



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 05:22 PM UTC

PDB ID : 6XDR / pdb_00006xdr
EMDB ID : EMD-22142
Title : Escherichia coli transcription-translation complex B (TTC-B) containing an
27 nt long mRNA spacer, NusG, and fMet-tRNAs at E-site and P-site
Authors : Molodtsov, V.; Wang, C.; Su, M.; Ebright, R.H.
Deposited on : 2020-06-11
Resolution : 4.70 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
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

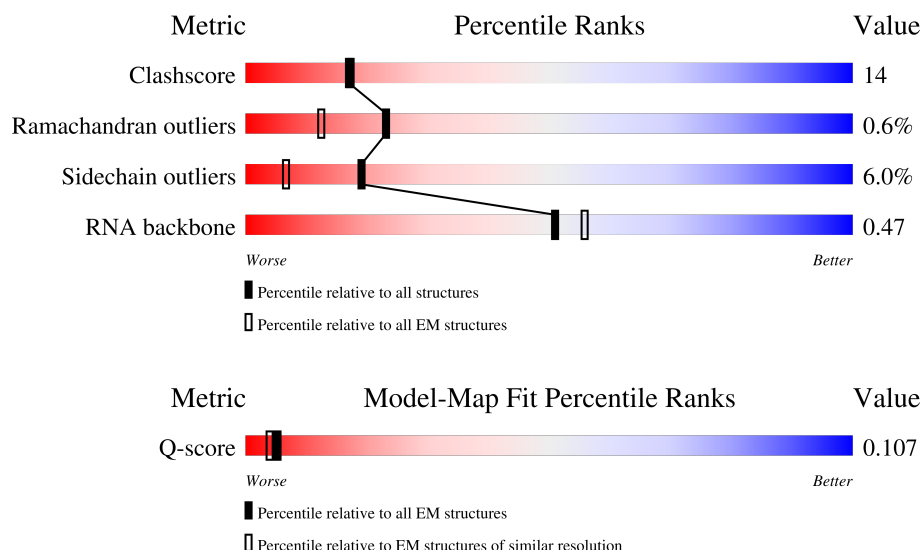
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.70 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	1989 (4.20 - 5.20)

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

Mol	Chain	Length	Quality of chain
1	0	103	11% 79% 19% .
2	1	110	64% 32% . .
3	2	100	13% 82% 11% . 6%

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Mol	Chain	Length	Quality of chain
4	3	104	
5	4	94	
6	5	36	
7	6	36	
8	7	44	
9	9	165	
10	A	76	
10	B	76	
11	AA	1342	
12	AB	181	
13	AC	329	
13	AD	329	
14	AE	1407	
15	AF	91	
16	C	75	
17	D	1542	
18	E	87	
19	F	71	
20	G	241	
21	H	557	
22	I	233	
23	J	206	
24	K	167	
25	L	135	
26	M	179	

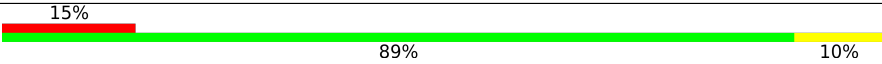
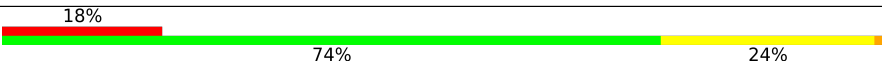
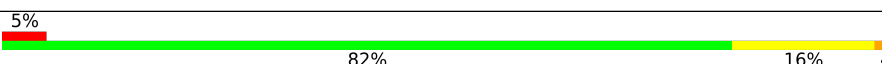
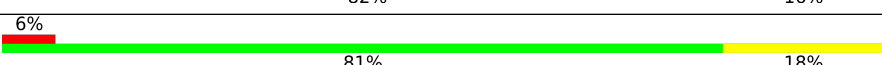
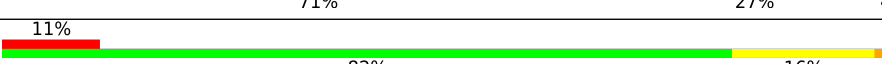
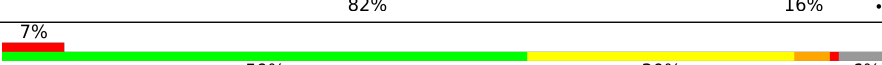
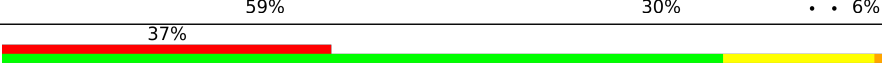
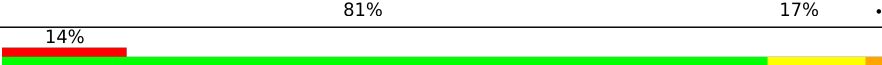
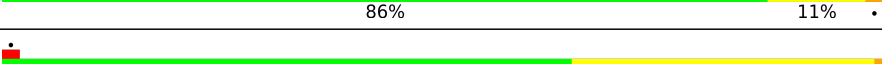
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Mol	Chain	Length	Quality of chain
27	N	130	
28	O	130	
29	P	103	
30	Q	129	
31	R	124	
32	S	101	
33	T	89	
34	U	82	
35	V	84	
36	W	92	
37	X	118	
38	Y	142	
39	Z	121	
40	a	2904	
41	b	85	
42	c	78	
43	d	120	
44	e	63	
45	f	59	
46	g	70	
47	h	273	
48	i	57	
49	j	209	
50	k	55	
51	l	201	

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Mol	Chain	Length	Quality of chain
52	m	46	
53	n	179	
54	o	65	
55	p	177	
56	q	38	
57	r	149	
58	s	142	
59	t	123	
60	u	144	
61	v	136	
62	w	127	
63	x	117	
64	y	115	
65	z	118	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
67	ZN	AE	1501	-	-	X	-

2 Entry composition

There are 67 unique types of molecules in this entry. The entry contains 276506 atoms, of which 99294 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	0	103	Total	C	H	N	O	S	0	0
			1655	516	839	153	145	2		

- Molecule 2 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	1	110	Total	C	H	N	O	S	0	0
			1779	532	922	166	156	3		

- Molecule 3 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	2	94	Total	C	H	N	O	S	0	0
			1557	470	811	140	134	2		

- Molecule 4 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	3	103	Total	C	H	N	O		0	0
			1632	498	844	148	142			

- Molecule 5 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	4	94	Total	C	H	N	O	S	0	0
			1533	479	780	137	134	3		

- Molecule 6 is a DNA chain called NT DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	5	23	Total	C	H	N	O	P	0	0
			732	225	260	87	137	23		

- Molecule 7 is a DNA chain called T DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	6	27	Total	C	H	N	O	P	0	0
			847	259	305	89	167	27		

- Molecule 8 is a RNA chain called mRNA with 27 nt long spacer.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	7	34	Total	C	H	N	O	P	0	0
			804	316	97	98	259	34		

- Molecule 9 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	9	148	Total	C	N	O	S	0	0
			1117	705	196	209	7		

- Molecule 10 is a RNA chain called E-site and P-site tRNA (fMet).

Mol	Chain	Residues	Atoms						AltConf	Trace
10	A	76	Total	C	H	N	O	P	0	0
			2446	723	826	295	527	75		
10	B	76	Total	C	H	N	O	P	0	0
			2433	723	813	295	527	75		

- Molecule 11 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AA	1340	Total	C	N	O	S	0	0
			10567	6631	1841	2052	43		

- Molecule 12 is a protein called Transcription termination/antitermination protein NusG.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AB	175	Total	C	N	O	S	0	0
			1392	881	249	255	7		

- Molecule 13 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AC	221	Total	C	N	O	S	0	0
			1698	1060	299	333	6		

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Mol	Chain	Residues	Atoms					AltConf	Trace
13	AD	218	Total	C	N	O	S	0	0
			1677	1048	297	326	6		

- Molecule 14 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AE	1337	Total	C	N	O	S	0	0
			10404	6535	1856	1963	50		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AE	1384	VAL	MET	conflict	UNP A0A4S1NBU2

- Molecule 15 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AF	82	Total	C	N	O	S	0	0
			650	396	122	131	1		

- Molecule 16 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	C	66	Total	C	H	N	O	S	0
			1103	344	559	102	97	1	0

- Molecule 17 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	D	1524	Total	C	H	N	O	P	0
			49126	14585	16423	6003	10591	1524	0

- Molecule 18 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	E	86	Total	C	H	N	O	S	0
			1388	414	719	138	114	3	0

- Molecule 19 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	F	70	Total	C	H	N	O	S	0	0
			1218	366	629	125	97	1		

- Molecule 20 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	G	225	Total	C	H	N	O	S	0	0
			3545	1113	1785	316	323	8		

- Molecule 21 is a protein called 30S ribosomal protein S1.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	H	259	Total	C	H	N	O	S	0	0
			3184	1073	1454	305	349	3		

- Molecule 22 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	I	208	Total	C	H	N	O	S	0	0
			3346	1036	1710	307	290	3		

- Molecule 23 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	J	205	Total	C	H	N	O	S	0	0
			3350	1026	1707	315	298	4		

- Molecule 24 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	K	156	Total	C	H	N	O	S	0	0
			2348	717	1196	217	212	6		

- Molecule 25 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms						AltConf	Trace
25	L	104	Total	C	H	N	O	S	0	0
			1694	536	846	153	152	7		

- Molecule 26 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	M	151	Total	C	H	N	O	S	0	0
			2416	735	1235	227	215	4		

- Molecule 27 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	N	129	Total	C	H	N	O	S	0	0
			2010	616	1031	173	184	6		

- Molecule 28 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	O	127	Total	C	H	N	O	S	0	0
			2092	634	1070	206	179	3		

- Molecule 29 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	P	99	Total	C	H	N	O	S	0	0
			1621	495	831	151	143	1		

- Molecule 30 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	Q	117	Total	C	H	N	O	S	0	0
			1764	540	887	174	160	3		

- Molecule 31 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	R	121	Total	C	H	N	O	S	0	0
			1940	580	1001	194	161	4		

- Molecule 32 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	S	100	Total	C	H	N	O	S	0	0
			1649	499	844	164	139	3		

- Molecule 33 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	T	88	Total	C	H	N	O	S	0	0
			1448	439	734	144	130	1		

- Molecule 34 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	U	82	Total	C	H	N	O	S	0	0
			1315	406	666	128	114	1		

- Molecule 35 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	V	80	Total	C	H	N	O	S	0	0
			1339	411	691	121	113	3		

- Molecule 36 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	W	83	Total	C	H	N	O	S	0	0
			1351	424	688	126	111	2		

- Molecule 37 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	X	116	Total	C	H	N	O	S	0	0
			1864	558	964	181	158	3		

- Molecule 38 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Y	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 39 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Z	30	Total	C	N	O	S	0	0
			227	144	33	47	3		

- Molecule 40 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	a	2880	Total	C	H	N	O	P	0	0
			92912	27587	31071	11398	19976	2880		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	887	A	U	conflict	GB 937521852

- Molecule 41 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	b	76	Total	C	H	N	O	S	0	0
			1181	360	599	117	104	1		

