2.54	0.43
62:d:37:VAL:HB	62:d:149:LEU:HD11	2.00	0.43
63:e:65:VAL:HG11	63:e:85:LYS:HE3	2.01	0.43
65:g:7:LYS:HD3	65:g:7:LYS:HA	1.79	0.43
66:h:36:HIS:CG	66:h:85:GLY:HA3	2.54	0.43
73:o:32:LYS:HB2	73:o:32:LYS:HE2	1.69	0.43
73:o:122:ILE:H	73:o:122:ILE:HD12	1.83	0.43
8:7:240:VAL:HG11	8:7:254:ALA:HB1	1.99	0.42
9:8:138:ARG:NH2	61:c:1235:C:O2	2.44	0.42
10:A:80:PHE:HD2	10:A:104:VAL:HG11	1.84	0.42
11:AA:127:G:H2'	11:AA:128:G:C8	2.54	0.42
11:AA:207:U:H2'	11:AA:208:C:C6	2.54	0.42
11:AA:1282:G:OP2	20:DD:55:LYS:HG3	2.19	0.42
11:AA:1378:U:H2'	11:AA:1379:G:C8	2.51	0.42
11:AA:1470:U:H2'	11:AA:1471:U:H6	1.84	0.42
11:AA:1782:U:O2'	11:AA:1858:A:OP1	2.27	0.42
11:AA:2445:A:C6	11:AA:2446:U:C4	3.07	0.42
11:AA:2507:C:H2'	11:AA:2508:U:H6	1.81	0.42
11:AA:2959:OMC:HM22	11:AA:2960:C:O4'	2.19	0.42
11:AA:3113:A:OP1	38:LL:73:SER:OG	2.37	0.42
12:Aa:290:ASN:ND2	12:Aa:292:LYS:HE3	2.34	0.42
15:Bb:4:G:O6	15:Bb:69:U:C4	2.71	0.42
16:C:158:HIS:H	16:C:186:VAL:HG11	1.81	0.42
17:CC:26:U:O2'	28:GG:51:ALA:O	2.36	0.42
22:E:35:VAL:HG22	34:JJ:233:GLU:CD	2.44	0.42
28:GG:22:LEU:HA	28:GG:23:PRO:HD3	1.82	0.42
38:LL:53:ILE:HD12	46:PP:7:VAL:HG21	2.02	0.42
46:PP:50:LYS:HG3	46:PP:85:TRP:CD1	2.54	0.42
49:QQ:19:LEU:HD23	49:QQ:19:LEU:HA	1.81	0.42
55:W:62:ALA:O	55:W:66:ILE:HG12	2.19	0.42
61:c:792:U:H2'	61:c:793:A:N9	2.34	0.42
61:c:856:A:N6	69:k:96:ARG:HB3	2.33	0.42
61:c:909:U:H2'	61:c:910:C:C6	2.54	0.42
61:c:978:A:H2'	61:c:979:A:O4'	2.19	0.42
61:c:1525:A:H4'	80:v:83:ALA:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1615:C:C5	67:i:81:ARG:HA	2.54	0.42
61:c:1638:G:H2'	61:c:1639:OMC:O4'	2.19	0.42
66:h:103:TYR:CE2	66:h:184:THR:HA	2.53	0.42
67:i:69:PHE:CD2	77:s:50:GLU:HG2	2.54	0.42
68:j:14:LYS:NZ	68:j:16:PHE:HE1	2.17	0.42
69:k:56:LYS:HB2	69:k:88:ARG:NE	2.33	0.42
69:k:59:ALA:HA	69:k:91:ILE:HG13	2.00	0.42
70:l:11:ARG:HB2	70:l:16:ALA:O	2.19	0.42
71:m:27:GLU:HB3	71:m:39:LYS:HD2	2.00	0.42
78:t:79:GLU:C	78:t:81:LYS:N	2.77	0.42
5:4:60:GLU:HG2	5:4:60:GLU:O	2.19	0.42
6:5:19:ARG:O	6:5:27:HIS:ND1	2.48	0.42
8:7:234:LEU:H	8:7:234:LEU:HD23	1.83	0.42
10:A:197:LEU:HD22	46:PP:116:GLU:HB3	2.01	0.42
11:AA:1027:A:C6	11:AA:1029:G:H1'	2.54	0.42
11:AA:1093:A:H2	11:AA:1096:U:H2'	1.85	0.42
11:AA:1196:C:H4'	11:AA:1197:A:OP1	2.18	0.42
11:AA:1329:U:OP1	50:R:17:GLN:NE2	2.52	0.42
11:AA:1765:U:H5''	19:D:43:LYS:CE	2.46	0.42
11:AA:1909:A:H2'	11:AA:1910:A:C8	2.54	0.42
11:AA:1951:C:H2'	11:AA:1952:G:C8	2.55	0.42
11:AA:2421:OMU:H1'	11:AA:2421:OMU:HM23	1.77	0.42
11:AA:2455:U:H3'	11:AA:2456:A:H8	1.84	0.42
11:AA:2640:A2M:HM'3	11:AA:2640:A2M:H1'	1.73	0.42
11:AA:2775:U:H2'	11:AA:2776:C:C6	2.54	0.42
12:Aa:83:ASP:O	12:Aa:86:VAL:HG22	2.19	0.42
12:Aa:110:ASP:HB3	12:Aa:537:HIS:CB	2.44	0.42
12:Aa:130:ASP:OD2	12:Aa:159:LYS:NZ	2.46	0.42
17:CC:146:U:H2'	17:CC:147:U:C6	2.54	0.42
22:E:152:LEU:HD11	46:PP:60:LEU:HD13	2.01	0.42
22:E:172:TYR:OH	46:PP:65:LEU:HG	2.19	0.42
26:FF:112:ASP:HA	26:FF:115:LYS:HB2	2.00	0.42
27:G:21:SER:O	27:G:24:GLU:HG3	2.19	0.42
28:GG:181:VAL:HG21	28:GG:224:GLY:HA3	2.01	0.42
30:HH:65:ILE:HG12	30:HH:74:VAL:HG22	1.99	0.42
32:II:148:GLU:O	32:II:151:LYS:HG2	2.19	0.42
34:JJ:144:ILE:O	34:JJ:148:VAL:HG23	2.19	0.42
61:c:810:G:C2	69:k:111:LYS:HA	2.55	0.42
61:c:1280:4AC:O2'	81:w:70:THR:HB	2.19	0.42
61:c:1321:A:H4'	61:c:1322:A:O5'	2.18	0.42
61:c:1428:OMG:N2	81:w:74:GLU:OE1	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1557:U:O2'	61:c:1558:U:H2'	2.19	0.42
61:c:1603:U:H2'	61:c:1604:U:C6	2.55	0.42
62:d:89:PHE:HD1	62:d:178:ALA:HB2	1.83	0.42
69:k:5:GLN:O	69:k:9:LEU:HG	2.19	0.42
69:k:63:PRO:C	69:k:65:PRO:HD3	2.44	0.42
69:k:80:GLU:O	69:k:84:LYS:HG2	2.19	0.42
76:r:96:ILE:HG12	76:r:116:LEU:HB3	2.00	0.42
76:r:111:MET:HG2	79:u:119:ILE:HB	2.01	0.42
79:u:64:GLU:HA	79:u:67:GLU:CD	2.44	0.42
1:0:20:ARG:HH12	1:0:22:GLN:CA	2.33	0.42
8:7:223:TRP:CD1	8:7:223:TRP:H	2.37	0.42
11:AA:412:G:H2'	11:AA:413:U:H6	1.82	0.42
11:AA:1044:U:OP1	40:MM:90:ARG:NH2	2.53	0.42
11:AA:1394:A:H4'	11:AA:1420:C:H4'	2.02	0.42
11:AA:1631:C:H5''	11:AA:1632:A:H5''	2.01	0.42
11:AA:1744:G:H2'	11:AA:1745:C:C6	2.53	0.42
11:AA:1940:G:N2	11:AA:3362:A:H8	2.16	0.42
11:AA:2218:G:H2'	11:AA:2219:A:C8	2.54	0.42
11:AA:2490:C:H1'	11:AA:2491:A:N7	2.34	0.42
11:AA:2674:A:C2	42:NN:124:GLY:HA3	2.55	0.42
11:AA:2683:U:H2'	11:AA:2684:C:C6	2.54	0.42
12:Aa:428:ILE:O	12:Aa:428:ILE:HG22	2.19	0.42
12:Aa:438:MET:HE2	12:Aa:441:PHE:CE1	2.50	0.42
12:Aa:459:ILE:O	12:Aa:460:ASP:OD1	2.36	0.42
12:Aa:468:THR:HB	12:Aa:478:MET:SD	2.59	0.42
15:Bb:7:U:O2'	15:Bb:49:C:O5'	2.34	0.42
17:CC:143:U:P	49:QQ:38:ARG:HH22	2.43	0.42
25:F:126:VAL:HG23	25:F:127:GLN:H	1.84	0.42
26:FF:29:VAL:HG22	26:FF:218:ILE:HD12	2.00	0.42
38:LL:101:VAL:HG22	38:LL:114:VAL:HG22	2.01	0.42
59:a:46:LYS:HE3	59:a:54:THR:HB	2.01	0.42
61:c:328:A:H2'	61:c:329:G:C8	2.54	0.42
61:c:364:G:OP2	61:c:377:G:N2	2.45	0.42
61:c:420:A2M:H1'	61:c:420:A2M:HM'3	1.75	0.42
61:c:605:A:OP2	61:c:606:A:O2'	2.31	0.42
61:c:759:U:H2'	61:c:760:A:C8	2.53	0.42
61:c:773:C:OP1	66:h:22:LYS:HB2	2.19	0.42
61:c:795:U:H2'	61:c:796:A2M:H8	2.02	0.42
61:c:919:A:H2'	61:c:920:U:H6	1.85	0.42
61:c:989:U:H2'	61:c:990:C:C6	2.54	0.42
61:c:1387:G:OP1	78:t:32:LYS:NZ	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1614:A:H2'	61:c:1615:C:C6	2.55	0.42
61:c:1683:C:H2'	61:c:1684:U:O4'	2.19	0.42
62:d:119:ARG:NH1	64:f:241:ASP:OD1	2.53	0.42
63:e:135:LEU:HD23	63:e:217:LEU:HA	2.01	0.42
64:f:186:LYS:O	64:f:190:LEU:HD23	2.20	0.42
66:h:11:ARG:HH12	66:h:20:LEU:HD22	1.82	0.42
67:i:130:ILE:O	67:i:134:VAL:HG13	2.20	0.42
68:j:175:ILE:HG21	68:j:178:LEU:HD22	2.00	0.42
68:j:180:THR:HB	68:j:183:ARG:HG3	2.00	0.42
71:m:77:ILE:HG21	71:m:91:LYS:HB2	2.00	0.42
81:w:22:ILE:HD13	81:w:100:VAL:HG23	2.00	0.42
2:1:63:SER:OG	67:i:188:LYS:HA	2.19	0.42
8:7:112:SER:OG	8:7:124:SER:O	2.30	0.42
11:AA:165:A:H2'	11:AA:166:C:C6	2.53	0.42
11:AA:594:U:O2'	11:AA:595:G:H5'	2.20	0.42
11:AA:677:A:H4'	11:AA:678:G:H5'	2.02	0.42
11:AA:873:C:H3'	11:AA:874:U:H4'	2.01	0.42
11:AA:1045:C:OP1	40:MM:133:GLN:NE2	2.52	0.42
11:AA:1072:G:H2'	11:AA:1073:U:C6	2.55	0.42
11:AA:1379:G:OP1	91:AA:3653:HOH:O	2.22	0.42
11:AA:1721:U:OP2	19:D:124:TYR:OH	2.32	0.42
11:AA:2943:G:H2'	11:AA:2944:U:O4'	2.20	0.42
11:AA:2989:U:H2'	11:AA:2990:G:O4'	2.19	0.42
11:AA:3051:U:N3	11:AA:3052:G:N7	2.67	0.42
11:AA:3110:C:H2'	11:AA:3111:U:C6	2.55	0.42
12:Aa:109:VAL:HB	12:Aa:138:GLN:NE2	2.34	0.42
12:Aa:294:ASP:OD1	12:Aa:294:ASP:N	2.47	0.42
12:Aa:451:GLY:O	12:Aa:452:ASN:ND2	2.52	0.42
12:Aa:743:ILE:O	12:Aa:747:LEU:HD23	2.19	0.42
17:CC:39:G:H1'	17:CC:104:A:N6	2.33	0.42
20:DD:31:ASP:OD1	20:DD:32:ASN:N	2.53	0.42
26:FF:137:TYR:CE2	26:FF:144:ILE:HG13	2.54	0.42
28:GG:181:VAL:CG1	28:GG:223:PRO:HB2	2.49	0.42
32:II:30:LEU:H	32:II:30:LEU:HD23	1.84	0.42
34:JJ:208:SER:OG	34:JJ:209:ASN:N	2.52	0.42
39:M:44:ASN:ND2	44:OO:4:SER:O	2.51	0.42
49:QQ:122:ASN:OD1	49:QQ:123:GLN:N	2.48	0.42
58:Z:11:ARG:NH2	61:c:1775:U:OP1	2.42	0.42
61:c:156:A:H2'	61:c:157:A:O4'	2.20	0.42
61:c:333:A:H8	61:c:333:A:O5'	2.03	0.42
61:c:629:U:C2	61:c:630:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:962:C:OP1	74:p:70:LYS:HB3	2.19	0.42
61:c:1124:A:H2'	61:c:1125:A:C8	2.55	0.42
61:c:1511:U:H2'	61:c:1512:G:C8	2.54	0.42
61:c:1561:U:H4'	61:c:1599:C:H4'	2.00	0.42
63:e:106:THR:OG1	63:e:108:ASP:OD1	2.20	0.42
66:h:62:LYS:HD3	66:h:80:THR:HB	2.02	0.42
67:i:41:LYS:HE2	67:i:69:PHE:CE2	2.55	0.42
67:i:147:THR:O	67:i:157:ARG:N	2.53	0.42
67:i:169:ASN:OD1	67:i:170:GLN:N	2.53	0.42
68:j:77:LEU:HB3	68:j:81:VAL:HG21	2.02	0.42
72:n:69:THR:O	72:n:73:VAL:HG23	2.19	0.42
73:o:109:VAL:HG22	73:o:137:PHE:HB2	2.02	0.42
3:2:76:SER:HG	61:c:1793:G:N2	2.15	0.42
7:6:39:LEU:HD23	7:6:42:ARG:HD3	2.01	0.42
7:6:43:ARG:C	7:6:44:PHE:HD1	2.27	0.42
8:7:65:SER:HB2	61:c:1341:A:H1'	2.01	0.42
11:AA:335:G:OP1	35:K:9:SER:HB2	2.19	0.42
11:AA:418:A:H2'	11:AA:419:G:C8	2.55	0.42
11:AA:531:G:H2'	11:AA:532:A:C8	2.54	0.42
11:AA:792:G:H2'	11:AA:793:C:C6	2.54	0.42
11:AA:855:U:H5''	19:D:95:TRP:CG	2.54	0.42
11:AA:876:A2M:H1'	11:AA:876:A2M:HM'3	1.70	0.42
11:AA:1136:A:H4'	11:AA:2640:A2M:H2	2.00	0.42
11:AA:1942:U:H2'	11:AA:1943:C:O4'	2.19	0.42
11:AA:2095:G:H2'	11:AA:2096:A:C8	2.54	0.42
11:AA:2143:A:O2'	11:AA:2144:A:H2'	2.19	0.42
11:AA:2796:G:OP2	11:AA:2797:C:O2'	2.30	0.42
11:AA:2864:A:O3'	40:MM:115:MET:HG2	2.19	0.42
11:AA:3069:G:C2	11:AA:3070:A:C8	3.08	0.42
11:AA:3213:A:H2'	11:AA:3214:U:O4'	2.19	0.42
11:AA:3314:A:H2'	11:AA:3315:G:C8	2.54	0.42
12:Aa:110:ASP:OD2	12:Aa:536:LEU:HB3	2.20	0.42
12:Aa:185:VAL:O	12:Aa:189:VAL:HG13	2.19	0.42
12:Aa:213:SER:OG	12:Aa:216:HIS:HB2	2.18	0.42
12:Aa:634:TRP:HZ2	12:Aa:656:LEU:HD21	1.83	0.42
16:C:36:LEU:HD21	28:GG:295:ILE:HG23	2.01	0.42
20:DD:19:LEU:HD12	20:DD:88:PHE:CE2	2.55	0.42
20:DD:109:ALA:CB	20:DD:173:LEU:HB2	2.50	0.42
28:GG:152:VAL:HG21	28:GG:156:LEU:HD22	2.01	0.42
28:GG:233:LEU:HD23	28:GG:233:LEU:HA	1.91	0.42
29:H:10:LYS:HE2	29:H:10:LYS:HB2	1.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:P:62:ARG:HB2	45:P:66:GLY:O	2.18	0.42
58:Z:7:LYS:O	58:Z:11:ARG:HG3	2.19	0.42
61:c:385:A:H2'	61:c:386:G:C8	2.54	0.42
61:c:448:C:H5'	66:h:29:PRO:HA	2.01	0.42
61:c:518:A:H2'	61:c:519:C:H5''	2.01	0.42
61:c:546:U:H2'	61:c:547:U:C6	2.55	0.42
61:c:555:A:P	91:c:2007:HOH:O	2.74	0.42
61:c:990:C:H2'	61:c:991:G:O4'	2.19	0.42
63:e:92:GLN:CD	63:e:97:LEU:HD11	2.44	0.42
66:h:72:VAL:N	66:h:75:LYS:O	2.49	0.42
67:i:162:VAL:HG13	67:i:166:ARG:HG2	2.02	0.42
68:j:178:LEU:O	68:j:183:ARG:HD3	2.18	0.42
78:t:25:THR:OG1	78:t:26:LEU:N	2.50	0.42
83:y:24:GLN:OE1	83:y:24:GLN:N	2.52	0.42
1:0:89:TYR:CG	61:c:525:A:H4'	2.54	0.42
2:1:46:LYS:HD2	2:1:46:LYS:HA	1.86	0.42
3:2:4:LYS:NZ	61:c:1795:U:OP2	2.51	0.42
8:7:27:ALA:HB3	8:7:75:ALA:HB1	2.01	0.42
8:7:250:TYR:HB3	8:7:265:LEU:HB2	2.00	0.42
11:AA:298:U:H5'	53:U:31:GLY:O	2.20	0.42
11:AA:817:A2M:H62	54:V:25:ARG:NH2	2.17	0.42
11:AA:819:U:H2'	11:AA:820:A:H8	1.84	0.42
11:AA:874:U:OP1	26:FF:241:LYS:HG2	2.19	0.42
11:AA:1543:G:O2'	11:AA:2168:A:O2'	2.27	0.42
11:AA:1699:A:H2'	11:AA:1700:G:C8	2.55	0.42
11:AA:2220:A2M:H1'	11:AA:2220:A2M:HM'3	1.76	0.42
11:AA:2998:U:H2'	11:AA:2999:U:O4'	2.18	0.42
12:Aa:50:LYS:HD3	61:c:416:A:O4'	2.20	0.42
23:EE:206:PRO:HG3	23:EE:213:GLY:HA3	2.00	0.42
24:Ee:82:ILE:HA	24:Ee:85:LEU:HD13	2.01	0.42
26:FF:19:ARG:HB2	26:FF:232:ARG:NH2	2.35	0.42
36:KK:94:PHE:CE2	36:KK:200:LEU:HG	2.54	0.42
56:X:15:LYS:O	56:X:19:GLN:HG2	2.20	0.42
59:a:26:THR:HA	59:a:93:LEU:HD11	2.02	0.42
61:c:144:U:H5	61:c:1685:G:H4'	1.85	0.42
61:c:783:G:C2	61:c:784:C:C2	3.08	0.42
62:d:110:TYR:CD2	62:d:110:TYR:O	2.73	0.42
66:h:23:LEU:HD13	71:m:3:ARG:NH1	2.35	0.42
68:j:136:LYS:HG2	68:j:173:PRO:CB	2.49	0.42
69:k:20:VAL:HG11	69:k:46:ILE:CD1	2.50	0.42
70:l:36:THR:OG1	70:l:57:ALA:O	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:l:142:LYS:O	70:l:146:ARG:HG2	2.18	0.42
78:t:34:LEU:O	78:t:38:ILE:HG12	2.19	0.42
83:y:37:PHE:CZ	83:y:103:ILE:HD12	2.55	0.42
6:5:45:GLU:CD	61:c:1433:G:H22	2.26	0.42
11:AA:114:A:H2'	11:AA:115:A:O4'	2.20	0.42
11:AA:314:U:H2'	11:AA:315:C:C6	2.54	0.42
11:AA:644:G:H2'	11:AA:2372:A:N7	2.34	0.42
11:AA:649:A2M:HM'3	11:AA:649:A2M:H1'	1.68	0.42
11:AA:800:G:H2'	11:AA:801:A:N7	2.35	0.42
11:AA:879:U:O2	11:AA:2357:A:H1'	2.20	0.42
11:AA:1229:G:H4'	20:DD:32:ASN:OD1	2.20	0.42
11:AA:1349:G:OP1	11:AA:1349:G:H8	2.03	0.42
11:AA:1495:U:C5	11:AA:1835:A:N1	2.85	0.42
11:AA:1497:C:O2'	11:AA:1602:A:N3	2.44	0.42
11:AA:1779:C:H1'	19:D:93:VAL:HG21	2.00	0.42
11:AA:3232:G:H2'	11:AA:3233:C:H6	1.85	0.42
12:Aa:55:ARG:NH2	12:Aa:64:GLN:HA	2.35	0.42
14:BB:27:A:O2'	14:BB:56:A:N1	2.50	0.42
15:Bb:68:U:H2'	15:Bb:69:U:C6	2.54	0.42
19:D:155:LEU:HD23	19:D:155:LEU:HA	1.89	0.42
24:Ee:53:PHE:CE2	24:Ee:73:VAL:HG11	2.54	0.42
30:HH:160:PHE:O	30:HH:163:LEU:HB3	2.19	0.42
37:L:17:ARG:HA	51:S:74:ARG:HA	2.01	0.42
42:NN:19:LEU:HD11	42:NN:79:ILE:HG21	2.02	0.42
49:QQ:51:LEU:HD11	49:QQ:119:TYR:HB3	2.01	0.42
61:c:269:G:H2'	61:c:270:C:H6	1.85	0.42
61:c:545:A:H4'	61:c:546:U:H5'	2.02	0.42
61:c:900:A:P	75:q:45:GLY:HA3	2.60	0.42
61:c:934:C:C4	61:c:1077:C:H4'	2.55	0.42
61:c:953:G:H2'	61:c:954:G:C8	2.55	0.42
61:c:1366:U:H2'	61:c:1367:G:C1'	2.49	0.42
61:c:1736:G:H2'	61:c:1737:G:C8	2.54	0.42
66:h:68:ARG:HD2	66:h:76:VAL:HG11	2.00	0.42
66:h:86:PHE:CD2	66:h:87:MET:HE2	2.55	0.42
68:j:118:GLU:HG3	68:j:119:GLN:N	2.28	0.42
84:z:69:ARG:HB3	84:z:86:PHE:CE1	2.54	0.42
3:2:45:VAL:HG13	3:2:45:VAL:O	2.19	0.42
11:AA:377:A:H1'	11:AA:392:G:N2	2.35	0.42
11:AA:1202:A:C2	11:AA:2857:C:H5'	2.54	0.42
11:AA:1343:A:H2'	11:AA:1344:G:H8	1.85	0.42
11:AA:1488:G:C2	11:AA:1489:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3047:U:O2'	11:AA:3048:A:H5'	2.20	0.42
11:AA:3162:C:H2'	11:AA:3163:A:H8	1.83	0.42
11:AA:3231:U:H2'	11:AA:3232:G:C8	2.54	0.42
12:Aa:5:THR:HG23	12:Aa:6:VAL:N	2.30	0.42
12:Aa:68:ILE:HB	12:Aa:108:HIS:CE1	2.55	0.42
12:Aa:379:MET:SD	12:Aa:470:THR:HG22	2.60	0.42
12:Aa:495:VAL:HG21	12:Aa:500:ASP:HB3	2.01	0.42
12:Aa:654:GLN:HB3	12:Aa:655:TYR:CD2	2.55	0.42
14:BB:74:C:H2'	14:BB:75:G:C8	2.54	0.42
18:Cc:53:G:H2'	18:Cc:54:G:H8	1.85	0.42
19:D:6:THR:HG23	19:D:9:ARG:HH21	1.85	0.42
19:D:169:ALA:O	19:D:172:ARG:HG2	2.20	0.42
20:DD:119:ILE:O	20:DD:157:LYS:HG3	2.20	0.42
25:F:28:SER:O	25:F:32:LYS:HG2	2.19	0.42
25:F:42:ILE:HD11	25:F:74:VAL:HG11	2.01	0.42
42:NN:84:LEU:HD21	42:NN:163:PHE:HE1	1.84	0.42
52:T:49:LYS:HA	52:T:49:LYS:HD3	1.78	0.42
61:c:86:A:H2'	61:c:87:C:C6	2.55	0.42
61:c:483:A:H2'	61:c:484:C:C6	2.55	0.42
61:c:515:A:H2'	61:c:516:G:O4'	2.19	0.42
61:c:1278:G:H2'	61:c:1279:C:O4'	2.20	0.42
63:e:92:GLN:O	63:e:92:GLN:HG3	2.20	0.42
66:h:103:TYR:CE1	66:h:109:PHE:HE1	2.37	0.42
70:l:83:TYR:HB3	70:l:101:ILE:HB	2.00	0.42
71:m:116:LEU:HD23	71:m:116:LEU:HA	1.91	0.42
81:w:23:ARG:NH2	81:w:92:ASP:OD2	2.40	0.42
83:y:29:PRO:HB2	83:y:58:SER:CB	2.50	0.42
1:0:36:SER:HB3	1:0:39:GLU:HG2	2.01	0.42
9:8:132:LEU:HD13	9:8:141:CYS:HA	2.02	0.42
11:AA:96:G:H5'	44:OO:15:ARG:NH1	2.34	0.42
11:AA:715:A:N1	11:AA:781:G:O2'	2.30	0.42
11:AA:816:A:OP1	91:AA:3651:HOH:O	2.21	0.42
11:AA:1040:A:N3	40:MM:198:LYS:NZ	2.59	0.42
11:AA:1506:A:H1'	11:AA:1848:G:C6	2.55	0.42
11:AA:2160:G:C2	11:AA:2161:G:C5	3.07	0.42
11:AA:2668:U:H2'	11:AA:2669:G:H8	1.85	0.42
11:AA:2767:U:H2'	11:AA:2768:U:C6	2.54	0.42
12:Aa:565:GLU:HB3	12:Aa:717:PHE:CZ	2.54	0.42
19:D:149:ALA:O	19:D:152:GLU:HG3	2.19	0.42
20:DD:39:HIS:HB3	24:Ee:121:PHE:CE2	2.54	0.42
26:FF:139:GLN:HG2	26:FF:140:ASP:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GG:23:PRO:O	28:GG:25:VAL:N	2.53	0.42
35:K:109:LEU:HD22	35:K:115:ARG:HH21	1.85	0.42
36:KK:214:LEU:O	36:KK:218:ILE:HG13	2.20	0.42
48:Q:94:ALA:O	48:Q:119:VAL:HA	2.20	0.42
61:c:93:A:H5'	61:c:94:U:C5	2.55	0.42
61:c:1235:C:H5	61:c:1245:G:N7	2.18	0.42
67:i:76:ARG:HE	77:s:122:ARG:HD3	1.83	0.42
67:i:119:ASP:O	67:i:123:VAL:HG23	2.18	0.42
70:l:25:ARG:HD2	70:l:27:PHE:HE2	1.85	0.42
75:q:47:LYS:HA	75:q:47:LYS:HD3	1.78	0.42
77:s:35:PRO:HG2	77:s:38:LEU:HG	2.00	0.42
77:s:110:THR:HA	77:s:113:ASP:HB2	2.02	0.42
79:u:114:GLU:O	79:u:118:LYS:HG2	2.20	0.42
1:0:106:GLN:O	1:0:110:GLN:HG3	2.19	0.42
6:5:55:PHE:HB2	81:w:83:GLU:OE2	2.19	0.42
11:AA:148:G:O6	36:KK:135:GLY:HA3	2.20	0.42
11:AA:313:A:H2'	11:AA:314:U:C6	2.55	0.42
11:AA:381:U:H2'	11:AA:382:U:C6	2.55	0.42
11:AA:714:G:H4'	11:AA:753:C:O3'	2.20	0.42
11:AA:964:G:OP2	11:AA:1115:G:N2	2.50	0.42
11:AA:1556:C:H2'	11:AA:2169:G:N2	2.35	0.42
11:AA:2318:U:H2'	11:AA:2319:U:O4'	2.20	0.42
11:AA:2392:C:H2'	11:AA:2393:G:C4	2.55	0.42
11:AA:2491:A:H2'	11:AA:2492:C:O4'	2.20	0.42
11:AA:2577:C:H2'	11:AA:2578:U:O4'	2.19	0.42
11:AA:2599:U:H2'	11:AA:2600:C:C6	2.55	0.42
11:AA:2869:U:O2'	11:AA:2873:U:OP1	2.37	0.42
11:AA:3089:C:H2'	11:AA:3090:U:O4'	2.19	0.42
12:Aa:150:ARG:NH2	12:Aa:194:ASP:OD2	2.53	0.42
15:Bb:15:G:H22	15:Bb:48:C:N4	2.16	0.42
15:Bb:37:YYG:H1'	15:Bb:37:YYG:H31	2.01	0.42
17:CC:75:G:OP2	35:K:74:TYR:OH	2.29	0.42
17:CC:102:U:H2'	17:CC:103:G:C8	2.55	0.42
20:DD:173:LEU:HA	20:DD:176:LEU:HB2	2.01	0.42
23:EE:149:ARG:HD2	23:EE:153:GLY:HA2	2.01	0.42
30:HH:32:GLN:HG2	30:HH:36:LEU:HD12	2.02	0.42
30:HH:64:ILE:HG13	30:HH:105:ILE:HD11	2.01	0.42
30:HH:123:GLU:HG2	30:HH:248:ARG:HE	1.85	0.42
32:II:148:GLU:HA	32:II:151:LYS:HE3	2.02	0.42
33:J:107:VAL:HG13	33:J:124:VAL:HG13	2.01	0.42
38:LL:41:ILE:HG12	38:LL:71:VAL:CG2	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:P:10:ARG:NH1	45:P:12:TYR:HH	2.16	0.42
54:V:43:LYS:HB2	54:V:43:LYS:HE3	1.88	0.42
61:c:590:C:H2'	61:c:591:A:C8	2.55	0.42
61:c:973:A:H2'	61:c:974:A2M:H8	2.02	0.42
61:c:1451:C:H2'	61:c:1452:U:H6	1.84	0.42
61:c:1545:A:H2'	61:c:1546:G:H8	1.84	0.42
62:d:55:GLU:HB3	82:x:79:LEU:HD22	2.02	0.42
65:g:38:GLU:OE1	65:g:40:ARG:NH2	2.53	0.42
65:g:115:ILE:HD13	65:g:142:LEU:HD22	2.02	0.42
66:h:94:ALA:O	66:h:95:THR:OG1	2.29	0.42
71:m:107:ARG:HA	71:m:107:ARG:HD2	1.85	0.42
71:m:120:LYS:H	71:m:124:HIS:HD2	1.68	0.42
74:p:62:GLN:HB2	74:p:65:VAL:HG22	2.01	0.42
77:s:29:ILE:HG12	77:s:65:ILE:HB	2.01	0.42
82:x:14:PRO:HG2	82:x:23:ILE:HD12	2.02	0.42
83:y:105:THR:HB	83:y:126:LEU:HD13	2.02	0.42
11:AA:147:U:C4	36:KK:157:VAL:HG13	2.54	0.41
11:AA:314:U:H2'	11:AA:315:C:H6	1.85	0.41
11:AA:806:A:N3	11:AA:2812:C:O2'	2.46	0.41
11:AA:981:U:O5'	11:AA:981:U:H6	2.02	0.41
11:AA:1017:C:H2'	11:AA:1036:A:C2	2.55	0.41
11:AA:1129:A:H2'	11:AA:1130:A:C8	2.54	0.41
11:AA:1312:C:H2'	11:AA:1313:G:O4'	2.19	0.41
11:AA:1680:G:H2'	11:AA:1681:U:H6	1.84	0.41
11:AA:1710:C:H2'	11:AA:1711:C:C6	2.55	0.41
11:AA:2179:C:H2'	23:EE:132:ASN:HD21	1.84	0.41
11:AA:2344:U:H4'	11:AA:3056:U:C5	2.55	0.41
11:AA:3039:C:OP1	29:H:88:ARG:NH1	2.43	0.41
12:Aa:218:TRP:HZ3	12:Aa:220:PHE:HD1	1.68	0.41
12:Aa:432:GLN:N	12:Aa:457:VAL:O	2.45	0.41
12:Aa:578:LYS:HB3	12:Aa:585:ARG:NH1	2.34	0.41
12:Aa:694:HIS:CD2	12:Aa:696:ASP:HB2	2.55	0.41
17:CC:69:U:H3'	17:CC:70:G:C8	2.55	0.41
19:D:98:ARG:NH2	19:D:130:ASN:OD1	2.53	0.41
20:DD:92:PRO:O	20:DD:95:GLU:HG3	2.19	0.41
20:DD:136:PHE:HZ	20:DD:176:LEU:HD11	1.84	0.41
36:KK:33:ASN:CG	36:KK:38:GLN:HE21	2.29	0.41
36:KK:74:THR:O	36:KK:77:GLN:NE2	2.53	0.41
36:KK:161:GLU:CD	49:QQ:26:ARG:HH22	2.28	0.41
36:KK:173:MET:HE3	53:U:39:PHE:HZ	1.85	0.41
48:Q:40:SER:HB3	48:Q:43:ARG:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:262:U:H2'	61:c:263:C:H6	1.85	0.41
61:c:889:U:H2'	61:c:890:C:C6	2.55	0.41
61:c:1000:C:H6	61:c:1003:A:H8	1.68	0.41
61:c:1119:G:H2'	61:c:1120:U:C6	2.55	0.41
61:c:1288:G:OP1	61:c:1624:C:O2'	2.37	0.41
61:c:1452:U:C2	61:c:1453:G:C8	3.08	0.41
63:e:176:VAL:O	63:e:177:GLN:HB2	2.20	0.41
65:g:160:SER:HA	65:g:164:VAL:HG11	2.01	0.41
66:h:181:VAL:HG11	66:h:195:ILE:HD11	2.02	0.41
69:k:9:LEU:HD23	69:k:17:GLU:OE2	2.19	0.41
75:q:16:VAL:HG12	75:q:18:ARG:HG3	2.01	0.41
8:7:130:THR:HG22	8:7:132:LYS:H	1.84	0.41
8:7:305:TYR:HE1	8:7:311:ARG:HB2	1.85	0.41
11:AA:355:A:H2'	11:AA:356:C:O4'	2.20	0.41
11:AA:548:G:H2'	11:AA:549:U:H6	1.81	0.41
11:AA:908:OMG:OP2	88:AA:3539:SPD:H81	2.21	0.41
11:AA:1392:G:H1'	11:AA:1418:A:N6	2.35	0.41
11:AA:1437:OMC:HM23	11:AA:1437:OMC:H1'	1.74	0.41
11:AA:2449:A:H3'	11:AA:2450:G:H8	1.85	0.41
11:AA:2465:G:N2	11:AA:2493:U:O2'	2.53	0.41
11:AA:2609:A:H2'	11:AA:2610:G:C8	2.55	0.41
11:AA:3233:C:H2'	11:AA:3234:A:H8	1.80	0.41
11:AA:3313:U:H4'	26:FF:173:GLN:HE22	1.85	0.41
11:AA:3342:A:C2	11:AA:3364:C:C2	3.08	0.41
12:Aa:711:ARG:HG2	12:Aa:838:TYR:HB3	2.01	0.41
12:Aa:775:ASN:OD1	12:Aa:775:ASN:N	2.53	0.41
15:Bb:16:U:H1'	15:Bb:60:C:O2	2.21	0.41
17:CC:8:C:H2'	17:CC:9:A:H8	1.85	0.41
19:D:126:GLU:O	19:D:131:ALA:HB3	2.20	0.41
19:D:130:ASN:O	19:D:132:PHE:N	2.53	0.41
20:DD:89:THR:CG2	20:DD:91:GLU:H	2.31	0.41
22:E:19:VAL:O	22:E:19:VAL:HG13	2.20	0.41
28:GG:131:VAL:O	28:GG:135:VAL:HG23	2.20	0.41
45:P:9:THR:HG23	45:P:76:SER:HB2	2.03	0.41
61:c:387:A:N7	91:c:2032:HOH:O	2.37	0.41
61:c:517:U:C2	61:c:518:A:C8	3.08	0.41
61:c:1319:A:H2'	61:c:1320:U:O4'	2.20	0.41
61:c:1544:U:H3	61:c:1567:U:H3	1.68	0.41
61:c:1789:G:N7	75:q:132:ARG:NH2	2.68	0.41
62:d:24:LEU:HD23	62:d:24:LEU:HA	1.85	0.41
63:e:31:ASP:OD1	63:e:45:LYS:HE3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:e:132:ASP:CB	63:e:221:PRO:HB3	2.50	0.41
63:e:189:ILE:HB	63:e:190:PRO:HD3	2.01	0.41
67:i:73:THR:OG1	67:i:73:THR:O	2.39	0.41
69:k:61:PHE:HA	69:k:93:LEU:O	2.21	0.41
71:m:169:PRO:O	71:m:173:ALA:HB3	2.21	0.41
72:n:55:VAL:HA	72:n:67:THR:O	2.20	0.41
77:s:10:PHE:CE2	77:s:12:LYS:HE3	2.55	0.41
6:5:4:GLU:HG3	61:c:1215:C:H5'	2.02	0.41
8:7:67:ILE:HD12	8:7:85:TRP:CE3	2.55	0.41
8:7:81:LEU:HD12	8:7:81:LEU:HA	1.87	0.41
10:A:117:ARG:NH1	11:AA:3180:A:O2'	2.53	0.41
11:AA:201:A:H2'	11:AA:202:G:C8	2.55	0.41
11:AA:385:A:H2'	11:AA:386:A:C8	2.55	0.41
11:AA:505:G:P	28:GG:320:ASN:HD22	2.42	0.41
11:AA:833:G:OP1	19:D:86:GLU:HB2	2.20	0.41
11:AA:1026:A:O2'	11:AA:1027:A:O5'	2.38	0.41
11:AA:1049:C:OP1	40:MM:22:TYR:OH	2.28	0.41
11:AA:1153:A:O2'	11:AA:1154:A:H5'	2.21	0.41
11:AA:1915:A:H2'	11:AA:1916:U:C6	2.55	0.41
11:AA:2612:U:H2'	11:AA:2613:U:O4'	2.20	0.41
11:AA:2656:A:C4	11:AA:2658:G:N7	2.89	0.41
11:AA:2714:G:H5'	11:AA:2716:U:C6	2.56	0.41
11:AA:2717:U:H2'	11:AA:2718:U:C6	2.54	0.41
11:AA:2816:G:O6	47:Pp:1:MET:HE2	2.20	0.41
11:AA:2860:U:H1'	11:AA:2938:G:H4'	2.02	0.41
11:AA:3041:U:H2'	11:AA:3042:U:H6	1.84	0.41
11:AA:3084:C:H2'	11:AA:3085:G:O4'	2.21	0.41
12:Aa:505:VAL:O	12:Aa:509:LYS:HG2	2.21	0.41
12:Aa:527:GLU:OE1	12:Aa:560:VAL:HG12	2.20	0.41
13:B:100:ALA:O	13:B:103:GLU:HG3	2.20	0.41
17:CC:2:A:C4	17:CC:3:A:C8	3.09	0.41
17:CC:149:A:H2'	17:CC:150:G:C8	2.54	0.41
19:D:37:SER:O	19:D:41:ILE:HG12	2.20	0.41
22:E:77:VAL:HG11	22:E:106:LEU:HD13	2.01	0.41
23:EE:192:LYS:HB3	23:EE:193:ARG:CZ	2.50	0.41
24:Ee:61:GLN:C	24:Ee:62:LEU:HD12	2.45	0.41
44:OO:180:ARG:HD3	53:U:11:LEU:HD11	2.02	0.41
48:Q:101:SER:OG	48:Q:104:ASN:OD1	2.38	0.41
49:QQ:73:ARG:HB2	49:QQ:92:LEU:HD12	2.02	0.41
58:Z:15:ARG:HG2	58:Z:18:ARG:HH21	1.85	0.41
61:c:107:C:OP1	61:c:384:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:125:U:H5'	66:h:148:ARG:CD	2.47	0.41
61:c:148:A:H61	68:j:133:LEU:HD12	1.85	0.41
61:c:1001:A:O2'	61:c:1002:G:OP1	2.32	0.41
65:g:158:ILE:HD12	65:g:163:PRO:HB2	2.00	0.41
65:g:190:ARG:HH12	65:g:195:SER:HA	1.84	0.41
66:h:181:VAL:HG12	66:h:227:VAL:HG22	2.01	0.41
74:p:108:ASP:HB3	74:p:111:ALA:HB3	2.02	0.41
78:t:99:VAL:HG22	78:t:100:LEU:H	1.85	0.41
80:v:40:SER:HB3	80:v:43:ASN:HB2	2.02	0.41
8:7:155:ARG:HA	8:7:155:ARG:HD3	1.86	0.41
11:AA:184:U:H2'	11:AA:185:C:C6	2.55	0.41
11:AA:796:U:H2'	11:AA:797:U:C6	2.55	0.41
11:AA:1341:U:H2'	11:AA:1342:C:C6	2.55	0.41
11:AA:1494:U:P	56:X:42:ARG:HH22	2.43	0.41
11:AA:1503:A:C4	11:AA:1504:A:C8	3.08	0.41
11:AA:1562:C:H1'	11:AA:1563:C:O5'	2.20	0.41
11:AA:2354:C:H2'	11:AA:2355:G:O4'	2.20	0.41
11:AA:2445:A:C4	11:AA:2446:U:C5	3.09	0.41
11:AA:2475:G:C6	11:AA:2488:A:H4'	2.55	0.41
12:Aa:260:LYS:HD2	12:Aa:262:THR:N	2.34	0.41
12:Aa:365:ASN:HD21	12:Aa:379:MET:HG3	1.85	0.41
12:Aa:501:LEU:N	12:Aa:502:PRO:HD2	2.35	0.41
15:Bb:22:G:C2	15:Bb:23:A:N7	2.88	0.41
16:C:131:ALA:HB1	16:C:135:GLN:N	2.35	0.41
22:E:77:VAL:HG21	22:E:94:ILE:HD12	2.01	0.41
26:FF:14:LEU:HD13	26:FF:262:TRP:CH2	2.55	0.41
26:FF:80:ASP:OD1	26:FF:319:ASN:HB2	2.20	0.41
30:HH:197:SER:OG	30:HH:202:GLY:HA3	2.20	0.41
35:K:86:THR:HG22	35:K:96:PRO:HA	2.01	0.41
35:K:111:LEU:HD22	35:K:116:LYS:HG3	2.02	0.41
36:KK:41:GLN:HB3	36:KK:44:ARG:HH12	1.85	0.41
37:L:23:VAL:HG12	37:L:45:GLY:HA3	2.03	0.41
42:NN:21:ILE:HG12	42:NN:37:LEU:HD13	2.02	0.41
42:NN:30:LEU:HA	42:NN:30:LEU:HD12	1.68	0.41
52:T:114:ARG:HA	52:T:114:ARG:HD2	1.81	0.41
61:c:534:A:C4	61:c:535:A:C8	3.08	0.41
61:c:592:A:OP1	71:m:39:LYS:HG3	2.20	0.41
