Full wwPDB EM Validation Report

Sep 24, 2025 – 06:29 pm BST

PDB ID	:	8CKU / pdb_00008cku
EMDB ID	:	EMD-16702
Title	:	Translocation intermediate 1 (TI-1*) of 80S S. cerevisiae ribosome with ligands and eEF2 in the absence of sordarin
Authors	:	Milicevic, N.; Jenner, L.; Myasnikov, A.; Yusupov, M.; Yusupova, G.
Deposited on	:	2023-02-16
Resolution	:	3.11 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

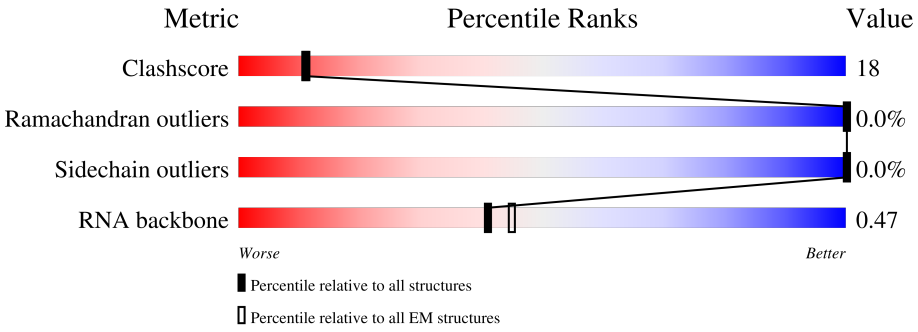
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

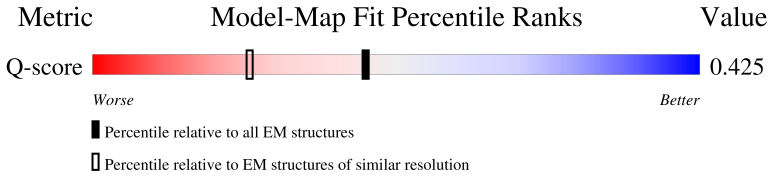
1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.11 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	14465 (2.61 - 3.61)

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

Mol	Chain	Length	Quality of chain
1	0	135	57% 42%
2	1	108	13% 31% 33% 35%
3	2	119	55% 27% 18%

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Mol	Chain	Length	Quality of chain
4	3	82	61% 38%
5	4	67	6% 63% 30% 6%
6	5	56	57% 38% 5%
7	6	63	5% 52% 30% 16%
8	7	319	8% 52% 48%
9	8	152	21% 76%
10	A	199	64% 35%
11	AA	3396	38% 45% 10% 6%
12	Aa	842	44% 53% 47%
13	B	184	45% 39% 16%
14	BB	121	50% 45% 6%
15	Bb	76	26% 20% 45% 34%
16	C	186	68% 32%
17	CC	158	39% 54% 8%
18	Cc	77	32% 47% 21%
19	D	189	52% 41% 7%
20	DD	312	36% 38% 27% 36%
21	Dd	39	13% 15% 5% 67%
22	E	172	61% 39%
23	EE	254	62% 37%
24	Ee	165	45% 58% 39%
25	F	160	71% 29%
26	FF	387	62% 37%
27	G	121	56% 24% 20%
28	GG	362	73% 27%

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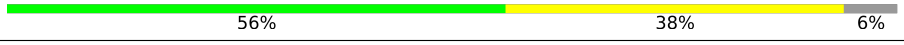
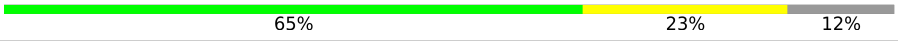
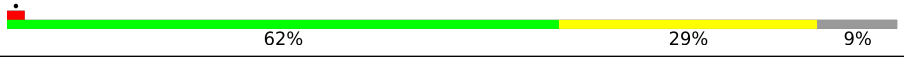
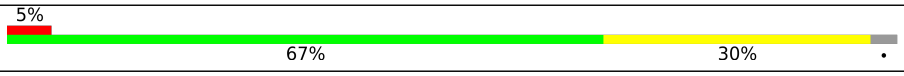
Mol	Chain	Length	Quality of chain
29	H	137	
30	HH	297	
31	I	155	
32	II	176	
33	J	142	
34	JJ	244	
35	K	127	
36	KK	256	
37	L	136	
38	LL	191	
39	M	149	
40	MM	221	
41	N	59	
42	NN	174	
43	O	105	
44	OO	199	
45	P	113	
46	PP	138	
47	Q	130	
48	QQ	204	
49	R	107	
50	S	121	
51	T	120	
52	U	100	
53	V	88	

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Mol	Chain	Length	Quality of chain
54	W	78	67% 32%
55	X	51	67% 31%
56	Y	128	30% 11% 59%
57	Z	25	56% 44%
58	a	106	58% 37%
59	b	92	64% 35%
60	c	1800	29% 46% 14% 11%
61	d	252	44% 37% 18%
62	e	255	47% 36% 17%
63	f	254	52% 33% 15%
64	g	240	51% 35% 14%
65	h	261	49% 50%
66	i	225	40% 48% 12%
67	j	236	56% 37% 7%
68	k	190	57% 39%
69	l	200	48% 44% 8%
70	m	197	54% 40% 6%
71	n	105	39% 47% 13%
72	o	156	5% 45% 46% 9%
73	p	151	66% 33%
74	q	137	53% 39% 7%
75	r	142	49% 25% 27%
76	s	143	55% 41%
77	t	136	49% 40% 11%
78	u	146	5% 47% 52%

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

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 207340 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	0	0
			770	499	126	145		

- 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	0	0
			2748	1729	522	494	3		

- 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	0	0
			963	607	180	169	7		

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

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

- 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	0	0
			521	336	102	82	1		

- 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	0	0
			1230	795	221	213	1		

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

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

- 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	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	0	0
			1092	710	202	180		

- Molecule 38 is a protein called 60S ribosomal protein L9-A.

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 462	C 289	N 100	O 73	0	0

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

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

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

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

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

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

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

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

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

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

- Molecule 47 is a protein called 60S ribosomal protein L32.

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

- Molecule 48 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 49 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 50 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 51 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 52 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 53 is a protein called 60S ribosomal protein L37-A.

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

- Molecule 54 is a protein called 60S ribosomal protein L38.

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

- Molecule 55 is a protein called 60S ribosomal protein L39.

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

- Molecule 56 is a protein called Ubiquitin-60S ribosomal protein L40.

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

- Molecule 57 is a protein called RPL41A isoform 1.

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

- Molecule 58 is a protein called 60S ribosomal protein L42-A.

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

- Molecule 59 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 60 is a RNA chain called 18S ribosomal RNA.

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

- Molecule 61 is a protein called 40S ribosomal protein S0-A.

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

- Molecule 62 is a protein called 40S ribosomal protein S1-A.

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

- Molecule 63 is a protein called 40S ribosomal protein S2.

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

- Molecule 64 is a protein called RPS3 isoform 1.

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

- Molecule 65 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 66 is a protein called 40S ribosomal protein S5.

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

- Molecule 67 is a protein called 40S ribosomal protein S6-A.

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

- Molecule 68 is a protein called 40S ribosomal protein S7-A.

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

- Molecule 69 is a protein called 40S ribosomal protein S8-A.

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

- Molecule 70 is a protein called 40S ribosomal protein S9-A.

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

- Molecule 71 is a protein called 40S ribosomal protein S10-A.

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

- Molecule 72 is a protein called 40S ribosomal protein S11-A.

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

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

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

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

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

- Molecule 75 is a protein called 40S ribosomal protein S15.

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

- Molecule 76 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 77 is a protein called 40S ribosomal protein S17-A.

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

- Molecule 78 is a protein called 40S ribosomal protein S18-A.

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

- Molecule 79 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 80 is a protein called 40S ribosomal protein S20.

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

- Molecule 81 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 82 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 83 is a protein called 40S ribosomal protein S23-A.

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

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

Mol	Chain	Residues	Atoms		AltConf
84	2	1	Total	Zn	0
			1	1	
84	5	1	Total	Zn	0
			1	1	
84	8	1	Total	Zn	0
			1	1	
84	S	1	Total	Zn	0
			1	1	
84	V	1	Total	Zn	0
			1	1	
84	Y	1	Total	Zn	0
			1	1	
84	a	1	Total	Zn	0
			1	1	
84	b	1	Total	Zn	0
			1	1	

- Molecule 85 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
85	AA	157	Total	Mg	0
			157	157	
85	Aa	1	Total	Mg	0
			1	1	
85	B	1	Total	Mg	0
			1	1	
85	BB	3	Total	Mg	0
			3	3	
85	Bb	1	Total	Mg	0
			1	1	
85	CC	2	Total	Mg	0
			2	2	
85	D	1	Total	Mg	0
			1	1	
85	EE	1	Total	Mg	0
			1	1	
85	F	1	Total	Mg	0
			1	1	

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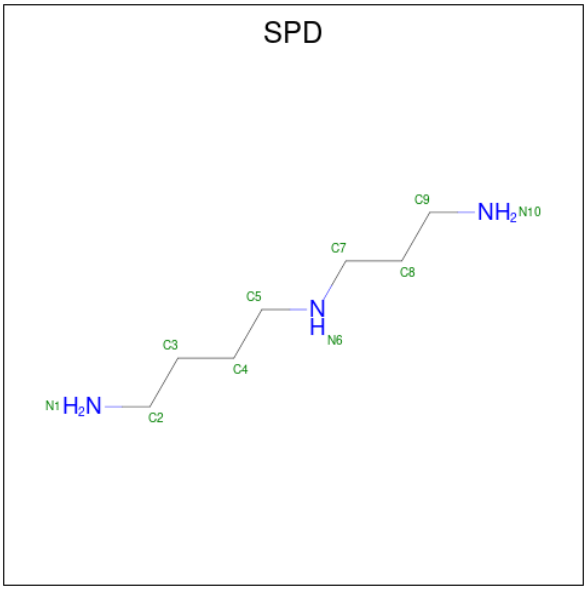
Mol	Chain	Residues	Atoms	AltConf
85	FF	1	Total Mg 1 1	0
85	H	1	Total Mg 1 1	0
85	c	35	Total Mg 35 35	0

- Molecule 86 is POTASSIUM ION (CCD ID: K) (formula: K).

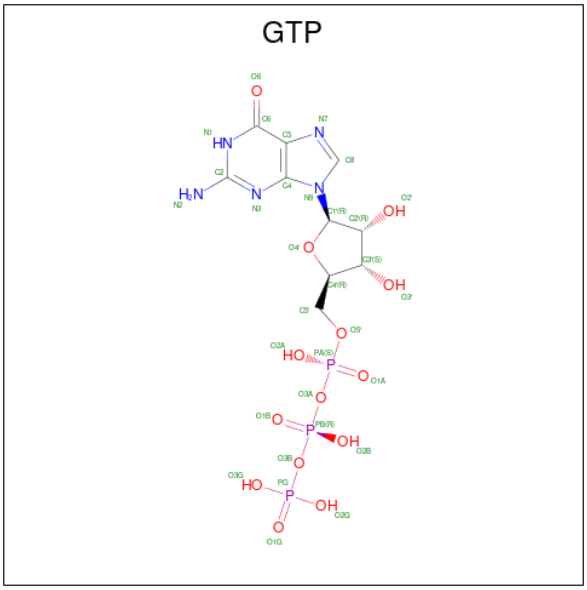
Mol	Chain	Residues	Atoms	AltConf
86	AA	10	Total K 10 10	0
86	BB	1	Total K 1 1	0
86	Dd	1	Total K 1 1	0
86	EE	1	Total K 1 1	0
86	MM	1	Total K 1 1	0
86	Q	1	Total K 1 1	0
86	c	1	Total K 1 1	0

- Molecule 87 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



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

- Molecule 88 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



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

- Molecule 89 is water.

Mol	Chain	Residues	Atoms	AltConf
89	2	1	Total O 1 1	0
89	AA	258	Total O 258 258	0
89	Aa	1	Total O 1 1	0
89	B	2	Total O 2 2	0
89	BB	4	Total O 4 4	0
89	CC	3	Total O 3 3	0

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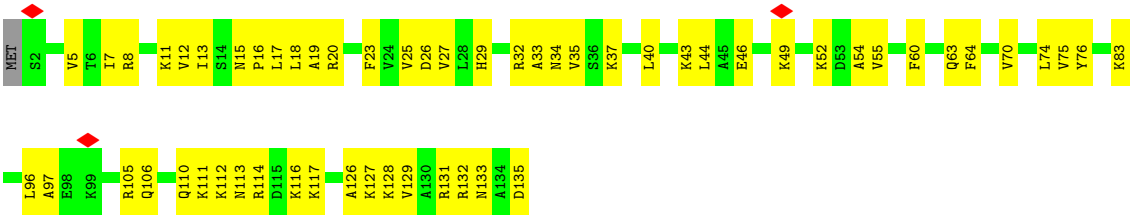
Mol	Chain	Residues	Atoms	AltConf
89	Cc	1	Total O 1 1	0
89	F	4	Total O 4 4	0
89	FF	3	Total O 3 3	0
89	GG	1	Total O 1 1	0
89	M	1	Total O 1 1	0
89	Q	2	Total O 2 2	0
89	QQ	1	Total O 1 1	0
89	S	1	Total O 1 1	0
89	V	2	Total O 2 2	0
89	a	1	Total O 1 1	0
89	c	53	Total O 53 53	0
89	p	1	Total O 1 1	0
89	q	2	Total O 2 2	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.

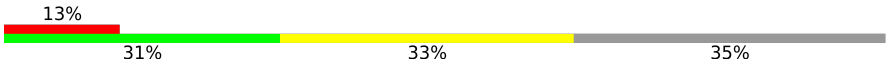
• Molecule 1: 40S ribosomal protein S24-A

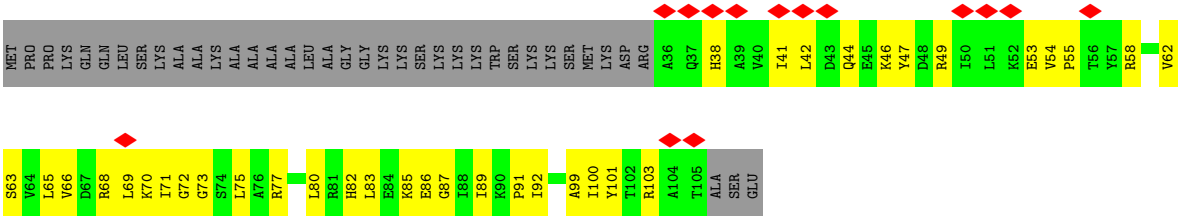
Chain 0:



• Molecule 2: 40S ribosomal protein S25-A

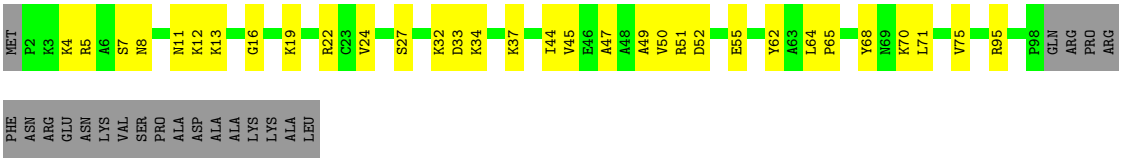
Chain 1:





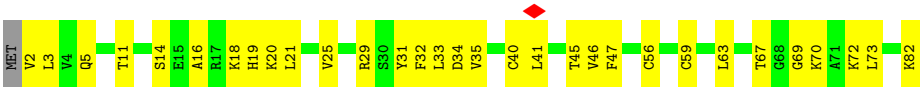
• Molecule 3: 40S ribosomal protein S26

Chain 2:

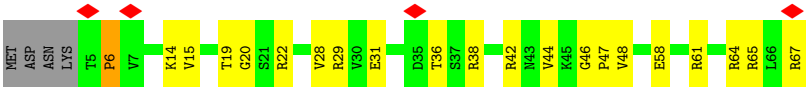


• Molecule 4: 40S ribosomal protein S27-A

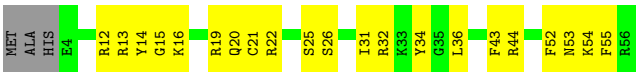
Chain 3:



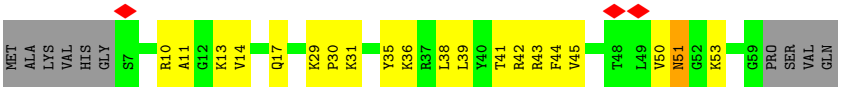
• Molecule 5: 40S ribosomal protein S28-A



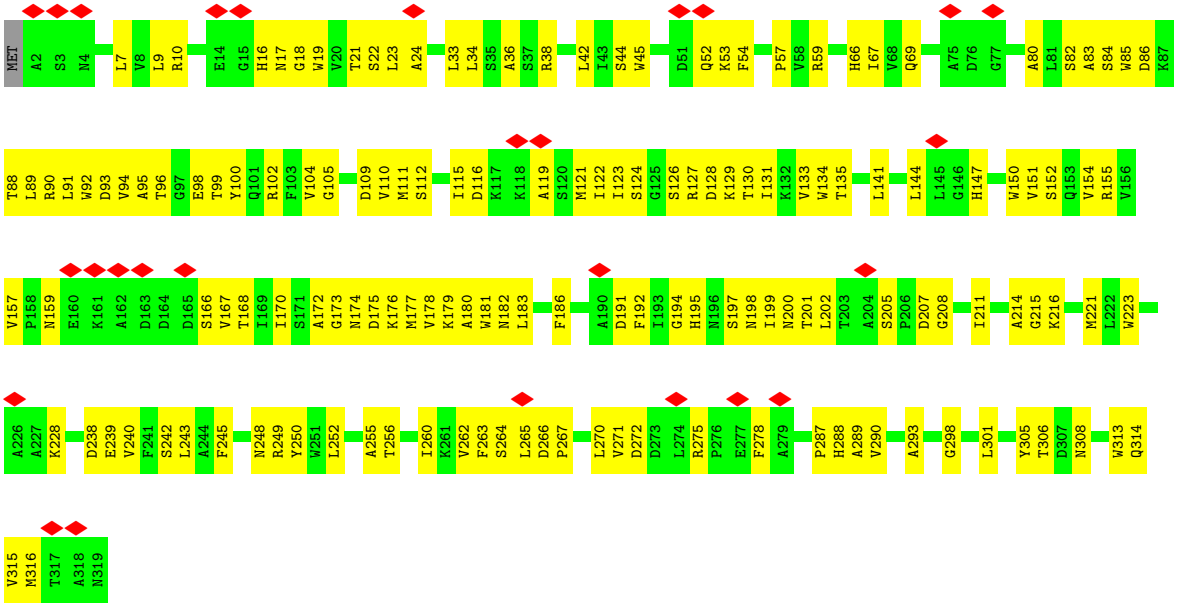
• Molecule 6: HLJ1_G0030400.mRNA.1.CDS.1



• Molecule 7: 40S ribosomal protein S30-A

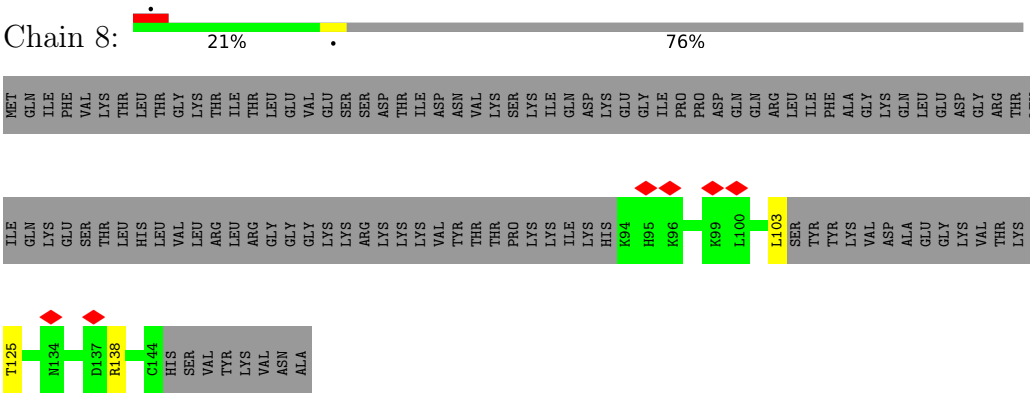


• Molecule 8: Guanine nucleotide-binding protein subunit beta-like protein



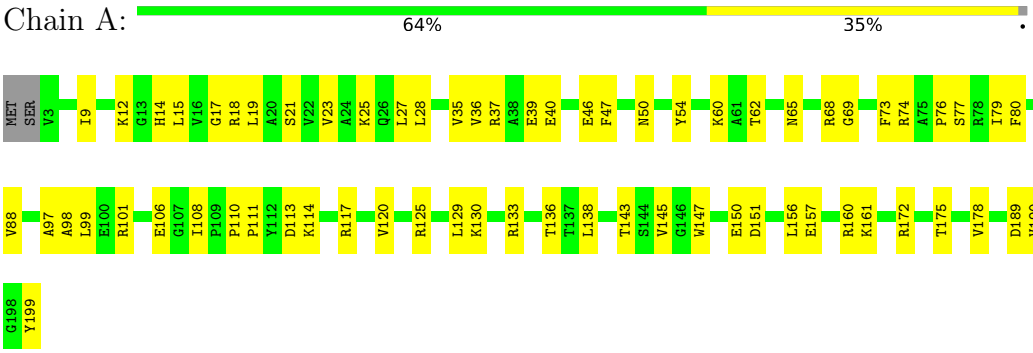
• Molecule 9: Ubiquitin-40S ribosomal protein S31

Chain 8:



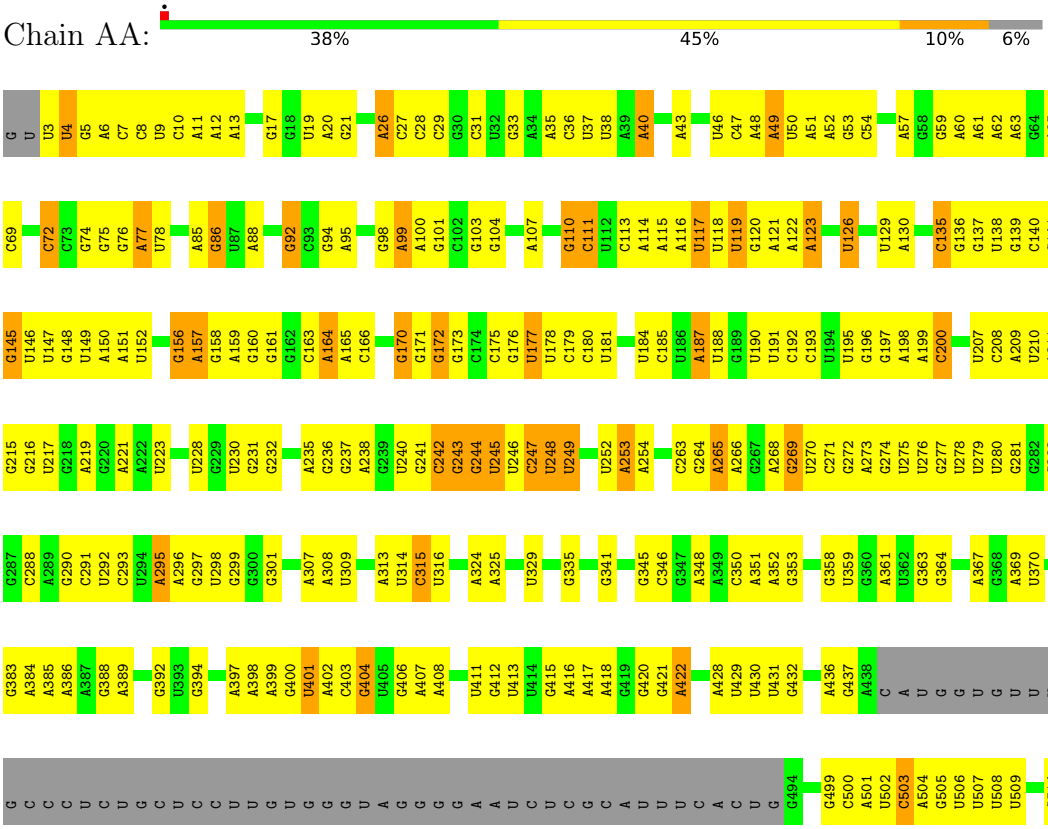
• Molecule 10: 60S ribosomal protein L16-A

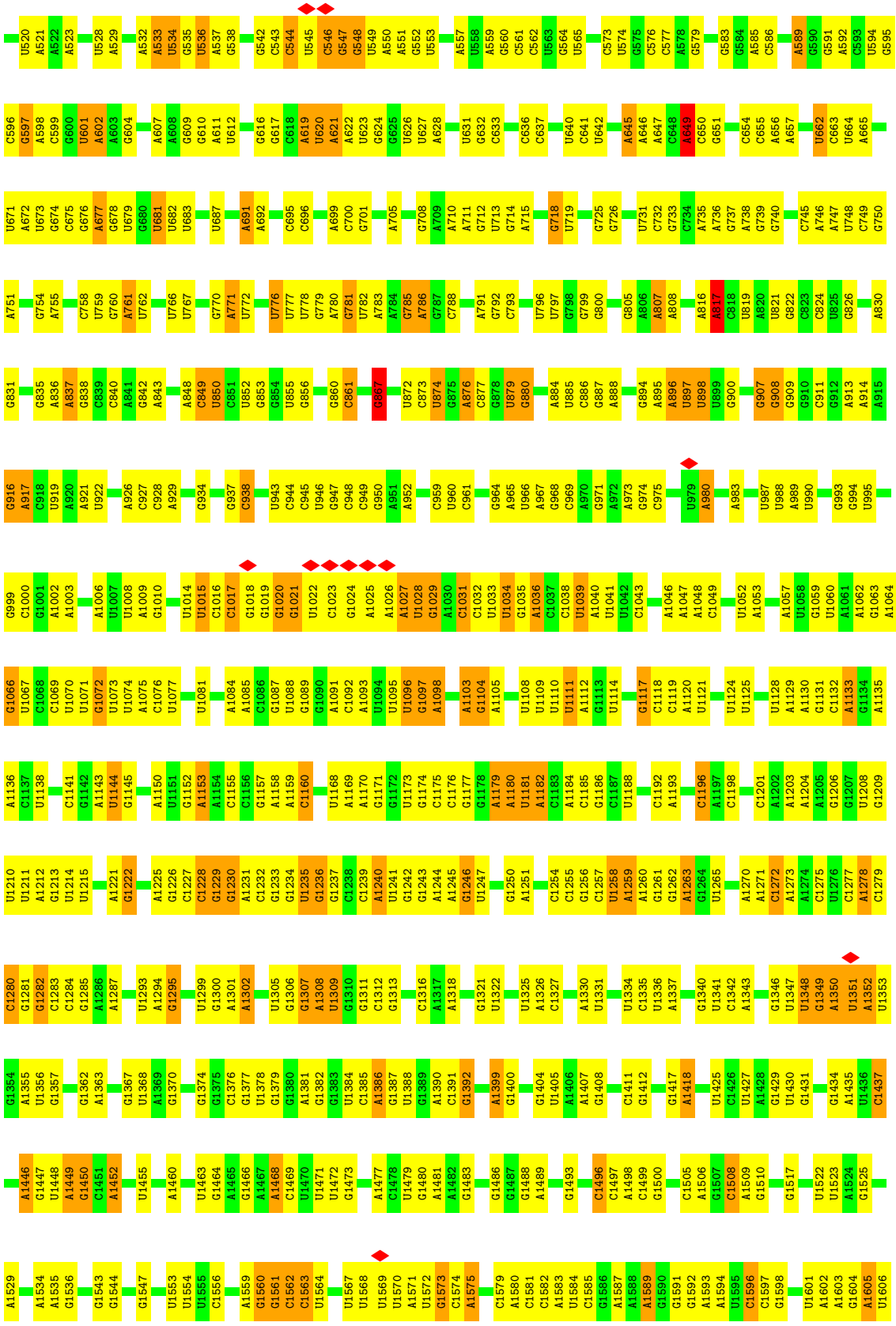
Chain A:

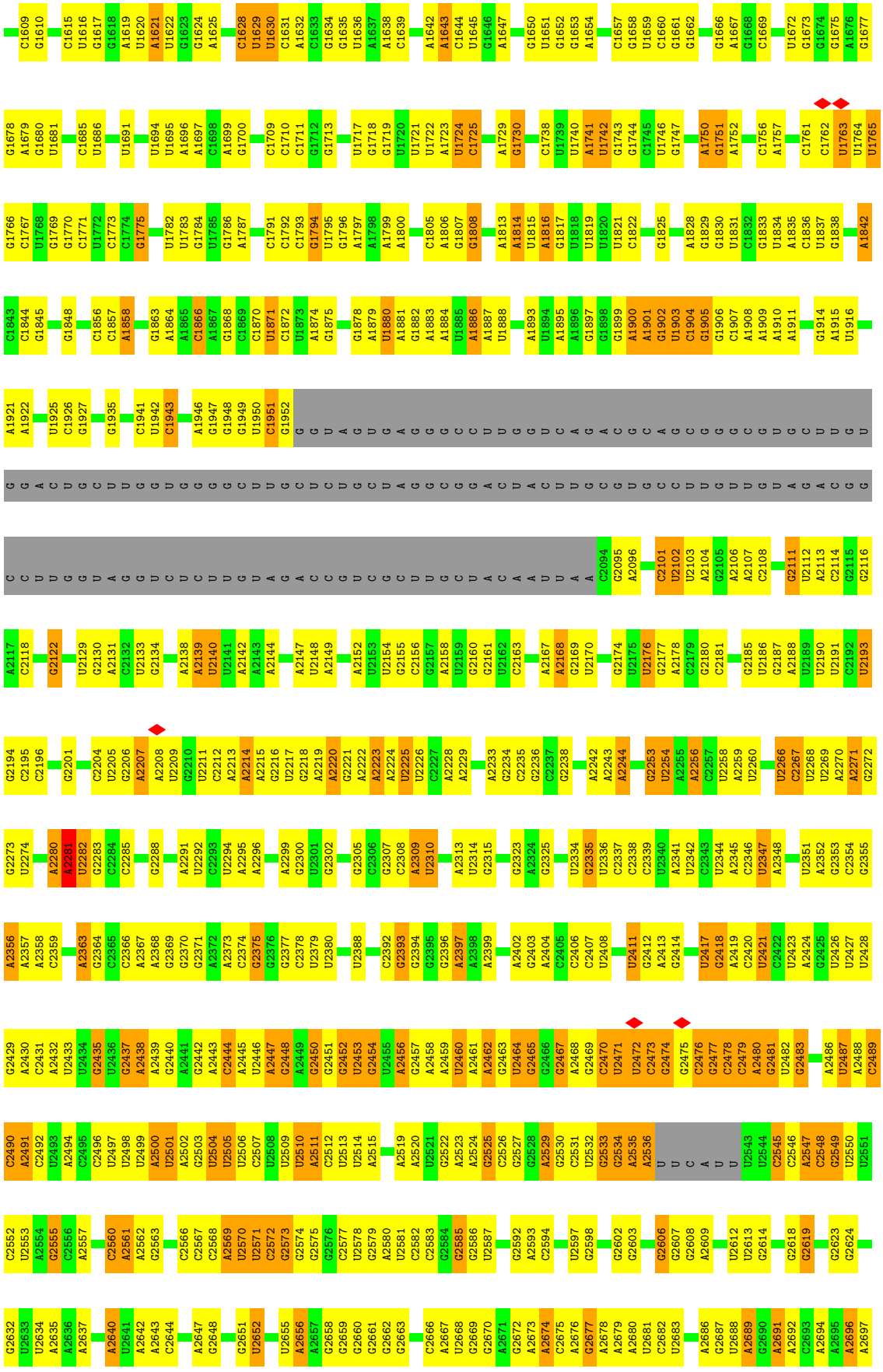


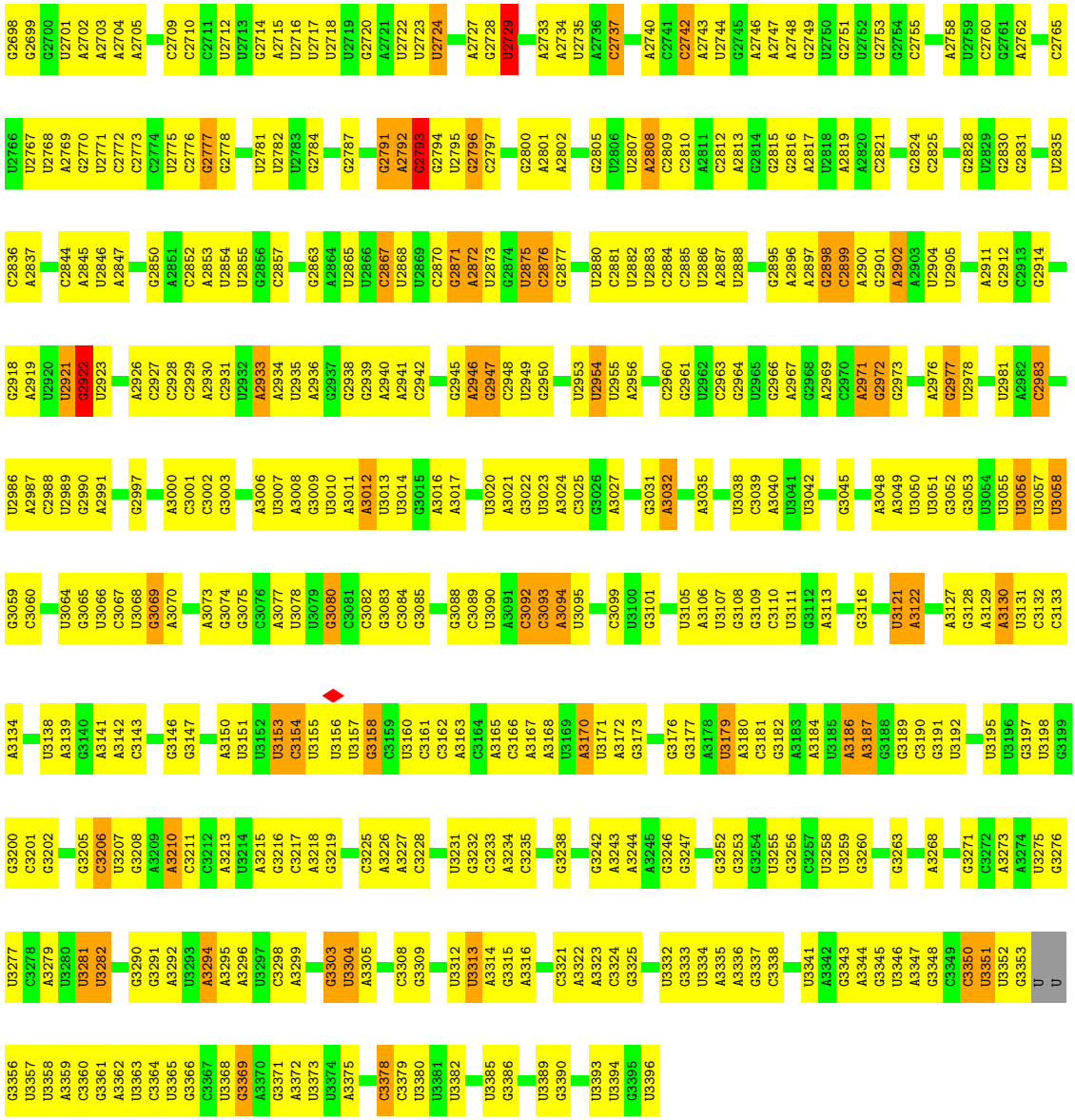
• Molecule 11: 25S ribosomal RNA

Chain AA:



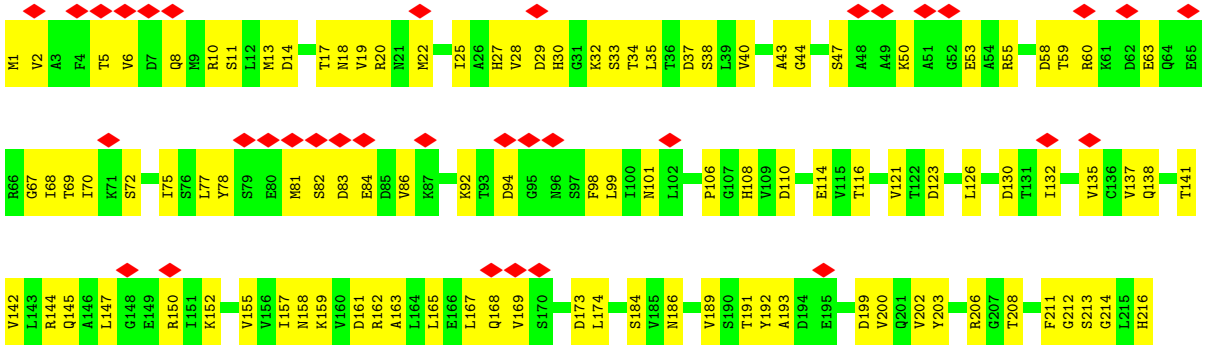


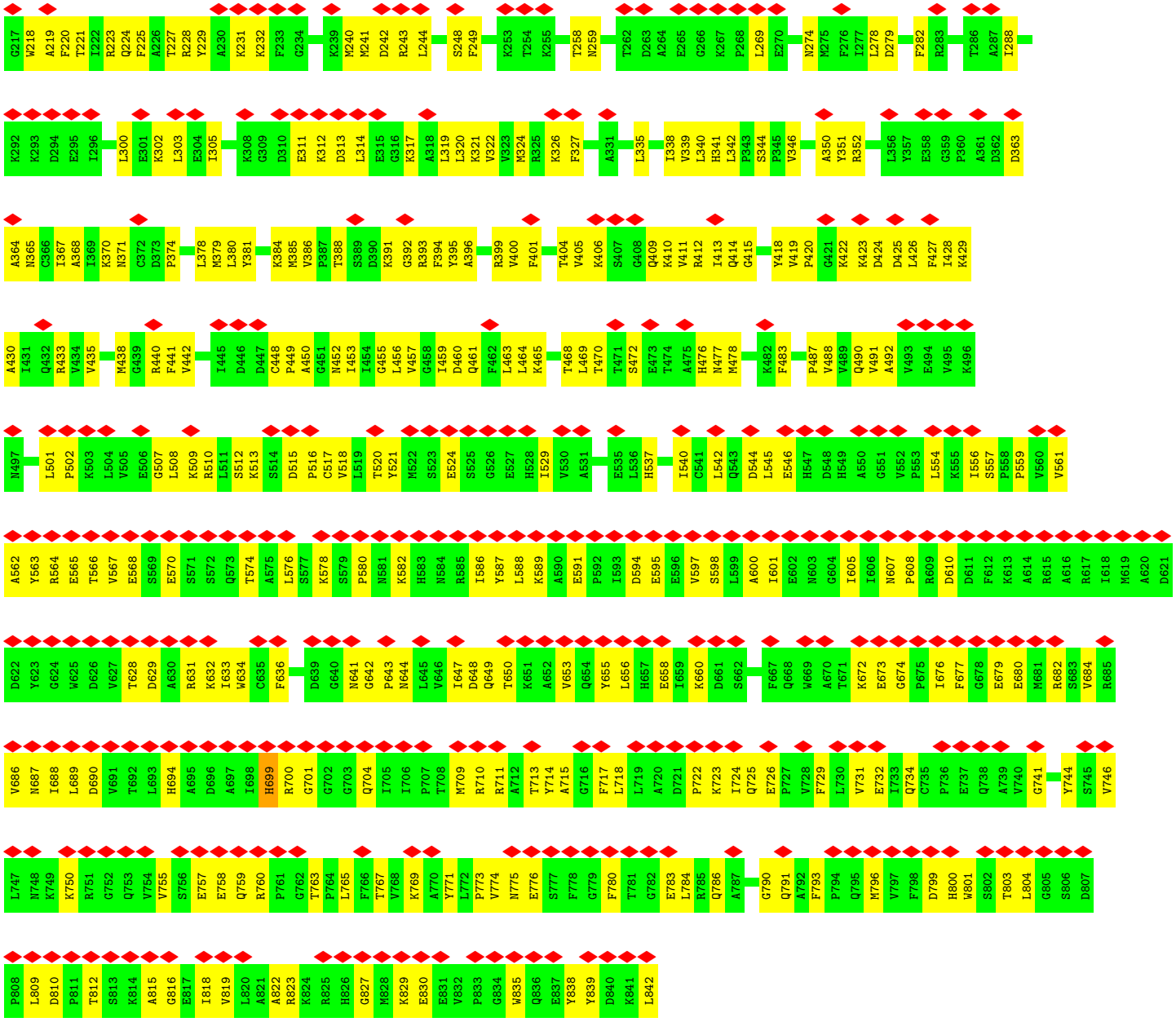




• Molecule 12: Elongation factor 2

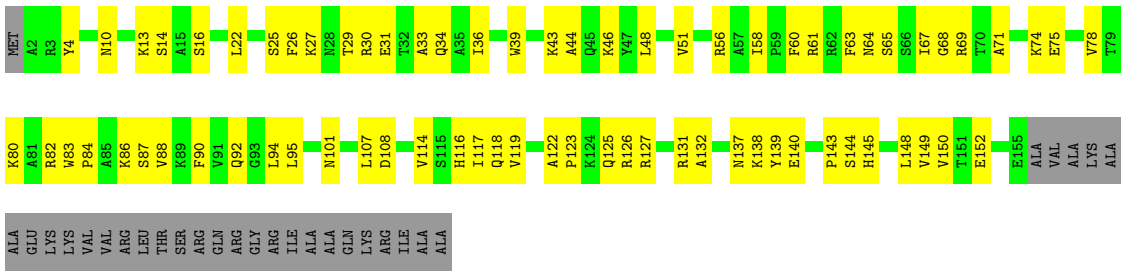
Chain Aa:





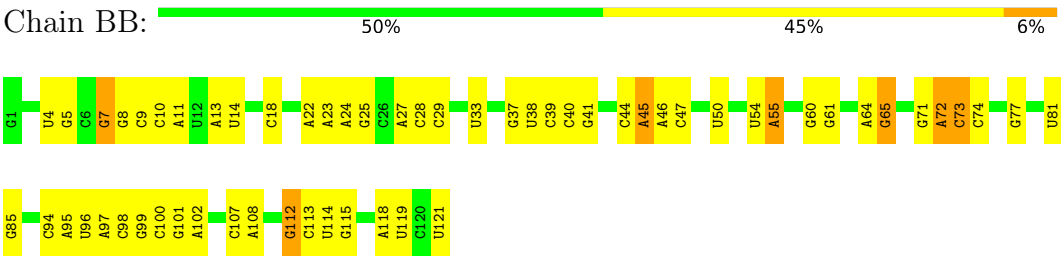
• Molecule 13: 60S ribosomal protein L17-A

Chain B:



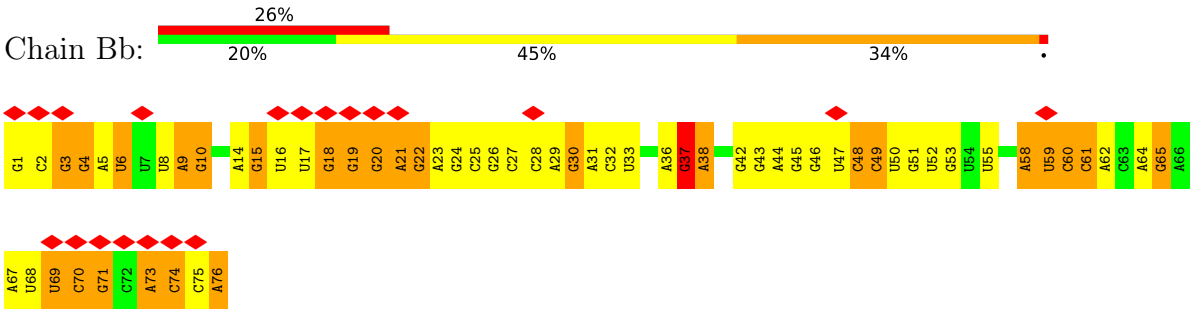
• Molecule 14: 5S ribosomal RNA

Chain BB:



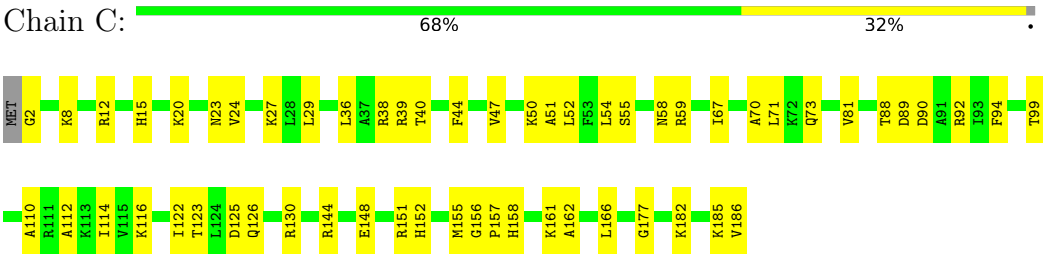
• Molecule 15: Transfer RNA Phe

Chain Bb:



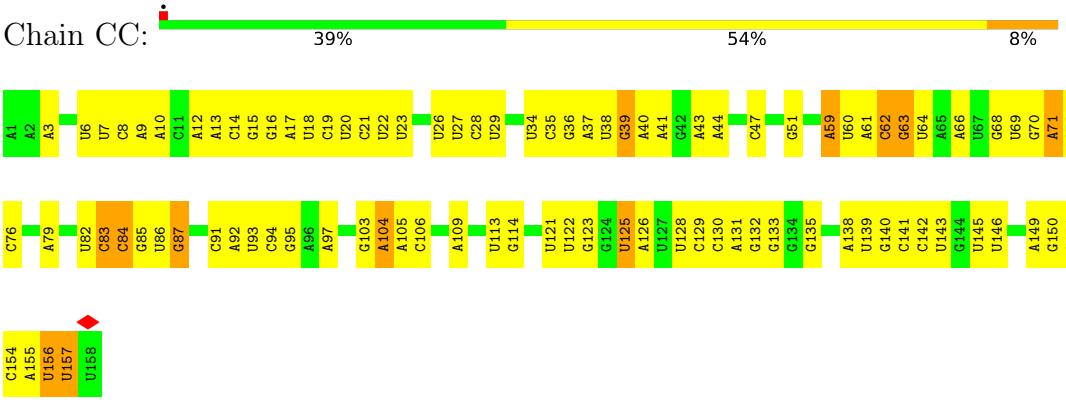
• Molecule 16: 60S ribosomal protein L18-A

Chain C:



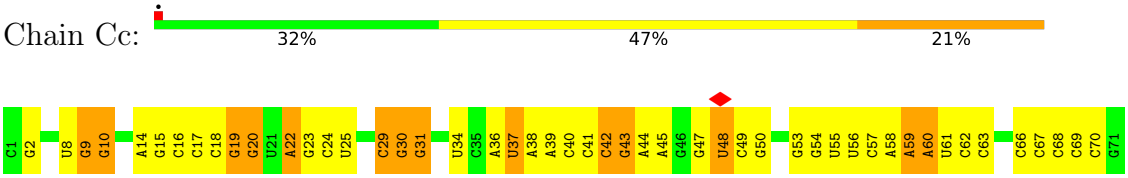
• Molecule 17: 5.8S ribosomal RNA

Chain CC:



• Molecule 18: Transfer RNA fMet

Chain Cc:

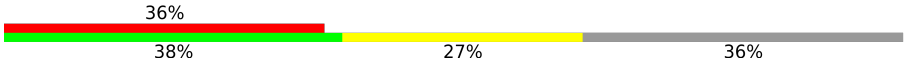


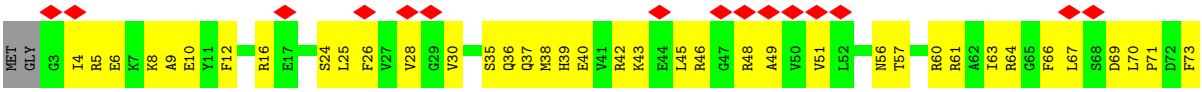
• Molecule 19: 60S ribosomal protein L19-A

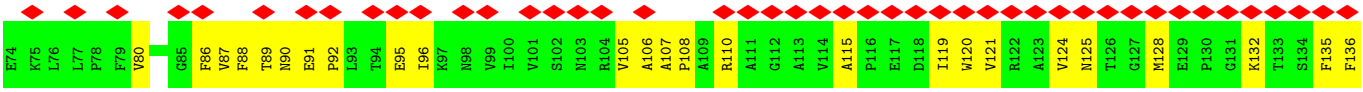
Chain D:

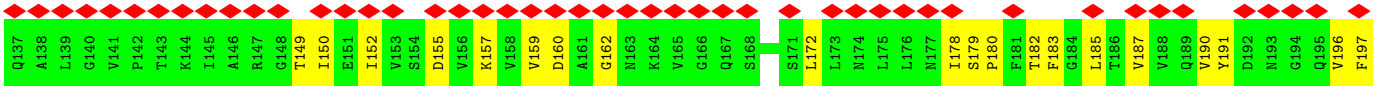
• Molecule 20: 60S acidic ribosomal protein P0

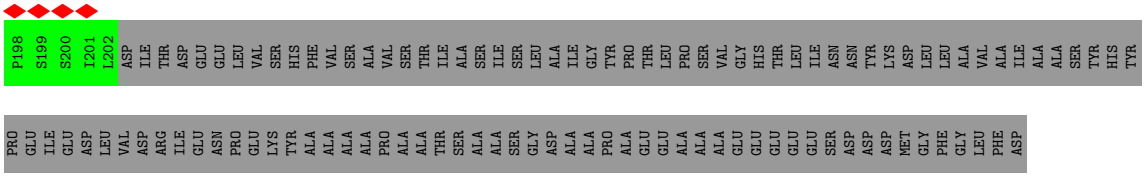
Chain DD:





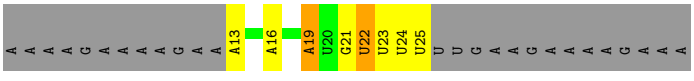






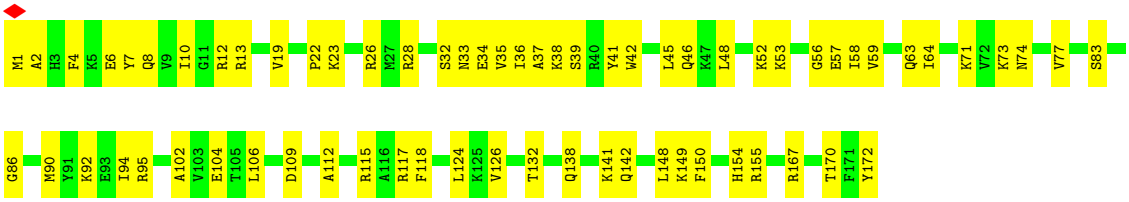
• Molecule 21: Messenger RNA

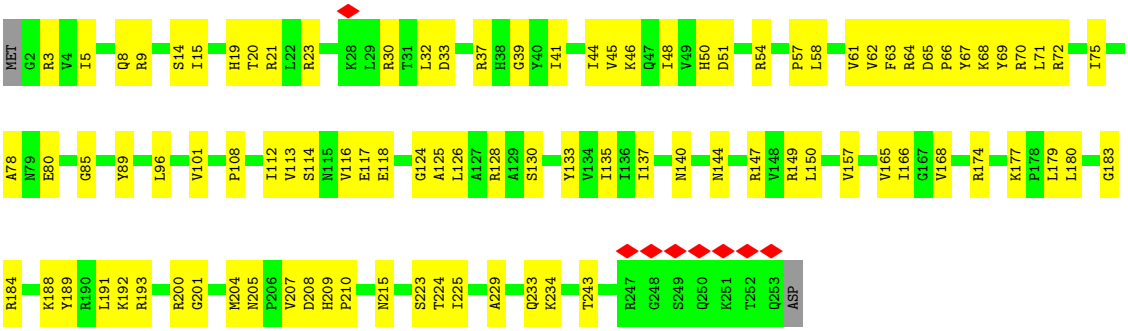
Chain Dd:



• Molecule 22: 60S ribosomal protein L20-A

Chain E:



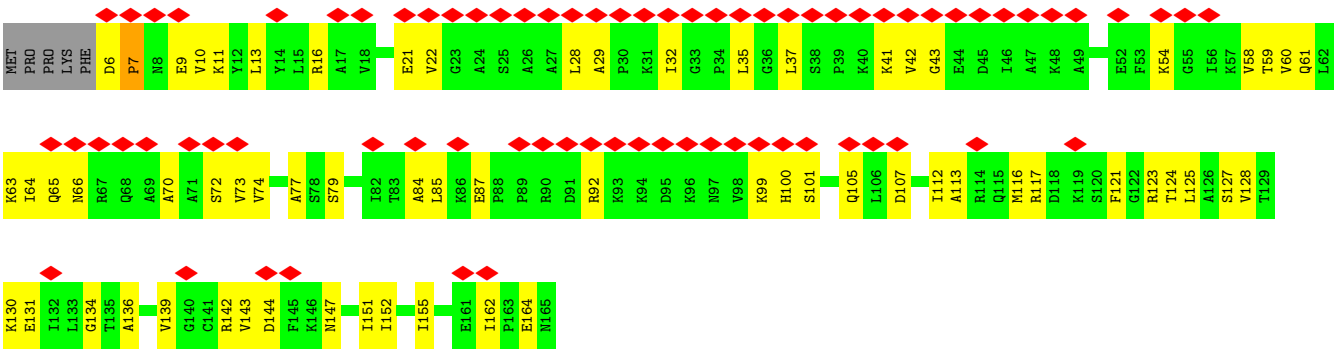


• Molecule 23: 60S ribosomal protein L2-A

Chain EE:

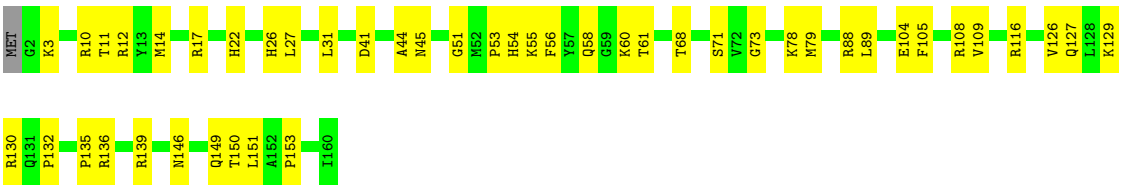
• Molecule 24: 60S ribosomal protein L12-A

Chain Ee:



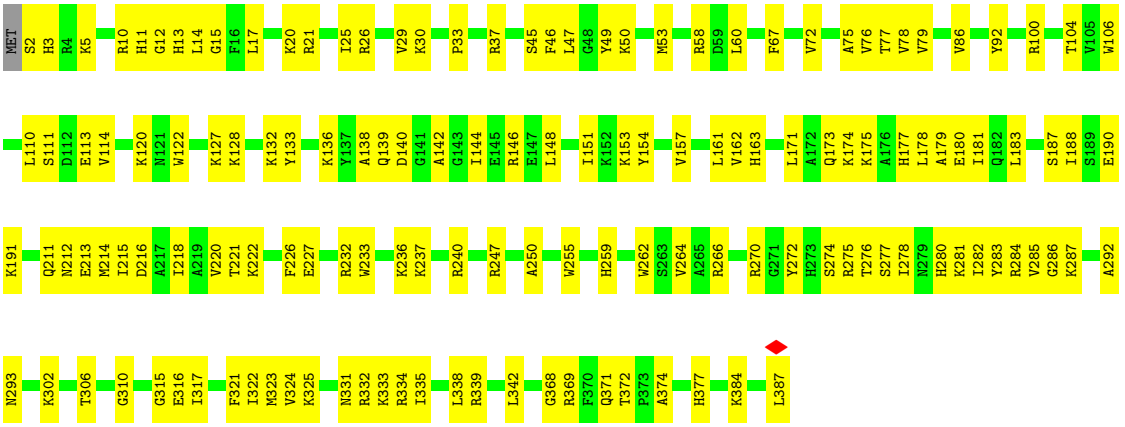
• Molecule 25: 60S ribosomal protein L21-A

Chain F:



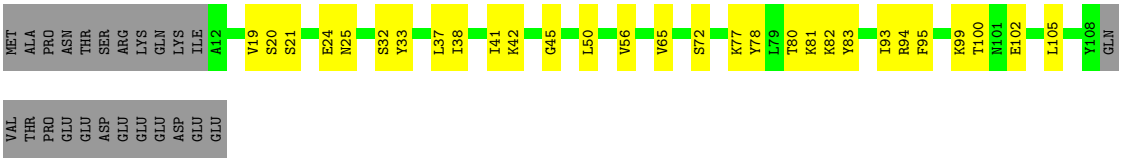
• Molecule 26: 60S ribosomal protein L3

Chain FF:



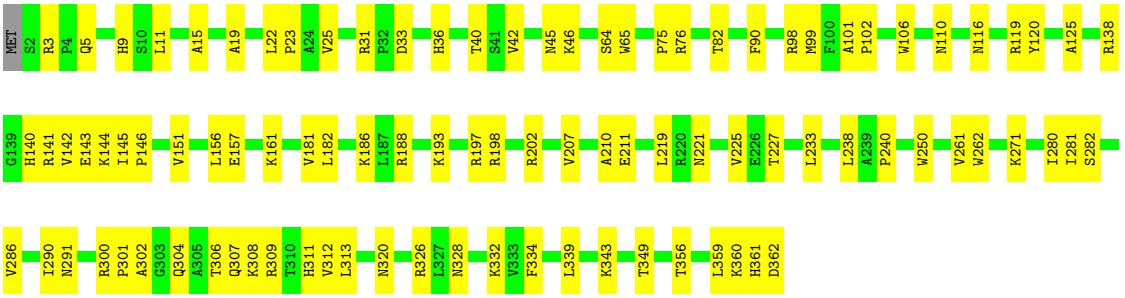
• Molecule 27: 60S ribosomal protein L22-A

Chain G:



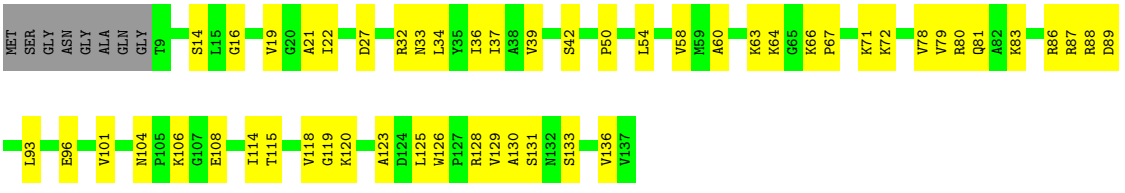
• Molecule 28: 60S ribosomal protein L4-A

Chain GG:



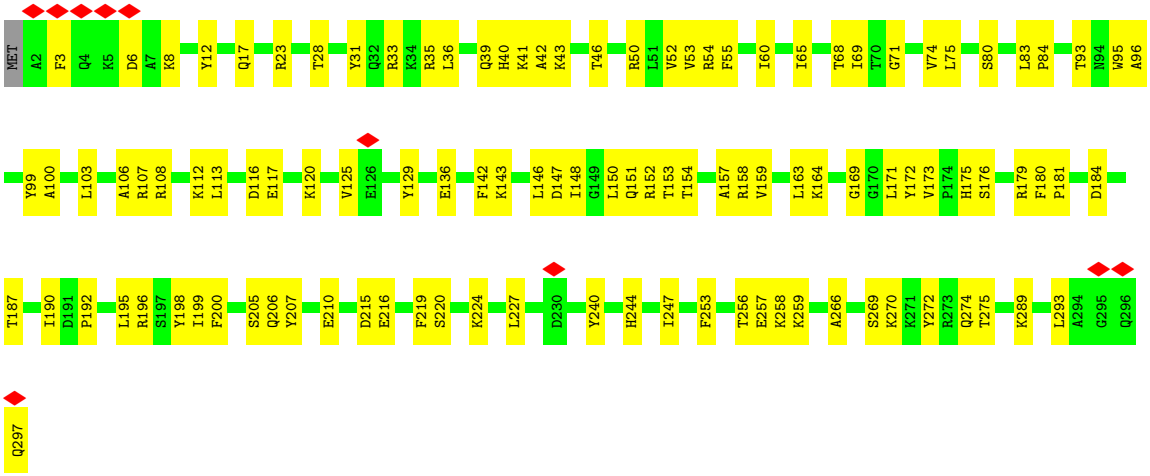
• Molecule 29: 60S ribosomal protein L23-A

Chain H:



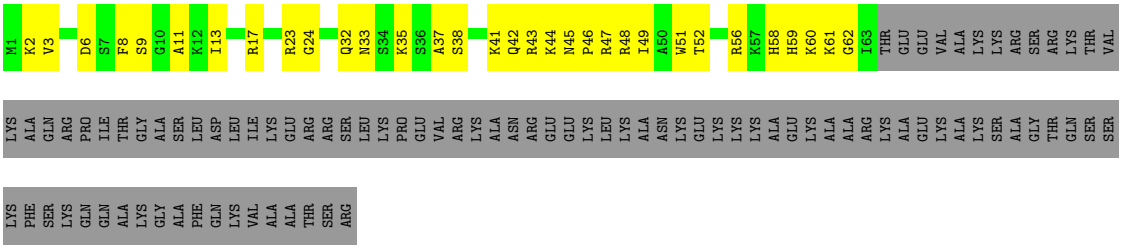
• Molecule 30: 60S ribosomal protein L5

Chain HH:



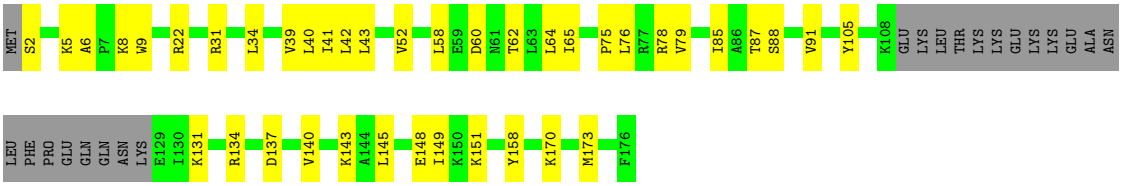
• Molecule 31: 60S ribosomal protein L24-A

Chain I:



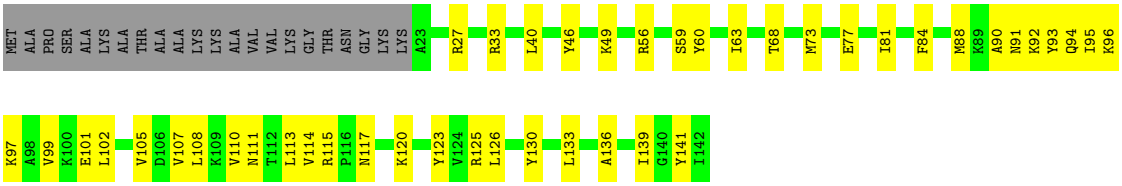
• Molecule 32: 60S ribosomal protein L6-A

Chain II:



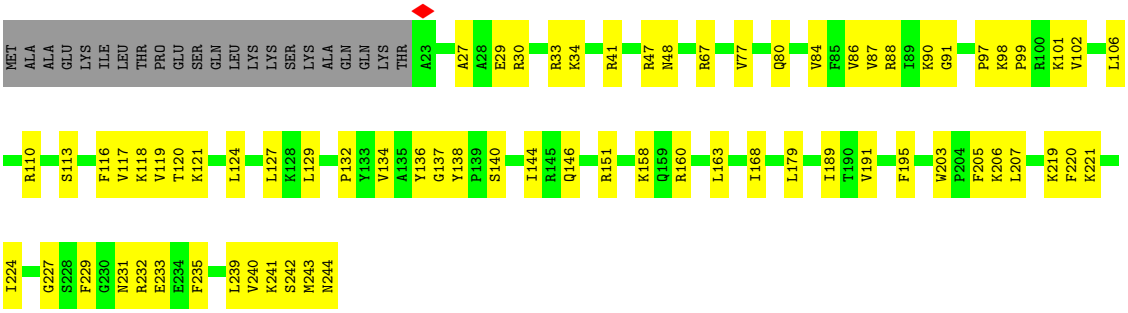
• Molecule 33: 60S ribosomal protein L25

Chain J:

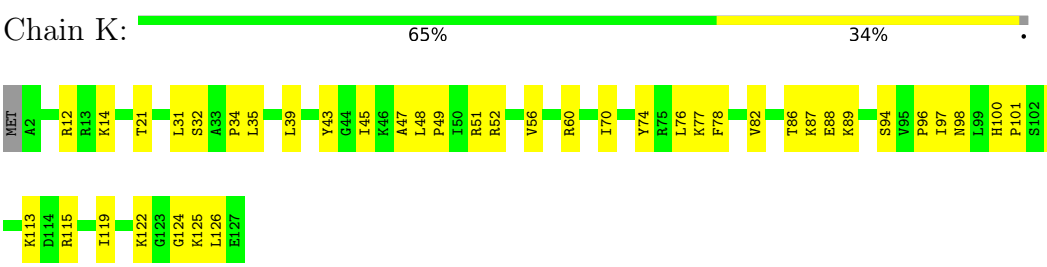


• Molecule 34: 60S ribosomal protein L7-A

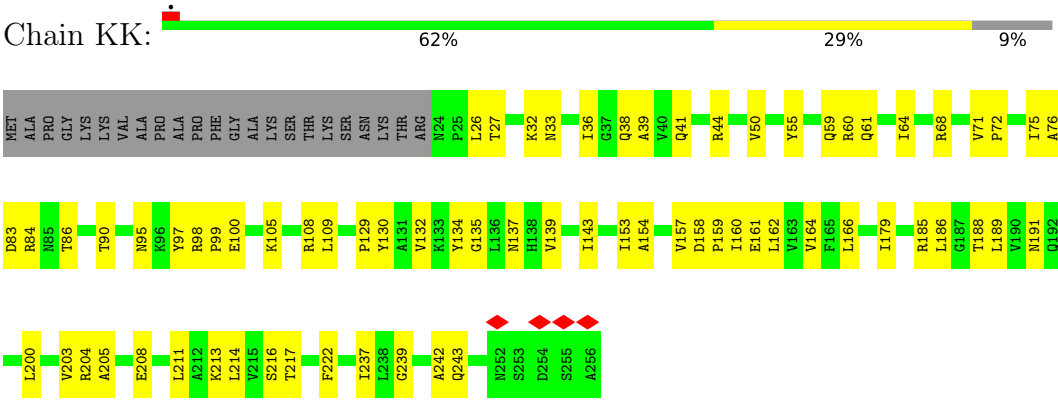
Chain JJ:



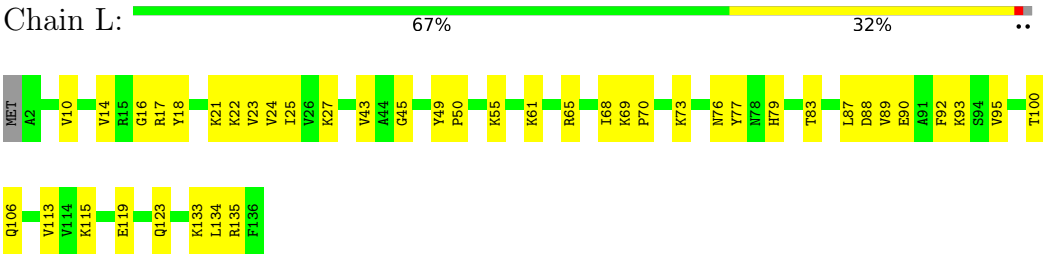
• Molecule 35: 60S ribosomal protein L26-A



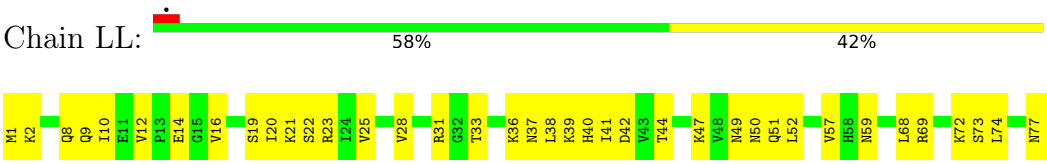
• Molecule 36: 60S ribosomal protein L8-A

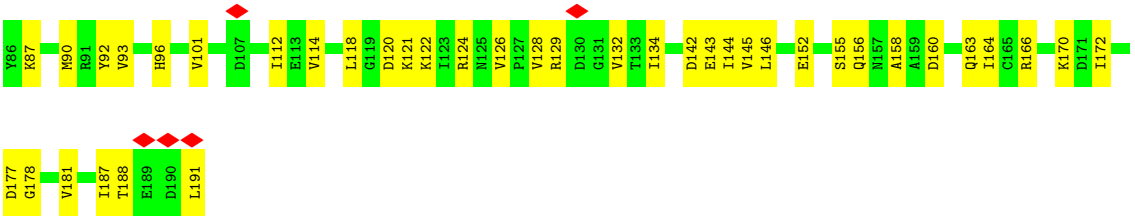


• Molecule 37: 60S ribosomal protein L27-A



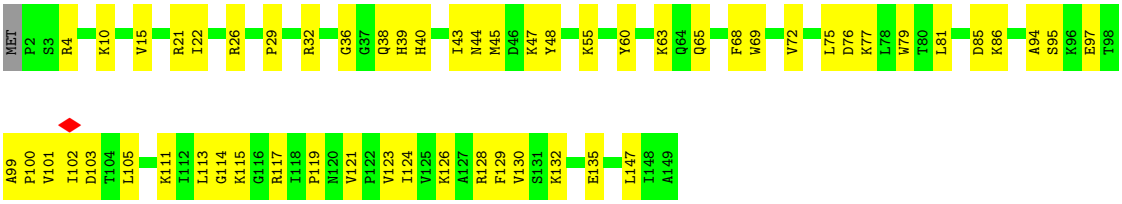
• Molecule 38: 60S ribosomal protein L9-A





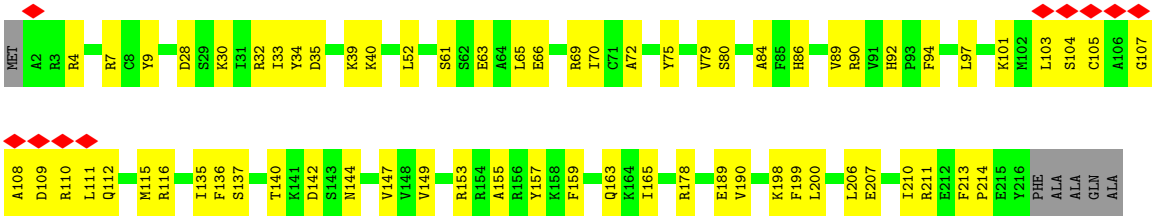
• Molecule 39: 60S ribosomal protein L28

Chain M:



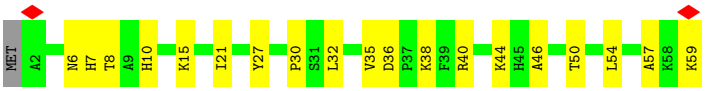
• Molecule 40: 60S ribosomal protein L10

Chain MM:



• Molecule 41: 60S ribosomal protein L29

Chain N:

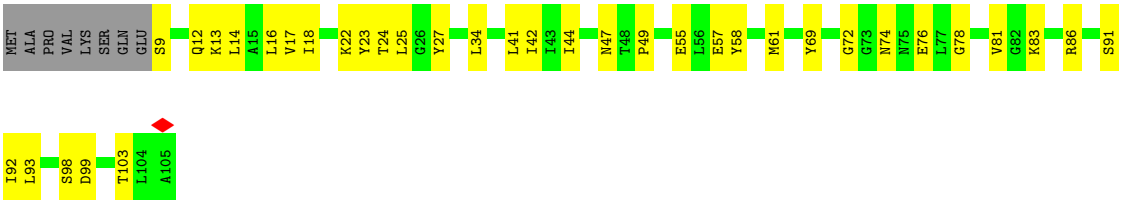


• Molecule 42: 60S ribosomal protein L11-A

Chain NN:

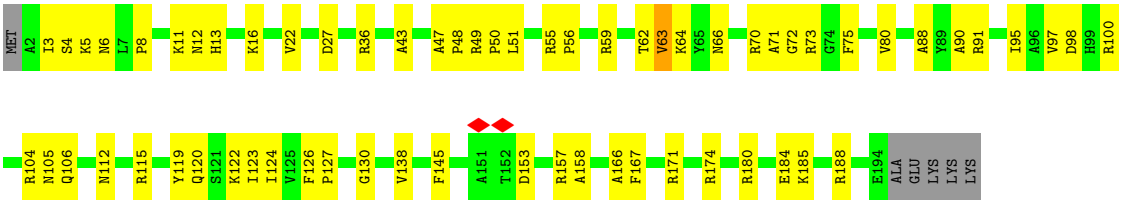
• Molecule 43: 60S ribosomal protein L30

Chain O:



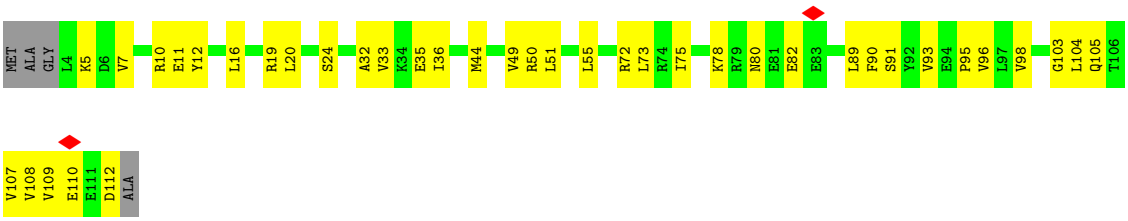
• Molecule 44: 60S ribosomal protein L13-A

Chain OO:



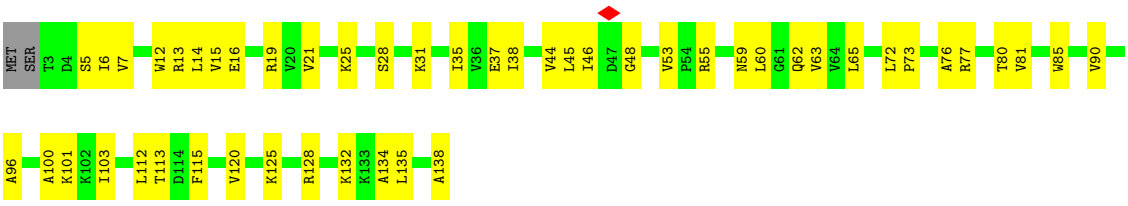
• Molecule 45: 60S ribosomal protein L31-A

Chain P:



• Molecule 46: 60S ribosomal protein L14-A

Chain PP:

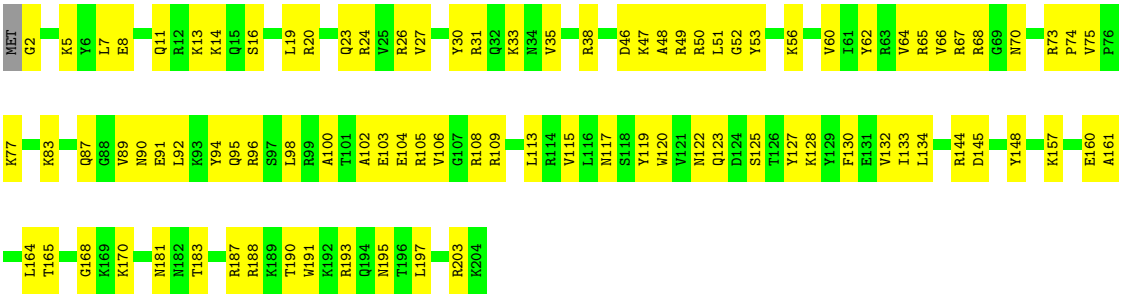


• Molecule 47: 60S ribosomal protein L32

Chain Q:

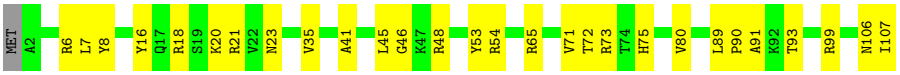
• Molecule 48: 60S ribosomal protein L15-A

Chain QQ:



• Molecule 49: 60S ribosomal protein L33-A

Chain R:



• Molecule 50: 60S ribosomal protein L34-A

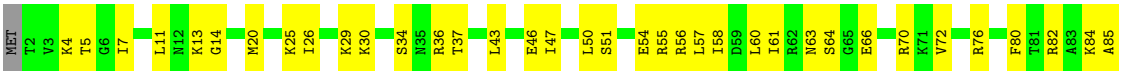
Chain S:

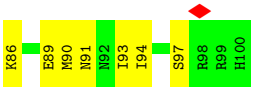
• Molecule 51: 60S ribosomal protein L35-A

Chain T:

• Molecule 52: 60S ribosomal protein L36-A

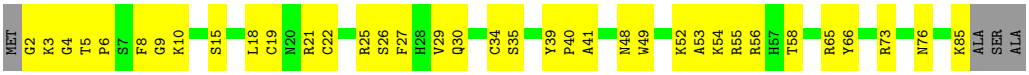
Chain U:





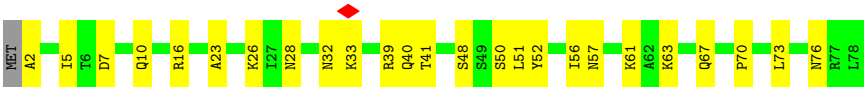
• Molecule 53: 60S ribosomal protein L37-A

Chain V:



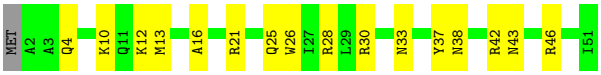
• Molecule 54: 60S ribosomal protein L38

Chain W:



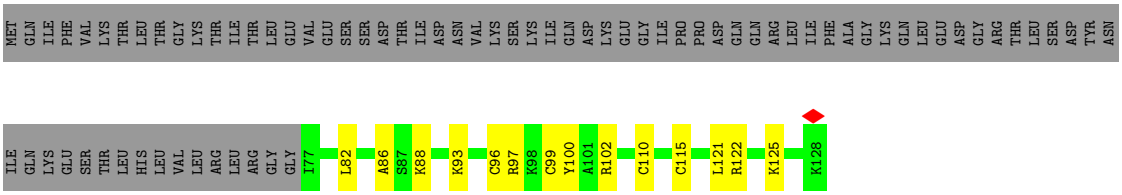
• Molecule 55: 60S ribosomal protein L39

Chain X:



• Molecule 56: Ubiquitin-60S ribosomal protein L40

Chain Y:

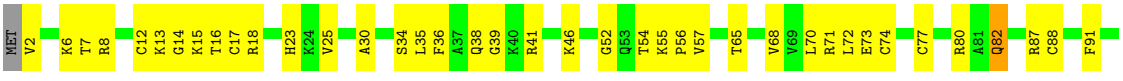


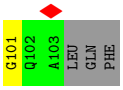
• Molecule 57: RPL41A isoform 1

Chain Z:

• Molecule 58: 60S ribosomal protein L42-A

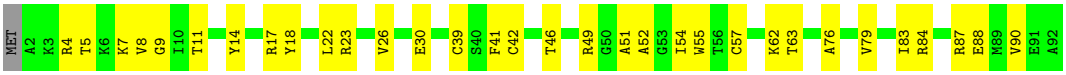
Chain a:





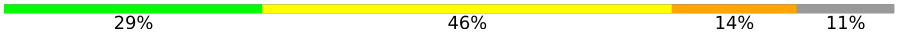
• Molecule 59: 60S ribosomal protein L43-A

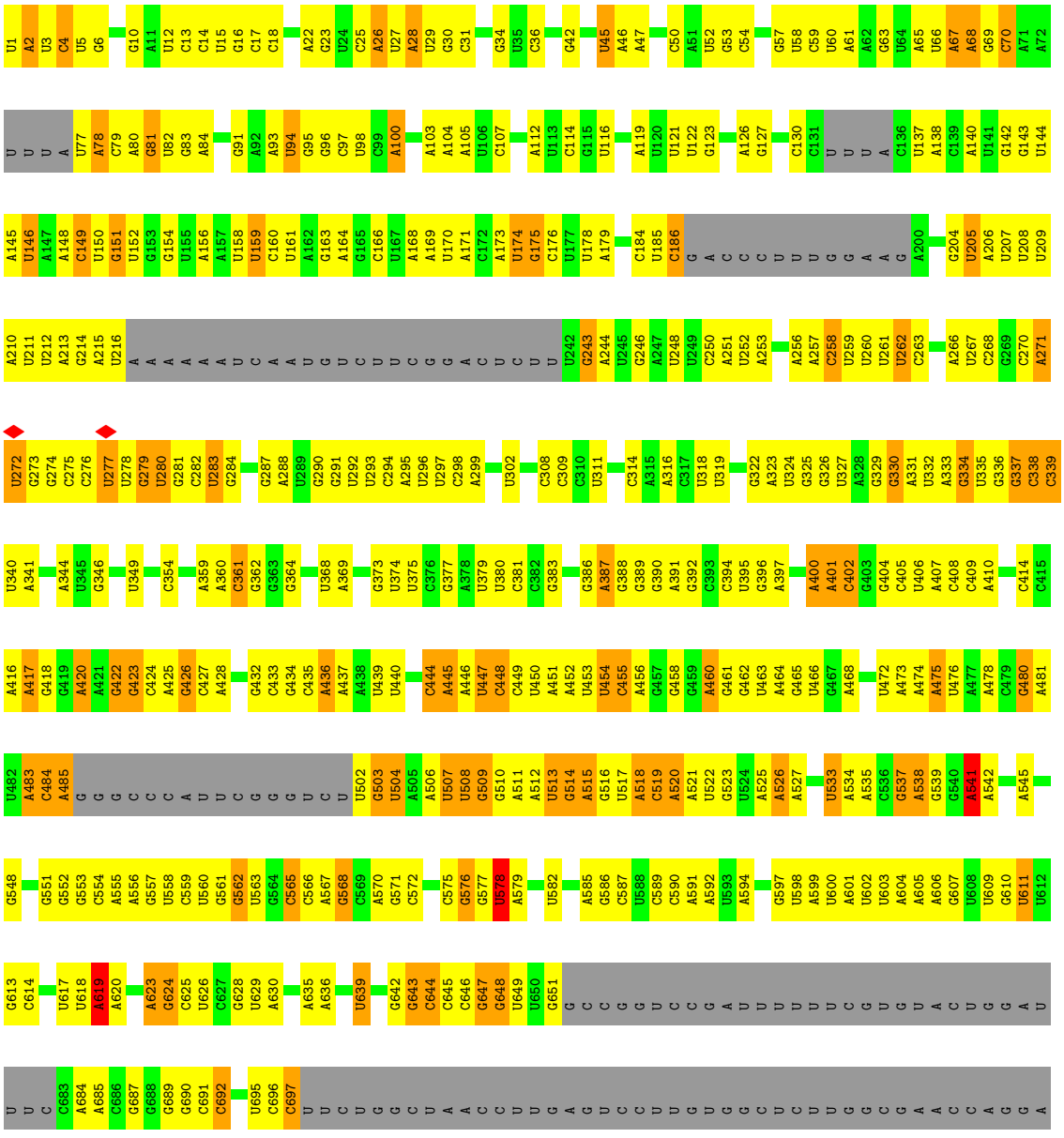
Chain b:

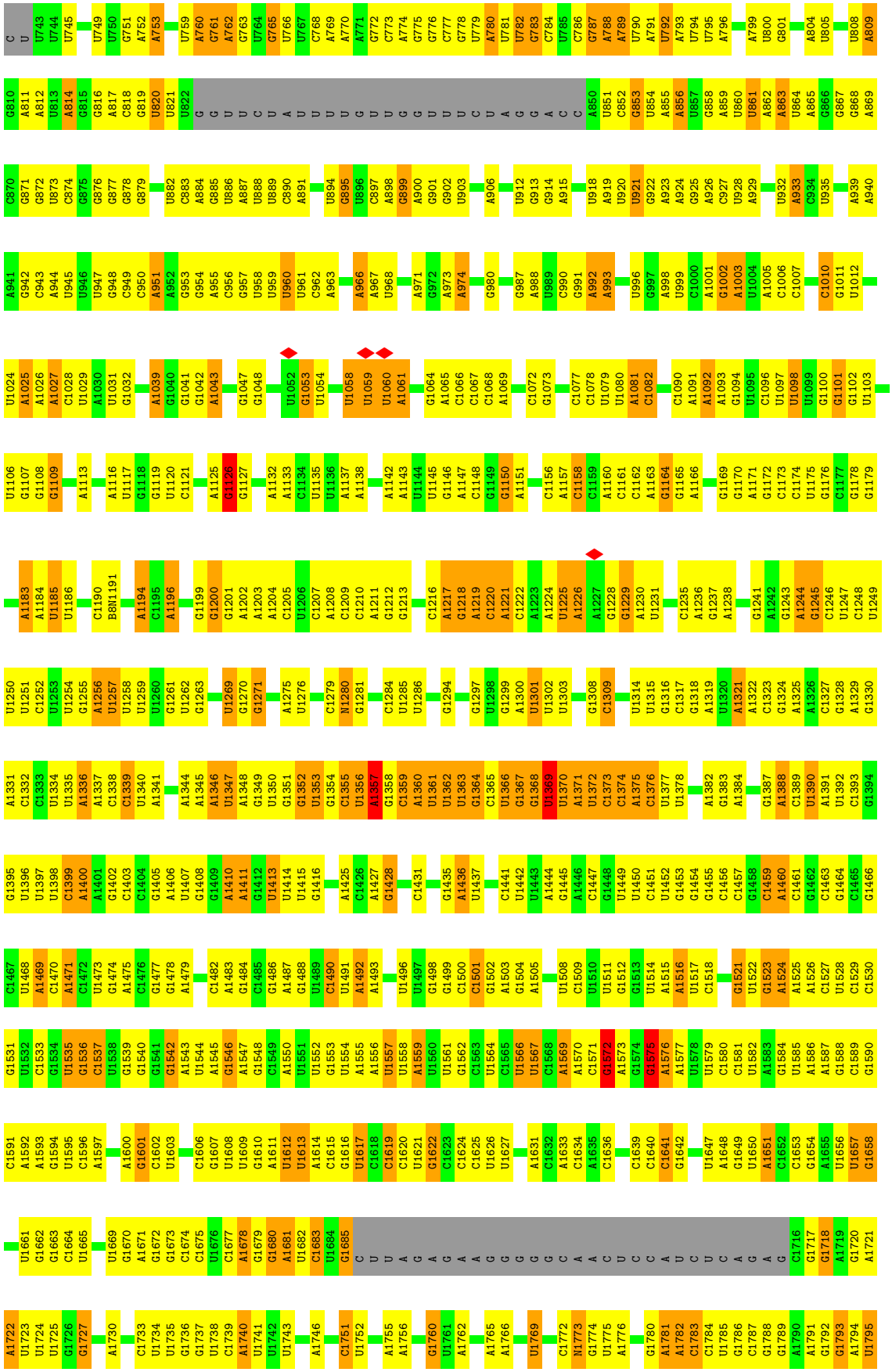


• Molecule 60: 18S ribosomal RNA

Chain c:

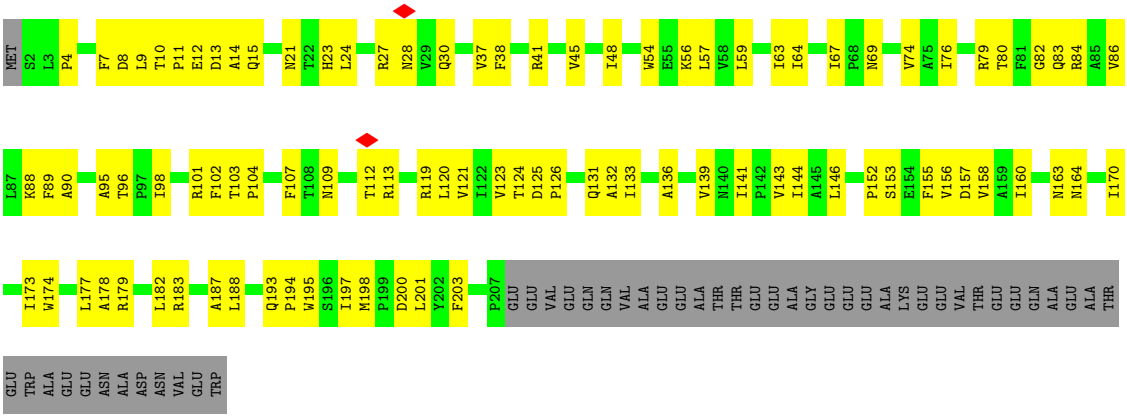






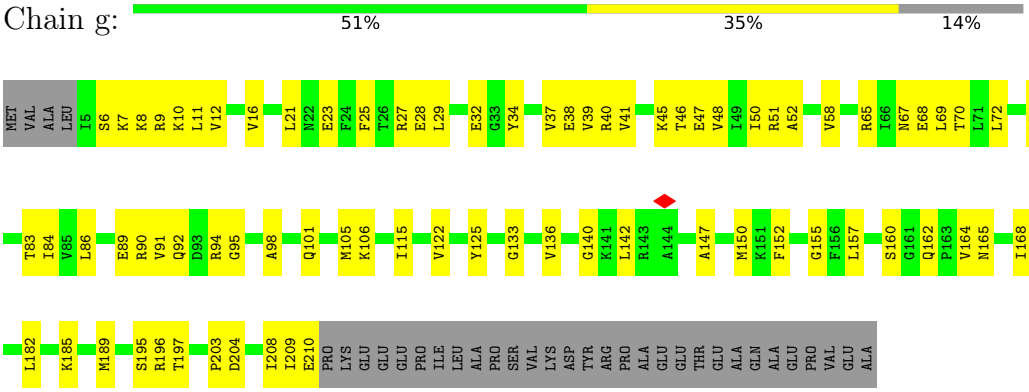
• Molecule 61: 40S ribosomal protein S0-A

Chain d:



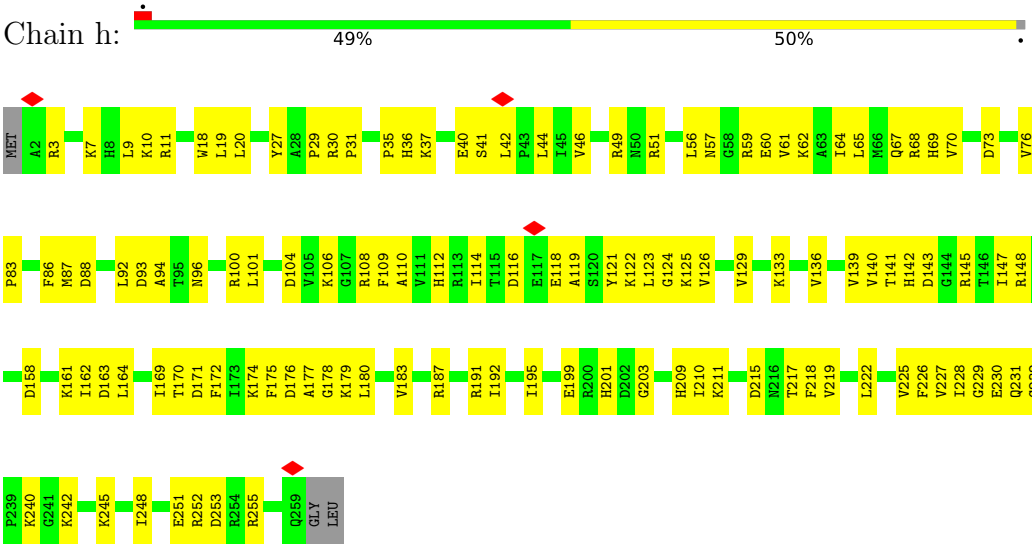
• Molecule 64: RPS3 isoform 1

Chain g:



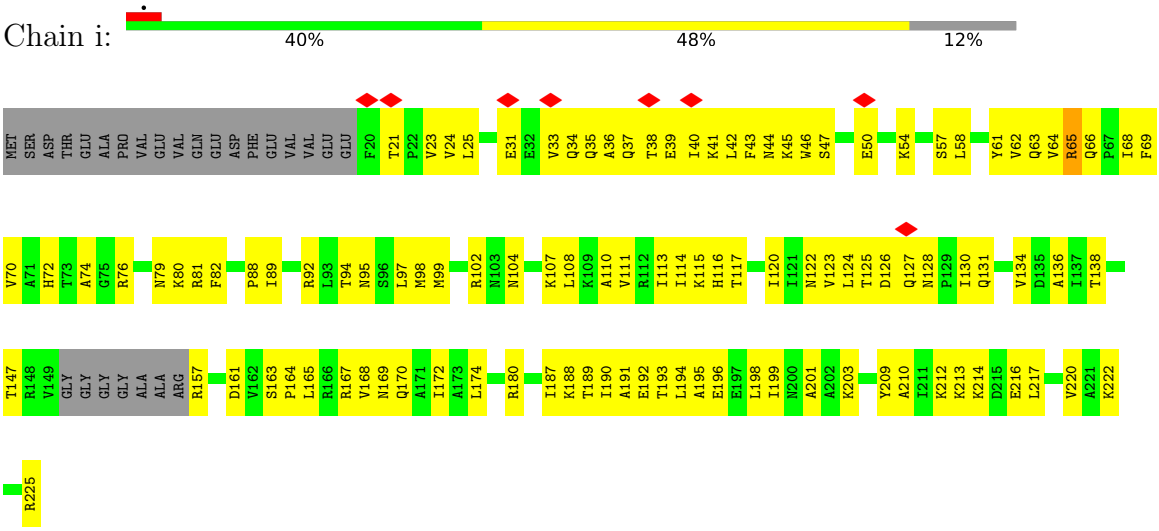
• Molecule 65: 40S ribosomal protein S4-A

Chain h:



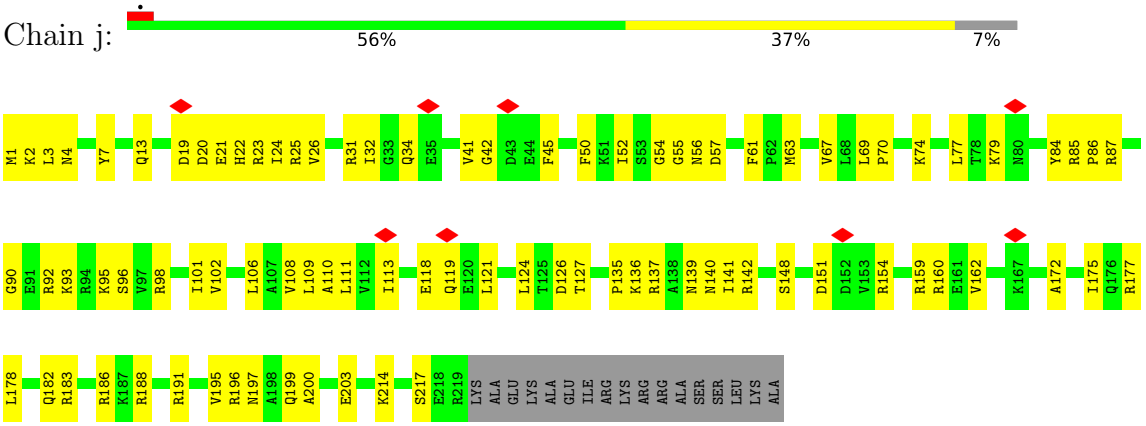
• Molecule 66: 40S ribosomal protein S5

Chain i:



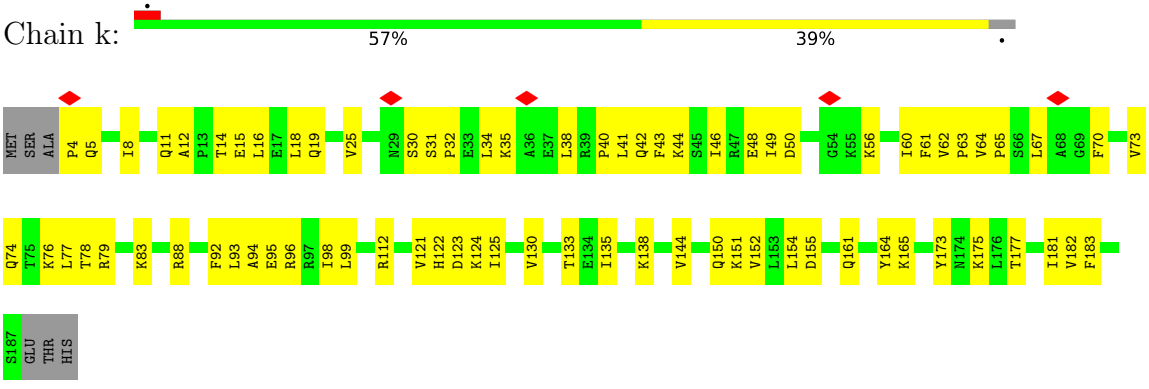
• Molecule 67: 40S ribosomal protein S6-A

Chain j:



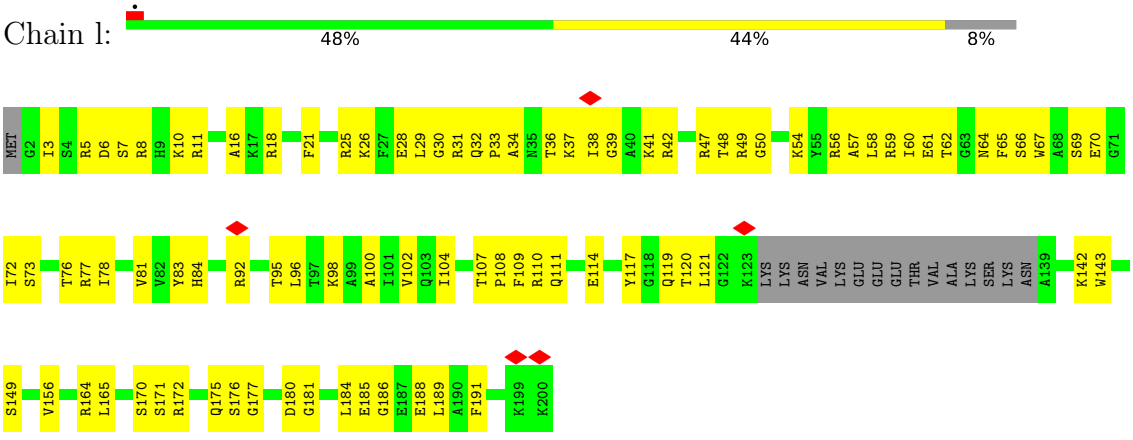
• Molecule 68: 40S ribosomal protein S7-A

Chain k:



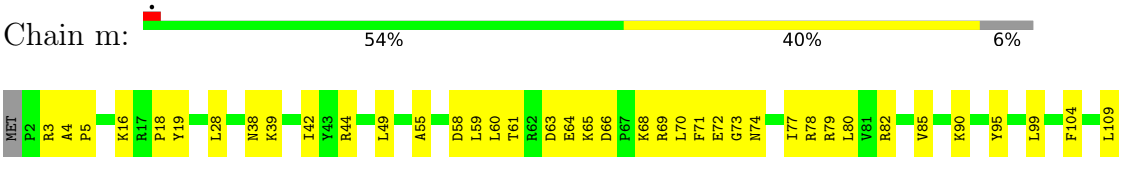
• Molecule 69: 40S ribosomal protein S8-A

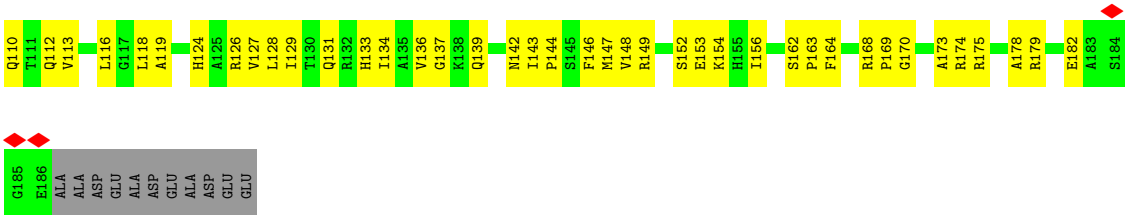
Chain l:



• Molecule 70: 40S ribosomal protein S9-A

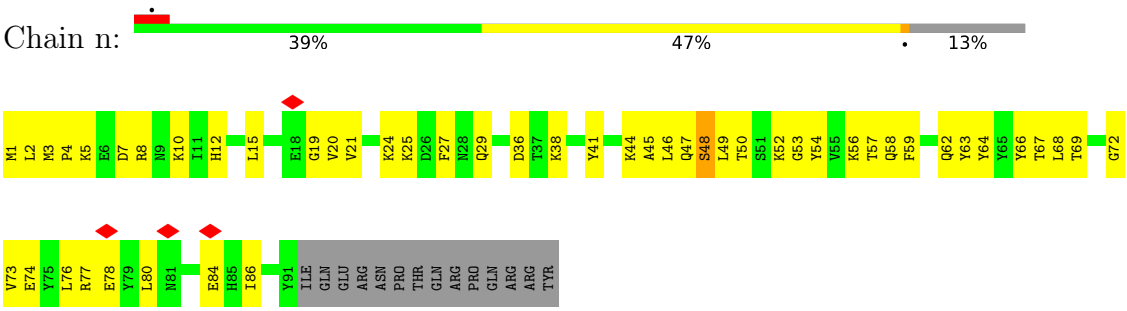
Chain m:





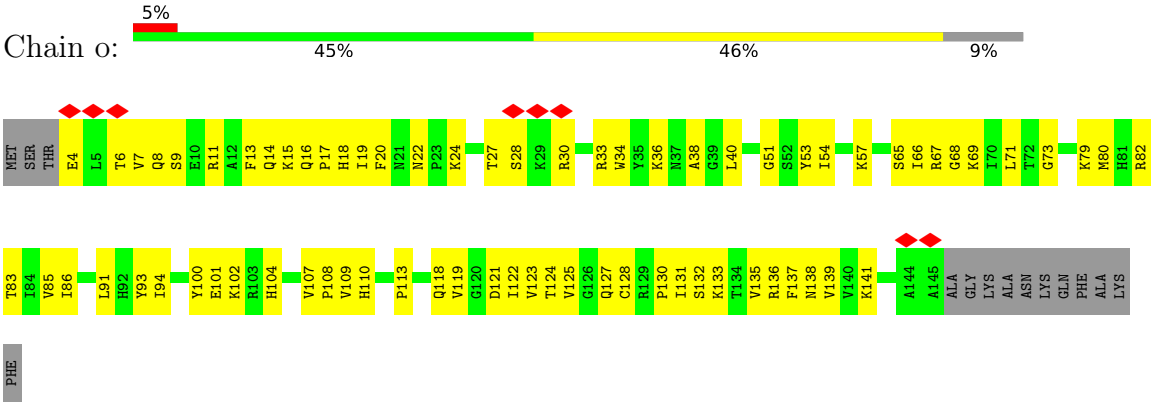
• Molecule 71: 40S ribosomal protein S10-A

Chain n:



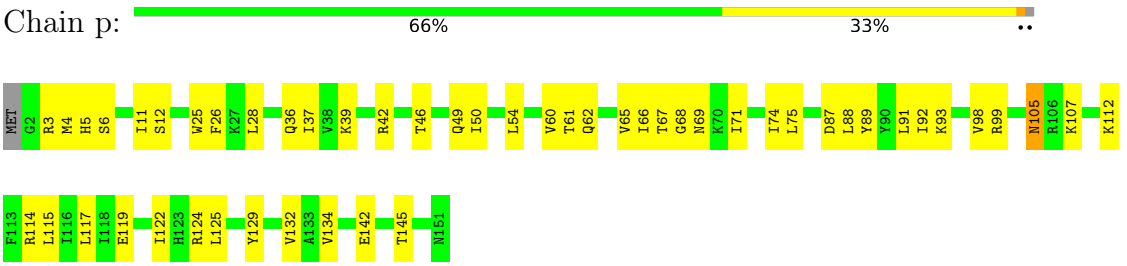
• Molecule 72: 40S ribosomal protein S11-A

Chain o:



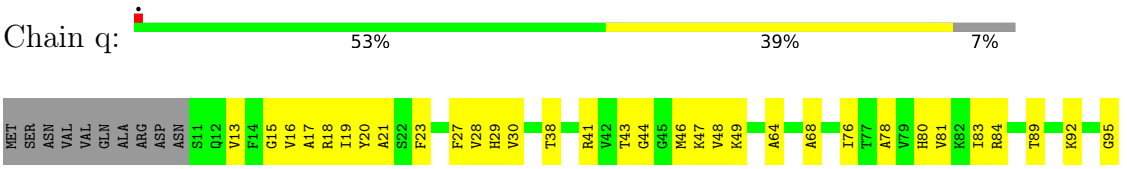
• Molecule 73: 40S ribosomal protein S13

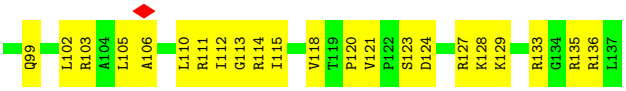
Chain p:



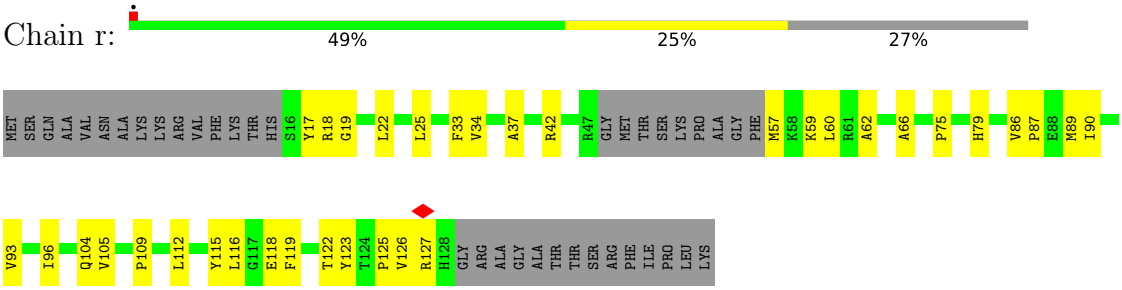
• Molecule 74: 40S ribosomal protein S14-A

Chain q:

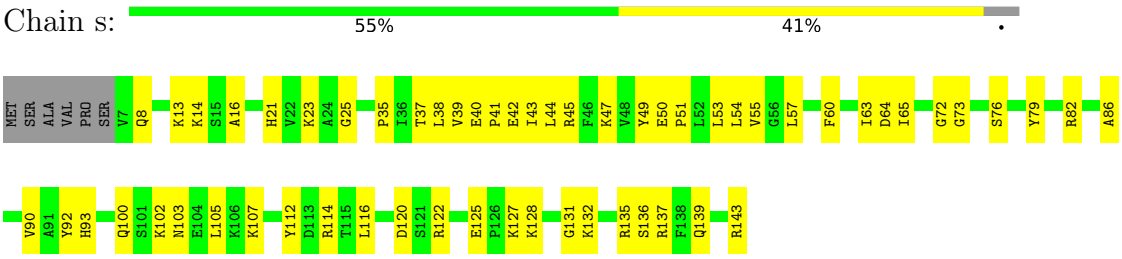




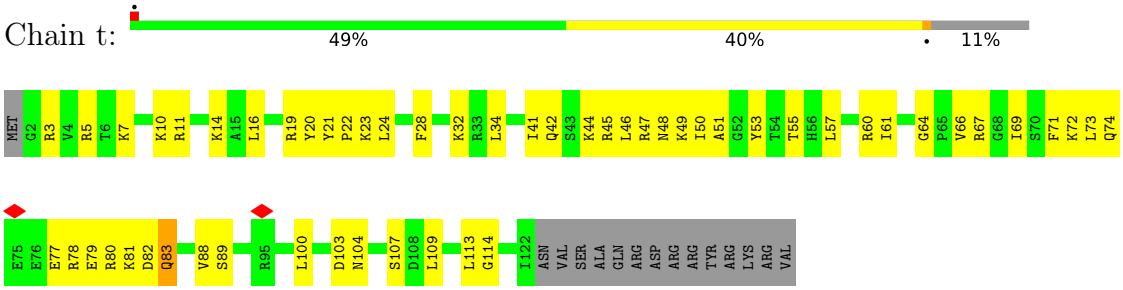
• Molecule 75: 40S ribosomal protein S15



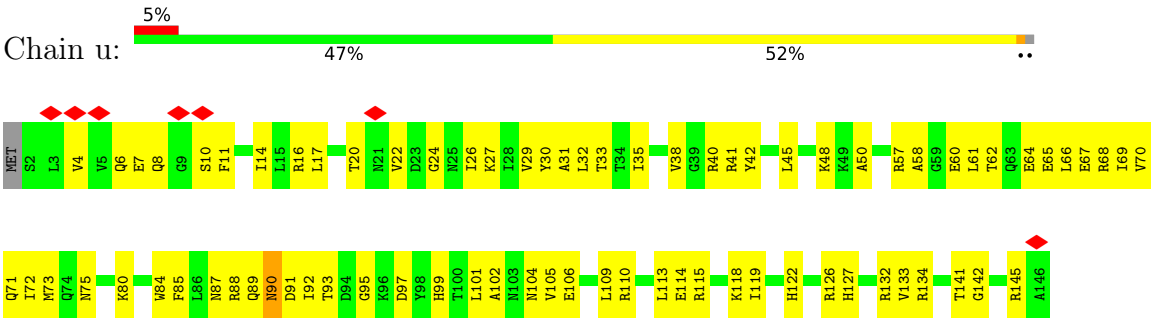
• Molecule 76: 40S ribosomal protein S16-A



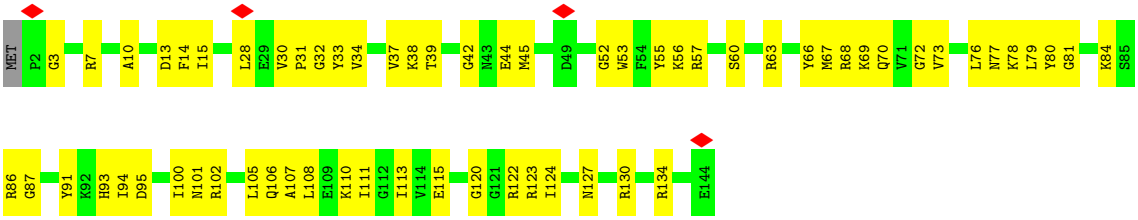
• Molecule 77: 40S ribosomal protein S17-A



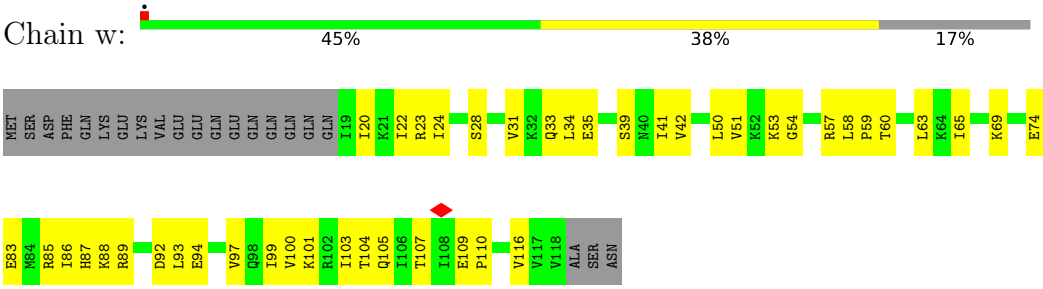
• Molecule 78: 40S ribosomal protein S18-A



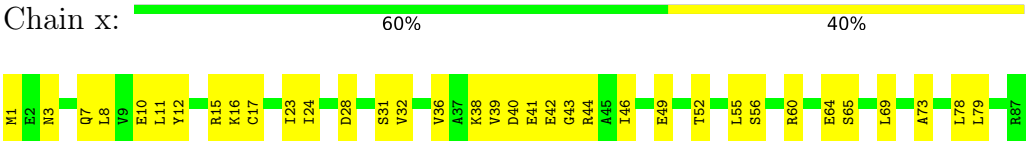
• Molecule 79: 40S ribosomal protein S19-A



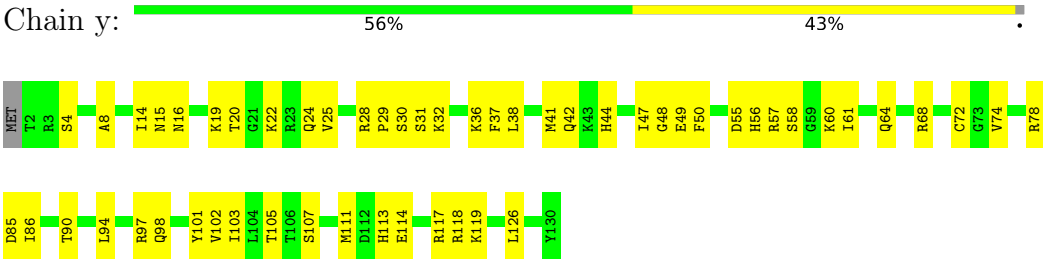
• Molecule 80: 40S ribosomal protein S20



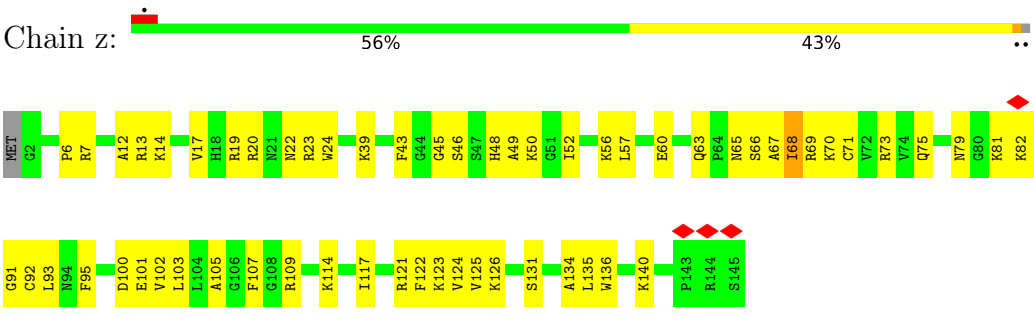
• Molecule 81: 40S ribosomal protein S21-A



• Molecule 82: 40S ribosomal protein S22-A



• Molecule 83: 40S ribosomal protein S23-A



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	22551	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 ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	1000	Depositor
Magnification	165000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.734	Depositor
Minimum map value	-0.933	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.050	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	638.88, 638.88, 638.88	wwPDB
Map dimensions	440, 440, 440	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.452, 1.452, 1.452	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: K, MA6, GTP, DDE, YYG, OMG, UR3, OMC, OMU, 1MA, 5MC, G7M, MG, 4AC, A2M, B8N, SPD, 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	0.19	0/1087	0.45	0/1449
2	1	0.22	0/571	0.62	0/768
3	2	0.25	0/782	0.43	0/1047
4	3	0.23	0/620	0.42	0/838
5	4	0.24	0/499	0.53	1/670 (0.1%)
6	5	0.21	0/452	0.42	0/600
7	6	0.20	0/433	0.47	0/575
8	7	0.21	0/2489	0.51	0/3389
9	8	0.15	0/279	0.50	0/369
10	A	0.30	0/1585	0.42	0/2128
11	AA	0.28	1/75384 (0.0%)	0.33	2/117530 (0.0%)
12	Aa	0.18	0/6673	0.42	0/9032
13	B	0.30	0/1245	0.42	0/1676
14	BB	0.23	0/2883	0.28	0/4491
15	Bb	0.17	0/1788	0.38	0/2786
16	C	0.26	0/1465	0.40	0/1965
17	CC	0.27	0/3746	0.36	2/5832 (0.0%)
18	Cc	0.20	0/1836	0.49	4/2859 (0.1%)
19	D	0.26	0/1440	0.49	0/1921
20	DD	0.15	0/1578	0.40	0/2134
21	Dd	0.25	0/311	0.42	0/482
22	E	0.29	0/1481	0.52	0/1990
23	EE	0.28	0/1948	0.40	0/2617
24	Ee	0.16	0/1226	0.38	0/1650
25	F	0.27	0/1300	0.45	0/1743
26	FF	0.27	0/3146	0.43	0/4228
27	G	0.21	0/786	0.40	0/1065
28	GG	0.26	0/2800	0.39	0/3790
29	H	0.27	0/978	0.42	0/1316
30	HH	0.20	0/2425	0.38	0/3271
31	I	0.29	0/533	0.49	0/707

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	II	0.25	0/1251	0.39	0/1682
33	J	0.27	0/974	0.44	0/1314
34	JJ	0.29	0/1821	0.37	0/2451
35	K	0.25	0/1004	0.45	0/1341
36	KK	0.22	0/1836	0.37	0/2481
37	L	0.24	0/1118	0.41	0/1497
38	LL	0.27	0/1539	0.47	0/2073
39	M	0.27	0/1204	0.44	0/1612
40	MM	0.26	0/1779	0.46	0/2386
41	N	0.23	0/473	0.44	0/629
42	NN	0.23	0/1374	0.45	0/1842
43	O	0.24	0/750	0.37	0/1008
44	OO	0.23	0/1568	0.41	0/2106
45	P	0.26	0/897	0.47	0/1205
46	PP	0.25	0/1068	0.37	0/1438
47	Q	0.27	0/1041	0.38	0/1394
48	QQ	0.28	0/1757	0.43	0/2354
49	R	0.32	0/868	0.38	0/1168
50	S	0.28	0/871	0.48	0/1164
51	T	0.25	0/978	0.45	0/1301
52	U	0.23	0/778	0.48	0/1034
53	V	0.26	0/680	0.41	0/901
54	W	0.24	0/618	0.48	0/826
55	X	0.27	0/443	0.45	0/588
56	Y	0.24	0/423	0.39	0/562
57	Z	0.25	0/234	0.52	0/300
58	a	0.25	0/831	0.49	0/1097
59	b	0.23	0/701	0.41	0/934
60	c	0.43	10/37665 (0.0%)	0.37	12/58663 (0.0%)
61	d	0.23	0/1623	0.47	0/2222
62	e	0.26	0/1714	0.46	0/2308
63	f	0.26	0/1665	0.49	0/2263
64	g	0.21	0/1622	0.42	0/2180
65	h	0.21	0/2097	0.45	0/2823
66	i	0.24	0/1591	0.52	0/2151
67	j	0.20	0/1790	0.48	0/2393
68	k	0.23	0/1506	0.49	0/2028
69	l	0.24	0/1482	0.50	0/1980
70	m	0.22	0/1519	0.43	0/2035
71	n	0.23	0/792	0.52	0/1071
72	o	0.22	0/1172	0.43	0/1580
73	p	0.28	0/1215	0.41	0/1638
74	q	0.27	0/901	0.51	0/1217

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
75	r	0.23	0/853	0.45	0/1145
76	s	0.23	0/1099	0.54	0/1473
77	t	0.23	0/971	0.60	0/1303
78	u	0.24	0/1211	0.53	0/1628
79	v	0.20	0/1130	0.46	0/1517
80	w	0.24	0/810	0.53	0/1095
81	x	0.25	0/693	0.50	0/935
82	y	0.26	0/1038	0.46	0/1395
83	z	0.24	0/1139	0.53	0/1518
All	All	0.29	11/219946 (0.0%)	0.39	21/322167 (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
24	Ee	0	1
34	JJ	0	1
37	L	0	1
66	i	0	2
73	p	0	1
76	s	0	1
77	t	0	1
78	u	0	1
83	z	0	1
All	All	0	10

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	483	A	C1'-N9	37.73	2.04	1.48
60	c	507	U	C2-N3	23.93	1.85	1.37
60	c	507	U	N3-C4	23.42	1.85	1.38
60	c	507	U	N1-C2	22.82	1.84	1.38
60	c	507	U	C4-C5	21.74	1.87	1.43
60	c	507	U	N1-C6	19.51	1.76	1.38
60	c	507	U	C5-C6	18.02	1.70	1.34
60	c	483	A	N9-C4	15.04	1.68	1.37
60	c	483	A	N9-C8	10.16	1.58	1.37
60	c	420	A2M	O3'-P	5.05	1.61	1.56
11	AA	1133	A2M	O3'-P	5.02	1.61	1.56

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	c	483	A	C8-N9-C4	-12.74	67.58	105.80
60	c	483	A	N9-C1'-C2'	12.61	130.91	112.00
60	c	483	A	N7-C8-N9	11.43	148.09	113.80
60	c	780	A	OP2-P-O3'	-9.59	79.23	108.00
17	CC	79	A	OP1-P-O3'	-9.32	80.03	108.00
18	Cc	37	U	OP1-P-O3'	-9.14	80.57	108.00
18	Cc	53	G	OP1-P-O3'	-9.12	80.65	108.00
11	AA	126	U	OP1-P-O3'	-9.02	80.94	108.00
60	c	483	A	C4-N9-C1'	8.56	151.99	126.30
60	c	205	U	OP1-P-O3'	-8.48	82.57	108.00
60	c	205	U	OP2-P-O3'	-8.40	82.79	108.00
11	AA	126	U	OP2-P-O3'	-8.34	83.00	108.00
18	Cc	37	U	OP2-P-O3'	-8.10	83.69	108.00
17	CC	79	A	OP2-P-O3'	-8.03	83.93	108.00
18	Cc	53	G	OP2-P-O3'	-7.88	84.36	108.00
60	c	780	A	OP1-P-O3'	-7.55	85.35	108.00
60	c	483	A	N3-C4-C5	-6.09	108.51	126.80
60	c	1357	A	C2'-C3'-O3'	-5.69	105.17	113.70
60	c	483	A	N9-C4-C5	5.63	122.69	105.80
5	4	6	PRO	CA-N-CD	-5.36	104.50	112.00
60	c	1369	U	O4'-C4'-C3'	-5.08	101.02	106.10

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
24	Ee	7	PRO	Peptide
34	JJ	232	ARG	Peptide
37	L	102	GLU	Peptide
66	i	220	VAL	Peptide
66	i	65	ARG	Peptide
73	p	105	ASN	Peptide
76	s	40	GLU	Peptide
77	t	83	GLN	Peptide
78	u	90	ASN	Peptide
83	z	68	ILE	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	55	0
2	1	563	0	603	38	0
3	2	769	0	814	33	0
4	3	610	0	633	26	0
5	4	497	0	535	16	0
6	5	442	0	429	20	0
7	6	427	0	476	20	0
8	7	2436	0	2386	127	0
9	8	276	0	287	4	0
10	A	1555	0	1659	60	0
11	AA	68285	0	34372	1680	0
12	Aa	6569	0	6640	331	0
13	B	1222	0	1231	64	0
14	BB	2579	0	1303	60	0
15	Bb	1638	0	836	56	0
16	C	1441	0	1543	50	0
17	CC	3353	0	1695	92	0
18	Cc	1644	0	837	57	0
19	D	1423	0	1510	72	0
20	DD	1551	0	1596	62	0
21	Dd	278	0	138	11	0
22	E	1445	0	1487	64	0
23	EE	1914	0	1981	88	0
24	Ee	1211	0	1268	58	0
25	F	1276	0	1323	47	0
26	FF	3075	0	3142	128	0
27	G	770	0	780	22	0
28	GG	2748	0	2859	84	0
29	H	963	0	1014	48	0
30	HH	2375	0	2325	95	0
31	I	521	0	551	32	0
32	II	1230	0	1320	30	0
33	J	959	0	1023	50	0
34	JJ	1784	0	1862	65	0
35	K	993	0	1081	37	0
36	KK	1804	0	1877	64	0
37	L	1092	0	1155	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	LL	1518	0	1587	82	0
39	M	1173	0	1215	61	0
40	MM	1743	0	1785	54	0
41	N	462	0	491	16	0
42	NN	1353	0	1383	82	0
43	O	742	0	797	23	0
44	OO	1543	0	1608	61	0
45	P	883	0	918	35	0
46	PP	1053	0	1149	44	0
47	Q	1020	0	1090	25	0
48	QQ	1720	0	1779	90	0
49	R	850	0	880	22	0
50	S	861	0	918	52	0
51	T	969	0	1078	37	0
52	U	771	0	849	41	0
53	V	665	0	668	29	0
54	W	612	0	682	17	0
55	X	436	0	475	17	0
56	Y	417	0	455	15	0
57	Z	233	0	282	15	0
58	a	819	0	886	38	0
59	b	694	0	734	30	0
60	c	34236	0	17248	1233	0
61	d	1583	0	1578	79	0
62	e	1689	0	1763	82	0
63	f	1635	0	1723	77	0
64	g	1601	0	1682	73	0
65	h	2056	0	2140	119	0
66	i	1572	0	1639	112	0
67	j	1766	0	1859	87	0
68	k	1481	0	1572	61	0
69	l	1457	0	1488	88	0
70	m	1494	0	1573	72	0
71	n	772	0	760	44	0
72	o	1146	0	1213	70	0
73	p	1192	0	1255	42	0
74	q	891	0	883	55	0
75	r	837	0	868	33	0
76	s	1080	0	1140	57	0
77	t	961	0	999	73	0
78	u	1192	0	1222	70	0
79	v	1112	0	1124	69	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	w	800	0	869	44	0
81	x	684	0	672	38	0
82	y	1021	0	1060	48	0
83	z	1121	0	1196	60	0
84	2	1	0	0	0	0
84	5	1	0	0	0	0
84	8	1	0	0	0	0
84	S	1	0	0	0	0
84	V	1	0	0	0	0
84	Y	1	0	0	0	0
84	a	1	0	0	0	0
84	b	1	0	0	0	0
85	AA	157	0	0	0	0
85	Aa	1	0	0	0	0
85	B	1	0	0	0	0
85	BB	3	0	0	0	0
85	Bb	1	0	0	0	0
85	CC	2	0	0	0	0
85	D	1	0	0	0	0
85	EE	1	0	0	0	0
85	F	1	0	0	0	0
85	FF	1	0	0	0	0
85	H	1	0	0	0	0
85	c	35	0	0	0	0
86	AA	10	0	0	0	0
86	BB	1	0	0	0	0
86	Dd	1	0	0	0	0
86	EE	1	0	0	0	0
86	MM	1	0	0	0	0
86	Q	1	0	0	0	0
86	c	1	0	0	0	0
87	AA	20	0	38	1	0
87	c	10	0	19	1	0
88	Aa	32	0	12	7	0
89	2	1	0	0	0	0
89	AA	258	0	0	5	0
89	Aa	1	0	0	0	0
89	B	2	0	0	0	0
89	BB	4	0	0	1	0
89	CC	3	0	0	0	0
89	Cc	1	0	0	0	0
89	F	4	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
89	FF	3	0	0	0	0
89	GG	1	0	0	0	0
89	M	1	0	0	0	0
89	Q	2	0	0	0	0
89	QQ	1	0	0	1	0
89	S	1	0	0	0	0
89	V	2	0	0	0	0
89	a	1	0	0	0	0
89	c	53	0	0	1	0
89	p	1	0	0	0	0
89	q	2	0	0	0	0
All	All	207340	0	155007	6390	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 18.