- Molecule 42 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	c	77	Total	C	H	N	O	S	0	0
			1277	388	652	129	106	2		

- Molecule 43 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	d	120	Total	C	H	N	O	P	0	0
			3870	1144	1301	468	837	120		

- Molecule 44 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	e	62	Total	C	H	N	O	S	0	0
			1032	308	531	98	94	1		

- Molecule 45 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	f	58	Total	C	H	N	O	S	0	0
			936	281	488	87	78	2		

- Molecule 46 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	g	66	Total	C	H	N	O	S	0	0
			1042	323	520	99	94	6		

- Molecule 47 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	h	271	Total	C	H	N	O	S	0	0
			4236	1288	2154	423	364	7		

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	i	56	Total	C	H	N	O	S	0	0
			903	269	459	94	80	1		

- Molecule 49 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	j	209	Total	C	H	N	O	S	0	0
			3182	979	1617	288	294	4		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
50	k	52	Total	C	H	N	O	S	0	0
			890	275	464	78	73			

- Molecule 51 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	l	201	Total	C	H	N	O	S	0	0
			3171	974	1619	283	290	5		

- Molecule 52 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	m	46	Total	C	H	N	O	S	0	0
			795	228	418	90	57	2		

- Molecule 53 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	n	177	Total	C	H	N	O	S	0	0
			2853	899	1443	249	256	6		

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms						AltConf	Trace
54	o	64	Total	C	H	N	O	S	0	0
			1076	323	572	105	74	2		

- Molecule 55 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms						AltConf	Trace
55	p	175	Total	C	H	N	O	S	0	0
			2671	826	1358	241	244	2		

- Molecule 56 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	q	38	Total	C	H	N	O	S	0	0
			645	185	343	65	48	4		

- Molecule 57 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms						AltConf	Trace
57	r	149	Total	C	H	N	O	S	0	0
			2259	699	1148	197	214	1		

- Molecule 58 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms						AltConf	Trace
58	s	142	Total	C	H	N	O	S	0	0
			2291	714	1162	212	199	4		

- Molecule 59 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	t	123	Total	C	H	N	O	S	0	0
			1969	593	1023	181	166	6		

- Molecule 60 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms						AltConf	Trace
60	u	144	Total	C	H	N	O	S	0	0
			2182	654	1129	207	190	2		

- Molecule 61 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms						AltConf	Trace
61	v	136	Total	C	H	N	O	S	0	0
			2231	686	1157	205	177	6		

- Molecule 62 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms						AltConf	Trace
62	w	119	Total	C	H	N	O	S	0	0
			1945	588	994	195	163	5		

- Molecule 63 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms						AltConf	Trace
63	x	116	Total	C	H	N	O		0	0
			1815	552	923	178	162			

- Molecule 64 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms						AltConf	Trace
64	y	114	Total	C	H	N	O	S	0	0
			1879	574	962	179	163	1		

- Molecule 65 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms						AltConf	Trace
65	z	117	Total	C	H	N	O		0	0
			1967	604	1020	192	151			

- Molecule 66 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
66	7	1	Total	Mg	0
			1	1	

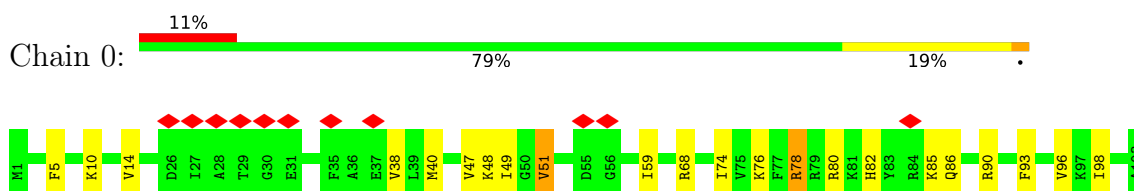
- Molecule 67 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
67	AE	2	Total	Zn	0
			2	2	

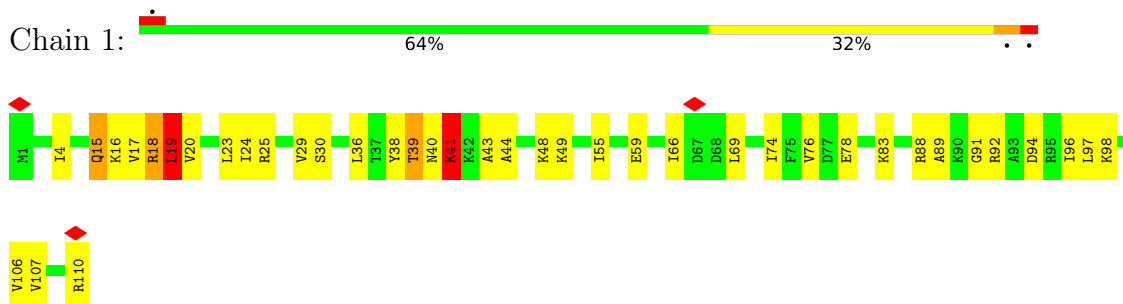
3 Residue-property plots [i](#)

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

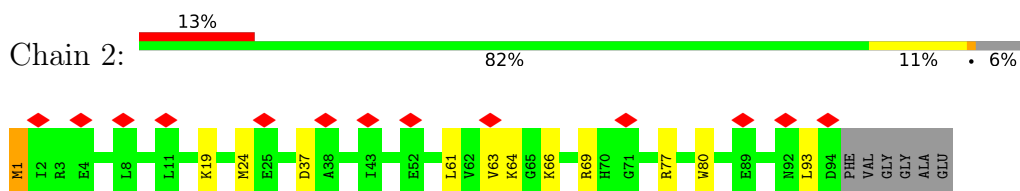
- Molecule 1: 50S ribosomal protein L21



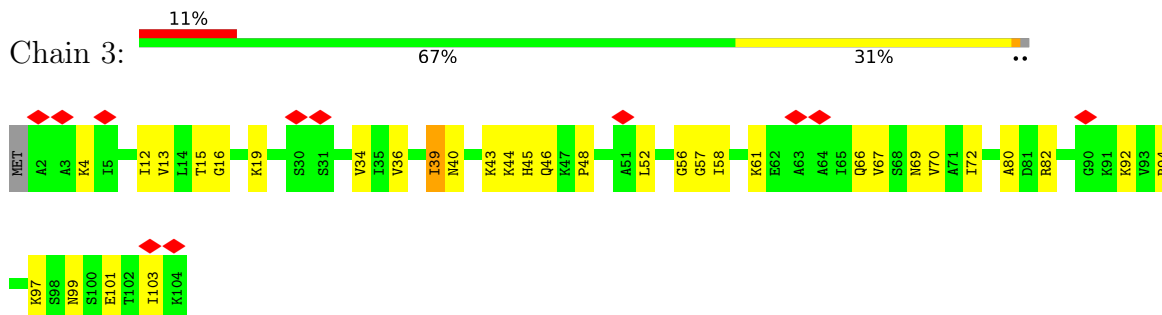
- Molecule 2: 50S ribosomal protein L22



- Molecule 3: 50S ribosomal protein L23



- Molecule 4: 50S ribosomal protein L24



Chain 4:

Category	Percentage
Red	14%
Green	95%
Yellow	5%

Legend: ◆ Red, ◆ Green, ◆ Yellow

Nodes: M1, V8, R9, K10, R18, G33, K34, E35, A36, P37, I40, V47, S58, T63, V64, V65, D66, E69, I70, K71, K83, A94

Chain 5:

50%

36%

28%

36%

DC

DC

DC

DG

DG

DT

DT

DA

DA

DT

DG

DA

T96

C97

A98

T99

A100

T101

T102

A103

DT

DT

DT

DT

T108

T109

A110

C111

C112

C113

G116

A117

C118

A119

G120

G121

G122

Chain 6:

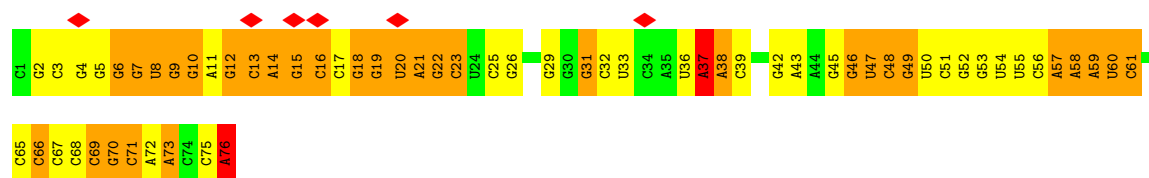
Category	Percentage
C2	36%
C3	33%
C4	42%
T5	25%
C8	36%
T9	33%
G10	42%
G11	25%
C12	36%
G13	33%
T14	42%
C15	25%
C16	36%
T17	33%
C18	42%
A21	25%
C22	36%
C23	33%
T24	42%
A25	25%
T26	36%
G27	33%
A28	42%
DT	25%
DC	36%
DA	33%
DT	42%
DG	25%
DA	36%
DC	33%
DC	42%
DG	25%
DG	36%
DG	33%
DG	42%
DG	25%

[illegible]

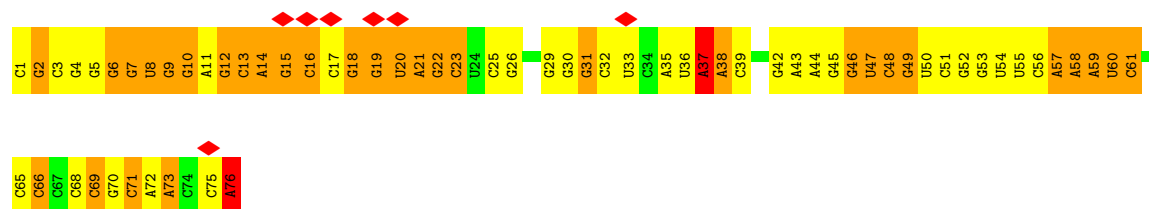
Chain 9:

Amino Acid	Percentage
M1	34%
A2	34%
L3	34%
N4	34%
L5	34%
D6	34%
Q7	34%
R8	34%
Q9	34%
A10	34%
I11	34%
V12	34%
A13	34%
E14	34%
V15	34%
S16	34%
E17	34%
V18	34%
A19	34%
K20	34%
G21	34%
A22	34%
L23	34%
S24	34%
A25	34%
V26	34%
V27	34%
A28	34%
D29	34%
S30	34%
R31	34%
G32	34%
V33	34%
T34	34%
V35	34%
D36	34%
K37	34%
N38	34%
T39	34%
R42	34%
K43	34%
A44	34%
G45	34%
R46	34%
E47	34%
A48	34%
G49	34%
V50	34%
Y51	34%
M52	34%
R53	34%
V54	34%
V55	34%
R56	34%
N57	34%
T58	34%
L59	34%
L60	34%
R61	34%
R62	34%
A63	34%
V64	34%
E65	34%
G66	34%
T67	34%
P68	34%
F69	34%
E70	34%
C71	34%
L72	34%
K73	34%
D74	34%
A75	34%
F76	34%
V77	34%
G78	34%
F79	34%
T80	34%
L81	34%
T82	34%
A83	34%
Y84	34%
S85	34%
M86	34%
E87	34%
H88	34%
P89	34%
G90	34%
A91	34%
A92	34%
A93	34%
R94	34%
L95	34%
ARG	34%
F96	34%
K97	34%
E98	34%
F99	34%
A100	34%
K101	34%
A102	34%
M103	34%
A104	34%
K105	34%
F106	34%
E107	34%
V108	34%
K109	34%
A110	34%
A111	34%
A112	34%
F113	34%
E114	34%
G115	34%
E116	34%
L117	34%
L118	34%
P119	34%
A120	34%
A121	34%
Q122	34%
I123	34%
D124	34%
R125	34%
L126	34%
A127	34%
T128	34%
L129	34%
P130	34%
T131	34%
E132	34%
E133	34%
E134	34%
A135	34%
A136	34%
A137	34%
R138	34%
L139	34%
M140	34%
T142	34%
M143	34%
K144	34%
E145	34%
A146	34%
S147	34%
A148	34%
GLY	34%
LYS	34%
LEU	34%
VAL	34%
ARG	34%
THR	34%
LEU	34%
LEU	34%
ALA	34%
ALA	34%
VAL	34%
ARG	34%
ASP	34%
ALA	34%
LYS	34%
GLU	34%
ALA	34%
ALA	34%