61:c:625:C:H2'	61:c:626:U:H6	1.85	0.41
61:c:776:G:H2'	61:c:777:C:C6	2.56	0.41
61:c:876:G:H2'	61:c:936:G:N2	2.34	0.41
61:c:1003:A:O2'	61:c:1005:A:N7	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1612:U:H2'	61:c:1613:U:O4'	2.20	0.41
62:d:12:GLU:HG2	62:d:13:ASP:N	2.35	0.41
67:i:133:VAL:HG22	67:i:198:LEU:HD13	2.00	0.41
77:s:34:SER:HB3	77:s:38:LEU:HD12	2.00	0.41
5:4:48:VAL:HG22	67:i:163:SER:HB3	2.01	0.41
8:7:294:TRP:CZ3	8:7:301:LEU:HB2	2.56	0.41
11:AA:35:A:H2'	11:AA:36:C:H6	1.86	0.41
11:AA:1023:C:H3'	11:AA:1024:G:C8	2.55	0.41
11:AA:1233:G:H21	24:Ee:131:GLU:CD	2.28	0.41
11:AA:1238:C:H2'	11:AA:1239:C:C6	2.55	0.41
11:AA:1498:A:OP1	19:D:6:THR:OG1	2.24	0.41
11:AA:1784:G:H2'	11:AA:1785:U:O4'	2.19	0.41
11:AA:1927:G:C8	60:b:16:VAL:HG12	2.55	0.41
11:AA:2203:U:H3	11:AA:2239:G:H1	1.68	0.41
11:AA:3158:G:H22	11:AA:3292:A:H2	1.63	0.41
11:AA:3268:A:H5''	32:II:46:ARG:NH1	2.36	0.41
12:Aa:453:ILE:HD13	12:Aa:453:ILE:HA	1.92	0.41
13:B:36:ILE:HG21	13:B:48:LEU:CD2	2.50	0.41
17:CC:113:U:H5''	56:X:7:PHE:CB	2.51	0.41
17:CC:151:C:O2'	17:CC:153:U:OP2	2.36	0.41
18:Cc:4:G:C6	18:Cc:71:G:C6	3.09	0.41
32:II:52:VAL:HG21	32:II:65:ILE:HD12	2.02	0.41
38:LL:85:GLY:HA3	38:LL:187:ILE:HD12	2.03	0.41
48:Q:32:TRP:O	48:Q:33:ARG:NH1	2.48	0.41
50:R:13:HIS:HA	50:R:30:ILE:HD13	2.03	0.41
61:c:55:A:H2'	61:c:403:G:N1	2.35	0.41
61:c:284:G:O6	68:j:188:ARG:NH2	2.53	0.41
61:c:404:G:H2'	61:c:405:C:C6	2.55	0.41
61:c:876:G:H1'	61:c:944:A:O4'	2.21	0.41
61:c:1026:A:N7	61:c:1772:C:O2'	2.42	0.41
61:c:1471:A:C8	61:c:1540:G:H1'	2.56	0.41
64:f:58:LEU:HA	82:x:12:TYR:HE1	1.85	0.41
75:q:42:VAL:HA	75:q:46:MET:CE	2.51	0.41
77:s:31:VAL:HA	77:s:67:VAL:HG22	2.01	0.41
79:u:86:LEU:HD22	79:u:99:HIS:HB2	2.02	0.41
79:u:127:HIS:CD2	79:u:133:VAL:HG11	2.56	0.41
84:z:43:PHE:O	84:z:45:GLY:N	2.44	0.41
11:AA:415:G:H2'	11:AA:416:A:C8	2.56	0.41
11:AA:532:A:O2'	11:AA:533:A:H8	2.03	0.41
11:AA:663:OMC:HM23	11:AA:663:OMC:H1'	1.72	0.41
11:AA:780:A:OP1	16:C:178:ARG:NH2	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1103:A:N7	11:AA:1363:A:O2'	2.48	0.41
11:AA:1359:C:H2'	11:AA:1360:C:H6	1.85	0.41
11:AA:2503:G:H8	11:AA:2503:G:O5'	2.04	0.41
11:AA:3163:A:H2'	11:AA:3164:C:H6	1.84	0.41
12:Aa:29:ASP:O	12:Aa:159:LYS:NZ	2.47	0.41
14:BB:48:U:H2'	14:BB:49:G:H5'	2.02	0.41
23:EE:30:ARG:NH1	23:EE:36:GLU:OE2	2.42	0.41
34:JJ:186:HIS:HA	34:JJ:189:ILE:HG22	2.03	0.41
42:NN:88:GLU:HB2	42:NN:90:GLN:OE1	2.20	0.41
44:OO:89:TYR:O	44:OO:93:ILE:HG12	2.20	0.41
48:Q:96:ILE:HG21	48:Q:105:ARG:HG2	2.02	0.41
56:X:27:ILE:O	56:X:28:ARG:HB2	2.21	0.41
61:c:252:U:H2'	61:c:253:A:C8	2.55	0.41
61:c:891:A:H2'	61:c:892:A:H8	1.86	0.41
61:c:955:A:H2'	61:c:956:C:O4'	2.20	0.41
61:c:1010:C:H2'	61:c:1011:G:O4'	2.20	0.41
61:c:1120:U:H2'	61:c:1121:C:H6	1.85	0.41
61:c:1357:A:H4'	80:v:126:GLU:OE1	2.20	0.41
61:c:1395:G:H2'	61:c:1396:U:C6	2.56	0.41
61:c:1516:A:OP1	81:w:58:LEU:HD13	2.20	0.41
61:c:1648:A:H2'	61:c:1649:G:H8	1.86	0.41
61:c:1681:A:O2'	68:j:68:LEU:HD11	2.20	0.41
66:h:29:PRO:HB3	66:h:45:ILE:HG21	2.02	0.41
66:h:125:LYS:O	66:h:142:HIS:N	2.54	0.41
69:k:96:ARG:NH2	69:k:128:ASP:OD2	2.44	0.41
73:o:34:TRP:CH2	73:o:36:LYS:HB3	2.56	0.41
73:o:102:LYS:O	84:z:13:ARG:NH2	2.37	0.41
75:q:25:ASP:OD1	75:q:26:THR:N	2.52	0.41
78:t:66:VAL:H	78:t:69:ILE:HD13	1.85	0.41
83:y:38:LEU:HD22	83:y:47:ILE:HD13	2.01	0.41
2:1:40:VAL:HG13	2:1:41:ILE:H	1.84	0.41
3:2:41:ILE:HG22	3:2:66:LYS:HE2	2.02	0.41
5:4:16:LEU:HB2	5:4:27:GLN:CB	2.48	0.41
7:6:14:VAL:HG21	61:c:567:A:N3	2.36	0.41
11:AA:1253:U:H4'	11:AA:1254:C:H5'	2.03	0.41
11:AA:1389:G:N2	11:AA:1390:A:N1	2.69	0.41
11:AA:1463:U:H2'	11:AA:1464:G:O4'	2.21	0.41
11:AA:2251:G:N2	11:AA:2266:U:H1'	2.36	0.41
11:AA:2491:A:N6	11:AA:2492:C:N3	2.68	0.41
11:AA:3247:G:H2'	11:AA:3248:C:C6	2.55	0.41
11:AA:3357:U:H2'	11:AA:3358:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:261:ASP:C	12:Aa:263:ASP:N	2.79	0.41
12:Aa:305:ILE:H	12:Aa:305:ILE:HD12	1.86	0.41
12:Aa:627:VAL:O	12:Aa:631:ARG:HG3	2.21	0.41
13:B:109:ALA:HA	13:B:112:LEU:HD12	2.02	0.41
15:Bb:51:G:H2'	15:Bb:52:U:H6	1.85	0.41
20:DD:122:ARG:NH1	20:DD:123:ALA:O	2.53	0.41
22:E:71:LYS:HE2	22:E:71:LYS:HB2	1.89	0.41
35:K:112:ASP:H	35:K:115:ARG:HB2	1.85	0.41
46:PP:128:ARG:HA	46:PP:131:VAL:HG12	2.02	0.41
51:S:58:ARG:HA	51:S:58:ARG:HD2	1.74	0.41
58:Z:13:LEU:HD12	58:Z:16:LYS:HE3	2.01	0.41
61:c:400:A:H4'	61:c:401:A:H5''	2.02	0.41
61:c:586:G:H2'	61:c:587:C:C6	2.55	0.41
61:c:816:G:H22	61:c:855:A:H2	1.69	0.41
61:c:1034:C:O2'	83:y:2:THR:N	2.46	0.41
61:c:1323:C:H2'	61:c:1324:G:O4'	2.20	0.41
61:c:1553:G:N2	61:c:1555:A:H3'	2.35	0.41
63:e:28:GLU:HG3	63:e:30:PHE:HE1	1.85	0.41
70:l:11:ARG:O	73:o:133:LYS:NZ	2.41	0.41
72:n:69:THR:HG23	72:n:72:GLY:H	1.86	0.41
79:u:12:GLN:HG3	79:u:13:HIS:O	2.19	0.41
5:4:21:SER:OG	5:4:22:ARG:NH1	2.53	0.41
7:6:29:LYS:O	7:6:31:LYS:HE3	2.21	0.41
11:AA:75:G:H3'	11:AA:76:G:H8	1.86	0.41
11:AA:1021:G:H2'	11:AA:1022:U:C6	2.56	0.41
11:AA:1544:G:OP1	49:QQ:127:TYR:OH	2.27	0.41
11:AA:1618:G:O2'	17:CC:126:A:N1	2.54	0.41
11:AA:1656:A:H4'	11:AA:1657:C:O4'	2.21	0.41
11:AA:2631:U:H4'	11:AA:2697:A:H2	1.86	0.41
11:AA:2713:U:H3'	59:a:9:LYS:O	2.20	0.41
11:AA:2714:G:H4'	11:AA:2715:A:C5'	2.51	0.41
12:Aa:57:THR:O	12:Aa:59:THR:HG23	2.21	0.41
12:Aa:111:PHE:HE1	12:Aa:537:HIS:HA	1.85	0.41
12:Aa:656:LEU:O	12:Aa:660:LYS:HG3	2.20	0.41
15:Bb:28:C:H2'	15:Bb:29:A:O4'	2.20	0.41
20:DD:92:PRO:HG2	20:DD:95:GLU:CG	2.51	0.41
26:FF:312:VAL:HG23	26:FF:364:LYS:HB2	2.03	0.41
28:GG:140:HIS:O	28:GG:142:VAL:HG22	2.20	0.41
28:GG:233:LEU:HB3	28:GG:238:LEU:HD11	2.02	0.41
34:JJ:88:ARG:NH1	34:JJ:108:LEU:O	2.43	0.41
35:K:83:ASP:O	35:K:84:LYS:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LL:103:ILE:HG21	38:LL:110:LYS:HE3	2.03	0.41
42:NN:21:ILE:HG21	42:NN:33:ALA:HB1	2.02	0.41
43:O:43:ILE:HA	43:O:68:TYR:O	2.20	0.41
52:T:15:GLU:H	52:T:15:GLU:CD	2.28	0.41
61:c:269:G:H2'	61:c:270:C:C6	2.55	0.41
61:c:382:C:P	66:h:10:LYS:HD2	2.60	0.41
61:c:541:A2M:N3	61:c:541:A2M:H2'	2.35	0.41
61:c:804:A:H1'	83:y:106:THR:O	2.21	0.41
61:c:887:A:H2'	61:c:888:U:C6	2.56	0.41
61:c:919:A:H2'	61:c:920:U:C6	2.56	0.41
61:c:1178:G:H5'	61:c:1190:C:H42	1.85	0.41
61:c:1244:A:H2'	61:c:1244:A:N3	2.35	0.41
61:c:1365:C:H6	61:c:1365:C:O5'	2.03	0.41
61:c:1435:G:O6	72:n:64:TYR:OH	2.30	0.41
61:c:1729:C:O3'	70:l:24:LYS:NZ	2.54	0.41
62:d:56:LYS:HA	62:d:56:LYS:HD2	1.78	0.41
72:n:29:GLN:HB3	72:n:39:ASN:HB2	2.03	0.41
79:u:27:LYS:HG3	79:u:57:ARG:HD3	2.03	0.41
82:x:17:CYS:HB2	82:x:56:SER:HB3	2.02	0.41
1:0:89:TYR:HB2	61:c:526:A:OP1	2.21	0.41
1:0:119:PHE:CE1	61:c:86:A:H5''	2.56	0.41
3:2:37:LYS:HE3	61:c:933:A:OP2	2.20	0.41
4:3:32:PHE:CE1	74:p:61:THR:HG22	2.56	0.41
4:3:56:CYS:HB2	4:3:59:CYS:HB3	2.03	0.41
8:7:16:HIS:CD2	8:7:43:ILE:HD12	2.56	0.41
8:7:250:TYR:O	8:7:264:SER:HA	2.20	0.41
10:A:187:GLU:OE1	10:A:187:GLU:N	2.54	0.41
11:AA:8:C:H2'	11:AA:9:U:C6	2.55	0.41
11:AA:66:A:OP2	44:OO:100:ARG:NH1	2.54	0.41
11:AA:77:A:OP2	44:OO:73:ARG:HD2	2.21	0.41
11:AA:426:G:H5'	48:Q:50:ILE:HG22	2.03	0.41
11:AA:1030:A:C6	11:AA:1031:C:C4	3.08	0.41
11:AA:1035:G:H2'	11:AA:1036:A:C8	2.56	0.41
11:AA:1048:A:H2'	40:MM:22:TYR:CZ	2.56	0.41
11:AA:1254:C:H1'	24:Ee:137:GLN:OE1	2.21	0.41
11:AA:1276:U:H2'	11:AA:1277:C:O4'	2.21	0.41
11:AA:1572:U:H3	11:AA:1574:C:N4	2.19	0.41
11:AA:1621:A:H2'	11:AA:1622:U:C6	2.56	0.41
11:AA:2323:G:O2'	11:AA:2325:G:OP2	2.35	0.41
11:AA:2424:A:H2'	11:AA:2425:G:O4'	2.20	0.41
11:AA:2492:C:H2'	11:AA:2493:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2607:G:OP2	91:AA:3654:HOH:O	2.22	0.41
11:AA:2981:U:OP2	26:FF:244:ARG:NH2	2.45	0.41
11:AA:3271:G:C4	32:II:108:LYS:HD3	2.56	0.41
12:Aa:115:VAL:O	12:Aa:119:LEU:HG	2.20	0.41
12:Aa:400:VAL:O	12:Aa:451:GLY:N	2.51	0.41
12:Aa:505:VAL:HG12	12:Aa:509:LYS:HE3	2.03	0.41
16:C:79:LYS:HG2	16:C:136:ASN:OD1	2.21	0.41
17:CC:6:U:H2'	17:CC:7:U:C6	2.56	0.41
20:DD:31:ASP:HA	20:DD:83:ASN:ND2	2.36	0.41
21:Dd:16:A:H4'	61:c:904:G:C5	2.56	0.41
24:Ee:48:LYS:HD2	24:Ee:49:ALA:N	2.36	0.41
24:Ee:137:GLN:CG	24:Ee:148:PRO:HB2	2.51	0.41
26:FF:78:VAL:HG21	26:FF:311:PHE:HZ	1.86	0.41
27:G:77:LYS:HA	27:G:95:PHE:HD2	1.86	0.41
28:GG:321:LYS:HD2	28:GG:324:LEU:HD23	2.03	0.41
34:JJ:36:ALA:HA	34:JJ:39:GLU:HG2	2.03	0.41
34:JJ:221:LYS:HG3	34:JJ:227:GLY:HA3	2.03	0.41
39:M:71:PRO:HB2	39:M:109:TYR:HA	2.02	0.41
40:MM:36:LEU:HD13	40:MM:69:ARG:HH11	1.86	0.41
40:MM:103:LEU:HD23	40:MM:112:GLN:NE2	2.31	0.41
45:P:80:ASN:HB3	45:P:90:PHE:CD1	2.55	0.41
51:S:37:LYS:HE3	51:S:58:ARG:NH2	2.35	0.41
55:W:46:ARG:NH1	55:W:51:LEU:HB2	2.36	0.41
57:Y:110:CYS:HB3	57:Y:115:CYS:SG	2.61	0.41
61:c:448:C:H2'	61:c:449:C:C6	2.56	0.41
61:c:566:C:OP2	84:z:66:SER:OG	2.39	0.41
61:c:749:U:H2'	61:c:750:U:C6	2.56	0.41
61:c:765:G:OP2	71:m:149:ARG:NH2	2.54	0.41
61:c:805:U:O2'	83:y:78:ARG:NH1	2.50	0.41
61:c:887:A:H2'	61:c:888:U:H6	1.85	0.41
61:c:1017:U:H2'	61:c:1018:U:C6	2.55	0.41
61:c:1132:A:H2'	61:c:1133:A:H8	1.86	0.41
61:c:1608:U:O3'	77:s:73:GLY:HA3	2.20	0.41
61:c:1659:A:H2'	61:c:1660:A:C8	2.56	0.41
62:d:76:ILE:O	62:d:123:VAL:HA	2.20	0.41
63:e:131:ASP:OD1	63:e:131:ASP:N	2.53	0.41
65:g:146:ARG:O	65:g:146:ARG:HG2	2.21	0.41
65:g:173:ARG:HA	65:g:173:ARG:HD3	1.74	0.41
66:h:86:PHE:CE2	66:h:87:MET:HE2	2.56	0.41
66:h:121:TYR:OH	66:h:235:TYR:O	2.37	0.41
69:k:150:GLN:O	69:k:181:ILE:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:k:158:ASP:HA	69:k:160:GLN:HE22	1.85	0.41
70:l:66:SER:HA	70:l:73:SER:HA	2.03	0.41
71:m:62:ARG:HB3	71:m:66:ASP:OD2	2.21	0.41
71:m:80:LEU:HD23	71:m:80:LEU:HA	1.89	0.41
71:m:110:GLN:HE22	71:m:126:ARG:HB2	1.86	0.41
71:m:127:VAL:O	71:m:131:GLN:HG2	2.20	0.41
72:n:54:TYR:HA	72:n:69:THR:HG22	2.02	0.41
74:p:110:ASP:O	74:p:114:ARG:HG2	2.21	0.41
76:r:17:TYR:OH	76:r:112:LEU:HB2	2.20	0.41
76:r:109:PRO:O	76:r:112:LEU:HD12	2.21	0.41
77:s:12:LYS:H	77:s:83:GLN:NE2	2.19	0.41
77:s:22:VAL:HA	77:s:64:ASP:O	2.20	0.41
79:u:65:GLU:O	79:u:69:ILE:HG12	2.21	0.41
80:v:33:TYR:O	80:v:36:ILE:HB	2.21	0.41
81:w:57:ARG:HG2	81:w:89:ARG:CG	2.51	0.41
84:z:26:GLU:HG3	84:z:29:TYR:HB3	2.02	0.41
3:2:59:TYR:OH	63:e:72:ASP:OD2	2.32	0.41
11:AA:65:A:N1	11:AA:109:A:O2'	2.45	0.41
11:AA:609:G:H3'	11:AA:609:G:N3	2.36	0.41
11:AA:620:U:H2'	11:AA:620:U:O2	2.20	0.41
11:AA:807:A2M:H62	11:AA:934:G:H22	1.69	0.41
11:AA:1021:G:H2'	11:AA:1022:U:O4'	2.21	0.41
11:AA:2815:OMG:HM21	11:AA:2817:A:H2'	2.02	0.41
11:AA:3092:C:O3'	11:AA:3093:C:H3'	2.20	0.41
12:Aa:699:DDE:HAT2	15:Bb:30:G:OP1	2.21	0.41
12:Aa:723:LYS:HD3	12:Aa:723:LYS:HA	1.91	0.41
13:B:39:TRP:O	13:B:113:TYR:HB2	2.20	0.41
13:B:94:LEU:HA	13:B:94:LEU:HD23	1.84	0.41
20:DD:180:PRO:HG2	20:DD:181:PHE:HD1	1.85	0.41
22:E:23:LYS:HD2	22:E:23:LYS:HA	1.83	0.41
24:Ee:7:PRO:HB3	24:Ee:66:ASN:HA	2.02	0.41
29:H:10:LYS:HB3	29:H:125:LEU:HD21	2.04	0.41
31:I:6:ASP:HB3	31:I:10:GLY:N	2.36	0.41
33:J:67:ILE:HD13	33:J:121:LYS:HD3	2.02	0.41
35:K:118:LEU:O	35:K:121:ARG:HG2	2.21	0.41
42:NN:108:GLU:HA	42:NN:122:ILE:HD11	2.02	0.41
49:QQ:65:ARG:HG2	49:QQ:127:TYR:HB3	2.01	0.41
52:T:28:LEU:O	52:T:32:LYS:HG2	2.20	0.41
61:c:17:C:H4'	61:c:1109:G:C8	2.56	0.41
61:c:810:G:C5	69:k:111:LYS:HD3	2.56	0.41
61:c:862:A:H4'	61:c:863:A:O5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:c:1172:G:H2'	61:c:1173:C:C6	2.56	0.41
61:c:1391:A:H2'	61:c:1392:U:C6	2.56	0.41
61:c:1488:G:O2'	61:c:1494:C:O2	2.31	0.41
61:c:1651:A:N1	61:c:1749:A:H2	2.19	0.41
62:d:56:LYS:HB3	62:d:160:ILE:HD13	2.02	0.41
62:d:60:ALA:O	62:d:64:ILE:HG13	2.20	0.41
69:k:86:GLN:O	69:k:88:ARG:HG2	2.21	0.41
69:k:130:VAL:HG23	69:k:162:ILE:HD13	2.03	0.41
70:l:84:HIS:CE1	70:l:90:LEU:HD12	2.56	0.41
71:m:30:LEU:HD13	71:m:105:LEU:HD11	2.03	0.41
82:x:11:LEU:HD23	82:x:11:LEU:H	1.85	0.41
82:x:40:ASP:HB3	82:x:46:ILE:HD11	2.03	0.41
82:x:58:TYR:OH	83:y:20:THR:HA	2.21	0.41
83:y:8:ALA:HB2	83:y:74:VAL:HG21	2.03	0.41
10:A:47:PHE:HE1	10:A:141:LEU:HA	1.86	0.40
11:AA:22:G:H1'	17:CC:104:A:N3	2.36	0.40
11:AA:195:U:H2'	11:AA:196:G:O4'	2.22	0.40
11:AA:608:A:O3'	28:GG:326:ARG:NH2	2.54	0.40
11:AA:876:A2M:H5''	11:AA:1890:U:H5''	2.03	0.40
11:AA:1235:U:OP1	24:Ee:76:SER:OG	2.29	0.40
11:AA:1257:C:H5''	24:Ee:123:ARG:CD	2.51	0.40
11:AA:1265:U:O2	11:AA:1277:C:H1'	2.22	0.40
11:AA:1340:G:H2'	11:AA:1341:U:H6	1.84	0.40
11:AA:1606:U:O4	51:S:9:ARG:NE	2.51	0.40
11:AA:1907:C:O2	26:FF:240:ARG:NH2	2.50	0.40
11:AA:2694:A:H8	11:AA:2694:A:OP2	2.04	0.40
11:AA:3072:C:H2'	11:AA:3073:A:O4'	2.21	0.40
11:AA:3103:A:H2'	11:AA:3104:U:O4'	2.21	0.40
11:AA:3177:G:O2'	11:AA:3179:U:OP1	2.30	0.40
11:AA:3358:U:H2'	11:AA:3359:A:C8	2.52	0.40
12:Aa:380:LEU:HD13	12:Aa:405:VAL:HG21	2.03	0.40
12:Aa:739:ALA:HB1	12:Aa:788:THR:HB	2.02	0.40
12:Aa:801:TRP:HZ2	90:Aa:1002:SO1:H242	1.82	0.40
15:Bb:30:G:H2'	15:Bb:31:A:H8	1.86	0.40
20:DD:192:ASP:HB2	20:DD:197:PHE:CE1	2.56	0.40
26:FF:140:ASP:N	26:FF:140:ASP:OD1	2.52	0.40
28:GG:23:PRO:C	28:GG:25:VAL:H	2.29	0.40
33:J:135:ILE:O	33:J:139:ILE:HG12	2.20	0.40
34:JJ:86:VAL:O	34:JJ:114:GLY:HA2	2.21	0.40
34:JJ:89:ILE:HD11	34:JJ:229:PHE:HB3	2.02	0.40
34:JJ:132:PRO:HG2	34:JJ:133:TYR:CE2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:T:26:LYS:O	52:T:30:GLU:OE1	2.39	0.40
61:c:275:C:H2'	61:c:276:C:O4'	2.22	0.40
61:c:347:G:OP1	73:o:77:SER:OG	2.24	0.40
61:c:816:G:H2'	61:c:817:A:H8	1.86	0.40
68:j:69:LEU:O	68:j:99:GLY:HA3	2.20	0.40
69:k:130:VAL:HG21	69:k:154:LEU:HD22	2.03	0.40
80:v:38:LYS:HD2	80:v:40:SER:O	2.21	0.40
2:1:77:ARG:HA	2:1:80:LEU:CD2	2.51	0.40
2:1:77:ARG:O	2:1:80:LEU:HD23	2.21	0.40
8:7:125:GLY:HA2	8:7:131:ILE:HA	2.03	0.40
8:7:276:PRO:HG3	8:7:313:TRP:HZ2	1.86	0.40
11:AA:626:U:H2'	11:AA:627:U:O4'	2.21	0.40
11:AA:662:U:OP1	39:M:8:THR:HG21	2.21	0.40
11:AA:848:A:H8	11:AA:848:A:O5'	2.04	0.40
11:AA:1277:C:C2	11:AA:1278:A:C8	3.09	0.40
11:AA:1389:G:H5'	48:Q:99:ASN:O	2.22	0.40
11:AA:2618:G:C8	11:AA:2865:U:H5''	2.55	0.40
11:AA:3217:C:OP1	11:AA:3266:G:N1	2.37	0.40
11:AA:3350:C:H1'	11:AA:3351:U:H5	1.86	0.40
12:Aa:7:ASP:OD1	12:Aa:7:ASP:N	2.51	0.40
12:Aa:21:ASN:OD1	12:Aa:101:ASN:ND2	2.32	0.40
12:Aa:55:ARG:CZ	12:Aa:67:GLY:HA2	2.52	0.40
12:Aa:429:LYS:HD3	12:Aa:462:PHE:HD2	1.87	0.40
12:Aa:606:ILE:HG23	12:Aa:615:ARG:HD2	2.02	0.40
24:Ee:46:ILE:CD1	24:Ee:62:LEU:HD11	2.50	0.40
24:Ee:61:GLN:HG3	24:Ee:72:SER:HB3	2.03	0.40
27:G:50:LEU:HD22	27:G:54:VAL:CB	2.51	0.40
49:QQ:190:THR:HG23	49:QQ:193:ARG:HH22	1.85	0.40
51:S:5:VAL:HG11	51:S:22:VAL:HG13	2.03	0.40
59:a:63:LYS:HA	59:a:63:LYS:HD3	1.79	0.40
61:c:158:U:O2'	61:c:159:U:H3'	2.21	0.40
61:c:333:A:H2'	61:c:334:G:C8	2.57	0.40
61:c:895:G:H2'	61:c:896:U:C6	2.56	0.40
61:c:922:G:H2'	61:c:923:A:H8	1.85	0.40
61:c:1089:U:O2'	61:c:1093:A:N1	2.41	0.40
61:c:1308:G:H2'	61:c:1309:C:H6	1.87	0.40
61:c:1389:C:N4	61:c:1391:A:O4'	2.54	0.40
61:c:1439:C:H2'	61:c:1440:C:C6	2.56	0.40
63:e:34:ALA:HB3	63:e:35:PRO:HD3	2.02	0.40
65:g:71:LEU:O	65:g:74:GLN:HB3	2.21	0.40
66:h:45:ILE:HG23	66:h:46:VAL:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:i:43:PHE:HZ	67:i:90:ILE:CD1	2.34	0.40
67:i:45:LYS:HB3	67:i:46:TRP:CE3	2.57	0.40
67:i:200:ASN:HB2	67:i:208:SER:HB3	2.04	0.40
71:m:126:ARG:HA	71:m:129:ILE:HG22	2.04	0.40
78:t:86:PRO:C	78:t:88:VAL:N	2.79	0.40
2:1:71:ILE:HG22	2:1:72:GLY:O	2.21	0.40
3:2:2:PRO:HB3	61:c:1142:A:H5''	2.03	0.40
8:7:102:ARG:HG3	8:7:102:ARG:O	2.20	0.40
8:7:108:SER:OG	8:7:127:ARG:HB2	2.21	0.40
11:AA:293:C:H2'	11:AA:294:U:O4'	2.21	0.40
11:AA:413:U:H2'	11:AA:414:U:C6	2.56	0.40
11:AA:673:U:OP1	16:C:21:SER:OG	2.29	0.40
11:AA:945:C:H2'	11:AA:946:U:H6	1.86	0.40
11:AA:1182:A:H2'	11:AA:1183:C:C6	2.56	0.40
11:AA:1636:U:O2'	37:L:79:HIS:ND1	2.44	0.40
11:AA:2338:C:H3'	11:AA:2339:C:H2'	2.04	0.40
11:AA:2640:A2M:H8	11:AA:2640:A2M:O5'	2.21	0.40
11:AA:3160:U:H2'	11:AA:3161:C:H6	1.86	0.40
12:Aa:525:SER:OG	12:Aa:562:ALA:HB2	2.22	0.40
23:EE:68:LYS:HD3	23:EE:70:ARG:HH11	1.86	0.40
23:EE:104:LEU:HD23	23:EE:104:LEU:HA	1.87	0.40
24:Ee:109:ILE:H	24:Ee:109:ILE:HD12	1.86	0.40
32:II:6:ALA:HB2	48:Q:74:PHE:CZ	2.56	0.40
33:J:135:ILE:HD12	33:J:138:ARG:HH21	1.85	0.40
36:KK:90:THR:HG21	36:KK:152:LEU:HD21	2.03	0.40
36:KK:195:SER:OG	36:KK:197:VAL:O	2.30	0.40
49:QQ:6:TYR:CE1	53:U:43:LEU:HD23	2.54	0.40
49:QQ:33:LYS:O	49:QQ:65:ARG:NH2	2.55	0.40
49:QQ:153:ASP:OD2	49:QQ:155:VAL:HG12	2.21	0.40
50:R:17:GLN:O	50:R:24:ASN:N	2.42	0.40
52:T:65:ALA:O	52:T:69:LEU:HD23	2.22	0.40
56:X:44:TRP:CZ2	56:X:45:ARG:HD3	2.56	0.40
60:b:41:PHE:CD2	60:b:62:LYS:HD2	2.55	0.40
61:c:590:C:H2'	61:c:591:A:H8	1.86	0.40
61:c:614:C:C2	61:c:615:A:C8	3.09	0.40
61:c:872:G:N2	61:c:1047:G:H4'	2.37	0.40
61:c:874:C:OP1	63:e:159:SER:OG	2.22	0.40
61:c:888:U:O2	61:c:988:A:O2'	2.39	0.40
61:c:903:U:H2'	61:c:905:A:OP2	2.22	0.40
62:d:3:LEU:HA	62:d:4:PRO:HD3	1.97	0.40
63:e:142:PHE:CD1	63:e:209:ASN:HB3	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:f:69:ILE:HG13	64:f:133:LYS:O	2.22	0.40
66:h:101:LEU:HD23	66:h:101:LEU:HA	1.94	0.40
68:j:55:GLY:O	68:j:63:MET:HG2	2.20	0.40
68:j:93:LYS:HD2	68:j:95:LYS:HZ2	1.85	0.40
70:l:72:ILE:HG13	70:l:73:SER:N	2.36	0.40
83:y:71:LYS:HG2	83:y:128:PHE:HE1	1.85	0.40
8:7:10:ARG:NH2	8:7:50:ASP:O	2.51	0.40
8:7:46:LYS:HB3	8:7:58:VAL:HG11	2.02	0.40
11:AA:1220:U:OP1	11:AA:1221:A:O2'	2.38	0.40
11:AA:1295:G:H1'	22:E:113:ARG:O	2.22	0.40
11:AA:1927:G:P	60:b:6:LYS:H	2.45	0.40
11:AA:2389:C:H5''	13:B:66:SER:HA	2.04	0.40
11:AA:2493:U:H2'	11:AA:2494:A:C8	2.57	0.40
20:DD:15:LEU:O	20:DD:19:LEU:HD13	2.21	0.40
29:H:40:LYS:HB2	29:H:57:MET:O	2.21	0.40
53:U:97:SER:OG	53:U:98:ARG:N	2.52	0.40
61:c:11:A:N3	61:c:1300:A:O2'	2.45	0.40
61:c:484:C:H2'	61:c:485:A:C8	2.55	0.40
61:c:979:A:H4'	61:c:1786:G:N2	2.37	0.40
61:c:998:A:H2'	61:c:999:U:C6	2.57	0.40
62:d:121:VAL:HG23	62:d:141:ILE:HG21	2.02	0.40
64:f:148:LEU:O	64:f:174:ARG:NH2	2.54	0.40
66:h:124:GLY:HA2	66:h:142:HIS:CE1	2.56	0.40
68:j:211:LEU:HD12	68:j:214:LYS:HE2	2.03	0.40
72:n:24:LYS:O	72:n:43:ILE:HD11	2.22	0.40
79:u:88:ARG:O	79:u:98:TYR:N	2.47	0.40
2:1:54:VAL:HG21	2:1:88:ILE:HB	2.04	0.40
11:AA:118:U:H5	11:AA:123:A:H62	1.69	0.40
11:AA:174:C:H2'	11:AA:175:C:C6	2.56	0.40
11:AA:968:G:H2'	11:AA:969:C:H6	1.87	0.40
11:AA:1028:U:O4	11:AA:1031:C:N4	2.55	0.40
11:AA:1112:A:O2'	11:AA:1370:G:O3'	2.40	0.40
11:AA:1277:C:H2'	11:AA:1278:A:H8	1.86	0.40
11:AA:1307:G:O2'	11:AA:1308:A:N7	2.53	0.40
11:AA:1509:A:H2'	11:AA:1510:G:C8	2.56	0.40
11:AA:1824:U:H2'	11:AA:1825:G:O4'	2.22	0.40
11:AA:1950:U:H2'	11:AA:1951:C:C6	2.56	0.40
11:AA:2588:U:OP1	36:KK:48:ARG:NH2	2.32	0.40
11:AA:2836:C:H5	11:AA:2852:C:H42	1.69	0.40
11:AA:2880:U:O2	26:FF:250:ALA:HB3	2.21	0.40
11:AA:3023:U:H2'	11:AA:3024:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:32:LYS:HD2	12:Aa:105:SER:O	2.20	0.40
12:Aa:426:LEU:HD21	12:Aa:428:ILE:HD11	2.04	0.40
12:Aa:427:PHE:CE1	12:Aa:462:PHE:HB3	2.57	0.40
14:BB:53:U:O2'	14:BB:55:A:N7	2.50	0.40
14:BB:91:G:H2'	14:BB:92:A:C8	2.56	0.40
15:Bb:25:C:C4	15:Bb:26:G:N7	2.88	0.40
17:CC:18:U:H2'	17:CC:19:C:C6	2.56	0.40
18:Cc:14:A:H2'	18:Cc:15:G:O4'	2.20	0.40
22:E:8:GLN:HG2	22:E:62:ASN:HB2	2.02	0.40
26:FF:215:ILE:CD1	26:FF:338:LEU:HD23	2.52	0.40
31:I:45:ASN:HB3	31:I:48:ARG:HG2	2.04	0.40
42:NN:16:LYS:HD3	42:NN:72:ARG:NH2	2.37	0.40
53:U:95:ALA:O	53:U:100:HIS:HA	2.22	0.40
54:V:63:ARG:O	54:V:68:LYS:HE2	2.21	0.40
61:c:61:A:H8	61:c:269:G:O2'	2.04	0.40
61:c:89:G:H2'	61:c:90:C:C6	2.56	0.40
61:c:145:A:H4'	61:c:146:U:OP1	2.21	0.40
61:c:258:C:H5''	70:l:75:LYS:HB2	2.04	0.40
61:c:783:G:HO2'	61:c:784:C:P	2.45	0.40
61:c:866:G:O6	91:c:2017:HOH:O	2.21	0.40
61:c:1322:A:H2'	61:c:1323:C:C6	2.56	0.40
61:c:1347:U:N3	81:w:58:LEU:HD11	2.36	0.40
61:c:1554:U:H2'	61:c:1555:A:O4'	2.22	0.40
65:g:140:GLY:O	65:g:147:ALA:CA	2.69	0.40
66:h:192:ILE:HD12	66:h:242:LYS:O	2.21	0.40
67:i:73:THR:N	67:i:91:GLU:OE2	2.55	0.40
71:m:108:ARG:NH1	71:m:145:SER:HB3	2.37	0.40
79:u:36:LYS:HE3	79:u:36:LYS:HB3	1.91	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%)	128 (97%)	4 (3%)	0	100	100
2	1	68/108 (63%)	62 (91%)	6 (9%)	0	100	100
3	2	95/119 (80%)	87 (92%)	8 (8%)	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	51/56 (91%)	51 (100%)	0	0	100	100
7	6	51/63 (81%)	48 (94%)	3 (6%)	0	100	100
8	7	316/319 (99%)	299 (95%)	17 (5%)	0	100	100
9	8	32/152 (21%)	22 (69%)	10 (31%)	0	100	100
10	A	195/199 (98%)	193 (99%)	2 (1%)	0	100	100
12	Aa	839/842 (100%)	807 (96%)	31 (4%)	1 (0%)	48	72
13	B	152/184 (83%)	149 (98%)	3 (2%)	0	100	100
16	C	183/186 (98%)	181 (99%)	2 (1%)	0	100	100
19	D	174/189 (92%)	170 (98%)	4 (2%)	0	100	100
20	DD	198/312 (64%)	187 (94%)	11 (6%)	0	100	100
22	E	170/172 (99%)	164 (96%)	6 (4%)	0	100	100
23	EE	250/254 (98%)	246 (98%)	4 (2%)	0	100	100
24	Ee	158/165 (96%)	154 (98%)	4 (2%)	0	100	100
25	F	157/160 (98%)	153 (98%)	4 (2%)	0	100	100
26	FF	384/387 (99%)	375 (98%)	9 (2%)	0	100	100
27	G	95/121 (78%)	94 (99%)	1 (1%)	0	100	100
28	GG	359/362 (99%)	344 (96%)	15 (4%)	0	100	100
29	H	127/137 (93%)	127 (100%)	0	0	100	100
30	HH	294/297 (99%)	284 (97%)	10 (3%)	0	100	100
31	I	61/155 (39%)	61 (100%)	0	0	100	100
32	II	151/176 (86%)	147 (97%)	4 (3%)	0	100	100
33	J	118/142 (83%)	114 (97%)	4 (3%)	0	100	100
34	JJ	220/244 (90%)	217 (99%)	3 (1%)	0	100	100
35	K	124/127 (98%)	123 (99%)	1 (1%)	0	100	100
36	KK	231/256 (90%)	225 (97%)	6 (3%)	0	100	100
37	L	133/136 (98%)	128 (96%)	5 (4%)	0	100	100
38	LL	189/191 (99%)	183 (97%)	6 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	M	146/149 (98%)	139 (95%)	6 (4%)	1 (1%)	18	39
40	MM	213/221 (96%)	207 (97%)	6 (3%)	0	100	100
41	N	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
42	NN	167/174 (96%)	156 (93%)	11 (7%)	0	100	100
43	O	95/105 (90%)	95 (100%)	0	0	100	100
44	OO	191/199 (96%)	177 (93%)	13 (7%)	1 (0%)	24	46
45	P	107/113 (95%)	101 (94%)	6 (6%)	0	100	100
46	PP	134/138 (97%)	132 (98%)	2 (2%)	0	100	100
48	Q	125/130 (96%)	124 (99%)	1 (1%)	0	100	100
49	QQ	201/204 (98%)	193 (96%)	8 (4%)	0	100	100
50	R	104/107 (97%)	103 (99%)	1 (1%)	0	100	100
51	S	107/121 (88%)	107 (100%)	0	0	100	100
52	T	117/120 (98%)	114 (97%)	3 (3%)	0	100	100
53	U	97/100 (97%)	88 (91%)	9 (9%)	0	100	100
54	V	82/88 (93%)	81 (99%)	1 (1%)	0	100	100
55	W	75/78 (96%)	70 (93%)	5 (7%)	0	100	100
56	X	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
57	Y	50/128 (39%)	50 (100%)	0	0	100	100
58	Z	23/25 (92%)	23 (100%)	0	0	100	100
59	a	100/106 (94%)	95 (95%)	5 (5%)	0	100	100
60	b	89/92 (97%)	88 (99%)	1 (1%)	0	100	100
62	d	204/252 (81%)	190 (93%)	14 (7%)	0	100	100
63	e	210/255 (82%)	197 (94%)	13 (6%)	0	100	100
64	f	215/254 (85%)	201 (94%)	14 (6%)	0	100	100
65	g	204/240 (85%)	195 (96%)	9 (4%)	0	100	100
66	h	256/261 (98%)	249 (97%)	7 (3%)	0	100	100
67	i	195/225 (87%)	183 (94%)	12 (6%)	0	100	100
68	j	217/236 (92%)	209 (96%)	8 (4%)	0	100	100
69	k	182/190 (96%)	175 (96%)	7 (4%)	0	100	100
70	l	180/200 (90%)	169 (94%)	11 (6%)	0	100	100
71	m	183/197 (93%)	176 (96%)	7 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
72	n	89/105 (85%)	80 (90%)	7 (8%)	2 (2%)	5	13
73	o	140/156 (90%)	133 (95%)	7 (5%)	0	100	100
74	p	148/151 (98%)	144 (97%)	4 (3%)	0	100	100
75	q	125/137 (91%)	117 (94%)	8 (6%)	0	100	100
76	r	100/142 (70%)	97 (97%)	3 (3%)	0	100	100
77	s	135/143 (94%)	126 (93%)	9 (7%)	0	100	100
78	t	119/136 (88%)	104 (87%)	9 (8%)	6 (5%)	1	3
79	u	143/146 (98%)	133 (93%)	9 (6%)	1 (1%)	18	39
80	v	141/144 (98%)	136 (96%)	5 (4%)	0	100	100
81	w	98/121 (81%)	97 (99%)	1 (1%)	0	100	100
82	x	85/87 (98%)	78 (92%)	7 (8%)	0	100	100
83	y	127/130 (98%)	125 (98%)	2 (2%)	0	100	100
84	z	142/145 (98%)	129 (91%)	13 (9%)	0	100	100
All	All	11812/13056 (90%)	11341 (96%)	459 (4%)	12 (0%)	49	72