All (6390) 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)
60:c:507:U:C5	60:c:507:U:C4	1.87	1.60
60:c:507:U:N1	60:c:507:U:C6	1.77	1.51
60:c:507:U:N1	60:c:507:U:C2	1.84	1.44
60:c:507:U:C4	60:c:507:U:N3	1.85	1.43
60:c:507:U:C2	60:c:507:U:N3	1.85	1.42
60:c:483:A:N9	60:c:507:U:C2	1.91	1.38
60:c:483:A:N9	60:c:507:U:C4	1.91	1.38
60:c:483:A:N9	60:c:507:U:N3	1.72	1.35
60:c:483:A:N9	60:c:483:A:C4	1.67	1.35
60:c:483:A:C8	60:c:507:U:C2	2.19	1.28
60:c:483:A:C1'	60:c:507:U:C2	2.15	1.28
60:c:483:A:N9	60:c:507:U:C6	2.05	1.25
60:c:483:A:N9	60:c:507:U:C5	2.05	1.23
60:c:483:A:H1'	60:c:507:U:N1	1.53	1.21
60:c:1229:G:N2	60:c:1256:A:C6	2.08	1.20
60:c:483:A:N9	60:c:483:A:C1'	2.04	1.19
60:c:483:A:N9	60:c:507:U:N1	1.92	1.17
60:c:483:A:C1'	60:c:507:U:N3	2.07	1.16
60:c:483:A:C1'	60:c:507:U:C4	2.28	1.16
60:c:483:A:C4	60:c:507:U:C4	2.37	1.11
60:c:483:A:C8	60:c:507:U:N1	2.22	1.08
60:c:1229:G:C2	60:c:1256:A:N6	2.27	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:483:A:O4'	60:c:507:U:N3	1.92	1.02
75:r:93:VAL:HG22	75:r:104:GLN:HE21	1.22	1.02
60:c:483:A:C1'	60:c:507:U:N1	2.25	0.98
60:c:483:A:H1'	60:c:507:U:C2	1.96	0.98
60:c:483:A:C4	60:c:507:U:C5	2.52	0.97
60:c:1213:G:H1	60:c:1450:U:H3	0.99	0.97
11:AA:1257:C:H42	11:AA:1261:G:N2	1.63	0.95
11:AA:129:U:H3	11:AA:139:G:H1	1.01	0.95
11:AA:1257:C:H42	11:AA:1261:G:H22	1.11	0.94
60:c:483:A:H8	60:c:507:U:C2	1.80	0.94
60:c:1229:G:N2	60:c:1256:A:N6	2.13	0.94
60:c:1184:A:HO2'	60:c:1209:C:HO2'	1.07	0.94
11:AA:3050:U:H5"	31:I:17:ARG:HH21	1.34	0.93
20:DD:25:LEU:HB2	20:DD:191:TYR:HB3	1.48	0.93
78:u:92:ILE:HG13	78:u:93:THR:HG23	1.48	0.93
60:c:868:G:H1	60:c:960:U:H3	1.11	0.92
61:d:201:LEU:HD11	77:t:83:GLN:HG2	1.49	0.92
60:c:143:G:H1	60:c:171:A:H61	0.93	0.92
60:c:483:A:C1'	60:c:507:U:C5	2.52	0.92
60:c:483:A:C1'	60:c:507:U:C6	2.52	0.91
61:d:57:LEU:HD22	61:d:160:ILE:HD11	1.52	0.90
60:c:1360:A:H3'	60:c:1361:U:C6	2.07	0.90
64:g:98:ALA:HB2	64:g:169:ASP:HB3	1.54	0.90
76:s:90:VAL:HA	76:s:102:LYS:HE2	1.55	0.89
60:c:143:G:H1	60:c:171:A:N6	1.70	0.89
60:c:1368:G:C4	60:c:1369:U:H5	1.90	0.89
71:n:46:LEU:O	71:n:50:THR:HB	1.71	0.89
11:AA:1229:G:H21	11:AA:1281:G:H3'	1.37	0.89
11:AA:2489:C:H3'	11:AA:2490:C:H2'	1.53	0.89
48:QQ:51:LEU:HD21	48:QQ:117:ASN:HB2	1.55	0.88
60:c:1588:G:H1	60:c:1608:U:H3	1.20	0.88
12:Aa:644:ASN:HD21	12:Aa:682:ARG:HA	1.38	0.88
11:AA:345:G:O6	11:AA:348:A:OP1	1.92	0.88
60:c:1360:A:H3'	60:c:1361:U:H6	1.37	0.87
8:7:19:TRP:HB3	8:7:38:ARG:HG2	1.56	0.87
26:FF:49:TYR:HH	26:FF:177:HIS:HD1	1.20	0.87
11:AA:1907:C:O2	26:FF:240:ARG:NH2	2.09	0.86
35:K:87:LYS:HG2	35:K:97:ILE:HD11	1.57	0.86
60:c:1499:G:H1	60:c:1508:U:H3	1.24	0.86
12:Aa:213:SER:H	12:Aa:218:TRP:HB3	1.41	0.85
11:AA:2534:G:N2	11:AA:2545:C:O2	2.08	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1354:G:H1'	60:c:1371:A:H61	1.41	0.85
60:c:1368:G:H2'	60:c:1369:U:H5"	1.59	0.85
11:AA:3192:U:H3	11:AA:3200:G:H1	1.21	0.85
79:v:77:ASN:OD1	79:v:101:ASN:ND2	2.09	0.85
32:II:43:LEU:HD11	32:II:85:ILE:HG13	1.59	0.85
67:j:195:VAL:HG22	67:j:199:GLN:HE22	1.41	0.85
74:q:89:THR:HB	74:q:128:LYS:HD3	1.55	0.85
63:f:82:ASN:HD22	63:f:207:LEU:HD21	1.40	0.84
60:c:1484:G:N2	60:c:1606:C:O2	2.11	0.84
11:AA:1677:G:H1	11:AA:1691:U:H3	1.25	0.84
23:EE:70:ARG:HE	23:EE:72:ARG:HH12	1.26	0.84
63:f:101:VAL:HG12	63:f:115:ILE:HG22	1.59	0.84
11:AA:1008:U:HO2'	40:MM:34:TYR:HH	1.18	0.83
42:NN:83:GLY:HA3	42:NN:127:PHE:HE2	1.41	0.83
58:a:12:CYS:HB3	58:a:17:CYS:SG	2.17	0.83
10:A:14:HIS:HE1	10:A:120:VAL:H	1.27	0.83
11:AA:2568:C:O2	11:AA:2573:G:N2	2.12	0.83
11:AA:609:G:N7	28:GG:308:LYS:NZ	2.26	0.83
11:AA:1010:G:H1	11:AA:1041:U:H3	1.23	0.83
11:AA:1257:C:N4	11:AA:1261:G:H22	1.76	0.83
70:m:90:LYS:HB3	70:m:95:TYR:HD2	1.43	0.83
18:Cc:31:G:OP2	18:Cc:43:G:N2	2.11	0.82
65:h:129:VAL:HG12	65:h:139:VAL:HG12	1.58	0.82
11:AA:1010:G:N2	11:AA:1041:U:O2	2.11	0.82
60:c:871:G:H2'	60:c:872:G:C8	2.14	0.82
60:c:1545:A:N3	60:c:1567:U:N3	2.27	0.82
60:c:1357:A:H61	60:c:1367:G:H21	1.26	0.82
11:AA:353:G:O6	53:V:55:ARG:NH2	2.12	0.82
11:AA:2219:A:H2'	11:AA:2220:A2M:H8	1.59	0.82
80:w:41:ILE:HD11	80:w:103:ILE:HG23	1.62	0.82
11:AA:394:G:H22	11:AA:397:A:H5'	1.44	0.82
60:c:138:A:H61	60:c:175:G:H21	1.27	0.82
60:c:1601:G:OP1	79:v:86:ARG:NH2	2.13	0.82
8:7:10:ARG:HG2	8:7:314:GLN:HG3	1.61	0.82
83:z:79:ASN:HD22	83:z:81:LYS:HG3	1.42	0.82
11:AA:2969:A:N7	23:EE:215:ASN:ND2	2.26	0.81
60:c:483:A:N3	60:c:507:U:C4	2.46	0.81
61:d:84:ARG:NH1	61:d:201:LEU:O	2.12	0.81
11:AA:2938:G:H5"	26:FF:3:HIS:HE1	1.45	0.81
36:KK:153:ILE:HD13	36:KK:166:LEU:HD22	1.61	0.81
11:AA:1757:A:OP1	27:G:94:ARG:NH2	2.14	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:g:37:VAL:HG12	64:g:50:ILE:HA	1.62	0.81
12:Aa:32:LYS:NZ	88:Aa:1001:GTP:O2B	2.14	0.81
2:1:58:ARG:HH22	66:i:125:THR:H	1.28	0.81
11:AA:2427:U:H3	11:AA:2602:G:H1	1.25	0.81
18:Cc:8:U:H3	18:Cc:14:A:H62	1.25	0.81
60:c:1559:A:N7	78:u:134:ARG:NH1	2.27	0.81
64:g:140:GLY:O	64:g:147:ALA:HA	1.81	0.81
11:AA:2302:G:H21	60:c:1746:A:H8	1.28	0.81
8:7:152:SER:H	8:7:173:GLY:HA2	1.46	0.81
28:GG:304:GLN:NE2	28:GG:306:THR:O	2.15	0.80
11:AA:3068:U:OP2	19:D:62:ARG:NH2	2.13	0.80
60:c:1727:G:N2	69:l:32:GLN:OE1	2.15	0.80
3:2:24:VAL:HG21	3:2:71:LEU:HD22	1.62	0.80
11:AA:2176:U:OP1	23:EE:54:ARG:NH2	2.15	0.80
60:c:1217:A:H4'	71:n:44:LYS:HE2	1.62	0.80
72:o:128:CYS:SG	72:o:138:ASN:ND2	2.54	0.80
4:3:20:LYS:NZ	60:c:958:U:OP2	2.14	0.80
53:V:19:CYS:HB3	53:V:22:CYS:SG	2.21	0.80
6:5:52:PHE:HB3	80:w:82:TYR:HB3	1.64	0.80
60:c:472:U:H4'	60:c:770:A:H1'	1.64	0.80
60:c:1368:G:C5	60:c:1369:U:H5	1.99	0.80
11:AA:1468:A:N1	11:AA:1881:A:O2'	2.15	0.80
11:AA:3344:A:H4'	69:l:92:ARG:HH22	1.46	0.80
60:c:753:A:OP1	65:h:187:ARG:N	2.13	0.80
60:c:1171:A:H2'	60:c:1172:G:H8	1.46	0.79
11:AA:68:C:OP2	11:AA:301:G:N2	2.14	0.79
50:S:3:GLN:O	50:S:4:ARG:NH1	2.16	0.79
60:c:1365:C:H2'	60:c:1366:U:C6	2.17	0.79
60:c:639:U:OP1	68:k:112:ARG:NH2	2.12	0.79
4:3:82:LYS:HD3	73:p:25:TRP:CD2	2.18	0.79
55:X:28:ARG:H	55:X:33:ASN:HD21	1.30	0.79
56:Y:99:CYS:HB2	56:Y:115:CYS:HB3	1.63	0.79
15:Bb:27:C:H42	15:Bb:29:A:H62	1.28	0.79
11:AA:3042:U:OP2	11:AA:3092:C:N4	2.16	0.79
36:KK:130:TYR:HD2	36:KK:204:ARG:HE	1.28	0.79
60:c:1353:U:H2'	60:c:1354:G:C4	2.18	0.79
83:z:107:PHE:CE2	83:z:114:LYS:HB3	2.18	0.79
11:AA:2196:C:HO2'	11:AA:2270:A:H8	1.26	0.79
60:c:1229:G:C2	60:c:1256:A:C6	2.69	0.79
65:h:87:MET:HE1	65:h:123:LEU:H	1.47	0.79
24:Ee:61:GLN:HE22	24:Ee:63:LYS:HG3	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:141:THR:O	12:Aa:145:GLN:NE2	2.17	0.78
38:LL:23:ARG:HD3	38:LL:39:LYS:HD2	1.63	0.78
60:c:1591:C:H2'	60:c:1592:A:H8	1.49	0.78
11:AA:1638:A:H5"	50:S:74:ARG:HH21	1.48	0.78
20:DD:26:PHE:HB2	20:DD:87:VAL:HB	1.63	0.78
60:c:68:A:OP1	67:j:160:ARG:NH2	2.17	0.78
60:c:1363:U:H4'	60:c:1364:G:O5'	1.82	0.78
67:j:21:GLU:OE1	67:j:25:ARG:NH1	2.16	0.78
3:2:64:LEU:HB2	74:q:115:ILE:HD11	1.66	0.78
11:AA:3379:C:H4'	26:FF:315:GLY:HA2	1.65	0.78
11:AA:1619:A:O2'	17:CC:125:U:O4	2.00	0.78
30:HH:293:LEU:HD13	30:HH:297:GLN:H	1.49	0.78
60:c:1368:G:C2'	60:c:1369:U:H5"	2.14	0.78
19:D:81:ARG:HG3	19:D:88:ARG:HH11	1.47	0.78
30:HH:151:GLN:HG2	30:HH:159:VAL:HG21	1.65	0.77
42:NN:55:ARG:HB3	42:NN:56:THR:HG23	1.67	0.77
8:7:159:ASN:HD22	8:7:166:SER:HB2	1.49	0.77
60:c:628:G:H21	60:c:971:A:H62	1.33	0.77
60:c:1483:A:OP2	60:c:1521:G:N2	2.17	0.77
7:6:11:ALA:HB1	83:z:91:GLY:HA2	1.64	0.77
11:AA:413:U:OP1	13:B:34:GLN:NE2	2.17	0.77
11:AA:1008:U:H4'	40:MM:34:TYR:HE1	1.49	0.77
11:AA:1857:C:O2'	50:S:4:ARG:NE	2.15	0.77
15:Bb:37:YYG:H242	15:Bb:37:YYG:H142	1.65	0.77
30:HH:129:TYR:OH	30:HH:175:HIS:O	2.02	0.77
60:c:1354:G:C1'	60:c:1371:A:H61	1.97	0.77
11:AA:3226:A:N6	11:AA:3227:A:N1	2.33	0.77
12:Aa:163:ALA:HA	12:Aa:167:LEU:HD23	1.67	0.77
40:MM:104:SER:O	40:MM:108:ALA:N	2.16	0.77
24:Ee:123:ARG:HG3	24:Ee:124:THR:HG23	1.67	0.77
40:MM:34:TYR:HB2	40:MM:89:VAL:HB	1.67	0.77
73:p:46:THR:OG1	73:p:49:GLN:OE1	2.01	0.77
11:AA:265:A:O2'	52:U:36:ARG:NH2	2.17	0.77
40:MM:101:LYS:HD3	40:MM:103:LEU:HB3	1.67	0.77
60:c:246:G:N2	72:o:38:ALA:O	2.18	0.77
60:c:1173:C:O2	60:c:1601:G:N2	2.18	0.77
11:AA:1634:G:N7	37:L:17:ARG:NH2	2.33	0.76
60:c:1355:C:C5	60:c:1370:U:H5	2.04	0.76
11:AA:2369:G:H2'	11:AA:2370:G:C8	2.21	0.76
60:c:1060:U:OP2	60:c:1061:A:N6	2.18	0.76
60:c:1354:G:H21	60:c:1372:U:H3	1.33	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1355:C:H5	60:c:1370:U:H5	1.33	0.76
3:2:5:ARG:HH22	60:c:1795:U:H3'	1.51	0.76
4:3:16:ALA:O	4:3:29:ARG:NH2	2.19	0.76
26:FF:78:VAL:HA	26:FF:323:MET:HA	1.68	0.76
60:c:1355:C:H5	60:c:1370:U:C5	2.03	0.76
11:AA:2471:U:OP2	11:AA:2474:G:N2	2.17	0.76
69:l:5:ARG:NH1	69:l:29:LEU:O	2.18	0.76
63:f:39:THR:O	63:f:42:GLY:N	2.18	0.76
8:7:84:SER:OG	8:7:86:ASP:OD1	2.04	0.76
11:AA:1015:U:O2	11:AA:1028:U:O2'	2.03	0.76
61:d:121:VAL:HG23	61:d:141:ILE:HG21	1.67	0.76
60:c:772:G:H21	60:c:774:A:H1'	1.49	0.75
60:c:1610:G:H4'	66:i:107:LYS:HD3	1.68	0.75
11:AA:2454:G:H1'	18:Cc:20:G:H2'	1.67	0.75
12:Aa:607:ASN:HB3	12:Aa:610:ASP:HB2	1.69	0.75
1:0:34:ASN:ND2	60:c:521:A:N3	2.33	0.75
8:7:154:VAL:O	8:7:155:ARG:NH1	2.19	0.75
11:AA:2560:C:N4	11:AA:2575:G:OP1	2.18	0.75
60:c:1594:G:OP2	60:c:1596:C:N4	2.19	0.75
76:s:42:GLU:HG2	76:s:45:ARG:HH21	1.51	0.75
64:g:38:GLU:OE2	64:g:40:ARG:NH2	2.20	0.75
78:u:73:MET:HE3	78:u:101:LEU:HB3	1.68	0.75
11:AA:57:A:H5'	48:QQ:157:LYS:HE3	1.67	0.75
60:c:272:U:O2	60:c:284:G:N2	2.19	0.75
10:A:125:ARG:HG2	10:A:129:LEU:HD13	1.68	0.74
11:AA:107:A:O2'	11:AA:324:A:N3	2.19	0.74
60:c:1330:G:N1	64:g:204:ASP:OD2	2.19	0.74
11:AA:75:G:O2'	44:OO:70:ARG:NH2	2.21	0.74
11:AA:2703:A:OP2	30:HH:23:ARG:NH2	2.20	0.74
42:NN:85:LYS:HD2	42:NN:89:TYR:HE1	1.52	0.74
60:c:483:A:H1'	60:c:507:U:C6	2.21	0.74
60:c:1235:C:N4	60:c:1245:G:O6	2.18	0.74
60:c:1373:C:H2'	60:c:1374:C:C6	2.22	0.74
8:7:176:LYS:HE2	8:7:198:ASN:HA	1.69	0.74
11:AA:2107:A:O2'	69:l:92:ARG:NH2	2.19	0.74
60:c:475:A:OP2	70:m:126:ARG:NH2	2.20	0.74
63:f:35:TRP:CZ3	63:f:67:GLN:HB2	2.21	0.74
3:2:12:LYS:NZ	60:c:1029:U:OP2	2.20	0.74
60:c:520:A:N6	60:c:533:U:O2	2.20	0.74
60:c:1171:A:H2'	60:c:1172:G:C8	2.22	0.74
82:y:30:SER:HB2	82:y:61:ILE:HG13	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1404:G:N7	89:AA:3602:HOH:O	2.20	0.74
11:AA:3312:U:H4'	26:FF:25:ILE:HD12	1.70	0.74
41:N:8:THR:HG22	41:N:10:HIS:H	1.52	0.74
11:AA:2525:G:N7	23:EE:67:TYR:OH	2.20	0.74
1:0:37:LYS:HG3	60:c:522:U:H5"	1.68	0.74
60:c:1564:U:O3'	79:v:38:LYS:NZ	2.19	0.74
66:i:43:PHE:HB3	66:i:46:TRP:H	1.53	0.74
1:0:105:ARG:NE	60:c:444:C:OP2	2.18	0.74
12:Aa:380:LEU:HD23	12:Aa:469:LEU:HD12	1.70	0.74
20:DD:16:ARG:HH22	20:DD:70:LEU:HD23	1.53	0.74
38:LL:73:SER:O	38:LL:77:ASN:ND2	2.21	0.74
48:QQ:30:TYR:O	48:QQ:65:ARG:NH2	2.21	0.74
75:r:93:VAL:HG22	75:r:104:GLN:NE2	2.02	0.74
2:1:70:LYS:HB3	2:1:71:ILE:HD12	1.70	0.74
60:c:1358:G:H3'	60:c:1359:C:H6	1.51	0.74
61:d:24:LEU:O	61:d:163:ASN:ND2	2.20	0.74
70:m:168:ARG:HD2	70:m:169:PRO:HD2	1.69	0.74
11:AA:2500:A:O2'	11:AA:2501:U:OP1	2.05	0.73
11:AA:2555:G:N1	50:S:96:GLU:OE2	2.18	0.73
60:c:163:G:H2'	60:c:164:A:H8	1.51	0.73
65:h:35:PRO:HD2	65:h:83:PRO:HG2	1.71	0.73
83:z:60:GLU:HA	83:z:68:ILE:HG22	1.69	0.73
11:AA:1387:G:HO2'	32:II:2:SER:N	1.86	0.73
60:c:1548:G:OP1	75:r:18:ARG:NH2	2.19	0.73
12:Aa:507:GLY:HA2	12:Aa:510:ARG:HD3	1.69	0.73
48:QQ:56:LYS:NZ	48:QQ:145:ASP:OD2	2.21	0.73
60:c:1521:G:O6	79:v:68:ARG:NH1	2.16	0.73
22:E:1:MET:HE1	22:E:36:ILE:HG21	1.69	0.73
60:c:174:U:H3	60:c:266:A:H62	1.35	0.73
60:c:483:A:H2'	60:c:507:U:C5	2.22	0.73
60:c:6:G:N7	63:f:205:ARG:NH1	2.36	0.73
64:g:48:VAL:HB	64:g:86:LEU:HD23	1.69	0.73
8:7:42:LEU:HD11	8:7:82:SER:HB3	1.70	0.73
53:V:19:CYS:CB	53:V:22:CYS:SG	2.76	0.73
63:f:82:ASN:OD1	63:f:83:ILE:N	2.22	0.73
11:AA:938:C:OP2	39:M:26:ARG:NH1	2.21	0.73
11:AA:2469:G:N2	11:AA:2475:G:OP2	2.21	0.73
48:QQ:183:THR:HG22	48:QQ:187:ARG:HG3	1.69	0.73
11:AA:3313:U:O3'	26:FF:173:GLN:NE2	2.20	0.73
62:e:87:ARG:NH1	62:e:89:ASP:OD1	2.22	0.72
77:t:5:ARG:HB2	77:t:10:LYS:HE2	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:877:C:O2'	11:AA:880:G:O2'	2.08	0.72
11:AA:3386:G:H5'	45:P:10:ARG:HH12	1.54	0.72
12:Aa:311:GLU:HG2	12:Aa:322:VAL:HG11	1.71	0.72
14:BB:38:U:N3	14:BB:41:G:OP2	2.22	0.72
15:Bb:29:A:H2	15:Bb:42:G:H2'	1.53	0.72
68:k:144:VAL:HA	82:y:42:GLN:HE21	1.54	0.72
8:7:178:VAL:HG11	8:7:194:GLY:HA2	1.72	0.72
12:Aa:150:ARG:HH22	12:Aa:352:ARG:HA	1.51	0.72
60:c:483:A:C2'	60:c:507:U:C5	2.72	0.72
76:s:112:TYR:O	76:s:114:ARG:NH1	2.22	0.72
11:AA:1257:C:OP1	24:Ee:123:ARG:NH1	2.22	0.72
24:Ee:99:LYS:NZ	24:Ee:101:SER:OG	2.22	0.72
54:W:5:ILE:HD11	54:W:52:TYR:HD2	1.55	0.72
60:c:567:A:OP1	83:z:70:LYS:NZ	2.20	0.72
26:FF:220:VAL:O	26:FF:334:ARG:NH1	2.21	0.72
60:c:1219:A:O2'	71:n:47:GLN:O	2.06	0.72
69:l:98:LYS:HD3	69:l:172:ARG:HG2	1.71	0.72
11:AA:785:G:N7	39:M:77:LYS:NZ	2.37	0.72
11:AA:1008:U:H4'	40:MM:34:TYR:CE1	2.24	0.72
11:AA:1353:U:H2'	32:II:9:TRP:HE1	1.52	0.72
16:C:182:LYS:NZ	39:M:55:LYS:O	2.22	0.72
26:FF:372:THR:HG22	26:FF:374:ALA:H	1.54	0.72
8:7:249:ARG:HD2	8:7:250:TYR:H	1.54	0.72
11:AA:1679:A:OP1	27:G:94:ARG:NH1	2.23	0.72
18:Cc:30:G:H3'	18:Cc:43:G:H21	1.53	0.72
24:Ee:22:VAL:HG13	24:Ee:43:GLY:HA3	1.71	0.72
30:HH:256:THR:OG1	30:HH:258:LYS:NZ	2.23	0.72
60:c:174:U:O4	60:c:266:A:N7	2.22	0.72
11:AA:1592:G:OP1	50:S:58:ARG:NH2	2.22	0.72
49:R:16:TYR:OH	49:R:89:LEU:O	2.07	0.72
11:AA:269:G:OP2	48:QQ:14:LYS:NZ	2.22	0.72
11:AA:2467:G:N2	11:AA:2489:C:O2'	2.23	0.72
23:EE:209:HIS:CD2	23:EE:210:PRO:HD2	2.25	0.72
36:KK:41:GLN:HE22	36:KK:44:ARG:HD2	1.55	0.72
60:c:992:A:O2'	60:c:1785:U:O2	2.08	0.72
60:c:1218:G:N2	60:c:1444:A:OP2	2.22	0.72
70:m:112:GLN:NE2	70:m:153:GLU:OE1	2.23	0.72
12:Aa:699:DDE:O	12:Aa:704:GLN:NE2	2.23	0.71
20:DD:70:LEU:HB3	20:DD:73:PHE:HE1	1.55	0.71
60:c:1368:G:H2'	60:c:1369:U:H6	1.54	0.71
60:c:1486:G:N2	60:c:1522:U:O4	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:d:88:LYS:HZ3	61:d:201:LEU:HD12	1.55	0.71
63:f:90:THR:H	63:f:93:GLY:HA3	1.54	0.71
74:q:81:VAL:HG21	74:q:102:LEU:HD13	1.72	0.71
76:s:125:GLU:OE2	76:s:128:LYS:NZ	2.22	0.71
11:AA:884:A:OP2	11:AA:2139:A:N6	2.23	0.71
68:k:15:GLU:O	68:k:19:GLN:NE2	2.23	0.71
11:AA:1805:C:H2'	11:AA:1806:A:H8	1.55	0.71
47:Q:20:HIS:HB3	47:Q:35:GLN:HE21	1.55	0.71
8:7:260:ILE:O	8:7:275:ARG:NH2	2.23	0.71
11:AA:654:C:OP1	47:Q:27:ARG:NH2	2.23	0.71
17:CC:128:U:OP1	17:CC:129:C:N4	2.16	0.71
60:c:333:A:OP1	69:l:49:ARG:N	2.24	0.71
66:i:188:LYS:HE3	66:i:193:THR:HG22	1.71	0.71
11:AA:655:C:H2'	11:AA:656:A:H8	1.56	0.71
17:CC:37:A:OP1	51:T:89:ARG:NH2	2.22	0.71
11:AA:1390:A:N6	11:AA:1418:A:O2'	2.23	0.71
18:Cc:19:G:N2	18:Cc:59:A:O4'	2.24	0.71
64:g:94:ARG:O	64:g:101:GLN:NE2	2.23	0.71
66:i:63:GLN:OE1	66:i:66:GLN:NE2	2.24	0.71
70:m:128:LEU:HG	70:m:133:HIS:HB2	1.73	0.71
11:AA:335:G:OP2	35:K:14:LYS:NZ	2.19	0.71
11:AA:2174:G:OP2	23:EE:193:ARG:NH2	2.23	0.71
11:AA:2429:G:H2'	11:AA:2430:A:H8	1.55	0.71
15:Bb:73:A:H1'	40:MM:111:LEU:HD22	1.72	0.71
24:Ee:155:ILE:HG12	24:Ee:162:ILE:HD11	1.71	0.71
34:JJ:118:LYS:HG3	34:JJ:191:VAL:HG11	1.73	0.71
48:QQ:120:TRP:HA	48:QQ:130:PHE:HA	1.73	0.71
60:c:58:U:O2	60:c:451:A:O2'	2.08	0.71
11:AA:807:A2M:H61	11:AA:2411:U:HO2'	1.38	0.71
11:AA:1097:G:H4'	25:F:129:LYS:HE2	1.71	0.71
11:AA:1230:G:OP2	11:AA:1281:G:N2	2.24	0.71
11:AA:2294:U:OP2	29:H:71:LYS:NZ	2.24	0.71
34:JJ:163:LEU:HA	34:JJ:168:ILE:HD11	1.73	0.71
60:c:1135:U:OP2	83:z:121:ARG:NH2	2.24	0.71
61:d:156:VAL:O	81:x:65:SER:OG	2.07	0.71
7:6:10:ARG:HH22	60:c:566:C:H4'	1.55	0.71
11:AA:1567:U:O2'	11:AA:1573:G:O6	2.09	0.71
23:EE:3:ARG:HG3	23:EE:207:VAL:HG22	1.72	0.71
60:c:1353:U:H2'	60:c:1354:G:N9	2.05	0.71
60:c:1358:G:H3'	60:c:1359:C:C6	2.25	0.71
72:o:124:THR:HB	72:o:141:LYS:HB3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2510:U:H2'	11:AA:2511:A:H8	1.56	0.70
78:u:26:ILE:HB	78:u:31:ALA:HB2	1.72	0.70
11:AA:1203:A:H2'	11:AA:1204:A:H8	1.56	0.70
20:DD:24:SER:HB2	20:DD:89:THR:HB	1.73	0.70
26:FF:60:LEU:HD11	26:FF:72:VAL:HB	1.73	0.70
57:Z:15:ARG:O	57:Z:19:LYS:HG2	1.91	0.70
31:I:9:SER:HA	31:I:52:THR:HG22	1.72	0.70
46:PP:45:LEU:HD21	46:PP:55:ARG:HE	1.55	0.70
1:0:117:LYS:HD3	60:c:159:U:H5'	1.72	0.70
10:A:12:LYS:HG3	10:A:40:GLU:HB3	1.74	0.70
60:c:1466:G:O2'	60:c:1602:C:OP1	2.09	0.70
21:Dd:23:U:H1'	60:c:1756:A:N3	2.06	0.70
74:q:17:ALA:HB3	74:q:81:VAL:HA	1.72	0.70
82:y:15:ASN:ND2	82:y:72:CYS:O	2.24	0.70
21:Dd:22:U:H2'	21:Dd:23:U:H6	1.56	0.70
22:E:33:ASN:HD22	34:JJ:235:PHE:HE2	1.39	0.70
69:l:42:ARG:HD2	69:l:58:LEU:HD11	1.73	0.70
81:x:55:LEU:HD11	81:x:69:LEU:HD21	1.74	0.70
11:AA:383:G:N2	11:AA:386:A:OP2	2.19	0.70
19:D:98:ARG:NH1	19:D:132:PHE:O	2.24	0.70
39:M:81:LEU:HD22	39:M:102:ILE:HG23	1.72	0.70
60:c:1354:G:H8	60:c:1354:G:H3'	1.57	0.70
11:AA:2468:A:O2'	11:AA:2477:G:N2	2.24	0.70
11:AA:2697:A:H2'	11:AA:2698:G:C8	2.27	0.70
60:c:318:U:O3'	69:l:11:ARG:NH2	2.24	0.70
63:f:37:PRO:HG3	63:f:46:LYS:HG2	1.74	0.70
11:AA:1661:G:H2'	11:AA:1662:G:C8	2.26	0.70
46:PP:48:GLY:HA3	46:PP:53:VAL:HB	1.72	0.70
57:Z:21:ARG:HH22	60:c:1653:C:H4'	1.57	0.70
3:2:32:LYS:O	3:2:37:LYS:NZ	2.25	0.70
11:AA:1489:A:OP2	11:AA:1838:G:N1	2.21	0.70
15:Bb:18:G:H21	15:Bb:61:C:H1'	1.56	0.70
24:Ee:21:GLU:OE1	24:Ee:92:ARG:NH2	2.25	0.70
60:c:331:A:OP2	69:l:175:GLN:NE2	2.25	0.70
60:c:1369:U:O3'	60:c:1370:U:H2'	1.92	0.70
60:c:1371:A:H3'	60:c:1372:U:C6	2.27	0.70
64:g:34:TYR:HE1	64:g:37:VAL:HG13	1.57	0.70
80:w:60:THR:HA	80:w:86:ILE:O	1.91	0.70
11:AA:2585:G:H21	36:KK:60:ARG:HH12	1.40	0.69
13:B:126:ARG:HA	13:B:140:GLU:HG3	1.74	0.69
14:BB:55:A:O2'	42:NN:152:HIS:NE2	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1483:A:H2'	60:c:1484:G:C8	2.27	0.69
11:AA:1486:G:H21	50:S:6:THR:HG22	1.56	0.69
11:AA:2201:G:H21	23:EE:224:THR:HG21	1.56	0.69
15:Bb:67:A:H2'	15:Bb:68:U:O4'	1.93	0.69
60:c:1369:U:H1'	60:c:1370:U:C6	2.27	0.69
76:s:37:THR:O	76:s:45:ARG:NH1	2.25	0.69
11:AA:1257:C:H5"	24:Ee:123:ARG:HH12	1.56	0.69
11:AA:1302:A:N7	11:AA:2857:C:O2'	2.25	0.69
11:AA:2561:A:N3	36:KK:32:LYS:NZ	2.32	0.69
43:O:74:ASN:HB3	43:O:86:ARG:HB3	1.72	0.69
60:c:648:G:N2	60:c:687:G:N7	2.40	0.69
3:2:95:ARG:HG2	60:c:1797:A:H5'	1.74	0.69
19:D:160:GLU:OE1	19:D:163:ARG:NH2	2.25	0.69
65:h:141:THR:OG1	65:h:143:ASP:OD1	2.11	0.69
80:w:101:LYS:O	80:w:105:GLN:NE2	2.25	0.69
11:AA:1322:U:OP1	22:E:117:ARG:NH2	2.26	0.69
11:AA:3158:G:H22	11:AA:3292:A:H2	1.41	0.69
60:c:447:U:OP1	65:h:49:ARG:NH1	2.26	0.69
60:c:1207:C:H5"	60:c:1269:OMU:HM21	1.74	0.69
11:AA:1927:G:H8	59:b:23:ARG:HH12	1.39	0.69
17:CC:135:G:OP2	33:J:56:ARG:NH2	2.26	0.69
63:f:71:THR:HG23	63:f:72:LEU:HD12	1.73	0.69
3:2:51:ARG:HH22	5:4:38:ARG:HA	1.57	0.69
11:AA:1231:A:N6	11:AA:1277:C:OP2	2.24	0.69
11:AA:2618:G:O2'	11:AA:2865:U:OP1	2.09	0.69
11:AA:3294:A:OP1	26:FF:128:LYS:NZ	2.22	0.69
34:JJ:86:VAL:HG13	34:JJ:134:VAL:HG21	1.74	0.69
36:KK:78:PHE:HA	36:KK:179:ILE:HG21	1.72	0.69
38:LL:120:ASP:OD2	38:LL:122:LYS:HB2	1.93	0.69
50:S:74:ARG:NH2	50:S:82:ALA:HB2	2.08	0.69
60:c:751:G:H2'	60:c:752:A:H8	1.56	0.69
60:c:887:A:H5"	74:q:120:PRO:HB2	1.73	0.69
83:z:100:ASP:OD1	83:z:101:GLU:N	2.26	0.69
11:AA:2697:A:H2'	11:AA:2698:G:H8	1.57	0.69
11:AA:3016:A:H2'	11:AA:3017:A:H8	1.58	0.69
12:Aa:410:LYS:HD3	12:Aa:430:ALA:HB2	1.74	0.69
23:EE:130:SER:OG	23:EE:174:ARG:NH1	2.25	0.69
8:7:10:ARG:HG3	8:7:54:PHE:CE2	2.28	0.69
11:AA:36:C:OP2	48:QQ:83:LYS:NZ	2.25	0.69
11:AA:1508:C:OP1	13:B:127:ARG:NH1	2.26	0.69
11:AA:2971:A:N6	15:Bb:76:A:N3	2.41	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:HH:116:ASP:O	30:HH:120:LYS:NZ	2.25	0.69
30:HH:206:GLN:O	30:HH:210:GLU:N	2.21	0.69
39:M:44:ASN:ND2	44:OO:4:SER:O	2.20	0.69
60:c:1584:G:O6	76:s:13:LYS:NZ	2.23	0.69
72:o:27:THR:O	72:o:30:ARG:NE	2.26	0.69
11:AA:149:U:OP2	48:QQ:49:ARG:NH1	2.24	0.68
11:AA:1480:G:O6	11:AA:1871:U:OP2	2.10	0.68
11:AA:1743:G:H2'	11:AA:1744:G:H8	1.57	0.68
13:B:116:HIS:HB3	13:B:149:VAL:HG12	1.75	0.68
23:EE:126:LEU:HD23	23:EE:150:LEU:HD21	1.74	0.68
31:I:46:PRO:HA	31:I:49:ILE:HG22	1.74	0.68
60:c:483:A:O4'	60:c:507:U:C2	2.45	0.68
77:t:32:LYS:HE2	77:t:47:ARG:HH12	1.59	0.68
80:w:33:GLN:NE2	80:w:110:PRO:O	2.25	0.68
11:AA:2675:C:N4	42:NN:22:SER:OG	2.26	0.68
11:AA:3187:A:OP1	38:LL:23:ARG:NH1	2.26	0.68
12:Aa:29:ASP:O	12:Aa:159:LYS:NZ	2.27	0.68
60:c:58:U:O2'	60:c:451:A:N3	2.25	0.68
60:c:924:A:H2'	60:c:925:G:C8	2.28	0.68
60:c:1672:G:H2'	60:c:1673:G:C8	2.27	0.68
11:AA:1606:U:O4	50:S:9:ARG:NH1	2.26	0.68
11:AA:1624:G:O6	11:AA:1819:U:O2	2.10	0.68
11:AA:2364:G:H22	11:AA:2396:G:H1'	1.58	0.68
12:Aa:155:VAL:HG12	12:Aa:202:VAL:HG21	1.75	0.68
22:E:10:ILE:HG13	22:E:26:ARG:HG3	1.74	0.68
40:MM:80:SER:HB3	40:MM:147:VAL:HG11	1.74	0.68
60:c:805:U:O2'	82:y:78:ARG:NH1	2.26	0.68
63:f:161:LYS:HG3	63:f:166:THR:HG22	1.75	0.68
74:q:92:LYS:HZ1	74:q:121:VAL:HA	1.58	0.68
12:Aa:212:GLY:HA3	12:Aa:219:ALA:HA	1.76	0.68
60:c:445:A:H2'	60:c:446:A:H8	1.58	0.68
11:AA:40:A:OP1	87:AA:3567:SPD:N10	2.27	0.68
11:AA:1028:U:H4'	11:AA:1029:G:H5'	1.75	0.68
11:AA:1722:U:OP1	19:D:100:ARG:NH1	2.25	0.68
11:AA:3371:G:H2'	11:AA:3372:A:H8	1.57	0.68
12:Aa:587:TYR:O	12:Aa:689:LEU:N	2.24	0.68
30:HH:3:PHE:HB2	30:HH:6:ASP:HB2	1.76	0.68
33:J:63:ILE:HD11	33:J:84:PHE:CG	2.28	0.68
34:JJ:88:ARG:NH2	34:JJ:91:GLY:O	2.25	0.68
60:c:571:G:H5"	83:z:114:LYS:HD2	1.75	0.68
11:AA:110:G:OP2	44:OO:73:ARG:NH2	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1097:G:N7	25:F:116:ARG:NH2	2.42	0.68
11:AA:2464:U:O2'	11:AA:2465:G:N2	2.25	0.68
12:Aa:629:ASP:OD1	12:Aa:632:LYS:NZ	2.27	0.68
22:E:155:ARG:HD3	22:E:172:TYR:CD1	2.28	0.68
23:EE:112:ILE:HG13	59:b:79:VAL:HG22	1.76	0.68
35:K:77:LYS:HD3	35:K:98:ASN:HD21	1.58	0.68
60:c:290:G:OP1	87:c:1937:SPD:N1	2.27	0.68
63:f:157:LYS:NZ	82:y:94:LEU:O	2.25	0.68
72:o:57:LYS:HD3	72:o:131:ILE:HB	1.75	0.68
36:KK:160:ILE:HG22	36:KK:164:VAL:HB	1.76	0.68
60:c:1366:U:C5	60:c:1367:G:C8	2.82	0.68
61:d:164:ASN:HA	61:d:170:ILE:HD11	1.75	0.68
74:q:80:HIS:HA	74:q:113:GLY:O	1.94	0.68
12:Aa:433:ARG:HB3	12:Aa:457:VAL:HB	1.75	0.68
78:u:4:VAL:HG13	78:u:6:GLN:HG2	1.76	0.68
11:AA:1808:G:OP1	37:L:133:LYS:NZ	2.27	0.68
12:Aa:123:ASP:OD2	12:Aa:399:ARG:NH2	2.26	0.68
12:Aa:249:PHE:HB3	12:Aa:269:LEU:HD11	1.75	0.68
12:Aa:771:TYR:HE2	12:Aa:800:HIS:HE1	1.42	0.68
60:c:142:G:OP2	67:j:139:ASN:ND2	2.27	0.68
60:c:792:U:O2'	60:c:793:A:O4'	2.08	0.68
60:c:1373:C:H2'	60:c:1374:C:H6	1.57	0.68
11:AA:20:A:H2'	11:AA:21:G:C8	2.28	0.68
11:AA:417:A:H2'	11:AA:418:A:C8	2.29	0.68
20:DD:124:VAL:H	20:DD:152:ILE:HB	1.58	0.68
60:c:513:U:O2	60:c:538:A:N7	2.26	0.68
11:AA:1863:G:N1	11:AA:1866:C:OP2	2.22	0.67
11:AA:2103:U:H2'	11:AA:2104:A:H8	1.60	0.67
16:C:123:THR:OG1	16:C:125:ASP:OD1	2.12	0.67
76:s:55:VAL:HG11	76:s:105:LEU:HG	1.76	0.67
11:AA:1807:G:OP1	37:L:135:ARG:NH1	2.27	0.67
11:AA:3138:U:OP2	26:FF:30:LYS:NZ	2.25	0.67
12:Aa:564:ARG:HD2	12:Aa:682:ARG:HD3	1.76	0.67
32:II:31:ARG:NE	49:R:107:ILE:O	2.25	0.67
60:c:1353:U:H3'	60:c:1353:U:H6	1.58	0.67
60:c:1355:C:N4	60:c:1369:U:H3	1.91	0.67
11:AA:2207:A:N1	11:AA:2236:G:O6	2.27	0.67
30:HH:68:THR:OG1	30:HH:71:GLY:O	2.11	0.67
43:O:24:THR:OG1	43:O:91:SER:OG	2.12	0.67
60:c:642:G:O6	60:c:692:C:N4	2.26	0.67
73:p:62:GLN:HB2	73:p:65:VAL:HG22	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:90:ARG:NH2	8:7:99:THR:OG1	2.27	0.67
11:AA:20:A:OP2	51:T:86:ARG:NH2	2.27	0.67
11:AA:159:A:H2'	11:AA:160:G:H8	1.60	0.67
11:AA:389:A:OP1	13:B:4:TYR:OH	2.12	0.67
11:AA:1875:G:N7	19:D:20:ARG:HD3	2.10	0.67
12:Aa:10:ARG:HH22	12:Aa:449:PRO:HD3	1.58	0.67
53:V:27:PHE:HA	53:V:34:CYS:HA	1.75	0.67
60:c:863:A:OP1	82:y:57:ARG:NH2	2.27	0.67
65:h:175:PHE:HE1	65:h:195:ILE:HD13	1.59	0.67
2:1:85:LYS:HG3	2:1:86:GLU:OE1	1.94	0.67
11:AA:595:G:OP2	34:JJ:30:ARG:NH2	2.28	0.67
11:AA:754:G:N2	11:AA:778:U:O2	2.26	0.67
12:Aa:60:ARG:NH2	12:Aa:544:ASP:OD2	2.27	0.67
60:c:138:A:N6	60:c:175:G:H21	1.92	0.67
60:c:1353:U:C2	60:c:1354:G:C2	2.83	0.67
60:c:1370:U:H6	60:c:1371:A:C8	2.13	0.67
18:Cc:39:A:O2'	60:c:1001:A:OP1	2.13	0.67
24:Ee:7:PRO:O	24:Ee:65:GLN:NE2	2.27	0.67
60:c:1535:U:O2'	60:c:1536:G:N3	2.27	0.67
77:t:3:ARG:HE	77:t:49:LYS:HZ1	1.42	0.67
78:u:110:ARG:HA	78:u:113:LEU:HD12	1.76	0.67
11:AA:3139:A:OP1	26:FF:274:SER:OG	2.13	0.67
12:Aa:60:ARG:HB2	12:Aa:63:GLU:HG2	1.77	0.67
26:FF:187:SER:O	26:FF:190:GLU:N	2.26	0.67
60:c:1229:G:N2	60:c:1256:A:N1	2.43	0.67
65:h:251:GLU:O	65:h:255:ARG:HG2	1.94	0.67
83:z:92:CYS:HA	83:z:95:PHE:HD2	1.60	0.67
8:7:52:GLN:HE22	8:7:53:LYS:HE3	1.58	0.67
11:AA:2960:C:H2'	11:AA:2961:G:H8	1.59	0.67
22:E:138:GLN:HA	22:E:141:LYS:HB2	1.76	0.67
33:J:60:TYR:HD2	51:T:25:LYS:HB3	1.59	0.67
50:S:11:ASN:OD1	50:S:18:ASN:ND2	2.28	0.67
60:c:1354:G:H3'	60:c:1354:G:C8	2.30	0.67
60:c:1586:A:H1'	60:c:1611:A:N6	2.10	0.67
68:k:123:ASP:OD1	68:k:138:LYS:NZ	2.28	0.67
69:l:66:SER:HA	69:l:73:SER:HA	1.76	0.67
11:AA:76:G:O2'	44:OO:100:ARG:NE	2.20	0.67
11:AA:2945:G:O2'	11:AA:2948:OMC:OP2	2.13	0.67
12:Aa:701:GLY:H	12:Aa:704:GLN:HE21	1.41	0.67
12:Aa:755:VAL:HG21	12:Aa:771:TYR:CE1	2.30	0.67
60:c:284:G:O6	67:j:188:ARG:NH2	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:483:A:C8	60:c:507:U:C6	2.83	0.67
60:c:791:A:OP1	65:h:187:ARG:NH2	2.24	0.67
60:c:799:A:H4'	65:h:201:HIS:CE1	2.30	0.67
60:c:1390:U:H5"	77:t:3:ARG:HD3	1.77	0.67
11:AA:411:U:H2'	11:AA:412:G:H8	1.59	0.67
11:AA:1544:G:OP1	48:QQ:67:ARG:NH2	2.28	0.67
11:AA:2686:A:O2'	30:HH:8:LYS:NZ	2.28	0.67
11:AA:3205:G:OP2	11:AA:3206:C:N4	2.28	0.67
42:NN:48:SER:N	42:NN:66:ALA:O	2.22	0.67
60:c:1367:G:H2'	60:c:1368:G:N7	2.10	0.67
60:c:1615:C:H2'	66:i:81:ARG:HD2	1.77	0.67
11:AA:542:G:O6	11:AA:550:A:N6	2.29	0.66
12:Aa:338:ILE:O	12:Aa:342:LEU:HB2	1.95	0.66
31:I:17:ARG:HG2	31:I:32:GLN:HE22	1.60	0.66
81:x:1:MET:N	81:x:10:GLU:OE2	2.28	0.66
8:7:144:LEU:HD11	8:7:181:TRP:CD1	2.31	0.66
11:AA:2470:C:OP2	11:AA:2474:G:N1	2.23	0.66
12:Aa:72:SER:HB2	12:Aa:384:LYS:HE3	1.77	0.66
22:E:138:GLN:HE22	38:LL:1:MET:HG2	1.60	0.66
23:EE:57:PRO:HG2	23:EE:78:ALA:HB3	1.77	0.66
24:Ee:63:LYS:HB2	24:Ee:70:ALA:HB3	1.76	0.66
24:Ee:127:SER:HA	24:Ee:130:LYS:HE3	1.77	0.66
68:k:79:ARG:NH2	68:k:161:GLN:OE1	2.27	0.66
1:0:46:GLU:O	1:0:49:LYS:NZ	2.21	0.66
11:AA:2160:G:H2'	11:AA:2161:G:H8	1.60	0.66
60:c:472:U:H2'	60:c:473:A:C8	2.30	0.66
62:e:145:LYS:HB3	62:e:149:GLN:HG2	1.77	0.66
66:i:54:LYS:HB3	66:i:138:THR:HG21	1.76	0.66
72:o:101:GLU:HG2	83:z:12:ALA:HB3	1.75	0.66
3:2:12:LYS:HD3	3:2:16:GLY:H	1.60	0.66
11:AA:800:G:H22	28:GG:101:ALA:HA	1.61	0.66
11:AA:2428:U:H2'	11:AA:2429:G:H8	1.60	0.66
12:Aa:14:ASP:HA	12:Aa:449:PRO:HG3	1.77	0.66
61:d:84:ARG:NH2	61:d:203:PHE:O	2.29	0.66
11:AA:103:G:HO2'	11:AA:699:A:HO2'	1.42	0.66
11:AA:3139:A:O3'	26:FF:20:LYS:NZ	2.20	0.66
12:Aa:563:TYR:OH	12:Aa:775:ASN:ND2	2.29	0.66
15:Bb:23:A:H2'	15:Bb:24:G:C8	2.30	0.66
38:LL:8:GLN:HE22	38:LL:69:ARG:HD3	1.59	0.66
45:P:5:LYS:HA	45:P:89:LEU:HD11	1.77	0.66
60:c:1352:G:H3'	60:c:1353:U:C5	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1537:C:O2	60:c:1571:C:N4	2.29	0.66
65:h:140:VAL:HA	65:h:145:ARG:O	1.95	0.66
11:AA:3022:G:O2'	11:AA:3031:G:O6	2.11	0.66
22:E:22:PRO:O	25:F:146:ASN:ND2	2.21	0.66
60:c:1334:U:O3'	80:w:85:ARG:NH2	2.29	0.66
60:c:1354:G:C2	60:c:1355:C:N4	2.62	0.66
60:c:1370:U:P	79:v:69:LYS:HZ2	2.18	0.66
10:A:172:ARG:NH1	11:AA:3190:C:OP1	2.26	0.66
11:AA:964:G:H5'	39:M:29:PRO:HB2	1.77	0.66
11:AA:1119:C:H2'	11:AA:1120:A:H8	1.61	0.66
11:AA:2882:U:H2'	11:AA:2883:U:C6	2.30	0.66
11:AA:3333:G:N2	11:AA:3369:G:O2'	2.29	0.66
11:AA:3343:G:O2'	11:AA:3362:A:N6	2.28	0.66
22:E:28:ARG:NH1	28:GG:361:HIS:O	2.28	0.66
11:AA:171:G:H22	11:AA:248:U:H2'	1.59	0.66
13:B:58:ILE:HD13	13:B:84:PRO:HD2	1.78	0.66
23:EE:101:VAL:HG22	23:EE:165:VAL:HG12	1.78	0.66
60:c:397:A:OP2	69:l:47:ARG:NH2	2.29	0.66
76:s:43:ILE:HG23	76:s:44:LEU:HD12	1.77	0.66
1:0:131:ARG:NH1	1:0:135:ASP:O	2.29	0.66
2:1:54:VAL:O	2:1:103:ARG:NH1	2.29	0.66
28:GG:99:MET:SD	28:GG:102:PRO:HA	2.35	0.66
29:H:86:ARG:HG2	29:H:87:ARG:O	1.96	0.66
60:c:483:A:H8	60:c:507:U:N1	1.91	0.66
60:c:1356:U:H1'	60:c:1368:G:N2	2.11	0.66
60:c:1611:A:O3'	66:i:95:ASN:ND2	2.28	0.66
66:i:222:LYS:HA	66:i:225:ARG:HG2	1.78	0.66
67:j:154:ARG:NH1	67:j:154:ARG:O	2.29	0.66
11:AA:838:G:O6	59:b:4:ARG:NH1	2.28	0.66
12:Aa:211:PHE:N	12:Aa:220:PHE:O	2.21	0.66
29:H:39:VAL:HG12	29:H:58:VAL:HG12	1.78	0.66
62:e:108:ASP:OD1	62:e:109:LYS:N	2.28	0.66
70:m:116:LEU:HD12	70:m:156:ILE:HD11	1.78	0.66
12:Aa:121:VAL:HG23	12:Aa:399:ARG:HB2	1.78	0.65
12:Aa:508:LEU:HB3	12:Aa:520:THR:HG21	1.78	0.65
59:b:41:PHE:CD2	59:b:62:LYS:HG2	2.32	0.65
60:c:138:A:H61	60:c:175:G:N2	1.93	0.65
67:j:20:ASP:O	67:j:23:ARG:N	2.29	0.65
11:AA:837:A:H3'	11:AA:838:G:H8	1.61	0.65
11:AA:1057:A:OP1	34:JJ:98:LYS:NZ	2.28	0.65
11:AA:1386:A:H5"	28:GG:141:ARG:HH21	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1480:G:C6	11:AA:1871:U:OP2	2.48	0.65
11:AA:3109:G:OP1	56:Y:93:LYS:NZ	2.29	0.65
12:Aa:676:ILE:O	12:Aa:823:ARG:NH2	2.29	0.65
20:DD:43:LYS:HB2	24:Ee:121:PHE:CG	2.31	0.65
23:EE:64:ARG:HH22	36:KK:38:GLN:HA	1.61	0.65
23:EE:229:ALA:HB1	23:EE:233:GLN:HB2	1.77	0.65
26:FF:37:ARG:HH22	26:FF:188:ILE:HG13	1.61	0.65
33:J:88:MET:SD	33:J:120:LYS:HG3	2.37	0.65
49:R:72:THR:HG23	49:R:73:ARG:HG2	1.78	0.65
60:c:1498:G:H5"	79:v:72:GLY:HA3	1.77	0.65
60:c:1760:G:H1'	60:c:1781:MA6:H2	1.78	0.65
73:p:68:GLY:O	73:p:69:ASN:ND2	2.28	0.65
80:w:60:THR:HB	80:w:87:HIS:ND1	2.12	0.65
10:A:161:LYS:HD2	11:AA:3182:G:H4'	1.77	0.65
11:AA:2533:G:H21	11:AA:2547:A:H2'	1.61	0.65
11:AA:2696:A:H2'	11:AA:2697:A:C8	2.32	0.65
14:BB:29:C:H4'	42:NN:9:MET:HE1	1.77	0.65
44:OO:138:VAL:HG11	51:T:118:ILE:HB	1.77	0.65
45:P:20:LEU:HD11	45:P:32:ALA:HB2	1.78	0.65
60:c:886:U:H2'	60:c:887:A:H8	1.61	0.65
60:c:1368:G:C5	60:c:1369:U:C5	2.83	0.65
67:j:57:ASP:OD1	67:j:61:PHE:N	2.29	0.65
11:AA:1721:U:OP2	19:D:124:TYR:OH	2.13	0.65
26:FF:232:ARG:NH1	26:FF:266:ARG:O	2.28	0.65
42:NN:17:LEU:HD11	42:NN:80:LEU:HD13	1.78	0.65
57:Z:11:ARG:NH2	60:c:1775:U:OP1	2.18	0.65
60:c:279:G:H2'	60:c:280:U:H3'	1.77	0.65
63:f:90:THR:H	63:f:93:GLY:CA	2.09	0.65
80:w:33:GLN:HE21	80:w:109:GLU:HG3	1.62	0.65
60:c:78:A:H5"	67:j:159:ARG:HH22	1.60	0.65
60:c:210:A:OP1	69:l:170:SER:OG	2.14	0.65
11:AA:708:G:N2	11:AA:711:A:OP2	2.25	0.65
11:AA:754:G:H2'	11:AA:755:A:H8	1.62	0.65
11:AA:1141:C:O2'	11:AA:1153:A:N3	2.27	0.65
12:Aa:240:MET:HB3	12:Aa:243:ARG:HH21	1.62	0.65
21:Dd:24:U:H2'	21:Dd:25:U:C6	2.32	0.65
33:J:27:ARG:HD3	36:KK:50:VAL:HG21	1.78	0.65
33:J:90:ALA:O	33:J:120:LYS:NZ	2.29	0.65
38:LL:188:THR:HB	38:LL:191:LEU:HD13	1.79	0.65
43:O:9:SER:OG	43:O:12:GLN:OE1	2.14	0.65
60:c:517:U:H2'	60:c:518:A:C8	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:h:104:ASP:N	65:h:108:ARG:O	2.29	0.65
66:i:170:GLN:O	66:i:174:LEU:HG	1.97	0.65
8:7:38:ARG:HB2	8:7:67:ILE:HG12	1.78	0.65
8:7:170:ILE:HG21	8:7:211:ILE:HG21	1.78	0.65
11:AA:562:C:OP2	46:PP:77:ARG:NH2	2.26	0.65
11:AA:1192:C:N4	11:AA:1301:A:O2'	2.29	0.65
11:AA:1883:A:H2'	11:AA:1884:A:H8	1.62	0.65
11:AA:2112:U:OP1	31:I:48:ARG:NH2	2.28	0.65
11:AA:2186:U:OP2	23:EE:200:ARG:NH1	2.29	0.65
30:HH:274:GLN:NE2	30:HH:275:THR:O	2.30	0.65
33:J:91:ASN:H	33:J:94:GLN:HG3	1.61	0.65
60:c:168:A:OP1	67:j:140:ASN:ND2	2.26	0.65
60:c:447:U:O2'	65:h:27:TYR:O	2.15	0.65
11:AA:431:U:H2'	11:AA:432:G:H8	1.62	0.65
11:AA:911:C:OP1	23:EE:14:SER:OG	2.15	0.65
11:AA:1543:G:O2'	11:AA:2168:A:O2'	2.14	0.65
12:Aa:225:PHE:O	12:Aa:229:TYR:N	2.28	0.65
12:Aa:300:LEU:HB2	12:Aa:305:ILE:HB	1.79	0.65
12:Aa:677:PHE:HE1	12:Aa:724:ILE:HD12	1.61	0.65
12:Aa:823:ARG:O	12:Aa:827:GLY:N	2.28	0.65
26:FF:368:GLY:C	26:FF:369:ARG:HE	2.05	0.65
71:n:8:ARG:O	71:n:12:HIS:ND1	2.26	0.65
76:s:79:TYR:HA	76:s:82:ARG:HG2	1.79	0.65
3:2:19:LYS:NZ	60:c:928:U:OP1	2.29	0.65
8:7:116:ASP:HB3	8:7:121:MET:HB3	1.79	0.65
11:AA:1229:G:N2	11:AA:1281:G:H3'	2.12	0.65
40:MM:35:ASP:OD1	40:MM:86:HIS:NE2	2.23	0.65
42:NN:17:LEU:HD23	42:NN:76:ALA:HB1	1.78	0.65
60:c:97:C:H1'	60:c:426:G:H5'	1.78	0.65
62:e:88:VAL:HG21	62:e:96:LEU:HD22	1.79	0.65
77:t:78:ARG:O	77:t:81:LYS:C	2.40	0.65
11:AA:2438:A:H2'	11:AA:2439:A:C8	2.32	0.65
11:AA:2448:G:N2	11:AA:2500:A:O2'	2.30	0.65
28:GG:9:HIS:HA	28:GG:15:ALA:HA	1.77	0.65
31:I:37:ALA:O	31:I:41:LYS:HG2	1.97	0.65
50:S:9:ARG:HG2	50:S:34:HIS:CE1	2.32	0.65
60:c:1362:U:H1'	60:c:1363:U:O4'	1.97	0.65
74:q:68:ALA:HB1	74:q:110:LEU:HD13	1.78	0.65
11:AA:1221:A:N3	20:DD:61:ARG:NH2	2.45	0.64
11:AA:3016:A:H2'	11:AA:3017:A:C8	2.32	0.64
12:Aa:405:VAL:HB	12:Aa:448:CYS:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:517:U:H2'	60:c:518:A:H8	1.62	0.64
63:f:149:GLY:HA2	81:x:3:ASN:HB2	1.78	0.64
68:k:44:LYS:HG2	68:k:63:PRO:HD3	1.78	0.64
10:A:189:ASP:OD1	10:A:190:VAL:N	2.30	0.64
11:AA:3303:G:O2'	11:AA:3305:A:N6	2.29	0.64
12:Aa:699:DDE:HB2	12:Aa:700:ARG:HH21	1.62	0.64
27:G:77:LYS:HE2	27:G:95:PHE:HD2	1.63	0.64
42:NN:30:LEU:HD11	42:NN:67:VAL:HG23	1.78	0.64
47:Q:22:SER:HA	47:Q:28:VAL:HG23	1.79	0.64
60:c:1371:A:N3	60:c:1371:A:H2'	2.11	0.64
60:c:1484:G:H21	60:c:1606:C:H1'	1.62	0.64
65:h:11:ARG:HB2	65:h:27:TYR:HA	1.79	0.64
11:AA:114:A:H1'	48:QQ:50:ARG:HA	1.80	0.64
11:AA:2457:G:H22	11:AA:2460:U:H3'	1.61	0.64
12:Aa:819:VAL:O	12:Aa:823:ARG:HG2	1.97	0.64
33:J:46:TYR:OH	51:T:78:LYS:NZ	2.29	0.64
39:M:76:ASP:OD1	39:M:77:LYS:N	2.29	0.64
60:c:1357:A:N6	60:c:1367:G:H21	1.94	0.64
64:g:195:SER:OG	64:g:197:THR:O	2.14	0.64
78:u:27:LYS:HD3	78:u:57:ARG:HD3	1.78	0.64
11:AA:1024:G:H21	11:AA:1027:A:H8	1.44	0.64
11:AA:3371:G:H2'	11:AA:3372:A:C8	2.32	0.64
21:Dd:24:U:H2'	21:Dd:25:U:H6	1.63	0.64
32:II:39:VAL:O	32:II:87:THR:OG1	2.15	0.64
60:c:256:A:O2'	69:l:72:ILE:O	2.14	0.64
60:c:1067:C:H5"	62:e:150:VAL:HG23	1.79	0.64
60:c:1346:A:H4'	60:c:1347:U:H5'	1.78	0.64
77:t:45:ARG:O	77:t:49:LYS:HG2	1.98	0.64
8:7:176:LYS:HB3	8:7:195:HIS:HB2	1.78	0.64
11:AA:176:G:H21	11:AA:243:G:H2'	1.60	0.64
11:AA:341:G:O2'	17:CC:22:U:O4	2.15	0.64
11:AA:2468:A:H1'	11:AA:2477:G:H22	1.63	0.64
13:B:56:ARG:NH2	13:B:75:GLU:OE2	2.30	0.64
15:Bb:50:U:H2'	15:Bb:51:G:H8	1.62	0.64
19:D:173:ARG:NH1	60:c:853:G:OP1	2.31	0.64
51:T:55:LEU:HA	51:T:58:ILE:HD12	1.78	0.64
60:c:160:C:O2'	67:j:95:LYS:NZ	2.31	0.64
60:c:1355:C:N3	60:c:1371:A:N6	2.45	0.64
77:t:60:ARG:HH21	77:t:66:VAL:HG11	1.63	0.64
11:AA:779:G:OP1	16:C:185:LYS:NZ	2.26	0.64
11:AA:1411:C:O2'	47:Q:121:ASN:ND2	2.23	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2101:C:H2'	11:AA:2102:U:C6	2.33	0.64
11:AA:2222:A:N6	11:AA:2782:U:O2'	2.30	0.64
14:BB:40:C:O2	42:NN:72:ARG:NE	2.30	0.64
26:FF:67:PHE:HE2	29:H:88:ARG:HB2	1.63	0.64
36:KK:61:GLN:HA	36:KK:64:ILE:HG22	1.79	0.64
66:i:50:GLU:O	66:i:128:ASN:ND2	2.30	0.64
8:7:104:VAL:HG22	8:7:105:GLY:H	1.62	0.64
10:A:65:ASN:ND2	11:AA:2988:C:OP1	2.30	0.64
11:AA:675:C:O2'	11:AA:679:U:OP1	2.15	0.64
11:AA:1429:G:C5	28:GG:99:MET:HE3	2.33	0.64
11:AA:1874:A:OP2	19:D:20:ARG:NH2	2.30	0.64
18:Cc:34:U:OP2	76:s:143:ARG:NH2	2.23	0.64
11:AA:2748:A:H1'	30:HH:36:LEU:HD23	1.79	0.64
11:AA:2953:U:H2'	11:AA:2954:U:H2'	1.79	0.64
39:M:69:TRP:CE3	44:OO:64:LYS:HA	2.33	0.64
51:T:102:GLU:OE1	51:T:105:ARG:NH2	2.31	0.64
60:c:1146:G:H2'	60:c:1147:A:C8	2.32	0.64
60:c:1297:G:N2	60:c:1300:A:OP2	2.26	0.64
60:c:1357:A:H61	60:c:1367:G:N2	1.95	0.64
60:c:1357:A:H2'	60:c:1358:G:O4'	1.97	0.64
60:c:1613:U:H2'	60:c:1614:A:H8	1.62	0.64
62:e:105:PHE:CD1	62:e:213:ARG:HA	2.33	0.64
78:u:62:THR:HB	78:u:65:GLU:HG2	1.79	0.64
5:4:31:GLU:OE2	5:4:36:THR:OG1	2.15	0.64
8:7:16:HIS:O	8:7:308:ASN:ND2	2.29	0.64
11:AA:595:G:OP1	34:JJ:30:ARG:NH1	2.30	0.64
11:AA:3084:C:O2'	11:AA:3332:U:OP1	2.11	0.64
18:Cc:17:C:OP1	18:Cc:61:U:O2'	2.14	0.64
24:Ee:130:LYS:HG2	24:Ee:152:ILE:HG12	1.80	0.64
35:K:125:LYS:HG3	35:K:126:LEU:HD23	1.80	0.64
60:c:103:A:H4'	60:c:105:A:C8	2.32	0.64
60:c:1739:C:H2'	60:c:1740:A:H8	1.62	0.64
66:i:99:MET:HE3	66:i:180:ARG:HH12	1.63	0.64
11:AA:952:A:N3	11:AA:1114:U:O2'	2.29	0.64
11:AA:1544:G:H5"	48:QQ:67:ARG:HH21	1.63	0.64
52:U:66:GLU:OE1	52:U:70:ARG:NH2	2.30	0.64
61:d:76:ILE:HD13	61:d:121:VAL:HG13	1.78	0.64
64:g:203:PRO:HA	77:t:42:GLN:HB2	1.79	0.64
11:AA:1899:G:O2'	11:AA:2334:U:O4	2.16	0.63
14:BB:94:C:H2'	14:BB:95:A:H8	1.63	0.63
60:c:1160:A:H2'	60:c:1161:C:C6	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:655:TYR:HD1	12:Aa:658:GLU:HG3	1.62	0.63
37:L:27:LYS:NZ	37:L:93:LYS:O	2.31	0.63
60:c:1164:G:O2'	60:c:1612:U:O2	2.17	0.63
60:c:1368:G:C3'	60:c:1369:U:H5"	2.28	0.63
63:f:116:LYS:HG2	63:f:127:ALA:HB3	1.78	0.63
66:i:35:GLN:O	66:i:35:GLN:HG2	1.99	0.63
69:l:67:TRP:CD1	69:l:70:GLU:H	2.16	0.63
3:2:68:TYR:O	62:e:111:ARG:NH1	2.32	0.63
11:AA:1717:U:H2'	11:AA:1718:G:C8	2.34	0.63
11:AA:2218:G:H2'	11:AA:2219:A:H8	1.62	0.63
11:AA:2483:G:C6	11:AA:2486:A:H2'	2.33	0.63
11:AA:2717:U:H4'	58:a:13:LYS:HD3	1.79	0.63
22:E:71:LYS:O	22:E:73:LYS:NZ	2.29	0.63
62:e:82:ARG:NH2	62:e:191:GLU:OE2	2.31	0.63
10:A:85:ARG:HG3	10:A:99:LEU:HD21	1.80	0.63
11:AA:2767:U:O2'	58:a:30:ALA:O	2.17	0.63
11:AA:2895:G:O2'	56:Y:100:TYR:O	2.15	0.63
11:AA:3190:C:H2'	11:AA:3191:G:H8	1.62	0.63
12:Aa:302:LYS:HG3	12:Aa:303:LEU:HD22	1.80	0.63
23:EE:177:LYS:NZ	59:b:30:GLU:OE2	2.29	0.63
26:FF:377:HIS:HB2	26:FF:387:LEU:HD23	1.80	0.63
43:O:47:ASN:HD21	43:O:74:ASN:H	1.46	0.63
60:c:17:C:O2'	60:c:1137:A:N1	2.27	0.63
60:c:480:G:N1	60:c:508:U:O2	2.32	0.63
60:c:568:G:N7	83:z:69:ARG:NH1	2.44	0.63
60:c:1672:G:H2'	60:c:1673:G:H8	1.62	0.63
7:6:51:ASN:O	7:6:51:ASN:ND2	2.25	0.63
11:AA:1508:C:N4	11:AA:1880:U:O2'	2.31	0.63
11:AA:2101:C:H2'	11:AA:2102:U:H6	1.64	0.63
11:AA:2266:U:N3	11:AA:2267:C:N4	2.46	0.63
11:AA:3281:U:H2'	11:AA:3282:U:C6	2.32	0.63
12:Aa:211:PHE:O	12:Aa:220:PHE:N	2.31	0.63
50:S:90:ILE:O	50:S:94:LEU:HG	1.99	0.63
60:c:1363:U:H1'	60:c:1364:G:N7	2.12	0.63
60:c:1370:U:OP1	79:v:69:LYS:NZ	2.31	0.63
60:c:1535:U:O2	60:c:1536:G:N2	2.31	0.63
68:k:135:ILE:HG23	68:k:152:VAL:HG13	1.81	0.63
1:0:132:ARG:NH2	60:c:154:G:OP2	2.31	0.63
11:AA:950:G:N1	11:AA:1368:U:OP2	2.22	0.63
11:AA:2661:G:H2'	11:AA:2662:G:H8	1.63	0.63
11:AA:2679:A:HO2'	42:NN:52:TYR:HH	1.45	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:456:LEU:HD13	12:Aa:459:ILE:HD11	1.81	0.63
14:BB:77:G:O2'	14:BB:101:G:O6	2.16	0.63
51:T:28:LEU:HD11	51:T:48:ARG:HG2	1.80	0.63
76:s:63:ILE:HG22	76:s:92:TYR:HE2	1.64	0.63
11:AA:2305:G:OP2	11:AA:2305:G:N2	2.19	0.63
39:M:63:LYS:HE2	39:M:68:PHE:HE2	1.64	0.63
68:k:175:LYS:HA	68:k:175:LYS:HE3	1.79	0.63
2:1:41:ILE:HA	2:1:75:LEU:HD21	1.79	0.63
8:7:271:VAL:HG22	8:7:272:ASP:H	1.64	0.63
11:AA:2534:G:H2'	11:AA:2535:A:C8	2.34	0.63
12:Aa:150:ARG:NH1	12:Aa:351:TYR:O	2.30	0.63
17:CC:9:A:H2'	17:CC:10:A:C8	2.33	0.63
43:O:57:GLU:OE2	43:O:69:TYR:OH	2.14	0.63
60:c:751:G:H2'	60:c:752:A:C8	2.34	0.63
69:l:67:TRP:NE1	69:l:70:GLU:OE1	2.31	0.63
75:r:86:VAL:H	75:r:89:MET:HE1	1.62	0.63
11:AA:2438:A:H2'	11:AA:2439:A:H8	1.64	0.63
11:AA:2533:G:N2	11:AA:2548:C:OP2	2.32	0.63
11:AA:2659:G:H2'	11:AA:2660:G:H8	1.63	0.63
11:AA:3089:C:OP1	26:FF:222:LYS:NZ	2.31	0.63
14:BB:7:G:O5'	30:HH:33:ARG:NH1	2.32	0.63
14:BB:44:C:OP2	42:NN:137:ARG:NH2	2.29	0.63
14:BB:119:U:P	30:HH:258:LYS:HZ1	2.21	0.63
45:P:55:LEU:HB2	45:P:95:PRO:HD3	1.81	0.63
60:c:448:C:OP1	65:h:49:ARG:NH2	2.30	0.63
69:l:3:ILE:O	69:l:30:GLY:N	2.31	0.63
12:Aa:137:VAL:HB	12:Aa:791:GLN:HG3	1.80	0.62
20:DD:191:TYR:HA	20:DD:196:VAL:HA	1.79	0.62
60:c:1208:A:O2'	60:c:1270:G:OP2	2.14	0.62
60:c:1257:U:H1'	71:n:5:LYS:HE3	1.81	0.62
60:c:1335:U:OP1	80:w:85:ARG:NH1	2.32	0.62
60:c:1363:U:H1'	60:c:1364:G:C8	2.34	0.62
74:q:16:VAL:O	74:q:30:VAL:HA	1.99	0.62
2:1:58:ARG:NH2	66:i:125:THR:H	1.96	0.62
4:3:34:ASP:OD2	4:3:82:LYS:NZ	2.25	0.62
11:AA:158:G:H2'	11:AA:159:A:H8	1.65	0.62
11:AA:1452:A:N3	11:AA:2346:C:O2'	2.25	0.62
11:AA:2375:G:O2'	11:AA:2377:G:OP2	2.13	0.62
19:D:105:LEU:HD23	19:D:138:LEU:HD23	1.79	0.62
26:FF:148:LEU:HD23	26:FF:151:ILE:HD12	1.80	0.62
28:GG:157:GLU:OE2	28:GG:211:GLU:N	2.20	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:MM:30:LYS:HE2	40:MM:63:GLU:OE1	1.98	0.62
57:Z:18:ARG:NH2	60:c:1125:A:OP1	2.31	0.62
8:7:59:ARG:NH2	8:7:95:ALA:O	2.33	0.62
11:AA:746:A:H2'	11:AA:747:A:H8	1.65	0.62
19:D:7:GLN:NE2	19:D:32:ILE:O	2.31	0.62
28:GG:219:LEU:HD12	28:GG:225:VAL:HG11	1.81	0.62
59:b:5:THR:HG21	59:b:9:GLY:H	1.63	0.62
60:c:332:U:OP1	69:l:31:ARG:NH1	2.28	0.62
2:1:38:HIS:NE2	2:1:66:VAL:O	2.31	0.62
8:7:195:HIS:CD2	8:7:199:ILE:HD11	2.34	0.62
11:AA:271:C:O2	52:U:82:ARG:NH2	2.32	0.62
11:AA:1227:C:N4	11:AA:1229:G:N7	2.46	0.62
11:AA:2640:A2M:OP2	25:F:10:ARG:NH1	2.33	0.62
14:BB:9:C:OP1	25:F:26:HIS:NE2	2.31	0.62
30:HH:60:ILE:H	30:HH:80:SER:HB3	1.64	0.62
38:LL:87:LYS:HB3	38:LL:187:ILE:HG22	1.80	0.62
60:c:148:A:H5"	60:c:149:C:H5	1.63	0.62
60:c:1173:C:OP1	78:u:132:ARG:NH2	2.31	0.62
69:l:61:GLU:O	69:l:78:ILE:HG22	1.99	0.62
8:7:290:VAL:HG13	8:7:306:THR:HG22	1.81	0.62
11:AA:610:G:O6	28:GG:309:ARG:NH2	2.33	0.62
45:P:19:ARG:HB3	45:P:35:GLU:OE1	2.00	0.62
48:QQ:33:LYS:O	48:QQ:65:ARG:NH2	2.33	0.62
60:c:335:U:O2'	72:o:130:PRO:O	2.15	0.62
63:f:41:LEU:HD21	63:f:56:ILE:HD11	1.80	0.62
11:AA:1411:C:OP1	47:Q:98:HIS:N	2.32	0.62
11:AA:1925:U:O2'	11:AA:1927:G:N7	2.30	0.62
11:AA:3186:A:O2'	38:LL:23:ARG:NH2	2.32	0.62
12:Aa:123:ASP:OD1	12:Aa:352:ARG:NH1	2.33	0.62
12:Aa:628:THR:HG22	12:Aa:631:ARG:HH22	1.64	0.62
13:B:67:ILE:HD11	13:B:80:LYS:HB3	1.81	0.62
39:M:135:GLU:OE2	44:OO:166:ALA:N	2.31	0.62
52:U:63:ASN:OD1	52:U:64:SER:N	2.33	0.62
60:c:1460:A:OP2	78:u:145:ARG:NH2	2.33	0.62
60:c:1500:C:OP1	79:v:106:GLN:NE2	2.30	0.62
60:c:1591:C:H2'	60:c:1592:A:C8	2.34	0.62
64:g:80:ALA:O	64:g:83:THR:OG1	2.16	0.62
65:h:183:VAL:HG21	65:h:218:PHE:HZ	1.65	0.62
66:i:42:LEU:HG	66:i:47:SER:HA	1.81	0.62
78:u:71:GLN:OE1	78:u:75:ASN:ND2	2.31	0.62
11:AA:2193:U:H5'	11:AA:2194:G:H5'	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:HH:50:ARG:NH1	30:HH:147:ASP:OD2	2.31	0.62
60:c:1558:U:H3	75:r:122:THR:HG1	1.47	0.62
65:h:114:ILE:HB	65:h:118:GLU:OE2	2.00	0.62
68:k:15:GLU:OE1	68:k:19:GLN:NE2	2.32	0.62
1:0:35:VAL:HG13	1:0:40:LEU:HD11	1.81	0.62
11:AA:664:U:H2'	11:AA:665:A:C8	2.35	0.62
11:AA:1638:A:H5"	50:S:74:ARG:NH2	2.14	0.62
20:DD:48:ARG:NH2	20:DD:95:GLU:OE1	2.33	0.62
22:E:77:VAL:HG22	22:E:126:VAL:HG23	1.82	0.62
29:H:39:VAL:HG23	29:H:42:SER:HB3	1.82	0.62
35:K:56:VAL:HG12	35:K:106:ILE:HG22	1.82	0.62
38:LL:92:TYR:HE1	38:LL:144:ILE:HD11	1.65	0.62
60:c:354:C:H5"	69:l:16:ALA:HB2	1.80	0.62
60:c:1354:G:H2'	60:c:1355:C:O2	1.98	0.62
8:7:201:THR:HG23	8:7:243:LEU:HD22	1.81	0.62
11:AA:1830:G:O3'	33:J:91:ASN:ND2	2.33	0.62
11:AA:2357:A:H2'	11:AA:2358:A:H8	1.63	0.62
27:G:21:SER:O	27:G:25:ASN:ND2	2.33	0.62
30:HH:289:LYS:O	30:HH:293:LEU:N	2.32	0.62
38:LL:128:VAL:HG21	38:LL:134:ILE:HD13	1.82	0.62
60:c:96:G:OP1	65:h:10:LYS:NZ	2.32	0.62
60:c:507:U:C2	60:c:507:U:C1'	2.81	0.62
63:f:169:LEU:HD23	63:f:198:THR:HG22	1.82	0.62
70:m:66:ASP:HB3	70:m:69:ARG:HB3	1.82	0.62
6:5:13:ARG:NH2	60:c:1554:U:OP1	2.32	0.62
11:AA:1472:U:H4'	19:D:24:LEU:HD11	1.82	0.62
11:AA:2413:A:H2'	11:AA:2414:G:H8	1.65	0.62
11:AA:2895:G:OP1	38:LL:166:ARG:NH2	2.33	0.62
12:Aa:718:LEU:HA	12:Aa:722:PRO:HG3	1.82	0.62
19:D:134:HIS:HD2	19:D:136:ARG:HB3	1.64	0.62
24:Ee:58:VAL:HG12	24:Ee:79:SER:HB3	1.80	0.62
29:H:125:LEU:HD22	29:H:126:TRP:CE2	2.34	0.62
79:v:30:VAL:HG12	79:v:32:GLY:H	1.65	0.62
11:AA:1160:C:OP1	16:C:2:GLY:N	2.33	0.61
40:MM:28:ASP:OD2	40:MM:32:ARG:NH1	2.33	0.61
44:OO:55:ARG:O	44:OO:115:ARG:NH1	2.33	0.61
45:P:73:LEU:HD21	45:P:93:VAL:HB	1.81	0.61
60:c:895:G:H5'	62:e:49:ASN:HD21	1.65	0.61
60:c:1284:C:H4'	60:c:1285:U:H5'	1.82	0.61
60:c:1483:A:N3	60:c:1607:G:O2'	2.31	0.61
10:A:9:ILE:HD11	10:A:120:VAL:HG23	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:276:U:O2'	48:QQ:91:GLU:OE2	2.17	0.61
11:AA:1250:G:H2'	11:AA:1251:A:H8	1.65	0.61
11:AA:2103:U:H2'	11:AA:2104:A:C8	2.35	0.61
11:AA:3151:U:OP1	26:FF:128:LYS:NZ	2.33	0.61
15:Bb:9:A:H2	15:Bb:23:A:H62	1.46	0.61
19:D:110:ARG:HD3	19:D:120:TYR:CG	2.34	0.61
42:NN:83:GLY:HA3	42:NN:127:PHE:CE2	2.31	0.61
60:c:992:A:H2	60:c:1012:U:H3	1.47	0.61
1:0:32:ARG:HE	1:0:33:ALA:H	1.46	0.61
1:0:54:ALA:HB1	1:0:76:TYR:HB2	1.81	0.61
11:AA:1132:C:H2'	11:AA:1133:A2M:H8	1.83	0.61
11:AA:1255:C:H4'	24:Ee:152:ILE:HD13	1.82	0.61
11:AA:1952:G:H21	11:AA:2095:G:H3'	1.65	0.61
11:AA:3368:U:H5'	26:FF:384:LYS:HE3	1.82	0.61
38:LL:9:GLN:HB3	38:LL:52:LEU:HD11	1.82	0.61
42:NN:10:ARG:NH2	42:NN:151:SER:O	2.32	0.61
45:P:72:ARG:NH2	45:P:105:GLN:O	2.33	0.61
48:QQ:60:VAL:HB	48:QQ:134:LEU:HB2	1.82	0.61
60:c:1200:G:OP2	60:c:1595:U:O2'	2.16	0.61
64:g:164:VAL:HA	64:g:168:ILE:HG12	1.81	0.61
76:s:82:ARG:HH21	76:s:116:LEU:HD11	1.65	0.61
78:u:50:ALA:O	78:u:68:ARG:NH1	2.25	0.61
79:v:77:ASN:HB3	79:v:95:ASP:HB2	1.82	0.61
1:0:8:ARG:HB3	1:0:26:ASP:HB3	1.82	0.61
11:AA:517:G:OP1	34:JJ:67:ARG:NH2	2.32	0.61
11:AA:710:A:H2'	11:AA:711:A:C8	2.35	0.61
11:AA:1114:U:H5"	39:M:22:ILE:HD11	1.81	0.61
11:AA:1340:G:OP2	47:Q:61:LYS:NZ	2.33	0.61
11:AA:2681:U:O2	42:NN:20:ASN:ND2	2.28	0.61
11:AA:2696:A:N7	11:AA:2758:A:N6	2.47	0.61
36:KK:83:ASP:OD1	36:KK:86:THR:OG1	2.16	0.61
38:LL:20:ILE:HG22	38:LL:25:VAL:HA	1.82	0.61
56:Y:88:LYS:O	56:Y:88:LYS:HD2	2.00	0.61
58:a:18:ARG:O	58:a:18:ARG:HD3	2.00	0.61
60:c:922:G:H2'	60:c:923:A:C8	2.35	0.61
65:h:112:HIS:NE2	65:h:237:SER:O	2.33	0.61
74:q:20:TYR:HB3	74:q:27:PHE:HB2	1.82	0.61
1:0:5:VAL:HG13	1:0:29:HIS:HB3	1.82	0.61
11:AA:348:A:N3	11:AA:352:A:O2'	2.33	0.61
11:AA:665:A:H2	44:OO:12:ASN:HD22	1.49	0.61
11:AA:1020:G:H2'	11:AA:1021:G:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Dd:24:U:H1'	60:c:577:G:O6	2.00	0.61
26:FF:10:ARG:NH1	26:FF:11:HIS:O	2.33	0.61
60:c:406:U:H2'	60:c:407:A:H8	1.65	0.61
64:g:67:ASN:O	64:g:70:THR:OG1	2.18	0.61
65:h:37:LYS:HB3	65:h:40:GLU:HG3	1.82	0.61
72:o:121:ASP:O	72:o:123:VAL:HG13	1.99	0.61
11:AA:2618:G:N2	11:AA:2644:C:O2'	2.34	0.61
11:AA:2875:U:OP2	11:AA:2945:G:N1	2.28	0.61
14:BB:77:G:H3'	22:E:46:GLN:HB3	1.82	0.61
17:CC:47:C:H1'	17:CC:61:A:H2'	1.81	0.61
19:D:23:TRP:HB2	19:D:53:LYS:HE3	1.82	0.61
20:DD:128:MET:SD	20:DD:132:LYS:HB2	2.40	0.61
38:LL:50:ASN:OD1	46:PP:5:SER:OG	2.15	0.61
60:c:1229:G:O3'	60:c:1255:G:N2	2.28	0.61
62:e:121:ILE:CD1	62:e:161:ILE:HD12	2.31	0.61
66:i:111:VAL:HA	66:i:114:ILE:HG12	1.82	0.61
78:u:90:ASN:OD1	78:u:95:GLY:HA2	2.01	0.61
10:A:157:GLU:O	10:A:161:LYS:HG2	2.01	0.61
11:AA:86:G:N2	11:AA:99:A:OP2	2.34	0.61
11:AA:1024:G:H1'	11:AA:1029:G:N1	2.15	0.61
11:AA:2367:A:H2'	11:AA:2368:A:C8	2.36	0.61
11:AA:2927:C:H2'	11:AA:2928:C:C6	2.35	0.61
12:Aa:760:ARG:HH21	12:Aa:765:LEU:HB2	1.65	0.61
26:FF:13:HIS:HD2	26:FF:15:GLY:H	1.49	0.61
26:FF:14:LEU:HA	26:FF:17:LEU:HD13	1.83	0.61
26:FF:306:THR:HG21	26:FF:316:GLU:HG3	1.82	0.61
37:L:10:VAL:HG22	37:L:87:LEU:HG	1.83	0.61
64:g:41:VAL:HG22	64:g:46:THR:HG23	1.83	0.61
65:h:252:ARG:NH2	65:h:253:ASP:OD1	2.33	0.61
66:i:174:LEU:HD22	66:i:213:LYS:HD2	1.83	0.61
78:u:45:LEU:HD23	78:u:48:LYS:HD2	1.82	0.61
4:3:5:GLN:HG2	82:y:24:GLN:HE21	1.64	0.61
7:6:43:ARG:NH2	60:c:590:C:OP1	2.27	0.61
11:AA:594:U:OP2	11:AA:609:G:N1	2.30	0.61
11:AA:1203:A:H2'	11:AA:1204:A:C8	2.35	0.61
11:AA:1881:A:H2'	11:AA:1882:G:H8	1.65	0.61
15:Bb:4:G:N2	15:Bb:70:C:O2	2.34	0.61
22:E:13:ARG:HA	22:E:56:GLY:HA2	1.82	0.61
50:S:4:ARG:CZ	50:S:4:ARG:HA	2.31	0.61
61:d:84:ARG:HD3	77:t:78:ARG:HH21	1.66	0.61
76:s:60:PHE:CD2	76:s:63:ILE:HD11	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:44:PHE:HE2	70:m:28:LEU:HD23	1.66	0.61
11:AA:1295:G:O2'	22:E:115:ARG:NH1	2.32	0.61
11:AA:1609:C:OP1	33:J:125:ARG:NH1	2.34	0.61
11:AA:2429:G:H2'	11:AA:2430:A:C8	2.35	0.61
11:AA:2613:U:O2'	11:AA:2805:G:OP2	2.12	0.61
11:AA:3308:C:O2	13:B:69:ARG:NE	2.26	0.61
11:AA:3386:G:H4'	45:P:10:ARG:HH22	1.66	0.61
22:E:92:LYS:NZ	22:E:109:ASP:OD2	2.24	0.61
26:FF:277:SER:HG	26:FF:280:HIS:HE2	0.62	0.61
30:HH:75:LEU:HD21	30:HH:113:LEU:HD11	1.81	0.61
33:J:77:GLU:HA	33:J:133:LEU:HD21	1.83	0.61
47:Q:82:LEU:HD21	47:Q:112:ALA:HB2	1.82	0.61
60:c:689:G:H2'	60:c:690:G:H8	1.66	0.61
68:k:133:THR:HG21	68:k:154:LEU:HB3	1.81	0.61
71:n:8:ARG:HE	71:n:12:HIS:HE1	1.48	0.61
3:2:5:ARG:NH2	60:c:1796:C:OP2	2.34	0.61
11:AA:47:C:OP2	11:AA:48:A:O2'	2.16	0.61
11:AA:3002:C:O2'	26:FF:180:GLU:OE2	2.16	0.61
12:Aa:381:TYR:HD2	12:Aa:478:MET:HE3	1.64	0.61
42:NN:108:GLU:HA	42:NN:122:ILE:HD11	1.82	0.61
60:c:65:A:H2	60:c:84:A:H62	1.49	0.61
60:c:507:U:C6	60:c:507:U:C1'	2.80	0.61
60:c:788:A:N7	65:h:19:LEU:HD21	2.15	0.61
60:c:1360:A:C2	60:c:1364:G:C5	2.89	0.61
60:c:1360:A:P	79:v:134:ARG:HH12	2.23	0.61
66:i:147:THR:O	66:i:157:ARG:N	2.33	0.61
68:k:79:ARG:O	68:k:83:LYS:HG2	2.01	0.61
2:1:42:LEU:HG	2:1:44:GLN:HG3	1.81	0.60
4:3:19:HIS:HD2	4:3:21:LEU:H	1.49	0.60
11:AA:655:C:H2'	11:AA:656:A:C8	2.36	0.60
11:AA:1241:U:H2'	11:AA:1243:G:N7	2.15	0.60
11:AA:1362:G:H2'	11:AA:1363:A:C8	2.37	0.60
11:AA:1675:G:OP1	27:G:72:SER:OG	2.13	0.60
11:AA:2666:C:OP2	11:AA:2687:G:N1	2.28	0.60
18:Cc:15:G:H22	18:Cc:49:C:H42	1.49	0.60
19:D:134:HIS:CD2	19:D:136:ARG:HB3	2.36	0.60
26:FF:77:THR:O	26:FF:324:VAL:N	2.30	0.60
53:V:18:LEU:HD21	55:X:12:LYS:HE3	1.83	0.60
60:c:552:G:H2'	60:c:553:G:C8	2.36	0.60
60:c:762:A:N1	60:c:789:A:H2'	2.16	0.60
65:h:19:LEU:HD13	65:h:51:ARG:HH22	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:p:132:VAL:HG13	73:p:134:VAL:HG23	1.82	0.60
5:4:19:THR:HG22	5:4:20:GLY:H	1.66	0.60
11:AA:268:A:H61	11:AA:295:A:H3'	1.65	0.60
11:AA:363:G:N2	28:GG:82:THR:OG1	2.33	0.60
11:AA:589:A:H1'	11:AA:1337:A:H5"	1.82	0.60
11:AA:1887:A:H4'	26:FF:227:GLU:HA	1.83	0.60
11:AA:2292:U:O2'	60:c:1656:U:O2'	2.19	0.60
11:AA:2471:U:O2	11:AA:2473:C:N4	2.34	0.60
11:AA:2555:G:N2	37:L:135:ARG:O	2.32	0.60
29:H:33:ASN:HD21	29:H:64:LYS:HG3	1.67	0.60
37:L:95:VAL:HG21	37:L:113:VAL:HG11	1.83	0.60
42:NN:21:ILE:HD11	42:NN:125:MET:SD	2.41	0.60
44:OO:106:GLN:HG2	52:U:20:MET:SD	2.41	0.60
60:c:1413:U:O2'	60:c:1416:G:OP1	2.18	0.60
60:c:1585:U:H3	60:c:1611:A:H2	1.49	0.60
62:e:41:ARG:HH21	62:e:231:LEU:HD13	1.65	0.60
76:s:82:ARG:HE	76:s:116:LEU:HD21	1.66	0.60
11:AA:296:A:N3	11:AA:299:G:O2'	2.33	0.60
11:AA:797:U:O2	44:OO:12:ASN:ND2	2.33	0.60
11:AA:1203:A:OP2	11:AA:1301:A:N6	2.31	0.60
11:AA:2667:A:O2'	11:AA:2691:A:OP1	2.15	0.60
11:AA:2828:G:OP2	40:MM:7:ARG:NH2	2.32	0.60
44:OO:90:ALA:HB1	44:OO:95:ILE:HB	1.81	0.60
60:c:143:G:O6	67:j:137:ARG:NH2	2.33	0.60
6:5:31:ILE:HD13	80:w:65:ILE:HD11	1.84	0.60
11:AA:176:G:H3'	11:AA:243:G:H21	1.65	0.60
11:AA:2505:U:H2'	11:AA:2506:U:C6	2.36	0.60
13:B:71:ALA:O	13:B:74:LYS:NZ	2.33	0.60
16:C:148:GLU:O	16:C:151:ARG:HG2	2.01	0.60
17:CC:36:G:OP2	51:T:85:THR:OG1	2.18	0.60
33:J:46:TYR:HD2	51:T:77:PRO:HA	1.66	0.60
47:Q:79:VAL:O	47:Q:83:GLU:HG2	2.00	0.60
47:Q:86:THR:HG22	47:Q:115:LEU:HD11	1.82	0.60
60:c:483:A:C4	60:c:507:U:N3	2.69	0.60
62:e:61:LEU:HD13	62:e:96:LEU:HD21	1.82	0.60
62:e:105:PHE:HD1	62:e:213:ARG:HA	1.65	0.60
65:h:179:LYS:HZ2	65:h:227:VAL:HG11	1.66	0.60
8:7:109:ASP:OD2	8:7:127:ARG:NH2	2.34	0.60
11:AA:171:G:H2'	11:AA:172:G:C8	2.37	0.60
15:Bb:58:A:H1'	15:Bb:60:C:H5	1.66	0.60
17:CC:154:C:H2'	17:CC:155:A:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GG:31:ARG:NH2	28:GG:33:ASP:OD2	2.28	0.60
77:t:24:LEU:HB3	77:t:34:LEU:HD12	1.84	0.60
8:7:66:HIS:HB3	8:7:85:TRP:HB2	1.82	0.60
8:7:289:ALA:HA	8:7:305:TYR:HD1	1.66	0.60
11:AA:67:A:O2'	11:AA:315:C:O2	2.19	0.60
11:AA:2295:A:N3	11:AA:2929:C:O2'	2.33	0.60
11:AA:3160:U:H3	11:AA:3290:G:H1	1.48	0.60
11:AA:3344:A:H4'	69:l:92:ARG:NH2	2.16	0.60
11:AA:3386:G:H5'	45:P:10:ARG:NH1	2.17	0.60
16:C:104:LEU:HG	28:GG:280:ILE:HD11	1.83	0.60
21:Dd:22:U:H2'	21:Dd:23:U:C6	2.35	0.60
22:E:150:PHE:HE1	46:PP:38:ILE:HD12	1.66	0.60
78:u:66:LEU:O	78:u:70:VAL:HG13	2.01	0.60
78:u:127:HIS:CD2	78:u:133:VAL:HG11	2.36	0.60
11:AA:900:G:H1'	11:AA:1589:A:N6	2.17	0.60
11:AA:3252:G:H2'	11:AA:3253:G:C8	2.37	0.60
19:D:172:ARG:NH1	60:c:852:C:OP1	2.34	0.60
20:DD:28:VAL:HG11	20:DD:185:LEU:HB3	1.83	0.60
42:NN:62:ASN:HD21	58:a:101:GLY:H	1.48	0.60
60:c:78:A:H5'	67:j:154:ARG:HH22	1.66	0.60
60:c:127:G:H21	67:j:191:ARG:HH22	1.49	0.60
62:e:26:ARG:HB2	62:e:50:LYS:HG2	1.82	0.60
64:g:23:GLU:O	64:g:27:ARG:HG3	2.01	0.60
67:j:196:ARG:NH1	67:j:199:GLN:OE1	2.35	0.60
69:l:7:SER:O	69:l:18:ARG:NH1	2.34	0.60
11:AA:76:G:OP1	44:OO:73:ARG:N	2.34	0.60
11:AA:2557:A:OP1	23:EE:69:TYR:OH	2.19	0.60
12:Aa:415:GLY:O	12:Aa:477:ASN:ND2	2.35	0.60
26:FF:368:GLY:O	31:I:17:ARG:NH1	2.34	0.60
27:G:38:ILE:HD11	27:G:56:VAL:HB	1.83	0.60
37:L:23:VAL:HG12	37:L:45:GLY:HA3	1.83	0.60
55:X:30:ARG:H	55:X:33:ASN:HD22	1.49	0.60
65:h:191:ARG:HD2	65:h:218:PHE:CE1	2.36	0.60
76:s:93:HIS:HB3	76:s:102:LYS:HB2	1.84	0.60
11:AA:129:U:H2'	11:AA:130:A:H8	1.67	0.60
11:AA:170:G:H2'	11:AA:171:G:C8	2.37	0.60
11:AA:307:A:H2'	11:AA:308:A:H8	1.66	0.60
11:AA:671:U:H2'	11:AA:672:A:H8	1.65	0.60
11:AA:852:U:H2'	11:AA:853:G:C8	2.37	0.60
11:AA:1019:G:H2'	11:AA:1020:G:O4'	2.01	0.60
11:AA:1376:C:HO2'	11:AA:1408:G:HO2'	1.38	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CC:21:C:OP1	28:GG:193:LYS:NZ	2.24	0.60
22:E:2:ALA:HB3	22:E:32:SER:HB2	1.83	0.60
23:EE:30:ARG:NH2	23:EE:33:ASP:OD2	2.30	0.60
42:NN:99:THR:O	42:NN:154:THR:OG1	2.20	0.60
45:P:109:VAL:O	45:P:110:GLU:HG3	2.02	0.60
60:c:922:G:H2'	60:c:923:A:H8	1.67	0.60
62:e:21:VAL:HG23	62:e:23:PRO:HD3	1.83	0.60
11:AA:2270:A:H2'	11:AA:2271:A:C8	2.36	0.60
11:AA:3244:A:OP2	26:FF:100:ARG:NH1	2.35	0.60
11:AA:3322:A:H2'	11:AA:3323:A:C8	2.37	0.60
26:FF:183:LEU:O	26:FF:191:LYS:NZ	2.25	0.60
53:V:66:TYR:OH	53:V:73:ARG:NH2	2.35	0.60
63:f:97:ARG:NH1	63:f:117:THR:HG22	2.17	0.60
66:i:189:THR:N	66:i:192:GLU:OE2	2.23	0.60
77:t:71:PHE:C	77:t:73:LEU:H	2.10	0.60
11:AA:1072:G:H2'	11:AA:1073:U:C6	2.37	0.59
11:AA:1863:G:N7	89:AA:3611:HOH:O	2.32	0.59
11:AA:2722:U:H4'	25:F:88:ARG:HG3	1.83	0.59
16:C:39:ARG:NH2	28:GG:300:ARG:O	2.30	0.59
18:Cc:15:G:H22	18:Cc:49:C:N4	1.99	0.59
30:HH:146:LEU:HD22	30:HH:163:LEU:HD12	1.84	0.59
48:QQ:66:VAL:HG21	48:QQ:102:ALA:HB2	1.83	0.59
53:V:54:LYS:O	53:V:58:THR:HB	2.01	0.59
57:Z:21:ARG:NH1	60:c:1653:C:O3'	2.33	0.59
60:c:553:G:OP2	60:c:554:C:O2'	2.18	0.59
60:c:790:U:O2'	70:m:68:LYS:NZ	2.35	0.59
61:d:8:ASP:OD1	61:d:9:LEU:N	2.34	0.59
77:t:20:TYR:HD1	77:t:23:LYS:HG3	1.67	0.59
11:AA:1864:A:OP1	19:D:83:GLY:N	2.29	0.59
11:AA:1886:A:O2'	26:FF:226:PHE:O	2.20	0.59
11:AA:2406:C:O2'	11:AA:2619:OMG:N2	2.35	0.59
12:Aa:542:LEU:HA	12:Aa:545:LEU:HD13	1.84	0.59
34:JJ:138:TYR:CD2	34:JJ:233:GLU:HB2	2.37	0.59
58:a:73:GLU:HG3	58:a:80:ARG:HG3	1.83	0.59
60:c:761:G:O2'	60:c:762:A:O5'	2.19	0.59
60:c:1500:C:OP1	79:v:122:ARG:NH2	2.33	0.59
61:d:112:THR:O	61:d:113:ARG:HG2	2.01	0.59
62:e:70:LEU:HD12	62:e:84:ILE:HD11	1.84	0.59
63:f:83:ILE:HD11	63:f:125:ILE:HD11	1.84	0.59
68:k:50:ASP:HA	68:k:56:LYS:HD3	1.85	0.59
78:u:41:ARG:HH22	79:v:38:LYS:HA	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:v:38:LYS:O	79:v:39:THR:OG1	2.18	0.59
11:AA:129:U:H2'	11:AA:130:A:C8	2.38	0.59
11:AA:1211:U:H2'	11:AA:1212:A:C8	2.37	0.59
12:Aa:406:LYS:HB2	12:Aa:409:GLN:HG2	1.83	0.59
33:J:73:MET:HA	33:J:73:MET:HE3	1.84	0.59
58:a:23:HIS:HA	58:a:73:GLU:O	2.03	0.59
60:c:319:U:H4'	60:c:323:A:C8	2.37	0.59
60:c:422:G:O2'	60:c:423:G:H5'	2.03	0.59
60:c:538:A:O2'	60:c:541:A2M:H8	2.02	0.59
65:h:9:LEU:HB2	65:h:30:ARG:HD3	1.83	0.59
11:AA:987:U:H2'	11:AA:988:U:C6	2.37	0.59
34:JJ:98:LYS:HB3	34:JJ:99:PRO:HD3	1.85	0.59
60:c:567:A:H62	60:c:576:G:H21	1.51	0.59
60:c:1132:A:H2'	60:c:1133:A:H8	1.67	0.59
60:c:1769:U:O2	74:q:136:ARG:HD2	2.01	0.59
67:j:214:LYS:O	67:j:217:SER:OG	2.18	0.59
79:v:111:ILE:HG23	79:v:113:ILE:HG12	1.83	0.59
83:z:109:ARG:HD3	83:z:114:LYS:HB2	1.84	0.59
1:0:15:ASN:HD21	1:0:20:ARG:HH21	1.48	0.59
11:AA:922:U:N3	11:AA:926:A:O2'	2.35	0.59
11:AA:3049:A:H8	26:FF:53:MET:HE3	1.67	0.59
12:Aa:634:TRP:CD1	12:Aa:660:LYS:HD2	2.38	0.59
18:Cc:76:C:O2'	58:a:56:PRO:O	2.18	0.59
34:JJ:30:ARG:HH12	34:JJ:33:ARG:HH22	1.50	0.59
43:O:99:ASP:O	43:O:103:THR:OG1	2.18	0.59
60:c:560:U:H2'	60:c:561:G:H8	1.68	0.59
60:c:1229:G:N3	60:c:1256:A:N1	2.51	0.59
60:c:1372:U:H1'	60:c:1373:C:N1	2.17	0.59
63:f:54:GLU:HA	81:x:12:TYR:CE1	2.38	0.59
70:m:82:ARG:HE	70:m:149:ARG:HD3	1.67	0.59
78:u:88:ARG:NE	78:u:91:ASP:OD1	2.36	0.59
11:AA:619:A:O2'	11:AA:620:U:OP2	2.17	0.59
11:AA:897:U:H2'	11:AA:898:OMU:H6	1.84	0.59
11:AA:1040:A:N3	40:MM:198:LYS:NZ	2.46	0.59
11:AA:2640:A2M:H8	11:AA:2640:A2M:O5'	2.03	0.59
11:AA:2737:C:O2'	41:N:36:ASP:OD1	2.18	0.59
11:AA:3358:U:H2'	11:AA:3359:A:H8	1.68	0.59
22:E:150:PHE:O	46:PP:15:VAL:HG12	2.03	0.59
27:G:41:ILE:HG23	27:G:50:LEU:HD21	1.85	0.59
28:GG:311:HIS:ND1	28:GG:311:HIS:O	2.35	0.59
58:a:8:ARG:HB3	58:a:23:HIS:O	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:311:U:OP1	83:z:24:TRP:NE1	2.29	0.59
60:c:483:A:C8	60:c:507:U:N3	2.70	0.59
60:c:923:A:H2'	60:c:924:A:C8	2.38	0.59
60:c:1369:U:H1'	60:c:1370:U:C2	2.38	0.59
69:l:72:ILE:HD11	69:l:109:PHE:HD1	1.67	0.59
76:s:47:LYS:HE3	76:s:79:TYR:CE1	2.37	0.59
8:7:263:PHE:HB3	8:7:270:LEU:HA	1.83	0.59
11:AA:1412:G:OP1	47:Q:105:ARG:NH2	2.35	0.59
11:AA:1596:C:H2'	11:AA:1597:C:C6	2.38	0.59
11:AA:2152:A:HO2'	11:AA:2243:A:HO2'	1.51	0.59
17:CC:75:G:OP2	35:K:74:TYR:OH	2.18	0.59
35:K:119:ILE:HG22	35:K:124:GLY:HA3	1.85	0.59
60:c:689:G:H2'	60:c:690:G:C8	2.38	0.59
60:c:1524:A:H2'	60:c:1525:A:C8	2.37	0.59
4:3:5:GLN:HG2	82:y:24:GLN:NE2	2.17	0.59
11:AA:1211:U:H2'	11:AA:1212:A:H8	1.66	0.59
11:AA:1523:U:O2'	33:J:111:ASN:ND2	2.32	0.59
14:BB:18:C:OP2	42:NN:150:ASN:ND2	2.34	0.59
18:Cc:30:G:H21	18:Cc:43:G:H3'	1.67	0.59
59:b:41:PHE:HD2	59:b:62:LYS:HG2	1.65	0.59
60:c:884:A:H2'	60:c:885:G:C8	2.37	0.59
60:c:1357:A:H3'	60:c:1357:A:OP2	2.03	0.59
11:AA:62:A:H5"	48:QQ:164:LEU:HD11	1.83	0.59
11:AA:737:G:H2'	11:AA:738:A:C8	2.37	0.59
11:AA:799:G:OP2	39:M:32:ARG:NH2	2.28	0.59
11:AA:1188:U:OP1	11:AA:1210:U:O2'	2.17	0.59
11:AA:3045:G:O3'	26:FF:275:ARG:NH1	2.36	0.59
15:Bb:74:C:H4'	40:MM:110:ARG:HG3	1.84	0.59
23:EE:133:TYR:HB3	23:EE:168:VAL:HG23	1.85	0.59
48:QQ:13:LYS:HB3	48:QQ:16:SER:HB3	1.85	0.59
60:c:405:C:H5"	67:j:93:LYS:NZ	2.17	0.59
60:c:786:C:OP1	65:h:240:LYS:NZ	2.36	0.59
60:c:918:U:H2'	60:c:919:A:H8	1.67	0.59
8:7:10:ARG:HH21	8:7:316:MET:HE2	1.68	0.59
8:7:33:LEU:O	8:7:44:SER:HA	2.03	0.59
11:AA:1794:G:O2'	11:AA:1796:G:N2	2.36	0.59
11:AA:3315:G:OP1	26:FF:174:LYS:NZ	2.35	0.59
12:Aa:138:GLN:NE2	12:Aa:790:GLY:O	2.32	0.59
12:Aa:378:LEU:HD21	12:Aa:405:VAL:HG22	1.84	0.59
12:Aa:578:LYS:HD3	12:Aa:582:LYS:HA	1.84	0.59
39:M:72:VAL:HG13	39:M:113:LEU:HD23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:553:G:H3'	60:c:554:C:H2'	1.84	0.59
62:e:48:VAL:HG11	62:e:61:LEU:HD11	1.84	0.59
66:i:63:GLN:NE2	66:i:88:PRO:HA	2.17	0.59
66:i:69:PHE:CD2	66:i:70:VAL:HG12	2.38	0.59
11:AA:1028:U:H3	11:AA:1031:C:H41	1.50	0.58
11:AA:2669:G:H2'	11:AA:2670:G:H8	1.66	0.58
11:AA:2938:G:H5"	26:FF:3:HIS:CE1	2.34	0.58
12:Aa:167:LEU:HB3	12:Aa:169:VAL:HG13	1.85	0.58
18:Cc:19:G:N2	18:Cc:59:A:OP2	2.34	0.58
19:D:166:ASN:OD1	19:D:170:ARG:NH1	2.35	0.58
42:NN:48:SER:HB2	42:NN:66:ALA:HB3	1.85	0.58
43:O:16:LEU:HD22	43:O:98:SER:HB2	1.84	0.58
48:QQ:106:VAL:HG11	48:QQ:132:VAL:HG11	1.85	0.58
60:c:435:C:OP1	83:z:49:ALA:HA	2.03	0.58
60:c:885:G:N2	74:q:124:ASP:OD2	2.36	0.58
75:r:86:VAL:HG22	75:r:89:MET:HE1	1.85	0.58
80:w:104:THR:HG22	80:w:116:VAL:HG21	1.85	0.58
11:AA:316:U:O2'	52:U:30:LYS:NZ	2.23	0.58
11:AA:1616:U:H2'	11:AA:1617:G:H8	1.68	0.58
11:AA:2531:C:H2'	11:AA:2532:U:C2	2.38	0.58
11:AA:2904:U:H2'	11:AA:2905:U:H6	1.68	0.58
30:HH:95:TRP:CE3	30:HH:198:TYR:HB3	2.37	0.58
38:LL:93:VAL:HG22	56:Y:82:LEU:HG	1.85	0.58
44:OO:88:ALA:HA	44:OO:91:ARG:HH21	1.68	0.58
60:c:628:G:N2	60:c:971:A:H62	2.01	0.58
67:j:4:ASN:OD1	67:j:110:ALA:HA	2.02	0.58
67:j:52:ILE:HD11	67:j:109:LEU:HD12	1.85	0.58
78:u:61:LEU:HD21	78:u:66:LEU:HD21	1.85	0.58
81:x:40:ASP:OD1	81:x:41:GLU:N	2.36	0.58
8:7:131:ILE:HD11	8:7:151:VAL:HG21	1.85	0.58
12:Aa:27:HIS:HB3	12:Aa:30:HIS:CD2	2.38	0.58
12:Aa:43:ALA:HB2	12:Aa:77:LEU:HD13	1.85	0.58
12:Aa:490:GLN:HB3	12:Aa:529:ILE:HD11	1.86	0.58
15:Bb:21:A:H1'	15:Bb:48:C:C5	2.38	0.58
58:a:8:ARG:O	58:a:23:HIS:HB2	2.03	0.58
60:c:77:U:OP1	60:c:80:A:N6	2.33	0.58
60:c:387:A:H5"	60:c:402:C:H5	1.67	0.58
60:c:483:A:N3	60:c:507:U:C5	2.72	0.58
60:c:484:C:H2'	60:c:484:C:O2	2.02	0.58
60:c:1174:C:O2'	60:c:1196:A:N6	2.36	0.58
60:c:1482:C:N4	60:c:1524:A:OP2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:g:45:LYS:HD2	64:g:83:THR:HA	1.85	0.58
82:y:102:VAL:HB	82:y:113:HIS:HB3	1.85	0.58
2:1:62:VAL:HG23	2:1:99:ALA:HB3	1.83	0.58
8:7:112:SER:OG	8:7:124:SER:O	2.18	0.58
11:AA:2424:A:OP1	48:QQ:90:ASN:ND2	2.37	0.58
12:Aa:566:THR:HG22	12:Aa:567:VAL:H	1.68	0.58
23:EE:80:GLU:HG2	59:b:76:ALA:HB2	1.84	0.58
36:KK:154:ALA:HB2	36:KK:186:LEU:HD12	1.84	0.58
60:c:142:G:H2'	60:c:143:G:C8	2.38	0.58
63:f:142:GLY:N	63:f:153:SER:O	2.24	0.58
7:6:51:ASN:HD22	7:6:51:ASN:C	2.11	0.58
11:AA:47:C:H5"	44:OO:16:LYS:HG2	1.85	0.58
11:AA:595:G:O6	32:II:22:ARG:NH2	2.25	0.58
11:AA:737:G:H2'	11:AA:738:A:H8	1.69	0.58
11:AA:968:G:H2'	11:AA:969:C:C6	2.39	0.58
11:AA:2836:C:H5	11:AA:2852:C:H42	1.51	0.58
12:Aa:191:THR:HG23	12:Aa:192:TYR:CD1	2.38	0.58
15:Bb:50:U:H2'	15:Bb:51:G:C8	2.39	0.58
20:DD:90:ASN:O	20:DD:90:ASN:ND2	2.37	0.58
22:E:8:GLN:HB3	22:E:64:ILE:HD11	1.84	0.58
24:Ee:142:ARG:HD3	24:Ee:143:VAL:H	1.67	0.58
33:J:46:TYR:CD2	51:T:77:PRO:HA	2.38	0.58
40:MM:159:PHE:HB3	40:MM:163:GLN:HE22	1.68	0.58
51:T:74:LYS:HD2	51:T:75:TYR:HB2	1.86	0.58
60:c:1554:U:H2'	60:c:1555:A:O4'	2.04	0.58
76:s:50:GLU:OE1	76:s:112:TYR:OH	2.22	0.58
6:5:20:GLN:HG3	6:5:25:SER:HA	1.86	0.58
11:AA:894:G:H4'	11:AA:895:A:H5'	1.86	0.58
11:AA:1799:A:H2'	11:AA:1800:A:H8	1.68	0.58
11:AA:2102:U:H2'	11:AA:2103:U:C6	2.38	0.58
11:AA:2480:A:H3'	11:AA:2481:G:H8	1.68	0.58
12:Aa:135:VAL:HG21	12:Aa:184:SER:HB2	1.86	0.58
23:EE:209:HIS:HD2	23:EE:210:PRO:HD2	1.66	0.58
48:QQ:191:TRP:NE1	48:QQ:195:ASN:OD1	2.37	0.58
53:V:39:TYR:CD1	53:V:40:PRO:HA	2.38	0.58
60:c:256:A:H2'	60:c:257:A:O4'	2.03	0.58
60:c:1041:G:H2'	60:c:1042:G:C8	2.38	0.58
60:c:1639:OMC:H2'	60:c:1640:C:O4'	2.03	0.58
60:c:1641:C:H2'	60:c:1642:G:C8	2.38	0.58
65:h:20:LEU:HD11	65:h:46:VAL:HG11	1.86	0.58
68:k:99:LEU:O	68:k:112:ARG:NE	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:m:85:VAL:HG11	70:m:104:PHE:CD1	2.38	0.58
78:u:45:LEU:HD12	78:u:85:PHE:CZ	2.37	0.58
82:y:29:PRO:HB2	82:y:58:SER:HB3	1.84	0.58
1:0:17:LEU:HD11	65:h:92:LEU:HD13	1.85	0.58
15:Bb:74:C:O2'	40:MM:105:CYS:O	2.16	0.58
38:LL:57:VAL:HG12	38:LL:68:LEU:HD22	1.84	0.58
46:PP:132:LYS:HA	46:PP:135:LEU:HD12	1.86	0.58
60:c:52:U:H2'	60:c:53:G:C8	2.39	0.58
60:c:1500:C:P	79:v:122:ARG:HH22	2.26	0.58
70:m:70:LEU:O	70:m:74:ASN:ND2	2.37	0.58
78:u:105:VAL:O	78:u:109:LEU:HD23	2.04	0.58
8:7:181:TRP:CZ2	8:7:186:PHE:HB3	2.38	0.58
11:AA:121:A:C2	36:KK:129:PRO:HB3	2.38	0.58
11:AA:266:A:OP1	48:QQ:5:LYS:NZ	2.35	0.58
11:AA:860:G:OP1	59:b:18:TYR:OH	2.21	0.58
11:AA:2344:U:H2'	11:AA:2345:A:C8	2.38	0.58
12:Aa:799:ASP:OD1	12:Aa:800:HIS:N	2.36	0.58
13:B:10:ASN:O	13:B:14:SER:OG	2.19	0.58
14:BB:4:U:H2'	14:BB:5:G:H8	1.67	0.58
30:HH:96:ALA:O	30:HH:100:ALA:N	2.35	0.58
37:L:24:VAL:HG21	37:L:87:LEU:HB2	1.86	0.58
47:Q:41:VAL:HG23	47:Q:46:PHE:HD2	1.67	0.58
60:c:145:A:H4'	60:c:146:U:OP1	2.04	0.58
60:c:338:C:H2'	60:c:339:C:C6	2.39	0.58
60:c:765:G:O4'	70:m:149:ARG:NH2	2.36	0.58
71:n:20:VAL:HG12	71:n:67:THR:HA	1.85	0.58
72:o:85:VAL:HA	72:o:108:PRO:HA	1.86	0.58
77:t:3:ARG:NH1	77:t:5:ARG:HH21	2.02	0.58
10:A:68:ARG:NH2	11:AA:2987:A:OP1	2.37	0.58
10:A:130:LYS:HB2	10:A:133:ARG:HG2	1.86	0.58
11:AA:926:A:H2'	11:AA:927:C:C6	2.39	0.58
11:AA:1639:C:OP2	50:S:74:ARG:NH2	2.37	0.58
11:AA:2355:G:H4'	13:B:139:TYR:CE1	2.38	0.58
12:Aa:411:VAL:HG11	12:Aa:469:LEU:HD13	1.85	0.58
24:Ee:32:ILE:HD13	24:Ee:42:VAL:HG11	1.86	0.58
28:GG:334:PHE:HA	28:GG:339:LEU:HD12	1.84	0.58
37:L:14:VAL:HG12	37:L:79:HIS:O	2.04	0.58
43:O:72:GLY:HA3	43:O:76:GLU:HG3	1.86	0.58
60:c:123:G:O2'	65:h:145:ARG:NH2	2.32	0.58
60:c:752:A:H2'	60:c:753:A:C8	2.39	0.58
60:c:939:A:H2'	60:c:940:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1523:G:N7	79:v:68:ARG:NH1	2.52	0.58
62:e:103:MET:HG2	62:e:215:VAL:HB	1.86	0.58
62:e:124:ASN:HA	62:e:137:ILE:O	2.04	0.58
69:l:184:LEU:HB3	69:l:189:LEU:HB3	1.85	0.58
77:t:21:TYR:O	77:t:23:LYS:N	2.31	0.58
11:AA:1152:G:OP2	11:AA:1152:G:N2	2.36	0.58
11:AA:2451:G:H2'	11:AA:2452:G:H8	1.69	0.58
11:AA:2742:C:H2'	11:AA:2743:A:H8	1.68	0.58
12:Aa:724:ILE:O	12:Aa:804:LEU:N	2.26	0.58
17:CC:37:A:H2	51:T:86:ARG:HH12	1.51	0.58
23:EE:135:ILE:HG22	23:EE:149:ARG:HB3	1.85	0.58
25:F:108:ARG:HH11	25:F:130:ARG:HH11	1.51	0.58
28:GG:125:ALA:HB1	28:GG:238:LEU:HB3	1.86	0.58
65:h:92:LEU:O	65:h:96:ASN:HA	2.04	0.58
68:k:135:ILE:HG21	68:k:138:LYS:HE2	1.85	0.58
1:0:18:LEU:HD11	65:h:64:ILE:HD11	1.85	0.57
11:AA:4:U:N3	17:CC:156:U:O2'	2.36	0.57
11:AA:49:A:N7	48:QQ:187:ARG:HD2	2.19	0.57
11:AA:1574:C:H3'	11:AA:1575:A:H8	1.69	0.57
11:AA:2129:U:H2'	11:AA:2130:G:H8	1.69	0.57
11:AA:2213:A:H2'	11:AA:2214:A:C8	2.38	0.57
12:Aa:274:ASN:O	12:Aa:279:ASP:N	2.37	0.57
19:D:69:SER:HA	19:D:72:GLU:HG2	1.85	0.57
24:Ee:136:ALA:HA	24:Ee:139:VAL:HB	1.85	0.57
28:GG:106:TRP:O	48:QQ:203:ARG:NH2	2.37	0.57
30:HH:31:TYR:O	30:HH:35:ARG:NH1	2.37	0.57
58:a:38:GLN:OE1	58:a:41:ARG:NH2	2.37	0.57
63:f:239:PRO:HA	63:f:242:ILE:HG22	1.86	0.57
8:7:22:SER:HB3	8:7:36:ALA:HB3	1.84	0.57
11:AA:184:U:H3	11:AA:232:G:H1	1.53	0.57
11:AA:561:C:H2'	11:AA:562:C:H6	1.69	0.57
11:AA:975:C:OP2	16:C:15:HIS:HA	2.04	0.57
11:AA:2225:U:H2'	11:AA:2226:U:C6	2.39	0.57
12:Aa:17:THR:OG1	12:Aa:92:LYS:HG3	2.04	0.57
12:Aa:424:ASP:OD1	12:Aa:425:ASP:N	2.37	0.57
24:Ee:61:GLN:HE21	24:Ee:72:SER:HB3	1.67	0.57
38:LL:87:LYS:HD2	38:LL:187:ILE:HA	1.85	0.57
45:P:10:ARG:HE	45:P:44:MET:HE1	1.69	0.57
60:c:1366:U:C6	60:c:1367:G:C8	2.93	0.57
60:c:1369:U:H4'	79:v:69:LYS:NZ	2.18	0.57
62:e:158:SER:HA	62:e:161:ILE:HB	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:p:89:TYR:CE2	73:p:93:LYS:HD2	2.39	0.57
75:r:17:TYR:CZ	75:r:18:ARG:HD2	2.39	0.57
11:AA:1493:G:N2	11:AA:1493:G:OP2	2.38	0.57
11:AA:1799:A:H2'	11:AA:1800:A:C8	2.39	0.57
11:AA:2102:U:H2'	11:AA:2103:U:H6	1.68	0.57
11:AA:2282:U:O2	11:AA:2310:U:H4'	2.05	0.57
11:AA:2747:A:H5'	30:HH:175:HIS:HA	1.85	0.57
11:AA:3013:U:H2'	11:AA:3014:U:C6	2.39	0.57
11:AA:3027:A:N6	12:Aa:786:GLN:OE1	2.26	0.57
12:Aa:400:VAL:HG12	12:Aa:450:ALA:HA	1.85	0.57
12:Aa:771:TYR:CE2	12:Aa:800:HIS:HE1	2.21	0.57
16:C:155:MET:HA	16:C:161:LYS:HB2	1.86	0.57
25:F:79:MET:HE1	41:N:21:ILE:HG21	1.86	0.57
28:GG:328:ASN:OD1	34:JJ:48:ASN:ND2	2.37	0.57
42:NN:13:LYS:NZ	42:NN:15:GLU:OE1	2.37	0.57
44:OO:55:ARG:NH1	44:OO:73:ARG:O	2.37	0.57
46:PP:35:ILE:HD13	46:PP:46:ILE:HG22	1.86	0.57
60:c:93:A:H4'	65:h:3:ARG:HH22	1.69	0.57
60:c:161:U:OP1	67:j:85:ARG:N	2.25	0.57
60:c:473:A:OP2	70:m:44:ARG:NH1	2.37	0.57
1:0:126:ALA:HA	1:0:129:VAL:HG22	1.85	0.57
11:AA:19:U:H2'	11:AA:20:A:C8	2.40	0.57
11:AA:1621:A:H2'	11:AA:1622:U:C6	2.40	0.57
11:AA:2677:G:O6	11:AA:2680:A:N6	2.37	0.57
13:B:131:ARG:HH11	13:B:137:ASN:HD22	1.51	0.57
15:Bb:48:C:O2'	15:Bb:59:U:O2	2.15	0.57
11:AA:170:G:H1	11:AA:249:U:H5"	1.70	0.57
11:AA:610:G:N3	28:GG:313:LEU:HD11	2.19	0.57
11:AA:2392:C:O2'	26:FF:266:ARG:NH1	2.31	0.57
17:CC:131:A:H2'	17:CC:132:G:H8	1.68	0.57
22:E:28:ARG:NH1	28:GG:362:ASP:OD1	2.38	0.57
26:FF:211:GLN:HG3	26:FF:212:ASN:ND2	2.20	0.57
60:c:509:G:H2'	60:c:510:G:C8	2.39	0.57
60:c:1257:U:O2'	71:n:3:MET:SD	2.62	0.57
60:c:1654:G:O2'	60:c:1746:A:N6	2.34	0.57
61:d:59:LEU:HD12	81:x:79:LEU:HD11	1.86	0.57
67:j:57:ASP:HA	67:j:106:LEU:HA	1.86	0.57
11:AA:1259:A:N3	11:AA:1281:G:H4'	2.19	0.57
11:AA:1353:U:H2'	32:II:9:TRP:NE1	2.20	0.57
11:AA:2661:G:H2'	11:AA:2662:G:C8	2.39	0.57
11:AA:3291:G:H2'	11:AA:3292:A:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:177:GLY:O	16:C:186:VAL:N	2.32	0.57
17:CC:43:A:H2'	17:CC:44:A:H8	1.68	0.57
39:M:95:SER:OG	39:M:97:GLU:O	2.16	0.57
43:O:14:LEU:O	43:O:18:ILE:HG12	2.04	0.57
48:QQ:123:GLN:OE1	48:QQ:128:LYS:NZ	2.37	0.57
61:d:4:PRO:HD2	61:d:7:PHE:HD2	1.70	0.57
61:d:57:LEU:HD21	61:d:173:ILE:HD11	1.86	0.57
63:f:147:ASN:OD1	81:x:3:ASN:HA	2.04	0.57
8:7:182:ASN:OD1	8:7:183:LEU:N	2.33	0.57
11:AA:1709:C:H2'	11:AA:1710:C:H6	1.70	0.57
11:AA:2555:G:O4'	50:S:91:ARG:NH1	2.37	0.57
11:AA:2714:G:H8	11:AA:2751:G:H2'	1.70	0.57
11:AA:2960:C:H2'	11:AA:2961:G:C8	2.39	0.57
11:AA:3215:A:HO2'	11:AA:3259:U:H3	1.53	0.57
12:Aa:249:PHE:N	12:Aa:258:THR:O	2.24	0.57
17:CC:139:U:H2'	17:CC:140:G:H8	1.70	0.57
24:Ee:117:ARG:NH1	24:Ee:164:GLU:O	2.33	0.57
50:S:86:LYS:O	50:S:90:ILE:HG12	2.05	0.57
55:X:25:GLN:HE22	55:X:28:ARG:HH12	1.52	0.57
56:Y:110:CYS:CB	56:Y:115:CYS:SG	2.93	0.57
60:c:1202:A:H62	60:c:1456:C:H3'	1.70	0.57
60:c:1354:G:C8	60:c:1354:G:C3'	2.87	0.57
63:f:35:TRP:HZ3	63:f:67:GLN:OE1	1.87	0.57
1:0:133:ASN:HB2	12:Aa:2:VAL:HG22	1.85	0.57
2:1:44:GLN:HA	2:1:47:TYR:HB2	1.84	0.57
5:4:14:LYS:NZ	5:4:15:VAL:O	2.38	0.57
10:A:54:TYR:OH	10:A:73:PHE:O	2.23	0.57
11:AA:776:U:O2	11:AA:2720:G:N2	2.37	0.57
11:AA:2196:C:H2'	11:AA:2242:A:H61	1.69	0.57
11:AA:2465:G:O2'	11:AA:2491:A:N6	2.37	0.57
60:c:1502:G:N2	60:c:1505:A:OP2	2.37	0.57
62:e:117:TRP:N	62:e:117:TRP:CD1	2.69	0.57
75:r:22:LEU:HA	75:r:25:LEU:HB2	1.86	0.57
77:t:79:GLU:O	77:t:82:ASP:HB2	2.05	0.57
82:y:38:LEU:HB3	82:y:50:PHE:CE2	2.39	0.57
2:1:68:ARG:HB3	2:1:70:LYS:NZ	2.20	0.57
11:AA:63:A:N3	11:AA:78:U:O2'	2.31	0.57
11:AA:417:A:H2'	11:AA:418:A:H8	1.67	0.57
11:AA:596:C:OP2	34:JJ:34:LYS:NZ	2.34	0.57
11:AA:2295:A:C6	29:H:37:ILE:HD12	2.40	0.57
11:AA:2369:G:H2'	11:AA:2370:G:H8	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2546:C:O2	11:AA:2546:C:H2'	2.05	0.57
11:AA:2930:A:H2'	11:AA:2931:C:H6	1.70	0.57
11:AA:3322:A:H2'	11:AA:3323:A:H8	1.70	0.57
39:M:147:LEU:HB3	52:U:7:ILE:HD12	1.86	0.57
40:MM:206:LEU:O	40:MM:210:ILE:HG12	2.05	0.57
50:S:79:SER:OG	50:S:80:ARG:NH1	2.37	0.57
60:c:864:U:H1'	73:p:11:ILE:HD11	1.86	0.57
60:c:1080:U:H2'	60:c:1081:A:H1'	1.86	0.57
60:c:1185:U:H4'	60:c:1186:U:H5"	1.85	0.57
60:c:1352:G:C6	60:c:1353:U:C2	2.93	0.57
65:h:65:LEU:HD23	65:h:70:VAL:HG11	1.87	0.57
67:j:77:LEU:N	67:j:93:LYS:O	2.31	0.57
69:l:11:ARG:O	72:o:133:LYS:NZ	2.38	0.57
78:u:29:VAL:O	78:u:33:THR:HG23	2.05	0.57
82:y:16:ASN:O	82:y:20:THR:HG22	2.05	0.57
2:1:68:ARG:HB3	2:1:70:LYS:HZ3	1.70	0.57
10:A:35:VAL:HG21	10:A:80:PHE:HE2	1.70	0.57
11:AA:583:G:H4'	49:R:106:ASN:HD21	1.69	0.57
11:AA:874:U:N3	11:AA:2978:U:OP1	2.38	0.57
11:AA:1765:U:H2'	11:AA:1766:G:C8	2.40	0.57
11:AA:2930:A:H2'	11:AA:2931:C:C6	2.40	0.57
11:AA:2989:U:O2'	26:FF:232:ARG:NH1	2.31	0.57
11:AA:3069:G:C2	11:AA:3070:A:C8	2.93	0.57
14:BB:55:A:N3	42:NN:152:HIS:HE1	2.03	0.57
17:CC:142:C:OP1	48:QQ:38:ARG:HD3	2.05	0.57
20:DD:178:ILE:HG22	20:DD:180:PRO:HD3	1.87	0.57
26:FF:3:HIS:HB3	26:FF:5:LYS:H	1.69	0.57
26:FF:153:LYS:HE3	26:FF:154:TYR:CZ	2.40	0.57
26:FF:292:ALA:HB2	26:FF:302:LYS:HD3	1.87	0.57
30:HH:53:VAL:O	30:HH:54:ARG:NH1	2.33	0.57
54:W:56:ILE:HD11	54:W:61:LYS:HB3	1.87	0.57
60:c:52:U:H2'	60:c:53:G:H8	1.68	0.57
60:c:513:U:C2	60:c:538:A:N7	2.73	0.57
60:c:636:A:H5"	82:y:31:SER:HB2	1.86	0.57
60:c:851:U:H2'	60:c:852:C:C2	2.40	0.57
60:c:1368:G:C4	60:c:1369:U:C5	2.81	0.57
60:c:1550:A:OP2	75:r:42:ARG:NH2	2.36	0.57
70:m:3:ARG:HD2	70:m:4:ALA:O	2.05	0.57
76:s:63:ILE:HG22	76:s:92:TYR:CE2	2.40	0.57
11:AA:400:G:H4'	11:AA:401:U:H5"	1.87	0.56
11:AA:968:G:H2'	11:AA:969:C:H6	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1523:U:OP2	11:AA:1604:G:O2'	2.21	0.56
11:AA:1883:A:H2'	11:AA:1884:A:C8	2.40	0.56
11:AA:2746:A:H4'	30:HH:176:SER:HB2	1.87	0.56
15:Bb:29:A:C2	15:Bb:42:G:H2'	2.39	0.56
35:K:56:VAL:HG21	35:K:104:LEU:HD13	1.87	0.56
46:PP:14:LEU:O	46:PP:19:ARG:NE	2.38	0.56
60:c:1081:A:H2	60:c:1082:C:H41	1.52	0.56
60:c:1739:C:H2'	60:c:1740:A:C8	2.40	0.56
64:g:140:GLY:O	64:g:147:ALA:CA	2.53	0.56
72:o:16:GLN:NE2	72:o:34:TRP:HB3	2.20	0.56
77:t:16:LEU:O	77:t:20:TYR:HB2	2.05	0.56
7:6:13:LYS:O	7:6:17:GLN:NE2	2.38	0.56
10:A:60:LYS:HD3	11:AA:1307:G:C2	2.40	0.56
11:AA:546:C:OP2	11:AA:547:G:N2	2.37	0.56
11:AA:1654:A:O3'	50:S:40:THR:OG1	2.23	0.56
11:AA:1766:G:O6	19:D:46:LYS:NZ	2.30	0.56
11:AA:1786:G:H2'	11:AA:1787:A:C8	2.40	0.56
11:AA:3195:U:O2'	11:AA:3197:G:N2	2.37	0.56
12:Aa:167:LEU:HD21	38:LL:96:HIS:HE2	1.70	0.56
15:Bb:37:YYG:H141	21:Dd:22:U:O4	2.06	0.56
16:C:58:ASN:OD1	16:C:144:ARG:NH1	2.37	0.56
44:OO:50:PRO:HB3	44:OO:138:VAL:HG13	1.87	0.56
45:P:80:ASN:ND2	45:P:82:GLU:OE1	2.38	0.56
57:Z:4:LYS:HE3	60:c:1773:4AC:HM72	1.86	0.56
60:c:867:G:H5'	73:p:4:MET:HE3	1.85	0.56
60:c:1388:A:H5'	60:c:1389:C:C6	2.40	0.56
65:h:163:ASP:OD1	65:h:170:THR:OG1	2.22	0.56
8:7:111:MET:SD	8:7:127:ARG:HD3	2.45	0.56
11:AA:269:G:O5'	48:QQ:120:TRP:NE1	2.27	0.56
11:AA:272:G:H1'	52:U:82:ARG:NH1	2.20	0.56
11:AA:677:A:OP2	16:C:88:THR:OG1	2.19	0.56
11:AA:733:G:O2'	11:AA:735:A:N6	2.33	0.56
11:AA:1795:U:OP2	23:EE:50:HIS:NE2	2.37	0.56
11:AA:2451:G:H2'	11:AA:2452:G:C8	2.40	0.56
11:AA:2904:U:H2'	11:AA:2905:U:C6	2.41	0.56
11:AA:3003:G:O2'	26:FF:92:TYR:OH	2.14	0.56
12:Aa:147:LEU:HD12	12:Aa:193:ALA:HA	1.87	0.56
14:BB:10:C:OP2	25:F:26:HIS:NE2	2.38	0.56
15:Bb:27:C:N4	15:Bb:29:A:H62	2.01	0.56
20:DD:28:VAL:HG22	20:DD:187:VAL:HG12	1.86	0.56
20:DD:107:ALA:HB1	20:DD:110:ARG:NE	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:DD:115:ALA:O	20:DD:162:GLY:N	2.38	0.56
25:F:17:ARG:NH1	25:F:45:ASN:OD1	2.37	0.56
26:FF:13:HIS:CD2	26:FF:15:GLY:H	2.23	0.56
34:JJ:84:VAL:HG23	34:JJ:117:VAL:HB	1.86	0.56
37:L:70:PRO:HG3	37:L:115:LYS:HB2	1.86	0.56
40:MM:142:ASP:OD2	40:MM:178:ARG:NH2	2.34	0.56
42:NN:53:THR:HG23	42:NN:60:ARG:HA	1.88	0.56
43:O:9:SER:N	43:O:12:GLN:HE22	2.04	0.56
50:S:74:ARG:HH22	50:S:82:ALA:HB2	1.69	0.56
52:U:43:LEU:O	52:U:47:ILE:HD12	2.06	0.56
60:c:607:G:H5'	60:c:613:G:N2	2.20	0.56
60:c:1353:U:H3'	60:c:1353:U:C6	2.39	0.56
60:c:1474:G:H2'	60:c:1475:A:C8	2.40	0.56
63:f:230:TRP:CD2	82:y:68:ARG:HD3	2.41	0.56
65:h:87:MET:N	65:h:101:LEU:O	2.29	0.56
66:i:69:PHE:HD2	66:i:70:VAL:HG12	1.69	0.56
67:j:126:ASP:OD1	67:j:127:THR:N	2.37	0.56
68:k:173:TYR:O	68:k:177:THR:OG1	2.23	0.56
72:o:135:VAL:C	72:o:136:ARG:HD2	2.29	0.56
83:z:70:LYS:HB3	83:z:93:LEU:HD22	1.87	0.56
11:AA:429:U:H2'	11:AA:430:U:H6	1.71	0.56
13:B:43:LYS:HD3	13:B:46:LYS:HE2	1.87	0.56
18:Cc:42:C:C2	18:Cc:43:G:N7	2.73	0.56
23:EE:48:ILE:HD11	59:b:63:THR:HG22	1.88	0.56
28:GG:356:THR:O	28:GG:360:LYS:HG2	2.06	0.56
38:LL:9:GLN:HE21	38:LL:52:LEU:HD11	1.71	0.56
60:c:170:U:OP1	60:c:267:U:O2'	2.23	0.56
60:c:394:C:H4'	67:j:92:ARG:HH22	1.70	0.56
60:c:919:A:H2'	60:c:920:U:H6	1.70	0.56
60:c:1322:A:H2'	60:c:1323:C:C6	2.41	0.56
60:c:1360:A:H1'	79:v:3:GLY:HA2	1.88	0.56
11:AA:28:C:O2'	11:AA:61:A:N3	2.39	0.56
11:AA:681:U:O2	11:AA:696:C:N4	2.25	0.56
11:AA:1024:G:H1'	11:AA:1029:G:H1	1.70	0.56
11:AA:2106:A:H2'	11:AA:2107:A:C8	2.40	0.56
11:AA:2129:U:H2'	11:AA:2130:G:C8	2.40	0.56
11:AA:3298:C:C2	11:AA:3299:A:C8	2.93	0.56
13:B:131:ARG:HG3	13:B:137:ASN:ND2	2.21	0.56
60:c:851:U:O2'	60:c:852:C:O4'	2.21	0.56
60:c:992:A:OP2	60:c:1011:G:N1	2.26	0.56
60:c:1301:U:H4'	63:f:88:LYS:HE3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1358:G:O3'	79:v:130:ARG:NH2	2.38	0.56
61:d:179:ARG:HH21	61:d:183:ARG:HH22	1.54	0.56
68:k:96:ARG:CZ	68:k:124:LYS:HB3	2.35	0.56
68:k:150:GLN:O	68:k:181:ILE:HA	2.05	0.56
8:7:172:ALA:HB1	8:7:199:ILE:HG21	1.87	0.56
11:AA:926:A:H2'	11:AA:927:C:H6	1.69	0.56
11:AA:1621:A:H2'	11:AA:1622:U:H6	1.70	0.56
11:AA:2177:G:H2'	23:EE:128:ARG:HG2	1.87	0.56
11:AA:2767:U:OP1	58:a:34:SER:OG	2.15	0.56
28:GG:138:ARG:HH21	28:GG:240:PRO:HD2	1.70	0.56
45:P:96:VAL:HG23	45:P:98:VAL:HG13	1.86	0.56
47:Q:41:VAL:HG23	47:Q:46:PHE:CD2	2.40	0.56
60:c:340:U:H2'	60:c:341:A:H8	1.70	0.56
60:c:1357:A:C8	60:c:1368:G:N2	2.74	0.56
60:c:1369:U:H1'	60:c:1370:U:N1	2.20	0.56
60:c:1556:A:H5'	75:r:115:TYR:OH	2.06	0.56
60:c:1590:G:OP1	79:v:91:TYR:HB2	2.06	0.56
64:g:157:LEU:HD23	64:g:189:MET:HB2	1.87	0.56
71:n:25:LYS:HE3	71:n:64:TYR:OH	2.06	0.56
3:2:44:ILE:HG21	74:q:115:ILE:HD12	1.87	0.56
11:AA:1119:C:H2'	11:AA:1120:A:C8	2.41	0.56
11:AA:3357:U:H2'	11:AA:3358:U:C6	2.41	0.56
11:AA:3361:G:H2'	11:AA:3362:A:C2	2.40	0.56
38:LL:114:VAL:HB	38:LL:124:ARG:HB2	1.86	0.56
60:c:1331:A:OP1	77:t:45:ARG:NH2	2.27	0.56
60:c:1566:U:OP2	78:u:41:ARG:HB2	2.06	0.56
67:j:23:ARG:NE	67:j:41:VAL:O	2.38	0.56
68:k:34:LEU:HD13	68:k:76:LYS:HE3	1.87	0.56
76:s:131:GLY:HA3	76:s:137:ARG:HA	1.87	0.56
83:z:50:LYS:HD3	83:z:101:GLU:CD	2.30	0.56
8:7:250:TYR:HB3	8:7:265:LEU:HB2	1.86	0.56
11:AA:520:U:O4	28:GG:349:THR:OG1	2.23	0.56
11:AA:2477:G:H5"	11:AA:2478:C:H5	1.69	0.56
58:a:35:LEU:HD23	58:a:36:PHE:N	2.21	0.56
60:c:1557:U:OP2	60:c:1559:A:O2'	2.16	0.56
61:d:74:VAL:HG12	61:d:96:THR:HB	1.88	0.56
62:e:87:ARG:HD3	62:e:101:HIS:ND1	2.21	0.56
66:i:89:ILE:HA	66:i:92:ARG:HG3	1.88	0.56
74:q:133:ARG:HB2	74:q:136:ARG:HH21	1.70	0.56
11:AA:103:G:H2'	11:AA:104:G:H8	1.71	0.56
11:AA:351:A:N6	55:X:37:TYR:O	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:837:A:N6	11:AA:856:G:O2'	2.38	0.56
12:Aa:1:MET:HE1	60:c:156:A:O3'	2.06	0.56
12:Aa:159:LYS:HD3	12:Aa:162:ARG:HD3	1.87	0.56
12:Aa:492:ALA:O	12:Aa:557:SER:N	2.38	0.56
24:Ee:85:LEU:HD22	24:Ee:100:HIS:HB2	1.88	0.56
24:Ee:123:ARG:HG2	24:Ee:123:ARG:HH11	1.70	0.56
32:II:170:LYS:HB2	32:II:173:MET:HE2	1.86	0.56
34:JJ:119:VAL:HG13	34:JJ:124:LEU:HD21	1.87	0.56
44:OO:119:TYR:O	44:OO:123:ILE:HG12	2.06	0.56
46:PP:28:SER:HB3	46:PP:31:LYS:HD2	1.86	0.56
57:Z:17:ARG:NH1	60:c:1116:A:H5"	2.21	0.56
58:a:35:LEU:HD23	58:a:36:PHE:H	1.71	0.56
60:c:990:C:H2'	60:c:991:G:O4'	2.06	0.56
63:f:35:TRP:NE1	63:f:46:LYS:HB3	2.21	0.56
71:n:46:LEU:O	71:n:50:THR:CB	2.50	0.56
5:4:15:VAL:HA	5:4:28:VAL:HG12	1.88	0.56
11:AA:499:G:OP1	49:R:48:ARG:NH2	2.39	0.56
11:AA:1184:A:H2'	11:AA:1185:C:C6	2.41	0.56
11:AA:1206:G:OP1	40:MM:157:TYR:OH	2.24	0.56
11:AA:1214:U:H2'	11:AA:1215:U:C6	2.40	0.56
11:AA:1722:U:OP2	19:D:103:ARG:NH1	2.39	0.56
11:AA:2673:A:H5"	42:NN:95:ASN:HD22	1.71	0.56
11:AA:3324:C:OP1	45:P:19:ARG:NH1	2.36	0.56
22:E:6:GLU:OE2	22:E:28:ARG:HB3	2.06	0.56
34:JJ:239:LEU:O	34:JJ:242:SER:OG	2.22	0.56
45:P:49:VAL:HG22	45:P:91:SER:HB2	1.88	0.56
60:c:818:C:H2'	60:c:819:G:O4'	2.06	0.56
60:c:1354:G:C4	60:c:1355:C:N3	2.74	0.56
60:c:1365:C:C2	60:c:1366:U:C5	2.94	0.56
60:c:1609:U:H2'	60:c:1610:G:O4'	2.06	0.56
70:m:109:LEU:HB2	70:m:146:PHE:HB3	1.87	0.56
71:n:45:ALA:O	71:n:48:SER:HB3	2.06	0.56
74:q:84:ARG:HB3	74:q:118:VAL:HG23	1.86	0.56
2:1:100:ILE:HD12	66:i:120:ILE:HD13	1.87	0.55
11:AA:1222:G:N2	11:AA:1285:G:O2'	2.38	0.55
12:Aa:512:SER:HA	12:Aa:518:VAL:HG13	1.87	0.55
13:B:88:VAL:O	13:B:92:GLN:HG3	2.07	0.55
30:HH:142:PHE:HD2	30:HH:171:LEU:HD11	1.71	0.55
41:N:6:ASN:OD1	41:N:7:HIS:N	2.39	0.55
45:P:7:VAL:HG12	45:P:78:LYS:HA	1.87	0.55
60:c:761:G:HO2'	60:c:762:A:P	2.29	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:788:A:C6	65:h:19:LEU:HD11	2.41	0.55
60:c:1164:G:H2'	60:c:1165:G:H8	1.70	0.55
60:c:1344:A:H4'	80:w:54:GLY:HA3	1.87	0.55
5:4:64:ARG:NH1	21:Dd:13:A:OP1	2.40	0.55
8:7:88:THR:HG22	8:7:104:VAL:HG23	1.88	0.55
11:AA:209:A:OP1	28:GG:161:LYS:NZ	2.37	0.55
11:AA:1845:G:O2'	53:V:5:THR:HG22	2.05	0.55
19:D:130:ASN:O	19:D:132:PHE:N	2.40	0.55
25:F:105:PHE:O	25:F:109:VAL:HG23	2.06	0.55
29:H:104:ASN:OD1	29:H:108:GLU:N	2.38	0.55
32:II:88:SER:OG	46:PP:113:THR:OG1	2.24	0.55
42:NN:23:VAL:HG11	42:NN:29:ARG:HG2	1.88	0.55
42:NN:92:ARG:NH1	42:NN:94:ARG:HG2	2.21	0.55
60:c:12:U:H2'	60:c:13:C:C6	2.42	0.55
60:c:472:U:H2'	60:c:473:A:H8	1.72	0.55
60:c:537:G:OP2	70:m:175:ARG:NH1	2.39	0.55
68:k:74:GLN:HE21	68:k:78:THR:HG21	1.71	0.55
11:AA:1629:U:O2'	11:AA:1630:U:O5'	2.22	0.55
11:AA:1952:G:H5"	11:AA:2095:G:H21	1.72	0.55
11:AA:2469:G:C2	11:AA:2477:G:H1'	2.41	0.55
11:AA:2683:U:H1'	42:NN:128:TYR:CE2	2.40	0.55
11:AA:2830:G:H2'	11:AA:2831:G:H8	1.70	0.55
12:Aa:459:ILE:O	12:Aa:460:ASP:OD1	2.25	0.55
15:Bb:9:A:O2'	15:Bb:10:G:N7	2.39	0.55
20:DD:35:SER:O	20:DD:39:HIS:N	2.40	0.55
29:H:108:GLU:HA	29:H:128:ARG:HG3	1.87	0.55
59:b:46:THR:OG1	59:b:57:CYS:SG	2.62	0.55
60:c:483:A:C2'	60:c:507:U:C6	2.89	0.55
60:c:512:A:H4'	70:m:164:PHE:HE1	1.71	0.55
68:k:5:GLN:O	68:k:8:ILE:C	2.49	0.55
4:3:11:THR:HG23	4:3:14:SER:H	1.70	0.55
8:7:192:PHE:HB3	8:7:223:TRP:CH2	2.42	0.55
11:AA:895:A:O2'	11:AA:896:A:OP2	2.23	0.55
12:Aa:229:TYR:HB2	12:Aa:240:MET:HE1	1.88	0.55
29:H:131:SER:OG	60:c:417:A:O2'	2.24	0.55
38:LL:47:LYS:HG3	46:PP:7:VAL:HB	1.88	0.55
38:LL:156:GLN:NE2	38:LL:160:ASP:OD1	2.39	0.55
44:OO:11:LYS:O	44:OO:13:HIS:ND1	2.40	0.55
60:c:759:U:O4	60:c:760:A:N6	2.39	0.55
60:c:932:U:OP2	62:e:155:TYR:OH	2.21	0.55
60:c:1400:A:O3'	77:t:60:ARG:NH1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:n:10:LYS:NZ	71:n:36:ASP:OD1	2.33	0.55
76:s:73:GLY:H	76:s:76:SER:HB2	1.71	0.55
81:x:78:LEU:O	81:x:79:LEU:HD12	2.06	0.55
11:AA:431:U:H2'	11:AA:432:G:C8	2.40	0.55
11:AA:627:U:H2'	11:AA:628:A:C8	2.41	0.55
11:AA:999:G:H2'	11:AA:1000:C:C6	2.42	0.55
11:AA:1088:U:H2'	11:AA:1089:G:H8	1.71	0.55
11:AA:2662:G:H2'	11:AA:2663:G:H8	1.72	0.55
11:AA:2663:G:H5"	42:NN:142:LYS:NZ	2.22	0.55
12:Aa:27:HIS:ND1	12:Aa:138:GLN:HB2	2.21	0.55
12:Aa:561:VAL:HG11	12:Aa:775:ASN:HB3	1.89	0.55
27:G:33:TYR:OH	27:G:80:THR:OG1	2.18	0.55
60:c:349:U:OP1	72:o:104:HIS:NE2	2.38	0.55
60:c:609:U:O2'	83:z:23:ARG:NH1	2.40	0.55
60:c:808:U:H2'	60:c:809:A:C8	2.42	0.55
60:c:1258:U:OP1	71:n:1:MET:N	2.39	0.55
60:c:1332:C:OP2	77:t:45:ARG:NH1	2.39	0.55
60:c:1370:U:P	79:v:69:LYS:NZ	2.79	0.55
60:c:1372:U:H3'	60:c:1372:U:OP2	2.06	0.55
60:c:1376:C:O2'	60:c:1377:U:H5'	2.07	0.55
66:i:110:ALA:O	66:i:113:ILE:HG22	2.07	0.55
73:p:105:ASN:O	73:p:107:LYS:N	2.39	0.55
77:t:67:ARG:HA	77:t:67:ARG:HE	1.71	0.55
11:AA:671:U:H2'	11:AA:672:A:C8	2.41	0.55
11:AA:761:A:H2'	11:AA:762:U:C6	2.41	0.55
11:AA:1941:C:H2'	11:AA:1942:U:C6	2.42	0.55
11:AA:3347:A:H2'	11:AA:3348:G:H8	1.72	0.55
12:Aa:10:ARG:NH2	12:Aa:449:PRO:HD3	2.21	0.55
14:BB:7:G:O3'	30:HH:33:ARG:NH2	2.40	0.55
17:CC:9:A:H2'	17:CC:10:A:H8	1.71	0.55
30:HH:125:VAL:HG11	30:HH:199:ILE:HG21	1.88	0.55
39:M:63:LYS:HE2	39:M:68:PHE:CE2	2.41	0.55
40:MM:140:THR:OG1	40:MM:144:ASN:ND2	2.38	0.55
54:W:5:ILE:HD11	54:W:52:TYR:CD2	2.40	0.55
66:i:45:LYS:HB3	66:i:46:TRP:CE3	2.41	0.55
75:r:19:GLY:N	78:u:93:THR:O	2.37	0.55
1:0:63:GLN:NE2	1:0:64:PHE:O	2.39	0.55
11:AA:1471:U:H5"	19:D:5:ARG:CD	2.37	0.55
11:AA:1783:U:H2'	11:AA:1784:G:C8	2.42	0.55
11:AA:2656:A:C8	11:AA:2658:G:C8	2.94	0.55
12:Aa:221:THR:HG23	12:Aa:223:ARG:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:H:19:VAL:HG23	29:H:50:PRO:O	2.07	0.55
46:PP:96:ALA:O	46:PP:101:LYS:NZ	2.39	0.55
60:c:628:G:H21	60:c:971:A:N6	2.03	0.55
60:c:1365:C:H2'	60:c:1366:U:C5	2.42	0.55
60:c:1368:G:H2'	60:c:1369:U:C6	2.38	0.55
60:c:1388:A:N7	60:c:1411:A:N6	2.54	0.55
62:e:135:LEU:HD23	62:e:217:LEU:HA	1.88	0.55
65:h:231:GLN:OE1	65:h:232:GLY:N	2.40	0.55
11:AA:1834:U:OP2	55:X:10:LYS:NZ	2.40	0.55
11:AA:2160:G:H2'	11:AA:2161:G:C8	2.42	0.55
25:F:68:THR:O	30:HH:41:LYS:HB2	2.07	0.55
60:c:395:U:H2'	60:c:396:G:O4'	2.07	0.55
60:c:407:A:H2'	60:c:408:C:C6	2.41	0.55
60:c:1024:U:OP1	60:c:1127:G:O2'	2.24	0.55
60:c:1349:G:H2'	60:c:1350:U:H6	1.72	0.55
60:c:1364:G:H2'	60:c:1365:C:C6	2.42	0.55
60:c:1389:C:O5'	77:t:48:ASN:ND2	2.40	0.55
62:e:208:GLN:HG3	62:e:209:ASN:N	2.22	0.55
69:l:107:THR:HG22	69:l:110:ARG:HH22	1.72	0.55
8:7:178:VAL:HB	8:7:223:TRP:CH2	2.42	0.55
11:AA:411:U:H2'	11:AA:412:G:C8	2.41	0.55
11:AA:437:G:H1	11:AA:622:A:H61	1.55	0.55
11:AA:1250:G:H2'	11:AA:1251:A:C8	2.42	0.55
11:AA:1299:U:H2'	11:AA:1300:G:O4'	2.07	0.55
11:AA:2509:U:H2'	11:AA:2510:U:O4'	2.06	0.55
11:AA:3049:A:C8	26:FF:53:MET:HE3	2.41	0.55
12:Aa:152:LYS:NZ	12:Aa:199:ASP:O	2.39	0.55
12:Aa:694:HIS:H	12:Aa:700:ARG:NH1	2.04	0.55
17:CC:155:A:H4'	36:KK:185:ARG:HH22	1.72	0.55
29:H:21:ALA:HB3	29:H:36:ILE:HD12	1.87	0.55
60:c:1351:G:C4	60:c:1352:G:C8	2.95	0.55
60:c:1535:U:H5	66:i:187:ILE:HA	1.71	0.55
64:g:51:ARG:HE	64:g:92:GLN:HE22	1.54	0.55
3:2:5:ARG:NH2	60:c:1795:U:H3'	2.20	0.55
7:6:39:LEU:HD22	7:6:43:ARG:CZ	2.37	0.55
11:AA:38:U:H4'	39:M:32:ARG:HD3	1.89	0.55
11:AA:1213:G:O2'	22:E:90:MET:HG2	2.07	0.55
11:AA:1230:G:H2'	11:AA:1231:A:O4'	2.07	0.55
11:AA:1405:U:OP2	47:Q:59:SER:OG	2.17	0.55
11:AA:1498:A:H2'	11:AA:1499:C:C6	2.42	0.55
11:AA:1709:C:H2'	11:AA:1710:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1900:A:H4'	11:AA:1901:A:O5'	2.06	0.55
11:AA:2430:A:H2'	11:AA:2431:C:C6	2.42	0.55
11:AA:2835:U:H2'	11:AA:2836:C:O2	2.07	0.55
12:Aa:92:LYS:HD2	12:Aa:346:VAL:HG21	1.87	0.55
13:B:30:ARG:O	13:B:34:GLN:HG2	2.07	0.55
17:CC:71:A:O3'	35:K:52:ARG:HD2	2.05	0.55
36:KK:100:GLU:OE2	36:KK:108:ARG:NE	2.38	0.55
60:c:209:U:H2'	60:c:210:A:C8	2.42	0.55
60:c:598:U:H2'	60:c:599:A:H8	1.71	0.55
60:c:954:G:H2'	60:c:955:A:C8	2.42	0.55
60:c:1318:G:H2'	60:c:1319:A:C8	2.42	0.55
60:c:1378:U:N3	76:s:8:GLN:OE1	2.40	0.55
11:AA:72:C:H4'	44:OO:63:VAL:HB	1.89	0.54
11:AA:408:A:N3	11:AA:655:C:O2'	2.39	0.54
11:AA:1652:G:H2'	11:AA:1653:G:H8	1.72	0.54
11:AA:1661:G:H2'	11:AA:1662:G:H8	1.71	0.54
11:AA:1764:U:C5	11:AA:1765:U:H1'	2.42	0.54
19:D:173:ARG:O	19:D:177:VAL:HG12	2.07	0.54
22:E:148:LEU:HD23	46:PP:38:ILE:HD11	1.90	0.54
33:J:60:TYR:CD2	51:T:25:LYS:HB3	2.42	0.54
38:LL:10:ILE:HG22	38:LL:72:LYS:HD3	1.87	0.54
43:O:41:LEU:HD23	43:O:92:ILE:HD13	1.90	0.54
59:b:39:CYS:HB3	59:b:42:CYS:SG	2.47	0.54
60:c:451:A:N6	60:c:453:U:O2	2.41	0.54
60:c:1355:C:C5	60:c:1371:A:N7	2.75	0.54
62:e:23:PRO:O	62:e:27:LYS:HG2	2.07	0.54
67:j:118:GLU:OE1	67:j:119:GLN:HG2	2.06	0.54
72:o:33:ARG:NE	72:o:51:GLY:O	2.40	0.54
76:s:103:ASN:O	76:s:107:LYS:HG2	2.06	0.54
77:t:71:PHE:O	77:t:73:LEU:N	2.40	0.54
1:0:55:VAL:HG12	1:0:75:VAL:HG22	1.87	0.54
11:AA:117:U:O2'	11:AA:119:U:OP2	2.24	0.54
11:AA:283:G:OP2	11:AA:285:A:O2'	2.24	0.54
11:AA:831:G:O2'	11:AA:1864:A:N3	2.38	0.54
11:AA:1026:A:O2'	11:AA:1027:A:O4'	2.25	0.54
11:AA:1362:G:H2'	11:AA:1363:A:H8	1.72	0.54
11:AA:2991:A:OP2	26:FF:20:LYS:HG3	2.07	0.54
12:Aa:414:GLN:NE2	12:Aa:470:THR:OG1	2.40	0.54
16:C:125:ASP:OD1	16:C:126:GLN:N	2.40	0.54
19:D:126:GLU:O	19:D:131:ALA:HB3	2.07	0.54
23:EE:45:VAL:HG22	23:EE:61:VAL:HG22	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Ee:16:ARG:HA	24:Ee:59:THR:HA	1.87	0.54
26:FF:45:SER:HB3	26:FF:181:ILE:HD12	1.88	0.54
28:GG:9:HIS:CD2	28:GG:15:ALA:HB2	2.43	0.54
28:GG:11:LEU:HD21	28:GG:156:LEU:HB2	1.90	0.54
30:HH:99:TYR:HE2	30:HH:164:LYS:HG3	1.71	0.54
31:I:56:ARG:HH21	31:I:61:LYS:HG3	1.72	0.54
40:MM:189:GLU:HB2	40:MM:200:LEU:HB3	1.90	0.54
60:c:591:A:H2'	60:c:592:A:C8	2.43	0.54
60:c:1350:U:H2'	60:c:1351:G:C8	2.42	0.54
60:c:1373:C:C2'	60:c:1374:C:H6	2.19	0.54
62:e:105:PHE:HZ	62:e:211:HIS:CD2	2.25	0.54
73:p:39:LYS:HG2	73:p:42:ARG:NH1	2.22	0.54
11:AA:627:U:H4'	11:AA:1399:A:H1'	1.89	0.54
11:AA:1229:G:H21	11:AA:1281:G:C3'	2.15	0.54
18:Cc:40:C:H2'	18:Cc:41:C:C6	2.42	0.54
23:EE:116:VAL:O	23:EE:126:LEU:N	2.26	0.54
28:GG:90:PHE:O	28:GG:98:ARG:NH2	2.38	0.54
48:QQ:5:LYS:HD3	52:U:36:ARG:NH2	2.22	0.54
48:QQ:20:ARG:HA	48:QQ:23:GLN:HE21	1.73	0.54
56:Y:110:CYS:HB3	56:Y:115:CYS:SG	2.46	0.54
60:c:178:U:H5"	60:c:179:A:H5'	1.88	0.54
60:c:861:U:O2'	82:y:56:HIS:O	2.25	0.54
60:c:1368:G:OP2	60:c:1368:G:H8	1.89	0.54
60:c:1650:U:H2'	60:c:1651:A:C8	2.42	0.54
64:g:160:SER:HB2	64:g:164:VAL:HG21	1.88	0.54
66:i:38:THR:H	76:s:57:LEU:HD21	1.73	0.54
67:j:67:VAL:HG12	67:j:69:LEU:HG	1.89	0.54
72:o:4:GLU:N	72:o:7:VAL:HG22	2.21	0.54
8:7:157:VAL:HG13	8:7:208:GLY:HA2	1.89	0.54
11:AA:269:G:C5'	48:QQ:120:TRP:HE1	2.19	0.54
11:AA:1015:U:H4'	11:AA:1017:C:N4	2.22	0.54
11:AA:1196:C:OP2	11:AA:1309:U:O2'	2.20	0.54
11:AA:1497:C:H2'	11:AA:1498:A:H8	1.71	0.54
11:AA:2111:G:O4'	31:I:48:ARG:NH1	2.41	0.54
11:AA:2347:OMU:H2'	11:AA:2348:A:O4'	2.07	0.54
11:AA:2424:A:H5'	48:QQ:89:VAL:HG21	1.89	0.54
11:AA:2767:U:H2'	11:AA:2768:U:C6	2.42	0.54
11:AA:2881:C:H2'	11:AA:2882:U:C6	2.43	0.54
20:DD:45:LEU:HD12	20:DD:49:ALA:HB3	1.89	0.54
40:MM:153:ARG:NH1	40:MM:157:TYR:OH	2.40	0.54
60:c:446:A:N6	60:c:462:G:H1'	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:628:G:OP1	73:p:124:ARG:NH1	2.40	0.54
60:c:1354:G:H1'	60:c:1371:A:N6	2.19	0.54
67:j:79:LYS:HG2	67:j:86:PRO:HG2	1.88	0.54
67:j:182:GLN:O	67:j:186:ARG:HG3	2.08	0.54
8:7:238:ASP:HB3	8:7:256:THR:HB	1.88	0.54
11:AA:1660:C:H2'	11:AA:1661:G:H8	1.72	0.54
11:AA:1828:A:H2'	11:AA:1829:G:C8	2.43	0.54
11:AA:2196:C:O2'	11:AA:2270:A:H8	1.90	0.54
11:AA:2428:U:H2'	11:AA:2429:G:C8	2.40	0.54
44:OO:153:ASP:OD2	44:OO:157:ARG:NH2	2.39	0.54
55:X:28:ARG:N	55:X:33:ASN:HD21	2.00	0.54
55:X:43:ASN:HD22	55:X:46:ARG:CZ	2.20	0.54
60:c:1229:G:C2	60:c:1256:A:N1	2.76	0.54
60:c:1680:G:N2	60:c:1681:A:N1	2.55	0.54
62:e:137:ILE:HG21	62:e:172:LEU:HD22	1.89	0.54
75:r:22:LEU:HD21	75:r:109:PRO:HB3	1.89	0.54
80:w:34:LEU:HD21	80:w:89:ARG:HG2	1.90	0.54
5:4:58:GLU:OE2	5:4:61:ARG:NH1	2.40	0.54
10:A:54:TYR:CE1	10:A:145:VAL:HG11	2.43	0.54
11:AA:1095:U:C2	25:F:129:LYS:HG2	2.43	0.54
11:AA:2472:U:N3	11:AA:2473:C:H1'	2.23	0.54
11:AA:2555:G:C8	50:S:91:ARG:HD2	2.43	0.54
11:AA:2663:G:H5"	42:NN:142:LYS:HZ1	1.72	0.54
11:AA:2882:U:H2'	11:AA:2883:U:H6	1.72	0.54
12:Aa:411:VAL:N	12:Aa:429:LYS:O	2.27	0.54
23:EE:65:ASP:OD2	23:EE:68:LYS:N	2.36	0.54
30:HH:107:ARG:NH2	30:HH:169:GLY:O	2.37	0.54
54:W:41:THR:HB	54:W:56:ILE:HG23	1.90	0.54
60:c:607:G:N2	60:c:614:C:H5"	2.22	0.54
60:c:625:C:H2'	60:c:626:U:C6	2.43	0.54
60:c:1039:A:OP1	82:y:22:LYS:NZ	2.41	0.54
60:c:1352:G:N2	60:c:1353:U:O4'	2.41	0.54
61:d:124:THR:HG22	61:d:174:TRP:HE1	1.72	0.54
1:0:16:PRO:HG2	65:h:94:ALA:HB1	1.89	0.54
11:AA:17:G:H5"	51:T:75:TYR:CZ	2.42	0.54
11:AA:412:G:H2'	11:AA:413:U:C6	2.43	0.54
11:AA:507:U:H2'	11:AA:508:U:C6	2.43	0.54
11:AA:1499:C:H2'	11:AA:1500:G:H8	1.72	0.54
11:AA:2902:A:H5'	11:AA:3032:A:H1'	1.90	0.54
12:Aa:564:ARG:HB2	12:Aa:725:GLN:HG2	1.90	0.54
32:II:62:THR:HG21	32:II:78:ARG:HD2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:NN:37:LEU:HB2	42:NN:45:PRO:HG3	1.89	0.54
45:P:72:ARG:HE	45:P:104:LEU:HB3	1.72	0.54
60:c:69:G:H2'	60:c:70:C:C6	2.43	0.54
60:c:868:G:H5"	73:p:91:LEU:HD13	1.90	0.54
67:j:195:VAL:HG22	67:j:199:GLN:NE2	2.18	0.54
70:m:168:ARG:NE	70:m:174:ARG:HH21	2.06	0.54
73:p:66:ILE:HG23	73:p:67:THR:HG23	1.89	0.54
7:6:41:THR:O	7:6:45:VAL:HG22	2.07	0.54
8:7:260:ILE:HG13	8:7:275:ARG:NH2	2.23	0.54
11:AA:279:U:H2'	11:AA:280:U:C6	2.43	0.54
11:AA:2526:C:H2'	11:AA:2527:G:H8	1.73	0.54
12:Aa:203:TYR:HD2	12:Aa:206:ARG:HG3	1.73	0.54
18:Cc:54:G:C2	18:Cc:55:U:C4	2.96	0.54
26:FF:50:LYS:HD3	26:FF:331:ASN:O	2.08	0.54
44:OO:59:ARG:NH1	44:OO:66:ASN:O	2.40	0.54
60:c:502:U:N3	60:c:503:G:O6	2.40	0.54
62:e:205:PHE:CD1	62:e:206:PRO:HD2	2.43	0.54
8:7:211:ILE:HG13	8:7:223:TRP:HB2	1.90	0.54
10:A:178:VAL:HA	46:PP:135:LEU:HD21	1.90	0.54
11:AA:632:G:H2'	11:AA:633:C:C6	2.43	0.54
11:AA:1651:U:H2'	11:AA:1652:G:H8	1.72	0.54
26:FF:171:LEU:HD22	26:FF:333:LYS:HG3	1.89	0.54
60:c:325:G:OP1	72:o:132:SER:OG	2.25	0.54
60:c:329:G:H2'	60:c:330:G:H8	1.73	0.54
60:c:1230:A:P	60:c:1255:G:H22	2.31	0.54
60:c:1258:U:H4'	71:n:2:LEU:HG	1.89	0.54
61:d:38:PHE:CG	77:t:109:LEU:HD21	2.43	0.54
62:e:121:ILE:HD11	62:e:161:ILE:HD12	1.89	0.54
79:v:7:ARG:HG2	79:v:67:MET:HE1	1.88	0.54
82:y:82:LYS:H	82:y:85:ASP:HB2	1.72	0.54
3:2:11:ASN:HB3	3:2:33:ASP:HB2	1.90	0.54
11:AA:550:A:H2'	11:AA:551:A:C8	2.43	0.54
11:AA:1378:U:H2'	11:AA:1379:G:H8	1.73	0.54
11:AA:1498:A:H2'	11:AA:1499:C:H6	1.72	0.54
11:AA:1952:G:H5"	11:AA:2095:G:N2	2.22	0.54
13:B:64:ASN:O	13:B:80:LYS:NZ	2.26	0.54
19:D:81:ARG:HG3	19:D:88:ARG:HD2	1.89	0.54
27:G:32:SER:OG	27:G:83:TYR:OH	2.17	0.54
27:G:33:TYR:O	27:G:37:LEU:HD23	2.07	0.54
27:G:56:VAL:HG22	27:G:65:VAL:HG22	1.90	0.54
29:H:87:ARG:HB2	29:H:89:ASP:OD1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:a:12:CYS:O	58:a:18:ARG:HA	2.08	0.54
60:c:17:C:H2'	60:c:18:C:H6	1.72	0.54
60:c:148:A:H3'	60:c:149:C:H6	1.73	0.54
60:c:1064:G:H2'	60:c:1065:A:C8	2.43	0.54
60:c:1108:G:N1	83:z:22:ASN:OD1	2.39	0.54
60:c:1335:U:H5'	80:w:85:ARG:HH22	1.73	0.54
64:g:34:TYR:CE1	64:g:37:VAL:HG13	2.41	0.54
70:m:178:ALA:O	70:m:182:GLU:HG3	2.08	0.54
79:v:81:GLY:HA3	79:v:95:ASP:HA	1.90	0.54
11:AA:284:A:N1	11:AA:2784:G:O2'	2.40	0.53
11:AA:1351:U:H2'	11:AA:1352:A:H2	1.72	0.53
11:AA:1651:U:H2'	11:AA:1652:G:C8	2.43	0.53
11:AA:1717:U:H2'	11:AA:1718:G:H8	1.72	0.53
11:AA:2216:G:H22	11:AA:2229:A:H2	1.56	0.53
11:AA:2659:G:H2'	11:AA:2660:G:C8	2.42	0.53
11:AA:2714:G:C8	11:AA:2751:G:H2'	2.44	0.53
12:Aa:55:ARG:HH22	12:Aa:67:GLY:HA2	1.72	0.53
12:Aa:193:ALA:HB2	12:Aa:200:VAL:HG11	1.90	0.53
12:Aa:311:GLU:HA	12:Aa:314:LEU:HG	1.90	0.53
44:OO:70:ARG:NH1	44:OO:71:ALA:O	2.41	0.53
44:OO:180:ARG:HG3	52:U:11:LEU:HD21	1.90	0.53
60:c:123:G:P	65:h:77:ARG:HH22	2.31	0.53
60:c:270:C:H2'	60:c:271:A:C8	2.43	0.53
60:c:900:A:H2'	60:c:901:G:C8	2.44	0.53
60:c:1592:A:H2'	60:c:1593:A:C8	2.43	0.53
67:j:55:GLY:O	67:j:63:MET:HG2	2.07	0.53
69:l:62:THR:HB	69:l:77:ARG:HG3	1.89	0.53
78:u:142:GLY:O	78:u:145:ARG:NH1	2.42	0.53
1:0:112:LYS:HG2	1:0:116:LYS:HZ2	1.72	0.53
10:A:83:ALA:O	11:AA:1312:C:O2'	2.26	0.53
11:AA:98:G:N7	44:OO:13:HIS:NE2	2.54	0.53
11:AA:307:A:H2'	11:AA:308:A:C8	2.42	0.53
11:AA:746:A:H2'	11:AA:747:A:C8	2.42	0.53
11:AA:1088:U:H2'	11:AA:1089:G:C8	2.43	0.53
11:AA:1349:G:OP1	11:AA:1349:G:H3'	2.09	0.53
11:AA:1497:C:H2'	11:AA:1498:A:C8	2.43	0.53
11:AA:1782:U:H2'	11:AA:1783:U:O4'	2.08	0.53
11:AA:2367:A:H2'	11:AA:2368:A:H8	1.73	0.53
11:AA:2566:C:H2'	11:AA:2567:C:C6	2.43	0.53
11:AA:2947:G:C2	26:FF:250:ALA:HB1	2.42	0.53
11:AA:3095:U:H5"	29:H:86:ARG:NH2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3146:G:H2'	11:AA:3147:G:H8	1.72	0.53
12:Aa:568:GLU:HG2	12:Aa:723:LYS:HD3	1.90	0.53
13:B:117:ILE:HD13	13:B:148:LEU:HB2	1.89	0.53
23:EE:96:LEU:HG	59:b:83:ILE:HD11	1.90	0.53
24:Ee:77:ALA:HA	24:Ee:116:MET:HE3	1.90	0.53
26:FF:92:TYR:HB2	26:FF:157:VAL:HB	1.90	0.53
57:Z:5:TRP:CZ3	60:c:1783:C:H5"	2.44	0.53
58:a:7:THR:C	58:a:23:HIS:O	2.51	0.53
60:c:765:G:C6	70:m:149:ARG:HG3	2.43	0.53
60:c:1360:A:H2	60:c:1363:U:O2	1.91	0.53
60:c:1679:G:N2	60:c:1723:U:O4	2.42	0.53
63:f:139:ILE:HD12	63:f:218:ILE:HD12	1.91	0.53
63:f:140:ARG:NH1	81:x:1:MET:SD	2.81	0.53
77:t:60:ARG:HE	77:t:66:VAL:HG21	1.73	0.53
11:AA:2213:A:H2'	11:AA:2214:A:H8	1.72	0.53
11:AA:2660:G:O3'	11:AA:2749:G:N2	2.41	0.53
11:AA:2950:G:N2	11:AA:2950:G:OP2	2.37	0.53
12:Aa:648:ASP:OD2	12:Aa:650:THR:OG1	2.27	0.53
23:EE:113:VAL:HG12	23:EE:166:ILE:HD13	1.90	0.53
30:HH:148:ILE:HG22	30:HH:151:GLN:HB3	1.90	0.53
40:MM:144:ASN:OD1	40:MM:144:ASN:O	2.25	0.53
59:b:51:ALA:H	59:b:54:ILE:HD11	1.73	0.53
60:c:405:C:O3'	67:j:93:LYS:HD2	2.08	0.53
60:c:1355:C:C2	60:c:1371:A:N6	2.77	0.53
61:d:155:PHE:O	81:x:60:ARG:NH2	2.41	0.53
65:h:67:GLN:HG3	65:h:69:HIS:HD2	1.74	0.53
68:k:122:HIS:CE1	68:k:177:THR:HG22	2.43	0.53
71:n:48:SER:O	71:n:50:THR:N	2.42	0.53
78:u:30:TYR:CE2	78:u:40:ARG:HD3	2.43	0.53
11:AA:144:A:OP1	36:KK:193:LYS:NZ	2.34	0.53
11:AA:1672:U:OP1	19:D:64:ARG:NE	2.30	0.53
11:AA:1895:A:O2'	11:AA:3053:G:H4'	2.09	0.53
11:AA:2352:A:H5"	13:B:83:TRP:O	2.08	0.53
11:AA:2724:OMU:H4'	25:F:54:HIS:CD2	2.43	0.53
11:AA:3000:A:H5"	26:FF:120:LYS:HD2	1.90	0.53
11:AA:3048:A:H4'	26:FF:53:MET:HE2	1.89	0.53
11:AA:3110:C:H2'	11:AA:3111:U:C6	2.43	0.53
12:Aa:424:ASP:CG	12:Aa:425:ASP:H	2.16	0.53
18:Cc:29:C:O2	18:Cc:30:G:C8	2.61	0.53
42:NN:41:SER:O	42:NN:75:LYS:NZ	2.39	0.53
42:NN:51:ARG:HA	42:NN:61:ARG:HH11	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:QQ:52:GLY:O	48:QQ:148:TYR:OH	2.21	0.53
60:c:513:U:H3	60:c:538:A:H8	1.53	0.53
60:c:886:U:H2'	60:c:887:A:C8	2.44	0.53
60:c:1248:C:H2'	60:c:1249:U:C6	2.43	0.53
60:c:1317:C:H2'	60:c:1318:G:O4'	2.09	0.53
8:7:243:LEU:HB2	8:7:252:LEU:HD11	1.91	0.53
11:AA:1258:U:OP2	24:Ee:123:ARG:NH2	2.42	0.53
11:AA:1914:G:N2	19:D:81:ARG:O	2.28	0.53
11:AA:2148:U:OP2	11:AA:2187:G:N1	2.39	0.53
12:Aa:35:LEU:O	12:Aa:38:SER:OG	2.22	0.53
18:Cc:9:G:O2'	18:Cc:10:G:N7	2.41	0.53
19:D:91:SER:HA	19:D:94:VAL:HG12	1.90	0.53
20:DD:106:ALA:HA	20:DD:182:THR:HA	1.89	0.53
36:KK:95:ASN:OD1	36:KK:98:ARG:NH2	2.40	0.53
45:P:72:ARG:HH22	45:P:107:VAL:HG22	1.74	0.53
49:R:18:ARG:NH2	49:R:20:LYS:O	2.41	0.53
60:c:17:C:H2'	60:c:18:C:C6	2.44	0.53
60:c:948:G:H2'	60:c:949:C:C6	2.43	0.53
60:c:1449:U:H2'	60:c:1450:U:H6	1.74	0.53
61:d:12:GLU:OE1	61:d:15:GLN:NE2	2.42	0.53
62:e:229:MET:HA	62:e:229:MET:HE3	1.89	0.53
66:i:94:THR:OG1	66:i:114:ILE:HD13	2.08	0.53
67:j:148:SER:N	67:j:151:ASP:OD2	2.38	0.53
11:AA:173:G:N1	11:AA:246:U:C2	2.68	0.53
11:AA:1477:A:OP1	11:AA:3075:G:O2'	2.21	0.53
11:AA:1506:A:H1'	11:AA:1848:G:O6	2.09	0.53
11:AA:3334:U:H4'	11:AA:3335:A:H5'	1.89	0.53
12:Aa:601:ILE:HG21	12:Aa:643:PRO:HA	1.90	0.53
19:D:105:LEU:HD22	19:D:135:LYS:HG3	1.90	0.53
20:DD:25:LEU:HD13	20:DD:86:PHE:HD1	1.73	0.53
20:DD:125:ASN:HD21	20:DD:149:THR:HB	1.74	0.53
34:JJ:127:LEU:HB3	34:JJ:136:TYR:CZ	2.44	0.53
43:O:44:ILE:HD11	43:O:69:TYR:CE1	2.43	0.53
60:c:17:C:H4'	60:c:1109:G:C8	2.44	0.53
60:c:158:U:H3'	60:c:159:U:H5"	1.91	0.53
60:c:894:U:H2'	60:c:895:G:C8	2.44	0.53
60:c:1220:C:O3'	71:n:52:LYS:HD3	2.09	0.53
62:e:88:VAL:HA	62:e:98:THR:HG22	1.90	0.53
4:3:67:THR:OG1	4:3:70:LYS:O	2.23	0.53
11:AA:358:G:N2	11:AA:361:A:OP2	2.41	0.53
11:AA:664:U:H2'	11:AA:665:A:H8	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1128:U:OP1	40:MM:4:ARG:NH1	2.42	0.53
11:AA:1235:U:H4'	11:AA:1236:G:H3'	1.91	0.53
12:Aa:37:ASP:HA	12:Aa:40:VAL:HG12	1.90	0.53
12:Aa:388:THR:OG1	12:Aa:393:ARG:HB2	2.08	0.53
12:Aa:741:GLY:HA2	12:Aa:744:TYR:HD2	1.74	0.53
22:E:12:ARG:HB2	22:E:59:VAL:HG23	1.90	0.53
26:FF:3:HIS:HB3	26:FF:5:LYS:N	2.24	0.53
29:H:66:LYS:HG3	29:H:67:PRO:HD2	1.91	0.53
39:M:85:ASP:OD1	39:M:86:LYS:N	2.42	0.53
60:c:865:A:OP1	82:y:28:ARG:NH1	2.41	0.53
60:c:1389:C:O2'	77:t:3:ARG:NH2	2.41	0.53
83:z:17:VAL:HG12	83:z:20:ARG:NH2	2.23	0.53
10:A:143:THR:OG1	10:A:150:GLU:HG2	2.09	0.53
11:AA:824:C:H5"	23:EE:21:ARG:HG3	1.90	0.53
11:AA:1157:G:H5"	34:JJ:220:PHE:HE2	1.73	0.53
11:AA:2259:A:H2'	11:AA:2260:U:H6	1.74	0.53
11:AA:2608:G:H2'	11:AA:2609:A:H8	1.74	0.53
