



Full wwPDB EM Validation Report ⓘ

Mar 26, 2026 – 05:04 PM UTC

PDB ID : 8OGJ / pdb_00008ogj
EMDB ID : EMD-16874
Title : Structure of Candida albicans 80S ribosome in complex with mefloquine
Authors : Kolosova, O.; Zgadzay, Y.; Stetsenko, A.; Guskov, A.; Yusupov, M.
Deposited on : 2023-03-20
Resolution : 3.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

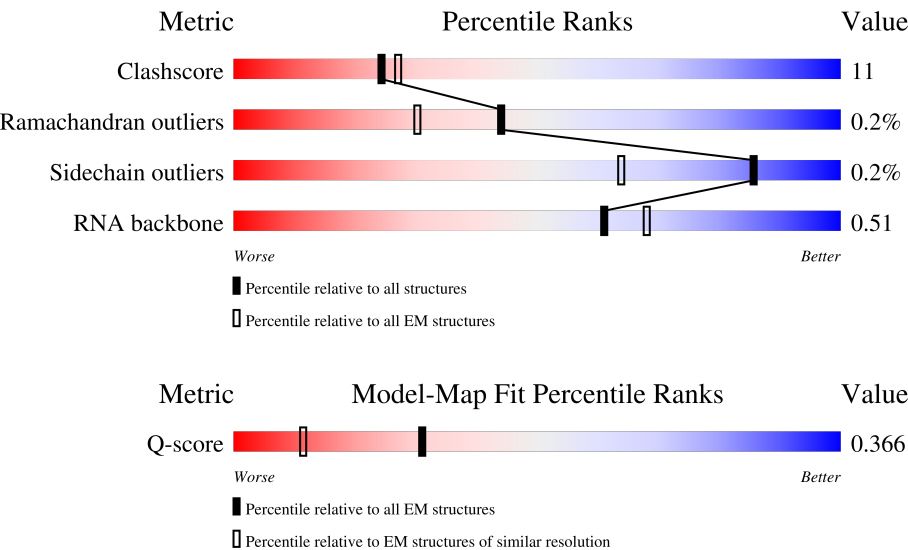
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	14724 (2.60 - 3.60)

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

Mol	Chain	Length	Quality of chain
1	1	3359	
2	3	121	
3	4	158	

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Mol	Chain	Length	Quality of chain
4	10	76	
5	j	254	
6	k	389	
7	l	363	
8	m	298	
9	n	176	
10	o	241	
11	p	262	
12	q	191	
13	r	220	
14	s	174	
15	t	202	
16	u	131	
17	v	204	
18	w	200	
19	x	185	
20	y	186	
21	z	190	
22	0	172	
23	2	160	
24	5	124	
25	6	137	
26	7	155	
27	8	142	
28	9	127	

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Mol	Chain	Length	Quality of chain
29	AA	136	
30	AB	149	
31	AC	63	
32	AD	106	
33	AE	112	
34	AF	131	
35	AG	107	
36	AH	122	
37	AI	120	
38	AJ	99	
39	AK	90	
40	AL	78	
41	AM	51	
42	AN	52	
43	AO	25	
44	AP	106	
45	AQ	92	
46	A	1787	
47	B	261	
48	C	256	
49	D	249	
50	E	251	
51	F	262	
52	G	225	
53	H	236	

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Mol	Chain	Length	Quality of chain
54	I	186	
55	J	206	
56	K	189	
57	L	118	
58	M	155	
59	N	143	
60	O	151	
61	P	132	
62	Q	142	
63	R	142	
64	S	137	
65	T	145	
66	U	145	
67	V	119	
68	W	87	
69	X	130	
70	Y	145	
71	Z	135	
72	a	105	
73	b	119	
74	c	82	
75	d	67	
76	e	56	
77	f	63	
78	g	193	

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Mol	Chain	Length	Quality of chain
79	h	317	98% 52% 46% ..

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 196571 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	3126	Total	C	N	O	P	0	0
			66827	29854	12018	21829	3126		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	121	Total	C	N	O	P	0	0
			2579	1153	463	842	121		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	158	Total	C	N	O	P	0	0
			3353	1500	585	1110	158		

- Molecule 4 is a RNA chain called Mixture of endogenous E-tRNAs.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	10	14	Total	C	N	O	P	0	0
			298	133	54	97	14		

- Molecule 5 is a protein called 60S ribosomal protein L2-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	j	249	Total	C	N	O	S	0	0
			1888	1180	376	330	2		

- Molecule 6 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	k	386	Total	C	N	O	S	1	0
			3084	1955	584	538	7		

- Molecule 7 is a protein called 60S ribosomal protein L4-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	l	361	Total	C	N	O	S	0	0
			2751	1729	529	490	3		

- Molecule 8 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	m	292	Total	C	N	O	S	0	0
			2394	1526	416	450	2		

- Molecule 9 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	n	155	Total	C	N	O		0	0
			1228	788	224	216			

- Molecule 10 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	o	234	Total	C	N	O	S	0	0
			1885	1208	345	331	1		

- Molecule 11 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	p	251	Total	C	N	O	S	0	0
			1929	1235	343	347	4		

- Molecule 12 is a protein called 60S ribosomal protein L9-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	q	190	Total	C	N	O	S	0	0
			1519	958	276	281	4		

- Molecule 13 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	r	208	Total	C	N	O	S	0	0
			1689	1069	322	291	7		

- Molecule 14 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	s	172	Total	C	N	O	S	0	0
			1376	858	260	254	4		

- Molecule 15 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	t	200	Total	C	N	O		0	0
			1610	1009	318	283			

- Molecule 16 is a protein called 60S ribosomal protein L14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	u	130	Total	C	N	O	S	0	0
			1029	660	193	175	1		

- Molecule 17 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	v	203	Total	C	N	O	S	0	0
			1713	1075	356	280	2		

- Molecule 18 is a protein called Ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	w	199	Total	C	N	O	S	0	0
			1590	1025	294	269	2		

- Molecule 19 is a protein called Ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	x	172	Total	C	N	O		0	0
			1375	850	279	246			

- Molecule 20 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	y	185	Total	C	N	O		0	0
			1458	916	297	245			

- Molecule 21 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	z	173	Total	C	N	O	S	1	0
			1411	873	300	235	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
22	0	171	Total	C	N	O	S	1	0
			1436	929	261	243	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
23	2	159	Total	C	N	O	S	0	0
			1262	798	241	221	2		

- Molecule 24 is a protein called 60S ribosomal protein L22-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	5	103	Total	C	N	O		0	0
			831	539	138	154			

- Molecule 25 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	6	131	Total	C	N	O	S	0	0
			977	615	183	171	8		

- Molecule 26 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	7	63	Total	C	N	O	S	0	0
			524	334	103	86	1		

- Molecule 27 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	8	121	Total	C	N	O	S	0	0
			974	622	175	176	1		

- Molecule 28 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	9	126	Total	C	N	O		
			989	618	190	181	0	0

- Molecule 29 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	AA	135	Total	C	N	O	S	
			1087	705	197	183	2	0

- Molecule 30 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	AB	148	Total	C	N	O	S	
			1170	741	231	197	1	0

- Molecule 31 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	AC	63	Total	C	N	O	S	
			509	317	109	82	1	0

- Molecule 32 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	AD	96	Total	C	N	O	S	
			729	469	121	137	2	0

- Molecule 33 is a protein called 60S ribosomal protein L31-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	AE	109	Total	C	N	O	S	
			889	562	167	158	2	0

- Molecule 34 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	AF	125	Total	C	N	O	S	
			1009	644	196	168	1	0

- Molecule 35 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	AG	106	Total	C	N	O	S	1	0
			853	548	162	142	1		

- Molecule 36 is a protein called 60S ribosomal protein L34-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	AH	112	Total	C	N	O	S	0	0
			887	547	182	154	4		

- Molecule 37 is a protein called Ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	AI	119	Total	C	N	O	S	1	0
			990	629	195	166			

- Molecule 38 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	AJ	98	Total	C	N	O	S	1	0
			772	481	158	131	2		

- Molecule 39 is a protein called 60S ribosomal protein L37-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	AK	86	Total	C	N	O	S	0	0
			677	413	148	110	6		

- Molecule 40 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	AL	77	Total	C	N	O	S	0	0
			617	393	115	109			

- Molecule 41 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	AM	50	Total	C	N	O	S	0	0
			438	275	97	66			

- Molecule 42 is a protein called 60S ribosomal protein L40-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	AN	52	Total	C	N	O	S	0	0
			419	260	86	67	6		

- Molecule 43 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AO	25	Total	C	N	O	S	0	0
			236	144	63	28	1		

- Molecule 44 is a protein called 60S ribosomal protein L42-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	AP	103	Total	C	N	O	S	0	0
			828	521	165	137	5		

- Molecule 45 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	AQ	91	Total	C	N	O	S	0	0
			698	430	140	124	4		

- Molecule 46 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	A	1674	Total	C	N	O	P	0	0
			35701	15960	6345	11722	1674		

- Molecule 47 is a protein called 40S ribosomal protein S0.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	B	208	Total	C	N	O	S	0	0
			1627	1041	284	297	5		

- Molecule 48 is a protein called 40S ribosomal protein S1.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	C	201	Total	C	N	O	S	0	0
			1628	1030	297	297	4		

- Molecule 49 is a protein called Ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	D	216	Total	C	N	O	S	0	0
			1620	1033	287	295	5		

- Molecule 50 is a protein called Ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	E	223	Total	C	N	O	S	0	0
			1707	1087	311	305	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
51	F	260	Total	C	N	O	S	0	0
			2055	1306	386	358	5		

- Molecule 52 is a protein called Ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	G	206	Total	C	N	O	S	0	0
			1614	1008	301	301	4		

- Molecule 53 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	H	226	Total	C	N	O	S	0	0
			1820	1133	351	330	6		

- Molecule 54 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	I	182	Total	C	N	O	S	0	0
			1466	939	264	263			

- Molecule 55 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	J	184	Total	C	N	O	S	0	0
			1448	895	293	259	1		

- Molecule 56 is a protein called Ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	K	178	Total	C	N	O	S	0	0
			1453	918	286	248	1		

- Molecule 57 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	L	93	Total	C	N	O	S	0	0
			783	511	129	142	1		

- Molecule 58 is a protein called 40S ribosomal protein S11A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	M	141	Total	C	N	O	S	0	0
			1129	722	212	192	3		

- Molecule 59 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	N	116	Total	C	N	O	S	0	0
			885	550	158	172	5		

- Molecule 60 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	O	150	Total	C	N	O	S	0	0
			1187	757	219	210	1		

- Molecule 61 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	P	127	Total	C	N	O	S	0	0
			942	579	186	174	3		

- Molecule 62 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Q	118	Total	C	N	O	S	0	0
			935	598	169	162	6		

- Molecule 63 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	R	140	Total	C	N	O	S	0	0
			1091	700	198	192	1		

- Molecule 64 is a protein called 40S ribosomal protein S17-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	S	125	Total	C	N	O	S	0	0
			1002	631	184	186	1		

- Molecule 65 is a protein called 40S ribosomal protein S18-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	T	142	Total	C	N	O	S	0	0
			1169	733	228	205	3		

- Molecule 66 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	U	141	Total	C	N	O	S	0	0
			1100	689	210	200	1		

- Molecule 67 is a protein called Ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	V	100	Total	C	N	O	S	0	0
			790	499	146	143	2		

- Molecule 68 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	W	87	Total	C	N	O	S	0	0
			676	415	126	133	2		

- Molecule 69 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	X	129	Total	C	N	O	S	0	0
			1032	655	191	183	3		

- Molecule 70 is a protein called Ribosomal protein S23 (S12).

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Y	143	Total	C	N	O	S	0	0
			1110	701	219	188	2		

- Molecule 71 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Z	132	Total	C	N	O		0	0
			1072	670	216	186			

- Molecule 72 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	a	72	Total	C	N	O		0	0
			578	369	103	106			

- Molecule 73 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	b	100	Total	C	N	O	S	0	0
			799	494	169	130	6		

- Molecule 74 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	c	81	Total	C	N	O	S	0	0
			614	383	110	114	7		

- Molecule 75 is a protein called 40S ribosomal protein S28-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	d	58	Total	C	N	O	S	0	0
			446	275	85	84	2		

- Molecule 76 is a protein called 40S ribosomal protein S29A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	e	55	Total	C	N	O	S	0	0
			454	281	94	75	4		

- Molecule 77 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	f	47	Total	C	N	O	S	0	0
			375	237	74	62	2		

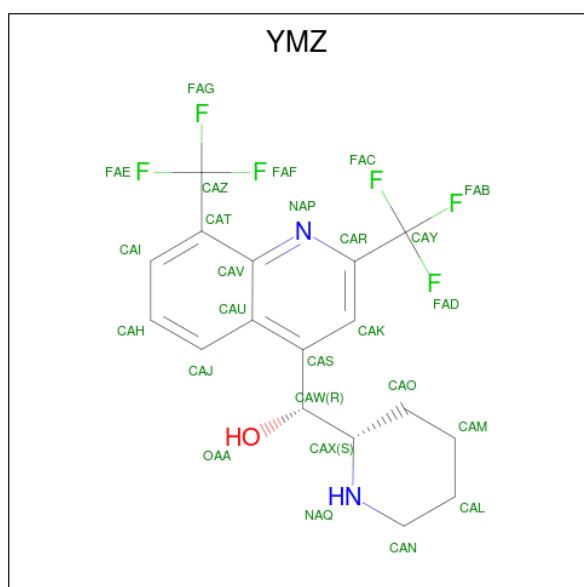
- Molecule 78 is a protein called Ubiquitin-40S ribosomal protein S31 fusion protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	g	70	Total	C	N	O	S	0	0
			574	362	113	93	6		

- Molecule 79 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	h	311	Total	C	N	O	S	0	0
			2398	1519	412	462	5		

- Molecule 80 is (11R,12S)- Mefloquine (CCD ID: YMZ) (formula: C₁₇H₁₆F₆N₂O) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
80	1	1	Total 26	C 17	F 6	N 2	O 1	0
80	j	1	Total 26	C 17	F 6	N 2	O 1	0

- Molecule 81 is SPERMINE (FULLY PROTONATED FORM) (CCD ID: SPK) (formula: $\text{C}_{10}\text{H}_{30}\text{N}_4$).



Mol	Chain	Residues	Atoms			AltConf
81	1	1	Total	C	N	0
			14	10	4	

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

Mol	Chain	Residues	Atoms		AltConf
82	1	355	Total 355	Mg 355	0
82	3	2	Total 2	Mg 2	0
82	4	5	Total 5	Mg 5	0
82	j	1	Total 1	Mg 1	0
82	k	1	Total 1	Mg 1	0
82	v	1	Total 1	Mg 1	0
82	x	2	Total 2	Mg 2	0
82	z	1	Total 1	Mg 1	0
82	6	1	Total 1	Mg 1	0
82	AB	1	Total 1	Mg 1	0
82	AF	1	Total 1	Mg 1	0

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Mol	Chain	Residues	Atoms		AltConf
82	A	58	Total 58	Mg 58	0
82	Q	1	Total 1	Mg 1	0
82	T	2	Total 2	Mg 2	0

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

Mol	Chain	Residues	Atoms		AltConf
83	AK	1	Total 1	Zn 1	0
83	AN	1	Total 1	Zn 1	0
83	AP	1	Total 1	Zn 1	0
83	AQ	1	Total 1	Zn 1	0
83	b	1	Total 1	Zn 1	0
83	g	1	Total 1	Zn 1	0



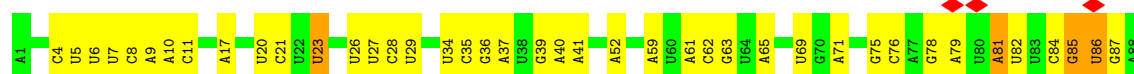




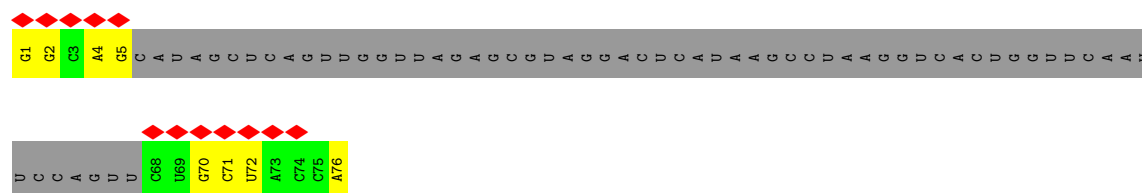
• Molecule 2: 5S ribosomal RNA



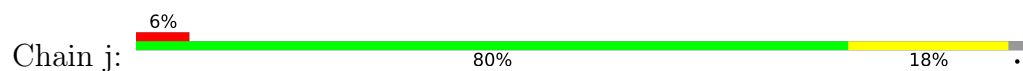
• Molecule 3: 5.8S ribosomal RNA



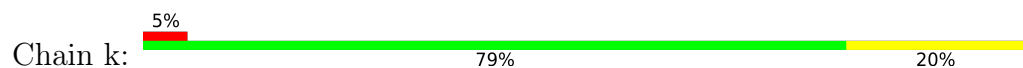
• Molecule 4: Mixture of endogenous E-tRNAs

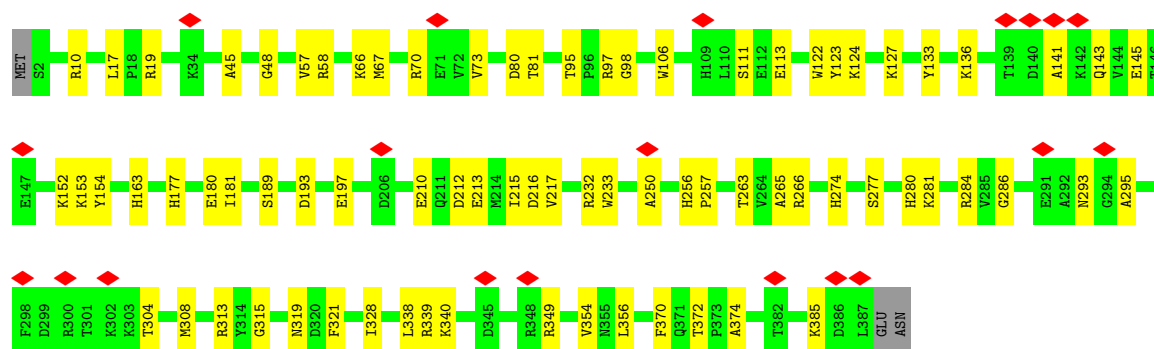


• Molecule 5: 60S ribosomal protein L2-B

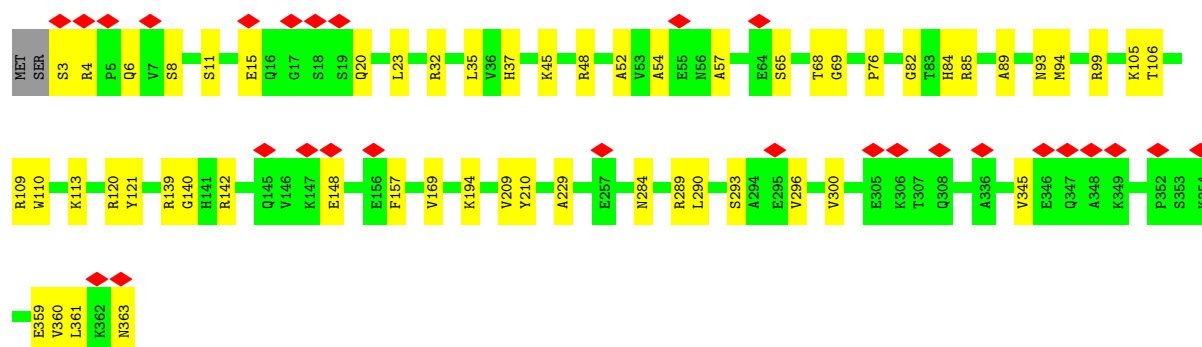
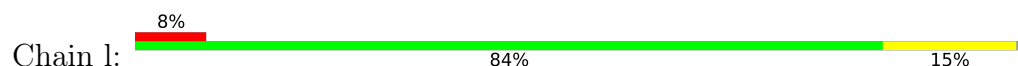


• Molecule 6: 60S ribosomal protein L3

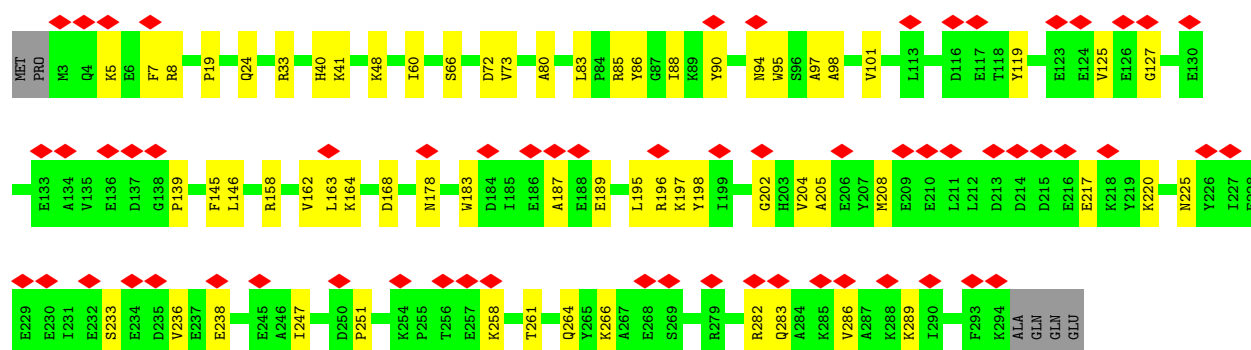
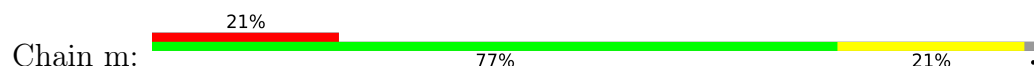




• Molecule 7: 60S ribosomal protein L4-B



• Molecule 8: 60S ribosomal protein L5

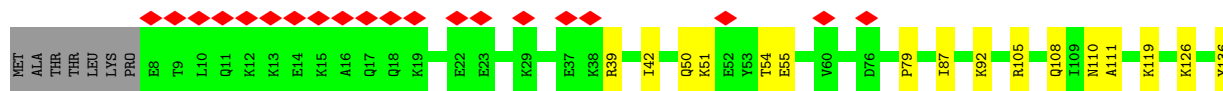
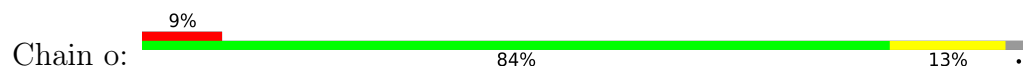


• Molecule 9: 60S ribosomal protein L6

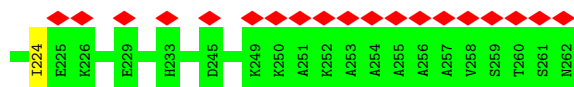
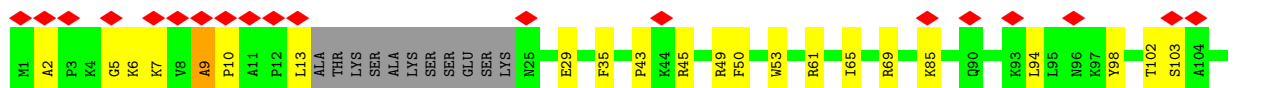
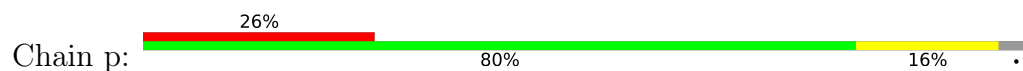




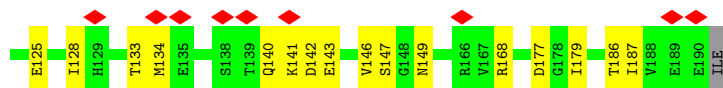
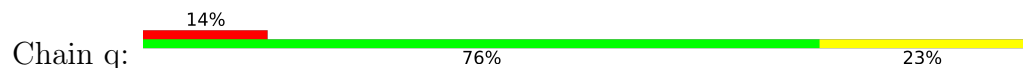
• Molecule 10: 60S ribosomal protein L7-A



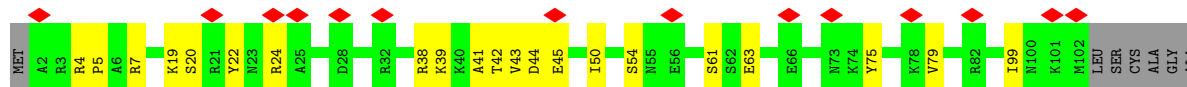
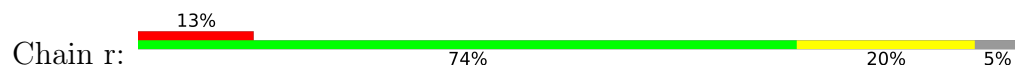
• Molecule 11: 60S ribosomal protein L8

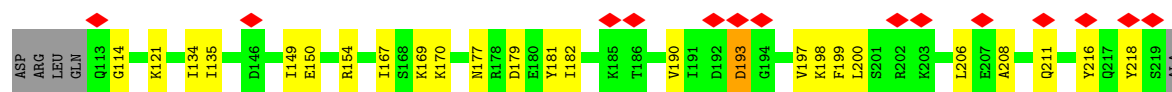


• Molecule 12: 60S ribosomal protein L9-B

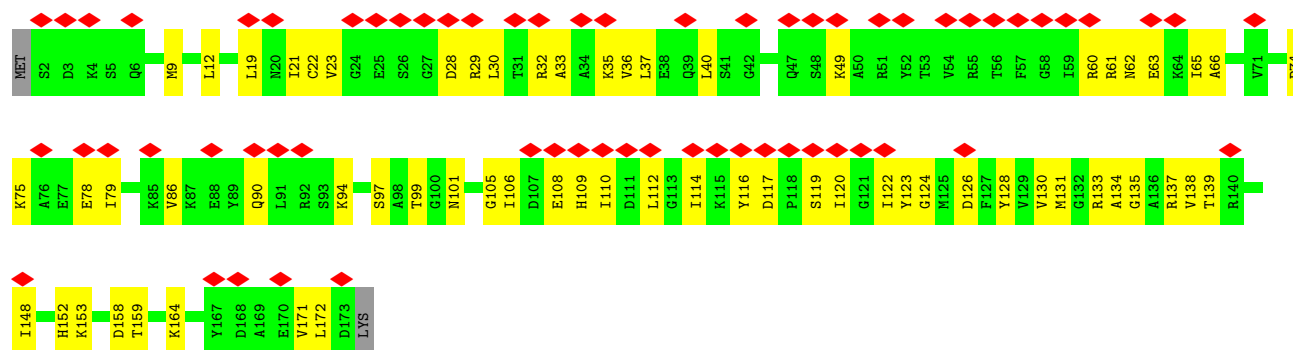


• Molecule 13: 60S ribosomal protein L10

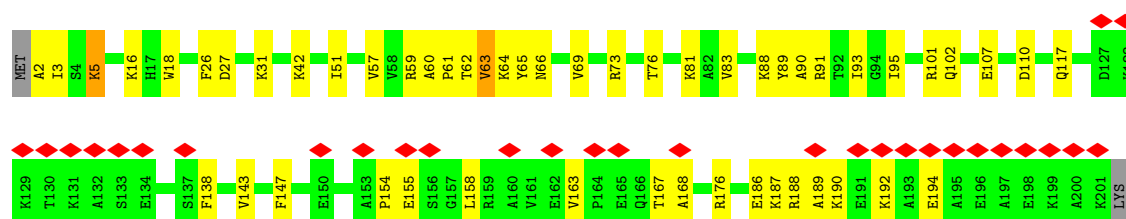




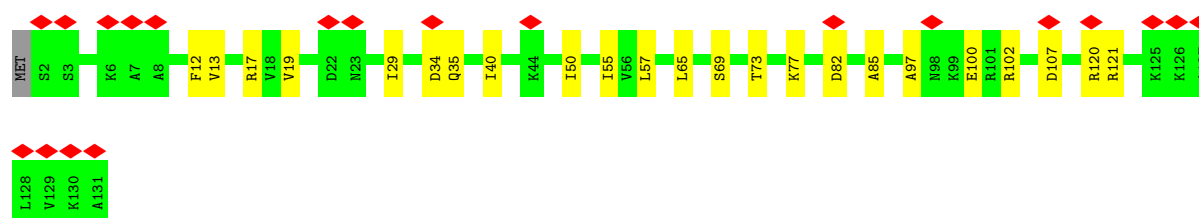
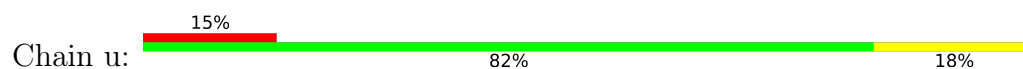
• Molecule 14: 60S ribosomal protein L11-B



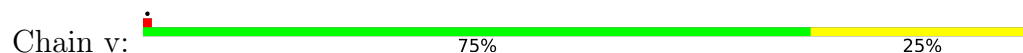
• Molecule 15: 60S ribosomal protein L13

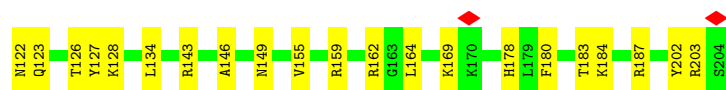


• Molecule 16: 60S ribosomal protein L14-B

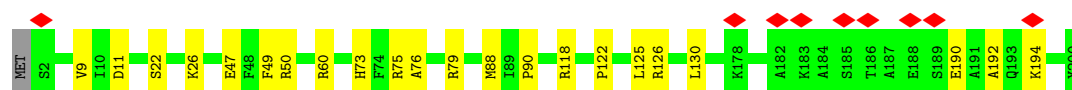
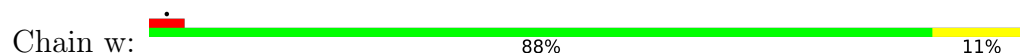


• Molecule 17: 60S ribosomal protein L15-A

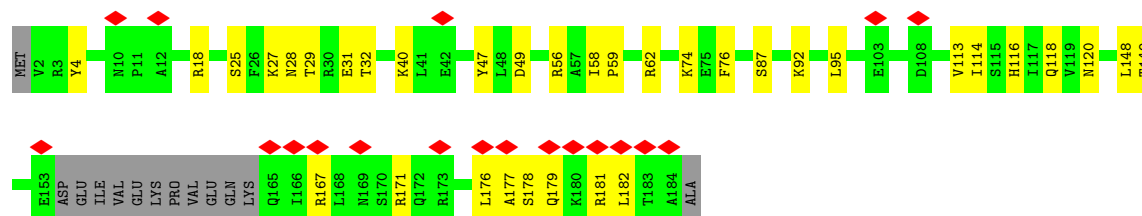




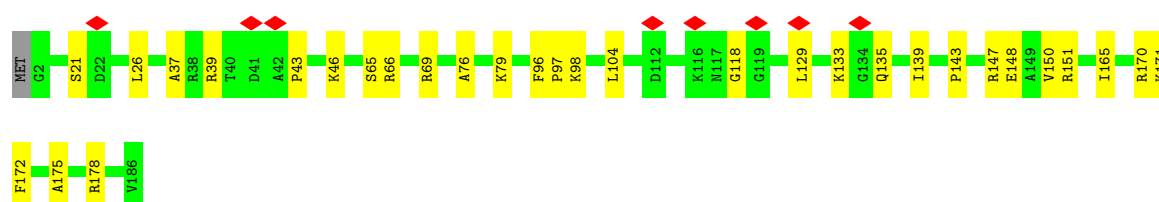
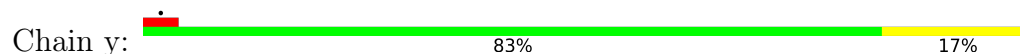
• Molecule 18: Ribosomal protein L13



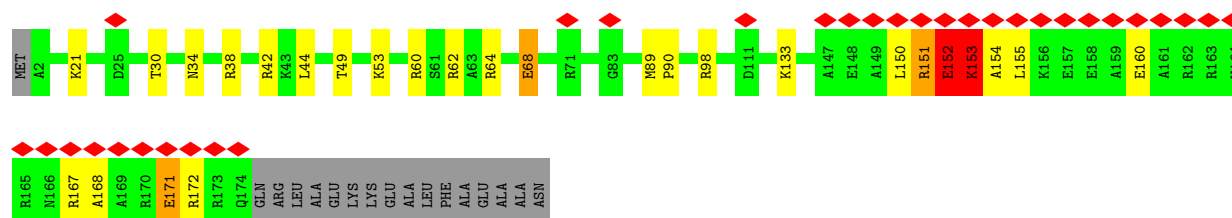
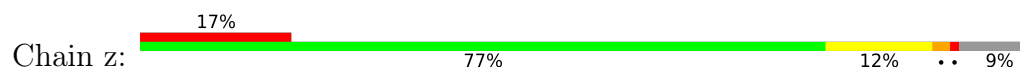
• Molecule 19: Ribosomal protein L22



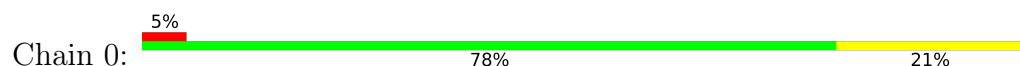
• Molecule 20: 60S ribosomal protein L18-A

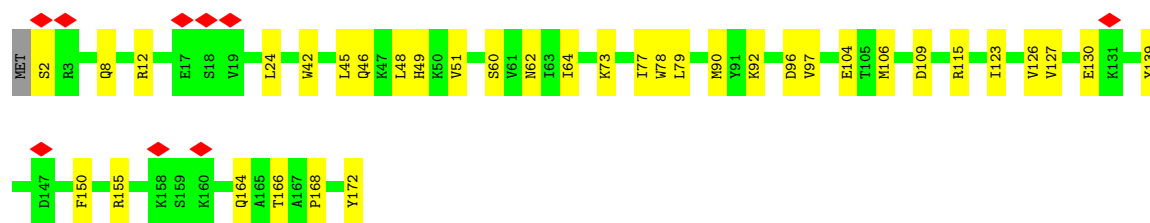


• Molecule 21: 60S ribosomal protein L19-A

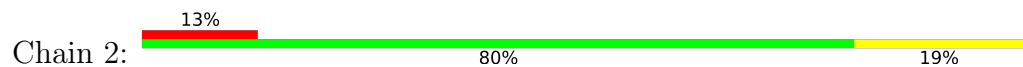


• Molecule 22: 60S ribosomal protein L20

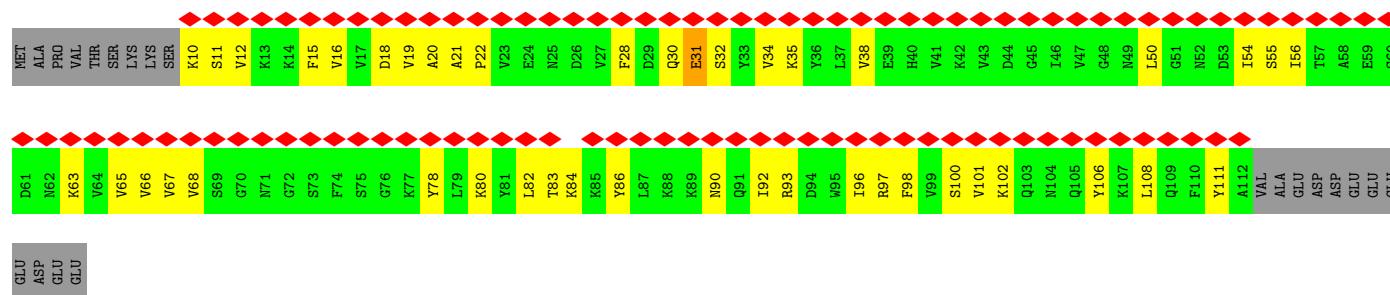
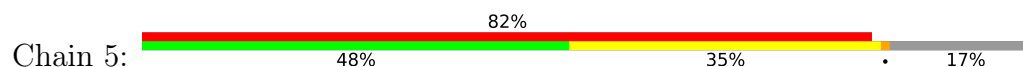




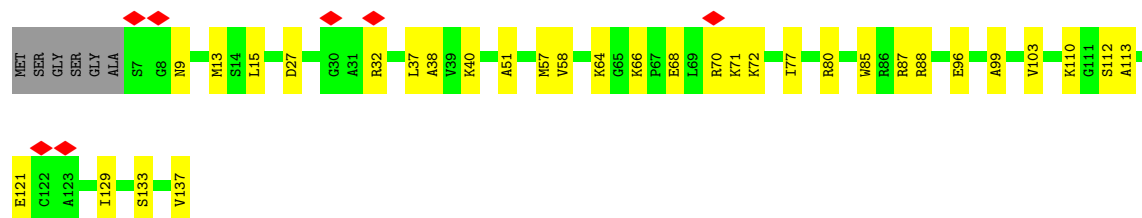
• Molecule 23: 60S ribosomal protein L21-A



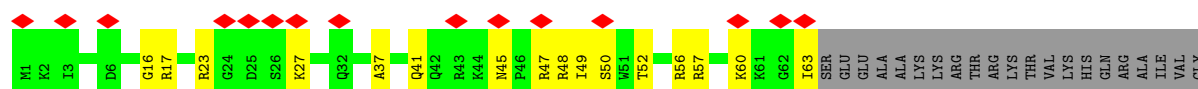
• Molecule 24: 60S ribosomal protein L22-B

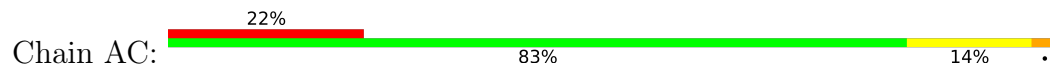


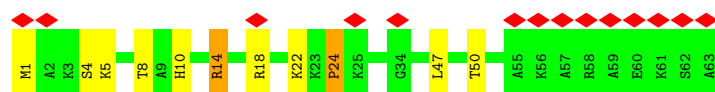
• Molecule 25: 60S ribosomal protein L23-A



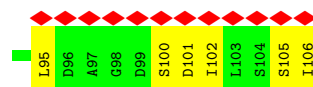
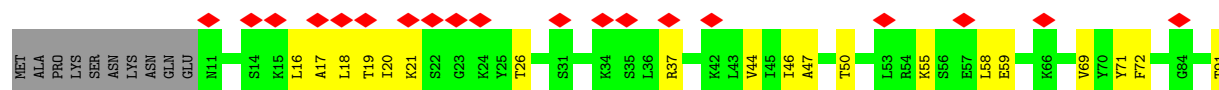
• Molecule 26: 60S ribosomal protein L24-A



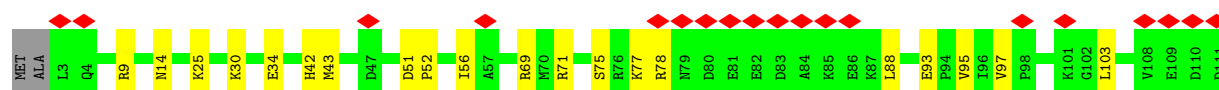
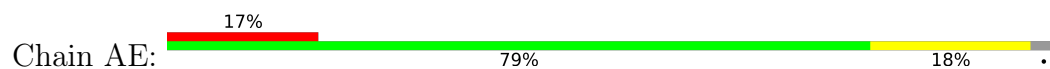




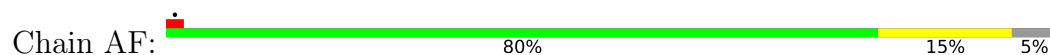
- Molecule 32: 60S ribosomal protein L30



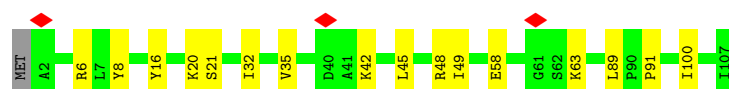
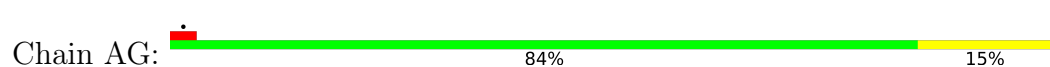
- Molecule 33: 60S ribosomal protein L31-B



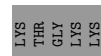
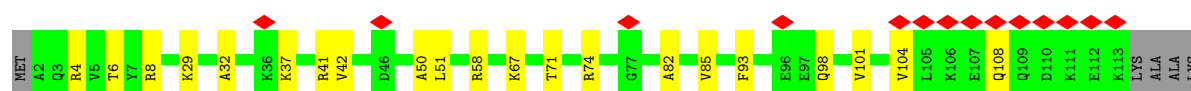
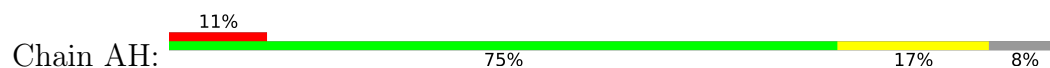
- Molecule 34: 60S ribosomal protein L32



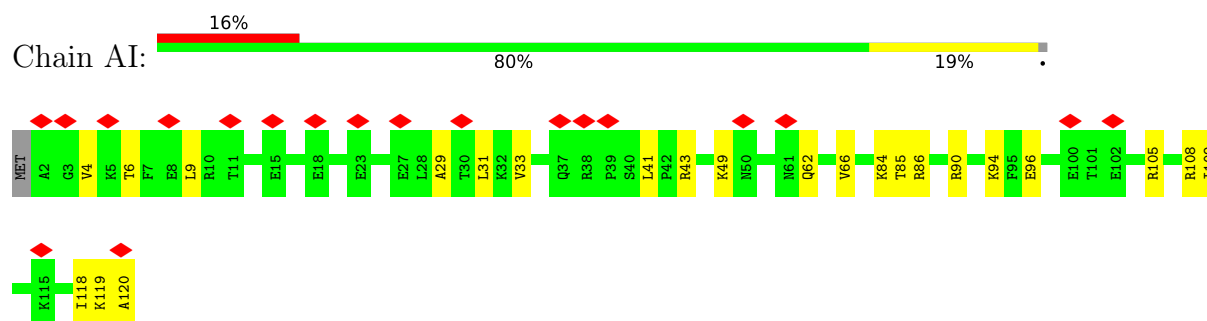
- Molecule 35: 60S ribosomal protein L33-A



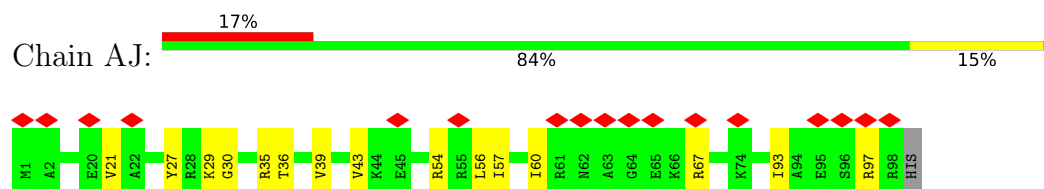
- Molecule 36: 60S ribosomal protein L34-B



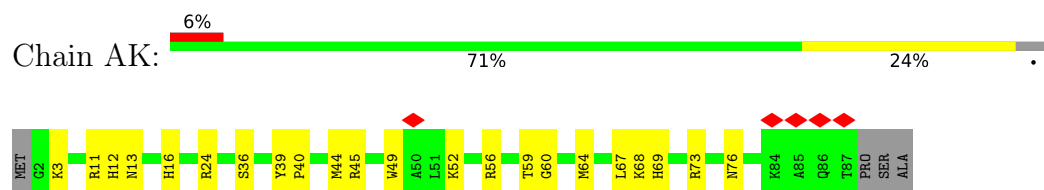
- Molecule 37: Ribosomal protein L29



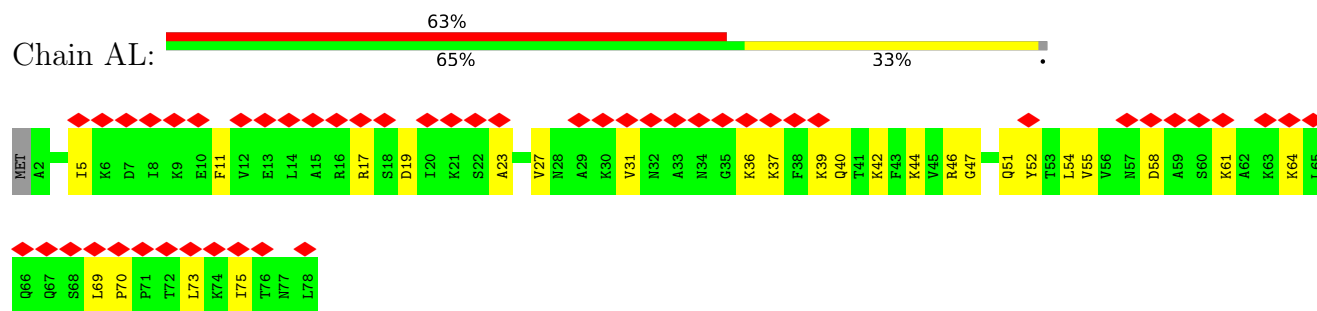
- Molecule 38: 60S ribosomal protein L36



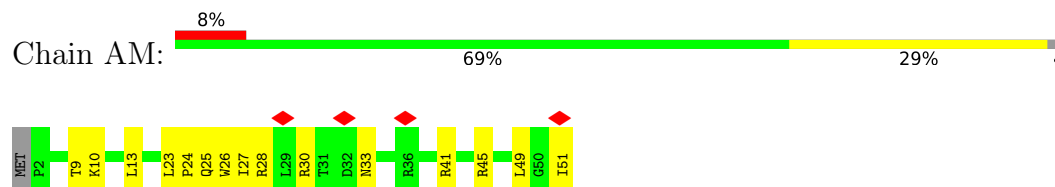
- Molecule 39: 60S ribosomal protein L37-B



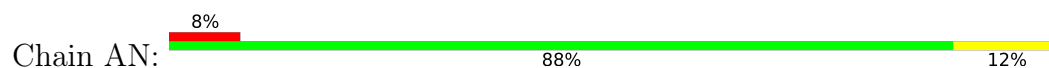
- Molecule 40: 60S ribosomal protein L38

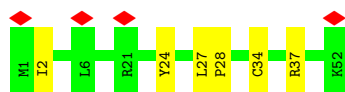


- Molecule 41: 60S ribosomal protein L39

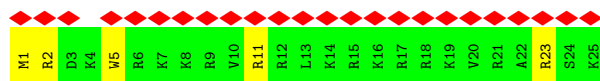
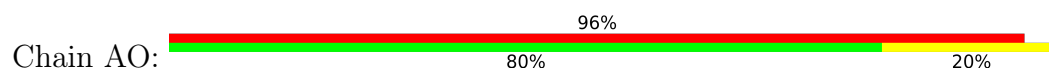


- Molecule 42: 60S ribosomal protein L40-B

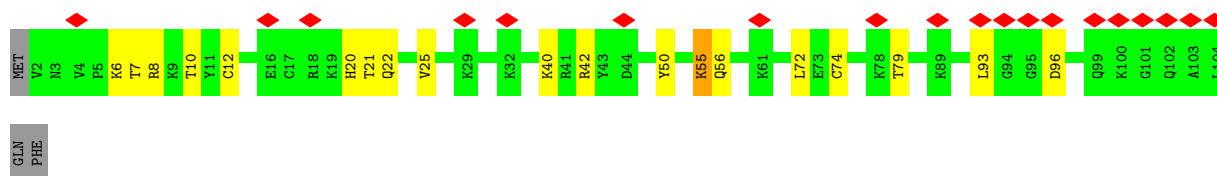
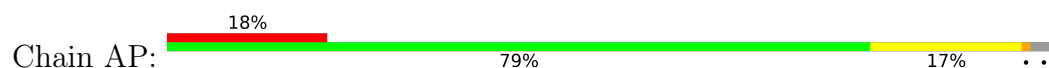




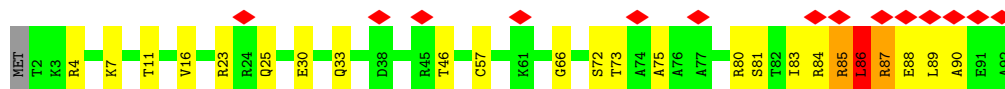
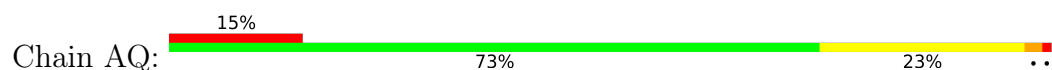
- Molecule 43: 60S ribosomal protein L41



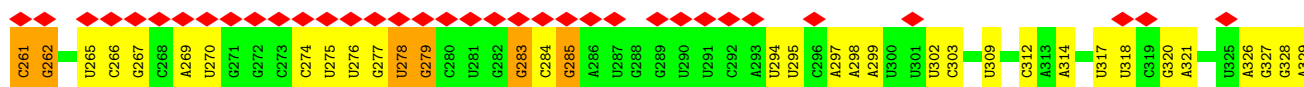
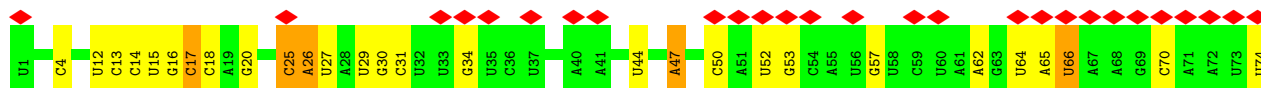
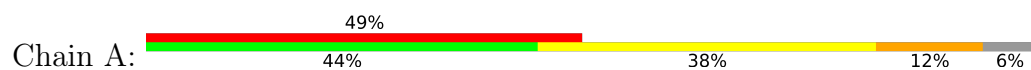
- Molecule 44: 60S ribosomal protein L42-B

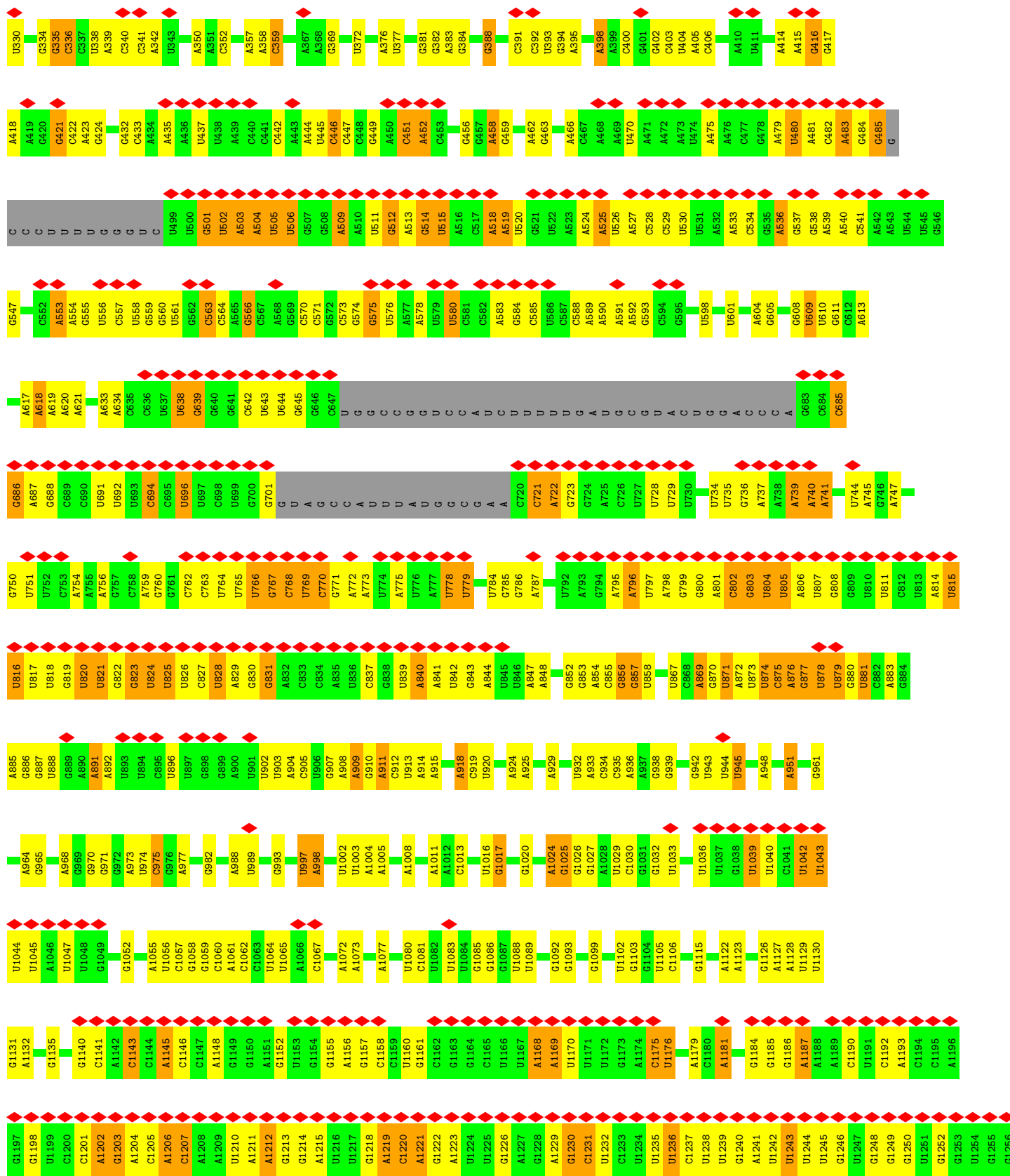


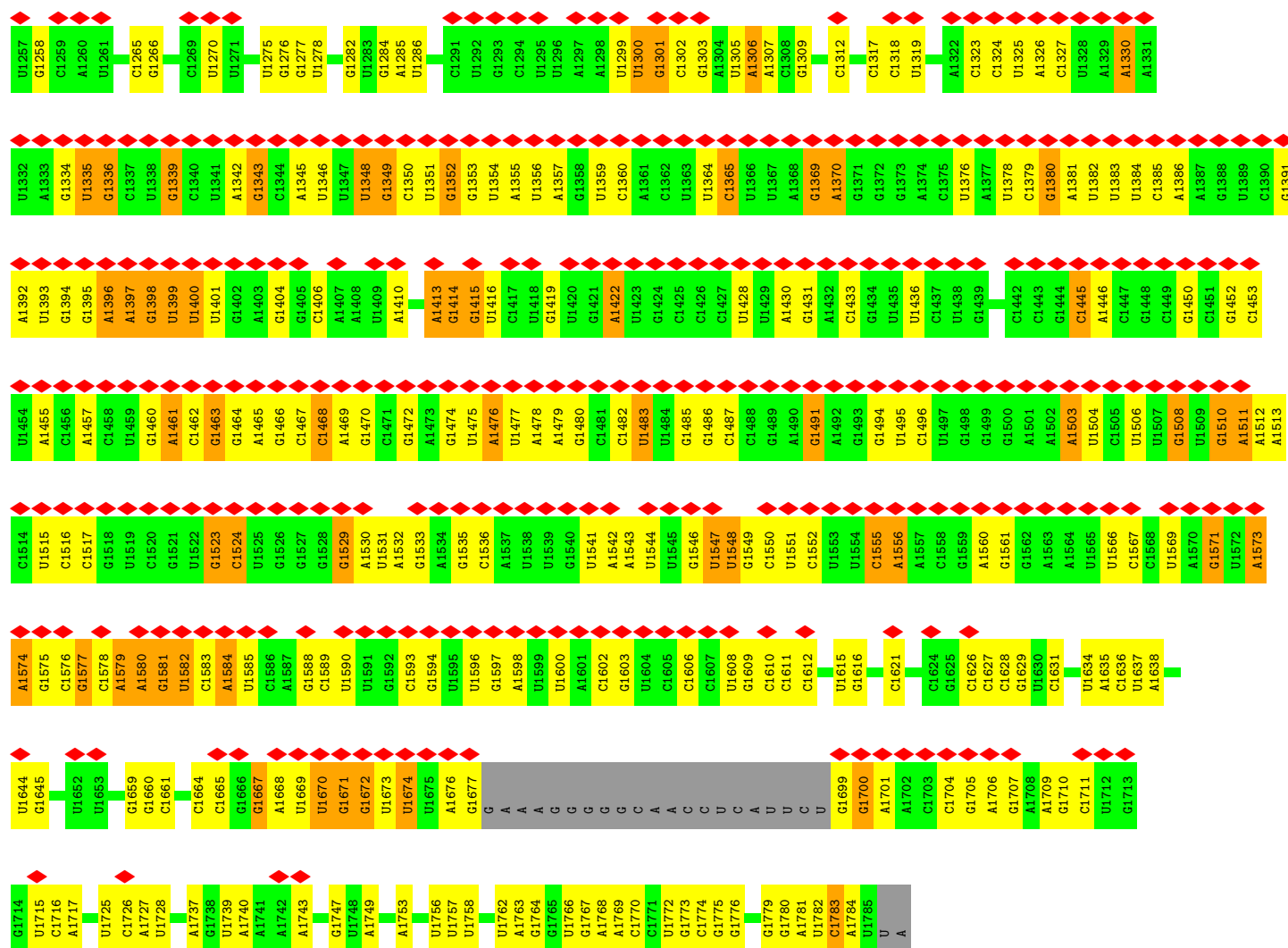
- Molecule 45: 60S ribosomal protein L43-A



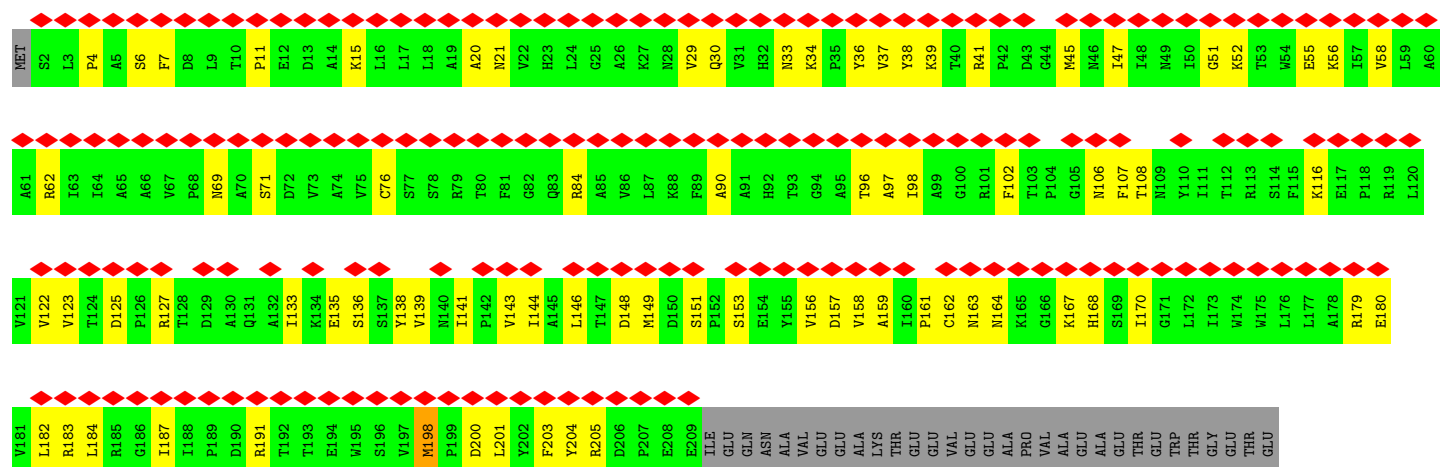
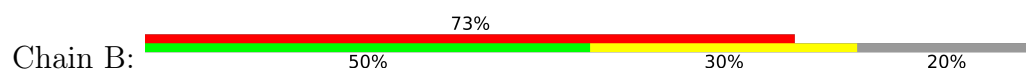
- Molecule 46: 18S ribosomal RNA



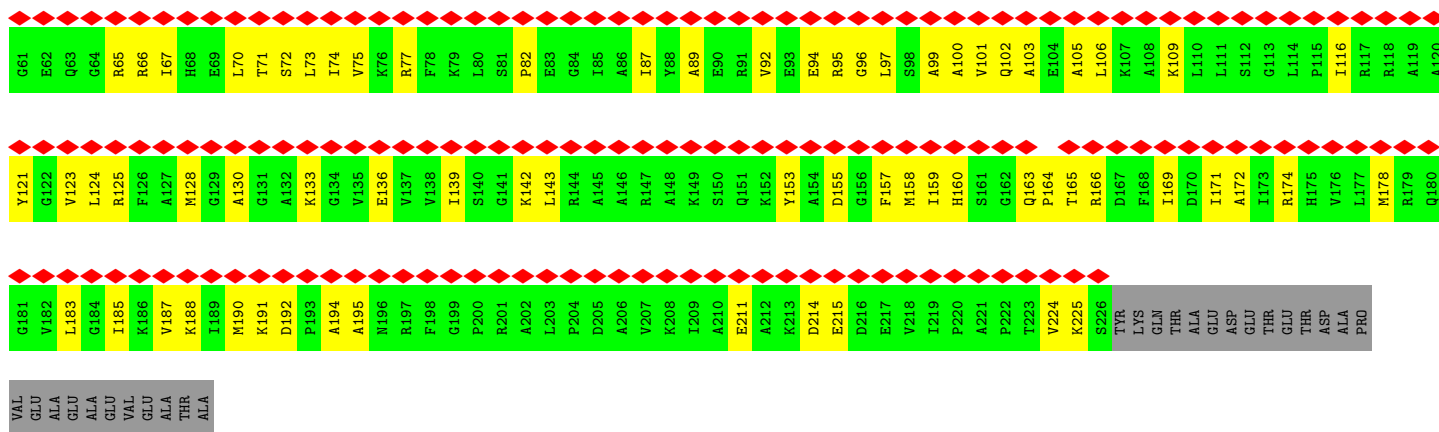




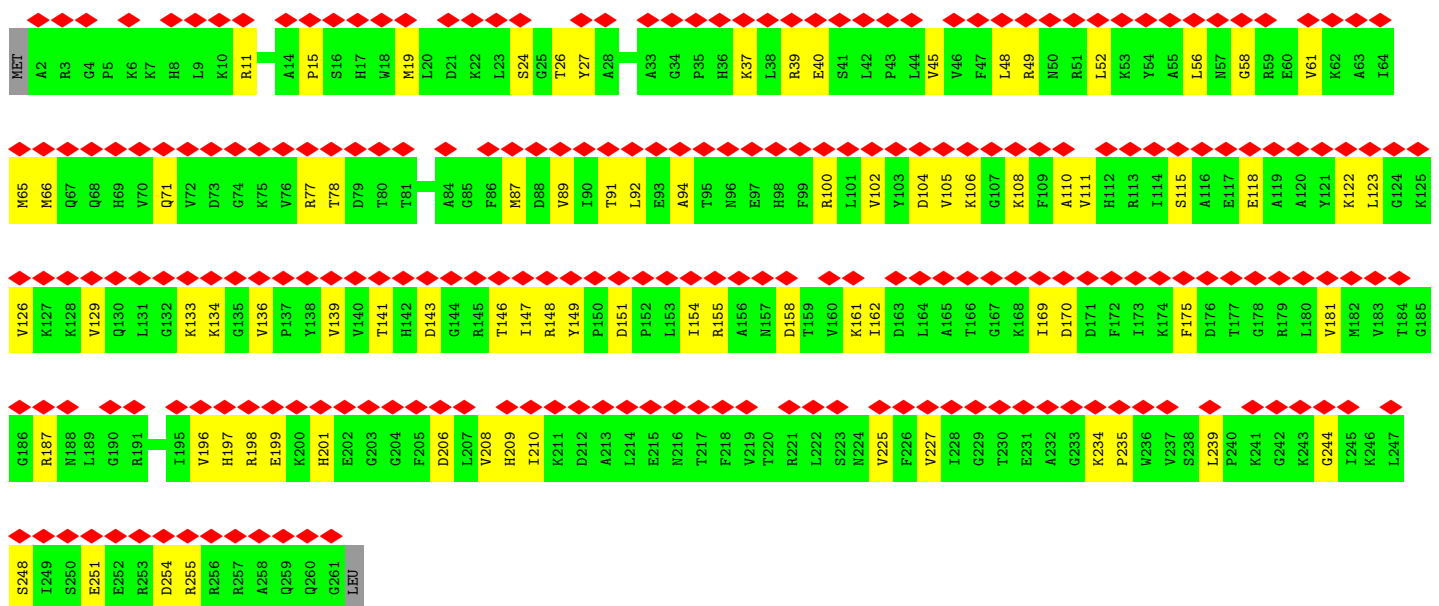
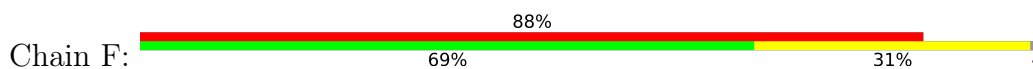
● Molecule 47: 40S ribosomal protein S0