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
72	n	49	LEU
78	t	90	ALA
44	OO	63	VAL
72	n	48	SER
39	M	78	LEU
78	t	87	GLU
78	t	82	ASP
78	t	86	PRO
78	t	88	VAL
79	u	91	ASP
12	Aa	698	ILE
78	t	69	ILE

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%)	111 (99%)	1 (1%)	70	86
2	1	61/89 (68%)	61 (100%)	0	100	100
3	2	83/101 (82%)	83 (100%)	0	100	100
4	3	70/71 (99%)	70 (100%)	0	100	100
5	4	56/60 (93%)	56 (100%)	0	100	100
6	5	47/49 (96%)	47 (100%)	0	100	100
7	6	46/54 (85%)	46 (100%)	0	100	100
8	7	259/262 (99%)	259 (100%)	0	100	100
9	8	30/135 (22%)	30 (100%)	0	100	100
10	A	160/162 (99%)	160 (100%)	0	100	100
12	Aa	714/714 (100%)	709 (99%)	5 (1%)	76	89
13	B	125/146 (86%)	125 (100%)	0	100	100
16	C	150/151 (99%)	150 (100%)	0	100	100
19	D	143/154 (93%)	143 (100%)	0	100	100
20	DD	169/254 (66%)	169 (100%)	0	100	100
22	E	156/156 (100%)	156 (100%)	0	100	100
23	EE	193/196 (98%)	193 (100%)	0	100	100
24	Ee	131/136 (96%)	131 (100%)	0	100	100
25	F	136/137 (99%)	136 (100%)	0	100	100
26	FF	319/323 (99%)	318 (100%)	1 (0%)	86	93
27	G	84/107 (78%)	84 (100%)	0	100	100
28	GG	288/289 (100%)	288 (100%)	0	100	100
29	H	101/105 (96%)	101 (100%)	0	100	100
30	HH	244/245 (100%)	244 (100%)	0	100	100
31	I	55/129 (43%)	55 (100%)	0	100	100
32	II	133/153 (87%)	133 (100%)	0	100	100
33	J	104/118 (88%)	104 (100%)	0	100	100
34	JJ	186/205 (91%)	186 (100%)	0	100	100
35	K	109/110 (99%)	109 (100%)	0	100	100
36	KK	187/208 (90%)	187 (100%)	0	100	100
37	L	115/116 (99%)	115 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	LL	171/171 (100%)	171 (100%)	0	100	100
39	M	118/119 (99%)	118 (100%)	0	100	100
40	MM	184/187 (98%)	184 (100%)	0	100	100
41	N	46/47 (98%)	46 (100%)	0	100	100
42	NN	147/150 (98%)	147 (100%)	0	100	100
43	O	81/88 (92%)	81 (100%)	0	100	100
44	OO	154/159 (97%)	154 (100%)	0	100	100
45	P	94/97 (97%)	94 (100%)	0	100	100
46	PP	107/109 (98%)	107 (100%)	0	100	100
47	Pp	2/2 (100%)	2 (100%)	0	100	100
48	Q	109/111 (98%)	109 (100%)	0	100	100
49	QQ	175/176 (99%)	175 (100%)	0	100	100
50	R	90/91 (99%)	90 (100%)	0	100	100
51	S	94/103 (91%)	94 (100%)	0	100	100
52	T	104/105 (99%)	104 (100%)	0	100	100
53	U	81/82 (99%)	81 (100%)	0	100	100
54	V	69/71 (97%)	69 (100%)	0	100	100
55	W	68/69 (99%)	68 (100%)	0	100	100
56	X	45/46 (98%)	45 (100%)	0	100	100
57	Y	47/116 (40%)	47 (100%)	0	100	100
58	Z	23/23 (100%)	23 (100%)	0	100	100
59	a	87/91 (96%)	87 (100%)	0	100	100
60	b	71/72 (99%)	71 (100%)	0	100	100
62	d	165/210 (79%)	165 (100%)	0	100	100
63	e	189/224 (84%)	189 (100%)	0	100	100
64	f	176/205 (86%)	176 (100%)	0	100	100
65	g	167/195 (86%)	167 (100%)	0	100	100
66	h	220/222 (99%)	220 (100%)	0	100	100
67	i	172/191 (90%)	172 (100%)	0	100	100
68	j	188/201 (94%)	188 (100%)	0	100	100
69	k	165/170 (97%)	165 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
70	l	146/161 (91%)	146 (100%)	0	100	100
71	m	158/166 (95%)	158 (100%)	0	100	100
72	n	84/98 (86%)	84 (100%)	0	100	100
73	o	127/137 (93%)	127 (100%)	0	100	100
74	p	127/128 (99%)	127 (100%)	0	100	100
75	q	81/105 (77%)	81 (100%)	0	100	100
76	r	89/118 (75%)	89 (100%)	0	100	100
77	s	114/119 (96%)	114 (100%)	0	100	100
78	t	105/124 (85%)	91 (87%)	14 (13%)	4	9
79	u	128/129 (99%)	128 (100%)	0	100	100
80	v	115/116 (99%)	115 (100%)	0	100	100
81	w	94/114 (82%)	91 (97%)	3 (3%)	34	62
82	x	74/74 (100%)	74 (100%)	0	100	100
83	y	110/111 (99%)	110 (100%)	0	100	100
84	z	119/120 (99%)	119 (100%)	0	100	100
All	All	10046/10971 (92%)	10022 (100%)	24 (0%)	85	95