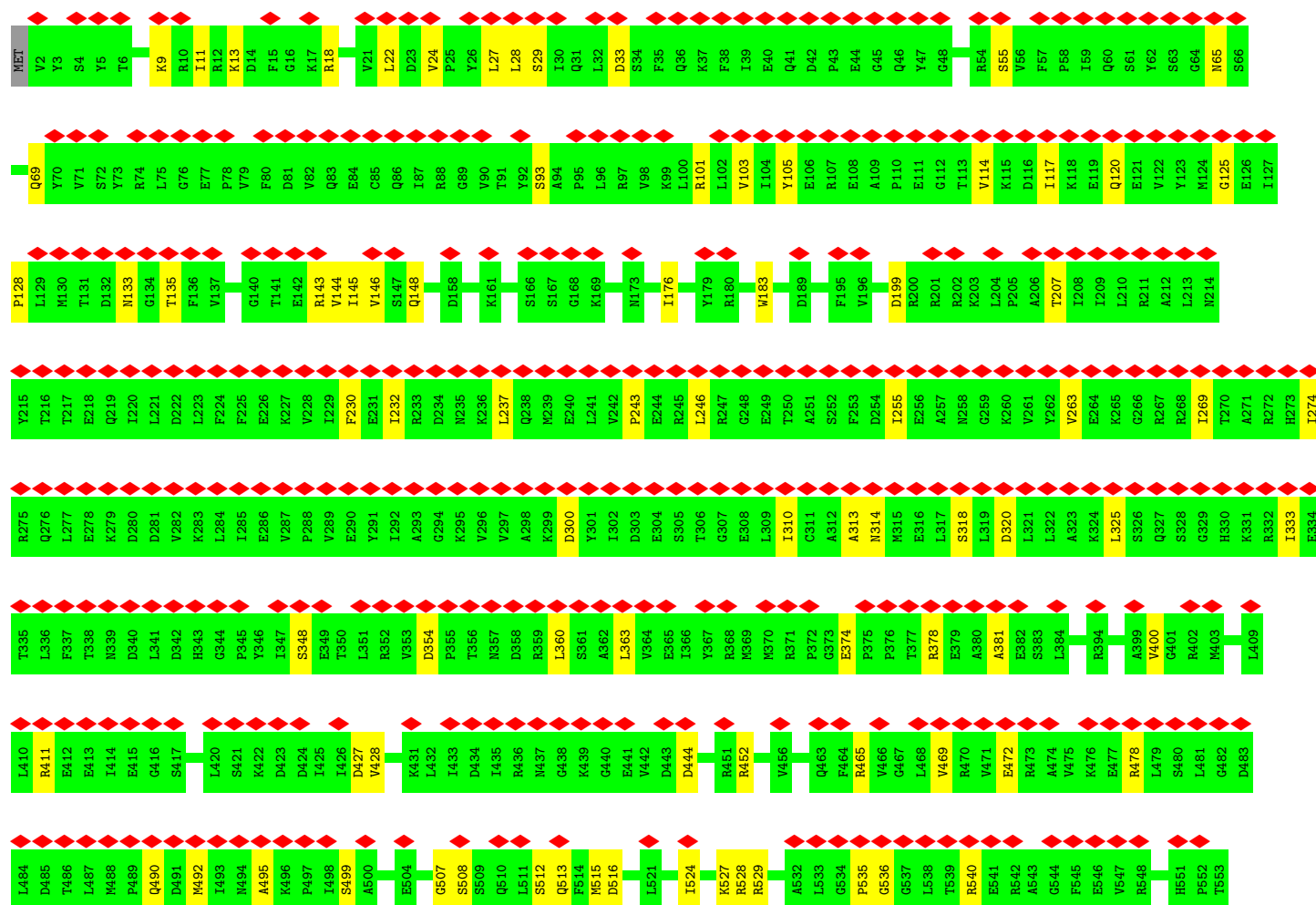
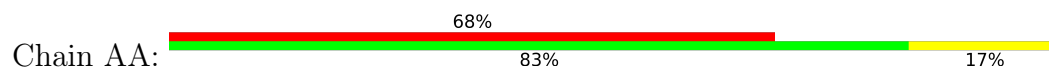
Chain A:

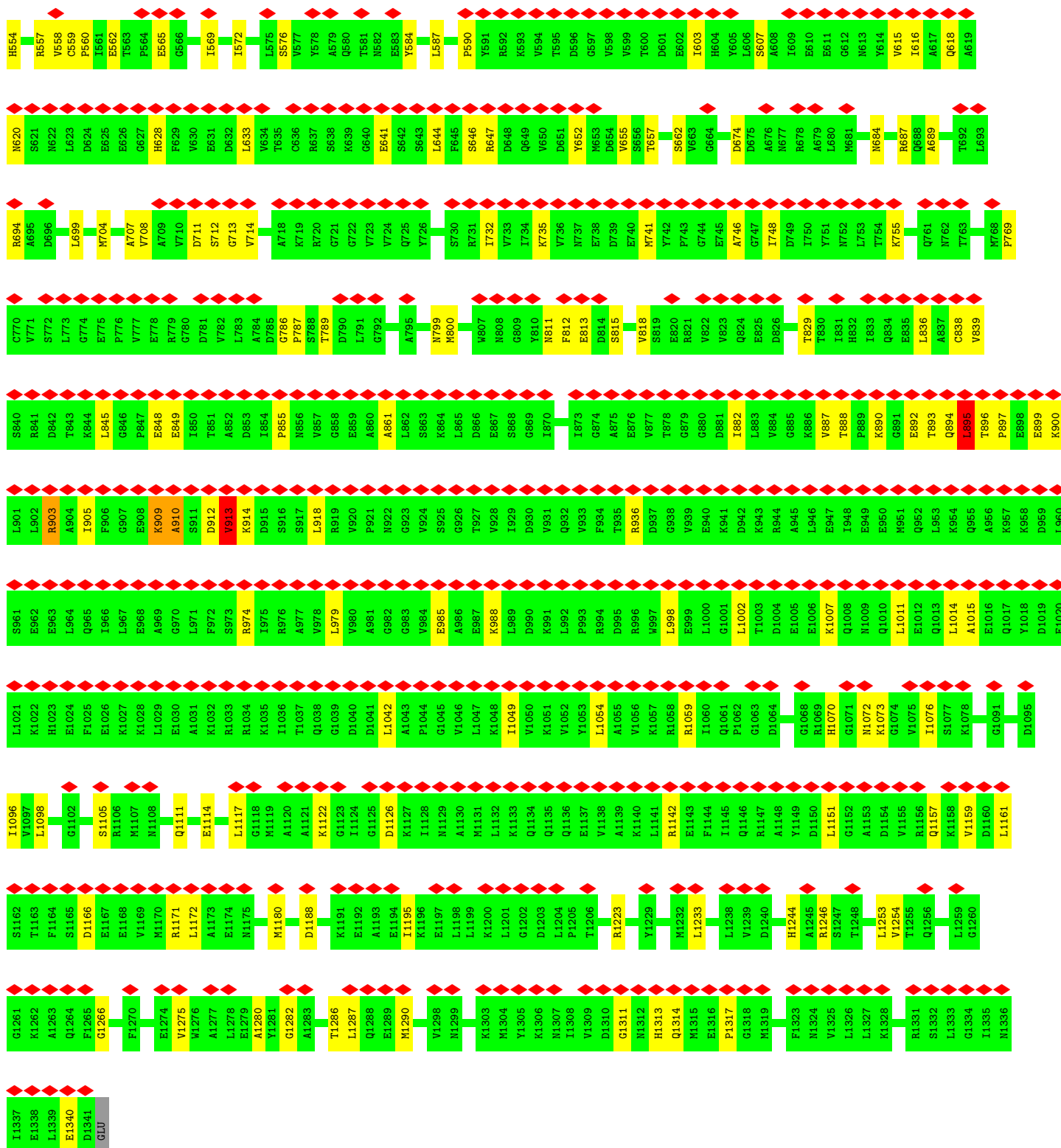


• Molecule 10: E-site and P-site tRNA (fMet)