[illegible]

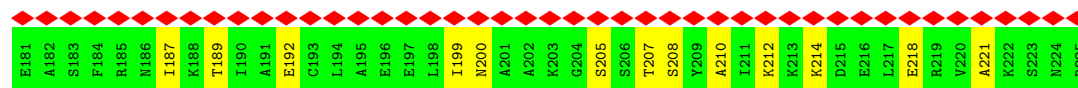


• Molecule 51: 40S ribosomal protein S4

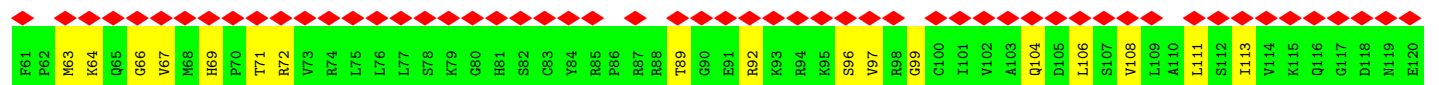


• Molecule 52: Ribosomal protein S7

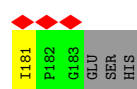
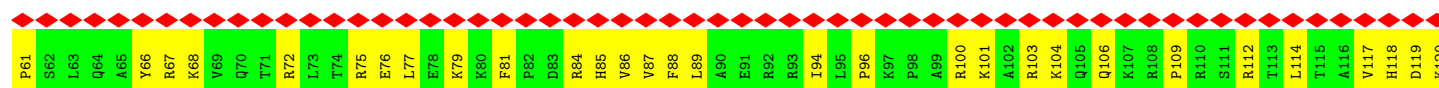
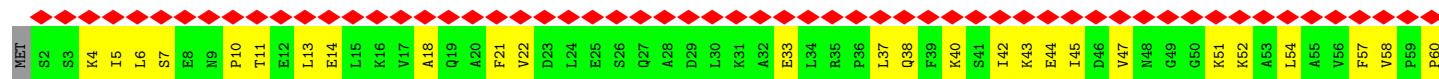




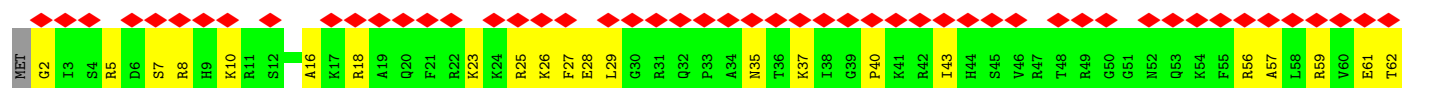
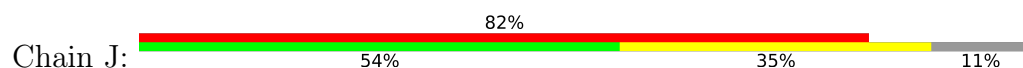
• Molecule 53: 40S ribosomal protein S6

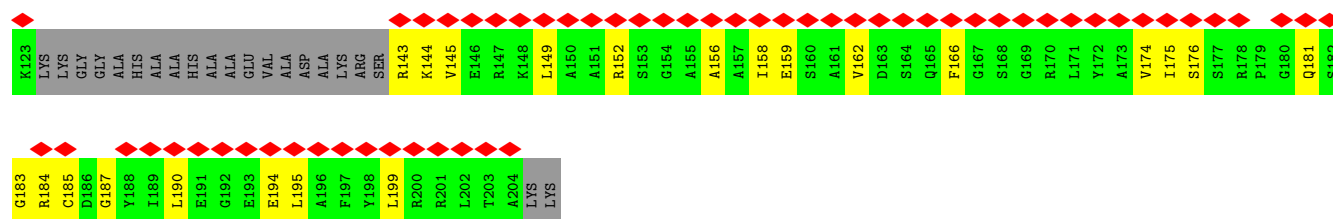


• Molecule 54: 40S ribosomal protein S7

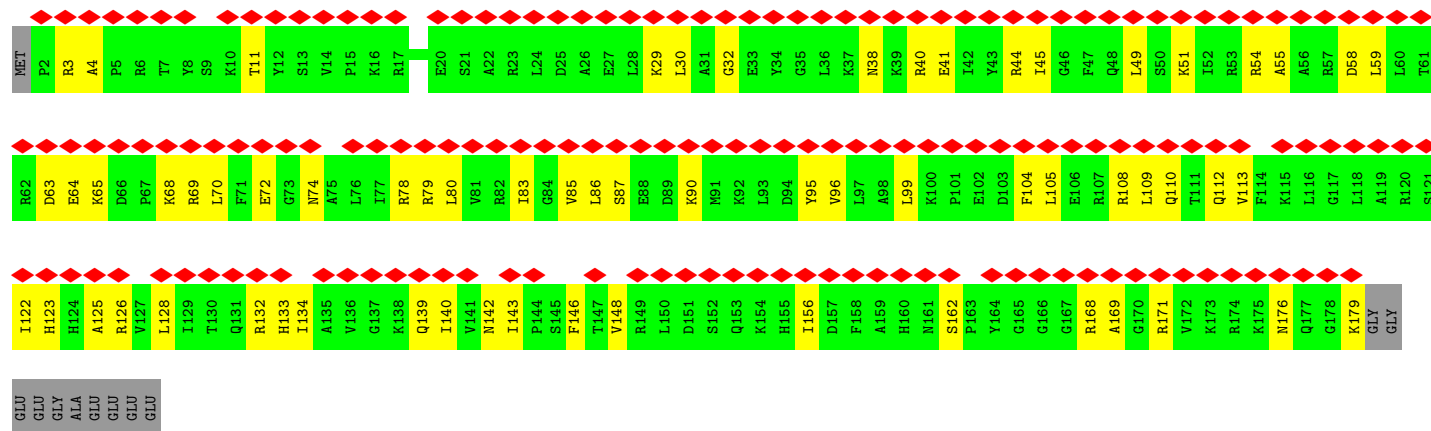
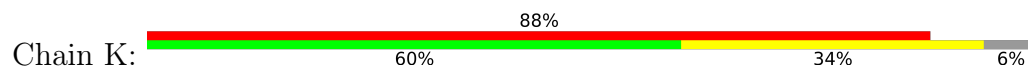


• Molecule 55: 40S ribosomal protein S8

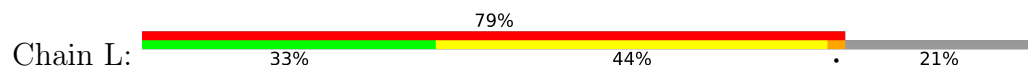




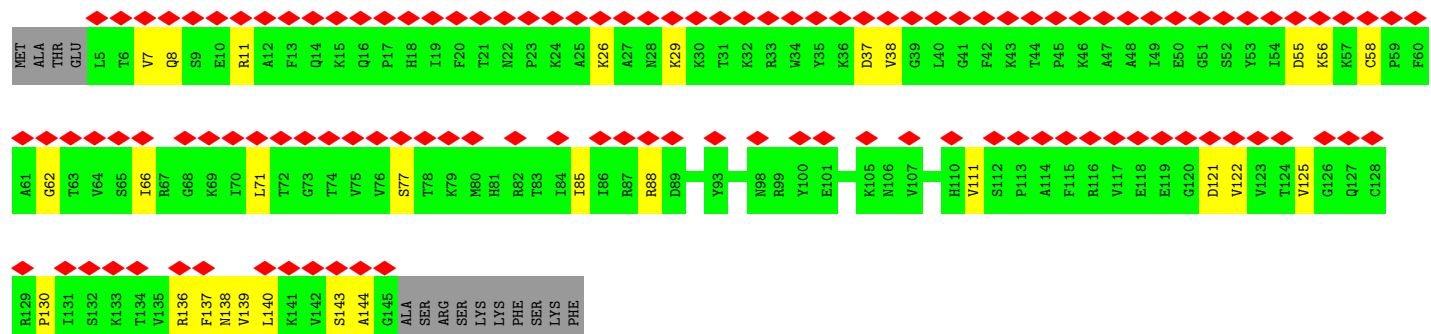
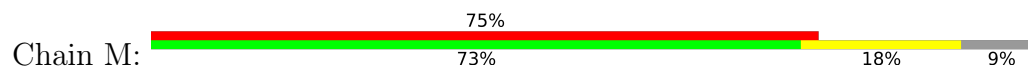
• Molecule 56: Ribosomal protein S4



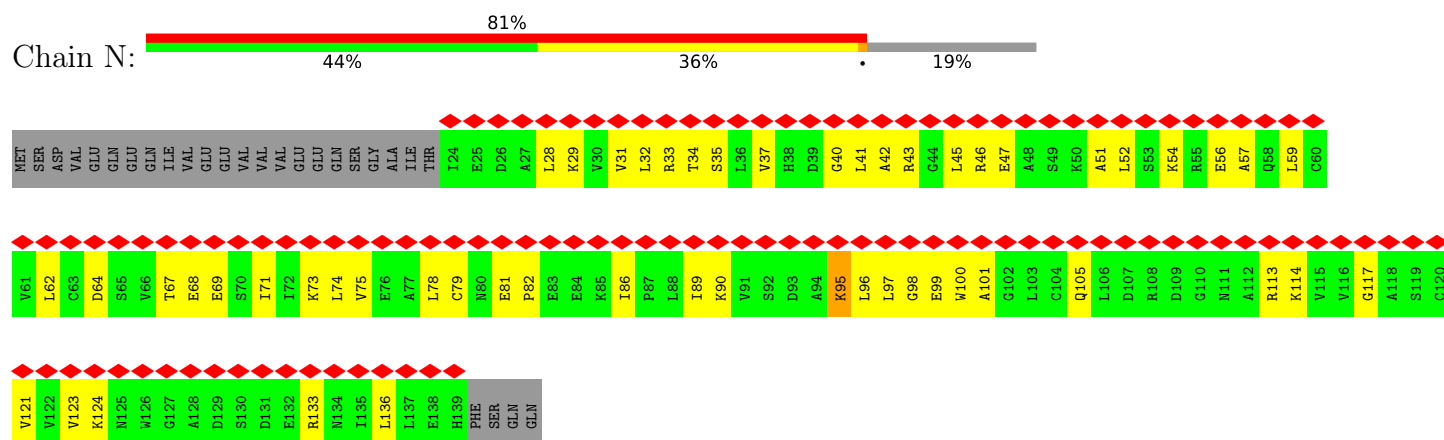
• Molecule 57: 40S ribosomal protein S10-A



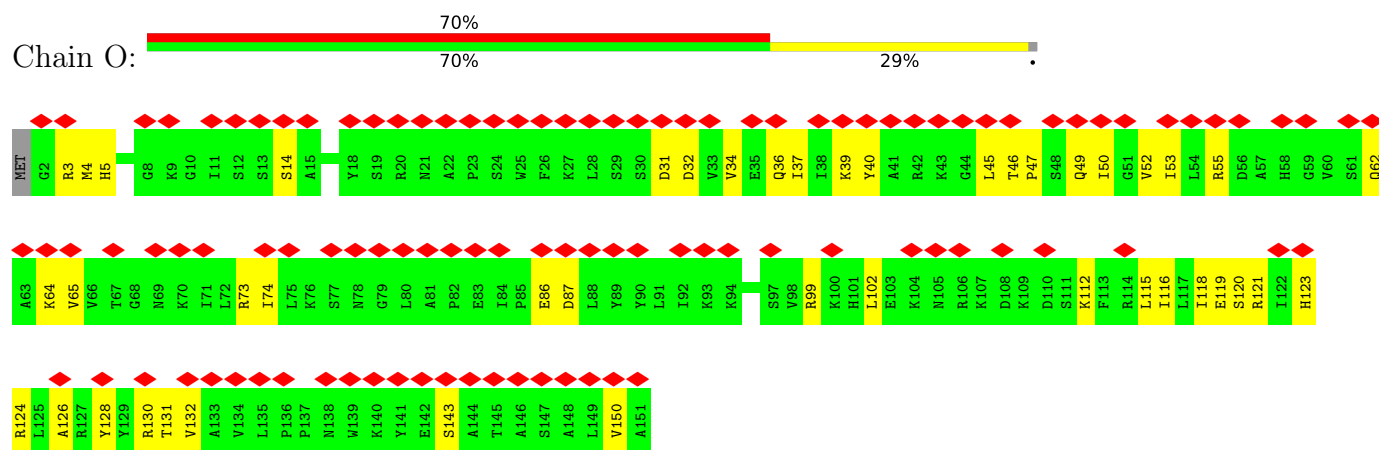
• Molecule 58: 40S ribosomal protein S11A



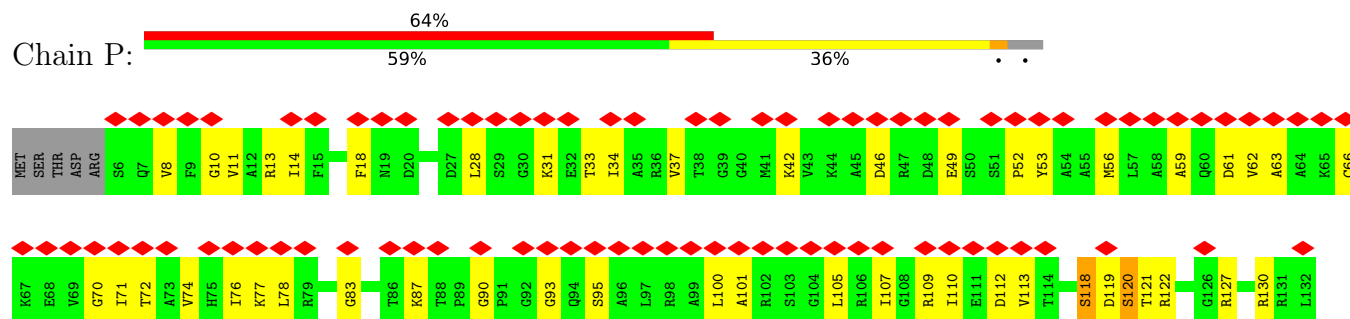
- Molecule 59: 40S ribosomal protein S12



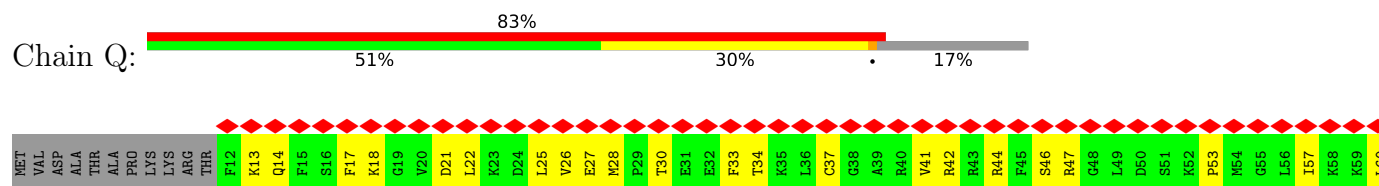
- Molecule 60: 40S ribosomal protein S13

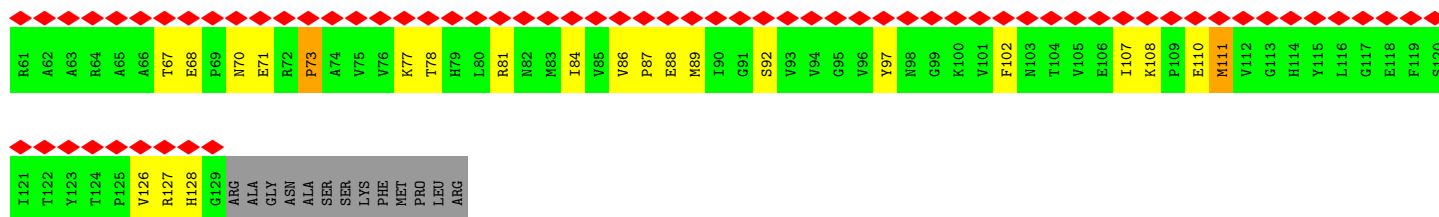


- Molecule 61: 40S ribosomal protein S14-A



- Molecule 62: 40S ribosomal protein S15

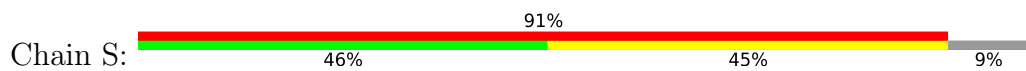




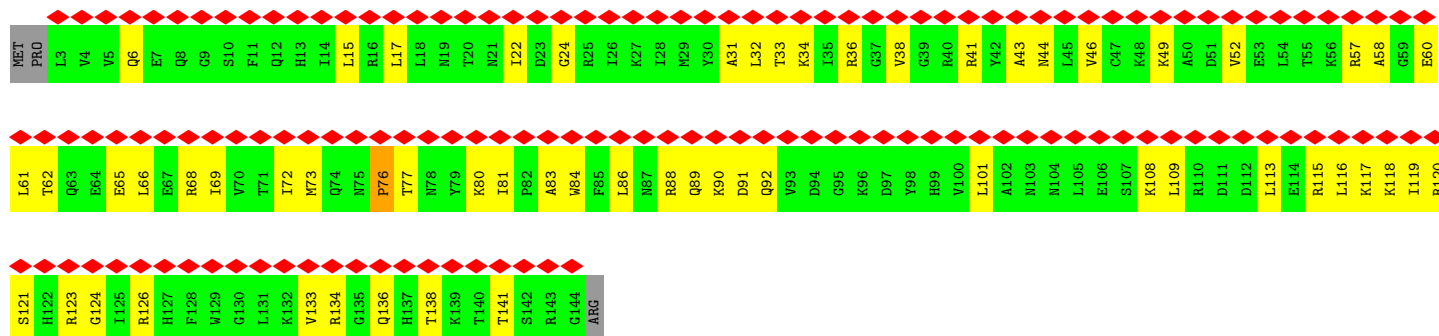
• Molecule 63: 40S ribosomal protein S16



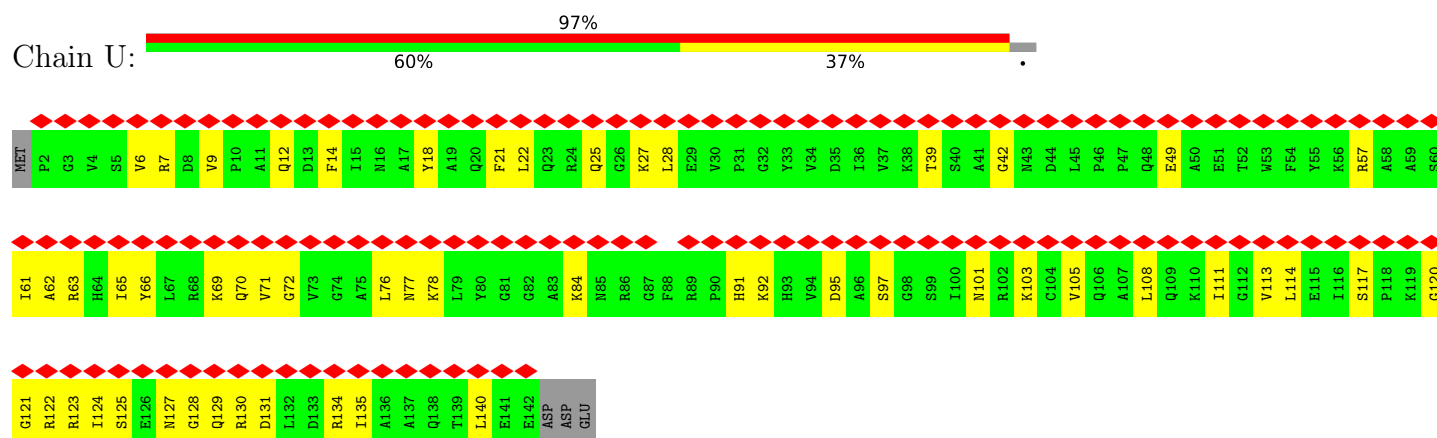
• Molecule 64: 40S ribosomal protein S17-B



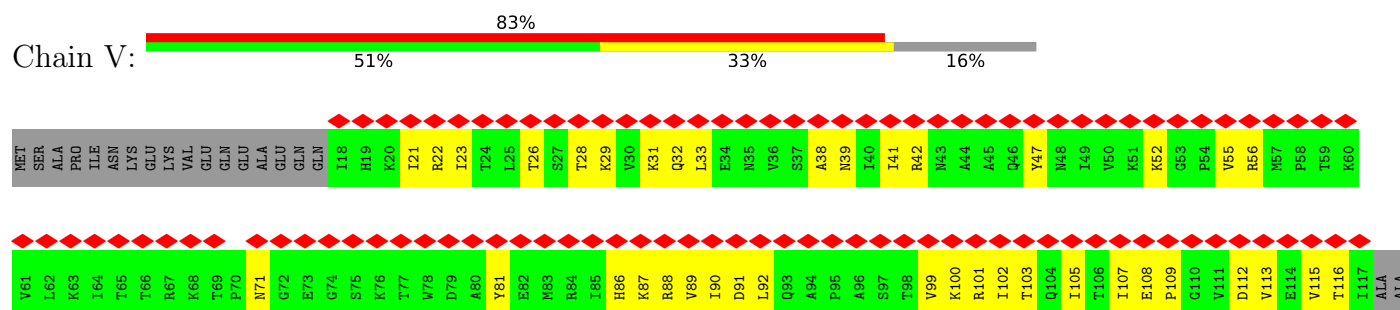
• Molecule 65: 40S ribosomal protein S18-B



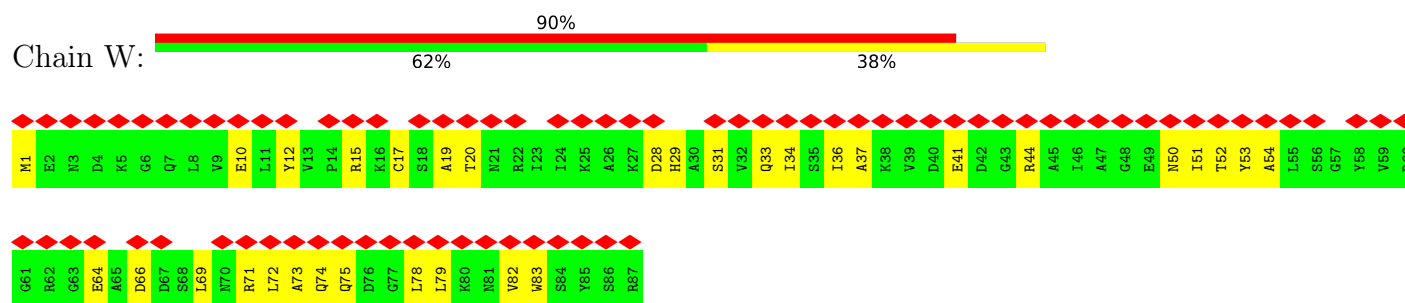
- Molecule 66: 40S ribosomal protein S19-A



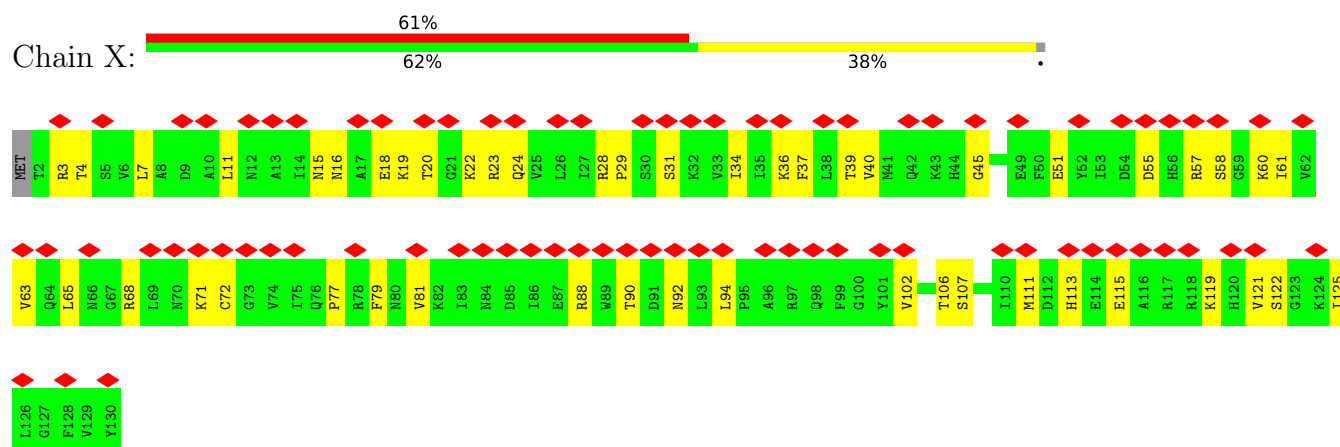
- Molecule 67: Ribosomal protein S10



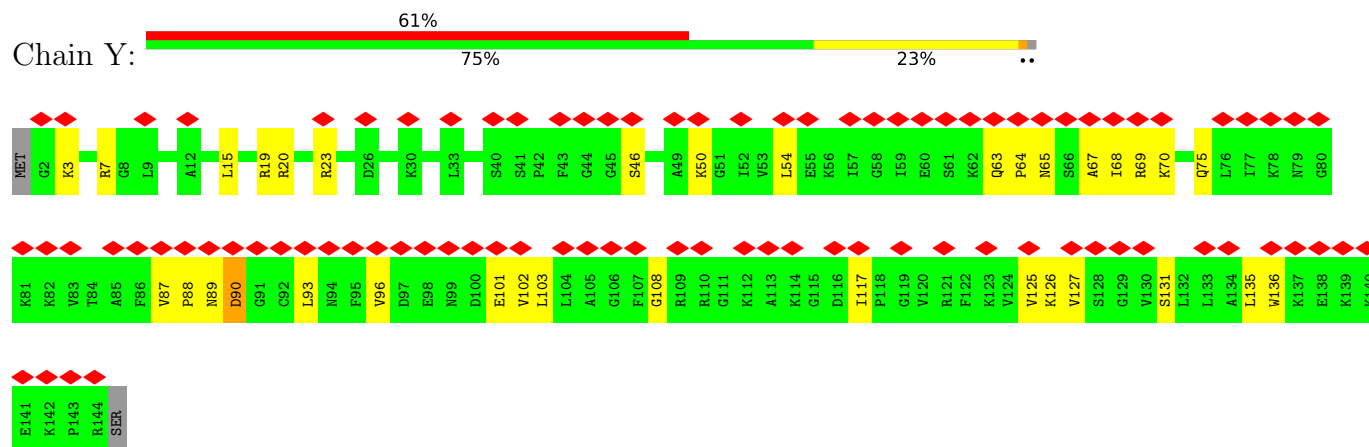
- Molecule 68: 40S ribosomal protein S21



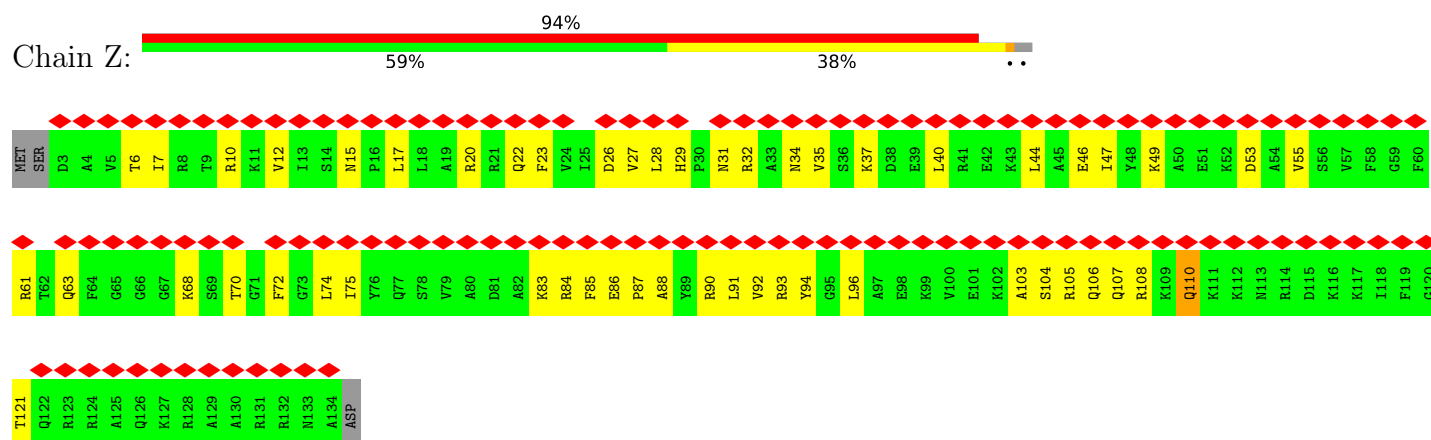
- Molecule 69: 40S ribosomal protein S22-A



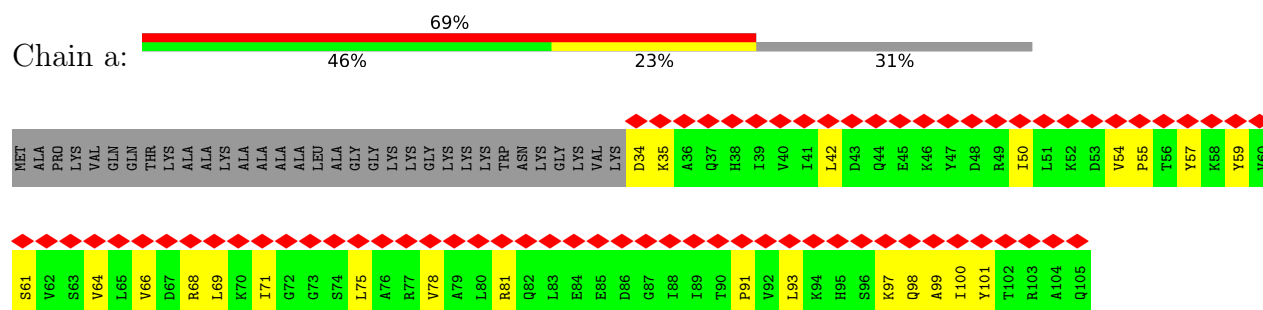
- Molecule 70: Ribosomal protein S23 (S12)



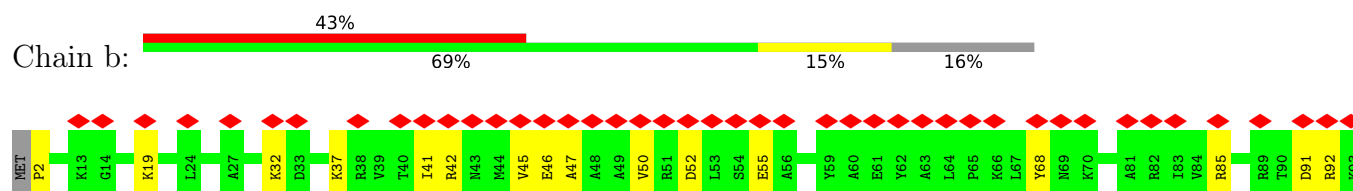
- Molecule 71: 40S ribosomal protein S24

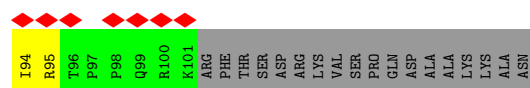


- Molecule 72: 40S ribosomal protein S25

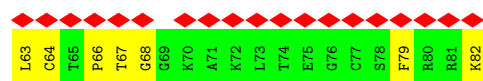
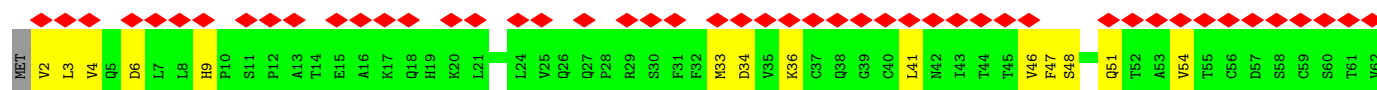
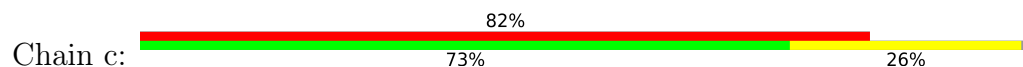


- Molecule 73: 40S ribosomal protein S26

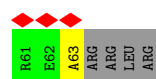
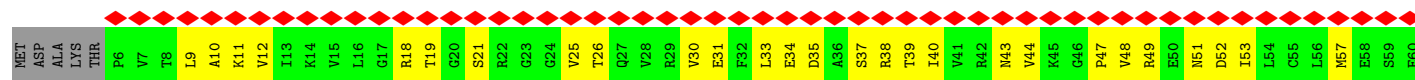
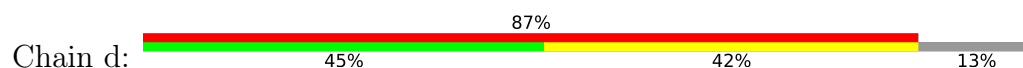




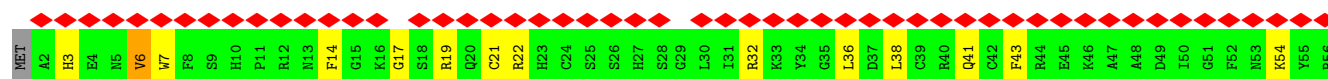
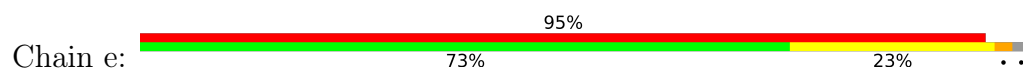
- Molecule 74: 40S ribosomal protein S27



- Molecule 75: 40S ribosomal protein S28-B



- Molecule 76: 40S ribosomal protein S29A

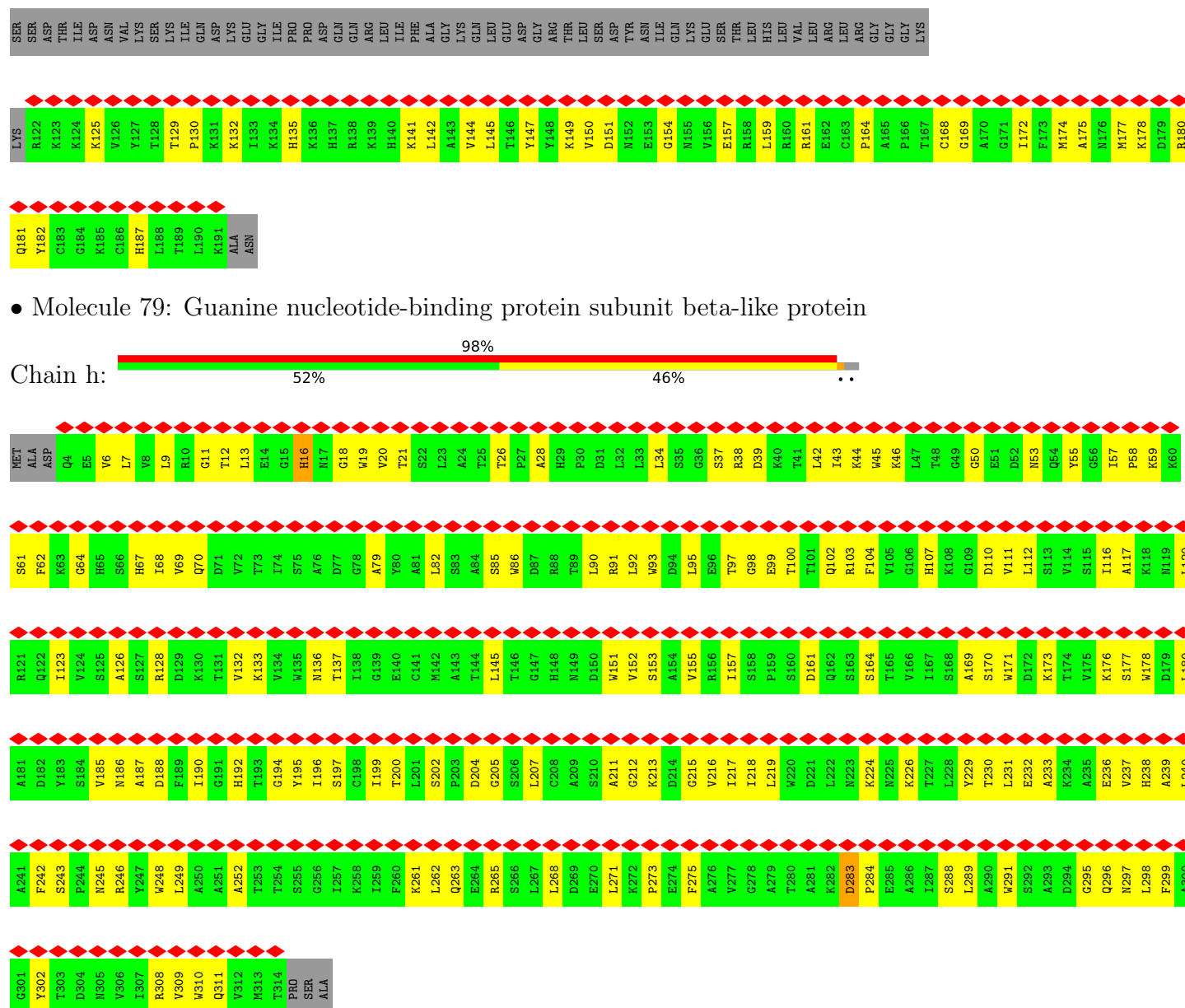


- Molecule 77: 40S ribosomal protein S30



- Molecule 78: Ubiquitin-40S ribosomal protein S31 fusion protein





• Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein

98%

Chain h:

52%

46%

..

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49801	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	47.3	Depositor
Minimum defocus (nm)	5000	Depositor
Maximum defocus (nm)	16000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.644	Depositor
Minimum map value	-0.843	Depositor
Average map value	-0.004	Depositor
Map value standard deviation	0.077	Depositor
Recommended contour level	0.31	Depositor
Map size (Å)	428.4, 428.4, 428.4	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.02, 1.02, 1.02	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: SPK, ZN, MG, YMZ

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	1	0.21	0/74794	0.37	19/116598 (0.0%)
2	3	0.17	0/2884	0.28	0/4492
3	4	0.20	0/3746	0.34	0/5832
4	10	0.11	0/331	0.31	0/511
5	j	0.24	0/1922	0.50	0/2581
6	k	0.24	0/3156	0.51	0/4246
7	l	0.23	0/2799	0.47	0/3777
8	m	0.21	0/2447	0.51	0/3294
9	n	0.23	0/1249	0.47	1/1685 (0.1%)
10	o	0.22	0/1918	0.42	0/2575
11	p	0.26	0/1961	0.54	0/2642
12	q	0.23	0/1537	0.53	0/2067
13	r	0.23	0/1724	0.56	1/2314 (0.0%)
14	s	0.25	0/1395	0.66	0/1869
15	t	0.24	0/1637	0.55	0/2195
16	u	0.20	0/1044	0.46	0/1407
17	v	0.25	0/1753	0.46	0/2347
18	w	0.23	0/1620	0.46	0/2167
19	x	0.23	0/1398	0.52	0/1879
20	y	0.25	0/1482	0.50	0/1985
21	z	0.29	0/1432	0.62	2/1905 (0.1%)
22	0	0.24	0/1474	0.50	0/1985
23	2	0.23	0/1285	0.48	0/1723
24	5	0.24	0/846	0.70	0/1140
25	6	0.28	0/993	0.55	0/1339
26	7	0.26	0/536	0.54	0/712
27	8	0.24	0/990	0.55	0/1337
28	9	0.23	0/999	0.54	0/1334
29	AA	0.22	0/1112	0.55	0/1488
30	AB	0.25	0/1199	0.47	0/1607
31	AC	0.26	0/522	0.65	1/692 (0.1%)
32	AD	0.24	0/738	0.56	0/994

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	AE	0.21	0/902	0.54	0/1212
34	AF	0.23	0/1030	0.47	0/1379
35	AG	0.23	0/875	0.44	0/1176
36	AH	0.25	0/896	0.49	0/1195
37	AI	0.22	0/1004	0.54	0/1337
38	AJ	0.21	0/780	0.51	0/1033
39	AK	0.23	0/690	0.51	0/916
40	AL	0.27	0/623	0.67	0/831
41	AM	0.22	0/447	0.47	0/594
42	AN	0.20	0/425	0.55	0/563
43	AO	0.17	0/237	0.61	0/304
44	AP	0.31	0/840	0.60	0/1110
45	AQ	0.27	0/705	0.57	0/940
46	A	0.16	0/39936	0.39	1/62224 (0.0%)
47	B	0.26	0/1666	0.69	1/2273 (0.0%)
48	C	0.25	0/1651	0.71	0/2220
49	D	0.25	0/1648	0.61	0/2237
50	E	0.32	0/1731	0.75	0/2324
51	F	0.24	0/2096	0.63	0/2822
52	G	0.30	0/1631	0.78	1/2199 (0.0%)
53	H	0.21	0/1845	0.72	2/2464 (0.1%)
54	I	0.24	0/1490	0.72	0/2004
55	J	0.26	0/1472	0.68	0/1970
56	K	0.26	0/1478	0.59	0/1978
57	L	0.31	0/801	0.84	3/1081 (0.3%)
58	M	0.19	0/1154	0.51	0/1553
59	N	0.33	0/892	1.00	2/1203 (0.2%)
60	O	0.23	0/1210	0.64	0/1631
61	P	0.34	0/953	0.71	1/1279 (0.1%)
62	Q	0.37	1/954 (0.1%)	0.95	4/1282 (0.3%)
63	R	0.24	0/1109	0.68	0/1486
64	S	0.26	0/1014	0.75	0/1361
65	T	0.31	0/1186	0.79	2/1590 (0.1%)
66	U	0.29	0/1120	0.72	0/1508
67	V	0.28	0/800	0.72	0/1082
68	W	0.28	0/683	0.75	1/918 (0.1%)
69	X	0.24	0/1049	0.58	0/1412
70	Y	0.20	0/1128	0.60	0/1505
71	Z	0.21	0/1086	0.61	1/1447 (0.1%)
72	a	0.26	0/585	0.67	0/789
73	b	0.23	0/811	0.58	0/1085
74	c	0.20	0/624	0.58	0/843
75	d	0.30	0/448	0.74	0/601

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	e	0.27	0/466	0.73	1/620 (0.2%)
77	f	0.20	0/381	0.58	1/505 (0.2%)
78	g	0.24	0/585	0.75	0/778
79	h	0.28	0/2451	0.80	2/3337 (0.1%)
All	All	0.22	1/210511 (0.0%)	0.48	47/308920 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	Q	71	GLU	C-N	6.30	1.43	1.33

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	H	146	GLY	N-CA-C	13.89	131.87	114.37
1	1	2512	G	P-O3'-C3'	-10.12	105.02	120.20
1	1	2522	U	P-O3'-C3'	-9.88	105.38	120.20
1	1	2511	G	P-O3'-C3'	-9.44	106.04	120.20
1	1	2517	C	P-O3'-C3'	-9.04	106.65	120.20
1	1	2807	U	P-O3'-C3'	-8.11	108.04	120.20
1	1	2765	G	P-O3'-C3'	-7.81	108.48	120.20
1	1	2523	C	P-O3'-C3'	-7.45	109.03	120.20
1	1	2230	A	P-O3'-C3'	-7.44	109.04	120.20
1	1	2513	A	P-O3'-C3'	-7.28	109.28	120.20
1	1	2229	G	P-O3'-C3'	-7.19	109.42	120.20
1	1	436	A	P-O3'-C3'	-7.03	109.66	120.20
62	Q	71	GLU	CA-C-N	-6.96	110.60	120.49
62	Q	71	GLU	C-N-CA	-6.96	110.60	120.49
1	1	2521	C	P-O3'-C3'	-6.85	109.92	120.20
31	AC	24	PRO	CA-N-CD	-6.85	102.41	112.00
77	f	27	PRO	CA-N-CD	-6.83	102.44	112.00
65	T	76	PRO	CA-N-CD	-6.69	102.63	112.00
21	z	171	GLU	N-CA-CB	6.50	119.78	110.16
1	1	2764	A	P-O3'-C3'	-6.35	110.68	120.20
1	1	2518	A	P-O3'-C3'	-6.26	110.81	120.20
1	1	2228	G	P-O3'-C3'	-6.25	110.83	120.20
53	H	147	LEU	N-CA-C	5.97	117.92	108.79
68	W	44	ARG	CB-CG-CD	5.92	124.92	111.30
1	1	2808	C	P-O3'-C3'	-5.84	111.44	120.20
59	N	95	LYS	CA-C-N	5.79	135.08	121.52
59	N	95	LYS	C-N-CA	5.79	135.08	121.52
1	1	437	G	P-O3'-C3'	-5.76	111.56	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	G	126	GLU	N-CA-C	5.66	117.53	110.91
65	T	76	PRO	N-CD-CG	-5.53	94.90	103.20
71	Z	110	GLN	N-CA-CB	5.51	118.22	110.12
62	Q	53	PRO	CA-N-CD	-5.51	104.29	112.00
21	z	68	GLU	N-CA-CB	5.34	118.07	110.16
62	Q	111	MET	CA-CB-CG	5.34	124.78	114.10
47	B	198	MET	CB-CA-C	5.29	116.03	108.68
1	1	2763	G	P-O3'-C3'	-5.24	112.34	120.20
13	r	193	ASP	N-CA-C	-5.24	104.69	111.71
1	1	435	C	P-O3'-C3'	-5.23	112.36	120.20
79	h	16	HIS	N-CA-CB	-5.12	102.07	110.41
79	h	283	ASP	N-CA-C	-5.10	102.75	109.84
9	n	10	GLN	N-CA-CB	5.06	117.98	110.49
57	L	33	ASP	CA-C-N	5.05	131.19	121.54
57	L	33	ASP	C-N-CA	5.05	131.19	121.54
61	P	70	GLY	N-CA-C	5.05	122.27	115.00
76	e	6	VAL	N-CA-C	-5.02	107.83	111.90
57	L	34	GLU	CA-CB-CG	5.01	124.11	114.10
46	A	1175	C	P-O3'-C3'	5.00	127.70	120.20

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	66827	0	33586	832	0
2	3	2579	0	1304	29	0
3	4	3353	0	1694	57	0
4	10	298	0	154	3	0
5	j	1888	0	1962	36	0
6	k	3084	0	3173	57	0
7	l	2751	0	2879	47	0
8	m	2394	0	2362	43	0
9	n	1228	0	1304	17	0
10	o	1885	0	1977	20	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	p	1929	0	2066	34	0
12	q	1519	0	1588	33	0
13	r	1689	0	1731	38	0
14	s	1376	0	1406	58	0
15	t	1610	0	1686	44	0
16	u	1029	0	1116	19	0
17	v	1713	0	1764	38	0
18	w	1590	0	1705	19	0
19	x	1375	0	1403	29	0
20	y	1458	0	1556	25	0
21	z	1411	0	1514	24	0
22	0	1436	0	1492	30	0
23	2	1262	0	1314	25	0
24	5	831	0	848	37	0
25	6	977	0	1026	18	0
26	7	524	0	545	12	0
27	8	974	0	1032	18	0
28	9	989	0	1064	19	0
29	AA	1087	0	1154	19	0
30	AB	1170	0	1203	28	0
31	AC	509	0	545	12	0
32	AD	729	0	775	17	0
33	AE	889	0	936	12	0
34	AF	1009	0	1082	13	0
35	AG	853	0	906	11	0
36	AH	887	0	950	17	0
37	AI	990	0	1094	17	0
38	AJ	772	0	863	13	0
39	AK	677	0	697	22	0
40	AL	617	0	675	22	0
41	AM	438	0	475	12	0
42	AN	419	0	460	7	0
43	AO	236	0	285	6	0
44	AP	828	0	893	12	0
45	AQ	698	0	734	22	0
46	A	35701	0	17956	681	0
47	B	1627	0	1644	73	0
48	C	1628	0	1705	78	0
49	D	1620	0	1715	64	0
50	E	1707	0	1807	80	0
51	F	2055	0	2137	63	0
52	G	1614	0	1688	79	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	H	1820	0	1896	89	0
54	I	1466	0	1561	60	0
55	J	1448	0	1470	61	0
56	K	1453	0	1532	51	0
57	L	783	0	799	52	0
58	M	1129	0	1183	22	0
59	N	885	0	915	59	0
60	O	1187	0	1249	44	0
61	P	942	0	981	48	0
62	Q	935	0	970	29	0
63	R	1091	0	1155	46	0
64	S	1002	0	1058	55	0
65	T	1169	0	1216	53	0
66	U	1100	0	1114	61	0
67	V	790	0	855	33	0
68	W	676	0	677	31	0
69	X	1032	0	1066	43	0
70	Y	1110	0	1182	30	0
71	Z	1072	0	1123	43	0
72	a	578	0	613	22	0
73	b	799	0	860	17	0
74	c	614	0	630	19	0
75	d	446	0	473	24	0
76	e	454	0	434	12	0
77	f	375	0	407	17	0
78	g	574	0	607	29	0
79	h	2398	0	2374	146	0
80	1	26	0	0	1	0
80	j	26	0	0	1	0
81	1	14	0	30	2	0
82	1	355	0	0	0	0
82	3	2	0	0	0	0
82	4	5	0	0	0	0
82	6	1	0	0	0	0
82	A	58	0	0	0	0
82	AB	1	0	0	0	0
82	AF	1	0	0	0	0
82	Q	1	0	0	0	0
82	T	2	0	0	0	0
82	j	1	0	0	0	0
82	k	1	0	0	0	0
82	v	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
82	x	2	0	0	0	0
82	z	1	0	0	0	0
83	AK	1	0	0	0	0
83	AN	1	0	0	0	0
83	AP	1	0	0	0	0
83	AQ	1	0	0	0	0
83	b	1	0	0	0	0
83	g	1	0	0	0	0
All	All	196571	0	146060	3639	0