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	107	GLN
12	Aa	46	ILE
12	Aa	47	SER
12	Aa	50	LYS
12	Aa	71	LYS
12	Aa	826	HIS
26	FF	104	THR
78	t	66	VAL
78	t	67	ARG
78	t	69	ILE
78	t	72	LYS
78	t	74	GLN
78	t	76	GLU
78	t	78	ARG
78	t	79	GLU
78	t	80	ARG
78	t	81	LYS

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Mol	Chain	Res	Type
78	t	82	ASP
78	t	83	GLN
78	t	87	GLU
78	t	91	LEU
81	w	85	ARG
81	w	87	HIS
81	w	89	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (102) such sidechains are listed below:

Mol	Chain	Res	Type
5	4	27	GLN
7	6	17	GLN
8	7	29	GLN
9	8	95	HIS
10	A	14	HIS
12	Aa	30	HIS
12	Aa	168	GLN
12	Aa	365	ASN
12	Aa	452	ASN
12	Aa	584	ASN
12	Aa	753	GLN
12	Aa	791	GLN
13	B	55	GLN
13	B	137	ASN
16	C	9	GLN
16	C	158	HIS
19	D	3	ASN
19	D	166	ASN
23	EE	140	ASN
23	EE	250	GLN
24	Ee	61	GLN
24	Ee	115	GLN
26	FF	224	HIS
26	FF	293	ASN
27	G	40	HIS
28	GG	5	GLN
28	GG	43	ASN
28	GG	45	ASN
28	GG	213	ASN
28	GG	322	GLN
28	GG	361	HIS

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Mol	Chain	Res	Type
29	H	98	ASN
33	J	94	GLN
34	JJ	64	GLN
34	JJ	80	GLN
34	JJ	225	GLN
35	K	4	GLN
36	KK	38	GLN
37	L	106	GLN
37	L	127	ASN
38	LL	96	HIS
38	LL	157	ASN
38	LL	183	HIS
39	M	62	HIS
40	MM	73	ASN
40	MM	112	GLN
41	N	6	ASN
42	NN	20	ASN
42	NN	62	ASN
44	OO	17	HIS
44	OO	103	ASN
45	P	105	GLN
46	PP	119	GLN
50	R	88	ASN
51	S	98	GLN
52	T	59	ASN
52	T	62	GLN
52	T	99	GLN
52	T	104	GLN
54	V	69	HIS
56	X	4	GLN
60	b	32	GLN
62	d	30	GLN
62	d	32	HIS
62	d	49	ASN
63	e	92	GLN
63	e	95	ASN
63	e	160	HIS
63	e	199	ASN
63	e	208	GLN
64	f	189	GLN
64	f	201	ASN
65	g	22	ASN

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Mol	Chain	Res	Type
65	g	101	GLN
65	g	159	HIS
65	g	165	ASN
66	h	17	HIS
66	h	98	ASN
66	h	130	GLN
67	i	35	GLN
67	i	86	GLN
67	i	139	ASN
68	j	176	GLN
69	k	71	HIS
69	k	110	GLN
70	l	52	ASN
70	l	84	HIS
71	m	123	HIS
71	m	139	GLN
72	n	17	GLN
72	n	85	HIS
73	o	14	GLN
73	o	110	HIS
74	p	36	GLN
76	r	104	GLN
77	s	32	ASN
79	u	71	GLN
80	v	93	HIS
80	v	129	GLN
82	x	81	ASN
84	z	75	GLN
84	z	94	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
11	AA	3186/3396 (93%)	537 (16%)	18 (0%)
14	BB	120/121 (99%)	9 (7%)	1 (0%)
15	Bb	75/76 (98%)	33 (44%)	0
17	CC	157/158 (99%)	22 (14%)	0
18	Cc	76/77 (98%)	15 (19%)	0
21	Dd	12/39 (30%)	1 (8%)	0
61	c	1594/1800 (88%)	301 (18%)	0
All	All	5220/5667 (92%)	918 (17%)	19 (0%)

All (918) 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	59	G
11	AA	60	A
11	AA	65	A
11	AA	66	A
11	AA	86	G
11	AA	92	G
11	AA	110	G
11	AA	111	C
11	AA	117	U
11	AA	122	A
11	AA	135	C
11	AA	136	G
11	AA	145	G
11	AA	147	U
11	AA	156	G
11	AA	157	A
11	AA	172	G
11	AA	182	U
11	AA	190	U
11	AA	191	U
11	AA	200	C
11	AA	206	G
11	AA	211	A
11	AA	219	A
11	AA	234	G
11	AA	241	G
11	AA	243	G
11	AA	249	U
11	AA	250	U
11	AA	252	U
11	AA	253	A
11	AA	269	G
11	AA	281	G
11	AA	286	U
11	AA	295	A

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Mol	Chain	Res	Type
11	AA	305	U
11	AA	329	U
11	AA	338	A
11	AA	376	G
11	AA	398	A
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	516	A
11	AA	520	U
11	AA	521	A
11	AA	523	A
11	AA	532	A
11	AA	533	A
11	AA	534	U
11	AA	543	C
11	AA	544	C
11	AA	545	U
11	AA	548	G
11	AA	552	G
11	AA	555	U
11	AA	557	A
11	AA	559	A
11	AA	560	G
11	AA	578	A
11	AA	592	A
11	AA	601	U
11	AA	602	A
11	AA	603	A
11	AA	604	G
11	AA	607	A
11	AA	611	A
11	AA	620	U
11	AA	621	A
11	AA	636	C
11	AA	649	A2M
11	AA	660	A
11	AA	662	U

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Mol	Chain	Res	Type
11	AA	667	C
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	718	G
11	AA	719	U
11	AA	758	C
11	AA	763	G
11	AA	767	U
11	AA	771	A
11	AA	776	U
11	AA	780	A
11	AA	781	G
11	AA	785	G
11	AA	786	A
11	AA	817	A2M
11	AA	826	G
11	AA	830	A
11	AA	849	C
11	AA	850	U
11	AA	861	C
11	AA	871	U
11	AA	874	U
11	AA	879	U
11	AA	880	G
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	938	C
11	AA	944	C
11	AA	959	C

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Mol	Chain	Res	Type
11	AA	960	U
11	AA	961	C
11	AA	974	G
11	AA	979	U
11	AA	980	A
11	AA	981	U
11	AA	991	G
11	AA	994	G
11	AA	995	U
11	AA	1015	U
11	AA	1017	C
11	AA	1018	G
11	AA	1019	G
11	AA	1020	G
11	AA	1021	G
11	AA	1023	C
11	AA	1025	A
11	AA	1027	A
11	AA	1028	U
11	AA	1032	C
11	AA	1034	U
11	AA	1036	A
11	AA	1037	C
11	AA	1038	C
11	AA	1041	U
11	AA	1045	C
11	AA	1047	A
11	AA	1064	A
11	AA	1066	G
11	AA	1072	G
11	AA	1081	U
11	AA	1082	U
11	AA	1087	G
11	AA	1093	A
11	AA	1094	U
11	AA	1096	U
11	AA	1097	G
11	AA	1098	A
11	AA	1103	A
11	AA	1104	G
11	AA	1112	A
11	AA	1117	G

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Mol	Chain	Res	Type
11	AA	1131	G
11	AA	1144	U
11	AA	1150	A
11	AA	1153	A
11	AA	1154	A
11	AA	1155	C
11	AA	1159	A
11	AA	1178	G
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	1206	G
11	AA	1208	U
11	AA	1209	G
11	AA	1222	G
11	AA	1235	U
11	AA	1236	G
11	AA	1244	A
11	AA	1245	A
11	AA	1258	U
11	AA	1262	G
11	AA	1263	A
11	AA	1265	U
11	AA	1272	C
11	AA	1278	A
11	AA	1287	A
11	AA	1295	G
11	AA	1302	A
11	AA	1307	G
11	AA	1308	A
11	AA	1309	U
11	AA	1325	U
11	AA	1330	A
11	AA	1331	U
11	AA	1345	G
11	AA	1348	U
11	AA	1349	G
11	AA	1351	U

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Mol	Chain	Res	Type
11	AA	1352	A
11	AA	1353	U
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	1418	A
11	AA	1425	U
11	AA	1434	G
11	AA	1437	OMC
11	AA	1446	A
11	AA	1450	OMG
11	AA	1468	A
11	AA	1469	C
11	AA	1481	A
11	AA	1483	G
11	AA	1487	G
11	AA	1508	C
11	AA	1527	C
11	AA	1536	G
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
11	AA	1569	U
11	AA	1571	A
11	AA	1573	G
11	AA	1574	C
11	AA	1575	A
11	AA	1579	C
11	AA	1580	A
11	AA	1581	C
11	AA	1582	C
11	AA	1583	A
11	AA	1587	A
11	AA	1589	A

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Mol	Chain	Res	Type
11	AA	1590	G
11	AA	1593	A
11	AA	1596	C
11	AA	1605	A
11	AA	1629	U
11	AA	1630	U
11	AA	1632	A
11	AA	1643	A
11	AA	1647	A
11	AA	1657	C
11	AA	1683	A
11	AA	1724	U
11	AA	1729	A
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	1767	C
11	AA	1769	G
11	AA	1773	C
11	AA	1797	A
11	AA	1808	G
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	1866	C
11	AA	1871	U
11	AA	1878	G
11	AA	1879	A
11	AA	1880	U
11	AA	1883	A
11	AA	1893	A
11	AA	1901	A
11	AA	1904	C
11	AA	1905	G

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Mol	Chain	Res	Type
11	AA	1906	G
11	AA	1935	G
11	AA	2102	U
11	AA	2111	G
11	AA	2112	U
11	AA	2114	C
11	AA	2122	G
11	AA	2126	A
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	2206	G
11	AA	2207	A
11	AA	2208	A
11	AA	2209	U
11	AA	2223	A
11	AA	2225	U
11	AA	2254	U
11	AA	2256	A2M
11	AA	2266	U
11	AA	2267	C
11	AA	2268	U
11	AA	2269	U
11	AA	2271	A
11	AA	2273	G
11	AA	2279	A
11	AA	2281	A2M
11	AA	2282	U
11	AA	2307	G
11	AA	2308	C
11	AA	2309	A
11	AA	2310	U
11	AA	2313	A
11	AA	2315	G
11	AA	2334	U
11	AA	2335	G
11	AA	2336	U

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Mol	Chain	Res	Type
11	AA	2363	A
11	AA	2373	A
11	AA	2374	C
11	AA	2375	G
11	AA	2388	U
11	AA	2393	G
11	AA	2394	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	2419	A
11	AA	2435	G
11	AA	2437	G
11	AA	2440	G
11	AA	2442	G
11	AA	2444	C
11	AA	2445	A
11	AA	2447	A
11	AA	2450	G
11	AA	2452	G
11	AA	2453	U
11	AA	2454	G
11	AA	2458	A
11	AA	2459	A
11	AA	2460	U
11	AA	2461	A
11	AA	2462	A
11	AA	2464	U
11	AA	2465	G
11	AA	2466	G
11	AA	2467	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	2476	C

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Mol	Chain	Res	Type
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	2487	U
11	AA	2488	A
11	AA	2489	C
11	AA	2490	C
11	AA	2492	C
11	AA	2494	A
11	AA	2495	C
11	AA	2496	C
11	AA	2497	U
11	AA	2501	U
11	AA	2503	G
11	AA	2505	U
11	AA	2511	A
11	AA	2512	C
11	AA	2513	U
11	AA	2514	U
11	AA	2515	A
11	AA	2522	G
11	AA	2523	A
11	AA	2526	C
11	AA	2549	G
11	AA	2552	C
11	AA	2555	G
11	AA	2560	C
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	2580	A
11	AA	2585	G
11	AA	2593	A
11	AA	2606	G
11	AA	2607	G
11	AA	2614	G

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Mol	Chain	Res	Type
11	AA	2652	U
11	AA	2656	A
11	AA	2672	G
11	AA	2674	A
11	AA	2677	G
11	AA	2678	A
11	AA	2689	A
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	2737	C
11	AA	2749	G
11	AA	2753	G
11	AA	2762	A
11	AA	2772	C
11	AA	2777	G
11	AA	2778	G
11	AA	2793	OMG
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	2817	A
11	AA	2844	C
11	AA	2845	A
11	AA	2849	C
11	AA	2861	U
11	AA	2867	C
11	AA	2871	G
11	AA	2872	A
11	AA	2875	U
11	AA	2887	A
11	AA	2899	C

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Mol	Chain	Res	Type
11	AA	2902	A
11	AA	2910	A
11	AA	2914	G
11	AA	2922	OMG
11	AA	2923	U
11	AA	2935	U
11	AA	2936	A
11	AA	2938	G
11	AA	2942	C
11	AA	2947	G
11	AA	2954	U
11	AA	2971	A
11	AA	2972	G
11	AA	2977	G
11	AA	2983	C
11	AA	2990	G
11	AA	2997	G
11	AA	3012	A
11	AA	3055	U
11	AA	3056	U
11	AA	3058	U
11	AA	3059	G
11	AA	3074	G
11	AA	3078	U
11	AA	3079	U
11	AA	3080	G
11	AA	3092	C
11	AA	3094	A
11	AA	3101	G
11	AA	3122	A
11	AA	3130	A
11	AA	3131	U
11	AA	3142	A
11	AA	3143	C
11	AA	3144	G
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	3172	A

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Mol	Chain	Res	Type
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	3243	A
11	AA	3247	G
11	AA	3270	U
11	AA	3276	G
11	AA	3277	U
11	AA	3281	U
11	AA	3294	A
11	AA	3303	G
11	AA	3304	U
11	AA	3313	U
11	AA	3316	A
11	AA	3341	U
11	AA	3345	G
11	AA	3351	U
11	AA	3352	U
11	AA	3353	G
11	AA	3356	G
11	AA	3369	G
11	AA	3378	C
11	AA	3382	U
11	AA	3389	U
11	AA	3390	G
14	BB	7	G
14	BB	11	A
14	BB	54	U
14	BB	55	A
14	BB	65	G
14	BB	73	C
14	BB	76	A
14	BB	112	G
14	BB	121	U

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Mol	Chain	Res	Type
15	Bb	4	G
15	Bb	5	A
15	Bb	6	U
15	Bb	9	A
15	Bb	15	G
15	Bb	16	U
15	Bb	17	U
15	Bb	18	G
15	Bb	19	G
15	Bb	21	A
15	Bb	22	G
15	Bb	25	C
15	Bb	26	G
15	Bb	27	C
15	Bb	29	A
15	Bb	36	A
15	Bb	38	A
15	Bb	40	C
15	Bb	42	G
15	Bb	47	U
15	Bb	48	C
15	Bb	49	C
15	Bb	53	G
15	Bb	54	U
15	Bb	58	A
15	Bb	59	U
15	Bb	61	C
15	Bb	70	C
15	Bb	71	G
15	Bb	72	C
15	Bb	74	C
15	Bb	75	C
15	Bb	76	A
17	CC	23	U
17	CC	34	U
17	CC	35	C
17	CC	38	U
17	CC	39	G
17	CC	59	A
17	CC	62	C
17	CC	63	G
17	CC	82	U

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Mol	Chain	Res	Type
17	CC	83	C
17	CC	84	C
17	CC	85	G
17	CC	86	U
17	CC	87	G
17	CC	95	G
17	CC	97	A
17	CC	104	A
17	CC	105	A
17	CC	106	C
17	CC	113	U
17	CC	125	U
17	CC	126	A
18	Cc	8	U
18	Cc	9	G
18	Cc	10	G
18	Cc	16	C
18	Cc	18	C
18	Cc	19	G
18	Cc	20	G
18	Cc	21	U
18	Cc	22	A
18	Cc	43	G
18	Cc	48	U
18	Cc	59	A
18	Cc	60	A
18	Cc	62	C
18	Cc	77	A
21	Dd	22	U
61	c	2	A
61	c	4	C
61	c	26	A
61	c	34	G
61	c	42	G
61	c	45	U
61	c	47	A
61	c	61	A
61	c	63	G
61	c	67	A
61	c	68	A
61	c	70	C
61	c	71	A

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Mol	Chain	Res	Type
61	c	78	A
61	c	100	A2M
61	c	114	C
61	c	115	G
61	c	116	U
61	c	127	G
61	c	131	C
61	c	139	C
61	c	140	A
61	c	145	A
61	c	146	U
61	c	153	G
61	c	159	U
61	c	168	A
61	c	170	U
61	c	176	C
61	c	182	A
61	c	183	U
61	c	184	C
61	c	249	U
61	c	250	C
61	c	251	A
61	c	261	U
61	c	262	U
61	c	272	U
61	c	277	U
61	c	278	U
61	c	280	U
61	c	283	U
61	c	285	G
61	c	287	G
61	c	299	A
61	c	302	U
61	c	309	C
61	c	314	C
61	c	316	A
61	c	322	G
61	c	337	G
61	c	338	C
61	c	361	C
61	c	390	G
61	c	400	A

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Mol	Chain	Res	Type
61	c	401	A
61	c	402	C
61	c	404	G
61	c	414	OMC
61	c	423	G
61	c	424	C
61	c	426	G
61	c	428	A
61	c	434	G
61	c	435	C
61	c	439	U
61	c	444	C
61	c	455	C
61	c	460	A
61	c	468	A
61	c	475	A
61	c	506	A
61	c	511	A
61	c	514	G
61	c	515	A
61	c	519	C
61	c	526	A
61	c	527	A
61	c	534	A
61	c	537	G
61	c	538	A
61	c	539	G
61	c	540	G
61	c	541	A2M
61	c	557	G
61	c	558	U
61	c	564	G
61	c	565	C
61	c	568	G
61	c	576	G
61	c	578	OMU
61	c	579	A
61	c	580	A
61	c	582	U
61	c	594	A
61	c	606	A
61	c	611	U

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Mol	Chain	Res	Type
61	c	619	A2M
61	c	620	A
61	c	623	A
61	c	624	G
61	c	639	U
61	c	644	C
61	c	645	C
61	c	647	G
61	c	648	G
61	c	651	G
61	c	692	C
61	c	695	U
61	c	696	C
61	c	697	C
61	c	745	U
61	c	760	A
61	c	765	G
61	c	771	A
61	c	775	G
61	c	778	G
61	c	780	A
61	c	781	U
61	c	782	U
61	c	783	G
61	c	784	C
61	c	789	A
61	c	793	A
61	c	794	U
61	c	795	U
61	c	803	A
61	c	809	A
61	c	812	A
61	c	814	A
61	c	820	U
61	c	821	U
61	c	822	U
61	c	859	A
61	c	860	U
61	c	863	A
61	c	886	U
61	c	895	G
61	c	898	A

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Mol	Chain	Res	Type
61	c	906	A
61	c	913	G
61	c	915	A
61	c	921	U
61	c	933	A
61	c	935	U
61	c	945	U
61	c	951	A
61	c	960	U
61	c	966	A
61	c	987	G
61	c	988	A
61	c	992	A
61	c	993	A
61	c	996	U
61	c	1001	A
61	c	1002	G
61	c	1010	C
61	c	1026	A
61	c	1028	C
61	c	1031	U
61	c	1052	U
61	c	1053	G
61	c	1058	U
61	c	1059	U
61	c	1060	U
61	c	1063	U
61	c	1076	A
61	c	1081	A
61	c	1082	C
61	c	1092	A
61	c	1093	A
61	c	1097	U
61	c	1098	U
61	c	1100	G
61	c	1109	G
61	c	1138	A
61	c	1150	G
61	c	1151	A
61	c	1158	C
61	c	1164	G
61	c	1185	U

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Mol	Chain	Res	Type
61	c	1194	A
61	c	1196	A
61	c	1199	G
61	c	1200	G
61	c	1202	A
61	c	1217	A
61	c	1218	G
61	c	1221	A
61	c	1222	C
61	c	1223	A
61	c	1225	U
61	c	1228	G
61	c	1229	G
61	c	1241	G
61	c	1244	A
61	c	1245	G
61	c	1246	C
61	c	1252	C
61	c	1256	A
61	c	1258	U
61	c	1259	U
61	c	1261	G
61	c	1286	U
61	c	1301	U
61	c	1309	C
61	c	1314	U
61	c	1315	U
61	c	1316	G
61	c	1318	G
61	c	1321	A
61	c	1336	A
61	c	1338	C
61	c	1339	C
61	c	1340	U
61	c	1341	A
61	c	1344	A
61	c	1346	A
61	c	1347	U
61	c	1351	G
61	c	1353	U
61	c	1354	G
61	c	1361	U

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Mol	Chain	Res	Type
61	c	1363	U
61	c	1367	G
61	c	1370	U
61	c	1371	A
61	c	1372	U
61	c	1373	C
61	c	1378	U
61	c	1383	G
61	c	1390	U
61	c	1394	G
61	c	1398	U
61	c	1399	C
61	c	1400	A
61	c	1411	A
61	c	1414	U
61	c	1415	U
61	c	1425	A
61	c	1427	A
61	c	1428	OMG
61	c	1432	U
61	c	1436	A
61	c	1458	G
61	c	1459	C
61	c	1460	A
61	c	1469	A
61	c	1471	A
61	c	1474	G
61	c	1477	G
61	c	1481	C
61	c	1490	C
61	c	1491	U
61	c	1492	A
61	c	1496	U
61	c	1506	G
61	c	1510	U
61	c	1515	A
61	c	1516	A
61	c	1521	G
61	c	1523	G
61	c	1524	A
61	c	1535	U
61	c	1536	G

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Mol	Chain	Res	Type
61	c	1537	C
61	c	1542	G
61	c	1557	U
61	c	1559	A
61	c	1572	OMG
61	c	1573	A
61	c	1575	G7M
61	c	1576	A
61	c	1601	G
61	c	1607	G
61	c	1616	G
61	c	1622	G
61	c	1631	A
61	c	1634	C
61	c	1657	U
61	c	1658	G
61	c	1678	A
61	c	1681	A
61	c	1682	U
61	c	1683	C
61	c	1685	G
61	c	1717	G
61	c	1740	A
61	c	1755	A
61	c	1756	A
61	c	1762	A
61	c	1766	A
61	c	1769	U
61	c	1780	G
61	c	1782	MA6
61	c	1792	G
61	c	1793	G
61	c	1794	A
61	c	1795	U
61	c	1796	C
61	c	1799	U

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
11	AA	601	U
11	AA	619	A

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Mol	Chain	Res	Type
11	AA	873	C
11	AA	916	G
11	AA	1016	C
11	AA	1033	U
11	AA	1562	C
11	AA	1900	A
11	AA	1904	C
11	AA	2101	C
11	AA	2207	A
11	AA	2253	G
11	AA	2418	G
11	AA	2463	G
11	AA	2500	A
11	AA	2792	A
11	AA	3034	C
11	AA	3121	U
14	BB	72	A