11:AA:2655:U:H1'	11:AA:2656:A:C2	2.43	0.53
11:AA:3146:G:H2'	11:AA:3147:G:C8	2.44	0.53
11:AA:3360:C:H2'	11:AA:3361:G:O4'	2.08	0.53
14:BB:27:A:H2'	14:BB:28:C:C6	2.44	0.53
16:C:148:GLU:HA	16:C:151:ARG:HD3	1.89	0.53
23:EE:46:LYS:HD3	23:EE:62:VAL:HG21	1.91	0.53
24:Ee:87:GLU:OE1	24:Ee:87:GLU:N	2.40	0.53
29:H:96:GLU:OE1	31:I:24:GLY:N	2.42	0.53
30:HH:205:SER:OG	30:HH:206:GLN:OE1	2.25	0.53
42:NN:57:PHE:HB2	42:NN:59:ILE:HG12	1.90	0.53
48:QQ:66:VAL:HG13	48:QQ:105:ARG:HH12	1.74	0.53
60:c:519:C:H5'	60:c:520:A:C8	2.44	0.53
60:c:749:U:H5"	82:y:83:ILE:HG12	1.91	0.53
60:c:1369:U:H4'	79:v:69:LYS:HZ1	1.74	0.53
60:c:1453:G:H2'	60:c:1454:G:H8	1.74	0.53
60:c:1546:G:OP2	78:u:134:ARG:NE	2.36	0.53
60:c:1585:U:N3	60:c:1611:A:H2	2.06	0.53
60:c:1735:U:H2'	60:c:1736:G:H8	1.74	0.53
65:h:192:ILE:HD12	65:h:242:LYS:C	2.34	0.53
65:h:230:GLU:HB3	65:h:233:LYS:HG3	1.91	0.53
67:j:50:PHE:HB3	67:j:111:LEU:HD12	1.90	0.53
72:o:14:GLN:HB3	72:o:54:ILE:HD13	1.91	0.53
75:r:96:ILE:HD12	75:r:116:LEU:HB3	1.91	0.53
76:s:132:LYS:O	76:s:136:SER:OG	2.25	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1112:A:N3	11:AA:1370:G:O2'	2.42	0.53
11:AA:2899:C:O2'	11:AA:2901:G:OP2	2.17	0.53
16:C:70:ALA:O	16:C:73:GLN:HB3	2.07	0.53
36:KK:186:LEU:HD23	36:KK:189:LEU:HD12	1.91	0.53
60:c:142:G:N2	60:c:145:A:OP1	2.40	0.53
60:c:272:U:HO2'	60:c:273:G:H8	1.56	0.53
60:c:420:A2M:O5'	60:c:420:A2M:H8	2.08	0.53
60:c:445:A:H2'	60:c:446:A:C8	2.42	0.53
60:c:1441:C:H2'	60:c:1442:U:C6	2.43	0.53
60:c:1477:G:H2'	60:c:1478:G:H8	1.74	0.53
60:c:1529:C:H4'	76:s:42:GLU:OE2	2.09	0.53
60:c:1685:G:H1'	60:c:1718:G:H1'	1.90	0.53
67:j:1:MET:HE3	67:j:19:ASP:HA	1.89	0.53
69:l:81:VAL:HA	69:l:102:VAL:HG12	1.91	0.53
1:0:63:GLN:HE21	70:m:139:GLN:NE2	2.07	0.53
6:5:21:CYS:HB3	6:5:26:SER:H	1.74	0.53
8:7:216:LYS:HA	8:7:239:GLU:HG2	1.91	0.53
11:AA:209:A:O2'	11:AA:211:A:OP2	2.23	0.53
11:AA:1601:U:P	19:D:38:ARG:HD2	2.48	0.53
11:AA:2218:G:H2'	11:AA:2219:A:C8	2.43	0.53
11:AA:2259:A:H2'	11:AA:2260:U:C6	2.44	0.53
11:AA:2586:G:O6	36:KK:242:ALA:N	2.39	0.53
11:AA:3336:A:H3'	11:AA:3337:G:C8	2.44	0.53
11:AA:3361:G:H2'	11:AA:3362:A:H2	1.74	0.53
13:B:67:ILE:HB	13:B:82:ARG:HE	1.73	0.53
14:BB:39:C:N3	42:NN:70:THR:HG22	2.23	0.53
24:Ee:125:LEU:HD12	24:Ee:128:VAL:HB	1.91	0.53
30:HH:40:HIS:CD2	30:HH:42:ALA:HB3	2.43	0.53
33:J:95:ILE:O	33:J:99:VAL:HG12	2.08	0.53
36:KK:239:GLY:O	36:KK:243:GLN:N	2.36	0.53
53:V:53:ALA:HA	53:V:56:ARG:HG2	1.90	0.53
59:b:5:THR:OG1	59:b:8:VAL:HG22	2.09	0.53
60:c:78:A:H8	60:c:79:C:C6	2.27	0.53
60:c:283:U:H3'	67:j:188:ARG:HD2	1.91	0.53
60:c:948:G:H2'	60:c:949:C:H6	1.74	0.53
60:c:1164:G:H2'	60:c:1165:G:C8	2.43	0.53
60:c:1352:G:N1	60:c:1374:C:C4	2.77	0.53
62:e:67:GLU:N	62:e:67:GLU:OE1	2.42	0.53
78:u:69:ILE:O	78:u:72:ILE:HG22	2.09	0.53
83:z:75:GLN:HB3	83:z:82:LYS:HG3	1.90	0.53
11:AA:2163:C:H4'	23:EE:8:GLN:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2479:C:H2'	11:AA:2480:A:C8	2.44	0.52
11:AA:2561:A:H2'	11:AA:2562:A:H8	1.72	0.52
11:AA:2561:A:H1'	36:KK:32:LYS:HZ1	1.72	0.52
11:AA:3192:U:O4	11:AA:3200:G:O6	2.27	0.52
12:Aa:718:LEU:HA	12:Aa:722:PRO:CG	2.39	0.52
13:B:61:ARG:NH1	17:CC:3:A:O2'	2.41	0.52
18:Cc:9:G:H5"	18:Cc:47:G:H1'	1.89	0.52
24:Ee:11:LYS:N	24:Ee:64:ILE:O	2.35	0.52
26:FF:67:PHE:CE2	29:H:88:ARG:HB2	2.42	0.52
34:JJ:84:VAL:HG21	34:JJ:127:LEU:HD11	1.91	0.52
52:U:34:SER:O	52:U:37:THR:N	2.42	0.52
60:c:572:C:OP1	83:z:114:LYS:HG3	2.08	0.52
60:c:1722:A:OP2	60:c:1722:A:H8	1.92	0.52
66:i:25:LEU:HD21	76:s:60:PHE:O	2.10	0.52
67:j:20:ASP:OD1	67:j:22:HIS:HB2	2.09	0.52
77:t:57:LEU:HD12	77:t:69:ILE:HD11	1.91	0.52
1:0:37:LYS:NZ	60:c:523:G:OP2	2.31	0.52
11:AA:594:U:P	11:AA:609:G:H1	2.32	0.52
11:AA:1070:U:H2'	11:AA:1071:U:O4'	2.09	0.52
11:AA:1108:U:H2'	11:AA:1109:U:C6	2.44	0.52
11:AA:1479:U:OP2	11:AA:1480:G:N7	2.43	0.52
12:Aa:379:MET:SD	12:Aa:470:THR:HG22	2.49	0.52
12:Aa:388:THR:HG22	12:Aa:395:TYR:CD2	2.44	0.52
12:Aa:433:ARG:HG2	12:Aa:435:VAL:HG13	1.90	0.52
16:C:71:LEU:HD11	16:C:99:THR:HG21	1.91	0.52
19:D:156:ASN:O	19:D:160:GLU:HG2	2.09	0.52
22:E:4:PHE:N	22:E:104:GLU:OE2	2.41	0.52
23:EE:225:ILE:HG21	23:EE:234:LYS:HA	1.91	0.52
44:OO:126:PHE:HD2	51:T:115:LYS:HE2	1.73	0.52
60:c:961:U:H2'	60:c:962:C:C6	2.44	0.52
69:l:96:LEU:HD11	69:l:102:VAL:HG11	1.90	0.52
74:q:29:HIS:CD2	74:q:38:THR:HG1	2.24	0.52
79:v:37:VAL:HG11	79:v:100:ILE:HD11	1.92	0.52
83:z:52:ILE:HB	83:z:75:GLN:NE2	2.24	0.52
1:0:106:GLN:O	1:0:110:GLN:HG2	2.09	0.52
11:AA:196:G:N1	11:AA:199:A:OP2	2.41	0.52
11:AA:696:C:OP2	28:GG:119:ARG:NH2	2.41	0.52
11:AA:754:G:H2'	11:AA:755:A:C8	2.43	0.52
11:AA:1038:C:H2'	11:AA:1039:U:H6	1.75	0.52
11:AA:1255:C:H2'	11:AA:1256:G:H8	1.74	0.52
11:AA:3006:A:H2'	11:AA:3007:U:O4'	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:3021:A:H61	11:AA:3032:A:H3'	1.74	0.52
11:AA:3350:C:H1'	11:AA:3351:U:C5	2.44	0.52
12:Aa:81:MET:HE2	12:Aa:335:LEU:HD13	1.91	0.52
12:Aa:186:ASN:HA	12:Aa:189:VAL:HG22	1.92	0.52
12:Aa:562:ALA:HB1	12:Aa:564:ARG:HH12	1.74	0.52
44:OO:105:ASN:N	52:U:20:MET:HE1	2.24	0.52
55:X:30:ARG:HB2	55:X:33:ASN:HB2	1.90	0.52
60:c:586:G:H2'	60:c:587:C:C6	2.45	0.52
60:c:1064:G:H2'	60:c:1065:A:H8	1.74	0.52
60:c:1347:U:O2	60:c:1516:A:H5'	2.10	0.52
60:c:1351:G:N1	60:c:1352:G:C5	2.77	0.52
65:h:145:ARG:NH1	65:h:145:ARG:HA	2.25	0.52
72:o:69:LYS:HD3	72:o:71:LEU:HD11	1.90	0.52
73:p:142:GLU:HB2	73:p:145:THR:HG22	1.91	0.52
82:y:15:ASN:O	82:y:19:LYS:HG2	2.08	0.52
83:z:68:ILE:HG13	83:z:70:LYS:HZ2	1.75	0.52
2:1:46:LYS:HG3	2:1:49:ARG:HG3	1.91	0.52
4:3:35:VAL:HG21	4:3:63:LEU:HD21	1.90	0.52
11:AA:66:A:OP2	44:OO:100:ARG:NH1	2.34	0.52
11:AA:645:1MA:H1'	11:AA:647:A:OP2	2.09	0.52
11:AA:1173:U:H1'	11:AA:1179:A:H2'	1.90	0.52
11:AA:1868:G:HO2'	11:AA:2118:C:HO2'	1.50	0.52
11:AA:2235:C:C2	11:AA:2236:G:C8	2.97	0.52
11:AA:2922:OMG:H5"	11:AA:2922:OMG:C8	2.44	0.52
11:AA:2940:A:N7	26:FF:2:SER:N	2.57	0.52
36:KK:90:THR:HG23	36:KK:214:LEU:HD21	1.91	0.52
60:c:151:G:H21	67:j:13:GLN:CD	2.16	0.52
60:c:1406:A:H2'	60:c:1407:U:H6	1.72	0.52
62:e:121:ILE:HD12	62:e:161:ILE:HG23	1.92	0.52
63:f:188:LEU:HD13	63:f:196:VAL:HG11	1.92	0.52
65:h:161:LYS:HB3	65:h:171:ASP:OD1	2.09	0.52
66:i:72:HIS:ND1	76:s:79:TYR:OH	2.43	0.52
68:k:46:ILE:HG12	68:k:60:ILE:HG23	1.91	0.52
81:x:7:GLN:NE2	81:x:8:LEU:O	2.43	0.52
8:7:180:ALA:HB3	8:7:228:LYS:NZ	2.24	0.52
11:AA:548:G:H2'	11:AA:549:U:C6	2.43	0.52
11:AA:1237:G:O6	11:AA:1251:A:N1	2.42	0.52
14:BB:45:A:OP1	30:HH:151:GLN:NE2	2.30	0.52
17:CC:145:U:H2'	17:CC:146:U:C6	2.44	0.52
25:F:108:ARG:NH1	25:F:130:ARG:HH11	2.06	0.52
39:M:99:ALA:N	44:OO:157:ARG:O	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:QQ:5:LYS:HE2	52:U:37:THR:HG23	1.92	0.52
60:c:169:A:OP2	67:j:137:ARG:NH2	2.42	0.52
60:c:268:C:OP2	67:j:186:ARG:NH1	2.41	0.52
60:c:562:OMG:H2'	60:c:563:U:C6	2.45	0.52
60:c:1230:A:H8	60:c:1255:G:H21	1.58	0.52
69:l:64:ASN:O	69:l:180:ASP:HA	2.10	0.52
70:m:152:SER:O	70:m:156:ILE:HG23	2.10	0.52
71:n:77:ARG:HD3	71:n:84:GLU:HA	1.91	0.52
75:r:75:PRO:HB3	75:r:104:GLN:NE2	2.25	0.52
11:AA:165:A:H2'	11:AA:166:C:C6	2.44	0.52
11:AA:1547:G:OP1	48:QQ:108:ARG:NH2	2.43	0.52
11:AA:1596:C:H2'	11:AA:1597:C:H6	1.74	0.52
11:AA:1881:A:H2'	11:AA:1882:G:C8	2.45	0.52
11:AA:2533:G:H21	11:AA:2547:A:C2'	2.22	0.52
11:AA:3213:A:OP1	46:PP:128:ARG:NH1	2.42	0.52
12:Aa:524:GLU:OE1	12:Aa:564:ARG:NH2	2.42	0.52
15:Bb:29:A:H2'	15:Bb:29:A:N3	2.25	0.52
39:M:77:LYS:C	39:M:79:TRP:H	2.18	0.52
60:c:296:U:H2'	60:c:297:U:C6	2.44	0.52
60:c:787:G:H4'	65:h:255:ARG:NH2	2.24	0.52
60:c:792:U:H2'	60:c:793:A:C8	2.44	0.52
64:g:150:MET:HE2	64:g:152:PHE:CE1	2.45	0.52
66:i:98:MET:SD	66:i:104:ASN:HA	2.50	0.52
76:s:102:LYS:HZ2	76:s:105:LEU:HD23	1.75	0.52
77:t:78:ARG:NH1	77:t:81:LYS:O	2.42	0.52
77:t:88:VAL:HG23	77:t:89:SER:H	1.75	0.52
10:A:114:LYS:HA	11:AA:3180:A:C4	2.45	0.52
11:AA:1184:A:H2'	11:AA:1185:C:H6	1.74	0.52
11:AA:1234:G:H1'	24:Ee:131:GLU:OE1	2.10	0.52
12:Aa:644:ASN:ND2	12:Aa:682:ARG:HA	2.17	0.52
13:B:13:LYS:HA	13:B:107:LEU:HD11	1.92	0.52
14:BB:97:A:O3'	34:JJ:224:ILE:HD11	2.09	0.52
17:CC:43:A:H2'	17:CC:44:A:C8	2.44	0.52
18:Cc:54:G:H2'	18:Cc:55:U:C6	2.45	0.52
29:H:32:ARG:HB2	29:H:64:LYS:HB2	1.91	0.52
32:II:76:LEU:O	32:II:134:ARG:NH2	2.42	0.52
38:LL:36:LYS:HB2	38:LL:78:MET:HE1	1.90	0.52
43:O:9:SER:O	43:O:13:LYS:NZ	2.26	0.52
45:P:33:VAL:O	45:P:36:ILE:HG22	2.10	0.52
60:c:2:A:H2	63:f:199:GLN:HE21	1.57	0.52
60:c:126:A:OP2	67:j:197:ASN:ND2	2.31	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1354:G:N2	60:c:1372:U:H3	2.06	0.52
60:c:1511:U:H2'	60:c:1512:G:H8	1.74	0.52
64:g:209:ILE:O	77:t:20:TYR:OH	2.17	0.52
66:i:113:ILE:HD12	66:i:190:ILE:HG23	1.91	0.52
69:l:185:GLU:O	69:l:188:GLU:HG2	2.09	0.52
7:6:14:VAL:HG22	60:c:567:A:H1'	1.91	0.52
11:AA:516:A:H2'	11:AA:517:G:H8	1.73	0.52
11:AA:1710:C:H2'	11:AA:1711:C:H6	1.75	0.52
11:AA:2412:G:H2'	11:AA:2413:A:C8	2.44	0.52
11:AA:2424:A:H5'	48:QQ:89:VAL:CG2	2.39	0.52
11:AA:2871:G:H5'	11:AA:2872:A:H5'	1.91	0.52
11:AA:3303:G:C6	11:AA:3305:A:C2	2.98	0.52
12:Aa:161:ASP:OD2	12:Aa:216:HIS:ND1	2.43	0.52
14:BB:24:A:H2'	14:BB:25:G:C8	2.44	0.52
16:C:152:HIS:ND1	16:C:162:ALA:O	2.33	0.52
20:DD:91:GLU:HB2	20:DD:92:PRO:HD2	1.91	0.52
22:E:23:LYS:HG3	25:F:149:GLN:HE22	1.75	0.52
29:H:130:ALA:O	29:H:133:SER:OG	2.24	0.52
40:MM:108:ALA:O	40:MM:112:GLN:HB3	2.09	0.52
48:QQ:70:ASN:HB3	48:QQ:92:LEU:O	2.10	0.52
48:QQ:94:TYR:O	48:QQ:96:ARG:N	2.42	0.52
51:T:77:PRO:O	51:T:81:ARG:HG3	2.10	0.52
54:W:50:SER:HB3	54:W:52:TYR:CE1	2.45	0.52
58:a:74:CYS:CB	58:a:77:CYS:SG	2.96	0.52
60:c:900:A:H2'	60:c:901:G:H8	1.73	0.52
60:c:1680:G:N2	60:c:1720:G:O2'	2.43	0.52
63:f:80:VAL:HG11	63:f:125:ILE:HD12	1.91	0.52
65:h:178:GLY:N	65:h:195:ILE:O	2.41	0.52
76:s:39:VAL:HG23	76:s:41:PRO:HD2	1.91	0.52
78:u:70:VAL:O	78:u:73:MET:HB3	2.10	0.52
11:AA:281:G:O6	48:QQ:181:ASN:ND2	2.43	0.52
11:AA:501:A:H2'	11:AA:502:U:C6	2.44	0.52
11:AA:2357:A:H2'	11:AA:2358:A:C8	2.43	0.52
11:AA:2807:U:O2'	11:AA:2809:C:OP1	2.18	0.52
12:Aa:18:ASN:HB3	12:Aa:98:PHE:HD1	1.74	0.52
37:L:100:THR:HA	37:L:106:GLN:HG3	1.92	0.52
60:c:1364:G:C2	60:c:1365:C:C2	2.98	0.52
60:c:1383:G:H2'	60:c:1384:A:C8	2.45	0.52
60:c:1449:U:H2'	60:c:1450:U:C6	2.45	0.52
63:f:35:TRP:HE1	63:f:46:LYS:HB3	1.75	0.52
66:i:34:GLN:O	76:s:57:LEU:HD23	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:i:113:ILE:HG13	66:i:191:ALA:HB2	1.91	0.52
66:i:128:ASN:O	66:i:131:GLN:N	2.43	0.52
68:k:40:PRO:C	68:k:42:GLN:HE21	2.17	0.52
8:7:127:ARG:HD2	8:7:150:TRP:CZ3	2.45	0.52
10:A:108:ILE:HD13	10:A:117:ARG:HH11	1.75	0.52
11:AA:126:U:OP1	48:QQ:144:ARG:NH1	2.36	0.52
11:AA:129:U:O4	11:AA:139:G:O6	2.28	0.52
11:AA:583:G:H4'	49:R:106:ASN:ND2	2.25	0.52
11:AA:718:G:OP1	39:M:117:ARG:NH2	2.41	0.52
11:AA:849:C:H2'	11:AA:850:U:C6	2.44	0.52
11:AA:861:C:OP1	11:AA:2133:U:O2'	2.16	0.52
11:AA:1650:G:H2'	11:AA:1651:U:C6	2.45	0.52
11:AA:2221:G:N2	11:AA:2223:A:H3'	2.25	0.52
11:AA:2323:G:O2'	11:AA:2325:G:OP2	2.27	0.52
11:AA:2972:G:H2'	11:AA:2973:G:H8	1.75	0.52
12:Aa:731:VAL:O	12:Aa:769:LYS:HA	2.10	0.52
23:EE:5:ILE:HG21	23:EE:209:HIS:CD2	2.45	0.52
30:HH:103:LEU:HB3	30:HH:247:ILE:HG21	1.91	0.52
51:T:70:TYR:HB3	51:T:76:GLN:OE1	2.10	0.52
55:X:16:ALA:HB1	55:X:42:ARG:NH1	2.25	0.52
60:c:360:A:O2'	60:c:362:G:OP1	2.28	0.52
60:c:1236:A:H2'	60:c:1237:G:C8	2.45	0.52
60:c:1390:U:O2'	60:c:1391:A:N7	2.43	0.52
60:c:1451:C:H2'	60:c:1452:U:C6	2.45	0.52
61:d:30:GLN:HE22	61:d:37:VAL:HG21	1.75	0.52
61:d:121:VAL:O	61:d:143:VAL:HA	2.10	0.52
65:h:209:HIS:CE1	65:h:219:VAL:HB	2.45	0.52
70:m:162:SER:O	70:m:162:SER:OG	2.26	0.52
71:n:46:LEU:HD13	71:n:66:TYR:CD2	2.44	0.52
74:q:27:PHE:HA	74:q:43:THR:HG22	1.92	0.52
5:4:22:ARG:HD2	60:c:1162:C:H4'	1.92	0.51
8:7:24:ALA:HB3	8:7:34:LEU:HB2	1.92	0.51
8:7:104:VAL:HG22	8:7:105:GLY:N	2.25	0.51
10:A:25:LYS:NZ	11:AA:1176:C:OP1	2.42	0.51
11:AA:528:U:H2'	11:AA:529:A:C8	2.45	0.51
11:AA:1382:G:OP2	28:GG:188:ARG:NH1	2.42	0.51
11:AA:2501:U:O2'	11:AA:2502:A:O4'	2.20	0.51
11:AA:3190:C:H2'	11:AA:3191:G:C8	2.43	0.51
11:AA:3321:C:H2'	11:AA:3322:A:H8	1.75	0.51
42:NN:131:MET:O	42:NN:154:THR:HG21	2.09	0.51
52:U:90:MET:HA	52:U:93:ILE:HG22	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:V:21:ARG:HD2	53:V:39:TYR:CD1	2.45	0.51
60:c:368:U:H2'	60:c:369:A:O4'	2.10	0.51
60:c:912:U:O2	60:c:914:G:N1	2.43	0.51
60:c:961:U:H2'	60:c:962:C:H6	1.75	0.51
60:c:1066:C:H2'	60:c:1067:C:H6	1.75	0.51
61:d:69:ASN:OD1	63:f:244:SER:OG	2.18	0.51
61:d:80:THR:HA	61:d:83:GLN:OE1	2.09	0.51
63:f:56:ILE:HG13	63:f:61:LEU:HB2	1.91	0.51
65:h:87:MET:HE1	65:h:123:LEU:N	2.21	0.51
72:o:101:GLU:CD	83:z:13:ARG:H	2.17	0.51
8:7:21:THR:N	8:7:36:ALA:O	2.21	0.51
8:7:201:THR:HG21	8:7:242:SER:HA	1.92	0.51
10:A:194:LEU:HD11	46:PP:120:VAL:HG13	1.92	0.51
11:AA:1228:C:O2	11:AA:1228:C:H2'	2.10	0.51
11:AA:1610:G:P	33:J:125:ARG:HH22	2.34	0.51
11:AA:2781:U:H4'	44:OO:185:LYS:HD2	1.93	0.51
18:Cc:29:C:O2	18:Cc:29:C:H2'	2.10	0.51
18:Cc:57:C:H2'	18:Cc:58:A:C8	2.45	0.51
23:EE:189:TYR:HA	23:EE:192:LYS:HG2	1.92	0.51
30:HH:152:ARG:HH21	42:NN:142:LYS:HZ1	1.58	0.51
36:KK:157:VAL:HG12	36:KK:159:PRO:HD2	1.91	0.51
38:LL:92:TYR:CD2	38:LL:142:ASP:HB3	2.45	0.51
38:LL:101:VAL:HG12	38:LL:114:VAL:HG22	1.91	0.51
48:QQ:95:GLN:NE2	89:QQ:301:HOH:O	2.43	0.51
60:c:324:U:OP1	72:o:133:LYS:NZ	2.27	0.51
60:c:1145:U:H2'	60:c:1146:G:H8	1.75	0.51
60:c:1220:C:H2'	60:c:1221:A:C8	2.45	0.51
65:h:100:ARG:HG3	65:h:114:ILE:HD13	1.92	0.51
68:k:70:PHE:O	68:k:74:GLN:HB2	2.10	0.51
69:l:117:TYR:O	69:l:143:TRP:HD1	1.93	0.51
75:r:57:MET:HB3	75:r:60:LEU:HG	1.91	0.51
11:AA:1761:C:O2'	11:AA:1763:U:OP2	2.19	0.51
11:AA:2356:A:H61	11:AA:2983:C:H5	1.59	0.51
11:AA:2456:A:H2'	11:AA:2457:G:C8	2.46	0.51
11:AA:2709:C:H2'	11:AA:2710:C:C6	2.46	0.51
12:Aa:653:VAL:HG23	12:Aa:656:LEU:HB2	1.92	0.51
12:Aa:810:ASP:OD1	12:Aa:812:THR:HG22	2.10	0.51
17:CC:155:A:O2'	36:KK:185:ARG:NH2	2.43	0.51
29:H:81:GLN:HG2	29:H:83:LYS:H	1.75	0.51
32:II:41:ILE:HD11	32:II:85:ILE:HD12	1.92	0.51
38:LL:47:LYS:HE2	46:PP:7:VAL:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:NN:51:ARG:HA	42:NN:61:ARG:NH1	2.26	0.51
44:OO:56:PRO:HG2	44:OO:72:GLY:HA3	1.91	0.51
54:W:23:ALA:O	54:W:76:ASN:HB3	2.11	0.51
60:c:1142:A:H2'	60:c:1143:A:C8	2.46	0.51
60:c:1213:G:N2	60:c:1450:U:O2	2.28	0.51
60:c:1299:G:O2'	60:c:1300:A:O4'	2.16	0.51
76:s:127:LYS:HE2	76:s:131:GLY:O	2.11	0.51
77:t:46:LEU:O	77:t:50:ILE:HG12	2.10	0.51
6:5:16:LYS:NZ	60:c:1596:C:OP1	2.38	0.51
11:AA:157:A:N7	52:U:26:ILE:HG12	2.26	0.51
11:AA:710:A:H2'	11:AA:711:A:H8	1.73	0.51
11:AA:1385:C:OP1	28:GG:141:ARG:NH2	2.38	0.51
11:AA:2344:U:H2'	11:AA:2345:A:H8	1.74	0.51
23:EE:179:LEU:O	23:EE:184:ARG:HD2	2.10	0.51
30:HH:163:LEU:HD21	30:HH:175:HIS:CE1	2.46	0.51
30:HH:192:PRO:O	30:HH:196:ARG:N	2.27	0.51
34:JJ:140:SER:O	34:JJ:144:ILE:HG12	2.10	0.51
35:K:60:ARG:HB2	35:K:103:LYS:HB3	1.92	0.51
60:c:69:G:H2'	60:c:70:C:H6	1.76	0.51
60:c:483:A:C4	60:c:507:U:C6	2.99	0.51
60:c:1351:G:H1	60:c:1374:C:H42	1.57	0.51
61:d:10:THR:OG1	61:d:13:ASP:OD2	2.27	0.51
68:k:41:LEU:HG	68:k:70:PHE:CE1	2.46	0.51
70:m:85:VAL:HG11	70:m:104:PHE:HD1	1.74	0.51
4:3:82:LYS:HD3	73:p:25:TRP:CE2	2.45	0.51
11:AA:176:G:N2	11:AA:243:G:H2'	2.24	0.51
11:AA:791:A:H2'	11:AA:792:G:H8	1.74	0.51
11:AA:1652:G:H2'	11:AA:1653:G:C8	2.45	0.51
11:AA:1816:A:OP2	11:AA:1816:A:H8	1.94	0.51
11:AA:1828:A:H2'	11:AA:1829:G:H8	1.75	0.51
11:AA:2679:A:O2'	42:NN:52:TYR:OH	2.25	0.51
11:AA:2769:A:O2'	58:a:80:ARG:O	2.20	0.51
12:Aa:19:VAL:HA	12:Aa:99:LEU:O	2.10	0.51
12:Aa:218:TRP:CG	12:Aa:324:MET:HE3	2.46	0.51
13:B:138:LYS:HD3	13:B:140:GLU:OE1	2.10	0.51
14:BB:77:G:H22	14:BB:102:A:P	2.33	0.51
34:JJ:138:TYR:N	34:JJ:233:GLU:O	2.35	0.51
38:LL:20:ILE:HG12	46:PP:7:VAL:HG22	1.91	0.51
60:c:1355:C:C5	60:c:1370:U:C5	2.86	0.51
60:c:1360:A:C6	60:c:1361:U:C2	2.98	0.51
65:h:171:ASP:OD1	65:h:171:ASP:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:k:4:PRO:HA	68:k:25:VAL:HG22	1.93	0.51
69:l:119:GLN:OE1	69:l:119:GLN:N	2.43	0.51
83:z:103:LEU:HD13	83:z:126:LYS:HD3	1.92	0.51
11:AA:412:G:H2'	11:AA:413:U:H6	1.74	0.51
11:AA:3051:U:C2	11:AA:3052:G:C8	2.99	0.51
15:Bb:6:U:N3	15:Bb:69:U:O4	2.43	0.51
16:C:51:ALA:HA	16:C:54:LEU:HD13	1.93	0.51
16:C:157:PRO:HG3	39:M:47:LYS:HE3	1.93	0.51
20:DD:63:ILE:O	20:DD:67:LEU:N	2.39	0.51
22:E:41:TYR:O	22:E:45:LEU:HD23	2.10	0.51
23:EE:19:HIS:O	23:EE:23:ARG:NH2	2.42	0.51
23:EE:140:ASN:O	23:EE:144:ASN:HA	2.10	0.51
24:Ee:130:LYS:O	24:Ee:134:GLY:N	2.42	0.51
48:QQ:5:LYS:HD3	52:U:36:ARG:HH22	1.76	0.51
48:QQ:23:GLN:O	48:QQ:122:ASN:ND2	2.39	0.51
60:c:340:U:H2'	60:c:341:A:C8	2.44	0.51
60:c:1213:G:O2'	60:c:1244:A:N6	2.43	0.51
60:c:1368:G:OP2	60:c:1368:G:H3'	2.11	0.51
68:k:96:ARG:HD2	68:k:121:VAL:HG23	1.93	0.51
72:o:101:GLU:OE2	83:z:12:ALA:N	2.44	0.51
74:q:29:HIS:CD2	74:q:41:ARG:HB2	2.45	0.51
76:s:25:GLY:HA3	76:s:64:ASP:OD2	2.11	0.51
78:u:42:TYR:HA	78:u:85:PHE:HZ	1.74	0.51
11:AA:364:G:OP2	53:V:52:LYS:NZ	2.35	0.51
11:AA:1388:U:O4	28:GG:186:LYS:HD3	2.10	0.51
11:AA:1567:U:O4'	11:AA:1574:C:N4	2.44	0.51
11:AA:2221:G:N2	11:AA:2224:A:OP2	2.29	0.51
11:AA:2341:A:OP2	26:FF:247:ARG:NH1	2.42	0.51
11:AA:2450:G:H2'	11:AA:2451:G:H8	1.76	0.51
11:AA:2452:G:OP1	11:AA:2460:U:N3	2.44	0.51
11:AA:2555:G:N7	50:S:95:ILE:HD11	2.26	0.51
11:AA:2662:G:H2'	11:AA:2663:G:C8	2.45	0.51
11:AA:3133:C:H2'	11:AA:3134:A:O4'	2.10	0.51
12:Aa:578:LYS:O	12:Aa:711:ARG:NH2	2.37	0.51
13:B:30:ARG:HE	13:B:34:GLN:HE21	1.59	0.51
14:BB:64:A:H5'	14:BB:65:G:H5"	1.92	0.51
17:CC:69:U:H2'	17:CC:70:G:O4'	2.10	0.51
19:D:21:LYS:HE2	19:D:55:VAL:HA	1.92	0.51
24:Ee:13:LEU:HD21	24:Ee:35:LEU:HD22	1.91	0.51
27:G:20:SER:O	27:G:24:GLU:HG2	2.11	0.51
44:OO:27:ASP:OD1	44:OO:27:ASP:N	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:30:G:H2'	60:c:31:C:C6	2.46	0.51
60:c:460:A:H3'	60:c:461:G:H8	1.75	0.51
60:c:1002:G:N2	60:c:1760:G:O3'	2.43	0.51
60:c:1344:A:H2'	60:c:1345:A:C8	2.46	0.51
60:c:1360:A:C1'	79:v:3:GLY:HA2	2.41	0.51
60:c:1366:U:H3'	60:c:1367:G:H8	1.75	0.51
61:d:126:PRO:HB2	61:d:152:PRO:HG2	1.93	0.51
66:i:98:MET:HE3	66:i:98:MET:O	2.10	0.51
66:i:212:LYS:O	66:i:216:GLU:HG2	2.11	0.51
68:k:63:PRO:HG2	68:k:65:PRO:HD3	1.92	0.51
78:u:50:ALA:C	78:u:68:ARG:HH12	2.18	0.51
78:u:65:GLU:O	78:u:69:ILE:HD12	2.11	0.51
8:7:7:LEU:HD12	8:7:313:TRP:HB3	1.92	0.51
10:A:19:LEU:O	10:A:23:VAL:HG12	2.11	0.51
11:AA:37:U:OP1	11:AA:934:G:N2	2.43	0.51
11:AA:53:G:P	53:V:48:ASN:HD22	2.34	0.51
11:AA:2167:A:O2'	11:AA:2168:A:O5'	2.27	0.51
11:AA:2489:C:C3'	11:AA:2490:C:H2'	2.34	0.51
11:AA:2714:G:H4'	11:AA:2715:A:H5"	1.92	0.51
11:AA:3358:U:H2'	11:AA:3359:A:C8	2.46	0.51
13:B:60:PHE:CE2	13:B:82:ARG:HD2	2.45	0.51
14:BB:47:C:OP2	30:HH:158:ARG:HD3	2.10	0.51
20:DD:67:LEU:HG	20:DD:71:PRO:HA	1.92	0.51
24:Ee:60:VAL:HA	24:Ee:73:VAL:HA	1.93	0.51
42:NN:85:LYS:HD2	42:NN:89:TYR:CE1	2.41	0.51
42:NN:117:ASP:OD1	42:NN:119:SER:OG	2.27	0.51
52:U:5:THR:HG23	52:U:7:ILE:H	1.76	0.51
60:c:1058:U:H1'	60:c:1059:U:H2'	1.92	0.51
60:c:1521:G:O2'	60:c:1523:G:OP2	2.27	0.51
69:l:39:GLY:HA2	69:l:61:GLU:HB3	1.92	0.51
71:n:25:LYS:HD2	71:n:62:GLN:HG3	1.93	0.51
73:p:87:ASP:OD1	73:p:88:LEU:N	2.44	0.51
11:AA:115:A:P	48:QQ:49:ARG:HH21	2.33	0.51
11:AA:184:U:H2'	11:AA:185:C:C6	2.45	0.51
11:AA:2357:A:P	13:B:138:LYS:HE3	2.50	0.51
12:Aa:169:VAL:HB	12:Aa:173:ASP:HB2	1.92	0.51
15:Bb:10:G:N2	15:Bb:26:G:H1'	2.26	0.51
17:CC:63:G:H22	17:CC:97:A:H2	1.59	0.51
19:D:28:GLU:O	19:D:32:ILE:HG13	2.11	0.51
19:D:161:ALA:O	19:D:164:LEU:HG	2.11	0.51
25:F:132:PRO:HB2	34:JJ:120:THR:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GG:261:VAL:HG13	28:GG:262:TRP:HD1	1.76	0.51
30:HH:40:HIS:CD2	30:HH:43:LYS:HE3	2.45	0.51
33:J:91:ASN:O	33:J:95:ILE:HD12	2.09	0.51
44:OO:184:GLU:O	44:OO:188:ARG:NH1	2.43	0.51
48:QQ:48:ALA:HB1	48:QQ:53:TYR:HB3	1.92	0.51
60:c:36:C:H42	60:c:473:A:N6	2.09	0.51
60:c:629:U:C2	60:c:630:A:C8	2.99	0.51
60:c:918:U:H4'	74:q:18:ARG:HD3	1.92	0.51
60:c:1299:G:H2'	60:c:1300:A:C8	2.45	0.51
60:c:1359:C:C2	60:c:1360:A:N7	2.79	0.51
60:c:1383:G:H2'	60:c:1384:A:H8	1.75	0.51
68:k:8:ILE:HG12	68:k:42:GLN:OE1	2.11	0.51
76:s:50:GLU:HB3	76:s:51:PRO:HD3	1.93	0.51
2:1:65:LEU:HD21	2:1:71:ILE:HD13	1.92	0.51
11:AA:158:G:H2'	11:AA:159:A:C8	2.45	0.51
11:AA:428:A:H2'	11:AA:429:U:C6	2.46	0.51
11:AA:792:G:H2'	11:AA:793:C:C6	2.46	0.51
11:AA:2107:A:H2	11:AA:3344:A:N3	2.08	0.51
11:AA:2217:U:H2'	11:AA:2218:G:H8	1.75	0.51
11:AA:3110:C:O2'	38:LL:155:SER:OG	2.25	0.51
17:CC:109:A:C2	17:CC:114:G:C6	2.99	0.51
17:CC:131:A:H4'	33:J:93:TYR:CE2	2.46	0.51
26:FF:283:TYR:OH	26:FF:325:LYS:HD2	2.11	0.51
29:H:34:LEU:HD12	29:H:60:ALA:HB3	1.93	0.51
44:OO:43:ALA:HB2	44:OO:51:LEU:HD21	1.91	0.51
48:QQ:115:VAL:HA	48:QQ:134:LEU:HD13	1.93	0.51
52:U:57:LEU:O	52:U:61:ILE:HG12	2.10	0.51
60:c:211:U:H5"	72:o:20:PHE:CE1	2.46	0.51
60:c:332:U:O2'	69:l:5:ARG:NH2	2.43	0.51
60:c:364:G:OP2	60:c:377:G:N2	2.29	0.51
60:c:966:A:H5"	73:p:4:MET:HE2	1.93	0.51
60:c:1301:U:H2'	60:c:1302:U:O4'	2.11	0.51
60:c:1353:U:C6	60:c:1353:U:C3'	2.94	0.51
60:c:1360:A:C2	60:c:1363:U:C2	2.99	0.51
60:c:1545:A:OP2	78:u:134:ARG:HG3	2.11	0.51
60:c:1611:A:O2'	66:i:95:ASN:OD1	2.13	0.51
61:d:63:ILE:HD11	81:x:36:VAL:HG22	1.93	0.51
73:p:89:TYR:CZ	73:p:93:LYS:HD2	2.45	0.51
2:1:55:PRO:HA	2:1:103:ARG:HH12	1.75	0.50
11:AA:585:A:H2'	11:AA:586:C:C6	2.46	0.50
11:AA:671:U:O2'	16:C:20:LYS:HD3	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1466:G:N2	11:AA:1510:G:H5”	2.26	0.50
11:AA:1560:G:N1	11:AA:1580:A:H2’	2.26	0.50
11:AA:1710:C:H2’	11:AA:1711:C:C6	2.46	0.50
11:AA:2506:U:H2’	11:AA:2507:C:C6	2.46	0.50
11:AA:2927:C:H2’	11:AA:2928:C:H6	1.75	0.50
12:Aa:77:LEU:HD12	12:Aa:78:TYR:H	1.74	0.50
24:Ee:9:GLU:O	24:Ee:66:ASN:N	2.45	0.50
24:Ee:61:GLN:HG3	24:Ee:72:SER:HB3	1.93	0.50
28:GG:42:VAL:HA	28:GG:45:ASN:HD22	1.76	0.50
32:II:58:LEU:HD21	32:II:64:LEU:HB2	1.93	0.50
36:KK:153:ILE:HG22	36:KK:197:VAL:HG12	1.92	0.50
44:OO:167:PHE:O	44:OO:171:ARG:N	2.29	0.50
49:R:53:TYR:CE1	49:R:65:ARG:HB2	2.47	0.50
51:T:92:LEU:HD23	51:T:96:GLU:HG3	1.92	0.50
54:W:2:ALA:N	54:W:51:LEU:O	2.44	0.50
60:c:77:U:P	60:c:80:A:H62	2.34	0.50
61:d:197:ILE:H	61:d:197:ILE:HD12	1.76	0.50
63:f:81:MET:HB2	63:f:101:VAL:HG23	1.93	0.50
65:h:67:GLN:HG3	65:h:69:HIS:CD2	2.46	0.50
76:s:86:ALA:O	76:s:90:VAL:HG23	2.11	0.50
8:7:10:ARG:NH2	8:7:316:MET:HE2	2.26	0.50
11:AA:369:A:OP2	89:AA:3601:HOH:O	2.20	0.50
11:AA:964:G:H2’	11:AA:965:A:H8	1.76	0.50
11:AA:1508:C:HO2’	11:AA:2353:G:HO2’	1.54	0.50
11:AA:2393:G:N2	11:AA:2394:G:O6	2.43	0.50
11:AA:3132:C:H2’	11:AA:3133:C:C6	2.46	0.50
12:Aa:241:MET:SD	12:Aa:242:ASP:N	2.84	0.50
17:CC:142:C:H2’	17:CC:143:U:C6	2.46	0.50
26:FF:79:VAL:HG11	26:FF:338:LEU:HD11	1.94	0.50
58:a:6:LYS:HA	58:a:25:VAL:HG22	1.94	0.50
60:c:67:A:O2’	60:c:69:G:OP1	2.26	0.50
60:c:150:U:H2’	60:c:151:G:C8	2.46	0.50
60:c:562:OMG:H2’	60:c:563:U:H6	1.75	0.50
60:c:919:A:H2’	60:c:920:U:C6	2.45	0.50
60:c:929:A:C8	74:q:123:SER:O	2.64	0.50
60:c:1473:U:N3	66:i:190:ILE:HG12	2.27	0.50
62:e:70:LEU:HD22	62:e:79:HIS:HB3	1.94	0.50
64:g:40:ARG:N	64:g:47:GLU:O	2.40	0.50
66:i:97:LEU:HD21	66:i:194:LEU:HD12	1.93	0.50
72:o:86:ILE:HG22	72:o:107:VAL:O	2.11	0.50
73:p:98:VAL:HG13	73:p:115:LEU:HD13	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:t:51:ALA:O	77:t:55:THR:HG23	2.10	0.50
3:2:70:LYS:NZ	60:c:933:A:OP1	2.43	0.50
11:AA:528:U:H2'	11:AA:529:A:H8	1.76	0.50
11:AA:1109:U:H2'	11:AA:1110:U:O4'	2.11	0.50
11:AA:1174:G:H2'	11:AA:1175:C:C6	2.46	0.50
11:AA:2534:G:H2'	11:AA:2535:A:H8	1.77	0.50
11:AA:2585:G:N2	36:KK:60:ARG:HH22	2.09	0.50
11:AA:2989:U:H2'	11:AA:2990:G:O4'	2.12	0.50
12:Aa:240:MET:HB2	12:Aa:244:LEU:HD23	1.93	0.50
12:Aa:684:VAL:HG21	12:Aa:717:PHE:CE1	2.47	0.50
12:Aa:763:THR:HG22	12:Aa:765:LEU:H	1.76	0.50
19:D:25:ASP:HB3	19:D:27:ASN:OD1	2.11	0.50
23:EE:33:ASP:OD1	23:EE:33:ASP:N	2.44	0.50
33:J:96:LYS:HG2	33:J:107:VAL:HG11	1.93	0.50
37:L:102:GLU:N	37:L:102:GLU:OE1	2.42	0.50
39:M:100:PRO:HG2	39:M:123:VAL:HG23	1.93	0.50
48:QQ:64:VAL:HG11	48:QQ:102:ALA:HB1	1.94	0.50
50:S:92:ALA:O	50:S:96:GLU:HG2	2.11	0.50
51:T:96:GLU:C	51:T:98:SER:H	2.19	0.50
60:c:250:C:H2'	60:c:251:A:H8	1.75	0.50
60:c:560:U:H2'	60:c:561:G:C8	2.46	0.50
60:c:800:U:H2'	60:c:801:G:H8	1.77	0.50
60:c:863:A:O2'	60:c:865:A:O5'	2.29	0.50
65:h:61:VAL:O	65:h:65:LEU:HG	2.11	0.50
80:w:51:VAL:O	80:w:93:LEU:HB2	2.10	0.50
82:y:49:GLU:HB3	82:y:64:GLN:NE2	2.26	0.50
11:AA:187:A:H2'	11:AA:188:U:C6	2.47	0.50
11:AA:1864:A:H5'	19:D:88:ARG:HG2	1.92	0.50
11:AA:2450:G:H2'	11:AA:2451:G:C8	2.45	0.50
11:AA:2660:G:N3	11:AA:2744:U:O2'	2.44	0.50
11:AA:3233:C:H2'	11:AA:3234:A:C8	2.46	0.50
12:Aa:757:GLU:OE2	12:Aa:759:GLN:NE2	2.42	0.50
15:Bb:4:G:H2'	15:Bb:5:A:C8	2.46	0.50
15:Bb:19:G:H3'	15:Bb:20:G:C8	2.46	0.50
18:Cc:69:C:H2'	18:Cc:70:C:H6	1.75	0.50
24:Ee:54:LYS:NZ	24:Ee:92:ARG:HH12	2.09	0.50
34:JJ:240:VAL:O	34:JJ:244:ASN:N	2.45	0.50
48:QQ:35:VAL:HG13	48:QQ:65:ARG:HG2	1.94	0.50
54:W:32:ASN:O	54:W:33:LYS:HG2	2.12	0.50
60:c:878:G:H2'	60:c:879:G:C8	2.46	0.50
60:c:974:A2M:H4'	73:p:112:LYS:HE2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1072:C:H2'	60:c:1073:G:H8	1.77	0.50
60:c:1609:U:OP2	76:s:14:LYS:NZ	2.40	0.50
63:f:227:PRO:HA	63:f:230:TRP:CD2	2.46	0.50
71:n:12:HIS:HB3	71:n:80:LEU:HD11	1.92	0.50
73:p:99:ARG:HE	73:p:115:LEU:HD21	1.76	0.50
79:v:95:ASP:OD1	79:v:95:ASP:N	2.41	0.50
8:7:36:ALA:HA	8:7:42:LEU:HD23	1.94	0.50
11:AA:394:G:N2	11:AA:397:A:H5'	2.21	0.50
11:AA:983:A:O3'	34:JJ:101:LYS:NZ	2.44	0.50
11:AA:1009:A:H4'	40:MM:39:LYS:HD2	1.94	0.50
11:AA:2426:U:H2'	11:AA:2427:U:C6	2.46	0.50
11:AA:2488:A:C4	11:AA:2489:C:H4'	2.47	0.50
11:AA:2966:G:H2'	11:AA:2967:A:C8	2.47	0.50
11:AA:3084:C:H2'	11:AA:3085:G:O4'	2.11	0.50
11:AA:3182:G:O6	11:AA:3189:G:H5"	2.12	0.50
12:Aa:386:VAL:O	12:Aa:395:TYR:N	2.45	0.50
12:Aa:835:TRP:O	12:Aa:839:TYR:N	2.35	0.50
13:B:60:PHE:HB3	13:B:64:ASN:HB3	1.93	0.50
16:C:110:ALA:O	16:C:114:ILE:HG12	2.12	0.50
28:GG:98:ARG:HG2	28:GG:99:MET:O	2.12	0.50
35:K:35:LEU:HD12	35:K:39:LEU:HB3	1.93	0.50
35:K:35:LEU:HD13	35:K:106:ILE:HG13	1.94	0.50
49:R:6:ARG:NH1	49:R:8:TYR:O	2.42	0.50
60:c:1671:A:N6	60:c:1730:A:O2'	2.45	0.50
64:g:208:ILE:HD11	77:t:19:ARG:HH21	1.76	0.50
67:j:21:GLU:HA	67:j:24:ILE:HB	1.92	0.50
69:l:67:TRP:NE1	69:l:69:SER:HB2	2.27	0.50
11:AA:662:U:H2'	11:AA:663:OMC:C6	2.46	0.50
11:AA:947:G:H5"	47:Q:55:ILE:HG12	1.94	0.50
11:AA:987:U:H2'	11:AA:988:U:H6	1.76	0.50
11:AA:1308:A:O2'	11:AA:1311:G:OP1	2.23	0.50
11:AA:1678:G:OP2	27:G:77:LYS:NZ	2.31	0.50
11:AA:3314:A:H5"	26:FF:174:LYS:HD3	1.93	0.50
11:AA:3368:U:OP2	26:FF:384:LYS:NZ	2.25	0.50
12:Aa:563:TYR:O	12:Aa:679:GLU:HG3	2.12	0.50
40:MM:90:ARG:HD2	40:MM:137:SER:HB2	1.94	0.50
60:c:1735:U:H2'	60:c:1736:G:C8	2.46	0.50
66:i:66:GLN:HE22	66:i:68:ILE:HD11	1.75	0.50
66:i:174:LEU:HD13	66:i:213:LYS:HD2	1.93	0.50
69:l:98:LYS:HB3	69:l:171:SER:O	2.12	0.50
69:l:186:GLY:O	69:l:189:LEU:HG	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:u:17:LEU:HB3	78:u:22:VAL:HG21	1.94	0.50
3:2:4:LYS:NZ	60:c:1795:U:OP2	2.45	0.50
11:AA:11:A:H2'	11:AA:12:A:C8	2.46	0.50
11:AA:99:A:H1'	11:AA:281:G:N7	2.27	0.50
11:AA:1233:G:H21	24:Ee:131:GLU:CD	2.20	0.50
11:AA:1348:U:N3	11:AA:1353:U:OP2	2.44	0.50
11:AA:2180:G:H2'	11:AA:2181:C:C6	2.47	0.50
11:AA:2244:A:O2'	23:EE:223:SER:OG	2.30	0.50
12:Aa:340:LEU:HD22	12:Aa:341:HIS:CE1	2.46	0.50
12:Aa:734:GLN:HB3	12:Aa:793:PHE:HB2	1.94	0.50
16:C:158:HIS:H	16:C:186:VAL:HG11	1.76	0.50
30:HH:65:ILE:HD12	30:HH:74:VAL:HG22	1.92	0.50
59:b:39:CYS:CB	59:b:42:CYS:SG	3.00	0.50
60:c:97:C:H2'	60:c:98:U:C6	2.47	0.50
60:c:291:G:H2'	60:c:292:U:C5	2.47	0.50
60:c:1321:A:H4'	60:c:1322:A:O5'	2.10	0.50
60:c:1456:C:OP1	60:c:1457:C:O2'	2.16	0.50
60:c:1535:U:O2'	60:c:1536:G:H5"	2.12	0.50
65:h:176:ASP:OD1	65:h:177:ALA:N	2.45	0.50
66:i:61:TYR:CD2	66:i:164:PRO:HB2	2.47	0.50
66:i:61:TYR:CZ	66:i:165:LEU:HB2	2.47	0.50
74:q:81:VAL:CG1	74:q:115:ILE:HG22	2.41	0.50
8:7:191:ASP:N	8:7:191:ASP:OD1	2.44	0.50
11:AA:176:G:H3'	11:AA:243:G:N2	2.26	0.50
11:AA:673:U:H2'	11:AA:674:G:C8	2.47	0.50
11:AA:1680:G:H2'	11:AA:1681:U:C6	2.46	0.50
11:AA:1750:A:C4	11:AA:1752:A:C8	2.99	0.50
11:AA:2351:U:H2'	11:AA:2352:A:H8	1.76	0.50
11:AA:2632:G:O6	11:AA:2647:A:N6	2.45	0.50
11:AA:3023:U:H2'	11:AA:3024:A:H8	1.76	0.50
11:AA:3105:U:C2	11:AA:3106:A:C8	3.00	0.50
12:Aa:364:ALA:HA	12:Aa:367:ILE:HG12	1.94	0.50
12:Aa:392:GLY:HA2	12:Aa:394:PHE:CE2	2.47	0.50
14:BB:24:A:H2'	14:BB:25:G:H8	1.76	0.50
14:BB:72:A:O2'	14:BB:73:C:OP1	2.25	0.50
17:CC:12:A:C6	17:CC:13:A:N7	2.80	0.50
23:EE:39:GLY:HA3	36:KK:36:ILE:HD11	1.94	0.50
26:FF:21:ARG:HB3	26:FF:272:TYR:HD2	1.77	0.50
26:FF:369:ARG:NH1	31:I:32:GLN:HG3	2.26	0.50
38:LL:85:GLY:HA3	38:LL:187:ILE:HG12	1.94	0.50
54:W:40:GLN:NE2	54:W:57:ASN:OD1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:400:A:O5'	69:l:25:ARG:HD3	2.12	0.50
60:c:448:C:H2'	60:c:449:C:H6	1.77	0.50
64:g:210:GLU:HB3	77:t:19:ARG:HD2	1.93	0.50
69:l:39:GLY:O	69:l:59:ARG:HB3	2.11	0.50
78:u:67:GLU:O	78:u:70:VAL:HG22	2.11	0.50
81:x:42:GLU:OE2	81:x:44:ARG:NH1	2.45	0.50
82:y:20:THR:HG23	82:y:22:LYS:HD3	1.94	0.50
11:AA:642:U:OP2	39:M:22:ILE:HG22	2.11	0.50
11:AA:993:G:N3	11:AA:2637:A:H2'	2.27	0.50
11:AA:2244:A:HO2'	23:EE:223:SER:HG	1.59	0.50
11:AA:2914:G:O2'	11:AA:2934:A:N1	2.42	0.50
11:AA:3184:A:N3	11:AA:3187:A:O2'	2.42	0.50
12:Aa:491:VAL:HA	12:Aa:559:PRO:HD3	1.94	0.50
12:Aa:563:TYR:O	12:Aa:564:ARG:NH1	2.32	0.50
17:CC:152:G:OP2	36:KK:60:ARG:NH1	2.45	0.50
23:EE:70:ARG:NH2	23:EE:72:ARG:HH22	2.10	0.50
26:FF:76:VAL:HG11	26:FF:283:TYR:HD2	1.76	0.50
29:H:19:VAL:HG21	29:H:50:PRO:HG2	1.93	0.50
29:H:54:LEU:HD21	29:H:119:GLY:HA3	1.94	0.50
30:HH:196:ARG:HA	30:HH:199:ILE:HD12	1.94	0.50
38:LL:14:GLU:CD	38:LL:14:GLU:H	2.19	0.50
40:MM:72:ALA:HB2	40:MM:155:ALA:HB2	1.93	0.50
44:OO:47:ALA:HB1	44:OO:48:PRO:HD2	1.93	0.50
44:OO:127:PRO:HG2	44:OO:130:GLY:HA3	1.94	0.50
52:U:55:ARG:O	52:U:58:ILE:HG22	2.12	0.50
60:c:600:U:H2'	60:c:601:A:C8	2.47	0.50
60:c:691:C:OP1	60:c:697:C:N4	2.23	0.50
60:c:788:A:C5	65:h:19:LEU:HD11	2.47	0.50
60:c:1280:4AC:H2'	60:c:1281:G:C8	2.47	0.50
60:c:1351:G:N1	60:c:1375:A:C6	2.80	0.50
66:i:45:LYS:HB3	66:i:46:TRP:CZ3	2.47	0.50
71:n:15:LEU:HG	71:n:68:LEU:HD11	1.94	0.50
79:v:28:LEU:HD13	79:v:55:TYR:OH	2.12	0.50
10:A:54:TYR:CD1	10:A:145:VAL:HG11	2.47	0.49
10:A:108:ILE:HD12	10:A:160:ARG:CZ	2.42	0.49
11:AA:270:U:H2'	11:AA:271:C:H6	1.75	0.49
11:AA:1008:U:H2'	11:AA:1009:A:C5	2.47	0.49
11:AA:1263:A:N3	11:AA:1263:A:H2'	2.27	0.49
11:AA:1602:A:H2'	11:AA:1603:A:C8	2.47	0.49
11:AA:1636:U:H5"	37:L:73:LYS:HE2	1.93	0.49
11:AA:1830:G:O2'	33:J:91:ASN:ND2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2566:C:H2'	11:AA:2567:C:H6	1.75	0.49
11:AA:3295:A:H2'	11:AA:3296:A:C8	2.46	0.49
11:AA:3332:U:H2'	11:AA:3333:G:O4'	2.12	0.49
18:Cc:68:C:H2'	18:Cc:69:C:C6	2.47	0.49
26:FF:216:ASP:OD1	26:FF:278:ILE:HA	2.11	0.49
29:H:87:ARG:HH12	29:H:93:LEU:HD13	1.76	0.49
35:K:86:THR:HG22	35:K:96:PRO:HA	1.92	0.49
43:O:23:TYR:OH	43:O:83:LYS:NZ	2.37	0.49
60:c:920:U:H2'	60:c:921:U:O4'	2.11	0.49
61:d:59:LEU:O	61:d:63:ILE:HG12	2.12	0.49
61:d:146:LEU:HD13	61:d:160:ILE:CG2	2.41	0.49
65:h:175:PHE:CE1	65:h:195:ILE:HD13	2.43	0.49
66:i:31:GLU:OE1	66:i:31:GLU:N	2.45	0.49
68:k:133:THR:HG23	68:k:155:ASP:OD1	2.12	0.49
83:z:103:LEU:HD22	83:z:125:VAL:HB	1.92	0.49
1:0:40:LEU:O	1:0:44:LEU:HD23	2.12	0.49
8:7:17:ASN:HA	8:7:308:ASN:HD21	1.77	0.49
11:AA:35:A:H2'	11:AA:36:C:H6	1.77	0.49
11:AA:94:G:H2'	11:AA:95:A:C8	2.47	0.49
11:AA:1254:C:H2'	11:AA:1255:C:C6	2.47	0.49
11:AA:2632:G:H5"	25:F:12:ARG:HB2	1.94	0.49
12:Aa:157:ILE:HB	12:Aa:211:PHE:HD1	1.76	0.49
12:Aa:725:GLN:HA	12:Aa:803:THR:HA	1.94	0.49
17:CC:6:U:H2'	17:CC:7:U:C6	2.46	0.49
22:E:7:TYR:HD2	22:E:37:ALA:HB2	1.77	0.49
26:FF:26:ARG:HD2	26:FF:179:ALA:HB2	1.93	0.49
38:LL:28:VAL:HG13	38:LL:33:THR:HG22	1.94	0.49
48:QQ:11:GLN:O	48:QQ:14:LYS:HG3	2.11	0.49
57:Z:5:TRP:HZ3	60:c:1783:C:H5"	1.77	0.49
60:c:534:A:H2'	60:c:535:A:H8	1.77	0.49
60:c:611:U:OP1	83:z:19:ARG:NH1	2.45	0.49
60:c:684:A:H3'	60:c:685:A:C8	2.47	0.49
60:c:1007:OMC:H5'	74:q:135:ARG:HG3	1.93	0.49
60:c:1352:G:C2	60:c:1374:C:C2	3.00	0.49
73:p:125:LEU:HG	73:p:129:TYR:CE2	2.47	0.49
2:1:63:SER:HA	2:1:66:VAL:HG12	1.95	0.49
11:AA:1522:U:H3'	33:J:113:LEU:HD11	1.95	0.49
11:AA:1563:C:H2'	11:AA:1564:U:O4'	2.12	0.49
12:Aa:158:ASN:OD1	12:Aa:159:LYS:N	2.39	0.49
12:Aa:588:LEU:HB3	12:Aa:688:ILE:HA	1.95	0.49
14:BB:118:A:H2'	14:BB:119:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Ee:63:LYS:O	24:Ee:70:ALA:N	2.45	0.49
30:HH:39:GLN:NE2	30:HH:46:THR:O	2.42	0.49
34:JJ:87:VAL:O	34:JJ:134:VAL:HG23	2.13	0.49
42:NN:47:GLN:HG2	42:NN:64:LYS:HE2	1.94	0.49
60:c:77:U:O2'	60:c:78:A:OP2	2.28	0.49
60:c:1221:A:H61	60:c:1262:U:H3	1.59	0.49
60:c:1515:A:O2'	60:c:1518:C:N4	2.45	0.49
61:d:121:VAL:HB	61:d:143:VAL:HG12	1.93	0.49
61:d:144:ILE:HG13	61:d:158:VAL:HB	1.94	0.49
63:f:40:LYS:HA	63:f:43:ARG:HB2	1.94	0.49
64:g:39:VAL:HG12	64:g:48:VAL:HG22	1.92	0.49
65:h:210:ILE:O	65:h:217:THR:HA	2.12	0.49
66:i:76:ARG:HB3	66:i:79:ASN:HD21	1.77	0.49
69:l:83:TYR:OH	72:o:11:ARG:NH1	2.46	0.49
72:o:17:PRO:HB2	72:o:18:HIS:ND1	2.27	0.49
72:o:101:GLU:HG3	83:z:13:ARG:HB2	1.93	0.49
73:p:92:ILE:HD13	73:p:122:ILE:HD13	1.94	0.49
78:u:16:ARG:HH21	78:u:20:THR:C	2.21	0.49
8:7:115:ILE:HD11	8:7:119:ALA:HA	1.94	0.49
10:A:21:SER:OG	11:AA:1181:U:O4	2.23	0.49
10:A:23:VAL:HG11	10:A:80:PHE:HZ	1.76	0.49
11:AA:759:U:H2'	11:AA:760:G:O4'	2.12	0.49
11:AA:1003:A:N1	11:AA:1049:C:O2'	2.41	0.49
11:AA:1017:C:H2'	11:AA:1036:A:N3	2.28	0.49
12:Aa:649:GLN:NE2	12:Aa:687:ASN:HB2	2.27	0.49
18:Cc:22:A:O2'	18:Cc:23:G:O4'	2.29	0.49
23:EE:180:LEU:HD22	59:b:26:VAL:HG21	1.94	0.49
31:I:47:ARG:HH21	31:I:58:HIS:CD2	2.31	0.49
31:I:56:ARG:HE	31:I:61:LYS:HB3	1.78	0.49
32:II:85:ILE:HG23	49:R:107:ILE:HG13	1.94	0.49
34:JJ:191:VAL:HG13	34:JJ:195:PHE:CD2	2.47	0.49
42:NN:9:MET:HG2	42:NN:134:PRO:HG2	1.95	0.49
42:NN:54:VAL:HG13	42:NN:55:ARG:N	2.26	0.49
48:QQ:128:LYS:HB3	48:QQ:130:PHE:HE1	1.77	0.49
60:c:282:C:H2'	60:c:283:U:C6	2.47	0.49
60:c:1335:U:H2'	60:c:1336:A:C8	2.47	0.49
60:c:1483:A:H2'	60:c:1484:G:H8	1.75	0.49
61:d:88:LYS:NZ	77:t:78:ARG:HH22	2.10	0.49
61:d:146:LEU:HD13	61:d:160:ILE:HG23	1.94	0.49
71:n:12:HIS:HB3	71:n:76:LEU:HD11	1.95	0.49
79:v:34:VAL:HG13	79:v:53:TRP:CE2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:25:VAL:O	1:0:70:VAL:HA	2.10	0.49
6:5:22:ARG:HH11	64:g:16:VAL:HG11	1.78	0.49
11:AA:296:A:H2'	11:AA:297:G:N3	2.27	0.49
11:AA:754:G:H1	11:AA:778:U:H3	1.60	0.49
11:AA:1169:A:H4'	34:JJ:219:LYS:HD3	1.93	0.49
11:AA:2475:G:H1	11:AA:2488:A:H4'	1.76	0.49
11:AA:2844:C:H42	11:AA:2898:G:H22	1.60	0.49
17:CC:131:A:H4'	33:J:93:TYR:CD2	2.47	0.49
17:CC:151:C:O2'	17:CC:153:U:OP2	2.24	0.49
34:JJ:118:LYS:HB2	34:JJ:195:PHE:CE1	2.47	0.49
40:MM:75:TYR:O	40:MM:79:VAL:HG12	2.12	0.49
41:N:32:LEU:O	41:N:40:ARG:NH1	2.45	0.49
42:NN:92:ARG:CZ	42:NN:94:ARG:HG2	2.43	0.49
60:c:331:A:H2'	60:c:332:U:C6	2.47	0.49
60:c:1499:G:OP2	79:v:73:VAL:HG22	2.12	0.49
60:c:1657:U:H5"	60:c:1658:G:H5"	1.93	0.49
62:e:208:GLN:HG3	62:e:209:ASN:HB2	1.93	0.49
69:l:104:ILE:O	69:l:164:ARG:HA	2.12	0.49
70:m:59:LEU:HD11	70:m:72:GLU:HB2	1.94	0.49
2:1:44:GLN:HG2	78:u:6:GLN:O	2.12	0.49
8:7:250:TYR:O	8:7:264:SER:HA	2.12	0.49
11:AA:1793:C:O2	23:EE:188:LYS:HE3	2.13	0.49
11:AA:2549:G:O2'	36:KK:33:ASN:ND2	2.37	0.49
11:AA:2969:A:H62	23:EE:215:ASN:HD22	1.60	0.49
12:Aa:13:MET:HE2	12:Aa:449:PRO:HD2	1.95	0.49
23:EE:116:VAL:HB	23:EE:126:LEU:HB2	1.93	0.49
28:GG:64:SER:HA	28:GG:75:PRO:HA	1.95	0.49
32:II:60:ASP:OD1	32:II:62:THR:HG22	2.12	0.49
36:KK:161:GLU:OE2	48:QQ:26:ARG:NH1	2.45	0.49
40:MM:149:VAL:HG23	40:MM:165:ILE:HG21	1.93	0.49
59:b:8:VAL:O	59:b:11:THR:HG22	2.13	0.49
60:c:258:C:H2'	60:c:259:U:C6	2.47	0.49
60:c:283:U:H2'	60:c:284:G:C8	2.47	0.49
60:c:513:U:N3	60:c:538:A:C8	2.72	0.49
60:c:635:A:H2'	60:c:636:A:H8	1.77	0.49
60:c:1170:G:C2	60:c:1171:A:C8	3.01	0.49
60:c:1402:G:H2'	60:c:1403:C:C6	2.47	0.49
60:c:1682:U:O2'	60:c:1683:C:H6	1.95	0.49
61:d:56:LYS:NZ	81:x:79:LEU:HD21	2.28	0.49
62:e:117:TRP:HA	62:e:155:TYR:HE1	1.76	0.49
62:e:197:ILE:O	62:e:201:THR:OG1	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:o:73:GLY:O	72:o:122:ILE:HA	2.11	0.49
4:3:25:VAL:HG13	82:y:55:ASP:HB3	1.94	0.49
11:AA:1229:G:C8	11:AA:1282:G:C6	3.00	0.49
11:AA:1743:G:H2'	11:AA:1744:G:C8	2.43	0.49
11:AA:2244:A:H5"	23:EE:243:THR:HB	1.95	0.49
11:AA:2419:A:H2'	11:AA:2420:C:C6	2.48	0.49
11:AA:2692:A:H8	11:AA:2692:A:O5'	1.96	0.49
11:AA:3225:C:H2'	11:AA:3226:A:C8	2.47	0.49
12:Aa:32:LYS:NZ	88:Aa:1001:GTP:O1G	2.42	0.49
12:Aa:225:PHE:HA	12:Aa:228:ARG:HB3	1.94	0.49
12:Aa:819:VAL:O	12:Aa:823:ARG:N	2.33	0.49
15:Bb:29:A:C6	15:Bb:43:G:C5	3.01	0.49
18:Cc:30:G:H21	18:Cc:43:G:C3'	2.26	0.49
19:D:101:VAL:HG12	19:D:104:ARG:HH12	1.76	0.49
20:DD:45:LEU:HD13	20:DD:48:ARG:HH11	1.77	0.49
24:Ee:113:ALA:HB1	24:Ee:128:VAL:HG12	1.94	0.49
25:F:56:PHE:CZ	25:F:78:LYS:HG3	2.48	0.49
26:FF:284:ARG:HG3	26:FF:286:GLY:H	1.78	0.49
30:HH:93:THR:O	30:HH:93:THR:HG22	2.13	0.49
32:II:148:GLU:HA	32:II:151:LYS:HE3	1.94	0.49
40:MM:84:ALA:O	40:MM:140:THR:OG1	2.25	0.49
53:V:26:SER:HB3	53:V:35:SER:HB3	1.93	0.49
60:c:475:A:H3'	60:c:476:U:H6	1.77	0.49
60:c:604:A:H2'	60:c:605:A:O4'	2.13	0.49
60:c:874:C:OP1	62:e:159:SER:OG	2.24	0.49
60:c:1337:A:N6	60:c:1387:G:H22	2.11	0.49
60:c:1355:C:N4	60:c:1369:U:N3	2.59	0.49
66:i:41:LYS:NZ	66:i:42:LEU:H	2.11	0.49
77:t:22:PRO:HB3	77:t:72:LYS:NZ	2.28	0.49
78:u:24:GLY:HA2	78:u:58:ALA:HB3	1.95	0.49
8:7:135:THR:HG23	8:7:141:LEU:HD11	1.94	0.49
10:A:62:THR:HA	11:AA:1306:G:C5	2.48	0.49
11:AA:786:A:N6	16:C:88:THR:OG1	2.46	0.49
11:AA:807:A2M:N6	11:AA:2411:U:O2'	2.26	0.49
11:AA:1751:G:OP1	54:W:26:LYS:NZ	2.26	0.49
11:AA:2742:C:H2'	11:AA:2743:A:C8	2.47	0.49
14:BB:45:A:P	30:HH:151:GLN:HE22	2.35	0.49
20:DD:37:GLN:NE2	20:DD:105:VAL:HB	2.28	0.49
25:F:41:ASP:OD1	25:F:61:THR:OG1	2.22	0.49
36:KK:71:VAL:HG11	36:KK:76:ALA:HB2	1.95	0.49
39:M:105:LEU:HD13	39:M:128:ARG:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:M:147:LEU:HB3	52:U:7:ILE:HG23	1.93	0.49
60:c:28:A2M:H2'	60:c:29:U:C6	2.48	0.49
60:c:296:U:H2'	60:c:297:U:H6	1.78	0.49
60:c:538:A:O2'	60:c:541:A2M:HM'2	2.13	0.49
60:c:998:A:H2'	60:c:999:U:C6	2.48	0.49
60:c:1356:U:H1'	60:c:1368:G:H22	1.77	0.49
60:c:1499:G:O6	60:c:1508:U:O4	2.31	0.49
60:c:1592:A:H2'	60:c:1593:A:H8	1.76	0.49
61:d:89:PHE:HD1	61:d:178:ALA:HB2	1.78	0.49
62:e:35:PRO:HD2	62:e:41:ARG:HA	1.95	0.49
62:e:97:LEU:HD22	62:e:231:LEU:HD21	1.94	0.49
65:h:136:VAL:HG21	65:h:148:ARG:NH2	2.27	0.49
66:i:122:ASN:O	66:i:126:ASP:HA	2.13	0.49
67:j:63:MET:HB3	67:j:98:ARG:HB3	1.94	0.49
69:l:41:LYS:HB2	69:l:61:GLU:OE1	2.12	0.49
2:1:63:SER:HB3	66:i:188:LYS:HA	1.94	0.49
10:A:17:GLY:HA3	11:AA:1313:G:O3'	2.12	0.49
10:A:113:ASP:OD1	10:A:113:ASP:N	2.44	0.49
10:A:117:ARG:NH2	11:AA:3180:A:O2'	2.41	0.49
11:AA:1038:C:H2'	11:AA:1039:U:C6	2.48	0.49
11:AA:1229:G:N2	11:AA:1281:G:C4	2.81	0.49
11:AA:1239:C:H2'	11:AA:1240:A:C8	2.48	0.49
11:AA:1887:A:N6	11:AA:2348:A:O2'	2.44	0.49
11:AA:2299:A:C5	11:AA:2300:G:C8	3.00	0.49
11:AA:2522:G:H2'	11:AA:2522:G:N3	2.28	0.49
11:AA:2674:A:C2	42:NN:124:GLY:HA3	2.48	0.49
11:AA:2792:A:O2'	11:AA:2793:OMG:OP1	2.30	0.49
33:J:68:THR:HG22	33:J:68:THR:O	2.12	0.49
34:JJ:151:ARG:HB3	34:JJ:205:PHE:HD2	1.78	0.49
60:c:119:A:H1'	60:c:397:A:C5	2.48	0.49
60:c:275:C:H2'	60:c:276:C:C6	2.48	0.49
60:c:1329:A:H2'	60:c:1330:G:O4'	2.13	0.49
60:c:1352:G:C8	60:c:1352:G:H5"	2.48	0.49
60:c:1492:A:O2'	60:c:1493:A:N7	2.41	0.49
62:e:113:MET:HG2	62:e:209:ASN:HD21	1.78	0.49
67:j:70:PRO:O	67:j:98:ARG:NH2	2.44	0.49
68:k:38:LEU:HD11	68:k:73:VAL:HG11	1.94	0.49
70:m:80:LEU:HD13	70:m:99:LEU:HD11	1.93	0.49
73:p:88:LEU:O	73:p:92:ILE:HG12	2.12	0.49
1:0:83:LYS:NZ	1:0:96:LEU:HD23	2.28	0.49
6:5:44:ARG:NH2	60:c:1279:C:O2'	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:128:ASP:O	8:7:130:THR:HG23	2.13	0.49
11:AA:1084:A:H2'	11:AA:1085:A:C8	2.47	0.49
11:AA:1301:A:H4'	11:AA:1302:A:H5"	1.94	0.49
11:AA:3321:C:H2'	11:AA:3322:A:C8	2.47	0.49
18:Cc:69:C:H2'	18:Cc:70:C:C6	2.46	0.49
33:J:115:ARG:NH2	33:J:117:ASN:HD21	2.11	0.49
49:R:75:HIS:N	49:R:80:VAL:O	2.42	0.49
60:c:63:G:O2'	60:c:170:U:OP1	2.30	0.49
60:c:250:C:H2'	60:c:251:A:C8	2.48	0.49
60:c:455:C:H3'	60:c:456:A:H8	1.77	0.49
60:c:1257:U:H2'	71:n:2:LEU:HD23	1.94	0.49
60:c:1364:G:O5'	60:c:1364:G:H8	1.94	0.49
60:c:1504:G:H2'	60:c:1505:A:C4	2.48	0.49
60:c:1600:A:H2'	60:c:1600:A:N3	2.27	0.49
64:g:76:ARG:HG3	64:g:77:PHE:CD1	2.48	0.49
73:p:115:LEU:O	73:p:119:GLU:HG2	2.13	0.49
77:t:22:PRO:HD3	77:t:72:LYS:HD3	1.95	0.49
81:x:39:VAL:HG13	81:x:43:GLY:N	2.28	0.49
11:AA:74:G:H5"	44:OO:104:ARG:NH2	2.28	0.48
11:AA:1035:G:H3'	11:AA:1036:A:H8	1.78	0.48
11:AA:1261:G:O2'	11:AA:1278:A:N6	2.37	0.48
11:AA:1738:C:O2	50:S:52:GLN:NE2	2.46	0.48
11:AA:2335:G:N2	11:AA:2339:C:O2'	2.43	0.48
11:AA:2577:C:H2'	11:AA:2578:U:C6	2.48	0.48
11:AA:3332:U:OP1	31:I:35:LYS:HD3	2.13	0.48
14:BB:50:U:H4'	30:HH:224:LYS:HE2	1.95	0.48
14:BB:84:A:H2'	14:BB:85:G:C8	2.47	0.48
17:CC:92:A:H2'	17:CC:93:U:O4'	2.14	0.48
17:CC:121:U:H2'	17:CC:122:U:C6	2.48	0.48
22:E:26:ARG:NH2	25:F:150:THR:OG1	2.38	0.48
30:HH:240:TYR:O	30:HH:244:HIS:ND1	2.35	0.48
38:LL:118:LEU:HD23	38:LL:118:LEU:O	2.13	0.48
40:MM:190:VAL:HG22	40:MM:199:PHE:HD1	1.76	0.48
44:OO:119:TYR:CZ	44:OO:123:ILE:HD11	2.48	0.48
45:P:11:GLU:C	45:P:72:ARG:HH12	2.21	0.48
57:Z:2:ARG:HD3	60:c:1772:C:P	2.52	0.48
60:c:30:G:H2'	60:c:31:C:H6	1.78	0.48
60:c:262:U:H2'	60:c:263:C:C6	2.47	0.48
60:c:405:C:H5"	67:j:93:LYS:HZ3	1.78	0.48
60:c:776:G:H2'	60:c:777:C:C6	2.48	0.48
60:c:865:A:H5'	89:c:2006:HOH:O	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:885:G:H5'	62:e:138:PHE:CZ	2.48	0.48
60:c:1101:G:HO2'	82:y:4:SER:HG	1.59	0.48
60:c:1339:C:O2'	60:c:1341:A:N7	2.32	0.48
60:c:1366:U:H2'	60:c:1367:G:H5'	1.94	0.48
60:c:1575:G7M:H3'	60:c:1575:G7M:H8	1.93	0.48
60:c:1586:A:H1'	60:c:1611:A:C6	2.48	0.48
61:d:102:PHE:CD1	61:d:102:PHE:O	2.66	0.48
62:e:70:LEU:HB2	62:e:82:ARG:O	2.13	0.48
65:h:116:ASP:HA	65:h:119:ALA:HB3	1.95	0.48
78:u:7:GLU:OE1	78:u:10:SER:OG	2.16	0.48
10:A:74:ARG:NH1	11:AA:3008:A:OP2	2.45	0.48
11:AA:516:A:H2'	11:AA:517:G:C8	2.47	0.48
11:AA:549:U:O4	11:AA:550:A:N6	2.45	0.48
11:AA:1572:U:H2'	11:AA:1573:G:H8	1.78	0.48
11:AA:1643:A:H2'	11:AA:1644:C:C2	2.48	0.48
11:AA:2205:U:C4	11:AA:2238:G:C2	3.01	0.48
11:AA:3095:U:H5"	29:H:86:ARG:HH21	1.78	0.48
11:AA:3226:A:N6	11:AA:3227:A:C6	2.81	0.48
12:Aa:101:ASN:HD21	12:Aa:453:ILE:HB	1.78	0.48
12:Aa:203:TYR:O	12:Aa:208:THR:OG1	2.27	0.48
12:Aa:420:PRO:HG3	12:Aa:476:HIS:HA	1.95	0.48
21:Dd:21:G:OP1	60:c:1640:C:N4	2.41	0.48
40:MM:33:ILE:O	40:MM:69:ARG:NE	2.45	0.48
54:W:70:PRO:O	54:W:73:LEU:HD22	2.14	0.48
60:c:1032:G:H1	60:c:1103:U:H3	1.61	0.48
60:c:1202:A:H1'	60:c:1207:C:H42	1.78	0.48
60:c:1225:U:H3'	60:c:1226:A:C8	2.48	0.48
60:c:1406:A:H2'	60:c:1407:U:C6	2.47	0.48
60:c:1452:U:O2'	75:r:79:HIS:ND1	2.31	0.48
60:c:1669:U:H2'	60:c:1670:G:O4'	2.12	0.48
62:e:125:VAL:O	62:e:136:ARG:HA	2.12	0.48
65:h:11:ARG:H	65:h:27:TYR:HA	1.77	0.48
65:h:139:VAL:HG13	65:h:150:PRO:HG3	1.95	0.48
68:k:16:LEU:HD21	68:k:48:GLU:HG3	1.94	0.48
72:o:68:GLY:HA3	72:o:127:GLN:OE1	2.13	0.48
72:o:71:LEU:HD13	72:o:137:PHE:HE2	1.79	0.48
78:u:67:GLU:HA	78:u:70:VAL:HG22	1.95	0.48
2:1:58:ARG:HH22	66:i:125:THR:N	2.04	0.48
4:3:31:TYR:HE2	4:3:33:LEU:HD21	1.78	0.48
8:7:99:THR:OG1	8:7:102:ARG:NH2	2.47	0.48
8:7:172:ALA:HB2	8:7:202:LEU:HD22	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:147:TRP:CZ3	10:A:150:GLU:HG3	2.48	0.48
11:AA:185:C:H5"	35:K:122:LYS:HD3	1.93	0.48
11:AA:415:G:H2'	11:AA:416:A:H8	1.78	0.48
11:AA:965:A:O2'	39:M:44:ASN:HB2	2.12	0.48
11:AA:973:A:P	16:C:12:ARG:HH21	2.37	0.48
11:AA:1069:C:H2'	11:AA:1070:U:H6	1.77	0.48
11:AA:1650:G:H2'	11:AA:1651:U:H6	1.77	0.48
11:AA:1666:G:H2'	11:AA:1667:A:H8	1.78	0.48
11:AA:2417:OMU:HM23	11:AA:2417:OMU:H1'	1.64	0.48
11:AA:2606:G:N3	11:AA:2606:G:H2'	2.29	0.48
11:AA:2765:C:O3'	58:a:39:GLY:HA3	2.12	0.48
11:AA:3177:G:O2'	11:AA:3179:U:OP1	2.26	0.48
12:Aa:225:PHE:HB3	12:Aa:229:TYR:CZ	2.48	0.48
12:Aa:418:TYR:HD1	12:Aa:424:ASP:HB3	1.78	0.48
12:Aa:433:ARG:HH12	60:c:53:G:H5'	1.78	0.48
13:B:26:PHE:HA	13:B:144:SER:HB2	1.93	0.48
14:BB:60:G:H2'	14:BB:61:G:H8	1.79	0.48
17:CC:40:A:H2'	17:CC:41:A:C8	2.48	0.48
17:CC:141:C:H2'	17:CC:142:C:H6	1.78	0.48
18:Cc:31:G:C5	18:Cc:43:G:C6	3.01	0.48
19:D:139:VAL:O	19:D:143:ILE:HG12	2.12	0.48
23:EE:137:ILE:HD11	23:EE:147:ARG:HG2	1.96	0.48
32:II:62:THR:OG1	32:II:79:VAL:O	2.29	0.48
34:JJ:138:TYR:CG	34:JJ:233:GLU:HB2	2.48	0.48
37:L:25:ILE:HA	37:L:43:VAL:HG12	1.93	0.48
38:LL:12:VAL:HG13	38:LL:16:VAL:HG23	1.95	0.48
38:LL:93:VAL:HG21	56:Y:86:ALA:HB2	1.94	0.48
41:N:27:TYR:HE1	41:N:30:PRO:HA	1.78	0.48
42:NN:20:ASN:HB3	42:NN:126:ASP:HB3	1.94	0.48
59:b:18:TYR:O	59:b:22:LEU:HD12	2.14	0.48
60:c:252:U:H2'	60:c:253:A:C8	2.49	0.48
60:c:293:U:H2'	60:c:294:C:H6	1.79	0.48
60:c:1344:A:H2'	60:c:1345:A:H8	1.78	0.48
60:c:1359:C:O2	60:c:1359:C:H2'	2.13	0.48
60:c:1360:A:C2	60:c:1364:G:C4	3.01	0.48
61:d:76:ILE:HG13	61:d:98:ILE:HB	1.94	0.48
62:e:172:LEU:HD23	62:e:193:ILE:HD11	1.95	0.48
63:f:43:ARG:O	63:f:46:LYS:HG3	2.12	0.48
64:g:11:LEU:HD12	80:w:86:ILE:HD11	1.95	0.48
69:l:180:ASP:OD1	69:l:181:GLY:N	2.46	0.48
75:r:75:PRO:HA	75:r:93:VAL:HG13	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:40:CYS:SG	4:3:41:LEU:N	2.79	0.48
10:A:12:LYS:HB3	22:E:167:ARG:HH22	1.79	0.48
11:AA:209:A:N3	28:GG:221:ASN:ND2	2.61	0.48
11:AA:900:G:H1'	11:AA:1589:A:H62	1.77	0.48
11:AA:907:G:H2'	11:AA:926:A:H62	1.78	0.48
11:AA:1129:A:H2'	11:AA:1130:A:C8	2.49	0.48
11:AA:1615:C:H2'	11:AA:1616:U:C6	2.49	0.48
11:AA:2490:C:O2'	11:AA:2491:A:H5"	2.13	0.48
11:AA:2986:U:H2'	11:AA:2987:A:H8	1.78	0.48
11:AA:3049:A:C4	26:FF:75:ALA:HB2	2.49	0.48
12:Aa:44:GLY:O	60:c:416:A:N6	2.39	0.48
12:Aa:69:THR:HG23	12:Aa:106:PRO:HA	1.96	0.48
12:Aa:413:ILE:HD13	12:Aa:427:PHE:HB2	1.95	0.48
15:Bb:44:A:H2'	15:Bb:45:G:O4'	2.13	0.48
17:CC:14:C:C4	17:CC:15:G:C6	3.01	0.48
17:CC:70:G:H22	17:CC:87:G:H1'	1.78	0.48
18:Cc:24:C:H2'	18:Cc:25:U:C6	2.49	0.48
23:EE:147:ARG:HE	23:EE:157:VAL:HG22	1.78	0.48
30:HH:55:PHE:CE1	30:HH:159:VAL:HA	2.48	0.48
31:I:42:GLN:O	31:I:43:ARG:HG2	2.14	0.48
60:c:333:A:H2'	60:c:334:G:C8	2.49	0.48
60:c:448:C:O5'	65:h:29:PRO:HG3	2.13	0.48
72:o:20:PHE:HE2	72:o:22:ASN:HD22	1.61	0.48
72:o:82:ARG:HE	72:o:113:PRO:HG3	1.79	0.48
73:p:49:GLN:OE1	73:p:49:GLN:N	2.45	0.48
79:v:66:TYR:HA	79:v:124:ILE:HG13	1.95	0.48
81:x:32:VAL:CG1	81:x:60:ARG:HD2	2.43	0.48
1:0:63:GLN:HE21	70:m:139:GLN:CD	2.21	0.48
7:6:17:GLN:NE2	60:c:563:U:H4'	2.28	0.48
11:AA:159:A:H2'	11:AA:160:G:C8	2.44	0.48
11:AA:407:A:C2	17:CC:17:A:H1'	2.48	0.48
11:AA:896:A:H5'	23:EE:183:GLY:HA2	1.94	0.48
11:AA:1258:U:O2'	11:AA:1260:A:N7	2.38	0.48
11:AA:2430:A:H2'	11:AA:2431:C:H6	1.78	0.48
11:AA:2476:C:O2	11:AA:2488:A:H5'	2.14	0.48
11:AA:2519:A:H2'	11:AA:2520:A:C8	2.49	0.48
11:AA:2553:U:N3	50:S:95:ILE:HG22	2.27	0.48
11:AA:3325:G:H5"	45:P:103:GLY:HA2	1.95	0.48
12:Aa:492:ALA:N	12:Aa:557:SER:O	2.42	0.48
14:BB:94:C:H2'	14:BB:95:A:C8	2.46	0.48
18:Cc:14:A:H2'	18:Cc:15:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:D:92:GLN:O	19:D:96:ILE:HG13	2.14	0.48
34:JJ:30:ARG:NH1	34:JJ:33:ARG:HH22	2.11	0.48
39:M:94:ALA:HB2	39:M:121:VAL:HG12	1.95	0.48
60:c:82:U:H2'	60:c:83:G:O4'	2.14	0.48
60:c:248:U:H5'	72:o:36:LYS:HB2	1.94	0.48
60:c:534:A:H2'	60:c:535:A:C8	2.49	0.48
60:c:1347:U:OP2	80:w:23:ARG:NH2	2.45	0.48
60:c:1372:U:H1'	60:c:1373:C:C6	2.49	0.48
62:e:131:ASP:OD1	62:e:131:ASP:N	2.45	0.48
65:h:100:ARG:HH22	65:h:122:LYS:HA	1.79	0.48
69:l:6:ASP:HB3	69:l:28:GLU:CD	2.39	0.48
75:r:59:LYS:HA	75:r:62:ALA:HB3	1.95	0.48
83:z:83:VAL:HG22	83:z:84:THR:H	1.77	0.48
6:5:22:ARG:NE	6:5:36:LEU:O	2.46	0.48
11:AA:277:G:H2'	11:AA:278:U:C6	2.49	0.48
11:AA:1326:A:H2'	11:AA:1327:C:O4'	2.14	0.48
11:AA:1463:U:H2'	11:AA:1464:G:O4'	2.13	0.48
11:AA:2101:C:O2'	11:AA:2102:U:OP1	2.30	0.48
11:AA:3232:G:C6	11:AA:3256:G:C6	3.01	0.48
12:Aa:396:ALA:HB3	12:Aa:456:LEU:HB2	1.95	0.48
13:B:48:LEU:HD22	13:B:88:VAL:HG13	1.96	0.48
19:D:7:GLN:NE2	19:D:32:ILE:HG22	2.28	0.48
23:EE:135:ILE:CG2	23:EE:149:ARG:HB3	2.43	0.48
42:NN:75:LYS:O	42:NN:79:ILE:HG13	2.14	0.48
43:O:13:LYS:O	43:O:17:VAL:HG23	2.14	0.48
44:OO:124:ILE:HG13	44:OO:124:ILE:O	2.14	0.48
47:Q:74:PHE:HD2	47:Q:85:LEU:HD11	1.79	0.48
51:T:118:ILE:HG22	51:T:120:ALA:H	1.78	0.48
60:c:212:U:H2'	60:c:213:A:H8	1.77	0.48
60:c:473:A:H5'	60:c:769:A:H1'	1.95	0.48
60:c:1160:A:H2'	60:c:1161:C:H6	1.75	0.48
65:h:19:LEU:HD13	65:h:51:ARG:NH2	2.29	0.48
65:h:203:GLY:HA3	72:o:40:LEU:HD21	1.95	0.48
66:i:97:LEU:HD11	66:i:194:LEU:HD13	1.95	0.48
67:j:182:GLN:HE22	67:j:186:ARG:HD3	1.79	0.48
69:l:57:ALA:HB2	69:l:177:GLY:HA2	1.95	0.48
81:x:78:LEU:C	81:x:79:LEU:HD12	2.39	0.48
83:z:48:HIS:CD2	83:z:105:ALA:HB2	2.48	0.48
11:AA:176:G:C2	11:AA:243:G:C2	3.01	0.48
11:AA:922:U:O2	11:AA:922:U:H2'	2.12	0.48
11:AA:968:G:H21	41:N:15:LYS:HE3	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1377:G:H1'	11:AA:1431:G:N2	2.29	0.48
11:AA:1616:U:H2'	11:AA:1617:G:C8	2.48	0.48
11:AA:1740:U:H4'	11:AA:1741:A:H5"	1.94	0.48
11:AA:1946:A:H2'	11:AA:1947:G:O4'	2.13	0.48
11:AA:3092:C:O3'	11:AA:3093:C:H3'	2.14	0.48
12:Aa:165:LEU:O	12:Aa:168:GLN:NE2	2.44	0.48
12:Aa:566:THR:HG22	12:Aa:567:VAL:N	2.28	0.48
13:B:27:LYS:O	13:B:31:GLU:HG2	2.13	0.48
16:C:158:HIS:H	16:C:186:VAL:CG1	2.26	0.48
17:CC:43:A:H62	53:V:65:ARG:HH21	1.61	0.48
18:Cc:76:C:H4'	58:a:57:VAL:HG12	1.96	0.48
23:EE:204:MET:HG3	23:EE:209:HIS:HB2	1.96	0.48
28:GG:261:VAL:HG13	28:GG:262:TRP:CD1	2.49	0.48
28:GG:286:VAL:O	28:GG:290:ILE:HG12	2.13	0.48
28:GG:307:GLN:CD	28:GG:307:GLN:H	2.21	0.48
35:K:21:THR:O	35:K:21:THR:HG22	2.14	0.48
42:NN:47:GLN:HG3	42:NN:67:VAL:HG22	1.96	0.48
44:OO:5:LYS:HE3	44:OO:5:LYS:HB2	1.55	0.48
48:QQ:35:VAL:O	48:QQ:64:VAL:HA	2.13	0.48
48:QQ:103:GLU:HG3	48:QQ:115:VAL:HG11	1.96	0.48
60:c:4:C:OP2	63:f:200:SER:OG	2.27	0.48
60:c:97:C:H2'	60:c:98:U:H6	1.78	0.48
60:c:1072:C:H2'	60:c:1073:G:C8	2.48	0.48
60:c:1363:U:OP1	60:c:1364:G:H5'	2.14	0.48
63:f:82:ASN:ND2	63:f:207:LEU:HD21	2.19	0.48
65:h:42:LEU:HD21	65:h:51:ARG:HG3	1.96	0.48
66:i:168:VAL:O	66:i:172:ILE:HG13	2.14	0.48
77:t:20:TYR:O	77:t:23:LYS:HB2	2.14	0.48
77:t:41:ILE:HG21	77:t:47:ARG:N	2.27	0.48
81:x:41:GLU:C	81:x:42:GLU:HG3	2.37	0.48
10:A:39:GLU:OE1	10:A:76:PRO:HG2	2.14	0.48
11:AA:1233:G:H2'	11:AA:1234:G:C8	2.48	0.48
11:AA:1499:C:H2'	11:AA:1500:G:C8	2.47	0.48
11:AA:1561:G:O2'	11:AA:1562:C:H5'	2.13	0.48
11:AA:1597:C:O3'	50:S:25:THR:OG1	2.32	0.48
11:AA:1904:C:H2'	11:AA:1905:G:O4'	2.14	0.48
11:AA:2480:A:H5'	11:AA:2482:U:C4	2.49	0.48
14:BB:4:U:H2'	14:BB:5:G:C8	2.47	0.48
17:CC:6:U:H2'	17:CC:7:U:H6	1.78	0.48
18:Cc:36:A:H2'	18:Cc:37:U:C6	2.49	0.48
19:D:95:TRP:CH2	19:D:99:LEU:HD22	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:EE:30:ARG:HD2	23:EE:63:PHE:CE2	2.49	0.48
23:EE:108:PRO:HG3	59:b:90:VAL:HG21	1.95	0.48
37:L:83:THR:HG22	50:S:93:PHE:CZ	2.48	0.48
40:MM:52:LEU:HD11	40:MM:163:GLN:HB3	1.95	0.48
58:a:65:THR:O	58:a:87:ARG:NH1	2.47	0.48
60:c:478:A:N1	60:c:510:G:O6	2.47	0.48
60:c:1375:A:C6	60:c:1376:C:N4	2.82	0.48
60:c:1546:G:OP1	78:u:127:HIS:NE2	2.42	0.48
63:f:59:HIS:CG	63:f:239:PRO:HD3	2.48	0.48
63:f:76:LEU:HG	63:f:104:VAL:HG22	1.96	0.48
65:h:126:VAL:HG12	65:h:158:ASP:O	2.14	0.48
68:k:56:LYS:HB2	68:k:88:ARG:CD	2.44	0.48
74:q:19:ILE:HB	74:q:83:ILE:HD13	1.95	0.48
4:3:20:LYS:HB3	4:3:29:ARG:HG2	1.96	0.48
8:7:248:ASN:OD1	8:7:249:ARG:N	2.40	0.48
11:AA:176:G:C6	11:AA:244:G:C5	3.02	0.48
11:AA:1010:G:N1	11:AA:1041:U:N3	2.51	0.48
11:AA:1770:G:H2'	11:AA:1771:C:C6	2.49	0.48
11:AA:3094:A:H2'	11:AA:3095:U:C6	2.49	0.48
12:Aa:50:LYS:HZ1	12:Aa:53:GLU:HB2	1.77	0.48
12:Aa:405:VAL:N	12:Aa:448:CYS:O	2.40	0.48
15:Bb:25:C:H2'	15:Bb:26:G:H8	1.79	0.48
16:C:94:PHE:CE2	39:M:119:PRO:HD3	2.48	0.48
17:CC:26:U:H2'	17:CC:27:U:C6	2.49	0.48
17:CC:71:A:O2'	35:K:51:ARG:NH2	2.47	0.48
20:DD:30:VAL:HG13	20:DD:185:LEU:HG	1.96	0.48
22:E:34:GLU:O	22:E:38:LYS:HG2	2.13	0.48
25:F:27:LEU:HD23	25:F:27:LEU:H	1.79	0.48
38:LL:92:TYR:CE1	38:LL:144:ILE:HD11	2.47	0.48
38:LL:134:ILE:HG22	38:LL:146:LEU:HD21	1.96	0.48
42:NN:9:MET:HG2	42:NN:9:MET:O	2.13	0.48
44:OO:124:ILE:HG23	51:T:119:LYS:HD3	1.96	0.48
60:c:107:C:OP1	60:c:383:G:O2'	2.30	0.48
60:c:295:A:H2'	60:c:296:U:H6	1.79	0.48
60:c:525:A:O2'	60:c:526:A:OP1	2.26	0.48
60:c:923:A:H2'	60:c:924:A:H8	1.76	0.48
60:c:1011:G:H2'	60:c:1012:U:C5	2.49	0.48
60:c:1360:A:C4	60:c:1364:G:C2	3.01	0.48
60:c:1587:A:O2'	66:i:104:ASN:OD1	2.22	0.48
62:e:32:ILE:HG22	62:e:34:ALA:HB2	1.95	0.48
65:h:155:LYS:HD3	65:h:155:LYS:HA	1.58	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:l:117:TYR:C	69:l:143:TRP:HD1	2.22	0.48
78:u:32:LEU:HD12	78:u:35:ILE:HD13	1.94	0.48
2:1:58:ARG:NH1	66:i:123:VAL:O	2.30	0.48
11:AA:156:G:OP2	52:U:25:LYS:HB3	2.13	0.48
11:AA:359:U:H4'	11:AA:817:A2M:H61	1.79	0.48
11:AA:536:U:C2	11:AA:537:A:C8	3.02	0.48
11:AA:725:G:H2'	11:AA:726:G:O4'	2.14	0.48
11:AA:1063:G:O2'	11:AA:1097:G:N2	2.46	0.48
11:AA:1222:G:H8	20:DD:57:THR:HB	1.79	0.48
11:AA:1559:A:O2'	11:AA:1560:G:H8	1.96	0.48
11:AA:2412:G:H2'	11:AA:2413:A:H8	1.79	0.48
11:AA:2443:A:H2'	11:AA:2444:C:C6	2.48	0.48
11:AA:3068:U:OP2	19:D:59:SER:HB3	2.13	0.48
11:AA:3090:U:OP1	26:FF:270:ARG:NH2	2.47	0.48
11:AA:3138:U:OP1	26:FF:276:THR:HG23	2.14	0.48
11:AA:3165:A:H2'	11:AA:3166:C:C6	2.49	0.48
11:AA:3279:A:N6	49:R:54:ARG:HD3	2.29	0.48
13:B:36:ILE:HG13	13:B:44:ALA:HB1	1.96	0.48
16:C:67:ILE:HG23	16:C:81:VAL:HG11	1.95	0.48
17:CC:13:A:C6	17:CC:14:C:N4	2.82	0.48
18:Cc:30:G:H21	18:Cc:43:G:C2'	2.27	0.48
25:F:14:MET:HE1	25:F:55:LYS:O	2.14	0.48
30:HH:146:LEU:HD22	30:HH:163:LEU:CD1	2.44	0.48
37:L:50:PRO:HD3	37:L:68:ILE:HD12	1.96	0.48
38:LL:129:ARG:O	38:LL:132:VAL:HG12	2.14	0.48
39:M:77:LYS:O	39:M:79:TRP:N	2.47	0.48
42:NN:116:TYR:HE1	42:NN:122:ILE:HB	1.79	0.48
53:V:18:LEU:HD12	53:V:25:ARG:HG2	1.96	0.48
59:b:49:ARG:HH21	59:b:52:ALA:N	2.12	0.48
60:c:10:G:N2	63:f:88:LYS:HD3	2.29	0.48
60:c:127:G:H1	60:c:179:A:H62	1.60	0.48
60:c:567:A:OP2	83:z:67:ALA:HB1	2.14	0.48
60:c:1101:G:O2'	82:y:4:SER:OG	2.26	0.48
60:c:1169:G:H2'	60:c:1575:G7M:O6	2.14	0.48
60:c:1349:G:H2'	60:c:1350:U:C6	2.49	0.48
64:g:28:GLU:OE1	71:n:58:GLN:NE2	2.43	0.48
66:i:111:VAL:HG23	66:i:114:ILE:HD11	1.96	0.48
66:i:117:THR:HG21	66:i:194:LEU:HD22	1.95	0.48
67:j:2:LYS:O	67:j:108:VAL:HA	2.14	0.48
67:j:34:GLN:OE1	67:j:34:GLN:N	2.47	0.48
68:k:62:VAL:O	68:k:95:GLU:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:m:63:ASP:CG	82:y:117:ARG:HH22	2.22	0.48
80:w:28:SER:OG	80:w:34:LEU:HD13	2.14	0.48
81:x:32:VAL:HG12	81:x:55:LEU:HB2	1.95	0.48
83:z:43:PHE:O	83:z:45:GLY:N	2.45	0.48
6:5:12:ARG:HH22	60:c:1451:C:P	2.36	0.47
10:A:172:ARG:HA	10:A:175:THR:HG22	1.96	0.47
11:AA:503:C:H2'	11:AA:504:A:H8	1.79	0.47
11:AA:576:C:OP1	34:JJ:241:LYS:HE3	2.14	0.47
11:AA:880:G:OP2	13:B:132:ALA:N	2.43	0.47
11:AA:911:C:OP2	23:EE:9:ARG:NH1	2.45	0.47
11:AA:988:U:H1'	25:F:130:ARG:NH2	2.29	0.47
11:AA:1120:A:H2'	11:AA:1121:U:H6	1.79	0.47
11:AA:1214:U:H2'	11:AA:1215:U:H6	1.79	0.47
11:AA:1336:U:H2'	11:AA:1337:A:H8	1.78	0.47
11:AA:1497:C:O2'	11:AA:1602:A:H1'	2.14	0.47
11:AA:1643:A:N3	11:AA:1822:C:H1'	2.29	0.47
11:AA:2095:G:N3	11:AA:2095:G:H2'	2.29	0.47
11:AA:2688:U:OP1	30:HH:12:TYR:OH	2.31	0.47
13:B:25:SER:H	13:B:86:LYS:HE2	1.79	0.47
23:EE:124:GLY:O	23:EE:128:ARG:NH1	2.47	0.47
24:Ee:61:GLN:NE2	24:Ee:63:LYS:HG3	2.22	0.47
30:HH:60:ILE:HB	30:HH:80:SER:HB2	1.95	0.47
31:I:13:ILE:HG12	31:I:32:GLN:OE1	2.13	0.47
37:L:83:THR:HG22	50:S:93:PHE:CE1	2.49	0.47
44:OO:171:ARG:HD2	44:OO:174:ARG:HH12	1.79	0.47
49:R:46:GLY:H	49:R:71:VAL:HG13	1.79	0.47
52:U:72:VAL:O	52:U:76:ARG:HG2	2.14	0.47
60:c:93:A:H5'	60:c:94:U:C5	2.49	0.47
60:c:294:C:H2'	60:c:295:A:C8	2.49	0.47
60:c:648:G:N3	60:c:648:G:H2'	2.28	0.47
60:c:925:G:H2'	60:c:926:A:C8	2.49	0.47
60:c:1390:U:H5'	77:t:3:ARG:NH1	2.29	0.47
60:c:1525:A:H2'	60:c:1526:A:C8	2.50	0.47
60:c:1786:G:OP2	74:q:133:ARG:NH2	2.47	0.47
64:g:8:LYS:NZ	80:w:63:LEU:HB3	2.29	0.47
64:g:185:LYS:HE2	64:g:185:LYS:HB2	1.68	0.47
65:h:93:ASP:OD1	65:h:93:ASP:N	2.47	0.47
65:h:211:LYS:HD3	65:h:215:ASP:HA	1.96	0.47
67:j:102:VAL:HG13	67:j:106:LEU:HG	1.95	0.47
69:l:41:LYS:HG3	69:l:60:ILE:HD12	1.95	0.47
74:q:44:GLY:O	74:q:48:VAL:HG22	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:z:134:ALA:HB1	83:z:140:LYS:HB2	1.96	0.47
1:0:7:ILE:HG13	1:0:27:VAL:HB	1.96	0.47
7:6:51:ASN:ND2	7:6:51:ASN:C	2.71	0.47
8:7:116:ASP:CB	8:7:121:MET:HB3	2.44	0.47
8:7:157:VAL:HB	8:7:168:THR:OG1	2.13	0.47
11:AA:137:G:H2'	11:AA:138:U:C6	2.49	0.47
11:AA:361:A:OP1	53:V:26:SER:OG	2.31	0.47
11:AA:656:A:H2'	11:AA:657:A:C8	2.49	0.47
11:AA:1088:U:C2	11:AA:1089:G:C8	3.02	0.47
11:AA:1346:G:H1'	28:GG:307:GLN:NE2	2.29	0.47
11:AA:2186:U:H2'	11:AA:2187:G:O4'	2.14	0.47
11:AA:3057:U:O2'	11:AA:3058:U:O3'	2.32	0.47
12:Aa:30:HIS:CE1	12:Aa:130:ASP:H	2.32	0.47
13:B:78:VAL:HG12	13:B:80:LYS:H	1.79	0.47
18:Cc:42:C:H2'	18:Cc:43:G:H8	1.79	0.47
22:E:7:TYR:HD1	22:E:63:GLN:HA	1.78	0.47
26:FF:45:SER:OG	26:FF:46:PHE:N	2.45	0.47
36:KK:72:PRO:HG2	36:KK:75:ILE:HG12	1.97	0.47
52:U:11:LEU:HD12	52:U:11:LEU:H	1.79	0.47
59:b:49:ARG:HB2	59:b:55:TRP:CZ3	2.49	0.47
60:c:337:G:O3'	69:l:10:LYS:NZ	2.46	0.47
60:c:760:A:C6	60:c:791:A:C6	3.02	0.47
60:c:1318:G:H2'	60:c:1319:A:H8	1.78	0.47
63:f:97:ARG:HH12	63:f:117:THR:C	2.22	0.47
65:h:56:LEU:N	65:h:60:GLU:OE2	2.28	0.47
77:t:10:LYS:O	77:t:14:LYS:HG3	2.14	0.47
2:1:73:GLY:O	2:1:77:ARG:NH2	2.46	0.47
11:AA:616:G:H2'	11:AA:617:G:C8	2.50	0.47
11:AA:1226:G:H2'	11:AA:1227:C:C6	2.49	0.47
11:AA:1606:U:C5	50:S:8:ARG:HB3	2.49	0.47
11:AA:2308:C:OP1	11:AA:2309:A:O2'	2.30	0.47
11:AA:2724:OMU:H4'	25:F:54:HIS:NE2	2.29	0.47
11:AA:3066:U:H2'	11:AA:3067:C:C6	2.49	0.47
12:Aa:72:SER:N	12:Aa:114:GLU:OE2	2.47	0.47
12:Aa:110:ASP:HB2	12:Aa:537:HIS:HB2	1.96	0.47
12:Aa:218:TRP:CE3	12:Aa:324:MET:HG3	2.48	0.47
22:E:94:ILE:HD11	22:E:106:LEU:HD12	1.94	0.47
22:E:149:LYS:HD2	46:PP:14:LEU:HD21	1.95	0.47
28:GG:207:VAL:HG23	28:GG:227:THR:HG23	1.96	0.47
34:JJ:132:PRO:HA	34:JJ:229:PHE:CG	2.48	0.47
43:O:27:TYR:OH	43:O:55:GLU:OE1	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:148:A:H5”	60:c:149:C:C5	2.47	0.47
60:c:1106:U:H2’	60:c:1107:G:H8	1.79	0.47
60:c:1352:G:C2	60:c:1374:C:N3	2.82	0.47
60:c:1410:A:H2’	60:c:1411:A:C8	2.50	0.47
64:g:150:MET:HE2	64:g:152:PHE:CZ	2.50	0.47
65:h:18:TRP:NE1	65:h:41:SER:O	2.38	0.47
69:l:36:THR:O	69:l:95:THR:OG1	2.24	0.47
82:y:44:HIS:HB3	82:y:101:TYR:HE2	1.79	0.47
83:z:71:CYS:HG	83:z:85:ALA:C	2.22	0.47
6:5:22:ARG:NH1	64:g:16:VAL:HG11	2.29	0.47
8:7:293:ALA:O	8:7:301:LEU:HD12	2.15	0.47
11:AA:713:U:O2’	11:AA:754:G:OP1	2.31	0.47
11:AA:821:U:H2’	11:AA:822:G:H8	1.79	0.47
11:AA:887:G:H2’	11:AA:888:A:C8	2.50	0.47
11:AA:947:G:H2’	11:AA:948:C:C6	2.49	0.47
11:AA:1144:U:OP1	11:AA:1367:G:O2’	2.28	0.47
11:AA:1341:U:H2’	11:AA:1342:C:C6	2.49	0.47
11:AA:1493:G:H3’	55:X:42:ARG:HH22	1.79	0.47
11:AA:2234:G:O2’	11:AA:2603:G:O2’	2.29	0.47
11:AA:2477:G:H5”	11:AA:2478:C:C5	2.49	0.47
12:Aa:633:ILE:HG12	12:Aa:647:ILE:HG22	1.96	0.47
14:BB:7:G:OP2	30:HH:28:THR:OG1	2.28	0.47
17:CC:103:G:OP2	17:CC:105:A:O2’	2.32	0.47
22:E:8:GLN:NE2	28:GG:359:LEU:HD12	2.29	0.47
25:F:104:GLU:OE1	25:F:104:GLU:N	2.47	0.47
28:GG:157:GLU:OE2	28:GG:210:ALA:N	2.47	0.47
29:H:19:VAL:CG2	29:H:50:PRO:HG2	2.44	0.47
33:J:115:ARG:HH21	33:J:117:ASN:HD21	1.61	0.47
36:KK:41:GLN:HE22	36:KK:44:ARG:CD	2.24	0.47
37:L:21:LYS:HA	37:L:49:TYR:OH	2.14	0.47
40:MM:135:ILE:HG22	40:MM:136:PHE:CD1	2.49	0.47
51:T:41:LEU:HD23	51:T:41:LEU:H	1.79	0.47
53:V:21:ARG:HD2	53:V:39:TYR:HD1	1.79	0.47
57:Z:12:ARG:O	57:Z:15:ARG:HD3	2.15	0.47
60:c:819:G:O3’	60:c:820:U:H2’	2.14	0.47
60:c:1354:G:C8	60:c:1354:G:O5’	2.67	0.47
60:c:1364:G:C8	60:c:1364:G:P	3.07	0.47
60:c:1405:G:OP1	66:i:80:LYS:NZ	2.46	0.47
60:c:1407:U:C2	60:c:1408:G:C8	3.03	0.47
60:c:1542:G:H5”	79:v:87:GLY:C	2.39	0.47
64:g:94:ARG:NH2	64:g:125:TYR:OH	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:i:72:HIS:ND1	66:i:72:HIS:O	2.48	0.47
72:o:94:ILE:HD11	83:z:12:ALA:HB1	1.96	0.47
74:q:78:ALA:HB2	74:q:111:ARG:HB2	1.96	0.47
77:t:71:PHE:O	77:t:71:PHE:CG	2.67	0.47
79:v:44:GLU:N	79:v:44:GLU:OE2	2.48	0.47
2:1:83:LEU:CD2	2:1:89:ILE:HG12	2.44	0.47
6:5:19:ARG:HD3	6:5:32:ARG:HD2	1.96	0.47
11:AA:314:U:H2'	11:AA:315:C:C6	2.50	0.47
11:AA:415:G:H2'	11:AA:416:A:C8	2.49	0.47
11:AA:848:A:H8	11:AA:848:A:O5'	1.97	0.47
11:AA:1022:U:H2'	11:AA:1023:C:O4'	2.14	0.47
11:AA:1257:C:H5"	24:Ee:123:ARG:NH1	2.28	0.47
11:AA:2926:A:H2'	11:AA:2927:C:C6	2.50	0.47
16:C:23:ASN:O	16:C:27:LYS:HG3	2.15	0.47
17:CC:40:A:H2'	17:CC:41:A:H8	1.80	0.47
18:Cc:42:C:H2'	18:Cc:43:G:C8	2.49	0.47
20:DD:136:PHE:CE2	20:DD:150:ILE:HG21	2.49	0.47
28:GG:280:ILE:HG23	28:GG:281:ILE:HG13	1.96	0.47
36:KK:161:GLU:H	36:KK:161:GLU:CD	2.22	0.47
38:LL:21:LYS:HG3	38:LL:22:SER:H	1.79	0.47
40:MM:189:GLU:N	40:MM:189:GLU:OE1	2.47	0.47
60:c:1001:A:H2'	60:c:1002:G:C8	2.49	0.47
60:c:1544:U:O4	60:c:1545:A:N6	2.48	0.47
62:e:34:ALA:HB3	62:e:43:VAL:HG21	1.96	0.47
63:f:82:ASN:HD22	63:f:207:LEU:CD2	2.20	0.47
66:i:209:TYR:HA	66:i:212:LYS:HE2	1.97	0.47
70:m:82:ARG:NE	70:m:149:ARG:HH11	2.12	0.47
70:m:119:ALA:HB1	70:m:124:HIS:HB3	1.95	0.47
72:o:7:VAL:HG11	72:o:53:TYR:HA	1.95	0.47
80:w:99:ILE:O	80:w:103:ILE:HG12	2.14	0.47
1:0:29:HIS:CE1	1:0:35:VAL:HG12	2.50	0.47
1:0:127:LYS:HG3	1:0:128:LYS:HD3	1.97	0.47
8:7:57:PRO:HG2	76:s:100:GLN:OE1	2.15	0.47
10:A:62:THR:OG1	10:A:69:GLY:HA2	2.15	0.47
11:AA:173:G:H22	11:AA:246:U:H1'	1.79	0.47
11:AA:370:U:H4'	11:AA:404:G:H5'	1.96	0.47
11:AA:928:C:H2'	11:AA:929:A:C8	2.50	0.47
11:AA:945:C:H2'	11:AA:946:U:C6	2.49	0.47
11:AA:1553:U:H4'	11:AA:1554:U:H5'	1.97	0.47
11:AA:2217:U:H2'	11:AA:2218:G:C8	2.49	0.47
11:AA:2225:U:H2'	11:AA:2226:U:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2281:A2M:HM'1	11:AA:2960:C:H1'	1.96	0.47
11:AA:2458:A:C6	11:AA:2459:A:H1'	2.50	0.47
11:AA:3165:A:H2'	11:AA:3166:C:H6	1.80	0.47
12:Aa:214:GLY:N	88:Aa:1001:GTP:O6	2.47	0.47
13:B:138:LYS:HB2	13:B:140:GLU:OE1	2.14	0.47
17:CC:131:A:H2'	17:CC:132:G:C8	2.48	0.47
19:D:140:GLU:O	19:D:144:GLN:HG2	2.13	0.47
25:F:149:GLN:OE1	25:F:149:GLN:N	2.41	0.47
30:HH:195:LEU:O	30:HH:199:ILE:HG13	2.15	0.47
44:OO:47:ALA:O	44:OO:49:ARG:N	2.41	0.47
46:PP:37:GLU:CD	46:PP:38:ILE:H	2.21	0.47
50:S:91:ARG:O	50:S:95:ILE:HG12	2.13	0.47
60:c:295:A:O2'	65:h:140:VAL:HG21	2.14	0.47
60:c:610:G:H21	83:z:19:ARG:NH2	2.12	0.47
60:c:643:G:H2'	60:c:644:C:C6	2.50	0.47
60:c:1010:C:H2'	60:c:1011:G:O4'	2.14	0.47
60:c:1352:G:C6	60:c:1353:U:O2	2.68	0.47
60:c:1357:A:H3'	60:c:1357:A:C8	2.50	0.47
60:c:1357:A:H3'	60:c:1357:A:H8	1.79	0.47
60:c:1503:A:H5'	79:v:33:TYR:CE2	2.50	0.47
60:c:1587:A:HO2'	66:i:104:ASN:CG	2.19	0.47
64:g:51:ARG:HH21	64:g:92:GLN:NE2	2.12	0.47
64:g:65:ARG:O	64:g:68:GLU:HG3	2.14	0.47
66:i:37:GLN:C	76:s:57:LEU:HD11	2.40	0.47
67:j:31:ARG:HD3	67:j:34:GLN:NE2	2.30	0.47
70:m:113:VAL:HG13	70:m:118:LEU:HB2	1.96	0.47
10:A:197:LEU:O	46:PP:112:LEU:HD21	2.14	0.47
11:AA:92:G:OP1	58:a:46:LYS:HE3	2.14	0.47
11:AA:123:A:C6	11:AA:150:A:C5	3.03	0.47
11:AA:542:G:H2'	11:AA:543:C:C6	2.50	0.47
11:AA:964:G:H2'	11:AA:965:A:C8	2.49	0.47
11:AA:966:U:H2'	11:AA:967:A:H8	1.79	0.47
11:AA:1280:C:O2	11:AA:1280:C:H2'	2.14	0.47
11:AA:1807:G:H5'	37:L:135:ARG:HH22	1.79	0.47
11:AA:2186:U:H5'	11:AA:2314:U:OP2	2.14	0.47
11:AA:2228:A:H2'	11:AA:2229:A:C8	2.49	0.47
11:AA:2295:A:N6	29:H:37:ILE:HD12	2.30	0.47
11:AA:2353:G:OP1	13:B:86:LYS:HG2	2.15	0.47
11:AA:2413:A:H2'	11:AA:2414:G:C8	2.49	0.47
11:AA:2573:G:C2	11:AA:2574:G:C5	3.03	0.47
11:AA:2651:G:O2'	11:AA:2796:G:O6	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2675:C:N4	42:NN:22:SER:HG	2.13	0.47
11:AA:2844:C:H42	11:AA:2898:G:N2	2.13	0.47
12:Aa:158:ASN:OD1	12:Aa:213:SER:HA	2.14	0.47
12:Aa:418:TYR:HA	12:Aa:424:ASP:OD2	2.14	0.47
12:Aa:717:PHE:HD2	12:Aa:718:LEU:HD12	1.80	0.47
13:B:94:LEU:HB3	13:B:148:LEU:HD21	1.97	0.47
15:Bb:49:C:H2'	15:Bb:50:U:C6	2.50	0.47
18:Cc:24:C:H2'	18:Cc:25:U:H6	1.80	0.47
18:Cc:61:U:P	18:Cc:62:C:H5	2.37	0.47
26:FF:215:ILE:CD1	26:FF:282:ILE:HD11	2.45	0.47
26:FF:285:VAL:HA	26:FF:322:ILE:HD13	1.95	0.47
29:H:120:LYS:HZ1	29:H:136:VAL:HG23	1.79	0.47
32:II:6:ALA:HB2	47:Q:74:PHE:CE1	2.50	0.47
33:J:139:ILE:HD11	33:J:141:TYR:HE1	1.80	0.47
34:JJ:221:LYS:O	34:JJ:227:GLY:HA3	2.14	0.47
38:LL:19:SER:HA	46:PP:6:ILE:O	2.14	0.47
38:LL:124:ARG:HD2	38:LL:164:ILE:HG12	1.97	0.47
43:O:34:LEU:HD21	43:O:42:ILE:HD11	1.95	0.47
45:P:80:ASN:HB3	45:P:90:PHE:CD1	2.49	0.47
60:c:14:C:O2	60:c:619:A2M:H2	2.14	0.47
60:c:77:U:H4'	60:c:79:C:OP2	2.15	0.47
60:c:405:C:O2'	67:j:92:ARG:O	2.32	0.47
60:c:454:U:H4'	65:h:62:LYS:NZ	2.30	0.47
60:c:567:A:H62	60:c:576:G:N2	2.12	0.47
60:c:868:G:H2'	60:c:869:A:H8	1.79	0.47
60:c:1053:G:N1	60:c:1067:C:N3	2.62	0.47
60:c:1174:C:OP2	78:u:141:THR:HG21	2.15	0.47
60:c:1194:A:OP1	80:w:74:GLU:HB2	2.15	0.47
62:e:153:HIS:HB2	62:e:155:TYR:CE1	2.50	0.47
64:g:32:GLU:OE2	64:g:52:ALA:HB1	2.15	0.47
66:i:125:THR:O	66:i:127:GLN:HB2	2.15	0.47
68:k:5:GLN:O	68:k:8:ILE:O	2.32	0.47
72:o:27:THR:HG22	72:o:28:SER:N	2.30	0.47
74:q:20:TYR:HE1	74:q:84:ARG:CZ	2.27	0.47
77:t:22:PRO:HB3	77:t:72:LYS:HZ3	1.80	0.47
79:v:42:GLY:HA2	79:v:94:ILE:HD11	1.95	0.47
79:v:76:LEU:HD22	79:v:80:TYR:HE2	1.80	0.47
79:v:107:ALA:HA	79:v:110:LYS:HG2	1.95	0.47
83:z:17:VAL:HG12	83:z:20:ARG:HH21	1.78	0.47
83:z:56:LYS:O	83:z:57:LEU:HD23	2.15	0.47
1:0:43:LYS:HA	1:0:46:GLU:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:83:LEU:HD22	2:1:89:ILE:HG12	1.96	0.47
3:2:75:VAL:HG21	60:c:1795:U:C6	2.50	0.47
11:AA:103:G:O2'	11:AA:699:A:O2'	2.21	0.47
11:AA:640:U:H2'	11:AA:641:C:C6	2.49	0.47
11:AA:1915:A:H2'	11:AA:1916:U:H6	1.79	0.47
11:AA:2108:C:H5'	69:l:92:ARG:NH2	2.30	0.47
11:AA:2854:U:OP1	40:MM:61:SER:OG	2.26	0.47
13:B:125:GLN:O	13:B:140:GLU:HA	2.15	0.47
15:Bb:32:C:H2'	15:Bb:33:U:C6	2.50	0.47
23:EE:204:MET:HB3	23:EE:208:ASP:HB2	1.96	0.47
33:J:108:LEU:HD23	33:J:125:ARG:HD3	1.96	0.47
36:KK:139:VAL:O	36:KK:143:ILE:HD12	2.14	0.47
39:M:48:TYR:CD2	44:OO:6:ASN:HB2	2.50	0.47
48:QQ:73:ARG:HG3	48:QQ:75:VAL:HG13	1.96	0.47
53:V:2:GLY:HA2	53:V:6:PRO:HG2	1.97	0.47
60:c:15:U:H2'	60:c:16:G:O4'	2.14	0.47
60:c:287:G:C2	60:c:288:A:C8	3.03	0.47
60:c:565:C:H1'	83:z:66:SER:HB3	1.96	0.47
60:c:918:U:H2'	60:c:919:A:C8	2.48	0.47
60:c:932:U:H5"	62:e:116:LYS:HE3	1.96	0.47
60:c:1254:U:H2'	60:c:1255:G:O4'	2.15	0.47
60:c:1354:G:C2'	60:c:1355:C:H5'	2.45	0.47
60:c:1366:U:C4	60:c:1367:G:N9	2.83	0.47
62:e:144:ARG:HB3	62:e:208:GLN:HB3	1.97	0.47
63:f:144:TRP:NE1	82:y:97:ARG:HH21	2.12	0.47
66:i:214:LYS:O	66:i:217:LEU:HG	2.15	0.47
67:j:200:ALA:O	67:j:203:GLU:HG2	2.13	0.47
1:0:112:LYS:O	1:0:116:LYS:HG3	2.15	0.47
10:A:77:SER:OG	10:A:106:GLU:OE2	2.29	0.47
11:AA:176:G:H2'	11:AA:176:G:N3	2.29	0.47
11:AA:277:G:H5'	48:QQ:91:GLU:OE2	2.15	0.47
11:AA:597:G:H2'	11:AA:598:A:C8	2.50	0.47
11:AA:647:A:N6	11:AA:2371:G:O2'	2.40	0.47
11:AA:1278:A:H3'	11:AA:1279:C:C6	2.50	0.47
11:AA:1629:U:H1'	37:L:115:LYS:NZ	2.30	0.47
11:AA:1856:C:N4	11:AA:1857:C:H41	2.12	0.47
11:AA:1897:G:O2'	29:H:16:GLY:O	2.32	0.47
11:AA:1926:C:OP2	59:b:7:LYS:NZ	2.34	0.47
11:AA:2775:U:H2'	11:AA:2776:C:H6	1.79	0.47
12:Aa:33:SER:OG	88:Aa:1001:GTP:O1A	2.33	0.47
12:Aa:775:ASN:OD1	12:Aa:776:GLU:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:BB:85:G:H5”	89:BB:304:HOH:O	2.15	0.47
30:HH:190:ILE:HD13	30:HH:195:LEU:HD22	1.97	0.47
38:LL:112:ILE:HB	38:LL:126:VAL:HG23	1.97	0.47
38:LL:152:GLU:HA	38:LL:152:GLU:OE2	2.15	0.47
60:c:252:U:H2’	60:c:253:A:H8	1.79	0.47
60:c:570:A:H61	83:z:117:ILE:HD11	1.80	0.47
60:c:1202:A:H3’	60:c:1202:A:N3	2.30	0.47
60:c:1364:G:H2’	60:c:1365:C:O4’	2.15	0.47
60:c:1530:C:H2’	60:c:1531:G:C8	2.50	0.47
60:c:1613:U:P	66:i:92:ARG:HH22	2.38	0.47
60:c:1733:C:H2’	60:c:1734:U:H6	1.80	0.47
60:c:1738:U:H2’	60:c:1739:C:C6	2.50	0.47
63:f:143:TYR:CE1	63:f:151:PRO:HA	2.50	0.47
65:h:179:LYS:HB2	65:h:229:GLY:O	2.15	0.47
72:o:66:ILE:HD13	72:o:128:CYS:SG	2.55	0.47
80:w:24:ILE:HG13	80:w:116:VAL:HG22	1.96	0.47
83:z:46:SER:OG	83:z:48:HIS:O	2.33	0.47
6:5:14:TYR:HB2	60:c:1597:A:C8	2.50	0.47
8:7:221:MET:HB3	8:7:223:TRP:NE1	2.30	0.47
11:AA:700:C:H2’	11:AA:701:G:H8	1.80	0.47
11:AA:1074:U:H1’	41:N:46:ALA:HB2	1.97	0.47
11:AA:1168:U:H2’	11:AA:1169:A:H8	1.80	0.47
11:AA:1272:C:H3’	11:AA:1273:A:H8	1.80	0.47
11:AA:1831:U:H5’	33:J:91:ASN:HD22	1.79	0.47
12:Aa:27:HIS:CG	12:Aa:28:VAL:N	2.83	0.47
12:Aa:157:ILE:HB	12:Aa:211:PHE:CD1	2.50	0.47
22:E:117:ARG:HG3	22:E:118:PHE:N	2.29	0.47
25:F:31:LEU:HD21	30:HH:68:THR:C	2.40	0.47
26:FF:139:GLN:HG2	26:FF:140:ASP:N	2.30	0.47
32:II:34:LEU:HD11	32:II:40:LEU:HD21	1.96	0.47
38:LL:172:ILE:H	38:LL:172:ILE:HD12	1.79	0.47
39:M:36:GLY:HA3	39:M:40:HIS:CE1	2.50	0.47
42:NN:57:PHE:HB3	42:NN:59:ILE:HG23	1.97	0.47
60:c:45:U:O2’	60:c:46:A:H2’	2.16	0.47
60:c:331:A:OP1	69:l:34:ALA:N	2.48	0.47
60:c:511:A:H5”	70:m:173:ALA:HB2	1.95	0.47
60:c:541:A2M:HM’2	60:c:541:A2M:H1’	1.76	0.47
60:c:877:G:H22	60:c:951:A:H2	1.63	0.47
60:c:1165:G:H2’	60:c:1166:A:C8	2.50	0.47
60:c:1501:C:OP1	79:v:102:ARG:NH2	2.47	0.47
60:c:1533:C:H4’	60:c:1539:G:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1570:A:H2'	60:c:1571:C:O4'	2.14	0.47
65:h:57:ASN:O	65:h:61:VAL:HG23	2.15	0.47
69:l:108:PRO:HA	69:l:111:GLN:HG3	1.97	0.47
75:r:125:PRO:HB2	75:r:127:ARG:HG3	1.97	0.47
78:u:27:LYS:HE2	78:u:57:ARG:NH1	2.30	0.47
80:w:57:ARG:HG2	80:w:89:ARG:CD	2.45	0.47
8:7:89:LEU:HD11	8:7:110:VAL:HG11	1.96	0.46
11:AA:171:G:H2'	11:AA:172:G:H8	1.79	0.46
11:AA:663:OMC:HM23	11:AA:663:OMC:H1'	1.54	0.46
11:AA:1104:G:H2'	11:AA:1105:A:H8	1.80	0.46
11:AA:1506:A:H1'	11:AA:1848:G:C6	2.50	0.46
11:AA:1591:G:OP1	50:S:37:LYS:NZ	2.41	0.46
11:AA:2535:A:H2'	11:AA:2536:A:H5'	1.96	0.46
11:AA:3023:U:H4'	12:Aa:162:ARG:NH1	2.31	0.46
12:Aa:37:ASP:OD2	12:Aa:55:ARG:HA	2.14	0.46
12:Aa:429:LYS:HE2	12:Aa:459:ILE:HG22	1.97	0.46
12:Aa:594:ASP:HB2	12:Aa:597:VAL:HG23	1.97	0.46
17:CC:17:A:H2'	17:CC:18:U:H6	1.80	0.46
17:CC:60:U:C5	51:T:55:LEU:HD22	2.50	0.46
20:DD:40:GLU:HA	24:Ee:121:PHE:CE2	2.49	0.46
22:E:138:GLN:NE2	38:LL:1:MET:HE3	2.30	0.46
26:FF:37:ARG:NH2	26:FF:188:ILE:HG13	2.29	0.46
33:J:81:ILE:HG21	33:J:123:TYR:HB3	1.96	0.46
38:LL:23:ARG:HG2	38:LL:38:LEU:O	2.15	0.46
44:OO:126:PHE:CD2	51:T:115:LYS:HE2	2.50	0.46
47:Q:32:TRP:CZ2	47:Q:53:PRO:HD2	2.50	0.46
60:c:961:U:C2	60:c:962:C:C5	3.03	0.46
60:c:1077:C:H2'	60:c:1078:C:C6	2.50	0.46
60:c:1225:U:H3'	60:c:1226:A:H8	1.80	0.46
60:c:1322:A:H2	61:d:109:ASN:HD21	1.63	0.46
60:c:1371:A:N3	60:c:1371:A:C2'	2.78	0.46
60:c:1793:G:O2'	60:c:1795:U:OP2	2.33	0.46
63:f:109:GLY:N	63:f:141:ARG:HH12	2.13	0.46
64:g:106:LYS:HG3	64:g:175:VAL:HG22	1.97	0.46
68:k:64:VAL:HB	68:k:94:ALA:HB1	1.97	0.46
72:o:68:GLY:HA3	72:o:127:GLN:HB3	1.96	0.46
82:y:111:MET:HE1	82:y:119:LYS:NZ	2.30	0.46
83:z:73:ARG:HE	83:z:82:LYS:HB3	1.80	0.46
11:AA:177:U:H1'	11:AA:243:G:C4	2.50	0.46
11:AA:268:A:H5"	48:QQ:47:LYS:NZ	2.30	0.46
11:AA:507:U:H2'	11:AA:508:U:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:538:G:O6	11:AA:553:U:O2	2.32	0.46
11:AA:561:C:H2'	11:AA:562:C:C6	2.49	0.46
11:AA:2522:G:O2'	11:AA:2523:A:H5'	2.14	0.46
11:AA:2663:G:H4'	30:HH:152:ARG:NH2	2.30	0.46
11:AA:2946:A2M:H1'	11:AA:2981:U:C4	2.51	0.46
11:AA:3268:A:H1'	32:II:75:PRO:HG3	1.97	0.46
14:BB:113:C:H2'	14:BB:114:U:O4'	2.16	0.46
17:CC:141:C:H5'	48:QQ:109:ARG:NH1	2.30	0.46
22:E:12:ARG:NE	22:E:57:GLU:OE2	2.38	0.46
29:H:88:ARG:HA	29:H:88:ARG:HD3	1.62	0.46
30:HH:257:GLU:OE2	30:HH:259:LYS:HG2	2.15	0.46
38:LL:23:ARG:NH2	38:LL:42:ASP:HA	2.30	0.46
48:QQ:35:VAL:HG22	48:QQ:65:ARG:HD2	1.97	0.46
48:QQ:165:THR:HG23	48:QQ:168:GLY:H	1.81	0.46
59:b:84:ARG:HA	59:b:87:ARG:NH1	2.30	0.46
60:c:410:A:N1	60:c:423:G:O6	2.49	0.46
60:c:480:G:H2'	60:c:481:A:O4'	2.16	0.46
60:c:980:G:H4'	60:c:1776:A:H4'	1.97	0.46
60:c:1552:U:H2'	60:c:1553:G:O4'	2.15	0.46
60:c:1614:A:H2'	60:c:1615:C:C6	2.50	0.46
66:i:74:ALA:HB3	76:s:79:TYR:HE2	1.79	0.46
68:k:40:PRO:O	68:k:42:GLN:HG2	2.15	0.46
78:u:106:GLU:HA	78:u:109:LEU:HB2	1.96	0.46
83:z:68:ILE:HG13	83:z:70:LYS:NZ	2.30	0.46
4:3:3:LEU:HA	82:y:22:LYS:HG3	1.96	0.46
8:7:16:HIS:C	8:7:308:ASN:HD21	2.23	0.46
8:7:245:PHE:HE1	8:7:252:LEU:HD22	1.80	0.46
10:A:27:LEU:HD13	10:A:98:ALA:HB1	1.98	0.46
11:AA:733:G:N2	11:AA:736:A:OP2	2.48	0.46
11:AA:1813:A:O2'	11:AA:1816:A:N3	2.46	0.46
11:AA:1836:C:H2'	11:AA:1837:U:C6	2.51	0.46
11:AA:1948:G:N2	11:AA:1949:G:C5	2.84	0.46
11:AA:2103:U:P	19:D:81:ARG:HH21	2.38	0.46
11:AA:2366:C:H2'	11:AA:2367:A:H8	1.80	0.46
11:AA:2553:U:O2'	50:S:91:ARG:HD3	2.14	0.46
11:AA:2767:U:H2'	11:AA:2768:U:H6	1.81	0.46
11:AA:3024:A:C4	11:AA:3032:A:N6	2.84	0.46
11:AA:3365:U:H2'	11:AA:3366:G:C8	2.50	0.46
13:B:116:HIS:HB3	13:B:149:VAL:CG1	2.44	0.46
14:BB:71:G:H2'	14:BB:72:A:C8	2.51	0.46
23:EE:32:LEU:HD21	23:EE:37:ARG:HD2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:EE:44:ILE:HD11	23:EE:85:GLY:HA2	1.98	0.46
23:EE:205:ASN:H	23:EE:208:ASP:HB2	1.79	0.46
25:F:136:ARG:HD2	25:F:139:ARG:NH1	2.31	0.46
38:LL:36:LYS:HE3	38:LL:74:LEU:HD11	1.96	0.46
60:c:575:C:H41	83:z:65:ASN:HD21	1.64	0.46
60:c:600:U:H2'	60:c:601:A:H8	1.80	0.46
60:c:1402:G:H2'	60:c:1403:C:H6	1.80	0.46
60:c:1546:G:H2'	60:c:1547:A:H8	1.79	0.46
60:c:1553:G:N2	60:c:1555:A:H3'	2.30	0.46
62:e:116:LYS:HB3	62:e:117:TRP:CD1	2.51	0.46
75:r:34:VAL:HG13	75:r:42:ARG:HA	1.97	0.46
78:u:42:TYR:HA	78:u:85:PHE:CZ	2.50	0.46
1:0:20:ARG:HD2	1:0:74:LEU:HB3	1.97	0.46
1:0:37:LYS:HZ3	60:c:522:U:P	2.38	0.46
11:AA:115:A:OP1	48:QQ:49:ARG:NH2	2.44	0.46
11:AA:179:C:H2'	11:AA:180:C:H6	1.81	0.46
11:AA:542:G:O6	11:AA:550:A:C6	2.68	0.46
11:AA:673:U:H2'	11:AA:674:G:H8	1.79	0.46
11:AA:1066:G:H2'	11:AA:1067:U:C6	2.50	0.46
11:AA:1221:A:H3'	11:AA:1222:G:H5'	1.98	0.46
11:AA:1680:G:H2'	11:AA:1681:U:H6	1.80	0.46
11:AA:2446:U:H5	11:AA:2447:A:C6	2.34	0.46
11:AA:2830:G:H2'	11:AA:2831:G:C8	2.48	0.46
11:AA:2991:A:O3'	26:FF:21:ARG:NH2	2.44	0.46
11:AA:3012:A:OP2	11:AA:3099:C:H5	1.99	0.46
11:AA:3208:G:H5"	11:AA:3210:A:O4'	2.15	0.46
12:Aa:326:LYS:HA	12:Aa:326:LYS:HD2	1.75	0.46
16:C:90:ASP:OD2	16:C:92:ARG:HB2	2.15	0.46
18:Cc:68:C:H2'	18:Cc:69:C:H6	1.81	0.46
20:DD:121:VAL:O	20:DD:155:ASP:HA	2.15	0.46
24:Ee:147:ASN:O	24:Ee:151:ILE:HG13	2.15	0.46
25:F:73:GLY:HA2	25:F:89:LEU:O	2.16	0.46
30:HH:150:LEU:HD21	42:NN:143:ARG:HG3	1.96	0.46
38:LL:47:LYS:HE2	46:PP:7:VAL:H	1.81	0.46
42:NN:7:ASN:ND2	42:NN:10:ARG:HD3	2.31	0.46
45:P:72:ARG:HE	45:P:104:LEU:CB	2.28	0.46
55:X:13:MET:HE2	55:X:13:MET:HB2	1.70	0.46
60:c:890:C:H2'	60:c:891:A:H8	1.80	0.46
61:d:119:ARG:NH1	63:f:241:ASP:OD1	2.48	0.46
62:e:62:LYS:NZ	62:e:90:GLU:HA	2.30	0.46
64:g:7:LYS:HA	64:g:10:LYS:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:i:169:ASN:OD1	66:i:170:GLN:N	2.48	0.46
74:q:43:THR:OG1	74:q:46:MET:HG3	2.16	0.46
76:s:42:GLU:HA	76:s:45:ARG:HE	1.80	0.46
77:t:10:LYS:HD3	77:t:53:TYR:CE2	2.50	0.46
11:AA:290:G:H5"	48:QQ:98:LEU:CD2	2.46	0.46
11:AA:1256:G:H2'	11:AA:1257:C:C6	2.50	0.46
11:AA:1673:G:C5	11:AA:1775:G:C2	3.03	0.46
11:AA:1943:C:H4'	11:AA:3346:U:H4'	1.98	0.46
11:AA:2106:A:H2'	11:AA:2107:A:H8	1.79	0.46
11:AA:2472:U:C2	11:AA:2473:C:H1'	2.51	0.46
11:AA:2612:U:H2'	11:AA:2613:U:O4'	2.16	0.46
11:AA:2680:A:C5	42:NN:57:PHE:HE1	2.33	0.46
12:Aa:55:ARG:HH12	12:Aa:67:GLY:HA2	1.80	0.46
12:Aa:159:LYS:HG2	88:Aa:1001:GTP:C2	2.50	0.46
12:Aa:393:ARG:HA	12:Aa:461:GLN:HE22	1.80	0.46
12:Aa:396:ALA:HB2	12:Aa:460:ASP:OD2	2.16	0.46
12:Aa:487:PRO:HG3	12:Aa:517:CYS:SG	2.56	0.46
19:D:51:VAL:HG12	19:D:53:LYS:H	1.81	0.46
25:F:126:VAL:HG23	25:F:127:GLN:H	1.80	0.46
28:GG:65:TRP:CD1	28:GG:76:ARG:HB2	2.51	0.46
29:H:14:SER:O	29:H:81:GLN:NE2	2.48	0.46
34:JJ:146:GLN:OE1	34:JJ:241:LYS:NZ	2.49	0.46
35:K:88:GLU:OE1	35:K:94:SER:OG	2.30	0.46
52:U:70:ARG:HD2	52:U:84:LYS:HG2	1.97	0.46
60:c:81:G:H2'	60:c:82:U:C6	2.50	0.46
60:c:1147:A:O2'	60:c:1636:C:OP2	2.28	0.46
60:c:1362:U:O2'	60:c:1363:U:H5"	2.16	0.46
60:c:1658:G:O6	60:c:1743:U:O2	2.32	0.46
60:c:1738:U:H2'	60:c:1739:C:H6	1.80	0.46
66:i:24:VAL:C	66:i:25:LEU:HD12	2.40	0.46
67:j:142:ARG:HD3	67:j:148:SER:C	2.40	0.46
70:m:175:ARG:O	70:m:179:ARG:HG2	2.16	0.46
71:n:5:LYS:HE2	71:n:5:LYS:HA	1.97	0.46
8:7:272:ASP:OD1	8:7:272:ASP:N	2.49	0.46
11:AA:230:U:H2'	11:AA:231:G:O4'	2.16	0.46
11:AA:376:G:O5'	35:K:89:LYS:HE3	2.15	0.46
11:AA:542:G:H1	11:AA:549:U:H3	1.62	0.46
11:AA:751:A:P	41:N:44:LYS:HZ1	2.39	0.46
11:AA:879:U:O2	11:AA:2357:A:H1'	2.15	0.46
11:AA:2234:G:HO2'	11:AA:2603:G:HO2'	1.59	0.46
11:AA:2504:U:H2'	11:AA:2505:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2618:G:H5'	40:MM:116:ARG:HH21	1.80	0.46
11:AA:2863:G:H4'	40:MM:107:GLY:O	2.16	0.46
11:AA:3127:A:H2'	11:AA:3128:G:O4'	2.16	0.46
12:Aa:158:ASN:HA	12:Aa:212:GLY:O	2.16	0.46
12:Aa:650:THR:HG22	12:Aa:690:ASP:HA	1.98	0.46
20:DD:190:VAL:N	20:DD:197:PHE:O	2.41	0.46
26:FF:142:ALA:O	26:FF:146:ARG:HG2	2.15	0.46
37:L:76:ASN:OD1	37:L:77:TYR:N	2.49	0.46
39:M:44:ASN:ND2	44:OO:3:ILE:HG22	2.30	0.46
45:P:112:ASP:N	45:P:112:ASP:OD1	2.47	0.46
48:QQ:5:LYS:HA	48:QQ:8:GLU:HB3	1.98	0.46
58:a:71:ARG:HD2	58:a:80:ARG:HD2	1.97	0.46
60:c:515:A:H61	60:c:537:G:H1'	1.80	0.46
60:c:556:A:N3	60:c:590:C:H1'	2.30	0.46
60:c:1106:U:H2'	60:c:1107:G:C8	2.51	0.46
60:c:1250:U:H2'	60:c:1251:U:C6	2.51	0.46
60:c:1355:C:H4'	60:c:1356:U:OP1	2.15	0.46
60:c:1387:G:N7	77:t:44:LYS:NZ	2.57	0.46
60:c:1546:G:H2'	60:c:1547:A:C8	2.50	0.46
66:i:210:ALA:HA	66:i:213:LYS:HZ2	1.80	0.46
67:j:55:GLY:C	67:j:56:ASN:HD22	2.24	0.46
68:k:64:VAL:N	68:k:65:PRO:HD3	2.31	0.46
8:7:45:TRP:CZ3	8:7:57:PRO:HD3	2.51	0.46
8:7:82:SER:OG	8:7:90:ARG:HB3	2.16	0.46
8:7:182:ASN:HB3	8:7:186:PHE:H	1.81	0.46
8:7:278:PHE:CE2	8:7:287:PRO:HG2	2.51	0.46
11:AA:163:C:H2'	11:AA:164:A:C8	2.50	0.46
11:AA:180:C:H2'	11:AA:181:U:C6	2.50	0.46
11:AA:695:C:OP1	28:GG:271:LYS:NZ	2.46	0.46
11:AA:715:A:H5"	39:M:115:LYS:HA	1.98	0.46
11:AA:855:U:H4'	19:D:95:TRP:CZ3	2.50	0.46
11:AA:1203:A:N3	11:AA:2855:U:O2'	2.35	0.46
11:AA:1259:A:C2	11:AA:1281:G:H4'	2.51	0.46
11:AA:1374:G:O6	39:M:10:LYS:NZ	2.45	0.46
11:AA:1391:C:O2'	47:Q:101:SER:OG	2.32	0.46
11:AA:1909:A:H2'	11:AA:1910:A:C8	2.51	0.46
11:AA:2211:U:H2'	11:AA:2212:C:O4'	2.15	0.46
11:AA:2656:A:N7	11:AA:2658:G:C8	2.84	0.46
11:AA:3393:U:H2'	11:AA:3394:U:C6	2.51	0.46
12:Aa:20:ARG:NH1	12:Aa:344:SER:HB3	2.30	0.46
30:HH:152:ARG:HE	42:NN:142:LYS:NZ	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:J:73:MET:O	33:J:77:GLU:HG2	2.14	0.46
38:LL:87:LYS:HA	38:LL:146:LEU:O	2.16	0.46
45:P:75:ILE:HG23	45:P:93:VAL:HG12	1.98	0.46
46:PP:85:TRP:NE1	46:PP:90:VAL:HB	2.30	0.46
58:a:70:LEU:HD21	58:a:91:PHE:HZ	1.81	0.46
60:c:94:U:H2'	60:c:95:G:O4'	2.14	0.46
60:c:323:A:OP2	69:l:10:LYS:HD2	2.16	0.46
60:c:578:OMU:H6	60:c:578:OMU:H5"	1.97	0.46
60:c:925:G:H2'	60:c:926:A:H8	1.81	0.46
60:c:1098:U:OP1	63:f:159:THR:OG1	2.24	0.46
60:c:1175:U:H2'	60:c:1176:G:C8	2.51	0.46
60:c:1178:G:H2'	60:c:1179:G:O4'	2.15	0.46
60:c:1248:C:H2'	60:c:1249:U:H6	1.79	0.46
60:c:1474:G:C2	60:c:1475:A:C5	3.04	0.46
60:c:1773:4AC:O5'	60:c:1773:4AC:H6	2.16	0.46
66:i:58:LEU:HD22	66:i:168:VAL:CG1	2.45	0.46
68:k:14:THR:O	68:k:18:LEU:HG	2.16	0.46
70:m:129:ILE:O	70:m:142:ASN:HA	2.16	0.46
71:n:24:LYS:NZ	71:n:29:GLN:OE1	2.43	0.46
72:o:17:PRO:HB2	72:o:18:HIS:CE1	2.50	0.46
78:u:45:LEU:HA	78:u:48:LYS:HG2	1.98	0.46
79:v:76:LEU:HD22	79:v:80:TYR:CE2	2.51	0.46
80:w:83:GLU:OE1	80:w:83:GLU:N	2.49	0.46
82:y:32:LYS:O	82:y:36:LYS:HD3	2.14	0.46
2:1:44:GLN:OE1	78:u:8:GLN:NE2	2.45	0.46
8:7:93:ASP:OD1	8:7:94:VAL:N	2.48	0.46
11:AA:19:U:H2'	11:AA:20:A:H8	1.80	0.46
11:AA:51:A:C4	11:AA:52:A:C8	3.04	0.46
11:AA:562:C:H5"	22:E:71:LYS:HD2	1.97	0.46
11:AA:1447:G:OP1	13:B:65:SER:OG	2.20	0.46
11:AA:1508:C:C4	11:AA:1509:A:C6	3.04	0.46
11:AA:1795:U:C4	59:b:51:ALA:HA	2.51	0.46
11:AA:1836:C:H2'	11:AA:1837:U:H6	1.80	0.46
11:AA:2475:G:N1	11:AA:2488:A:H4'	2.31	0.46
11:AA:3121:U:H1'	11:AA:3122:A:H5"	1.97	0.46
12:Aa:27:HIS:CG	12:Aa:28:VAL:H	2.34	0.46
12:Aa:529:ILE:HD13	12:Aa:559:PRO:HB3	1.96	0.46
12:Aa:780:PHE:CZ	12:Aa:784:LEU:HD13	2.50	0.46
13:B:29:THR:HG22	13:B:119:VAL:HG21	1.97	0.46
15:Bb:18:G:H1'	15:Bb:58:A:N1	2.31	0.46
26:FF:232:ARG:HG3	26:FF:270:ARG:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:JJ:144:ILE:HG13	34:JJ:189:ILE:HD11	1.97	0.46
36:KK:26:LEU:HD21	37:L:123:GLN:HA	1.98	0.46
39:M:97:GLU:HA	44:OO:158:ALA:HB2	1.97	0.46
39:M:147:LEU:HD23	52:U:7:ILE:HG21	1.98	0.46
42:NN:115:LYS:HA	42:NN:115:LYS:HD3	1.75	0.46
44:OO:62:THR:O	44:OO:64:LYS:N	2.49	0.46
59:b:17:ARG:HG3	59:b:18:TYR:CE2	2.51	0.46
60:c:28:A2M:HM'3	60:c:28:A2M:H1'	1.70	0.46
60:c:156:A:H5'	60:c:416:A:C2	2.50	0.46
60:c:436:A2M:HM'3	60:c:436:A2M:H1'	1.70	0.46
60:c:521:A:H2'	60:c:522:U:C6	2.50	0.46
60:c:1001:A:O2'	60:c:1002:G:OP1	2.32	0.46
60:c:1053:G:C2	60:c:1067:C:C2	3.03	0.46
60:c:1147:A:OP1	63:f:91:ARG:NE	2.48	0.46
60:c:1321:A:H5"	61:d:104:PRO:HG3	1.98	0.46
60:c:1369:U:O2'	60:c:1370:U:H2'	2.15	0.46
60:c:1369:U:C2	60:c:1370:U:C5	3.04	0.46
60:c:1610:G:H5'	66:i:107:LYS:HB2	1.97	0.46
61:d:102:PHE:CE2	61:d:132:ALA:HA	2.51	0.46
64:g:51:ARG:HH21	64:g:92:GLN:HE22	1.64	0.46
75:r:90:ILE:HD12	75:r:90:ILE:H	1.81	0.46
79:v:78:LYS:HD3	79:v:78:LYS:HA	1.72	0.46
83:z:107:PHE:HE2	83:z:114:LYS:HB3	1.78	0.46
2:1:66:VAL:HA	2:1:71:ILE:O	2.15	0.46
5:4:42:ARG:NH2	66:i:161:ASP:OD2	2.34	0.46
6:5:34:TYR:OH	60:c:1487:A:OP1	2.27	0.46
10:A:18:ARG:O	10:A:21:SER:OG	2.34	0.46
11:AA:33:G:OP2	89:AA:3604:HOH:O	2.20	0.46
11:AA:1138:U:O3'	34:JJ:97:PRO:HD3	2.16	0.46
11:AA:1921:A:H2'	11:AA:1922:A:H8	1.80	0.46
11:AA:2111:G:N3	31:I:44:LYS:NZ	2.48	0.46
11:AA:2396:G:OP1	11:AA:2397:A:O2'	2.27	0.46
11:AA:2623:G:C4	11:AA:2624:G:C8	3.04	0.46
11:AA:2632:G:C6	11:AA:2647:A:C6	3.04	0.46
11:AA:2712:U:O2'	11:AA:2743:A:H4'	2.16	0.46
11:AA:2717:U:H2'	11:AA:2718:U:C6	2.51	0.46
11:AA:2729:OMU:HM23	11:AA:2729:OMU:H1'	1.72	0.46
12:Aa:628:THR:HG22	12:Aa:631:ARG:NH2	2.31	0.46
16:C:36:LEU:O	16:C:40:THR:OG1	2.24	0.46
24:Ee:37:LEU:HD11	24:Ee:64:ILE:HD12	1.97	0.46
24:Ee:84:ALA:HB2	24:Ee:112:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:FF:369:ARG:NH1	31:I:32:GLN:HE21	2.14	0.46
40:MM:107:GLY:C	40:MM:109:ASP:H	2.24	0.46
40:MM:135:ILE:HD12	40:MM:163:GLN:HG2	1.97	0.46
60:c:295:A:H2'	60:c:296:U:C6	2.51	0.46
60:c:617:U:H2'	60:c:618:U:C6	2.49	0.46
60:c:1354:G:C4	60:c:1371:A:N6	2.84	0.46
60:c:1569:A:H2'	60:c:1570:A:H8	1.80	0.46
62:e:117:TRP:HA	62:e:155:TYR:CE1	2.50	0.46
63:f:121:VAL:O	63:f:125:ILE:HG12	2.16	0.46
65:h:106:LYS:HB2	65:h:108:ARG:NE	2.30	0.46
65:h:228:ILE:HD12	65:h:238:LEU:HD21	1.97	0.46
66:i:61:TYR:HD2	66:i:164:PRO:HB2	1.81	0.46
69:l:107:THR:HG22	69:l:110:ARG:HH12	1.81	0.46
7:6:39:LEU:HD22	7:6:43:ARG:NE	2.30	0.46
10:A:151:ASP:N	10:A:151:ASP:OD1	2.49	0.46
11:AA:66:A:N6	11:AA:76:G:H1'	2.31	0.46
11:AA:609:G:O2'	28:GG:312:VAL:HG22	2.16	0.46
11:AA:1015:U:H4'	11:AA:1017:C:H42	1.81	0.46
11:AA:1347:U:OP2	16:C:38:ARG:NH1	2.36	0.46
11:AA:1591:G:H1'	11:AA:1799:A:N1	2.31	0.46
11:AA:1639:C:P	50:S:74:ARG:NH2	2.89	0.46
11:AA:2877:G:H1	11:AA:2949:U:H3	1.63	0.46
11:AA:3364:C:H2'	11:AA:3365:U:C6	2.50	0.46
12:Aa:13:MET:HE3	12:Aa:452:ASN:HB3	1.98	0.46
12:Aa:174:LEU:HD21	12:Aa:278:LEU:HD21	1.97	0.46
12:Aa:191:THR:HG23	12:Aa:192:TYR:HD1	1.80	0.46
12:Aa:374:PRO:O	12:Aa:404:THR:OG1	2.22	0.46
12:Aa:464:LEU:HG	12:Aa:465:LYS:N	2.31	0.46
15:Bb:9:A:H2	15:Bb:23:A:N6	2.12	0.46
26:FF:212:ASN:O	26:FF:281:LYS:NZ	2.36	0.46
29:H:32:ARG:NH1	60:c:1734:U:H5"	2.31	0.46
35:K:43:TYR:O	35:K:124:GLY:HA2	2.15	0.46
35:K:70:ILE:HD13	35:K:82:VAL:HG22	1.98	0.46
44:OO:184:GLU:O	44:OO:188:ARG:HG2	2.16	0.46
48:QQ:46:ASP:OD1	48:QQ:46:ASP:N	2.47	0.46
60:c:814:A:C5	60:c:858:G:C2	3.04	0.46
60:c:1366:U:N3	60:c:1367:G:O4'	2.49	0.46
60:c:1636:C:O2	60:c:1765:A:N6	2.49	0.46
62:e:29:TRP:C	62:e:30:PHE:HD1	2.24	0.46
66:i:31:GLU:HA	66:i:34:GLN:HB2	1.97	0.46
67:j:175:ILE:HG23	67:j:178:LEU:HD22	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:m:63:ASP:OD1	70:m:66:ASP:HB2	2.16	0.46
72:o:8:GLN:NE2	72:o:14:GLN:O	2.49	0.46
78:u:41:ARG:CZ	79:v:38:LYS:HD3	2.46	0.46
79:v:70:GLN:HG3	79:v:120:GLY:O	2.16	0.46
82:y:8:ALA:HB2	82:y:74:VAL:HG21	1.98	0.46
82:y:86:ILE:O	82:y:90:THR:HG23	2.16	0.46
3:2:7:SER:HB2	3:2:13:LYS:HE3	1.98	0.45
4:3:18:LYS:HA	4:3:18:LYS:HD3	1.82	0.45
8:7:42:LEU:HD12	8:7:92:TRP:NE1	2.31	0.45
11:AA:269:G:H2'	48:QQ:120:TRP:CZ2	2.51	0.45
11:AA:623:U:H2'	11:AA:624:G:O4'	2.16	0.45
11:AA:649:A2M:H2'	11:AA:650:OMC:C6	2.51	0.45
11:AA:911:C:OP2	23:EE:9:ARG:HG2	2.15	0.45
11:AA:1699:A:H2'	11:AA:1700:G:H8	1.82	0.45
11:AA:2193:U:C5'	11:AA:2194:G:H5'	2.44	0.45
11:AA:2201:G:OP1	11:AA:2418:G:N2	2.43	0.45
11:AA:3107:U:H2'	11:AA:3108:G:C8	2.51	0.45
12:Aa:320:LEU:O	12:Aa:324:MET:HB2	2.15	0.45
12:Aa:413:ILE:HG23	12:Aa:463:LEU:HD21	1.97	0.45
12:Aa:438:MET:HE3	12:Aa:441:PHE:CE2	2.50	0.45
12:Aa:464:LEU:O	12:Aa:513:LYS:HB2	2.15	0.45
17:CC:133:G:P	33:J:94:GLN:HE22	2.38	0.45
23:EE:51:ASP:OD2	23:EE:58:LEU:HD11	2.15	0.45
26:FF:2:SER:OG	26:FF:3:HIS:N	2.39	0.45
30:HH:154:THR:HG22	30:HH:157:ALA:HB2	1.98	0.45
32:II:105:TYR:OH	32:II:137:ASP:OD2	2.30	0.45
33:J:97:LYS:HD3	33:J:97:LYS:HA	1.80	0.45
39:M:101:VAL:HA	39:M:124:ILE:HG23	1.97	0.45
49:R:8:TYR:CE1	49:R:99:ARG:HG2	2.51	0.45
49:R:90:PRO:HG2	49:R:93:THR:HG23	1.98	0.45
60:c:401:A:O2'	60:c:402:C:H4'	2.16	0.45
60:c:409:C:H2'	60:c:410:A:H8	1.81	0.45
60:c:761:G:H21	60:c:762:A:N6	2.14	0.45
60:c:804:A:C8	82:y:107:SER:HA	2.51	0.45
60:c:1147:A:H2'	60:c:1148:C:C6	2.51	0.45
60:c:1370:U:H6	60:c:1371:A:H8	1.61	0.45
61:d:27:ARG:HG3	61:d:28:ASN:H	1.81	0.45
62:e:160:HIS:O	62:e:164:ILE:HG12	2.16	0.45
64:g:12:VAL:O	64:g:16:VAL:HG23	2.16	0.45
69:l:42:ARG:HB3	69:l:58:LEU:CD1	2.46	0.45
69:l:149:SER:HB2	72:o:24:LYS:HE3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:n:56:LYS:HD2	71:n:57:THR:H	1.80	0.45
72:o:85:VAL:HG22	72:o:108:PRO:HB3	1.98	0.45
74:q:47:LYS:HB2	74:q:47:LYS:HE2	1.59	0.45
74:q:81:VAL:HG13	74:q:115:ILE:HA	1.98	0.45
76:s:63:ILE:HD12	76:s:65:ILE:HD11	1.97	0.45
77:t:21:TYR:C	77:t:23:LYS:N	2.74	0.45
1:0:83:LYS:HZ3	1:0:96:LEU:HD23	1.80	0.45
8:7:96:THR:HG23	8:7:98:GLU:H	1.81	0.45
8:7:128:ASP:O	8:7:129:LYS:HG2	2.16	0.45
11:AA:1145:G:H5'	47:Q:46:PHE:CE1	2.51	0.45
11:AA:1584:U:H2'	11:AA:1585:C:H6	1.80	0.45
11:AA:2341:A:H2'	11:AA:2342:U:H6	1.82	0.45
11:AA:2456:A:H2'	11:AA:2457:G:H8	1.81	0.45
11:AA:2686:A:H2'	11:AA:2687:G:O4'	2.16	0.45
11:AA:2881:C:H2'	11:AA:2882:U:H6	1.80	0.45
11:AA:2933:A:C6	11:AA:3014:U:H4'	2.51	0.45
11:AA:3295:A:H2'	11:AA:3296:A:H8	1.81	0.45
12:Aa:141:THR:HA	12:Aa:144:ARG:HD3	1.99	0.45
12:Aa:338:ILE:HA	12:Aa:342:LEU:HD23	1.96	0.45
12:Aa:368:ALA:HA	12:Aa:371:ASN:HD21	1.81	0.45
12:Aa:655:TYR:HB3	12:Aa:658:GLU:HB2	1.99	0.45
12:Aa:732:GLU:HB3	12:Aa:769:LYS:NZ	2.31	0.45
17:CC:59:A:H5"	17:CC:61:A:C8	2.51	0.45
26:FF:214:MET:HE2	26:FF:281:LYS:HB2	1.99	0.45
26:FF:317:ILE:HG21	26:FF:321:PHE:CD2	2.51	0.45
33:J:77:GLU:CD	33:J:133:LEU:HD11	2.41	0.45
37:L:95:VAL:O	37:L:100:THR:HG21	2.16	0.45
39:M:77:LYS:C	39:M:79:TRP:N	2.71	0.45
40:MM:92:HIS:HB2	40:MM:94:PHE:CE2	2.51	0.45
40:MM:207:GLU:O	40:MM:211:ARG:HG2	2.16	0.45
60:c:1027:A:OP1	60:c:1789:G:O2'	2.30	0.45
60:c:1091:A:H4'	60:c:1092:A:O4'	2.15	0.45
60:c:1360:A:C2	60:c:1363:U:O2	2.68	0.45
60:c:1407:U:H2'	60:c:1408:G:C8	2.52	0.45
61:d:104:PRO:HB3	61:d:131:GLN:HE21	1.80	0.45
62:e:120:LEU:C	62:e:121:ILE:HD13	2.41	0.45
64:g:40:ARG:HB3	64:g:47:GLU:HB3	1.98	0.45
69:l:8:ARG:HD2	69:l:21:PHE:CZ	2.51	0.45
75:r:89:MET:N	75:r:89:MET:SD	2.89	0.45
83:z:39:LYS:HD3	83:z:39:LYS:N	2.30	0.45
2:1:92:ILE:HB	2:1:100:ILE:HG23	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:56:CYS:HB2	4:3:59:CYS:SG	2.56	0.45
5:4:65:ARG:HB2	5:4:67:ARG:HE	1.82	0.45
8:7:214:ALA:HB1	8:7:240:VAL:HG21	1.98	0.45
11:AA:67:A:N6	11:AA:271:C:O2'	2.49	0.45
11:AA:549:U:H2'	11:AA:550:A:C8	2.51	0.45
11:AA:1096:U:OP2	25:F:116:ARG:NH1	2.35	0.45
11:AA:1124:U:H2'	11:AA:1125:U:C6	2.52	0.45
11:AA:1342:C:H2'	11:AA:1343:A:H8	1.80	0.45
11:AA:1904:C:O2'	11:AA:1905:G:OP1	2.30	0.45
11:AA:2256:A2M:N3	11:AA:2256:A2M:HM'2	2.31	0.45
11:AA:2500:A:H8	11:AA:2500:A:O5'	2.00	0.45
11:AA:2676:A:H4'	11:AA:2677:G:O4'	2.17	0.45
11:AA:2689:A:H2'	11:AA:2689:A:N3	2.31	0.45
11:AA:3201:C:H2'	11:AA:3202:G:C8	2.51	0.45
14:BB:107:C:H2'	14:BB:108:A:H8	1.82	0.45
15:Bb:18:G:N2	15:Bb:61:C:O2	2.49	0.45
20:DD:6:GLU:O	20:DD:10:GLU:HG2	2.16	0.45
20:DD:120:TRP:CE3	20:DD:155:ASP:HB2	2.51	0.45
23:EE:51:ASP:HB2	23:EE:58:LEU:HG	1.98	0.45
26:FF:14:LEU:HD12	26:FF:262:TRP:CZ3	2.50	0.45
37:L:115:LYS:HE3	37:L:119:GLU:OE1	2.16	0.45
38:LL:38:LEU:HG	38:LL:41:ILE:HD12	1.97	0.45
39:M:38:GLN:HB3	39:M:39:HIS:CD2	2.52	0.45
48:QQ:190:THR:HG23	48:QQ:193:ARG:NH2	2.31	0.45
50:S:93:PHE:CD2	50:S:94:LEU:HD23	2.51	0.45
60:c:12:U:H2'	60:c:13:C:H6	1.79	0.45
60:c:123:G:OP1	65:h:77:ARG:NH2	2.37	0.45
60:c:485:A:C5	60:c:504:U:H1'	2.52	0.45
60:c:592:A:OP1	70:m:39:LYS:NZ	2.39	0.45
60:c:816:G:H22	60:c:855:A:H2	1.65	0.45
60:c:961:U:H4'	73:p:71:ILE:HD11	1.97	0.45
60:c:992:A:H2'	60:c:993:A:H5'	1.98	0.45
60:c:1007:OMC:HM23	60:c:1007:OMC:H1'	1.61	0.45
60:c:1126:OMG:C2	60:c:1127:G:C8	3.04	0.45
60:c:1172:G:H2'	60:c:1173:C:C6	2.52	0.45
61:d:15:GLN:HB2	77:t:100:LEU:HD11	1.99	0.45
63:f:145:GLY:O	82:y:98:GLN:NE2	2.40	0.45
65:h:30:ARG:HD2	65:h:31:PRO:HD2	1.98	0.45
68:k:64:VAL:HG23	68:k:67:LEU:HD23	1.97	0.45
8:7:150:TRP:HB2	8:7:174:ASN:ND2	2.31	0.45
11:AA:12:A:H2'	11:AA:13:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:54:C:HO2'	11:AA:1547:G:HO2'	1.65	0.45
11:AA:195:U:H2'	11:AA:196:G:O4'	2.16	0.45
11:AA:291:C:P	48:QQ:68:ARG:HH21	2.39	0.45
11:AA:781:G:OP1	16:C:151:ARG:NH1	2.48	0.45
11:AA:929:A:H1'	53:V:49:TRP:CE3	2.51	0.45
11:AA:1111:U:OP2	44:OO:5:LYS:HD3	2.17	0.45
11:AA:2571:U:H3'	11:AA:2572:C:C6	2.52	0.45
11:AA:2883:U:H2'	11:AA:2884:C:C6	2.51	0.45
11:AA:2986:U:C2	11:AA:2987:A:C8	3.05	0.45
11:AA:3006:A:C2	11:AA:3141:A:C4	3.04	0.45
11:AA:3010:U:O2'	11:AA:3011:A:H2'	2.16	0.45
12:Aa:34:THR:O	12:Aa:37:ASP:HB2	2.16	0.45
12:Aa:223:ARG:NH2	12:Aa:241:MET:HE2	2.32	0.45
12:Aa:649:GLN:CD	12:Aa:687:ASN:HB2	2.41	0.45
14:BB:112:G:H2'	14:BB:113:C:C6	2.51	0.45
19:D:7:GLN:HE22	19:D:33:ALA:HA	1.82	0.45
20:DD:16:ARG:NH2	20:DD:69:ASP:OD2	2.49	0.45
29:H:123:ALA:O	29:H:130:ALA:HB2	2.16	0.45
36:KK:33:ASN:O	36:KK:39:ALA:HB3	2.16	0.45
53:V:85:LYS:HD3	53:V:85:LYS:HA	1.78	0.45
60:c:293:U:H2'	60:c:294:C:C6	2.50	0.45
60:c:435:C:C5'	83:z:50:LYS:HG3	2.45	0.45
60:c:510:G:H2'	60:c:511:A:H8	1.81	0.45
60:c:902:G:H2'	60:c:903:U:C6	2.51	0.45
60:c:956:C:OP1	60:c:1072:C:O2'	2.35	0.45
60:c:1108:G:H4'	60:c:1109:G:H5"	1.99	0.45
60:c:1216:C:H1'	60:c:1217:A:H2'	1.96	0.45
60:c:1271:OMG:HM23	60:c:1271:OMG:H1'	1.67	0.45
60:c:1354:G:O2'	60:c:1355:C:H5'	2.16	0.45
60:c:1360:A:C5	60:c:1361:U:C2	3.04	0.45
60:c:1399:C:O2'	60:c:1400:A:O4'	2.33	0.45
62:e:56:SER:HB3	62:e:59:ASP:OD2	2.17	0.45
63:f:166:THR:OG1	63:f:201:ASN:HB3	2.17	0.45
64:g:68:GLU:O	64:g:72:LEU:HD23	2.17	0.45
65:h:73:ASP:HA	65:h:164:LEU:HD21	1.97	0.45
71:n:4:PRO:HG2	71:n:7:ASP:CG	2.42	0.45
81:x:28:ASP:OD1	81:x:31:SER:N	2.50	0.45
3:2:52:ASP:O	3:2:55:GLU:HG3	2.17	0.45
11:AA:213:A:N6	11:AA:228:U:O4'	2.50	0.45
11:AA:499:G:H2'	11:AA:500:C:C6	2.51	0.45
11:AA:640:U:OP1	39:M:21:ARG:NH2	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:641:C:OP1	39:M:21:ARG:HB3	2.16	0.45
11:AA:2258:U:C2	11:AA:2259:A:C8	3.05	0.45
11:AA:2337:OMC:HM23	11:AA:2337:OMC:H1'	1.56	0.45
11:AA:2991:A:O2'	11:AA:3309:G:N7	2.46	0.45
11:AA:3162:C:H2'	11:AA:3163:A:H8	1.81	0.45
12:Aa:278:LEU:HG	12:Aa:282:PHE:CE2	2.51	0.45
15:Bb:30:G:H2'	15:Bb:31:A:O4'	2.16	0.45
19:D:176:ARG:HH22	60:c:853:G:H3'	1.82	0.45
20:DD:108:PRO:HA	20:DD:179:SER:HA	1.99	0.45
23:EE:117:GLU:HB3	23:EE:124:GLY:H	1.80	0.45
24:Ee:105:GLN:OE1	24:Ee:107:ASP:HB2	2.15	0.45
26:FF:110:LEU:HD12	26:FF:114:VAL:HG11	1.97	0.45
27:G:93:ILE:HG21	27:G:105:LEU:HD23	1.98	0.45
28:GG:326:ARG:HA	34:JJ:41:ARG:HH12	1.81	0.45
42:NN:19:LEU:HB2	42:NN:69:VAL:HG12	1.99	0.45
46:PP:72:LEU:HD11	46:PP:81:VAL:HG22	1.97	0.45
52:U:94:ILE:O	52:U:97:SER:OG	2.25	0.45
60:c:270:C:H2'	60:c:271:A:H8	1.81	0.45
60:c:483:A:O4'	60:c:507:U:C4	2.69	0.45
60:c:1066:C:H2'	60:c:1067:C:C6	2.51	0.45
60:c:1371:A:C5	60:c:1372:U:C4	3.05	0.45
60:c:1450:U:H2'	60:c:1451:C:C6	2.51	0.45
60:c:1524:A:C2	60:c:1590:G:H1'	2.52	0.45
60:c:1564:U:H5"	79:v:38:LYS:HE3	1.98	0.45
63:f:40:LYS:HA	63:f:43:ARG:HD2	1.99	0.45
67:j:7:TYR:HB2	67:j:113:ILE:HD12	1.97	0.45
67:j:45:PHE:HE1	67:j:121:LEU:HD13	1.81	0.45
75:r:123:TYR:OH	78:u:126:ARG:NH1	2.50	0.45
77:t:82:ASP:O	77:t:83:GLN:C	2.60	0.45
8:7:288:HIS:O	8:7:306:THR:HG23	2.16	0.45
9:8:138:ARG:HG3	9:8:138:ARG:NH1	2.30	0.45
10:A:27:LEU:CD1	10:A:98:ALA:HB1	2.47	0.45
10:A:37:ARG:HH21	10:A:108:ILE:HD11	1.81	0.45
11:AA:148:G:O6	36:KK:135:GLY:HA3	2.17	0.45
11:AA:177:U:H2'	11:AA:178:U:H6	1.81	0.45
11:AA:245:U:O2'	11:AA:246:U:O4'	2.33	0.45
11:AA:272:G:H1'	52:U:82:ARG:HH12	1.82	0.45
11:AA:388:G:N2	13:B:101:ASN:OD1	2.40	0.45
11:AA:876:A2M:HM'3	11:AA:876:A2M:H1'	1.67	0.45
11:AA:1225:A:H1'	11:AA:3116:G:N2	2.32	0.45
11:AA:2433:U:H1'	48:QQ:125:SER:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2642:A:O5'	25:F:3:LYS:NZ	2.37	0.45
11:AA:2651:G:O3'	11:AA:2760:C:N4	2.48	0.45
11:AA:2769:A:O4'	58:a:82:GLN:OE1	2.34	0.45
12:Aa:8:GLN:O	12:Aa:11:SER:OG	2.25	0.45
12:Aa:163:ALA:O	12:Aa:167:LEU:HB2	2.15	0.45
12:Aa:218:TRP:CD1	12:Aa:324:MET:HE3	2.52	0.45
12:Aa:227:THR:HG22	12:Aa:231:LYS:HD2	1.99	0.45
12:Aa:229:TYR:HA	12:Aa:232:LYS:HE3	1.97	0.45
13:B:67:ILE:HG13	13:B:68:GLY:N	2.30	0.45
20:DD:25:LEU:HD23	20:DD:88:PHE:HA	1.99	0.45
26:FF:161:LEU:HD23	26:FF:180:GLU:HG2	1.98	0.45
28:GG:3:ARG:HD2	28:GG:22:LEU:HB3	1.97	0.45
30:HH:173:VAL:O	30:HH:175:HIS:ND1	2.36	0.45
34:JJ:34:LYS:HD3	34:JJ:34:LYS:HA	1.84	0.45
35:K:74:TYR:HD1	35:K:77:LYS:H	1.65	0.45
37:L:22:LYS:HE3	37:L:134:LEU:HB2	1.99	0.45
50:S:87:GLU:OE1	50:S:91:ARG:NH2	2.49	0.45
60:c:1202:A:H1'	60:c:1207:C:N4	2.32	0.45
60:c:1360:A:H1'	60:c:1364:G:N2	2.32	0.45
60:c:1528:U:H2'	60:c:1529:C:C6	2.51	0.45
61:d:101:ARG:HG2	61:d:103:THR:H	1.81	0.45
61:d:153:SER:O	61:d:156:VAL:HG12	2.16	0.45
64:g:105:MET:HB2	64:g:122:VAL:HG11	1.99	0.45
65:h:87:MET:CE	65:h:123:LEU:HB2	2.46	0.45
65:h:88:ASP:HB2	65:h:101:LEU:HD12	1.99	0.45
66:i:62:VAL:HG12	66:i:64:VAL:HG22	1.99	0.45
77:t:104:ASN:O	77:t:107:SER:OG	2.26	0.45
79:v:53:TRP:HA	79:v:56:LYS:HE2	1.98	0.45
81:x:15:ARG:NH2	81:x:24:ILE:HG21	2.32	0.45
4:3:14:SER:O	4:3:18:LYS:HG2	2.17	0.45
11:AA:796:U:H2'	11:AA:797:U:C6	2.52	0.45
11:AA:1052:U:H2'	11:AA:1053:A:O4'	2.17	0.45
11:AA:1951:C:O2	11:AA:1951:C:H2'	2.15	0.45
11:AA:2453:U:OP2	11:AA:2462:A:H1'	2.17	0.45
11:AA:2733:A:H2'	11:AA:2734:A:O4'	2.16	0.45
11:AA:3153:U:H3'	11:AA:3154:C:H2'	1.97	0.45
11:AA:3372:A:C6	11:AA:3373:U:C4	3.05	0.45
12:Aa:211:PHE:HB2	12:Aa:220:PHE:CE1	2.52	0.45
12:Aa:414:GLN:HB2	12:Aa:468:THR:OG1	2.16	0.45
14:BB:8:G:OP1	25:F:27:LEU:HD11	2.17	0.45
15:Bb:23:A:H2'	15:Bb:24:G:H8	1.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:E:42:TRP:CZ3	22:E:53:LYS:HD2	2.51	0.45
25:F:44:ALA:H	25:F:58:GLN:NE2	2.14	0.45
26:FF:284:ARG:HB2	26:FF:323:MET:HE2	1.98	0.45
27:G:19:VAL:HG12	27:G:105:LEU:HD13	1.99	0.45
30:HH:163:LEU:HD21	30:HH:175:HIS:ND1	2.32	0.45
38:LL:10:ILE:HG22	38:LL:72:LYS:CD	2.46	0.45
42:NN:131:MET:HB3	42:NN:131:MET:HE3	1.79	0.45
50:S:85:VAL:O	50:S:89:ILE:HG12	2.17	0.45
60:c:212:U:H2'	60:c:213:A:C8	2.52	0.45
60:c:1294:G:H1	60:c:1303:U:H3	1.64	0.45
60:c:1463:C:H2'	60:c:1464:G:H8	1.81	0.45
61:d:182:LEU:HD12	61:d:187:ALA:HB3	1.98	0.45
63:f:35:TRP:O	63:f:36:VAL:C	2.59	0.45
63:f:53:ILE:HD13	63:f:72:LEU:HD22	1.98	0.45
64:g:6:SER:OG	64:g:9:ARG:HD3	2.17	0.45
65:h:86:PHE:HE2	65:h:226:PHE:CD2	2.35	0.45
66:i:194:LEU:O	66:i:198:LEU:HD23	2.17	0.45
67:j:191:ARG:NH1	67:j:195:VAL:HB	2.32	0.45
72:o:67:ARG:NH1	72:o:127:GLN:OE1	2.50	0.45
80:w:58:LEU:HD23	80:w:88:LYS:HE3	1.99	0.45
81:x:11:LEU:HD23	81:x:11:LEU:H	1.82	0.45
1:0:11:LYS:O	1:0:23:PHE:HA	2.17	0.45
8:7:122:ILE:HG13	8:7:134:TRP:HB2	1.99	0.45
11:AA:691:A:N1	17:CC:28:C:O2'	2.44	0.45
11:AA:916:G:H5'	11:AA:917:A:OP1	2.16	0.45
11:AA:1039:U:H2'	11:AA:1040:A:C8	2.52	0.45
11:AA:2207:A:N1	11:AA:2236:G:C6	2.85	0.45
11:AA:2473:C:H3'	11:AA:2474:G:O4'	2.17	0.45
11:AA:2724:OMU:HM23	11:AA:2724:OMU:H1'	1.56	0.45
12:Aa:58:ASP:HB3	12:Aa:63:GLU:HB3	1.97	0.45
12:Aa:162:ARG:HH22	38:LL:96:HIS:CE1	2.35	0.45
12:Aa:248:SER:HA	12:Aa:259:ASN:HA	1.98	0.45
19:D:133:LYS:HE3	19:D:133:LYS:HB3	1.61	0.45
22:E:28:ARG:HH11	28:GG:362:ASP:HA	1.80	0.45
23:EE:177:LYS:HE3	59:b:26:VAL:HG13	1.99	0.45
27:G:99:LYS:HE3	27:G:102:GLU:OE2	2.17	0.45
38:LL:170:LYS:HD3	38:LL:170:LYS:HA	1.82	0.45
39:M:47:LYS:HD3	39:M:47:LYS:HA	1.71	0.45
40:MM:213:PHE:N	40:MM:214:PRO:HD3	2.32	0.45
54:W:7:ASP:HB3	54:W:10:GLN:HB2	1.99	0.45
60:c:272:U:O2'	60:c:273:G:O4'	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:517:U:O4	60:c:518:A:N6	2.48	0.45
60:c:949:C:H2'	60:c:950:C:H6	1.82	0.45
60:c:1351:G:C6	60:c:1352:G:N7	2.85	0.45
60:c:1388:A:C5'	77:t:48:ASN:HD21	2.30	0.45
64:g:25:PHE:HD2	64:g:37:VAL:HG11	1.82	0.45
65:h:143:ASP:OD1	65:h:145:ARG:HG2	2.17	0.45
67:j:137:ARG:NE	67:j:177:ARG:HH21	2.14	0.45
68:k:62:VAL:HG21	68:k:67:LEU:HD11	1.99	0.45
69:l:38:ILE:HD12	69:l:61:GLU:HA	1.99	0.45
69:l:191:PHE:HD2	72:o:13:PHE:CD2	2.34	0.45
69:l:191:PHE:HD2	72:o:13:PHE:HD2	1.64	0.45
77:t:24:LEU:O	77:t:24:LEU:HD12	2.17	0.45
9:8:103:LEU:H	9:8:103:LEU:HD23	1.82	0.45
11:AA:3:U:H5'	17:CC:157:U:O2'	2.16	0.45
11:AA:165:A:H2'	11:AA:166:C:H6	1.82	0.45
11:AA:185:C:OP1	35:K:122:LYS:NZ	2.48	0.45
11:AA:297:G:C8	11:AA:299:G:H1'	2.52	0.45