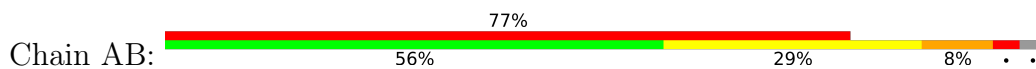


• Molecule 11: DNA-directed RNA polymerase subunit beta



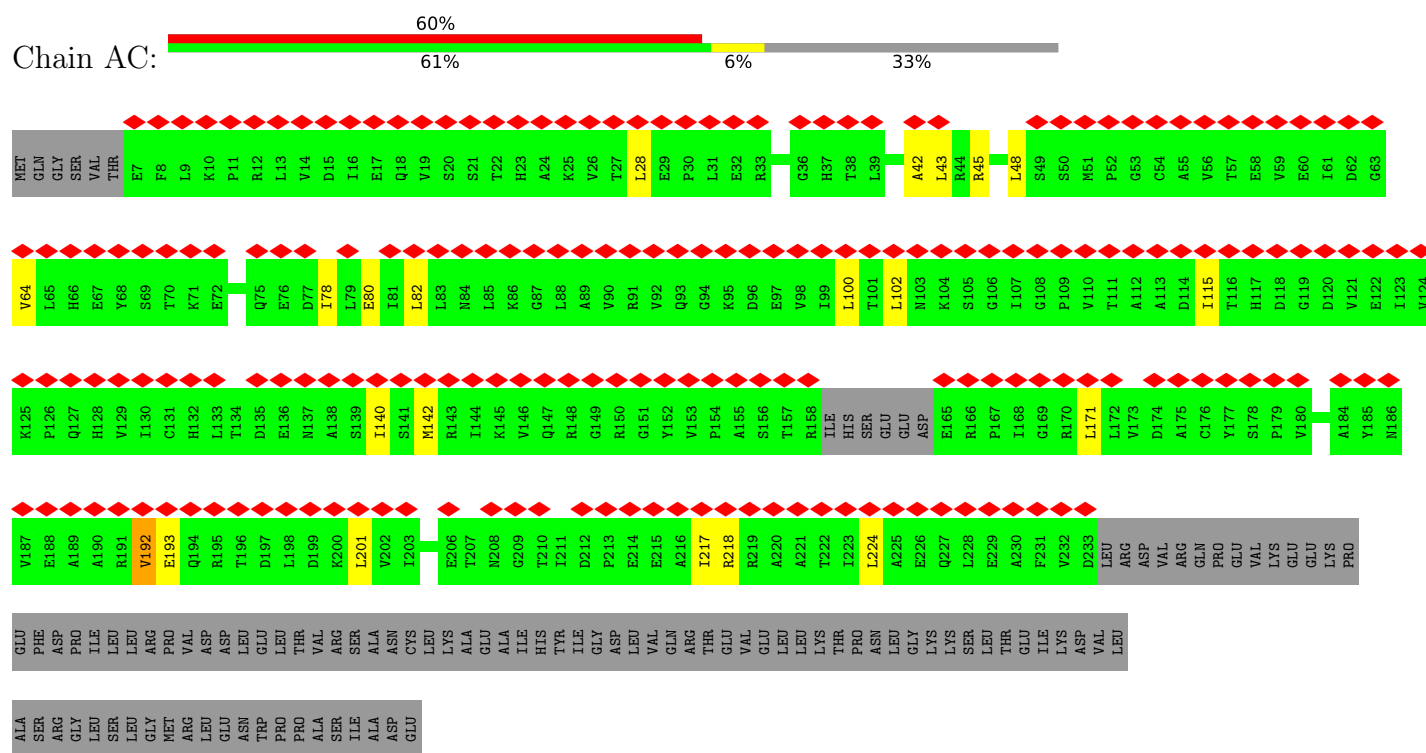


• Molecule 12: Transcription termination/antitermination protein NusG

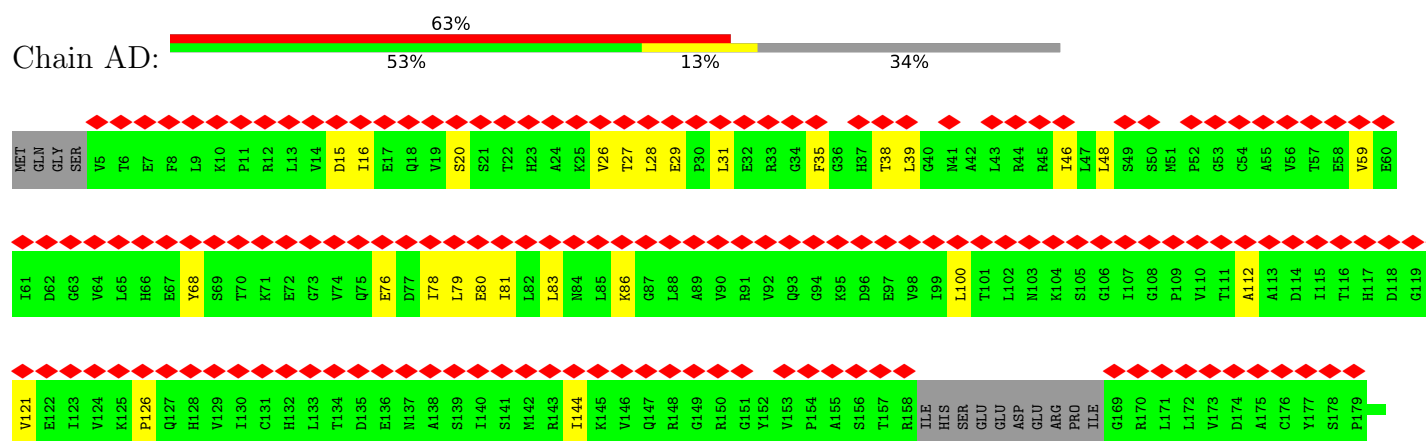


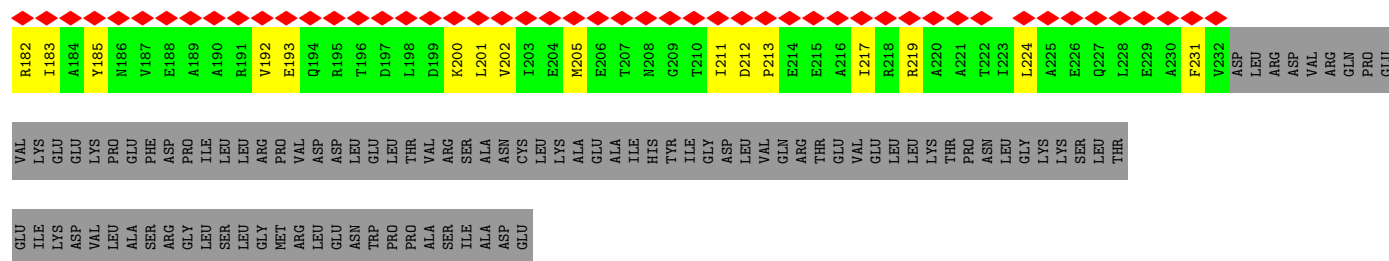


• Molecule 13: DNA-directed RNA polymerase subunit alpha

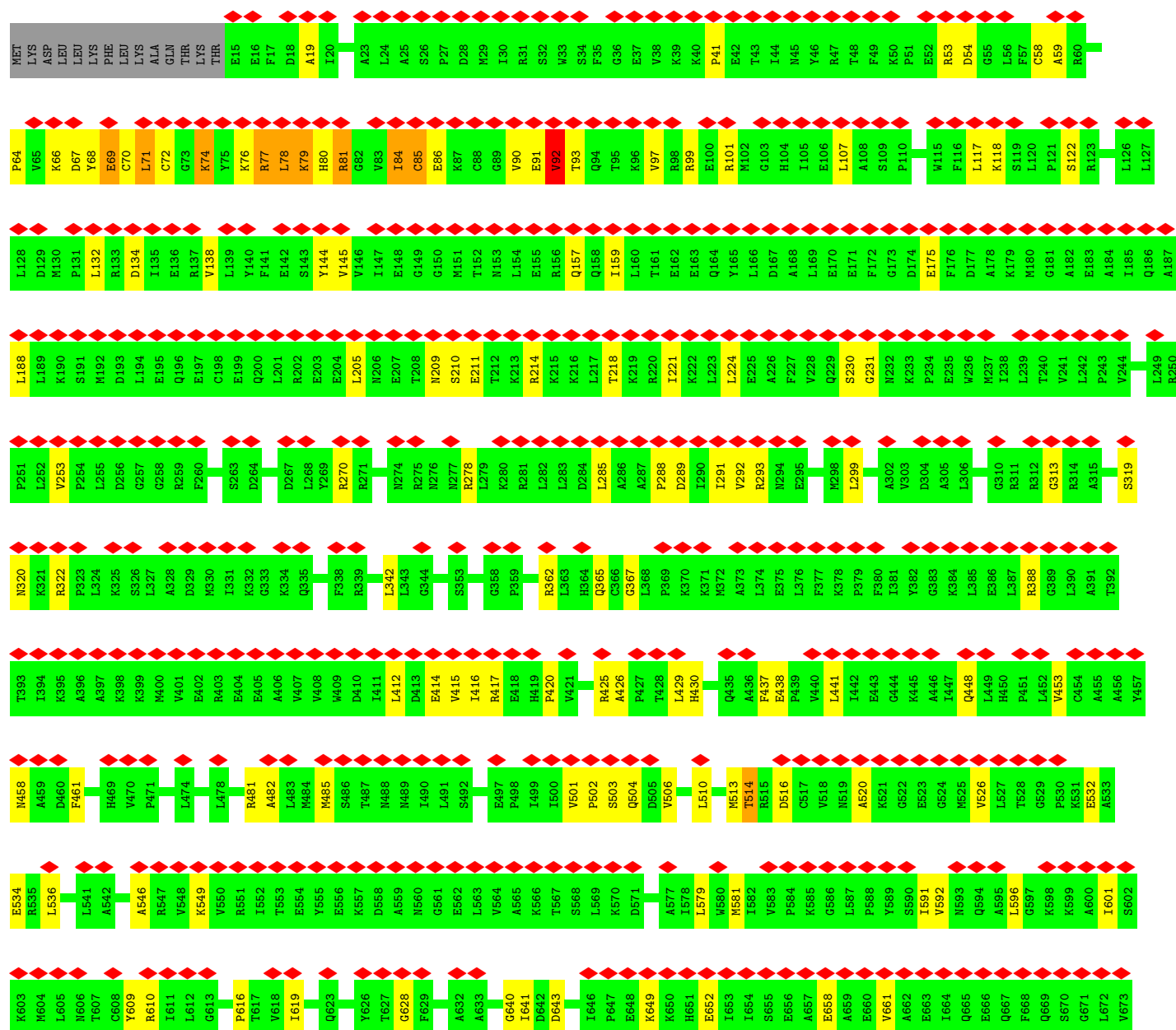
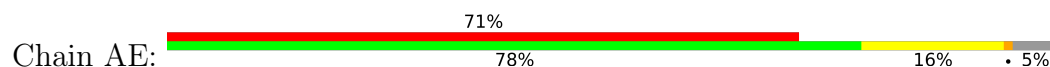


• Molecule 13: DNA-directed RNA polymerase subunit alpha

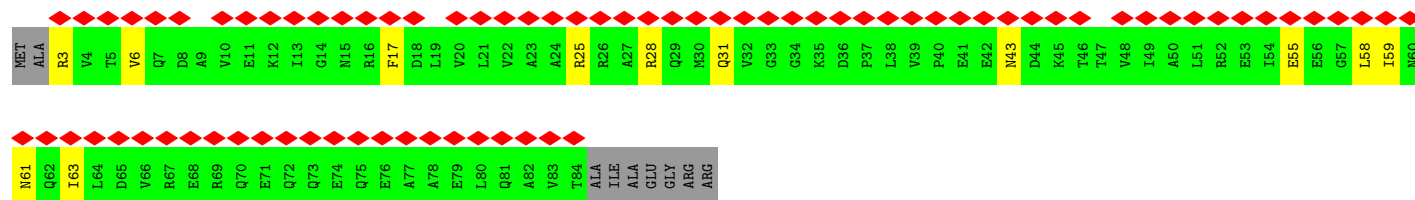




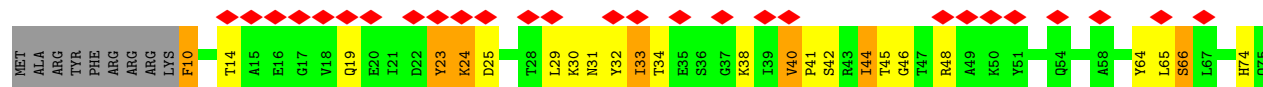
• Molecule 14: DNA-directed RNA polymerase subunit beta'