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

68 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	OMC	AA	2948	11	19,22,23	0.60	0	25,31,34	0.84	2 (8%)
11	OMG	AA	805	11	23,26,27	0.58	0	32,38,41	0.64	0
11	A2M	AA	817	11,86	22,25,26	3.21	10 (45%)	30,36,39	2.91	10 (33%)
11	OMU	AA	2921	11	19,22,23	2.95	8 (42%)	25,31,34	1.84	5 (20%)
11	OMC	AA	2959	11,86	19,22,23	0.58	0	25,31,34	0.70	0
11	OMG	AA	1450	11	23,26,27	0.54	0	32,38,41	0.48	0
61	A2M	c	420	61	22,25,26	3.23	9 (40%)	30,36,39	2.87	10 (33%)
11	A2M	AA	649	11	22,25,26	3.23	10 (45%)	30,36,39	2.87	10 (33%)
11	OMG	AA	2791	11	23,26,27	0.52	0	32,38,41	0.47	0
11	OMG	AA	2793	11	23,26,27	0.55	0	32,38,41	0.57	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
61	A2M	c	974	61	22,25,26	3.23	10 (45%)	30,36,39	2.95	10 (33%)
61	OMU	c	1269	61	19,22,23	3.00	8 (42%)	25,31,34	1.83	5 (20%)
11	UR3	AA	2634	11	19,22,23	2.80	7 (36%)	26,32,35	1.59	3 (11%)
11	OMG	AA	867	11,87	23,26,27	0.56	0	32,38,41	0.55	0
11	OMU	AA	1888	11	19,22,23	3.02	8 (42%)	25,31,34	1.99	6 (24%)
11	OMC	AA	2197	11,87	19,22,23	0.63	0	25,31,34	0.67	0
11	OMU	AA	2421	11	19,22,23	2.99	8 (42%)	25,31,34	1.90	4 (16%)
11	5MC	AA	2278	11,86	19,22,23	0.62	0	26,32,35	0.76	0
11	1MA	AA	2142	11,86	21,25,26	0.56	0	30,37,40	0.83	1 (3%)
61	OMC	c	1639	61,86	19,22,23	0.59	0	25,31,34	0.61	0
11	A2M	AA	876	11	22,25,26	3.21	10 (45%)	30,36,39	2.93	10 (33%)
11	A2M	AA	807	11	22,25,26	3.24	10 (45%)	30,36,39	3.05	12 (40%)
11	A2M	AA	2946	11,86	22,25,26	3.25	10 (45%)	30,36,39	3.01	11 (36%)
15	YYG	Bb	37	15	38,42,43	2.01	8 (21%)	45,62,65	2.27	12 (26%)
61	4AC	c	1280	61	21,24,25	3.40	10 (47%)	28,34,37	1.75	6 (21%)
11	1MA	AA	645	11,86	21,25,26	0.62	0	30,37,40	0.78	1 (3%)
11	A2M	AA	2640	11	22,25,26	3.24	10 (45%)	30,36,39	2.92	10 (33%)
61	A2M	c	436	61	22,25,26	3.26	9 (40%)	30,36,39	2.95	10 (33%)
61	OMU	c	578	61	19,22,23	3.05	8 (42%)	25,31,34	1.84	5 (20%)
61	OMG	c	1271	61	23,26,27	0.50	0	32,38,41	0.47	0
61	MA6	c	1782	61	23,26,27	1.43	4 (17%)	33,38,41	3.27	12 (36%)
11	OMU	AA	2729	11	19,22,23	2.92	8 (42%)	25,31,34	1.89	5 (20%)
12	DDE	Aa	699	12	18,20,21	1.00	1 (5%)	17,28,30	0.81	0
11	OMU	AA	2417	11	19,22,23	2.97	8 (42%)	25,31,34	1.90	6 (24%)
61	A2M	c	619	61,86	22,25,26	3.23	10 (45%)	30,36,39	2.95	11 (36%)
61	A2M	c	541	61	22,25,26	3.19	9 (40%)	30,36,39	3.09	14 (46%)
11	OMU	AA	2724	11	19,22,23	2.96	8 (42%)	25,31,34	1.83	5 (20%)
61	A2M	c	28	61	22,25,26	3.25	10 (45%)	30,36,39	2.99	11 (36%)
61	OMC	c	414	61	19,22,23	0.61	0	25,31,34	0.82	1 (4%)
61	OMG	c	562	61	23,26,27	0.49	0	32,38,41	0.53	0
61	OMG	c	1572	61	23,26,27	0.58	0	32,38,41	0.56	0
61	MA6	c	1781	61	23,26,27	1.46	4 (17%)	33,38,41	3.24	11 (33%)
61	B8N	c	1191	61	25,29,30	3.37	8 (32%)	28,42,45	2.02	7 (25%)
11	A2M	AA	1133	11	22,25,26	3.26	10 (45%)	30,36,39	2.98	11 (36%)
11	A2M	AA	2280	11	22,25,26	3.26	10 (45%)	30,36,39	2.98	10 (33%)
11	OMG	AA	908	11	23,26,27	0.56	0	32,38,41	0.53	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
11	OMC	AA	663	11	19,22,23	0.60	0	25,31,34	0.72	0
11	OMG	AA	2288	11	23,26,27	0.54	0	32,38,41	0.47	0
11	OMG	AA	2815	11	23,26,27	0.55	0	32,38,41	0.47	0
11	OMG	AA	2922	11,15	23,26,27	0.59	0	32,38,41	0.55	0
11	OMG	AA	2619	11	23,26,27	0.53	0	32,38,41	0.48	0
11	OMC	AA	650	11,86	19,22,23	0.59	0	25,31,34	0.64	0
11	OMU	AA	2347	11	19,22,23	3.02	8 (42%)	25,31,34	1.80	5 (20%)
11	OMU	AA	898	11	19,22,23	2.98	8 (42%)	25,31,34	1.80	5 (20%)
61	A2M	c	100	61,86	22,25,26	3.24	10 (45%)	30,36,39	2.89	11 (36%)
61	OMC	c	1007	61	19,22,23	0.61	0	25,31,34	0.65	0
11	A2M	AA	2281	11	22,25,26	3.27	10 (45%)	30,36,39	3.11	14 (46%)
61	OMG	c	1126	61	23,26,27	0.55	0	32,38,41	0.57	0
61	G7M	c	1575	61,18	23,26,27	2.68	8 (34%)	34,39,42	2.41	11 (32%)
61	4AC	c	1773	61	21,24,25	3.32	10 (47%)	28,34,37	1.65	5 (17%)
11	A2M	AA	1449	11,86	22,25,26	3.23	10 (45%)	30,36,39	2.99	11 (36%)
11	A2M	AA	2256	11	22,25,26	3.21	10 (45%)	30,36,39	2.99	11 (36%)
11	OMC	AA	1437	11,86	19,22,23	0.60	0	25,31,34	1.02	2 (8%)
61	OMG	c	1428	61,86	23,26,27	0.54	0	32,38,41	0.47	0
11	A2M	AA	2220	11	22,25,26	3.24	10 (45%)	30,36,39	2.89	10 (33%)
61	A2M	c	796	61	22,25,26	3.24	10 (45%)	30,36,39	2.99	11 (36%)
11	OMC	AA	2337	11	19,22,23	0.60	0	25,31,34	0.80	1 (4%)
11	5MC	AA	2870	11,87	19,22,23	0.84	1 (5%)	26,32,35	0.68	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
11	OMC	AA	2948	11	-	0/9/27/28	0/2/2/2
11	OMG	AA	805	11	-	0/9/27/28	0/3/3/3
11	A2M	AA	817	11,86	-	1/9/27/28	0/3/3/3
11	OMU	AA	2921	11	-	0/9/27/28	0/2/2/2
11	OMC	AA	2959	11,86	-	0/9/27/28	0/2/2/2
11	OMG	AA	1450	11	-	2/9/27/28	0/3/3/3
61	A2M	c	420	61	-	1/9/27/28	0/3/3/3
11	A2M	AA	649	11	-	3/9/27/28	0/3/3/3
11	OMG	AA	2791	11	-	0/9/27/28	0/3/3/3
11	OMG	AA	2793	11	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
61	A2M	c	974	61	-	0/9/27/28	0/3/3/3
61	OMU	c	1269	61	-	0/9/27/28	0/2/2/2
11	UR3	AA	2634	11	-	0/7/25/26	0/2/2/2
11	OMG	AA	867	11,87	-	2/9/27/28	0/3/3/3
11	OMU	AA	1888	11	-	0/9/27/28	0/2/2/2
11	OMC	AA	2197	11,87	-	4/9/27/28	0/2/2/2
11	OMU	AA	2421	11	-	1/9/27/28	0/2/2/2
11	5MC	AA	2278	11,86	-	0/7/25/26	0/2/2/2
11	1MA	AA	2142	11,86	-	0/7/25/26	0/3/3/3
61	OMC	c	1639	61,86	-	0/9/27/28	0/2/2/2
11	A2M	AA	876	11	-	1/9/27/28	0/3/3/3
11	A2M	AA	807	11	-	3/9/27/28	0/3/3/3
11	A2M	AA	2946	11,86	-	0/9/27/28	0/3/3/3
15	YYG	Bb	37	15	-	9/24/42/43	0/4/4/4
61	4AC	c	1280	61	-	5/11/29/30	0/2/2/2
11	1MA	AA	645	11,86	-	2/7/25/26	0/3/3/3
11	A2M	AA	2640	11	-	1/9/27/28	0/3/3/3
61	A2M	c	436	61	-	0/9/27/28	0/3/3/3
61	OMU	c	578	61	-	1/9/27/28	0/2/2/2
61	OMG	c	1271	61	-	0/9/27/28	0/3/3/3
61	MA6	c	1782	61	-	3/11/29/30	0/3/3/3
11	OMU	AA	2729	11	-	0/9/27/28	0/2/2/2
12	DDE	Aa	699	12	-	9/20/21/23	0/1/1/1
11	OMU	AA	2417	11	-	0/9/27/28	0/2/2/2
61	A2M	c	619	61,86	-	4/9/27/28	0/3/3/3
61	A2M	c	541	61	-	5/9/27/28	0/3/3/3
11	OMU	AA	2724	11	-	1/9/27/28	0/2/2/2
61	A2M	c	28	61	-	1/9/27/28	0/3/3/3
61	OMC	c	414	61	-	2/9/27/28	0/2/2/2
61	OMG	c	562	61	-	1/9/27/28	0/3/3/3
61	OMG	c	1572	61	-	3/9/27/28	0/3/3/3
61	MA6	c	1781	61	-	0/11/29/30	0/3/3/3
61	B8N	c	1191	61	-	3/16/34/35	0/2/2/2
11	A2M	AA	1133	11	-	0/9/27/28	0/3/3/3
11	A2M	AA	2280	11	-	0/9/27/28	0/3/3/3
11	OMG	AA	908	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	2288	11	-	0/9/27/28	0/3/3/3
11	OMG	AA	2815	11	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	OMG	AA	2922	11,15	-	0/9/27/28	0/3/3/3
11	OMG	AA	2619	11	-	3/9/27/28	0/3/3/3
11	OMC	AA	650	11,86	-	0/9/27/28	0/2/2/2
11	OMU	AA	2347	11	-	1/9/27/28	0/2/2/2
11	OMU	AA	898	11	-	0/9/27/28	0/2/2/2
61	A2M	c	100	61,86	-	1/9/27/28	0/3/3/3
61	OMC	c	1007	61	-	0/9/27/28	0/2/2/2
11	A2M	AA	2281	11	-	2/9/27/28	0/3/3/3
61	OMG	c	1126	61	-	0/9/27/28	0/3/3/3
61	G7M	c	1575	61,18	-	2/7/25/26	0/3/3/3
61	4AC	c	1773	61	-	2/11/29/30	0/2/2/2
11	A2M	AA	1449	11,86	-	1/9/27/28	0/3/3/3
11	A2M	AA	2256	11	-	3/9/27/28	0/3/3/3
11	OMC	AA	1437	11,86	-	3/9/27/28	0/2/2/2
61	OMG	c	1428	61,86	-	1/9/27/28	0/3/3/3
11	A2M	AA	2220	11	-	1/9/27/28	0/3/3/3
61	A2M	c	796	61	-	0/9/27/28	0/3/3/3
11	OMC	AA	2337	11	-	0/9/27/28	0/2/2/2
11	5MC	AA	2870	11,87	-	3/7/25/26	0/2/2/2

All (338) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	1133	A2M	C3'-C4'	-9.13	1.29	1.53
11	AA	807	A2M	C3'-C4'	-9.09	1.29	1.53
11	AA	2946	A2M	C3'-C4'	-9.09	1.29	1.53
11	AA	1449	A2M	C3'-C4'	-9.08	1.30	1.53
11	AA	2280	A2M	C3'-C4'	-9.07	1.30	1.53
61	c	28	A2M	C3'-C4'	-9.02	1.30	1.53
11	AA	2640	A2M	C3'-C4'	-9.01	1.30	1.53
61	c	436	A2M	C3'-C4'	-8.99	1.30	1.53
61	c	541	A2M	C3'-C4'	-8.99	1.30	1.53
61	c	100	A2M	C3'-C4'	-8.98	1.30	1.53
61	c	974	A2M	C3'-C4'	-8.97	1.30	1.53
11	AA	876	A2M	C3'-C4'	-8.96	1.30	1.53
61	c	796	A2M	C3'-C4'	-8.93	1.30	1.53
11	AA	817	A2M	C3'-C4'	-8.90	1.30	1.53
61	c	619	A2M	C3'-C4'	-8.90	1.30	1.53
11	AA	2220	A2M	C3'-C4'	-8.90	1.30	1.53
61	c	420	A2M	C3'-C4'	-8.87	1.30	1.53
11	AA	649	A2M	C3'-C4'	-8.83	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2256	A2M	C3'-C4'	-8.79	1.30	1.53
11	AA	2281	A2M	C3'-C4'	-8.68	1.31	1.53
61	c	1191	B8N	C4-N3	-8.38	1.25	1.40
61	c	1191	B8N	C6-N1	7.94	1.55	1.36
61	c	420	A2M	O4'-C4'	7.79	1.62	1.45
61	c	436	A2M	O4'-C4'	7.76	1.62	1.45
11	AA	2256	A2M	O4'-C4'	7.71	1.62	1.45
11	AA	2281	A2M	O4'-C4'	7.67	1.62	1.45
61	c	100	A2M	O4'-C4'	7.65	1.62	1.45
61	c	796	A2M	O4'-C4'	7.62	1.61	1.45
11	AA	2220	A2M	O4'-C4'	7.61	1.61	1.45
11	AA	1133	A2M	O4'-C4'	7.55	1.61	1.45
11	AA	649	A2M	O4'-C4'	7.51	1.61	1.45
61	c	974	A2M	O4'-C4'	7.51	1.61	1.45
11	AA	2946	A2M	O4'-C4'	7.48	1.61	1.45
11	AA	2640	A2M	O4'-C4'	7.48	1.61	1.45
11	AA	876	A2M	O4'-C4'	7.42	1.61	1.45
61	c	28	A2M	O4'-C4'	7.42	1.61	1.45
61	c	1280	4AC	C4-N3	7.37	1.45	1.32
11	AA	2347	OMU	C2-N1	7.36	1.50	1.38
61	c	541	A2M	O4'-C4'	7.35	1.61	1.45
11	AA	2280	A2M	O4'-C4'	7.35	1.61	1.45
61	c	1191	B8N	C4-C5	7.34	1.64	1.47
11	AA	817	A2M	O4'-C4'	7.28	1.61	1.45
61	c	619	A2M	O4'-C4'	7.24	1.61	1.45
11	AA	1449	A2M	O4'-C4'	7.24	1.61	1.45
61	c	578	OMU	C2-N1	7.23	1.49	1.38
61	c	1773	4AC	C4-N3	7.23	1.44	1.32
11	AA	807	A2M	O4'-C4'	7.18	1.61	1.45
11	AA	2421	OMU	C2-N1	7.13	1.49	1.38
11	AA	1888	OMU	C2-N1	7.00	1.49	1.38
11	AA	898	OMU	C2-N1	6.90	1.49	1.38
11	AA	2417	OMU	C2-N1	6.86	1.49	1.38
11	AA	2724	OMU	C2-N1	6.85	1.49	1.38
11	AA	2921	OMU	C2-N1	6.81	1.49	1.38
61	c	578	OMU	C2-N3	6.79	1.49	1.38
61	c	1269	OMU	C2-N1	6.78	1.49	1.38
61	c	1773	4AC	C6-C5	6.77	1.50	1.35
11	AA	1888	OMU	C2-N3	6.76	1.49	1.38
61	c	1269	OMU	C2-N3	6.74	1.49	1.38
11	AA	898	OMU	C2-N3	6.71	1.49	1.38
11	AA	2417	OMU	C2-N3	6.71	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	c	1280	4AC	C6-C5	6.71	1.50	1.35
15	Bb	37	YYG	O23-C21	6.69	1.45	1.34
11	AA	2634	UR3	C6-C5	6.69	1.50	1.35
11	AA	2729	OMU	C2-N1	6.66	1.48	1.38
11	AA	2634	UR3	C2-N1	6.65	1.47	1.38
11	AA	2724	OMU	C2-N3	6.62	1.49	1.38
11	AA	2729	OMU	C2-N3	6.59	1.49	1.38
11	AA	2421	OMU	C2-N3	6.59	1.49	1.38
11	AA	2347	OMU	C2-N3	6.56	1.49	1.38
11	AA	2921	OMU	C2-N3	6.47	1.49	1.38
61	c	1575	G7M	C4-N3	6.43	1.49	1.34
61	c	1575	G7M	C5-N7	-5.91	1.32	1.39
61	c	1191	B8N	C2-N1	5.83	1.56	1.39
61	c	1269	OMU	C6-C5	5.61	1.48	1.35
11	AA	1888	OMU	C6-C5	5.61	1.48	1.35
61	c	578	OMU	C6-C5	5.57	1.48	1.35
11	AA	2921	OMU	C6-C5	5.54	1.47	1.35
11	AA	898	OMU	C6-C5	5.53	1.47	1.35
11	AA	2724	OMU	C6-C5	5.49	1.47	1.35
11	AA	2347	OMU	C6-C5	5.49	1.47	1.35
11	AA	2421	OMU	C6-C5	5.45	1.47	1.35
11	AA	2417	OMU	C6-C5	5.43	1.47	1.35
11	AA	2729	OMU	C6-C5	5.39	1.47	1.35
11	AA	2634	UR3	C2-N3	5.38	1.49	1.39
11	AA	2281	A2M	O4'-C1'	-5.31	1.29	1.42
61	c	1575	G7M	C2-N3	5.26	1.45	1.33
61	c	1280	4AC	C2-N1	5.22	1.51	1.40
61	c	1191	B8N	C6-C5	5.09	1.42	1.35
61	c	619	A2M	O4'-C1'	-5.07	1.30	1.42
11	AA	1449	A2M	O4'-C1'	-5.05	1.30	1.42
61	c	1280	4AC	C2-N3	4.99	1.46	1.36
15	Bb	37	YYG	O18-C16	4.98	1.45	1.33
11	AA	807	A2M	O4'-C1'	-4.97	1.30	1.42
61	c	28	A2M	O4'-C1'	-4.97	1.30	1.42
61	c	1280	4AC	C7-N4	4.96	1.47	1.37
11	AA	649	A2M	O4'-C1'	-4.94	1.30	1.42
61	c	1773	4AC	C2-N3	4.88	1.46	1.36
11	AA	2640	A2M	O4'-C1'	-4.86	1.30	1.42
11	AA	817	A2M	O4'-C1'	-4.86	1.30	1.42
11	AA	2280	A2M	O4'-C1'	-4.83	1.30	1.42
61	c	1773	4AC	C2-N1	4.80	1.50	1.40
61	c	436	A2M	O4'-C1'	-4.80	1.30	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2256	A2M	O4'-C1'	-4.80	1.30	1.42
11	AA	876	A2M	O4'-C1'	-4.76	1.31	1.42
11	AA	2946	A2M	O4'-C1'	-4.76	1.31	1.42
11	AA	2220	A2M	O4'-C1'	-4.75	1.31	1.42
61	c	1575	G7M	C2-N2	4.75	1.45	1.34
61	c	541	A2M	O4'-C1'	-4.73	1.31	1.42
61	c	100	A2M	O4'-C1'	-4.72	1.31	1.42
61	c	1773	4AC	C7-N4	4.71	1.46	1.37
61	c	420	A2M	O4'-C1'	-4.69	1.31	1.42
61	c	796	A2M	O4'-C1'	-4.65	1.31	1.42
61	c	974	A2M	O4'-C1'	-4.65	1.31	1.42
11	AA	1133	A2M	O4'-C1'	-4.56	1.31	1.42
61	c	1773	4AC	C4-N4	4.56	1.46	1.39
61	c	1280	4AC	C4-N4	4.53	1.46	1.39
11	AA	2280	A2M	C6-N6	4.43	1.45	1.34
11	AA	807	A2M	C6-N6	4.37	1.45	1.34
11	AA	2640	A2M	C6-N6	4.36	1.45	1.34
11	AA	2220	A2M	C6-N6	4.36	1.45	1.34
61	c	436	A2M	C6-N6	4.35	1.45	1.34
61	c	541	A2M	C6-N6	4.35	1.45	1.34
61	c	28	A2M	C6-N6	4.35	1.45	1.34
11	AA	2256	A2M	C6-N6	4.35	1.45	1.34
61	c	578	OMU	C4-N3	4.33	1.46	1.38
61	c	796	A2M	C6-N6	4.32	1.45	1.34
61	c	420	A2M	C6-N6	4.32	1.45	1.34
61	c	100	A2M	C6-N6	4.31	1.45	1.34
11	AA	2946	A2M	C6-N6	4.30	1.45	1.34
11	AA	876	A2M	C6-N6	4.28	1.45	1.34
11	AA	649	A2M	C6-N6	4.28	1.45	1.34
11	AA	1133	A2M	C6-N6	4.27	1.45	1.34
61	c	1269	OMU	C4-N3	4.26	1.45	1.38
11	AA	1449	A2M	C6-N6	4.23	1.45	1.34
61	c	619	A2M	C6-N6	4.23	1.45	1.34
61	c	974	A2M	C6-N6	4.21	1.45	1.34
61	c	1280	4AC	CM7-C7	4.17	1.59	1.50
11	AA	2281	A2M	C6-N6	4.12	1.44	1.34
11	AA	2417	OMU	C4-N3	4.11	1.45	1.38
11	AA	2724	OMU	C4-N3	4.08	1.45	1.38
11	AA	2921	OMU	C4-N3	4.07	1.45	1.38
11	AA	898	OMU	C4-N3	4.06	1.45	1.38
11	AA	2421	OMU	C4-N3	4.05	1.45	1.38
11	AA	2729	OMU	C4-N3	4.04	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2347	OMU	C4-N3	4.03	1.45	1.38
15	Bb	37	YYG	C6-N1	-3.95	1.33	1.42
11	AA	1888	OMU	C4-N3	3.95	1.45	1.38
61	c	1781	MA6	C6-N6	3.94	1.47	1.36
11	AA	817	A2M	C6-N6	3.89	1.44	1.34
61	c	1191	B8N	C1'-C5	3.77	1.58	1.50
61	c	1773	4AC	CM7-C7	3.76	1.58	1.50
15	Bb	37	YYG	C5-C4	3.75	1.47	1.38
61	c	1773	4AC	C5-C4	3.68	1.49	1.41
61	c	1280	4AC	C5-C4	3.63	1.49	1.41
61	c	1575	G7M	C5-C6	3.60	1.53	1.43
61	c	1782	MA6	C6-N6	3.58	1.46	1.36
11	AA	2281	A2M	C5-C4	-3.44	1.32	1.39
11	AA	817	A2M	C5-C4	-3.44	1.33	1.39
61	c	28	A2M	C5-C4	-3.30	1.33	1.39
11	AA	2280	A2M	C5-C4	-3.30	1.33	1.39
11	AA	807	A2M	C5-C4	-3.29	1.33	1.39
61	c	1781	MA6	C5-C4	-3.28	1.33	1.39
11	AA	1133	A2M	C5-C4	-3.28	1.33	1.39
61	c	974	A2M	C5-C4	-3.28	1.33	1.39
11	AA	1449	A2M	C5-C4	-3.27	1.33	1.39
11	AA	1888	OMU	O4-C4	-3.26	1.18	1.24
61	c	1782	MA6	C5-C4	-3.24	1.33	1.39
11	AA	2946	A2M	C5-C4	-3.23	1.33	1.39
11	AA	649	A2M	C5-C4	-3.20	1.33	1.39
11	AA	2421	OMU	O4-C4	-3.16	1.18	1.24
11	AA	2640	A2M	C5-C4	-3.16	1.33	1.39
15	Bb	37	YYG	C2-N3	-3.16	1.33	1.38
61	c	796	A2M	C5-C4	-3.15	1.33	1.39
11	AA	2724	OMU	O4-C4	-3.15	1.18	1.24
61	c	619	A2M	C5-C4	-3.14	1.33	1.39
61	c	100	A2M	C5-C4	-3.14	1.33	1.39
11	AA	2634	UR3	C6-N1	3.14	1.45	1.38
11	AA	2417	OMU	O4-C4	-3.14	1.18	1.24
11	AA	898	OMU	O4-C4	-3.11	1.18	1.24
61	c	436	A2M	C5-C4	-3.09	1.33	1.39
11	AA	2729	OMU	O4-C4	-3.08	1.18	1.24
11	AA	2921	OMU	O4-C4	-3.08	1.18	1.24
11	AA	2220	A2M	C5-C4	-3.05	1.33	1.39
61	c	420	A2M	C5-C4	-3.02	1.33	1.39
11	AA	876	A2M	C5-C4	-3.02	1.33	1.39
61	c	796	A2M	O2'-C2'	-3.01	1.35	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	1133	A2M	O2'-C2'	-3.00	1.35	1.42
61	c	1269	OMU	O4-C4	-2.99	1.18	1.24
11	AA	2946	A2M	O2'-C2'	-2.98	1.35	1.42
11	AA	2256	A2M	C5-C4	-2.97	1.33	1.39
11	AA	2280	A2M	C8-N9	-2.95	1.32	1.37
61	c	578	OMU	O4-C4	-2.94	1.18	1.24
11	AA	2347	OMU	O4-C4	-2.94	1.18	1.24
15	Bb	37	YYG	C12-N1	-2.94	1.33	1.40
11	AA	807	A2M	C8-N9	-2.92	1.32	1.37
61	c	28	A2M	O2'-C2'	-2.91	1.35	1.42
61	c	541	A2M	C5-C4	-2.89	1.33	1.39
11	AA	2280	A2M	O2'-C2'	-2.88	1.35	1.42
61	c	619	A2M	O3'-C3'	2.84	1.50	1.43
11	AA	807	A2M	O2'-C2'	-2.84	1.35	1.42
61	c	619	A2M	C8-N9	-2.83	1.32	1.37
11	AA	2281	A2M	C8-N9	-2.82	1.32	1.37
11	AA	876	A2M	O2'-C2'	-2.82	1.35	1.42
11	AA	1449	A2M	O2'-C2'	-2.82	1.35	1.42
11	AA	2640	A2M	C8-N9	-2.81	1.32	1.37
11	AA	2220	A2M	O3'-C3'	2.79	1.49	1.43
11	AA	649	A2M	O2'-C2'	-2.79	1.35	1.42
11	AA	2281	A2M	O2'-C2'	-2.79	1.35	1.42
61	c	28	A2M	C8-N9	-2.79	1.32	1.37
11	AA	876	A2M	C8-N9	-2.78	1.32	1.37
61	c	796	A2M	C8-N9	-2.78	1.32	1.37
61	c	541	A2M	C8-N9	-2.77	1.32	1.37
11	AA	817	A2M	O2'-C2'	-2.77	1.35	1.42
61	c	974	A2M	O2'-C2'	-2.77	1.35	1.42
61	c	436	A2M	O3'-C3'	2.76	1.49	1.43
11	AA	2417	OMU	O2-C2	-2.75	1.18	1.23
61	c	420	A2M	O2'-C2'	-2.75	1.35	1.42
11	AA	2640	A2M	O2'-C2'	-2.75	1.35	1.42
11	AA	817	A2M	C8-N9	-2.75	1.32	1.37
11	AA	1449	A2M	C8-N9	-2.75	1.32	1.37
11	AA	2256	A2M	O3'-C3'	2.75	1.49	1.43
11	AA	2946	A2M	C8-N9	-2.74	1.32	1.37
61	c	1269	OMU	C6-N1	2.74	1.44	1.38
61	c	100	A2M	O2'-C2'	-2.74	1.35	1.42
61	c	974	A2M	C8-N9	-2.74	1.32	1.37
61	c	619	A2M	O2'-C2'	-2.73	1.35	1.42
11	AA	649	A2M	C8-N9	-2.73	1.32	1.37
11	AA	1888	OMU	C6-N1	2.73	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2347	OMU	C6-N1	2.73	1.44	1.38
11	AA	2256	A2M	C8-N9	-2.72	1.32	1.37
11	AA	2220	A2M	C8-N9	-2.71	1.32	1.37
61	c	578	OMU	C6-N1	2.71	1.44	1.38
61	c	436	A2M	O2'-C2'	-2.71	1.36	1.42
11	AA	817	A2M	O3'-C3'	2.70	1.49	1.43
61	c	420	A2M	O3'-C3'	2.69	1.49	1.43
11	AA	2921	OMU	O2-C2	-2.69	1.18	1.23
11	AA	1133	A2M	C8-N9	-2.68	1.33	1.37
11	AA	2220	A2M	O2'-C2'	-2.68	1.36	1.42
61	c	436	A2M	C8-N9	-2.67	1.33	1.37
11	AA	2280	A2M	O3'-C3'	2.67	1.49	1.43
11	AA	2921	OMU	C6-N1	2.67	1.44	1.38
11	AA	2281	A2M	O3'-C3'	2.67	1.49	1.43
11	AA	649	A2M	O3'-C3'	2.66	1.49	1.43
11	AA	898	OMU	C6-N1	2.66	1.44	1.38
61	c	100	A2M	C8-N9	-2.66	1.33	1.37
11	AA	2724	OMU	O2-C2	-2.65	1.18	1.23
11	AA	2347	OMU	O2-C2	-2.65	1.18	1.23
61	c	28	A2M	O3'-C3'	2.65	1.49	1.43
61	c	796	A2M	O3'-C3'	2.64	1.49	1.43
11	AA	807	A2M	O3'-C3'	2.64	1.49	1.43
61	c	1575	G7M	C2-N1	2.63	1.44	1.37
61	c	541	A2M	O3'-C3'	2.62	1.49	1.43
11	AA	2640	A2M	O3'-C3'	2.62	1.49	1.43
61	c	974	A2M	O3'-C3'	2.61	1.49	1.43
15	Bb	37	YYG	C2-N1	-2.61	1.34	1.38
61	c	1781	MA6	C5-N7	-2.60	1.34	1.39
61	c	541	A2M	C5-N7	-2.60	1.34	1.39
61	c	100	A2M	C5-N7	-2.59	1.34	1.39
11	AA	2421	OMU	O2-C2	-2.59	1.18	1.23
61	c	1575	G7M	O6-C6	-2.58	1.18	1.23
11	AA	1449	A2M	O3'-C3'	2.58	1.49	1.43
11	AA	2417	OMU	C6-N1	2.58	1.44	1.38
11	AA	2724	OMU	C6-N1	2.57	1.44	1.38
61	c	1269	OMU	O2-C2	-2.56	1.18	1.23
11	AA	2421	OMU	C6-N1	2.55	1.44	1.38
61	c	420	A2M	C8-N9	-2.55	1.33	1.37
61	c	100	A2M	O3'-C3'	2.54	1.49	1.43
11	AA	2729	OMU	C6-N1	2.54	1.44	1.38
11	AA	876	A2M	O3'-C3'	2.54	1.49	1.43
11	AA	2280	A2M	C5-N7	-2.54	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2729	OMU	O2-C2	-2.53	1.18	1.23
11	AA	649	A2M	C5-N7	-2.53	1.34	1.39
11	AA	2946	A2M	O3'-C3'	2.53	1.49	1.43
11	AA	1133	A2M	O3'-C3'	2.53	1.49	1.43
61	c	974	A2M	C5-N7	-2.52	1.34	1.39
11	AA	2281	A2M	C5-N7	-2.51	1.34	1.39
11	AA	1888	OMU	O2-C2	-2.50	1.18	1.23
61	c	1773	4AC	O7-C7	-2.50	1.17	1.23
11	AA	1133	A2M	C5-N7	-2.49	1.34	1.39
11	AA	817	A2M	C4-N9	-2.49	1.32	1.37
11	AA	898	OMU	O2-C2	-2.48	1.18	1.23
61	c	1782	MA6	C5-N7	-2.47	1.34	1.39
11	AA	876	A2M	C5-N7	-2.46	1.34	1.39
11	AA	807	A2M	C5-N7	-2.46	1.34	1.39
61	c	578	OMU	O2-C2	-2.46	1.18	1.23
61	c	1782	MA6	C8-N9	-2.45	1.33	1.37
61	c	578	OMU	C5-C4	2.43	1.49	1.43
11	AA	2640	A2M	C5-N7	-2.42	1.34	1.39
11	AA	817	A2M	C5-N7	-2.42	1.34	1.39
11	AA	2220	A2M	C5-N7	-2.42	1.34	1.39
11	AA	2634	UR3	C4-N3	2.42	1.45	1.40
61	c	1773	4AC	C6-N1	2.41	1.43	1.38
61	c	1269	OMU	C5-C4	2.41	1.48	1.43
61	c	1781	MA6	C8-N9	-2.40	1.33	1.37
61	c	796	A2M	C5-N7	-2.40	1.34	1.39
61	c	436	A2M	C5-N7	-2.39	1.34	1.39
12	Aa	699	DDE	CD2-CG	2.39	1.41	1.36
61	c	28	A2M	C5-N7	-2.39	1.34	1.39
61	c	420	A2M	C5-N7	-2.38	1.34	1.39
11	AA	1133	A2M	C4-N9	-2.37	1.32	1.37
11	AA	2946	A2M	C5-N7	-2.37	1.34	1.39
61	c	619	A2M	C5-N7	-2.35	1.34	1.39
15	Bb	37	YYG	C5-N7	-2.32	1.34	1.39
11	AA	2946	A2M	C4-N9	-2.32	1.32	1.37
11	AA	649	A2M	C4-N9	-2.32	1.32	1.37
61	c	541	A2M	O2'-C2'	-2.32	1.36	1.42
61	c	1280	4AC	O7-C7	-2.31	1.18	1.23
11	AA	1449	A2M	C5-N7	-2.31	1.34	1.39
61	c	1575	G7M	C6-N1	2.29	1.43	1.38
11	AA	2281	A2M	C4-N9	-2.28	1.32	1.37
11	AA	2220	A2M	C4-N9	-2.27	1.33	1.37
11	AA	2256	A2M	O2'-C2'	-2.27	1.37	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	1888	OMU	C5-C4	2.27	1.48	1.43
11	AA	2256	A2M	C5-N7	-2.26	1.34	1.39
61	c	1280	4AC	C6-N1	2.26	1.43	1.38
61	c	974	A2M	C4-N9	-2.25	1.33	1.37
11	AA	898	OMU	C5-C4	2.23	1.48	1.43
11	AA	1449	A2M	C4-N9	-2.20	1.33	1.37
61	c	619	A2M	C4-N9	-2.20	1.33	1.37
11	AA	2421	OMU	C5-C4	2.19	1.48	1.43
11	AA	2347	OMU	C5-C4	2.19	1.48	1.43
11	AA	2640	A2M	C4-N9	-2.19	1.33	1.37
61	c	796	A2M	C4-N9	-2.17	1.33	1.37
11	AA	2724	OMU	C5-C4	2.15	1.48	1.43
61	c	28	A2M	C4-N9	-2.14	1.33	1.37
11	AA	2921	OMU	C5-C4	2.14	1.48	1.43
11	AA	2729	OMU	C5-C4	2.13	1.48	1.43
11	AA	2256	A2M	C4-N9	-2.12	1.33	1.37
11	AA	2634	UR3	C5-C4	2.11	1.49	1.43
11	AA	2634	UR3	O2-C2	-2.10	1.18	1.22
61	c	1191	B8N	O4-C4	-2.10	1.18	1.23
11	AA	807	A2M	C4-N9	-2.08	1.33	1.37
61	c	1191	B8N	O2-C2	-2.05	1.18	1.22
61	c	100	A2M	C4-N9	-2.03	1.33	1.37
11	AA	2870	5MC	C4-N3	-2.03	1.30	1.34
11	AA	2417	OMU	C5-C4	2.03	1.48	1.43
11	AA	876	A2M	C4-N9	-2.02	1.33	1.37
11	AA	2280	A2M	C4-N9	-2.01	1.33	1.37