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

All (3639) 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)
79:h:42:LEU:HB3	79:h:62:PHE:HB2	1.40	1.02
64:S:17:ILE:HD12	64:S:58:MET:HE3	1.41	1.00
11:p:6:LYS:HA	11:p:10:PRO:HG2	1.45	0.98
78:g:168:CYS:HB2	78:g:172:ILE:HG21	1.43	0.98
14:s:90:GLN:HE21	14:s:172:LEU:HD13	1.30	0.97
45:AQ:25:GLN:HE22	46:A:968:A:H4'	1.30	0.97
1:1:2518:A:H1'	1:1:2519:A:H2'	1.47	0.96
23:2:112:ASN:HD22	23:2:128:LEU:HD12	1.32	0.94
1:1:1014:G:H1	1:1:1030:U:H3	1.03	0.93
53:H:135:PRO:HB2	53:H:141:ILE:HD13	1.52	0.92
46:A:1670:U:H3	46:A:1705:G:H1	1.16	0.91
46:A:591:A:H5''	56:K:40:ARG:HH21	1.36	0.90
54:I:81:PHE:HB2	54:I:84:ARG:HE	1.36	0.90
1:1:2511:G:H3'	1:1:2512:G:H8	1.37	0.90
53:H:161:GLU:HG2	53:H:170:THR:HG22	1.53	0.90
48:C:88:VAL:HG21	48:C:96:LEU:HD12	1.51	0.89
59:N:95:LYS:HG3	59:N:117:GLY:HA3	1.55	0.89
79:h:246:ARG:HB3	79:h:248:TRP:CE3	2.07	0.89
45:AQ:89:LEU:HD23	45:AQ:90:ALA:H	1.37	0.88
55:J:89:GLU:OE2	55:J:92:ARG:NH2	2.07	0.88
1:1:2514:G:H1	1:1:2521:C:H42	1.20	0.88
53:H:67:VAL:HG13	53:H:99:GLY:HA2	1.55	0.87
1:1:1735:U:H1'	36:AH:41:ARG:HH12	1.40	0.86
1:1:3313:G:H1	1:1:3322:U:H3	1.22	0.86
59:N:29:LYS:HZ2	59:N:100:TRP:CD1	1.94	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:F:208:VAL:HG21	51:F:225:VAL:HG21	1.57	0.85
79:h:283:ASP:OD1	79:h:284:PRO:HD2	1.77	0.85
40:AL:27:VAL:HG13	40:AL:39:LYS:HD2	1.58	0.85
50:E:116:ILE:HD11	50:E:143:LEU:HD22	1.56	0.85
1:1:2385:C:O2'	31:AC:1:MET:SD	2.35	0.84
48:C:189:ILE:HG13	48:C:190:PRO:HD3	1.57	0.84
40:AL:46:ARG:NH1	40:AL:47:GLY:O	2.10	0.84
79:h:195:TYR:H	79:h:213:LYS:HZ3	1.25	0.84
59:N:59:LEU:HD22	59:N:133:ARG:HH12	1.44	0.83
46:A:880:G:H1	46:A:902:U:H3	1.26	0.83
4:10:1:G:H1	4:10:72:U:H3	1.26	0.83
48:C:149:GLN:NE2	48:C:151:LYS:O	2.10	0.82
59:N:71:ILE:HA	59:N:74:LEU:HG	1.62	0.82
52:G:97:LEU:HD21	52:G:113:ILE:HD11	1.59	0.82
71:Z:103:ALA:O	71:Z:108:ARG:NH1	2.11	0.82
46:A:509:A:OP2	56:K:176:ASN:ND2	2.12	0.82
53:H:71:THR:HG22	53:H:72:ARG:H	1.44	0.82
1:1:1560:U:H3	1:1:1571:G:H1	1.27	0.82
1:1:2854:U:H5''	6:k:10:ARG:HH11	1.45	0.82
40:AL:5:ILE:HD11	40:AL:52:TYR:HB3	1.60	0.82
2:3:52:G:H21	14:s:9:MET:HE3	1.43	0.81
57:L:17:GLN:H	57:L:88:PRO:HB3	1.44	0.81
67:V:39:ASN:OD1	67:V:42:ARG:NH2	2.14	0.81
46:A:1143:C:H42	46:A:1148:A:H61	1.24	0.81
65:T:83:ALA:O	65:T:89:GLN:NE2	2.14	0.81
79:h:200:THR:HG21	79:h:242:PHE:H	1.46	0.81
48:C:190:PRO:HG2	48:C:192:VAL:HG23	1.61	0.81
1:1:1006:G:N2	13:r:193:ASP:OD1	2.14	0.81
1:1:1164:U:H1'	10:o:207:ASN:HD22	1.46	0.80
49:D:34:THR:HG23	49:D:37:GLY:H	1.46	0.80
46:A:327:G:H5''	55:J:98:LYS:HB3	1.63	0.80
70:Y:69:ARG:HG3	70:Y:117:ILE:HG12	1.62	0.80
11:p:9:ALA:H	11:p:10:PRO:HD2	1.45	0.80
65:T:76:PRO:HD2	65:T:77:THR:H	1.47	0.80
46:A:1400:U:H5''	64:S:3:ARG:HE	1.46	0.80
72:a:50:ILE:HG12	72:a:69:LEU:HD21	1.64	0.80
79:h:177:SER:OG	79:h:186:ASN:OD1	2.00	0.80
62:Q:89:MET:O	62:Q:107:ILE:HD11	1.83	0.79
46:A:1529:G:N2	46:A:1556:A:OP2	2.16	0.79
59:N:105:GLN:OE1	59:N:113:ARG:NH1	2.15	0.79
46:A:1043:U:O2'	46:A:1045:U:OP2	2.00	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:K:3:ARG:NH1	56:K:4:ALA:O	2.15	0.79
6:k:10:ARG:NH1	6:k:263:THR:O	2.11	0.79
57:L:7:ASP:O	57:L:11:ILE:HD12	1.80	0.79
66:U:25:GLN:HE22	66:U:27:LYS:HB3	1.48	0.79
14:s:32:ARG:NH2	14:s:119:SER:O	2.13	0.79
1:1:976:A:H2	1:1:1100:G:H21	1.28	0.78
1:1:2380:A:H2'	7:l:68:THR:HG21	1.63	0.78
12:q:84:LYS:HE2	12:q:186:THR:HG21	1.65	0.78
74:c:34:ASP:OD2	74:c:82:LYS:NZ	2.14	0.78
79:h:224:LYS:HD3	79:h:226:LYS:HE2	1.63	0.78
62:Q:37:CYS:O	62:Q:42:ARG:NH1	2.16	0.78
1:1:1225:G:H2'	1:1:1226:G:C8	2.18	0.78
46:A:737:A:OP1	51:F:187:ARG:NH1	2.15	0.78
1:1:2653:U:H5'	14:s:65:ILE:HD11	1.66	0.77
41:AM:25:GLN:HG2	41:AM:28:ARG:HH21	1.48	0.77
48:C:128:LYS:HD2	48:C:132:ASP:HA	1.65	0.77
24:5:15:PHE:HB2	24:5:66:VAL:HG22	1.66	0.77
46:A:1542:A:OP1	62:Q:44:ARG:NH2	2.16	0.77
47:B:179:ARG:HG2	47:B:183:ARG:HH12	1.48	0.77
46:A:1231:C:O2'	78:g:132:LYS:NZ	2.14	0.77
46:A:1241:A:OP2	59:N:43:ARG:NH1	2.18	0.77
46:A:1479:A:H4'	46:A:1480:G:O4'	1.85	0.77
50:E:171:ILE:HD12	50:E:188:LYS:HG2	1.66	0.77
68:W:73:ALA:HB1	68:W:78:LEU:HB2	1.67	0.77
1:1:985:A:O2'	23:2:104:GLU:OE2	2.03	0.77
68:W:72:LEU:HD23	68:W:75:GLN:HE22	1.50	0.77
46:A:1042:U:H3'	46:A:1043:U:H2'	1.67	0.76
46:A:512:G:H1	46:A:541:C:H5	1.33	0.76
66:U:117:SER:OG	66:U:120:GLY:O	2.02	0.76
31:AC:8:THR:HG22	31:AC:10:HIS:H	1.51	0.76
47:B:122:VAL:HG12	47:B:144:ILE:HB	1.65	0.76
79:h:186:ASN:OD1	79:h:187:ALA:N	2.19	0.76
14:s:117:ASP:OD2	14:s:119:SER:OG	2.03	0.76
78:g:174:MET:SD	78:g:181:GLN:HB3	2.26	0.76
5:j:27:ALA:O	5:j:128:ARG:NH2	2.19	0.76
22:0:8:GLN:HB2	22:0:64:ILE:HD11	1.68	0.75
54:I:87:VAL:HG11	54:I:125:LEU:HD12	1.67	0.75
52:G:25:LEU:HD12	63:R:26:GLY:HA3	1.66	0.75
52:G:70:VAL:HG12	52:G:72:HIS:H	1.52	0.75
46:A:685:C:H5'	69:X:119:LYS:HE2	1.66	0.75
70:Y:54:LEU:HD11	70:Y:75:GLN:HB2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:m:197:LYS:HG2	8:m:202:GLY:HA3	1.68	0.75
46:A:1579:A:H2'	46:A:1580:A:H8	1.51	0.75
46:A:1339:G:O6	46:A:1354:U:O2	2.04	0.74
63:R:30:ILE:HD13	63:R:38:VAL:HG22	1.69	0.74
48:C:69:CYS:SG	61:P:109:ARG:NE	2.60	0.74
49:D:179:VAL:HG12	49:D:183:MET:HE1	1.70	0.74
60:O:4:MET:SD	60:O:124:ARG:NH1	2.60	0.74
66:U:108:LEU:HA	66:U:111:ILE:HG12	1.70	0.74
1:1:1269:A:H3'	1:1:1270:A:H8	1.52	0.74
46:A:1472:G:N2	46:A:1580:A:OP1	2.20	0.74
52:G:57:SER:HA	75:d:53:ILE:HD11	1.69	0.74
61:P:101:ALA:HA	61:P:107:ILE:HD11	1.69	0.74
1:1:1550:U:O2'	1:1:1551:U:OP1	2.05	0.74
52:G:187:ILE:HD13	72:a:66:VAL:HG11	1.70	0.74
54:I:13:LEU:HD11	54:I:54:LEU:HD11	1.70	0.74
9:n:71:ASN:ND2	9:n:159:LEU:O	2.19	0.74
47:B:183:ARG:HE	47:B:191:ARG:HA	1.53	0.74
12:q:13:PRO:O	12:q:51:ARG:NH1	2.20	0.73
24:5:83:THR:HG21	24:5:98:PHE:CD1	2.23	0.73
44:AP:25:VAL:HG22	44:AP:72:LEU:HD22	1.70	0.73
1:1:1657:G:H2'	1:1:1658:G:C8	2.24	0.73
46:A:1419:G:O4'	76:e:41:GLN:NE2	2.21	0.73
15:t:90:ALA:HB1	15:t:95:ILE:HB	1.69	0.73
46:A:148:C:H42	46:A:162:A:H61	1.36	0.73
69:X:81:VAL:O	69:X:122:SER:OG	2.06	0.73
46:A:528:C:O2	71:Z:61:ARG:NH1	2.14	0.73
1:1:2511:G:H3'	1:1:2512:G:C8	2.23	0.73
13:r:216:TYR:HE2	13:r:218:TYR:HD1	1.37	0.73
34:AF:106:ARG:NH2	34:AF:122:ASN:O	2.22	0.73
46:A:1236:U:O2'	46:A:1237:C:O2	2.06	0.73
46:A:302:U:OP1	58:M:136:ARG:NH1	2.21	0.73
60:O:37:ILE:HG21	60:O:74:ILE:HD11	1.70	0.73
54:I:77:LEU:HB3	54:I:84:ARG:HH22	1.54	0.73
1:1:2510:U:H2'	1:1:2511:G:O4'	1.89	0.73
38:AJ:56:LEU:O	38:AJ:60:ILE:HD12	1.89	0.73
46:A:911:A:C2	61:P:121:THR:HG22	2.24	0.73
75:d:31:GLU:OE1	75:d:39:THR:OG1	2.06	0.73
58:M:111:VAL:HG23	58:M:139:VAL:HG11	1.71	0.72
46:A:945:U:H5'	60:O:55:ARG:HD3	1.69	0.72
46:A:1783:C:O2'	73:b:95:ARG:NH2	2.13	0.72
50:E:178:MET:HE2	50:E:183:LEU:HG	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:446:C:OP2	51:F:49:ARG:NH1	2.21	0.72
52:G:82:PHE:HD2	75:d:49:ARG:HE	1.33	0.72
63:R:12:LYS:HG3	63:R:13:LYS:H	1.55	0.72
72:a:42:LEU:HB2	72:a:75:LEU:HD11	1.71	0.72
78:g:142:LEU:HD13	78:g:145:LEU:HD12	1.71	0.72
79:h:43:ILE:HA	79:h:61:SER:HA	1.70	0.72
79:h:69:VAL:HA	79:h:85:SER:HA	1.72	0.72
79:h:246:ARG:HB3	79:h:248:TRP:HE3	1.49	0.72
46:A:239:U:OP1	53:H:220:LYS:NZ	2.23	0.72
46:A:1716:C:HO2'	55:J:2:GLY:N	1.88	0.72
1:1:1240:A:N6	1:1:1267:A:OP1	2.22	0.72
46:A:452:A:H5'	51:F:66:MET:HE2	1.72	0.72
57:L:8:ARG:O	57:L:12:HIS:ND1	2.22	0.72
14:s:112:LEU:HD22	14:s:114:ILE:HD11	1.70	0.72
1:1:2183:U:H2'	1:1:2184:G:C8	2.25	0.72
1:1:2370:C:O2'	6:k:266:ARG:NH2	2.22	0.72
46:A:561:U:O2'	77:f:13:LYS:NZ	2.23	0.72
54:I:11:THR:HG22	54:I:14:GLU:OE1	1.90	0.72
46:A:123:G:H21	51:F:146:THR:HG21	1.53	0.72
56:K:143:ILE:HG23	56:K:146:PHE:HB2	1.71	0.72
1:1:2514:G:H1	1:1:2521:C:N4	1.87	0.72
46:A:352:C:H5''	55:J:16:ALA:HB2	1.71	0.72
60:O:62:GLN:HB3	60:O:65:VAL:HG12	1.72	0.72
70:Y:102:VAL:HG12	70:Y:127:VAL:HG12	1.70	0.72
46:A:1324:C:O2'	46:A:1326:A:N7	2.21	0.71
52:G:207:THR:O	52:G:212:LYS:NZ	2.22	0.71
9:n:65:SER:HB2	9:n:75:LEU:HD23	1.72	0.71
46:A:64:U:O2'	46:A:166:A:N3	2.23	0.71
46:A:1664:C:H42	46:A:1711:C:H42	1.39	0.71
13:r:50:ILE:HG12	13:r:167:ILE:HD13	1.73	0.71
59:N:81:GLU:HG3	59:N:82:PRO:HD3	1.71	0.71
79:h:90:LEU:HB2	79:h:104:PHE:HB2	1.71	0.71
6:k:136:LYS:HG3	6:k:143:GLN:NE2	2.05	0.71
22:0:79:LEU:HD21	22:0:106:MET:HE2	1.70	0.71
46:A:484:G:N2	46:A:501:G:O6	2.21	0.71
1:1:2171:U:H5'	1:1:2172:G:H5'	1.72	0.71
7:l:290:LEU:HD22	20:y:129:LEU:HD11	1.72	0.71
46:A:1276:G:H1	46:A:1309:G:H22	1.39	0.71
53:H:144:PHE:HD2	53:H:145:PHE:HD1	1.38	0.71
1:1:1014:G:N2	1:1:1030:U:O2	2.24	0.71
36:AH:41:ARG:HE	36:AH:50:ALA:HB1	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:U:70:GLN:HB2	66:U:121:GLY:HA3	1.71	0.71
48:C:45:LYS:HB3	61:P:8:VAL:HG23	1.73	0.71
79:h:252:ALA:HB2	79:h:289:LEU:HD11	1.73	0.71
1:1:2520:A:H4'	1:1:2521:C:OP1	1.90	0.71
46:A:772:A:OP1	51:F:106:LYS:NZ	2.24	0.71
46:A:1353:G:H5''	66:U:69:LYS:HD3	1.73	0.71
47:B:168:HIS:HA	47:B:203:PHE:HE1	1.55	0.71
79:h:195:TYR:H	79:h:213:LYS:NZ	1.89	0.71
1:1:2200:A:H2'	1:1:2201:A:C8	2.26	0.70
46:A:747:A:OP1	56:K:79:ARG:NH2	2.23	0.70
63:R:93:GLN:HB2	63:R:101:LYS:HG3	1.72	0.70
51:F:45:VAL:HG23	51:F:61:VAL:HG11	1.73	0.70
1:1:1261:U:H2'	1:1:1262:G:C8	2.27	0.70
8:m:205:ALA:HB2	8:m:236:VAL:HG11	1.73	0.70
50:E:139:ILE:HG22	50:E:185:ILE:HG22	1.72	0.70
40:AL:36:LYS:HG3	40:AL:37:LYS:H	1.55	0.70
46:A:1783:C:HO2'	73:b:95:ARG:HH21	1.36	0.70
78:g:157:GLU:OE1	78:g:159:LEU:HB2	1.90	0.70
1:1:1110:U:OP1	30:AB:23:GLY:N	2.23	0.70
79:h:153:SER:HG	79:h:171:TRP:CD1	2.09	0.70
1:1:1103:C:OP2	31:AC:22:LYS:NZ	2.24	0.70
6:k:45:ALA:HB3	6:k:181:ILE:HD12	1.72	0.70
79:h:112:LEU:HD23	79:h:153:SER:HA	1.72	0.70
11:p:206:SER:HA	11:p:209:GLU:HG2	1.74	0.69
46:A:334:G:O6	55:J:5:ARG:NH1	2.24	0.69
46:A:1240:G:N7	59:N:46:ARG:NH2	2.39	0.69
46:A:1603:G:OP1	52:G:81:ARG:NH1	2.25	0.69
49:D:83:LYS:HD3	49:D:90:ARG:HH21	1.56	0.69
79:h:151:TRP:HB2	79:h:171:TRP:CD1	2.26	0.69
7:l:289:ARG:O	7:l:293:SER:OG	2.09	0.69
47:B:6:SER:O	47:B:191:ARG:NH1	2.25	0.69
1:1:935:U:OP2	30:AB:26:ARG:NH2	2.26	0.69
1:1:3039:C:H3'	21:z:62:ARG:HH22	1.57	0.69
52:G:77:TYR:HD1	52:G:83:ARG:HG2	1.57	0.69
64:S:103:ASP:OD1	64:S:104:ALA:N	2.26	0.69
46:A:1415:G:N3	67:V:71:ASN:ND2	2.40	0.69
54:I:77:LEU:HB3	54:I:84:ARG:NH2	2.08	0.69
79:h:55:TYR:OH	79:h:297:ASN:ND2	2.26	0.69
1:1:2519:A:H1'	1:1:2520:A:O4'	1.92	0.69
17:v:46:ASP:OD2	17:v:50:ARG:NH2	2.24	0.69
46:A:122:U:H2'	46:A:123:G:H5''	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:205:ARG:NH2	64:S:82:ASP:OD1	2.23	0.69
79:h:12:THR:OG1	79:h:53:ASN:OD1	2.09	0.69
1:1:662:U:H2'	1:1:663:A:C8	2.27	0.69
1:1:833:A:OP2	45:AQ:4:ARG:NH1	2.25	0.69
3:4:41:A:H5'	39:AK:67:LEU:HD13	1.74	0.69
5:j:137:ILE:HB	5:j:147:ARG:HG3	1.75	0.69
74:c:36:LYS:HE3	74:c:41:LEU:HD12	1.75	0.69
77:f:55:LYS:NZ	77:f:57:ASN:O	2.25	0.69
7:l:109:ARG:HG2	17:v:203:ARG:HD2	1.74	0.69
11:p:98:TYR:HE2	11:p:204:VAL:HG12	1.56	0.69
29:AA:103:GLU:HB3	29:AA:106:GLN:OE1	1.92	0.69
46:A:1214:G:N2	46:A:1240:G:O2'	2.26	0.69
46:A:1422:A:OP2	50:E:28:ARG:NH2	2.26	0.69
13:r:38:ARG:HG2	13:r:41:ALA:HB2	1.75	0.69
46:A:1156:A:H2'	46:A:1157:G:H8	1.58	0.69
48:C:29:TRP:HB3	48:C:45:LYS:HD2	1.73	0.69
56:K:51:LYS:HA	56:K:54:ARG:HG2	1.73	0.69
71:Z:104:SER:H	71:Z:107:GLN:NE2	1.91	0.69
79:h:132:VAL:O	79:h:145:LEU:HB2	1.93	0.69
17:v:143:ARG:O	17:v:149:ASN:ND2	2.25	0.68
46:A:1275:U:H2'	46:A:1276:G:C8	2.28	0.68
1:1:3:U:H3	3:4:155:G:H1	1.41	0.68
1:1:359:U:OP1	39:AK:11:ARG:NH2	2.26	0.68
1:1:564:G:H2'	1:1:565:A:C8	2.28	0.68
46:A:1531:U:OP1	65:T:136:GLN:NE2	2.27	0.68
1:1:2988:A:H2'	1:1:2989:A:H8	1.58	0.68
17:v:159:ARG:HB2	17:v:164:LEU:HB2	1.75	0.68
49:D:83:LYS:HD3	49:D:90:ARG:NH2	2.08	0.68
53:H:57:ASP:HA	53:H:106:LEU:HA	1.74	0.68
46:A:795:A:N7	54:I:106:GLN:NE2	2.41	0.68
46:A:1478:A:O2'	46:A:1479:A:O4'	2.11	0.68
54:I:14:GLU:HA	54:I:42:ILE:HD12	1.75	0.68
55:J:76:THR:HG22	55:J:108:PRO:HG2	1.76	0.68
1:1:1091:U:H4'	1:1:1092:U:H5'	1.76	0.68
1:1:1386:A:N6	1:1:1414:A:O2'	2.27	0.68
11:p:9:ALA:O	11:p:10:PRO:C	2.36	0.68
46:A:244:G:N2	58:M:38:VAL:O	2.25	0.68
46:A:853:G:H1	46:A:945:U:H3	1.41	0.68
48:C:31:ASP:O	48:C:96:LEU:N	2.26	0.68
1:1:3139:U:OP2	35:AG:63:LYS:NZ	2.26	0.68
46:A:766:U:H4'	46:A:767:G:H5''	1.73	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:E:143:LEU:HD11	50:E:183:LEU:HD21	1.74	0.68
74:c:67:THR:HG22	74:c:68:GLY:H	1.57	0.68
7:l:8:SER:OG	7:l:148:GLU:OE2	2.10	0.68
29:AA:33:THR:HG23	29:AA:36:HIS:H	1.59	0.68
1:1:2932:C:H2'	1:1:2933:G:H8	1.60	0.67
1:1:3014:U:OP2	1:1:3064:C:N4	2.26	0.67
46:A:566:G:OP2	70:Y:70:LYS:NZ	2.18	0.67
1:1:365:A:OP1	7:l:85:ARG:NH1	2.27	0.67
46:A:856:G:H2'	46:A:857:G:C8	2.28	0.67
51:F:248:SER:HB3	51:F:251:GLU:OE1	1.94	0.67
12:q:84:LYS:HB3	12:q:186:THR:HG21	1.75	0.67
13:r:216:TYR:CE2	13:r:218:TYR:HD1	2.11	0.67
23:2:112:ASN:ND2	23:2:128:LEU:HD12	2.08	0.67
46:A:872:A:H2	61:P:121:THR:HG21	1.59	0.67
46:A:1143:C:H42	46:A:1148:A:N6	1.92	0.67
21:z:152:GLU:O	21:z:153:LYS:C	2.38	0.67
46:A:1143:C:N4	46:A:1148:A:H61	1.91	0.67
46:A:1511:A:H2'	46:A:1512:A:C8	2.29	0.67
50:E:65:ARG:HE	57:L:91:ARG:HD3	1.59	0.67
52:G:58:LEU:HD12	52:G:138:VAL:HG13	1.77	0.67
52:G:143:ARG:NH1	52:G:218:GLU:OE1	2.27	0.67
40:AL:40:GLN:HE21	40:AL:55:VAL:HG13	1.60	0.67
50:E:26:PHE:HE1	50:E:70:LEU:HD21	1.59	0.67
51:F:208:VAL:HG23	51:F:210:ILE:HD11	1.77	0.67
12:q:92:PHE:HB2	12:q:142:ASP:HB3	1.77	0.67
57:L:9:LYS:NZ	57:L:79:GLU:OE2	2.27	0.67
49:D:30:TRP:NE1	49:D:62:GLN:HE21	1.93	0.67
59:N:113:ARG:HG3	59:N:114:LYS:N	2.10	0.67
1:1:834:G:O6	45:AQ:4:ARG:NH2	2.28	0.67
1:1:1184:U:OP1	1:1:1206:U:O2'	2.11	0.67
1:1:3085:A:H5'	12:q:69:ARG:HH11	1.60	0.67
51:F:139:VAL:HG23	51:F:147:ILE:HG13	1.77	0.67
39:AK:36:SER:HA	39:AK:45:ARG:HH21	1.60	0.67
57:L:55:VAL:HG12	57:L:68:LEU:HA	1.75	0.67
69:X:94:LEU:HD11	69:X:102:VAL:HG23	1.76	0.67
1:1:1260:G:N2	1:1:1261:U:O4	2.27	0.67
24:5:56:ILE:HG13	24:5:66:VAL:HG12	1.77	0.67
52:G:32:ASP:O	52:G:35:GLU:HG3	1.94	0.67
63:R:40:PRO:HG2	63:R:43:LEU:HD13	1.75	0.67
1:1:2867:G:O2'	42:AN:24:TYR:O	2.13	0.66
55:J:7:SER:O	55:J:18:ARG:NH2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:S:93:LEU:HD22	64:S:100:LEU:HA	1.75	0.66
65:T:126:ARG:HB2	65:T:133:VAL:HG23	1.76	0.66
1:1:653:C:H2'	1:1:654:A:H8	1.60	0.66
47:B:84:ARG:HH12	47:B:201:LEU:HD12	1.60	0.66
56:K:86:LEU:HD12	56:K:99:LEU:HD11	1.75	0.66
1:1:3157:A:OP1	12:q:23:ARG:NH1	2.29	0.66
46:A:1276:G:H22	46:A:1309:G:N2	1.94	0.66
46:A:1156:A:H2'	46:A:1157:G:C8	2.31	0.66
46:A:1612:C:OP1	49:D:86:ARG:NH2	2.29	0.66
46:A:553:A:N3	46:A:588:C:O2'	2.27	0.66
54:I:75:ARG:O	54:I:79:LYS:HD2	1.96	0.66
79:h:176:LYS:HB3	79:h:178:TRP:HE1	1.60	0.66
1:1:316:U:O2'	38:AJ:29:LYS:NZ	2.28	0.66
79:h:178:TRP:CD1	79:h:185:VAL:HG12	2.31	0.66
1:1:1592:C:H2'	1:1:1593:C:C6	2.31	0.66
1:1:2520:A:N3	1:1:2521:C:N4	2.44	0.66
1:1:3356:A:O2'	19:x:56:ARG:NH2	2.29	0.66
3:4:103:G:OP2	3:4:105:A:O2'	2.14	0.66
46:A:728:U:OP1	54:I:104:LYS:N	2.28	0.66
79:h:153:SER:H	79:h:170:SER:HA	1.61	0.66
11:p:94:LEU:HD12	11:p:211:GLU:HG3	1.76	0.66
1:1:2925:U:H2'	1:1:2926:U:H2'	1.79	0.65
48:C:128:LYS:HE2	48:C:134:VAL:HG12	1.78	0.65
54:I:146:GLN:HB2	54:I:177:VAL:HG23	1.77	0.65
64:S:25:THR:HG23	64:S:27:ASP:H	1.61	0.65
1:1:2520:A:H1'	1:1:2521:C:C5	2.31	0.65
46:A:62:A:H8	46:A:285:G:H21	1.42	0.65
72:a:57:TYR:CE1	72:a:68:ARG:HD2	2.31	0.65
40:AL:5:ILE:CD1	40:AL:52:TYR:HB3	2.26	0.65
46:A:66:U:OP2	53:H:136:LYS:NZ	2.29	0.65
46:A:79:C:OP1	53:H:159:ARG:NH2	2.29	0.65
46:A:1205:C:H4'	57:L:52:LYS:HB3	1.78	0.65
46:A:1334:G:N3	46:A:1365:C:N4	2.44	0.65
52:G:42:LEU:HD22	52:G:130:ILE:HD11	1.77	0.65
3:4:150:G:OP1	27:8:27:ARG:NH2	2.29	0.65
46:A:1245:U:H2'	46:A:1246:G:H8	1.61	0.65
54:I:5:ILE:HG22	54:I:7:SER:H	1.61	0.65
23:2:136:ARG:HD3	23:2:139:ARG:HH22	1.62	0.65
3:4:61:A:OP1	37:AI:49:LYS:NZ	2.26	0.65
7:l:359:GLU:OE2	7:l:363:ASN:ND2	2.29	0.65
46:A:1578:C:H2'	46:A:1579:A:H8	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1493:C:O2'	1:1:1598:A:N3	2.29	0.65
1:1:1653:C:O2'	1:1:1793:A:OP2	2.12	0.65
36:AH:42:VAL:HG12	36:AH:51:LEU:HD12	1.79	0.65
48:C:64:ARG:HG2	61:P:31:LYS:HD3	1.78	0.65
54:I:54:LEU:HD22	54:I:86:VAL:HG23	1.78	0.65
1:1:2655:U:H2'	1:1:2656:C:C6	2.32	0.65
52:G:40:VAL:HA	52:G:69:PHE:HE1	1.62	0.65
1:1:1755:U:H3	1:1:1762:G:H1	1.43	0.65
10:o:110:ASN:ND2	10:o:207:ASN:OD1	2.29	0.65
48:C:26:ARG:O	48:C:50:ARG:N	2.29	0.65
52:G:130:ILE:HA	52:G:133:VAL:HG12	1.79	0.65
69:X:106:THR:HG21	69:X:121:VAL:HB	1.79	0.65
1:1:1936:G:H21	1:1:3327:A:H8	1.45	0.65
28:9:37:LYS:O	28:9:41:GLN:NE2	2.30	0.65
46:A:881:U:H5'	48:C:23:PRO:HG2	1.78	0.65
47:B:143:VAL:N	47:B:157:ASP:OD2	2.29	0.65
54:I:157:ALA:O	54:I:161:LYS:NZ	2.27	0.65
1:1:628:A:H2'	1:1:629:A:C8	2.32	0.64
54:I:94:ILE:HG12	54:I:117:VAL:HG21	1.79	0.64
2:3:28:C:OP1	14:s:137:ARG:NH1	2.31	0.64
8:m:289:LYS:HD2	13:r:206:LEU:HD23	1.79	0.64
29:AA:101:LEU:O	29:AA:107:ARG:NH2	2.30	0.64
46:A:470:U:O2'	46:A:754:A:N3	2.29	0.64
53:H:23:LYS:HB2	53:H:41:VAL:HA	1.80	0.64
1:1:1423:U:OP2	30:AB:4:ARG:NH2	2.25	0.64
12:q:110:ASP:HB3	12:q:128:ILE:HD12	1.80	0.64
14:s:61:ARG:HG2	14:s:62:ASN:OD1	1.97	0.64
46:A:869:A:OP1	48:C:136:ARG:NH2	2.21	0.64
46:A:1596:U:O2'	52:G:105:GLY:O	2.14	0.64
12:q:34:LEU:HD21	12:q:149:ASN:HB3	1.78	0.64
49:D:30:TRP:CD1	49:D:62:GLN:HE21	2.16	0.64
60:O:49:GLN:HA	60:O:52:VAL:HG12	1.78	0.64
75:d:9:LEU:HG	75:d:33:LEU:HD23	1.79	0.64
1:1:2873:G:O2'	1:1:2996:A:N1	2.29	0.64
5:j:109:GLU:HG2	5:j:138:GLY:HA2	1.79	0.64
49:D:135:ARG:H	49:D:216:THR:HG21	1.61	0.64
52:G:189:THR:HG22	52:G:192:GLU:HG2	1.79	0.64
54:I:162:LEU:O	54:I:166:GLN:HG3	1.98	0.64
71:Z:7:ILE:HD11	71:Z:47:ILE:HD12	1.80	0.64
1:1:1668:U:OP1	21:z:64:ARG:NH1	2.26	0.64
1:1:2592:G:H5'	31:AC:1:MET:HE2	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2932:C:H2'	1:1:2933:G:C8	2.31	0.64
13:r:169:LYS:NZ	23:2:158:THR:OG1	2.31	0.64
15:t:168:ALA:HB1	30:AB:147:LEU:HD21	1.78	0.64
22:0:45:LEU:HG	22:0:51:VAL:HG11	1.80	0.64
42:AN:27:LEU:HD21	42:AN:34:CYS:HA	1.78	0.64
45:AQ:81:SER:HA	45:AQ:84:ARG:HG3	1.80	0.64
56:K:112:GLN:HG3	56:K:148:VAL:HG21	1.79	0.64
12:q:17:THR:OG1	12:q:28:THR:OG1	2.16	0.64
24:5:15:PHE:HB2	24:5:66:VAL:CG2	2.28	0.64
46:A:417:G:H4'	53:H:72:ARG:HH12	1.63	0.64
61:P:74:VAL:HG22	61:P:105:LEU:HD21	1.79	0.64
1:1:3241:G:N7	19:x:171:ARG:NE	2.43	0.64
46:A:458:A:O2'	51:F:27:TYR:OH	2.16	0.64
49:D:135:ARG:NH2	49:D:223:ASN:OD1	2.31	0.64
66:U:39:THR:HG23	66:U:57:ARG:HH12	1.62	0.64
1:1:1720:U:H1'	1:1:1721:C:C6	2.33	0.64
46:A:784:U:H2'	46:A:785:G:H8	1.62	0.64
53:H:2:LYS:O	53:H:108:VAL:HA	1.98	0.64
79:h:70:GLN:HG2	79:h:112:LEU:HD12	1.79	0.64
1:1:1774:G:O2'	1:1:1776:G:OP2	2.14	0.63
1:1:2988:A:H2'	1:1:2989:A:C8	2.33	0.63
1:1:3085:A:H5'	12:q:69:ARG:NH1	2.13	0.63
12:q:8:GLN:HB3	12:q:72:LYS:HD2	1.80	0.63
46:A:142:G:O2'	46:A:143:A:O5'	2.16	0.63
56:K:41:GLU:OE1	56:K:44:ARG:NH2	2.32	0.63
59:N:74:LEU:HA	78:g:150:VAL:HG21	1.80	0.63
63:R:3:THR:HG22	63:R:4:GLN:H	1.62	0.63
68:W:51:ILE:HD11	68:W:78:LEU:HD11	1.78	0.63
68:W:74:GLN:HG2	68:W:83:TRP:HB3	1.80	0.63
8:m:286:VAL:HG23	13:r:206:LEU:HD22	1.79	0.63
66:U:27:LYS:NZ	66:U:111:ILE:HB	2.13	0.63
39:AK:60:GLY:HA2	39:AK:64:MET:HE3	1.80	0.63
63:R:102:ASN:O	63:R:106:LYS:HG2	1.99	0.63
68:W:79:LEU:HD13	68:W:82:VAL:HG11	1.79	0.63
1:1:1114:C:OP2	31:AC:5:LYS:NZ	2.24	0.63
27:8:108:LEU:N	27:8:125:ARG:O	2.32	0.63
30:AB:24:LYS:O	30:AB:26:ARG:HG2	1.99	0.63
1:1:1316:C:O2'	22:0:115:ARG:NH1	2.30	0.63
46:A:563:C:O2'	46:A:575:G:N2	2.32	0.63
46:A:929:A:OP2	73:b:19:LYS:NZ	2.29	0.63
46:A:1579:A:H2'	46:A:1580:A:C8	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:V:21:ILE:HD13	67:V:99:VAL:HG21	1.80	0.63
1:1:63:G:OP2	17:v:169:LYS:NZ	2.29	0.63
15:t:83:VAL:HG13	15:t:117:GLN:OE1	1.99	0.63
46:A:189:G:N7	55:J:143:ARG:NH2	2.47	0.63
46:A:1205:C:H2'	46:A:1206:A:C8	2.34	0.63
50:E:106:LEU:HD21	50:E:123:VAL:HB	1.79	0.63
52:G:33:VAL:HG22	63:R:52:THR:HG21	1.81	0.63
69:X:90:THR:HA	69:X:94:LEU:HD13	1.79	0.63
79:h:126:ALA:HB2	79:h:155:VAL:HG13	1.80	0.63
1:1:660:U:H2'	1:1:661:C:C6	2.34	0.63
1:1:1099:A:H61	1:1:1359:A:H1'	1.64	0.63
1:1:2717:G:N2	1:1:2720:A:OP2	2.25	0.63
1:1:2862:A:O2'	1:1:2905:A:N3	2.30	0.63
9:n:50:ARG:NH2	16:u:107:ASP:OD2	2.30	0.63
46:A:852:G:OP2	60:O:3:ARG:NH2	2.24	0.63
46:A:915:A:N3	48:C:111:ARG:NH2	2.45	0.63
50:E:59:VAL:HA	50:E:66:ARG:HH21	1.64	0.63
1:1:662:U:H2'	1:1:663:A:H8	1.64	0.63
1:1:3319:U:H3	55:J:107:THR:CG2	2.11	0.63
23:2:49:GLN:HA	23:2:52:MET:HE3	1.79	0.63
46:A:639:G:H21	54:I:174:GLY:HA3	1.63	0.63
75:d:12:VAL:HG22	75:d:52:ASP:H	1.64	0.63
46:A:588:C:OP1	77:f:43:ARG:NH2	2.24	0.63
66:U:18:TYR:HD1	66:U:135:ILE:HG13	1.62	0.63
30:AB:36:GLY:HA3	30:AB:40:HIS:CE1	2.34	0.62
78:g:175:ALA:N	78:g:182:TYR:O	2.32	0.62
79:h:116:ILE:HG22	79:h:123:ILE:HG12	1.80	0.62
1:1:2079:C:HO2'	1:1:2080:U:H6	1.47	0.62
17:v:38:ARG:NH1	17:v:39:ALA:O	2.33	0.62
46:A:721:C:H3'	51:F:197:HIS:HD2	1.64	0.62
46:A:1181:A:OP2	46:A:1450:G:N2	2.29	0.62
1:1:359:U:HO2'	39:AK:16:HIS:HD1	1.47	0.62
1:1:2669:A:H2'	1:1:2670:G:C8	2.35	0.62
41:AM:24:PRO:HG2	41:AM:27:ILE:HD12	1.79	0.62
46:A:1460:G:H2'	46:A:1461:A:H8	1.64	0.62
1:1:62:A:N3	1:1:77:U:O2'	2.27	0.62
1:1:539:G:H2'	1:1:540:C:C6	2.34	0.62
1:1:2163:G:O2'	1:1:2292:U:OP2	2.18	0.62
1:1:2535:A:OP1	5:j:69:TYR:OH	2.17	0.62
12:q:27:VAL:HG12	12:q:82:VAL:HG21	1.82	0.62
13:r:193:ASP:OD2	13:r:198:LYS:HE3	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:AD:46:ILE:HG23	32:AD:91:THR:HG22	1.82	0.62
40:AL:61:LYS:HA	40:AL:64:LYS:HG2	1.80	0.62
70:Y:63:GLN:OE1	70:Y:64:PRO:HA	2.00	0.62
70:Y:67:ALA:CB	70:Y:69:ARG:HH12	2.13	0.62
1:1:628:A:H2'	1:1:629:A:H8	1.63	0.62
45:AQ:84:ARG:HH11	45:AQ:85:ARG:HG3	1.64	0.62
63:R:51:LEU:HD12	63:R:52:THR:HG23	1.80	0.62
66:U:77:ASN:OD1	66:U:101:ASN:ND2	2.32	0.62
1:1:827:G:O2'	1:1:1860:A:N3	2.28	0.62
1:1:3309:A:H2	1:1:3326:G:H21	1.48	0.62
2:3:110:G:OP2	8:m:282:ARG:NH2	2.32	0.62
12:q:19:ASP:OD1	12:q:26:LYS:HB3	1.99	0.62
49:D:134:ILE:HD13	49:D:186:ALA:HB1	1.81	0.62
66:U:49:GLU:OE1	66:U:49:GLU:N	2.29	0.62
8:m:119:TYR:OH	8:m:139:PRO:O	2.16	0.62
15:t:62:THR:O	15:t:64:LYS:N	2.33	0.62
46:A:1543:A:OP2	62:Q:44:ARG:NH1	2.32	0.62
46:A:1637:U:H2'	46:A:1638:A:C8	2.34	0.62
48:C:144:LYS:HA	48:C:208:GLN:OE1	2.00	0.62
1:1:654:A:H2'	1:1:655:A:C8	2.35	0.62
1:1:2334:A:H61	1:1:2955:C:H5	1.46	0.62
24:5:18:ASP:HB2	24:5:63:LYS:HE3	1.81	0.62
46:A:1327:C:C5'	79:h:103:ARG:HH12	2.12	0.62
1:1:2854:U:H5''	6:k:10:ARG:NH1	2.15	0.62
14:s:23:VAL:HG21	14:s:29:ARG:HG3	1.81	0.62
49:D:147:HIS:ND1	49:D:190:ASP:OD2	2.31	0.62
52:G:125:THR:HG23	52:G:127:GLN:OE1	2.00	0.62
69:X:88:ARG:O	69:X:92:ASN:ND2	2.30	0.62
1:1:1560:U:O4	1:1:1571:G:O6	2.18	0.61
14:s:108:GLU:OE1	14:s:122:ILE:HG21	2.00	0.61
27:8:135:ILE:HA	27:8:138:ARG:HG2	1.81	0.61
46:A:261:C:O2'	46:A:262:G:N2	2.29	0.61
46:A:1335:U:H2'	46:A:1336:G:C8	2.35	0.61
46:A:1555:C:OP1	65:T:36:ARG:NH1	2.33	0.61
60:O:102:LEU:HD12	60:O:115:LEU:HD13	1.82	0.61
63:R:45:PHE:HA	63:R:48:TYR:HB2	1.82	0.61
70:Y:90:ASP:O	70:Y:136:TRP:NE1	2.33	0.61
1:1:3209:A:OP1	6:k:97:ARG:NH2	2.33	0.61
48:C:144:LYS:HE3	48:C:206:PRO:HB3	1.81	0.61
1:1:1319:G:H4'	22:O:2:SER:HA	1.81	0.61
1:1:2233:A:N1	46:A:1631:C:O2'	2.25	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:589:A:H2'	46:A:590:A:C8	2.34	0.61
46:A:1218:G:H1	46:A:1237:C:H5	1.48	0.61
1:1:2522:U:H2'	1:1:2523:C:C6	2.36	0.61
46:A:148:C:H4'	53:H:132:ARG:HH12	1.65	0.61
46:A:839:U:O4	46:A:840:A:N6	2.34	0.61
51:F:15:PRO:HG3	51:F:39:ARG:HD3	1.82	0.61
52:G:43:PHE:HB2	52:G:46:TRP:HZ3	1.66	0.61
24:5:92:ILE:HD12	24:5:96:ILE:HD12	1.83	0.61
46:A:151:G:H2'	46:A:152:G:C8	2.36	0.61
1:1:910:A:N1	5:j:204:MET:HE2	2.15	0.61
5:j:249:THR:OG1	46:A:997:U:OP1	2.17	0.61
46:A:403:C:O2'	53:H:92:ARG:O	2.17	0.61
47:B:182:LEU:HD22	47:B:187:ILE:HD11	1.81	0.61
1:1:3287:A:H2'	1:1:3288:A:C8	2.35	0.61
51:F:11:ARG:HH12	51:F:24:SER:HG	1.49	0.61
65:T:117:LYS:HB3	65:T:120:ARG:HH21	1.63	0.61
21:z:30:THR:O	21:z:34:ASN:ND2	2.34	0.61
48:C:92:GLN:HG3	48:C:97:LEU:HD13	1.82	0.61
46:A:1668:A:H1'	53:H:66:GLY:HA2	1.83	0.61
79:h:195:TYR:O	79:h:212:GLY:HA3	2.00	0.61
46:A:1024:A:O2'	46:A:1025:G:O5'	2.18	0.60
1:1:307:A:H2'	1:1:308:A:C8	2.36	0.60
46:A:1026:G:H2'	46:A:1027:G:C8	2.36	0.60
59:N:59:LEU:HD22	59:N:133:ARG:NH1	2.16	0.60
61:P:119:ASP:O	61:P:120:SER:HB3	2.01	0.60
62:Q:111:MET:HE2	65:T:119:ILE:HD11	1.82	0.60
1:1:976:A:H2'	1:1:977:U:H5'	1.83	0.60
1:1:1856:G:O3'	21:z:60:ARG:NH1	2.34	0.60
1:1:3256:G:H2'	1:1:3257:A:H8	1.65	0.60
1:1:653:C:H2'	1:1:654:A:C8	2.36	0.60
1:1:1795:A:H2'	1:1:1796:A:C8	2.36	0.60
28:9:3:LYS:HD3	28:9:8:VAL:HG23	1.83	0.60
48:C:172:MET:O	48:C:176:VAL:HG22	2.02	0.60
49:D:61:TYR:HD2	49:D:128:LYS:HZ1	1.49	0.60
61:P:14:ILE:HG23	61:P:78:LEU:HA	1.84	0.60
70:Y:93:LEU:HD13	77:f:8:LEU:HD13	1.84	0.60
1:1:1387:C:C2	34:AF:104:ARG:HD3	2.37	0.60
3:4:8:C:H2'	3:4:9:A:H8	1.67	0.60
17:v:96:LYS:NZ	17:v:104:GLU:OE2	2.32	0.60
46:A:694:C:H1'	54:I:96:PRO:HB2	1.83	0.60
46:A:888:U:H5''	61:P:130:ARG:HH22	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:144:ILE:HG12	47:B:158:VAL:CG1	2.31	0.60
52:G:58:LEU:HD21	52:G:167:ARG:HH11	1.66	0.60
66:U:62:ALA:HB2	66:U:108:LEU:HD11	1.83	0.60
79:h:16:HIS:HE1	79:h:37:SER:OG	1.85	0.60
79:h:246:ARG:NH2	79:h:296:GLN:OE1	2.35	0.60
46:A:108:A:H2'	46:A:109:G:C8	2.37	0.60
46:A:518:A:H2'	46:A:519:A:C8	2.36	0.60
50:E:60:LEU:H	50:E:67:ILE:HD11	1.66	0.60
55:J:100:ALA:HB3	55:J:175:ILE:HD13	1.83	0.60
55:J:113:TYR:OH	55:J:156:ALA:O	2.19	0.60
62:Q:13:LYS:NZ	62:Q:14:GLN:O	2.27	0.60
63:R:27:LEU:HD11	63:R:29:LYS:HE3	1.82	0.60
1:1:1713:U:H2'	1:1:1714:G:C8	2.37	0.60
1:1:2196:G:H2'	1:1:2197:A:H8	1.66	0.60
12:q:106:LYS:NZ	12:q:125:GLU:OE2	2.34	0.60
28:9:40:ARG:HH12	28:9:46:LYS:HD2	1.66	0.60
79:h:245:ASN:HD21	79:h:295:GLY:HA3	1.67	0.60
19:x:116:HIS:HB3	19:x:149:THR:HB	1.84	0.60
46:A:1460:G:O6	72:a:97:LYS:NZ	2.35	0.60
51:F:92:LEU:HD23	71:Z:17:LEU:HD11	1.83	0.60
56:K:139:GLN:NE2	56:K:140:ILE:O	2.35	0.60
1:1:1043:A:N3	1:1:2605:U:O2'	2.35	0.60
49:D:40:VAL:HG12	49:D:66:LEU:HD23	1.83	0.60
1:1:2260:U:OP1	1:1:2945:G:O2'	2.19	0.60
11:p:9:ALA:H	11:p:10:PRO:CD	2.15	0.60
46:A:215:A:H62	46:A:830:G:H1'	1.67	0.60
46:A:1145:A:H2'	46:A:1146:C:C6	2.37	0.60
46:A:1158:C:OP1	65:T:141:THR:OG1	2.20	0.60
1:1:795:G:O2'	15:t:18:TRP:NE1	2.26	0.59
50:E:17:VAL:HG11	76:e:22:ARG:HH11	1.67	0.59
57:L:17:GLN:N	57:L:88:PRO:HB3	2.16	0.59
61:P:46:ASP:HA	61:P:49:GLU:HG3	1.83	0.59
69:X:111:MET:HG3	69:X:115:GLU:HG2	1.84	0.59
79:h:102:GLN:NE2	79:h:103:ARG:O	2.35	0.59
1:1:512:A:H5''	7:l:345:VAL:HG12	1.84	0.59
1:1:3293:G:OP1	6:k:385:LYS:NZ	2.34	0.59
5:j:36:GLU:OE1	5:j:163:ARG:NH1	2.35	0.59
15:t:42:LYS:HD3	15:t:51:ILE:HD11	1.84	0.59
35:AG:42:LYS:HA	35:AG:45:LEU:HD13	1.84	0.59
46:A:1282:G:N2	46:A:1285:A:OP2	2.28	0.59
46:A:1400:U:H5''	64:S:3:ARG:NE	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Q:57:ILE:HG23	62:Q:88:GLU:OE1	2.02	0.59
78:g:125:LYS:HD2	78:g:125:LYS:O	2.02	0.59
1:1:726:G:H5''	20:y:43:PRO:HB2	1.84	0.59
63:R:98:GLU:CD	79:h:58:PRO:HB2	2.27	0.59
71:Z:10:ARG:NH1	71:Z:26:ASP:OD2	2.35	0.59
79:h:236:GLU:OE2	79:h:238:HIS:NE2	2.35	0.59
1:1:2500:G:O6	5:j:72:ARG:NH2	2.32	0.59
79:h:195:TYR:CE1	79:h:213:LYS:HD3	2.38	0.59
1:1:3260:A:H2'	1:1:3261:A:C8	2.38	0.59
2:3:112:G:H2'	2:3:113:C:C6	2.38	0.59
9:n:39:LEU:HD13	9:n:83:VAL:HG11	1.84	0.59
13:r:4:ARG:NH1	13:r:99:ILE:HG13	2.17	0.59
71:Z:27:VAL:HG11	71:Z:35:VAL:HG11	1.85	0.59
1:1:1755:U:O4	1:1:1762:G:O6	2.21	0.59
13:r:43:VAL:HG11	13:r:197:VAL:HG13	1.84	0.59
47:B:84:ARG:HH22	47:B:201:LEU:HA	1.68	0.59
48:C:20:VAL:HG12	48:C:21:VAL:HG23	1.84	0.59
50:E:54:SER:OG	50:E:95:ARG:NH1	2.35	0.59
55:J:70:GLU:HG3	55:J:112:TRP:CH2	2.38	0.59
57:L:87:LEU:HB3	57:L:91:ARG:HB2	1.84	0.59
60:O:99:ARG:HH11	60:O:99:ARG:HG3	1.67	0.59
68:W:19:ALA:O	69:X:23:ARG:NH2	2.36	0.59
73:b:45:VAL:HG23	73:b:50:VAL:HG12	1.85	0.59
1:1:1124:U:OP1	13:r:4:ARG:NH1	2.34	0.59
1:1:1810:A:H4'	1:1:1811:U:O4'	2.02	0.59
46:A:1399:U:OP2	64:S:3:ARG:NH2	2.36	0.59
46:A:1776:G:OP2	61:P:127:ARG:NH2	2.32	0.59
1:1:627:U:H2'	1:1:628:A:C8	2.38	0.59
27:8:137:ASN:OD1	27:8:138:ARG:N	2.36	0.59
46:A:721:C:H3'	51:F:197:HIS:CD2	2.38	0.59
46:A:1445:C:OP2	65:T:138:THR:OG1	2.21	0.59
46:A:1469:A:N3	46:A:1594:G:O2'	2.32	0.59
52:G:200:ASN:HB3	52:G:208:SER:OG	2.03	0.59
75:d:19:THR:HG23	75:d:25:VAL:HG23	1.85	0.59
79:h:91:ARG:NH2	79:h:100:THR:OG1	2.35	0.59
1:1:92:C:OP2	1:1:2736:C:O2'	2.18	0.59
12:q:140:GLN:NE2	12:q:141:LYS:O	2.36	0.59
28:9:11:SER:OG	28:9:14:LYS:HB2	2.02	0.59
46:A:1220:C:H3'	46:A:1221:A:H8	1.68	0.59
46:A:1351:U:O3'	66:U:7:ARG:NH1	2.35	0.59
51:F:147:ILE:HD12	51:F:169:ILE:HD11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:5:22:PRO:HB2	24:5:28:PHE:HB2	1.84	0.59
46:A:502:U:OP1	77:f:37:ARG:NH2	2.32	0.59
46:A:1659:G:H2'	46:A:1660:G:H8	1.68	0.59
47:B:168:HIS:HA	47:B:203:PHE:CE1	2.37	0.59
49:D:94:LYS:HZ1	49:D:203:GLU:HG2	1.67	0.59
57:L:87:LEU:HD13	57:L:91:ARG:HB3	1.85	0.59
65:T:91:ASP:OD2	65:T:92:GLN:N	2.36	0.59
1:1:1486:A:O2'	39:AK:12:HIS:O	2.21	0.58
1:1:3318:G:H5''	1:1:3319:U:H4'	1.84	0.58
2:3:52:G:N2	14:s:9:MET:HE3	2.17	0.58
7:l:296:VAL:O	7:l:300:VAL:HG13	2.03	0.58
8:m:83:LEU:HD13	8:m:88:ILE:HD12	1.84	0.58
40:AL:40:GLN:HE22	40:AL:42:LYS:HG3	1.68	0.58
53:H:154:ARG:HH11	53:H:178:LEU:HD13	1.67	0.58
56:K:68:LYS:O	56:K:72:GLU:HG2	2.03	0.58
1:1:1735:U:H1'	36:AH:41:ARG:NH1	2.16	0.58
1:1:1795:A:H2'	1:1:1796:A:H8	1.67	0.58
15:t:163:VAL:HG12	30:AB:144:VAL:HG22	1.84	0.58
46:A:184:C:H2'	46:A:185:G:O4'	2.04	0.58
46:A:739:A:H5''	46:A:740:A:H5'	1.84	0.58
46:A:1245:U:H2'	46:A:1246:G:C8	2.38	0.58
48:C:101:HIS:HA	48:C:217:LEU:HD12	1.84	0.58
48:C:135:LEU:HA	48:C:216:LYS:O	2.02	0.58
49:D:33:VAL:HG12	49:D:60:GLU:OE2	2.03	0.58
54:I:58:VAL:HG21	54:I:66:TYR:CE2	2.39	0.58
66:U:9:VAL:HB	66:U:140:LEU:HD21	1.85	0.58
79:h:37:SER:O	79:h:69:VAL:HG22	2.02	0.58
1:1:892:A:H5'	5:j:183:GLY:HA2	1.84	0.58
1:1:1617:A:H2'	1:1:1618:U:C6	2.38	0.58
1:1:2869:A:H2'	1:1:2871:C:H5''	1.83	0.58
10:o:87:ILE:HD11	10:o:226:THR:HG22	1.85	0.58
44:AP:6:LYS:NZ	44:AP:93:LEU:O	2.35	0.58
52:G:118:LEU:HD12	52:G:129:PRO:HB2	1.84	0.58
61:P:66:CYS:HB2	61:P:71:ILE:CG2	2.33	0.58
66:U:108:LEU:HD21	66:U:114:LEU:HD13	1.85	0.58
1:1:3256:G:H2'	1:1:3257:A:C8	2.38	0.58
11:p:141:VAL:HG22	11:p:167:LEU:HD21	1.86	0.58
79:h:217:ILE:HD11	79:h:237:VAL:HG21	1.83	0.58
10:o:79:PRO:HG2	10:o:136:TYR:CE2	2.38	0.58
46:A:1168:A:H2'	46:A:1169:A:C8	2.37	0.58
46:A:1221:A:H1'	78:g:180:ARG:CZ	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:D:53:LEU:HD22	68:W:12:TYR:HD1	1.69	0.58
50:E:41:ARG:HG3	67:V:109:PRO:HB3	1.86	0.58
57:L:37:THR:HG22	57:L:38:ARG:H	1.66	0.58
59:N:33:ARG:HH11	59:N:37:VAL:HG21	1.69	0.58
63:R:128:PHE:O	63:R:136:ARG:NH1	2.35	0.58
79:h:26:THR:HG22	79:h:28:ALA:H	1.68	0.58
49:D:90:ARG:NH1	49:D:92:ARG:HD3	2.17	0.58
65:T:115:ARG:HG2	65:T:118:LYS:NZ	2.19	0.58
3:4:52:A:H62	41:AM:27:ILE:HD13	1.69	0.58
12:q:95:ALA:HB2	42:AN:2:ILE:HD11	1.86	0.58
22:0:60:SER:OG	22:0:62:ASN:ND2	2.34	0.58
46:A:66:U:O2	53:H:160:ARG:NE	2.21	0.58
46:A:924:A:H2'	46:A:925:A:C8	2.39	0.58
46:A:1131:G:H2'	46:A:1132:A:C8	2.39	0.58
46:A:1352:G:P	66:U:7:ARG:HH12	2.26	0.58
46:A:1491:G:H21	46:A:1550:C:H1'	1.68	0.58
52:G:142:ALA:O	52:G:162:VAL:HG21	2.03	0.58
79:h:248:TRP:NE1	79:h:268:LEU:HD22	2.19	0.58
1:1:1663:A:H2'	1:1:1664:G:C8	2.38	0.58
12:q:34:LEU:HD23	12:q:82:VAL:HG12	1.86	0.58
46:A:1600:U:OP1	52:G:169:ASN:HB2	2.03	0.58
49:D:40:VAL:HG21	49:D:63:ILE:HG23	1.86	0.58
79:h:50:GLY:H	79:h:55:TYR:HA	1.69	0.58
1:1:412:G:OP1	19:x:62:ARG:NH1	2.32	0.58
12:q:147:SER:HB2	12:q:187:ILE:HD11	1.85	0.58
46:A:1238:U:H5''	78:g:172:ILE:HG13	1.86	0.58
46:A:1482:C:O2'	46:A:1506:U:O2	2.15	0.58
46:A:1578:C:H2'	46:A:1579:A:C8	2.39	0.58
50:E:54:SER:O	50:E:95:ARG:NH1	2.34	0.58
53:H:138:ALA:HA	53:H:175:ILE:HD11	1.86	0.58
61:P:14:ILE:HD11	61:P:93:GLY:HA2	1.86	0.58
1:1:119:G:N2	11:p:127:SER:OG	2.36	0.58
1:1:2655:U:H2'	1:1:2656:C:H6	1.67	0.58
2:3:3:U:H2'	2:3:4:U:H6	1.68	0.58
46:A:151:G:H2'	46:A:152:G:H8	1.69	0.58
46:A:1511:A:N3	46:A:1577:G:O2'	2.33	0.58
49:D:234:PRO:HA	49:D:237:VAL:HG12	1.86	0.58
54:I:72:ARG:NE	54:I:76:GLU:OE2	2.33	0.58
59:N:73:LYS:HG3	78:g:150:VAL:HG11	1.86	0.58
74:c:33:MET:HE1	74:c:48:SER:HA	1.86	0.58
1:1:3207:G:H8	6:k:154:TYR:CE1	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:w:73:HIS:O	18:w:75:ARG:NH1	2.37	0.57
46:A:811:U:O2	46:A:831:G:O6	2.22	0.57
46:A:1160:U:H2'	46:A:1161:G:H8	1.67	0.57
46:A:1659:G:H2'	46:A:1660:G:C8	2.39	0.57
48:C:125:VAL:HG13	48:C:169:ILE:HD12	1.85	0.57
54:I:52:LYS:HE3	54:I:84:ARG:HB3	1.86	0.57
1:1:429:U:H2'	1:1:430:G:H8	1.69	0.57
1:1:730:A:H4'	1:1:730:A:OP1	2.03	0.57
1:1:1229:G:H3'	1:1:1230:G:C8	2.39	0.57
1:1:1746:A:OP1	40:AL:44:LYS:NZ	2.28	0.57
1:1:2138:G:H2'	1:1:2139:G:H8	1.70	0.57
17:v:126:THR:HG23	17:v:127:TYR:CD2	2.39	0.57
28:9:80:ILE:HG23	28:9:101:PRO:HG3	1.86	0.57
46:A:29:U:H2'	46:A:30:G:H8	1.69	0.57
46:A:1523:G:O2'	46:A:1524:C:OP1	2.21	0.57
50:E:77:ARG:CZ	57:L:63:TYR:HE2	2.17	0.57
56:K:45:ILE:HG13	56:K:105:LEU:HD21	1.85	0.57
79:h:242:PHE:CD1	79:h:249:LEU:HD13	2.39	0.57
1:1:76:A:N7	15:t:73:ARG:NH2	2.52	0.57
1:1:2669:A:H2'	1:1:2670:G:H8	1.68	0.57
8:m:19:PRO:HG2	8:m:24:GLN:HB3	1.86	0.57
27:8:73:MET:SD	27:8:142:ILE:HD12	2.44	0.57
36:AH:98:GLN:HA	36:AH:101:VAL:HG22	1.86	0.57
40:AL:58:ASP:OD2	40:AL:61:LYS:HD2	2.03	0.57
46:A:1201:C:O2'	46:A:1430:A:N1	2.27	0.57
52:G:156:ARG:O	52:G:157:ARG:NE	2.36	0.57
55:J:116:HIS:CE1	55:J:152:ARG:HD3	2.39	0.57
74:c:36:LYS:HD2	74:c:41:LEU:HA	1.86	0.57
1:1:619:A:H2'	1:1:620:A:C8	2.39	0.57
1:1:783:G:H2'	1:1:784:C:C6	2.40	0.57
16:u:57:LEU:HG	22:0:172:TYR:OH	2.05	0.57
46:A:768:C:H2'	46:A:769:U:O4'	2.04	0.57
46:A:795:A:C5	54:I:106:GLN:NE2	2.73	0.57
46:A:1145:A:H2'	46:A:1146:C:H6	1.69	0.57
46:A:1466:G:H5''	66:U:63:ARG:NH2	2.19	0.57
48:C:144:LYS:NZ	48:C:146:GLN:OE1	2.36	0.57
50:E:99:ALA:HB1	50:E:187:VAL:HG13	1.87	0.57
54:I:81:PHE:HB2	54:I:84:ARG:NE	2.14	0.57
64:S:44:LYS:HG2	64:S:47:ARG:HH21	1.69	0.57
3:4:29:U:H5''	15:t:27:ASP:HB3	1.85	0.57
6:k:210:GLU:HG2	6:k:213:GLU:HG3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:q:90:MET:HE2	12:q:179:ILE:HG22	1.86	0.57
45:AQ:85:ARG:O	45:AQ:86:LEU:C	2.48	0.57
46:A:165:U:H5''	53:H:135:PRO:HA	1.86	0.57
79:h:273:PRO:HB2	79:h:275:PHE:HE2	1.70	0.57
1:1:896:G:H1'	1:1:1585:A:N6	2.19	0.57
14:s:109:HIS:CD2	14:s:122:ILE:HA	2.40	0.57
49:D:30:TRP:CD1	49:D:62:GLN:NE2	2.73	0.57
54:I:67:ARG:HD2	54:I:127:PHE:CD1	2.40	0.57
61:P:63:ALA:HA	61:P:66:CYS:SG	2.45	0.57
78:g:161:ARG:HH12	78:g:164:PRO:HG3	1.70	0.57
79:h:112:LEU:HD22	79:h:128:ARG:HE	1.69	0.57
1:1:729:C:H3'	1:1:730:A:H5''	1.87	0.57
1:1:2347:G:H2'	1:1:2348:G:C8	2.40	0.57
1:1:3166:A:H2'	1:1:3167:G:H8	1.70	0.57
18:w:11:ASP:HB2	18:w:118:ARG:HB3	1.86	0.57
46:A:78:A:C8	53:H:154:ARG:HD3	2.40	0.57
46:A:302:U:H2'	46:A:303:C:C6	2.40	0.57
46:A:1445:C:H5'	62:Q:126:VAL:HG11	1.86	0.57
46:A:1669:U:O4	46:A:1707:G:N2	2.37	0.57
46:A:1739:U:H2'	46:A:1740:A:H8	1.69	0.57
47:B:183:ARG:HD3	47:B:191:ARG:HG2	1.86	0.57
50:E:73:LEU:HD11	57:L:67:THR:HG22	1.87	0.57
72:a:71:ILE:HD12	72:a:75:LEU:HD23	1.87	0.57
1:1:1493:C:H2'	1:1:1494:A:H8	1.70	0.57
1:1:2239:G:O2'	1:1:2241:C:N4	2.38	0.57
1:1:3170:G:OP2	1:1:3171:C:N4	2.34	0.57
3:4:8:C:H2'	3:4:9:A:C8	2.39	0.57
15:t:188:ARG:C	15:t:192:LYS:HZ2	2.12	0.57
22:0:96:ASP:OD1	22:0:97:VAL:N	2.35	0.57
22:0:155:ARG:HD3	22:0:172:TYR:CD1	2.40	0.57
44:AP:8:ARG:HG2	44:AP:10:THR:HG23	1.87	0.57
46:A:317:U:H4'	46:A:321:A:C8	2.40	0.57
47:B:84:ARG:NE	47:B:203:PHE:O	2.33	0.57
57:L:80:LEU:HB3	57:L:82:ILE:HG23	1.87	0.57
64:S:29:GLU:HA	64:S:32:LYS:HD3	1.86	0.57
66:U:134:ARG:HH11	66:U:134:ARG:HG3	1.69	0.57
69:X:31:SER:O	69:X:34:ILE:HG22	2.04	0.57
79:h:107:HIS:CD2	79:h:133:LYS:HD3	2.39	0.57
1:1:897:G:OP1	39:AK:13:ASN:ND2	2.23	0.57
14:s:28:ASP:OD1	14:s:29:ARG:N	2.38	0.57
32:AD:16:LEU:HA	32:AD:19:THR:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:V:47:TYR:HE2	67:V:101:ARG:HH12	1.53	0.57
69:X:31:SER:H	69:X:34:ILE:HG22	1.70	0.57
78:g:144:VAL:HA	78:g:147:TYR:HD2	1.69	0.57
79:h:291:TRP:CD1	79:h:295:GLY:HA2	2.40	0.57
1:1:2503:G:OP2	5:j:37:ARG:NH2	2.38	0.57
48:C:91:VAL:HG12	48:C:96:LEU:HD13	1.87	0.57
49:D:36:LEU:HD22	49:D:63:ILE:HD13	1.87	0.57
52:G:171:ALA:O	52:G:175:LEU:HD23	2.05	0.57
53:H:147:LEU:HB2	53:H:151:ASP:HB3	1.86	0.57
54:I:43:LYS:HE2	54:I:45:ILE:HD11	1.85	0.57
1:1:67:C:OP2	1:1:301:G:N2	2.38	0.56
18:w:73:HIS:HB2	18:w:75:ARG:HH12	1.71	0.56
26:7:37:ALA:O	26:7:41:GLN:HG2	2.05	0.56
46:A:103:A:H4'	46:A:105:A:C8	2.40	0.56
46:A:415:A:H5'	46:A:416:G:C4	2.40	0.56
46:A:1241:A:H5''	57:L:5:LYS:HE3	1.85	0.56
46:A:1715:U:H2'	46:A:1716:C:C6	2.40	0.56
49:D:61:TYR:HB2	49:D:128:LYS:HE2	1.86	0.56
55:J:144:LYS:HE3	55:J:145:VAL:HG23	1.87	0.56
56:K:64:GLU:O	56:K:65:LYS:HG2	2.05	0.56
1:1:588:G:OP1	34:AF:63:LYS:NZ	2.36	0.56
1:1:1561:U:H2'	1:1:1562:G:C8	2.41	0.56
13:r:50:ILE:HD13	13:r:149:ILE:HG13	1.85	0.56
19:x:47:TYR:HD1	19:x:56:ARG:HD2	1.69	0.56
30:AB:19:LYS:HB3	30:AB:25:HIS:HB2	1.86	0.56
43:AO:1:MET:HB2	46:A:1629:G:C5'	2.35	0.56
46:A:16:G:H2'	46:A:17:C:C6	2.40	0.56
46:A:1064:U:H2'	46:A:1065:U:C6	2.40	0.56
46:A:1175:C:O2'	46:A:1176:U:OP2	2.22	0.56
46:A:1399:U:O2'	46:A:1400:U:OP1	2.23	0.56
53:H:18:ILE:HG23	53:H:23:LYS:HD2	1.87	0.56
79:h:243:SER:OG	79:h:246:ARG:O	2.23	0.56
1:1:358:G:N2	1:1:361:A:OP2	2.38	0.56
1:1:925:A:O2'	39:AK:49:TRP:O	2.22	0.56
1:1:2634:G:H2'	1:1:2635:A:C8	2.40	0.56
1:1:2740:U:H2'	1:1:2741:A:H8	1.69	0.56
29:AA:23:VAL:HG12	29:AA:45:GLY:HA3	1.87	0.56
39:AK:24:ARG:HG2	39:AK:24:ARG:HH11	1.70	0.56
43:AO:11:ARG:NH2	46:A:1762:U:OP1	2.38	0.56
46:A:778:U:O2'	46:A:779:U:O2	2.23	0.56
46:A:787:A:H62	54:I:101:LYS:NZ	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:903:U:H2'	46:A:904:A:C8	2.40	0.56
46:A:1670:U:O2	46:A:1705:G:N2	2.29	0.56
46:A:1699:G:N1	46:A:1700:G:N3	2.53	0.56
46:A:1716:C:O2'	55:J:2:GLY:N	2.38	0.56
48:C:90:GLU:OE2	48:C:92:GLN:HG2	2.05	0.56
65:T:17:LEU:HD21	65:T:66:LEU:HD11	1.86	0.56
78:g:178:LYS:O	78:g:180:ARG:HG2	2.05	0.56
79:h:248:TRP:NE1	79:h:261:LYS:HD2	2.20	0.56
11:p:29:GLU:OE2	29:AA:128:LYS:HE3	2.05	0.56
29:AA:64:LYS:HA	29:AA:67:LYS:HE2	1.87	0.56
40:AL:40:GLN:NE2	40:AL:55:VAL:HG13	2.18	0.56
46:A:1327:C:H5'	79:h:103:ARG:HH22	1.71	0.56
1:1:1187:U:H3'	42:AN:37:ARG:HH22	1.70	0.56
1:1:2523:C:H2'	1:1:2524:C:C6	2.40	0.56
3:4:75:G:OP2	28:9:74:TYR:OH	2.23	0.56
46:A:17:C:H2'	46:A:18:C:C6	2.40	0.56
48:C:30:PHE:O	48:C:45:LYS:HD3	2.05	0.56
49:D:143:LEU:O	49:D:169:ARG:NH2	2.38	0.56
50:E:214:ASP:CG	50:E:215:GLU:H	2.13	0.56
51:F:37:LYS:HB2	51:F:40:GLU:HG2	1.87	0.56
51:F:254:ASP:OD2	51:F:255:ARG:N	2.38	0.56
65:T:123:ARG:HG3	65:T:133:VAL:CG2	2.36	0.56
1:1:654:A:H2'	1:1:655:A:H8	1.71	0.56
1:1:1080:A:H2'	1:1:1081:A:C8	2.40	0.56
1:1:1269:A:H3'	1:1:1270:A:C8	2.37	0.56
1:1:2227:G:H2'	1:1:2228:G:C8	2.40	0.56
25:6:68:GLU:O	25:6:72:LYS:NZ	2.38	0.56
46:A:1243:U:H4'	57:L:2:LEU:HG	1.88	0.56
46:A:1276:G:H22	46:A:1309:G:H22	1.53	0.56
46:A:1465:A:O2'	66:U:12:GLN:OE1	2.16	0.56
60:O:119:GLU:O	60:O:123:HIS:ND1	2.30	0.56
1:1:1302:G:O6	1:1:2344:C:O2'	2.20	0.56
6:k:123:TYR:CZ	6:k:124:LYS:HG3	2.40	0.56
46:A:418:A:OP1	53:H:96:SER:OG	2.23	0.56
46:A:1127:A:H5''	73:b:2:PRO:HB3	1.88	0.56
49:D:138:TYR:OH	49:D:144:GLY:O	2.20	0.56
50:E:17:VAL:HG11	76:e:22:ARG:NH1	2.21	0.56
23:2:40:VAL:HB	23:2:96:VAL:HG13	1.88	0.56
24:5:97:ARG:HE	24:5:111:TYR:HE2	1.53	0.56
30:AB:90:TYR:CD2	30:AB:100:PRO:HB3	2.41	0.56
39:AK:59:THR:HG22	39:AK:64:MET:HE2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:829:A:H2'	46:A:830:G:C8	2.41	0.56
46:A:1129:U:H2'	46:A:1130:U:C6	2.40	0.56
46:A:1602:C:O5'	52:G:81:ARG:NH1	2.39	0.56
49:D:99:ILE:HD13	49:D:128:LYS:HG2	1.86	0.56
50:E:21:GLU:CD	50:E:77:ARG:HH21	2.13	0.56
50:E:75:VAL:HG21	50:E:82:PRO:HA	1.88	0.56
51:F:158:ASP:OD1	51:F:175:PHE:N	2.36	0.56
52:G:108:LEU:CD2	63:R:43:LEU:HD11	2.36	0.56
71:Z:35:VAL:HG13	71:Z:40:LEU:HD11	1.88	0.56
79:h:298:LEU:HD23	79:h:310:TRP:HD1	1.70	0.56
1:1:2385:C:H2'	1:1:2386:U:H6	1.71	0.56
1:1:2513:A:H61	1:1:2522:U:H3	1.52	0.56
46:A:405:A:H2'	46:A:406:C:H6	1.71	0.56
46:A:847:A:O2'	46:A:948:A:N1	2.34	0.56
46:A:965:G:H4'	46:A:1763:A:H4'	1.88	0.56
46:A:1615:U:H2'	46:A:1616:G:C8	2.41	0.56
62:Q:46:SER:OG	62:Q:47:ARG:N	2.34	0.56
79:h:67:HIS:CG	79:h:68:ILE:H	2.23	0.56
1:1:2525:A:H2'	1:1:2526:C:O4'	2.06	0.56
16:u:13:VAL:HG12	22:0:150:PHE:O	2.05	0.56
46:A:578:A:O2'	46:A:580:U:OP1	2.23	0.56
46:A:634:A:H5''	69:X:31:SER:OG	2.05	0.56
46:A:872:A:C2	61:P:121:THR:HG21	2.39	0.56
53:H:159:ARG:NH1	53:H:170:THR:OG1	2.38	0.56
57:L:56:LYS:HG2	57:L:67:THR:OG1	2.07	0.56
58:M:125:VAL:CG1	58:M:137:PHE:HB3	2.36	0.56
66:U:117:SER:CB	66:U:123:ARG:HG3	2.36	0.56
1:1:252:U:H5'	1:1:253:A:C8	2.42	0.55
1:1:1199:A:H2'	1:1:1200:A:C8	2.41	0.55
45:AQ:87:ARG:O	45:AQ:89:LEU:N	2.34	0.55
46:A:162:A:H1'	53:H:13:GLN:HE21	1.70	0.55
46:A:309:U:OP2	70:Y:20:ARG:HD3	2.06	0.55