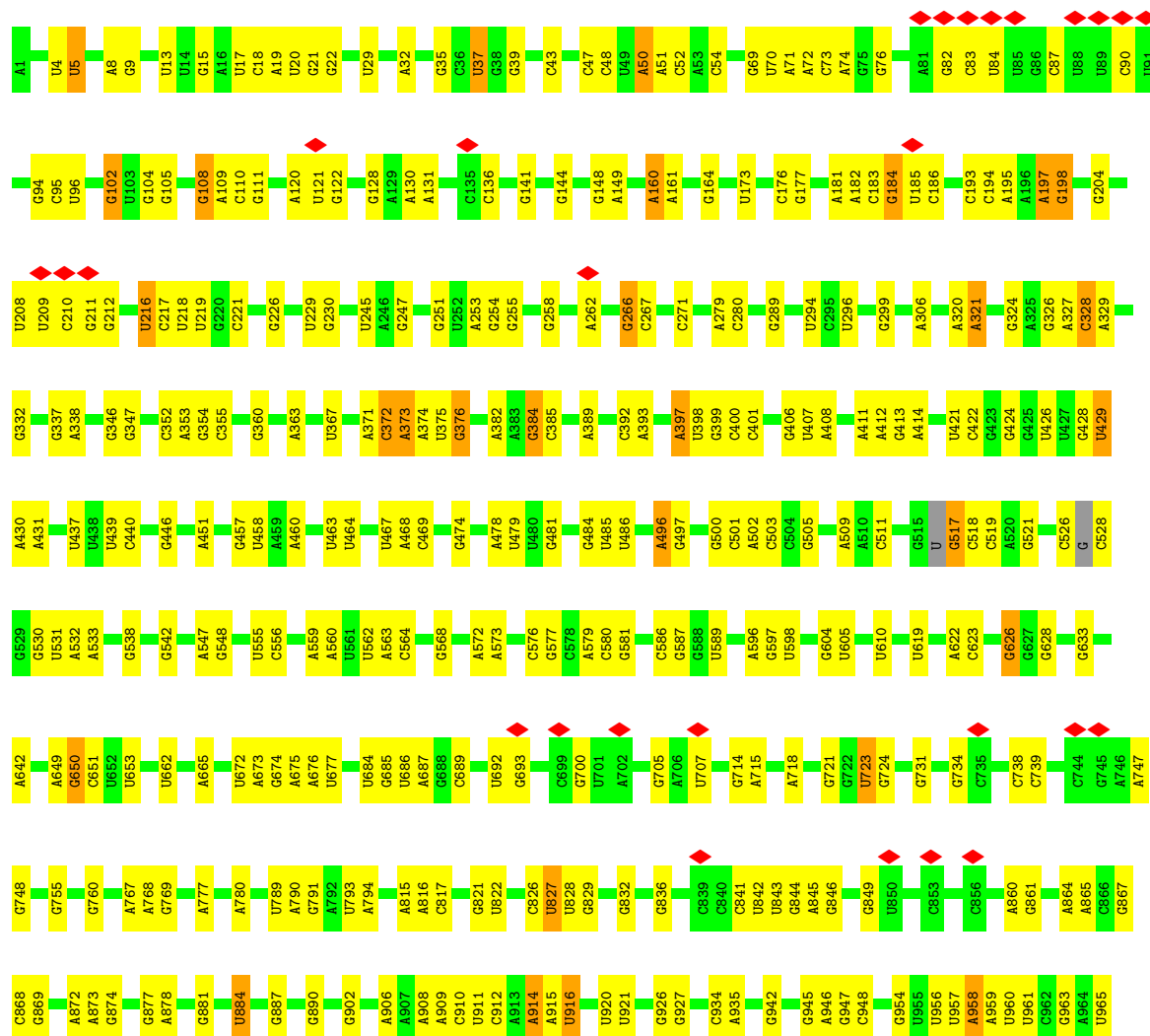


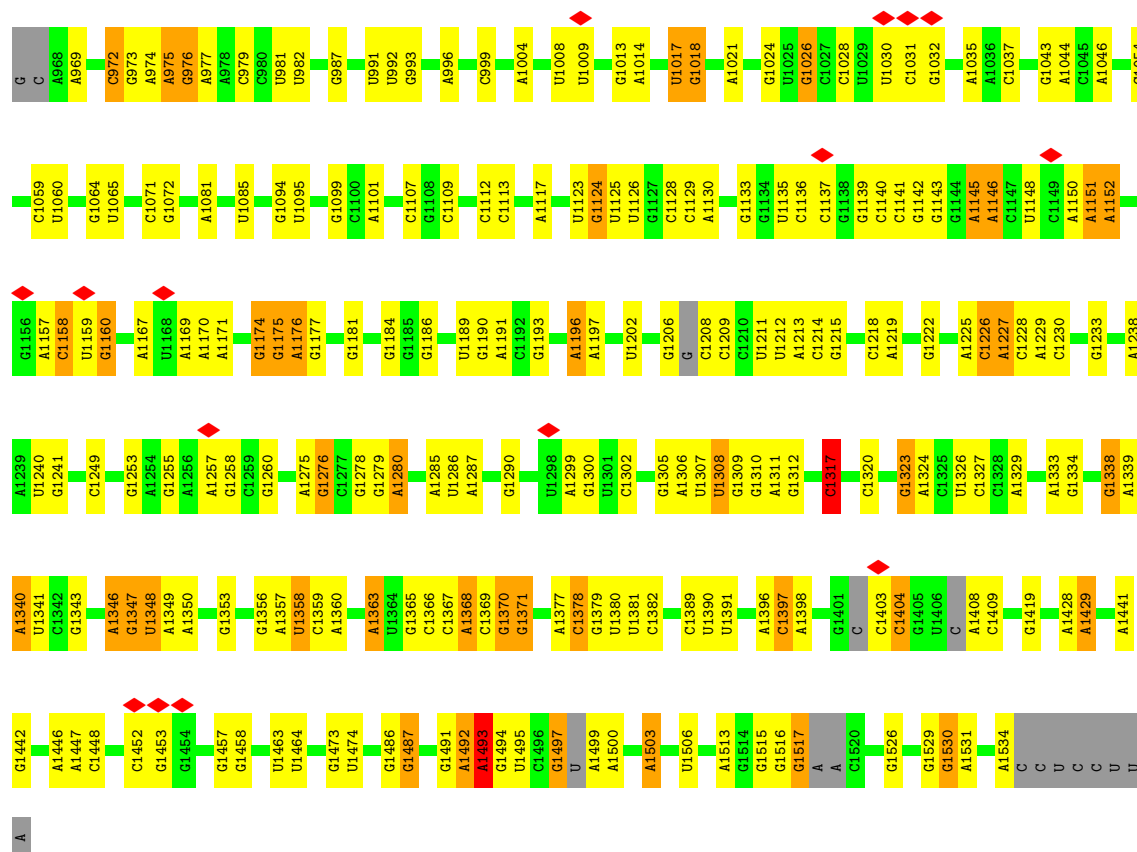


• Molecule 16: 30S ribosomal protein S18

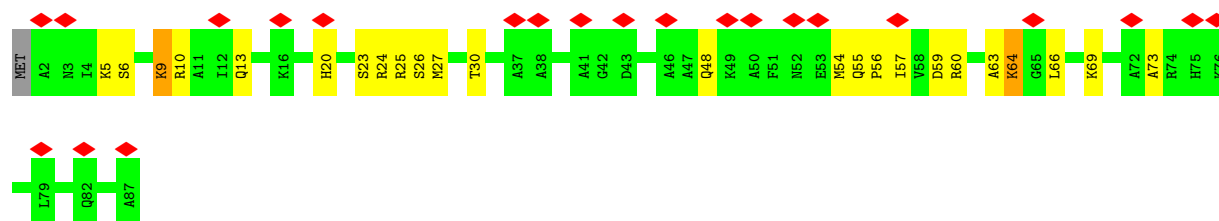
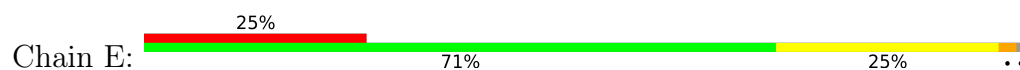


• Molecule 17: 16S rRNA

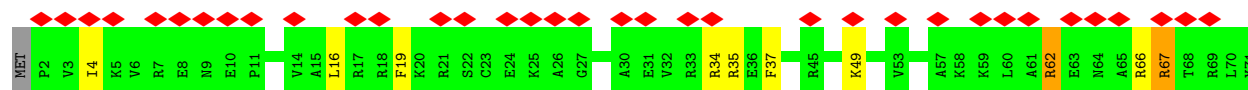
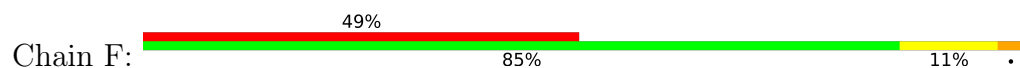




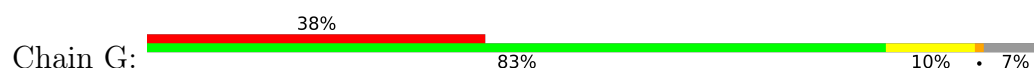
- Molecule 18: 30S ribosomal protein S20