All (344) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	1782	MA6	N1-C6-N6	-11.97	102.27	116.86
61	c	1781	MA6	N1-C6-N6	-11.71	102.58	116.86
15	Bb	37	YYG	C5-C4-N3	-8.11	117.40	123.99
61	c	1781	MA6	C5-C6-N6	7.93	137.88	125.33
61	c	1782	MA6	C5-C6-N6	7.77	137.63	125.33
61	c	619	A2M	N6-C6-N1	-6.89	103.02	118.38
11	AA	1449	A2M	N6-C6-N1	-6.83	103.17	118.38
11	AA	2946	A2M	N6-C6-N1	-6.80	103.24	118.38
61	c	436	A2M	N6-C6-N1	-6.71	103.44	118.38
61	c	974	A2M	N6-C6-N1	-6.66	103.54	118.38
11	AA	876	A2M	N6-C6-N1	-6.66	103.55	118.38
61	c	541	A2M	N6-C6-N1	-6.62	103.64	118.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2220	A2M	N6-C6-N1	-6.61	103.64	118.38
11	AA	817	A2M	N6-C6-N1	-6.60	103.67	118.38
11	AA	1133	A2M	N6-C6-N1	-6.60	103.67	118.38
11	AA	807	A2M	N6-C6-N1	-6.60	103.69	118.38
11	AA	2281	A2M	N6-C6-N1	-6.59	103.69	118.38
11	AA	2640	A2M	N6-C6-N1	-6.57	103.74	118.38
61	c	420	A2M	N6-C6-N1	-6.57	103.75	118.38
11	AA	2256	A2M	N6-C6-N1	-6.55	103.78	118.38
11	AA	649	A2M	N6-C6-N1	-6.55	103.80	118.38
61	c	28	A2M	N6-C6-N1	-6.54	103.80	118.38
11	AA	2280	A2M	N6-C6-N1	-6.50	103.89	118.38
61	c	796	A2M	N6-C6-N1	-6.46	103.99	118.38
61	c	100	A2M	N6-C6-N1	-6.36	104.20	118.38
61	c	28	A2M	N9-C8-N7	-6.22	105.11	113.94
11	AA	1449	A2M	N9-C8-N7	-6.20	105.15	113.94
61	c	1280	4AC	CM7-C7-N4	6.18	125.25	115.27
11	AA	2946	A2M	N9-C8-N7	-6.18	105.17	113.94
61	c	1773	4AC	CM7-C7-N4	6.16	125.21	115.27
11	AA	2281	A2M	N9-C8-N7	-6.14	105.22	113.94
61	c	1575	G7M	CN7-N7-C5	6.14	134.45	126.80
61	c	619	A2M	N9-C8-N7	-6.11	105.27	113.94
11	AA	807	A2M	N9-C8-N7	-6.09	105.30	113.94
11	AA	817	A2M	N9-C8-N7	-6.08	105.31	113.94
11	AA	2256	A2M	N9-C8-N7	-6.05	105.35	113.94
11	AA	2280	A2M	N9-C8-N7	-6.04	105.37	113.94
61	c	796	A2M	N9-C8-N7	-6.01	105.41	113.94
11	AA	1888	OMU	C4-N3-C2	-6.00	119.17	126.61
61	c	974	A2M	N9-C8-N7	-5.95	105.50	113.94
11	AA	2421	OMU	C4-N3-C2	-5.92	119.26	126.61
11	AA	1133	A2M	N9-C8-N7	-5.89	105.58	113.94
61	c	28	A2M	C4-N9-C8	5.89	111.92	105.74
11	AA	817	A2M	C4-N9-C8	5.87	111.90	105.74
11	AA	2729	OMU	C4-N3-C2	-5.87	119.32	126.61
11	AA	2640	A2M	N9-C8-N7	-5.84	105.65	113.94
11	AA	649	A2M	N9-C8-N7	-5.84	105.66	113.94
61	c	578	OMU	C4-N3-C2	-5.83	119.37	126.61
11	AA	2220	A2M	N9-C8-N7	-5.80	105.70	113.94
61	c	1269	OMU	C4-N3-C2	-5.80	119.41	126.61
11	AA	2281	A2M	N3-C2-N1	-5.80	119.81	128.58
11	AA	817	A2M	N3-C2-N1	-5.80	119.81	128.58
61	c	436	A2M	N9-C8-N7	-5.79	105.72	113.94
11	AA	2281	A2M	C4-N9-C8	5.78	111.81	105.74

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	1781	MA6	N1-C2-N3	-5.78	119.84	128.58
11	AA	2946	A2M	C4-N9-C8	5.77	111.79	105.74
11	AA	807	A2M	N3-C2-N1	-5.76	119.86	128.58
11	AA	1133	A2M	N3-C2-N1	-5.75	119.87	128.58
11	AA	1449	A2M	C4-N9-C8	5.75	111.78	105.74
11	AA	2946	A2M	N3-C2-N1	-5.75	119.88	128.58
11	AA	2256	A2M	C4-N9-C8	5.74	111.77	105.74
61	c	28	A2M	N3-C2-N1	-5.74	119.90	128.58
11	AA	1449	A2M	N3-C2-N1	-5.73	119.90	128.58
11	AA	2220	A2M	N3-C2-N1	-5.73	119.91	128.58
61	c	974	A2M	N3-C2-N1	-5.73	119.92	128.58
61	c	619	A2M	N3-C2-N1	-5.72	119.93	128.58
11	AA	876	A2M	N9-C8-N7	-5.71	105.83	113.94
11	AA	649	A2M	N3-C2-N1	-5.71	119.94	128.58
11	AA	2921	OMU	C4-N3-C2	-5.68	119.56	126.61
61	c	100	A2M	N9-C8-N7	-5.67	105.89	113.94
61	c	619	A2M	C4-N9-C8	5.66	111.68	105.74
61	c	796	A2M	C4-N9-C8	5.66	111.68	105.74
61	c	1782	MA6	N1-C2-N3	-5.66	120.02	128.58
11	AA	2724	OMU	C4-N3-C2	-5.65	119.60	126.61
11	AA	807	A2M	C4-N9-C8	5.65	111.67	105.74
11	AA	2417	OMU	C4-N3-C2	-5.64	119.61	126.61
11	AA	2256	A2M	N3-C2-N1	-5.64	120.05	128.58
61	c	420	A2M	N9-C8-N7	-5.60	105.99	113.94
11	AA	2634	UR3	C4-N3-C2	-5.60	120.07	124.58
11	AA	876	A2M	N3-C2-N1	-5.59	120.12	128.58
11	AA	898	OMU	C4-N3-C2	-5.57	119.70	126.61
61	c	541	A2M	N3-C2-N1	-5.56	120.17	128.58
61	c	420	A2M	N3-C2-N1	-5.56	120.17	128.58
61	c	796	A2M	N3-C2-N1	-5.55	120.18	128.58
11	AA	2280	A2M	C4-N9-C8	5.51	111.52	105.74
61	c	619	A2M	C5-C6-N6	5.50	136.91	123.29
11	AA	2640	A2M	N3-C2-N1	-5.50	120.26	128.58
61	c	974	A2M	C4-N9-C8	5.50	111.51	105.74
11	AA	2280	A2M	N3-C2-N1	-5.49	120.27	128.58
61	c	436	A2M	N3-C2-N1	-5.48	120.28	128.58
61	c	100	A2M	N3-C2-N1	-5.48	120.29	128.58
61	c	541	A2M	N9-C8-N7	-5.45	106.20	113.94
11	AA	649	A2M	C4-N9-C8	5.43	111.44	105.74
11	AA	1133	A2M	C4-N9-C8	5.43	111.44	105.74
11	AA	2946	A2M	C5-C6-N6	5.42	136.70	123.29
11	AA	2347	OMU	C4-N3-C2	-5.41	119.90	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	2220	A2M	C4-N9-C8	5.40	111.41	105.74
11	AA	1449	A2M	C5-C6-N6	5.38	136.61	123.29
11	AA	2640	A2M	C4-N9-C8	5.36	111.37	105.74
11	AA	2220	A2M	C5-C6-N6	5.36	136.56	123.29
61	c	1191	B8N	C5-C4-N3	5.33	125.83	116.15
61	c	541	A2M	C5-C6-N6	5.33	136.48	123.29
11	AA	807	A2M	C5-C6-N6	5.33	136.48	123.29
61	c	436	A2M	C5-C6-N6	5.32	136.45	123.29
11	AA	876	A2M	C5-C6-N6	5.31	136.44	123.29
61	c	974	A2M	C5-C6-N6	5.30	136.41	123.29
11	AA	2640	A2M	C5-C6-N6	5.29	136.39	123.29
11	AA	1133	A2M	C5-C6-N6	5.26	136.30	123.29
61	c	420	A2M	C5-C6-N6	5.26	136.30	123.29
11	AA	2280	A2M	C5-C6-N6	5.25	136.28	123.29
61	c	28	A2M	C5-C6-N6	5.24	136.26	123.29
11	AA	2256	A2M	C5-C6-N6	5.23	136.24	123.29
11	AA	649	A2M	C5-C6-N6	5.20	136.16	123.29
61	c	796	A2M	C5-C6-N6	5.15	136.03	123.29
61	c	436	A2M	C4-N9-C8	5.12	111.12	105.74
11	AA	876	A2M	C4-N9-C8	5.12	111.12	105.74
11	AA	2281	A2M	C5-C6-N6	5.10	135.90	123.29
61	c	100	A2M	C4-N9-C8	5.09	111.08	105.74
61	c	100	A2M	C5-C6-N6	5.08	135.87	123.29
61	c	541	A2M	C5-C4-N3	-5.04	119.77	126.72
11	AA	817	A2M	C5-C6-N6	5.02	135.72	123.29
61	c	420	A2M	C4-N9-C8	5.01	111.00	105.74
61	c	541	A2M	C1'-N9-C8	-4.94	116.14	127.09
15	Bb	37	YYG	N9-C4-N3	4.93	137.44	129.45
61	c	541	A2M	C4-N9-C8	4.88	110.86	105.74
61	c	1575	G7M	C2-N3-C4	4.88	120.70	112.30
61	c	436	A2M	C5-C4-N3	-4.71	120.24	126.72
61	c	1191	B8N	C4-N3-C2	-4.63	119.92	125.62
61	c	1782	MA6	N9-C8-N7	-4.60	107.42	113.94
61	c	1781	MA6	C5-C4-N3	-4.60	120.39	126.72
61	c	1782	MA6	C5-C4-N3	-4.59	120.40	126.72
11	AA	876	A2M	C5-C4-N3	-4.59	120.40	126.72
61	c	1575	G7M	C5-C4-N3	-4.55	119.55	128.15
61	c	100	A2M	C5-C4-N3	-4.52	120.49	126.72
11	AA	2280	A2M	C5-C4-N3	-4.51	120.51	126.72
11	AA	2640	A2M	C5-C4-N3	-4.49	120.53	126.72
61	c	1575	G7M	CN7-N7-C8	-4.49	117.99	124.79
61	c	420	A2M	C5-C4-N3	-4.45	120.59	126.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AA	807	A2M	C5-C4-N3	-4.40	120.66	126.72
61	c	796	A2M	C5-C4-N3	-4.40	120.66	126.72
11	AA	2280	A2M	C1'-N9-C8	-4.39	117.35	127.09
61	c	974	A2M	C5-C4-N3	-4.36	120.71	126.72
11	AA	1449	A2M	C5-C4-N3	-4.35	120.72	126.72
61	c	1781	MA6	N9-C8-N7	-4.31	107.82	113.94
11	AA	807	A2M	C1'-N9-C8	-4.29	117.57	127.09
61	c	541	A2M	N3-C4-N9	4.28	134.45	127.17
11	AA	649	A2M	C5-C4-N3	-4.26	120.85	126.72
11	AA	2220	A2M	C5-C4-N3	-4.26	120.85	126.72
11	AA	876	A2M	C1'-N9-C8	-4.24	117.67	127.09
11	AA	2640	A2M	C1'-N9-C8	-4.22	117.73	127.09
11	AA	2256	A2M	C5-C4-N3	-4.21	120.92	126.72
61	c	28	A2M	C5-C4-N3	-4.20	120.93	126.72
61	c	619	A2M	C5-C4-N3	-4.18	120.97	126.72
61	c	796	A2M	C1'-N9-C8	-4.16	117.86	127.09
61	c	436	A2M	C1'-N9-C8	-4.15	117.88	127.09
11	AA	2281	A2M	C5-C4-N3	-4.14	121.01	126.72
11	AA	1133	A2M	C5-C4-N3	-4.13	121.03	126.72
15	Bb	37	YYG	O23-C21-N20	4.13	117.72	110.77
61	c	974	A2M	C1'-N9-C8	-4.13	117.93	127.09
61	c	28	A2M	C1'-N9-C8	-4.09	118.02	127.09
61	c	100	A2M	C1'-N9-C8	-4.05	118.10	127.09
61	c	1575	G7M	C5-C6-N1	4.04	120.20	111.84
11	AA	817	A2M	C5-C4-N3	-4.04	121.16	126.72
11	AA	2946	A2M	C5-C4-N3	-4.03	121.16	126.72
11	AA	1449	A2M	C1'-N9-C8	-4.03	118.15	127.09
11	AA	2417	OMU	N3-C2-N1	4.02	120.13	114.89
11	AA	2220	A2M	C1'-N9-C8	-4.01	118.21	127.09
61	c	1575	G7M	C1'-N9-C4	4.00	138.32	126.49
11	AA	1888	OMU	N3-C2-N1	4.00	120.10	114.89
61	c	1191	B8N	C1'-C5-C4	3.99	123.66	117.61
11	AA	2421	OMU	N3-C2-N1	3.98	120.07	114.89
15	Bb	37	YYG	C10-C11-N2	3.94	127.21	119.32
11	AA	649	A2M	C1'-N9-C8	-3.93	118.38	127.09
11	AA	2256	A2M	C1'-N9-C8	-3.92	118.40	127.09
11	AA	2347	OMU	N3-C2-N1	3.91	119.97	114.89
11	AA	2724	OMU	N3-C2-N1	3.91	119.97	114.89
11	AA	2921	OMU	N3-C2-N1	3.89	119.96	114.89
61	c	420	A2M	C1'-N9-C8	-3.89	118.46	127.09
61	c	100	A2M	N3-C4-N9	3.86	133.74	127.17
11	AA	2280	A2M	N3-C4-N9	3.86	133.73	127.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	1781	MA6	C4-C5-C6	3.86	119.90	115.91
61	c	1269	OMU	N3-C2-N1	3.86	119.92	114.89
61	c	436	A2M	N3-C4-N9	3.86	133.73	127.17
11	AA	1133	A2M	C2'-C1'-N9	-3.83	107.45	113.75
11	AA	1888	OMU	C5-C4-N3	3.83	120.16	114.80
11	AA	2729	OMU	N3-C2-N1	3.83	119.88	114.89
11	AA	2421	OMU	C5-C4-N3	3.82	120.15	114.80
61	c	796	A2M	N3-C4-N9	3.82	133.66	127.17
11	AA	807	A2M	N3-C4-N9	3.81	133.65	127.17
11	AA	2281	A2M	C1'-N9-C8	-3.80	118.67	127.09
61	c	578	OMU	N3-C2-N1	3.79	119.82	114.89
15	Bb	37	YYG	N3-C2-N2	-3.78	121.41	126.62
11	AA	876	A2M	N3-C4-N9	3.78	133.59	127.17
11	AA	2921	OMU	C5-C4-N3	3.77	120.08	114.80
11	AA	2640	A2M	N3-C4-N9	3.77	133.57	127.17
61	c	974	A2M	N3-C4-N9	3.76	133.56	127.17
61	c	578	OMU	C5-C4-N3	3.75	120.05	114.80
61	c	28	A2M	N3-C4-N9	3.74	133.54	127.17
11	AA	2729	OMU	C5-C4-N3	3.74	120.03	114.80
61	c	420	A2M	N3-C4-N9	3.72	133.50	127.17
61	c	1269	OMU	C5-C4-N3	3.72	120.01	114.80
11	AA	1449	A2M	N3-C4-N9	3.72	133.49	127.17
11	AA	2724	OMU	C5-C4-N3	3.69	119.97	114.80
11	AA	898	OMU	C5-C4-N3	3.69	119.97	114.80
11	AA	649	A2M	N3-C4-N9	3.69	133.45	127.17
11	AA	2281	A2M	N3-C4-N9	3.67	133.41	127.17
11	AA	898	OMU	N3-C2-N1	3.66	119.66	114.89
11	AA	2256	A2M	N3-C4-N9	3.66	133.39	127.17
11	AA	2417	OMU	C5-C4-N3	3.65	119.91	114.80
11	AA	817	A2M	C1'-N9-C8	-3.63	119.04	127.09
11	AA	817	A2M	N3-C4-N9	3.62	133.32	127.17
11	AA	2220	A2M	N3-C4-N9	3.61	133.31	127.17
61	c	1782	MA6	C4-C5-C6	3.61	119.64	115.91
61	c	1575	G7M	O6-C6-C5	-3.59	119.99	128.01
15	Bb	37	YYG	O23-C21-O22	-3.58	119.41	124.62
11	AA	2634	UR3	C5-C4-N3	3.56	119.73	115.04
61	c	1781	MA6	C2-N1-C6	3.56	120.52	111.83
11	AA	1449	A2M	C5-N7-C8	3.55	109.03	103.45
11	AA	2280	A2M	C5-N7-C8	3.54	109.02	103.45
11	AA	2347	OMU	C5-C4-N3	3.53	119.74	114.80
11	AA	807	A2M	C5-N7-C8	3.52	108.98	103.45
11	AA	1133	A2M	N3-C4-N9	3.51	133.13	127.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	796	A2M	C2'-C1'-N9	-3.50	108.00	113.75
61	c	619	A2M	N3-C4-N9	3.49	133.11	127.17
61	c	619	A2M	C5-N7-C8	3.48	108.93	103.45
11	AA	2946	A2M	C5-N7-C8	3.47	108.91	103.45
15	Bb	37	YYG	C24-O23-C21	3.47	119.65	115.63
61	c	28	A2M	C5-N7-C8	3.45	108.87	103.45
61	c	1575	G7M	C1'-N9-C8	-3.44	115.11	126.74
11	AA	2946	A2M	N3-C4-N9	3.44	133.02	127.17
61	c	619	A2M	C1'-N9-C8	-3.43	119.47	127.09
61	c	436	A2M	C5-N7-C8	3.43	108.83	103.45
11	AA	2256	A2M	C5-N7-C8	3.41	108.81	103.45
61	c	1191	B8N	N3-C2-N1	3.39	120.86	116.72
11	AA	2946	A2M	C1'-N9-C8	-3.38	119.60	127.09
11	AA	2640	A2M	C5-N7-C8	3.36	108.73	103.45
11	AA	1133	A2M	C1'-N9-C8	-3.36	119.64	127.09
61	c	1782	MA6	C2-N1-C6	3.35	120.02	111.83
61	c	796	A2M	C5-N7-C8	3.35	108.71	103.45
11	AA	876	A2M	C5-N7-C8	3.34	108.70	103.45
61	c	541	A2M	C2-N3-C4	3.33	119.97	111.83
11	AA	2281	A2M	C5-N7-C8	3.31	108.65	103.45
61	c	974	A2M	C5-N7-C8	3.29	108.63	103.45
61	c	541	A2M	C5-N7-C8	3.28	108.61	103.45
61	c	1782	MA6	C2-N3-C4	3.28	119.84	111.83
61	c	1781	MA6	C2-N3-C4	3.27	119.82	111.83
61	c	100	A2M	C5-N7-C8	3.24	108.55	103.45
11	AA	2220	A2M	C5-N7-C8	3.23	108.53	103.45
11	AA	1133	A2M	C5-N7-C8	3.23	108.53	103.45
11	AA	1449	A2M	C2-N3-C4	3.23	119.73	111.83
15	Bb	37	YYG	O18-C16-C15	3.23	119.70	111.49
61	c	436	A2M	C2-N3-C4	3.23	119.71	111.83
11	AA	649	A2M	C5-N7-C8	3.22	108.51	103.45
61	c	420	A2M	C5-N7-C8	3.21	108.50	103.45
11	AA	876	A2M	C2-N3-C4	3.21	119.67	111.83
11	AA	2417	OMU	O4-C4-C5	-3.21	119.63	125.16
11	AA	807	A2M	C2-N3-C4	3.21	119.66	111.83
61	c	1575	G7M	C2-N1-C6	-3.20	119.31	125.11
11	AA	2281	A2M	C2'-C1'-N9	-3.19	108.50	113.75
11	AA	2256	A2M	O2'-C2'-C1'	3.19	115.05	108.99
11	AA	2281	A2M	C2-N3-C4	3.19	119.62	111.83
61	c	974	A2M	C2-N3-C4	3.16	119.56	111.83
11	AA	649	A2M	C2-N3-C4	3.16	119.54	111.83
11	AA	2640	A2M	C2-N3-C4	3.14	119.51	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	420	A2M	C2-N3-C4	3.14	119.51	111.83
11	AA	2280	A2M	C2-N3-C4	3.14	119.50	111.83
11	AA	2946	A2M	C2'-C1'-N9	-3.14	108.59	113.75
11	AA	817	A2M	C2-N3-C4	3.13	119.48	111.83
61	c	1280	4AC	O7-C7-N4	-3.13	116.97	121.90
11	AA	817	A2M	C5-N7-C8	3.13	108.37	103.45
61	c	796	A2M	C2-N3-C4	3.12	119.46	111.83
11	AA	2946	A2M	C2-N3-C4	3.12	119.46	111.83
61	c	28	A2M	C2-N3-C4	3.11	119.43	111.83
61	c	619	A2M	C2-N3-C4	3.10	119.41	111.83
11	AA	2256	A2M	C2-N3-C4	3.10	119.40	111.83
11	AA	1437	OMC	C1'-N1-C2	3.10	125.28	118.44
11	AA	1133	A2M	C2-N3-C4	3.09	119.39	111.83
11	AA	2220	A2M	C2-N3-C4	3.09	119.39	111.83
61	c	100	A2M	C2-N3-C4	3.09	119.39	111.83
61	c	1782	MA6	C4-N9-C8	3.06	108.95	105.74
11	AA	2421	OMU	O4-C4-C5	-3.05	119.90	125.16
61	c	1191	B8N	O4-C4-N3	-3.05	115.04	119.99
11	AA	2921	OMU	O4-C4-C5	-3.04	119.92	125.16
11	AA	898	OMU	O4-C4-C5	-3.01	119.97	125.16
61	c	541	A2M	O2'-C2'-C1'	3.01	114.70	108.99
61	c	578	OMU	O4-C4-C5	-3.00	119.99	125.16
11	AA	2724	OMU	O4-C4-C5	-2.97	120.04	125.16
61	c	1575	G7M	N9-C4-N3	2.95	131.85	125.95
11	AA	2729	OMU	O4-C4-C5	-2.94	120.09	125.16
61	c	1773	4AC	O7-C7-N4	-2.93	117.28	121.90
61	c	1782	MA6	N3-C4-N9	2.92	132.14	127.17
11	AA	2281	A2M	C4'-O4'-C1'	-2.90	103.06	109.47
61	c	1781	MA6	N3-C4-N9	2.89	132.08	127.17
61	c	1269	OMU	O4-C4-C5	-2.88	120.19	125.16
61	c	1280	4AC	C6-C5-C4	2.85	120.43	117.00
61	c	1782	MA6	C5-N7-C8	2.84	107.91	103.45
11	AA	1888	OMU	O4-C4-C5	-2.83	120.28	125.16
61	c	1781	MA6	C5-N7-C8	2.83	107.90	103.45
11	AA	2281	A2M	O4'-C1'-C2'	-2.82	101.73	106.59
11	AA	2347	OMU	O4-C4-C5	-2.73	120.45	125.16
61	c	541	A2M	C4-N9-C1'	2.72	132.99	126.63
11	AA	807	A2M	C2'-C1'-N9	-2.67	109.35	113.75
11	AA	2142	1MA	N1-C6-N6	2.59	126.22	119.71
11	AA	2281	A2M	O4'-C1'-N9	2.59	113.06	108.09
61	c	100	A2M	C2'-C1'-N9	-2.59	109.49	113.75
61	c	1781	MA6	C4-N9-C8	2.56	108.43	105.74

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	c	1280	4AC	C5-C4-N3	-2.56	118.59	122.60
61	c	1773	4AC	O7-C7-CM7	-2.55	117.51	122.05
11	AA	1888	OMU	C2'-C1'-N1	-2.53	109.44	114.24
15	Bb	37	YYG	C8-N9-C4	2.48	108.92	106.54
61	c	1269	OMU	O2-C2-N1	-2.45	119.61	122.80
11	AA	2347	OMU	C1'-N1-C2	2.44	121.98	117.59
11	AA	1888	OMU	O2-C2-N1	-2.44	119.62	122.80
61	c	28	A2M	C2'-C1'-N9	-2.43	109.76	113.75
11	AA	2948	OMC	C1'-N1-C2	2.42	123.78	118.44
61	c	1191	B8N	C31-N3-C2	2.40	121.19	117.64
11	AA	2729	OMU	O2-C2-N1	-2.40	119.67	122.80
61	c	1280	4AC	O7-C7-CM7	-2.40	117.78	122.05
61	c	1773	4AC	C5-C4-N3	-2.39	118.85	122.60
11	AA	1437	OMC	C1'-N1-C6	-2.36	115.73	120.78
61	c	541	A2M	C4'-O4'-C1'	-2.36	104.26	109.47
11	AA	645	1MA	N1-C6-N6	2.32	125.54	119.71
11	AA	2634	UR3	C6-N1-C2	-2.32	119.91	121.80
61	c	1773	4AC	C6-C5-C4	2.31	119.79	117.00
15	Bb	37	YYG	C14-C13-C12	-2.30	108.67	113.36
11	AA	2417	OMU	O2-C2-N1	-2.28	119.83	122.80
61	c	1280	4AC	O2-C2-N3	-2.26	118.77	122.33
11	AA	898	OMU	O2-C2-N1	-2.24	119.89	122.80
15	Bb	37	YYG	C6-C5-N7	2.23	134.32	129.36
11	AA	2337	OMC	C1'-N1-C2	2.22	123.34	118.44
11	AA	807	A2M	C4'-O4'-C1'	-2.22	104.57	109.47
61	c	1191	B8N	O4'-C1'-C2'	2.21	108.21	105.15
11	AA	2724	OMU	O2-C2-N1	-2.19	119.95	122.80
61	c	1575	G7M	O3'-C3'-C2'	2.18	118.82	111.82
61	c	541	A2M	C6-C5-C4	2.18	120.15	117.18
15	Bb	37	YYG	O18-C16-O17	-2.15	119.67	123.85
11	AA	2921	OMU	O2-C2-N1	-2.09	120.07	122.80
11	AA	2417	OMU	C1'-N1-C2	2.09	121.35	117.59
61	c	619	A2M	C4-C5-N7	-2.09	108.20	110.58
61	c	414	OMC	C1'-N1-C2	2.05	122.97	118.44
61	c	578	OMU	O2-C2-N1	-2.05	120.13	122.80
11	AA	1449	A2M	C4-C5-N7	-2.03	108.26	110.58
61	c	1782	MA6	C4-C5-N7	-2.03	108.26	110.58
11	AA	2948	OMC	C1'-N1-C6	-2.00	116.50	120.78

There are no chirality outliers.