72:a:59:TYR:HE1	72:a:100:ILE:HG23	1.70	0.55
73:b:91:ASP:O	73:b:94:ILE:HG12	2.06	0.55
45:AQ:89:LEU:CD2	45:AQ:90:ALA:H	2.16	0.55
48:C:111:ARG:NH2	48:C:114:VAL:HG11	2.22	0.55
51:F:122:LYS:HG2	51:F:162:ILE:HD11	1.88	0.55
56:K:113:VAL:HG13	56:K:125:ALA:HB1	1.89	0.55
62:Q:21:ASP:OD1	62:Q:22:LEU:N	2.37	0.55
67:V:23:ILE:HG12	67:V:90:ILE:O	2.06	0.55
68:W:72:LEU:HA	68:W:75:GLN:NE2	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:730:A:H8	1:1:733:A:H62	1.52	0.55
1:1:999:A:N1	1:1:1045:C:O2'	2.39	0.55
46:A:1275:U:H2'	46:A:1276:G:H8	1.71	0.55
56:K:110:GLN:HE21	56:K:122:ILE:HG13	1.71	0.55
70:Y:67:ALA:HB3	70:Y:69:ARG:HH12	1.71	0.55
1:1:3010:U:O2	25:6:9:ASN:ND2	2.40	0.55
3:4:135:G:OP1	27:8:49:LYS:NZ	2.38	0.55
6:k:193:ASP:O	6:k:197:GLU:HG2	2.07	0.55
14:s:75:LYS:O	14:s:79:ILE:HD12	2.06	0.55
46:A:479:A:H2'	46:A:480:U:C6	2.41	0.55
46:A:915:A:OP1	73:b:32:LYS:NZ	2.32	0.55
46:A:1148:A:N3	46:A:1600:U:O2'	2.35	0.55
48:C:128:LYS:HE2	48:C:134:VAL:CG1	2.36	0.55
48:C:165:ARG:O	48:C:169:ILE:HG12	2.05	0.55
57:L:24:LYS:HG3	57:L:63:TYR:HE1	1.70	0.55
59:N:57:ALA:HB3	59:N:124:LYS:HA	1.88	0.55
59:N:64:ASP:OD1	59:N:90:LYS:NZ	2.37	0.55
60:O:46:THR:OG1	60:O:49:GLN:HG3	2.06	0.55
67:V:103:THR:O	67:V:107:ILE:HG12	2.07	0.55
79:h:19:TRP:HB2	79:h:38:ARG:HD3	1.89	0.55
1:1:1152:C:OP2	10:o:92:LYS:NZ	2.40	0.55
1:1:1801:C:H2'	1:1:1802:A:H8	1.71	0.55
1:1:2090:U:H4'	1:1:2091:A:O5'	2.06	0.55
1:1:2335:A:H2'	1:1:2336:A:H8	1.72	0.55
15:t:158:LEU:HB3	30:AB:98:ALA:HB1	1.89	0.55
24:5:83:THR:HG21	24:5:98:PHE:HD1	1.71	0.55
28:9:116:LYS:NZ	28:9:127:GLU:OE1	2.38	0.55
46:A:1635:A:H2'	46:A:1636:C:C6	2.42	0.55
49:D:202:THR:HA	49:D:205:THR:HG22	1.88	0.55
63:R:124:GLU:OE2	63:R:134:ARG:NH1	2.39	0.55
64:S:24:LEU:HD23	64:S:34:LEU:HD23	1.88	0.55
65:T:116:LEU:CD2	65:T:121:SER:HB3	2.36	0.55
66:U:42:GLY:HA2	66:U:84:LYS:HG3	1.88	0.55
67:V:21:ILE:HD11	67:V:92:LEU:HB2	1.87	0.55
79:h:13:LEU:HD12	79:h:45:TRP:CZ3	2.42	0.55
79:h:136:ASN:OD1	79:h:137:THR:N	2.40	0.55
1:1:636:C:N4	1:1:637:G:O6	2.39	0.55
1:1:842:A:H4'	60:O:123:HIS:CD2	2.42	0.55
1:1:1209:G:OP1	22:0:139:TYR:OH	2.23	0.55
1:1:2527:G:N2	1:1:2527:G:OP2	2.39	0.55
1:1:2933:G:H2'	1:1:2934:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2974:C:O2'	6:k:180:GLU:OE2	2.19	0.55
39:AK:64:MET:O	39:AK:68:LYS:HG3	2.07	0.55
52:G:143:ARG:HD3	52:G:218:GLU:OE2	2.07	0.55
52:G:166:ARG:HA	52:G:169:ASN:ND2	2.22	0.55
55:J:195:LEU:O	55:J:199:LEU:HD23	2.07	0.55
61:P:83:GLY:O	61:P:87:LYS:NZ	2.37	0.55
1:1:339:C:OP1	1:1:1376:G:O2'	2.25	0.55
22:O:12:ARG:HB3	22:O:24:LEU:HD23	1.89	0.55
49:D:121:LYS:O	49:D:125:VAL:HG13	2.07	0.55
67:V:86:HIS:HB3	67:V:88:ARG:NH1	2.22	0.55
67:V:102:ILE:O	67:V:105:ILE:HG12	2.06	0.55
27:8:131:ASP:O	27:8:134:ASP:OD1	2.25	0.55
46:A:1312:C:H5'	50:E:157:PHE:HE2	1.71	0.55
63:R:30:ILE:O	63:R:30:ILE:HG13	2.07	0.55
72:a:78:VAL:HG22	72:a:81:ARG:HH21	1.71	0.55
79:h:296:GLN:HB3	79:h:311:GLN:HE22	1.71	0.55
1:1:1493:C:H2'	1:1:1494:A:C8	2.42	0.55
1:1:1692:A:H2'	1:1:1693:A:C8	2.41	0.55
1:1:2155:G:N2	5:j:118:GLU:OE2	2.40	0.55
19:x:47:TYR:CD1	19:x:56:ARG:HD2	2.42	0.55
46:A:78:A:N7	53:H:154:ARG:HD3	2.22	0.55
46:A:167:A:OP1	53:H:137:ARG:NE	2.27	0.55
46:A:1395:G:N2	46:A:1398:G:OP2	2.38	0.55
52:G:29:ILE:HG13	63:R:56:LEU:HD21	1.88	0.55
52:G:72:HIS:ND1	52:G:107:LYS:HD3	2.22	0.55
66:U:114:LEU:HD12	66:U:124:ILE:HD12	1.89	0.55
1:1:782:A:H4'	1:1:783:G:H5'	1.88	0.55
1:1:1190:G:H2'	1:1:1191:A:C8	2.42	0.55
1:1:3040:U:OP2	21:z:62:ARG:NH2	2.41	0.55
2:3:23:A:H2'	2:3:24:A:C8	2.42	0.55
14:s:33:ALA:O	14:s:36:VAL:HG12	2.07	0.55
14:s:109:HIS:HB3	14:s:123:TYR:O	2.07	0.55
22:O:78:TRP:HZ3	22:O:127:VAL:HG12	1.72	0.55
33:AE:30:LYS:O	33:AE:34:GLU:HG2	2.07	0.55
46:A:1202:A:H4'	57:L:44:LYS:HE2	1.87	0.55
67:V:99:VAL:O	67:V:103:THR:HG23	2.07	0.55
79:h:239:ALA:HB3	79:h:289:LEU:HD13	1.88	0.55
1:1:3039:C:H3'	21:z:62:ARG:NH2	2.22	0.54
1:1:3239:A:O2'	19:x:171:ARG:NH2	2.40	0.54
10:o:229:ARG:HD3	10:o:232:PHE:HB2	1.88	0.54
20:y:76:ALA:HA	20:y:79:LYS:HG3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:C:103:LEU:HD22	48:C:188:LEU:HD13	1.88	0.54
51:F:89:VAL:HG22	51:F:100:ARG:HE	1.72	0.54
53:H:154:ARG:NE	53:H:154:ARG:HA	2.22	0.54
1:1:1104:U:H2'	1:1:1105:U:C6	2.42	0.54
13:r:149:ILE:HD11	13:r:167:ILE:HD11	1.88	0.54
29:AA:101:LEU:HB3	29:AA:107:ARG:HH21	1.70	0.54
37:AI:31:LEU:HD22	37:AI:41:LEU:HD21	1.89	0.54
46:A:1533:G:OP1	65:T:123:ARG:NH1	2.38	0.54
47:B:15:LYS:HZ2	64:S:100:LEU:HD13	1.72	0.54
50:E:105:ALA:O	50:E:109:LYS:HG3	2.07	0.54
54:I:135:ARG:HB3	69:X:51:GLU:OE2	2.07	0.54
55:J:61:GLU:O	55:J:78:ILE:HG12	2.07	0.54
56:K:128:LEU:HD23	56:K:134:ILE:HD11	1.89	0.54
66:U:18:TYR:CZ	66:U:22:LEU:HD11	2.42	0.54
68:W:15:ARG:HH11	68:W:33:GLN:NE2	2.05	0.54
24:5:96:ILE:HG21	24:5:108:LEU:HD13	1.89	0.54
46:A:1670:U:O2'	46:A:1671:G:O5'	2.24	0.54
52:G:82:PHE:CE2	75:d:49:ARG:HG3	2.43	0.54
52:G:144:GLU:HG3	52:G:221:ALA:HB1	1.87	0.54
53:H:188:ARG:NH1	53:H:191:LYS:HE2	2.23	0.54
72:a:54:VAL:HA	72:a:57:TYR:CD2	2.42	0.54
1:1:407:A:C2	3:4:17:A:H1'	2.43	0.54
1:1:2191:A:H2'	1:1:2192:A:C8	2.43	0.54
17:v:113:LEU:HB2	17:v:134:LEU:HD23	1.90	0.54
23:2:53:PRO:HB3	23:2:91:LEU:HD21	1.89	0.54
41:AM:23:LEU:HD12	41:AM:24:PRO:HD2	1.90	0.54
46:A:456:G:P	71:Z:105:ARG:HH21	2.30	0.54
46:A:876:A:H2'	46:A:877:G:H8	1.73	0.54
46:A:932:U:H2'	46:A:933:A:H8	1.70	0.54
47:B:15:LYS:HD3	64:S:100:LEU:HD11	1.89	0.54
53:H:12:THR:OG1	53:H:124:LEU:O	2.21	0.54
60:O:126:ALA:O	60:O:130:ARG:HG3	2.07	0.54
72:a:71:ILE:HB	72:a:75:LEU:HD22	1.89	0.54
1:1:1559:C:O2'	1:1:1560:U:OP1	2.25	0.54
1:1:1611:U:H2'	1:1:1612:U:C6	2.43	0.54
1:1:2694:U:O2'	23:2:88:ARG:O	2.26	0.54
21:z:98:ARG:HD2	21:z:133:LYS:O	2.06	0.54
23:2:102:ARG:O	23:2:106:LEU:HG	2.08	0.54
24:5:86:TYR:O	24:5:90:ASN:ND2	2.37	0.54
48:C:138:PHE:HD1	48:C:214:LYS:HB3	1.73	0.54
71:Z:53:ASP:OD1	71:Z:96:LEU:HD21	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:68:C:OP1	17:v:178:HIS:ND1	2.41	0.54
1:1:783:G:H2'	1:1:784:C:H6	1.72	0.54
1:1:1273:C:O2'	1:1:1274:A:H2'	2.07	0.54
1:1:1473:A:OP1	1:1:3047:G:O2'	2.25	0.54
8:m:247:ILE:O	8:m:251:PRO:HG3	2.08	0.54
14:s:60:ARG:O	14:s:63:GLU:HG2	2.07	0.54
19:x:95:LEU:HD23	19:x:148:LEU:HD21	1.90	0.54
46:A:560:G:H2'	46:A:561:U:O2	2.08	0.54
48:C:30:PHE:HB3	48:C:96:LEU:CD2	2.37	0.54
48:C:109:LYS:HE3	48:C:113:LEU:HD11	1.89	0.54
53:H:43:ASP:HB2	53:H:46:LYS:HZ2	1.73	0.54
59:N:97:LEU:HA	59:N:100:TRP:CE2	2.42	0.54
64:S:93:LEU:CD2	64:S:100:LEU:HA	2.37	0.54
79:h:132:VAL:HB	79:h:178:TRP:HZ3	1.72	0.54
1:1:689:A:N1	3:4:28:C:O2'	2.36	0.54
1:1:1264:G:O5'	1:1:1264:G:H8	1.90	0.54
1:1:1575:A:OP1	1:1:2500:G:N2	2.41	0.54
1:1:2646:A:N6	14:s:21:ILE:HG23	2.23	0.54
18:w:125:LEU:HD13	22:0:168:PRO:HG3	1.90	0.54
19:x:114:ILE:HG23	19:x:148:LEU:CD1	2.38	0.54
46:A:918:A:OP2	73:b:37:LYS:HE3	2.07	0.54
53:H:71:THR:HG22	53:H:72:ARG:N	2.18	0.54
79:h:16:HIS:CE1	79:h:37:SER:OG	2.60	0.54
26:7:17:ARG:HH11	26:7:17:ARG:HG3	1.71	0.54
34:AF:77:VAL:HG13	34:AF:82:ASP:HB2	1.90	0.54
46:A:338:U:H2'	46:A:339:A:H8	1.72	0.54
46:A:536:A:OP2	56:K:171:ARG:NH1	2.40	0.54
50:E:128:MET:HG3	50:E:155:ASP:OD1	2.08	0.54
52:G:46:TRP:NE1	52:G:129:PRO:HG2	2.22	0.54
53:H:136:LYS:O	53:H:175:ILE:HD12	2.07	0.54
58:M:77:SER:OG	58:M:85:ILE:HG22	2.07	0.54
68:W:34:ILE:HD12	68:W:36:ILE:HD11	1.90	0.54
76:e:19:ARG:NE	76:e:32:ARG:HD3	2.22	0.54
1:1:2130:A:H2'	1:1:2131:U:H6	1.73	0.54
9:n:39:LEU:HD11	9:n:53:TYR:HB2	1.90	0.54
13:r:150:GLU:OE2	13:r:154:ARG:NE	2.30	0.54
18:w:122:PRO:HA	18:w:125:LEU:HD12	1.90	0.54
23:2:92:ARG:HB3	23:2:94:GLU:OE2	2.07	0.54
24:5:19:VAL:HG12	24:5:22:PRO:HD2	1.90	0.54
33:AE:9:ARG:NH1	33:AE:43:MET:HE1	2.22	0.54
35:AG:32:ILE:O	35:AG:35:VAL:HG22	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:AM:49:LEU:HB3	41:AM:51:ILE:HG12	1.90	0.54
51:F:105:VAL:HB	51:F:244:GLY:HA2	1.90	0.54
55:J:8:ARG:HA	55:J:18:ARG:HH21	1.72	0.54
57:L:34:GLU:HG2	57:L:35:ILE:HD12	1.90	0.54
65:T:116:LEU:HD21	65:T:121:SER:HB3	1.89	0.54
1:1:3166:A:H2'	1:1:3167:G:C8	2.43	0.54
1:1:3315:C:H2'	1:1:3317:U:H5	1.72	0.54
6:k:372:THR:HG22	6:k:374:ALA:H	1.72	0.54
7:l:6:GLN:HB3	7:l:20:GLN:HB3	1.90	0.54
7:l:11:SER:OG	7:l:15:GLU:HG2	2.08	0.54
46:A:123:G:OP1	51:F:77:ARG:NH2	2.24	0.54
46:A:1327:C:H5'	79:h:103:ARG:HH12	1.73	0.54
47:B:76:CYS:SG	47:B:123:VAL:HG22	2.48	0.54
48:C:24:PHE:HA	48:C:27:LYS:HG2	1.90	0.54
48:C:66:PHE:HB3	61:P:28:LEU:CD2	2.38	0.54
66:U:25:GLN:HE22	66:U:27:LYS:CB	2.20	0.54
1:1:671:U:H2'	1:1:672:G:C8	2.44	0.53
1:1:1782:G:H2'	1:1:1783:A:C8	2.43	0.53
1:1:3284:U:O2'	1:1:3285:A:OP1	2.26	0.53
8:m:60:ILE:HB	8:m:80:ALA:HB2	1.90	0.53
46:A:821:U:H2'	46:A:822:G:C8	2.42	0.53
50:E:71:THR:HB	50:E:87:ILE:HD12	1.90	0.53
50:E:225:LYS:HG3	79:h:187:ALA:HB2	1.91	0.53
53:H:33:GLY:HA2	53:H:51:LYS:HE2	1.89	0.53
57:L:15:LEU:O	57:L:19:GLY:HA2	2.08	0.53
63:R:100:SER:HA	63:R:103:GLU:HG3	1.89	0.53
65:T:32:LEU:HD12	65:T:73:MET:HE3	1.90	0.53
68:W:64:GLU:OE2	74:c:2:VAL:HA	2.08	0.53
70:Y:63:GLN:CD	70:Y:64:PRO:HA	2.33	0.53
1:1:1230:G:C8	1:1:1231:U:H2'	2.43	0.53
1:1:3162:U:N3	1:1:3165:U:O4	2.40	0.53
7:l:3:SER:OG	7:l:4:ARG:N	2.36	0.53
31:AC:47:LEU:HA	31:AC:50:THR:HG22	1.89	0.53
35:AG:42:LYS:HA	35:AG:45:LEU:CD1	2.38	0.53
46:A:1212:A:C2	59:N:43:ARG:HD3	2.43	0.53
47:B:96:THR:HG21	47:B:116:LYS:HD3	1.90	0.53
49:D:53:LEU:O	68:W:15:ARG:NE	2.41	0.53
56:K:83:ILE:HG23	56:K:85:VAL:HG13	1.89	0.53
60:O:31:ASP:O	60:O:34:VAL:HG12	2.08	0.53
62:Q:17:PHE:CZ	62:Q:18:LYS:HE2	2.42	0.53
62:Q:25:LEU:O	62:Q:28:MET:HG2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:c:33:MET:SD	74:c:46:VAL:HG13	2.47	0.53
1:1:172:C:O2'	1:1:173:C:OP1	2.22	0.53
1:1:2699:A:OP2	1:1:2700:G:N2	2.40	0.53
20:y:133:LYS:HB2	20:y:135:GLN:OE1	2.08	0.53
35:AG:16:TYR:OH	35:AG:89:LEU:O	2.21	0.53
46:A:12:U:H2'	46:A:13:C:C6	2.43	0.53
46:A:245:A:O2'	58:M:37:ASP:O	2.24	0.53
49:D:36:LEU:HD11	49:D:51:ILE:HD12	1.90	0.53
49:D:122:ALA:O	49:D:125:VAL:HG22	2.08	0.53
49:D:147:HIS:HD1	49:D:190:ASP:CG	2.15	0.53
51:F:87:MET:HE1	51:F:123:LEU:HB2	1.90	0.53
59:N:79:CYS:SG	59:N:86:ILE:HB	2.48	0.53
64:S:6:THR:O	64:S:10:LYS:HG2	2.08	0.53
64:S:51:ALA:HA	64:S:54:THR:HG22	1.90	0.53
66:U:127:ASN:HA	66:U:130:ARG:HG2	1.89	0.53
66:U:131:ASP:O	66:U:135:ILE:HG12	2.08	0.53
69:X:36:LYS:O	69:X:39:THR:HG22	2.08	0.53
1:1:527:G:H2'	1:1:528:A:C8	2.43	0.53
2:3:84:A:H2'	2:3:85:G:C8	2.44	0.53
3:4:9:A:H2'	3:4:10:A:C8	2.43	0.53
14:s:164:LYS:HD2	14:s:171:VAL:HG22	1.91	0.53
22:0:60:SER:HG	22:0:62:ASN:ND2	2.06	0.53
48:C:32:ILE:HD11	48:C:46:THR:OG1	2.08	0.53
52:G:124:LEU:O	52:G:125:THR:HG22	2.08	0.53
62:Q:89:MET:O	62:Q:92:SER:OG	2.19	0.53
79:h:68:ILE:O	79:h:86:TRP:N	2.28	0.53
79:h:298:LEU:HD23	79:h:310:TRP:CD1	2.44	0.53
1:1:1268:C:H3'	1:1:1269:A:H4'	1.90	0.53
1:1:1662:G:H2'	1:1:1663:A:H8	1.74	0.53
12:q:140:GLN:OE1	12:q:143:GLU:HB2	2.08	0.53
32:AD:44:VAL:CG1	32:AD:69:VAL:HG12	2.39	0.53
38:AJ:36:THR:HA	38:AJ:39:VAL:HG12	1.91	0.53
46:A:932:U:H2'	46:A:933:A:C8	2.44	0.53
48:C:28:ASP:OD2	48:C:50:ARG:HG3	2.08	0.53
49:D:94:LYS:NZ	49:D:203:GLU:HG2	2.22	0.53
50:E:72:SER:HA	50:E:75:VAL:HG12	1.90	0.53
66:U:117:SER:HB3	66:U:123:ARG:HG3	1.90	0.53
70:Y:131:SER:O	70:Y:135:LEU:HD12	2.09	0.53
1:1:1735:U:C1'	36:AH:41:ARG:HH12	2.16	0.53
1:1:2084:A:H2'	1:1:2085:A:C8	2.43	0.53
1:1:2384:C:H2'	1:1:2385:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2516:U:H3'	1:1:2517:C:O4'	2.09	0.53
1:1:3261:A:H2'	1:1:3262:U:H6	1.72	0.53
2:3:6:C:O2'	8:m:72:ASP:OD2	2.19	0.53
19:x:178:SER:O	19:x:182:LEU:HG	2.09	0.53
46:A:107:C:OP1	46:A:381:G:O2'	2.21	0.53
46:A:1474:G:OP2	50:E:9:LYS:NZ	2.25	0.53
47:B:62:ARG:HG2	47:B:184:LEU:HD21	1.91	0.53
47:B:125:ASP:OD2	47:B:164:ASN:ND2	2.42	0.53
58:M:7:VAL:HG23	58:M:8:GLN:HG2	1.90	0.53
58:M:66:ILE:HG21	58:M:140:LEU:HD11	1.91	0.53
1:1:315:C:OP2	38:AJ:27:TYR:OH	2.19	0.53
1:1:617:A:H5'	1:1:619:A:H1'	1.89	0.53
1:1:1616:U:H2'	1:1:1617:A:C8	2.44	0.53
1:1:2158:A:H2'	1:1:2159:C:C6	2.43	0.53
1:1:2919:G:C2	6:k:250:ALA:HB1	2.44	0.53
11:p:9:ALA:N	11:p:10:PRO:HD2	2.21	0.53
79:h:288:SER:C	79:h:289:LEU:HD12	2.33	0.53
1:1:1239:G:H21	1:1:1240:A:H62	1.55	0.53
1:1:2197:A:P	38:AJ:67:ARG:HH21	2.31	0.53
1:1:2876:U:H2'	1:1:2877:U:C6	2.44	0.53
1:1:3019:U:O2'	1:1:3020:A:H5'	2.09	0.53
24:5:50:LEU:HD22	24:5:54:ILE:HG23	1.91	0.53
46:A:205:U:O2	55:J:184:ARG:NH1	2.41	0.53
46:A:1232:U:H5''	78:g:135:HIS:N	2.23	0.53
69:X:36:LYS:HA	69:X:39:THR:HG22	1.91	0.53
79:h:21:THR:HG22	79:h:37:SER:HA	1.91	0.53
1:1:2513:A:H3'	1:1:2514:G:C8	2.44	0.53
2:3:56:A:H4'	14:s:152:HIS:HB2	1.91	0.53
4:10:4:A:H2'	4:10:5:G:C8	2.43	0.53
19:x:27:LYS:O	19:x:31:GLU:HG2	2.08	0.53
20:y:96:PHE:CD1	20:y:97:PRO:HD2	2.43	0.53
20:y:148:GLU:O	20:y:151:ARG:HB2	2.09	0.53
38:AJ:54:ARG:HA	38:AJ:57:ILE:HG12	1.91	0.53
46:A:211:A:N6	46:A:250:U:H3	2.06	0.53
46:A:784:U:H2'	46:A:785:G:C8	2.42	0.53
47:B:51:GLY:O	47:B:55:GLU:HG3	2.09	0.53
49:D:225:TRP:CD2	69:X:68:ARG:HD2	2.43	0.53
52:G:97:LEU:CD2	52:G:113:ILE:HD11	2.35	0.53
79:h:44:LYS:NZ	79:h:95:LEU:O	2.42	0.53
79:h:202:SER:HB2	79:h:207:LEU:HB2	1.91	0.53
79:h:248:TRP:HE1	79:h:268:LEU:HD22	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:h:296:GLN:HB3	79:h:311:GLN:NE2	2.24	0.53
1:1:361:A:OP1	39:AK:24:ARG:NH1	2.41	0.53
1:1:2248:A:H2'	1:1:2249:A:C8	2.43	0.53
8:m:94:ASN:HB2	8:m:97:ALA:H	1.74	0.53
46:A:1241:A:H5'	46:A:1242:U:C5	2.43	0.53
50:E:65:ARG:HD2	57:L:91:ARG:NH1	2.24	0.53
51:F:87:MET:CE	51:F:123:LEU:HB2	2.39	0.53
53:H:41:VAL:HG13	53:H:45:PHE:HD2	1.73	0.53
56:K:133:HIS:ND1	56:K:162:SER:OG	2.28	0.53
65:T:68:ARG:O	65:T:72:ILE:HG12	2.09	0.53
66:U:127:ASN:O	66:U:130:ARG:HG2	2.08	0.53
79:h:11:GLY:O	79:h:309:VAL:HG22	2.09	0.53
1:1:46:C:OP2	1:1:47:A:O2'	2.21	0.52
1:1:975:U:H4'	1:1:976:A:O4'	2.09	0.52
1:1:1172:C:H4'	18:w:90:PRO:HD3	1.91	0.52
1:1:3196:U:H2'	1:1:3197:G:H8	1.74	0.52
2:3:3:U:H2'	2:3:4:U:C6	2.45	0.52
5:j:201:GLY:HA2	5:j:204:MET:SD	2.50	0.52
14:s:35:LYS:HE3	14:s:120:ILE:HD11	1.92	0.52
20:y:175:ALA:O	30:AB:51:GLY:HA2	2.10	0.52
46:A:883:A:N1	46:A:896:U:O2'	2.41	0.52
46:A:1160:U:H2'	46:A:1161:G:C8	2.44	0.52
55:J:57:ALA:HB2	55:J:183:GLY:HA2	1.89	0.52
65:T:116:LEU:O	65:T:119:ILE:HG22	2.10	0.52
66:U:27:LYS:HZ2	66:U:111:ILE:HB	1.74	0.52
1:1:1238:G:N2	1:1:1266:A:O2'	2.41	0.52
1:1:1632:C:O2'	29:AA:79:HIS:ND1	2.38	0.52
1:1:2206:A:H2'	1:1:2207:A:C8	2.44	0.52
1:1:3179:U:OP2	16:u:121:ARG:NH2	2.42	0.52
1:1:3245:A:HO2'	1:1:3246:C:H6	1.57	0.52
2:3:4:U:H2'	2:3:5:G:H8	1.73	0.52
11:p:114:ALA:HA	11:p:117:ILE:HG22	1.91	0.52
13:r:169:LYS:NZ	23:2:158:THR:O	2.31	0.52
16:u:40:ILE:HD13	16:u:50:ILE:HG21	1.90	0.52
19:x:29:THR:HA	19:x:32:THR:HG22	1.90	0.52
46:A:124:A:O2'	51:F:148:ARG:HD2	2.09	0.52
79:h:16:HIS:HE2	79:h:37:SER:HB2	1.75	0.52
1:1:627:U:H2'	1:1:628:A:H8	1.73	0.52
1:1:1562:G:C2	1:1:1563:A:H1'	2.44	0.52
1:1:2196:G:H2'	1:1:2197:A:C8	2.44	0.52
1:1:2520:A:H1'	1:1:2521:C:H5	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:o:51:LYS:HE2	10:o:55:GLU:OE2	2.09	0.52
41:AM:27:ILE:O	41:AM:33:ASN:ND2	2.41	0.52
46:A:4:C:H4'	49:D:176:SER:HB3	1.90	0.52
46:A:405:A:H2'	46:A:406:C:C6	2.44	0.52
46:A:511:U:H2'	46:A:512:G:C8	2.44	0.52
46:A:787:A:N3	54:I:100:ARG:NH1	2.58	0.52
46:A:961:G:N1	46:A:1008:A:O2'	2.33	0.52
46:A:1036:U:H3	46:A:1052:G:H1	1.58	0.52
46:A:1398:G:H4'	46:A:1399:U:O5'	2.09	0.52
46:A:1536:C:OP1	62:Q:42:ARG:NH2	2.33	0.52
50:E:124:LEU:HD11	50:E:153:TYR:HB3	1.90	0.52
51:F:100:ARG:HG3	51:F:102:VAL:HG23	1.90	0.52
61:P:10:GLY:N	61:P:71:ILE:HD11	2.24	0.52
64:S:97:ASN:ND2	64:S:99:GLN:HE22	2.08	0.52
69:X:18:GLU:OE2	69:X:65:LEU:HB3	2.09	0.52
1:1:2727:C:O2	23:2:49:GLN:NE2	2.43	0.52
26:7:60:LYS:HA	26:7:63:ILE:HD12	1.91	0.52
34:AF:35:LYS:HD3	34:AF:37:LYS:HD3	1.91	0.52
46:A:518:A:H2'	46:A:519:A:H8	1.73	0.52
46:A:1265:C:H2'	46:A:1266:G:H8	1.75	0.52
47:B:182:LEU:HD13	47:B:187:ILE:HD11	1.91	0.52
51:F:58:GLY:HA2	51:F:61:VAL:HG12	1.91	0.52
65:T:43:ALA:HA	65:T:46:VAL:HG22	1.91	0.52
68:W:33:GLN:OE1	68:W:52:THR:HG22	2.09	0.52
1:1:1060:A:H4'	1:1:1061:A:O5'	2.09	0.52
1:1:1079:G:H2'	1:1:1080:A:H8	1.75	0.52
1:1:2230:A:H2	1:1:2242:U:H3	1.58	0.52
3:4:65:A:H5''	37:AI:6:THR:HG21	1.91	0.52
46:A:15:U:H2'	46:A:16:G:O4'	2.10	0.52
46:A:326:A:OP2	58:M:56:LYS:NZ	2.37	0.52
47:B:200:ASP:HA	47:B:203:PHE:HD2	1.74	0.52
54:I:109:PRO:HG2	54:I:112:ARG:HD3	1.90	0.52
56:K:168:ARG:HD2	56:K:169:ALA:O	2.10	0.52
66:U:72:GLY:O	66:U:76:LEU:HD12	2.10	0.52
79:h:9:LEU:HB2	79:h:310:TRP:HZ3	1.74	0.52
79:h:67:HIS:CD2	79:h:68:ILE:H	2.26	0.52
1:1:2946:U:H2'	1:1:2947:U:C6	2.45	0.52
11:p:50:PHE:O	27:8:30:THR:OG1	2.23	0.52
14:s:134:ALA:O	14:s:152:HIS:NE2	2.39	0.52
15:t:167:THR:HB	30:AB:135:GLU:OE2	2.09	0.52
16:u:65:LEU:HD12	16:u:77:LYS:HD2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:v:123:GLN:OE1	17:v:128:LYS:NZ	2.38	0.52
21:z:167:ARG:O	21:z:171:GLU:OE1	2.27	0.52
24:5:101:VAL:HG23	24:5:102:LYS:H	1.72	0.52
35:AG:58:GLU:HG2	35:AG:63:LYS:HG3	1.91	0.52
45:AQ:84:ARG:NH2	46:A:867:U:OP1	2.42	0.52
46:A:1302:C:H2'	46:A:1303:G:O4'	2.09	0.52
47:B:200:ASP:HA	47:B:203:PHE:CD2	2.44	0.52
48:C:168:MET:O	48:C:172:MET:HE2	2.09	0.52
52:G:82:PHE:CE1	75:d:47:PRO:HB2	2.44	0.52
58:M:130:PRO:HG3	58:M:136:ARG:HE	1.73	0.52
64:S:115:PHE:HB3	64:S:117:ILE:CD1	2.38	0.52
79:h:273:PRO:HB2	79:h:275:PHE:CE2	2.45	0.52
1:1:2084:A:H2'	1:1:2085:A:H8	1.74	0.52
1:1:2322:U:H2'	1:1:2323:A:C8	2.44	0.52
1:1:2494:U:OP1	17:v:31:ARG:NH1	2.43	0.52
1:1:2958:U:H2'	1:1:2959:A:H8	1.75	0.52
14:s:109:HIS:CD2	14:s:123:TYR:H	2.27	0.52
28:9:51:ARG:HG2	28:9:52:GLN:H	1.74	0.52
46:A:142:G:O6	53:H:137:ARG:NH2	2.35	0.52
46:A:165:U:H2'	46:A:166:A:H5''	1.92	0.52
46:A:904:A:H2'	46:A:905:C:C6	2.45	0.52
50:E:34:GLY:HA3	50:E:54:SER:HB3	1.90	0.52
52:G:205:SER:OG	52:G:207:THR:HG22	2.10	0.52
53:H:139:ASN:OD1	53:H:142:ARG:NH1	2.43	0.52
55:J:96:LEU:HD13	55:J:185:CYS:SG	2.49	0.52
76:e:3:HIS:HA	76:e:6:VAL:HG12	1.92	0.52
1:1:546:C:H2'	1:1:547:U:O4'	2.10	0.52
10:o:186:ILE:HD11	10:o:200:LEU:HD11	1.91	0.52
11:p:102:THR:HG22	11:p:103:SER:H	1.74	0.52
46:A:560:G:H21	77:f:14:VAL:HG21	1.75	0.52
46:A:1348:U:H3'	46:A:1349:G:H8	1.75	0.52
46:A:1495:U:H2'	46:A:1496:C:C6	2.45	0.52
50:E:49:VAL:CG1	50:E:87:ILE:HG12	2.40	0.52
63:R:35:ILE:HD11	63:R:47:VAL:HG22	1.92	0.52
75:d:12:VAL:HG12	75:d:30:VAL:HG12	1.92	0.52
79:h:67:HIS:HD2	79:h:86:TRP:HB2	1.75	0.52
1:1:631:U:O2'	35:AG:21:SER:O	2.25	0.52
1:1:2210:A:H2'	1:1:2211:A:C8	2.45	0.52
1:1:2380:A:H5''	7:l:68:THR:HG22	1.92	0.52
12:q:134:MET:SD	12:q:146:VAL:HG22	2.49	0.52
24:5:38:VAL:HG12	24:5:56:ILE:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:30:GLN:NE2	47:B:151:SER:O	2.43	0.52
50:E:160:HIS:C	50:E:165:THR:HG21	2.35	0.52
51:F:71:GLN:HB2	51:F:91:THR:OG1	2.09	0.52
57:L:24:LYS:HG3	57:L:63:TYR:CE1	2.45	0.52
1:1:716:G:H3'	1:1:717:A:H5''	1.92	0.52
1:1:907:C:OP1	5:j:14:SER:OG	2.27	0.52
1:1:1617:A:H2'	1:1:1618:U:H6	1.73	0.52
1:1:2604:G:O6	1:1:2619:A:N6	2.43	0.52
1:1:3159:A:O2'	1:1:3160:C:OP1	2.25	0.52
2:3:1:G:C4	8:m:266:LYS:HA	2.45	0.52
3:4:142:C:H2'	3:4:143:U:C6	2.45	0.52
5:j:47:GLN:HG2	5:j:49:ILE:HG23	1.90	0.52
12:q:80:THR:HA	12:q:83:THR:HG22	1.91	0.52
13:r:208:ALA:O	13:r:211:GLN:HG3	2.10	0.52
17:v:44:ARG:NH1	17:v:120:TRP:O	2.43	0.52
21:z:64:ARG:O	21:z:68:GLU:OE1	2.28	0.52
22:0:77:ILE:HG12	22:0:126:VAL:HG22	1.92	0.52
46:A:1396:A:O2'	46:A:1397:A:OP1	2.22	0.52
46:A:1516:C:H2'	46:A:1517:C:C6	2.45	0.52
46:A:1637:U:H2'	46:A:1638:A:H8	1.75	0.52
52:G:108:LEU:HD21	63:R:43:LEU:HD11	1.90	0.52
55:J:84:HIS:NE2	55:J:97:THR:OG1	2.28	0.52
60:O:115:LEU:O	60:O:119:GLU:OE2	2.28	0.52
64:S:46:LEU:O	64:S:50:ILE:HD12	2.10	0.52
1:1:186:A:N3	1:1:207:C:O2'	2.39	0.51
1:1:1079:G:H2'	1:1:1080:A:C8	2.45	0.51
1:1:1576:A:H5''	1:1:1576:A:C8	2.46	0.51
1:1:2515:G:C2	1:1:2516:U:H1'	2.45	0.51
44:AP:7:THR:HB	44:AP:22:GLN:NE2	2.25	0.51
46:A:739:A:H5''	46:A:740:A:C5'	2.40	0.51
46:A:787:A:H62	54:I:101:LYS:HZ2	1.57	0.51
1:1:269:G:H5''	17:v:14:LYS:HE2	1.92	0.51
1:1:2107:U:H2'	1:1:2108:G:C8	2.45	0.51
24:5:54:ILE:HD13	24:5:68:VAL:HG22	1.93	0.51
46:A:1566:U:H2'	46:A:1567:C:C6	2.45	0.51
53:H:206:ALA:O	53:H:210:GLN:HG2	2.09	0.51
1:1:679:U:O2'	1:1:695:G:O6	2.23	0.51
1:1:995:G:N3	1:1:998:A:N6	2.57	0.51
1:1:2634:G:H2'	1:1:2635:A:H8	1.73	0.51
26:7:57:ARG:HA	26:7:63:ILE:HD11	1.92	0.51
29:AA:41:ALA:HB2	29:AA:77:TYR:HE1	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:415:A:H5'	46:A:416:G:C5	2.45	0.51
50:E:24:GLU:HA	50:E:27:THR:HG22	1.91	0.51
50:E:102:GLN:O	50:E:106:LEU:HD23	2.09	0.51
50:E:121:TYR:O	50:E:125:ARG:HG2	2.10	0.51
52:G:119:GLU:HG3	72:a:93:LEU:HD13	1.93	0.51
53:H:154:ARG:HH12	53:H:175:ILE:HG12	1.75	0.51
55:J:107:THR:HA	55:J:110:ARG:HG2	1.93	0.51
58:M:125:VAL:HG12	58:M:137:PHE:HB3	1.92	0.51
1:1:173:C:H2'	1:1:174:C:C6	2.45	0.51
1:1:2385:C:H2'	1:1:2386:U:C6	2.45	0.51
80:j:301:YMZ:OAA	46:A:908:A:OP1	2.28	0.51
46:A:696:U:O2'	54:I:103:ARG:NH2	2.44	0.51
46:A:903:U:H2'	46:A:904:A:H8	1.74	0.51
48:C:164:VAL:O	48:C:168:MET:HG3	2.10	0.51
64:S:13:SER:O	64:S:17:ILE:HG12	2.11	0.51
67:V:22:ARG:NH1	67:V:91:ASP:HB2	2.25	0.51
79:h:34:LEU:HD11	79:h:42:LEU:HG	1.92	0.51
6:k:66:LYS:O	6:k:70:ARG:NH2	2.24	0.51
9:n:132:ALA:HA	9:n:135:VAL:HG12	1.92	0.51
15:t:3:ILE:HG22	30:AB:44:ASN:OD1	2.11	0.51
49:D:181:ARG:O	49:D:185:LEU:HD23	2.11	0.51
51:F:198:ARG:NH2	51:F:206:ASP:OD2	2.43	0.51
55:J:158:ILE:HG22	55:J:159:GLU:H	1.74	0.51
66:U:21:PHE:HD2	66:U:22:LEU:HD12	1.76	0.51
71:Z:31:ASN:O	71:Z:32:ARG:NE	2.33	0.51
1:1:283:G:OP2	1:1:285:A:O2'	2.19	0.51
1:1:1115:C:H2'	1:1:1116:A:H8	1.75	0.51
1:1:2086:C:H1'	1:1:3309:A:C8	2.46	0.51
1:1:2335:A:H2'	1:1:2336:A:C8	2.46	0.51
6:k:58:ARG:HD2	6:k:354:VAL:HG13	1.92	0.51
6:k:153:LYS:HG2	6:k:154:TYR:CE2	2.46	0.51
8:m:127:GLY:O	8:m:195:LEU:HD23	2.11	0.51
11:p:160:PRO:HB2	11:p:162:GLU:OE1	2.11	0.51
21:z:152:GLU:O	21:z:154:ALA:N	2.44	0.51
46:A:1548:U:H2'	46:A:1549:G:H8	1.75	0.51
50:E:136:GLU:HB2	50:E:188:LYS:HB2	1.92	0.51
53:H:216:LEU:O	53:H:220:LYS:HG2	2.11	0.51
55:J:43:ILE:HG22	55:J:57:ALA:HA	1.92	0.51
61:P:119:ASP:OD1	61:P:120:SER:N	2.35	0.51
64:S:6:THR:HG22	64:S:7:LYS:H	1.76	0.51
75:d:11:LYS:N	75:d:31:GLU:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:j:142:ASP:OD1	5:j:143:GLU:N	2.43	0.51
32:AD:26:THR:HG23	32:AD:95:LEU:HD11	1.93	0.51
46:A:52:U:H2'	46:A:53:G:C8	2.45	0.51
46:A:1350:C:H5''	63:R:27:LEU:HD22	1.92	0.51
46:A:1636:C:H2'	46:A:1637:U:C6	2.46	0.51
55:J:67:TRP:HB3	55:J:70:GLU:OE2	2.11	0.51
56:K:70:LEU:O	56:K:74:ASN:ND2	2.43	0.51
79:h:38:ARG:HG2	79:h:68:ILE:HD13	1.92	0.51
1:1:2386:U:H5'	31:AC:1:MET:SD	2.50	0.51
19:x:32:THR:HG21	19:x:87:SER:HB3	1.93	0.51
19:x:118:GLN:NE2	19:x:120:ASN:OD1	2.44	0.51
28:9:82:VAL:HG21	28:9:85:LEU:HD12	1.91	0.51
37:AI:62:GLN:O	37:AI:66:VAL:HG23	2.10	0.51
46:A:339:A:H2'	46:A:340:C:C6	2.46	0.51
46:A:339:A:H2'	46:A:340:C:H6	1.76	0.51
46:A:1232:U:H5''	78:g:135:HIS:H	1.75	0.51
46:A:1571:G:N3	63:R:121:ARG:NH2	2.58	0.51
46:A:1667:G:H1'	46:A:1668:A:H2	1.75	0.51
54:I:137:ARG:HG2	69:X:51:GLU:OE1	2.11	0.51
67:V:28:THR:HG23	67:V:29:LYS:HG3	1.93	0.51
72:a:99:ALA:HB1	72:a:101:TYR:HE1	1.76	0.51
9:n:170:ARG:HB3	9:n:172:HIS:CE1	2.45	0.51
46:A:1205:C:OP1	57:L:48:SER:OG	2.24	0.51
46:A:1573:A:H2'	46:A:1574:A:O4'	2.11	0.51
68:W:71:ARG:O	68:W:74:GLN:HG3	2.11	0.51
1:1:2345:A:H2'	1:1:2346:A:C8	2.46	0.51
7:l:284:ASN:HB2	7:l:290:LEU:HD11	1.94	0.51
8:m:48:LYS:HG2	8:m:145:PHE:HE2	1.76	0.51
46:A:44:U:OP2	46:A:435:A:N6	2.41	0.51
46:A:878:U:H5'	46:A:879:U:OP2	2.11	0.51
47:B:20:ALA:O	47:B:21:ASN:OD1	2.29	0.51
49:D:54:HIS:HB2	49:D:56:LEU:CD1	2.41	0.51
49:D:135:ARG:HB2	49:D:217:TYR:CE1	2.46	0.51
66:U:25:GLN:OE1	66:U:27:LYS:HG2	2.11	0.51
67:V:87:LYS:C	67:V:88:ARG:HD2	2.36	0.51
79:h:216:VAL:HA	79:h:232:GLU:HA	1.92	0.51
1:1:623:A:H2'	1:1:624:U:C6	2.46	0.50
1:1:3241:G:O6	19:x:171:ARG:NH2	2.44	0.50
8:m:178:ASN:HA	8:m:183:TRP:CD2	2.46	0.50
14:s:12:LEU:HD23	14:s:133:ARG:HG2	1.91	0.50
15:t:62:THR:C	15:t:64:LYS:H	2.18	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:AI:29:ALA:O	37:AI:33:VAL:HG23	2.11	0.50
46:A:1725:U:H2'	46:A:1726:C:C6	2.46	0.50
46:A:1725:U:H2'	46:A:1726:C:H6	1.75	0.50
55:J:100:ALA:O	55:J:175:ILE:HD12	2.10	0.50
68:W:17:CYS:SG	68:W:20:THR:HG22	2.51	0.50
68:W:51:ILE:HD11	68:W:78:LEU:HD21	1.92	0.50
75:d:11:LYS:HE2	75:d:51:ASN:OD1	2.11	0.50
1:1:1225:G:H2'	1:1:1226:G:H8	1.73	0.50
1:1:1229:G:H3'	1:1:1230:G:N7	2.25	0.50
1:1:1400:G:N2	1:1:1403:A:OP2	2.39	0.50
1:1:1489:G:OP2	1:1:1489:G:N2	2.42	0.50
1:1:3315:C:H2'	1:1:3317:U:C5	2.45	0.50
3:4:9:A:H2'	3:4:10:A:H8	1.74	0.50
16:u:120:ARG:NH1	18:w:192:ALA:HB2	2.26	0.50
17:v:94:TYR:CE2	17:v:96:LYS:HB2	2.46	0.50
29:AA:31:GLU:OE1	29:AA:31:GLU:N	2.44	0.50
33:AE:71:ARG:NH1	33:AE:103:LEU:HB3	2.25	0.50
46:A:1052:G:H5''	48:C:150:ILE:HG22	1.93	0.50
46:A:1369:G:O2'	46:A:1370:A:H8	1.93	0.50
50:E:171:ILE:CD1	50:E:188:LYS:HG2	2.38	0.50
64:S:14:LYS:O	64:S:18:GLU:HG2	2.12	0.50
65:T:123:ARG:HG3	65:T:133:VAL:HG22	1.94	0.50
66:U:18:TYR:O	66:U:22:LEU:HD13	2.11	0.50
1:1:845:C:H2'	1:1:846:U:C6	2.47	0.50
1:1:1230:G:H8	1:1:1230:G:OP2	1.94	0.50
1:1:1637:U:O2'	1:1:1638:A:H3'	2.11	0.50
2:3:19:C:H2'	2:3:20:A:H8	1.76	0.50
3:4:156:U:H2'	3:4:157:U:C6	2.47	0.50
24:5:18:ASP:HA	24:5:63:LYS:HG2	1.94	0.50
26:7:47:ARG:HH22	46:A:1711:C:HO2'	1.56	0.50
44:AP:21:THR:HG21	44:AP:74:CYS:SG	2.51	0.50
63:R:30:ILE:CD1	63:R:38:VAL:HG22	2.39	0.50
64:S:80:ARG:HA	64:S:83:GLN:HG3	1.93	0.50
67:V:55:VAL:CG1	67:V:89:VAL:HG12	2.42	0.50
1:1:109:G:H5'	15:t:91:ARG:HE	1.76	0.50
1:1:208:A:H4'	1:1:210:A:N7	2.26	0.50
1:1:2546:U:H5'	1:1:2547:G:O4'	2.12	0.50
3:4:21:C:OP1	7:l:194:LYS:NZ	2.33	0.50
8:m:41:LYS:HB2	23:2:68:THR:O	2.12	0.50
12:q:18:VAL:HG22	12:q:27:VAL:HG22	1.94	0.50
12:q:28:THR:HG22	12:q:33:GLU:HG2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:q:34:LEU:HD23	12:q:82:VAL:CG1	2.42	0.50
46:A:598:U:OP2	70:Y:108:GLY:HA2	2.12	0.50
46:A:1080:U:H4'	69:X:19:LYS:NZ	2.27	0.50
50:E:94:GLU:HG2	50:E:97:LEU:HG	1.92	0.50
56:K:32:GLY:HA3	77:f:40:TYR:CG	2.46	0.50
59:N:136:LEU:O	59:N:136:LEU:HD23	2.12	0.50
67:V:112:ASP:OD1	67:V:113:VAL:N	2.44	0.50
75:d:43:ASN:ND2	75:d:63:ALA:HB1	2.26	0.50
1:1:1631:G:N2	1:1:1634:A:OP2	2.41	0.50
1:1:1662:G:H2'	1:1:1663:A:C8	2.46	0.50
11:p:125:ASP:OD1	11:p:126:VAL:N	2.45	0.50
14:s:49:LYS:HB3	14:s:62:ASN:HA	1.93	0.50
46:A:149:G:N2	53:H:13:GLN:HE22	2.09	0.50
46:A:1039:U:H2'	46:A:1040:U:C6	2.47	0.50
46:A:1716:C:H2'	46:A:1717:A:O4'	2.11	0.50
47:B:4:PRO:HG3	68:W:41:GLU:HA	1.94	0.50
48:C:69:CYS:SG	48:C:72:ASP:HB2	2.52	0.50
48:C:71:ALA:HB2	48:C:80:SER:HA	1.94	0.50
50:E:20:ALA:O	50:E:24:GLU:HG2	2.12	0.50
53:H:154:ARG:NH1	53:H:178:LEU:HD13	2.25	0.50
55:J:62:THR:HG22	55:J:77:ARG:HA	1.93	0.50
60:O:119:GLU:HB3	60:O:123:HIS:CE1	2.46	0.50
61:P:53:TYR:HA	61:P:56:MET:HE2	1.93	0.50
61:P:113:VAL:O	61:P:113:VAL:HG12	2.11	0.50
62:Q:41:VAL:HG13	62:Q:84:ILE:HD13	1.93	0.50
63:R:31:ASN:OD1	63:R:67:LYS:HA	2.11	0.50
70:Y:19:ARG:O	70:Y:23:ARG:HG2	2.12	0.50
74:c:67:THR:HG22	74:c:68:GLY:N	2.23	0.50
79:h:92:LEU:HB2	79:h:104:PHE:HE2	1.77	0.50
79:h:126:ALA:HB1	79:h:152:VAL:HG23	1.93	0.50
1:1:411:U:H2'	1:1:412:G:H8	1.77	0.50
1:1:1116:A:H2'	1:1:1117:U:H6	1.77	0.50
1:1:3136:C:H2'	1:1:3137:A:C8	2.47	0.50
1:1:3261:A:H2'	1:1:3262:U:C6	2.47	0.50
5:j:114:SER:N	5:j:165:VAL:O	2.40	0.50
7:l:8:SER:HB3	7:l:20:GLN:NE2	2.26	0.50
10:o:108:GLN:HG3	10:o:111:ALA:HB2	1.93	0.50
25:6:77:ILE:HD12	25:6:103:VAL:HG11	1.94	0.50
33:AE:14:ASN:OD1	33:AE:69:ARG:NH1	2.45	0.50
46:A:1129:U:HO2'	46:A:1286:U:HO2'	1.58	0.50
46:A:1140:G:H2'	46:A:1141:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:g:149:LYS:HE2	78:g:157:GLU:HB2	1.94	0.50
1:1:25:A:H2'	1:1:26:C:H6	1.77	0.50
1:1:2494:U:P	17:v:31:ARG:HH12	2.35	0.50
1:1:3287:A:H2'	1:1:3288:A:H8	1.74	0.50
13:r:216:TYR:HE2	13:r:218:TYR:CD1	2.24	0.50
20:y:147:ARG:HB3	20:y:150:VAL:HG23	1.92	0.50
40:AL:27:VAL:CG1	40:AL:39:LYS:HD2	2.36	0.50
46:A:504:A:O2'	46:A:505:U:OP1	2.30	0.50
48:C:108:ASP:OD1	48:C:109:LYS:N	2.44	0.50
50:E:103:ALA:HB1	50:E:174:ARG:HD3	1.94	0.50
51:F:104:ASP:HB3	51:F:110:ALA:HB2	1.94	0.50
62:Q:110:GLU:HG3	65:T:119:ILE:HD13	1.94	0.50
64:S:71:PHE:CE2	64:S:74:GLN:HB2	2.47	0.50
64:S:75:GLU:O	64:S:79:GLU:HG3	2.12	0.50
66:U:21:PHE:CD2	66:U:22:LEU:HD12	2.47	0.50
69:X:81:VAL:HG21	69:X:125:ILE:HB	1.94	0.50
75:d:44:VAL:HG11	75:d:48:VAL:HG21	1.92	0.50
79:h:120:LEU:O	79:h:120:LEU:HD23	2.12	0.50
1:1:638:U:H2'	1:1:639:C:C6	2.47	0.50
1:1:1530:A:H2'	1:1:1531:A:C8	2.46	0.50
1:1:1762:G:O2'	1:1:1763:C:OP1	2.27	0.50
6:k:57:VAL:HG22	6:k:73:VAL:HG22	1.94	0.50
15:t:57:VAL:HG22	15:t:69:VAL:HG22	1.93	0.50
30:AB:89:GLU:N	30:AB:89:GLU:OE1	2.44	0.50
33:AE:95:VAL:HG12	33:AE:97:VAL:HG13	1.94	0.50
39:AK:39:TYR:CD1	39:AK:40:PRO:HA	2.47	0.50
45:AQ:84:ARG:NH1	45:AQ:85:ARG:HG3	2.25	0.50
46:A:299:A:H4'	55:J:27:PHE:CD2	2.47	0.50
46:A:740:A:O2'	46:A:741:A:OP1	2.28	0.50
46:A:829:A:H2'	46:A:830:G:H8	1.77	0.50
46:A:1020:G:O2'	69:X:3:ARG:HG2	2.11	0.50
50:E:96:GLY:HA3	50:E:130:ALA:CB	2.41	0.50
59:N:71:ILE:HA	59:N:74:LEU:CG	2.36	0.50
63:R:28:ILE:O	63:R:28:ILE:HG13	2.12	0.50
79:h:20:VAL:HG13	79:h:20:VAL:O	2.12	0.50
79:h:82:LEU:HD21	79:h:116:ILE:HG23	1.94	0.50
79:h:194:GLY:HA2	79:h:213:LYS:HZ1	1.77	0.50
1:1:1030:U:H2'	1:1:1031:A:C8	2.47	0.50
1:1:1106:U:H2'	1:1:1107:U:C6	2.47	0.50
1:1:3070:G:OP1	6:k:349:ARG:NH2	2.45	0.50
17:v:183:THR:O	17:v:183:THR:HG22	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:6:32:ARG:HH21	25:6:64:LYS:HD2	1.76	0.50
44:AP:96:ASP:OD1	44:AP:96:ASP:N	2.40	0.50
46:A:66:U:H4'	53:H:171:LYS:HE2	1.93	0.50
46:A:151:G:C6	46:A:160:A:C6	3.00	0.50
46:A:188:U:H2'	46:A:189:G:C8	2.47	0.50
49:D:149:LEU:HD23	49:D:191:VAL:HG11	1.93	0.50
66:U:14:PHE:CD2	66:U:63:ARG:HD3	2.47	0.50
1:1:638:U:OP1	30:AB:21:ARG:NH1	2.45	0.49
1:1:2126:U:H2'	1:1:2127:A:C8	2.47	0.49
1:1:2876:U:H2'	1:1:2877:U:H6	1.75	0.49
3:4:156:U:H2'	3:4:157:U:C5	2.47	0.49
43:AO:1:MET:HB2	46:A:1629:G:H5'	1.92	0.49
46:A:1083:U:OP1	49:D:154:THR:OG1	2.20	0.49
48:C:125:VAL:CG1	48:C:169:ILE:HD12	2.42	0.49
49:D:53:LEU:HD22	68:W:12:TYR:CD1	2.46	0.49
50:E:73:LEU:HD23	57:L:65:TYR:HB3	1.94	0.49
52:G:58:LEU:O	52:G:62:ILE:HG12	2.11	0.49
63:R:27:LEU:HB3	63:R:63:ASP:CG	2.37	0.49
64:S:99:GLN:N	64:S:99:GLN:OE1	2.45	0.49
79:h:217:ILE:HD12	79:h:240:LEU:HD21	1.94	0.49
1:1:110:C:OP1	15:t:88:LYS:NZ	2.37	0.49
1:1:2646:A:H5''	14:s:105:GLY:HA3	1.94	0.49
6:k:152:LYS:HG2	6:k:189:SER:HA	1.93	0.49
8:m:238:GLU:OE1	8:m:238:GLU:N	2.29	0.49
23:2:39:ILE:HD12	23:2:102:ARG:HD3	1.93	0.49
53:H:64:LYS:HB2	53:H:97:VAL:HG21	1.94	0.49
53:H:71:THR:CG2	53:H:72:ARG:H	2.21	0.49
53:H:144:PHE:HD2	53:H:145:PHE:CD1	2.25	0.49
1:1:1188:C:OP1	42:AN:37:ARG:NH2	2.45	0.49
1:1:1258:G:H1'	1:1:1274:A:N6	2.27	0.49
1:1:1592:C:H2'	1:1:1593:C:H6	1.77	0.49
5:j:79:ASN:ND2	5:j:165:VAL:HG12	2.26	0.49
10:o:119:LYS:HB2	23:2:133:ALA:HB3	1.94	0.49
11:p:9:ALA:N	11:p:10:PRO:CD	2.75	0.49
13:r:54:SER:HB2	13:r:135:ILE:HD11	1.94	0.49
15:t:61:PRO:O	15:t:62:THR:HB	2.11	0.49
38:AJ:93:ILE:O	38:AJ:97:ARG:HG3	2.13	0.49
45:AQ:73:THR:HG22	45:AQ:75:ALA:H	1.77	0.49
46:A:795:A:C8	54:I:106:GLN:NE2	2.80	0.49
46:A:904:A:H2'	46:A:905:C:H6	1.76	0.49
46:A:944:U:H5''	60:O:14:SER:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:1463:G:H2'	46:A:1464:G:H8	1.78	0.49
54:I:57:PHE:HA	54:I:89:LEU:O	2.13	0.49
55:J:81:VAL:HG22	55:J:102:VAL:HG12	1.93	0.49
64:S:6:THR:HG22	64:S:7:LYS:N	2.28	0.49
1:1:158:A:H2'	1:1:159:A:C8	2.47	0.49
1:1:2668:A:H2'	1:1:2669:A:C8	2.48	0.49
8:m:233:SER:O	8:m:236:VAL:HG12	2.11	0.49
29:AA:50:PRO:HD3	29:AA:68:VAL:HG22	1.95	0.49
40:AL:23:ALA:HB3	40:AL:75:ILE:HD13	1.94	0.49
46:A:65:A:H2	46:A:84:A:H62	1.59	0.49
46:A:154:A:N6	46:A:416:G:O6	2.45	0.49
46:A:388:G:H5'	55:J:23:LYS:NZ	2.28	0.49
46:A:1579:A:O2'	46:A:1580:A:OP1	2.30	0.49
59:N:32:LEU:HD11	59:N:100:TRP:O	2.13	0.49
63:R:97:ASP:OD1	63:R:98:GLU:N	2.46	0.49
70:Y:103:LEU:O	70:Y:125:VAL:HG12	2.12	0.49
1:1:563:U:H2'	1:1:564:G:C8	2.47	0.49
1:1:796:G:O6	7:l:105:LYS:NZ	2.34	0.49
1:1:803:A:H61	1:1:930:G:H22	1.60	0.49
5:j:248:GLY:HA2	46:A:997:U:H5'	1.95	0.49
9:n:7:LYS:N	9:n:10:GLN:OE1	2.43	0.49
13:r:75:TYR:CZ	13:r:79:VAL:HG21	2.48	0.49
23:2:68:THR:OG1	23:2:71:SER:OG	2.23	0.49
24:5:10:LYS:HD2	24:5:11:SER:H	1.77	0.49
47:B:38:TYR:CD2	47:B:39:LYS:HG2	2.47	0.49
50:E:165:THR:O	50:E:169:ILE:HB	2.13	0.49
51:F:115:SER:HB3	51:F:118:GLU:OE2	2.12	0.49
57:L:77:ARG:NH1	57:L:86:ILE:O	2.39	0.49
59:N:54:LYS:HB2	59:N:56:GLU:OE1	2.12	0.49
59:N:54:LYS:HE3	59:N:56:GLU:OE2	2.11	0.49
59:N:59:LEU:HB3	59:N:123:VAL:CG2	2.43	0.49
64:S:29:GLU:O	64:S:32:LYS:HG2	2.13	0.49
65:T:88:ARG:HH12	65:T:108:LYS:HB3	1.78	0.49
73:b:46:GLU:O	73:b:50:VAL:HG13	2.12	0.49
75:d:38:ARG:O	75:d:40:ILE:HG13	2.13	0.49
1:1:538:G:O2'	1:1:539:G:OP1	2.30	0.49
1:1:649:G:O2'	1:1:1431:A:OP1	2.30	0.49
1:1:1093:G:H4'	23:2:129:LYS:HG2	1.95	0.49
1:1:1218:G:HO2'	1:1:1219:A:P	2.35	0.49
1:1:3244:A:O2'	1:1:3245:A:H5'	2.13	0.49
45:AQ:72:SER:HB3	45:AQ:80:ARG:HH22	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:298:A:H2'	46:A:299:A:C8	2.47	0.49
46:A:685:C:O2'	46:A:686:G:OP1	2.26	0.49
49:D:135:ARG:HB3	49:D:216:THR:OG1	2.12	0.49
50:E:172:ALA:HB3	50:E:187:VAL:CG1	2.43	0.49
57:L:7:ASP:HA	57:L:10:LYS:HG2	1.93	0.49
61:P:77:LYS:HD2	61:P:113:VAL:HG21	1.93	0.49
62:Q:86:VAL:O	62:Q:88:GLU:N	2.41	0.49
64:S:29:GLU:OE2	79:h:38:ARG:NH2	2.45	0.49
79:h:169:ALA:HB2	79:h:199:ILE:HG21	1.94	0.49
1:1:496:A:H2'	1:1:497:U:C6	2.46	0.49
1:1:1199:A:H2'	1:1:1200:A:H8	1.77	0.49
1:1:2513:A:H2'	1:1:2513:A:N3	2.27	0.49
1:1:3319:U:H3	55:J:107:THR:HG23	1.75	0.49
8:m:60:ILE:HG21	8:m:101:VAL:HG11	1.94	0.49
46:A:4:C:H5	46:A:20:G:H1	1.61	0.49
46:A:146:A:H61	53:H:133:LEU:HD12	1.78	0.49
46:A:1606:C:O4'	75:d:21:SER:OG	2.31	0.49
50:E:214:ASP:OD1	50:E:215:GLU:N	2.42	0.49
59:N:98:GLY:HA2	59:N:101:ALA:HB3	1.94	0.49
69:X:37:PHE:O	69:X:40:VAL:HG22	2.12	0.49
1:1:820:C:H5''	5:j:21:ARG:HD3	1.93	0.49
1:1:948:A:H4'	1:1:964:G:N2	2.27	0.49
1:1:1218:G:O2'	1:1:1219:A:OP2	2.27	0.49
1:1:1227:A:H1'	1:1:1257:G:C8	2.47	0.49
11:p:43:PRO:HG2	11:p:45:ARG:HD2	1.94	0.49
16:u:17:ARG:HG2	16:u:57:LEU:HD22	1.95	0.49
46:A:52:U:H2'	46:A:53:G:H8	1.78	0.49
46:A:127:G:H4'	53:H:194:LYS:HD3	1.93	0.49
46:A:278:U:H4'	46:A:279:G:O5'	2.13	0.49
46:A:359:C:N4	46:A:377:U:OP1	2.43	0.49
46:A:644:U:H2'	46:A:645:G:H8	1.78	0.49
47:B:98:ILE:HD12	47:B:102:PHE:HD1	1.77	0.49
53:H:38:GLY:O	53:H:41:VAL:HG12	2.11	0.49
57:L:39:ASN:O	57:L:43:ILE:HD12	2.12	0.49
58:M:122:VAL:HG13	58:M:143:SER:HB3	1.94	0.49
65:T:46:VAL:HG21	65:T:73:MET:CE	2.43	0.49
69:X:28:ARG:HD3	69:X:60:LYS:NZ	2.28	0.49
1:1:1494:A:H2'	1:1:1495:U:C6	2.48	0.49
5:j:80:GLU:HG3	45:AQ:66:GLY:HA2	1.95	0.49
17:v:155:VAL:O	17:v:162:ARG:NH2	2.36	0.49
46:A:391:C:H2'	46:A:392:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:570:C:N4	46:A:571:C:N4	2.60	0.49
46:A:1413:A:O2'	46:A:1414:G:OP1	2.27	0.49
46:A:1531:U:P	65:T:136:GLN:HE22	2.35	0.49
47:B:11:PRO:O	47:B:15:LYS:HG2	2.12	0.49
49:D:57:PRO:HG3	68:W:29:HIS:HD2	1.78	0.49
55:J:35:ASN:O	55:J:37:LYS:HD3	2.13	0.49
57:L:50:THR:HB	57:L:55:VAL:HG23	1.94	0.49
66:U:91:HIS:O	66:U:92:LYS:HE2	2.13	0.49
1:1:99:A:H3'	1:1:100:G:H21	1.78	0.49
5:j:132:ASN:ND2	5:j:151:PRO:HB3	2.28	0.49
46:A:1083:U:O2'	69:X:71:LYS:HE3	2.13	0.49
47:B:41:ARG:HD3	47:B:45:MET:HB2	1.95	0.49
47:B:107:PHE:HB2	47:B:135:GLU:HG2	1.95	0.49
51:F:139:VAL:HG23	51:F:147:ILE:CG1	2.42	0.49
59:N:33:ARG:O	59:N:37:VAL:HG23	2.13	0.49
65:T:61:LEU:HD11	65:T:65:GLU:HB3	1.94	0.49
1:1:417:A:H2'	1:1:418:A:C8	2.48	0.48
1:1:1029:U:O2'	1:1:1030:U:OP1	2.26	0.48
1:1:1230:G:N2	1:1:1251:C:H42	2.10	0.48
1:1:1261:U:H2'	1:1:1262:G:H8	1.77	0.48
1:1:1286:A:H2'	1:1:1287:A:C8	2.47	0.48
1:1:2696:U:OP2	1:1:2698:C:N4	2.46	0.48
1:1:2740:U:H2'	1:1:2741:A:C8	2.47	0.48
2:3:19:C:H2'	2:3:20:A:C8	2.48	0.48
12:q:133:THR:OG1	12:q:147:SER:OG	2.31	0.48
27:8:99:VAL:HG11	27:8:124:ILE:HD13	1.94	0.48
34:AF:24:ASP:OD1	34:AF:25:ARG:N	2.46	0.48
46:A:815:U:O2'	46:A:816:U:O5'	2.29	0.48
46:A:1323:C:H1'	46:A:1396:A:C5	2.47	0.48
46:A:1404:G:O5'	63:R:127:LYS:HD3	2.13	0.48
46:A:1582:U:H5'	46:A:1583:C:OP2	2.13	0.48
53:H:155:ASP:OD1	53:H:155:ASP:N	2.41	0.48
54:I:18:ALA:O	54:I:22:VAL:HG23	2.13	0.48
57:L:38:ARG:HH22	57:L:40:LEU:HD13	1.77	0.48
75:d:18:ARG:HD2	75:d:26:THR:HG22	1.94	0.48
79:h:177:SER:HG	79:h:186:ASN:CG	2.13	0.48
1:1:147:G:OP2	17:v:4:TYR:OH	2.18	0.48
1:1:1456:A:H2'	1:1:1457:A:C8	2.47	0.48
1:1:1556:G:O2'	1:1:1557:U:H5'	2.13	0.48
1:1:2191:A:N3	1:1:2573:A:O2'	2.39	0.48
7:l:140:GLY:O	7:l:142:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:AA:78:ASN:OD1	32:AD:37:ARG:NH2	2.46	0.48
36:AH:104:VAL:O	36:AH:108:GLN:HG2	2.13	0.48
45:AQ:46:THR:OG1	45:AQ:57:CYS:SG	2.70	0.48
46:A:17:C:H2'	46:A:18:C:H6	1.78	0.48
46:A:107:C:H2'	46:A:108:A:H8	1.77	0.48
46:A:327:G:H2'	46:A:328:G:H8	1.77	0.48
50:E:24:GLU:O	50:E:27:THR:HG22	2.13	0.48
55:J:70:GLU:HG2	55:J:72:VAL:HG22	1.95	0.48
58:M:125:VAL:HG13	58:M:138:ASN:C	2.38	0.48
59:N:67:THR:O	59:N:68:GLU:HG3	2.13	0.48
67:V:38:ALA:HA	67:V:41:ILE:HG22	1.94	0.48
79:h:291:TRP:CE3	79:h:298:LEU:HD13	2.48	0.48
1:1:1035:U:H2'	1:1:1036:A:C8	2.49	0.48
1:1:2659:G:H4'	8:m:7:PHE:HE2	1.79	0.48
6:k:106:TRP:HB2	6:k:133:TYR:CE1	2.49	0.48
6:k:215:ILE:HD12	6:k:338:LEU:HB3	1.95	0.48
7:l:48:ARG:NH2	7:l:110:TRP:O	2.29	0.48
13:r:179:ASP:HA	13:r:182:ILE:HG22	1.94	0.48
26:7:23:ARG:NH2	26:7:27:LYS:HD3	2.28	0.48
46:A:1393:U:H2'	46:A:1394:G:C8	2.48	0.48
46:A:1494:G:H2'	46:A:1495:U:C6	2.48	0.48
46:A:1635:A:H2'	46:A:1636:C:H6	1.78	0.48
50:E:136:GLU:HG2	50:E:158:MET:HE2	1.95	0.48
59:N:41:LEU:HA	59:N:123:VAL:HA	1.96	0.48
60:O:150:VAL:HG12	60:O:150:VAL:O	2.12	0.48
1:1:117:U:O2	1:1:120:A:H5''	2.13	0.48
1:1:1358:C:H2'	1:1:1359:A:C8	2.48	0.48
20:y:170:ARG:NH1	30:AB:56:VAL:O	2.45	0.48
48:C:189:ILE:HG13	48:C:190:PRO:CD	2.37	0.48
53:H:142:ARG:HG3	53:H:147:LEU:HD12	1.95	0.48
53:H:180:THR:O	53:H:183:THR:OG1	2.23	0.48
54:I:118:HIS:HA	54:I:121:ILE:HG12	1.94	0.48
57:L:68:LEU:HD23	57:L:69:THR:O	2.14	0.48
60:O:102:LEU:CD1	60:O:115:LEU:HD13	2.43	0.48
64:S:58:MET:HA	64:S:61:ILE:HG22	1.94	0.48
66:U:18:TYR:CD1	66:U:135:ILE:HG13	2.45	0.48
68:W:33:GLN:NE2	68:W:54:ALA:HB2	2.29	0.48
79:h:215:GLY:HA3	79:h:233:ALA:O	2.14	0.48
1:1:713:A:C8	30:AB:115:LYS:HD2	2.47	0.48
1:1:2511:G:C4	1:1:2525:A:C2	3.01	0.48
1:1:2853:C:H2'	1:1:2854:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:t:59:ARG:NH1	15:t:66:ASN:O	2.40	0.48
21:z:153:LYS:HG3	21:z:154:ALA:N	2.28	0.48
33:AE:52:PRO:O	33:AE:56:ILE:HG12	2.14	0.48
46:A:137:A:O4'	46:A:139:U:H5'	2.13	0.48
46:A:341:C:H2'	46:A:342:A:H8	1.78	0.48
46:A:404:U:H2'	46:A:405:A:H8	1.79	0.48
46:A:1339:G:O6	46:A:1354:U:C2	2.66	0.48
50:E:94:GLU:OE2	50:E:130:ALA:HB1	2.14	0.48
54:I:54:LEU:HD13	54:I:84:ARG:HD3	1.96	0.48
58:M:71:LEU:HD12	58:M:88:ARG:CZ	2.44	0.48
62:Q:81:ARG:HD2	62:Q:97:TYR:O	2.13	0.48
64:S:87:GLU:HG2	64:S:88:VAL:HG23	1.96	0.48
1:1:549:U:C2	1:1:550:G:C8	3.01	0.48
1:1:2855:U:H2'	1:1:2856:C:C6	2.48	0.48
7:l:4:ARG:HD3	7:l:23:LEU:O	2.14	0.48
15:t:62:THR:C	15:t:64:LYS:N	2.71	0.48
22:0:73:LYS:NZ	22:0:97:VAL:O	2.45	0.48
33:AE:42:HIS:C	33:AE:43:MET:HE2	2.38	0.48
46:A:1072:A:H2'	46:A:1073:A:C8	2.49	0.48
46:A:1242:U:H2'	46:A:1242:U:O2	2.14	0.48
48:C:123:ALA:HB1	48:C:169:ILE:HD11	1.94	0.48
51:F:133:LYS:HD3	51:F:134:LYS:H	1.79	0.48
59:N:74:LEU:HD12	59:N:75:VAL:N	2.29	0.48
63:R:59:PHE:HA	63:R:62:ILE:HG12	1.95	0.48
66:U:28:LEU:HD13	66:U:111:ILE:HD13	1.96	0.48
79:h:173:LYS:HG2	79:h:194:GLY:C	2.39	0.48
1:1:955:C:O2	1:1:2586:G:O2'	2.29	0.48
1:1:1157:G:O2'	34:AF:55:ASN:OD1	2.31	0.48
1:1:2156:A:H5''	5:j:129:THR:OG1	2.14	0.48
1:1:2590:G:C8	1:1:2837:U:H5''	2.49	0.48
1:1:3022:U:O2'	26:7:16:GLY:O	2.30	0.48
19:x:116:HIS:O	19:x:148:LEU:HD12	2.13	0.48
22:0:130:GLU:CD	22:0:130:GLU:H	2.22	0.48
46:A:462:A:C2	46:A:463:G:C8	3.01	0.48
46:A:1202:A:H61	76:e:7:TRP:HE1	1.62	0.48
48:C:192:VAL:HG13	48:C:195:ARG:NH2	2.28	0.48
50:E:97:LEU:HB3	50:E:191:LYS:HE3	1.96	0.48
51:F:129:VAL:HB	51:F:139:VAL:HG12	1.94	0.48
66:U:57:ARG:NH2	66:U:101:ASN:OD1	2.47	0.48
67:V:26:THR:HG22	67:V:87:LYS:HG3	1.95	0.48
69:X:23:ARG:HD2	74:c:4:VAL:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:h:110:ASP:HB2	79:h:128:ARG:HG3	1.95	0.48
1:1:169:G:C6	1:1:249:G:H1'	2.49	0.48
1:1:249:G:H2'	1:1:251:G:OP2	2.13	0.48
1:1:1239:G:N2	1:1:1240:A:H62	2.11	0.48
1:1:1576:A:OP1	27:8:33:ARG:NH2	2.44	0.48
1:1:2587:G:H2'	1:1:2588:C:H6	1.79	0.48
1:1:3323:U:H2'	1:1:3324:A:H8	1.78	0.48
46:A:29:U:H2'	46:A:30:G:C8	2.49	0.48
46:A:518:A:O2'	46:A:519:A:OP1	2.28	0.48
46:A:1204:A:N3	57:L:51:SER:HB2	2.29	0.48
46:A:1396:A:HO2'	46:A:1397:A:P	2.35	0.48
47:B:167:LYS:HE2	47:B:204:TYR:HD2	1.79	0.48
50:E:65:ARG:NH1	57:L:70:ASP:OD1	2.47	0.48
52:G:163:SER:O	52:G:167:ARG:HG3	2.13	0.48
56:K:123:HIS:CE1	77:f:37:ARG:HB3	2.49	0.48
60:O:32:ASP:O	60:O:36:GLN:HG3	2.13	0.48
66:U:108:LEU:CD2	66:U:114:LEU:HD13	2.44	0.48
1:1:487:C:H2'	1:1:488:G:O4'	2.14	0.48