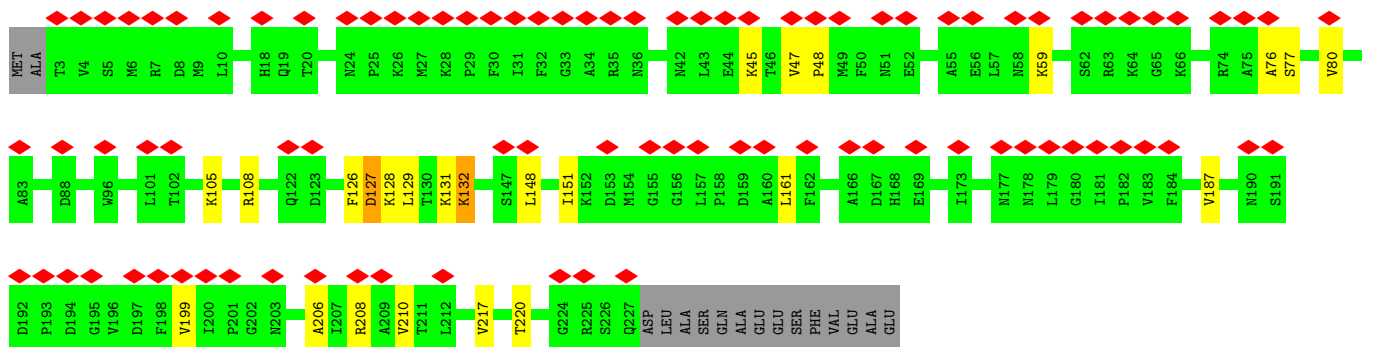


- Molecule 19: 30S ribosomal protein S21

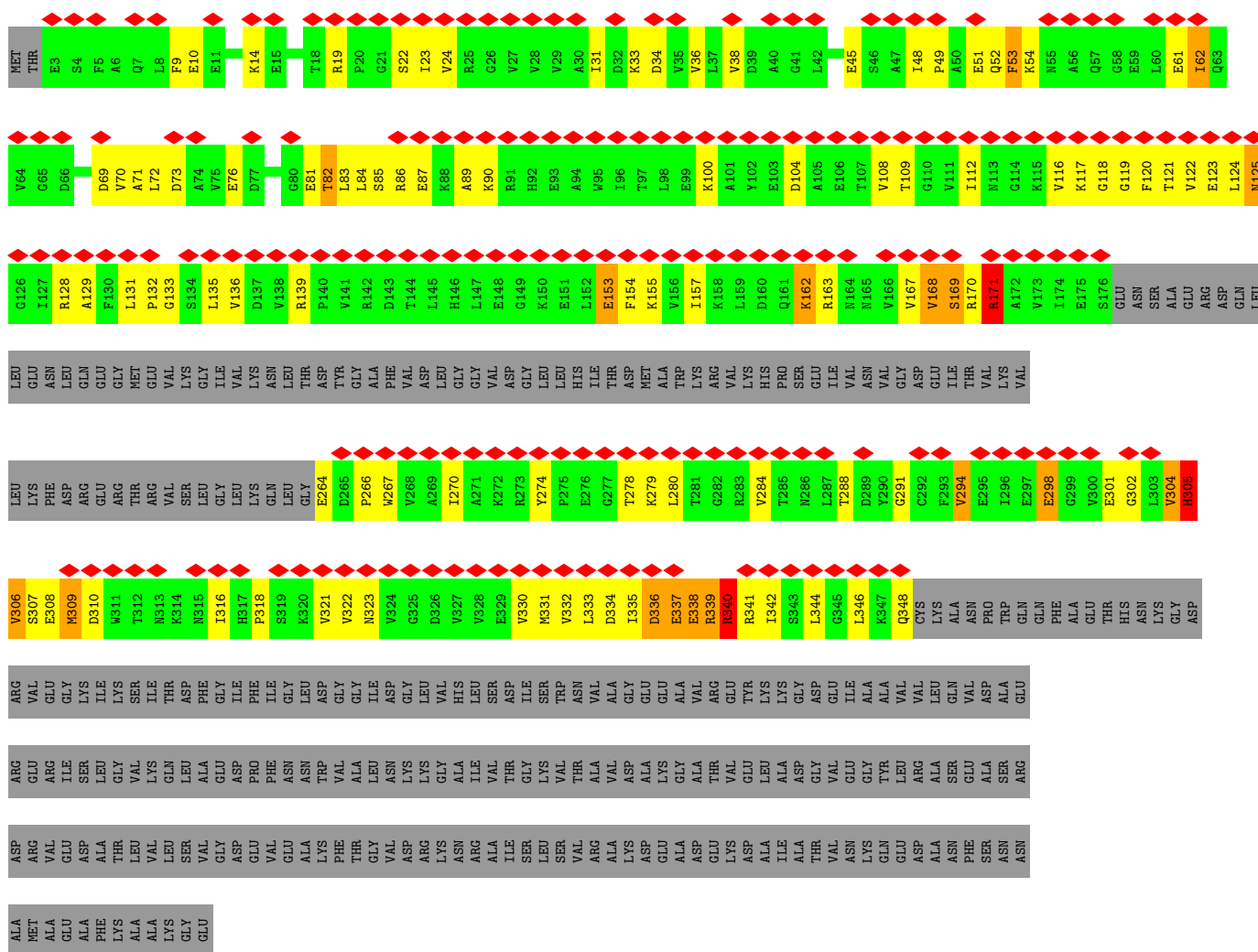


- Molecule 20: 30S ribosomal protein S2

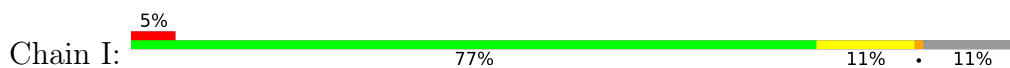


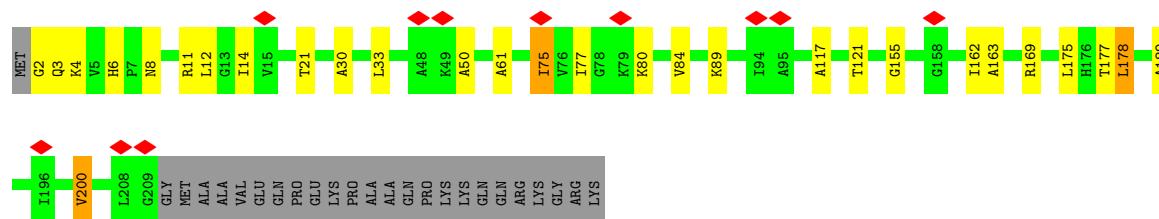


• Molecule 21: 30S ribosomal protein S1

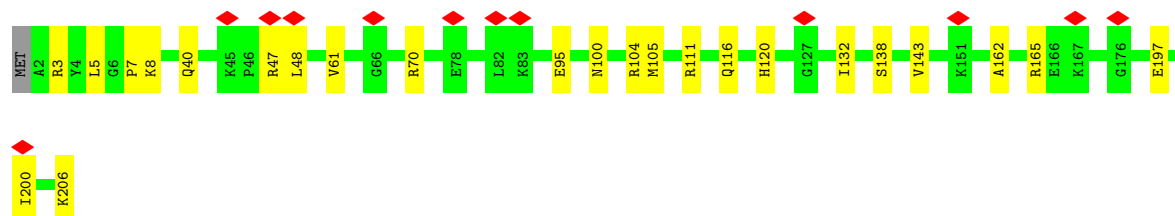
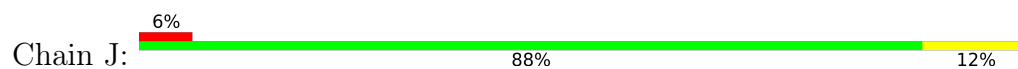