All (93) 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	876	A2M	C1'-C2'-O2'-CM'
11	AA	1437	OMC	C1'-C2'-O2'-CM2
11	AA	1450	OMG	O4'-C4'-C5'-O5'
11	AA	2220	A2M	C1'-C2'-O2'-CM'
11	AA	2256	A2M	C1'-C2'-O2'-CM'
11	AA	2347	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
12	Aa	699	DDE	NAD-CBI-CBW-NCB
15	Bb	37	YYG	O17-C16-O18-C19
15	Bb	37	YYG	N20-C21-O23-C24
15	Bb	37	YYG	O22-C21-O23-C24
61	c	28	A2M	C1'-C2'-O2'-CM'
61	c	414	OMC	C3'-C4'-C5'-O5'
61	c	414	OMC	O4'-C4'-C5'-O5'
61	c	420	A2M	C1'-C2'-O2'-CM'
61	c	541	A2M	C1'-C2'-O2'-CM'
61	c	619	A2M	C1'-C2'-O2'-CM'
61	c	1572	OMG	O4'-C4'-C5'-O5'
61	c	1782	MA6	O4'-C4'-C5'-O5'
15	Bb	37	YYG	O23-C21-N20-C15
15	Bb	37	YYG	C15-C16-O18-C19
15	Bb	37	YYG	O22-C21-N20-C15
15	Bb	37	YYG	C13-C14-C15-N20
11	AA	2197	OMC	C2'-C1'-N1-C6
11	AA	867	OMG	O4'-C4'-C5'-O5'
11	AA	867	OMG	C3'-C4'-C5'-O5'
11	AA	1450	OMG	C3'-C4'-C5'-O5'
11	AA	2256	A2M	C3'-C4'-C5'-O5'
61	c	541	A2M	C3'-C4'-C5'-O5'
61	c	1572	OMG	C3'-C4'-C5'-O5'
61	c	1575	G7M	C3'-C4'-C5'-O5'
61	c	1782	MA6	C3'-C4'-C5'-O5'
15	Bb	37	YYG	C13-C14-C15-C16
11	AA	2256	A2M	O4'-C4'-C5'-O5'
61	c	541	A2M	O4'-C4'-C5'-O5'
61	c	1575	G7M	O4'-C4'-C5'-O5'
12	Aa	699	DDE	CE1-CAT-CAU-CBW
11	AA	2197	OMC	C2'-C1'-N1-C2
61	c	619	A2M	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
12	Aa	699	DDE	CAT-CAU-CBW-CBI
11	AA	2281	A2M	O4'-C4'-C5'-O5'
61	c	578	OMU	O4'-C4'-C5'-O5'
61	c	619	A2M	O4'-C4'-C5'-O5'
11	AA	2281	A2M	C3'-C4'-C5'-O5'
61	c	1280	4AC	C3'-C4'-C5'-O5'
15	Bb	37	YYG	C12-C13-C14-C15
61	c	541	A2M	C2'-C1'-N9-C4
12	Aa	699	DDE	OAG-CBI-CBW-CAU
61	c	100	A2M	O4'-C4'-C5'-O5'
12	Aa	699	DDE	CBI-CBW-NCB-CAB
61	c	1280	4AC	O7-C7-N4-C4
61	c	1280	4AC	CM7-C7-N4-C4
61	c	1773	4AC	O7-C7-N4-C4
61	c	1773	4AC	CM7-C7-N4-C4
12	Aa	699	DDE	CAU-CBW-NCB-CAB
61	c	1191	B8N	C31-C32-C33-C34
11	AA	807	A2M	C3'-C4'-C5'-O5'
61	c	1191	B8N	C31-C32-C33-N34
11	AA	908	OMG	C3'-C2'-O2'-CM2
11	AA	2870	5MC	C2'-C1'-N1-C6
61	c	541	A2M	C2'-C1'-N9-C8
61	c	1280	4AC	O4'-C4'-C5'-O5'
11	AA	2197	OMC	O4'-C1'-N1-C6
11	AA	2197	OMC	O4'-C1'-N1-C2
11	AA	2870	5MC	O4'-C1'-N1-C6
11	AA	817	A2M	C4'-C5'-O5'-P
61	c	619	A2M	C2'-C1'-N9-C8
61	c	1572	OMG	C4'-C5'-O5'-P
12	Aa	699	DDE	CBI-CBW-NCB-CAC
61	c	1428	OMG	C4'-C5'-O5'-P
11	AA	649	A2M	C4'-C5'-O5'-P
61	c	1782	MA6	C4'-C5'-O5'-P
12	Aa	699	DDE	CAU-CBW-NCB-CAC
11	AA	645	1MA	C2'-C1'-N9-C8
11	AA	2421	OMU	C1'-C2'-O2'-CM2
11	AA	645	1MA	C2'-C1'-N9-C4
11	AA	807	A2M	C3'-C2'-O2'-CM'
11	AA	1449	A2M	C3'-C2'-O2'-CM'
11	AA	2870	5MC	O4'-C1'-N1-C2
11	AA	1437	OMC	O4'-C4'-C5'-O5'
12	Aa	699	DDE	NAD-CBI-CBW-CAU

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Mol	Chain	Res	Type	Atoms
61	c	1191	B8N	N34-C33-C34-O36
61	c	1280	4AC	C2'-C1'-N1-C2
11	AA	649	A2M	C3'-C4'-C5'-O5'
11	AA	2619	OMG	C3'-C4'-C5'-O5'
11	AA	2619	OMG	C4'-C5'-O5'-P
61	c	562	OMG	O4'-C4'-C5'-O5'
11	AA	1437	OMC	C2'-C1'-N1-C2
11	AA	807	A2M	O4'-C1'-N9-C8

There are no ring outliers.

43 monomers are involved in 70 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	AA	2948	OMC	1	0
11	AA	817	A2M	3	0
11	AA	2959	OMC	1	0
11	AA	1450	OMG	1	0
61	c	420	A2M	2	0
11	AA	649	A2M	3	0
61	c	974	A2M	1	0
11	AA	2421	OMU	1	0
61	c	1639	OMC	1	0
11	AA	876	A2M	2	0
11	AA	807	A2M	1	0
11	AA	2946	A2M	1	0
15	Bb	37	YYG	2	0
61	c	1280	4AC	3	0
11	AA	2640	A2M	4	0
61	c	436	A2M	1	0
61	c	1782	MA6	1	0
12	Aa	699	DDE	3	0
11	AA	2417	OMU	2	0
61	c	619	A2M	1	0
61	c	541	A2M	2	0
11	AA	2724	OMU	1	0
61	c	28	A2M	2	0
61	c	1572	OMG	1	0
61	c	1781	MA6	2	0
11	AA	1133	A2M	1	0
11	AA	908	OMG	1	0
11	AA	663	OMC	3	0
11	AA	2815	OMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	AA	2922	OMG	2	0
11	AA	650	OMC	1	0
11	AA	2347	OMU	2	0
11	AA	898	OMU	1	0
61	c	100	A2M	1	0
11	AA	2281	A2M	1	0
61	c	1575	G7M	2	0
61	c	1773	4AC	2	0
11	AA	1449	A2M	1	0
11	AA	1437	OMC	2	0
61	c	1428	OMG	2	0
11	AA	2220	A2M	2	0
61	c	796	A2M	1	0
11	AA	2870	5MC	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 283 ligands modelled in this entry, 270 are monoatomic - leaving 13 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
89	GTP	Aa	1001	86	33,34,34	0.98	1 (3%)	50,54,54	1.63	9 (18%)
88	SPD	AA	3493	-	9,9,9	0.33	0	8,8,8	0.82	0
88	SPD	c	1918	-	9,9,9	0.33	0	8,8,8	0.87	0
88	SPD	AA	3539	-	9,9,9	0.28	0	8,8,8	0.75	0
88	SPD	AA	3594	-	9,9,9	0.32	0	8,8,8	0.84	0
88	SPD	AA	3533	-	9,9,9	0.30	0	8,8,8	0.98	0
88	SPD	AA	3584	-	9,9,9	0.34	0	8,8,8	0.93	0
88	SPD	AA	3521	-	9,9,9	0.30	0	8,8,8	0.94	0
88	SPD	AA	3494	-	9,9,9	0.30	0	8,8,8	1.05	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
88	SPD	c	1912	-	9,9,9	0.31	0	8,8,8	0.93	0
90	SO1	Aa	1002	-	34,39,39	1.17	3 (8%)	38,64,64	1.17	3 (7%)
88	SPD	c	1937	-	9,9,9	0.34	0	8,8,8	0.90	0
88	SPD	QQ	301	-	9,9,9	0.32	0	8,8,8	0.93	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
89	GTP	Aa	1001	86	-	4/22/38/38	0/3/3/3
88	SPD	AA	3493	-	-	5/7/7/7	-
88	SPD	c	1918	-	-	3/7/7/7	-
88	SPD	AA	3539	-	-	2/7/7/7	-
88	SPD	AA	3594	-	-	3/7/7/7	-
88	SPD	AA	3533	-	-	1/7/7/7	-
88	SPD	AA	3584	-	-	4/7/7/7	-
88	SPD	AA	3521	-	-	2/7/7/7	-
88	SPD	AA	3494	-	-	4/7/7/7	-
88	SPD	c	1912	-	-	3/7/7/7	-
90	SO1	Aa	1002	-	-	10/21/104/104	0/7/5/5
88	SPD	c	1937	-	-	3/7/7/7	-
88	SPD	QQ	301	-	-	1/7/7/7	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
90	Aa	1002	SO1	C2-C6	-4.08	1.49	1.55
90	Aa	1002	SO1	C16-C22	-2.40	1.51	1.54
90	Aa	1002	SO1	C3-C9	-2.15	1.51	1.56
89	Aa	1001	GTP	C2-N3	2.09	1.38	1.33

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	Aa	1001	GTP	C5-C4-N3	-5.09	120.28	128.39
89	Aa	1001	GTP	C2-N3-C4	4.52	120.08	112.30
89	Aa	1001	GTP	N9-C4-N3	3.28	132.51	125.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
90	Aa	1002	SO1	C52-O56-C56	3.18	119.05	113.63
89	Aa	1001	GTP	C2-N1-C6	-3.06	119.57	125.11
89	Aa	1001	GTP	N9-C8-N7	-2.73	108.34	113.40
89	Aa	1001	GTP	C5-C6-N1	2.58	119.81	113.25
89	Aa	1001	GTP	C8-N7-C5	2.57	108.84	104.26
90	Aa	1002	SO1	C24-C18-C9	-2.48	100.29	105.14
89	Aa	1001	GTP	O6-C6-C5	-2.45	120.06	126.53
89	Aa	1001	GTP	C3'-C2'-C1'	2.23	105.69	101.46
90	Aa	1002	SO1	C12-C6-C10	-2.14	106.25	107.92

There are no chirality outliers.

All (45) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
90	Aa	1002	SO1	C2-C1-C5-O14
90	Aa	1002	SO1	C2-C1-C5-O15
90	Aa	1002	SO1	C20-C13-C4-C1
90	Aa	1002	SO1	C21-C13-C4-C1
90	Aa	1002	SO1	C20-C13-C4-C12
90	Aa	1002	SO1	C21-C13-C4-C12
88	c	1918	SPD	C3-C4-C5-N6
88	AA	3584	SPD	C3-C4-C5-N6
88	AA	3521	SPD	N6-C7-C8-C9
88	c	1912	SPD	C3-C4-C5-N6
90	Aa	1002	SO1	C54-C55-O64-C65
88	AA	3493	SPD	N6-C7-C8-C9
88	AA	3584	SPD	N6-C7-C8-C9
88	QQ	301	SPD	C2-C3-C4-C5
88	c	1937	SPD	C2-C3-C4-C5
88	AA	3539	SPD	C4-C5-N6-C7
88	c	1937	SPD	C3-C4-C5-N6
88	c	1912	SPD	C4-C5-N6-C7
89	Aa	1001	GTP	O4'-C4'-C5'-O5'
88	c	1912	SPD	C2-C3-C4-C5
88	c	1918	SPD	C2-C3-C4-C5
88	AA	3494	SPD	C2-C3-C4-C5
88	AA	3594	SPD	C3-C4-C5-N6
89	Aa	1001	GTP	C3'-C4'-C5'-O5'
88	AA	3493	SPD	C2-C3-C4-C5
88	AA	3494	SPD	C7-C8-C9-N10
88	AA	3521	SPD	C7-C8-C9-N10
90	Aa	1002	SO1	O19-C11-C3-C10

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Mol	Chain	Res	Type	Atoms
88	AA	3493	SPD	N1-C2-C3-C4
88	AA	3594	SPD	N1-C2-C3-C4
90	Aa	1002	SO1	O19-C11-C3-C9
88	AA	3539	SPD	C8-C7-N6-C5
88	AA	3493	SPD	C7-C8-C9-N10
88	AA	3594	SPD	C7-C8-C9-N10
89	Aa	1001	GTP	PG-O3B-PB-O2B
90	Aa	1002	SO1	O19-C11-C3-C1
88	AA	3494	SPD	C3-C4-C5-N6
88	AA	3494	SPD	N1-C2-C3-C4
88	AA	3584	SPD	C2-C3-C4-C5
88	AA	3493	SPD	C8-C7-N6-C5
88	AA	3584	SPD	C8-C7-N6-C5
88	c	1918	SPD	C8-C7-N6-C5
88	AA	3533	SPD	C7-C8-C9-N10
88	c	1937	SPD	C7-C8-C9-N10
89	Aa	1001	GTP	PG-O3B-PB-O1B

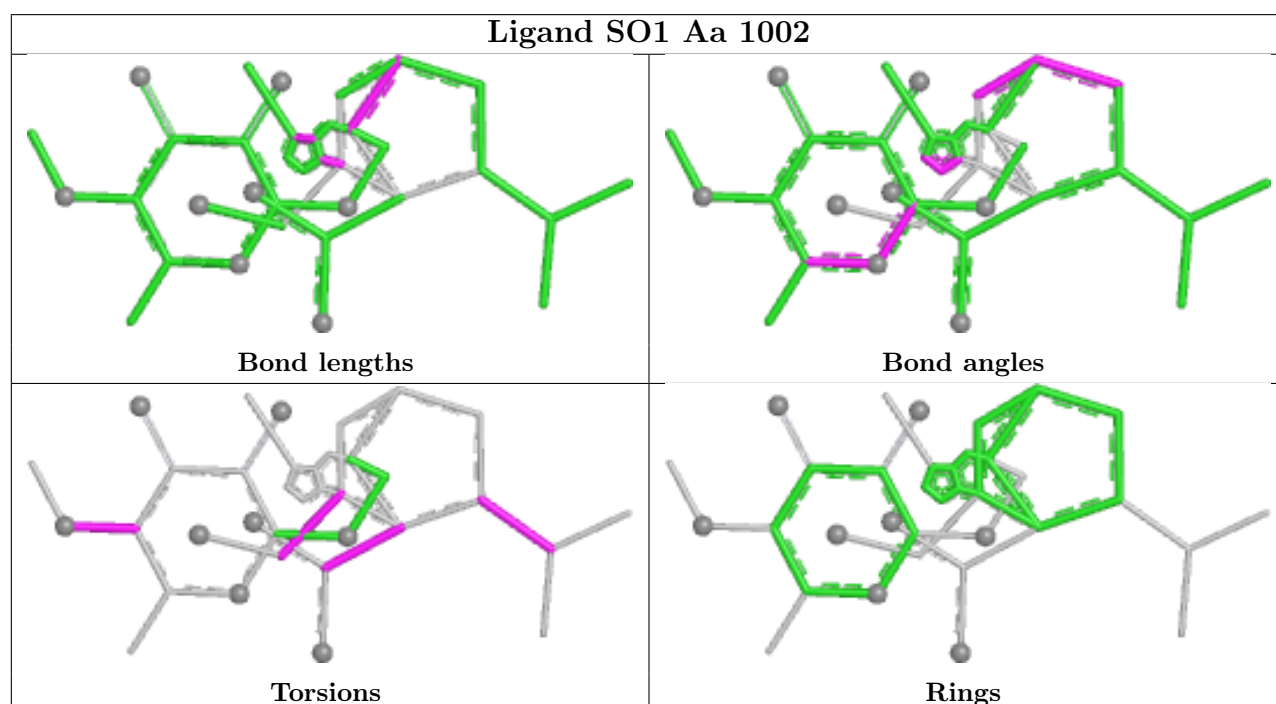
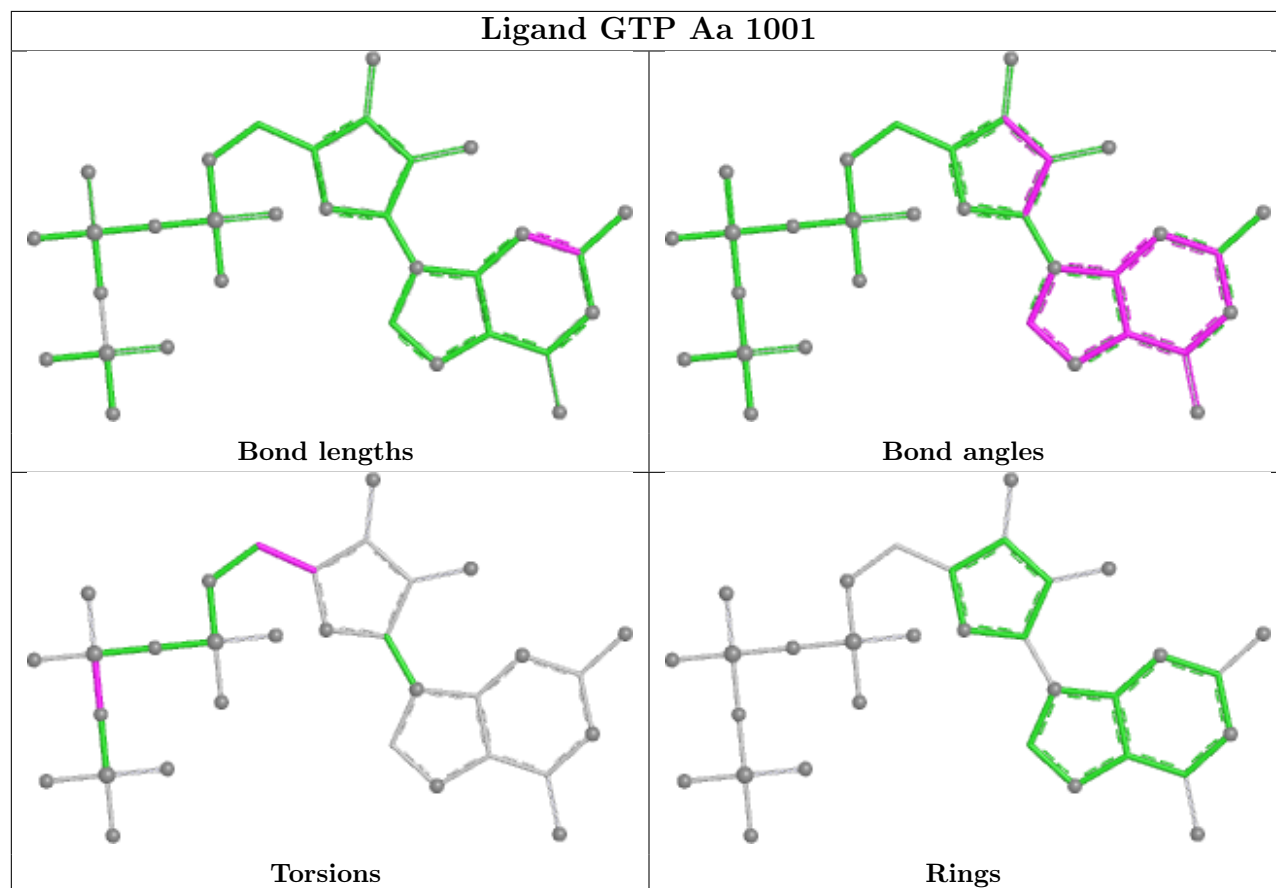
There are no ring outliers.

10 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
89	Aa	1001	GTP	4	0
88	AA	3539	SPD	1	0
88	AA	3594	SPD	2	0
88	AA	3533	SPD	2	0
88	AA	3584	SPD	1	0
88	AA	3521	SPD	1	0
88	AA	3494	SPD	1	0
90	Aa	1002	SO1	6	0
88	c	1937	SPD	1	0
88	QQ	301	SPD	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

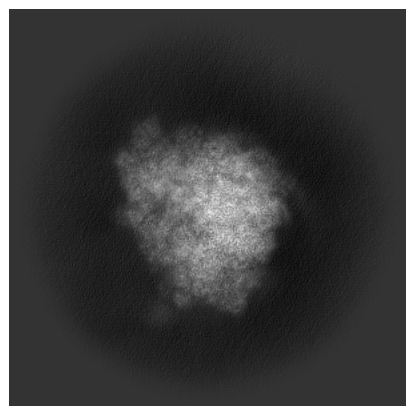
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-16616. These allow visual inspection of the internal detail of the map and identification of artifacts.

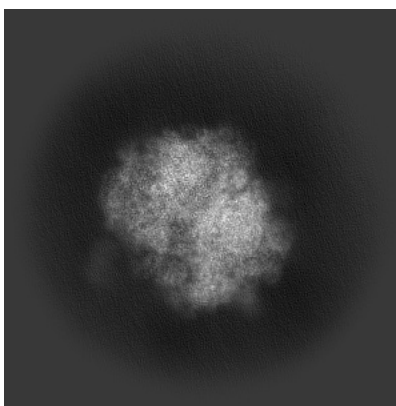
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

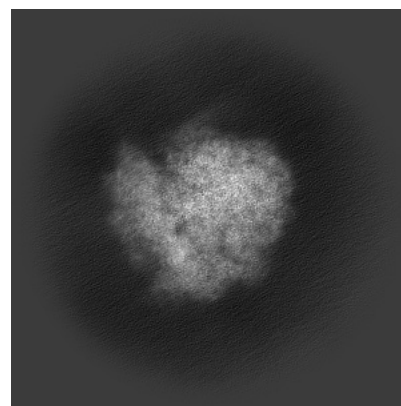
6.1.1 Primary map



X

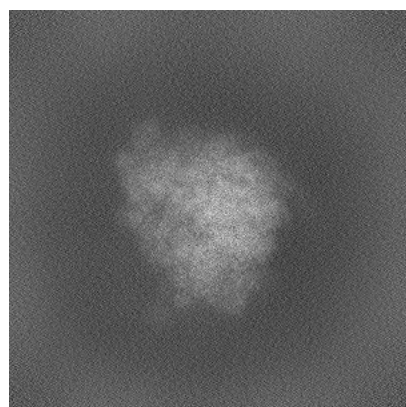


Y

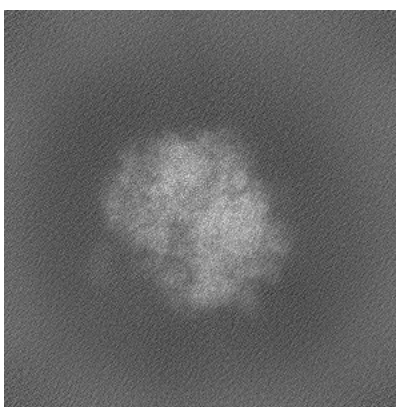


Z

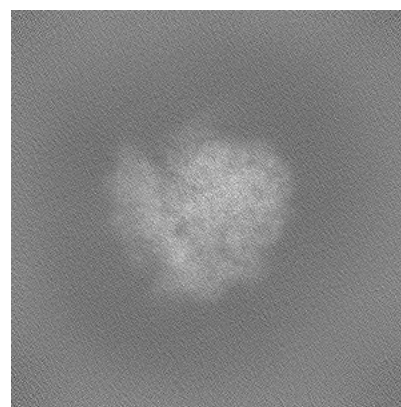
6.1.2 Raw map



X



Y

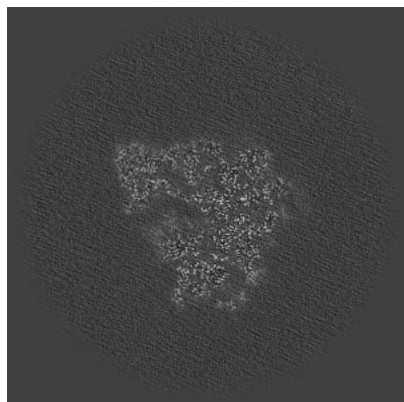


Z

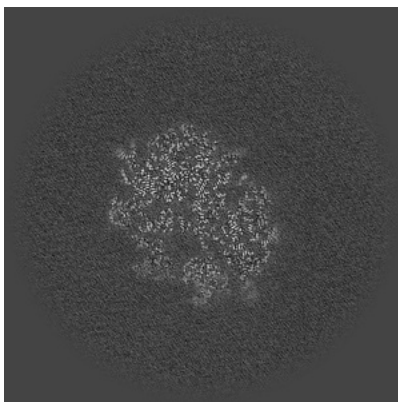
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

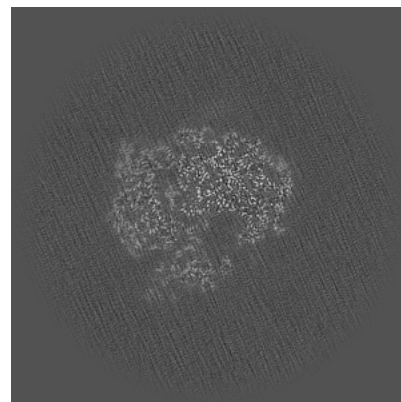
6.2.1 Primary map



X Index: 300

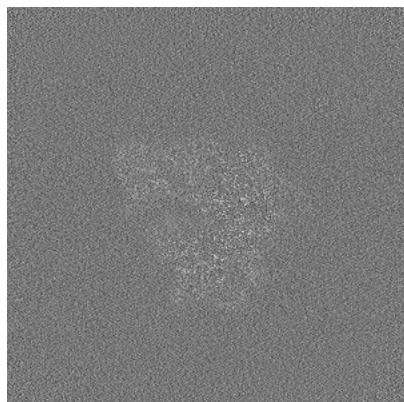


Y Index: 300

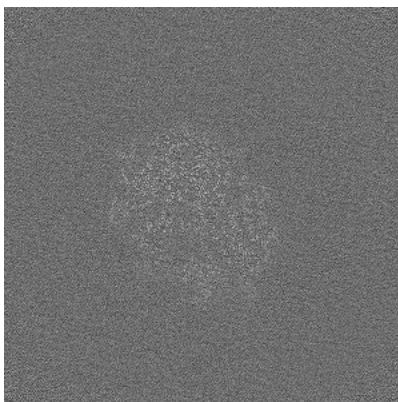


Z Index: 300

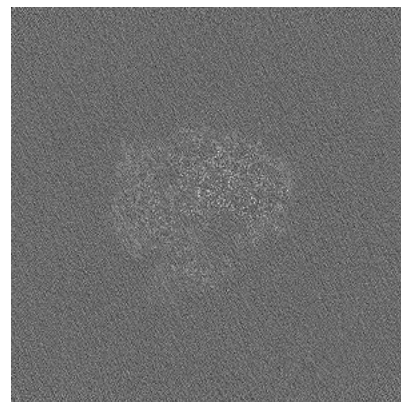
6.2.2 Raw map



X Index: 300



Y Index: 300

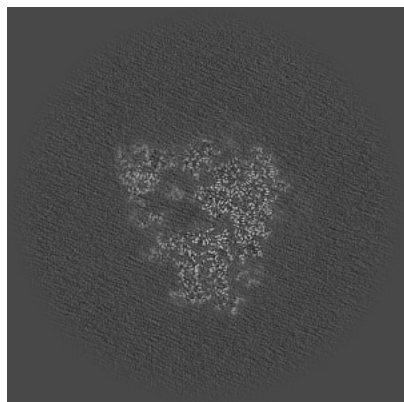


Z Index: 300

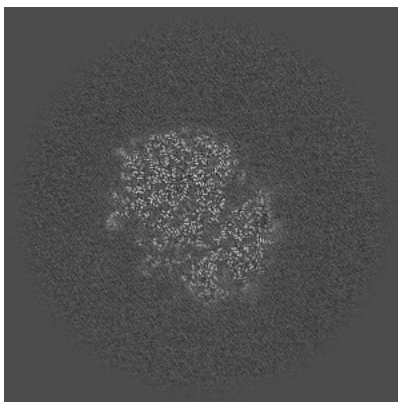
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

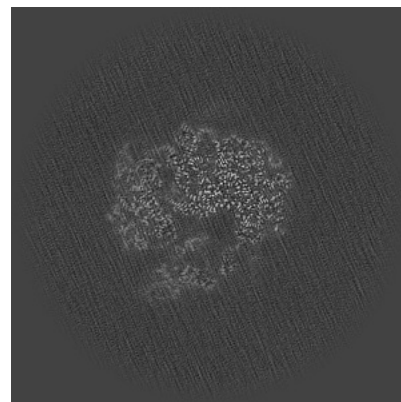
6.3.1 Primary map



X Index: 310

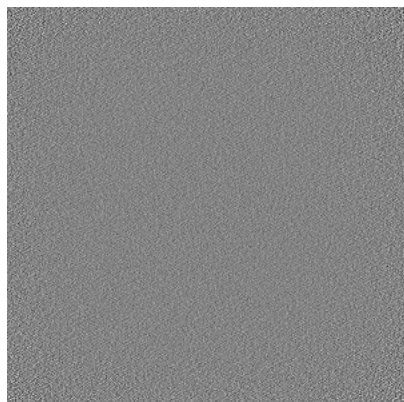


Y Index: 306

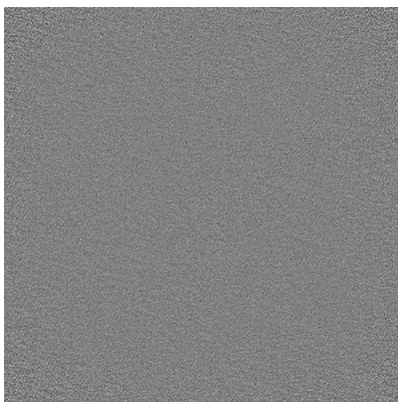


Z Index: 295

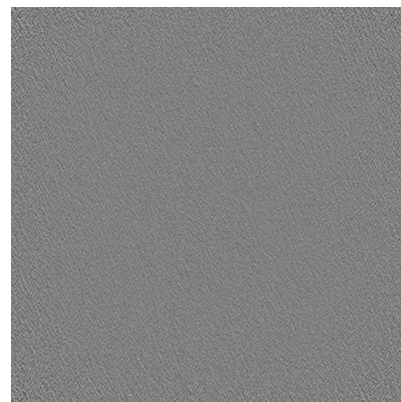
6.3.2 Raw map



X Index: 0



Y Index: 0

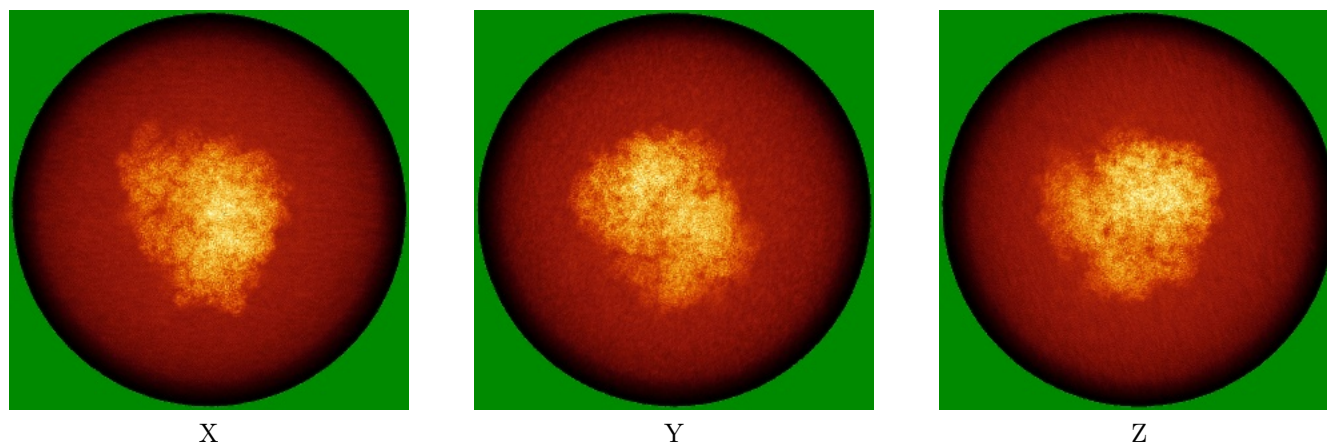


Z Index: 0

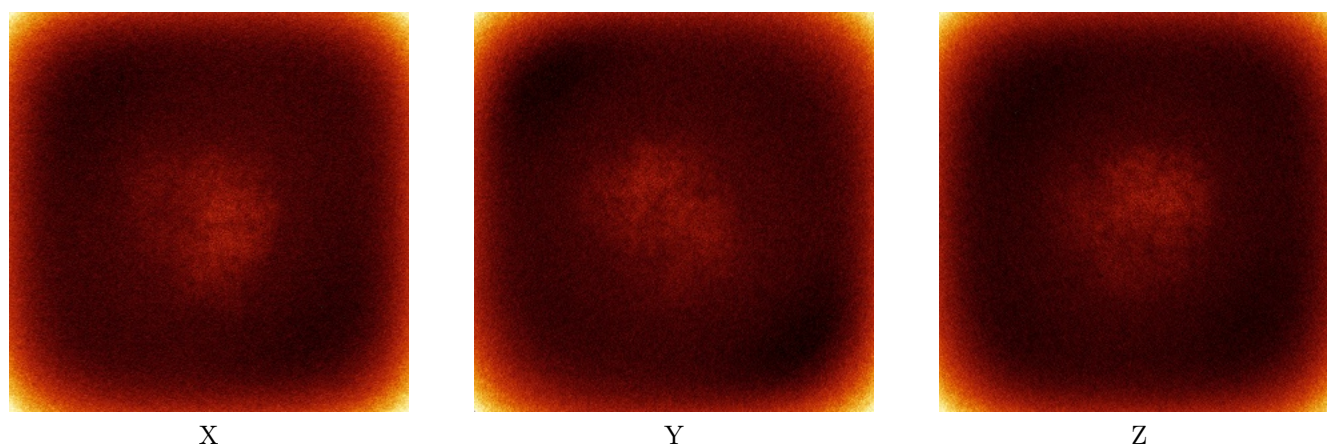
The images above show the largest variance slices of the map in three orthogonal directions.