11:AA:543:C:H2'	11:AA:544:C:C4	2.51	0.45
11:AA:1525:G:C5	11:AA:1829:G:C6	3.05	0.45
11:AA:1658:G:O4'	11:AA:1796:G:H2'	2.17	0.45
11:AA:1742:U:H2'	11:AA:1743:G:O4'	2.17	0.45
11:AA:2101:C:O2'	11:AA:2102:U:P	2.75	0.45
11:AA:2140:U:O2	11:AA:2977:G:O2'	2.28	0.45
11:AA:2534:G:C2	11:AA:2535:A:C4	3.04	0.45
11:AA:2819:A:H62	11:AA:2870:5MC:HN41	1.63	0.45
11:AA:2963:C:H2'	11:AA:2964:G:C8	2.52	0.45
11:AA:3113:A:C2	11:AA:3122:A:C5	3.05	0.45
11:AA:3150:A:OP1	26:FF:132:LYS:HB2	2.16	0.45
11:AA:3162:C:H2'	11:AA:3163:A:C8	2.52	0.45
12:Aa:391:LYS:C	12:Aa:510:ARG:HH22	2.24	0.45
12:Aa:412:ARG:HA	12:Aa:427:PHE:O	2.17	0.45
25:F:44:ALA:HB2	25:F:53:PRO:HG2	1.99	0.45
30:HH:95:TRP:HD1	30:HH:158:ARG:HA	1.82	0.45
30:HH:184:ASP:HB3	30:HH:187:THR:HG22	1.98	0.45
36:KK:159:PRO:HG2	36:KK:162:LEU:HD12	1.99	0.45
42:NN:61:ARG:HD2	42:NN:62:ASN:H	1.81	0.45
45:P:72:ARG:O	45:P:96:VAL:HG22	2.17	0.45
55:X:25:GLN:HE22	55:X:28:ARG:NH1	2.14	0.45
60:c:96:G:H2'	60:c:97:C:H6	1.82	0.45
60:c:448:C:H2'	60:c:449:C:C6	2.51	0.45
60:c:568:G:P	83:z:91:GLY:H	2.38	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:752:A:H2'	60:c:753:A:H8	1.79	0.45
60:c:956:C:O5'	73:p:12:SER:OG	2.35	0.45
60:c:1178:G:H5'	60:c:1190:C:H42	1.82	0.45
60:c:1351:G:C2	60:c:1352:G:C8	3.04	0.45
60:c:1351:G:C2	60:c:1352:G:C4	3.05	0.45
63:f:50:ILE:HD12	63:f:55:GLU:OE2	2.16	0.45
65:h:82:TYR:CD1	65:h:83:PRO:HD2	2.51	0.45
67:j:31:ARG:HD3	67:j:31:ARG:H	1.82	0.45
67:j:84:TYR:HE1	67:j:86:PRO:HA	1.82	0.45
69:l:67:TRP:HB2	69:l:72:ILE:HG12	1.99	0.45
70:m:136:VAL:HG13	70:m:137:GLY:N	2.32	0.45
70:m:169:PRO:O	70:m:173:ALA:HB3	2.17	0.45
78:u:11:PHE:HA	78:u:60:GLU:HG3	1.98	0.45
78:u:89:GLN:HA	78:u:97:ASP:HA	1.99	0.45
10:A:108:ILE:HD13	10:A:117:ARG:NH1	2.32	0.45
11:AA:246:U:H2'	11:AA:247:C:C6	2.51	0.45
11:AA:867:OMG:HM23	11:AA:867:OMG:H1'	1.84	0.45
11:AA:2563:G:OP1	36:KK:27:THR:OG1	2.31	0.45
11:AA:2794:G:H5'	18:Cc:77:A:N7	2.32	0.45
11:AA:2812:C:H2'	11:AA:2813:A:H8	1.82	0.45
11:AA:2939:G:H2'	11:AA:2940:A:O4'	2.17	0.45
11:AA:3065:G:H2'	11:AA:3066:U:C6	2.52	0.45
12:Aa:428:ILE:O	12:Aa:428:ILE:HG22	2.17	0.45
14:BB:97:A:H2'	14:BB:98:C:C6	2.52	0.45
15:Bb:60:C:H5"	15:Bb:61:C:H5	1.82	0.45
27:G:99:LYS:HD2	27:G:100:THR:N	2.31	0.45
34:JJ:88:ARG:HH21	34:JJ:91:GLY:C	2.23	0.45
60:c:22:A:H2'	60:c:23:G:H8	1.82	0.45
60:c:96:G:H2'	60:c:97:C:C6	2.52	0.45
60:c:154:G:H5'	67:j:2:LYS:HE3	1.99	0.45
60:c:888:U:H2'	60:c:889:U:C6	2.51	0.45
60:c:1244:A:H2'	60:c:1244:A:N3	2.31	0.45
60:c:1360:A:N7	60:c:1361:U:C4	2.85	0.45
60:c:1368:G:H3'	60:c:1368:G:P	2.57	0.45
60:c:1382:A:O2'	60:c:1383:G:H5"	2.17	0.45
60:c:1649:G:H2'	60:c:1650:U:C6	2.52	0.45
64:g:209:ILE:O	64:g:209:ILE:HG13	2.16	0.45
65:h:68:ARG:CD	65:h:76:VAL:HG11	2.47	0.45
68:k:43:PHE:O	68:k:44:LYS:HD3	2.17	0.45
70:m:127:VAL:O	70:m:131:GLN:HB2	2.16	0.45
72:o:13:PHE:HE1	72:o:15:LYS:HB2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:t:28:PHE:HA	77:t:55:THR:HG21	1.98	0.45
3:2:34:LYS:NZ	60:c:1791:A:N7	2.65	0.44
7:6:38:LEU:HD21	7:6:42:ARG:HH11	1.82	0.44
11:AA:8:C:H2'	11:AA:9:U:C6	2.52	0.44
11:AA:651:G:O2'	11:AA:1435:A:OP1	2.35	0.44
11:AA:999:G:N3	11:AA:1002:A:N6	2.65	0.44
11:AA:1176:C:H2'	11:AA:1177:G:N2	2.32	0.44
11:AA:1349:G:P	11:AA:1349:G:H8	2.39	0.44
11:AA:1659:U:H2'	11:AA:1660:C:C6	2.52	0.44
11:AA:2500:A:HO2'	11:AA:2501:U:P	2.37	0.44
11:AA:2530:G:C2	11:AA:2531:C:C2	3.06	0.44
11:AA:3007:U:O4	11:AA:3008:A:N6	2.51	0.44
11:AA:3379:C:H2'	11:AA:3380:U:C6	2.52	0.44
12:Aa:542:LEU:HD13	12:Aa:556:ILE:HG13	1.98	0.44
12:Aa:588:LEU:HD13	12:Aa:686:VAL:HG23	1.98	0.44
15:Bb:37:YYG:H131	15:Bb:38:A:N1	2.32	0.44
19:D:176:ARG:NH2	60:c:854:U:OP2	2.50	0.44
22:E:19:VAL:O	22:E:19:VAL:HG13	2.17	0.44
23:EE:150:LEU:HD23	23:EE:150:LEU:HA	1.76	0.44
28:GG:143:GLU:CD	28:GG:144:LYS:HG3	2.42	0.44
30:HH:216:GLU:O	30:HH:220:SER:N	2.50	0.44
36:KK:97:TYR:O	36:KK:132:VAL:HG23	2.17	0.44
36:KK:203:VAL:HG21	36:KK:211:LEU:HD23	1.98	0.44
46:PP:55:ARG:NH1	46:PP:77:ARG:HA	2.33	0.44
60:c:121:U:H2'	60:c:122:U:C6	2.52	0.44
60:c:361:C:N4	60:c:379:U:OP1	2.47	0.44
60:c:598:U:O2'	83:z:123:LYS:NZ	2.50	0.44
60:c:804:A:N3	82:y:105:THR:HG22	2.32	0.44
64:g:58:VAL:O	64:g:65:ARG:HB3	2.17	0.44
65:h:123:LEU:HD23	65:h:161:LYS:HA	1.98	0.44
70:m:18:PRO:HG2	70:m:19:TYR:CD2	2.52	0.44
70:m:60:LEU:HD23	70:m:60:LEU:HA	1.87	0.44
70:m:112:GLN:HG3	70:m:148:VAL:HG21	1.98	0.44
74:q:18:ARG:HB2	74:q:29:HIS:O	2.17	0.44
74:q:19:ILE:HG13	74:q:28:VAL:HG12	1.99	0.44
75:r:75:PRO:HA	75:r:93:VAL:O	2.17	0.44
81:x:8:LEU:O	81:x:8:LEU:HD12	2.17	0.44
82:y:47:ILE:HG13	82:y:48:GLY:N	2.32	0.44
3:2:45:VAL:HG13	3:2:45:VAL:O	2.17	0.44
5:4:46:GLY:O	5:4:48:VAL:HG23	2.18	0.44
8:7:84:SER:HB3	8:7:88:THR:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:123:ILE:HG22	8:7:133:VAL:HG22	1.98	0.44
11:AA:5:G:H2'	11:AA:6:A:H8	1.83	0.44
11:AA:197:G:H2'	11:AA:198:A:C8	2.52	0.44
11:AA:1062:A:H4'	25:F:105:PHE:CE1	2.51	0.44
11:AA:1095:U:H4'	11:AA:1096:U:H5'	2.00	0.44
11:AA:1293:U:O4	11:AA:1294:A:N6	2.50	0.44
11:AA:1321:G:N2	22:E:112:ALA:HB2	2.32	0.44
11:AA:1660:C:H2'	11:AA:1661:G:C8	2.52	0.44
11:AA:1911:A:H2	11:AA:2122:G:C8	2.36	0.44
11:AA:2113:A:O2'	11:AA:2116:G:N7	2.41	0.44
11:AA:2185:G:O2'	11:AA:2314:U:OP2	2.34	0.44
11:AA:2379:U:H2'	11:AA:2380:U:C6	2.53	0.44
11:AA:2714:G:H4'	11:AA:2715:A:C5'	2.48	0.44
11:AA:3013:U:H2'	11:AA:3014:U:H6	1.81	0.44
12:Aa:520:THR:HA	12:Aa:529:ILE:O	2.18	0.44
23:EE:20:THR:HA	23:EE:23:ARG:HE	1.83	0.44
35:K:115:ARG:O	35:K:119:ILE:HG12	2.17	0.44
37:L:88:ASP:HB3	37:L:90:GLU:OE1	2.17	0.44
60:c:513:U:H4'	70:m:131:GLN:OE1	2.18	0.44
60:c:1146:G:C2	60:c:1147:A:C4	3.05	0.44
60:c:1213:G:C2	60:c:1451:C:C2	3.06	0.44
60:c:1220:C:H2'	60:c:1221:A:H8	1.82	0.44
60:c:1450:U:H2'	60:c:1451:C:H6	1.82	0.44
60:c:1579:U:H2'	60:c:1580:C:C6	2.52	0.44
62:e:140:ILE:O	62:e:210:ILE:HD12	2.17	0.44
63:f:174:ARG:HA	63:f:195:ASP:OD2	2.17	0.44
68:k:154:LEU:CD1	68:k:183:PHE:HB3	2.47	0.44
69:l:34:ALA:HB2	69:l:56:ARG:HH11	1.83	0.44
78:u:102:ALA:C	78:u:104:ASN:H	2.25	0.44
2:1:58:ARG:HH22	66:i:124:LEU:HA	1.82	0.44
3:2:47:ALA:HB2	74:q:99:GLN:HE21	1.81	0.44
8:7:16:HIS:HD1	8:7:18:GLY:H	1.63	0.44
11:AA:77:A:H2'	11:AA:78:U:O4'	2.17	0.44
11:AA:135:C:N3	51:T:94:LYS:HE2	2.33	0.44
11:AA:269:G:H4'	11:AA:270:U:H6	1.81	0.44
11:AA:273:A:H2'	11:AA:274:G:H8	1.82	0.44
11:AA:682:U:H5"	11:AA:683:U:H5	1.82	0.44
11:AA:1046:A:H2'	11:AA:1049:C:C5	2.53	0.44
11:AA:1135:A:C2	11:AA:1136:A:C8	3.06	0.44
11:AA:1392:G:H1'	11:AA:1418:A:N6	2.32	0.44
11:AA:1678:G:H2'	11:AA:1679:A:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1856:C:H2'	11:AA:1857:C:H6	1.81	0.44
11:AA:2133:U:O4	11:AA:2147:A:H2	2.00	0.44
11:AA:2735:U:H4'	25:F:51:GLY:HA2	1.98	0.44
11:AA:3064:U:N3	11:AA:3065:G:N7	2.65	0.44
11:AA:3082:C:H2'	11:AA:3083:G:H8	1.81	0.44
12:Aa:413:ILE:CG2	12:Aa:463:LEU:HD21	2.47	0.44
12:Aa:561:VAL:HG23	12:Aa:774:VAL:HB	2.00	0.44
12:Aa:729:PHE:CE2	12:Aa:774:VAL:HG22	2.52	0.44
16:C:36:LEU:O	16:C:40:THR:CB	2.66	0.44
20:DD:26:PHE:O	20:DD:28:VAL:HG23	2.17	0.44
20:DD:56:ASN:O	20:DD:60:ARG:HG2	2.17	0.44
20:DD:69:ASP:OD1	20:DD:70:LEU:N	2.50	0.44
22:E:48:LEU:HD13	25:F:151:LEU:HD13	1.99	0.44
26:FF:47:LEU:HD12	26:FF:335:ILE:HD11	2.00	0.44
28:GG:188:ARG:HE	28:GG:197:ARG:HB3	1.82	0.44
34:JJ:132:PRO:HA	34:JJ:229:PHE:CD1	2.53	0.44
42:NN:54:VAL:HG13	42:NN:55:ARG:H	1.82	0.44
47:Q:89:THR:HG22	47:Q:117:ILE:HG12	2.00	0.44
51:T:114:ARG:HD2	51:T:114:ARG:HA	1.81	0.44
54:W:28:ASN:O	54:W:39:ARG:HA	2.17	0.44
56:Y:96:CYS:HA	56:Y:121:LEU:HD23	1.98	0.44
60:c:514:G:HO2'	60:c:515:A:H8	1.60	0.44
60:c:552:G:H2'	60:c:553:G:H8	1.81	0.44
60:c:1248:C:C2	60:c:1249:U:C5	3.05	0.44
60:c:1335:U:H2'	60:c:1336:A:H8	1.83	0.44
69:l:37:LYS:NZ	69:l:95:THR:HB	2.32	0.44
75:r:18:ARG:HD3	78:u:90:ASN:OD1	2.17	0.44
77:t:3:ARG:NE	77:t:49:LYS:HZ1	2.12	0.44
3:2:62:TYR:OH	74:q:114:ARG:HA	2.17	0.44
11:AA:313:A:H2'	11:AA:314:U:O4'	2.18	0.44
11:AA:852:U:H2'	11:AA:853:G:H8	1.82	0.44
11:AA:1076:C:C4	11:AA:1077:U:C4	3.06	0.44
11:AA:1710:C:C2	11:AA:1711:C:C5	3.06	0.44
11:AA:2561:A:H1'	36:KK:32:LYS:NZ	2.31	0.44
11:AA:3000:A:H2'	11:AA:3001:C:C6	2.53	0.44
12:Aa:59:THR:O	12:Aa:440:ARG:NH2	2.35	0.44
12:Aa:396:ALA:O	12:Aa:455:GLY:HA2	2.16	0.44
12:Aa:565:GLU:HB3	12:Aa:717:PHE:CZ	2.51	0.44
34:JJ:86:VAL:HA	34:JJ:136:TYR:HB3	1.99	0.44
41:N:57:ALA:O	41:N:59:LYS:HG3	2.18	0.44
43:O:22:LYS:HG3	43:O:93:LEU:HD12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:QQ:119:TYR:CE2	48:QQ:133:ILE:HD11	2.53	0.44
52:U:91:ASN:HA	52:U:94:ILE:HG22	1.99	0.44
60:c:297:U:H2'	60:c:298:C:C6	2.52	0.44
60:c:551:G:H2'	60:c:552:G:H8	1.82	0.44
60:c:949:C:H2'	60:c:950:C:C6	2.53	0.44
60:c:1353:U:H6	60:c:1353:U:OP2	2.00	0.44
60:c:1372:U:H1'	60:c:1373:C:C1'	2.48	0.44
62:e:28:GLU:HG3	62:e:30:PHE:HE1	1.82	0.44
64:g:140:GLY:HA3	64:g:182:LEU:HD13	2.00	0.44
66:i:108:LEU:O	66:i:111:VAL:HG12	2.18	0.44
66:i:117:THR:HG21	66:i:194:LEU:CD2	2.47	0.44
67:j:162:VAL:HG13	67:j:162:VAL:O	2.18	0.44
68:k:30:SER:C	68:k:32:PRO:HD3	2.43	0.44
69:l:65:PHE:HB2	69:l:109:PHE:HZ	1.82	0.44
70:m:68:LYS:HG3	70:m:72:GLU:OE1	2.16	0.44
70:m:133:HIS:ND1	70:m:162:SER:HB2	2.32	0.44
70:m:163:PRO:HB3	70:m:168:ARG:HB3	2.00	0.44
74:q:64:ALA:HB1	74:q:105:LEU:HG	2.00	0.44
77:t:67:ARG:HA	77:t:67:ARG:NE	2.31	0.44
79:v:130:ARG:NE	79:v:130:ARG:HA	2.32	0.44
80:w:53:LYS:HD3	80:w:92:ASP:O	2.18	0.44
82:y:83:ILE:O	82:y:86:ILE:HG12	2.17	0.44
82:y:105:THR:OG1	82:y:126:LEU:HD22	2.17	0.44
1:0:17:LEU:HD23	65:h:94:ALA:HB3	2.00	0.44
8:7:262:VAL:O	8:7:271:VAL:HG12	2.17	0.44
11:AA:534:U:OP1	22:E:132:THR:HG21	2.16	0.44
11:AA:980:A:H8	11:AA:980:A:O5'	2.00	0.44
11:AA:1342:C:H2'	11:AA:1343:A:C8	2.52	0.44
11:AA:1529:A:OP2	11:AA:1592:G:N2	2.41	0.44
11:AA:1632:A:OP1	37:L:69:LYS:NZ	2.44	0.44
11:AA:1685:C:H2'	11:AA:1686:U:H6	1.82	0.44
11:AA:2283:G:H1'	11:AA:2285:C:N4	2.32	0.44
11:AA:2619:OMG:O6	15:Bb:76:A:N6	2.50	0.44
11:AA:2694:A:H8	11:AA:2694:A:OP2	2.01	0.44
11:AA:3060:C:H4'	11:AA:3371:G:H22	1.83	0.44
12:Aa:508:LEU:HD22	12:Aa:520:THR:HB	1.98	0.44
12:Aa:578:LYS:HD3	12:Aa:582:LYS:HG2	2.00	0.44
12:Aa:608:PRO:HB3	12:Aa:636:PHE:HB2	1.99	0.44
13:B:114:VAL:HA	13:B:150:VAL:HG12	1.99	0.44
15:Bb:21:A:H5'	15:Bb:22:G:OP1	2.18	0.44
17:CC:39:G:H1'	17:CC:104:A:N6	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Cc:67:C:H2'	18:Cc:68:C:C6	2.53	0.44
26:FF:173:GLN:HG3	26:FF:175:LYS:H	1.83	0.44
28:GG:45:ASN:HA	28:GG:110:ASN:HB3	1.99	0.44
29:H:22:ILE:HA	29:H:34:LEU:O	2.17	0.44
29:H:27:ASP:OD1	29:H:27:ASP:N	2.44	0.44
32:II:140:VAL:O	32:II:143:LYS:HG2	2.17	0.44
36:KK:105:LYS:O	36:KK:109:LEU:HD23	2.18	0.44
38:LL:44:THR:OG1	46:PP:12:TRP:HH2	2.00	0.44
42:NN:16:LYS:HE3	42:NN:130:VAL:HG21	2.00	0.44
46:PP:21:VAL:HG22	46:PP:63:VAL:HB	1.98	0.44
46:PP:100:ALA:HA	46:PP:103:ILE:HG12	1.99	0.44
50:S:103:LYS:NZ	50:S:106:LYS:HE2	2.32	0.44
57:Z:7:LYS:NZ	60:c:1774:G:OP1	2.42	0.44
60:c:29:U:H3	60:c:597:G:H1	1.66	0.44
60:c:283:U:H5"	67:j:188:ARG:HD2	1.99	0.44
60:c:364:G:C2	60:c:381:C:C2	3.06	0.44
60:c:463:U:H2'	60:c:464:A:C8	2.53	0.44
60:c:782:U:H4'	60:c:783:G:O5'	2.16	0.44
60:c:1003:A:C4	60:c:1005:A:C6	3.06	0.44
60:c:1094:G:OP1	60:c:1096:C:N4	2.50	0.44
60:c:1316:G:OP1	77:t:7:LYS:HB2	2.18	0.44
60:c:1469:A:H2'	60:c:1470:C:C6	2.52	0.44
60:c:1521:G:N7	79:v:68:ARG:NH2	2.52	0.44
60:c:1678:A:P	69:l:59:ARG:HH22	2.40	0.44
61:d:64:ILE:HD13	61:d:177:LEU:HD21	2.00	0.44
64:g:98:ALA:CB	64:g:169:ASP:HB3	2.37	0.44
65:h:79:ASP:HB3	65:h:82:TYR:HB2	1.98	0.44
69:l:84:HIS:HD2	69:l:100:ALA:HB2	1.81	0.44
69:l:107:THR:HA	69:l:110:ARG:NH1	2.33	0.44
73:p:3:ARG:HB3	73:p:6:SER:OG	2.17	0.44
78:u:87:ASN:H	78:u:99:HIS:CD2	2.36	0.44
1:0:12:VAL:HG12	1:0:23:PHE:HB3	1.99	0.44
1:0:25:VAL:HG11	1:0:60:PHE:CZ	2.52	0.44
11:AA:751:A:OP1	41:N:44:LYS:NZ	2.43	0.44
11:AA:1019:G:N2	11:AA:1034:U:H3	2.15	0.44
11:AA:1076:C:O3'	41:N:38:LYS:HE2	2.17	0.44
11:AA:1347:U:H5"	28:GG:302:ALA:HB1	2.00	0.44
11:AA:1447:G:O2'	11:AA:2355:G:O6	2.34	0.44
11:AA:2535:A:C2'	11:AA:2536:A:H5'	2.48	0.44
11:AA:3313:U:H4'	26:FF:173:GLN:OE1	2.18	0.44
11:AA:3337:G:H2'	11:AA:3338:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:755:VAL:HG21	12:Aa:771:TYR:HE1	1.75	0.44
19:D:132:PHE:CE1	19:D:138:LEU:HA	2.52	0.44
31:I:2:LYS:HD2	31:I:3:VAL:N	2.33	0.44
34:JJ:102:VAL:HG21	34:JJ:129:LEU:HD22	1.98	0.44
36:KK:68:ARG:HD3	36:KK:237:ILE:O	2.16	0.44
36:KK:186:LEU:HD23	36:KK:186:LEU:HA	1.72	0.44
48:QQ:160:GLU:HG2	48:QQ:161:ALA:N	2.32	0.44
58:a:68:VAL:HG11	58:a:91:PHE:CZ	2.53	0.44
60:c:1145:U:C2	60:c:1146:G:C8	3.05	0.44
60:c:1351:G:N3	60:c:1352:G:C8	2.86	0.44
60:c:1453:G:H2'	60:c:1454:G:C8	2.52	0.44
60:c:1490:C:O2	60:c:1492:A:N6	2.51	0.44
60:c:1647:U:H2'	60:c:1648:A:C8	2.53	0.44
61:d:123:VAL:HG21	61:d:133:ILE:HD11	2.00	0.44
64:g:210:GLU:HB2	77:t:20:TYR:CE2	2.52	0.44
66:i:117:THR:HG23	66:i:195:ALA:HB2	1.99	0.44
68:k:48:GLU:O	68:k:49:ILE:HD13	2.17	0.44
68:k:130:VAL:HG13	68:k:130:VAL:O	2.18	0.44
68:k:151:LYS:HA	68:k:182:VAL:O	2.17	0.44
78:u:102:ALA:HB3	78:u:104:ASN:OD1	2.18	0.44
80:w:39:SER:HA	80:w:42:VAL:HG12	1.99	0.44
3:2:22:ARG:HH22	74:q:127:ARG:HE	1.66	0.44
10:A:28:LEU:HD23	10:A:28:LEU:HA	1.85	0.44
11:AA:3:U:P	17:CC:157:U:H1'	2.58	0.44
11:AA:75:G:H3'	11:AA:76:G:C8	2.52	0.44
11:AA:253:A:H2'	11:AA:254:A:C8	2.52	0.44
11:AA:564:G:C6	11:AA:565:U:C4	3.06	0.44
11:AA:816:A:N1	11:AA:919:U:H1'	2.33	0.44
11:AA:855:U:H2'	11:AA:856:G:O4'	2.18	0.44
11:AA:1508:C:N4	11:AA:1880:U:HO2'	2.15	0.44
11:AA:1624:G:C4	11:AA:1625:A:C8	3.06	0.44
11:AA:1696:A:H2'	11:AA:1697:A:C8	2.53	0.44
11:AA:2270:A:H2'	11:AA:2271:A:H8	1.81	0.44
11:AA:2295:A:N1	29:H:37:ILE:HG23	2.32	0.44
11:AA:2407:C:H2'	11:AA:2408:U:H6	1.83	0.44
11:AA:2437:G:C5	11:AA:2511:A:C6	3.05	0.44
12:Aa:249:PHE:O	12:Aa:258:THR:N	2.50	0.44
12:Aa:501:LEU:N	12:Aa:502:PRO:HD2	2.32	0.44
12:Aa:676:ILE:HG22	12:Aa:677:PHE:HD1	1.81	0.44
15:Bb:64:A:H2'	15:Bb:65:G:C8	2.52	0.44
16:C:156:GLY:C	39:M:47:LYS:HD2	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Ee:6:ASP:N	24:Ee:6:ASP:OD1	2.51	0.44
29:H:63:LYS:HA	29:H:63:LYS:HD3	1.78	0.44
36:KK:185:ARG:HA	36:KK:188:THR:HG22	2.00	0.44
40:MM:103:LEU:HD21	40:MM:111:LEU:O	2.17	0.44
60:c:519:C:H5'	60:c:520:A:H8	1.82	0.44
60:c:763:G:H5"	70:m:78:ARG:HH21	1.82	0.44
60:c:1217:A:C4	71:n:27:PHE:HZ	2.36	0.44
60:c:1357:A:C8	60:c:1357:A:C3'	3.01	0.44
60:c:1369:U:OP1	79:v:69:LYS:HE3	2.18	0.44
60:c:1606:C:H2'	60:c:1607:G:C8	2.53	0.44
64:g:32:GLU:CD	64:g:52:ALA:HB1	2.42	0.44
65:h:86:PHE:C	65:h:87:MET:HG3	2.43	0.44
67:j:113:ILE:HD11	67:j:124:LEU:HD23	1.98	0.44
68:k:164:TYR:CD1	68:k:165:LYS:HG3	2.53	0.44
70:m:90:LYS:HB3	70:m:95:TYR:CD2	2.35	0.44
71:n:54:TYR:HB3	71:n:72:GLY:HA2	2.00	0.44
2:1:89:ILE:HD12	2:1:101:TYR:CD2	2.53	0.44
8:7:67:ILE:HB	8:7:85:TRP:CD1	2.53	0.44
11:AA:26:A:H2'	11:AA:27:C:H6	1.82	0.44
11:AA:253:A:H2'	11:AA:254:A:H8	1.82	0.44
11:AA:436:A:OP2	11:AA:621:A:N6	2.38	0.44
11:AA:516:A:OP1	28:GG:343:LYS:HD2	2.18	0.44
11:AA:731:U:H2'	11:AA:732:C:H6	1.82	0.44
11:AA:792:G:H2'	11:AA:793:C:H6	1.83	0.44
11:AA:1334:U:H2'	11:AA:1335:C:H6	1.83	0.44
11:AA:1481:A:H1'	11:AA:1858:A:N3	2.33	0.44
11:AA:1791:C:H2'	11:AA:1792:C:C6	2.53	0.44
11:AA:2221:G:H22	11:AA:2223:A:H3'	1.81	0.44
11:AA:2431:C:H2'	11:AA:2432:A:C8	2.53	0.44
11:AA:2489:C:H5"	11:AA:2490:C:H2'	1.98	0.44
11:AA:2714:G:H5'	11:AA:2716:U:C6	2.53	0.44
11:AA:2941:A:OP1	26:FF:255:TRP:HB3	2.18	0.44
11:AA:3290:G:H2'	11:AA:3291:G:H8	1.83	0.44
11:AA:3304:U:P	26:FF:332:ARG:HH22	2.41	0.44
12:Aa:25:ILE:HD12	12:Aa:142:VAL:HB	1.99	0.44
12:Aa:69:THR:HG22	88:Aa:1001:GTP:PG	2.58	0.44
12:Aa:564:ARG:HG2	12:Aa:801:TRP:CZ3	2.53	0.44
12:Aa:600:ALA:HB1	12:Aa:605:ILE:HB	2.00	0.44
12:Aa:715:ALA:HB2	12:Aa:838:TYR:O	2.18	0.44
16:C:55:SER:O	16:C:59:ARG:HG2	2.18	0.44
18:Cc:43:G:C1'	60:c:1575:G7M:H22	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:DD:16:ARG:NH1	20:DD:66:PHE:HB3	2.33	0.44
20:DD:43:LYS:HB2	24:Ee:121:PHE:CD2	2.53	0.44
25:F:11:THR:O	25:F:11:THR:HG22	2.18	0.44
26:FF:221:THR:O	26:FF:334:ARG:NH1	2.48	0.44
33:J:60:TYR:CE1	33:J:102:LEU:HD21	2.53	0.44
35:K:45:ILE:HD12	35:K:122:LYS:HB3	1.99	0.44
40:MM:103:LEU:O	40:MM:108:ALA:HA	2.18	0.44
46:PP:77:ARG:O	46:PP:81:VAL:HG23	2.17	0.44
51:T:85:THR:HG22	51:T:88:LEU:HD13	2.00	0.44
60:c:327:U:OP2	72:o:57:LYS:NZ	2.46	0.44
60:c:1201:G:H21	60:c:1600:A:H5'	1.83	0.44
60:c:1294:G:O2'	60:c:1321:A:N1	2.43	0.44
60:c:1308:G:H2'	60:c:1309:C:C6	2.53	0.44
60:c:1579:U:H2'	60:c:1580:C:H6	1.83	0.44
60:c:1639:OMC:HM23	60:c:1639:OMC:H1'	1.58	0.44
67:j:50:PHE:CB	67:j:111:LEU:HD12	2.48	0.44
71:n:38:LYS:HE3	71:n:41:TYR:CZ	2.52	0.44
73:p:37:ILE:HG21	73:p:74:ILE:HD11	1.99	0.44
75:r:87:PRO:HB3	75:r:112:LEU:HD11	2.00	0.44
2:1:46:LYS:HA	2:1:46:LYS:HD2	1.67	0.44
3:2:47:ALA:HB2	74:q:99:GLN:CG	2.48	0.44
4:3:46:VAL:HG12	4:3:47:PHE:O	2.18	0.44
11:AA:1616:U:C2	11:AA:1617:G:C8	3.06	0.44
11:AA:1729:A:C6	43:O:49:PRO:HD3	2.53	0.44
11:AA:1921:A:H2'	11:AA:1922:A:C8	2.53	0.44
11:AA:2180:G:OP1	23:EE:174:ARG:NH2	2.50	0.44
11:AA:2207:A:H4'	11:AA:2208:A:OP2	2.16	0.44
11:AA:2269:U:H1'	11:AA:2270:A:H2	1.83	0.44
11:AA:2938:G:N7	89:AA:3614:HOH:O	2.36	0.44
11:AA:3201:C:H2'	11:AA:3202:G:H8	1.83	0.44
17:CC:26:U:H2'	17:CC:27:U:H6	1.83	0.44
20:DD:9:ALA:HA	20:DD:12:PHE:CD2	2.52	0.44
22:E:42:TRP:O	22:E:46:GLN:OE1	2.36	0.44
35:K:100:HIS:CG	35:K:101:PRO:HD2	2.53	0.44
38:LL:31:ARG:CZ	38:LL:187:ILE:HD11	2.48	0.44
38:LL:146:LEU:HD23	38:LL:146:LEU:HA	1.77	0.44
40:MM:9:TYR:CD2	40:MM:97:LEU:HD23	2.53	0.44
42:NN:96:PHE:CD1	42:NN:102:PHE:HB2	2.52	0.44
44:OO:122:LYS:HD2	44:OO:145:PHE:CZ	2.53	0.44
46:PP:44:VAL:HG13	46:PP:60:LEU:HD21	1.98	0.44
47:Q:23:ASP:OD1	47:Q:24:ARG:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:Y:122:ARG:HH11	56:Y:122:ARG:HG3	1.82	0.44
60:c:127:G:N2	67:j:191:ARG:HH22	2.14	0.44
60:c:243:G:H2'	60:c:244:A:H8	1.83	0.44
60:c:450:U:H5'	65:h:7:LYS:HD3	2.00	0.44
60:c:855:A:H3'	60:c:856:A:H5"	2.00	0.44
60:c:1470:C:OP2	66:i:102:ARG:NH2	2.51	0.44
61:d:107:PHE:HB3	61:d:139:VAL:HG21	1.98	0.44
61:d:179:ARG:HE	61:d:183:ARG:CZ	2.31	0.44
62:e:87:ARG:HG2	62:e:101:HIS:HB2	2.00	0.44
65:h:86:PHE:O	65:h:87:MET:HG3	2.18	0.44
66:i:124:LEU:O	66:i:125:THR:OG1	2.29	0.44
70:m:64:GLU:CD	70:m:65:LYS:H	2.25	0.44
70:m:129:ILE:HD13	70:m:144:PRO:HA	2.00	0.44
72:o:94:ILE:CD1	83:z:12:ALA:HB1	2.48	0.44
76:s:47:LYS:HE3	76:s:79:TYR:HE1	1.81	0.44
8:7:90:ARG:HH12	8:7:99:THR:HA	1.83	0.43
10:A:50:ASN:HD22	10:A:136:THR:HB	1.83	0.43
11:AA:144:A:H2'	11:AA:145:G:O4'	2.18	0.43
11:AA:324:A:H2'	11:AA:325:A:C8	2.53	0.43
11:AA:633:C:O2'	49:R:21:ARG:O	2.35	0.43
11:AA:739:G:H2'	11:AA:740:G:H8	1.82	0.43
11:AA:1155:C:H1'	11:AA:1198:C:O2	2.18	0.43
11:AA:1594:A:H5"	50:S:36:LYS:HE3	1.99	0.43
11:AA:1915:A:H2'	11:AA:1916:U:C6	2.52	0.43
11:AA:2148:U:H2'	11:AA:2149:A:C8	2.52	0.43
11:AA:2345:A:OP1	45:P:24:SER:OG	2.29	0.43
11:AA:2530:G:N2	11:AA:2581:U:C2	2.85	0.43
11:AA:2592:G:H4'	11:AA:2594:C:C2	2.53	0.43
11:AA:2722:U:H2'	11:AA:2723:U:C6	2.53	0.43
11:AA:2807:U:O3'	11:AA:2808:A:H3'	2.16	0.43
11:AA:3088:G:H2'	11:AA:3089:C:O4'	2.19	0.43
11:AA:3375:A:O2'	11:AA:3378:C:OP2	2.29	0.43
12:Aa:116:THR:HG21	12:Aa:483:PHE:HB3	2.00	0.43
12:Aa:365:ASN:C	12:Aa:365:ASN:HD22	2.26	0.43
12:Aa:488:VAL:HB	12:Aa:796:MET:SD	2.58	0.43
13:B:4:TYR:CZ	13:B:16:SER:HB3	2.53	0.43
19:D:148:ASP:O	19:D:152:GLU:HG2	2.18	0.43
23:EE:179:LEU:HD23	23:EE:179:LEU:HA	1.83	0.43
25:F:126:VAL:HG23	25:F:127:GLN:N	2.33	0.43
26:FF:306:THR:HG23	26:FF:310:GLY:HA2	2.00	0.43
27:G:33:TYR:CE1	27:G:37:LEU:HD21	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GG:22:LEU:HA	28:GG:23:PRO:HD3	1.82	0.43
28:GG:23:PRO:O	28:GG:25:VAL:N	2.50	0.43
31:I:23:ARG:HB3	31:I:23:ARG:NH1	2.33	0.43
31:I:38:SER:O	31:I:42:GLN:HG2	2.18	0.43
34:JJ:116:PHE:CZ	34:JJ:144:ILE:HD12	2.53	0.43
36:KK:205:ALA:HA	36:KK:208:GLU:OE2	2.18	0.43
38:LL:90:MET:HE1	38:LL:158:ALA:O	2.18	0.43
39:M:130:VAL:O	44:OO:167:PHE:HE1	2.01	0.43
50:S:25:THR:HG22	50:S:29:ILE:O	2.18	0.43
58:a:25:VAL:HG12	58:a:72:LEU:HG	2.00	0.43
58:a:46:LYS:HG2	58:a:54:THR:OG1	2.17	0.43
60:c:395:U:O4’	67:j:90:GLY:HA3	2.18	0.43
60:c:461:G:H2’	60:c:462:G:H8	1.83	0.43
60:c:876:G:H1’	60:c:944:A:O4’	2.18	0.43
60:c:1158:C:O2’	60:c:1581:C:OP2	2.35	0.43
60:c:1235:C:H5	60:c:1245:G:N7	2.16	0.43
64:g:90:ARG:HD2	64:g:90:ARG:HA	1.80	0.43
68:k:32:PRO:HA	68:k:35:LYS:HD2	1.99	0.43
74:q:21:ALA:O	74:q:95:GLY:N	2.39	0.43
76:s:55:VAL:CG1	76:s:105:LEU:HG	2.47	0.43
77:t:28:PHE:HZ	77:t:48:ASN:OD1	2.01	0.43
79:v:13:ASP:OD1	79:v:14:PHE:N	2.51	0.43
79:v:31:PRO:HD2	79:v:34:VAL:HG23	2.00	0.43
4:3:69:GLY:HA3	60:c:1048:G:O3’	2.18	0.43
8:7:205:SER:C	8:7:207:ASP:H	2.26	0.43
11:AA:216:G:H2’	11:AA:217:U:O4’	2.19	0.43
11:AA:687:U:OP2	44:OO:36:ARG:NH1	2.51	0.43
11:AA:949:C:O2’	11:AA:971:G:OP1	2.27	0.43
11:AA:1615:C:H2’	11:AA:1616:U:H6	1.83	0.43
11:AA:1721:U:OP2	19:D:103:ARG:HD3	2.18	0.43
11:AA:2609:A:N3	48:QQ:87:GLN:NE2	2.66	0.43
11:AA:2775:U:H2’	11:AA:2776:C:C6	2.53	0.43
11:AA:2922:OMG:H5”	11:AA:2922:OMG:H8	1.82	0.43
11:AA:2940:A:H5”	11:AA:2941:A:H5”	2.00	0.43
11:AA:2987:A:O2’	26:FF:259:HIS:HB3	2.17	0.43
11:AA:3186:A:O2’	38:LL:23:ARG:NH1	2.50	0.43
12:Aa:385:MET:HE1	12:Aa:460:ASP:OD2	2.18	0.43
17:CC:15:G:C6	17:CC:16:G:N1	2.86	0.43
18:Cc:67:C:H2’	18:Cc:68:C:H6	1.83	0.43
23:EE:66:PRO:HG2	23:EE:67:TYR:CD2	2.53	0.43
24:Ee:28:LEU:HD12	24:Ee:29:ALA:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:F:68:THR:OG1	25:F:71:SER:OG	2.32	0.43
26:FF:58:ARG:O	26:FF:72:VAL:HG12	2.18	0.43
33:J:59:SER:O	33:J:63:ILE:HG22	2.18	0.43
35:K:31:LEU:HD11	35:K:78:PHE:C	2.43	0.43
39:M:60:TYR:CE1	39:M:63:LYS:HA	2.54	0.43
50:S:20:ILE:HG22	50:S:34:HIS:CD2	2.53	0.43
60:c:648:G:N2	60:c:687:G:C8	2.85	0.43
60:c:1357:A:H2	60:c:1367:G:H1'	1.83	0.43
65:h:174:LYS:C	65:h:179:LYS:HZ3	2.26	0.43
67:j:183:ARG:HG2	67:j:186:ARG:NH2	2.32	0.43
72:o:122:ILE:H	72:o:122:ILE:HD12	1.82	0.43
77:t:71:PHE:C	77:t:73:LEU:N	2.77	0.43
82:y:24:GLN:OE1	82:y:24:GLN:N	2.51	0.43
1:0:113:ASN:HA	1:0:116:LYS:HD2	2.00	0.43
8:7:298:GLY:O	8:7:315:VAL:HG21	2.18	0.43
11:AA:110:G:C2	11:AA:111:C:H1'	2.52	0.43
11:AA:200:C:N4	11:AA:217:U:H2'	2.33	0.43
11:AA:406:G:O2'	11:AA:407:A:OP2	2.34	0.43
11:AA:1059:G:H4'	25:F:60:LYS:NZ	2.33	0.43
11:AA:1411:C:H2'	11:AA:1412:G:H8	1.82	0.43
11:AA:2256:A2M:H2	15:Bb:37:YYG:O2'	2.17	0.43
11:AA:2723:U:H2'	11:AA:2724:OMU:H6	2.01	0.43
11:AA:2900:A:O2'	11:AA:3025:C:O2'	2.25	0.43
11:AA:2912:G:C6	11:AA:3130:A:C5	3.06	0.43
11:AA:3291:G:H2'	11:AA:3292:A:H8	1.83	0.43
12:Aa:576:LEU:HD22	12:Aa:842:LEU:HD12	1.99	0.43
12:Aa:608:PRO:HG3	12:Aa:641:ASN:HA	2.00	0.43
12:Aa:676:ILE:HD11	12:Aa:717:PHE:HE2	1.84	0.43
12:Aa:710:ARG:O	12:Aa:714:TYR:HD1	2.00	0.43
12:Aa:750:LYS:HG2	12:Aa:776:GLU:HB3	2.00	0.43
22:E:154:HIS:HA	22:E:170:THR:HB	2.00	0.43
23:EE:41:ILE:O	23:EE:89:TYR:HA	2.18	0.43
26:FF:138:ALA:HB3	26:FF:139:GLN:OE1	2.18	0.43
26:FF:371:GLN:N	26:FF:371:GLN:HE21	2.16	0.43
28:GG:233:LEU:HD12	28:GG:238:LEU:HD21	2.00	0.43
30:HH:269:SER:HA	30:HH:272:TYR:CZ	2.54	0.43
32:II:131:LYS:HB3	32:II:131:LYS:HE3	1.77	0.43
39:M:47:LYS:O	39:M:48:TYR:HB2	2.17	0.43
50:S:4:ARG:NE	50:S:4:ARG:HA	2.30	0.43
52:U:51:SER:HB3	52:U:54:GLU:HG2	1.99	0.43
60:c:1:U:H5"	70:m:16:LYS:NZ	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:66:U:O2'	60:c:67:A:O5'	2.30	0.43
60:c:325:G:C6	60:c:344:A:C6	3.06	0.43
60:c:1132:A:H2'	60:c:1133:A:C8	2.51	0.43
60:c:1383:G:OP1	80:w:87:HIS:ND1	2.51	0.43
63:f:80:VAL:HG12	63:f:102:VAL:HG22	1.99	0.43
63:f:227:PRO:HA	63:f:230:TRP:CG	2.53	0.43
64:g:89:GLU:HG2	64:g:90:ARG:N	2.34	0.43
66:i:199:ILE:HG13	66:i:203:LYS:NZ	2.33	0.43
67:j:182:GLN:NE2	67:j:186:ARG:HD3	2.34	0.43
70:m:129:ILE:HB	70:m:134:ILE:HD12	1.99	0.43
72:o:86:ILE:HD12	72:o:123:VAL:HG23	2.01	0.43
78:u:41:ARG:NH1	79:v:38:LYS:HD3	2.34	0.43
79:v:63:ARG:HH21	79:v:67:MET:HE2	1.83	0.43
82:y:114:GLU:HA	82:y:114:GLU:OE2	2.18	0.43
2:1:91:PRO:HA	2:1:101:TYR:HD1	1.82	0.43
5:4:22:ARG:NH1	60:c:1619:C:O2	2.52	0.43
8:7:90:ARG:CZ	8:7:99:THR:OG1	2.66	0.43
8:7:172:ALA:HB1	8:7:199:ILE:HD13	2.00	0.43
11:AA:46:U:H2'	11:AA:47:C:O4'	2.18	0.43
11:AA:394:G:N1	11:AA:397:A:OP2	2.48	0.43
11:AA:674:G:O2'	28:GG:116:ASN:OD1	2.33	0.43
11:AA:1386:A:H5"	28:GG:141:ARG:NH2	2.30	0.43
11:AA:1669:C:H5'	50:S:30:LEU:HD11	2.00	0.43
11:AA:2190:U:C4	11:AA:2191:U:C4	3.07	0.43
11:AA:2555:G:C5	50:S:95:ILE:HD11	2.53	0.43
11:AA:3056:U:O4	45:P:24:SER:HA	2.19	0.43
11:AA:3246:G:H4'	11:AA:3247:G:O4'	2.17	0.43
12:Aa:314:LEU:HB2	12:Aa:319:LEU:HB2	2.00	0.43
12:Aa:674:GLY:HA3	12:Aa:679:GLU:O	2.19	0.43
13:B:122:ALA:HB3	13:B:143:PRO:HG2	2.00	0.43
15:Bb:61:C:H2'	15:Bb:62:A:H8	1.83	0.43
17:CC:83:C:H41	35:K:52:ARG:CZ	2.31	0.43
17:CC:155:A:H5"	36:KK:84:ARG:NH1	2.34	0.43
24:Ee:16:ARG:HB3	24:Ee:59:THR:HA	1.98	0.43
26:FF:111:SER:OG	26:FF:113:GLU:HG2	2.18	0.43
33:J:40:LEU:HD23	33:J:40:LEU:H	1.83	0.43
37:L:16:GLY:C	37:L:18:TYR:H	2.26	0.43
40:MM:65:LEU:HD22	40:MM:159:PHE:HE1	1.83	0.43
57:Z:21:ARG:NH2	60:c:1653:C:H4'	2.30	0.43
60:c:215:A:H2'	60:c:216:U:O4'	2.18	0.43
60:c:292:U:H2'	60:c:293:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1459:C:H4’	75:r:126:VAL:HG11	2.00	0.43
60:c:1619:C:H2’	60:c:1620:C:H6	1.82	0.43
60:c:1799:U:C2	62:e:117:TRP:CZ3	3.06	0.43
64:g:79:TYR:HE2	64:g:84:ILE:HD12	1.84	0.43
65:h:199:GLU:OE1	65:h:201:HIS:NE2	2.51	0.43
70:m:58:ASP:O	70:m:61:THR:HG22	2.18	0.43
71:n:58:GLN:OE1	71:n:58:GLN:HA	2.19	0.43
73:p:5:HIS:HB3	73:p:117:LEU:HD22	1.99	0.43
75:r:17:TYR:CG	75:r:18:ARG:N	2.81	0.43
1:0:11:LYS:O	1:0:13:ILE:HD12	2.18	0.43
11:AA:353:G:N2	11:AA:364:G:H2’	2.34	0.43
11:AA:631:U:H2’	11:AA:632:G:C8	2.53	0.43
11:AA:750:G:C2	11:AA:751:A:C8	3.07	0.43
11:AA:1010:G:H5”	40:MM:40:LYS:CE	2.49	0.43
11:AA:1228:C:O2	11:AA:1229:G:C8	2.71	0.43
11:AA:1232:C:O3’	20:DD:36:GLN:NE2	2.52	0.43
11:AA:1233:G:C6	11:AA:1256:G:C6	3.06	0.43
11:AA:1448:U:H2’	11:AA:1449:A2M:C8	2.48	0.43
11:AA:1486:G:N2	50:S:6:THR:HG22	2.29	0.43
11:AA:1500:G:C6	11:AA:1517:G:C6	3.07	0.43
11:AA:1534:A:H2’	11:AA:1535:A:C8	2.53	0.43
11:AA:1561:G:O6	33:J:33:ARG:NH1	2.52	0.43
11:AA:2501:U:H2’	11:AA:2502:A:C8	2.54	0.43
11:AA:2640:A2M:HM’3	11:AA:2640:A2M:H1’	1.70	0.43
11:AA:3227:A:HO2’	11:AA:3228:C:C4’	2.31	0.43
12:Aa:50:LYS:NZ	12:Aa:53:GLU:HB2	2.34	0.43
14:BB:55:A:HO2’	42:NN:152:HIS:CE1	2.33	0.43
15:Bb:9:A:N6	15:Bb:23:A:OP2	2.52	0.43
16:C:125:ASP:OD2	28:GG:282:SER:OG	2.27	0.43
17:CC:83:C:H5’	17:CC:84:C:OP1	2.18	0.43
19:D:102:LEU:HD12	19:D:138:LEU:HD22	2.00	0.43
26:FF:33:PRO:HA	26:FF:342:LEU:HD13	2.00	0.43
28:GG:193:LYS:HB2	28:GG:198:ARG:HA	2.00	0.43
29:H:125:LEU:HD22	29:H:126:TRP:NE1	2.33	0.43
30:HH:83:LEU:N	30:HH:84:PRO:HD2	2.34	0.43
31:I:59:HIS:C	31:I:60:LYS:HG3	2.43	0.43
35:K:125:LYS:HG3	35:K:126:LEU:CD2	2.47	0.43
38:LL:129:ARG:NH2	38:LL:156:GLN:HG3	2.34	0.43
46:PP:21:VAL:CG2	46:PP:63:VAL:HB	2.48	0.43
60:c:329:G:C4	60:c:330:G:C8	3.06	0.43
60:c:973:A:H2’	60:c:974:A2M:H8	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:990:C:H5”	74:q:129:LYS:HB3	2.00	0.43
60:c:1042:G:H2’	60:c:1043:A:O4’	2.18	0.43
60:c:1120:U:C2	60:c:1121:C:C5	3.07	0.43
60:c:1280:4AC:H5’	80:w:69:LYS:HE2	2.00	0.43
60:c:1353:U:C6	60:c:1353:U:O5’	2.71	0.43
60:c:1360:A:H4’	79:v:3:GLY:H	1.84	0.43
60:c:1569:A:C2	60:c:1570:A:C5	3.07	0.43
60:c:1588:G:O6	60:c:1608:U:O4	2.37	0.43
60:c:1602:C:H2’	60:c:1603:U:C6	2.53	0.43
61:d:23:HIS:HA	61:d:48:ILE:HB	2.00	0.43
66:i:57:SER:OG	66:i:167:ARG:NH1	2.52	0.43
72:o:71:LEU:HD13	72:o:137:PHE:CE2	2.53	0.43
78:u:41:ARG:NE	79:v:45:MET:HA	2.33	0.43
80:w:20:ILE:HG23	80:w:22:ILE:HG23	1.99	0.43
1:0:111:LYS:HA	1:0:114:ARG:HH21	1.84	0.43
2:1:38:HIS:CG	2:1:69:LEU:HA	2.54	0.43
3:2:45:VAL:HG23	74:q:99:GLN:CD	2.44	0.43
3:2:49:ALA:HB2	74:q:103:ARG:NH1	2.32	0.43
8:7:116:ASP:CG	8:7:121:MET:HB3	2.43	0.43
10:A:88:VAL:HG11	10:A:99:LEU:HD11	2.00	0.43
11:AA:943:U:OP1	39:M:15:VAL:HA	2.18	0.43
11:AA:1340:G:H2’	11:AA:1341:U:H6	1.83	0.43
11:AA:1471:U:H5”	19:D:5:ARG:NE	2.33	0.43
11:AA:1662:G:H22	11:AA:1787:A:H2	1.66	0.43
11:AA:1902:G:H2’	11:AA:1903:U:O4’	2.19	0.43
11:AA:2448:G:N2	11:AA:2501:U:OP1	2.52	0.43
11:AA:2488:A:C5	11:AA:2489:C:H4’	2.54	0.43
12:Aa:132:ILE:HD11	12:Aa:163:ALA:N	2.34	0.43
12:Aa:810:ASP:O	12:Aa:816:GLY:HA3	2.18	0.43
12:Aa:829:LYS:HE3	12:Aa:830:GLU:H	1.83	0.43
13:B:30:ARG:HD2	13:B:63:PHE:HE2	1.83	0.43
24:Ee:41:LYS:HE3	24:Ee:41:LYS:HB3	1.79	0.43
28:GG:181:VAL:O	28:GG:182:LEU:HB2	2.17	0.43
30:HH:75:LEU:O	30:HH:112:LYS:NZ	2.51	0.43
30:HH:108:ARG:CZ	30:HH:253:PHE:HB2	2.48	0.43
35:K:34:PRO:HA	35:K:47:ALA:HA	2.00	0.43
35:K:48:LEU:HD23	35:K:115:ARG:HH21	1.83	0.43
42:NN:62:ASN:HD21	58:a:101:GLY:N	2.14	0.43
42:NN:97:SER:N	42:NN:101:ASN:O	2.40	0.43
60:c:768:C:C2	70:m:143:ILE:HG21	2.54	0.43
60:c:1210:C:C2	60:c:1454:G:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1621:U:C4	60:c:1622:G:N7	2.87	0.43
62:e:28:GLU:HG3	62:e:30:PHE:CE1	2.54	0.43
62:e:85:LYS:HG2	62:e:102:GLY:O	2.18	0.43
64:g:136:VAL:HG13	64:g:152:PHE:HD2	1.82	0.43
67:j:61:PHE:CE1	67:j:96:SER:HB3	2.54	0.43
68:k:31:SER:HB3	68:k:34:LEU:HD12	1.99	0.43
68:k:70:PHE:HE2	68:k:92:PHE:CE2	2.36	0.43
77:t:78:ARG:O	77:t:81:LYS:N	2.51	0.43
78:u:115:ARG:O	78:u:119:ILE:HG12	2.19	0.43
2:1:83:LEU:O	2:1:87:GLY:HA3	2.17	0.43
5:4:6:PRO:HD2	5:4:6:PRO:O	2.18	0.43
8:7:183:LEU:HD12	8:7:183:LEU:O	2.19	0.43
11:AA:31:C:OP2	48:QQ:188:ARG:NH1	2.51	0.43
11:AA:116:A:OP1	48:QQ:2:GLY:N	2.52	0.43
11:AA:550:A:H2'	11:AA:551:A:H8	1.84	0.43
11:AA:1334:U:H2'	11:AA:1335:C:C6	2.54	0.43
11:AA:1572:U:H3	11:AA:1574:C:H5	1.66	0.43
11:AA:2483:G:O6	11:AA:2486:A:H2'	2.19	0.43
11:AA:3035:A:N3	38:LL:121:LYS:HD2	2.33	0.43
12:Aa:636:PHE:HB3	12:Aa:642:GLY:O	2.19	0.43
18:Cc:57:C:N3	18:Cc:58:A:N6	2.66	0.43
18:Cc:62:C:H2'	18:Cc:63:C:C6	2.54	0.43
20:DD:46:ARG:NE	20:DD:46:ARG:HA	2.34	0.43
22:E:6:GLU:HG3	22:E:64:ILE:HB	2.01	0.43
24:Ee:105:GLN:HA	24:Ee:144:ASP:CG	2.44	0.43
24:Ee:112:ILE:O	24:Ee:116:MET:HG2	2.18	0.43
24:Ee:117:ARG:CZ	24:Ee:125:LEU:HB2	2.48	0.43
24:Ee:151:ILE:O	24:Ee:155:ILE:N	2.45	0.43
26:FF:287:LYS:O	26:FF:293:ASN:ND2	2.45	0.43
29:H:101:VAL:HG11	29:H:114:ILE:CD1	2.49	0.43
29:H:106:LYS:HB2	29:H:106:LYS:HE2	1.71	0.43
33:J:114:VAL:HG12	33:J:120:LYS:HG2	2.00	0.43
36:KK:98:ARG:HG2	36:KK:191:ASN:HD21	1.84	0.43
43:O:25:LEU:HD21	43:O:81:VAL:HG21	2.00	0.43
48:QQ:38:ARG:NE	48:QQ:60:VAL:HG13	2.34	0.43
60:c:292:U:H2'	60:c:293:U:H6	1.83	0.43
60:c:519:C:N4	60:c:534:A:H1'	2.34	0.43
60:c:607:G:H21	60:c:614:C:H5"	1.82	0.43
60:c:1145:U:H2'	60:c:1146:G:C8	2.54	0.43
60:c:1374:C:C2	60:c:1375:A:C8	3.06	0.43
60:c:1530:C:H2'	60:c:1531:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1575:G7M:H8	60:c:1575:G7M:C3'	2.49	0.43
60:c:1672:G:C2	60:c:1673:G:C5	3.06	0.43
61:d:120:LEU:HD11	61:d:144:ILE:HD12	2.01	0.43
62:e:85:LYS:HE3	62:e:102:GLY:HA3	2.00	0.43
63:f:225:LEU:HD13	81:x:23:ILE:HD11	2.01	0.43
66:i:36:ALA:HB3	76:s:53:LEU:HD22	2.00	0.43
66:i:65:ARG:HA	66:i:65:ARG:HD2	1.76	0.43
66:i:116:HIS:O	66:i:120:ILE:HG12	2.19	0.43
66:i:136:ALA:HB1	66:i:201:ALA:HB3	2.00	0.43
67:j:55:GLY:C	67:j:56:ASN:ND2	2.77	0.43
68:k:61:PHE:HA	68:k:93:LEU:O	2.19	0.43
74:q:133:ARG:CB	74:q:136:ARG:HH21	2.32	0.43
5:4:47:PRO:HB2	66:i:82:PHE:CZ	2.53	0.43
7:6:29:LYS:O	7:6:31:LYS:HE3	2.19	0.43
8:7:9:LEU:HD12	8:7:313:TRP:CZ2	2.53	0.43
11:AA:29:C:H4'	11:AA:62:A:H4'	2.01	0.43
11:AA:1246:G:H2'	11:AA:1247:U:O4'	2.19	0.43
11:AA:1341:U:H2'	11:AA:1342:C:H6	1.82	0.43
11:AA:1480:G:N2	11:AA:1872:C:OP2	2.49	0.43
11:AA:1544:G:OP1	48:QQ:127:TYR:OH	2.22	0.43
11:AA:2656:A:C5	11:AA:2658:G:C8	3.06	0.43
11:AA:2871:G:C5'	11:AA:2872:A:H5'	2.48	0.43
12:Aa:22:MET:CE	12:Aa:126:LEU:HB2	2.49	0.43
12:Aa:213:SER:N	12:Aa:218:TRP:O	2.52	0.43
12:Aa:819:VAL:HA	12:Aa:822:ALA:HB3	2.01	0.43
15:Bb:14:A:H3'	15:Bb:15:G:H8	1.84	0.43
24:Ee:37:LEU:HD13	24:Ee:41:LYS:NZ	2.33	0.43
30:HH:196:ARG:HH21	30:HH:200:PHE:HE2	1.66	0.43
30:HH:219:PHE:CE2	30:HH:227:LEU:HD21	2.54	0.43
31:I:61:LYS:HD2	31:I:62:GLY:H	1.83	0.43
42:NN:125:MET:HG2	42:NN:127:PHE:CE1	2.53	0.43
49:R:16:TYR:CE2	49:R:91:ALA:HB2	2.54	0.43
53:V:30:GLN:HE21	53:V:30:GLN:HB3	1.70	0.43
58:a:2:VAL:HG21	58:a:88:CYS:SG	2.59	0.43
60:c:340:U:C2	60:c:341:A:N7	2.87	0.43
60:c:514:G:O2'	60:c:515:A:H8	2.02	0.43
60:c:939:A:H2'	60:c:940:A:H8	1.81	0.43
60:c:1236:A:H2'	60:c:1237:G:H8	1.83	0.43
60:c:1244:A:O2'	60:c:1245:G:O5'	2.32	0.43
60:c:1524:A:H2	60:c:1590:G:H1'	1.84	0.43
72:o:6:THR:O	72:o:9:SER:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:o:65:SER:OG	72:o:67:ARG:HD2	2.18	0.43
77:t:74:GLN:O	77:t:77:GLU:N	2.50	0.43
78:u:14:ILE:H	78:u:14:ILE:HD12	1.83	0.43
1:0:32:ARG:NE	1:0:33:ALA:H	2.15	0.43
7:6:39:LEU:HA	7:6:42:ARG:HG2	2.00	0.43
8:7:223:TRP:CD1	8:7:223:TRP:H	2.37	0.43
11:AA:62:A:H2'	11:AA:63:A:H8	1.83	0.43
11:AA:748:U:H2'	11:AA:749:C:C6	2.54	0.43
11:AA:1694:U:O2'	11:AA:1695:U:H5'	2.18	0.43
11:AA:2354:C:H2'	11:AA:2355:G:O4'	2.18	0.43
11:AA:2423:U:H2'	11:AA:2424:A:C8	2.53	0.43
11:AA:2532:U:C2	11:AA:2533:G:N7	2.87	0.43
11:AA:2679:A:HO2'	11:AA:2680:A:H5'	1.84	0.43
12:Aa:68:ILE:HB	12:Aa:108:HIS:NE2	2.34	0.43
12:Aa:755:VAL:HG21	12:Aa:771:TYR:CD1	2.54	0.43
17:CC:64:U:H5'	51:T:49:LYS:HD2	2.01	0.43
18:Cc:44:A:H2'	18:Cc:45:A:C8	2.53	0.43
22:E:74:ASN:OD1	22:E:95:ARG:HG3	2.18	0.43
32:II:52:VAL:HG21	32:II:65:ILE:HD12	2.00	0.43
41:N:36:ASP:OD2	41:N:38:LYS:HB3	2.19	0.43
52:U:56:ARG:O	52:U:60:LEU:HD23	2.19	0.43
58:a:65:THR:OG1	58:a:87:ARG:HD3	2.19	0.43
60:c:1503:A:C6	78:u:84:TRP:CE3	3.07	0.43
60:c:1511:U:H2'	60:c:1512:G:C8	2.53	0.43
60:c:1685:G:H2'	60:c:1685:G:N3	2.33	0.43
62:e:171:ILE:O	62:e:175:GLU:HG2	2.19	0.43
66:i:130:ILE:O	66:i:134:VAL:HG13	2.18	0.43
72:o:109:VAL:HG22	72:o:137:PHE:HB2	2.01	0.43
72:o:118:GLN:HG2	72:o:119:VAL:H	1.83	0.43
73:p:54:LEU:HB3	73:p:60:VAL:CG1	2.48	0.43
75:r:33:PHE:O	75:r:37:ALA:HB2	2.19	0.43
83:z:90:ASP:OD1	83:z:136:TRP:NE1	2.52	0.43
11:AA:505:G:P	28:GG:320:ASN:HD22	2.41	0.43
11:AA:1091:A:H2'	11:AA:1092:C:C6	2.53	0.43
11:AA:1460:A:H5'	45:P:51:LEU:O	2.19	0.43
11:AA:1746:U:C2	11:AA:1747:G:C8	3.07	0.43
11:AA:2215:A:C4	11:AA:2216:G:C8	3.07	0.43
11:AA:2427:U:H2'	11:AA:2428:U:C6	2.54	0.43
11:AA:2828:G:P	40:MM:7:ARG:HH21	2.42	0.43
11:AA:2938:G:C8	26:FF:3:HIS:CE1	3.07	0.43
12:Aa:809:LEU:HD23	12:Aa:809:LEU:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:BB:7:G:H2'	14:BB:8:G:H8	1.84	0.43
16:C:126:GLN:HE22	28:GG:282:SER:CB	2.31	0.43
17:CC:75:G:H2'	17:CC:76:C:C6	2.54	0.43
17:CC:152:G:C6	17:CC:153:U:C2	3.07	0.43
24:Ee:61:GLN:H	24:Ee:74:VAL:HG23	1.83	0.43
29:H:120:LYS:HA	29:H:120:LYS:HD3	1.76	0.43
37:L:92:PHE:HA	37:L:95:VAL:HG22	2.00	0.43
40:MM:66:GLU:O	40:MM:70:ILE:HG12	2.19	0.43
42:NN:7:ASN:ND2	42:NN:10:ARG:HH11	2.17	0.43
60:c:66:U:N3	67:j:160:ARG:HD3	2.33	0.43
60:c:143:G:C2	60:c:145:A:C4	3.07	0.43
60:c:435:C:H5"	83:z:50:LYS:HG3	2.01	0.43
60:c:762:A:OP1	70:m:79:ARG:NH1	2.52	0.43
60:c:1561:U:H2'	60:c:1562:G:H8	1.82	0.43
60:c:1647:U:H2'	60:c:1648:A:H8	1.84	0.43
60:c:1781:MA6:H8	60:c:1781:MA6:O5'	2.19	0.43
62:e:61:LEU:O	62:e:62:LYS:HB2	2.18	0.43
63:f:53:ILE:HG23	63:f:53:ILE:HD12	1.73	0.43
65:h:191:ARG:NH1	65:h:245:LYS:HB3	2.34	0.43
66:i:33:VAL:HG21	76:s:49:TYR:CD2	2.54	0.43
66:i:193:THR:HA	66:i:196:GLU:OE1	2.19	0.43
68:k:11:GLN:HG3	68:k:12:ALA:N	2.33	0.43
2:1:89:ILE:HD12	2:1:101:TYR:HD2	1.83	0.42
8:7:151:VAL:HA	8:7:173:GLY:HA3	2.01	0.42
8:7:172:ALA:HB3	8:7:202:LEU:HB2	2.00	0.42
11:AA:499:G:H2'	11:AA:500:C:H6	1.83	0.42
11:AA:745:C:H2'	11:AA:746:A:H8	1.84	0.42
11:AA:761:A:H2'	11:AA:762:U:H6	1.82	0.42
11:AA:872:U:H2'	11:AA:873:C:C6	2.54	0.42
11:AA:1008:U:C2	11:AA:1009:A:N6	2.87	0.42
11:AA:1157:G:H2'	11:AA:1158:A:O4'	2.19	0.42
11:AA:1340:G:H2'	11:AA:1341:U:C6	2.53	0.42
11:AA:1685:C:H2'	11:AA:1686:U:C6	2.53	0.42
11:AA:1915:A:H4'	19:D:83:GLY:O	2.18	0.42
11:AA:1949:G:C2	11:AA:1950:U:C2	3.06	0.42
11:AA:2669:G:H2'	11:AA:2670:G:C8	2.49	0.42
11:AA:2824:G:H2'	11:AA:2825:C:H6	1.84	0.42
12:Aa:83:ASP:HA	12:Aa:86:VAL:HG22	2.01	0.42
12:Aa:829:LYS:HD2	12:Aa:829:LYS:HA	1.86	0.42
13:B:33:ALA:HB1	13:B:117:ILE:CG2	2.49	0.42
16:C:24:VAL:HA	16:C:27:LYS:HD2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:67:ILE:HD12	16:C:81:VAL:HG11	2.01	0.42
17:CC:47:C:O2'	17:CC:62:C:OP2	2.18	0.42
20:DD:16:ARG:HD3	20:DD:66:PHE:CD1	2.54	0.42
21:Dd:19:A:P	60:c:1150:G:H22	2.42	0.42
29:H:80:ARG:NH1	29:H:115:THR:O	2.49	0.42
36:KK:200:LEU:HD23	36:KK:200:LEU:HA	1.82	0.42
38:LL:90:MET:O	38:LL:143:GLU:HA	2.19	0.42
46:PP:13:ARG:HB3	46:PP:65:LEU:CD1	2.49	0.42
49:R:16:TYR:HB2	49:R:23:ASN:OD1	2.18	0.42
60:c:400:A:C2	69:l:26:LYS:HD3	2.54	0.42
60:c:465:G:C6	60:c:466:U:C4	3.07	0.42
60:c:484:C:O2'	60:c:485:A:H5'	2.19	0.42
60:c:942:G:H2'	60:c:943:C:O4'	2.18	0.42
60:c:947:U:H2'	60:c:948:G:H8	1.83	0.42
60:c:1202:A:N6	60:c:1456:C:H3'	2.34	0.42
60:c:1211:A:N6	60:c:1453:G:O6	2.52	0.42
60:c:1221:A:H2'	60:c:1221:A:N3	2.35	0.42
60:c:1323:C:H2'	60:c:1324:G:O4'	2.19	0.42
60:c:1575:G7M:H2'	60:c:1576:A:C8	2.53	0.42
61:d:41:ARG:HB3	61:d:45:VAL:O	2.18	0.42
63:f:53:ILE:HG22	63:f:57:PHE:CD2	2.54	0.42
63:f:104:VAL:HG12	63:f:132:ALA:HB1	2.01	0.42
65:h:44:LEU:HD12	65:h:82:TYR:HB3	2.01	0.42
65:h:125:LYS:O	65:h:142:HIS:N	2.52	0.42
70:m:63:ASP:OD1	70:m:63:ASP:N	2.52	0.42
70:m:80:LEU:HD23	70:m:80:LEU:HA	1.83	0.42
71:n:50:THR:HA	71:n:53:GLY:O	2.19	0.42
73:p:37:ILE:HG23	73:p:50:ILE:HG21	2.01	0.42
74:q:106:ALA:HA	74:q:112:ILE:CD1	2.49	0.42
78:u:69:ILE:HA	78:u:72:ILE:HG22	2.01	0.42
1:0:8:ARG:NH2	60:c:779:U:OP2	2.52	0.42
8:7:127:ARG:HG3	8:7:150:TRP:CE2	2.54	0.42
8:7:170:ILE:HB	8:7:202:LEU:HD21	2.01	0.42
10:A:46:GLU:CD	10:A:47:PHE:H	2.26	0.42
11:AA:85:A:OP2	39:M:65:GLN:NE2	2.44	0.42
11:AA:151:A:H2'	11:AA:152:U:O4'	2.19	0.42
11:AA:192:C:H2'	11:AA:193:C:H6	1.84	0.42
11:AA:350:C:N3	11:AA:367:A:H2'	2.35	0.42
11:AA:377:A:H1'	11:AA:392:G:N2	2.34	0.42
11:AA:508:U:H2'	11:AA:509:U:C6	2.54	0.42
11:AA:679:U:H1'	11:AA:788:C:H1'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:770:G:P	44:OO:171:ARG:HH21	2.41	0.42
11:AA:782:U:H2'	11:AA:783:A:O4'	2.19	0.42
11:AA:807:A2M:H2	11:AA:934:G:O6	2.18	0.42
11:AA:1559:A:O2'	11:AA:1560:G:H5'	2.19	0.42
11:AA:1635:G:N2	11:AA:1638:A:OP2	2.45	0.42
11:AA:2272:G:OP2	11:AA:2272:G:N2	2.26	0.42
11:AA:2308:C:H5"	11:AA:2309:A:H2'	2.01	0.42
11:AA:2682:C:H5"	42:NN:68:HIS:CE1	2.55	0.42
11:AA:3007:U:H2'	11:AA:3008:A:C8	2.54	0.42
11:AA:3231:U:H2'	11:AA:3232:G:H8	1.83	0.42
12:Aa:726:GLU:CD	12:Aa:773:PRO:HB3	2.43	0.42
12:Aa:734:GLN:HG3	12:Aa:765:LEU:HB3	2.00	0.42
14:BB:7:G:H1'	14:BB:115:G:N2	2.34	0.42
15:Bb:52:U:C2	15:Bb:53:G:C8	3.07	0.42
16:C:166:LEU:CD2	44:OO:8:PRO:HB2	2.49	0.42
17:CC:72:A:P	35:K:52:ARG:HD2	2.58	0.42
23:EE:201:GLY:HA2	23:EE:204:MET:HG2	2.02	0.42
28:GG:3:ARG:HD3	28:GG:3:ARG:HA	1.82	0.42
28:GG:140:HIS:O	28:GG:142:VAL:N	2.52	0.42
33:J:102:LEU:HD23	33:J:102:LEU:HA	1.85	0.42
36:KK:86:THR:HG21	36:KK:217:THR:HG21	2.01	0.42
38:LL:40:HIS:CD2	38:LL:40:HIS:H	2.37	0.42
60:c:94:U:C5	60:c:94:U:N1	2.86	0.42
60:c:326:G:H2'	60:c:327:U:H6	1.83	0.42
60:c:386:G:OP2	69:l:25:ARG:NH2	2.42	0.42
60:c:391:A:H2'	60:c:392:G:H8	1.84	0.42
60:c:484:C:C2'	60:c:485:A:H5'	2.49	0.42
60:c:647:G:H2'	60:c:648:G:H5"	2.01	0.42
60:c:854:U:O4	60:c:855:A:N6	2.52	0.42
60:c:926:A:H2'	60:c:927:C:O4'	2.18	0.42
60:c:1173:C:H2'	60:c:1174:C:H6	1.83	0.42
60:c:1332:C:O2'	64:g:162:GLN:HB3	2.19	0.42
60:c:1468:U:C4	60:c:1469:A:N7	2.87	0.42
60:c:1616:G:H2'	60:c:1617:U:C6	2.54	0.42
60:c:1661:U:C2	60:c:1662:G:C8	3.07	0.42
61:d:136:ALA:HB1	61:d:141:ILE:HB	2.00	0.42
76:s:35:PRO:HD2	79:v:7:ARG:O	2.19	0.42
76:s:37:THR:O	76:s:38:LEU:HD23	2.19	0.42
76:s:38:LEU:HB3	79:v:10:ALA:HB2	2.01	0.42
3:2:44:ILE:CG2	74:q:115:ILE:HD12	2.49	0.42
3:2:65:PRO:HD2	74:q:115:ILE:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:15:LEU:HD21	10:A:129:LEU:HD11	2.01	0.42
11:AA:20:A:P	51:T:86:ARG:HH21	2.43	0.42
11:AA:207:U:H2'	11:AA:208:C:C6	2.54	0.42
11:AA:290:G:H2'	11:AA:291:C:C6	2.54	0.42
11:AA:591:G:N2	11:AA:612:U:OP1	2.46	0.42
11:AA:849:C:H2'	11:AA:850:U:H6	1.82	0.42
11:AA:885:U:H2'	11:AA:886:C:H6	1.85	0.42
11:AA:1059:G:H2'	11:AA:1060:U:O4'	2.19	0.42
11:AA:1066:G:H2'	11:AA:1067:U:H6	1.82	0.42
11:AA:1844:C:O2	53:V:9:GLY:HA2	2.20	0.42
11:AA:2480:A:H3'	11:AA:2481:G:C8	2.52	0.42
11:AA:3113:A:O2'	38:LL:69:ARG:HB3	2.19	0.42
11:AA:3170:A:H2'	11:AA:3171:U:C6	2.54	0.42
12:Aa:82:SER:HB2	12:Aa:84:GLU:OE1	2.20	0.42
12:Aa:213:SER:N	12:Aa:218:TRP:HB3	2.21	0.42
12:Aa:288:ILE:HD12	12:Aa:319:LEU:HD22	2.00	0.42
12:Aa:363:ASP:OD1	12:Aa:363:ASP:N	2.50	0.42
14:BB:46:A:H5"	30:HH:158:ARG:HG3	2.01	0.42
16:C:44:PHE:O	16:C:47:VAL:HG12	2.20	0.42
17:CC:104:A:OP2	17:CC:105:A:H2'	2.20	0.42
17:CC:135:G:OP1	33:J:49:LYS:NZ	2.36	0.42
17:CC:149:A:N3	36:KK:55:TYR:OH	2.47	0.42
19:D:7:GLN:HE21	19:D:32:ILE:HG22	1.84	0.42
20:DD:60:ARG:O	20:DD:64:ARG:HG2	2.18	0.42
30:HH:256:THR:HG1	30:HH:258:LYS:NZ	2.17	0.42
38:LL:92:TYR:CZ	38:LL:101:VAL:HG21	2.54	0.42
39:M:45:MET:HE2	39:M:45:MET:HA	2.01	0.42
43:O:58:TYR:O	43:O:61:MET:HG3	2.19	0.42
46:PP:134:ALA:O	46:PP:138:ALA:N	2.41	0.42
48:QQ:113:LEU:HG	48:QQ:134:LEU:HD12	2.00	0.42
57:Z:12:ARG:HA	57:Z:15:ARG:NE	2.35	0.42
60:c:623:A:H3'	60:c:624:G:H5"	2.01	0.42
60:c:629:U:H2'	60:c:630:A:H8	1.85	0.42
60:c:817:A:H2'	60:c:818:C:C6	2.54	0.42
60:c:1367:G:C2'	60:c:1368:G:C8	3.03	0.42
60:c:1515:A:O2'	60:c:1517:U:OP2	2.35	0.42
60:c:1523:G:H8	79:v:79:LEU:HD11	1.84	0.42
60:c:1681:A:N6	60:c:1721:A:H3'	2.33	0.42
60:c:1751:C:H2'	60:c:1752:U:C6	2.54	0.42
61:d:90:ALA:HA	61:d:95:ALA:HB3	2.01	0.42
71:n:62:GLN:C	71:n:63:TYR:HD1	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:o:33:ARG:NH2	72:o:53:TYR:O	2.37	0.42
81:x:17:CYS:HB2	81:x:56:SER:OG	2.19	0.42
11:AA:72:C:OP2	52:U:13:LYS:HE3	2.19	0.42
11:AA:141:C:H2'	11:AA:142:C:H6	1.84	0.42
11:AA:314:U:C4	11:AA:315:C:N4	2.88	0.42
11:AA:822:G:H1'	23:EE:15:ILE:HB	2.02	0.42
11:AA:947:G:H2'	11:AA:948:C:H6	1.84	0.42
11:AA:1103:A:H4'	34:JJ:158:LYS:NZ	2.34	0.42
11:AA:3191:G:C6	11:AA:3202:G:N1	2.88	0.42
12:Aa:758:GLU:HB3	12:Aa:767:THR:OG1	2.20	0.42
15:Bb:4:G:N2	15:Bb:69:U:O2	2.41	0.42
17:CC:28:C:H2'	17:CC:29:U:H6	1.84	0.42
20:DD:4:ILE:HG13	20:DD:8:LYS:HG3	2.00	0.42
20:DD:48:ARG:HH22	20:DD:96:ILE:HA	1.84	0.42
23:EE:30:ARG:HD2	23:EE:63:PHE:CD2	2.55	0.42
23:EE:58:LEU:HD13	23:EE:75:ILE:HG21	2.01	0.42
25:F:31:LEU:HG	30:HH:69:ILE:HD13	2.01	0.42
26:FF:29:VAL:HG22	26:FF:218:ILE:HG13	2.01	0.42
33:J:136:ALA:HA	33:J:139:ILE:HG12	2.00	0.42
36:KK:153:ILE:HG21	36:KK:166:LEU:HD22	2.01	0.42
38:LL:21:LYS:HD3	38:LL:21:LYS:HA	1.71	0.42
38:LL:84:LYS:HD2	38:LL:191:LEU:HB3	2.02	0.42
38:LL:124:ARG:HB3	38:LL:164:ILE:HD13	2.01	0.42
42:NN:65:ILE:HG13	42:NN:66:ALA:N	2.33	0.42
44:OO:112:ASN:O	44:OO:115:ARG:HG2	2.19	0.42
46:PP:55:ARG:HH12	46:PP:77:ARG:HG3	1.84	0.42
51:T:20:GLN:HG2	51:T:24:LEU:HD13	2.02	0.42
60:c:143:G:N2	60:c:171:A:N1	2.54	0.42
60:c:319:U:P	69:l:11:ARG:HH22	2.43	0.42
60:c:967:A:H2'	60:c:968:U:C6	2.55	0.42
60:c:1345:A:H2'	60:c:1348:A:N6	2.34	0.42
60:c:1352:G:C2	60:c:1353:U:O4'	2.72	0.42
60:c:1352:G:H2'	60:c:1353:U:O5'	2.19	0.42
60:c:1360:A:H3'	60:c:1361:U:C5	2.53	0.42
60:c:1388:A:H5"	77:t:48:ASN:HD21	1.84	0.42
60:c:1392:U:H2'	60:c:1393:C:C6	2.55	0.42
60:c:1535:U:C5	66:i:187:ILE:HA	2.52	0.42
60:c:1537:C:H5"	60:c:1572:OMG:HN21	1.84	0.42
61:d:198:MET:HB3	61:d:200:ASP:OD1	2.19	0.42
63:f:59:HIS:CD2	63:f:238:SER:HA	2.54	0.42
64:g:90:ARG:HG3	64:g:91:VAL:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:g:115:ILE:H	64:g:115:ILE:HD12	1.84	0.42
66:i:192:GLU:O	66:i:196:GLU:OE1	2.37	0.42
67:j:32:ILE:HD12	67:j:54:GLY:H	1.85	0.42
69:l:48:THR:HG21	69:l:54:LYS:HG3	2.01	0.42
74:q:89:THR:HG22	74:q:89:THR:O	2.19	0.42
74:q:92:LYS:NZ	74:q:121:VAL:HA	2.31	0.42
81:x:40:ASP:H	81:x:46:ILE:HD11	1.84	0.42
81:x:65:SER:O	81:x:69:LEU:HD23	2.19	0.42
1:0:16:PRO:C	1:0:19:ALA:H	2.26	0.42
2:1:53:GLU:N	2:1:53:GLU:OE1	2.52	0.42
4:3:72:LYS:C	4:3:73:LEU:HD22	2.44	0.42
6:5:43:PHE:CZ	80:w:65:ILE:HD13	2.54	0.42
7:6:42:ARG:NH2	60:c:589:C:H5"	2.34	0.42
8:7:23:LEU:HD22	8:7:33:LEU:HD11	2.02	0.42
8:7:201:THR:HG23	8:7:243:LEU:CD2	2.47	0.42
8:7:240:VAL:HA	8:7:255:ALA:O	2.20	0.42
11:AA:139:G:H2'	11:AA:140:C:C6	2.55	0.42
11:AA:176:G:C6	11:AA:244:G:C6	3.07	0.42
11:AA:309:U:OP1	52:U:84:LYS:NZ	2.42	0.42
11:AA:819:U:OP1	53:V:10:LYS:NZ	2.53	0.42
11:AA:1170:A:H2'	11:AA:1171:G:O4'	2.20	0.42
11:AA:1283:C:H2'	11:AA:1284:C:H6	1.84	0.42
11:AA:1601:U:OP2	19:D:38:ARG:HD2	2.19	0.42
11:AA:1604:G:H4'	11:AA:1835:A:H4'	2.00	0.42
11:AA:2266:U:H3	11:AA:2267:C:N4	2.17	0.42
11:AA:2867:C:H2'	11:AA:2868:U:H6	1.84	0.42
11:AA:2876:C:H2'	11:AA:2877:G:O4'	2.20	0.42
11:AA:2918:G:C2	11:AA:2919:A:N7	2.88	0.42
12:Aa:317:LYS:O	12:Aa:321:LYS:HG3	2.19	0.42
12:Aa:322:VAL:O	12:Aa:326:LYS:HG2	2.19	0.42
14:BB:118:A:H5"	30:HH:253:PHE:HZ	1.84	0.42
17:CC:141:C:H2'	17:CC:142:C:C6	2.54	0.42
20:DD:30:VAL:HG12	20:DD:30:VAL:O	2.20	0.42
20:DD:38:MET:HE1	20:DD:42:ARG:CZ	2.50	0.42
22:E:33:ASN:ND2	22:E:35:VAL:HG22	2.34	0.42
25:F:22:HIS:N	30:HH:17:GLN:OE1	2.52	0.42
26:FF:237:LYS:HE3	26:FF:247:ARG:HH11	1.83	0.42
30:HH:153:THR:OG1	30:HH:179:ARG:HD2	2.19	0.42
31:I:17:ARG:CG	31:I:32:GLN:HE22	2.30	0.42
31:I:38:SER:C	31:I:42:GLN:HE21	2.27	0.42
39:M:111:LYS:HG3	39:M:129:PHE:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:a:14:GLY:C	58:a:16:THR:H	2.27	0.42
60:c:103:A:O3'	60:c:308:C:N4	2.52	0.42
60:c:213:A:H2'	60:c:214:G:O4'	2.19	0.42
60:c:374:U:H2'	60:c:375:U:C6	2.55	0.42
60:c:1101:G:C2	60:c:1102:G:C8	3.07	0.42
60:c:1211:A:H2'	60:c:1212:G:O4'	2.19	0.42
63:f:106:ASP:OD1	63:f:110:HIS:HB2	2.20	0.42
65:h:104:ASP:OD1	65:h:110:ALA:HB2	2.20	0.42
66:i:128:ASN:HB3	66:i:131:GLN:HB3	2.00	0.42
67:j:19:ASP:OD1	67:j:19:ASP:N	2.52	0.42
68:k:56:LYS:HB2	68:k:88:ARG:HD3	2.02	0.42
68:k:154:LEU:HD11	68:k:183:PHE:HB3	2.00	0.42
72:o:57:LYS:HD2	72:o:131:ILE:HD12	2.01	0.42
77:t:61:ILE:HA	77:t:64:GLY:O	2.19	0.42
81:x:46:ILE:H	81:x:46:ILE:HD12	1.85	0.42
1:0:43:LYS:HB3	1:0:43:LYS:HE2	1.75	0.42
11:AA:597:G:H2'	11:AA:598:A:H8	1.85	0.42
11:AA:1046:A:O2'	11:AA:1048:A:OP2	2.23	0.42
11:AA:1117:G:H2'	11:AA:1118:C:C6	2.55	0.42
11:AA:1381:A:H2'	11:AA:1382:G:H8	1.83	0.42
11:AA:1505:C:H2'	11:AA:1506:A:H8	1.84	0.42
11:AA:1609:C:H2'	11:AA:1610:G:H8	1.85	0.42
11:AA:1709:C:C2	11:AA:1710:C:C5	3.08	0.42
11:AA:2138:A:C4	53:V:3:LYS:HB3	2.54	0.42
11:AA:2366:C:H2'	11:AA:2367:A:C8	2.54	0.42
11:AA:2582:C:H2'	11:AA:2583:C:C6	2.54	0.42
11:AA:2722:U:H2'	11:AA:2723:U:H6	1.84	0.42
11:AA:2988:C:H2'	11:AA:2989:U:H6	1.84	0.42
11:AA:3110:C:H2'	11:AA:3111:U:H6	1.82	0.42
12:Aa:240:MET:HB3	12:Aa:243:ARG:NH2	2.32	0.42
12:Aa:412:ARG:NH1	12:Aa:472:SER:O	2.53	0.42
12:Aa:413:ILE:O	12:Aa:426:LEU:HA	2.19	0.42
13:B:22:LEU:HD13	13:B:90:PHE:HD2	1.84	0.42
14:BB:96:U:C2	14:BB:97:A:C8	3.07	0.42
17:CC:68:G:H2'	17:CC:69:U:H6	1.84	0.42
19:D:7:GLN:HE22	19:D:32:ILE:C	2.28	0.42
19:D:67:ALA:HB1	19:D:71:ARG:NH1	2.33	0.42
19:D:90:PRO:HG2	19:D:93:VAL:HB	2.02	0.42
19:D:136:ARG:O	19:D:140:GLU:OE1	2.37	0.42
20:DD:110:ARG:HG2	20:DD:183:PHE:CZ	2.55	0.42
30:HH:164:LYS:HB2	30:HH:180:PHE:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:II:5:LYS:HA	32:II:5:LYS:HE3	2.01	0.42
37:L:17:ARG:HD3	50:S:73:SER:HB3	2.01	0.42
42:NN:81:GLU:O	42:NN:85:LYS:N	2.51	0.42
47:Q:9:ILE:HD12	47:Q:9:ILE:HA	1.90	0.42
48:QQ:11:GLN:HG3	48:QQ:14:LYS:HE3	2.01	0.42
49:R:35:VAL:HG11	49:R:41:ALA:HB2	2.00	0.42
53:V:21:ARG:NH1	53:V:41:ALA:O	2.52	0.42
60:c:5:U:H2'	60:c:6:G:C8	2.55	0.42
60:c:67:A:O2'	60:c:68:A:H3'	2.20	0.42
60:c:293:U:O2'	65:h:133:LYS:NZ	2.41	0.42
60:c:483:A:C2'	60:c:507:U:C4	3.01	0.42
60:c:1102:G:OP2	83:z:7:ARG:HD2	2.19	0.42
60:c:1382:A:H5"	80:w:59:PRO:HA	2.01	0.42
60:c:1724:U:H2'	60:c:1725:U:C6	2.54	0.42
60:c:1737:G:H2'	60:c:1738:U:H6	1.84	0.42
62:e:55:LYS:HB3	62:e:55:LYS:HE3	1.84	0.42
62:e:105:PHE:CE2	62:e:109:LYS:HD3	2.54	0.42
64:g:142:LEU:HD13	64:g:150:MET:SD	2.58	0.42
65:h:121:TYR:CE2	65:h:161:LYS:HE2	2.54	0.42
68:k:63:PRO:C	68:k:65:PRO:HD3	2.44	0.42
68:k:73:VAL:HG12	68:k:77:LEU:HD23	2.01	0.42
73:p:26:PHE:CZ	73:p:28:LEU:HB2	2.54	0.42
77:t:103:ASP:OD1	77:t:104:ASN:N	2.48	0.42
78:u:61:LEU:O	78:u:62:THR:OG1	2.28	0.42
80:w:58:LEU:HD12	80:w:58:LEU:HA	1.89	0.42
81:x:16:LYS:HE2	81:x:16:LYS:HB2	1.74	0.42
81:x:32:VAL:HG12	81:x:60:ARG:HD2	2.02	0.42
82:y:114:GLU:HG3	82:y:118:ARG:HH11	1.84	0.42
2:1:77:ARG:O	2:1:80:LEU:HD23	2.20	0.42
3:2:22:ARG:HD2	3:2:27:SER:O	2.19	0.42
8:7:176:LYS:HD2	8:7:197:SER:O	2.19	0.42
11:AA:235:A:H2'	11:AA:236:G:C8	2.55	0.42
11:AA:242:C:C2	11:AA:243:G:N7	2.87	0.42
11:AA:577:C:O2'	11:AA:579:G:O5'	2.36	0.42
11:AA:609:G:H3'	11:AA:609:G:N3	2.34	0.42
11:AA:649:A2M:HM'3	11:AA:649:A2M:H1'	1.66	0.42
11:AA:884:A:N7	11:AA:2139:A:C4	2.88	0.42
11:AA:1222:G:C8	20:DD:57:THR:HB	2.55	0.42
11:AA:2469:G:N3	11:AA:2477:G:H1'	2.35	0.42
11:AA:2885:C:O2'	11:AA:2886:U:H5'	2.20	0.42
11:AA:3023:U:H4'	12:Aa:162:ARG:HH11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:22:MET:SD	12:Aa:338:ILE:HG12	2.60	0.42
12:Aa:221:THR:HG22	12:Aa:224:GLN:OE1	2.20	0.42
12:Aa:515:ASP:OD1	12:Aa:516:PRO:HD2	2.20	0.42
12:Aa:546:GLU:HG3	12:Aa:554:LEU:HG	2.01	0.42
13:B:22:LEU:HB3	13:B:90:PHE:CE2	2.55	0.42
13:B:51:VAL:HA	13:B:56:ARG:O	2.20	0.42
23:EE:114:SER:O	23:EE:165:VAL:HG22	2.18	0.42
26:FF:215:ILE:HD12	26:FF:338:LEU:HB3	2.01	0.42
28:GG:36:HIS:O	28:GG:40:THR:HG23	2.19	0.42
31:I:6:ASP:HB3	31:I:11:ALA:H	1.84	0.42
32:II:91:VAL:HG13	32:II:148:GLU:CD	2.45	0.42
33:J:105:VAL:HG13	33:J:130:TYR:HD2	1.84	0.42
45:P:10:ARG:HG3	45:P:108:VAL:HA	2.02	0.42
60:c:53:G:C6	60:c:54:C:C4	3.07	0.42
60:c:602:U:H2'	60:c:603:U:C6	2.54	0.42
60:c:772:G:H2'	60:c:773:C:C6	2.54	0.42
60:c:1327:C:C2	60:c:1328:G:C8	3.08	0.42
60:c:1527:C:H2'	60:c:1528:U:H6	1.84	0.42
60:c:1543:A:C4	60:c:1544:U:C6	3.07	0.42
60:c:1581:C:O2'	60:c:1582:U:H5'	2.20	0.42
61:d:79:ARG:NH1	61:d:164:ASN:O	2.53	0.42
63:f:168:ARG:O	63:f:198:THR:HA	2.20	0.42
67:j:74:LYS:HE3	67:j:96:SER:HB2	2.01	0.42
69:l:67:TRP:HH2	69:l:156:VAL:HG11	1.83	0.42
73:p:39:LYS:HA	73:p:42:ARG:HH11	1.85	0.42
75:r:62:ALA:O	75:r:66:ALA:HB3	2.20	0.42
82:y:28:ARG:HD3	82:y:60:LYS:HE3	2.01	0.42
8:7:83:ALA:HB1	8:7:110:VAL:HG12	2.01	0.42
10:A:194:LEU:HG	10:A:199:TYR:HB2	2.02	0.42
11:AA:50:U:H2'	11:AA:51:A:H8	1.85	0.42
11:AA:100:A:O2'	11:AA:101:G:H5'	2.19	0.42
11:AA:295:A:H2'	11:AA:296:A:C8	2.54	0.42
11:AA:626:U:H2'	11:AA:627:U:O4'	2.20	0.42
11:AA:771:A:H2'	11:AA:772:U:O4'	2.20	0.42
11:AA:945:C:H2'	11:AA:946:U:H6	1.85	0.42
11:AA:1025:A:H2'	11:AA:1025:A:N3	2.35	0.42
11:AA:1150:A:H2	11:AA:2379:U:O2	2.02	0.42
11:AA:1498:A:OP1	19:D:6:THR:HG22	2.19	0.42
11:AA:1605:A:O2'	11:AA:1606:U:H5"	2.19	0.42
11:AA:1870:C:O2	11:AA:3066:U:O2'	2.38	0.42
11:AA:2442:G:H3'	11:AA:2443:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2526:C:H2'	11:AA:2527:G:C8	2.53	0.42
11:AA:2529:A:H2'	11:AA:2530:G:C8	2.54	0.42
11:AA:3121:U:H4'	11:AA:3122:A:OP1	2.20	0.42
11:AA:3255:U:H2'	11:AA:3256:G:C8	2.54	0.42
12:Aa:379:MET:HA	12:Aa:379:MET:HE3	2.01	0.42
12:Aa:509:LYS:HA	12:Aa:512:SER:HB3	2.00	0.42
12:Aa:710:ARG:HA	12:Aa:713:THR:HG22	2.02	0.42
13:B:25:SER:H	13:B:86:LYS:CE	2.32	0.42
14:BB:61:G:H4'	30:HH:274:GLN:OE1	2.19	0.42
17:CC:19:C:H2'	17:CC:20:U:C6	2.55	0.42
17:CC:68:G:H2'	17:CC:69:U:C6	2.54	0.42
17:CC:84:C:O2	35:K:113:LYS:HG3	2.20	0.42
19:D:24:LEU:HB2	19:D:32:ILE:HD13	2.01	0.42
23:EE:62:VAL:HG12	23:EE:71:LEU:HD12	2.02	0.42
30:HH:163:LEU:HD21	30:HH:175:HIS:CG	2.55	0.42
30:HH:215:ASP:OD1	30:HH:215:ASP:N	2.51	0.42
34:JJ:121:LYS:HD3	34:JJ:121:LYS:HA	1.81	0.42
36:KK:162:LEU:HD23	48:QQ:7:LEU:HD21	2.02	0.42
41:N:32:LEU:HD12	41:N:35:VAL:HG11	2.02	0.42
42:NN:74:PRO:HA	42:NN:77:GLU:HB3	2.02	0.42
44:OO:80:VAL:HG21	44:OO:97:VAL:HG12	2.01	0.42
53:V:15:SER:O	53:V:29:VAL:HG12	2.20	0.42
60:c:186:C:OP2	69:l:142:LYS:HE3	2.20	0.42
60:c:691:C:H2'	60:c:692:C:C6	2.55	0.42
60:c:1053:G:C2	60:c:1054:U:C5	3.08	0.42
60:c:1068:C:H2'	60:c:1069:A:H8	1.85	0.42
60:c:1208:A:H5'	60:c:1209:C:OP2	2.20	0.42
60:c:1389:C:H3'	60:c:1389:C:O2	2.20	0.42
60:c:1648:A:H2'	60:c:1649:G:C8	2.55	0.42
60:c:1720:G:O2'	60:c:1721:A:N7	2.47	0.42
67:j:136:LYS:O	67:j:175:ILE:HD12	2.20	0.42
70:m:73:GLY:O	70:m:77:ILE:HG12	2.20	0.42
70:m:110:GLN:NE2	70:m:126:ARG:HB2	2.35	0.42
74:q:133:ARG:HB2	74:q:136:ARG:NH2	2.33	0.42
80:w:53:LYS:HB2	80:w:92:ASP:O	2.20	0.42
81:x:39:VAL:HG13	81:x:43:GLY:H	1.84	0.42
5:4:14:LYS:HB3	5:4:29:ARG:HB2	2.01	0.42
6:5:53:ASN:HB2	6:5:55:PHE:CZ	2.55	0.42
11:AA:179:C:H2'	11:AA:180:C:C6	2.55	0.42
11:AA:292:U:H2'	11:AA:293:C:H6	1.85	0.42
11:AA:533:A:C8	11:AA:535:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:599:C:OP1	28:GG:332:LYS:NZ	2.31	0.42
11:AA:601:U:O2'	11:AA:602:A:OP1	2.37	0.42
11:AA:1120:A:H2'	11:AA:1121:U:C6	2.54	0.42
11:AA:2341:A:H2'	11:AA:2342:U:C6	2.54	0.42
11:AA:2454:G:N1	18:Cc:20:G:C6	2.87	0.42
11:AA:2651:G:H5"	11:AA:2652:U:O4'	2.19	0.42
11:AA:2667:A:H2'	11:AA:2668:U:O4'	2.20	0.42
11:AA:2770:G:H2'	11:AA:2771:U:C6	2.53	0.42
11:AA:3215:A:O2'	11:AA:3259:U:N3	2.36	0.42
11:AA:3255:U:H2'	11:AA:3256:G:H8	1.83	0.42
14:BB:13:A:O2'	14:BB:14:U:H5'	2.19	0.42
15:Bb:3:G:H2'	15:Bb:4:G:C8	2.55	0.42
19:D:97:ARG:O	19:D:101:VAL:HG13	2.20	0.42
20:DD:155:ASP:OD1	20:DD:155:ASP:N	2.52	0.42
26:FF:369:ARG:NH1	31:I:33:ASN:OD1	2.45	0.42
28:GG:42:VAL:HA	28:GG:45:ASN:ND2	2.35	0.42
30:HH:181:PRO:O	30:HH:190:ILE:HD11	2.20	0.42
34:JJ:29:GLU:OE1	34:JJ:29:GLU:N	2.53	0.42
34:JJ:207:LEU:HD23	34:JJ:243:MET:HE2	2.01	0.42
36:KK:213:LYS:O	36:KK:216:SER:OG	2.26	0.42
37:L:10:VAL:O	37:L:83:THR:OG1	2.21	0.42
39:M:75:LEU:HB2	39:M:114:GLY:HA2	2.02	0.42
42:NN:84:LEU:HD13	42:NN:104:PHE:CZ	2.55	0.42
50:S:34:HIS:CD2	50:S:34:HIS:N	2.88	0.42
60:c:207:U:H2'	60:c:208:U:C6	2.55	0.42
60:c:373:G:H2'	60:c:374:U:C6	2.55	0.42
60:c:461:G:H2'	60:c:462:G:C8	2.55	0.42
60:c:464:A:C2	60:c:465:G:C8	3.08	0.42
60:c:685:A:H8	60:c:685:A:O5'	2.03	0.42
60:c:774:A:C2	60:c:787:G:N1	2.88	0.42
60:c:867:G:C6	60:c:868:G:C5	3.08	0.42
60:c:882:U:H2'	60:c:883:C:C6	2.54	0.42
60:c:974:A2M:HM'3	60:c:974:A2M:H1'	1.69	0.42
60:c:1005:A:H2'	60:c:1006:C:C6	2.55	0.42
60:c:1162:C:C2	60:c:1163:A:C8	3.08	0.42
60:c:1353:U:C6	60:c:1353:U:OP2	2.73	0.42
60:c:1364:G:H3'	60:c:1364:G:OP2	2.19	0.42
60:c:1366:U:C4	60:c:1367:G:C1'	3.03	0.42
60:c:1369:U:H1'	60:c:1370:U:C5	2.54	0.42
60:c:1435:G:H4'	60:c:1436:A:H5'	2.02	0.42
60:c:1524:A:H2'	60:c:1525:A:H8	1.80	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1529:C:H2'	60:c:1530:C:C6	2.55	0.42
62:e:136:ARG:HG2	62:e:138:PHE:CE1	2.54	0.42
65:h:180:LEU:N	65:h:229:GLY:O	2.53	0.42
66:i:41:LYS:HZ3	66:i:42:LEU:H	1.67	0.42
70:m:168:ARG:HG3	70:m:170:GLY:H	1.85	0.42
72:o:125:VAL:HG12	72:o:139:VAL:HA	2.02	0.42
4:3:32:PHE:HE2	73:p:61:THR:HG22	1.85	0.42
8:7:200:ASN:H	8:7:215:GLY:HA2	1.85	0.42
11:AA:207:U:H2'	11:AA:208:C:H6	1.83	0.42
11:AA:620:U:O2	11:AA:620:U:H2'	2.19	0.42
11:AA:679:U:O2'	11:AA:788:C:O2	2.31	0.42
11:AA:1017:C:H5	11:AA:1035:G:N1	2.17	0.42
11:AA:1020:G:H2'	11:AA:1021:G:H8	1.81	0.42
11:AA:1157:G:H5"	34:JJ:220:PHE:CE2	2.55	0.42
11:AA:1230:G:C6	11:AA:1281:G:C6	3.08	0.42
11:AA:1713:G:O2'	11:AA:1730:G:N2	2.45	0.42
11:AA:2296:A:O2'	11:AA:2928:C:O2	2.38	0.42
11:AA:2421:OMU:H1'	11:AA:2421:OMU:HM23	1.62	0.42
11:AA:2435:G:H4'	48:QQ:24:ARG:HH22	1.83	0.42
11:AA:2568:C:O2'	11:AA:2569:A:O5'	2.36	0.42
11:AA:2776:C:H5'	11:AA:2777:G:C2	2.54	0.42
11:AA:2888:U:C4	11:AA:2911:A:C5	3.08	0.42
12:Aa:680:GLU:OE1	12:Aa:682:ARG:NH2	2.53	0.42
12:Aa:750:LYS:HE3	12:Aa:776:GLU:C	2.45	0.42
13:B:86:LYS:HG3	13:B:87:SER:N	2.35	0.42
16:C:29:LEU:HB3	16:C:52:LEU:HD21	2.02	0.42
17:CC:51:G:C6	55:X:26:TRP:HH2	2.38	0.42
20:DD:60:ARG:NH2	20:DD:80:VAL:O	2.53	0.42
21:Dd:13:A:C4	74:q:23:PHE:HE1	2.38	0.42
22:E:38:LYS:HD2	22:E:58:ILE:HG13	2.01	0.42
22:E:83:SER:N	22:E:86:GLY:O	2.48	0.42
23:EE:46:LYS:HB3	23:EE:46:LYS:HE2	1.65	0.42
23:EE:201:GLY:HA3	23:EE:209:HIS:ND1	2.35	0.42
26:FF:133:TYR:HD1	26:FF:136:LYS:HE3	1.85	0.42
27:G:78:TYR:CE1	27:G:82:LYS:HD2	2.55	0.42
38:LL:2:LYS:HB3	38:LL:59:ASN:OD1	2.19	0.42
42:NN:7:ASN:CG	42:NN:10:ARG:HD3	2.45	0.42
42:NN:114:ILE:HG13	42:NN:115:LYS:N	2.35	0.42
46:PP:21:VAL:HG23	46:PP:65:LEU:HA	2.02	0.42
52:U:4:LYS:HB3	52:U:14:GLY:O	2.19	0.42
54:W:63:LYS:O	54:W:67:GLN:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:210:A:N6	60:c:256:A:N6	2.68	0.42
60:c:346:G:H5'	72:o:79:LYS:HE3	2.02	0.42
60:c:428:A:O2'	60:c:440:U:H4'	2.20	0.42
60:c:448:C:HO2'	65:h:27:TYR:HE2	1.63	0.42
60:c:872:G:N2	60:c:1047:G:O3'	2.53	0.42
60:c:1360:A:O5'	60:c:1361:U:H5	2.03	0.42
60:c:1360:A:C8	60:c:1361:U:C5	3.08	0.42
60:c:1435:G:C2	71:n:59:PHE:HB2	2.55	0.42
61:d:193:GLN:HA	61:d:194:PRO:HD3	1.90	0.42
63:f:134:LEU:HD23	63:f:134:LEU:HA	1.91	0.42
63:f:147:ASN:OD1	63:f:147:ASN:O	2.38	0.42
64:g:21:LEU:HD23	64:g:21:LEU:HA	1.91	0.42
66:i:38:THR:OG1	76:s:57:LEU:HD22	2.19	0.42
68:k:98:ILE:HG12	68:k:121:VAL:HG11	2.02	0.42
71:n:52:LYS:HA	71:n:52:LYS:HD2	1.87	0.42
71:n:69:THR:O	71:n:73:VAL:HG23	2.19	0.42
73:p:36:GLN:HG2	73:p:54:LEU:HD21	2.02	0.42
78:u:114:GLU:OE2	78:u:118:LYS:HD3	2.19	0.42
82:y:82:LYS:O	82:y:86:ILE:HG23	2.19	0.42
83:z:6:PRO:HG3	83:z:14:LYS:HD2	2.02	0.42
83:z:121:ARG:O	83:z:122:PHE:HD1	2.03	0.42
6:5:15:GLY:HA3	60:c:1204:A:H61	1.85	0.41
10:A:156:LEU:HD23	10:A:156:LEU:HA	1.86	0.41
11:AA:62:A:H2'	11:AA:63:A:C8	2.55	0.41
11:AA:573:C:H2'	11:AA:574:U:C6	2.55	0.41
11:AA:1010:G:C2	11:AA:1041:U:O2	2.71	0.41
11:AA:1014:U:H3'	11:AA:1015:U:C5'	2.49	0.41
11:AA:1597:C:H2'	11:AA:1598:G:C8	2.55	0.41
11:AA:1658:G:H2'	11:AA:1659:U:C6	2.55	0.41
11:AA:1718:G:H2'	11:AA:1719:G:H8	1.85	0.41
11:AA:1833:G:OP1	33:J:114:VAL:HG21	2.20	0.41
11:AA:1902:G:O2'	11:AA:1903:U:OP1	2.34	0.41
11:AA:2354:C:OP2	13:B:86:LYS:NZ	2.49	0.41
11:AA:2359:C:H4'	11:AA:2399:A:H4'	2.02	0.41
11:AA:2597:U:H2'	11:AA:2598:G:H8	1.84	0.41
11:AA:2921:OMU:H2'	11:AA:2922:OMG:H5'	2.02	0.41
11:AA:3362:A:H2'	11:AA:3363:U:O4'	2.20	0.41
12:Aa:19:VAL:HG22	12:Aa:99:LEU:HD23	2.01	0.41
12:Aa:380:LEU:HB3	12:Aa:469:LEU:HB2	2.02	0.41
12:Aa:521:TYR:O	12:Aa:529:ILE:HG22	2.20	0.41
17:CC:130:C:H2'	17:CC:131:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:E:155:ARG:HD3	22:E:172:TYR:HD1	1.81	0.41
26:FF:10:ARG:NH1	26:FF:12:GLY:O	2.53	0.41
26:FF:213:GLU:O	26:FF:282:ILE:HG12	2.20	0.41
30:HH:266:ALA:O	30:HH:270:LYS:HG3	2.19	0.41
32:II:42:LEU:HD11	32:II:79:VAL:HG11	2.02	0.41
33:J:92:LYS:HG2	33:J:110:VAL:HG13	2.02	0.41
37:L:102:GLU:O	37:L:103:GLN:HB2	2.20	0.41
38:LL:90:MET:HE2	38:LL:181:VAL:HG13	2.02	0.41
44:OO:22:VAL:HG22	48:QQ:197:LEU:HB3	2.02	0.41
51:T:64:GLU:HA	51:T:64:GLU:OE2	2.20	0.41
58:a:52:GLY:O	58:a:54:THR:HG23	2.20	0.41
60:c:332:U:H3	60:c:334:G:H5"	1.85	0.41
60:c:338:C:H5"	69:l:10:LYS:HG2	2.02	0.41
60:c:511:A:OP1	70:m:173:ALA:HA	2.20	0.41
60:c:646:C:H2'	60:c:647:G:O4'	2.20	0.41
60:c:1479:A:H5"	79:v:60:SER:OG	2.19	0.41
60:c:1542:G:O2'	60:c:1543:A:OP2	2.32	0.41
60:c:1663:G:H2'	60:c:1664:C:O4'	2.20	0.41
62:e:187:LYS:O	62:e:190:PRO:HD2	2.20	0.41
65:h:147:ILE:HG21	65:h:169:ILE:HG23	2.02	0.41
65:h:222:LEU:O	65:h:225:VAL:HG22	2.20	0.41
66:i:72:HIS:O	76:s:79:TYR:OH	2.37	0.41
67:j:69:LEU:C	67:j:101:ILE:HB	2.45	0.41
68:k:11:GLN:HG3	68:k:12:ALA:H	1.84	0.41
70:m:55:ALA:O	70:m:59:LEU:HD23	2.20	0.41
71:n:21:VAL:HG23	71:n:66:TYR:HD2	1.84	0.41
71:n:74:GLU:O	71:n:78:GLU:OE1	2.38	0.41
72:o:80:MET:HB3	72:o:83:THR:O	2.19	0.41
72:o:91:LEU:HD23	72:o:102:LYS:HA	2.01	0.41
79:v:127:ASN:O	79:v:130:ARG:HB2	2.20	0.41
80:w:63:LEU:HD12	80:w:63:LEU:O	2.20	0.41
8:7:17:ASN:ND2	60:c:1408:G:O3'	2.33	0.41
8:7:80:ALA:O	8:7:91:LEU:HD12	2.18	0.41
8:7:177:MET:HE3	8:7:179:LYS:H	1.84	0.41
8:7:221:MET:HB3	8:7:223:TRP:CD1	2.56	0.41
8:7:266:ASP:HA	8:7:267:PRO:HA	1.94	0.41
9:8:123:ASN:O	9:8:125:THR:N	2.53	0.41
10:A:110:PRO:N	10:A:111:PRO:HD2	2.35	0.41
11:AA:75:G:H3'	11:AA:76:G:H8	1.85	0.41
11:AA:263:C:H2'	11:AA:264:G:O4'	2.20	0.41
11:AA:1488:G:C2	11:AA:1489:A:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2154:U:H2'	11:AA:2155:G:H8	1.85	0.41
11:AA:2283:G:H1'	11:AA:2285:C:H41	1.85	0.41
11:AA:3160:U:H5"	11:AA:3396:U:H3'	2.02	0.41
11:AA:3210:A:H2'	11:AA:3211:C:C6	2.55	0.41
17:CC:123:G:C6	17:CC:131:A:C6	3.08	0.41
19:D:44:LEU:HB3	19:D:49:THR:HB	2.02	0.41
22:E:138:GLN:OE1	38:LL:1:MET:HE3	2.20	0.41
29:H:118:VAL:HG23	29:H:136:VAL:HG12	2.02	0.41
38:LL:177:ASP:OD1	38:LL:178:GLY:N	2.54	0.41
48:QQ:19:LEU:O	48:QQ:23:GLN:HG3	2.20	0.41
54:W:16:ARG:NH1	54:W:16:ARG:HB2	2.35	0.41
56:Y:97:ARG:HE	56:Y:122:ARG:HD3	1.85	0.41
56:Y:122:ARG:HG3	56:Y:122:ARG:NH1	2.35	0.41
60:c:205:U:N3	60:c:206:A:N7	2.68	0.41
60:c:525:A:C6	60:c:526:A:C5	3.08	0.41
60:c:953:G:H2'	60:c:954:G:C8	2.55	0.41
60:c:956:C:OP1	73:p:11:ILE:HG22	2.20	0.41
60:c:1156:C:H2'	60:c:1157:A:H8	1.85	0.41
60:c:1246:C:C4	60:c:1247:U:C4	3.08	0.41
60:c:1275:A:H62	60:c:1431:C:H42	1.68	0.41
60:c:1682:U:C2	60:c:1683:C:C6	3.08	0.41
61:d:9:LEU:HD13	61:d:54:TRP:CG	2.55	0.41
61:d:11:PRO:O	61:d:14:ALA:HB3	2.20	0.41
63:f:230:TRP:CG	82:y:68:ARG:HD3	2.55	0.41
65:h:86:PHE:HA	65:h:109:PHE:HE2	1.84	0.41
69:l:185:GLU:HA	69:l:189:LEU:HD23	2.01	0.41
1:0:16:PRO:HA	1:0:19:ALA:HA	2.01	0.41
1:0:34:ASN:HD21	60:c:522:U:C1'	2.33	0.41
3:2:7:SER:OG	3:2:8:ASN:N	2.54	0.41
11:AA:215:G:OP1	35:K:12:ARG:NH1	2.49	0.41
11:AA:674:G:H5"	28:GG:120:TYR:CE2	2.55	0.41
11:AA:885:U:H2'	11:AA:886:C:C6	2.55	0.41
11:AA:1020:G:O2'	11:AA:1021:G:H5'	2.19	0.41
11:AA:1500:G:C6	11:AA:1517:G:N1	2.88	0.41
11:AA:2233:A:H2'	11:AA:2234:G:O4'	2.20	0.41
11:AA:2253:G:O2'	11:AA:2254:U:OP1	2.35	0.41
11:AA:2378:C:H2'	11:AA:2379:U:C6	2.56	0.41
11:AA:2563:G:OP2	37:L:55:LYS:HG2	2.21	0.41
11:AA:2698:G:H2'	11:AA:2699:G:H8	1.85	0.41
14:BB:7:G:C2	14:BB:115:G:C5	3.08	0.41
16:C:89:ASP:HB3	16:C:110:ALA:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CC:104:A:C8	17:CC:105:A:C8	3.08	0.41
19:D:176:ARG:CZ	60:c:853:G:H5"	2.51	0.41
25:F:135:PRO:HB3	34:JJ:80:GLN:HB2	2.02	0.41
26:FF:86:VAL:HA	26:FF:162:VAL:HG12	2.02	0.41
31:I:8:PHE:CD1	31:I:46:PRO:HG3	2.56	0.41
32:II:158:TYR:HB2	46:PP:115:PHE:HE1	1.85	0.41
47:Q:75:LEU:HD12	47:Q:75:LEU:HA	1.87	0.41
55:X:21:ARG:O	55:X:38:ASN:ND2	2.53	0.41
60:c:122:U:H2'	60:c:123:G:C8	2.55	0.41
60:c:565:C:H4'	60:c:566:C:H6	1.85	0.41
60:c:1183:A:H1'	60:c:1210:C:O2'	2.20	0.41
60:c:1217:A:C5	71:n:27:PHE:CZ	3.09	0.41
60:c:1410:A:HO2'	60:c:1411:A:P	2.42	0.41
60:c:1466:G:P	76:s:139:GLN:HG2	2.60	0.41
60:c:1585:U:H4'	76:s:135:ARG:HG3	2.02	0.41
60:c:1654:G:H21	60:c:1746:A:H2	1.67	0.41
61:d:9:LEU:HB2	61:d:54:TRP:CD1	2.55	0.41
62:e:113:MET:HG2	62:e:209:ASN:ND2	2.35	0.41
73:p:75:LEU:HD23	73:p:75:LEU:HA	1.88	0.41
75:r:18:ARG:HA	78:u:93:THR:C	2.45	0.41
77:t:3:ARG:HH21	77:t:49:LYS:NZ	2.17	0.41
79:v:108:LEU:HA	79:v:111:ILE:HG22	2.02	0.41
80:w:107:THR:HG23	80:w:107:THR:O	2.20	0.41
3:2:47:ALA:HB2	74:q:99:GLN:HG3	2.02	0.41
3:2:50:VAL:HG23	3:2:64:LEU:HD21	2.01	0.41
8:7:69:GLN:CD	8:7:111:MET:HA	2.46	0.41
8:7:173:GLY:O	8:7:199:ILE:HD12	2.19	0.41
11:AA:270:U:H2'	11:AA:271:C:C6	2.54	0.41
11:AA:596:C:P	34:JJ:33:ARG:HH21	2.44	0.41
11:AA:692:A:H1'	28:GG:46:LYS:NZ	2.35	0.41
11:AA:1404:G:N2	11:AA:1407:A:OP2	2.46	0.41
11:AA:1794:G:H4'	23:EE:191:LEU:CD1	2.50	0.41
11:AA:1825:G:OP1	54:W:48:SER:HB3	2.21	0.41
11:AA:2955:U:H2'	11:AA:2956:A:O4'	2.21	0.41
12:Aa:75:ILE:HD12	12:Aa:438:MET:HG3	2.01	0.41
13:B:39:TRP:O	13:B:114:VAL:HG22	2.20	0.41
15:Bb:32:C:H2'	15:Bb:33:U:H6	1.84	0.41
18:Cc:47:G:H3'	18:Cc:48:U:H4'	2.02	0.41
18:Cc:59:A:O2'	18:Cc:60:A:H5"	2.20	0.41
18:Cc:62:C:H2'	18:Cc:63:C:H6	1.85	0.41
22:E:94:ILE:HD11	22:E:106:LEU:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:FF:214:MET:HE3	26:FF:214:MET:HB2	1.78	0.41
30:HH:163:LEU:HD23	30:HH:163:LEU:C	2.45	0.41
34:JJ:87:VAL:HA	34:JJ:113:SER:O	2.19	0.41
34:JJ:137:GLY:CA	34:JJ:233:GLU:HA	2.50	0.41
35:K:77:LYS:HD3	35:K:98:ASN:ND2	2.29	0.41
36:KK:99:PRO:HG2	36:KK:134:TYR:HE2	1.85	0.41
36:KK:158:ASP:HB3	36:KK:159:PRO:HD3	2.01	0.41
45:P:12:TYR:HD2	45:P:75:ILE:HD12	1.85	0.41
47:Q:27:ARG:HG3	47:Q:28:VAL:HG13	2.02	0.41
52:U:26:ILE:HD12	52:U:29:LYS:HD3	2.03	0.41
60:c:420:A2M:HM'3	60:c:420:A2M:H1'	1.85	0.41
60:c:591:A:H2'	60:c:592:A:H8	1.82	0.41
60:c:1025:A:H2'	60:c:1027:A:H5"	2.03	0.41
60:c:1535:U:C6	66:i:187:ILE:HG12	2.56	0.41
60:c:1589:C:H2'	60:c:1590:G:C8	2.55	0.41
60:c:1773:4AC:CM7	60:c:1773:4AC:H5	2.49	0.41
64:g:25:PHE:CD2	64:g:37:VAL:HG11	2.55	0.41
64:g:105:MET:HE3	64:g:105:MET:HB3	1.77	0.41
64:g:162:GLN:NE2	64:g:165:ASN:HB2	2.35	0.41
66:i:39:GLU:HG2	66:i:40:ILE:O	2.20	0.41
71:n:1:MET:HG2	71:n:2:LEU:N	2.35	0.41
72:o:27:THR:HG22	72:o:28:SER:H	1.85	0.41
72:o:83:THR:HA	72:o:110:HIS:HA	2.02	0.41
78:u:62:THR:HG22	78:u:64:GLU:H	1.85	0.41
80:w:41:ILE:HD12	80:w:41:ILE:HA	1.97	0.41
82:y:41:MET:HE2	82:y:41:MET:HB3	1.89	0.41
1:0:105:ARG:HH12	60:c:458:G:P	2.43	0.41
4:3:45:THR:OG1	4:3:82:LYS:HE3	2.20	0.41
11:AA:221:A:O2'	11:AA:223:U:OP2	2.30	0.41
11:AA:406:G:N2	17:CC:16:G:C4	2.89	0.41
11:AA:967:A:C4	11:AA:968:G:C8	3.08	0.41
11:AA:994:G:N2	11:AA:995:U:O4	2.48	0.41
11:AA:1230:G:C5	11:AA:1281:G:C6	3.08	0.41
11:AA:1250:G:C2	11:AA:1251:A:C5	3.09	0.41
11:AA:1322:U:H5"	22:E:117:ARG:NH1	2.35	0.41
11:AA:1601:U:C2	11:AA:1604:G:C6	3.09	0.41
11:AA:1628:C:N3	11:AA:1814:A:O2'	2.36	0.41
11:AA:1721:U:O2'	11:AA:1723:A:N7	2.41	0.41
11:AA:2483:G:H1	11:AA:2487:U:H5	1.68	0.41
11:AA:2585:G:N3	11:AA:2585:G:H2'	2.34	0.41
11:AA:2687:G:H5'	30:HH:8:LYS:NZ	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2847:A:OP1	56:Y:97:ARG:NE	2.52	0.41
11:AA:3039:C:C2	11:AA:3040:A:C8	3.08	0.41
11:AA:3161:C:H2'	11:AA:3162:C:C6	2.55	0.41
11:AA:3359:A:H2'	11:AA:3360:C:C6	2.55	0.41
12:Aa:312:LYS:HG3	12:Aa:313:ASP:CG	2.46	0.41
12:Aa:379:MET:HB3	12:Aa:401:PHE:HB2	2.01	0.41
12:Aa:677:PHE:HB3	12:Aa:823:ARG:HE	1.86	0.41
12:Aa:815:ALA:HA	12:Aa:818:ILE:HG22	2.02	0.41
14:BB:37:G:N1	14:BB:41:G:C2	2.89	0.41
14:BB:46:A:P	30:HH:158:ARG:HE	2.44	0.41
14:BB:77:G:N7	22:E:52:LYS:HD2	2.36	0.41
20:DD:51:VAL:HG13	20:DD:87:VAL:HG22	2.03	0.41
22:E:142:GLN:OE1	38:LL:1:MET:HE1	2.21	0.41
26:FF:232:ARG:HD3	26:FF:233:TRP:HE1	1.85	0.41
38:LL:37:ASN:OD1	38:LL:39:LYS:HB2	2.21	0.41
51:T:29:ALA:O	51:T:33:VAL:HG23	2.19	0.41
60:c:57:G:C6	60:c:91:G:N1	2.89	0.41
60:c:156:A:N6	60:c:418:G:C8	2.89	0.41
60:c:178:U:O3'	60:c:179:A:H8	2.04	0.41
60:c:331:A:H4'	69:l:31:ARG:O	2.21	0.41
60:c:451:A:C6	60:c:453:U:H1'	2.55	0.41
60:c:774:A:C6	60:c:787:G:C2	3.09	0.41
60:c:811:A:N7	60:c:858:G:O2'	2.53	0.41
60:c:959:U:O2	73:p:61:THR:HB	2.20	0.41
60:c:1120:U:H2'	60:c:1121:C:C6	2.55	0.41
60:c:1360:A:N1	60:c:1363:U:C2	2.88	0.41
60:c:1410:A:O2'	60:c:1411:A:OP1	2.34	0.41
60:c:1474:G:H2'	60:c:1475:A:H8	1.83	0.41
60:c:1524:A:O3'	79:v:93:HIS:ND1	2.44	0.41
61:d:88:LYS:HZ2	77:t:78:ARG:HH22	1.69	0.41
61:d:179:ARG:HH21	61:d:183:ARG:NH2	2.16	0.41
62:e:120:LEU:O	62:e:121:ILE:HD13	2.20	0.41
63:f:45:VAL:HG13	63:f:72:LEU:HD11	2.02	0.41
63:f:82:ASN:H	63:f:101:VAL:HG23	1.86	0.41
64:g:29:LEU:HD21	64:g:69:LEU:HD11	2.01	0.41
64:g:133:GLY:HA2	64:g:155:GLY:HA3	2.03	0.41
65:h:36:HIS:O	65:h:37:LYS:HE3	2.21	0.41
65:h:143:ASP:CG	65:h:145:ARG:HG2	2.46	0.41
65:h:145:ARG:HA	65:h:145:ARG:CZ	2.51	0.41
65:h:180:LEU:HG	65:h:228:ILE:HD11	2.03	0.41
65:h:248:ILE:HG12	70:m:71:PHE:CE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:i:114:ILE:HG13	66:i:115:LYS:N	2.35	0.41
67:j:159:ARG:HG2	67:j:172:ALA:HB2	2.01	0.41
68:k:70:PHE:CE2	68:k:92:PHE:CD2	3.08	0.41
69:l:65:PHE:CE2	69:l:104:ILE:HG21	2.55	0.41
72:o:93:TYR:HB2	72:o:100:TYR:CE2	2.56	0.41
74:q:49:LYS:HG3	74:q:49:LYS:O	2.20	0.41
78:u:38:VAL:HG12	78:u:42:TYR:CD2	2.55	0.41
79:v:15:ILE:HD13	79:v:15:ILE:HA	1.89	0.41
5:4:44:VAL:HA	66:i:161:ASP:OD1	2.21	0.41
8:7:102:ARG:HG3	8:7:102:ARG:O	2.20	0.41
8:7:275:ARG:HA	8:7:275:ARG:NE	2.36	0.41
10:A:97:ALA:O	10:A:101:ARG:HG3	2.21	0.41
11:AA:739:G:H2'	11:AA:740:G:C8	2.54	0.41
11:AA:913:A:N1	11:AA:2134:G:O2'	2.50	0.41
11:AA:1018:G:OP1	11:AA:1036:A:H1'	2.21	0.41
11:AA:1180:A:C5	11:AA:1182:A:C8	3.09	0.41
11:AA:1570:U:N3	11:AA:1572:U:O2'	2.53	0.41
11:AA:2555:G:C6	50:S:95:ILE:HD11	2.56	0.41
11:AA:2727:A:N1	39:M:43:ILE:HD12	2.35	0.41
11:AA:2941:A:H8	11:AA:2941:A:OP2	2.04	0.41
11:AA:3064:U:C2	11:AA:3065:G:C8	3.08	0.41
12:Aa:278:LEU:HD12	12:Aa:278:LEU:HA	1.89	0.41
12:Aa:419:VAL:HG13	12:Aa:422:LYS:H	1.85	0.41
12:Aa:746:VAL:HG11	12:Aa:783:GLU:O	2.21	0.41
13:B:123:PRO:HG3	17:CC:14:C:H5"	2.03	0.41
27:G:77:LYS:HG2	27:G:81:LYS:HE2	2.03	0.41
32:II:8:LYS:HB2	32:II:9:TRP:CZ3	2.56	0.41
34:JJ:27:ALA:HA	34:JJ:30:ARG:HB2	2.02	0.41
34:JJ:136:TYR:O	34:JJ:231:ASN:HA	2.21	0.41
35:K:32:SER:HA	35:K:49:PRO:HA	2.01	0.41
36:KK:179:ILE:HB	36:KK:222:PHE:CE1	2.56	0.41
37:L:61:LYS:HG2	37:L:65:ARG:HD2	2.03	0.41
46:PP:25:LYS:HE3	46:PP:62:GLN:HA	2.03	0.41
46:PP:72:LEU:HD23	46:PP:73:PRO:O	2.19	0.41
47:Q:20:HIS:CG	47:Q:42:VAL:HG21	2.55	0.41
60:c:29:U:H2'	60:c:30:G:C8	2.55	0.41
60:c:329:G:H2'	60:c:330:G:C8	2.53	0.41
60:c:388:G:C6	60:c:389:G:N7	2.89	0.41
60:c:502:U:C2	60:c:503:G:N7	2.88	0.41
60:c:568:G:H4'	83:z:90:ASP:HA	2.03	0.41
60:c:788:A:OP2	65:h:108:ARG:NH1	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1080:U:H2'	60:c:1081:A:C1'	2.50	0.41
60:c:1173:C:C2	60:c:1174:C:C5	3.09	0.41
60:c:1351:G:C2	60:c:1375:A:C2	3.08	0.41
60:c:1469:A:H2'	60:c:1470:C:H6	1.85	0.41
61:d:21:ASN:HB3	61:d:24:LEU:HD23	2.02	0.41
65:h:162:ILE:HG22	65:h:164:LEU:H	1.85	0.41
67:j:24:ILE:O	67:j:26:VAL:N	2.54	0.41
70:m:154:LYS:HA	70:m:154:LYS:HD3	1.86	0.41
77:t:77:GLU:O	77:t:80:ARG:HB2	2.20	0.41
77:t:88:VAL:HG23	77:t:89:SER:N	2.36	0.41
79:v:73:VAL:HG12	79:v:105:LEU:HD12	2.03	0.41
81:x:15:ARG:HH21	81:x:24:ILE:HG21	1.86	0.41
83:z:102:VAL:HG13	83:z:124:VAL:HG23	2.02	0.41
83:z:131:SER:O	83:z:135:LEU:HD12	2.20	0.41
8:7:150:TRP:HB2	8:7:174:ASN:CG	2.45	0.41
11:AA:88:A:H4'	39:M:63:LYS:HD3	2.03	0.41
11:AA:148:G:N7	36:KK:137:ASN:ND2	2.69	0.41
11:AA:274:G:H2'	11:AA:275:U:C6	2.56	0.41
11:AA:503:C:H2'	11:AA:504:A:C8	2.56	0.41
11:AA:506:U:H2'	11:AA:507:U:O4'	2.21	0.41
11:AA:514:G:H2'	11:AA:515:C:O4'	2.21	0.41
11:AA:771:A:H5"	39:M:132:LYS:NZ	2.35	0.41
11:AA:1631:C:H5"	11:AA:1632:A:H5"	2.02	0.41
11:AA:1666:G:H2'	11:AA:1667:A:C8	2.55	0.41
11:AA:2642:A:H2'	11:AA:2643:A:C8	2.56	0.41
12:Aa:586:ILE:HD13	12:Aa:709:MET:HE3	2.03	0.41
12:Aa:672:LYS:HG3	12:Aa:673:GLU:HG3	2.02	0.41
13:B:51:VAL:HG11	13:B:58:ILE:HD11	2.02	0.41
14:BB:99:G:C6	14:BB:100:C:C4	3.09	0.41
15:Bb:1:G:H2'	15:Bb:2:C:H6	1.86	0.41
15:Bb:18:G:N2	15:Bb:61:C:H1'	2.29	0.41
17:CC:155:A:C6	17:CC:156:U:H1'	2.56	0.41
20:DD:135:PHE:HB2	20:DD:172:LEU:HD13	2.02	0.41
22:E:138:GLN:CD	38:LL:1:MET:HE3	2.46	0.41
24:Ee:10:VAL:HG22	24:Ee:65:GLN:HG2	2.01	0.41
27:G:99:LYS:HD2	27:G:100:THR:O	2.20	0.41
29:H:129:VAL:O	29:H:133:SER:HB3	2.21	0.41
30:HH:52:VAL:HG23	30:HH:54:ARG:NH2	2.36	0.41
31:I:45:ASN:HB3	31:I:48:ARG:HG3	2.01	0.41
36:KK:98:ARG:HD3	36:KK:191:ASN:OD1	2.21	0.41
38:LL:163:GLN:OE1	38:LL:166:ARG:HD2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:PP:125:LYS:HG2	46:PP:128:ARG:HH21	1.85	0.41
50:S:56:THR:HG23	50:S:56:THR:O	2.20	0.41
60:c:862:A:O2'	60:c:963:A:N6	2.41	0.41
60:c:1107:G:O2'	60:c:1108:G:H5'	2.21	0.41
60:c:1740:A:H2'	60:c:1741:U:C6	2.55	0.41
61:d:82:GLY:O	61:d:86:VAL:HG22	2.20	0.41
62:e:81:PHE:HD1	62:e:82:ARG:HG3	1.86	0.41
63:f:144:TRP:CE2	63:f:173:PRO:HG3	2.55	0.41
66:i:110:ALA:O	66:i:114:ILE:HG23	2.21	0.41
66:i:192:GLU:O	66:i:195:ALA:HB3	2.21	0.41
67:j:23:ARG:CZ	67:j:42:GLY:HA2	2.50	0.41
70:m:133:HIS:HA	70:m:162:SER:CB	2.50	0.41
75:r:105:VAL:HG11	75:r:119:PHE:HB3	2.03	0.41
76:s:120:ASP:OD2	76:s:122:ARG:HB2	2.19	0.41
77:t:71:PHE:O	77:t:71:PHE:CD2	2.74	0.41
78:u:99:HIS:CE1	78:u:101:LEU:HD21	2.56	0.41
80:w:69:LYS:HG3	80:w:80:GLU:OE1	2.21	0.41
7:6:30:PRO:O	7:6:35:TYR:HB2	2.21	0.41
7:6:36:LYS:HE3	70:m:38:ASN:HA	2.03	0.41
11:AA:9:U:H2'	11:AA:10:C:C6	2.55	0.41
11:AA:731:U:H2'	11:AA:732:C:C6	2.56	0.41
11:AA:1230:G:C8	11:AA:1281:G:C2	3.09	0.41
11:AA:1473:G:OP2	19:D:8:LYS:NZ	2.53	0.41
11:AA:1747:G:H21	54:W:2:ALA:HB1	1.86	0.41
11:AA:2351:U:H2'	11:AA:2352:A:C8	2.54	0.41
11:AA:2844:C:N4	11:AA:2898:G:H22	2.19	0.41
11:AA:2896:A:OP1	56:Y:102:ARG:NE	2.44	0.41
11:AA:3364:C:H2'	11:AA:3365:U:H6	1.85	0.41
12:Aa:463:LEU:HD23	12:Aa:463:LEU:HA	1.92	0.41
12:Aa:570:GLU:OE2	12:Aa:591:GLU:HG2	2.21	0.41
13:B:119:VAL:HA	13:B:145:HIS:O	2.21	0.41
14:BB:22:A:C6	30:HH:272:TYR:CZ	3.08	0.41
17:CC:94:C:OP1	53:V:76:ASN:ND2	2.37	0.41
28:GG:151:VAL:HA	28:GG:250:TRP:O	2.20	0.41
30:HH:116:ASP:OD1	30:HH:117:GLU:N	2.53	0.41
34:JJ:47:ARG:NH1	34:JJ:179:LEU:HG	2.36	0.41
34:JJ:110:ARG:HH12	34:JJ:206:LYS:NZ	2.19	0.41
37:L:68:ILE:HG12	37:L:119:GLU:HG3	2.02	0.41
44:OO:75:PHE:O	44:OO:98:ASP:N	2.45	0.41
45:P:36:ILE:HD11	45:P:73:LEU:CD1	2.50	0.41
59:b:84:ARG:HG2	59:b:88:GLU:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:154:G:C6	60:c:161:U:O2	2.74	0.41
60:c:446:A:OP1	65:h:59:ARG:NH1	2.54	0.41
60:c:473:A:H2'	60:c:474:A:O4'	2.21	0.41
60:c:1229:G:H1'	60:c:1255:G:C2	2.56	0.41
61:d:79:ARG:NH2	61:d:125:ASP:OD2	2.53	0.41
62:e:121:ILE:HD12	62:e:161:ILE:HD12	2.03	0.41
65:h:176:ASP:O	65:h:179:LYS:HG2	2.21	0.41
69:l:114:GLU:CD	69:l:121:LEU:HD11	2.46	0.41
70:m:42:ILE:H	70:m:42:ILE:HD12	1.85	0.41
70:m:147:MET:H	70:m:147:MET:HE2	1.85	0.41
71:n:19:GLY:HA2	71:n:68:LEU:HD12	2.02	0.41
71:n:74:GLU:O	71:n:77:ARG:HB3	2.21	0.41
74:q:15:GLY:HA3	74:q:76:ILE:HD11	2.02	0.41
76:s:38:LEU:HA	76:s:45:ARG:HH12	1.84	0.41
76:s:54:LEU:HD22	76:s:112:TYR:HD2	1.86	0.41
77:t:44:LYS:O	77:t:47:ARG:HG2	2.21	0.41
79:v:52:GLY:HA2	79:v:55:TYR:HD1	1.85	0.41
1:0:52:LYS:HA	1:0:55:VAL:HG22	2.02	0.41
1:0:112:LYS:HZ1	60:c:57:G:C5'	2.33	0.41
2:1:82:HIS:HA	2:1:85:LYS:HG2	2.03	0.41
8:7:91:LEU:HD23	8:7:100:TYR:HB2	2.03	0.41
8:7:167:VAL:HG11	8:7:183:LEU:HD23	2.03	0.41
8:7:205:SER:HB3	8:7:207:ASP:OD1	2.21	0.41
10:A:79:ILE:HG21	10:A:138:LEU:HD11	2.02	0.41
11:AA:6:A:C6	11:AA:7:C:C5	3.09	0.41
11:AA:244:G:C4	11:AA:245:U:O2	2.73	0.41
11:AA:422:A:C2	11:AA:2363:A:H4'	2.56	0.41
11:AA:677:A:OP2	16:C:107:THR:HG21	2.21	0.41
11:AA:835:G:O2'	11:AA:836:A:OP2	2.38	0.41
11:AA:909:G:OP2	48:QQ:77:LYS:NZ	2.33	0.41
11:AA:1027:A:C6	11:AA:1029:G:H1'	2.56	0.41
11:AA:1348:U:H4'	11:AA:1348:U:OP1	2.21	0.41
11:AA:1349:G:H2'	11:AA:1350:A:N3	2.36	0.41
11:AA:1349:G:H5'	28:GG:291:ASN:OD1	2.20	0.41
11:AA:1448:U:H2'	11:AA:1449:A2M:H8	2.03	0.41
11:AA:1639:C:OP1	50:S:52:GLN:HB3	2.21	0.41
11:AA:1724:U:O2'	11:AA:1725:C:H5"	2.20	0.41
11:AA:1738:C:H1'	50:S:52:GLN:NE2	2.36	0.41
11:AA:1868:G:O2'	11:AA:2118:C:O2'	2.25	0.41
11:AA:2291:A:C6	11:AA:2292:U:C4	3.09	0.41
11:AA:2432:A:N1	11:AA:2598:G:C6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:2534:G:N1	11:AA:2545:C:N3	2.44	0.41
11:AA:2536:A:H4'	62:e:226:GLY:HA2	2.03	0.41
11:AA:2569:A:O2'	11:AA:2570:U:H5"	2.21	0.41
11:AA:2585:G:H21	36:KK:60:ARG:NH1	2.13	0.41
11:AA:2771:U:H5"	58:a:15:LYS:NZ	2.36	0.41
11:AA:2837:A:C6	11:AA:2850:G:C6	3.09	0.41
11:AA:3038:U:H2'	11:AA:3039:C:O4'	2.21	0.41
11:AA:3077:A:N6	11:AA:3080:G:C5	2.89	0.41
11:AA:3113:A:C2	11:AA:3122:A:C4	3.09	0.41
11:AA:3191:G:C6	11:AA:3192:U:C4	3.09	0.41
11:AA:3234:A:H2'	11:AA:3235:C:O4'	2.21	0.41
12:Aa:81:MET:HE1	12:Aa:339:VAL:HG11	2.02	0.41
12:Aa:223:ARG:HH22	12:Aa:241:MET:HE2	1.86	0.41
12:Aa:350:ALA:HA	12:Aa:370:LYS:HZ2	1.85	0.41
12:Aa:380:LEU:HD21	12:Aa:456:LEU:HD11	2.02	0.41
12:Aa:380:LEU:HD12	12:Aa:399:ARG:O	2.21	0.41
12:Aa:717:PHE:CE2	12:Aa:722:PRO:HB3	2.55	0.41
13:B:108:ASP:HB3	13:B:152:GLU:OE1	2.20	0.41
15:Bb:3:G:C2	15:Bb:71:G:C6	3.09	0.41
15:Bb:30:G:C2	15:Bb:31:A:H1'	2.56	0.41
16:C:112:ALA:O	16:C:116:LYS:HG2	2.20	0.41
16:C:122:ILE:HG21	16:C:130:ARG:HH12	1.86	0.41
17:CC:140:G:O2'	48:QQ:109:ARG:NH1	2.54	0.41
18:Cc:8:U:O4	18:Cc:14:A:N7	2.53	0.41
18:Cc:76:C:H1'	58:a:55:LYS:HB3	2.03	0.41
23:EE:125:ALA:HB3	23:EE:126:LEU:HD12	2.03	0.41
23:EE:184:ARG:NH2	59:b:14:TYR:OH	2.54	0.41
26:FF:264:VAL:O	26:FF:266:ARG:HG2	2.21	0.41
27:G:42:LYS:HD3	27:G:45:GLY:O	2.20	0.41
28:GG:22:LEU:HA	28:GG:22:LEU:HD12	1.92	0.41
29:H:72:LYS:HE2	29:H:72:LYS:HB3	1.90	0.41
30:HH:106:ALA:HB3	30:HH:169:GLY:HA3	2.03	0.41
30:HH:143:LYS:HG2	30:HH:172:TYR:CD2	2.56	0.41
31:I:48:ARG:HG3	31:I:48:ARG:H	1.80	0.41
31:I:48:ARG:HD2	31:I:49:ILE:N	2.36	0.41
33:J:105:VAL:HA	33:J:130:TYR:CE2	2.56	0.41
34:JJ:84:VAL:HG12	34:JJ:138:TYR:CD1	2.56	0.41
37:L:89:VAL:HG23	37:L:89:VAL:O	2.20	0.41
41:N:27:TYR:CE1	41:N:30:PRO:HA	2.55	0.41
41:N:50:THR:O	41:N:54:LEU:HD23	2.21	0.41
44:OO:122:LYS:HD3	51:T:120:ALA:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:PP:76:ALA:HB1	46:PP:80:THR:HB	2.03	0.41
51:T:51:ILE:HA	51:T:54:VAL:HG12	2.03	0.41
52:U:43:LEU:O	52:U:46:GLU:HG2	2.21	0.41
58:a:25:VAL:HA	58:a:71:ARG:O	2.21	0.41
60:c:209:U:H1'	69:l:180:ASP:OD2	2.20	0.41
60:c:276:C:H2'	60:c:277:U:H5"	2.03	0.41
60:c:397:A:H4'	69:l:50:GLY:C	2.46	0.41
60:c:625:C:H2'	60:c:626:U:H6	1.83	0.41
60:c:885:G:H2'	60:c:886:U:C6	2.56	0.41
60:c:1090:C:H2'	60:c:1091:A:H5"	2.02	0.41
60:c:1125:A:C5	60:c:1126:OMG:H1'	2.55	0.41
60:c:1175:U:H2'	60:c:1176:G:H8	1.86	0.41
60:c:1370:U:C6	60:c:1371:A:H8	2.38	0.41
60:c:1395:G:H2'	60:c:1396:U:O4'	2.21	0.41
60:c:1436:A:H2'	60:c:1437:U:O4'	2.21	0.41
60:c:1626:U:H2'	60:c:1627:U:C6	2.55	0.41
60:c:1662:G:C2	60:c:1663:G:C5	3.09	0.41
61:d:143:VAL:O	61:d:157:ASP:HB2	2.21	0.41
61:d:143:VAL:HG23	61:d:157:ASP:H	1.84	0.41
62:e:157:GLN:C	62:e:159:SER:H	2.29	0.41
63:f:104:VAL:C	63:f:190:LEU:HD21	2.46	0.41
64:g:11:LEU:HD23	64:g:11:LEU:HA	1.88	0.41
64:g:51:ARG:NE	64:g:92:GLN:HE22	2.18	0.41
65:h:124:GLY:HA2	65:h:142:HIS:CE1	2.56	0.41
66:i:44:ASN:OD1	66:i:45:LYS:N	2.54	0.41
67:j:3:LEU:HB3	67:j:111:LEU:HD21	2.02	0.41
67:j:21:GLU:CD	67:j:25:ARG:NH1	2.79	0.41
69:l:26:LYS:C	69:l:28:GLU:H	2.28	0.41
69:l:120:THR:O	69:l:120:THR:HG22	2.21	0.41
70:m:49:LEU:HD12	70:m:49:LEU:HA	1.82	0.41
72:o:94:ILE:O	72:o:94:ILE:HG13	2.21	0.41
72:o:118:GLN:HG2	72:o:119:VAL:N	2.35	0.41
73:p:87:ASP:OD1	73:p:129:TYR:OH	2.35	0.41
75:r:118:GLU:HB2	78:u:122:HIS:HB2	2.03	0.41
76:s:21:HIS:O	76:s:65:ILE:HA	2.21	0.41
76:s:23:LYS:HA	76:s:23:LYS:HD2	1.89	0.41
77:t:53:TYR:O	77:t:57:LEU:HD23	2.20	0.41
78:u:80:LYS:HE2	78:u:80:LYS:HB2	1.93	0.41
80:w:50:LEU:HD12	80:w:94:GLU:O	2.21	0.41
81:x:73:ALA:HB1	81:x:79:LEU:HD13	2.02	0.41
6:5:54:LYS:HE2	80:w:80:GLU:OE2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:208:C:H2'	11:AA:209:A:O4'	2.21	0.41
11:AA:288:C:OP1	48:QQ:170:LYS:NZ	2.54	0.41
11:AA:376:G:P	35:K:89:LYS:HE3	2.61	0.41
11:AA:2569:A:N1	11:AA:2573:G:C6	2.89	0.41
11:AA:2581:U:H2'	11:AA:2582:C:C6	2.56	0.41
11:AA:2963:C:H2'	11:AA:2964:G:H8	1.85	0.41
12:Aa:70:ILE:HD13	12:Aa:540:ILE:HG12	2.03	0.41
12:Aa:94:ASP:OD1	12:Aa:94:ASP:N	2.53	0.41
12:Aa:305:ILE:HG12	12:Aa:327:PHE:HB2	2.03	0.41
14:BB:23:A:H2'	14:BB:24:A:C8	2.56	0.41
16:C:39:ARG:CZ	28:GG:302:ALA:HB2	2.51	0.41
17:CC:18:U:C4	17:CC:19:C:C4	3.09	0.41
17:CC:150:G:O2'	36:KK:59:GLN:NE2	2.54	0.41
18:Cc:31:G:C5	18:Cc:43:G:C5	3.09	0.41
18:Cc:37:U:C2	18:Cc:38:A:C8	3.09	0.41
26:FF:216:ASP:HB2	26:FF:339:ARG:HG2	2.03	0.41
30:HH:136:GLU:OE1	30:HH:136:GLU:N	2.43	0.41
40:MM:115:MET:HE3	40:MM:115:MET:HB3	1.97	0.41
42:NN:10:ARG:HB3	42:NN:133:ARG:HD3	2.03	0.41
58:a:6:LYS:O	58:a:7:THR:OG1	2.33	0.41
60:c:26:A:C4	60:c:27:U:C5	3.09	0.41
60:c:432:G:H2'	60:c:433:C:C6	2.56	0.41
60:c:610:G:HO2'	60:c:613:G:HO2'	1.57	0.41
60:c:769:A:H2'	60:c:770:A:C8	2.55	0.41
60:c:872:G:H2'	60:c:873:U:O4'	2.21	0.41
60:c:1523:G:P	60:c:1523:G:H21	2.43	0.41
60:c:1664:C:H2'	60:c:1665:U:O4'	2.21	0.41
62:e:115:ARG:HG3	62:e:116:LYS:N	2.35	0.41
63:f:103:VAL:HG12	63:f:190:LEU:HD22	2.03	0.41
70:m:162:SER:O	70:m:164:PHE:N	2.46	0.41
72:o:15:LYS:NZ	72:o:19:ILE:O	2.53	0.41
74:q:128:LYS:HA	74:q:128:LYS:HD2	1.87	0.41
81:x:38:LYS:HG3	81:x:49:GLU:C	2.46	0.41
6:5:43:PHE:CZ	80:w:65:ILE:HG21	2.55	0.40
7:6:50:VAL:HG13	7:6:53:LYS:O	2.21	0.40
9:8:138:ARG:HG3	9:8:138:ARG:HH11	1.85	0.40
11:AA:146:U:O2	11:AA:148:G:N1	2.54	0.40
11:AA:210:U:C2	11:AA:230:U:H4'	2.56	0.40
11:AA:237:G:C2	11:AA:238:A:N7	2.89	0.40
11:AA:309:U:OP1	52:U:80:PHE:HE2	2.04	0.40
11:AA:543:C:H2'	11:AA:544:C:C2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:646:A:H2'	11:AA:647:A:O4'	2.20	0.40
11:AA:842:G:H2'	11:AA:843:A:H8	1.86	0.40
11:AA:1114:U:H5"	39:M:22:ILE:CD1	2.51	0.40
11:AA:1157:G:OP1	34:JJ:90:LYS:NZ	2.54	0.40
11:AA:1348:U:H4'	11:AA:1349:G:OP1	2.16	0.40
11:AA:1619:A:H2'	11:AA:1620:U:O4'	2.21	0.40
11:AA:1624:G:O6	11:AA:1819:U:C2	2.74	0.40
11:AA:2471:U:H2'	11:AA:2473:C:N3	2.35	0.40
11:AA:3385:U:H2'	11:AA:3386:G:C8	2.57	0.40
12:Aa:5:THR:OG1	12:Aa:6:VAL:N	2.53	0.40
12:Aa:380:LEU:CD2	12:Aa:456:LEU:HD11	2.50	0.40
12:Aa:433:ARG:HH22	60:c:53:G:C4'	2.33	0.40
12:Aa:580:PRO:O	12:Aa:582:LYS:NZ	2.33	0.40
12:Aa:647:ILE:HD11	12:Aa:649:GLN:HE22	1.86	0.40
12:Aa:771:TYR:CE2	12:Aa:800:HIS:CE1	3.04	0.40
13:B:36:ILE:HD11	13:B:95:LEU:HD11	2.01	0.40
13:B:118:GLN:HE22	17:CC:12:A:H1'	1.86	0.40
15:Bb:4:G:N2	15:Bb:70:C:C2	2.89	0.40
16:C:54:LEU:HD23	16:C:58:ASN:HB3	2.03	0.40
18:Cc:30:G:C5	18:Cc:44:A:C6	3.08	0.40
20:DD:119:ILE:O	20:DD:157:LYS:HA	2.21	0.40
22:E:94:ILE:HD13	22:E:102:ALA:O	2.21	0.40
22:E:149:LYS:HD3	46:PP:16:GLU:OE1	2.21	0.40
26:FF:122:TRP:CZ2	26:FF:127:LYS:HE3	2.56	0.40
29:H:54:LEU:HA	29:H:78:VAL:HG12	2.03	0.40
33:J:63:ILE:HG23	33:J:63:ILE:O	2.21	0.40
38:LL:20:ILE:HG21	38:LL:20:ILE:HD13	1.84	0.40
38:LL:112:ILE:HD11	38:LL:134:ILE:HD12	2.02	0.40
42:NN:60:ARG:HG3	42:NN:63:GLU:HG2	2.03	0.40
45:P:16:LEU:O	45:P:20:LEU:HB2	2.21	0.40
45:P:50:ARG:HD3	45:P:90:PHE:CD2	2.56	0.40
48:QQ:31:ARG:O	48:QQ:65:ARG:NH1	2.46	0.40
55:X:25:GLN:NE2	55:X:28:ARG:HH12	2.16	0.40
60:c:211:U:O3'	72:o:20:PHE:HE1	2.04	0.40
60:c:452:A:O2'	60:c:453:U:H5'	2.21	0.40
60:c:899:G:O5'	74:q:46:MET:HA	2.21	0.40
60:c:1078:C:H2'	60:c:1079:U:C6	2.56	0.40
60:c:1209:C:C2	60:c:1455:G:N2	2.89	0.40
61:d:67:ILE:HD13	61:d:67:ILE:HA	1.93	0.40
66:i:69:PHE:CD2	66:i:70:VAL:N	2.90	0.40
66:i:165:LEU:O	66:i:168:VAL:HG22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:t:7:LYS:O	77:t:11:ARG:HG3	2.21	0.40
79:v:28:LEU:HA	79:v:55:TYR:OH	2.21	0.40
79:v:84:LYS:HD2	79:v:94:ILE:HD13	2.03	0.40
79:v:93:HIS:CD2	79:v:93:HIS:C	2.98	0.40
80:w:97:VAL:HA	80:w:100:VAL:HG12	2.03	0.40
2:1:71:ILE:HG22	2:1:72:GLY:O	2.21	0.40
4:3:2:VAL:HG13	81:x:64:GLU:OE1	2.21	0.40
4:3:56:CYS:SG	4:3:63:LEU:HD12	2.61	0.40
8:7:111:MET:H	8:7:126:SER:HA	1.86	0.40
10:A:143:THR:HA	10:A:150:GLU:OE2	2.21	0.40
11:AA:552:G:C5	11:AA:553:U:C4	3.10	0.40
11:AA:714:G:C4	39:M:113:LEU:HD11	2.56	0.40
11:AA:715:A:N6	11:AA:782:U:H5'	2.36	0.40
11:AA:949:C:H4'	16:C:8:LYS:HE3	2.03	0.40
11:AA:987:U:C2	11:AA:1098:A:C2	3.09	0.40
11:AA:1221:A:N3	20:DD:5:ARG:NH1	2.69	0.40
11:AA:1270:A:H2'	11:AA:1271:A:C8	2.55	0.40
11:AA:1384:U:OP2	28:GG:202:ARG:NE	2.37	0.40
11:AA:1427:U:OP2	39:M:4:ARG:NH1	2.50	0.40
11:AA:2194:G:H2'	11:AA:2195:C:H6	1.86	0.40
11:AA:2578:U:H2'	11:AA:2579:G:O4'	2.21	0.40
11:AA:2655:U:H4'	11:AA:2656:A:O4'	2.20	0.40
11:AA:2812:C:H2'	11:AA:2813:A:C8	2.56	0.40
11:AA:2852:C:O3'	40:MM:30:LYS:NZ	2.55	0.40
11:AA:3035:A:C2	38:LL:121:LYS:HD2	2.56	0.40
11:AA:3347:A:H2'	11:AA:3348:G:C8	2.55	0.40
12:Aa:435:VAL:HB	12:Aa:442:VAL:CG1	2.50	0.40
12:Aa:574:THR:HA	12:Aa:589:LYS:HE2	2.03	0.40
15:Bb:19:G:H3'	15:Bb:20:G:H8	1.85	0.40
20:DD:159:VAL:HG12	20:DD:160:ASP:N	2.36	0.40
26:FF:282:ILE:HG23	26:FF:322:ILE:HG23	2.03	0.40
28:GG:5:GLN:HB3	28:GG:19:ALA:HB1	2.02	0.40
28:GG:145:ILE:HG22	28:GG:146:PRO:O	2.22	0.40
28:GG:233:LEU:H	28:GG:233:LEU:HD23	1.85	0.40
29:H:79:VAL:HB	29:H:118:VAL:HG12	2.03	0.40
32:II:145:LEU:O	32:II:149:ILE:HG12	2.21	0.40
34:JJ:106:LEU:HD11	34:JJ:117:VAL:HG22	2.03	0.40
38:LL:49:ASN:C	38:LL:51:GLN:H	2.29	0.40
38:LL:87:LYS:HE3	38:LL:145:VAL:HG13	2.03	0.40
39:M:81:LEU:CD2	39:M:102:ILE:HG23	2.47	0.40
48:QQ:66:VAL:CG2	48:QQ:102:ALA:HB2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R:45:LEU:HA	49:R:45:LEU:HD12	1.76	0.40
52:U:50:LEU:HD23	52:U:50:LEU:HA	1.86	0.40
52:U:85:ALA:O	52:U:89:GLU:HG2	2.21	0.40
60:c:59:C:O2'	60:c:60:U:OP2	2.37	0.40
60:c:112:A:H4'	72:o:67:ARG:O	2.22	0.40
60:c:330:G:O2'	69:l:33:PRO:HB3	2.20	0.40
60:c:514:G:N3	60:c:515:A:C8	2.89	0.40
60:c:1170:G:C2	60:c:1171:A:N7	2.90	0.40
60:c:1203:A:H2'	60:c:1204:A:H5'	2.03	0.40
60:c:1322:A:H2	61:d:109:ASN:ND2	2.19	0.40
60:c:1359:C:C2	60:c:1360:A:C8	3.09	0.40
60:c:1508:U:H2'	60:c:1509:C:C6	2.56	0.40
64:g:196:ARG:HB2	64:g:196:ARG:CZ	2.52	0.40
65:h:100:ARG:CG	65:h:114:ILE:HD13	2.50	0.40
67:j:3:LEU:HG	67:j:109:LEU:HB2	2.03	0.40
69:l:98:LYS:CD	69:l:172:ARG:HG2	2.48	0.40
74:q:13:VAL:CG1	74:q:76:ILE:HA	2.50	0.40
77:t:113:LEU:HD12	77:t:114:GLY:N	2.35	0.40
10:A:36:VAL:HB	10:A:108:ILE:HG12	2.02	0.40
11:AA:949:C:O2'	11:AA:971:G:H5"	2.22	0.40
11:AA:1446:A:H5"	13:B:65:SER:OG	2.22	0.40
11:AA:1496:C:H5'	11:AA:1842:A:N1	2.37	0.40
11:AA:2853:A:P	40:MM:30:LYS:HZ3	2.43	0.40
11:AA:2880:U:O2	26:FF:250:ALA:HB3	2.21	0.40
11:AA:3008:A:N6	11:AA:3139:A:H61	2.19	0.40
11:AA:3324:C:P	45:P:19:ARG:HH22	2.45	0.40
16:C:50:LYS:HD2	16:C:50:LYS:HA	1.94	0.40
17:CC:66:A:H5'	51:T:10:ARG:HH22	1.85	0.40
19:D:72:GLU:O	19:D:74:ARG:NH2	2.54	0.40
20:DD:25:LEU:HD13	20:DD:86:PHE:CD1	2.54	0.40
23:EE:48:ILE:HD12	59:b:54:ILE:HG22	2.04	0.40
24:Ee:142:ARG:HD3	24:Ee:143:VAL:N	2.35	0.40
26:FF:218:ILE:HD12	26:FF:276:THR:HG22	2.03	0.40
28:GG:300:ARG:NH1	28:GG:301:PRO:O	2.55	0.40
30:HH:117:GLU:O	30:HH:120:LYS:NZ	2.53	0.40
33:J:105:VAL:HG11	33:J:126:LEU:HD22	2.03	0.40
39:M:103:ASP:OD1	39:M:126:LYS:HD3	2.21	0.40
42:NN:99:THR:O	42:NN:99:THR:HG22	2.22	0.40
43:O:47:ASN:ND2	43:O:74:ASN:H	2.14	0.40
43:O:78:GLY:HA2	43:O:81:VAL:HG12	2.03	0.40
46:PP:59:ASN:HB2	46:PP:62:GLN:OE1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:QQ:73:ARG:HA	48:QQ:74:PRO:HD3	1.82	0.40
48:QQ:100:ALA:O	48:QQ:104:GLU:HG2	2.21	0.40
50:S:57:LEU:HB3	50:S:61:GLN:HB2	2.04	0.40
60:c:3:U:O2'	60:c:4:C:O4'	2.39	0.40
60:c:208:U:H4'	69:l:176:SER:HB2	2.03	0.40
60:c:336:G:H2'	60:c:338:C:H5	1.87	0.40
60:c:435:C:OP1	60:c:435:C:H6	2.04	0.40
60:c:1119:G:H2'	60:c:1120:U:C6	2.56	0.40
60:c:1373:C:C3'	60:c:1374:C:H6	2.34	0.40
60:c:1473:U:OP2	66:i:190:ILE:HG22	2.22	0.40
60:c:1569:A:O5'	60:c:1569:A:H8	2.04	0.40
60:c:1677:C:OP1	69:l:58:LEU:HD13	2.21	0.40
60:c:1783:C:H2'	60:c:1784:C:C6	2.56	0.40
60:c:1787:C:H2'	60:c:1788:G:C8	2.56	0.40
61:d:11:PRO:O	61:d:15:GLN:OE1	2.39	0.40
61:d:63:ILE:CD1	81:x:36:VAL:HG22	2.51	0.40
61:d:195:TRP:NE1	61:d:197:ILE:HD13	2.35	0.40
62:e:66:VAL:O	62:e:85:LYS:HA	2.21	0.40
62:e:142:PHE:O	62:e:207:LEU:HA	2.21	0.40
65:h:154:ILE:HD11	65:h:172:PHE:CD2	2.56	0.40
66:i:163:SER:OG	66:i:164:PRO:HD2	2.21	0.40
69:l:104:ILE:HD11	69:l:165:LEU:HD23	2.03	0.40
72:o:13:PHE:CE1	72:o:15:LYS:HB2	2.56	0.40
76:s:16:ALA:HB2	76:s:72:GLY:HA3	2.03	0.40
77:t:49:LYS:HE3	77:t:49:LYS:HB3	1.75	0.40
80:w:31:VAL:O	80:w:35:GLU:HG3	2.21	0.40
82:y:37:PHE:CZ	82:y:103:ILE:HG13	2.56	0.40
1:0:20:ARG:HD2	1:0:74:LEU:HD22	2.04	0.40
1:0:112:LYS:HG2	1:0:116:LYS:NZ	2.36	0.40
6:5:44:ARG:NH2	60:c:1279:C:O3'	2.50	0.40
8:7:147:HIS:ND1	8:7:175:ASP:OD2	2.55	0.40
10:A:35:VAL:HG21	10:A:80:PHE:CE2	2.54	0.40
11:AA:191:U:H2'	11:AA:192:C:H6	1.85	0.40
11:AA:647:A:OP2	11:AA:647:A:H8	2.04	0.40
11:AA:840:C:H4'	19:D:128:LYS:HD3	2.03	0.40
11:AA:1313:G:O2'	11:AA:1318:A:N1	2.47	0.40
11:AA:2338:C:OP1	26:FF:236:LYS:HE2	2.21	0.40
11:AA:2448:G:C6	11:AA:2501:U:O2	2.74	0.40
11:AA:3008:A:H2'	11:AA:3009:G:H8	1.87	0.40
12:Aa:34:THR:HG23	88:Aa:1001:GTP:O1A	2.22	0.40
12:Aa:132:ILE:HG21	12:Aa:162:ARG:NH2	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Aa:423:LYS:NZ	12:Aa:424:ASP:O	2.44	0.40
13:B:48:LEU:HD23	13:B:48:LEU:HA	1.94	0.40
14:BB:77:G:N2	14:BB:102:A:O5'	2.53	0.40
15:Bb:60:C:H5"	15:Bb:61:C:C5	2.56	0.40
17:CC:28:C:H2'	17:CC:29:U:C6	2.55	0.40
18:Cc:66:C:H2'	18:Cc:67:C:H6	1.85	0.40
22:E:59:VAL:HA	34:JJ:77:VAL:HG22	2.04	0.40
22:E:124:LEU:HA	25:F:153:PRO:HG2	2.04	0.40
23:EE:118:GLU:HG2	23:EE:126:LEU:HD11	2.04	0.40
26:FF:50:LYS:HD3	26:FF:331:ASN:C	2.47	0.40
26:FF:106:TRP:CD1	26:FF:106:TRP:N	2.90	0.40
31:I:35:LYS:HE3	31:I:51:TRP:CZ3	2.56	0.40
34:JJ:160:ARG:HD2	34:JJ:203:TRP:CE2	2.56	0.40
35:K:76:LEU:HD23	35:K:76:LEU:HA	1.97	0.40
36:KK:64:ILE:HD11	36:KK:68:ARG:NH2	2.36	0.40
42:NN:47:GLN:CG	42:NN:64:LYS:HE2	2.51	0.40
48:QQ:5:LYS:HD3	52:U:36:ARG:NH1	2.37	0.40
48:QQ:27:VAL:HB	48:QQ:122:ASN:ND2	2.37	0.40
49:R:7:LEU:HD23	49:R:7:LEU:HA	1.89	0.40
50:S:10:ARG:HD3	55:X:4:GLN:NE2	2.36	0.40
52:U:86:LYS:O	52:U:90:MET:HG2	2.21	0.40
53:V:4:GLY:O	53:V:8:PHE:HD1	2.04	0.40
57:Z:21:ARG:HE	57:Z:21:ARG:HB2	1.53	0.40
60:c:152:U:O4'	67:j:13:GLN:NE2	2.44	0.40
60:c:159:U:O2'	67:j:87:ARG:NE	2.54	0.40
60:c:166:C:O2	60:c:166:C:H2'	2.21	0.40
60:c:889:U:H2'	60:c:890:C:H6	1.86	0.40
60:c:1201:G:N2	60:c:1600:A:H5'	2.36	0.40
60:c:1334:U:H2'	60:c:1335:U:C6	2.56	0.40
60:c:1371:A:C6	60:c:1372:U:N3	2.90	0.40
60:c:1575:G7M:H8	60:c:1575:G7M:O5'	2.20	0.40
61:d:57:LEU:HD21	61:d:173:ILE:CD1	2.52	0.40
61:d:188:LEU:HD11	61:d:195:TRP:CD1	2.56	0.40
63:f:235:LEU:HD23	81:x:52:THR:HG23	2.02	0.40
64:g:95:GLY:HA2	64:g:101:GLN:NE2	2.36	0.40
64:g:173:ARG:HD3	64:g:173:ARG:HA	1.85	0.40
67:j:135:PRO:HB2	67:j:141:ILE:CG1	2.52	0.40
68:k:121:VAL:O	68:k:125:ILE:HG13	2.21	0.40
1:0:96:LEU:O	1:0:97:ALA:C	2.63	0.40
10:A:46:GLU:OE2	10:A:47:PHE:N	2.53	0.40
11:AA:69:C:O2'	11:AA:101:G:H4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:384:A:H2'	11:AA:385:A:O4'	2.21	0.40
11:AA:520:U:O2	34:JJ:67:ARG:NH2	2.55	0.40
11:AA:585:A:H4'	49:R:72:THR:OG1	2.22	0.40
11:AA:675:C:H2'	11:AA:676:G:O4'	2.20	0.40
11:AA:989:A:H2'	11:AA:990:U:C6	2.56	0.40
11:AA:2156:C:H2'	11:AA:2178:A:H61	1.86	0.40
11:AA:2180:G:H2'	11:AA:2181:C:H6	1.83	0.40
11:AA:2207:A:H2	11:AA:2236:G:H1	1.63	0.40
11:AA:2673:A:O2'	42:NN:126:ASP:OD1	2.21	0.40
11:AA:2777:G:O6	39:M:60:TYR:HA	2.22	0.40
11:AA:2897:A:H5"	56:Y:125:LYS:HG3	2.03	0.40
11:AA:2976:A:H2'	11:AA:2977:G:O4'	2.22	0.40
11:AA:3020:U:C4	11:AA:3021:A:C5	3.09	0.40
11:AA:3082:C:H2'	11:AA:3083:G:C8	2.57	0.40
11:AA:3197:G:O2'	11:AA:3198:U:H3'	2.21	0.40
11:AA:3258:U:O2'	11:AA:3260:G:OP1	2.37	0.40
12:Aa:47:SER:HB3	60:c:416:A:N3	2.37	0.40
12:Aa:595:GLU:O	12:Aa:598:SER:OG	2.28	0.40
14:BB:33:U:C2	30:HH:207:TYR:CD1	3.10	0.40
14:BB:81:U:H2'	14:BB:82:G:C8	2.56	0.40
14:BB:98:C:OP1	22:E:39:SER:OG	2.34	0.40
17:CC:8:C:H2'	17:CC:9:A:C8	2.56	0.40
18:Cc:44:A:H2'	18:Cc:45:A:H8	1.86	0.40
18:Cc:49:C:N3	18:Cc:60:A:C4	2.89	0.40
26:FF:144:ILE:H	26:FF:144:ILE:HD12	1.86	0.40
26:FF:163:HIS:HA	26:FF:178:LEU:HA	2.04	0.40
33:J:101:GLU:HG3	33:J:102:LEU:N	2.37	0.40
48:QQ:38:ARG:HD2	48:QQ:62:TYR:CE1	2.57	0.40
50:S:61:GLN:O	50:S:64:THR:OG1	2.40	0.40
51:T:57:VAL:O	51:T:61:GLN:OE1	2.39	0.40
60:c:380:U:C6	70:m:5:PRO:HG3	2.57	0.40
60:c:576:G:H1	83:z:67:ALA:HB3	1.87	0.40
60:c:956:C:H2'	60:c:957:G:H8	1.86	0.40
60:c:1116:A:H2'	60:c:1117:U:O4'	2.22	0.40
60:c:1147:A:H2'	60:c:1148:C:O4'	2.21	0.40
60:c:1207:C:H4'	60:c:1208:A:O4'	2.22	0.40
60:c:1302:U:H2'	60:c:1303:U:H6	1.87	0.40
60:c:1405:G:H2'	60:c:1406:A:H8	1.87	0.40
60:c:1471:A:C8	60:c:1540:G:H1'	2.57	0.40
60:c:1487:A:H2'	60:c:1488:G:O4'	2.21	0.40
60:c:1569:A:H2'	60:c:1570:A:C8	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:c:1624:C:C2	60:c:1625:C:C5	3.10	0.40
60:c:1674:C:H2'	60:c:1675:C:C6	2.57	0.40
60:c:1799:U:O4'	62:e:117:TRP:HH2	2.04	0.40
65:h:121:TYR:CD2	65:h:161:LYS:HE2	2.56	0.40
66:i:21:THR:O	66:i:23:VAL:N	2.53	0.40
66:i:210:ALA:HA	66:i:213:LYS:NZ	2.35	0.40
69:l:76:THR:HG21	69:l:104:ILE:HD12	2.04	0.40
71:n:77:ARG:HH12	71:n:86:ILE:C	2.30	0.40
73:p:114:ARG:HA	73:p:114:ARG:HD3	1.88	0.40
79:v:57:ARG:HA	79:v:57:ARG:HD3	1.96	0.40
79:v:115:GLU:OE2	79:v:123:ARG:NE	2.54	0.40
80:w:65:ILE:CG2	80:w:82:TYR:HB2	2.50	0.40
82:y:14:ILE:HD13	82:y:25:VAL:HG11	2.03	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%)	130 (98%)	2 (2%)	0	100	100
2	1	68/108 (63%)	65 (96%)	3 (4%)	0	100	100
3	2	95/119 (80%)	90 (95%)	5 (5%)	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%)	301 (95%)	15 (5%)	0	100	100
9	8	32/152 (21%)	26 (81%)	6 (19%)	0	100	100
10	A	195/199 (98%)	193 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	Aa	839/842 (100%)	808 (96%)	31 (4%)	0	100	100
13	B	152/184 (83%)	150 (99%)	2 (1%)	0	100	100
16	C	183/186 (98%)	182 (100%)	1 (0%)	0	100	100
19	D	174/189 (92%)	170 (98%)	4 (2%)	0	100	100
20	DD	198/312 (64%)	193 (98%)	5 (2%)	0	100	100
22	E	170/172 (99%)	163 (96%)	7 (4%)	0	100	100
23	EE	250/254 (98%)	246 (98%)	4 (2%)	0	100	100
24	Ee	158/165 (96%)	155 (98%)	3 (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%)	95 (100%)	0	0	100	100
28	GG	359/362 (99%)	350 (98%)	9 (2%)	0	100	100
29	H	127/137 (93%)	126 (99%)	1 (1%)	0	100	100
30	HH	294/297 (99%)	288 (98%)	6 (2%)	0	100	100
31	I	61/155 (39%)	61 (100%)	0	0	100	100
32	II	151/176 (86%)	149 (99%)	2 (1%)	0	100	100
33	J	118/142 (83%)	115 (98%)	3 (2%)	0	100	100
34	JJ	220/244 (90%)	219 (100%)	1 (0%)	0	100	100
35	K	124/127 (98%)	121 (98%)	3 (2%)	0	100	100
36	KK	231/256 (90%)	226 (98%)	5 (2%)	0	100	100
37	L	133/136 (98%)	128 (96%)	4 (3%)	1 (1%)	16	46
38	LL	189/191 (99%)	181 (96%)	8 (4%)	0	100	100
39	M	146/149 (98%)	142 (97%)	4 (3%)	0	100	100
40	MM	213/221 (96%)	206 (97%)	7 (3%)	0	100	100
41	N	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
42	NN	167/174 (96%)	160 (96%)	7 (4%)	0	100	100
43	O	95/105 (90%)	95 (100%)	0	0	100	100
44	OO	191/199 (96%)	178 (93%)	12 (6%)	1 (0%)	25	56
45	P	107/113 (95%)	103 (96%)	4 (4%)	0	100	100
46	PP	134/138 (97%)	133 (99%)	1 (1%)	0	100	100
47	Q	125/130 (96%)	125 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	QQ	201/204 (98%)	194 (96%)	7 (4%)	0	100	100
49	R	104/107 (97%)	103 (99%)	1 (1%)	0	100	100
50	S	107/121 (88%)	107 (100%)	0	0	100	100
51	T	117/120 (98%)	115 (98%)	2 (2%)	0	100	100
52	U	97/100 (97%)	89 (92%)	8 (8%)	0	100	100
53	V	82/88 (93%)	81 (99%)	1 (1%)	0	100	100
54	W	75/78 (96%)	70 (93%)	5 (7%)	0	100	100
55	X	48/51 (94%)	44 (92%)	4 (8%)	0	100	100
56	Y	50/128 (39%)	50 (100%)	0	0	100	100
57	Z	23/25 (92%)	23 (100%)	0	0	100	100
58	a	100/106 (94%)	95 (95%)	5 (5%)	0	100	100
59	b	89/92 (97%)	87 (98%)	2 (2%)	0	100	100
61	d	204/252 (81%)	193 (95%)	11 (5%)	0	100	100
62	e	210/255 (82%)	200 (95%)	10 (5%)	0	100	100
63	f	215/254 (85%)	205 (95%)	10 (5%)	0	100	100
64	g	204/240 (85%)	198 (97%)	6 (3%)	0	100	100
65	h	256/261 (98%)	248 (97%)	8 (3%)	0	100	100
66	i	195/225 (87%)	182 (93%)	13 (7%)	0	100	100
67	j	217/236 (92%)	209 (96%)	8 (4%)	0	100	100
68	k	182/190 (96%)	175 (96%)	7 (4%)	0	100	100
69	l	180/200 (90%)	170 (94%)	10 (6%)	0	100	100
70	m	183/197 (93%)	177 (97%)	6 (3%)	0	100	100
71	n	89/105 (85%)	84 (94%)	3 (3%)	2 (2%)	5	23
72	o	140/156 (90%)	134 (96%)	6 (4%)	0	100	100
73	p	148/151 (98%)	145 (98%)	3 (2%)	0	100	100
74	q	125/137 (91%)	120 (96%)	5 (4%)	0	100	100
75	r	100/142 (70%)	96 (96%)	4 (4%)	0	100	100
76	s	135/143 (94%)	129 (96%)	6 (4%)	0	100	100
77	t	119/136 (88%)	108 (91%)	11 (9%)	0	100	100
78	u	143/146 (98%)	134 (94%)	9 (6%)	0	100	100
79	v	141/144 (98%)	138 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
80	w	98/121 (81%)	98 (100%)	0	0	100	100
81	x	85/87 (98%)	82 (96%)	3 (4%)	0	100	100
82	y	127/130 (98%)	125 (98%)	2 (2%)	0	100	100
83	z	142/145 (98%)	131 (92%)	11 (8%)	0	100	100
All	All	11812/13056 (90%)	11426 (97%)	382 (3%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
71	n	49	LEU
71	n	48	SER
37	L	102	GLU
44	OO	63	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	112/113 (99%)	112 (100%)	0	100	100
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%)	45 (98%)	1 (2%)	47	69
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%)	714 (100%)	0	100	100
13	B	125/146 (86%)	125 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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	318/323 (98%)	317 (100%)	1 (0%)	91	95
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
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%)	153 (99%)	1 (1%)	84	91
45	P	94/97 (97%)	94 (100%)	0	100	100
46	PP	107/109 (98%)	107 (100%)	0	100	100
47	Q	109/111 (98%)	109 (100%)	0	100	100
48	QQ	175/176 (99%)	175 (100%)	0	100	100
49	R	90/91 (99%)	90 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
50	S	94/103 (91%)	94 (100%)	0	100	100
51	T	104/105 (99%)	104 (100%)	0	100	100
52	U	81/82 (99%)	81 (100%)	0	100	100
53	V	69/71 (97%)	69 (100%)	0	100	100
54	W	68/69 (99%)	68 (100%)	0	100	100
55	X	45/46 (98%)	45 (100%)	0	100	100
56	Y	47/116 (40%)	47 (100%)	0	100	100
57	Z	23/23 (100%)	23 (100%)	0	100	100
58	a	87/91 (96%)	86 (99%)	1 (1%)	70	83
59	b	71/72 (99%)	71 (100%)	0	100	100
61	d	165/210 (79%)	165 (100%)	0	100	100
62	e	189/224 (84%)	189 (100%)	0	100	100
63	f	176/205 (86%)	176 (100%)	0	100	100
64	g	167/195 (86%)	167 (100%)	0	100	100
65	h	220/222 (99%)	220 (100%)	0	100	100
66	i	172/191 (90%)	172 (100%)	0	100	100
67	j	188/201 (94%)	188 (100%)	0	100	100
68	k	165/170 (97%)	165 (100%)	0	100	100
69	l	146/161 (91%)	146 (100%)	0	100	100
70	m	158/166 (95%)	158 (100%)	0	100	100
71	n	84/98 (86%)	84 (100%)	0	100	100
72	o	127/137 (93%)	127 (100%)	0	100	100
73	p	127/128 (99%)	127 (100%)	0	100	100
74	q	81/105 (77%)	81 (100%)	0	100	100
75	r	89/118 (75%)	89 (100%)	0	100	100
76	s	114/119 (96%)	114 (100%)	0	100	100
77	t	105/124 (85%)	105 (100%)	0	100	100
78	u	128/129 (99%)	128 (100%)	0	100	100
79	v	115/116 (99%)	115 (100%)	0	100	100
80	w	94/114 (82%)	94 (100%)	0	100	100
81	x	74/74 (100%)	74 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
82	y	110/111 (99%)	110 (100%)	0	100 100
83	z	119/120 (99%)	118 (99%)	1 (1%)	79 89
All	All	10043/10969 (92%)	10038 (100%)	5 (0%)	100 100