• Molecule 22: 30S ribosomal protein S3

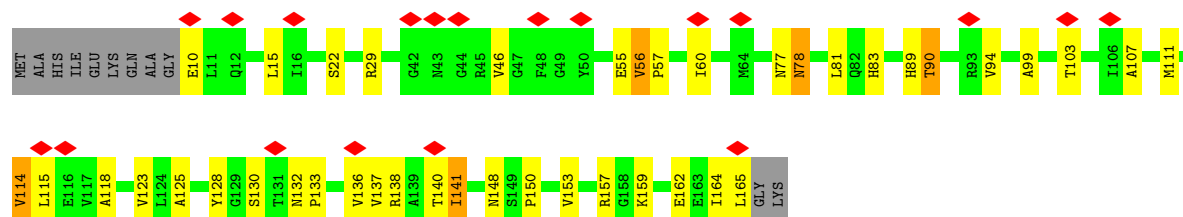




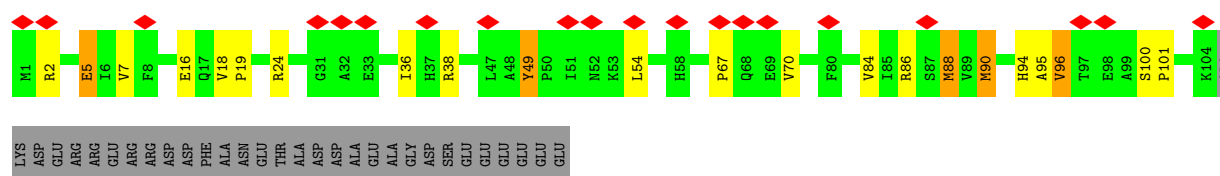
- Molecule 23: 30S ribosomal protein S4



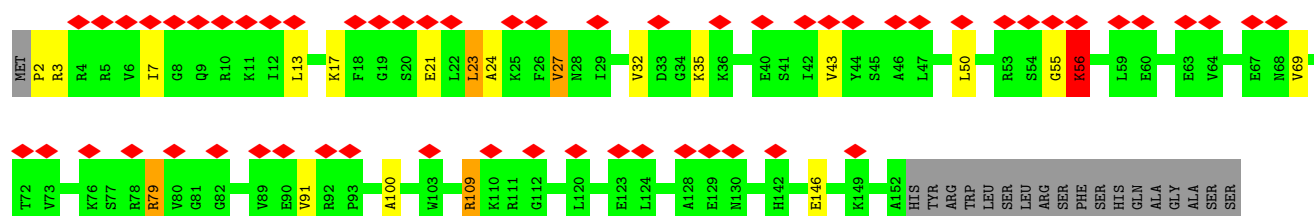
- Molecule 24: 30S ribosomal protein S5



- Molecule 25: 30S ribosomal protein S6

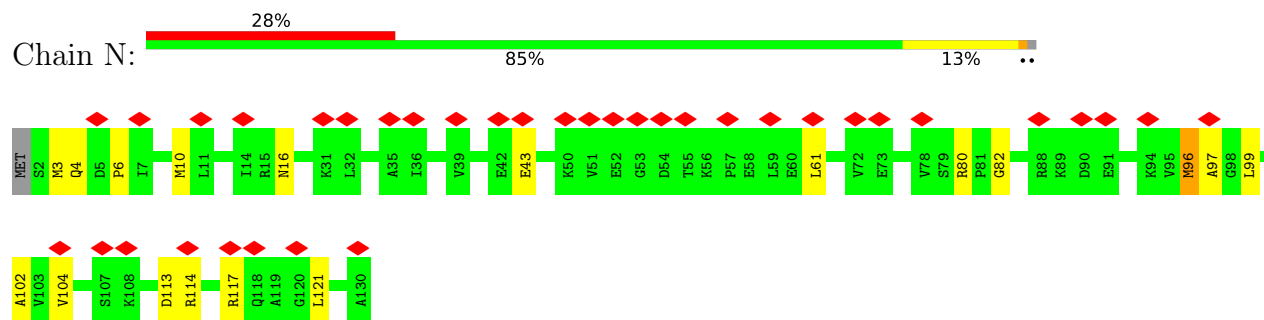


- Molecule 26: 30S ribosomal protein S7

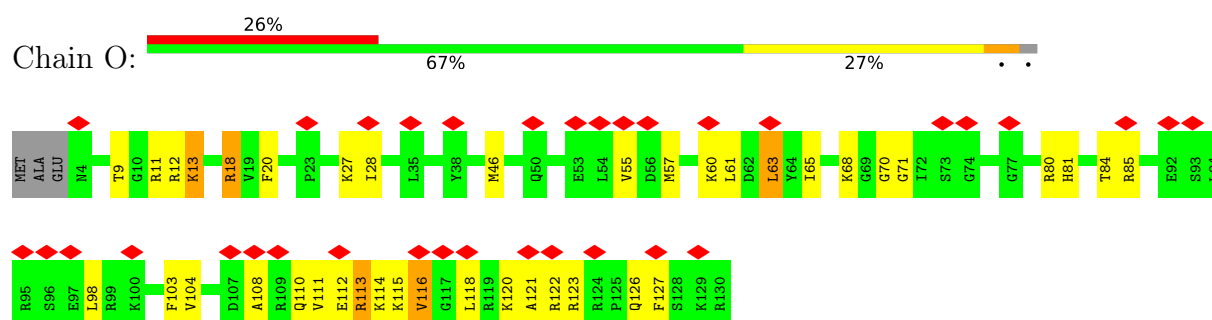


LYS
GLN
PRO
ALA
LEU
GLY
TYR
LEU
ASN

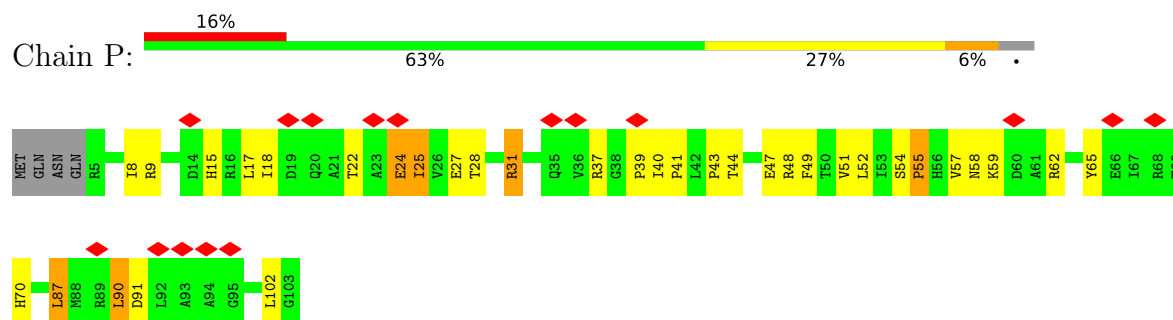
• Molecule 27: 30S ribosomal protein S8



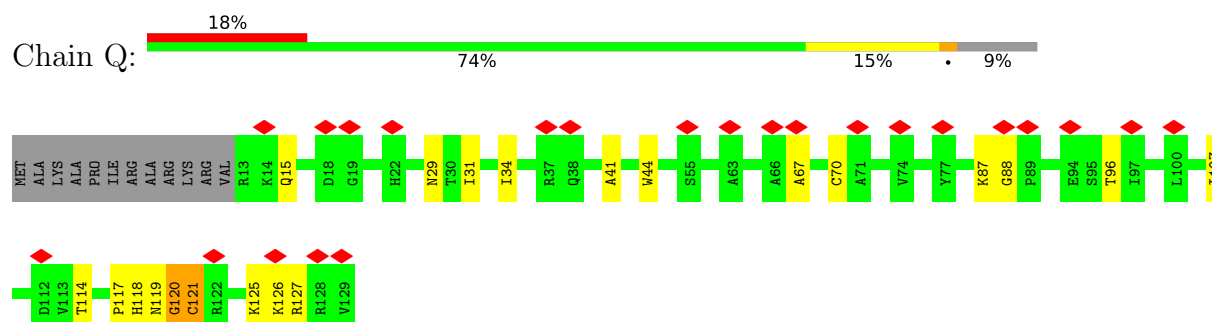
• Molecule 28: 30S ribosomal protein S9



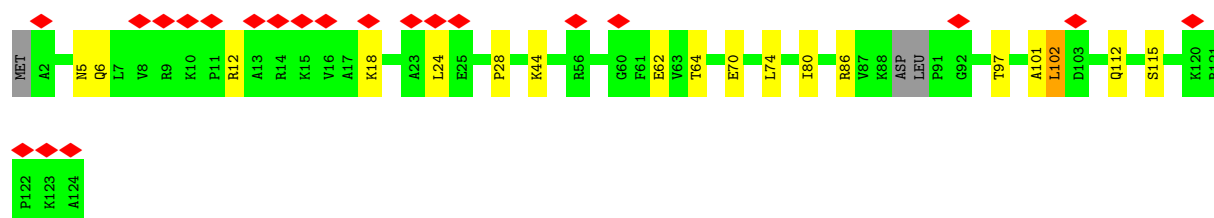
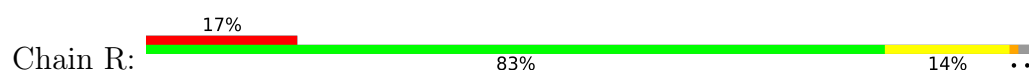
• Molecule 29: 30S ribosomal protein S10



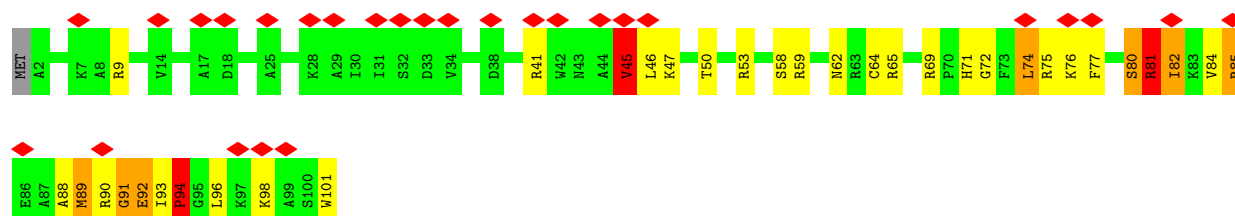
• Molecule 30: 30S ribosomal protein S11



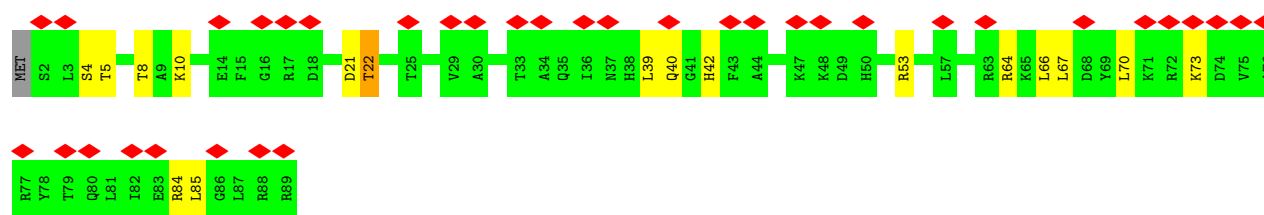
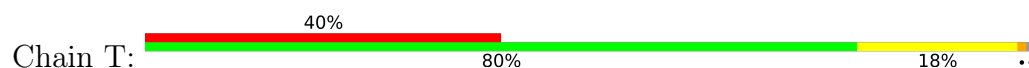
• Molecule 31: 30S ribosomal protein S12



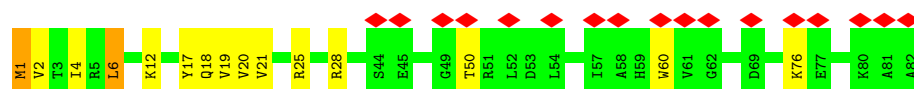
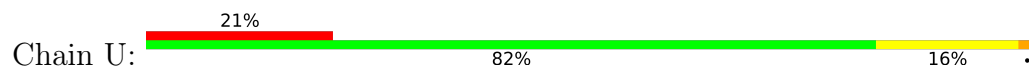
- Molecule 32: 30S ribosomal protein S14



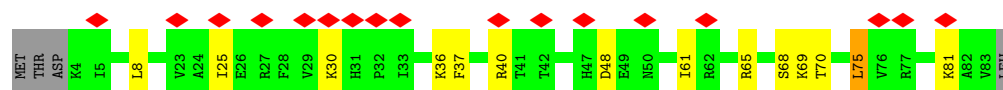
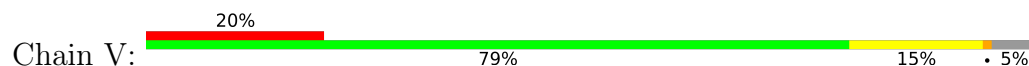
- Molecule 33: 30S ribosomal protein S15



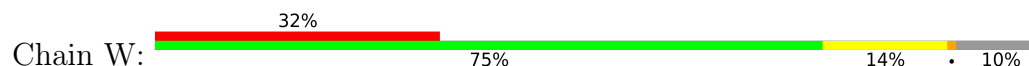
- Molecule 34: 30S ribosomal protein S16

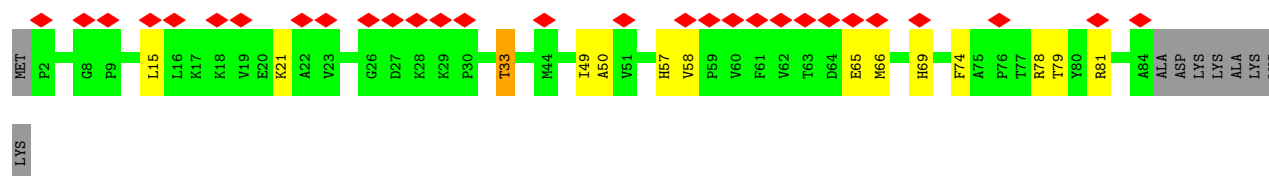


- Molecule 35: 30S ribosomal protein S17

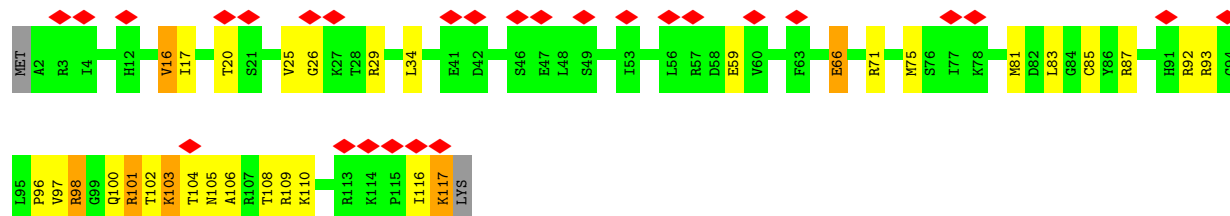


- Molecule 36: 30S ribosomal protein S19

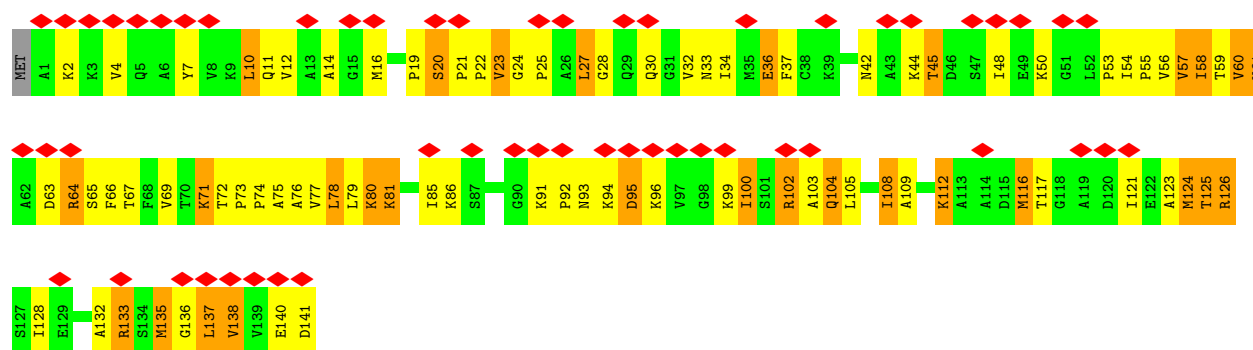




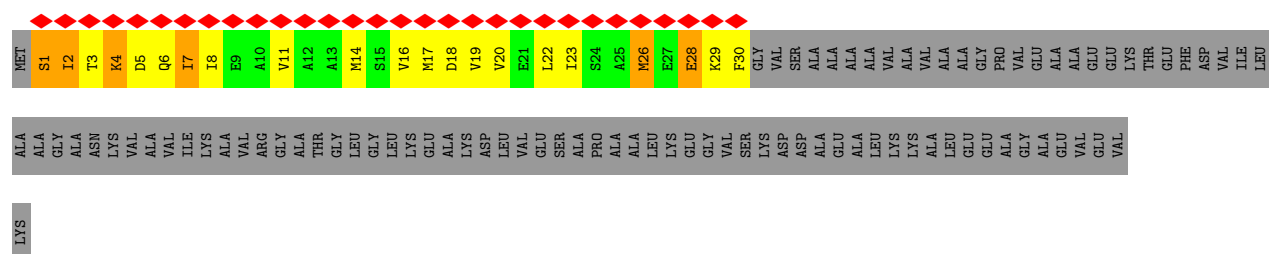
• Molecule 37: 30S ribosomal protein S13