1:1:1655:U:H2'	1:1:1656:C:C6	2.49	0.48
1:1:1852:C:C2	1:1:1853:C:C5	3.02	0.48
1:1:1870:A:OP2	21:z:21:LYS:NZ	2.45	0.48
1:1:2655:U:H1'	14:s:128:TYR:CE2	2.48	0.48
1:1:2866:C:OP2	12:q:168:ARG:NH1	2.47	0.48
1:1:2919:G:N3	6:k:250:ALA:HB1	2.29	0.48
1:1:3207:G:N2	1:1:3210:A:OP2	2.47	0.48
2:3:15:C:O2'	8:m:8:ARG:HD3	2.13	0.48
3:4:6:U:H2'	3:4:7:U:H6	1.78	0.48
17:v:27:CYS:HB2	17:v:122:ASN:ND2	2.29	0.48
37:AI:105:ARG:O	37:AI:109:ILE:HG22	2.14	0.48
46:A:1026:G:H2'	46:A:1027:G:H8	1.77	0.48
56:K:86:LEU:HD21	56:K:90:LYS:O	2.13	0.48
65:T:62:THR:OG1	65:T:65:GLU:OE1	2.31	0.48
69:X:24:GLN:HA	69:X:63:VAL:O	2.14	0.48
75:d:10:ALA:HB1	75:d:30:VAL:HB	1.94	0.48
79:h:112:LEU:N	79:h:126:ALA:O	2.36	0.48
1:1:788:G:H2'	1:1:789:C:C6	2.49	0.48
1:1:2404:U:H2'	1:1:2405:U:C6	2.49	0.48
1:1:2659:G:H4'	8:m:7:PHE:CE2	2.49	0.48
1:1:3064:C:O2'	1:1:3066:A:OP2	2.23	0.48
6:k:66:LYS:C	6:k:70:ARG:HH21	2.16	0.48
6:k:111:SER:HB3	6:k:113:GLU:OE2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:r:200:LEU:HD13	13:r:216:TYR:CD1	2.49	0.48
23:2:44:ALA:HB2	23:2:53:PRO:HG2	1.95	0.48
46:A:501:G:H2'	46:A:502:U:C6	2.48	0.48
46:A:1460:G:H2'	46:A:1461:A:C8	2.47	0.48
46:A:1668:A:H2'	46:A:1669:U:H5'	1.96	0.48
47:B:29:VAL:HG23	47:B:149:MET:HB3	1.96	0.48
52:G:43:PHE:HB2	52:G:46:TRP:CZ3	2.48	0.48
52:G:189:THR:CG2	52:G:192:GLU:HG2	2.43	0.48
57:L:37:THR:HG22	57:L:38:ARG:N	2.28	0.48
70:Y:3:LYS:HD2	70:Y:7:ARG:NH2	2.29	0.48
3:4:41:A:C2	39:AK:44:MET:HE3	2.49	0.47
5:j:24:LYS:HG3	5:j:49:ILE:HD12	1.94	0.47
6:k:153:LYS:HG2	6:k:154:TYR:CD2	2.49	0.47
15:t:63:VAL:HA	15:t:66:ASN:OD1	2.14	0.47
46:A:822:G:O2'	46:A:823:G:N3	2.47	0.47
46:A:1571:G:H22	46:A:1598:A:P	2.37	0.47
48:C:30:PHE:HB3	48:C:96:LEU:HD21	1.96	0.47
51:F:94:ALA:HB3	71:Z:17:LEU:HD23	1.96	0.47
52:G:80:LYS:HB2	52:G:83:ARG:HE	1.79	0.47
56:K:96:VAL:HA	56:K:99:LEU:CD1	2.43	0.47
60:O:36:GLN:O	60:O:40:TYR:HD1	1.97	0.47
71:Z:15:ASN:HB2	71:Z:22:GLN:HE22	1.78	0.47
71:Z:105:ARG:HD2	71:Z:108:ARG:HH21	1.78	0.47
79:h:16:HIS:NE2	79:h:37:SER:HB2	2.28	0.47
1:1:1139:A:H5'	1:1:1364:U:H1'	1.96	0.47
1:1:1787:U:H2'	1:1:1788:C:C6	2.49	0.47
1:1:2391:A:H2'	1:1:2392:G:H8	1.79	0.47
2:3:4:U:H2'	2:3:5:G:C8	2.49	0.47
14:s:33:ALA:O	14:s:37:LEU:HD23	2.15	0.47
46:A:147:C:OP1	71:Z:121:THR:N	2.30	0.47
46:A:1335:U:O2'	46:A:1336:G:OP1	2.29	0.47
48:C:46:THR:HG22	48:C:47:LEU:N	2.29	0.47
51:F:11:ARG:NH1	51:F:24:SER:OG	2.30	0.47
53:H:137:ARG:O	53:H:141:ILE:HG12	2.14	0.47
55:J:85:PRO:O	58:M:11:ARG:NH1	2.47	0.47
58:M:121:ASP:OD2	58:M:144:ALA:HA	2.14	0.47
79:h:67:HIS:HD2	79:h:86:TRP:CB	2.27	0.47
79:h:90:LEU:HD21	79:h:111:VAL:HG21	1.96	0.47
1:1:157:G:H2'	1:1:158:A:H8	1.80	0.47
1:1:289:A:H2'	1:1:290:G:H8	1.78	0.47
1:1:514:G:OP2	1:1:514:G:N2	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:618:U:H5	19:x:167:ARG:NH1	2.12	0.47
1:1:1014:G:O6	1:1:1030:U:O4	2.32	0.47
1:1:1434:U:H2'	1:1:1435:U:C6	2.49	0.47
1:1:1663:A:H2'	1:1:1664:G:H8	1.76	0.47
14:s:35:LYS:HE3	14:s:120:ILE:CD1	2.44	0.47
17:v:91:GLN:O	17:v:93:LYS:NZ	2.48	0.47
17:v:180:PHE:O	17:v:184:LYS:HG3	2.13	0.47
40:AL:17:ARG:NH2	40:AL:19:ASP:OD2	2.47	0.47
40:AL:40:GLN:HE22	40:AL:42:LYS:CG	2.26	0.47
40:AL:44:LYS:HB3	40:AL:51:GLN:HE21	1.79	0.47
46:A:156:U:O2'	46:A:157:U:H3'	2.14	0.47
46:A:1300:U:O2'	46:A:1301:G:H8	1.97	0.47
48:C:134:VAL:CG2	48:C:219:LYS:H	2.27	0.47
51:F:161:LYS:O	51:F:170:ASP:N	2.44	0.47
59:N:113:ARG:CG	59:N:114:LYS:N	2.77	0.47
1:1:983:U:H2'	1:1:984:U:C6	2.50	0.47
1:1:2516:U:H3'	1:1:2517:C:C4'	2.45	0.47
1:1:2646:A:C2	14:s:124:GLY:HA3	2.49	0.47
1:1:2958:U:H2'	1:1:2959:A:C8	2.50	0.47
1:1:3234:U:H1'	9:n:128:LYS:HD2	1.97	0.47
1:1:3357:U:H5'	19:x:56:ARG:HH22	1.78	0.47
19:x:47:TYR:OH	19:x:58:ILE:HD13	2.15	0.47
46:A:25:C:H4'	46:A:26:A:O5'	2.15	0.47
46:A:1213:G:H5'	59:N:45:LEU:HD23	1.97	0.47
49:D:30:TRP:NE1	49:D:62:GLN:NE2	2.61	0.47
52:G:57:SER:HA	75:d:53:ILE:CD1	2.40	0.47
59:N:40:GLY:O	59:N:124:LYS:HG2	2.14	0.47
59:N:71:ILE:O	59:N:75:VAL:HG12	2.14	0.47
1:1:1721:C:H2'	1:1:1722:C:C6	2.50	0.47
1:1:2516:U:H5''	1:1:2517:C:O2	2.13	0.47
16:u:13:VAL:HG23	16:u:29:ILE:HD13	1.95	0.47
17:v:27:CYS:HB2	17:v:122:ASN:HD21	1.80	0.47
24:5:35:LYS:HA	24:5:38:VAL:HG22	1.96	0.47
41:AM:9:THR:O	41:AM:13:LEU:HG	2.13	0.47
46:A:997:U:H2'	46:A:998:A:H8	1.78	0.47
48:C:47:LEU:HD21	61:P:34:ILE:HD11	1.95	0.47
52:G:64:ILE:O	52:G:64:ILE:HG22	2.14	0.47
56:K:63:ASP:OD1	56:K:64:GLU:N	2.47	0.47
56:K:95:TYR:O	56:K:99:LEU:HD12	2.15	0.47
73:b:52:ASP:O	73:b:55:GLU:HG3	2.15	0.47
1:1:7:C:H2'	1:1:8:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1250:C:H41	1:1:1259:A:P	2.38	0.47
1:1:1779:U:H2'	1:1:1780:A:C8	2.49	0.47
1:1:2408:A:H2'	1:1:2409:C:C6	2.50	0.47
3:4:10:A:H2'	3:4:11:C:C6	2.49	0.47
16:u:120:ARG:HH11	16:u:120:ARG:HG3	1.79	0.47
21:z:172:ARG:NH2	46:A:837:C:OP1	2.47	0.47
37:AI:4:VAL:HG21	37:AI:9:LEU:HD21	1.97	0.47
46:A:502:U:O2'	46:A:503:A:OP1	2.29	0.47
46:A:736:G:H2'	46:A:737:A:H8	1.80	0.47
46:A:1452:G:H2'	46:A:1453:C:C6	2.50	0.47
50:E:92:VAL:HG11	50:E:101:VAL:HG21	1.97	0.47
61:P:59:ALA:HB1	61:P:100:LEU:HG	1.94	0.47
79:h:64:GLY:O	79:h:91:ARG:NH1	2.47	0.47
1:1:252:U:H5'	1:1:253:A:H8	1.78	0.47
1:1:779:A:H5''	1:1:780:A:H5''	1.97	0.47
1:1:1396:U:H2'	1:1:1397:G:O4'	2.15	0.47
1:1:1623:U:H2'	1:1:1810:A:H62	1.79	0.47
1:1:1777:C:H2'	1:1:1778:U:C6	2.49	0.47
1:1:2519:A:H1'	1:1:2520:A:OP2	2.15	0.47
1:1:2739:U:H2'	1:1:2740:U:C6	2.49	0.47
1:1:3138:U:H2'	1:1:3139:U:C6	2.50	0.47
1:1:3197:G:H2'	1:1:3198:C:C6	2.49	0.47
1:1:3260:A:H2'	1:1:3261:A:H8	1.79	0.47
80:1:3401:YMZ:NAP	80:1:3401:YMZ:FAE	2.37	0.47
3:4:23:U:OP1	28:9:16:ARG:NH1	2.47	0.47
3:4:26:U:H2'	3:4:27:U:C6	2.49	0.47
3:4:75:G:H2'	3:4:76:C:C6	2.49	0.47
13:r:61:SER:OG	13:r:63:GLU:OE1	2.25	0.47
16:u:12:PHE:H	16:u:17:ARG:NH2	2.12	0.47
17:v:73:ARG:HG2	17:v:75:VAL:HG13	1.96	0.47
19:x:49:ASP:OD1	19:x:92:LYS:NZ	2.39	0.47
19:x:176:LEU:O	19:x:179:GLN:HG3	2.15	0.47
20:y:66:ARG:NH2	20:y:143:PRO:HD3	2.29	0.47
22:0:106:MET:HE1	22:0:123:ILE:HG12	1.96	0.47
31:AC:24:PRO:O	31:AC:24:PRO:HD2	2.14	0.47
44:AP:12:CYS:HB2	44:AP:21:THR:HG22	1.96	0.47
46:A:740:A:H2'	46:A:741:A:H8	1.80	0.47
46:A:795:A:C4	46:A:843:G:H1'	2.49	0.47
46:A:871:U:H2'	46:A:872:A:H8	1.78	0.47
46:A:914:A:C8	61:P:118:SER:O	2.67	0.47
46:A:1772:U:H2'	46:A:1773:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:180:GLU:O	47:B:184:LEU:HD12	2.15	0.47
50:E:224:VAL:HG12	79:h:190:ILE:HD13	1.97	0.47
52:G:81:ARG:HG2	52:G:82:PHE:CD1	2.50	0.47
55:J:26:LYS:O	55:J:29:LEU:HD22	2.15	0.47
59:N:34:THR:O	59:N:37:VAL:HB	2.14	0.47
60:O:62:GLN:HB3	60:O:65:VAL:CG1	2.44	0.47
62:Q:30:THR:O	62:Q:34:THR:HG23	2.14	0.47
65:T:116:LEU:HD22	65:T:124:GLY:CA	2.44	0.47
66:U:97:SER:O	66:U:101:ASN:ND2	2.48	0.47
68:W:34:ILE:HD11	68:W:53:TYR:HB2	1.96	0.47
1:1:246:U:H2'	1:1:247:C:C6	2.50	0.47
1:1:538:G:H2'	1:1:539:G:C8	2.49	0.47
1:1:1228:C:H42	1:1:1253:C:H42	1.63	0.47
1:1:2972:A:H2'	1:1:2973:U:C6	2.50	0.47
21:z:44:LEU:HB3	21:z:49:THR:HB	1.97	0.47
46:A:796:A:H62	46:A:843:G:H2'	1.79	0.47
46:A:1203:G:N2	46:A:1430:A:OP2	2.38	0.47
48:C:145:ARG:HB2	48:C:154:THR:HG21	1.97	0.47
53:H:67:VAL:CG1	53:H:99:GLY:HA2	2.35	0.47
54:I:129:THR:OG1	54:I:150:LEU:HD12	2.15	0.47
56:K:110:GLN:CD	56:K:126:ARG:HE	2.22	0.47
64:S:45:ARG:HG2	64:S:49:LYS:NZ	2.29	0.47
65:T:109:LEU:O	65:T:113:LEU:HD23	2.14	0.47
69:X:31:SER:H	69:X:34:ILE:CG2	2.28	0.47
1:1:296:A:N3	1:1:299:G:O2'	2.46	0.47
1:1:1620:G:O2'	1:1:1639:A:N1	2.48	0.47
1:1:3284:U:H4'	1:1:3285:A:OP2	2.15	0.47
6:k:141:ALA:O	6:k:145:GLU:OE1	2.33	0.47
11:p:98:TYR:CE2	11:p:204:VAL:HG12	2.44	0.47
13:r:42:THR:HG22	13:r:45:GLU:HG3	1.97	0.47
18:w:47:GLU:CD	18:w:49:PHE:H	2.23	0.47
25:6:121:GLU:OE1	25:6:121:GLU:N	2.47	0.47
32:AD:101:ASP:OD1	32:AD:101:ASP:N	2.47	0.47
45:AQ:30:GLU:HA	45:AQ:33:GLN:HG2	1.96	0.47
46:A:211:A:H62	46:A:250:U:H3	1.61	0.47
46:A:800:G:C2	46:A:801:A:C8	3.03	0.47
48:C:107:SER:OG	61:P:112:ASP:OD1	2.33	0.47
49:D:148:SER:HB3	49:D:190:ASP:OD1	2.15	0.47
53:H:174:LYS:H	53:H:174:LYS:HD2	1.79	0.47
54:I:4:LYS:HD3	54:I:38:GLN:NE2	2.30	0.47
56:K:74:ASN:O	56:K:78:ARG:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:N:81:GLU:HG3	59:N:82:PRO:CD	2.43	0.47
60:O:128:TYR:O	60:O:131:THR:HG22	2.15	0.47
61:P:8:VAL:HG13	61:P:72:THR:H	1.80	0.47
62:Q:127:ARG:O	62:Q:128:HIS:ND1	2.47	0.47
78:g:141:LYS:HD3	78:g:142:LEU:HG	1.95	0.47
1:1:629:A:H2'	1:1:630:G:C8	2.50	0.47
1:1:1482:G:H21	36:AH:6:THR:HG22	1.80	0.47
1:1:1794:A:H2'	1:1:1795:A:C8	2.49	0.47
1:1:2512:G:C6	1:1:2513:A:C5	3.03	0.47
3:4:6:U:H2'	3:4:7:U:C6	2.50	0.47
10:o:173:LYS:HE3	10:o:174:PHE:CZ	2.49	0.47
14:s:101:ASN:OD1	14:s:130:VAL:HA	2.15	0.47
17:v:68:ARG:HG2	17:v:128:LYS:HG3	1.97	0.47
17:v:90:ASN:O	44:AP:50:TYR:OH	2.28	0.47
25:6:96:GLU:OE2	26:7:23:ARG:HG3	2.15	0.47
40:AL:70:PRO:HG2	40:AL:73:LEU:HG	1.97	0.47
46:A:92:A:H61	53:H:89:THR:HG22	1.80	0.47
46:A:116:U:H2'	46:A:117:U:C6	2.50	0.47
46:A:140:U:P	53:H:139:ASN:HD21	2.38	0.47
46:A:433:C:N4	70:Y:46:SER:OG	2.48	0.47
47:B:148:ASP:OD1	47:B:163:ASN:HA	2.14	0.47
53:H:121:ILE:HB	53:H:124:LEU:HB3	1.97	0.47
1:1:280:U:OP2	81:1:3402:SPK:H6B	2.15	0.46
1:1:694:C:OP2	7:l:120:ARG:NH2	2.45	0.46
1:1:785:A:H2'	1:1:786:U:C6	2.50	0.46
1:1:843:A:H2'	1:1:844:A:C8	2.50	0.46
6:k:213:GLU:OE2	6:k:340:LYS:NZ	2.46	0.46
9:n:39:LEU:HB3	9:n:83:VAL:HG13	1.97	0.46
19:x:4:TYR:OH	19:x:18:ARG:HG3	2.15	0.46
46:A:605:G:H5'	46:A:611:G:N2	2.30	0.46
46:A:1205:C:H2'	46:A:1206:A:H8	1.79	0.46
46:A:1330:A:O3'	67:V:52:LYS:NZ	2.33	0.46
46:A:1369:G:OP1	67:V:86:HIS:ND1	2.49	0.46
46:A:1783:C:O2	73:b:92:ARG:HB3	2.15	0.46
47:B:33:ASN:ND2	47:B:148:ASP:O	2.48	0.46
47:B:107:PHE:N	47:B:135:GLU:OE2	2.44	0.46
48:C:115:ARG:HD3	48:C:115:ARG:HA	1.73	0.46
55:J:190:LEU:HD22	55:J:194:GLU:HG2	1.96	0.46
71:Z:88:ALA:O	71:Z:92:VAL:HG23	2.15	0.46
77:f:27:PRO:O	77:f:27:PRO:HD2	2.14	0.46
79:h:117:ALA:HA	79:h:157:ILE:HG21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1588:G:OP2	36:AH:37:LYS:NZ	2.41	0.46
1:1:2405:U:H2'	1:1:2406:U:C6	2.50	0.46
12:q:85:GLY:O	12:q:186:THR:HG23	2.15	0.46
21:z:151:ARG:O	21:z:155:LEU:HG	2.14	0.46
46:A:152:G:OP2	53:H:2:LYS:NZ	2.49	0.46
46:A:275:U:O2	46:A:275:U:H2'	2.15	0.46
46:A:283:G:H2'	46:A:284:C:C6	2.50	0.46
46:A:874:U:H2'	46:A:875:C:H6	1.79	0.46
46:A:876:A:H2'	46:A:877:G:C8	2.50	0.46
46:A:1235:U:O2'	78:g:177:MET:HE3	2.15	0.46
47:B:34:LYS:O	47:B:37:VAL:HG22	2.15	0.46
50:E:25:PHE:CE1	50:E:29:GLU:HG3	2.51	0.46
55:J:43:ILE:HA	55:J:56:ARG:O	2.15	0.46
55:J:87:ASN:ND2	55:J:89:GLU:HB2	2.30	0.46
65:T:24:GLY:HA2	65:T:58:ALA:HB3	1.97	0.46
65:T:116:LEU:HD22	65:T:124:GLY:HA3	1.98	0.46
72:a:59:TYR:CE1	72:a:100:ILE:HG23	2.49	0.46
1:1:422:A:C2	1:1:2341:A:H4'	2.51	0.46
1:1:624:U:H2'	1:1:625:C:H6	1.80	0.46
1:1:941:C:H2'	1:1:942:U:C6	2.51	0.46
1:1:1173:G:C6	35:AG:20:LYS:HE2	2.50	0.46
1:1:1916:U:O2'	1:1:1928:A:N7	2.42	0.46
1:1:2281:A:OP1	43:AO:23:ARG:NH2	2.47	0.46
1:1:2820:G:OP1	42:AN:24:TYR:OH	2.31	0.46
1:1:3216:U:H2'	1:1:3217:G:C8	2.50	0.46
15:t:189:ALA:HA	15:t:192:LYS:HG2	1.97	0.46
24:5:55:SER:HB3	24:5:67:VAL:CG1	2.46	0.46
32:AD:55:LYS:O	32:AD:59:GLU:HG3	2.14	0.46
46:A:189:G:H1'	46:A:193:G:N2	2.30	0.46
46:A:1353:G:H5''	66:U:69:LYS:CD	2.43	0.46
50:E:94:GLU:CG	50:E:97:LEU:HG	2.45	0.46
50:E:142:LYS:C	50:E:143:LEU:HD12	2.41	0.46
52:G:125:THR:CG2	52:G:127:GLN:HE22	2.28	0.46
61:P:42:LYS:NZ	61:P:61:ASP:OD2	2.45	0.46
68:W:15:ARG:HH11	68:W:33:GLN:HE21	1.63	0.46
70:Y:68:ILE:O	70:Y:70:LYS:HD3	2.14	0.46
71:Z:20:ARG:NH1	71:Z:74:LEU:HD22	2.30	0.46
1:1:1639:A:H2'	1:1:1640:C:C2	2.51	0.46
1:1:3035:C:H2'	1:1:3036:U:H6	1.81	0.46
3:4:156:U:O2'	3:4:157:U:OP1	2.33	0.46
9:n:3:GLN:HG2	34:AF:76:LEU:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:n:70:VAL:HG13	9:n:160:ALA:HB2	1.97	0.46
10:o:39:ARG:HA	10:o:42:ILE:HG12	1.97	0.46
14:s:110:ILE:CD1	14:s:116:TYR:HB2	2.46	0.46
29:AA:83:THR:HG22	36:AH:93:PHE:CZ	2.51	0.46
46:A:330:U:P	55:J:56:ARG:HH22	2.39	0.46
46:A:583:A:H2'	46:A:584:G:H8	1.80	0.46
46:A:874:U:H2'	46:A:875:C:C6	2.50	0.46
46:A:892:A:N1	46:A:993:G:H1'	2.31	0.46
46:A:1105:U:H2'	46:A:1106:C:H6	1.81	0.46
54:I:60:PRO:N	54:I:61:PRO:HD2	2.30	0.46
55:J:40:PRO:HA	55:J:61:GLU:OE1	2.15	0.46
57:L:47:GLN:HA	57:L:50:THR:HG22	1.97	0.46
60:O:87:ASP:OD1	60:O:87:ASP:N	2.49	0.46
78:g:151:ASP:HB2	78:g:154:GLY:HA3	1.96	0.46
1:l:805:G:N1	1:l:928:U:O4	2.48	0.46
1:l:2081:U:H2'	1:l:2082:A:H8	1.79	0.46
7:l:35:LEU:HD22	7:l:121:TYR:HD2	1.80	0.46
14:s:99:THR:O	14:s:99:THR:HG22	2.15	0.46
24:5:16:VAL:HG11	24:5:63:LYS:HE2	1.97	0.46
24:5:19:VAL:HG13	24:5:108:LEU:HB2	1.97	0.46
36:AH:67:LYS:O	36:AH:71:THR:HG22	2.15	0.46
46:A:875:C:H2'	46:A:876:A:H8	1.80	0.46
46:A:1369:G:O4'	67:V:56:ARG:NH1	2.47	0.46
46:A:1784:A:H4'	73:b:95:ARG:HD3	1.97	0.46
54:I:6:LEU:HB2	54:I:40:LYS:HA	1.97	0.46
57:L:54:TYR:HD1	57:L:72:GLY:HA2	1.79	0.46
58:M:66:ILE:HG13	58:M:140:LEU:HD21	1.98	0.46
59:N:52:LEU:HD11	59:N:86:ILE:HG13	1.97	0.46
60:O:5:HIS:CE1	60:O:121:ARG:HG3	2.50	0.46
62:Q:77:LYS:HB3	62:Q:102:PHE:CE2	2.51	0.46
65:T:33:THR:HA	65:T:38:VAL:O	2.16	0.46
65:T:57:ARG:HB2	65:T:60:GLU:HG2	1.97	0.46
69:X:45:GLY:O	69:X:68:ARG:NH2	2.43	0.46
79:h:176:LYS:HB3	79:h:178:TRP:NE1	2.29	0.46
1:l:699:G:H2'	1:l:700:C:C6	2.51	0.46
1:l:2138:G:H2'	1:l:2139:G:C8	2.49	0.46
1:l:3275:A:OP1	19:x:74:LYS:NZ	2.38	0.46
32:AD:18:LEU:HB3	32:AD:100:SER:OG	2.15	0.46
37:AI:118:ILE:HG22	37:AI:119:LYS:N	2.30	0.46
39:AK:24:ARG:HG2	39:AK:24:ARG:NH1	2.30	0.46
46:A:261:C:O2'	46:A:262:G:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:330:U:H5	55:J:181:GLN:HE22	1.64	0.46
46:A:856:G:H5'	74:c:51:GLN:HB3	1.97	0.46
46:A:1105:U:H2'	46:A:1106:C:C6	2.50	0.46
46:A:1487:C:P	66:U:122:ARG:HH22	2.38	0.46
46:A:1609:G:H2'	46:A:1610:C:C6	2.51	0.46
46:A:1706:A:H2'	46:A:1707:G:O4'	2.16	0.46
47:B:39:LYS:HG3	47:B:47:ILE:HD13	1.97	0.46
54:I:4:LYS:HA	54:I:38:GLN:NE2	2.31	0.46
56:K:132:ARG:HD2	56:K:142:ASN:HB3	1.98	0.46
64:S:10:LYS:C	64:S:14:LYS:HZ2	2.24	0.46
67:V:31:LYS:HG3	67:V:32:GLN:H	1.80	0.46
1:1:158:A:H2'	1:1:159:A:H8	1.81	0.46
1:1:629:A:C2	35:AG:91:PRO:HG2	2.51	0.46
1:1:2514:G:C6	1:1:2515:G:N1	2.84	0.46
1:1:2656:C:O2'	14:s:99:THR:HG21	2.15	0.46
10:o:50:GLN:O	10:o:54:THR:HG23	2.16	0.46
14:s:28:ASP:O	14:s:32:ARG:HG3	2.15	0.46
14:s:74:PRO:O	14:s:78:GLU:OE1	2.33	0.46
15:t:107:GLU:O	15:t:110:ASP:OD1	2.33	0.46
46:A:444:A:H62	46:A:459:G:H21	1.64	0.46
46:A:484:G:H2'	46:A:485:G:C8	2.51	0.46
46:A:1774:C:H2'	46:A:1775:G:C8	2.51	0.46
55:J:65:PHE:HA	55:J:187:GLY:O	2.16	0.46
56:K:38:ASN:OD1	56:K:40:ARG:HG2	2.16	0.46
67:V:21:ILE:O	67:V:21:ILE:HG13	2.14	0.46
1:1:545:G:P	1:1:545:G:H21	2.38	0.46
15:t:5:LYS:H	15:t:5:LYS:HD3	1.81	0.46
17:v:48:ALA:HB1	17:v:53:TYR:HB3	1.98	0.46
18:w:76:ALA:HB3	18:w:79:ARG:HG2	1.98	0.46
20:y:39:ARG:HG3	20:y:39:ARG:O	2.16	0.46
21:z:160:GLU:HG3	46:A:797:U:H3	1.80	0.46
32:AD:46:ILE:HG22	32:AD:50:THR:HG21	1.98	0.46
46:A:335:G:O2'	55:J:10:LYS:NZ	2.48	0.46
46:A:854:A:H61	46:A:943:U:H5	1.63	0.46
46:A:964:A:H4'	46:A:1773:G:N2	2.31	0.46
46:A:1086:G:O2'	69:X:4:THR:OG1	2.19	0.46
46:A:1092:G:O2'	46:A:1093:G:H5'	2.16	0.46
46:A:1126:G:H2'	46:A:1127:A:C8	2.50	0.46
46:A:1276:G:N2	46:A:1309:G:H22	2.14	0.46
48:C:219:LYS:HE3	48:C:219:LYS:HB3	1.75	0.46
59:N:42:ALA:O	59:N:121:VAL:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:R:124:GLU:CD	63:R:134:ARG:HH12	2.24	0.46
69:X:102:VAL:HB	69:X:113:HIS:HB3	1.97	0.46
1:1:299:G:C8	38:AJ:30:GLY:HA3	2.50	0.46
1:1:314:U:H2'	1:1:315:C:C6	2.51	0.46
1:1:911:A:H8	1:1:2114:C:O2'	1.98	0.46
1:1:1502:A:H1'	1:1:1844:G:O6	2.16	0.46
1:1:2814:U:O2	1:1:2814:U:H2'	2.15	0.46
3:4:71:A:N1	3:4:82:U:O2'	2.47	0.46
16:u:97:ALA:O	16:u:100:GLU:HG3	2.16	0.46
46:A:30:G:H4'	70:Y:131:SER:HB3	1.98	0.46
46:A:1508:G:O2'	46:A:1510:G:OP2	2.28	0.46
46:A:1578:C:OP2	66:U:92:LYS:NZ	2.36	0.46
49:D:72:LYS:HG3	49:D:185:LEU:CD1	2.46	0.46
52:G:82:PHE:HE1	75:d:47:PRO:HB2	1.81	0.46
54:I:119:ASP:OD1	54:I:120:LYS:N	2.49	0.46
56:K:96:VAL:HA	56:K:99:LEU:HD13	1.97	0.46
72:a:61:SER:H	72:a:64:VAL:HG22	1.79	0.46
79:h:37:SER:OG	79:h:38:ARG:N	2.47	0.46
1:1:218:A:O2'	1:1:219:G:N2	2.38	0.46
1:1:357:A:O4'	7:l:82:GLY:HA3	2.16	0.46
1:1:1380:U:H5'	7:l:139:ARG:NH1	2.31	0.46
1:1:1593:C:H2'	1:1:1594:G:C8	2.51	0.46
1:1:2394:U:H2'	1:1:2395:U:C6	2.51	0.46
1:1:3093:U:H1'	1:1:3094:A:H5''	1.98	0.46
1:1:3175:A:OP1	16:u:102:ARG:NH1	2.48	0.46
1:1:3196:U:H2'	1:1:3197:G:C8	2.50	0.46
3:4:7:U:H2'	3:4:8:C:H6	1.81	0.46
14:s:75:LYS:HE2	14:s:79:ILE:HD11	1.97	0.46
20:y:21:SER:OG	20:y:26:LEU:HD23	2.16	0.46
30:AB:112:VAL:HB	30:AB:130:VAL:HG23	1.98	0.46
40:AL:11:PHE:CD2	40:AL:54:LEU:HB2	2.51	0.46
46:A:1580:A:O2'	46:A:1581:G:H5'	2.15	0.46
47:B:56:LYS:NZ	47:B:159:ALA:O	2.38	0.46
48:C:33:LYS:HE3	48:C:95:ASN:CG	2.40	0.46
48:C:99:ASN:OD1	48:C:100:PHE:N	2.47	0.46
50:E:143:LEU:CD1	50:E:183:LEU:HD21	2.45	0.46
56:K:30:LEU:HD21	56:K:105:LEU:CD1	2.46	0.46
58:M:26:LYS:O	58:M:29:LYS:HE3	2.16	0.46
67:V:100:LYS:NZ	67:V:115:VAL:HG11	2.31	0.46
71:Z:20:ARG:NH1	71:Z:22:GLN:HB3	2.31	0.46
79:h:12:THR:HG22	79:h:308:ARG:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:248:U:H2'	1:1:249:G:H4'	1.98	0.45
1:1:292:U:OP2	17:v:68:ARG:NH2	2.45	0.45
1:1:661:C:H2'	1:1:662:U:C6	2.51	0.45
1:1:1911:A:H2'	1:1:1912:U:C6	2.51	0.45
1:1:2511:G:C6	1:1:2512:G:C5	3.04	0.45
1:1:2902:A:H2'	1:1:2903:C:C6	2.51	0.45
14:s:65:ILE:HG13	14:s:66:ALA:H	1.80	0.45
46:A:149:G:H21	53:H:13:GLN:NE2	2.14	0.45
46:A:1036:U:O2	46:A:1052:G:N2	2.38	0.45
46:A:1597:G:OP2	63:R:74:VAL:HG21	2.16	0.45
48:C:125:VAL:HG11	48:C:169:ILE:HG23	1.98	0.45
51:F:199:GLU:OE2	51:F:201:HIS:NE2	2.29	0.45
57:L:5:LYS:O	57:L:9:LYS:HG2	2.16	0.45
71:Z:6:THR:HG23	71:Z:28:LEU:HB2	1.97	0.45
75:d:35:ASP:O	75:d:37:SER:N	2.48	0.45
79:h:153:SER:OG	79:h:171:TRP:CD1	2.69	0.45
79:h:164:SER:O	79:h:180:LEU:HD22	2.16	0.45
1:1:1303:G:OP2	18:w:60:ARG:NH1	2.46	0.45
1:1:3199:G:H1	1:1:3218:U:H3	1.64	0.45
1:1:3318:G:C2	1:1:3321:G:C4	3.03	0.45
6:k:277:SER:OG	6:k:280:HIS:NE2	2.34	0.45
6:k:284:ARG:HH11	6:k:356:LEU:HD12	1.80	0.45
21:z:152:GLU:O	21:z:155:LEU:N	2.49	0.45
28:9:31:LEU:HB3	28:9:101:PRO:HG2	1.97	0.45
31:AC:14[B]:ARG:NE	31:AC:18:ARG:HH21	2.14	0.45
45:AQ:81:SER:HA	45:AQ:84:ARG:CG	2.44	0.45
46:A:505:U:O2'	46:A:506:U:O5'	2.32	0.45
46:A:911:A:H2	61:P:121:THR:HG22	1.77	0.45
49:D:111:LYS:HG2	49:D:122:ALA:HB3	1.97	0.45
58:M:111:VAL:HA	58:M:139:VAL:HG12	1.98	0.45
59:N:67:THR:C	59:N:69:GLU:H	2.24	0.45
72:a:91:PRO:HB3	72:a:101:TYR:CE2	2.50	0.45
79:h:9:LEU:HD13	79:h:310:TRP:CZ3	2.51	0.45
79:h:37:SER:HB3	79:h:39:ASP:OD1	2.17	0.45
79:h:43:ILE:HG12	79:h:61:SER:OG	2.16	0.45
79:h:271:LEU:HD23	79:h:310:TRP:CE2	2.50	0.45
1:1:172:C:HO2'	1:1:173:C:P	2.36	0.45
1:1:656:G:N2	7:l:94:MET:HB2	2.31	0.45
1:1:912:G:H5'	1:1:913:A:OP1	2.16	0.45
1:1:1050:A:H5''	1:1:2609:A:H61	1.81	0.45
1:1:1097:G:H5''	10:o:105:ARG:HD3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2227:G:H2'	1:1:2228:G:H8	1.81	0.45
1:1:2584:U:H2'	1:1:2585:U:O4'	2.17	0.45
24:5:101:VAL:HG23	24:5:102:LYS:N	2.30	0.45
46:A:239:U:H5''	53:H:216:LEU:HD11	1.98	0.45
46:A:886:G:H2'	46:A:887:G:C8	2.51	0.45
46:A:912:C:O2	61:P:119:ASP:OD1	2.35	0.45
46:A:1672:G:H2'	46:A:1674:U:C2	2.51	0.45
47:B:198:MET:HE1	47:B:200:ASP:OD1	2.16	0.45
47:B:200:ASP:OD1	64:S:89:SER:HA	2.17	0.45
51:F:151:ASP:O	51:F:154:ILE:HG22	2.16	0.45
52:G:53:VAL:CG2	52:G:62:ILE:HD11	2.46	0.45
52:G:125:THR:HG23	52:G:127:GLN:HE22	1.81	0.45
52:G:139:ASN:O	52:G:214:LYS:NZ	2.23	0.45
53:H:63:MET:HG3	53:H:99:GLY:O	2.17	0.45
55:J:107:THR:OG1	55:J:108:PRO:HD3	2.17	0.45
65:T:76:PRO:O	65:T:81:ILE:HG22	2.16	0.45
66:U:27:LYS:HZ3	66:U:111:ILE:HB	1.81	0.45
67:V:33:LEU:HD21	67:V:88:ARG:HD3	1.98	0.45
1:1:1034:U:OP1	8:m:5:LYS:HG3	2.17	0.45
1:1:1923:G:C8	45:AQ:16:VAL:HG12	2.52	0.45
14:s:90:GLN:NE2	14:s:172:LEU:HD13	2.14	0.45
15:t:2:ALA:HB1	30:AB:33:GLY:O	2.15	0.45
30:AB:44:ASN:ND2	30:AB:48:TYR:HD2	2.14	0.45
33:AE:75:SER:OG	33:AE:77:LYS:HE3	2.15	0.45
37:AI:31:LEU:HD11	37:AI:43:ARG:HG2	1.99	0.45
46:A:122:U:C2'	46:A:123:G:H5''	2.44	0.45
46:A:180:A:H2'	46:A:181:U:C6	2.51	0.45
46:A:393:U:H2'	46:A:394:G:O4'	2.16	0.45
46:A:583:A:H2'	46:A:584:G:C8	2.52	0.45
46:A:609:U:H5'	70:Y:15:LEU:HD23	1.98	0.45
46:A:728:U:P	54:I:104:LYS:H	2.40	0.45
46:A:1016:U:H4'	46:A:1017:G:OP2	2.15	0.45
46:A:1243:U:C6	46:A:1244:U:H5	2.34	0.45
46:A:1406:C:H5'	76:e:54:LYS:HE3	1.98	0.45
51:F:111:VAL:HG13	51:F:111:VAL:O	2.17	0.45
54:I:134:LYS:C	54:I:135:ARG:HD2	2.41	0.45
71:Z:87:PRO:HD2	71:Z:90:ARG:NH1	2.32	0.45
79:h:246:ARG:HB3	79:h:248:TRP:CZ3	2.49	0.45
1:1:269:G:OP2	17:v:44:ARG:NH2	2.46	0.45
1:1:428:U:H2'	1:1:429:U:C6	2.52	0.45
1:1:1199:A:N3	1:1:2827:U:O2'	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1456:A:H2'	1:1:1457:A:H8	1.81	0.45
1:1:2116:A:C4	39:AK:3:LYS:HB3	2.51	0.45
1:1:2518:A:C1'	1:1:2519:A:H2'	2.32	0.45
1:1:2521:C:P	1:1:2521:C:H6	2.40	0.45
1:1:2644:G:H1'	14:s:97:SER:OG	2.16	0.45
1:1:2978:A:H2'	1:1:2979:U:O4'	2.16	0.45
1:1:3300:A:H2'	1:1:3301:A:C8	2.52	0.45
5:j:64:ARG:HH11	5:j:64:ARG:HG2	1.80	0.45
7:l:113:LYS:HG3	17:v:202:TYR:HB3	1.97	0.45
19:x:114:ILE:HG23	19:x:148:LEU:HD11	1.99	0.45
47:B:33:ASN:HB3	47:B:149:MET:SD	2.56	0.45
50:E:67:ILE:H	50:E:67:ILE:HD12	1.81	0.45
55:J:78:ILE:CD1	55:J:96:LEU:HD11	2.46	0.45
56:K:109:LEU:O	56:K:113:VAL:HG12	2.15	0.45
60:O:62:GLN:HG3	60:O:64:LYS:H	1.80	0.45
65:T:6:GLN:OE1	65:T:6:GLN:N	2.48	0.45
65:T:65:GLU:O	65:T:69:ILE:HG12	2.17	0.45
79:h:219:LEU:HD11	79:h:242:PHE:HZ	1.82	0.45
1:1:623:A:H2'	1:1:624:U:H6	1.81	0.45
1:1:1660:G:H2'	1:1:1661:U:C6	2.51	0.45
1:1:1852:C:H2'	1:1:1853:C:H6	1.79	0.45
1:1:2234:A:O2'	1:1:2235:C:H5''	2.17	0.45
1:1:2959:A:H2'	1:1:2960:C:H6	1.82	0.45
3:4:142:C:H2'	3:4:143:U:H6	1.82	0.45
7:l:157:PHE:CD1	7:l:169:VAL:HG11	2.52	0.45
8:m:95:TRP:CD1	8:m:158:ARG:HA	2.52	0.45
8:m:187:ALA:O	8:m:189:GLU:N	2.48	0.45
32:AD:17:ALA:HA	32:AD:20:ILE:HG12	1.99	0.45
46:A:165:U:H4'	53:H:134:GLY:O	2.17	0.45
46:A:824:U:H4'	46:A:825:U:OP2	2.17	0.45
46:A:1029:U:H2'	46:A:1030:C:C6	2.52	0.45
46:A:1226:G:H4'	62:Q:78:THR:HA	1.98	0.45
46:A:1238:U:H2'	46:A:1239:U:H6	1.82	0.45
46:A:1483:U:H4'	46:A:1506:U:O2'	2.17	0.45
47:B:15:LYS:HE2	47:B:15:LYS:HA	1.98	0.45
47:B:164:ASN:O	47:B:170:ILE:HD11	2.17	0.45
48:C:27:LYS:HA	48:C:48:ILE:O	2.17	0.45
48:C:111:ARG:HH21	48:C:114:VAL:HG11	1.80	0.45
48:C:120:LEU:HD12	48:C:142:PHE:CE2	2.52	0.45
49:D:173:ILE:HB	49:D:180:LYS:HE3	1.99	0.45
56:K:80:LEU:HD22	56:K:85:VAL:HG21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:U:108:LEU:CD2	66:U:113:VAL:HB	2.47	0.45
70:Y:93:LEU:HA	70:Y:96:VAL:HG12	1.99	0.45
79:h:45:TRP:CZ3	79:h:58:PRO:HG3	2.52	0.45
1:1:502:U:H2'	1:1:503:U:C6	2.52	0.45
1:1:1827:U:O2'	3:4:114:G:OP1	2.20	0.45
1:1:2519:A:H1'	1:1:2520:A:P	2.57	0.45
1:1:2958:U:C2	1:1:2959:A:C8	3.05	0.45
8:m:40:HIS:CE1	23:2:69:LYS:HA	2.51	0.45
9:n:157:GLN:OE1	9:n:157:GLN:N	2.50	0.45
13:r:20:SER:O	13:r:24:ARG:HD2	2.16	0.45
43:AO:1:MET:HB2	46:A:1629:G:H5''	1.99	0.45
46:A:188:U:H2'	46:A:189:G:H8	1.81	0.45
46:A:574:G:O6	70:Y:65:ASN:ND2	2.33	0.45
46:A:1343:G:H1'	66:U:129:GLN:OE1	2.16	0.45
46:A:1529:G:N2	46:A:1555:C:H1'	2.31	0.45
46:A:1551:U:H2'	46:A:1552:C:H6	1.82	0.45
47:B:198:MET:SD	47:B:200:ASP:HB2	2.56	0.45
48:C:26:ARG:O	48:C:26:ARG:HG2	2.17	0.45
48:C:26:ARG:HE	48:C:49:ASN:CG	2.25	0.45
49:D:179:VAL:HG12	49:D:183:MET:CE	2.44	0.45
53:H:219:ARG:HD3	53:H:223:ARG:HH12	1.81	0.45
54:I:10:PRO:HB2	54:I:14:GLU:HB2	1.99	0.45
57:L:8:ARG:HE	57:L:12:HIS:HE1	1.64	0.45
64:S:97:ASN:HD21	64:S:120:GLN:NE2	2.15	0.45
68:W:28:ASP:OD2	68:W:31:SER:HB3	2.16	0.45
69:X:29:PRO:HB2	69:X:58:SER:OG	2.16	0.45
70:Y:88:PRO:O	70:Y:89:ASN:HB2	2.17	0.45
79:h:192:HIS:CG	79:h:196:ILE:HD11	2.52	0.45
1:1:18:U:H2'	1:1:19:A:C8	2.52	0.45
1:1:362:U:O4	39:AK:24:ARG:NH2	2.49	0.45
1:1:486:C:H2'	1:1:487:C:C6	2.51	0.45
1:1:583:A:H2'	1:1:584:C:C6	2.52	0.45
1:1:624:U:H2'	1:1:625:C:C6	2.52	0.45
1:1:2899:C:H2'	1:1:2900:C:C6	2.52	0.45
3:4:78:G:H2'	3:4:79:A:N3	2.32	0.45
6:k:17:LEU:HD21	6:k:233:TRP:HH2	1.82	0.45
11:p:65:ILE:O	11:p:69:ARG:HG2	2.17	0.45
14:s:110:ILE:HD13	14:s:116:TYR:HB2	1.98	0.45
30:AB:90:TYR:O	30:AB:94:SER:OG	2.28	0.45
32:AD:46:ILE:CG2	32:AD:50:THR:HG21	2.47	0.45
46:A:796:A:N6	46:A:843:G:H2'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:935:C:H2'	46:A:936:A:C8	2.51	0.45
46:A:1222:G:H2'	46:A:1223:A:H8	1.81	0.45
46:A:1238:U:H5''	78:g:172:ILE:CG1	2.45	0.45
46:A:1258:G:N7	46:A:1416:U:H3'	2.31	0.45
46:A:1265:C:H2'	46:A:1266:G:C8	2.50	0.45
46:A:1608:U:H2'	46:A:1609:G:C8	2.51	0.45
47:B:69:ASN:OD1	47:B:71:SER:OG	2.14	0.45
75:d:12:VAL:CG2	75:d:52:ASP:H	2.28	0.45
1:l:1113:G:OP1	31:AC:4:SER:HB2	2.17	0.45
1:l:1852:C:H2'	1:l:1853:C:C6	2.52	0.45
1:l:2661:A:H2'	1:l:2661:A:N3	2.32	0.45
1:l:3091:U:H4'	42:AN:28:PRO:HG2	1.99	0.45
1:l:3344:U:H4'	6:k:315:GLY:HA2	1.99	0.45
7:l:54:ALA:HB3	7:l:57:ALA:HB2	1.99	0.45
13:r:50:ILE:HG12	13:r:167:ILE:CD1	2.43	0.45
21:z:150:LEU:O	21:z:151:ARG:C	2.60	0.45
22:0:45:LEU:HG	22:0:51:VAL:CG1	2.46	0.45
46:A:99:C:OP2	46:A:376:A:O2'	2.21	0.45
46:A:214:U:O2'	46:A:215:A:OP1	2.33	0.45
46:A:267:G:N7	53:H:186:ARG:NH2	2.64	0.45
46:A:338:U:H2'	46:A:339:A:C8	2.51	0.45
46:A:359:C:H5'	46:A:376:A:H5'	1.99	0.45
48:C:189:ILE:CG1	48:C:190:PRO:HD3	2.39	0.45
59:N:78:LEU:O	59:N:81:GLU:HG2	2.16	0.45
60:O:36:GLN:HA	60:O:39:LYS:HG2	1.99	0.45
64:S:45:ARG:HG2	64:S:49:LYS:HZ2	1.81	0.45
67:V:22:ARG:HB2	67:V:116:THR:CG2	2.46	0.45
73:b:95:ARG:HG3	73:b:95:ARG:O	2.17	0.45
79:h:176:LYS:NZ	79:h:188:ASP:OD1	2.30	0.45
1:l:515:A:N7	7:l:361:LEU:HD21	2.31	0.45
1:l:1115:C:H2'	1:l:1116:A:C8	2.52	0.45
1:l:1714:G:H2'	1:l:1715:G:C8	2.52	0.45
7:l:360:VAL:HG22	22:0:64:ILE:HG12	1.98	0.45
13:r:190:VAL:HG22	13:r:199:PHE:CD1	2.51	0.45
18:w:73:HIS:HB2	18:w:75:ARG:NH1	2.31	0.45
24:5:31:GLU:HG3	24:5:32:SER:N	2.32	0.45
46:A:558:U:H2'	46:A:559:G:H8	1.82	0.45
46:A:769:U:O2'	46:A:770:C:OP2	2.33	0.45
46:A:786:G:H21	69:X:107:SER:HB3	1.82	0.45
46:A:1127:A:H2'	46:A:1128:A:C8	2.52	0.45
46:A:1168:A:O2'	46:A:1169:A:OP1	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:98:ILE:O	47:B:98:ILE:HG13	2.17	0.45
51:F:196:VAL:HG12	51:F:209:HIS:O	2.17	0.45
60:O:99:ARG:NE	60:O:143:SER:OG	2.51	0.45
64:S:33:ARG:O	64:S:37:GLU:OE1	2.35	0.45
69:X:16:ASN:HA	69:X:19:LYS:HG2	1.98	0.45
79:h:44:LYS:HD2	79:h:95:LEU:HD12	1.98	0.45
1:1:548:G:H2'	1:1:549:U:H6	1.82	0.44
1:1:725:G:H22	20:y:139:ILE:HB	1.82	0.44
1:1:1189:A:OP1	18:w:50:ARG:NH2	2.45	0.44
1:1:1909:A:N3	1:1:2098:A:H2'	2.32	0.44
1:1:2734:A:H2'	1:1:2735:U:H6	1.82	0.44
1:1:3163:U:H1'	1:1:3165:U:O4	2.17	0.44
2:3:27:A:H2'	2:3:28:C:C6	2.52	0.44
6:k:293:ASN:HB2	6:k:304:THR:HA	1.98	0.44
12:q:41:ILE:HG22	12:q:43:VAL:HG13	1.98	0.44
22:0:155:ARG:HD3	22:0:172:TYR:HD1	1.80	0.44
35:AG:49:ILE:HG12	35:AG:100:ILE:HD13	1.99	0.44
46:A:15:U:O2'	46:A:618:A:N6	2.51	0.44
46:A:70:C:OP2	53:H:164:LYS:NZ	2.41	0.44
46:A:78:A:H2'	46:A:79:C:H6	1.81	0.44
46:A:372:U:O2'	46:A:601:U:OP1	2.32	0.44
46:A:734:U:H2'	46:A:735:U:C6	2.52	0.44
46:A:804:U:H2'	46:A:805:U:H5	1.82	0.44
46:A:938:G:H2'	46:A:939:G:C8	2.52	0.44
46:A:1129:U:H2'	46:A:1130:U:H6	1.79	0.44
54:I:51:LYS:HD2	54:I:85:HIS:CE1	2.51	0.44
57:L:79:GLU:OE1	57:L:80:LEU:HD22	2.17	0.44
71:Z:84:ARG:HG2	71:Z:85:PHE:CE1	2.52	0.44
79:h:204:ASP:OD1	79:h:205:GLY:N	2.50	0.44
1:1:316:U:HO2'	38:AJ:29:LYS:NZ	2.14	0.44
1:1:1275:C:H2'	1:1:1276:C:C6	2.52	0.44
1:1:1434:U:H4'	7:l:89:ALA:HB3	1.99	0.44
2:3:9:C:OP1	23:2:26:PRO:HB2	2.17	0.44
12:q:84:LYS:HB3	12:q:186:THR:CG2	2.44	0.44
14:s:86:VAL:CG2	14:s:112:LEU:HA	2.47	0.44
15:t:60:ALA:HB3	15:t:65:TYR:O	2.17	0.44
41:AM:26:TRP:HZ3	41:AM:30:ARG:HH21	1.65	0.44
46:A:30:G:H2'	46:A:31:C:C6	2.52	0.44
46:A:445:U:O2'	51:F:27:TYR:O	2.35	0.44
46:A:803:G:H2'	46:A:806:A:C8	2.51	0.44
46:A:1099:G:O2'	46:A:1115:G:O6	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:136:SER:HB2	47:B:141:ILE:HG13	1.99	0.44
56:K:59:LEU:HD21	56:K:72:GLU:OE2	2.17	0.44
59:N:29:LYS:O	59:N:32:LEU:HG	2.17	0.44
69:X:36:LYS:O	69:X:40:VAL:HG13	2.18	0.44
1:1:122:A:C6	1:1:149:A:C5	3.05	0.44
1:1:348:A:N3	1:1:352:A:O2'	2.49	0.44
1:1:393:U:H2'	1:1:394:G:O4'	2.16	0.44
1:1:1675:A:OP1	24:5:97:ARG:HD2	2.17	0.44
1:1:2504:C:H2'	1:1:2505:G:C8	2.52	0.44
1:1:2787:G:N2	1:1:2790:U:O2	2.46	0.44
1:1:3193:C:H4'	1:1:3194:G:O5'	2.18	0.44
3:4:36:G:C5	37:AI:86:ARG:HD3	2.52	0.44
26:7:52:THR:O	26:7:56:ARG:HG3	2.17	0.44
34:AF:97:ILE:HG21	34:AF:106:ARG:HG3	1.98	0.44
46:A:404:U:H2'	46:A:405:A:C8	2.52	0.44
46:A:1213:G:N7	59:N:95:LYS:NZ	2.58	0.44
53:H:149:LYS:HE3	53:H:149:LYS:HB3	1.75	0.44
61:P:37:VAL:HB	61:P:62:VAL:HG23	1.98	0.44
69:X:55:ASP:OD2	69:X:57:ARG:HB2	2.17	0.44
72:a:61:SER:H	72:a:64:VAL:CG2	2.29	0.44
1:1:602:A:H2'	1:1:603:C:C6	2.53	0.44
1:1:1007:A:H2'	1:1:1008:A:C8	2.52	0.44
1:1:2089:G:H5''	26:7:48:ARG:HE	1.82	0.44
1:1:2557:G:H2'	1:1:2557:G:N3	2.33	0.44
2:3:113:C:H2'	2:3:114:U:O4'	2.18	0.44
5:j:132:ASN:HD22	5:j:151:PRO:HB3	1.81	0.44
46:A:770:C:OP1	46:A:770:C:H6	2.00	0.44
46:A:933:A:H2'	46:A:934:C:C6	2.53	0.44
46:A:1187:A:H1'	46:A:1192:C:N4	2.33	0.44
52:G:53:VAL:HG13	52:G:138:VAL:HG21	2.00	0.44
53:H:69:HIS:O	53:H:99:GLY:HA3	2.17	0.44
57:L:1:MET:HE3	57:L:3:ILE:HD11	1.98	0.44
57:L:92:LEU:O	57:L:93:LYS:HG2	2.18	0.44
68:W:69:LEU:HA	68:W:69:LEU:HD23	1.80	0.44
70:Y:126:LYS:HG2	70:Y:131:SER:HA	1.99	0.44
74:c:36:LYS:HA	74:c:36:LYS:HD3	1.56	0.44
79:h:97:THR:C	79:h:99:GLU:H	2.25	0.44
79:h:229:TYR:CG	79:h:230:THR:N	2.85	0.44
1:1:266:C:N4	38:AJ:29:LYS:HA	2.32	0.44
1:1:661:C:H2'	1:1:662:U:H6	1.83	0.44
1:1:817:U:H2'	1:1:818:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1059:G:N7	1:1:1093:G:O2'	2.32	0.44
1:1:1478:A:H4'	1:1:1479:G:OP2	2.18	0.44
1:1:1588:G:OP1	36:AH:58:ARG:NH2	2.34	0.44
1:1:1676:G:H2'	1:1:1677:U:H6	1.83	0.44
1:1:2183:U:O2'	1:1:2184:G:O4'	2.19	0.44
1:1:2380:A:H5''	7:l:68:THR:CG2	2.47	0.44
1:1:2587:G:H2'	1:1:2588:C:C6	2.53	0.44
1:1:2852:U:O2	6:k:250:ALA:HB3	2.17	0.44
1:1:2933:G:H2'	1:1:2934:U:H6	1.82	0.44
1:1:3171:C:H5''	1:1:3172:U:O5'	2.18	0.44
2:3:7:G:OP1	8:m:33:ARG:HD2	2.17	0.44
3:4:156:U:OP2	11:p:85:LYS:HE2	2.17	0.44
7:l:4:ARG:NH1	7:l:23:LEU:O	2.50	0.44
11:p:43:PRO:HG2	11:p:45:ARG:CD	2.47	0.44
15:t:138:PHE:HE1	37:AI:120:ALA:HB2	1.83	0.44
19:x:25:SER:OG	19:x:28:ASN:HB2	2.17	0.44
37:AI:105:ARG:HG3	37:AI:108:ARG:HH21	1.83	0.44
41:AM:41:ARG:HA	41:AM:41:ARG:HD2	1.81	0.44
46:A:844:A:N3	60:O:73:ARG:NH2	2.65	0.44
48:C:38:PHE:CE2	48:C:73:LEU:HD13	2.52	0.44
48:C:144:LYS:HG3	48:C:206:PRO:HB2	1.98	0.44
56:K:176:ASN:O	56:K:179:LYS:HG2	2.18	0.44
57:L:38:ARG:HB2	57:L:41:PHE:CD2	2.53	0.44
58:M:136:ARG:C	58:M:137:PHE:HD2	2.25	0.44
59:N:59:LEU:HD22	59:N:133:ARG:HH22	1.83	0.44
60:O:62:GLN:O	60:O:65:VAL:HG12	2.18	0.44
61:P:76:ILE:HB	61:P:110:ILE:HG12	2.00	0.44
69:X:77:PRO:HD2	69:X:79:PHE:CZ	2.52	0.44
71:Z:20:ARG:HH11	71:Z:74:LEU:HD22	1.83	0.44
71:Z:106:GLN:O	71:Z:110:GLN:OE1	2.36	0.44
1:1:279:U:H2'	1:1:280:U:C6	2.53	0.44
1:1:1481:G:N2	36:AH:4:ARG:HD2	2.33	0.44
1:1:1714:G:H2'	1:1:1715:G:H8	1.83	0.44
1:1:2492:U:OP2	1:1:2558:G:N2	2.51	0.44
1:1:3285:A:H2'	1:1:3286:C:C6	2.52	0.44
1:1:3318:G:H3'	1:1:3319:U:O3'	2.17	0.44
5:j:117:GLU:OE2	5:j:163:ARG:NH2	2.50	0.44
12:q:14:GLU:HA	12:q:51:ARG:HH11	1.83	0.44
24:5:31:GLU:O	24:5:34:VAL:HG12	2.17	0.44
25:6:38:ALA:O	25:6:58:VAL:HG13	2.17	0.44
39:AK:60:GLY:CA	39:AK:64:MET:HE3	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:141:G:H5''	53:H:143:LYS:NZ	2.33	0.44
46:A:415:A:H4'	46:A:416:G:O5'	2.18	0.44
46:A:872:A:C2	61:P:121:THR:CG2	3.00	0.44
46:A:1516:C:H2'	46:A:1517:C:H6	1.82	0.44
46:A:1676:A:H1'	46:A:1701:A:N1	2.32	0.44
50:E:36:ALA:HA	50:E:100:ALA:HB3	1.99	0.44
50:E:133:LYS:HD3	50:E:133:LYS:HA	1.85	0.44
52:G:76:LYS:H	63:R:121:ARG:NH1	2.16	0.44
57:L:38:ARG:O	57:L:42:VAL:HG23	2.17	0.44
69:X:3:ARG:NH1	69:X:29:PRO:HD3	2.33	0.44
71:Z:35:VAL:HG11	71:Z:40:LEU:HD21	1.99	0.44
79:h:21:THR:HG21	79:h:69:VAL:O	2.17	0.44
1:1:629:A:H2'	1:1:630:G:H8	1.83	0.44
1:1:1198:A:C2	1:1:2829:C:H5'	2.53	0.44
1:1:1301:U:C2	6:k:257:PRO:HG3	2.53	0.44
1:1:1635:C:OP2	36:AH:74:ARG:NH1	2.47	0.44
1:1:2081:U:H2'	1:1:2082:A:C8	2.53	0.44
1:1:2130:A:H2'	1:1:2131:U:C6	2.52	0.44
1:1:2583:U:H2'	1:1:2584:U:C6	2.53	0.44
1:1:3322:U:H2'	1:1:3323:U:C6	2.53	0.44
3:4:5:U:H2'	3:4:6:U:H6	1.83	0.44
8:m:90:TYR:CE1	8:m:225:ASN:HB3	2.53	0.44
8:m:95:TRP:CE3	8:m:198:TYR:HB3	2.53	0.44
22:0:164:GLN:HG2	22:0:166:THR:H	1.83	0.44
46:A:260:U:C2'	46:A:261:C:H5'	2.47	0.44
46:A:336:C:H5''	55:J:10:LYS:HD2	2.00	0.44
46:A:1211:A:N6	59:N:114:LYS:NZ	2.65	0.44
46:A:1463:G:H2'	46:A:1464:G:C8	2.53	0.44
49:D:143:LEU:HD21	56:K:95:TYR:CZ	2.53	0.44
52:G:42:LEU:HD23	52:G:43:PHE:HD2	1.82	0.44
57:L:18:GLU:CD	57:L:89:LEU:HD21	2.43	0.44
63:R:46:LYS:HA	63:R:46:LYS:HD2	1.81	0.44
63:R:93:GLN:CG	63:R:101:LYS:HE2	2.48	0.44
64:S:100:LEU:HD12	64:S:100:LEU:N	2.33	0.44
65:T:31:ALA:O	65:T:34:LYS:HB2	2.18	0.44
70:Y:70:LYS:O	70:Y:87:VAL:HG22	2.18	0.44
78:g:174:MET:HE3	78:g:174:MET:HB2	1.92	0.44
79:h:271:LEU:HD23	79:h:310:TRP:CD2	2.53	0.44
1:1:431:A:H2'	1:1:432:G:C8	2.52	0.44
1:1:1174:G:N3	1:1:1324:U:O2'	2.47	0.44
1:1:2244:U:H2'	1:1:2245:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2592:G:C5'	31:AC:1:MET:HE2	2.47	0.44
1:1:2627:U:H4'	1:1:2628:A:O4'	2.18	0.44
5:j:195:SER:O	5:j:198:LYS:NZ	2.49	0.44
19:x:177:ALA:O	19:x:181:ARG:HG3	2.18	0.44
29:AA:119:GLU:O	29:AA:123:GLN:OE1	2.35	0.44
32:AD:18:LEU:O	32:AD:21:LYS:HG2	2.18	0.44
46:A:1491:G:N3	46:A:1550:C:O2'	2.50	0.44
50:E:77:ARG:HD3	50:E:77:ARG:C	2.43	0.44
51:F:118:GLU:OE2	51:F:118:GLU:N	2.45	0.44
53:H:180:THR:HG23	53:H:183:THR:H	1.83	0.44
59:N:42:ALA:HB1	59:N:47:GLU:CG	2.48	0.44
62:Q:25:LEU:HG	62:Q:87:PRO:HB3	1.99	0.44
63:R:100:SER:O	63:R:103:GLU:HG3	2.17	0.44
65:T:22:ILE:CG2	65:T:31:ALA:HB1	2.48	0.44
65:T:52:VAL:HG22	65:T:65:GLU:HG2	2.00	0.44
68:W:64:GLU:OE1	74:c:3:LEU:HD12	2.18	0.44
69:X:7:LEU:O	69:X:11:LEU:HD23	2.18	0.44
1:1:892:A:H5'	5:j:183:GLY:CA	2.48	0.44
1:1:961:A:O2'	30:AB:44:ASN:HB2	2.18	0.44
1:1:1298:A:N7	1:1:2829:C:O2'	2.51	0.44
1:1:2504:C:H2'	1:1:2505:G:H8	1.83	0.44
5:j:101:ILE:HG13	5:j:165:VAL:HG22	2.00	0.44
6:k:286:GLY:HA3	6:k:321:PHE:CE1	2.53	0.44
9:n:145:LEU:O	9:n:149:ILE:HG13	2.17	0.44
14:s:135:GLY:O	14:s:138:VAL:HG22	2.17	0.44
22:0:79:LEU:HD23	22:0:123:ILE:HA	2.00	0.44
25:6:40:LYS:HG3	25:6:57:MET:HG2	2.00	0.44
46:A:824:U:O2'	46:A:825:U:N3	2.48	0.44
46:A:912:C:O2	61:P:119:ASP:OD2	2.36	0.44
50:E:74:ILE:HD11	50:E:87:ILE:HD11	2.00	0.44
51:F:126:VAL:HG12	51:F:158:ASP:O	2.18	0.44
60:O:99:ARG:HG3	60:O:99:ARG:NH1	2.33	0.44
61:P:11:VAL:HG12	61:P:13:ARG:HG3	1.99	0.44
66:U:6:VAL:O	66:U:9:VAL:HG12	2.17	0.44
66:U:65:ILE:HG12	66:U:71:VAL:CG2	2.48	0.44
1:1:46:C:H5''	15:t:16:LYS:HG2	1.99	0.43
1:1:76:A:OP2	15:t:73:ARG:NH1	2.51	0.43
1:1:2249:A:H2'	1:1:2250:G:O4'	2.17	0.43
1:1:3219:G:H2'	1:1:3220:C:C6	2.53	0.43
6:k:216:ASP:OD2	6:k:339:ARG:NH2	2.33	0.43
26:7:45:ASN:O	26:7:49:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:9:51:ARG:HG2	28:9:52:GLN:N	2.33	0.43
34:AF:16:LYS:HG2	34:AF:17:LYS:H	1.83	0.43
39:AK:52:LYS:O	39:AK:56:ARG:HG3	2.18	0.43
46:A:149:G:H21	53:H:13:GLN:CD	2.24	0.43
46:A:872:A:H2	61:P:121:THR:CG2	2.30	0.43
46:A:1636:C:H2'	46:A:1637:U:H6	1.83	0.43
47:B:108:THR:N	47:B:135:GLU:OE2	2.49	0.43
49:D:90:ARG:HH11	49:D:92:ARG:HD3	1.83	0.43
50:E:54:SER:C	50:E:95:ARG:HH12	2.26	0.43
51:F:48:LEU:HD23	51:F:52:LEU:HD12	2.00	0.43
65:T:86:LEU:H	65:T:89:GLN:HE21	1.66	0.43
71:Z:12:VAL:HA	71:Z:23:PHE:HB3	1.98	0.43
1:1:200:A:H2'	1:1:201:G:H8	1.84	0.43
1:1:411:U:H2'	1:1:412:G:C8	2.53	0.43
1:1:785:A:H2'	1:1:786:U:H6	1.83	0.43
1:1:1151:C:O2'	1:1:1193:A:N1	2.43	0.43
1:1:1754:G:H2'	1:1:1755:U:O4'	2.17	0.43
8:m:41:LYS:HA	8:m:41:LYS:HD3	1.85	0.43
27:8:59:ALA:HB3	27:8:101:GLU:OE2	2.18	0.43
46:A:1739:U:H2'	46:A:1740:A:C8	2.52	0.43
46:A:1766:U:H2'	46:A:1768:A:OP2	2.18	0.43
47:B:153:SER:O	47:B:156:VAL:HG22	2.19	0.43
54:I:44:GLU:OE2	54:I:52:LYS:HB2	2.16	0.43
55:J:121:LEU:HD13	55:J:166:PHE:CD2	2.53	0.43
59:N:97:LEU:HA	59:N:100:TRP:CZ2	2.53	0.43
61:P:77:LYS:HD2	61:P:113:VAL:CG2	2.48	0.43
62:Q:67:THR:OG1	62:Q:73:PRO:HB3	2.18	0.43
78:g:129:THR:HG23	78:g:130:PRO:HD2	2.00	0.43
1:1:1550:U:O2'	1:1:1551:U:H5'	2.18	0.43
1:1:1653:C:N4	1:1:1794:A:OP2	2.40	0.43
1:1:2339:A:H2'	1:1:2340:C:H6	1.84	0.43
1:1:2713:C:O2	44:AP:20:HIS:HE1	2.01	0.43
1:1:3264:C:C2	1:1:3265:U:C5	3.06	0.43
1:1:3308:G:O2'	1:1:3327:A:N6	2.52	0.43
5:j:4:VAL:HG13	5:j:8:GLN:HB2	2.00	0.43
8:m:204:VAL:O	8:m:208:MET:HG3	2.18	0.43
29:AA:33:THR:OG1	29:AA:34:LYS:N	2.51	0.43
46:A:1220:C:H1'	78:g:182:TYR:CE1	2.53	0.43
46:A:1306:A:H4'	46:A:1307:A:O5'	2.18	0.43
46:A:1503:A:O2'	46:A:1504:U:H5'	2.19	0.43
49:D:202:THR:O	49:D:205:THR:HG22	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:F:139:VAL:HG11	51:F:154:ILE:HD13	1.99	0.43
52:G:42:LEU:HB2	52:G:48:PHE:CZ	2.53	0.43
61:P:18:PHE:CE1	61:P:90:GLY:HA2	2.53	0.43
72:a:54:VAL:N	72:a:55:PRO:HD2	2.34	0.43
79:h:197:SER:N	79:h:211:ALA:O	2.51	0.43
1:1:787:A:H2'	1:1:788:G:H8	1.83	0.43
1:1:1406:C:O2'	34:AF:96:GLU:OE2	2.21	0.43
1:1:1550:U:O2'	1:1:1551:U:P	2.76	0.43
1:1:2418:A:H2'	1:1:2419:A:H8	1.83	0.43
1:1:2679:U:H2'	1:1:2680:C:C6	2.53	0.43
1:1:3023:U:C2	1:1:3024:G:C8	3.06	0.43
1:1:3153:A:H2'	1:1:3154:A:C8	2.54	0.43
3:4:5:U:H2'	3:4:6:U:C6	2.54	0.43
5:j:204:MET:HB3	5:j:208:ASP:HB2	1.99	0.43
13:r:5:PRO:HB2	13:r:7:ARG:HG2	2.00	0.43
13:r:19:LYS:HB3	13:r:19:LYS:HE2	1.70	0.43
15:t:76:THR:HG22	15:t:101:ARG:HB3	2.00	0.43
22:0:48:LEU:O	22:0:49[A]:HIS:ND1	2.51	0.43
30:AB:83:ASP:OD1	30:AB:86:LYS:HB2	2.18	0.43
46:A:449:G:H2'	46:A:451:C:C5	2.53	0.43
46:A:811:U:H3	46:A:831:G:H1	1.66	0.43
46:A:827:C:H3'	46:A:828:U:H5''	2.01	0.43
46:A:914:A:C1'	61:P:118:SER:O	2.66	0.43
46:A:997:U:H2'	46:A:998:A:C8	2.53	0.43
46:A:1155:G:C2	46:A:1156:A:C8	3.06	0.43
46:A:1205:C:H5'	57:L:51:SER:OG	2.19	0.43
52:G:102:ARG:HG3	52:G:103:ASN:OD1	2.19	0.43
59:N:62:LEU:HD11	59:N:75:VAL:HG11	1.99	0.43
63:R:54:VAL:HG12	63:R:107:ILE:HG21	2.00	0.43
63:R:98:GLU:OE1	63:R:102:ASN:ND2	2.51	0.43
64:S:77:GLU:O	64:S:81:LYS:HB2	2.18	0.43
65:T:115:ARG:HG2	65:T:118:LYS:HZ1	1.84	0.43
76:e:22:ARG:HD2	76:e:36:LEU:O	2.18	0.43
1:1:307:A:H2'	1:1:308:A:H8	1.80	0.43
1:1:642:G:H2'	1:1:2350:A:N7	2.34	0.43
1:1:1177:U:O4	18:w:22:SER:OG	2.33	0.43
1:1:2161:A:H5''	5:j:7:ASN:OD1	2.18	0.43
1:1:2498:A:H2'	1:1:2499:U:C6	2.54	0.43
1:1:2908:A:H2'	1:1:2909:G:C8	2.54	0.43
22:0:2:SER:O	22:0:104:GLU:HG2	2.18	0.43
33:AE:78:ARG:HA	33:AE:88:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AH:8:ARG:HD2	36:AH:32:ALA:O	2.18	0.43
46:A:217:A:H8	46:A:217:A:H5''	1.82	0.43
46:A:891:A:P	61:P:46:ASP:HB2	2.58	0.43
46:A:908:A:H2'	46:A:909:A:C8	2.53	0.43
46:A:1190:C:O2	76:e:17:GLY:N	2.44	0.43
46:A:1470:G:H21	46:A:1593:C:H1'	1.82	0.43
46:A:1626:C:H2'	46:A:1627:C:O4'	2.17	0.43
49:D:135:ARG:H	49:D:216:THR:CG2	2.29	0.43
50:E:50:ILE:O	50:E:50:ILE:HG13	2.19	0.43
62:Q:108:LYS:HE2	62:Q:111:MET:HE3	2.00	0.43
63:R:33:SER:HB2	66:U:7:ARG:HD3	2.01	0.43
63:R:96:VAL:HG12	63:R:97:ASP:N	2.33	0.43
71:Z:22:GLN:HB2	71:Z:72:PHE:CZ	2.53	0.43
77:f:59:SER:HA	77:f:60:PRO:HD3	1.90	0.43
78:g:149:LYS:HB3	78:g:157:GLU:HB3	2.00	0.43
79:h:112:LEU:CD2	79:h:153:SER:HA	2.44	0.43
1:1:212:A:OP1	28:9:2:ALA:N	2.52	0.43
1:1:386:A:C5	1:1:387:A:H1'	2.53	0.43
1:1:498:C:H2'	1:1:499:G:H8	1.83	0.43
1:1:1170:G:N2	18:w:88:MET:HE2	2.33	0.43
1:1:1265:U:C5	1:1:1269:A:H8	2.36	0.43
1:1:2687:A:O2'	44:AP:8:ARG:NH2	2.50	0.43
2:3:16:U:H2'	2:3:17:A:H8	1.84	0.43
7:l:209:VAL:HA	7:l:229:ALA:O	2.18	0.43
14:s:109:HIS:HD2	14:s:122:ILE:HA	1.82	0.43
46:A:14:C:H2'	46:A:15:U:C6	2.53	0.43
46:A:485:G:N3	46:A:485:G:H2'	2.33	0.43
46:A:903:U:H4'	61:P:13:ARG:HD3	2.00	0.43
46:A:1198:G:H1	46:A:1436:U:H3	1.65	0.43
46:A:1468:C:H5''	46:A:1508:G:H22	1.83	0.43
47:B:58:VAL:O	47:B:62:ARG:HG3	2.18	0.43
47:B:90:ALA:HB2	47:B:97:ALA:HB2	2.00	0.43
49:D:75:VAL:HG13	49:D:75:VAL:O	2.19	0.43
49:D:133:PRO:HB2	49:D:217:TYR:HE2	1.83	0.43
52:G:58:LEU:HD21	52:G:167:ARG:NH1	2.33	0.43
53:H:180:THR:HG22	53:H:183:THR:HG23	2.01	0.43
60:O:31:ASP:HA	60:O:34:VAL:HG12	2.01	0.43
62:Q:26:VAL:HG23	62:Q:27:GLU:OE1	2.19	0.43
79:h:12:THR:O	79:h:53:ASN:HA	2.17	0.43
1:1:243:G:H2'	1:1:244:G:H8	1.84	0.43
1:1:780:A:C8	20:y:69:ARG:NH2	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1421:U:O2'	7:l:37:HIS:NE2	2.46	0.43
1:1:2604:G:C6	1:1:2619:A:C6	3.07	0.43
9:n:146:LEU:O	9:n:150:LYS:HG2	2.19	0.43
19:x:59:PRO:HD3	19:x:76:PHE:CE2	2.54	0.43
24:5:10:LYS:CG	24:5:11:SER:H	2.32	0.43
24:5:16:VAL:HG22	24:5:65:VAL:HG22	2.01	0.43
46:A:504:A:H2'	46:A:505:U:C6	2.53	0.43
46:A:644:U:H2'	46:A:645:G:C8	2.53	0.43
46:A:1551:U:H2'	46:A:1552:C:C6	2.54	0.43
46:A:1571:G:O2'	46:A:1597:G:O6	2.31	0.43
49:D:85:THR:OG1	49:D:88:GLY:O	2.21	0.43
49:D:149:LEU:HD23	49:D:191:VAL:CG1	2.49	0.43
53:H:159:ARG:HH11	53:H:170:THR:CB	2.32	0.43
55:J:158:ILE:HG22	55:J:159:GLU:N	2.32	0.43