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	6	51	ASN
26	FF	104	THR
44	OO	120	GLN
58	a	82	GLN
83	z	63	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (125) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	15	ASN
1	0	63	GLN
1	0	110	GLN
4	3	5	GLN
4	3	26	GLN
4	3	51	GLN
8	7	31	ASN
8	7	52	GLN
8	7	185	GLN
8	7	195	HIS
8	7	200	ASN
9	8	135	HIS
10	A	14	HIS
12	Aa	101	ASN
12	Aa	365	ASN
12	Aa	432	GLN
12	Aa	452	ASN
12	Aa	461	GLN
12	Aa	649	GLN
12	Aa	704	GLN
12	Aa	748	ASN
12	Aa	800	HIS
13	B	34	GLN
13	B	116	HIS

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Mol	Chain	Res	Type
13	B	118	GLN
13	B	133	HIS
13	B	137	ASN
19	D	7	GLN
19	D	92	GLN
19	D	144	GLN
20	DD	98	ASN
20	DD	103	ASN
20	DD	163	ASN
22	E	49	HIS
22	E	89	ASN
22	E	138	GLN
23	EE	215	ASN
23	EE	216	HIS
24	Ee	61	GLN
24	Ee	66	ASN
24	Ee	149	HIS
24	Ee	156	ASN
25	F	22	HIS
26	FF	3	HIS
26	FF	13	HIS
26	FF	121	ASN
26	FF	182	GLN
26	FF	184	ASN
26	FF	371	GLN
27	G	25	ASN
27	G	101	ASN
28	GG	48	GLN
28	GG	307	GLN
30	HH	40	HIS
30	HH	94	ASN
31	I	32	GLN
31	I	42	GLN
31	I	59	HIS
33	J	117	ASN
35	K	26	GLN
35	K	81	GLN
35	K	98	ASN
37	L	127	ASN
38	LL	59	ASN
38	LL	162	GLN
39	M	11	HIS