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.

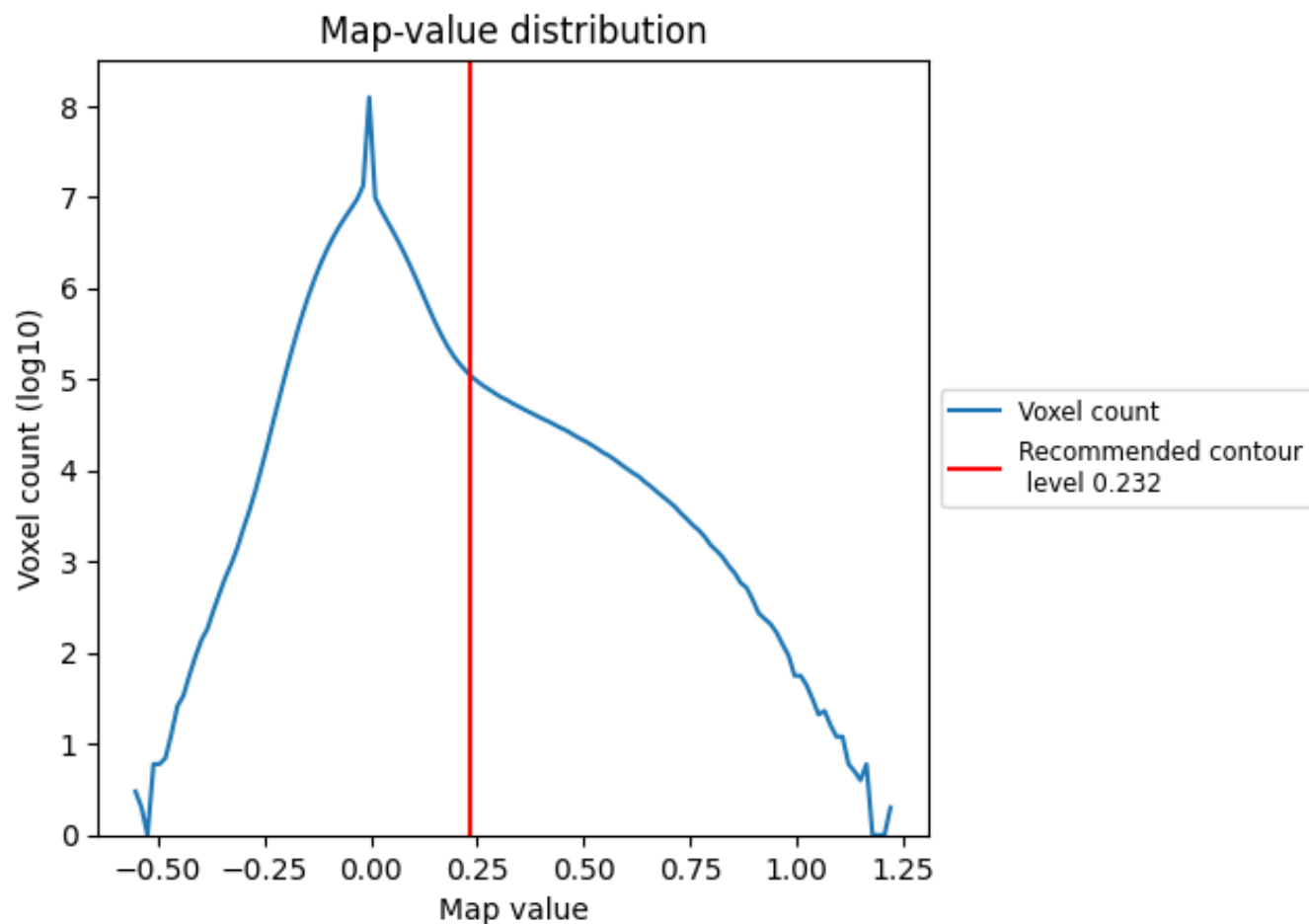
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

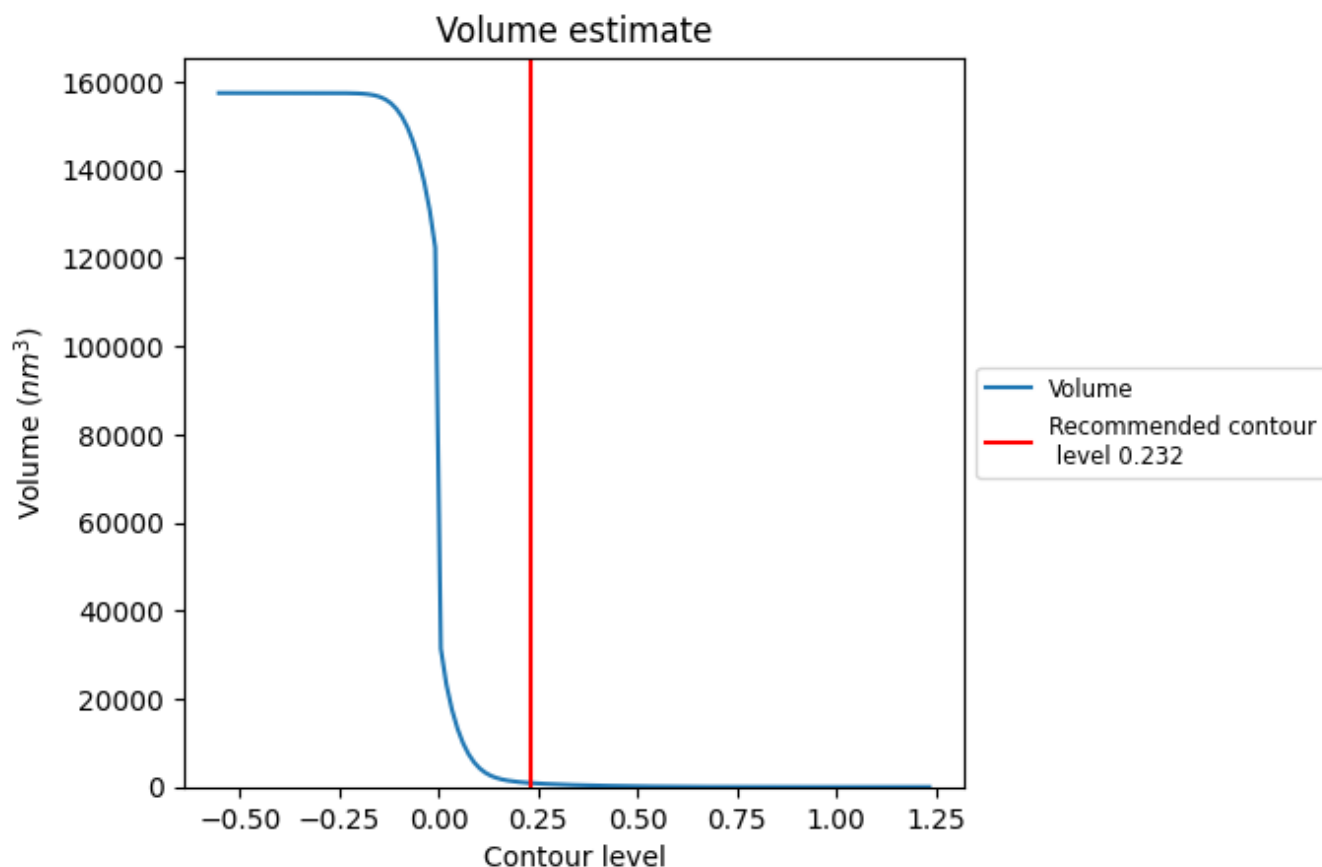
This section contains the results of statistical analysis of the map.

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.

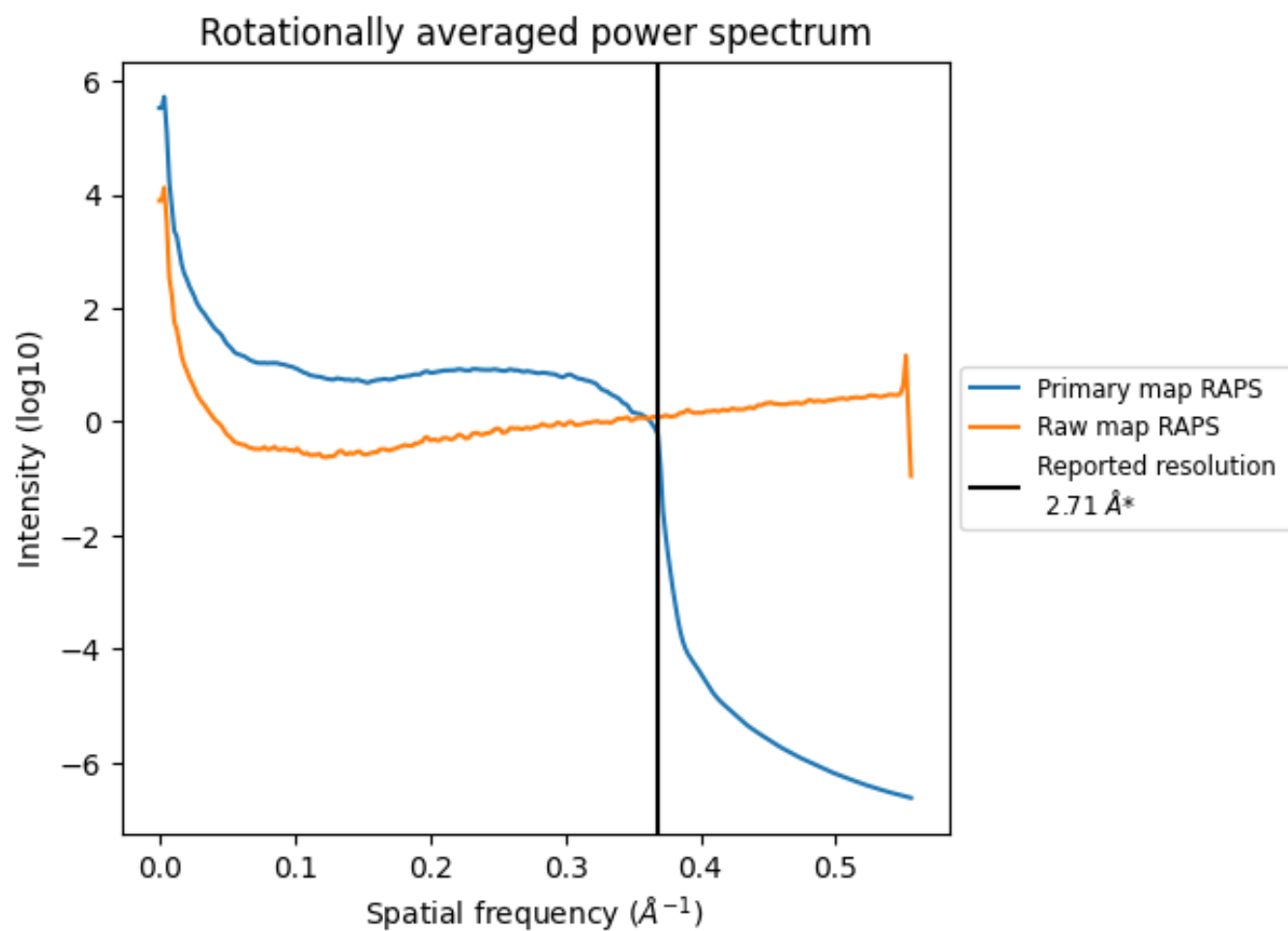
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 895 nm³; this corresponds to an approximate mass of 808 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 [i](#)

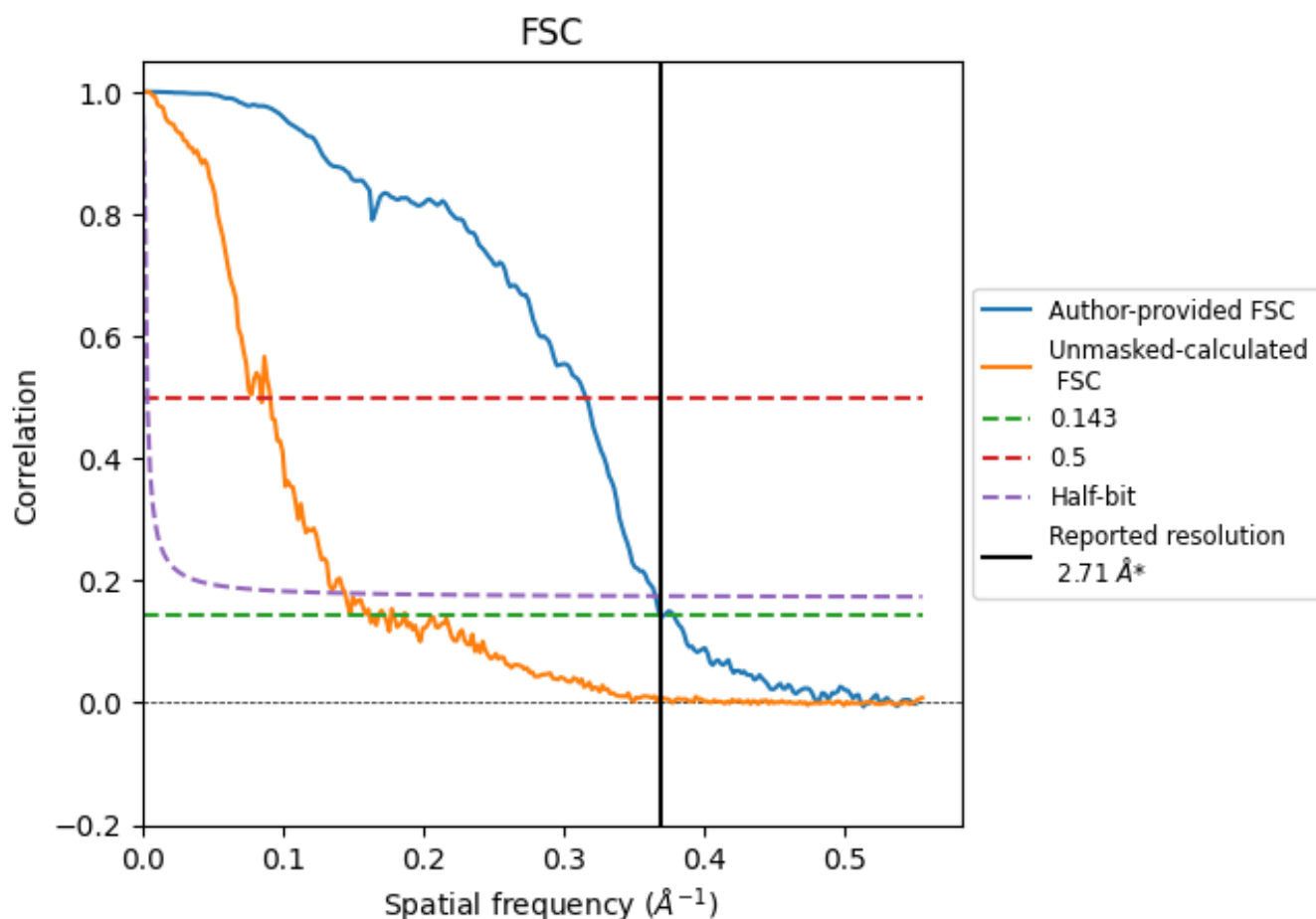


*Reported resolution corresponds to spatial frequency of 0.369 Å⁻¹

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 0.369 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

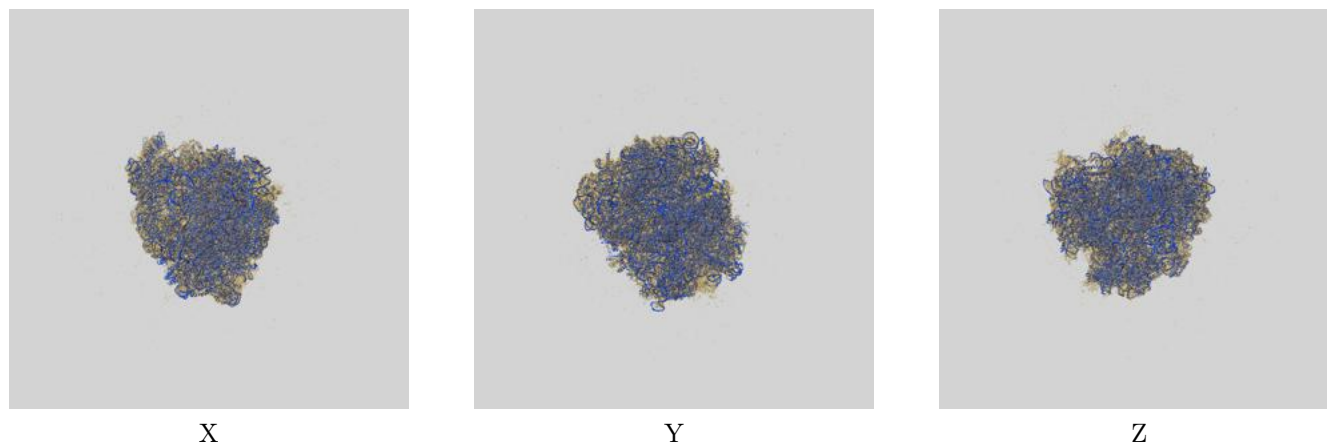
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.71	-	-
Author-provided FSC curve	2.71	3.16	2.74
Unmasked-calculated*	6.18	11.79	6.92

*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 6.18 differs from the reported value 2.71 by more than 10 %

9 Map-model fit [i](#)

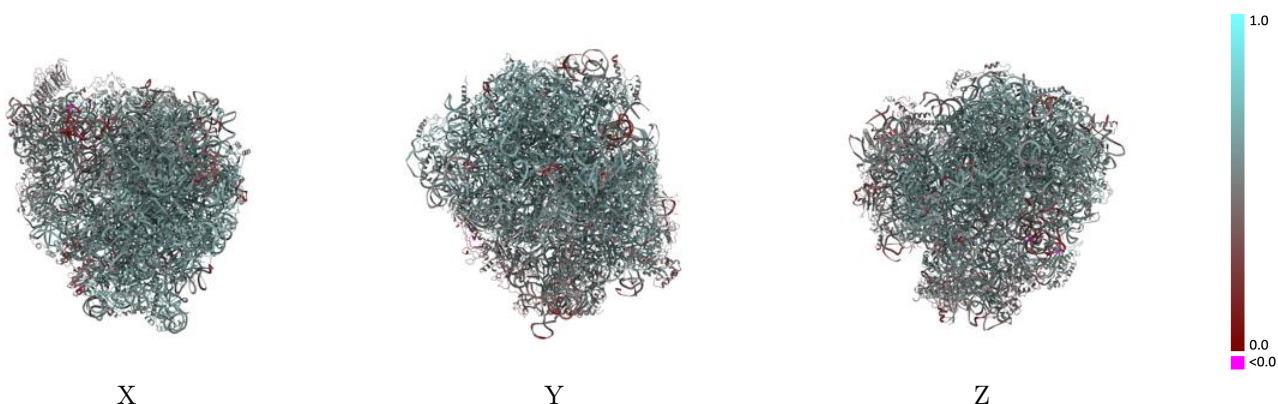
This section contains information regarding the fit between EMDB map EMD-16616 and PDB model 8CF5. Per-residue inclusion information can be found in section [3](#) on page [25](#).

9.1 Map-model overlay [i](#)



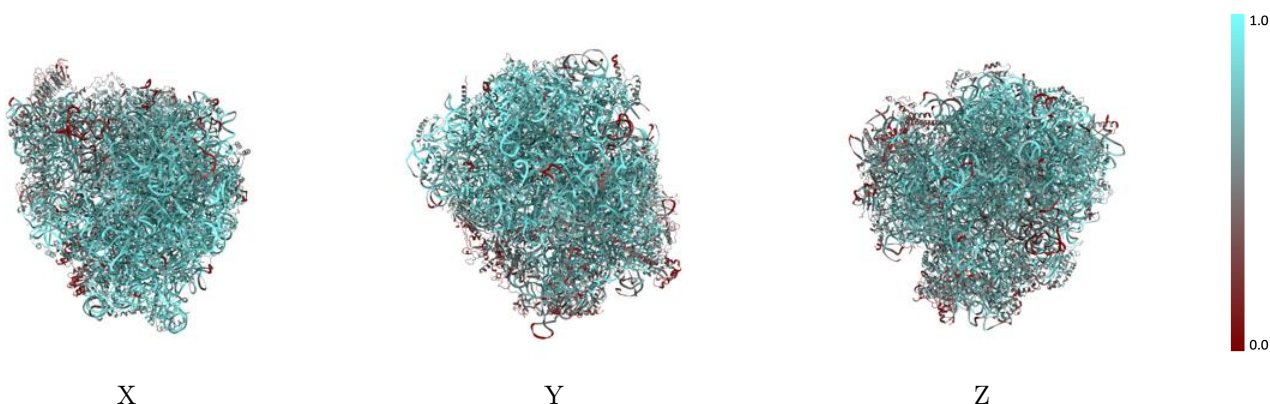
The images above show the 3D surface view of the map at the recommended contour level 0.232 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



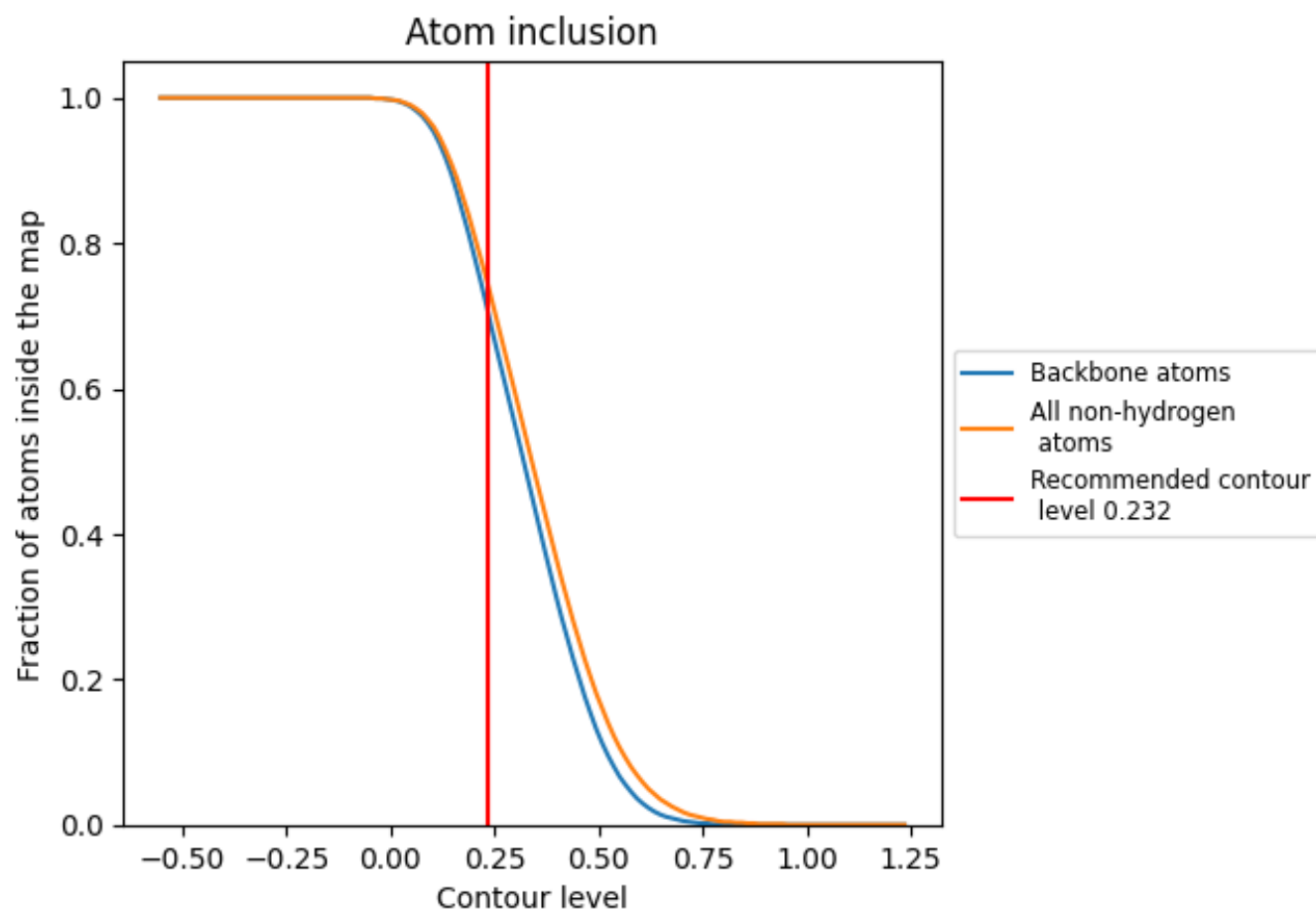
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.232).

9.4 Atom inclusion [i](#)



At the recommended contour level, 71% of all backbone atoms, 75% 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 (0.232) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7480	 0.5480
0	 0.4880	 0.4570
1	 0.3950	 0.3930
2	 0.7910	 0.5830
3	 0.6070	 0.5240
4	 0.5680	 0.5140
5	 0.8210	 0.5650
6	 0.5650	 0.4860
7	 0.3960	 0.4240
8	 0.1360	 0.3110
A	 0.8050	 0.5830
AA	 0.8580	 0.5750
Aa	 0.4140	 0.4660
B	 0.8230	 0.6050
BB	 0.9120	 0.5880
Bb	 0.4680	 0.4340
C	 0.8320	 0.6010
CC	 0.9010	 0.6010
Cc	 0.5670	 0.4440
D	 0.7000	 0.5540
DD	 0.1060	 0.2680
Dd	 0.6730	 0.5280
E	 0.7960	 0.5980
EE	 0.8230	 0.6110
Ee	 0.0680	 0.2850
F	 0.7860	 0.5850
FF	 0.7660	 0.5720
G	 0.5460	 0.4960
GG	 0.8020	 0.5990
H	 0.7540	 0.5790
HH	 0.6570	 0.5290
I	 0.7210	 0.5450
II	 0.7380	 0.5690
J	 0.7660	 0.5850
JJ	 0.8190	 0.6090



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Chain	Atom inclusion	Q-score
K	 0.7550	 0.5870
KK	 0.6740	 0.5440
L	 0.7220	 0.5700
LL	 0.6900	 0.5490
M	 0.7990	 0.5930
MM	 0.7340	 0.5780
N	 0.7540	 0.5680
NN	 0.6100	 0.5050
O	 0.6960	 0.5740
OO	 0.7410	 0.5570
P	 0.7060	 0.5500
PP	 0.7600	 0.5800
Pp	 0.2100	 0.4780
Q	 0.8250	 0.6090
QQ	 0.8670	 0.6100
R	 0.8810	 0.6230
S	 0.7910	 0.5960
T	 0.7390	 0.5730
U	 0.6630	 0.5290
V	 0.9060	 0.6150
W	 0.5220	 0.4960
X	 0.8410	 0.5890
Y	 0.6440	 0.5670
Z	 0.6740	 0.5370
a	 0.7510	 0.5820
b	 0.7880	 0.6070
c	 0.8080	 0.5440
d	 0.6350	 0.5290
e	 0.6790	 0.5520
f	 0.7420	 0.5720
g	 0.6280	 0.5260
h	 0.5660	 0.5000
i	 0.5960	 0.4970
j	 0.3860	 0.4270
k	 0.4320	 0.4640
l	 0.5450	 0.4820
m	 0.5740	 0.4820
n	 0.4990	 0.4940
o	 0.6380	 0.5350
p	 0.7150	 0.5560
q	 0.7520	 0.5710
r	 0.5970	 0.5100

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Chain	Atom inclusion	Q-score
s	 0.6600	 0.5180
t	 0.5510	 0.4740
u	 0.5650	 0.4910
v	 0.6180	 0.4910
w	 0.5720	 0.4910
x	 0.6730	 0.5470
y	 0.8100	 0.5970
z	 0.7410	 0.5700