60:O:119:GLU:HB3	60:O:123:HIS:HE1	1.83	0.43
65:T:41:ARG:HA	65:T:44:ASN:ND2	2.33	0.43
71:Z:105:ARG:HD2	71:Z:108:ARG:NH2	2.33	0.43
78:g:168:CYS:HB2	78:g:172:ILE:HD13	2.01	0.43
79:h:195:TYR:CE1	79:h:213:LYS:HB3	2.53	0.43
79:h:284:PRO:HB2	79:h:302:TYR:HD2	1.83	0.43
1:1:710:G:OP1	15:t:176:ARG:NH1	2.52	0.43
1:1:1140:U:OP1	1:1:1363:G:O2'	2.27	0.43
1:1:1236:A:H61	1:1:1240:A:H2'	1.84	0.43
1:1:1256:A:O2'	1:1:1257:G:O4'	2.33	0.43
1:1:2511:G:C6	1:1:2512:G:C6	3.07	0.43
1:1:2511:G:H2'	1:1:2512:G:O4'	2.18	0.43
1:1:2854:U:H2'	1:1:2855:U:C6	2.53	0.43
1:1:3044:C:H2'	1:1:3045:A:O4'	2.18	0.43
5:j:65:ASP:HB3	5:j:68:LYS:O	2.18	0.43
15:t:102:GLN:OE1	38:Aj:21:VAL:HG11	2.19	0.43
20:y:175:ALA:C	30:AB:51:GLY:HA2	2.44	0.43
24:5:50:LEU:HD22	24:5:54:ILE:CG2	2.48	0.43
24:5:55:SER:HB3	24:5:67:VAL:HG12	2.01	0.43
28:9:3:LYS:HD3	28:9:8:VAL:CG2	2.49	0.43
47:B:183:ARG:NH1	47:B:183:ARG:HB2	2.34	0.43
48:C:149:GLN:HE21	48:C:151:LYS:HG2	1.82	0.43
51:F:106:LYS:HA	51:F:106:LYS:HD2	1.82	0.43
51:F:139:VAL:CG2	51:F:147:ILE:HG13	2.48	0.43
54:I:114:LEU:HA	54:I:117:VAL:HG22	2.01	0.43
55:J:159:GLU:HB3	55:J:162:VAL:HG12	1.99	0.43
56:K:143:ILE:CG2	56:K:146:PHE:HB2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:N:51:ALA:O	59:N:56:GLU:OE1	2.37	0.43
63:R:30:ILE:HA	63:R:66:VAL:HG22	2.01	0.43
68:W:37:ALA:HA	68:W:50:ASN:OD1	2.19	0.43
68:W:66:ASP:OD1	68:W:66:ASP:N	2.50	0.43
71:Z:104:SER:N	71:Z:107:GLN:NE2	2.64	0.43
74:c:54:VAL:HG12	74:c:64:CYS:SG	2.59	0.43
79:h:218:ILE:HD12	79:h:230:THR:HG22	2.00	0.43
1:1:291:C:H2'	1:1:292:U:C6	2.54	0.43
1:1:485:A:N3	1:1:485:A:H2'	2.34	0.43
1:1:1172:C:OP2	1:1:1173:G:O2'	2.32	0.43
1:1:1242:G:N1	1:1:1261:U:H3'	2.34	0.43
1:1:1943:G:HO2'	1:1:1944:G:P	2.38	0.43
1:1:2345:A:H2'	1:1:2346:A:H8	1.83	0.43
1:1:2518:A:H2'	1:1:2518:A:OP2	2.18	0.43
1:1:2648:A:H5'	1:1:2649:G:C8	2.54	0.43
1:1:2649:G:H2'	1:1:2649:G:N3	2.34	0.43
23:2:28:SER:O	23:2:32:LYS:HG3	2.19	0.43
23:2:41:ASP:OD1	23:2:99:SER:OG	2.30	0.43
29:AA:97:THR:HG23	29:AA:100:ALA:H	1.83	0.43
34:AF:80:VAL:CG2	34:AF:112:LYS:HD2	2.48	0.43
46:A:638:U:H2'	46:A:639:G:O4'	2.17	0.43
46:A:1589:C:H2'	46:A:1590:U:C6	2.54	0.43
48:C:46:THR:HG22	48:C:47:LEU:H	1.84	0.43
52:G:106:LYS:HD3	52:G:109:LYS:HE3	2.01	0.43
63:R:82:GLN:HE22	63:R:118:ALA:HA	1.84	0.43
63:R:91:TYR:CE2	63:R:95:TYR:HD2	2.37	0.43
70:Y:67:ALA:HB1	70:Y:69:ARG:HH12	1.80	0.43
1:1:229:C:H2'	1:1:230:G:O4'	2.19	0.43
1:1:1470:A:OP2	21:z:53:LYS:NZ	2.48	0.43
1:1:1494:A:H2'	1:1:1495:U:H6	1.84	0.43
1:1:3207:G:C8	6:k:154:TYR:CE1	3.06	0.43
3:4:7:U:H2'	3:4:8:C:C6	2.53	0.43
3:4:26:U:O2'	7:l:52:ALA:O	2.35	0.43
3:4:40:A:H2'	3:4:41:A:C8	2.54	0.43
6:k:217:VAL:HG11	6:k:328:ILE:HB	2.01	0.43
7:l:93:ASN:HA	7:l:99:ARG:O	2.19	0.43
7:l:106:THR:HG22	15:t:26:PHE:CE2	2.54	0.43
11:p:2:ALA:O	11:p:5:GLY:N	2.39	0.43
16:u:69:SER:HB3	16:u:73:THR:OG1	2.19	0.43
24:5:12:VAL:HA	24:5:68:VAL:O	2.19	0.43
46:A:148:C:N4	46:A:149:G:O6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:162:A:H2'	46:A:163:G:H8	1.83	0.43
46:A:885:A:H2'	46:A:886:G:H8	1.84	0.43
46:A:1727:A:H2'	46:A:1728:U:C6	2.53	0.43
47:B:107:PHE:HB3	47:B:139:VAL:HG21	2.01	0.43
52:G:29:ILE:HG22	52:G:33:VAL:CG1	2.48	0.43
52:G:166:ARG:HA	52:G:169:ASN:HD21	1.84	0.43
54:I:21:PHE:HE2	54:I:37:LEU:HD23	1.84	0.43
54:I:52:LYS:NZ	54:I:54:LEU:HD12	2.33	0.43
64:S:99:GLN:NE2	64:S:120:GLN:HE21	2.16	0.43
66:U:125:SER:OG	66:U:128:GLY:N	2.52	0.43
69:X:19:LYS:HE2	69:X:19:LYS:HB3	1.85	0.43
71:Z:6:THR:CG2	71:Z:28:LEU:HB2	2.49	0.43
79:h:273:PRO:HB3	79:h:308:ARG:NE	2.33	0.43
1:1:335:G:OP1	28:9:9:SER:HB3	2.19	0.42
1:1:780:A:OP2	20:y:69:ARG:NH1	2.38	0.42
1:1:2273:A:C4	25:6:37:LEU:HD22	2.54	0.42
1:1:2656:C:H2'	1:1:2657:C:H6	1.84	0.42
1:1:2790:U:C6	31:AC:1:MET:HG2	2.54	0.42
1:1:2857:C:O2'	1:1:2858:U:H5'	2.19	0.42
1:1:2959:A:H2'	1:1:2960:C:C6	2.54	0.42
1:1:3060:G:OP1	6:k:313:ARG:NH1	2.52	0.42
1:1:3101:A:H2'	1:1:3102:A:H5''	2.01	0.42
8:m:261:THR:HG23	8:m:264:GLN:H	1.84	0.42
24:5:93:ARG:O	24:5:93:ARG:HD3	2.18	0.42
35:AG:6:ARG:NH1	35:AG:8:TYR:O	2.50	0.42
40:AL:39:LYS:HB2	40:AL:39:LYS:HE3	1.76	0.42
45:AQ:11:THR:HG21	45:AQ:23:ARG:O	2.20	0.42
46:A:47:A:N1	46:A:384:G:H1'	2.34	0.42
46:A:119:A:H1'	46:A:395:A:C5	2.54	0.42
46:A:369:G:N2	46:A:610:U:O2	2.52	0.42
46:A:1239:U:H2'	46:A:1240:G:C8	2.54	0.42
51:F:141:THR:OG1	51:F:143:ASP:OD1	2.30	0.42
52:G:48:PHE:CD2	52:G:67:PRO:HB3	2.53	0.42
52:G:174:LEU:HB3	52:G:210:ALA:HB2	2.01	0.42
53:H:32:MET:SD	53:H:63:MET:HG2	2.60	0.42
54:I:38:GLN:O	54:I:66:TYR:OH	2.31	0.42
55:J:174:VAL:HG13	55:J:190:LEU:HD21	2.01	0.42
56:K:11:THR:O	56:K:11:THR:HG22	2.19	0.42
56:K:55:ALA:O	56:K:58:ASP:OD1	2.37	0.42
69:X:37:PHE:HE1	69:X:72:CYS:SG	2.43	0.42
73:b:42:ARG:HA	73:b:42:ARG:HD3	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:f:34:ALA:HA	77:f:37:ARG:HG2	2.01	0.42
79:h:151:TRP:HB2	79:h:171:TRP:HD1	1.83	0.42
1:1:179:C:H2'	1:1:180:U:H6	1.84	0.42
1:1:612:U:H2'	1:1:613:U:C6	2.54	0.42
1:1:784:C:H2'	1:1:785:A:H8	1.84	0.42
1:1:792:U:H2'	1:1:793:U:C6	2.54	0.42
1:1:2111:U:O4	1:1:2125:A:H2	2.01	0.42
1:1:2656:C:H2'	1:1:2657:C:C6	2.54	0.42
14:s:22:CYS:HA	14:s:66:ALA:CB	2.49	0.42
46:A:4:C:H5	46:A:20:G:N1	2.16	0.42
46:A:165:U:C2'	46:A:166:A:H5''	2.48	0.42
46:A:179:A:H2'	46:A:180:A:O4'	2.19	0.42
46:A:642:C:H2'	46:A:643:U:C6	2.54	0.42
46:A:721:C:O2'	46:A:722:A:H8	2.02	0.42
46:A:1204:A:O2'	57:L:48:SER:HA	2.19	0.42
46:A:1238:U:C2	46:A:1239:U:C5	3.07	0.42
46:A:1277:G:H2'	46:A:1278:U:C6	2.53	0.42
46:A:1535:G:H5'	65:T:89:GLN:O	2.18	0.42
46:A:1634:U:H2'	46:A:1635:A:C8	2.54	0.42
47:B:4:PRO:HD2	47:B:7:PHE:HD2	1.84	0.42
52:G:81:ARG:HG2	52:G:82:PHE:CE1	2.53	0.42
52:G:99:MET:HG3	52:G:100:ASN:H	1.84	0.42
56:K:49:LEU:HD13	56:K:104:PHE:HE1	1.84	0.42
57:L:52:LYS:HG3	57:L:54:TYR:CD2	2.54	0.42
70:Y:50:LYS:HD3	70:Y:101:GLU:OE2	2.19	0.42
71:Z:83:LYS:HD3	71:Z:91:LEU:HD13	2.01	0.42
78:g:169:GLY:O	78:g:172:ILE:HG22	2.18	0.42
79:h:231:LEU:HD23	79:h:231:LEU:H	1.84	0.42
1:1:1163:U:H2'	1:1:1164:U:O4'	2.19	0.42
1:1:2186:A:O2'	1:1:2187:U:H5'	2.18	0.42
1:1:2513:A:C3'	1:1:2514:G:C8	3.02	0.42
1:1:3165:U:H2'	1:1:3166:A:O4'	2.19	0.42
1:1:3309:A:N3	1:1:3309:A:H2'	2.33	0.42
3:4:37:A:H5''	3:4:39:G:O4'	2.17	0.42
11:p:145:GLU:CD	38:AJ:35:ARG:HH12	2.26	0.42
15:t:190:LYS:O	15:t:194:GLU:HG2	2.19	0.42
45:AQ:83:ILE:O	45:AQ:87:ARG:HG3	2.20	0.42
46:A:154:A:H2'	46:A:155:A:O4'	2.19	0.42
46:A:526:U:H2'	46:A:527:A:O4'	2.19	0.42
46:A:613:A:O2'	46:A:619:A:N1	2.47	0.42
46:A:1512:A:H2'	46:A:1513:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:1628:C:H2'	46:A:1629:G:C8	2.55	0.42
51:F:151:ASP:CG	53:H:215:ARG:HH21	2.27	0.42
52:G:143:ARG:NE	75:d:57:MET:HE2	2.35	0.42
53:H:7:TYR:O	53:H:11:GLY:N	2.52	0.42
53:H:23:LYS:HD3	53:H:41:VAL:O	2.19	0.42
54:I:33:GLU:OE2	54:I:68:LYS:HD2	2.18	0.42
55:J:25:ARG:HB2	55:J:28:GLU:OE2	2.19	0.42
57:L:59:PHE:CZ	57:L:62:GLN:HA	2.54	0.42
59:N:35:SER:O	59:N:40:GLY:N	2.28	0.42
60:O:47:PRO:HD2	60:O:86:GLU:HG2	2.00	0.42
64:S:124:ILE:HG13	64:S:125:SER:N	2.34	0.42
65:T:15:LEU:HB3	65:T:22:ILE:HB	2.00	0.42
72:a:34:ASP:HB3	72:a:35:LYS:H	1.58	0.42
77:f:39:LEU:HD23	77:f:42:ARG:HH21	1.83	0.42
78:g:149:LYS:HB3	78:g:157:GLU:CB	2.50	0.42
1:1:19:A:H2'	1:1:20:G:C8	2.53	0.42
1:1:561:U:H2'	1:1:562:C:C6	2.55	0.42
1:1:647:A:OP2	1:1:2840:U:O2'	2.35	0.42
1:1:1116:A:H2'	1:1:1117:U:C6	2.53	0.42
1:1:1336:G:H2'	1:1:1337:U:C6	2.55	0.42
1:1:2115:U:OP2	1:1:2120:A:N6	2.47	0.42
1:1:2244:U:H2'	1:1:2245:C:H6	1.85	0.42
6:k:80:ASP:OD1	6:k:319:ASN:HB2	2.19	0.42
6:k:133:TYR:O	6:k:136:LYS:HB3	2.19	0.42
14:s:19:LEU:HA	14:s:126:ASP:O	2.18	0.42
46:A:149:G:H21	53:H:13:GLN:HE22	1.67	0.42
46:A:563:C:H5''	46:A:564:C:C6	2.54	0.42
46:A:588:C:H2'	46:A:589:A:H8	1.83	0.42
46:A:870:G:N2	61:P:119:ASP:OD2	2.53	0.42
46:A:880:G:O2'	61:P:33:THR:HG22	2.19	0.42
46:A:1485:G:H2'	46:A:1486:G:H8	1.84	0.42
49:D:49:GLU:O	49:D:53:LEU:HD23	2.18	0.42
49:D:54:HIS:HB2	49:D:56:LEU:HD12	2.02	0.42
60:O:120:SER:O	60:O:124:ARG:HG3	2.19	0.42
62:Q:33:PHE:CD1	62:Q:87:PRO:HG2	2.55	0.42
64:S:61:ILE:HD11	64:S:71:PHE:HE2	1.85	0.42
76:e:21:CYS:SG	76:e:38:LEU:HD23	2.59	0.42
78:g:182:TYR:CE1	78:g:187:HIS:HA	2.54	0.42
1:1:564:G:H2'	1:1:565:A:H8	1.80	0.42
1:1:1044:A:H2'	13:r:22:TYR:CZ	2.55	0.42
1:1:1516:G:H5''	27:8:69:THR:HG21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2513:A:N6	1:1:2522:U:H3	2.15	0.42
1:1:2718:A:H2'	1:1:2719:A:O4'	2.20	0.42
1:1:2902:A:H2'	1:1:2903:C:H6	1.83	0.42
1:1:3218:U:H2'	1:1:3219:G:C8	2.55	0.42
1:1:3298:G:O2'	26:7:50:SER:OG	2.37	0.42
3:4:4:C:H2'	3:4:5:U:H6	1.85	0.42
3:4:41:A:H2	39:AK:44:MET:HE3	1.84	0.42
3:4:126:A:O2'	3:4:128:U:OP2	2.28	0.42
6:k:95:THR:OG1	6:k:98:GLY:O	2.34	0.42
14:s:30:LEU:HD13	14:s:65:ILE:O	2.18	0.42
15:t:89:TYR:O	15:t:93:ILE:HG12	2.20	0.42
18:w:126:ARG:HG2	18:w:130:LEU:HD12	2.01	0.42
40:AL:23:ALA:HB3	40:AL:75:ILE:CD1	2.49	0.42
46:A:444:A:C6	46:A:445:U:C4	3.08	0.42
46:A:869:A:H62	46:A:913:U:H3	1.68	0.42
46:A:1214:G:H1'	46:A:1241:A:N6	2.35	0.42
46:A:1301:G:H2'	46:A:1302:C:H6	1.84	0.42
46:A:1369:G:C8	46:A:1370:A:C8	3.07	0.42
46:A:1386:A:H4'	64:S:60:ARG:CZ	2.49	0.42
46:A:1512:A:N3	46:A:1576:C:O2'	2.43	0.42
47:B:36:TYR:CD2	47:B:161:PRO:HB3	2.54	0.42
51:F:26:THR:HG22	56:K:3:ARG:N	2.34	0.42
69:X:51:GLU:O	69:X:61:ILE:HA	2.20	0.42
79:h:16:HIS:CE1	79:h:18:GLY:O	2.73	0.42
79:h:50:GLY:N	79:h:55:TYR:HA	2.35	0.42
79:h:297:ASN:HA	79:h:310:TRP:O	2.19	0.42
1:1:788:G:H2'	1:1:789:C:H6	1.84	0.42
1:1:976:A:C2'	1:1:977:U:H5'	2.50	0.42
1:1:1614:G:O2'	3:4:126:A:N1	2.53	0.42
1:1:2370:C:H1'	6:k:266:ARG:HH21	1.84	0.42
1:1:2522:U:H2'	1:1:2523:C:H6	1.81	0.42
1:1:3264:C:H2'	1:1:3265:U:H6	1.84	0.42
3:4:94:C:H5''	39:AK:76:ASN:ND2	2.35	0.42
6:k:308:MET:HE2	6:k:370:PHE:O	2.20	0.42
32:AD:47:ALA:HA	32:AD:72:PHE:HB3	2.01	0.42
40:AL:31:VAL:HG23	40:AL:36:LYS:C	2.45	0.42
46:A:820:U:O2'	46:A:821:U:OP1	2.31	0.42
46:A:891:A:H2'	46:A:892:A:C8	2.54	0.42
46:A:1032:G:H2'	46:A:1033:U:H6	1.85	0.42
47:B:102:PHE:CZ	47:B:106:ASN:HB3	2.54	0.42
49:D:65:ASP:CG	49:D:128:LYS:HZ2	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:E:121:TYR:CD1	50:E:124:LEU:HD12	2.55	0.42
54:I:146:GLN:HG3	54:I:175:LYS:HE3	2.02	0.42
56:K:113:VAL:HG21	56:K:134:ILE:HD11	2.02	0.42
60:O:112:LYS:O	60:O:116:ILE:HG13	2.20	0.42
61:P:52:PRO:HB3	61:P:95:SER:OG	2.20	0.42
65:T:73:MET:HB3	65:T:101:LEU:HD11	2.01	0.42
65:T:123:ARG:HG3	65:T:133:VAL:HG21	2.01	0.42
66:U:61:ILE:HG21	66:U:105:VAL:HG22	2.00	0.42
66:U:65:ILE:CD1	66:U:114:LEU:HD21	2.50	0.42
69:X:3:ARG:HH12	69:X:29:PRO:HD3	1.84	0.42
71:Z:44:LEU:HD23	71:Z:55:VAL:HG13	2.01	0.42
1:1:88:G:N7	20:y:171:LYS:NZ	2.67	0.42
1:1:569:U:H2'	1:1:570:A:H8	1.84	0.42
1:1:1149:A:O2'	1:1:1150:A:H5'	2.20	0.42
1:1:1165:A:H2'	1:1:1166:A:C8	2.55	0.42
1:1:1242:G:H22	1:1:1262:G:P	2.42	0.42
1:1:1556:G:N7	27:8:36:LYS:HE2	2.34	0.42
1:1:2512:G:C6	1:1:2513:A:N7	2.88	0.42
1:1:2680:C:H2'	1:1:2681:C:H6	1.85	0.42
1:1:2869:A:C8	1:1:2871:C:C2	3.08	0.42
1:1:3178:A:P	16:u:121:ARG:HH11	2.43	0.42
18:w:47:GLU:OE1	18:w:49:PHE:N	2.51	0.42
21:z:89:MET:HE3	21:z:90:PRO:HD2	2.02	0.42
25:6:66:LYS:O	25:6:70:ARG:HG3	2.20	0.42
36:AH:82:ALA:O	36:AH:85:VAL:HG12	2.18	0.42
46:A:1709:A:H2'	46:A:1710:G:O4'	2.19	0.42
47:B:6:SER:OG	47:B:191:ARG:HD3	2.19	0.42
47:B:38:TYR:HD2	47:B:39:LYS:HG2	1.85	0.42
50:E:159:ILE:HD12	50:E:164:PRO:HB2	2.01	0.42
55:J:78:ILE:HD11	55:J:96:LEU:HD11	2.01	0.42
56:K:86:LEU:HD23	56:K:87:SER:O	2.19	0.42
59:N:41:LEU:HB2	59:N:123:VAL:HG12	2.01	0.42
59:N:96:LEU:O	59:N:96:LEU:HD23	2.20	0.42
64:S:96:THR:HG23	64:S:98:GLY:H	1.85	0.42
64:S:109:LEU:O	64:S:113:LEU:HG	2.20	0.42
72:a:78:VAL:HG22	72:a:81:ARG:NH2	2.34	0.42
79:h:169:ALA:HB1	79:h:196:ILE:HG21	2.02	0.42
1:1:47:A:N3	81:1:3402:SPK:N1	2.68	0.42
1:1:120:A:H61	11:p:127:SER:HB2	1.84	0.42
1:1:394:G:N1	1:1:397:A:OP2	2.53	0.42
1:1:538:G:C6	1:1:548:G:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1353:G:H2'	1:1:1354:C:H6	1.85	0.42
1:1:2351:A:N3	1:1:2796:G:O2'	2.48	0.42
1:1:2512:G:C5	1:1:2513:A:C8	3.07	0.42
6:k:67:MET:HE2	25:6:88:ARG:HB2	2.01	0.42
7:l:32:ARG:HG3	7:l:121:TYR:HE2	1.84	0.42
8:m:146:LEU:HD22	8:m:163:LEU:HD13	2.02	0.42
17:v:146:ALA:HA	17:v:149:ASN:OD1	2.20	0.42
18:w:190:GLU:O	18:w:194:LYS:HG3	2.20	0.42
46:A:254:A:H2'	46:A:255:A:O4'	2.20	0.42
46:A:327:G:H2'	46:A:328:G:C8	2.53	0.42
46:A:504:A:O2'	46:A:505:U:P	2.78	0.42
46:A:840:A:O2'	46:A:841:A:H3'	2.19	0.42
46:A:873:U:H2'	46:A:874:U:C6	2.55	0.42
46:A:1334:G:H2'	46:A:1335:U:C6	2.55	0.42
46:A:1494:G:H2'	46:A:1495:U:H6	1.83	0.42
48:C:103:LEU:CB	48:C:215:VAL:HG22	2.50	0.42
48:C:109:LYS:O	48:C:113:LEU:HG	2.19	0.42
49:D:217:TYR:CE2	68:W:12:TYR:HD2	2.37	0.42
51:F:126:VAL:HG11	51:F:155:ARG:O	2.20	0.42
55:J:101:VAL:HG22	55:J:174:VAL:HG12	2.02	0.42
59:N:32:LEU:HD12	59:N:33:ARG:N	2.35	0.42
64:S:58:MET:O	64:S:61:ILE:HG22	2.20	0.42
67:V:32:GLN:CG	67:V:108:GLU:HG2	2.49	0.42
1:1:505:G:H3'	1:1:506:A:H5''	2.01	0.42
1:1:867:U:H2'	1:1:868:U:C6	2.55	0.42
1:1:951:U:H2'	1:1:952:U:C6	2.55	0.42
1:1:981:U:H2'	1:1:982:U:H6	1.84	0.42
1:1:1219:A:C8	1:1:1282:A:C6	3.07	0.42
1:1:1576:A:P	27:8:33:ARG:HH22	2.43	0.42
1:1:2510:U:H3'	1:1:2511:G:H5''	2.01	0.42
1:1:2753:U:O3'	15:t:187:LYS:HE2	2.19	0.42
1:1:3042:A:OP1	21:z:62:ARG:NH1	2.51	0.42
1:1:3135:A:H2'	1:1:3136:C:C6	2.55	0.42
1:1:3308:G:H21	1:1:3327:A:H2	1.64	0.42
8:m:217:GLU:HA	8:m:220:LYS:HE3	2.00	0.42
13:r:44:ASP:OD1	13:r:181:TYR:OH	2.26	0.42
24:5:100:SER:HG	24:5:106:TYR:HE1	1.66	0.42
25:6:15:LEU:HD13	25:6:51:ALA:HB3	2.01	0.42
32:AD:58:LEU:HD23	32:AD:58:LEU:HA	1.89	0.42
46:A:514:G:H2'	46:A:515:U:O4'	2.19	0.42
46:A:844:A:H1'	60:O:73:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:125:ASP:OD1	47:B:127:ARG:N	2.47	0.42
47:B:198:MET:HE1	47:B:200:ASP:CG	2.45	0.42
50:E:163:GLN:O	50:E:166:ARG:N	2.50	0.42
51:F:147:ILE:HD12	51:F:169:ILE:CD1	2.49	0.42
56:K:29:LYS:HD2	77:f:44:PHE:CE2	2.55	0.42
60:O:55:ARG:O	74:c:47:PHE:HB2	2.19	0.42
60:O:118:ILE:HD13	60:O:121:ARG:HH12	1.85	0.42
64:S:108:ASP:HA	64:S:111:LYS:HG2	2.00	0.42
68:W:72:LEU:HA	68:W:75:GLN:CD	2.44	0.42
71:Z:26:ASP:OD1	71:Z:70:THR:HG22	2.19	0.42
75:d:34:GLU:OE1	75:d:34:GLU:N	2.40	0.42
1:1:225:C:H2'	1:1:226:G:O4'	2.20	0.42
1:1:1006:G:OP1	13:r:39:LYS:NZ	2.47	0.42
1:1:1322:A:H2'	1:1:1323:C:O4'	2.20	0.42
1:1:2384:C:H2'	1:1:2385:C:H6	1.84	0.42
1:1:2784:C:H2'	1:1:2785:A:C8	2.55	0.42
1:1:2913:A:H8	1:1:2913:A:OP2	2.02	0.42
1:1:3259:A:H2'	1:1:3260:A:O4'	2.19	0.42
3:4:37:A:OP2	37:AI:86:ARG:HD2	2.20	0.42
3:4:69:U:H3	3:4:89:A:H61	1.66	0.42
6:k:256:HIS:HA	6:k:257:PRO:C	2.45	0.42
8:m:283:GLN:HA	8:m:286:VAL:HG12	2.01	0.42
10:o:148:LYS:HD3	10:o:241:ASN:OD1	2.19	0.42
10:o:174:PHE:CZ	10:o:195:GLN:HG2	2.54	0.42
14:s:158:ASP:OD1	14:s:159:THR:N	2.53	0.42
17:v:7:LEU:O	17:v:11:GLN:HG2	2.20	0.42
20:y:104:LEU:HD23	20:y:104:LEU:HA	1.89	0.42
28:9:85:LEU:HD23	28:9:85:LEU:HA	1.79	0.42
39:AK:69:HIS:O	39:AK:73:ARG:HG3	2.19	0.42
46:A:180:A:H2'	46:A:181:U:H6	1.84	0.42
46:A:191:U:H4'	46:A:192:U:H5'	2.01	0.42
46:A:328:G:H2'	46:A:329:A:C8	2.55	0.42
46:A:573:C:H41	70:Y:65:ASN:ND2	2.17	0.42
46:A:1305:U:O2	46:A:1307:A:H5'	2.20	0.42
46:A:1378:U:H2'	46:A:1379:C:C6	2.55	0.42
46:A:1380:G:C6	46:A:1391:G:C6	3.08	0.42
46:A:1672:G:H2'	46:A:1674:U:N3	2.35	0.42
48:C:123:ALA:HB2	48:C:165:ARG:HG3	2.02	0.42
50:E:178:MET:CE	50:E:183:LEU:HG	2.44	0.42
51:F:234:LYS:HE2	51:F:234:LYS:HA	2.02	0.42
52:G:98:MET:HG3	52:G:98:MET:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:H:113:ILE:HD11	53:H:124:LEU:HD21	2.02	0.42
56:K:105:LEU:HD23	56:K:108:ARG:HD2	2.01	0.42
67:V:108:GLU:CD	67:V:109:PRO:HD2	2.44	0.42
71:Z:27:VAL:O	71:Z:68:LYS:HA	2.20	0.42
72:a:57:TYR:CZ	72:a:68:ARG:HD2	2.54	0.42
74:c:33:MET:HG3	74:c:79:PHE:HB2	2.02	0.42
1:1:48:A:N7	17:v:187:ARG:HD2	2.35	0.41
1:1:498:C:H2'	1:1:499:G:C8	2.55	0.41
1:1:1374:U:H2'	1:1:1375:G:H8	1.84	0.41
1:1:3336:G:H2'	1:1:3337:A:C8	2.55	0.41
4:10:70:G:H2'	4:10:71:C:C6	2.54	0.41
7:l:68:THR:HG22	7:l:69:GLY:N	2.35	0.41
9:n:138:GLN:HE21	9:n:142:ASP:CG	2.27	0.41
11:p:35:PHE:CD1	11:p:43:PRO:HD3	2.55	0.41
11:p:109:ARG:O	11:p:112:LYS:HG2	2.19	0.41
11:p:172:LYS:HA	11:p:224:ILE:HD11	2.01	0.41
12:q:94:TYR:HA	12:q:177:ASP:OD1	2.20	0.41
33:AE:51:ASP:HB2	33:AE:93:GLU:HG2	2.01	0.41
46:A:107:C:H2'	46:A:108:A:C8	2.54	0.41
46:A:536:A:H5'	46:A:541:C:H42	1.85	0.41
46:A:857:G:H2'	46:A:858:U:O4'	2.19	0.41
46:A:907:G:O2'	46:A:908:A:H5'	2.20	0.41
46:A:1571:G:C4	63:R:121:ARG:NH2	2.87	0.41
47:B:76:CYS:HB3	47:B:98:ILE:HD11	2.02	0.41
47:B:136:SER:HB2	47:B:141:ILE:CG1	2.50	0.41
49:D:65:ASP:OD1	49:D:128:LYS:NZ	2.50	0.41
53:H:36:VAL:HG12	53:H:37:GLU:N	2.34	0.41
58:M:58:CYS:SG	58:M:62:GLY:N	2.93	0.41
63:R:36:THR:HA	63:R:48:TYR:OH	2.19	0.41
64:S:93:LEU:HD12	64:S:93:LEU:N	2.35	0.41
66:U:103:LYS:HA	66:U:103:LYS:HD3	1.84	0.41
67:V:21:ILE:HD13	67:V:99:VAL:CG2	2.49	0.41
67:V:56:ARG:HD3	67:V:88:ARG:NE	2.34	0.41
75:d:18:ARG:CD	75:d:26:THR:HG22	2.50	0.41
1:1:548:G:H2'	1:1:549:U:C6	2.56	0.41
1:1:687:U:O4	7:l:210:TYR:OH	2.32	0.41
1:1:730:A:H8	1:1:733:A:N6	2.16	0.41
1:1:762:U:H4'	1:1:763:U:O4'	2.19	0.41
1:1:830:U:H2'	1:1:831:G:O4'	2.20	0.41
1:1:924:C:H2'	1:1:925:A:C8	2.55	0.41
1:1:1229:G:C6	1:1:1230:G:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1577:C:H2'	1:1:1578:C:O4'	2.19	0.41
1:1:2078:A:N3	1:1:2078:A:H3'	2.35	0.41
1:1:3038:U:H2'	1:1:3039:C:C6	2.55	0.41
1:1:3161:U:H2'	1:1:3162:U:C6	2.55	0.41
3:4:123:G:C6	3:4:131:G:C6	3.08	0.41
6:k:122:TRP:CE2	6:k:127:LYS:HE3	2.55	0.41
11:p:53:TRP:NE1	11:p:61:ARG:HH12	2.18	0.41
17:v:9:GLU:HB2	38:AJ:43:VAL:HG21	2.01	0.41
19:x:40:LYS:HD2	19:x:113:VAL:HG22	2.02	0.41
24:5:78:TYR:CE2	24:5:82:LEU:HD11	2.55	0.41
29:AA:12:ILE:CD1	29:AA:22:LYS:HG2	2.50	0.41
46:A:451:C:O2	46:A:451:C:H2'	2.19	0.41
46:A:970:G:H2'	46:A:971:G:O4'	2.19	0.41
46:A:1317:C:O2'	50:E:163:GLN:HB3	2.20	0.41
46:A:1475:U:H6	46:A:1476:A:C2	2.38	0.41
47:B:141:ILE:HG13	47:B:141:ILE:O	2.19	0.41
50:E:211:GLU:OE1	50:E:211:GLU:N	2.53	0.41
51:F:65:MET:HG2	51:F:78:THR:HA	2.01	0.41
52:G:199:ILE:HG13	52:G:200:ASN:N	2.35	0.41
57:L:1:MET:CE	57:L:3:ILE:HD11	2.50	0.41
58:M:55:ASP:HB3	58:M:58:CYS:HB3	2.01	0.41
59:N:96:LEU:O	59:N:99:GLU:HG2	2.20	0.41
60:O:53:ILE:HD12	60:O:53:ILE:HA	1.84	0.41
60:O:128:TYR:O	60:O:132:VAL:HG22	2.20	0.41
61:P:66:CYS:HB2	61:P:71:ILE:HG22	2.03	0.41
62:Q:60:LEU:HA	62:Q:60:LEU:HD23	1.89	0.41
73:b:41:ILE:HG12	73:b:68:TYR:CD2	2.55	0.41
77:f:33:ARG:CZ	77:f:33:ARG:HB3	2.49	0.41
1:1:200:A:H2'	1:1:201:G:C8	2.55	0.41
1:1:1153:G:H2'	1:1:1154:A:O4'	2.19	0.41
1:1:1655:U:H2'	1:1:1656:C:H6	1.86	0.41
1:1:1713:U:H2'	1:1:1714:G:H8	1.83	0.41
1:1:2367:C:H2'	1:1:2368:A:C8	2.55	0.41
1:1:2415:G:C6	1:1:2489:A:C5	3.08	0.41
1:1:3056:C:H2'	1:1:3057:G:O4'	2.20	0.41
3:4:152:G:H2'	3:4:153:U:O4'	2.21	0.41
5:j:49:ILE:HD11	5:j:60:LYS:HE2	2.00	0.41
8:m:85:ARG:NH2	8:m:86:TYR:CZ	2.88	0.41
10:o:212:PHE:HB3	10:o:225:ASP:OD2	2.21	0.41
14:s:21:ILE:CD1	14:s:37:LEU:HD21	2.50	0.41
14:s:131:MET:HA	14:s:131:MET:HE3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:t:27:ASP:OD2	15:t:31:LYS:HD2	2.20	0.41
15:t:154:PRO:HB3	30:AB:106:ALA:HB1	2.02	0.41
25:6:71:LYS:HB3	25:6:71:LYS:HE3	1.96	0.41
25:6:80:ARG:HG2	25:6:99:ALA:HB3	2.03	0.41
27:8:69:THR:HG22	27:8:70:GLU:H	1.85	0.41
46:A:136:U:O2	46:A:140:U:H4'	2.19	0.41
46:A:481:A:H8	46:A:481:A:O5'	2.04	0.41
46:A:483:A:H2'	46:A:484:G:O4'	2.21	0.41
46:A:1102:U:H2'	46:A:1103:G:C8	2.55	0.41
46:A:1318:C:H2'	46:A:1319:U:H6	1.86	0.41
46:A:1774:C:H2'	46:A:1775:G:H8	1.85	0.41
52:G:34:GLN:O	52:G:37:GLN:OE1	2.38	0.41
55:J:37:LYS:O	55:J:59:ARG:HA	2.20	0.41
56:K:59:LEU:HD11	56:K:72:GLU:HG3	2.03	0.41
65:T:49:LYS:HA	65:T:49:LYS:HD3	1.74	0.41
66:U:117:SER:HB2	66:U:123:ARG:HG3	2.01	0.41
72:a:69:LEU:HG	72:a:71:ILE:HG23	2.02	0.41
74:c:6:ASP:OD1	74:c:9:HIS:HB2	2.20	0.41
74:c:51:GLN:HA	74:c:66:PRO:HB3	2.03	0.41
1:1:716:G:O2'	1:1:717:A:OP1	2.25	0.41
1:1:1286:A:H2'	1:1:1287:A:H8	1.85	0.41
1:1:2809:A:H5''	13:r:154:ARG:NH1	2.36	0.41
1:1:2956:C:H2'	1:1:2957:C:H6	1.83	0.41
14:s:32:ARG:NH2	14:s:120:ILE:O	2.53	0.41
17:v:36:ILE:HG12	17:v:64:ILE:HG13	2.02	0.41
24:5:30:GLN:HE21	24:5:30:GLN:HB3	1.71	0.41
46:A:260:U:O2'	46:A:261:C:H5'	2.20	0.41
46:A:524:A:H2'	46:A:525:A:O4'	2.20	0.41
46:A:803:G:H2'	46:A:806:A:H8	1.86	0.41
46:A:1252:G:H1	46:A:1428:U:H3	1.68	0.41
47:B:198:MET:HE2	47:B:198:MET:HB2	1.73	0.41
49:D:39:LEU:HD12	49:D:235:LEU:HD23	2.02	0.41
53:H:142:ARG:HH11	53:H:142:ARG:HB3	1.86	0.41
54:I:47:VAL:HG23	54:I:167:GLN:OE1	2.20	0.41
59:N:43:ARG:HA	59:N:121:VAL:HG12	2.02	0.41
60:O:45:LEU:HD12	60:O:49:GLN:HB2	2.02	0.41
65:T:61:LEU:HD11	65:T:65:GLU:CB	2.50	0.41
65:T:134:ARG:HG3	65:T:136:GLN:HG3	2.02	0.41
66:U:14:PHE:HE2	66:U:63:ARG:HB2	1.85	0.41
66:U:108:LEU:HD21	66:U:113:VAL:HB	2.02	0.41
67:V:31:LYS:HG3	67:V:32:GLN:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:X:20:THR:HG21	69:X:22:LYS:NZ	2.36	0.41
71:Z:46:GLU:O	71:Z:49:LYS:NZ	2.54	0.41
71:Z:55:VAL:HG22	71:Z:75:ILE:CD1	2.50	0.41
77:f:26:LYS:HB2	77:f:27:PRO:HD3	2.01	0.41
79:h:57:ILE:HD13	79:h:57:ILE:HA	1.97	0.41
79:h:171:TRP:CZ3	79:h:195:TYR:CD2	3.09	0.41
1:1:614:G:H2'	1:1:615:G:C8	2.55	0.41
1:1:780:A:C8	20:y:65:SER:HB3	2.56	0.41
1:1:781:G:N2	1:1:782:A:H62	2.18	0.41
1:1:925:A:H2'	1:1:926:U:C6	2.56	0.41
1:1:1344:U:OP1	20:y:39:ARG:NH1	2.53	0.41
1:1:2322:U:H2'	1:1:2323:A:H8	1.84	0.41
1:1:3110:U:OP1	6:k:274:HIS:ND1	2.49	0.41
3:4:155:G:C5	3:4:156:U:C4	3.08	0.41
7:l:65:SER:HA	7:l:76:PRO:HA	2.03	0.41
8:m:90:TYR:CZ	8:m:225:ASN:HB3	2.55	0.41
10:o:182:LEU:HD21	10:o:200:LEU:HD11	2.02	0.41
10:o:206:SER:OG	10:o:207:ASN:N	2.53	0.41
16:u:82:ASP:OD2	16:u:85:ALA:HB3	2.21	0.41
17:v:143:ARG:HB3	37:AI:96:GLU:OE1	2.21	0.41
18:w:9:VAL:HG12	18:w:118:ARG:HG3	2.02	0.41
20:y:165:ILE:HD11	20:y:172:PHE:HB3	2.02	0.41
20:y:178:ARG:HA	20:y:178:ARG:HD2	1.79	0.41
29:AA:70:PRO:HG3	29:AA:115:LYS:HB2	2.03	0.41
46:A:538:G:N2	77:f:25:GLU:OE2	2.53	0.41
46:A:588:C:H2'	46:A:589:A:C8	2.56	0.41
46:A:608:G:H21	70:Y:19:ARG:NH2	2.18	0.41
46:A:801:A:H2'	46:A:802:C:H6	1.85	0.41
46:A:914:A:N9	61:P:118:SER:O	2.54	0.41
46:A:1369:G:H5''	67:V:88:ARG:HH21	1.85	0.41
46:A:1469:A:H2'	46:A:1470:G:C8	2.55	0.41
46:A:1510:G:OP1	66:U:78:LYS:NZ	2.45	0.41
48:C:103:LEU:HB3	48:C:215:VAL:HG22	2.02	0.41
50:E:33:GLN:HG2	50:E:59:VAL:HG23	2.02	0.41
50:E:33:GLN:NE2	50:E:66:ARG:HH22	2.18	0.41
50:E:60:LEU:HD22	50:E:67:ILE:CD1	2.51	0.41
51:F:136:VAL:HG13	51:F:149:TYR:CE1	2.55	0.41
53:H:35:GLU:HG2	53:H:51:LYS:HB2	2.01	0.41
57:L:91:ARG:HA	57:L:91:ARG:HD2	1.90	0.41
62:Q:67:THR:HG22	62:Q:70:ASN:H	1.85	0.41
66:U:77:ASN:HB3	66:U:95:ASP:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:W:1:MET:HB3	68:W:10:GLU:HB2	2.01	0.41
71:Z:86:GLU:OE1	71:Z:90:ARG:NH1	2.44	0.41
1:1:571:C:H2'	1:1:572:U:C6	2.55	0.41
1:1:582:G:H2'	1:1:583:A:H8	1.85	0.41
1:1:793:U:H5''	15:t:2:ALA:HA	2.02	0.41
1:1:883:G:H2'	1:1:884:A:C8	2.55	0.41
1:1:1807:G:H2'	1:1:1808:G:O4'	2.20	0.41
1:1:2493:A:N1	1:1:2566:C:N4	2.63	0.41
1:1:2494:U:H3	1:1:2563:A:H2	1.68	0.41
1:1:2742:G:H5''	44:AP:79:THR:HG23	2.02	0.41
2:3:45:A:H2'	2:3:46:A:C8	2.56	0.41
6:k:284:ARG:NH2	6:k:295:ALA:O	2.53	0.41
11:p:109:ARG:O	11:p:113:GLU:HG2	2.20	0.41
16:u:19:VAL:HG12	16:u:57:LEU:HD23	2.02	0.41
17:v:38:ARG:NH1	17:v:61:ILE:H	2.19	0.41
20:y:98:LYS:NZ	20:y:118:GLY:HA3	2.36	0.41
29:AA:9:LYS:O	29:AA:25:ILE:HD12	2.21	0.41
46:A:942:G:H21	74:c:51:GLN:NE2	2.19	0.41
46:A:982:G:C6	46:A:993:G:C6	3.08	0.41
46:A:1214:G:H1'	46:A:1241:A:H61	1.85	0.41
46:A:1218:G:N2	46:A:1238:U:H1'	2.35	0.41
46:A:1547:U:H5	46:A:1585:U:O2'	2.04	0.41
47:B:52:LYS:NZ	68:W:82:VAL:O	2.44	0.41
48:C:111:ARG:HA	48:C:114:VAL:HG12	2.03	0.41
51:F:19:MET:HE1	51:F:108:LYS:HB2	2.01	0.41
51:F:181:VAL:HG12	51:F:227:VAL:HG22	2.02	0.41
52:G:63:GLN:HE22	52:G:66:ASN:HB2	1.85	0.41
56:K:65:LYS:HA	56:K:70:LEU:HD11	2.02	0.41
79:h:67:HIS:CG	79:h:68:ILE:N	2.88	0.41
1:1:383:G:N2	1:1:386:A:OP2	2.40	0.41
1:1:616:C:O2'	1:1:619:A:N3	2.47	0.41
1:1:2077:A:O2'	1:1:2078:A:H5'	2.20	0.41
1:1:2521:C:C4	1:1:2522:U:C4	3.09	0.41
1:1:2632:G:OP1	1:1:2722:U:O2'	2.38	0.41
1:1:2836:A:H5''	13:r:114:GLY:HA2	2.02	0.41
1:1:2852:U:H1'	6:k:250:ALA:HB3	2.03	0.41
1:1:3197:G:H2'	1:1:3198:C:H6	1.86	0.41
2:3:64:A:H2	13:r:218:TYR:CZ	2.39	0.41
6:k:48:GLY:HA3	6:k:81:THR:HG22	2.03	0.41
11:p:43:PRO:HG2	11:p:45:ARG:NE	2.36	0.41
14:s:86:VAL:HG11	14:s:106:ILE:HG23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:446:C:H2'	46:A:447:C:H6	1.85	0.41
46:A:919:C:C4	46:A:1062:C:H4'	2.55	0.41
46:A:1335:U:H2'	46:A:1336:G:H8	1.82	0.41
46:A:1610:C:H2'	46:A:1611:C:H6	1.86	0.41
46:A:1727:A:H2'	46:A:1728:U:H6	1.86	0.41
48:C:26:ARG:HH21	48:C:49:ASN:HD21	1.68	0.41
50:E:192:ASP:OD2	50:E:194:ALA:HB3	2.21	0.41
55:J:90:LEU:HD22	55:J:95:THR:OG1	2.21	0.41
55:J:98:LYS:HE2	55:J:176:SER:O	2.19	0.41
59:N:62:LEU:HD11	59:N:75:VAL:CG1	2.51	0.41
64:S:11:ARG:O	64:S:15:VAL:HG23	2.21	0.41
65:T:80:LYS:O	65:T:80:LYS:HG2	2.20	0.41
74:c:54:VAL:HG13	74:c:63:LEU:HB2	2.02	0.41
1:1:258:U:OP1	15:t:81:LYS:HE3	2.20	0.41
1:1:1242:G:H1	1:1:1261:U:H3'	1.85	0.41
1:1:2204:U:H2'	1:1:2205:C:C6	2.55	0.41
1:1:2206:A:H2'	1:1:2207:A:H8	1.85	0.41
1:1:3233:A:P	19:x:181:ARG:HH22	2.44	0.41
2:3:24:A:H2'	2:3:25:G:C8	2.56	0.41
3:4:104:A:C8	3:4:105:A:C8	3.09	0.41
6:k:212:ASP:O	6:k:281:LYS:NZ	2.53	0.41
13:r:170:LYS:HA	13:r:177:ASN:HA	2.03	0.41
14:s:40:LEU:HD13	14:s:114:ILE:HD11	2.01	0.41
20:y:37:ALA:HB1	20:y:46:LYS:HG2	2.01	0.41
32:AD:59:GLU:OE1	32:AD:71:TYR:OH	2.08	0.41
32:AD:105:SER:O	32:AD:106:ILE:C	2.63	0.41
46:A:302:U:H2'	46:A:303:C:H6	1.82	0.41
46:A:770:C:P	46:A:770:C:O4'	2.79	0.41
46:A:1002:U:H2'	46:A:1003:U:C6	2.56	0.41
46:A:1131:G:H2'	46:A:1132:A:H8	1.84	0.41
46:A:1241:A:H5'	46:A:1242:U:H5	1.84	0.41
46:A:1757:U:H2'	46:A:1758:U:C6	2.55	0.41
49:D:92:ARG:HH21	49:D:113:ALA:HA	1.86	0.41
53:H:219:ARG:HD3	53:H:223:ARG:NH1	2.35	0.41
55:J:25:ARG:HB2	55:J:28:GLU:OE1	2.20	0.41
56:K:148:VAL:HG11	56:K:156:ILE:HD11	2.03	0.41
64:S:51:ALA:O	64:S:54:THR:HG22	2.21	0.41
66:U:6:VAL:HB	66:U:66:TYR:CE2	2.55	0.41
79:h:37:SER:H	79:h:69:VAL:CG2	2.33	0.41
1:1:270:U:H2'	1:1:271:C:H6	1.86	0.41
1:1:293:C:H2'	1:1:294:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:438:A:N1	1:1:489:G:O2'	2.46	0.41
1:1:1141:G:O6	1:1:1154:A:H2	2.04	0.41
1:1:1690:U:O2'	1:1:1691:U:H5'	2.20	0.41
1:1:1767:G:H2'	1:1:1768:U:O4'	2.21	0.41
1:1:2145:A:H2'	1:1:2146:A:C8	2.56	0.41
1:1:2485:U:H2'	1:1:2486:U:C6	2.55	0.41
1:1:2504:C:C2	11:p:49:ARG:NH2	2.89	0.41
1:1:2519:A:H1'	1:1:2520:A:C4'	2.49	0.41
1:1:2653:U:H2'	1:1:2654:C:H6	1.85	0.41
1:1:2771:A:H5''	1:1:2772:G:O5'	2.21	0.41
1:1:2956:C:H2'	1:1:2957:C:C6	2.56	0.41
1:1:3082:C:H2'	1:1:3083:U:C6	2.56	0.41
1:1:3228:G:C2	1:1:3229:G:C8	3.08	0.41
3:4:156:U:O2'	3:4:157:U:P	2.78	0.41
6:k:19:ARG:HB2	6:k:232:ARG:NH2	2.36	0.41
8:m:98:ALA:HB1	8:m:162:VAL:HG23	2.03	0.41
8:m:164:LYS:NZ	8:m:168:ASP:OD1	2.51	0.41
11:p:113:GLU:OE2	11:p:127:SER:HB3	2.21	0.41
13:r:121:LYS:HD3	13:r:121:LYS:N	2.36	0.41
15:t:186:GLU:HA	15:t:186:GLU:OE2	2.21	0.41
22:0:90:MET:HE2	22:0:92:LYS:HG3	2.03	0.41
22:0:92:LYS:HE3	22:0:92:LYS:HB3	1.88	0.41
22:0:92:LYS:HE2	22:0:109:ASP:OD2	2.20	0.41
25:6:27:ASP:HA	25:6:113:ALA:O	2.21	0.41
27:8:109:TYR:CE2	27:8:111:ASN:ND2	2.88	0.41
27:8:114:ILE:O	41:AM:10:LYS:NZ	2.39	0.41
28:9:109:LEU:HD22	28:9:115:ARG:NH2	2.36	0.41
37:AI:94:LYS:HE3	37:AI:94:LYS:HB3	1.95	0.41
43:AO:2:ARG:HD3	43:AO:5:TRP:NE1	2.36	0.41
44:AP:55:LYS:HE2	44:AP:55:LYS:HB3	1.61	0.41
46:A:78:A:H2'	46:A:79:C:C6	2.56	0.41
46:A:382:G:H2'	46:A:383:A:C8	2.55	0.41
46:A:444:A:N6	46:A:459:G:H21	2.19	0.41
46:A:691:U:H5'	46:A:692:U:H5''	2.02	0.41
46:A:822:G:O2'	46:A:823:G:H5''	2.21	0.41
46:A:870:G:H2'	46:A:871:U:C6	2.56	0.41
46:A:1140:G:H2'	46:A:1141:C:H6	1.86	0.41
46:A:1211:A:N6	59:N:114:LYS:HZ2	2.19	0.41
46:A:1515:U:H2'	46:A:1516:C:C6	2.56	0.41
46:A:1660:G:H2'	46:A:1661:C:H6	1.85	0.41
46:A:1784:A:H61	73:b:85:ARG:H	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:B:122:VAL:HA	47:B:144:ILE:O	2.21	0.41
47:B:133:ILE:O	47:B:136:SER:OG	2.27	0.41
47:B:135:GLU:O	47:B:138:TYR:HB2	2.20	0.41
48:C:123:ALA:HB1	48:C:169:ILE:CD1	2.51	0.41
49:D:108:LEU:HD11	49:D:206:LEU:HB3	2.03	0.41
50:E:56:THR:O	50:E:56:THR:HG22	2.20	0.41
52:G:125:THR:HG23	52:G:127:GLN:NE2	2.36	0.41
53:H:31:ARG:O	53:H:52:ILE:HD11	2.21	0.41
53:H:147:LEU:HD21	53:H:153:VAL:HG22	2.02	0.41
53:H:154:ARG:CZ	53:H:175:ILE:HG21	2.51	0.41
55:J:25:ARG:HB3	55:J:27:PHE:CE1	2.55	0.41
63:R:49:GLU:OE2	63:R:111:TYR:HE2	2.04	0.41
65:T:84:TRP:HA	65:T:89:GLN:HE22	1.86	0.41
65:T:90:LYS:HA	65:T:90:LYS:HD2	1.90	0.41
69:X:15:ASN:C	69:X:15:ASN:HD22	2.28	0.41
71:Z:63:GLN:OE1	71:Z:68:LYS:HD3	2.21	0.41
73:b:47:ALA:O	73:b:50:VAL:HG22	2.21	0.41
79:h:93:TRP:HZ3	79:h:98:GLY:O	2.04	0.41
79:h:261:LYS:HB3	79:h:263:GLN:O	2.21	0.41
1:1:539:G:C5	1:1:540:C:C4	3.08	0.41
1:1:549:U:N3	1:1:550:G:N7	2.69	0.41
1:1:1444:U:H2'	1:1:1445:A:C8	2.56	0.41
1:1:1762:G:HO2'	1:1:1763:C:P	2.43	0.41
1:1:1814:U:O2'	1:1:1815:U:O5'	2.39	0.41
1:1:3298:G:N2	1:1:3334:G:H1'	2.36	0.41
3:4:81:A:H2'	3:4:82:U:C6	2.56	0.41
3:4:85:G:H4'	3:4:86:U:OP1	2.21	0.41
8:m:66:SER:O	8:m:73:VAL:HG22	2.20	0.41
10:o:126:LYS:HE3	10:o:126:LYS:HB2	1.90	0.41
33:AE:71:ARG:HD2	33:AE:103:LEU:HD13	2.03	0.41
45:AQ:7:LYS:HB3	45:AQ:7:LYS:HE3	1.94	0.41
46:A:17:C:O2'	46:A:1122:A:N1	2.47	0.41
46:A:112:A:O2'	46:A:113:U:H5'	2.21	0.41
46:A:519:A:O2'	71:Z:34:ASN:ND2	2.54	0.41
46:A:598:U:P	70:Y:108:GLY:HA2	2.61	0.41
46:A:744:U:C2	46:A:745:A:C8	3.09	0.41
48:C:181:LEU:O	48:C:185:THR:HG23	2.21	0.41
50:E:158:MET:SD	50:E:190:MET:HB2	2.61	0.41
52:G:189:THR:HG21	72:a:98:GLN:OE1	2.21	0.41
53:H:104:GLN:OE1	53:H:104:GLN:N	2.52	0.41
56:K:59:LEU:HD22	56:K:69:ARG:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:L:17:GLN:O	57:L:18:GLU:HB2	2.21	0.41
59:N:31:VAL:HA	59:N:34:THR:HG22	2.02	0.41
63:R:12:LYS:O	63:R:13:LYS:C	2.64	0.41
64:S:11:ARG:HA	64:S:14:LYS:HG2	2.02	0.41
71:Z:37:LYS:NZ	71:Z:93:ARG:HD3	2.36	0.41
79:h:161:ASP:OD1	79:h:161:ASP:N	2.44	0.41
79:h:242:PHE:HD1	79:h:249:LEU:HD13	1.84	0.41
79:h:299:PHE:HD1	79:h:309:VAL:HG12	1.85	0.41
1:1:356:C:O2'	7:l:82:GLY:O	2.28	0.40
1:1:547:U:H2'	1:1:548:G:H8	1.86	0.40
1:1:730:A:H2'	1:1:731:U:H2'	2.03	0.40
1:1:757:A:C2	1:1:767:A:H1'	2.56	0.40
1:1:1099:A:N6	1:1:1359:A:H1'	2.33	0.40
1:1:1330:U:H2'	1:1:1331:U:C6	2.56	0.40
1:1:1482:G:N2	36:AH:6:THR:HG22	2.35	0.40
1:1:1925:G:OP2	1:1:1926:A:O2'	2.34	0.40
1:1:2085:A:H2	1:1:3309:A:C8	2.39	0.40
1:1:2197:A:H2'	1:1:2198:A:C8	2.56	0.40
1:1:2671:G:H5''	23:2:16:GLN:HE21	1.86	0.40
1:1:3264:C:H2'	1:1:3265:U:C6	2.56	0.40
2:3:16:U:H2'	2:3:17:A:C8	2.56	0.40
5:j:118:GLU:HG3	5:j:125:ALA:HB3	2.03	0.40
7:l:45:LYS:HB3	7:l:48:ARG:NH2	2.35	0.40
13:r:134:ILE:HD11	23:2:160:ILE:HG23	2.02	0.40
14:s:75:LYS:HA	14:s:78:GLU:OE1	2.21	0.40
14:s:138:VAL:HG23	14:s:139:THR:HG23	2.02	0.40
16:u:34:ASP:CG	16:u:35:GLN:H	2.29	0.40
24:5:80:LYS:HE2	24:5:84:LYS:HE2	2.03	0.40
27:8:75:LYS:HB3	27:8:81:THR:HB	2.02	0.40
28:9:106:ILE:HG21	28:9:109:LEU:HD23	2.02	0.40
37:AI:86:ARG:O	37:AI:90:ARG:HD3	2.20	0.40
46:A:248:C:H2'	46:A:249:A:H8	1.86	0.40
46:A:294:U:H2'	46:A:295:U:C6	2.56	0.40
46:A:514:G:HO2'	46:A:515:U:P	2.44	0.40
46:A:584:G:H2'	46:A:585:C:C6	2.56	0.40
46:A:1248:G:H2'	46:A:1249:G:O4'	2.21	0.40
46:A:1763:A:H2'	46:A:1764:G:H8	1.86	0.40
54:I:81:PHE:O	54:I:84:ARG:HG3	2.22	0.40
54:I:148:VAL:HG12	54:I:150:LEU:HD22	2.03	0.40
55:J:118:GLY:HA3	55:J:149:LEU:HD11	2.03	0.40
59:N:28:LEU:CD2	59:N:32:LEU:HD23	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:N:89:ILE:H	59:N:89:ILE:HG13	1.65	0.40
60:O:36:GLN:O	60:O:40:TYR:CD1	2.74	0.40
64:S:21:TYR:N	64:S:22:PRO:HD2	2.36	0.40
66:U:127:ASN:CA	66:U:130:ARG:HG2	2.51	0.40
1:1:146:U:OP2	11:p:137:LEU:HB2	2.20	0.40
1:1:744:U:H2'	1:1:745:C:C6	2.56	0.40
1:1:845:C:H2'	1:1:846:U:H6	1.86	0.40
1:1:1230:G:H2'	1:1:1231:U:C6	2.56	0.40
1:1:1451:U:H1'	33:AE:25:LYS:HE3	2.03	0.40
1:1:1755:U:H2'	1:1:1756:A:H5''	2.02	0.40
1:1:2686:G:H4'	1:1:2687:A:H5''	2.03	0.40
1:1:2957:C:H2'	1:1:2958:U:H6	1.86	0.40
3:4:40:A:H2'	3:4:41:A:H8	1.86	0.40
8:m:125:VAL:O	8:m:196:ARG:NH1	2.55	0.40
12:q:33:GLU:O	12:q:34:LEU:HD22	2.21	0.40
15:t:155:GLU:OE1	30:AB:101:VAL:HG11	2.21	0.40
16:u:19:VAL:HG11	16:u:55:ILE:HD12	2.02	0.40
17:v:64:ILE:HG21	17:v:102:ALA:HB1	2.03	0.40
21:z:38:ARG:O	21:z:42:ARG:HG3	2.21	0.40
25:6:13:MET:HE3	25:6:85:TRP:NE1	2.35	0.40
34:AF:105:LYS:O	34:AF:109:ILE:HG13	2.21	0.40
40:AL:69:LEU:HB3	40:AL:70:PRO:HD2	2.03	0.40
46:A:912:C:O2	61:P:119:ASP:CG	2.64	0.40
46:A:1088:U:H2'	46:A:1089:U:H6	1.86	0.40
46:A:1210:U:H2'	46:A:1211:A:O4'	2.21	0.40
46:A:1396:A:O2'	46:A:1397:A:P	2.79	0.40
46:A:1660:G:H2'	46:A:1661:C:C6	2.56	0.40
51:F:146:THR:HG23	51:F:146:THR:O	2.20	0.40
52:G:46:TRP:CD1	52:G:129:PRO:HG2	2.56	0.40
54:I:66:TYR:HE2	54:I:88:PHE:CD2	2.39	0.40
65:T:46:VAL:HG21	65:T:73:MET:HE2	2.03	0.40
66:U:49:GLU:O	66:U:49:GLU:HG2	2.21	0.40
71:Z:90:ARG:HG2	71:Z:94:TYR:CE2	2.56	0.40
79:h:262:LEU:O	79:h:265:ARG:HG3	2.20	0.40
1:1:498:C:H5''	9:n:25:ARG:NH2	2.36	0.40
1:1:622:G:H2'	1:1:623:A:H8	1.86	0.40
1:1:671:U:H2'	1:1:672:G:H8	1.83	0.40
1:1:988:A:O2'	1:1:989:G:H5'	2.22	0.40
1:1:989:G:N3	1:1:2609:A:H2'	2.37	0.40
1:1:1841:G:H5''	1:1:1842:C:H5'	2.03	0.40
1:1:2753:U:H2'	1:1:2754:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2796:G:H2'	1:1:2797:C:H6	1.87	0.40
1:1:3061:C:H2'	1:1:3062:U:O4'	2.21	0.40
2:3:45:A:H2'	2:3:46:A:H8	1.87	0.40
6:k:233:TRP:CD1	6:k:265:ALA:HB1	2.57	0.40
7:l:106:THR:HG22	15:t:26:PHE:CZ	2.57	0.40
14:s:33:ALA:HA	14:s:36:VAL:HG12	2.03	0.40
15:t:143:VAL:HG13	15:t:147:PHE:HD2	1.86	0.40
25:6:87:ARG:HH22	25:6:137:VAL:C	2.29	0.40
30:AB:120:GLU:HA	30:AB:141:VAL:HG23	2.04	0.40
41:AM:25:GLN:HG2	41:AM:28:ARG:NH2	2.25	0.40
46:A:97:C:H2'	46:A:98:U:C6	2.57	0.40
46:A:445:U:H2'	46:A:446:C:O4'	2.20	0.40
46:A:520:U:H5''	71:Z:37:LYS:HG3	2.03	0.40
46:A:1206:A:H2'	46:A:1207:C:O4'	2.21	0.40
46:A:1212:A:H2	59:N:43:ARG:HD3	1.85	0.40
46:A:1219:A:H5'	46:A:1220:C:OP1	2.22	0.40
46:A:1219:A:H5''	46:A:1230:G:H2'	2.03	0.40
46:A:1238:U:H2'	46:A:1239:U:C6	2.56	0.40
46:A:1555:C:H4'	46:A:1556:A:O5'	2.22	0.40
47:B:146:LEU:HG	47:B:162:CYS:HB2	2.03	0.40
52:G:89:ILE:HD12	52:G:89:ILE:HA	1.92	0.40
53:H:50:PHE:CB	53:H:111:LEU:HD23	2.51	0.40
64:S:71:PHE:CE1	64:S:73:LEU:HB3	2.56	0.40
71:Z:29:HIS:ND1	71:Z:29:HIS:O	2.55	0.40
77:f:13:LYS:O	77:f:17:GLN:HG2	2.21	0.40
1:1:37:U:H2'	1:1:38:A:O4'	2.21	0.40
1:1:757:A:H2'	1:1:758:U:C6	2.57	0.40
1:1:994:A:H4'	2:3:103:A:C2	2.57	0.40
1:1:1436:G:OP1	7:l:84:HIS:NE2	2.35	0.40
1:1:1474:C:H2'	1:1:1475:U:C6	2.57	0.40
1:1:1837:A:H1'	41:AM:45:ARG:HH22	1.86	0.40
1:1:3247:A:H2'	1:1:3248:U:C6	2.56	0.40
2:3:1:G:C2	2:3:2:G:C8	3.10	0.40
28:9:58:VAL:HA	28:9:104:VAL:HG12	2.04	0.40
30:AB:75:LEU:HD11	30:AB:134:ALA:HA	2.04	0.40
46:A:30:G:H2'	46:A:31:C:H6	1.87	0.40
46:A:50:C:OP1	46:A:421:G:N2	2.54	0.40
46:A:398:A:H5''	55:J:25:ARG:HA	2.02	0.40
46:A:642:C:H2'	46:A:643:U:H6	1.85	0.40
46:A:841:A:O4'	54:I:60:PRO:HG2	2.22	0.40
46:A:951:A:H5''	60:O:4:MET:CE	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:A:974:U:H2'	46:A:975:C:C6	2.56	0.40
46:A:1237:C:H2'	46:A:1238:U:H6	1.86	0.40
46:A:1301:G:H2'	46:A:1302:C:C6	2.57	0.40
46:A:1584:A:C8	76:e:14:PHE:HD2	2.38	0.40
46:A:1606:C:O3'	52:G:152:SER:OG	2.40	0.40
50:E:60:LEU:HD23	50:E:89:ALA:HB3	2.03	0.40
51:F:235:PRO:HG3	51:F:239:LEU:CD1	2.52	0.40
54:I:150:LEU:HB2	54:I:181:ILE:HG12	2.03	0.40
79:h:6:VAL:HG12	79:h:7:LEU:N	2.37	0.40
79:h:79:ALA:O	79:h:95:LEU:HD23	2.22	0.40
1:1:169:G:N2	1:1:250:U:OP2	2.54	0.40
1:1:668:C:OP1	20:y:147:ARG:NH2	2.49	0.40
1:1:1104:U:H2'	1:1:1105:U:H6	1.85	0.40
1:1:1172:C:OP1	18:w:26:LYS:NZ	2.46	0.40
1:1:1231:U:H1'	1:1:1233:G:OP2	2.21	0.40
1:1:1415:A:OP1	3:4:20:U:O2'	2.39	0.40
1:1:1432:U:O4	7:l:68:THR:HG23	2.22	0.40
5:j:204:MET:SD	5:j:209:HIS:HB2	2.61	0.40
6:k:163:HIS:HA	6:k:177:HIS:O	2.21	0.40
8:m:258:LYS:HD3	8:m:258:LYS:HA	1.88	0.40
14:s:32:ARG:HH11	14:s:32:ARG:HD3	1.75	0.40
14:s:148:ILE:O	14:s:153:LYS:NZ	2.54	0.40
21:z:168:ALA:HA	21:z:171:GLU:OE1	2.20	0.40
22:0:42:TRP:O	22:0:46:GLN:HG3	2.22	0.40
24:5:19:VAL:O	24:5:21:ALA:N	2.49	0.40
25:6:129:ILE:O	25:6:133:SER:HB3	2.22	0.40
32:AD:102:ILE:O	32:AD:106:ILE:HG23	2.21	0.40
45:AQ:84:ARG:HD2	45:AQ:85:ARG:N	2.37	0.40
46:A:815:U:O2'	46:A:816:U:H6	2.04	0.40
46:A:1383:U:O2'	46:A:1386:A:N6	2.49	0.40
46:A:1532:A:H2'	46:A:1533:G:H8	1.86	0.40
47:B:183:ARG:HD3	47:B:191:ARG:NE	2.37	0.40
48:C:103:LEU:O	48:C:214:LYS:HG3	2.21	0.40
50:E:183:LEU:HD23	50:E:183:LEU:HA	1.91	0.40
50:E:192:ASP:OD2	50:E:195:ALA:N	2.55	0.40
51:F:56:LEU:HD11	71:Z:72:PHE:CE2	2.56	0.40
52:G:38:ARG:NE	52:G:38:ARG:HA	2.37	0.40
53:H:3:LEU:HB3	53:H:5:ILE:HD11	2.04	0.40
57:L:10:LYS:HD2	57:L:37:THR:OG1	2.21	0.40
60:O:50:ILE:O	60:O:53:ILE:HG22	2.21	0.40
64:S:18:GLU:OE2	64:S:69:ILE:HG23	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:S:108:ASP:O	64:S:111:LYS:HG2	2.21	0.40
67:V:81:TYR:CD2	76:e:43:PHE:HE1	2.40	0.40
79:h:46:LYS:HE3	79:h:59:LYS:HE2	2.04	0.40
79:h:128:ARG:HD3	79:h:151:TRP:CG	2.57	0.40
79:h:261:LYS:O	79:h:265:ARG:HA	2.20	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	
5	j	247/254 (97%)	238 (96%)	9 (4%)	0	100	100
6	k	385/389 (99%)	373 (97%)	12 (3%)	0	100	100
7	l	359/363 (99%)	350 (98%)	9 (2%)	0	100	100
8	m	290/298 (97%)	280 (97%)	10 (3%)	0	100	100
9	n	151/176 (86%)	149 (99%)	2 (1%)	0	100	100
10	o	232/241 (96%)	226 (97%)	6 (3%)	0	100	100
11	p	247/262 (94%)	236 (96%)	10 (4%)	1 (0%)	30	61
12	q	188/191 (98%)	184 (98%)	4 (2%)	0	100	100
13	r	204/220 (93%)	202 (99%)	2 (1%)	0	100	100
14	s	170/174 (98%)	166 (98%)	4 (2%)	0	100	100
15	t	198/202 (98%)	194 (98%)	2 (1%)	2 (1%)	12	41
16	u	128/131 (98%)	124 (97%)	4 (3%)	0	100	100
17	v	201/204 (98%)	198 (98%)	3 (2%)	0	100	100
18	w	197/200 (98%)	195 (99%)	2 (1%)	0	100	100
19	x	168/185 (91%)	165 (98%)	3 (2%)	0	100	100
20	y	183/186 (98%)	178 (97%)	5 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	z	172/190 (90%)	165 (96%)	4 (2%)	3 (2%)	7	30
22	0	170/172 (99%)	169 (99%)	1 (1%)	0	100	100
23	2	157/160 (98%)	154 (98%)	3 (2%)	0	100	100
24	5	101/124 (82%)	96 (95%)	4 (4%)	1 (1%)	12	41
25	6	129/137 (94%)	124 (96%)	5 (4%)	0	100	100
26	7	61/155 (39%)	61 (100%)	0	0	100	100
27	8	119/142 (84%)	119 (100%)	0	0	100	100
28	9	124/127 (98%)	123 (99%)	1 (1%)	0	100	100
29	AA	133/136 (98%)	132 (99%)	1 (1%)	0	100	100
30	AB	146/149 (98%)	139 (95%)	7 (5%)	0	100	100
31	AC	62/63 (98%)	61 (98%)	1 (2%)	0	100	100
32	AD	94/106 (89%)	93 (99%)	1 (1%)	0	100	100
33	AE	107/112 (96%)	106 (99%)	1 (1%)	0	100	100
34	AF	123/131 (94%)	122 (99%)	1 (1%)	0	100	100
35	AG	105/107 (98%)	102 (97%)	3 (3%)	0	100	100
36	AH	110/122 (90%)	107 (97%)	3 (3%)	0	100	100
37	AI	118/120 (98%)	115 (98%)	3 (2%)	0	100	100
38	AJ	97/99 (98%)	96 (99%)	1 (1%)	0	100	100
39	AK	84/90 (93%)	81 (96%)	3 (4%)	0	100	100
40	AL	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
41	AM	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
42	AN	50/52 (96%)	50 (100%)	0	0	100	100
43	AO	23/25 (92%)	23 (100%)	0	0	100	100
44	AP	101/106 (95%)	99 (98%)	2 (2%)	0	100	100
45	AQ	89/92 (97%)	79 (89%)	6 (7%)	4 (4%)	2	12
47	B	206/261 (79%)	201 (98%)	5 (2%)	0	100	100
48	C	199/256 (78%)	194 (98%)	5 (2%)	0	100	100
49	D	214/249 (86%)	209 (98%)	5 (2%)	0	100	100
50	E	221/251 (88%)	215 (97%)	6 (3%)	0	100	100
51	F	258/262 (98%)	255 (99%)	3 (1%)	0	100	100
52	G	204/225 (91%)	196 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	H	224/236 (95%)	219 (98%)	5 (2%)	0	100	100
54	I	180/186 (97%)	175 (97%)	5 (3%)	0	100	100
55	J	180/206 (87%)	179 (99%)	1 (1%)	0	100	100
56	K	176/189 (93%)	174 (99%)	2 (1%)	0	100	100
57	L	91/118 (77%)	84 (92%)	6 (7%)	1 (1%)	11	39
58	M	139/155 (90%)	136 (98%)	3 (2%)	0	100	100
59	N	114/143 (80%)	98 (86%)	16 (14%)	0	100	100
60	O	148/151 (98%)	145 (98%)	3 (2%)	0	100	100
61	P	125/132 (95%)	118 (94%)	4 (3%)	3 (2%)	4	22
62	Q	116/142 (82%)	106 (91%)	8 (7%)	2 (2%)	7	30
63	R	138/142 (97%)	134 (97%)	4 (3%)	0	100	100
64	S	123/137 (90%)	121 (98%)	2 (2%)	0	100	100
65	T	140/145 (97%)	134 (96%)	6 (4%)	0	100	100
66	U	139/145 (96%)	137 (99%)	2 (1%)	0	100	100
67	V	98/119 (82%)	96 (98%)	2 (2%)	0	100	100
68	W	85/87 (98%)	83 (98%)	2 (2%)	0	100	100
69	X	127/130 (98%)	125 (98%)	2 (2%)	0	100	100
70	Y	141/145 (97%)	139 (99%)	1 (1%)	1 (1%)	18	49
71	Z	130/135 (96%)	130 (100%)	0	0	100	100
72	a	70/105 (67%)	69 (99%)	1 (1%)	0	100	100
73	b	98/119 (82%)	95 (97%)	3 (3%)	0	100	100
74	c	79/82 (96%)	75 (95%)	4 (5%)	0	100	100
75	d	56/67 (84%)	51 (91%)	5 (9%)	0	100	100
76	e	53/56 (95%)	51 (96%)	2 (4%)	0	100	100
77	f	43/63 (68%)	39 (91%)	4 (9%)	0	100	100
78	g	68/193 (35%)	62 (91%)	6 (9%)	0	100	100
79	h	309/317 (98%)	293 (95%)	16 (5%)	0	100	100
All	All	10838/11871 (91%)	10531 (97%)	289 (3%)	18 (0%)	44	73