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Mol	Chain	Res	Type
39	M	40	HIS
40	MM	59	GLN
40	MM	144	ASN
43	O	36	GLN
43	O	47	ASN
44	OO	99	HIS
44	OO	103	ASN
44	OO	112	ASN
46	PP	56	GLN
47	Q	26	HIS
47	Q	35	GLN
48	QQ	70	ASN
48	QQ	86	ASN
48	QQ	117	ASN
49	R	5	HIS
51	T	61	GLN
55	X	33	ASN
56	Y	117	HIS
58	a	82	GLN
61	d	30	GLN
61	d	49	ASN
61	d	109	ASN
61	d	168	HIS
62	e	211	HIS
64	g	92	GLN
65	h	8	HIS
65	h	69	HIS
65	h	98	ASN
66	i	63	GLN
66	i	66	GLN
66	i	86	GLN
66	i	127	GLN
67	j	176	GLN
67	j	210	GLN
68	k	19	GLN
68	k	29	ASN
68	k	42	GLN
68	k	150	GLN
69	l	84	HIS
69	l	88	ASN
69	l	175	GLN
70	m	74	ASN

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Mol	Chain	Res	Type
72	o	138	ASN
73	p	69	ASN
74	q	12	GLN
74	q	80	HIS
74	q	99	GLN
75	r	104	GLN
77	t	48	ASN
77	t	62	GLN
77	t	101	ASN
80	w	33	GLN
80	w	47	GLN
80	w	105	GLN
81	x	7	GLN
82	y	42	GLN
82	y	70	ASN
83	z	10	ASN
83	z	79	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
11	AA	3186/3396 (93%)	592 (18%)	17 (0%)
14	BB	120/121 (99%)	10 (8%)	1 (0%)
15	Bb	75/76 (98%)	36 (48%)	0
17	CC	157/158 (99%)	25 (15%)	0
18	Cc	76/77 (98%)	21 (27%)	0
21	Dd	12/39 (30%)	3 (25%)	0
60	c	1594/1800 (88%)	376 (23%)	0
All	All	5220/5667 (92%)	1063 (20%)	18 (0%)

All (1063) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
11	AA	4	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

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Mol	Chain	Res	Type
11	AA	66	A
11	AA	72	C
11	AA	77	A
11	AA	86	G
11	AA	92	G
11	AA	99	A
11	AA	110	G
11	AA	111	C
11	AA	113	C
11	AA	117	U
11	AA	118	U
11	AA	119	U
11	AA	120	G
11	AA	122	A
11	AA	123	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	161	G
11	AA	164	A
11	AA	170	G
11	AA	172	G
11	AA	175	C
11	AA	177	U
11	AA	187	A
11	AA	190	U
11	AA	200	C
11	AA	219	A
11	AA	240	U
11	AA	241	G
11	AA	242	C
11	AA	243	G
11	AA	244	G
11	AA	245	U
11	AA	247	C
11	AA	248	U
11	AA	249	U
11	AA	252	U
11	AA	253	A

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Mol	Chain	Res	Type
11	AA	265	A
11	AA	269	G
11	AA	286	U
11	AA	295	A
11	AA	298	U
11	AA	315	C
11	AA	329	U
11	AA	346	C
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	404	G
11	AA	420	G
11	AA	421	G
11	AA	422	A
11	AA	503	C
11	AA	515	C
11	AA	521	A
11	AA	523	A
11	AA	532	A
11	AA	533	A
11	AA	534	U
11	AA	536	U
11	AA	544	C
11	AA	545	U
11	AA	546	C
11	AA	547	G
11	AA	548	G
11	AA	557	A
11	AA	559	A
11	AA	560	G
11	AA	589	A
11	AA	592	A
11	AA	597	G
11	AA	601	U
11	AA	602	A
11	AA	604	G
11	AA	607	A
11	AA	611	A

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Mol	Chain	Res	Type
11	AA	620	U
11	AA	621	A
11	AA	636	C
11	AA	637	C
11	AA	649	A2M
11	AA	662	U
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	761	A
11	AA	766	U
11	AA	767	U
11	AA	771	A
11	AA	776	U
11	AA	777	U
11	AA	780	A
11	AA	781	G
11	AA	785	G
11	AA	786	A
11	AA	808	A
11	AA	817	A2M
11	AA	826	G
11	AA	830	A
11	AA	837	A
11	AA	849	C
11	AA	850	U
11	AA	861	C
11	AA	867	OMG
11	AA	874	U
11	AA	879	U
11	AA	880	G
11	AA	896	A
11	AA	897	U
11	AA	907	G
11	AA	908	OMG
11	AA	914	A

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Mol	Chain	Res	Type
11	AA	916	G
11	AA	917	A
11	AA	921	A
11	AA	937	G
11	AA	938	C
11	AA	944	C
11	AA	959	C
11	AA	960	U
11	AA	961	C
11	AA	974	G
11	AA	980	A
11	AA	1006	A
11	AA	1015	U
11	AA	1016	C
11	AA	1017	C
11	AA	1020	G
11	AA	1021	G
11	AA	1027	A
11	AA	1028	U
11	AA	1029	G
11	AA	1031	C
11	AA	1032	C
11	AA	1033	U
11	AA	1034	U
11	AA	1036	A
11	AA	1039	U
11	AA	1043	C
11	AA	1047	A
11	AA	1064	A
11	AA	1066	G
11	AA	1072	G
11	AA	1075	A
11	AA	1081	U
11	AA	1087	G
11	AA	1093	A
11	AA	1096	U
11	AA	1097	G
11	AA	1098	A
11	AA	1103	A
11	AA	1104	G
11	AA	1111	U
11	AA	1117	G

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Mol	Chain	Res	Type
11	AA	1131	G
11	AA	1143	A
11	AA	1144	U
11	AA	1153	A
11	AA	1159	A
11	AA	1160	C
11	AA	1179	A
11	AA	1180	A
11	AA	1181	U
11	AA	1182	A
11	AA	1186	G
11	AA	1193	A
11	AA	1196	C
11	AA	1201	C
11	AA	1208	U
11	AA	1209	G
11	AA	1222	G
11	AA	1228	C
11	AA	1229	G
11	AA	1230	G
11	AA	1235	U
11	AA	1236	G
11	AA	1240	A
11	AA	1242	G
11	AA	1244	A
11	AA	1245	A
11	AA	1246	G
11	AA	1258	U
11	AA	1259	A
11	AA	1262	G
11	AA	1263	A
11	AA	1265	U
11	AA	1272	C
11	AA	1275	C
11	AA	1278	A
11	AA	1280	C
11	AA	1282	G
11	AA	1287	A
11	AA	1295	G
11	AA	1302	A
11	AA	1305	U
11	AA	1307	G

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Mol	Chain	Res	Type
11	AA	1308	A
11	AA	1309	U
11	AA	1316	C
11	AA	1325	U
11	AA	1330	A
11	AA	1331	U
11	AA	1348	U
11	AA	1349	G
11	AA	1350	A
11	AA	1351	U
11	AA	1352	A
11	AA	1355	A
11	AA	1356	U
11	AA	1357	G
11	AA	1386	A
11	AA	1392	G
11	AA	1399	A
11	AA	1400	G
11	AA	1417	G
11	AA	1418	A
11	AA	1425	U
11	AA	1430	U
11	AA	1434	G
11	AA	1437	OMC
11	AA	1446	A
11	AA	1450	OMG
11	AA	1452	A
11	AA	1455	U
11	AA	1468	A
11	AA	1469	C
11	AA	1483	G
11	AA	1496	C
11	AA	1508	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	1568	U
11	AA	1569	U
11	AA	1571	A

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Mol	Chain	Res	Type
11	AA	1573	G
11	AA	1575	A
11	AA	1579	C
11	AA	1581	C
11	AA	1582	C
11	AA	1583	A
11	AA	1587	A
11	AA	1589	A
11	AA	1593	A
11	AA	1596	C
11	AA	1605	A
11	AA	1621	A
11	AA	1628	C
11	AA	1629	U
11	AA	1630	U
11	AA	1642	A
11	AA	1643	A
11	AA	1645	U
11	AA	1647	A
11	AA	1657	C
11	AA	1724	U
11	AA	1725	C
11	AA	1730	G
11	AA	1741	A
11	AA	1742	U
11	AA	1750	A
11	AA	1751	G
11	AA	1756	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	1775	G
11	AA	1794	G
11	AA	1797	A
11	AA	1808	G
11	AA	1814	A
11	AA	1815	U
11	AA	1816	A
11	AA	1817	G

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Mol	Chain	Res	Type
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	1886	A
11	AA	1893	A
11	AA	1901	A
11	AA	1903	U
11	AA	1904	C
11	AA	1905	G
11	AA	1906	G
11	AA	1908	A
11	AA	1935	G
11	AA	1943	C
11	AA	1951	C
11	AA	2096	A
11	AA	2102	U
11	AA	2111	G
11	AA	2114	C
11	AA	2122	G
11	AA	2131	A
11	AA	2139	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	2176	U
11	AA	2188	A
11	AA	2193	U
11	AA	2204	C
11	AA	2206	G
11	AA	2207	A
11	AA	2209	U
11	AA	2214	A
11	AA	2223	A
11	AA	2225	U

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Mol	Chain	Res	Type
11	AA	2244	A
11	AA	2254	U
11	AA	2266	U
11	AA	2267	C
11	AA	2268	U
11	AA	2271	A
11	AA	2273	G
11	AA	2274	U
11	AA	2280	A2M
11	AA	2281	A2M
11	AA	2282	U
11	AA	2307	G
11	AA	2309	A
11	AA	2310	U
11	AA	2313	A
11	AA	2315	G
11	AA	2335	G
11	AA	2336	U
11	AA	2356	A
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	2397	A
11	AA	2402	A
11	AA	2403	G
11	AA	2404	A
11	AA	2411	U
11	AA	2418	G
11	AA	2435	G
11	AA	2437	G
11	AA	2438	A
11	AA	2440	G
11	AA	2444	C
11	AA	2445	A
11	AA	2447	A
11	AA	2448	G
11	AA	2450	G
11	AA	2452	G
11	AA	2453	U

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Mol	Chain	Res	Type
11	AA	2454	G
11	AA	2456	A
11	AA	2460	U
11	AA	2461	A
11	AA	2462	A
11	AA	2463	G
11	AA	2464	U
11	AA	2465	G
11	AA	2467	G
11	AA	2470	C
11	AA	2471	U
11	AA	2472	U
11	AA	2473	C
11	AA	2474	G
11	AA	2476	C
11	AA	2477	G
11	AA	2478	C
11	AA	2479	C
11	AA	2480	A
11	AA	2481	G
11	AA	2483	G
11	AA	2487	U
11	AA	2489	C
11	AA	2490	C
11	AA	2491	A
11	AA	2492	C
11	AA	2494	A
11	AA	2496	C
11	AA	2497	U
11	AA	2498	U
11	AA	2499	U
11	AA	2501	U
11	AA	2503	G
11	AA	2504	U
11	AA	2505	U
11	AA	2510	U
11	AA	2511	A
11	AA	2512	C
11	AA	2513	U
11	AA	2514	U
11	AA	2515	A
11	AA	2524	A

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Mol	Chain	Res	Type
11	AA	2525	G
11	AA	2529	A
11	AA	2533	G
11	AA	2534	G
11	AA	2535	A
11	AA	2536	A
11	AA	2545	C
11	AA	2547	A
11	AA	2548	C
11	AA	2549	G
11	AA	2550	U
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	2587	U
11	AA	2593	A
11	AA	2606	G
11	AA	2607	G
11	AA	2614	G
11	AA	2635	A
11	AA	2648	G
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	2701	U
11	AA	2702	A
11	AA	2704	A
11	AA	2705	A

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Mol	Chain	Res	Type
11	AA	2728	G
11	AA	2729	OMU
11	AA	2737	C
11	AA	2740	A
11	AA	2742	C
11	AA	2753	G
11	AA	2755	C
11	AA	2762	A
11	AA	2772	C
11	AA	2773	C
11	AA	2777	G
11	AA	2778	G
11	AA	2787	G
11	AA	2791	OMG
11	AA	2793	OMG
11	AA	2795	U
11	AA	2796	G
11	AA	2797	C
11	AA	2800	G
11	AA	2801	A
11	AA	2802	A
11	AA	2808	A
11	AA	2810	C
11	AA	2816	G
11	AA	2817	A
11	AA	2821	C
11	AA	2845	A
11	AA	2846	U
11	AA	2867	C
11	AA	2871	G
11	AA	2872	A
11	AA	2873	U
11	AA	2875	U
11	AA	2876	C
11	AA	2887	A
11	AA	2898	G
11	AA	2899	C
11	AA	2902	A
11	AA	2922	OMG
11	AA	2923	U
11	AA	2933	A
11	AA	2935	U

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Mol	Chain	Res	Type
11	AA	2936	A
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	2997	G
11	AA	3012	A
11	AA	3032	A
11	AA	3055	U
11	AA	3056	U
11	AA	3058	U
11	AA	3059	G
11	AA	3069	G
11	AA	3073	A
11	AA	3074	G
11	AA	3078	U
11	AA	3080	G
11	AA	3092	C
11	AA	3093	C
11	AA	3094	A
11	AA	3101	G
11	AA	3122	A
11	AA	3129	A
11	AA	3130	A
11	AA	3131	U
11	AA	3142	A
11	AA	3143	C
11	AA	3153	U
11	AA	3154	C
11	AA	3155	U
11	AA	3156	U
11	AA	3157	U
11	AA	3158	G
11	AA	3167	A
11	AA	3168	A
11	AA	3170	A
11	AA	3172	A
11	AA	3173	G
11	AA	3176	G

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Mol	Chain	Res	Type
11	AA	3179	U
11	AA	3181	C
11	AA	3186	A
11	AA	3187	A
11	AA	3207	U
11	AA	3210	A
11	AA	3216	G
11	AA	3217	C
11	AA	3218	A
11	AA	3219	G
11	AA	3238	G
11	AA	3242	G
11	AA	3243	A
11	AA	3263	G
11	AA	3271	G
11	AA	3273	A
11	AA	3275	U
11	AA	3276	G
11	AA	3277	U
11	AA	3281	U
11	AA	3282	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	3350	C
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	45	A
14	BB	54	U

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Mol	Chain	Res	Type
14	BB	55	A
14	BB	65	G
14	BB	73	C
14	BB	74	C
14	BB	112	G
14	BB	121	U
15	Bb	3	G
15	Bb	4	G
15	Bb	6	U
15	Bb	8	U
15	Bb	9	A
15	Bb	10	G
15	Bb	15	G
15	Bb	16	U
15	Bb	17	U
15	Bb	18	G
15	Bb	19	G
15	Bb	20	G
15	Bb	21	A
15	Bb	22	G
15	Bb	28	C
15	Bb	30	G
15	Bb	36	A
15	Bb	37	YYG
15	Bb	38	A
15	Bb	46	G
15	Bb	47	U
15	Bb	48	C
15	Bb	49	C
15	Bb	55	U
15	Bb	58	A
15	Bb	59	U
15	Bb	60	C
15	Bb	61	C
15	Bb	65	G
15	Bb	69	U
15	Bb	70	C
15	Bb	71	G
15	Bb	73	A
15	Bb	74	C
15	Bb	75	C
15	Bb	76	A

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Mol	Chain	Res	Type
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	71	A
17	CC	82	U
17	CC	83	C
17	CC	84	C
17	CC	85	G
17	CC	86	U
17	CC	87	G
17	CC	91	C
17	CC	95	G
17	CC	104	A
17	CC	106	C
17	CC	113	U
17	CC	125	U
17	CC	126	A
17	CC	138	A
17	CC	156	U
17	CC	157	U
18	Cc	2	G
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	22	A
18	Cc	29	C
18	Cc	30	G
18	Cc	31	G
18	Cc	42	C
18	Cc	43	G
18	Cc	48	U
18	Cc	50	G
18	Cc	56	U
18	Cc	59	A

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Mol	Chain	Res	Type
18	Cc	60	A
18	Cc	72	C
18	Cc	76	C
18	Cc	77	A
21	Dd	16	A
21	Dd	19	A
21	Dd	22	U
60	c	2	A
60	c	4	C
60	c	25	C
60	c	26	A
60	c	34	G
60	c	42	G
60	c	45	U
60	c	47	A
60	c	50	C
60	c	61	A
60	c	67	A
60	c	68	A
60	c	70	C
60	c	78	A
60	c	81	G
60	c	94	U
60	c	100	A2M
60	c	104	A
60	c	114	C
60	c	116	U
60	c	130	C
60	c	137	U
60	c	140	A
60	c	144	U
60	c	146	U
60	c	149	C
60	c	151	G
60	c	159	U
60	c	173	A
60	c	174	U
60	c	175	G
60	c	176	C
60	c	184	C
60	c	185	U
60	c	186	C

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Mol	Chain	Res	Type
60	c	204	G
60	c	243	G
60	c	258	C
60	c	260	U
60	c	261	U
60	c	262	U
60	c	271	A
60	c	272	U
60	c	274	G
60	c	277	U
60	c	278	U
60	c	279	G
60	c	280	U
60	c	281	G
60	c	283	U
60	c	299	A
60	c	302	U
60	c	309	C
60	c	314	C
60	c	316	A
60	c	322	G
60	c	330	G
60	c	334	G
60	c	337	G
60	c	338	C
60	c	339	C
60	c	359	A
60	c	361	C
60	c	387	A
60	c	390	G
60	c	400	A
60	c	401	A
60	c	402	C
60	c	404	G
60	c	414	OMC
60	c	417	A
60	c	422	G
60	c	423	G
60	c	424	C
60	c	425	A
60	c	426	G
60	c	427	C

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Mol	Chain	Res	Type
60	c	434	G
60	c	437	A
60	c	439	U
60	c	444	C
60	c	445	A
60	c	447	U
60	c	448	C
60	c	454	U
60	c	455	C
60	c	460	A
60	c	468	A
60	c	475	A
60	c	480	G
60	c	484	C
60	c	485	A
60	c	503	G
60	c	504	U
60	c	506	A
60	c	508	U
60	c	509	G
60	c	513	U
60	c	514	G
60	c	515	A
60	c	516	G
60	c	518	A
60	c	519	C
60	c	520	A
60	c	526	A
60	c	527	A
60	c	533	U
60	c	537	G
60	c	538	A
60	c	539	G
60	c	541	A2M
60	c	542	A
60	c	545	A
60	c	548	G
60	c	555	A
60	c	557	G
60	c	558	U
60	c	559	C
60	c	565	C

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Mol	Chain	Res	Type
60	c	568	G
60	c	576	G
60	c	578	OMU
60	c	579	A
60	c	582	U
60	c	585	A
60	c	594	A
60	c	606	A
60	c	611	U
60	c	619	A2M
60	c	620	A
60	c	623	A
60	c	624	G
60	c	639	U
60	c	643	G
60	c	644	C
60	c	645	C
60	c	647	G
60	c	648	G
60	c	649	U
60	c	651	G
60	c	692	C
60	c	695	U
60	c	696	C
60	c	697	C
60	c	745	U
60	c	753	A
60	c	760	A
60	c	761	G
60	c	762	A
60	c	765	G
60	c	766	U
60	c	775	G
60	c	778	G
60	c	780	A
60	c	781	U
60	c	782	U
60	c	783	G
60	c	784	C
60	c	787	G
60	c	788	A
60	c	789	A

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Mol	Chain	Res	Type
60	c	792	U
60	c	794	U
60	c	795	U
60	c	809	A
60	c	812	A
60	c	814	A
60	c	820	U
60	c	821	U
60	c	853	G
60	c	856	A
60	c	859	A
60	c	860	U
60	c	861	U
60	c	863	A
60	c	895	G
60	c	897	C
60	c	898	A
60	c	899	G
60	c	906	A
60	c	913	G
60	c	915	A
60	c	921	U
60	c	933	A
60	c	935	U
60	c	945	U
60	c	951	A
60	c	960	U
60	c	966	A
60	c	987	G
60	c	988	A
60	c	992	A
60	c	993	A
60	c	996	U
60	c	1002	G
60	c	1003	A
60	c	1010	C
60	c	1025	A
60	c	1026	A
60	c	1027	A
60	c	1028	C
60	c	1031	U
60	c	1039	A

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Mol	Chain	Res	Type
60	c	1043	A
60	c	1053	G
60	c	1058	U
60	c	1059	U
60	c	1060	U
60	c	1061	A
60	c	1081	A
60	c	1082	C
60	c	1092	A
60	c	1093	A
60	c	1097	U
60	c	1098	U
60	c	1100	G
60	c	1101	G
60	c	1109	G
60	c	1113	A
60	c	1126	OMG
60	c	1138	A
60	c	1150	G
60	c	1151	A
60	c	1158	C
60	c	1164	G
60	c	1183	A
60	c	1185	U
60	c	1194	A
60	c	1196	A
60	c	1199	G
60	c	1200	G
60	c	1205	C
60	c	1217	A
60	c	1218	G
60	c	1219	A
60	c	1220	C
60	c	1221	A
60	c	1222	C
60	c	1224	A
60	c	1225	U
60	c	1226	A
60	c	1228	G
60	c	1229	G
60	c	1231	U
60	c	1238	A

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Mol	Chain	Res	Type
60	c	1241	G
60	c	1243	G
60	c	1244	A
60	c	1245	G
60	c	1252	C
60	c	1256	A
60	c	1257	U
60	c	1259	U
60	c	1261	G
60	c	1263	G
60	c	1276	U
60	c	1286	U
60	c	1301	U
60	c	1309	C
60	c	1314	U
60	c	1315	U
60	c	1321	A
60	c	1325	A
60	c	1336	A
60	c	1338	C
60	c	1339	C
60	c	1340	U
60	c	1346	A
60	c	1347	U
60	c	1352	G
60	c	1353	U
60	c	1355	C
60	c	1356	U
60	c	1357	A
60	c	1359	C
60	c	1360	A
60	c	1361	U
60	c	1362	U
60	c	1363	U
60	c	1364	G
60	c	1366	U
60	c	1367	G
60	c	1368	G
60	c	1369	U
60	c	1370	U
60	c	1371	A
60	c	1372	U

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Mol	Chain	Res	Type
60	c	1373	C
60	c	1374	C
60	c	1375	A
60	c	1376	C
60	c	1388	A
60	c	1390	U
60	c	1397	U
60	c	1398	U
60	c	1399	C
60	c	1400	A
60	c	1410	A
60	c	1411	A
60	c	1413	U
60	c	1414	U
60	c	1415	U
60	c	1425	A
60	c	1427	A
60	c	1428	OMG
60	c	1436	A
60	c	1445	G
60	c	1447	C
60	c	1459	C
60	c	1460	A
60	c	1461	C
60	c	1469	A
60	c	1471	A
60	c	1490	C
60	c	1491	U
60	c	1492	A
60	c	1496	U
60	c	1501	C
60	c	1514	U
60	c	1516	A
60	c	1521	G
60	c	1523	G
60	c	1524	A
60	c	1535	U
60	c	1536	G
60	c	1537	C
60	c	1542	G
60	c	1546	G
60	c	1557	U

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Mol	Chain	Res	Type
60	c	1559	A
60	c	1566	U
60	c	1567	U
60	c	1569	A
60	c	1572	OMG
60	c	1573	A
60	c	1575	G7M
60	c	1576	A
60	c	1577	A
60	c	1601	G
60	c	1612	U
60	c	1613	U
60	c	1617	U
60	c	1619	C
60	c	1622	G
60	c	1631	A
60	c	1633	A
60	c	1634	C
60	c	1641	C
60	c	1651	A
60	c	1657	U
60	c	1658	G
60	c	1678	A
60	c	1680	G
60	c	1681	A
60	c	1683	C
60	c	1685	G
60	c	1717	G
60	c	1718	G
60	c	1722	A
60	c	1727	G
60	c	1740	A
60	c	1751	C
60	c	1755	A
60	c	1760	G
60	c	1762	A
60	c	1766	A
60	c	1769	U
60	c	1780	G
60	c	1782	MA6
60	c	1783	C
60	c	1792	G

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Mol	Chain	Res	Type
60	c	1793	G
60	c	1794	A
60	c	1795	U
60	c	1796	C
60	c	1799	U

All (18) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
11	AA	601	U
11	AA	619	A
11	AA	916	G
11	AA	1033	U
11	AA	1348	U
11	AA	1562	C
11	AA	1900	A
11	AA	1902	G
11	AA	1904	C
11	AA	2101	C
11	AA	2253	G
11	AA	2280	A2M
11	AA	2491	A
11	AA	2500	A
11	AA	2792	A
11	AA	3121	U
11	AA	3206	C
14	BB	72	A

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

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	OMG	AA	2288	11	18,26,27	1.20	2 (11%)	19,38,41	0.84	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
60	A2M	c	28	60	18,25,26	3.65	8 (44%)	18,36,39	3.39	4 (22%)
11	OMC	AA	2959	11	19,22,23	0.63	0	26,31,34	0.64	0
60	A2M	c	420	60	18,25,26	3.60	8 (44%)	18,36,39	3.39	4 (22%)
11	OMC	AA	1437	11	19,22,23	0.67	0	26,31,34	1.31	2 (7%)
11	A2M	AA	2256	11	18,25,26	3.59	8 (44%)	18,36,39	3.44	5 (27%)
11	OMG	AA	908	11	18,26,27	1.20	2 (11%)	19,38,41	0.82	1 (5%)
60	OMC	c	414	60	19,22,23	0.56	0	26,31,34	0.68	0
11	A2M	AA	876	11	18,25,26	3.64	8 (44%)	18,36,39	3.37	4 (22%)
60	A2M	c	541	60	18,25,26	3.56	8 (44%)	18,36,39	3.44	5 (27%)
60	OMC	c	1639	60,85	19,22,23	0.60	0	26,31,34	0.56	0
11	A2M	AA	2281	11	18,25,26	3.72	8 (44%)	18,36,39	3.44	4 (22%)
60	4AC	c	1280	60	21,24,25	3.53	10 (47%)	29,34,37	1.68	6 (20%)
11	OMU	AA	1888	11	19,22,23	2.96	8 (42%)	26,31,34	1.81	5 (19%)
60	OMU	c	1269	60	19,22,23	3.02	8 (42%)	26,31,34	1.71	5 (19%)
15	YYG	Bb	37	15,85	31,42,43	2.19	8 (25%)	33,62,65	1.91	10 (30%)
11	OMG	AA	867	11,86	18,26,27	1.19	2 (11%)	19,38,41	0.82	1 (5%)
11	1MA	AA	645	11,85	16,25,26	0.98	2 (12%)	18,37,40	1.11	2 (11%)
11	OMC	AA	2948	11	19,22,23	0.60	0	26,31,34	0.67	0
60	B8N	c	1191	60	24,29,30	5.04	9 (37%)	29,42,45	2.08	8 (27%)
60	OMG	c	1428	60,85	18,26,27	1.18	2 (11%)	19,38,41	0.85	1 (5%)
60	A2M	c	436	60	18,25,26	3.72	8 (44%)	18,36,39	3.49	4 (22%)
11	OMU	AA	898	11	19,22,23	2.91	8 (42%)	26,31,34	1.80	5 (19%)
60	OMG	c	1126	60	18,26,27	1.25	2 (11%)	19,38,41	0.82	1 (5%)
12	DDE	Aa	699	12	14,20,21	0.97	1 (7%)	14,28,30	1.25	2 (14%)
11	A2M	AA	2220	11	18,25,26	3.64	8 (44%)	18,36,39	3.23	4 (22%)
11	A2M	AA	1133	11	18,25,26	3.64	8 (44%)	18,36,39	3.45	3 (16%)
11	OMG	AA	2619	11	18,26,27	1.19	2 (11%)	19,38,41	0.84	1 (5%)
60	A2M	c	974	60	18,25,26	3.65	7 (38%)	18,36,39	3.34	3 (16%)
11	OMC	AA	650	11,85	19,22,23	0.62	0	26,31,34	0.71	0
11	OMG	AA	805	11	18,26,27	1.20	3 (16%)	19,38,41	0.85	1 (5%)
60	OMG	c	562	60	18,26,27	1.18	2 (11%)	19,38,41	0.79	1 (5%)
60	MA6	c	1781	60	18,26,27	1.06	2 (11%)	19,38,41	3.56	2 (10%)
60	OMG	c	1271	60	18,26,27	1.12	2 (11%)	19,38,41	0.89	1 (5%)
11	OMG	AA	2793	11	18,26,27	1.18	2 (11%)	19,38,41	0.84	1 (5%)
11	A2M	AA	2640	11	18,25,26	3.67	8 (44%)	18,36,39	3.29	4 (22%)
11	OMU	AA	2921	11	19,22,23	2.89	8 (42%)	26,31,34	1.78	5 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
60	OMC	c	1007	60	19,22,23	0.62	0	26,31,34	0.64	0
60	G7M	c	1575	60	20,26,27	2.34	7 (35%)	17,39,42	1.15	1 (5%)
11	A2M	AA	807	11	18,25,26	3.66	9 (50%)	18,36,39	3.40	4 (22%)
11	OMG	AA	2791	11	18,26,27	1.15	2 (11%)	19,38,41	0.86	1 (5%)
11	A2M	AA	649	11	18,25,26	3.62	8 (44%)	18,36,39	3.40	4 (22%)
11	UR3	AA	2634	11	19,22,23	2.74	7 (36%)	26,32,35	1.34	2 (7%)
11	OMG	AA	1450	11	18,26,27	1.16	2 (11%)	19,38,41	0.84	1 (5%)
11	A2M	AA	2280	11	18,25,26	3.67	9 (50%)	18,36,39	3.44	4 (22%)
60	A2M	c	796	60	18,25,26	3.62	8 (44%)	18,36,39	3.32	3 (16%)
11	OMU	AA	2729	11	19,22,23	3.01	8 (42%)	26,31,34	1.65	4 (15%)
11	OMU	AA	2417	11	19,22,23	3.00	8 (42%)	26,31,34	1.75	5 (19%)
11	A2M	AA	2946	11,85	18,25,26	3.59	7 (38%)	18,36,39	3.38	3 (16%)
11	OMU	AA	2421	11	19,22,23	2.97	8 (42%)	26,31,34	1.77	5 (19%)
11	A2M	AA	1449	11,85	18,25,26	3.63	9 (50%)	18,36,39	3.38	4 (22%)
11	1MA	AA	2142	11,85	16,25,26	1.02	2 (12%)	18,37,40	1.09	1 (5%)
11	A2M	AA	817	11,85	18,25,26	3.71	7 (38%)	18,36,39	3.58	4 (22%)
11	5MC	AA	2870	11,86	18,22,23	0.71	0	26,32,35	0.65	0
11	OMG	AA	2922	11	18,26,27	1.21	2 (11%)	19,38,41	0.92	1 (5%)
11	OMU	AA	2724	11	19,22,23	2.92	8 (42%)	26,31,34	1.77	5 (19%)
11	OMU	AA	2347	11	19,22,23	2.93	8 (42%)	26,31,34	1.72	5 (19%)
60	A2M	c	619	60,85	18,25,26	3.65	8 (44%)	18,36,39	3.52	3 (16%)
60	4AC	c	1773	60	21,24,25	3.39	10 (47%)	29,34,37	1.64	5 (17%)
60	OMG	c	1572	60	18,26,27	1.15	2 (11%)	19,38,41	0.89	1 (5%)
60	MA6	c	1782	60	18,26,27	1.11	2 (11%)	19,38,41	3.51	2 (10%)
11	OMG	AA	2815	11	18,26,27	1.18	2 (11%)	19,38,41	0.87	2 (10%)
11	5MC	AA	2278	11	18,22,23	0.62	0	26,32,35	0.71	0
60	A2M	c	100	60	18,25,26	3.62	7 (38%)	18,36,39	3.35	3 (16%)
11	OMC	AA	663	11	19,22,23	0.65	0	26,31,34	0.62	0
60	OMU	c	578	60	19,22,23	3.01	8 (42%)	26,31,34	1.66	5 (19%)
11	OMC	AA	2337	11	19,22,23	0.62	0	26,31,34	0.60	0
11	OMC	AA	2197	11,86	19,22,23	0.57	0	26,31,34	0.61	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	OMG	AA	2288	11	-	0/5/27/28	0/3/3/3
60	A2M	c	28	60	-	3/5/27/28	0/3/3/3
11	OMC	AA	2959	11	-	0/9/27/28	0/2/2/2
60	A2M	c	420	60	-	1/5/27/28	0/3/3/3
11	OMC	AA	1437	11	-	4/9/27/28	0/2/2/2
11	A2M	AA	2256	11	-	1/5/27/28	0/3/3/3
11	OMG	AA	908	11	-	2/5/27/28	0/3/3/3
60	OMC	c	414	60	-	2/9/27/28	0/2/2/2
11	A2M	AA	876	11	-	1/5/27/28	0/3/3/3
60	A2M	c	541	60	-	3/5/27/28	0/3/3/3
60	OMC	c	1639	60,85	-	1/9/27/28	0/2/2/2
11	A2M	AA	2281	11	-	3/5/27/28	0/3/3/3
60	4AC	c	1280	60	-	3/11/29/30	0/2/2/2
11	OMU	AA	1888	11	-	1/9/27/28	0/2/2/2
60	OMU	c	1269	60	-	0/9/27/28	0/2/2/2
15	YYG	Bb	37	15,85	-	11/20/42/43	0/3/4/4
11	OMG	AA	867	11,86	-	2/5/27/28	0/3/3/3
11	1MA	AA	645	11,85	-	0/3/25/26	0/3/3/3
11	OMC	AA	2948	11	-	0/9/27/28	0/2/2/2
60	B8N	c	1191	60	-	4/16/34/35	0/2/2/2
60	OMG	c	1428	60,85	-	0/5/27/28	0/3/3/3
60	A2M	c	436	60	-	1/5/27/28	0/3/3/3
11	OMU	AA	898	11	-	0/9/27/28	0/2/2/2
60	OMG	c	1126	60	-	2/5/27/28	0/3/3/3
12	DDE	Aa	699	12	-	9/20/21/23	0/1/1/1
11	A2M	AA	2220	11	-	1/5/27/28	0/3/3/3
11	A2M	AA	1133	11	-	0/5/27/28	0/3/3/3
11	OMG	AA	2619	11	-	0/5/27/28	0/3/3/3
60	A2M	c	974	60	-	1/5/27/28	0/3/3/3
11	OMC	AA	650	11,85	-	0/9/27/28	0/2/2/2
11	OMG	AA	805	11	-	0/5/27/28	0/3/3/3
60	OMG	c	562	60	-	1/5/27/28	0/3/3/3
60	MA6	c	1781	60	-	0/7/29/30	0/3/3/3
60	OMG	c	1271	60	-	1/5/27/28	0/3/3/3
11	OMG	AA	2793	11	-	2/5/27/28	0/3/3/3
11	A2M	AA	2640	11	-	1/5/27/28	0/3/3/3
11	OMU	AA	2921	11	-	0/9/27/28	0/2/2/2
60	OMC	c	1007	60	-	1/9/27/28	0/2/2/2
60	G7M	c	1575	60	-	2/3/25/26	0/3/3/3
11	A2M	AA	807	11	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	OMG	AA	2791	11	-	2/5/27/28	0/3/3/3
11	A2M	AA	649	11	-	2/5/27/28	0/3/3/3
11	UR3	AA	2634	11	-	0/7/25/26	0/2/2/2
11	OMG	AA	1450	11	-	3/5/27/28	0/3/3/3
11	A2M	AA	2280	11	-	3/5/27/28	0/3/3/3
60	A2M	c	796	60	-	0/5/27/28	0/3/3/3
11	OMU	AA	2729	11	-	3/9/27/28	0/2/2/2
11	OMU	AA	2417	11	-	1/9/27/28	0/2/2/2
11	A2M	AA	2946	11,85	-	0/5/27/28	0/3/3/3
11	OMU	AA	2421	11	-	1/9/27/28	0/2/2/2
11	A2M	AA	1449	11,85	-	0/5/27/28	0/3/3/3
11	1MA	AA	2142	11,85	-	1/3/25/26	0/3/3/3
11	A2M	AA	817	11,85	-	1/5/27/28	0/3/3/3
11	5MC	AA	2870	11,86	-	4/7/25/26	0/2/2/2
11	OMG	AA	2922	11	-	1/5/27/28	0/3/3/3
11	OMU	AA	2724	11	-	1/9/27/28	0/2/2/2
11	OMU	AA	2347	11	-	1/9/27/28	0/2/2/2
60	A2M	c	619	60,85	-	2/5/27/28	0/3/3/3
60	4AC	c	1773	60	-	2/11/29/30	0/2/2/2
60	OMG	c	1572	60	-	4/5/27/28	0/3/3/3
60	MA6	c	1782	60	-	3/7/29/30	0/3/3/3
11	OMG	AA	2815	11	-	0/5/27/28	0/3/3/3
11	5MC	AA	2278	11	-	0/7/25/26	0/2/2/2
60	A2M	c	100	60	-	2/5/27/28	0/3/3/3
11	OMC	AA	663	11	-	1/9/27/28	0/2/2/2
60	OMU	c	578	60	-	1/9/27/28	0/2/2/2
11	OMC	AA	2337	11	-	1/9/27/28	0/2/2/2
11	OMC	AA	2197	11,86	-	4/9/27/28	0/2/2/2