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	p	9	ALA

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Mol	Chain	Res	Type
15	t	5	LYS
15	t	63	VAL
21	z	152	GLU
21	z	151	ARG
45	AQ	88	GLU
57	L	88	PRO
61	P	118	SER
61	P	120	SER
61	P	122	ARG
21	z	153	LYS
24	5	20	ALA
45	AQ	85	ARG
70	Y	90	ASP
45	AQ	86	LEU
62	Q	73	PRO
45	AQ	87	ARG
62	Q	68	GLU

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	j	190/194 (98%)	190 (100%)	0	100	100
6	k	326/328 (99%)	326 (100%)	0	100	100
7	l	290/292 (99%)	290 (100%)	0	100	100
8	m	247/252 (98%)	247 (100%)	0	100	100
9	n	134/154 (87%)	134 (100%)	0	100	100
10	o	198/204 (97%)	198 (100%)	0	100	100
11	p	207/216 (96%)	205 (99%)	2 (1%)	68	79
12	q	169/170 (99%)	169 (100%)	0	100	100
13	r	178/186 (96%)	178 (100%)	0	100	100
14	s	147/149 (99%)	146 (99%)	1 (1%)	76	82
15	t	166/168 (99%)	166 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	u	108/109 (99%)	108 (100%)	0	100	100
17	v	177/178 (99%)	177 (100%)	0	100	100
18	w	166/167 (99%)	166 (100%)	0	100	100
19	x	142/154 (92%)	142 (100%)	0	100	100
20	y	153/154 (99%)	153 (100%)	0	100	100
21	z	142/153 (93%)	140 (99%)	2 (1%)	59	76
22	0	157/157 (100%)	157 (100%)	0	100	100
23	2	133/134 (99%)	133 (100%)	0	100	100
24	5	93/112 (83%)	92 (99%)	1 (1%)	65	78
25	6	101/104 (97%)	99 (98%)	2 (2%)	48	72
26	7	57/127 (45%)	57 (100%)	0	100	100
27	8	108/121 (89%)	108 (100%)	0	100	100
28	9	111/112 (99%)	111 (100%)	0	100	100
29	AA	117/118 (99%)	117 (100%)	0	100	100
30	AB	120/121 (99%)	120 (100%)	0	100	100
31	AC	50/49 (102%)	48 (96%)	2 (4%)	28	60
32	AD	81/90 (90%)	81 (100%)	0	100	100
33	AE	98/100 (98%)	98 (100%)	0	100	100
34	AF	110/115 (96%)	110 (100%)	0	100	100
35	AG	92/92 (100%)	91 (99%)	1 (1%)	65	78
36	AH	95/102 (93%)	94 (99%)	1 (1%)	65	78
37	AI	106/106 (100%)	104 (98%)	2 (2%)	50	73
38	AJ	79/79 (100%)	79 (100%)	0	100	100
39	AK	70/73 (96%)	70 (100%)	0	100	100
40	AL	68/69 (99%)	68 (100%)	0	100	100
41	AM	46/47 (98%)	46 (100%)	0	100	100
42	AN	47/47 (100%)	47 (100%)	0	100	100
43	AO	24/24 (100%)	24 (100%)	0	100	100
44	AP	88/91 (97%)	84 (96%)	4 (4%)	24	56
45	AQ	72/73 (99%)	71 (99%)	1 (1%)	59	76
47	B	176/215 (82%)	176 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	C	184/229 (80%)	184 (100%)	0	100	100
49	D	174/198 (88%)	173 (99%)	1 (1%)	78	83
50	E	174/196 (89%)	174 (100%)	0	100	100
51	F	218/220 (99%)	218 (100%)	0	100	100
52	G	178/197 (90%)	178 (100%)	0	100	100
53	H	195/204 (96%)	195 (100%)	0	100	100
54	I	163/167 (98%)	163 (100%)	0	100	100
55	J	147/160 (92%)	147 (100%)	0	100	100
56	K	153/160 (96%)	153 (100%)	0	100	100
57	L	87/104 (84%)	87 (100%)	0	100	100
58	M	122/134 (91%)	122 (100%)	0	100	100
59	N	98/123 (80%)	98 (100%)	0	100	100
60	O	129/130 (99%)	129 (100%)	0	100	100
61	P	97/102 (95%)	97 (100%)	0	100	100
62	Q	102/121 (84%)	102 (100%)	0	100	100
63	R	114/116 (98%)	114 (100%)	0	100	100
64	S	112/122 (92%)	112 (100%)	0	100	100
65	T	126/129 (98%)	126 (100%)	0	100	100
66	U	113/117 (97%)	113 (100%)	0	100	100
67	V	90/105 (86%)	90 (100%)	0	100	100
68	W	71/71 (100%)	71 (100%)	0	100	100
69	X	112/113 (99%)	112 (100%)	0	100	100
70	Y	116/118 (98%)	116 (100%)	0	100	100
71	Z	109/112 (97%)	109 (100%)	0	100	100
72	a	64/85 (75%)	64 (100%)	0	100	100
73	b	86/102 (84%)	86 (100%)	0	100	100
74	c	72/73 (99%)	72 (100%)	0	100	100
75	d	50/58 (86%)	50 (100%)	0	100	100
76	e	47/48 (98%)	47 (100%)	0	100	100
77	f	40/54 (74%)	40 (100%)	0	100	100
78	g	62/175 (35%)	62 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
79	h	259/263 (98%)	259 (100%)	0	100	100
All	All	9303/10012 (93%)	9283 (100%)	20 (0%)	85	89

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	p	7	LYS
11	p	13	LEU
14	s	94	LYS
21	z	152	GLU
21	z	153	LYS
24	5	31	GLU
25	6	110	LYS
25	6	112	SER
31	AC	14[A]	ARG
31	AC	14[B]	ARG
35	AG	48	ARG
36	AH	29	LYS
37	AI	84[A]	LYS
37	AI	84[B]	LYS
44	AP	40	LYS
44	AP	42	ARG
44	AP	55	LYS
44	AP	56	GLN
45	AQ	86	LEU
49	D	103	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (86) such sidechains are listed below:

Mol	Chain	Res	Type
5	j	79	ASN
5	j	132	ASN
5	j	211	HIS
5	j	217	GLN
6	k	165	GLN
6	k	182	GLN
6	k	224	HIS
6	k	316	ASN
7	l	6	GLN
7	l	49	GLN
7	l	214	ASN

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Mol	Chain	Res	Type
7	l	222	ASN
7	l	292	ASN
7	l	321	ASN
7	l	323	GLN
8	m	13	HIS
8	m	32	GLN
10	o	91	ASN
10	o	239	GLN
11	p	42	GLN
11	p	192	HIS
13	r	73	ASN
14	s	68	HIS
14	s	90	GLN
14	s	95	ASN
14	s	109	HIS
15	t	66	ASN
15	t	103	ASN
19	x	50	GLN
19	x	137	ASN
22	0	62	ASN
22	0	157	GLN
23	2	16	GLN
23	2	112	ASN
26	7	59	HIS
28	9	41	GLN
29	AA	122	HIS
30	AB	64	GLN
31	AC	10	HIS
31	AC	12	GLN
33	AE	55	ASN
34	AF	36	GLN
35	AG	17	GLN
36	AH	33	GLN
37	AI	16	GLN
37	AI	59	ASN
40	AL	28	ASN
40	AL	40	GLN
44	AP	99	GLN
45	AQ	25	GLN
47	B	33	ASN
47	B	49	ASN
48	C	178	ASN

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Mol	Chain	Res	Type
49	D	62	GLN
51	F	197	HIS
51	F	216	ASN
52	G	63	GLN
52	G	169	ASN
53	H	13	GLN
53	H	197	ASN
54	I	38	GLN
54	I	70	GLN
55	J	35	ASN
55	J	165	GLN
55	J	181	GLN
64	S	31	ASN
64	S	62	GLN
64	S	97	ASN
64	S	120	GLN
65	T	89	GLN
65	T	92	GLN
65	T	136	GLN
68	W	75	GLN
69	X	64	GLN
69	X	70	ASN
69	X	113	HIS
71	Z	122	GLN
71	Z	126	GLN
72	a	44	GLN
73	b	80	HIS
78	g	155	ASN
78	g	176	ASN
79	h	16	HIS
79	h	67	HIS
79	h	102	GLN
79	h	297	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3121/3359 (92%)	543 (17%)	35 (1%)
2	3	120/121 (99%)	9 (7%)	0
3	4	157/158 (99%)	23 (14%)	3 (1%)
4	10	12/76 (15%)	2 (16%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
46	A	1667/1787 (93%)	383 (22%)	43 (2%)
All	All	5077/5501 (92%)	960 (18%)	81 (1%)

All (960) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	24	U
1	1	25	A
1	1	29	G
1	1	39	A
1	1	42	A
1	1	48	A
1	1	56	A
1	1	58	G
1	1	59	A
1	1	64	A
1	1	65	A
1	1	91	G
1	1	98	A
1	1	104	C
1	1	108	A
1	1	109	G
1	1	110	C
1	1	121	A
1	1	135	G
1	1	155	A
1	1	156	A
1	1	164	U
1	1	169	G
1	1	172	C
1	1	173	C
1	1	175	G
1	1	186	A
1	1	189	U
1	1	190	U
1	1	199	C
1	1	205	G
1	1	209	C
1	1	212	A
1	1	217	G
1	1	218	A
1	1	219	G

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Mol	Chain	Res	Type
1	1	230	G
1	1	236	A
1	1	239	A
1	1	240	C
1	1	243	G
1	1	245	G
1	1	249	G
1	1	250	U
1	1	269	G
1	1	286	U
1	1	295	A
1	1	305	U
1	1	311	C
1	1	323	A
1	1	329	U
1	1	337	G
1	1	338	A
1	1	339	C
1	1	349	A
1	1	350	C
1	1	376	G
1	1	377	A
1	1	395	A
1	1	398	A
1	1	402	A
1	1	403	C
1	1	404	G
1	1	420	G
1	1	421	G
1	1	422	A
1	1	438	A
1	1	439	C
1	1	506	A
1	1	517	A
1	1	519	U
1	1	531	G
1	1	532	U
1	1	538	G
1	1	539	G
1	1	540	C
1	1	541	U
1	1	542	U

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Mol	Chain	Res	Type
1	1	543	C
1	1	544	U
1	1	546	C
1	1	555	A
1	1	556	U
1	1	557	A
1	1	564	G
1	1	577	G
1	1	589	G
1	1	590	A
1	1	598	U
1	1	600	U
1	1	601	U
1	1	602	A
1	1	609	A
1	1	618	U
1	1	619	A
1	1	620	A
1	1	635	C
1	1	647	A
1	1	658	A
1	1	675	A
1	1	679	U
1	1	688	A
1	1	703	A
1	1	710	G
1	1	713	A
1	1	717	A
1	1	723	G
1	1	730	A
1	1	732	U
1	1	760	U
1	1	763	U
1	1	772	U
1	1	773	U
1	1	776	A
1	1	777	G
1	1	780	A
1	1	781	G
1	1	802	A
1	1	813	A
1	1	826	A

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Mol	Chain	Res	Type
1	1	841	G
1	1	845	C
1	1	857	C
1	1	861	U
1	1	870	U
1	1	875	U
1	1	892	A
1	1	903	G
1	1	904	G
1	1	910	A
1	1	912	G
1	1	913	A
1	1	917	A
1	1	919	C
1	1	921	A
1	1	933	G
1	1	940	C
1	1	949	G
1	1	955	C
1	1	956	U
1	1	959	G
1	1	976	A
1	1	977	U
1	1	990	G
1	1	991	U
1	1	996	C
1	1	997	G
1	1	998	A
1	1	1006	G
1	1	1011	C
1	1	1012	U
1	1	1014	G
1	1	1030	U
1	1	1033	C
1	1	1043	A
1	1	1045	C
1	1	1060	A
1	1	1061	A
1	1	1068	G
1	1	1077	U
1	1	1078	U
1	1	1089	A

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Mol	Chain	Res	Type
1	1	1090	A
1	1	1091	U
1	1	1092	U
1	1	1094	A
1	1	1099	A
1	1	1100	G
1	1	1113	G
1	1	1127	G
1	1	1140	U
1	1	1149	A
1	1	1150	A
1	1	1151	C
1	1	1155	A
1	1	1156	C
1	1	1164	U
1	1	1174	G
1	1	1176	A
1	1	1177	U
1	1	1178	G
1	1	1188	C
1	1	1189	A
1	1	1192	C
1	1	1197	C
1	1	1204	U
1	1	1205	G
1	1	1215	C
1	1	1218	G
1	1	1223	C
1	1	1224	C
1	1	1225	G
1	1	1228	C
1	1	1229	G
1	1	1230	G
1	1	1231	U
1	1	1232	G
1	1	1234	C
1	1	1238	G
1	1	1239	G
1	1	1241	A
1	1	1242	G
1	1	1243	U
1	1	1244	C

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Mol	Chain	Res	Type
1	1	1245	G
1	1	1247	A
1	1	1249	U
1	1	1251	C
1	1	1252	G
1	1	1253	C
1	1	1255	A
1	1	1258	G
1	1	1259	A
1	1	1262	G
1	1	1263	U
1	1	1264	G
1	1	1265	U
1	1	1266	A
1	1	1267	A
1	1	1268	C
1	1	1269	A
1	1	1270	A
1	1	1273	C
1	1	1278	G
1	1	1280	C
1	1	1282	A
1	1	1283	A
1	1	1303	G
1	1	1304	A
1	1	1305	U
1	1	1309	G
1	1	1326	A
1	1	1345	G
1	1	1346	U
1	1	1347	U
1	1	1348	U
1	1	1349	U
1	1	1382	A
1	1	1395	U
1	1	1415	A
1	1	1417	G
1	1	1421	U
1	1	1427	G
1	1	1430	G
1	1	1433	C
1	1	1442	A

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Mol	Chain	Res	Type
1	1	1446	G
1	1	1465	C
1	1	1471	A
1	1	1477	A
1	1	1484	G
1	1	1498	C
1	1	1504	C
1	1	1520	A
1	1	1523	C
1	1	1532	G
1	1	1535	A
1	1	1551	U
1	1	1552	C
1	1	1556	G
1	1	1558	G
1	1	1559	C
1	1	1560	U
1	1	1561	U
1	1	1562	G
1	1	1563	A
1	1	1565	U
1	1	1566	U
1	1	1567	U
1	1	1568	U
1	1	1569	C
1	1	1571	G
1	1	1572	G
1	1	1574	C
1	1	1576	A
1	1	1577	C
1	1	1585	A
1	1	1589	A
1	1	1601	A
1	1	1603	U
1	1	1624	C
1	1	1625	U
1	1	1635	C
1	1	1638	A
1	1	1639	A
1	1	1641	U
1	1	1648	G
1	1	1654	G

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Mol	Chain	Res	Type
1	1	1679	A
1	1	1720	U
1	1	1721	C
1	1	1732	G
1	1	1746	A
1	1	1747	G
1	1	1755	U
1	1	1756	A
1	1	1757	A
1	1	1758	U
1	1	1760	U
1	1	1761	U
1	1	1762	G
1	1	1763	C
1	1	1776	G
1	1	1793	A
1	1	1804	G
1	1	1809	A
1	1	1810	A
1	1	1811	U
1	1	1812	A
1	1	1815	U
1	1	1816	U
1	1	1817	U
1	1	1835	A
1	1	1838	A
1	1	1842	C
1	1	1845	C
1	1	1862	C
1	1	1874	G
1	1	1882	A
1	1	1889	A
1	1	1902	G
1	1	1944	G
1	1	1949	G
1	1	2070	A
1	1	2071	A
1	1	2078	A
1	1	2088	G
1	1	2089	G
1	1	2090	U
1	1	2091	A

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Mol	Chain	Res	Type
1	1	2092	C
1	1	2099	G
1	1	2100	G
1	1	2109	A
1	1	2118	U
1	1	2122	A
1	1	2136	A
1	1	2147	G
1	1	2149	G
1	1	2183	U
1	1	2184	G
1	1	2185	A
1	1	2186	A
1	1	2187	U
1	1	2188	G
1	1	2222	A
1	1	2228	G
1	1	2229	G
1	1	2233	A
1	1	2234	A
1	1	2235	C
1	1	2237	A
1	1	2245	C
1	1	2246	U
1	1	2247	U
1	1	2250	G
1	1	2251	G
1	1	2257	A
1	1	2259	A
1	1	2260	U
1	1	2276	U
1	1	2285	G
1	1	2286	C
1	1	2288	U
1	1	2291	A
1	1	2292	U
1	1	2293	G
1	1	2312	U
1	1	2313	G
1	1	2314	U
1	1	2341	A
1	1	2351	A

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Mol	Chain	Res	Type
1	1	2352	C
1	1	2353	G
1	1	2363	G
1	1	2366	U
1	1	2371	G
1	1	2372	G
1	1	2375	A
1	1	2380	A
1	1	2381	G
1	1	2382	A
1	1	2389	U
1	1	2413	G
1	1	2420	G
1	1	2489	A
1	1	2492	U
1	1	2493	A
1	1	2510	U
1	1	2511	G
1	1	2513	A
1	1	2514	G
1	1	2515	G
1	1	2516	U
1	1	2517	C
1	1	2518	A
1	1	2519	A
1	1	2520	A
1	1	2521	C
1	1	2522	U
1	1	2523	C
1	1	2529	U
1	1	2530	C
1	1	2533	G
1	1	2536	U
1	1	2538	A
1	1	2545	C
1	1	2546	U
1	1	2554	C
1	1	2557	G
1	1	2565	A
1	1	2566	C
1	1	2578	G
1	1	2579	G

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Mol	Chain	Res	Type
1	1	2586	G
1	1	2598	A
1	1	2623	G
1	1	2624	U
1	1	2628	A
1	1	2644	G
1	1	2646	A
1	1	2649	G
1	1	2661	A
1	1	2662	G
1	1	2663	A
1	1	2666	A
1	1	2676	A
1	1	2677	A
1	1	2686	G
1	1	2699	A
1	1	2700	G
1	1	2701	U
1	1	2725	G
1	1	2734	A
1	1	2745	C
1	1	2749	G
1	1	2750	G
1	1	2765	G
1	1	2768	G
1	1	2771	A
1	1	2772	G
1	1	2773	A
1	1	2774	A
1	1	2782	C
1	1	2786	G
1	1	2789	A
1	1	2790	U
1	1	2807	U
1	1	2808	C
1	1	2814	U
1	1	2815	U
1	1	2817	A
1	1	2833	U
1	1	2839	C
1	1	2843	G
1	1	2844	A

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Mol	Chain	Res	Type
1	1	2847	U
1	1	2859	A
1	1	2861	C
1	1	2866	C
1	1	2870	G
1	1	2871	C
1	1	2886	G
1	1	2895	U
1	1	2907	U
1	1	2908	A
1	1	2911	G
1	1	2914	C
1	1	2919	G
1	1	2920	C
1	1	2923	G
1	1	2926	U
1	1	2943	A
1	1	2955	C
1	1	2960	C
1	1	2962	G
1	1	2969	G
1	1	2984	A
1	1	3021	A
1	1	3028	U
1	1	3031	G
1	1	3050	A
1	1	3051	C
1	1	3052	G
1	1	3058	A
1	1	3064	C
1	1	3076	U
1	1	3094	A
1	1	3101	A
1	1	3102	A
1	1	3103	U
1	1	3114	A
1	1	3115	C
1	1	3134	C
1	1	3143	G
1	1	3144	A
1	1	3146	G
1	1	3149	U

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Mol	Chain	Res	Type
1	1	3151	C
1	1	3157	A
1	1	3160	C
1	1	3163	U
1	1	3164	U
1	1	3171	C
1	1	3172	U
1	1	3182	C
1	1	3183	A
1	1	3184	G
1	1	3194	G
1	1	3208	A
1	1	3210	A
1	1	3212	G
1	1	3214	U
1	1	3221	G
1	1	3224	U
1	1	3228	G
1	1	3235	A
1	1	3241	G
1	1	3246	C
1	1	3252	C
1	1	3259	A
1	1	3260	A
1	1	3268	G
1	1	3269	C
1	1	3272	A
1	1	3278	U
1	1	3281	A
1	1	3284	U
1	1	3285	A
1	1	3306	U
1	1	3307	A
1	1	3309	A
1	1	3310	G
1	1	3316	U
1	1	3317	U
1	1	3318	G
1	1	3319	U
1	1	3320	U
1	1	3321	G
1	1	3334	G

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Mol	Chain	Res	Type
1	1	3343	C
1	1	3351	G
1	1	3361	U
2	3	7	G
2	3	22	A
2	3	54	U
2	3	55	A
2	3	65	G
2	3	73	C
2	3	76	A
2	3	102	A
2	3	112	G
3	4	23	U
3	4	34	U
3	4	35	C
3	4	59	A
3	4	62	C
3	4	63	G
3	4	81	A
3	4	84	C
3	4	85	G
3	4	86	U
3	4	87	G
3	4	92	A
3	4	95	G
3	4	102	U
3	4	104	A
3	4	106	C
3	4	111	A
3	4	113	U
3	4	125	U
3	4	126	A
3	4	148	G
3	4	152	G
3	4	157	U
4	10	2	G
4	10	76	A
46	A	17	C
46	A	25	C
46	A	26	A
46	A	27	U
46	A	34	G

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Mol	Chain	Res	Type
46	A	47	A
46	A	57	G
46	A	66	U
46	A	74	U
46	A	75	U
46	A	76	A
46	A	78	A
46	A	79	C
46	A	81	G
46	A	84	A
46	A	104	A
46	A	114	C
46	A	115	G
46	A	123	G
46	A	126	A
46	A	127	G
46	A	128	U
46	A	129	A
46	A	138	C
46	A	139	U
46	A	141	G
46	A	142	G
46	A	143	A
46	A	150	U
46	A	151	G
46	A	152	G
46	A	154	A
46	A	159	U
46	A	166	A
46	A	168	U
46	A	173	G
46	A	176	U
46	A	177	A
46	A	179	A
46	A	190	U
46	A	191	U
46	A	193	G
46	A	199	G
46	A	200	A
46	A	202	G
46	A	206	U
46	A	211	A

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Mol	Chain	Res	Type
46	A	214	U
46	A	215	A
46	A	216	A
46	A	217	A
46	A	218	A
46	A	247	U
46	A	255	A
46	A	259	U
46	A	260	U
46	A	261	C
46	A	262	G
46	A	266	C
46	A	269	A
46	A	270	U
46	A	274	C
46	A	276	U
46	A	277	G
46	A	278	U
46	A	279	G
46	A	283	G
46	A	285	G
46	A	297	A
46	A	312	C
46	A	314	A
46	A	318	U
46	A	320	G
46	A	335	G
46	A	336	C
46	A	350	A
46	A	357	A
46	A	358	A
46	A	359	C
46	A	388	G
46	A	398	A
46	A	400	C
46	A	402	G
46	A	414	A
46	A	416	G
46	A	421	G
46	A	422	C
46	A	423	A
46	A	424	G

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Mol	Chain	Res	Type
46	A	432	G
46	A	437	U
46	A	442	C
46	A	446	C
46	A	452	A
46	A	458	A
46	A	466	A
46	A	475	A
46	A	480	U
46	A	482	C
46	A	483	A
46	A	485	G
46	A	501	G
46	A	502	U
46	A	503	A
46	A	504	A
46	A	505	U
46	A	506	U
46	A	509	A
46	A	512	G
46	A	513	A
46	A	515	U
46	A	518	A
46	A	519	A
46	A	525	A
46	A	530	U
46	A	534	C
46	A	536	A
46	A	537	G
46	A	539	A
46	A	540	A
46	A	547	G
46	A	553	A
46	A	554	A
46	A	555	G
46	A	556	U
46	A	557	C
46	A	563	C
46	A	566	G
46	A	575	G
46	A	576	U
46	A	580	U

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Mol	Chain	Res	Type
46	A	592	A
46	A	593	G
46	A	604	A
46	A	609	U
46	A	617	A
46	A	618	A
46	A	620	A
46	A	621	A
46	A	633	A
46	A	639	G
46	A	686	G
46	A	687	A
46	A	688	G
46	A	694	C
46	A	696	U
46	A	701	G
46	A	721	C
46	A	722	A
46	A	723	G
46	A	729	U
46	A	739	A
46	A	740	A
46	A	741	A
46	A	750	G
46	A	751	U
46	A	756	A
46	A	759	A
46	A	760	G
46	A	762	C
46	A	764	U
46	A	765	U
46	A	766	U
46	A	767	G
46	A	768	C
46	A	770	C
46	A	771	G
46	A	773	A
46	A	775	A
46	A	778	U
46	A	779	U
46	A	796	A
46	A	798	A

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Mol	Chain	Res	Type
46	A	799	G
46	A	802	C
46	A	803	G
46	A	804	U
46	A	805	U
46	A	807	U
46	A	808	G
46	A	814	A
46	A	815	U
46	A	816	U
46	A	818	U
46	A	819	G
46	A	820	U
46	A	821	U
46	A	823	G
46	A	824	U
46	A	825	U
46	A	826	U
46	A	828	U
46	A	831	G
46	A	840	A
46	A	842	U
46	A	848	A
46	A	856	G
46	A	857	G
46	A	869	A
46	A	871	U
46	A	875	C
46	A	877	G
46	A	878	U
46	A	879	U
46	A	881	U
46	A	891	A
46	A	909	A
46	A	910	G
46	A	911	A
46	A	918	A
46	A	920	U
46	A	945	U
46	A	951	A
46	A	973	A
46	A	975	C

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Mol	Chain	Res	Type
46	A	977	A
46	A	988	A
46	A	989	U
46	A	997	U
46	A	998	A
46	A	1004	A
46	A	1005	A
46	A	1011	A
46	A	1013	C
46	A	1017	G
46	A	1024	A
46	A	1025	G
46	A	1039	U
46	A	1042	U
46	A	1043	U
46	A	1044	U
46	A	1047	U
46	A	1055	A
46	A	1056	U
46	A	1057	C
46	A	1058	G
46	A	1059	G
46	A	1060	C
46	A	1061	A
46	A	1067	C
46	A	1077	A
46	A	1081	C
46	A	1085	G
46	A	1123	A
46	A	1135	G
46	A	1143	C
46	A	1145	A
46	A	1152	G
46	A	1168	A
46	A	1169	A
46	A	1170	U
46	A	1176	U
46	A	1179	A
46	A	1181	A
46	A	1184	G
46	A	1185	G
46	A	1186	G

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Mol	Chain	Res	Type
46	A	1187	A
46	A	1193	A
46	A	1202	A
46	A	1203	G
46	A	1206	A
46	A	1207	C
46	A	1212	A
46	A	1215	A
46	A	1219	A
46	A	1220	C
46	A	1221	A
46	A	1229	A
46	A	1230	G
46	A	1231	C
46	A	1236	U
46	A	1243	U
46	A	1250	G
46	A	1270	U
46	A	1284	G
46	A	1299	U
46	A	1300	U
46	A	1301	G
46	A	1306	A
46	A	1325	U
46	A	1330	A
46	A	1336	G
46	A	1339	G
46	A	1342	A
46	A	1343	G
46	A	1345	A
46	A	1346	U
46	A	1348	U
46	A	1349	G
46	A	1352	G
46	A	1355	A
46	A	1356	U
46	A	1357	A
46	A	1359	U
46	A	1360	C
46	A	1364	U
46	A	1365	C
46	A	1369	G

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Mol	Chain	Res	Type
46	A	1370	A
46	A	1376	U
46	A	1380	G
46	A	1381	A
46	A	1382	U
46	A	1384	U
46	A	1385	C
46	A	1392	A
46	A	1397	A
46	A	1398	G
46	A	1399	U
46	A	1400	U
46	A	1401	U
46	A	1410	A
46	A	1413	A
46	A	1414	G
46	A	1415	G
46	A	1422	A
46	A	1431	G
46	A	1433	C
46	A	1445	C
46	A	1446	A
46	A	1455	A
46	A	1457	A
46	A	1461	A
46	A	1462	C
46	A	1463	G
46	A	1468	C
46	A	1476	A
46	A	1477	U
46	A	1483	U
46	A	1491	G
46	A	1503	A
46	A	1508	G
46	A	1510	G
46	A	1511	A
46	A	1523	G
46	A	1524	C
46	A	1529	G
46	A	1530	A
46	A	1541	U
46	A	1544	U

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Mol	Chain	Res	Type
46	A	1546	G
46	A	1547	U
46	A	1548	U
46	A	1556	A
46	A	1560	A
46	A	1561	G
46	A	1569	U
46	A	1571	G
46	A	1574	A
46	A	1575	G
46	A	1577	G
46	A	1580	A
46	A	1582	U
46	A	1584	A
46	A	1588	G
46	A	1621	C
46	A	1644	U
46	A	1645	G
46	A	1665	C
46	A	1667	G
46	A	1670	U
46	A	1671	G
46	A	1672	G
46	A	1673	U
46	A	1674	U
46	A	1677	G
46	A	1700	G
46	A	1704	C
46	A	1737	A
46	A	1743	A
46	A	1747	G
46	A	1749	A
46	A	1753	A
46	A	1756	U
46	A	1767	G
46	A	1769	A
46	A	1770	C
46	A	1779	G
46	A	1780	G
46	A	1781	A
46	A	1782	U
46	A	1783	C

All (81) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	172	C
1	1	403	C
1	1	538	G
1	1	563	U
1	1	601	U
1	1	759	G
1	1	912	G
1	1	1029	U
1	1	1060	A
1	1	1099	A
1	1	1346	U
1	1	1347	U
1	1	1559	C
1	1	1561	U
1	1	1576	A
1	1	1762	G
1	1	1815	U
1	1	1943	G
1	1	2090	U
1	1	2183	U
1	1	2515	G
1	1	2519	A
1	1	2520	A
1	1	2545	C
1	1	2789	A
1	1	2790	U
1	1	3093	U
1	1	3159	A
1	1	3193	C
1	1	3234	U
1	1	3240	U
1	1	3284	U
1	1	3309	A
1	1	3315	C
1	1	3317	U
3	4	85	G
3	4	125	U
3	4	156	U
46	A	25	C
46	A	78	A
46	A	137	A
46	A	151	G

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Mol	Chain	Res	Type
46	A	176	U
46	A	214	U
46	A	259	U
46	A	265	U
46	A	278	U
46	A	451	C
46	A	502	U
46	A	504	A
46	A	505	U
46	A	514	G
46	A	518	A
46	A	529	C
46	A	533	A
46	A	553	A
46	A	556	U
46	A	638	U
46	A	685	C
46	A	740	A
46	A	763	C
46	A	769	U
46	A	817	U
46	A	820	U
46	A	824	U
46	A	855	C
46	A	874	U
46	A	876	A
46	A	1168	A
46	A	1335	U
46	A	1355	A
46	A	1359	U
46	A	1369	G
46	A	1396	A
46	A	1398	G
46	A	1467	C
46	A	1523	G
46	A	1555	C
46	A	1573	A
46	A	1579	A
46	A	1581	G

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 441 ligands modelled in this entry, 438 are monoatomic - leaving 3 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
81	SPK	1	3402	-	13,13,13	0.35	0	12,12,12	1.00	0
80	YMZ	j	301	-	28,28,28	0.48	0	41,43,43	0.55	1 (2%)
80	YMZ	1	3401	-	28,28,28	0.46	0	41,43,43	0.54	1 (2%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	SPK	1	3402	-	-	6/11/11/11	-
80	YMZ	j	301	-	-	4/20/28/28	1/3/3/3
80	YMZ	1	3401	-	-	12/20/28/28	0/3/3/3

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
80	1	3401	YMZ	CAN-NAQ-CAX	2.62	113.25	111.62
80	j	301	YMZ	CAN-NAQ-CAX	2.60	113.24	111.62

There are no chirality outliers.

All (22) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
80	1	3401	YMZ	CAV-CAT-CAZ-FAE
80	1	3401	YMZ	CAV-CAT-CAZ-FAF
80	1	3401	YMZ	CAV-CAT-CAZ-FAG
81	1	3402	SPK	N5-C6-C7-C8
80	1	3401	YMZ	CAK-CAS-CAW-CAX
80	j	301	YMZ	CAU-CAS-CAW-OAA
80	1	3401	YMZ	CAU-CAS-CAW-CAX
80	j	301	YMZ	CAK-CAS-CAW-OAA
80	1	3401	YMZ	CAS-CAW-CAX-CAO
81	1	3402	SPK	N1-C2-C3-C4
80	1	3401	YMZ	CAI-CAT-CAZ-FAE
80	1	3401	YMZ	CAI-CAT-CAZ-FAF
80	1	3401	YMZ	CAK-CAS-CAW-OAA
80	1	3401	YMZ	CAU-CAS-CAW-OAA
80	1	3401	YMZ	CAI-CAT-CAZ-FAG
81	1	3402	SPK	C12-C11-N10-C9
80	j	301	YMZ	OAA-CAW-CAX-CAO
80	1	3401	YMZ	CAS-CAW-CAX-NAQ
81	1	3402	SPK	C6-C7-C8-C9
81	1	3402	SPK	C7-C8-C9-N10
81	1	3402	SPK	C3-C4-N5-C6
80	j	301	YMZ	CAS-CAW-CAX-NAQ

All (1) ring outliers are listed below:

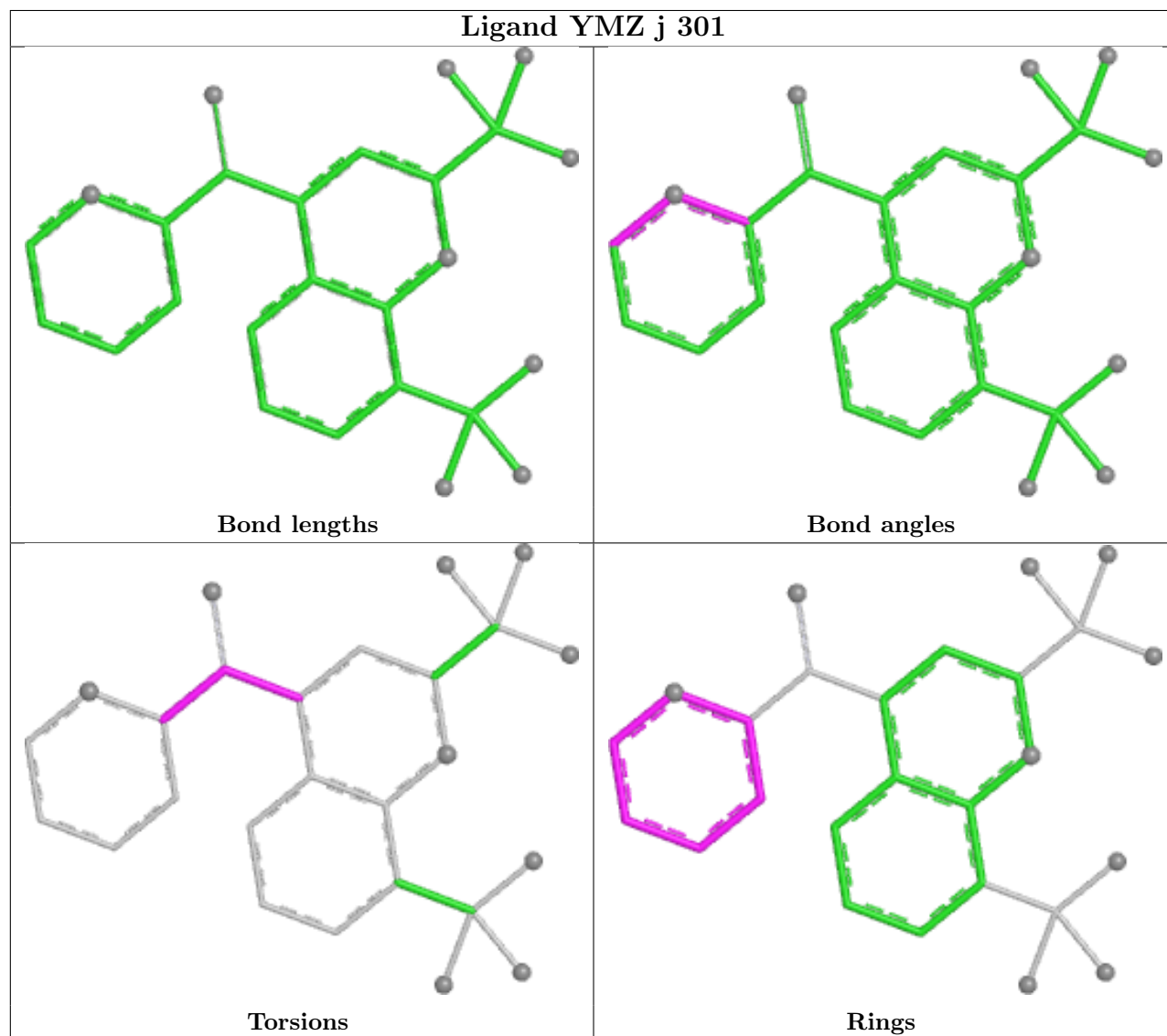
Mol	Chain	Res	Type	Atoms
80	j	301	YMZ	CAL-CAM-CAN-CAO-CAX-NAQ

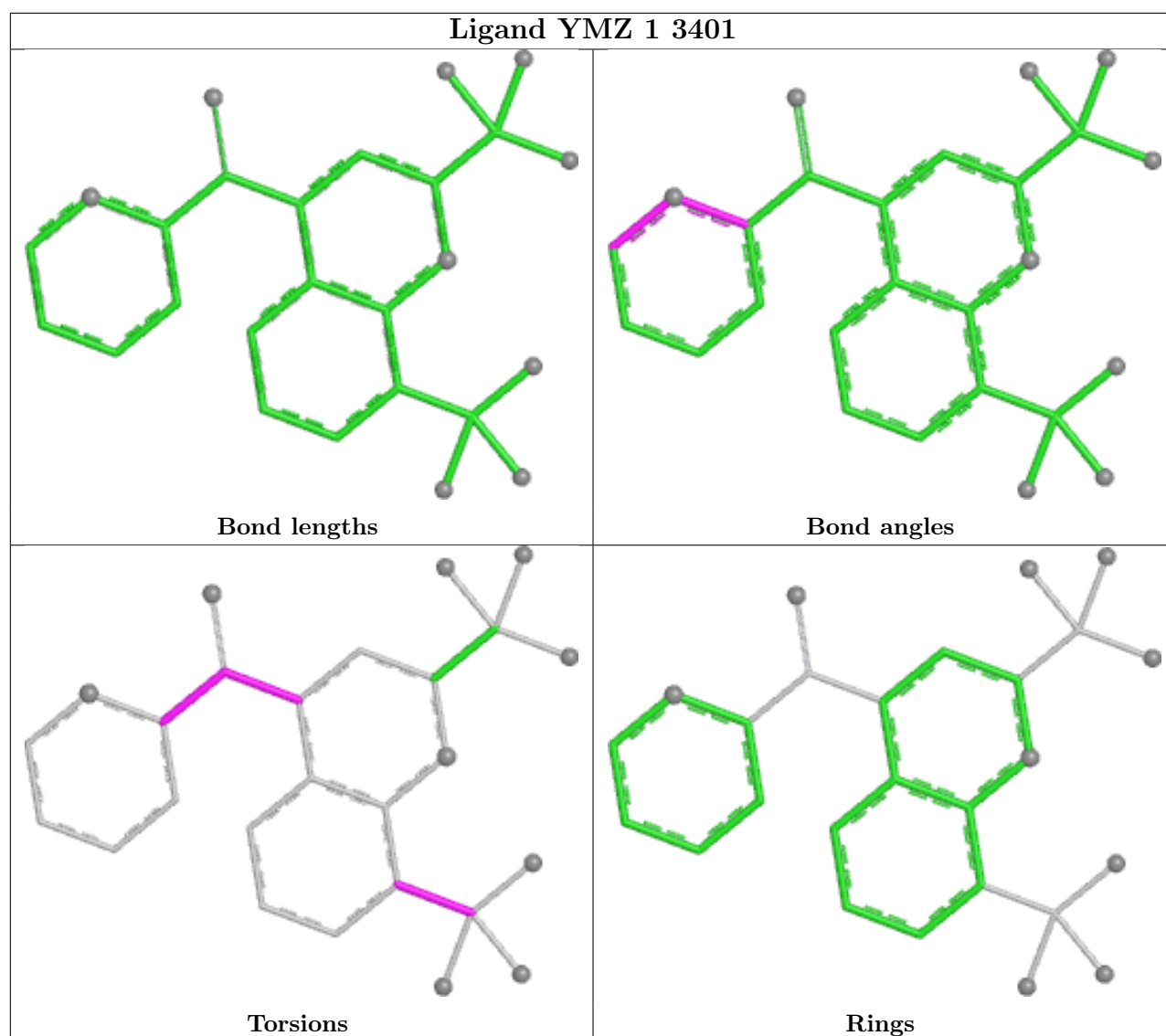
3 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
81	1	3402	SPK	2	0
80	j	301	YMZ	1	0
80	1	3401	YMZ	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier.

Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

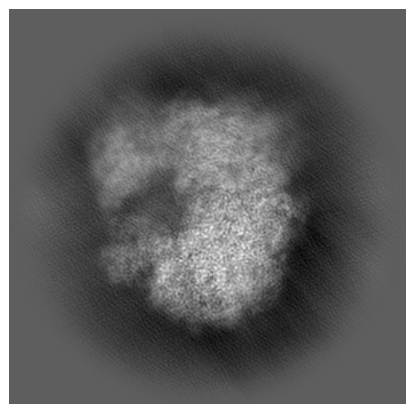
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-16874. These allow visual inspection of the internal detail of the map and identification of artifacts.

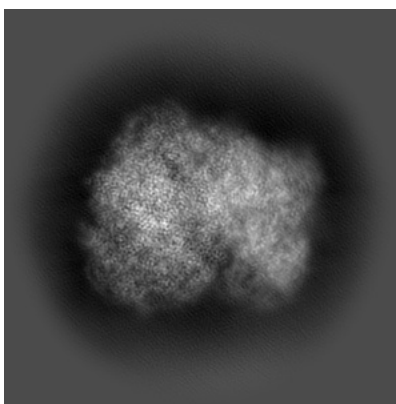
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

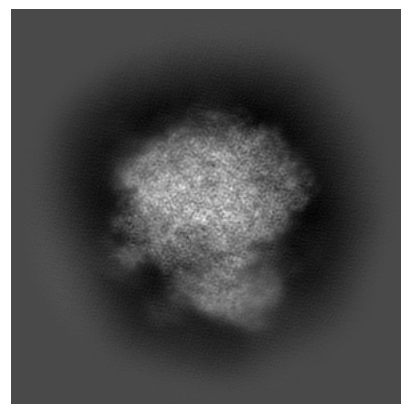
6.1.1 Primary map



X

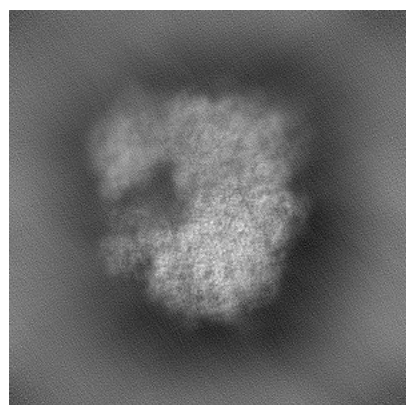


Y

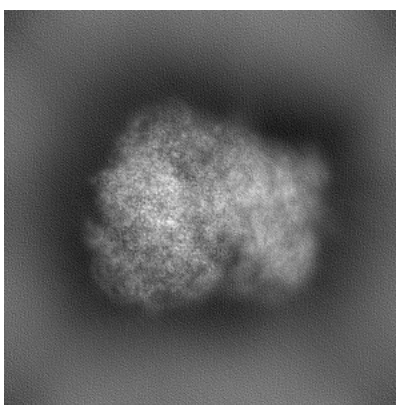


Z

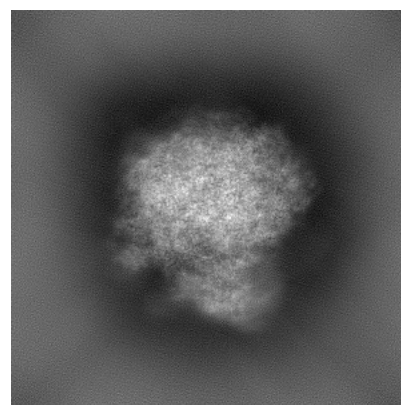
6.1.2 Raw map



X



Y

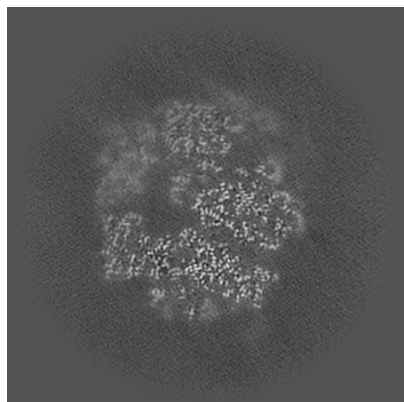


Z

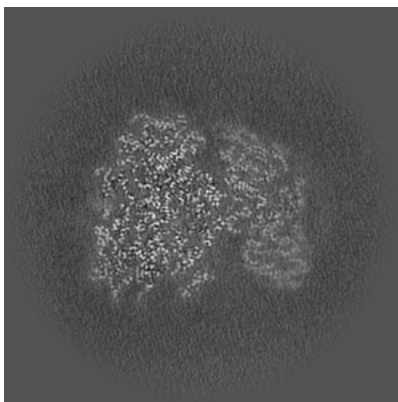
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

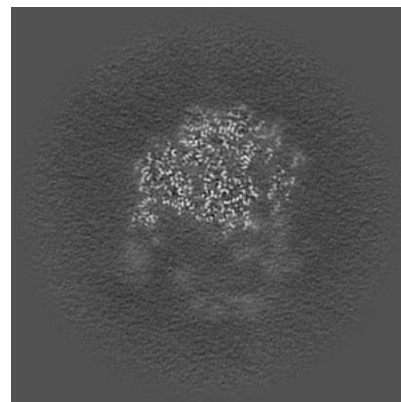
6.2.1 Primary map



X Index: 210

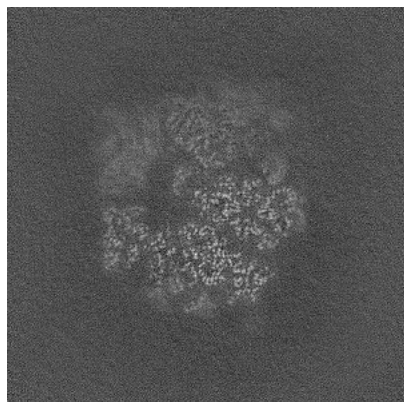


Y Index: 210

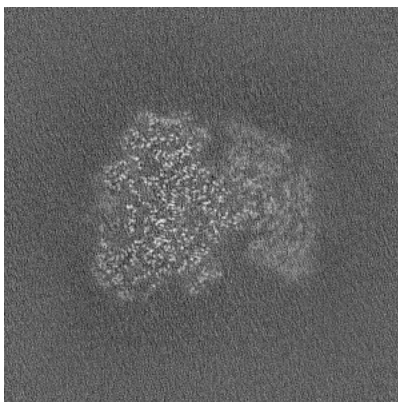


Z Index: 210

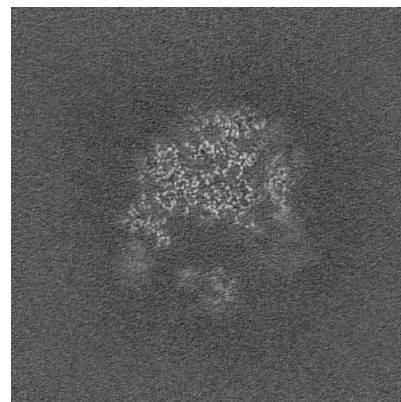
6.2.2 Raw map



X Index: 210



Y Index: 210

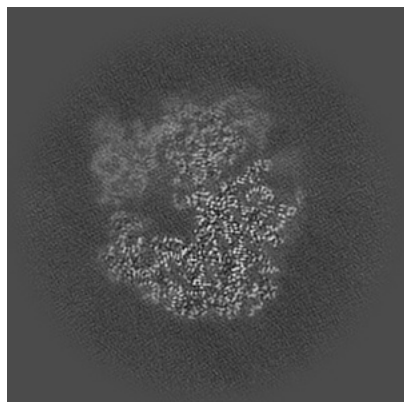


Z Index: 210

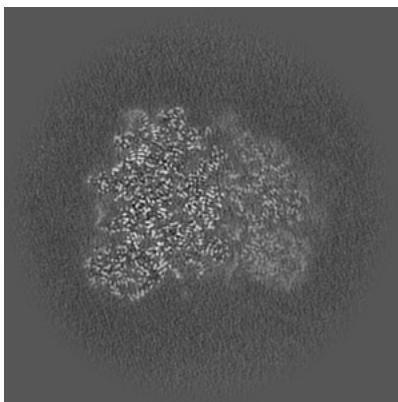
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

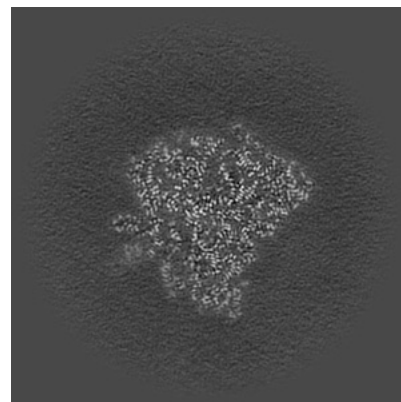
6.3.1 Primary map



X Index: 225

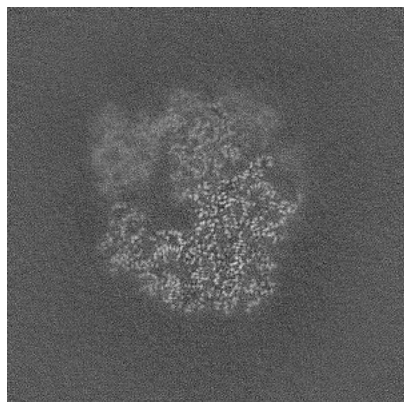


Y Index: 220

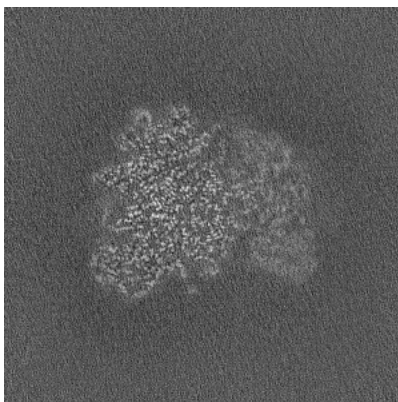


Z Index: 166

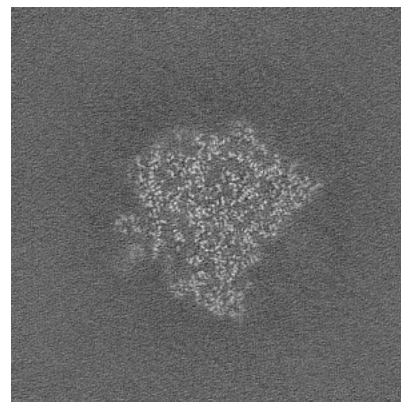
6.3.2 Raw map



X Index: 227



Y Index: 216

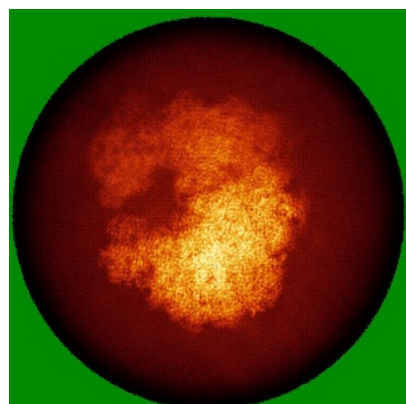


Z Index: 173

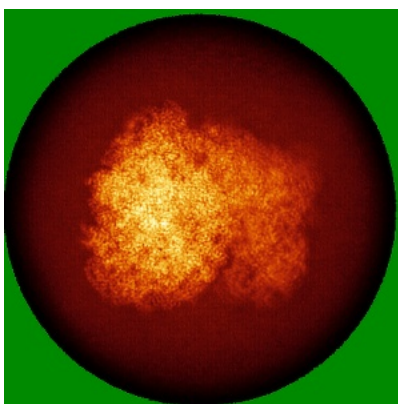
The images above show the largest variance slices of the map in three orthogonal directions.

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

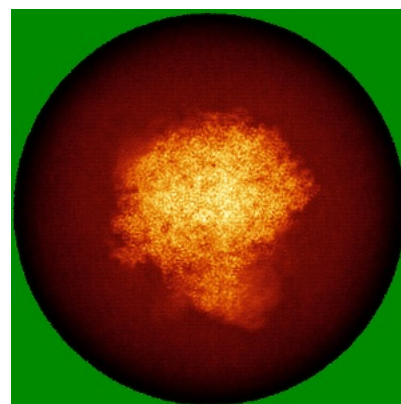
6.4.1 Primary map



X

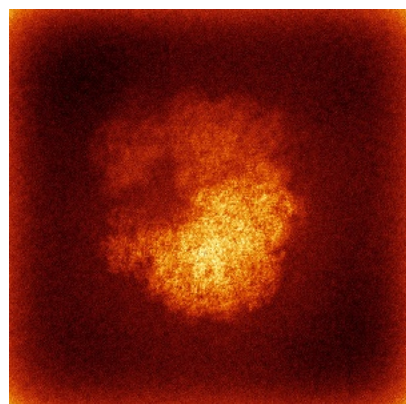


Y

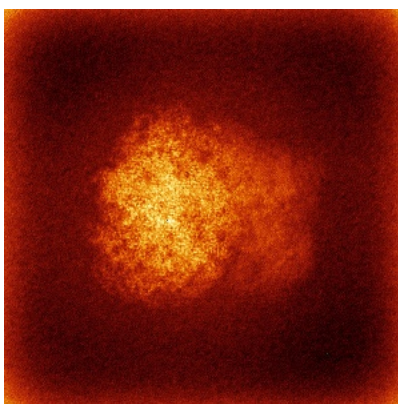


Z

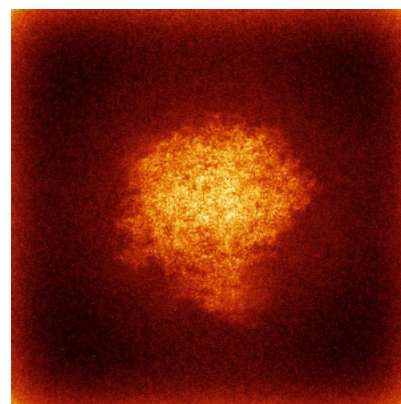
6.4.2 Raw map



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.

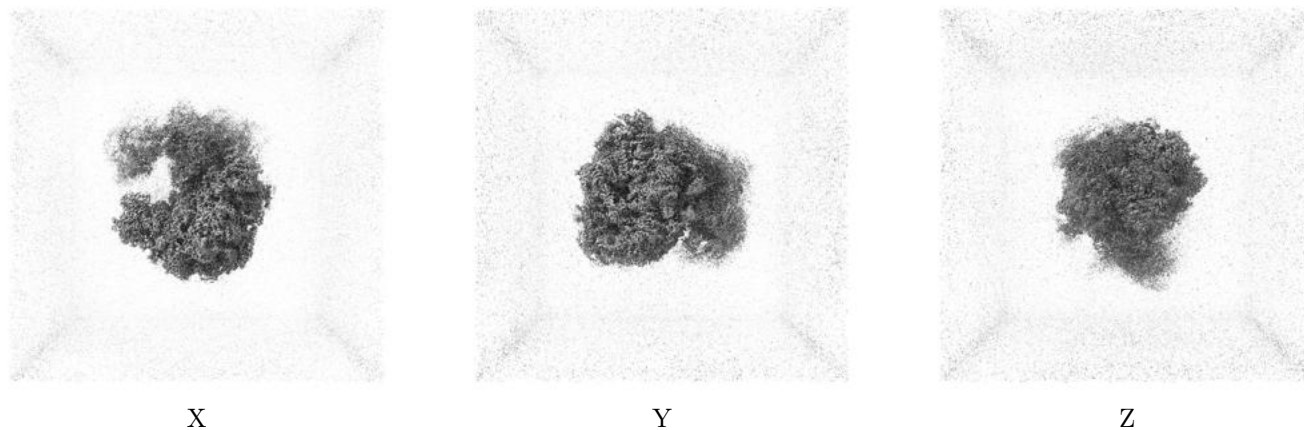
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.31. 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



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

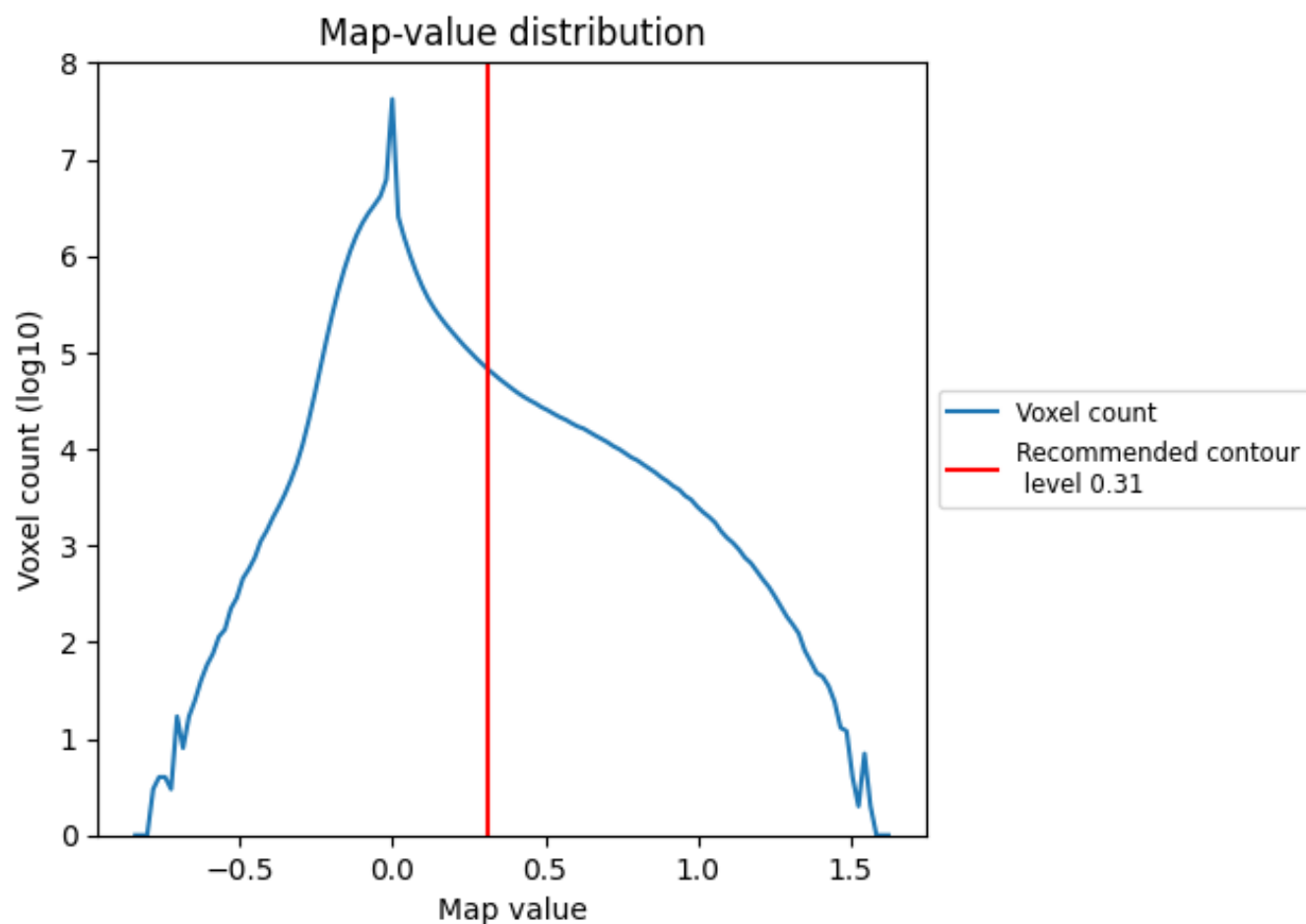
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

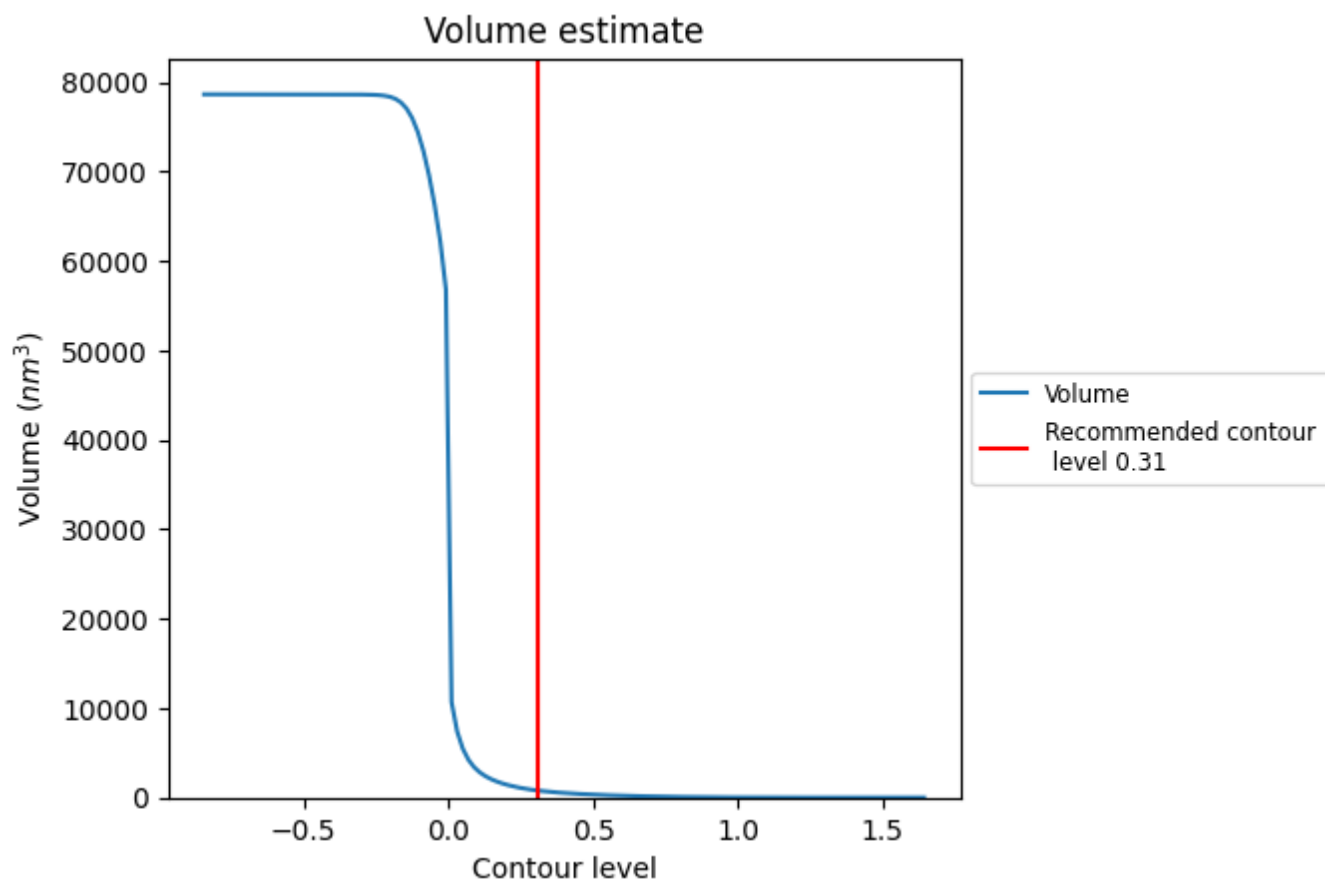
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

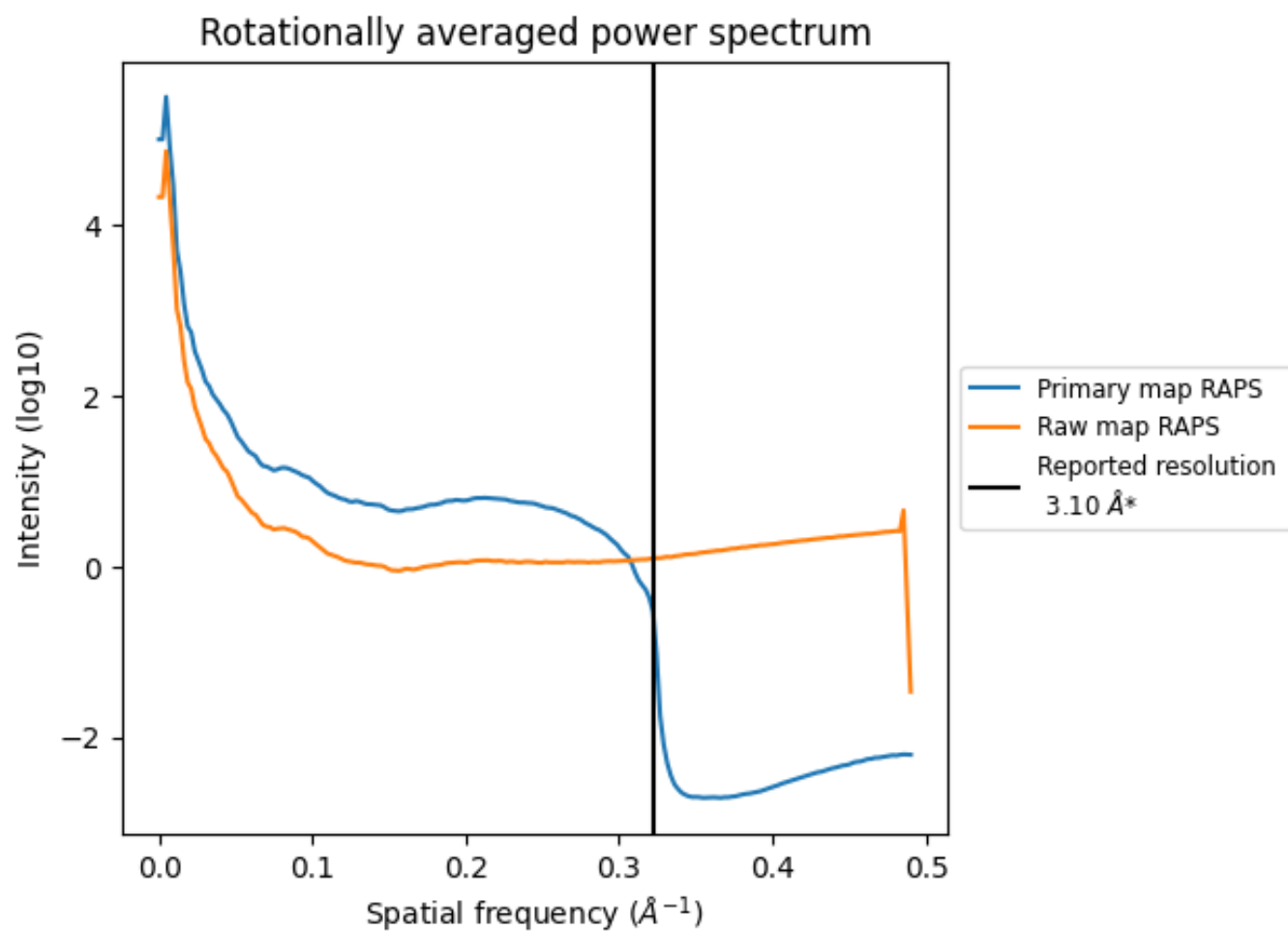
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 787 nm³; this corresponds to an approximate mass of 711 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

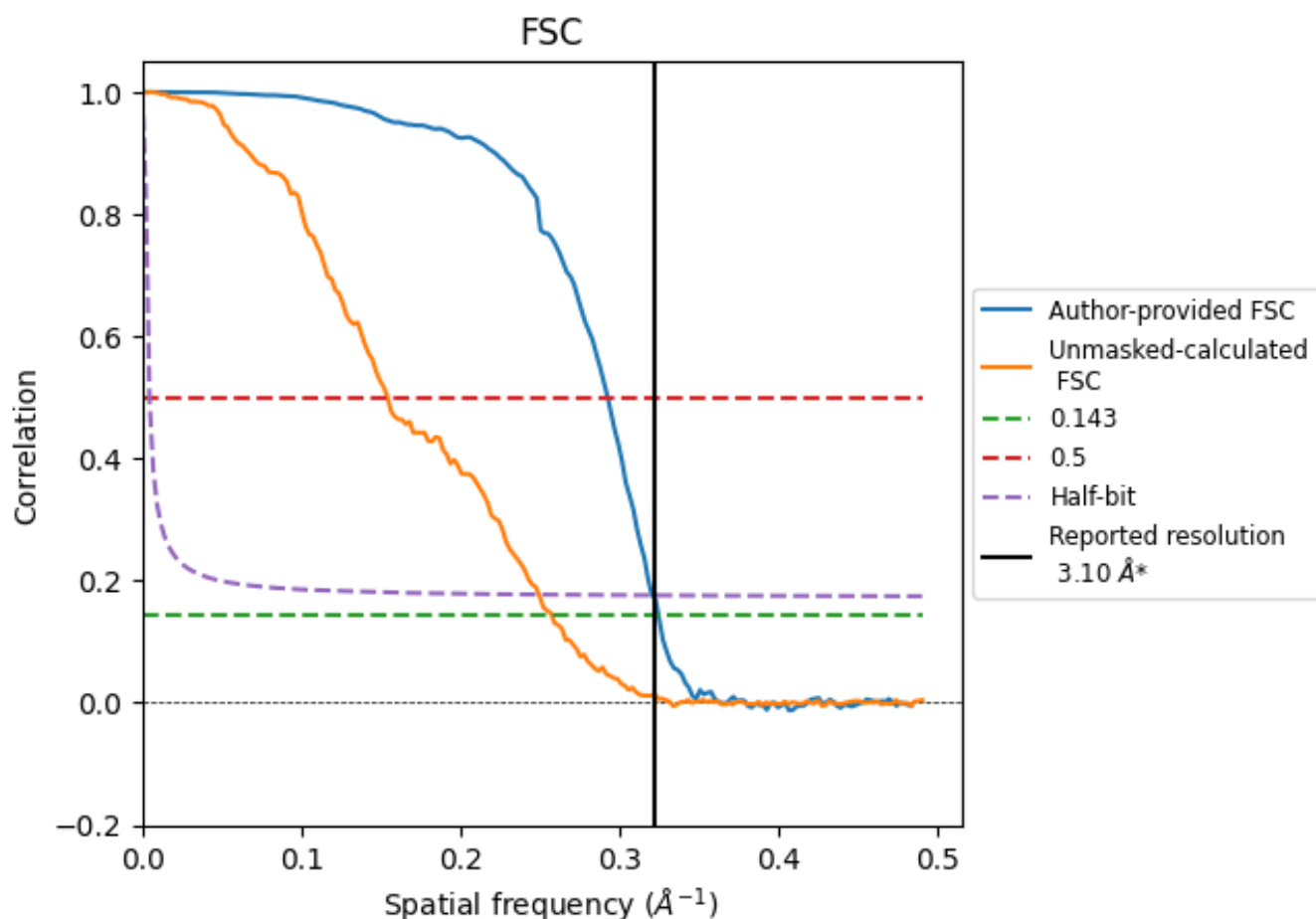


*Reported resolution corresponds to spatial frequency of 0.323 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.323 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

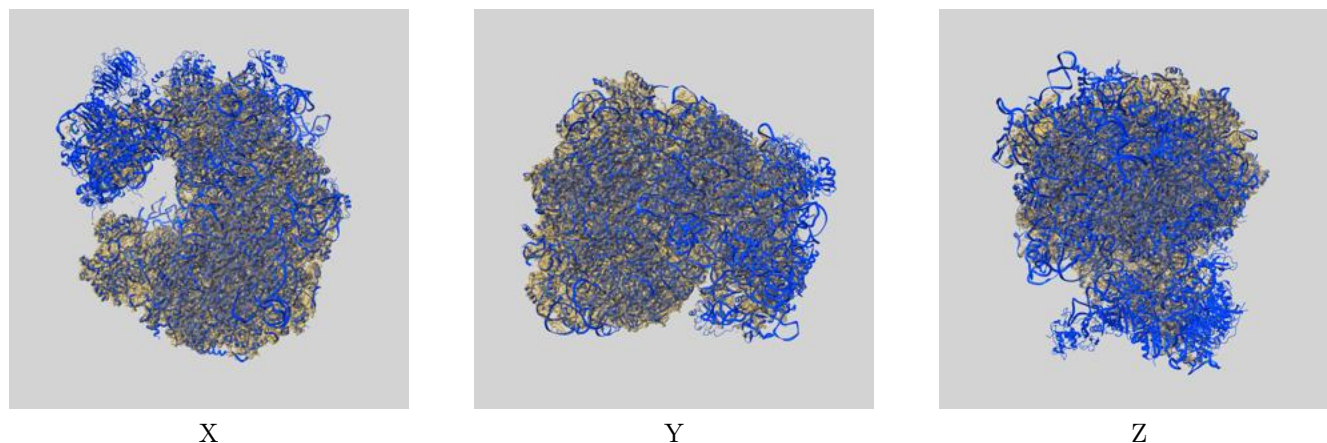
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	3.08	3.42	3.12
Unmasked-calculated*	3.89	6.49	4.01

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.89 differs from the reported value 3.1 by more than 10 %

9 Map-model fit [i](#)

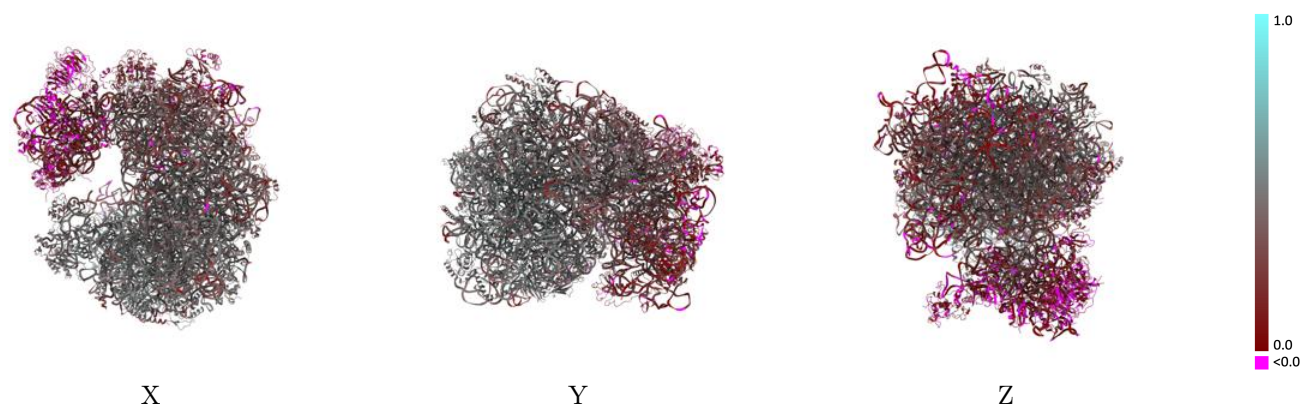
This section contains information regarding the fit between EMDB map EMD-16874 and PDB model 8OGJ. Per-residue inclusion information can be found in section 3 on page 21.

9.1 Map-model overlay [i](#)



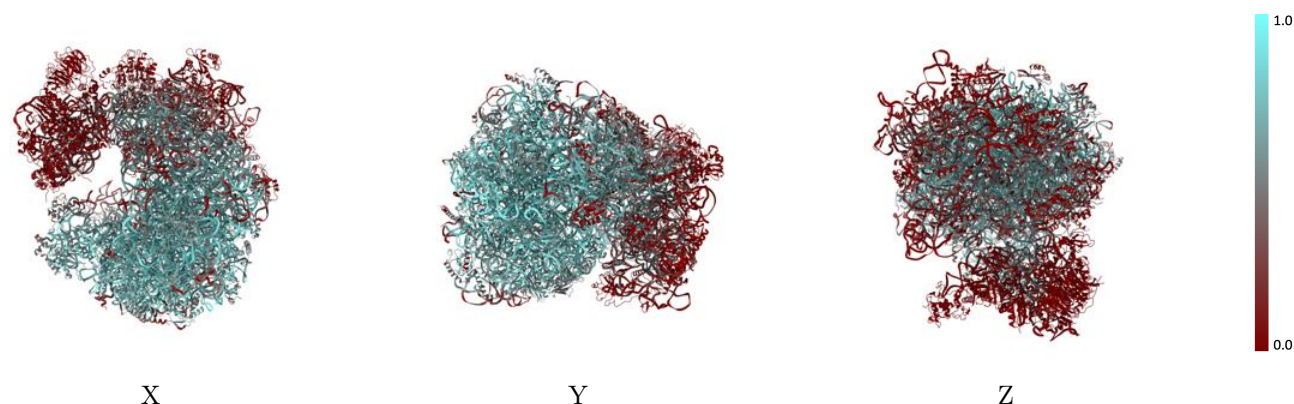
The images above show the 3D surface view of the map at the recommended contour level 0.31 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



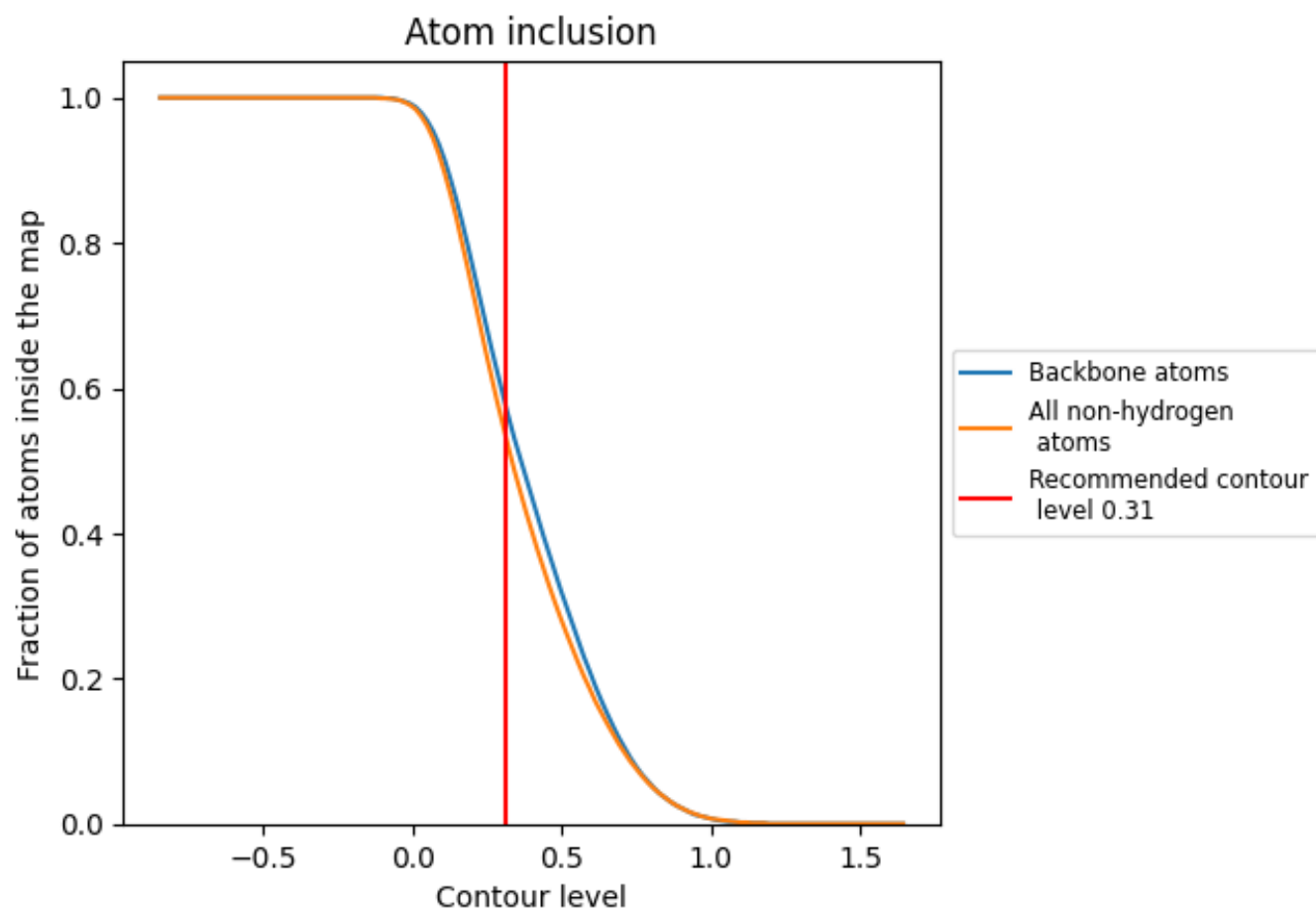
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.31).

9.4 Atom inclusion [i](#)



At the recommended contour level, 58% of all backbone atoms, 54% 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 (0.31) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5390	 0.3660
0	 0.7140	 0.5020
1	 0.7560	 0.4400
10	 0.0810	 0.3260
2	 0.6700	 0.4750
3	 0.8080	 0.4710
4	 0.7770	 0.4380
5	 0.0510	 0.2850
6	 0.6940	 0.4690
7	 0.5740	 0.4440
8	 0.6480	 0.4380
9	 0.6520	 0.4480
A	 0.3900	 0.2690
AA	 0.4930	 0.3910
AB	 0.7350	 0.4880
AC	 0.6070	 0.4290
AD	 0.4920	 0.3870
AE	 0.5990	 0.4320
AF	 0.7350	 0.4800
AG	 0.7400	 0.4970
AH	 0.6250	 0.4190
AI	 0.6180	 0.4320
AJ	 0.6000	 0.4280
AK	 0.7310	 0.4630
AL	 0.3220	 0.3590
AM	 0.7050	 0.4440
AN	 0.6650	 0.4820
AO	 0.1440	 0.3270
AP	 0.6120	 0.4670
AQ	 0.6370	 0.4200
B	 0.1370	 0.2610
C	 0.2570	 0.2960
D	 0.2760	 0.3010
E	 0.0300	 0.1080
F	 0.1690	 0.2530



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Chain	Atom inclusion	Q-score
G	0.0070	0.0840
H	0.0710	0.2370
I	0.0320	0.1830
J	0.1390	0.2240
K	0.1280	0.1830
L	0.0060	0.1040
M	0.2070	0.3030
N	0.0000	0.0920
O	0.3250	0.3190
P	0.3210	0.3540
Q	0.0050	0.0870
R	0.0380	0.1050
S	0.0170	0.1390
T	0.0130	0.1040
U	0.0170	0.0760
V	0.0290	0.0820
W	0.1660	0.2880
X	0.3650	0.3510
Y	0.3380	0.3570
Z	0.1070	0.2380
a	0.0050	0.0710
b	0.3970	0.3660
c	0.1730	0.2710
d	0.0000	0.0930
e	0.0570	0.1800
f	0.0770	0.2130
g	0.0000	0.1540
h	0.0000	0.0690
j	0.6830	0.4400
k	0.7190	0.4760
l	0.6990	0.4710
m	0.5930	0.4500
n	0.6090	0.4620
o	0.6720	0.4830
p	0.5440	0.4070
q	0.6100	0.4700
r	0.6220	0.4780
s	0.4830	0.4220
t	0.6420	0.4380
u	0.6070	0.4850
v	0.7620	0.4570
w	0.7190	0.4910

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Chain	Atom inclusion	Q-score
x	 0.6950	 0.4590
y	 0.7410	 0.4830
z	 0.5800	 0.3950