All (330) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	1191	B8N	C2'-C1'	-17.84	1.30	1.53
60	c	1191	B8N	O4'-C1'	9.10	1.56	1.43
11	AA	807	A2M	C3'-C4'	-9.09	1.29	1.53
60	c	619	A2M	C3'-C4'	-9.01	1.30	1.53
11	AA	817	A2M	C3'-C4'	-8.97	1.30	1.53
60	c	28	A2M	C3'-C4'	-8.97	1.30	1.53
60	c	436	A2M	C3'-C4'	-8.97	1.30	1.53
11	AA	1449	A2M	C3'-C4'	-8.96	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	974	A2M	C3'-C4'	-8.96	1.30	1.53
11	AA	876	A2M	C3'-C4'	-8.93	1.30	1.53
60	c	796	A2M	C3'-C4'	-8.90	1.30	1.53
11	AA	2946	A2M	C3'-C4'	-8.90	1.30	1.53
11	AA	2220	A2M	C3'-C4'	-8.88	1.30	1.53
11	AA	2640	A2M	C3'-C4'	-8.85	1.30	1.53
60	c	420	A2M	C3'-C4'	-8.85	1.30	1.53
11	AA	1133	A2M	C3'-C4'	-8.82	1.30	1.53
11	AA	2280	A2M	C3'-C4'	-8.82	1.30	1.53
11	AA	649	A2M	C3'-C4'	-8.73	1.30	1.53
60	c	541	A2M	C3'-C4'	-8.67	1.30	1.53
11	AA	2281	A2M	C3'-C4'	-8.66	1.30	1.53
60	c	100	A2M	C3'-C4'	-8.59	1.31	1.53
11	AA	2256	A2M	C3'-C4'	-8.57	1.31	1.53
11	AA	2281	A2M	O4'-C1'	-8.26	1.29	1.41
60	c	1191	B8N	C4-N3	-8.14	1.25	1.40
60	c	436	A2M	O4'-C1'	-7.87	1.30	1.41
11	AA	817	A2M	O4'-C1'	-7.84	1.30	1.41
11	AA	2220	A2M	O4'-C4'	7.76	1.62	1.45
60	c	420	A2M	O4'-C4'	7.75	1.62	1.45
11	AA	2640	A2M	O4'-C4'	7.74	1.62	1.45
60	c	28	A2M	O4'-C1'	-7.73	1.30	1.41
60	c	619	A2M	O4'-C1'	-7.71	1.30	1.41
11	AA	2256	A2M	O4'-C4'	7.69	1.62	1.45
60	c	796	A2M	O4'-C4'	7.67	1.62	1.45
60	c	100	A2M	O4'-C4'	7.66	1.62	1.45
60	c	436	A2M	O4'-C4'	7.62	1.62	1.45
60	c	974	A2M	O4'-C4'	7.60	1.62	1.45
11	AA	807	A2M	O4'-C1'	-7.58	1.30	1.41
11	AA	2280	A2M	O4'-C4'	7.57	1.61	1.45
60	c	541	A2M	O4'-C4'	7.53	1.61	1.45
11	AA	2280	A2M	O4'-C1'	-7.52	1.30	1.41
11	AA	2281	A2M	O4'-C4'	7.49	1.61	1.45
11	AA	649	A2M	O4'-C4'	7.48	1.61	1.45
60	c	1191	B8N	C6-N1	7.47	1.55	1.36
11	AA	817	A2M	O4'-C4'	7.45	1.61	1.45
11	AA	876	A2M	O4'-C4'	7.44	1.61	1.45
11	AA	1449	A2M	O4'-C1'	-7.43	1.30	1.41
11	AA	1133	A2M	O4'-C1'	-7.42	1.30	1.41
11	AA	649	A2M	O4'-C1'	-7.42	1.30	1.41
60	c	1280	4AC	C4-N3	7.41	1.45	1.32
11	AA	2946	A2M	O4'-C4'	7.41	1.61	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	1133	A2M	O4'-C4'	7.41	1.61	1.45
11	AA	876	A2M	O4'-C1'	-7.40	1.30	1.41
60	c	100	A2M	O4'-C1'	-7.40	1.30	1.41
11	AA	2640	A2M	O4'-C1'	-7.38	1.30	1.41
11	AA	2256	A2M	O4'-C1'	-7.34	1.30	1.41
60	c	974	A2M	O4'-C1'	-7.31	1.30	1.41
60	c	1773	4AC	C4-N3	7.23	1.45	1.32
11	AA	1449	A2M	O4'-C4'	7.21	1.61	1.45
11	AA	807	A2M	O4'-C4'	7.20	1.61	1.45
60	c	619	A2M	O4'-C4'	7.18	1.61	1.45
60	c	541	A2M	O4'-C1'	-7.15	1.31	1.41
15	Bb	37	YYG	C21-N20	7.13	1.52	1.34
60	c	28	A2M	O4'-C4'	7.13	1.60	1.45
11	AA	2946	A2M	O4'-C1'	-7.10	1.31	1.41
11	AA	2220	A2M	O4'-C1'	-7.06	1.31	1.41
60	c	796	A2M	O4'-C1'	-7.01	1.31	1.41
11	AA	2729	OMU	C2-N1	6.99	1.49	1.38
60	c	1269	OMU	C2-N1	6.98	1.49	1.38
11	AA	2417	OMU	C2-N1	6.94	1.49	1.38
60	c	578	OMU	C2-N1	6.93	1.49	1.38
11	AA	1888	OMU	C2-N1	6.89	1.49	1.38
60	c	420	A2M	O4'-C1'	-6.87	1.31	1.41
60	c	578	OMU	C2-N3	6.76	1.50	1.38
11	AA	898	OMU	C2-N1	6.75	1.49	1.38
11	AA	2421	OMU	C2-N3	6.71	1.49	1.38
11	AA	2421	OMU	C2-N1	6.70	1.49	1.38
11	AA	2417	OMU	C2-N3	6.65	1.49	1.38
60	c	1280	4AC	C6-C5	6.64	1.50	1.35
11	AA	2724	OMU	C2-N1	6.62	1.49	1.38
11	AA	2634	UR3	C6-C5	6.60	1.50	1.35
60	c	1269	OMU	C2-N3	6.57	1.49	1.38
60	c	1773	4AC	C6-C5	6.56	1.50	1.35
11	AA	2347	OMU	C2-N1	6.56	1.49	1.38
11	AA	2729	OMU	C2-N3	6.55	1.49	1.38
11	AA	2921	OMU	C2-N1	6.55	1.49	1.38
11	AA	2724	OMU	C2-N3	6.52	1.49	1.38
11	AA	1888	OMU	C2-N3	6.52	1.49	1.38
11	AA	2347	OMU	C2-N3	6.46	1.49	1.38
11	AA	898	OMU	C2-N3	6.42	1.49	1.38
11	AA	2921	OMU	C2-N3	6.41	1.49	1.38
11	AA	2634	UR3	C2-N1	6.35	1.47	1.38
60	c	1280	4AC	C7-N4	5.80	1.47	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	1269	OMU	C6-C5	5.77	1.48	1.35
11	AA	2729	OMU	C6-C5	5.66	1.48	1.35
11	AA	2347	OMU	C6-C5	5.65	1.48	1.35
60	c	578	OMU	C6-C5	5.64	1.48	1.35
11	AA	1888	OMU	C6-C5	5.64	1.48	1.35
11	AA	2421	OMU	C6-C5	5.63	1.48	1.35
60	c	1575	G7M	C2-N3	5.62	1.46	1.33
11	AA	2417	OMU	C6-C5	5.59	1.48	1.35
11	AA	2921	OMU	C6-C5	5.51	1.47	1.35
11	AA	898	OMU	C6-C5	5.48	1.47	1.35
60	c	1773	4AC	C7-N4	5.45	1.47	1.37
11	AA	2724	OMU	C6-C5	5.43	1.47	1.35
11	AA	2634	UR3	C2-N3	5.39	1.49	1.39
60	c	1191	B8N	C2-N1	5.36	1.55	1.39
15	Bb	37	YYG	O23-C21	5.26	1.43	1.34
60	c	1191	B8N	C6-C5	5.23	1.42	1.34
60	c	1280	4AC	C2-N3	5.23	1.47	1.36
60	c	1280	4AC	C2-N1	5.18	1.51	1.40
60	c	1280	4AC	C4-N4	5.17	1.47	1.39
60	c	1773	4AC	C2-N3	5.00	1.46	1.36
60	c	1575	G7M	C4-N3	4.97	1.49	1.37
60	c	1773	4AC	C2-N1	4.90	1.50	1.40
60	c	1773	4AC	C4-N4	4.63	1.46	1.39
60	c	1575	G7M	C2-N2	4.53	1.45	1.34
60	c	578	OMU	C4-N3	4.27	1.46	1.38
60	c	1269	OMU	C4-N3	4.24	1.46	1.38
60	c	1280	4AC	CM7-C7	4.20	1.59	1.50
11	AA	2417	OMU	C4-N3	4.14	1.46	1.38
11	AA	2421	OMU	C4-N3	4.13	1.46	1.38
11	AA	2729	OMU	C4-N3	4.07	1.45	1.38
11	AA	2921	OMU	C4-N3	4.00	1.45	1.38
11	AA	2724	OMU	C4-N3	3.99	1.45	1.38
60	c	1773	4AC	CM7-C7	3.93	1.58	1.50
11	AA	1888	OMU	C4-N3	3.92	1.45	1.38
11	AA	898	OMU	C4-N3	3.91	1.45	1.38
15	Bb	37	YYG	O18-C16	3.90	1.42	1.33
11	AA	2347	OMU	C4-N3	3.90	1.45	1.38
60	c	1280	4AC	C5-C4	3.87	1.49	1.40
60	c	1773	4AC	C5-C4	3.70	1.48	1.40
15	Bb	37	YYG	O6-C6	-3.38	1.18	1.22
60	c	796	A2M	C6-N6	3.20	1.45	1.34
60	c	1191	B8N	C1'-C5	3.19	1.57	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	876	A2M	C6-N6	3.14	1.45	1.34
60	c	436	A2M	C6-N6	3.13	1.45	1.34
60	c	28	A2M	C6-N6	3.12	1.45	1.34
11	AA	2724	OMU	O4-C4	-3.12	1.18	1.24
11	AA	2634	UR3	C6-N1	3.12	1.45	1.38
11	AA	2256	A2M	C6-N6	3.12	1.45	1.34
60	c	619	A2M	C6-N6	3.10	1.45	1.34
60	c	541	A2M	C6-N6	3.09	1.45	1.34
11	AA	2640	A2M	C6-N6	3.09	1.45	1.34
11	AA	2417	OMU	O4-C4	-3.08	1.18	1.24
60	c	974	A2M	C6-N6	3.07	1.45	1.34
60	c	100	A2M	C6-N6	3.06	1.45	1.34
11	AA	2220	A2M	C6-N6	3.06	1.45	1.34
11	AA	2280	A2M	C6-N6	3.06	1.45	1.34
60	c	1126	OMG	C8-N7	-3.05	1.29	1.35
11	AA	1133	A2M	C6-N6	3.05	1.45	1.34
11	AA	649	A2M	C6-N6	3.04	1.45	1.34
11	AA	898	OMU	O4-C4	-3.04	1.18	1.24
11	AA	2347	OMU	O4-C4	-3.04	1.18	1.24
11	AA	2922	OMG	C8-N7	-3.04	1.29	1.35
11	AA	1449	A2M	C6-N6	3.03	1.45	1.34
11	AA	2288	OMG	C8-N7	-3.03	1.29	1.35
11	AA	807	A2M	C6-N6	3.02	1.45	1.34
60	c	420	A2M	C6-N6	3.02	1.45	1.34
11	AA	2946	A2M	C6-N6	3.01	1.45	1.34
11	AA	2421	OMU	O4-C4	-3.01	1.18	1.24
11	AA	817	A2M	C5-C4	-3.01	1.33	1.40
11	AA	2729	OMU	O4-C4	-2.99	1.18	1.24
60	c	1575	G7M	C6-N1	2.99	1.42	1.37
11	AA	2921	OMU	O4-C4	-2.98	1.18	1.24
11	AA	2281	A2M	C5-C4	-2.98	1.33	1.40
11	AA	1449	A2M	C5-C4	-2.98	1.33	1.40
11	AA	2619	OMG	C8-N7	-2.97	1.30	1.35
11	AA	2281	A2M	C6-N6	2.96	1.44	1.34
11	AA	817	A2M	C6-N6	2.96	1.44	1.34
11	AA	2946	A2M	C5-C4	-2.95	1.33	1.40
11	AA	1133	A2M	C5-C4	-2.94	1.33	1.40
60	c	1269	OMU	O4-C4	-2.94	1.18	1.24
11	AA	1888	OMU	O4-C4	-2.94	1.18	1.24
60	c	562	OMG	C8-N7	-2.93	1.30	1.35
60	c	578	OMU	O4-C4	-2.92	1.18	1.24
11	AA	817	A2M	O2'-C2'	-2.92	1.35	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	974	A2M	C5-C4	-2.92	1.33	1.40
60	c	1782	MA6	C5-C4	-2.92	1.33	1.40
11	AA	649	A2M	C5-C4	-2.91	1.33	1.40
60	c	436	A2M	O3'-C3'	2.90	1.49	1.43
11	AA	649	A2M	O3'-C3'	2.90	1.49	1.43
11	AA	2640	A2M	O3'-C3'	2.90	1.49	1.43
11	AA	2280	A2M	C5-C4	-2.89	1.33	1.40
60	c	619	A2M	C5-C4	-2.89	1.33	1.40
60	c	1428	OMG	C8-N7	-2.89	1.30	1.35
60	c	100	A2M	C5-C4	-2.88	1.33	1.40
11	AA	2946	A2M	O2'-C2'	-2.87	1.35	1.42
11	AA	1133	A2M	O3'-C3'	2.87	1.49	1.43
11	AA	2791	OMG	C8-N7	-2.86	1.30	1.35
11	AA	2815	OMG	C8-N7	-2.86	1.30	1.35
60	c	28	A2M	O3'-C3'	2.86	1.49	1.43
60	c	578	OMU	C6-N1	2.86	1.44	1.38
15	Bb	37	YYG	C2-N1	-2.86	1.31	1.37
11	AA	2256	A2M	O3'-C3'	2.86	1.49	1.43
60	c	28	A2M	O2'-C2'	-2.85	1.35	1.42
60	c	420	A2M	O3'-C3'	2.85	1.49	1.43
60	c	100	A2M	O3'-C3'	2.85	1.49	1.43
60	c	541	A2M	O3'-C3'	2.85	1.49	1.43
11	AA	908	OMG	C8-N7	-2.85	1.30	1.35
11	AA	2220	A2M	O3'-C3'	2.85	1.49	1.43
60	c	1781	MA6	C5-C4	-2.84	1.33	1.40
11	AA	867	OMG	C8-N7	-2.83	1.30	1.35
11	AA	805	OMG	C8-N7	-2.83	1.30	1.35
11	AA	2280	A2M	O2'-C2'	-2.83	1.35	1.42
11	AA	807	A2M	O2'-C2'	-2.83	1.35	1.42
11	AA	807	A2M	C5-C4	-2.82	1.33	1.40
11	AA	1450	OMG	C8-N7	-2.82	1.30	1.35
11	AA	2729	OMU	C6-N1	2.81	1.44	1.38
11	AA	876	A2M	C5-C4	-2.81	1.33	1.40
60	c	796	A2M	C5-C4	-2.81	1.33	1.40
60	c	796	A2M	O3'-C3'	2.80	1.49	1.43
11	AA	2281	A2M	O2'-C2'	-2.78	1.35	1.42
60	c	28	A2M	C5-C4	-2.78	1.33	1.40
60	c	1269	OMU	C6-N1	2.78	1.44	1.38
11	AA	1449	A2M	O2'-C2'	-2.77	1.35	1.42
60	c	974	A2M	O2'-C2'	-2.77	1.35	1.42
60	c	436	A2M	O2'-C2'	-2.76	1.35	1.42
60	c	1271	OMG	C8-N7	-2.75	1.30	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	c	1126	OMG	C5-C6	-2.75	1.41	1.47
60	c	436	A2M	C5-C4	-2.74	1.33	1.40
60	c	619	A2M	O2'-C2'	-2.74	1.35	1.42
11	AA	2417	OMU	C6-N1	2.74	1.44	1.38
11	AA	1449	A2M	O3'-C3'	2.73	1.49	1.43
11	AA	2220	A2M	C5-C4	-2.73	1.33	1.40
11	AA	2640	A2M	C5-C4	-2.73	1.33	1.40
11	AA	2281	A2M	O3'-C3'	2.73	1.49	1.43
11	AA	817	A2M	O3'-C3'	2.71	1.49	1.43
11	AA	2793	OMG	C8-N7	-2.71	1.30	1.35
11	AA	2280	A2M	O3'-C3'	2.71	1.49	1.43
60	c	1575	G7M	C5-C6	2.71	1.52	1.45
11	AA	2220	A2M	O2'-C2'	-2.70	1.35	1.42
11	AA	2256	A2M	C5-C4	-2.70	1.33	1.40
60	c	100	A2M	O2'-C2'	-2.69	1.35	1.42
11	AA	2421	OMU	C6-N1	2.68	1.44	1.38
11	AA	1133	A2M	O2'-C2'	-2.68	1.35	1.42
11	AA	2724	OMU	C6-N1	2.68	1.44	1.38
15	Bb	37	YYG	C13-C12	2.67	1.58	1.50
15	Bb	37	YYG	C10-C11	2.67	1.54	1.50
15	Bb	37	YYG	C4-N3	-2.67	1.35	1.40
60	c	974	A2M	O3'-C3'	2.66	1.49	1.43
11	AA	2347	OMU	O2-C2	-2.66	1.18	1.23
11	AA	2347	OMU	C6-N1	2.66	1.44	1.38
11	AA	876	A2M	O2'-C2'	-2.65	1.35	1.42
11	AA	908	OMG	C5-C6	-2.65	1.42	1.47
11	AA	876	A2M	O3'-C3'	2.65	1.49	1.43
60	c	420	A2M	C5-C4	-2.64	1.33	1.40
60	c	420	A2M	O2'-C2'	-2.63	1.35	1.42
11	AA	2142	1MA	C8-N7	-2.63	1.30	1.35
11	AA	2640	A2M	O2'-C2'	-2.63	1.35	1.42
60	c	796	A2M	O2'-C2'	-2.62	1.35	1.42
60	c	1428	OMG	C5-C6	-2.62	1.42	1.47
11	AA	867	OMG	C5-C6	-2.62	1.42	1.47
60	c	1572	OMG	C8-N7	-2.61	1.30	1.35
11	AA	898	OMU	C6-N1	2.60	1.44	1.38
60	c	619	A2M	O3'-C3'	2.60	1.49	1.43
60	c	541	A2M	C5-C4	-2.60	1.34	1.40
11	AA	2921	OMU	C6-N1	2.60	1.44	1.38
11	AA	1888	OMU	C6-N1	2.59	1.44	1.38
11	AA	2946	A2M	O3'-C3'	2.56	1.49	1.43
11	AA	2288	OMG	C5-C6	-2.55	1.42	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	1450	OMG	C5-C6	-2.55	1.42	1.47
11	AA	805	OMG	C5-C6	-2.54	1.42	1.47
11	AA	898	OMU	O2-C2	-2.54	1.18	1.23
11	AA	2421	OMU	O2-C2	-2.52	1.18	1.23
11	AA	2619	OMG	C5-C6	-2.52	1.42	1.47
11	AA	2724	OMU	O2-C2	-2.51	1.18	1.23
11	AA	2142	1MA	C5-C4	-2.51	1.36	1.43
60	c	1773	4AC	O7-C7	-2.51	1.17	1.23
60	c	562	OMG	C5-C6	-2.51	1.42	1.47
11	AA	2793	OMG	C5-C6	-2.50	1.42	1.47
60	c	1191	B8N	O2-C2	-2.49	1.18	1.22
11	AA	2729	OMU	O2-C2	-2.48	1.18	1.23
11	AA	807	A2M	O3'-C3'	2.48	1.48	1.43
11	AA	645	1MA	C8-N7	-2.47	1.30	1.35
11	AA	649	A2M	O2'-C2'	-2.47	1.36	1.42
11	AA	1888	OMU	O2-C2	-2.46	1.18	1.23
11	AA	2417	OMU	O2-C2	-2.46	1.18	1.23
60	c	1269	OMU	C5-C4	2.45	1.49	1.43
60	c	1575	G7M	C2-N1	2.45	1.43	1.37
11	AA	2815	OMG	C5-C6	-2.44	1.42	1.47
11	AA	2791	OMG	C5-C6	-2.44	1.42	1.47
11	AA	2921	OMU	O2-C2	-2.44	1.18	1.23
60	c	578	OMU	C5-C4	2.44	1.49	1.43
60	c	1191	B8N	O4-C4	-2.43	1.18	1.23
11	AA	645	1MA	C5-C4	-2.43	1.36	1.43
60	c	1269	OMU	O2-C2	-2.42	1.18	1.23
11	AA	2922	OMG	C5-C6	-2.42	1.42	1.47
60	c	1782	MA6	C2-N3	2.40	1.36	1.32
11	AA	2640	A2M	C2-N3	2.36	1.35	1.32
60	c	1575	G7M	O6-C6	-2.35	1.18	1.23
60	c	1271	OMG	C5-C6	-2.35	1.42	1.47
60	c	1781	MA6	C2-N3	2.34	1.35	1.32
11	AA	2729	OMU	C5-C4	2.34	1.48	1.43
60	c	1572	OMG	C5-C6	-2.34	1.42	1.47
60	c	1773	4AC	C6-N1	2.33	1.43	1.38
60	c	541	A2M	O2'-C2'	-2.29	1.36	1.42
11	AA	1888	OMU	C5-C4	2.28	1.48	1.43
11	AA	2347	OMU	C5-C4	2.27	1.48	1.43
60	c	1280	4AC	C6-N1	2.26	1.43	1.38
11	AA	2256	A2M	O2'-C2'	-2.25	1.36	1.42
11	AA	2634	UR3	O2-C2	-2.23	1.18	1.22
11	AA	2421	OMU	C5-C4	2.22	1.48	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AA	2724	OMU	C5-C4	2.21	1.48	1.43
11	AA	2220	A2M	C2-N3	2.21	1.35	1.32
60	c	1280	4AC	O7-C7	-2.20	1.18	1.23
60	c	436	A2M	C2-N3	2.20	1.35	1.32
11	AA	1133	A2M	O5'-C5'	-2.20	1.39	1.44
11	AA	2921	OMU	C5-C4	2.20	1.48	1.43
11	AA	2281	A2M	O5'-C5'	-2.19	1.39	1.44
60	c	420	A2M	C2-N3	2.17	1.35	1.32
60	c	541	A2M	C2-N3	2.17	1.35	1.32
60	c	578	OMU	O2-C2	-2.15	1.19	1.23
11	AA	2280	A2M	C2-N3	2.15	1.35	1.32
11	AA	898	OMU	C5-C4	2.15	1.48	1.43
11	AA	2417	OMU	C5-C4	2.14	1.48	1.43
11	AA	2280	A2M	O5'-C5'	-2.13	1.39	1.44
12	Aa	699	DDE	CD2-NE2	2.12	1.39	1.36
11	AA	2634	UR3	C4-N3	2.11	1.45	1.40
11	AA	805	OMG	C5-C4	-2.08	1.37	1.43
11	AA	876	A2M	O5'-C5'	-2.07	1.39	1.44
11	AA	807	A2M	O5'-C5'	-2.07	1.39	1.44
11	AA	2256	A2M	C2-N3	2.06	1.35	1.32
60	c	619	A2M	O5'-C5'	-2.06	1.39	1.44
60	c	796	A2M	C2-N3	2.05	1.35	1.32
11	AA	1449	A2M	O5'-C5'	-2.03	1.39	1.44
11	AA	2634	UR3	C5-C4	2.02	1.49	1.43
11	AA	649	A2M	C2-N3	2.02	1.35	1.32
11	AA	807	A2M	C2-N3	2.02	1.35	1.32
60	c	28	A2M	C2-N3	2.02	1.35	1.32
11	AA	1449	A2M	C2-N3	2.02	1.35	1.32

All (184) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	c	1781	MA6	N1-C6-N6	-14.32	101.98	117.06
60	c	1782	MA6	N1-C6-N6	-14.03	102.29	117.06
60	c	619	A2M	C5-C6-N6	11.05	137.15	120.35
11	AA	1133	A2M	C5-C6-N6	10.96	137.00	120.35
60	c	436	A2M	C5-C6-N6	10.82	136.80	120.35
11	AA	817	A2M	C5-C6-N6	10.78	136.73	120.35
60	c	420	A2M	C5-C6-N6	10.65	136.54	120.35
11	AA	1449	A2M	C5-C6-N6	10.59	136.44	120.35
60	c	100	A2M	C5-C6-N6	10.55	136.38	120.35
11	AA	2280	A2M	C5-C6-N6	10.52	136.34	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	AA	649	A2M	C5-C6-N6	10.52	136.34	120.35
11	AA	2256	A2M	C5-C6-N6	10.52	136.34	120.35
11	AA	2946	A2M	C5-C6-N6	10.52	136.34	120.35
60	c	541	A2M	C5-C6-N6	10.50	136.31	120.35
60	c	796	A2M	C5-C6-N6	10.48	136.28	120.35
11	AA	876	A2M	C5-C6-N6	10.48	136.28	120.35
60	c	974	A2M	C5-C6-N6	10.45	136.23	120.35
11	AA	807	A2M	C5-C6-N6	10.45	136.23	120.35
60	c	28	A2M	C5-C6-N6	10.45	136.23	120.35
11	AA	2281	A2M	C5-C6-N6	10.27	135.97	120.35
11	AA	2220	A2M	C5-C6-N6	10.17	135.80	120.35
11	AA	2640	A2M	C5-C6-N6	10.14	135.76	120.35
60	c	619	A2M	N6-C6-N1	-7.65	102.70	118.57
11	AA	817	A2M	N6-C6-N1	-7.59	102.82	118.57
60	c	436	A2M	N6-C6-N1	-7.53	102.94	118.57
11	AA	1133	A2M	N6-C6-N1	-7.53	102.95	118.57
11	AA	1449	A2M	N6-C6-N1	-7.36	103.31	118.57
60	c	420	A2M	N6-C6-N1	-7.34	103.33	118.57
11	AA	649	A2M	N6-C6-N1	-7.28	103.46	118.57
60	c	28	A2M	N6-C6-N1	-7.27	103.48	118.57
11	AA	2946	A2M	N6-C6-N1	-7.24	103.54	118.57
11	AA	2280	A2M	N6-C6-N1	-7.21	103.60	118.57
60	c	100	A2M	N6-C6-N1	-7.21	103.61	118.57
11	AA	2281	A2M	N6-C6-N1	-7.20	103.63	118.57
11	AA	2256	A2M	N6-C6-N1	-7.20	103.63	118.57
60	c	541	A2M	N6-C6-N1	-7.20	103.63	118.57
60	c	974	A2M	N6-C6-N1	-7.12	103.79	118.57
11	AA	807	A2M	N6-C6-N1	-7.12	103.79	118.57
11	AA	876	A2M	N6-C6-N1	-7.11	103.82	118.57
60	c	796	A2M	N6-C6-N1	-7.03	103.99	118.57
11	AA	2640	A2M	N6-C6-N1	-6.94	104.18	118.57
11	AA	2220	A2M	N6-C6-N1	-6.85	104.36	118.57
60	c	1773	4AC	CM7-C7-N4	5.92	125.54	115.29
11	AA	2946	A2M	N3-C2-N1	-5.81	119.60	128.68
60	c	28	A2M	N3-C2-N1	-5.72	119.74	128.68
60	c	1280	4AC	CM7-C7-N4	5.70	125.15	115.29
60	c	974	A2M	N3-C2-N1	-5.64	119.86	128.68
11	AA	898	OMU	C4-N3-C2	-5.59	119.20	126.58
11	AA	649	A2M	N3-C2-N1	-5.56	119.98	128.68
11	AA	2921	OMU	C4-N3-C2	-5.55	119.26	126.58
11	AA	817	A2M	N3-C2-N1	-5.55	120.00	128.68
11	AA	2280	A2M	N3-C2-N1	-5.54	120.02	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	AA	2724	OMU	C4-N3-C2	-5.50	119.33	126.58
11	AA	1133	A2M	N3-C2-N1	-5.49	120.10	128.68
15	Bb	37	YYG	O23-C21-N20	5.48	120.43	110.80
60	c	1781	MA6	N3-C2-N1	-5.48	120.12	128.68
11	AA	1449	A2M	N3-C2-N1	-5.46	120.14	128.68
60	c	100	A2M	N3-C2-N1	-5.46	120.14	128.68
60	c	1782	MA6	N3-C2-N1	-5.46	120.15	128.68
60	c	436	A2M	N3-C2-N1	-5.46	120.15	128.68
11	AA	2281	A2M	N3-C2-N1	-5.45	120.15	128.68
60	c	796	A2M	N3-C2-N1	-5.45	120.16	128.68
11	AA	876	A2M	N3-C2-N1	-5.45	120.16	128.68
11	AA	1888	OMU	C4-N3-C2	-5.43	119.41	126.58
60	c	541	A2M	N3-C2-N1	-5.40	120.24	128.68
11	AA	2640	A2M	N3-C2-N1	-5.34	120.34	128.68
11	AA	2417	OMU	C4-N3-C2	-5.33	119.55	126.58
11	AA	2421	OMU	C4-N3-C2	-5.33	119.55	126.58
60	c	1269	OMU	C4-N3-C2	-5.32	119.57	126.58
60	c	420	A2M	N3-C2-N1	-5.30	120.39	128.68
60	c	619	A2M	N3-C2-N1	-5.27	120.44	128.68
11	AA	2347	OMU	C4-N3-C2	-5.26	119.65	126.58
11	AA	2220	A2M	N3-C2-N1	-5.25	120.47	128.68
11	AA	807	A2M	N3-C2-N1	-5.21	120.53	128.68
11	AA	2256	A2M	N3-C2-N1	-5.21	120.54	128.68
60	c	578	OMU	C4-N3-C2	-5.14	119.80	126.58
60	c	1191	B8N	O4'-C1'-C2'	5.07	112.30	105.14
11	AA	2729	OMU	C4-N3-C2	-4.95	120.05	126.58
11	AA	2634	UR3	C4-N3-C2	-4.80	120.04	124.56
60	c	1191	B8N	C5-C4-N3	4.69	124.85	116.17
11	AA	1888	OMU	N3-C2-N1	4.21	120.47	114.89
11	AA	2347	OMU	N3-C2-N1	4.13	120.38	114.89
11	AA	1437	OMC	C1'-N1-C2	4.05	127.47	118.42
11	AA	898	OMU	N3-C2-N1	4.04	120.25	114.89
60	c	1191	B8N	C4-N3-C2	-3.91	120.51	125.46
11	AA	2421	OMU	N3-C2-N1	3.90	120.07	114.89
11	AA	2724	OMU	N3-C2-N1	3.87	120.03	114.89
11	AA	2921	OMU	N3-C2-N1	3.81	119.95	114.89
11	AA	2281	A2M	O4'-C1'-C2'	-3.77	100.05	106.59
11	AA	2729	OMU	N3-C2-N1	3.71	119.81	114.89
60	c	1269	OMU	N3-C2-N1	3.69	119.79	114.89
11	AA	2417	OMU	N3-C2-N1	3.67	119.76	114.89
11	AA	2921	OMU	C5-C4-N3	3.64	120.28	114.84
11	AA	2724	OMU	C5-C4-N3	3.60	120.23	114.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	Bb	37	YYG	O18-C16-C15	3.56	120.64	111.52
60	c	1191	B8N	C3'-C2'-C1'	3.55	105.77	101.64
11	AA	2417	OMU	C5-C4-N3	3.51	120.10	114.84
11	AA	898	OMU	C5-C4-N3	3.47	120.03	114.84
60	c	578	OMU	N3-C2-N1	3.40	119.40	114.89
60	c	578	OMU	C5-C4-N3	3.39	119.92	114.84
60	c	1269	OMU	C5-C4-N3	3.35	119.84	114.84
60	c	1575	G7M	C2-N1-C6	-3.32	118.99	125.10
11	AA	2421	OMU	C5-C4-N3	3.28	119.74	114.84
11	AA	2729	OMU	C5-C4-N3	3.26	119.71	114.84
15	Bb	37	YYG	O22-C21-N20	-3.24	119.54	124.85
11	AA	1888	OMU	C5-C4-N3	3.19	119.61	114.84
60	c	1191	B8N	N3-C2-N1	3.18	121.25	116.76
11	AA	2347	OMU	C5-C4-N3	3.13	119.52	114.84
11	AA	1437	OMC	C1'-N1-C6	-3.11	114.06	120.84
11	AA	2417	OMU	O4-C4-C5	-3.10	119.70	125.16
11	AA	2421	OMU	O4-C4-C5	-3.10	119.71	125.16
15	Bb	37	YYG	O23-C21-O22	-3.10	120.02	124.58
11	AA	2921	OMU	O4-C4-C5	-3.09	119.72	125.16
11	AA	2640	A2M	C1'-N9-C4	3.06	132.02	126.64
60	c	1191	B8N	C31-N3-C4	3.04	121.79	117.31
11	AA	807	A2M	C1'-N9-C4	3.03	131.96	126.64
15	Bb	37	YYG	C5-C6-N1	3.03	118.47	113.96
11	AA	817	A2M	O4'-C1'-C2'	-3.02	101.35	106.59
60	c	578	OMU	O4-C4-C5	-2.97	119.93	125.16
11	AA	2724	OMU	O4-C4-C5	-2.95	119.97	125.16
60	c	1773	4AC	C6-C5-C4	2.94	120.56	116.96
60	c	1269	OMU	O4-C4-C5	-2.92	120.02	125.16
60	c	1280	4AC	C6-C5-C4	2.91	120.53	116.96
11	AA	898	OMU	O4-C4-C5	-2.89	120.07	125.16
15	Bb	37	YYG	C8-N7-C5	2.77	108.27	102.99
60	c	1773	4AC	O7-C7-N4	-2.75	117.36	121.82
11	AA	1888	OMU	O4-C4-C5	-2.75	120.33	125.16
11	AA	2347	OMU	O4-C4-C5	-2.75	120.33	125.16
11	AA	2256	A2M	O2'-C2'-C1'	2.73	114.52	109.09
60	c	1280	4AC	C5-C4-N3	-2.71	118.24	122.59
15	Bb	37	YYG	C3-N3-C2	-2.70	117.61	120.13
60	c	1280	4AC	O7-C7-N4	-2.67	117.50	121.82
60	c	1773	4AC	O7-C7-CM7	-2.67	117.11	122.06
15	Bb	37	YYG	C3-N3-C4	2.65	121.42	116.71
11	AA	2142	1MA	N1-C6-N6	2.61	126.41	119.77
11	AA	876	A2M	C1'-N9-C4	2.61	131.22	126.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	AA	2729	OMU	O4-C4-C5	-2.59	120.60	125.16
11	AA	649	A2M	C1'-N9-C4	2.59	131.18	126.64
60	c	1271	OMG	O6-C6-C5	2.57	129.38	124.37
60	c	1280	4AC	O7-C7-CM7	-2.53	117.35	122.06
11	AA	2815	OMG	O6-C6-C5	2.51	129.28	124.37
60	c	1773	4AC	C5-C4-N3	-2.50	118.57	122.59
11	AA	2922	OMG	O6-C6-C5	2.48	129.21	124.37
15	Bb	37	YYG	O6-C6-C5	-2.45	119.84	124.17
11	AA	2921	OMU	O2-C2-N1	-2.43	119.55	122.79
60	c	1572	OMG	O6-C6-C5	2.43	129.11	124.37
60	c	1191	B8N	O2'-C2'-C1'	-2.41	105.48	111.23
60	c	1428	OMG	O6-C6-C5	2.41	129.08	124.37
11	AA	898	OMU	O2-C2-N1	-2.40	119.60	122.79
11	AA	1450	OMG	O6-C6-C5	2.40	129.06	124.37
11	AA	2220	A2M	C1'-N9-C4	2.40	130.85	126.64
11	AA	2421	OMU	O2-C2-N1	-2.39	119.61	122.79
11	AA	2288	OMG	O6-C6-C5	2.39	129.03	124.37
60	c	541	A2M	O2'-C2'-C1'	2.38	113.81	109.09
11	AA	645	1MA	C5-C6-N1	-2.37	110.36	113.90
11	AA	805	OMG	O6-C6-C5	2.33	128.92	124.37
11	AA	2634	UR3	C1'-N1-C2	2.33	120.92	116.99
11	AA	2724	OMU	O2-C2-N1	-2.31	119.72	122.79
60	c	562	OMG	O6-C6-C5	2.30	128.87	124.37
60	c	541	A2M	C1'-N9-C4	2.30	130.68	126.64
11	AA	2347	OMU	O2-C2-N1	-2.29	119.74	122.79
11	AA	2619	OMG	O6-C6-C5	2.29	128.84	124.37
11	AA	2791	OMG	O6-C6-C5	2.27	128.81	124.37
11	AA	2417	OMU	O2-C2-N1	-2.27	119.77	122.79
11	AA	2793	OMG	O6-C6-C5	2.25	128.76	124.37
12	Aa	699	DDE	CAU-CBW-CBI	-2.24	106.76	111.20
60	c	420	A2M	C1'-N9-C4	2.22	130.54	126.64
11	AA	2280	A2M	C2'-C3'-C4'	2.21	106.80	101.99
12	Aa	699	DDE	CBW-CBI-NAD	2.21	118.10	115.28
60	c	1280	4AC	N4-C4-N3	2.21	117.56	113.85
60	c	1191	B8N	C4'-O4'-C1'	-2.20	103.02	108.55
11	AA	1888	OMU	O2-C2-N1	-2.20	119.86	122.79
60	c	1126	OMG	O6-C6-C5	2.17	128.60	124.37
11	AA	2256	A2M	C1'-N9-C4	2.16	130.44	126.64
11	AA	867	OMG	O6-C6-C5	2.14	128.54	124.37
11	AA	908	OMG	O6-C6-C5	2.12	128.51	124.37
60	c	578	OMU	O2-C2-N1	-2.10	119.99	122.79
60	c	28	A2M	C1'-N9-C4	2.10	130.33	126.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	c	436	A2M	C1'-N9-C4	2.07	130.28	126.64
60	c	1269	OMU	O2-C2-N1	-2.06	120.04	122.79
15	Bb	37	YYG	O18-C16-O17	-2.06	119.81	123.84
11	AA	645	1MA	CM1-N1-C6	-2.02	117.21	120.27
11	AA	2815	OMG	C5-C6-N1	-2.02	110.39	113.95
11	AA	1449	A2M	C1'-N9-C4	2.00	130.16	126.64

There are no chirality outliers.

All (108) 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	867	OMG	O4'-C4'-C5'-O5'
11	AA	867	OMG	C3'-C4'-C5'-O5'
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	1450	OMG	C3'-C4'-C5'-O5'
11	AA	2220	A2M	C1'-C2'-O2'-CM'
11	AA	2256	A2M	C1'-C2'-O2'-CM'
11	AA	2280	A2M	C1'-C2'-O2'-CM'
11	AA	2337	OMC	C1'-C2'-O2'-CM2
11	AA	2417	OMU	C1'-C2'-O2'-CM2
11	AA	2421	OMU	C1'-C2'-O2'-CM2
11	AA	2640	A2M	C1'-C2'-O2'-CM'
11	AA	2724	OMU	C1'-C2'-O2'-CM2
11	AA	2729	OMU	C1'-C2'-O2'-CM2
11	AA	2791	OMG	C3'-C4'-C5'-O5'
11	AA	2793	OMG	O4'-C4'-C5'-O5'
11	AA	2870	5MC	C2'-C1'-N1-C2
11	AA	2870	5MC	C2'-C1'-N1-C6
12	Aa	699	DDE	C-CA-CB-CG
12	Aa	699	DDE	CA-CB-CG-ND1
15	Bb	37	YYG	C3'-C4'-C5'-O5'
15	Bb	37	YYG	C14-C15-N20-C21
15	Bb	37	YYG	O23-C21-N20-C15
15	Bb	37	YYG	N20-C21-O23-C24
15	Bb	37	YYG	O22-C21-O23-C24
60	c	28	A2M	C1'-C2'-O2'-CM'
60	c	100	A2M	O4'-C4'-C5'-O5'
60	c	414	OMC	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
60	c	414	OMC	O4'-C4'-C5'-O5'
60	c	541	A2M	C3'-C4'-C5'-O5'
60	c	541	A2M	C1'-C2'-O2'-CM'
60	c	562	OMG	C1'-C2'-O2'-CM2
60	c	619	A2M	O4'-C4'-C5'-O5'
60	c	974	A2M	C1'-C2'-O2'-CM'
60	c	1007	OMC	C1'-C2'-O2'-CM2
60	c	1191	B8N	N3-C31-C32-C33
60	c	1271	OMG	C1'-C2'-O2'-CM2
60	c	1572	OMG	O4'-C4'-C5'-O5'
60	c	1572	OMG	C1'-C2'-O2'-CM2
60	c	1639	OMC	C1'-C2'-O2'-CM2
60	c	1782	MA6	O4'-C4'-C5'-O5'
60	c	1782	MA6	C3'-C4'-C5'-O5'
15	Bb	37	YYG	C15-C16-O18-C19
15	Bb	37	YYG	O22-C21-N20-C15
15	Bb	37	YYG	O17-C16-O18-C19
11	AA	2280	A2M	O4'-C4'-C5'-O5'
11	AA	2280	A2M	C3'-C4'-C5'-O5'
11	AA	2281	A2M	O4'-C4'-C5'-O5'
11	AA	2793	OMG	C3'-C4'-C5'-O5'
15	Bb	37	YYG	O4'-C4'-C5'-O5'
60	c	28	A2M	O4'-C4'-C5'-O5'
60	c	541	A2M	O4'-C4'-C5'-O5'
60	c	578	OMU	O4'-C4'-C5'-O5'
60	c	1572	OMG	C3'-C4'-C5'-O5'
60	c	1575	G7M	C3'-C4'-C5'-O5'
11	AA	2281	A2M	C3'-C4'-C5'-O5'
11	AA	2791	OMG	O4'-C4'-C5'-O5'
60	c	100	A2M	C3'-C4'-C5'-O5'
60	c	619	A2M	C3'-C4'-C5'-O5'
60	c	1575	G7M	O4'-C4'-C5'-O5'
11	AA	908	OMG	C3'-C4'-C5'-O5'
12	Aa	699	DDE	CE1-CAT-CAU-CBW
11	AA	2729	OMU	C3'-C4'-C5'-O5'
60	c	1126	OMG	C3'-C4'-C5'-O5'
11	AA	2197	OMC	C2'-C1'-N1-C6
60	c	1280	4AC	O7-C7-N4-C4
60	c	1280	4AC	CM7-C7-N4-C4
60	c	1773	4AC	O7-C7-N4-C4
60	c	1773	4AC	CM7-C7-N4-C4
12	Aa	699	DDE	CAU-CAT-CE1-NE2

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Mol	Chain	Res	Type	Atoms
60	c	420	A2M	C1'-C2'-O2'-CM'
60	c	436	A2M	C1'-C2'-O2'-CM'
60	c	1191	B8N	C31-C32-C33-N34
11	AA	2870	5MC	O4'-C1'-N1-C6
11	AA	2922	OMG	C3'-C4'-C5'-O5'
11	AA	1437	OMC	C2'-C1'-N1-C2
12	Aa	699	DDE	N-CA-CB-CG
60	c	1572	OMG	C4'-C5'-O5'-P
11	AA	2197	OMC	O4'-C1'-N1-C6
11	AA	1437	OMC	C2'-C1'-N1-C6
60	c	1782	MA6	C4'-C5'-O5'-P
11	AA	817	A2M	O4'-C4'-C5'-O5'
11	AA	2347	OMU	C3'-C4'-C5'-O5'
15	Bb	37	YYG	N20-C15-C16-O17
60	c	1191	B8N	O4'-C1'-C5-C4
11	AA	2281	A2M	C3'-C2'-O2'-CM'
11	AA	908	OMG	O4'-C4'-C5'-O5'
11	AA	2729	OMU	O4'-C4'-C5'-O5'
15	Bb	37	YYG	N20-C15-C16-O18
11	AA	2197	OMC	O4'-C1'-N1-C2
11	AA	2870	5MC	O4'-C1'-N1-C2
11	AA	2142	1MA	C4'-C5'-O5'-P
60	c	28	A2M	C3'-C4'-C5'-O5'
12	Aa	699	DDE	CAT-CAU-CBW-CBI
12	Aa	699	DDE	OAG-CBI-CBW-CAU
60	c	1126	OMG	C4'-C5'-O5'-P
60	c	1191	B8N	O4'-C1'-C5-C6
11	AA	2197	OMC	C2'-C1'-N1-C2
11	AA	1437	OMC	O4'-C4'-C5'-O5'
11	AA	649	A2M	C4'-C5'-O5'-P
11	AA	1450	OMG	C4'-C5'-O5'-P
11	AA	1888	OMU	C3'-C4'-C5'-O5'
12	Aa	699	DDE	NAD-CBI-CBW-CAU
12	Aa	699	DDE	NAD-CBI-CBW-NCB
60	c	1280	4AC	C2'-C1'-N1-C2

There are no ring outliers.

48 monomers are involved in 82 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	c	28	A2M	2	0
60	c	420	A2M	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	AA	2256	A2M	2	0
11	AA	876	A2M	1	0
60	c	541	A2M	3	0
60	c	1639	OMC	2	0
11	AA	2281	A2M	1	0
60	c	1280	4AC	2	0
60	c	1269	OMU	1	0
15	Bb	37	YYG	4	0
11	AA	867	OMG	1	0
11	AA	645	1MA	1	0
11	AA	2948	OMC	1	0
60	c	436	A2M	1	0
11	AA	898	OMU	1	0
60	c	1126	OMG	2	0
12	Aa	699	DDE	2	0
11	AA	2220	A2M	1	0
11	AA	1133	A2M	1	0
11	AA	2619	OMG	2	0
60	c	974	A2M	3	0
11	AA	650	OMC	1	0
60	c	562	OMG	2	0
60	c	1781	MA6	2	0
60	c	1271	OMG	1	0
11	AA	2793	OMG	1	0
11	AA	2640	A2M	3	0
11	AA	2921	OMU	1	0
60	c	1007	OMC	2	0
60	c	1575	G7M	6	0
11	AA	807	A2M	3	0
11	AA	649	A2M	2	0
11	AA	2729	OMU	1	0
11	AA	2417	OMU	1	0
11	AA	2946	A2M	1	0
11	AA	2421	OMU	1	0
11	AA	1449	A2M	2	0
11	AA	817	A2M	1	0
11	AA	2870	5MC	1	0
11	AA	2922	OMG	3	0
11	AA	2724	OMU	4	0
11	AA	2347	OMU	1	0
60	c	619	A2M	1	0
60	c	1773	4AC	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	c	1572	OMG	1	0
11	AA	663	OMC	2	0
60	c	578	OMU	1	0
11	AA	2337	OMC	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 233 ligands modelled in this entry, 229 are monoatomic - leaving 4 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	$\#\|Z\| > 2$
87	SPD	c	1937	-	9,9,9	0.32	0	8,8,8	0.93	0
87	SPD	AA	3567	-	9,9,9	0.31	0	8,8,8	0.69	0
88	GTP	Aa	1001	85	26,34,34	1.20	2 (7%)	32,54,54	1.61	7 (21%)
87	SPD	AA	3566	-	9,9,9	0.31	0	8,8,8	0.81	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
87	SPD	c	1937	-	-	3/7/7/7	-
87	SPD	AA	3567	-	-	3/7/7/7	-
88	GTP	Aa	1001	85	-	2/18/38/38	0/3/3/3
87	SPD	AA	3566	-	-	4/7/7/7	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
88	Aa	1001	GTP	C5-C6	-4.37	1.38	1.47
88	Aa	1001	GTP	C2-N3	2.07	1.38	1.33

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
88	Aa	1001	GTP	PB-O3B-PG	-3.94	119.31	132.83
88	Aa	1001	GTP	C5-C6-N1	3.24	119.68	113.95
88	Aa	1001	GTP	C3'-C2'-C1'	3.15	105.73	100.98
88	Aa	1001	GTP	C8-N7-C5	2.94	108.59	102.99
88	Aa	1001	GTP	C2-N1-C6	-2.79	119.96	125.10
88	Aa	1001	GTP	PA-O3A-PB	-2.53	124.15	132.83
88	Aa	1001	GTP	O6-C6-C5	-2.39	119.70	124.37

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
87	AA	3566	SPD	N6-C7-C8-C9
87	AA	3567	SPD	C3-C4-C5-N6
88	Aa	1001	GTP	O4'-C4'-C5'-O5'
88	Aa	1001	GTP	C3'-C4'-C5'-O5'
87	AA	3567	SPD	C8-C7-N6-C5
87	AA	3566	SPD	C2-C3-C4-C5
87	c	1937	SPD	C4-C5-N6-C7
87	c	1937	SPD	N1-C2-C3-C4
87	c	1937	SPD	C2-C3-C4-C5
87	AA	3566	SPD	C4-C5-N6-C7
87	AA	3567	SPD	N1-C2-C3-C4
87	AA	3566	SPD	N1-C2-C3-C4

There are no ring outliers.

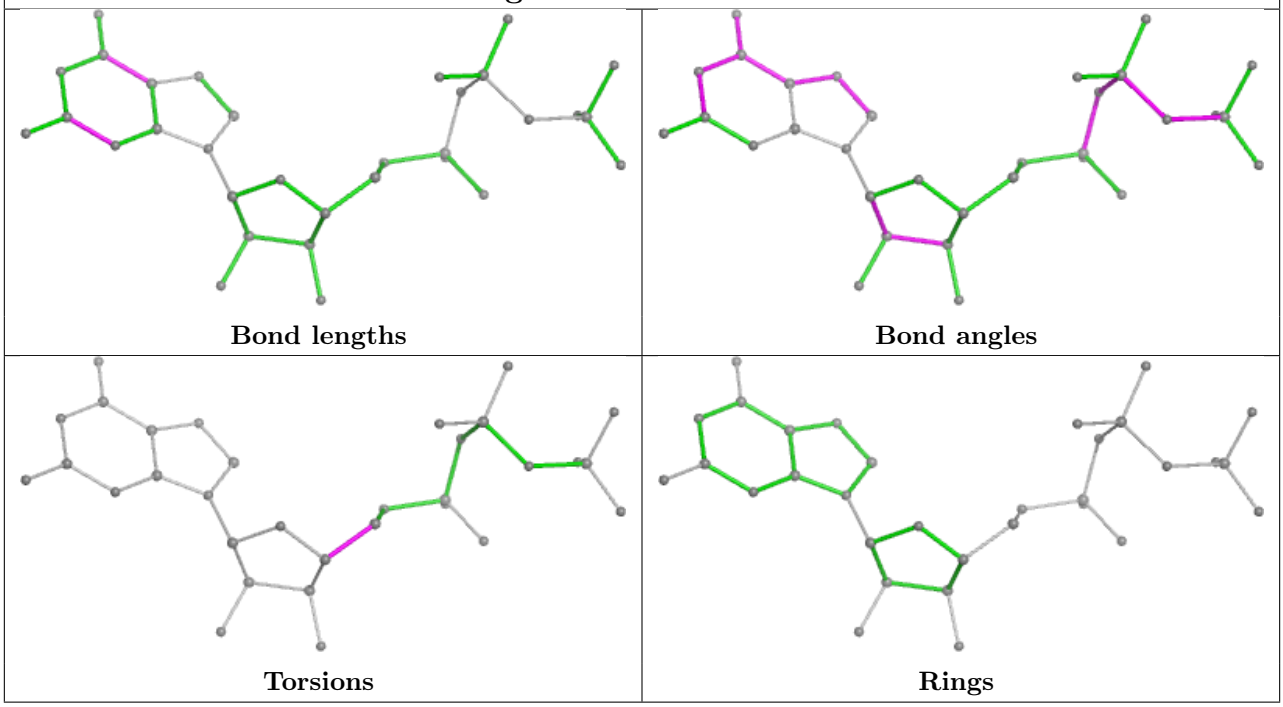
3 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
87	c	1937	SPD	1	0
87	AA	3567	SPD	1	0
88	Aa	1001	GTP	7	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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand GTP Aa 1001



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

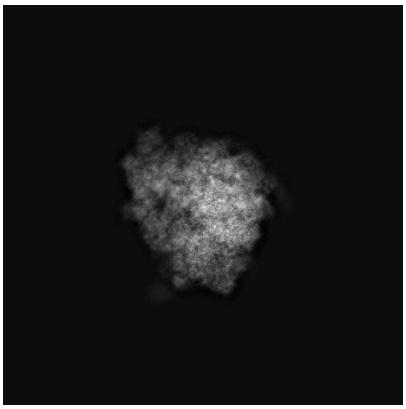
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-16702. These allow visual inspection of the internal detail of the map and identification of artifacts.

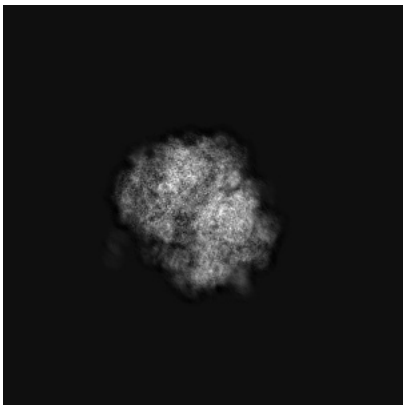
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

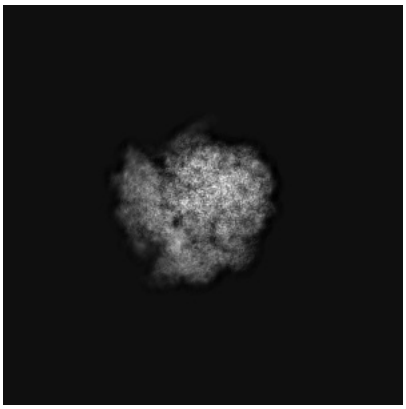
6.1.1 Primary map



X

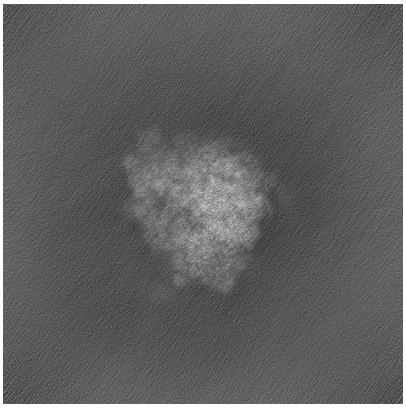


Y

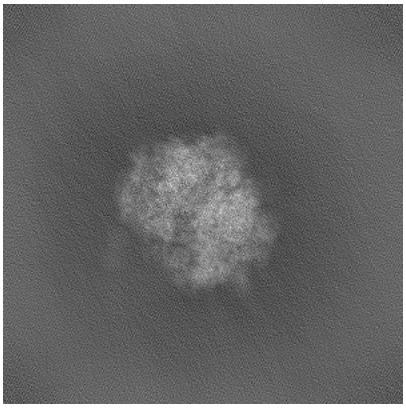


Z

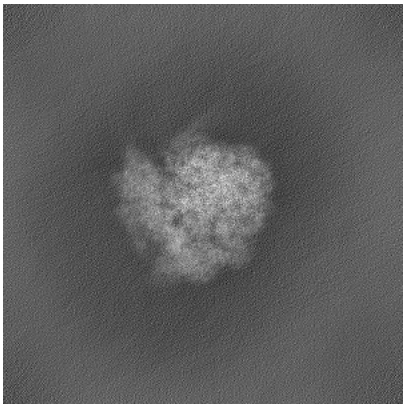
6.1.2 Raw map



X



Y

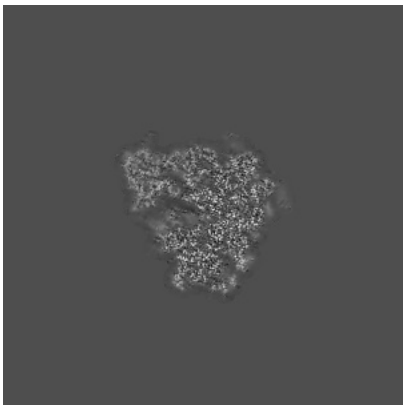


Z

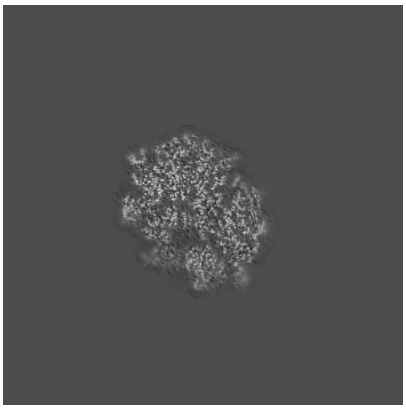
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

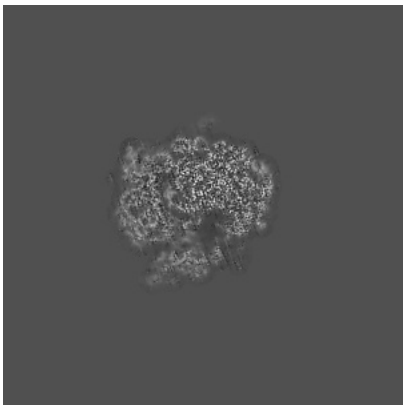
6.2.1 Primary map



X Index: 220

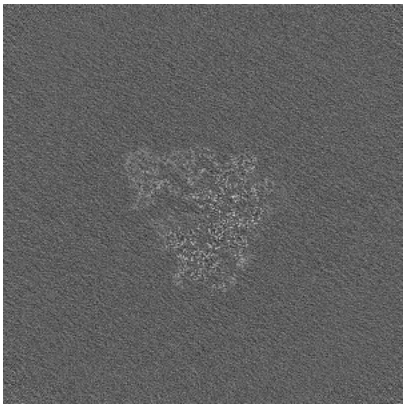


Y Index: 220

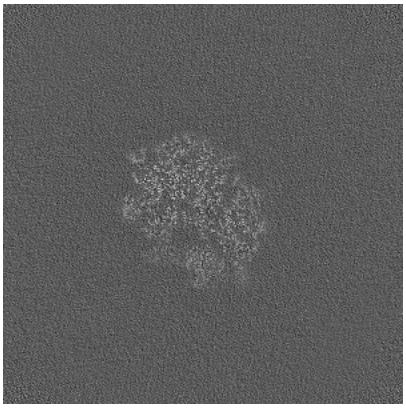


Z Index: 220

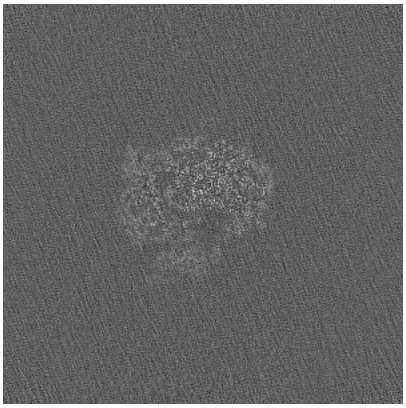
6.2.2 Raw map



X Index: 220



Y Index: 220

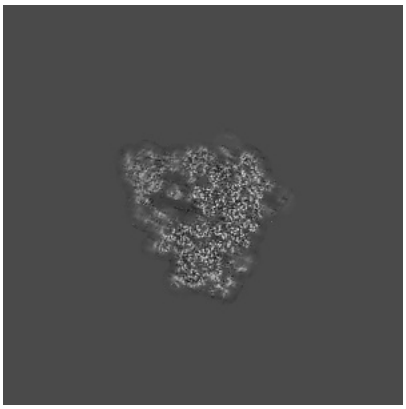


Z Index: 220

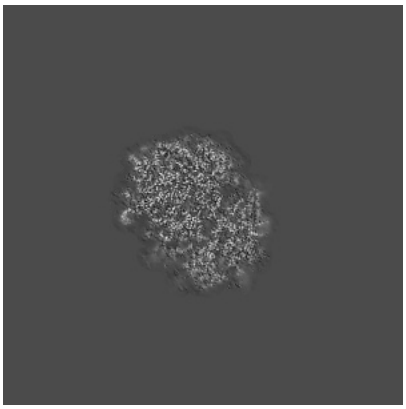
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

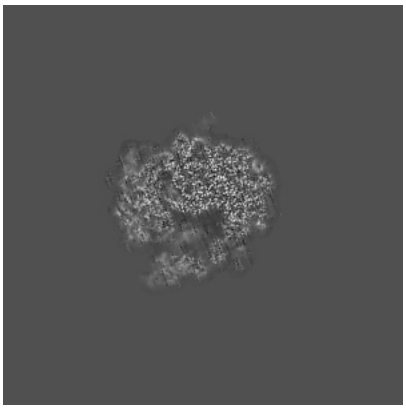
6.3.1 Primary map



X Index: 225

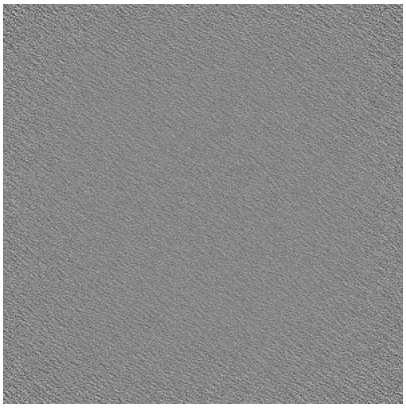


Y Index: 224



Z Index: 217

6.3.2 Raw map



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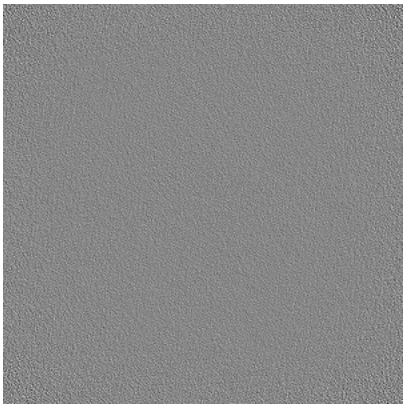
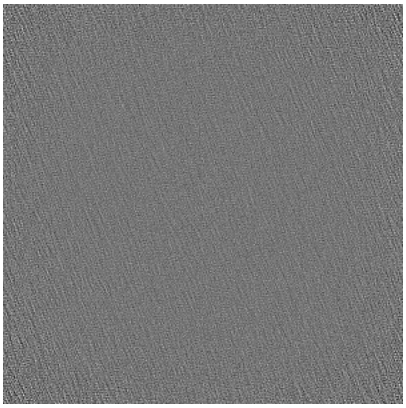


Y Index: 0

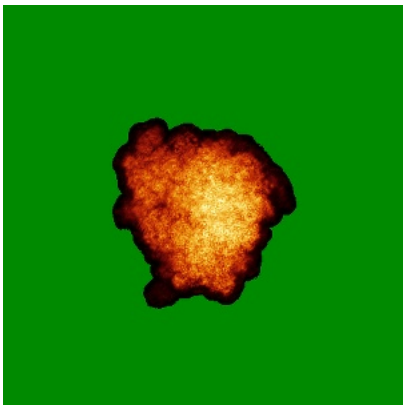


Z Index: 0

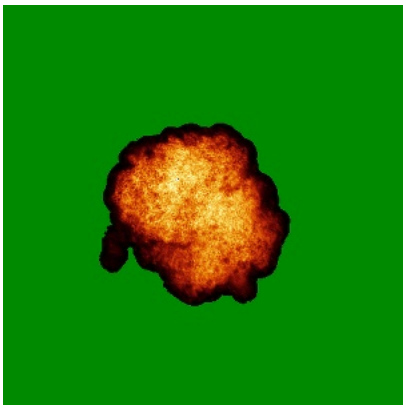
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

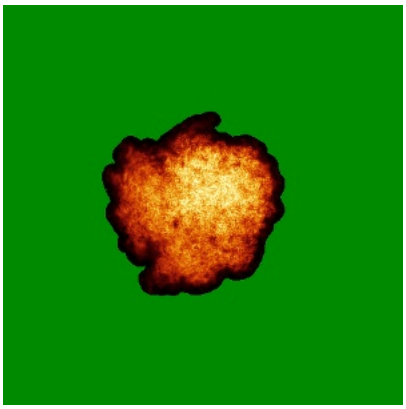
6.4.1 Primary map



X

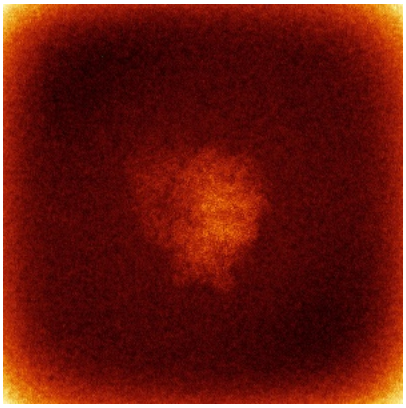


Y

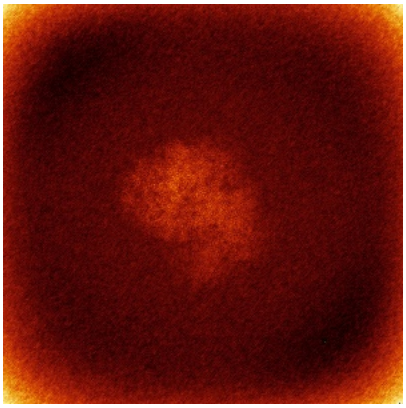


Z

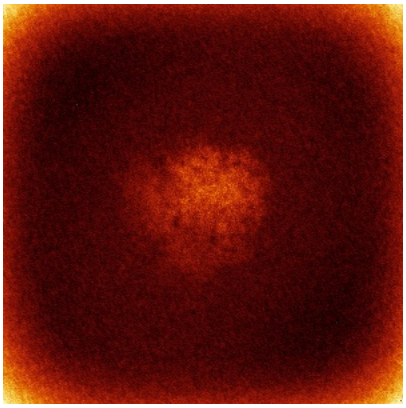
6.4.2 Raw map



X



Y



Z

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

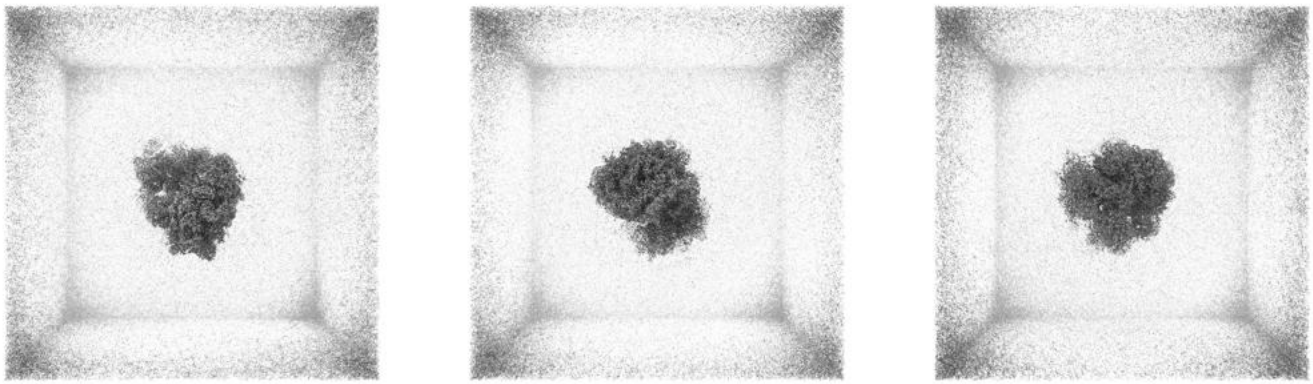
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

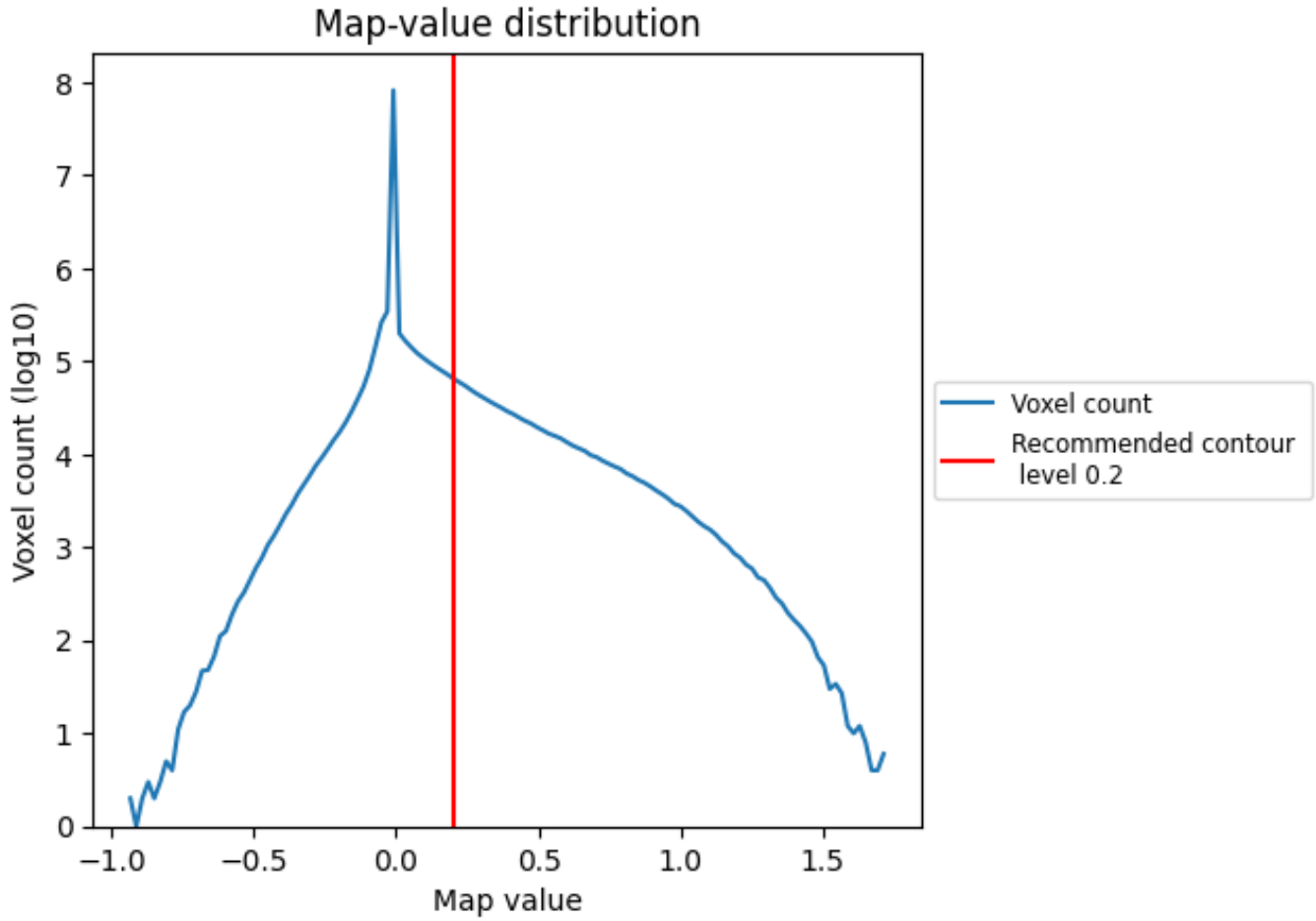
6.6 Mask visualisation (i)

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

7 Map analysis

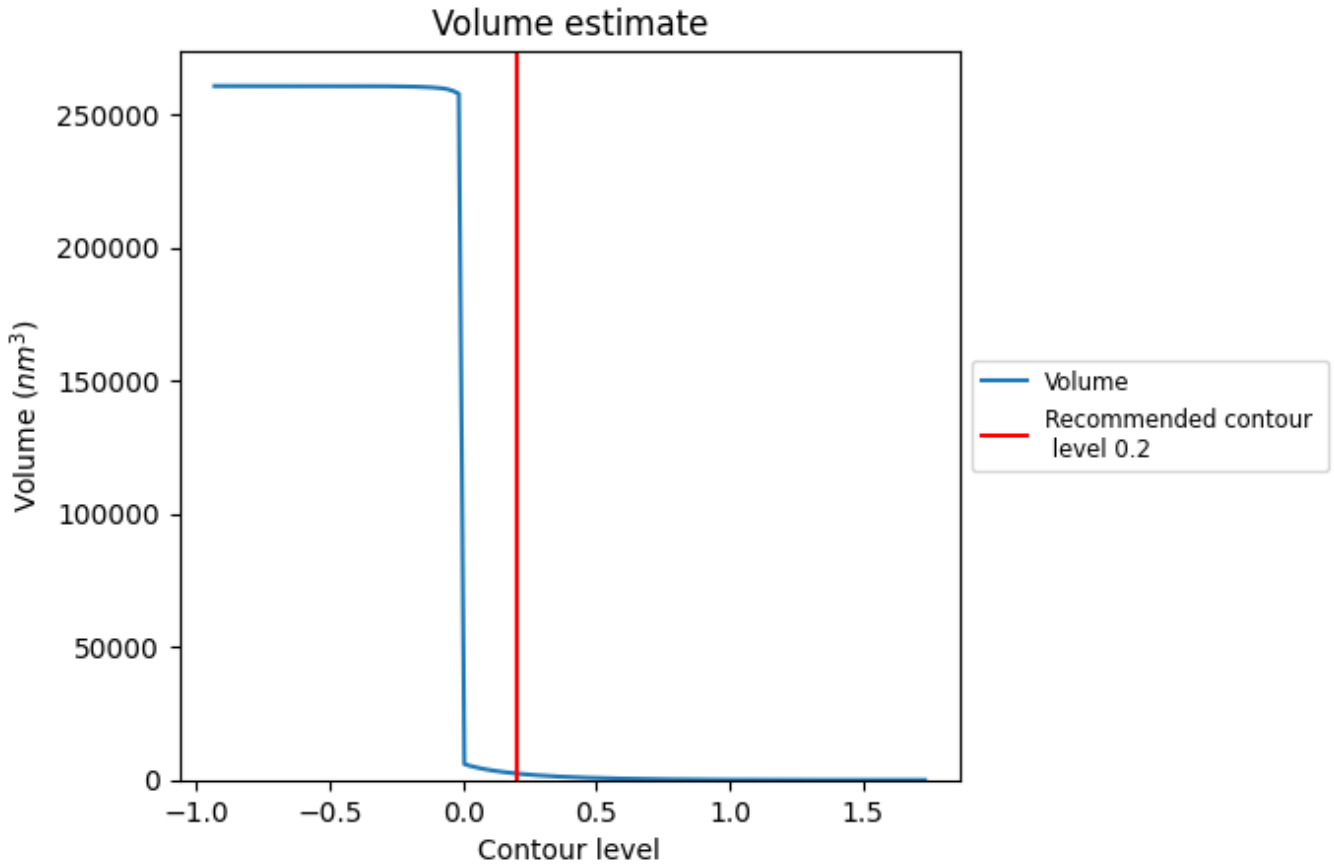
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

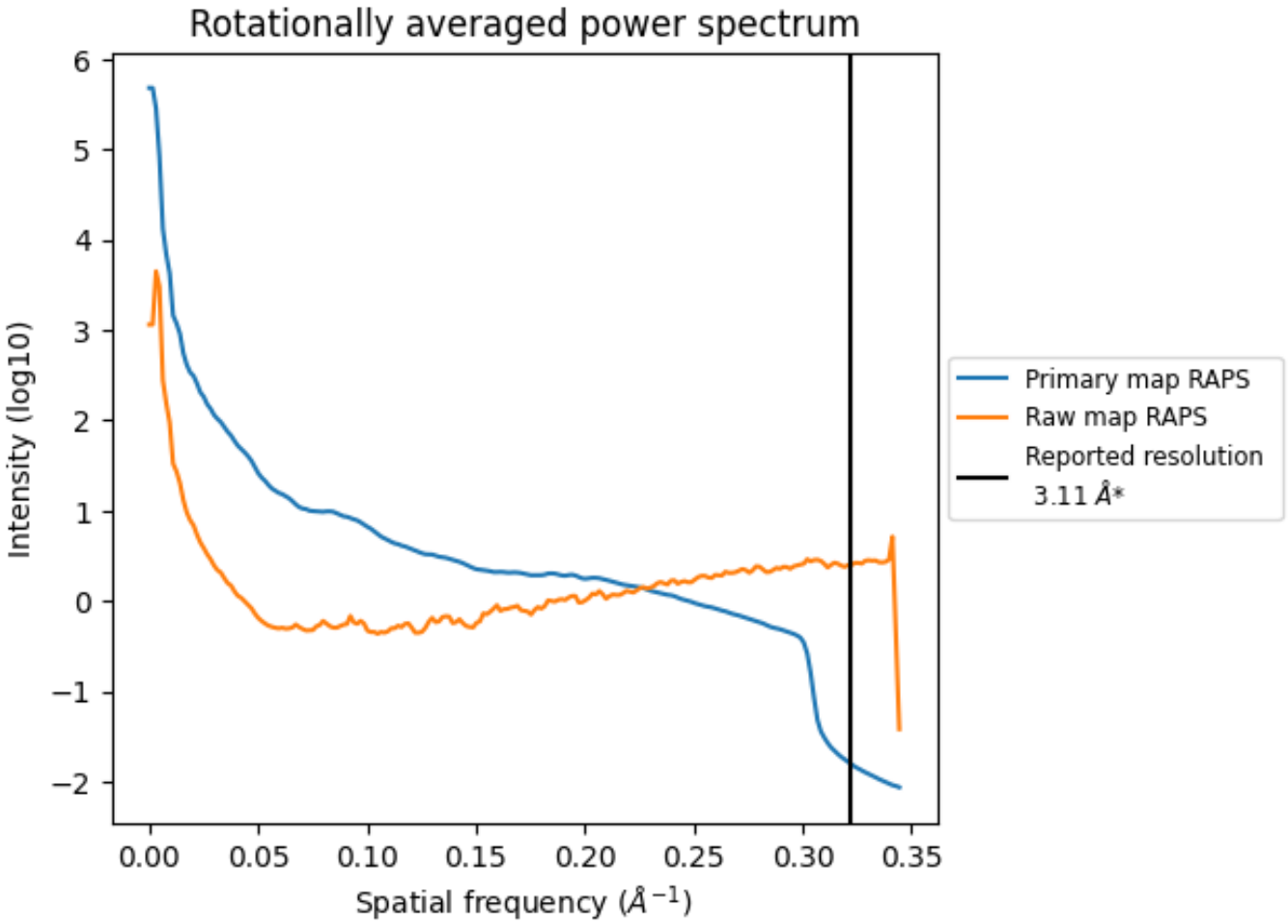
7.2 Volume estimate



The volume at the recommended contour level is 2429 nm^3; this corresponds to an approximate mass of 2194 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)

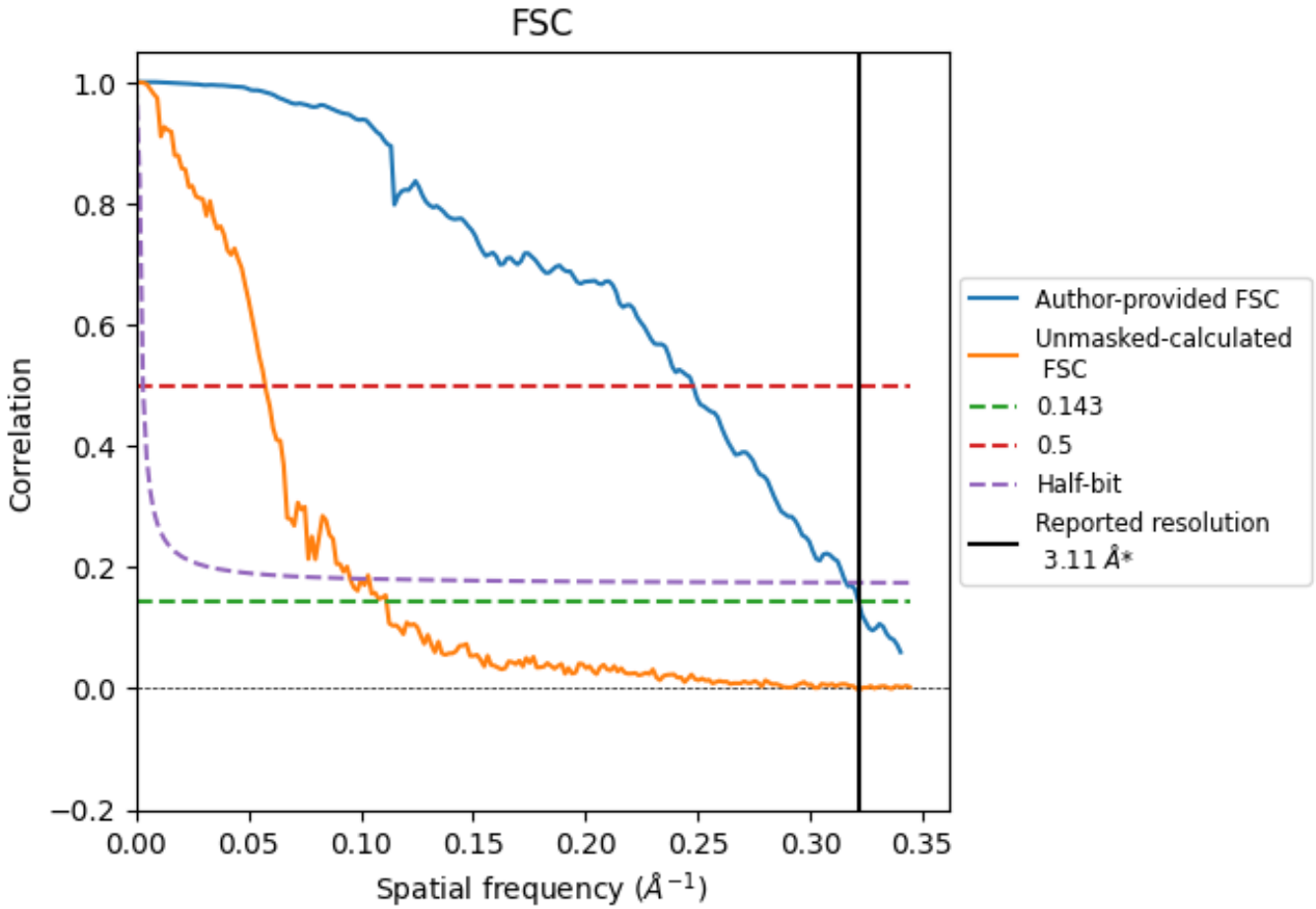


*Reported resolution corresponds to spatial frequency of 0.322 Å^{-1}

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.322 Å^{-1}

8.2 Resolution estimates (i)

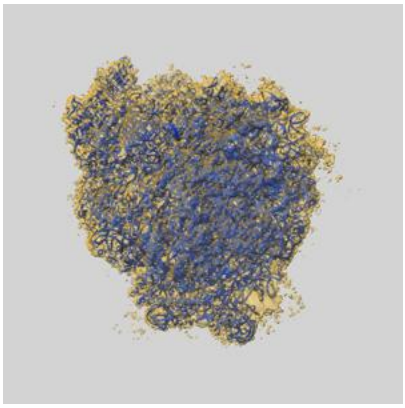
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.11	-	-
Author-provided FSC curve	3.11	4.03	3.16
Unmasked-calculated*	8.97	17.39	10.49

*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 8.97 differs from the reported value 3.11 by more than 10 %

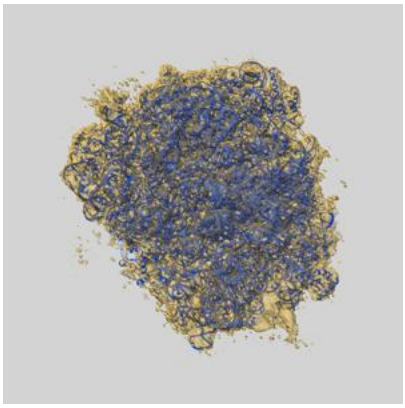
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-16702 and PDB model 8CKU. Per-residue inclusion information can be found in section 3 on page 23.

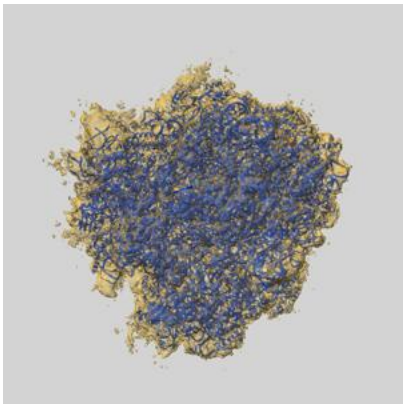
9.1 Map-model overlay



X



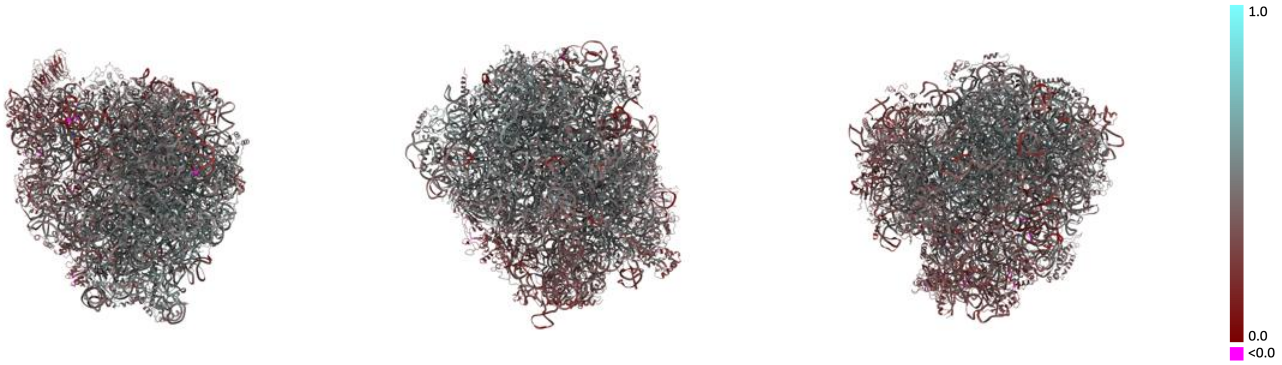
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2 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.

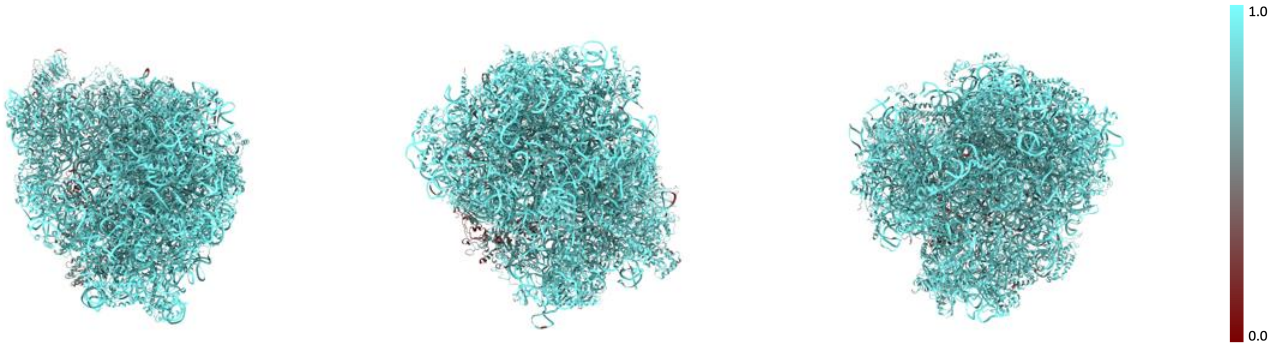
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

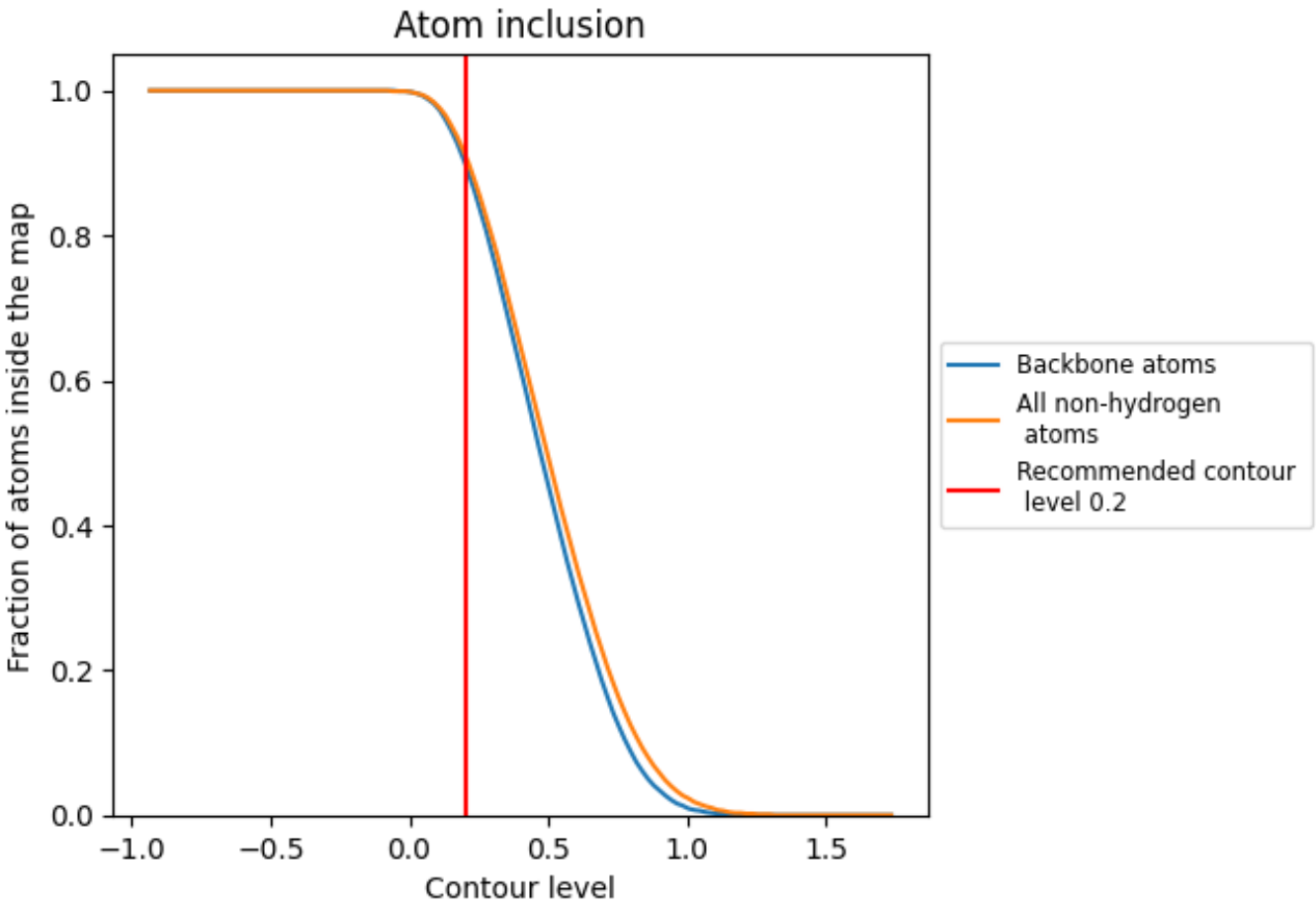
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.2).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 91% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9120	0.4250
0	0.8810	0.3570
1	0.6860	0.2440
2	0.9350	0.4700
3	0.9080	0.4140
4	0.7880	0.3680
5	0.9360	0.4430
6	0.8740	0.3800
7	0.8120	0.2840
8	0.6430	0.2460
A	0.9420	0.4840
AA	0.9720	0.4590
Aa	0.4630	0.2570
B	0.9440	0.5090
BB	0.9870	0.4560
Bb	0.5740	0.2400
C	0.9390	0.4880
CC	0.9820	0.4750
Cc	0.9010	0.3240
D	0.9210	0.4580
DD	0.3890	0.1920
Dd	0.8600	0.3680
E	0.9230	0.4820
EE	0.8930	0.4990
Ee	0.4300	0.1810
F	0.9150	0.4720
FF	0.9310	0.4730
G	0.9100	0.4110
GG	0.9450	0.4910
H	0.8980	0.4890
HH	0.8830	0.3970
I	0.9250	0.4540
II	0.9540	0.4770
J	0.9310	0.4840
JJ	0.9440	0.4880

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Chain	Atom inclusion	Q-score
K	0.9390	0.4900
KK	0.9100	0.4180
L	0.9450	0.4530
LL	0.8860	0.4540
M	0.9290	0.4680
MM	0.8910	0.4770
N	0.8870	0.4320
NN	0.8880	0.3820
O	0.8880	0.4560
OO	0.9200	0.4400
P	0.9070	0.4580
PP	0.9370	0.4770
Q	0.9540	0.5140
QQ	0.9400	0.4840
R	0.9660	0.5320
S	0.9320	0.4880
T	0.9410	0.4470
U	0.9270	0.4110
V	0.9690	0.5250
W	0.8550	0.4170
X	0.9400	0.4860
Y	0.8860	0.4820
Z	0.8110	0.4290
a	0.9000	0.4580
b	0.9150	0.4960
c	0.9660	0.4080
d	0.8870	0.4080
e	0.8840	0.4230
f	0.9150	0.4500
g	0.8980	0.3770
h	0.8790	0.3700
i	0.8100	0.3430
j	0.8410	0.3070
k	0.8220	0.3680
l	0.8530	0.3610
m	0.8900	0.3760
n	0.8320	0.3310
o	0.8580	0.4230
p	0.8910	0.4350
q	0.9150	0.4340
r	0.8820	0.3610
s	0.8800	0.3550

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Chain	Atom inclusion	Q-score
t	0.8670	0.3690
u	0.8560	0.3330
v	0.8770	0.3340
w	0.8620	0.3610
x	0.9050	0.4300
y	0.9210	0.4650
z	0.8460	0.4140