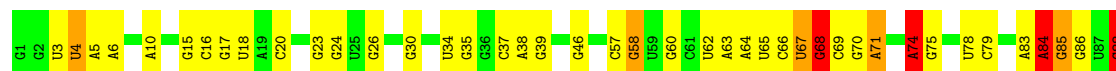
• Molecule 38: 50S ribosomal protein L11

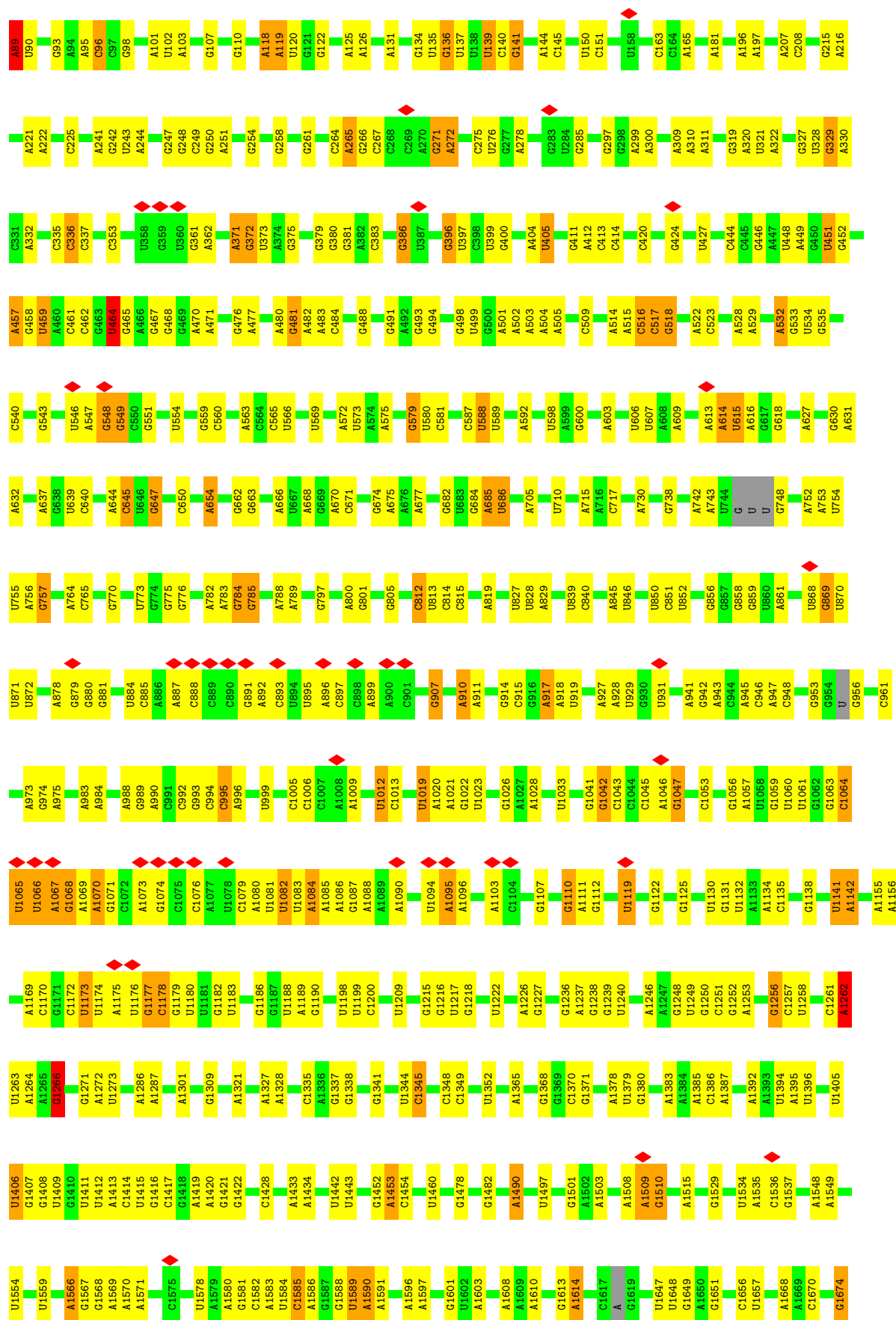


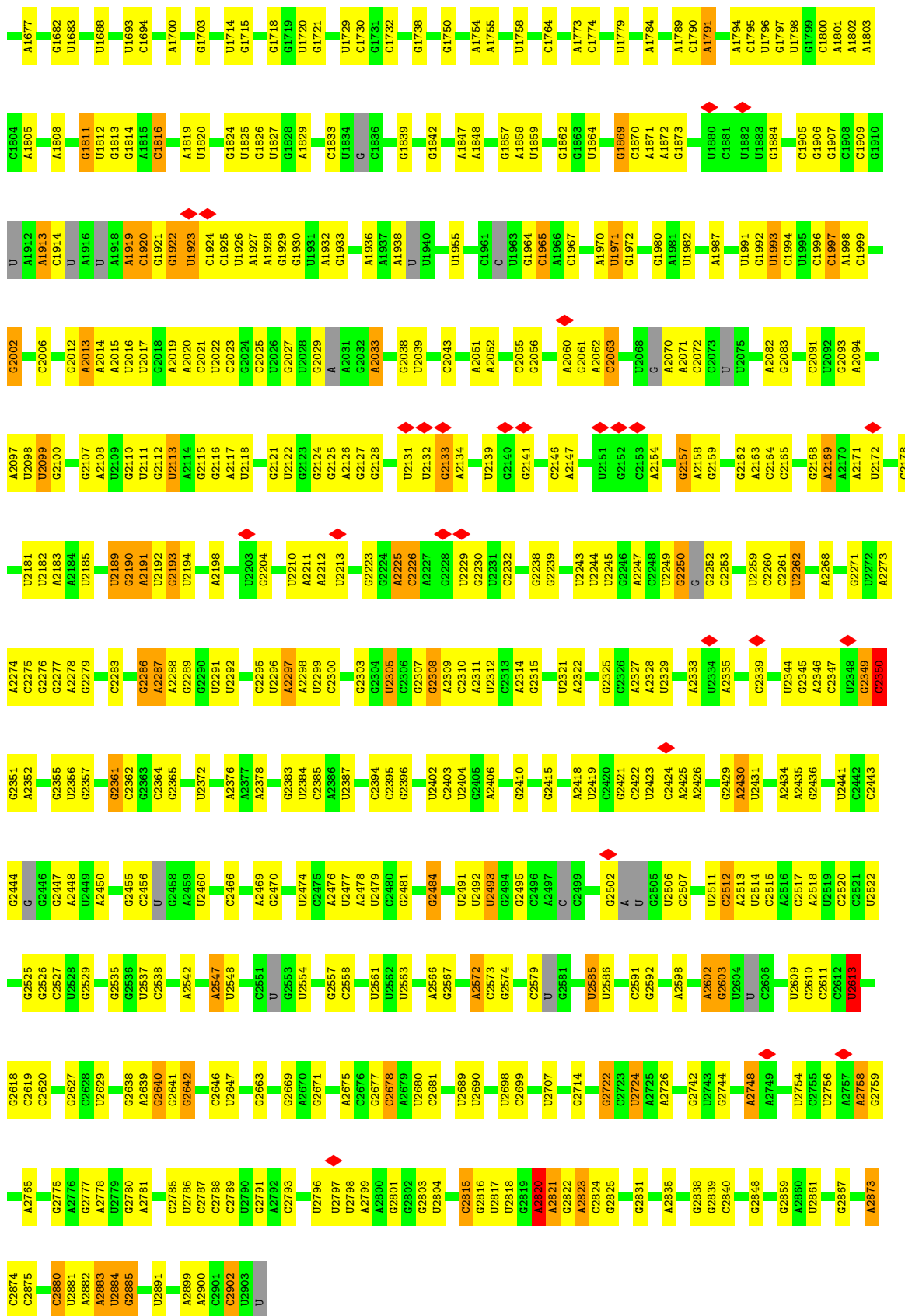
• Molecule 39: 50S ribosomal protein L7/L12

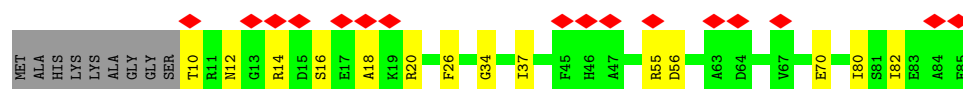
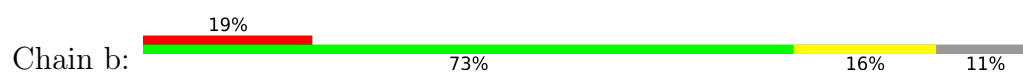


• Molecule 40: 23S rRNA

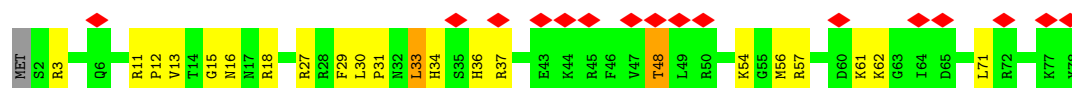








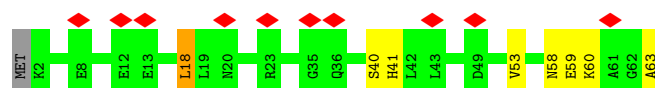
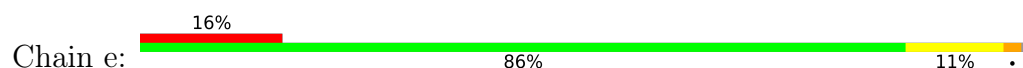
- Molecule 42: 50S ribosomal protein L28



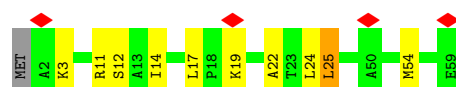
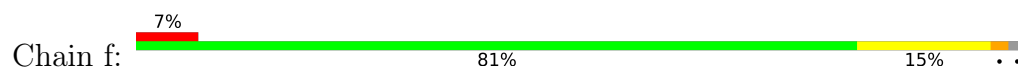
- Molecule 43: 5S rRNA



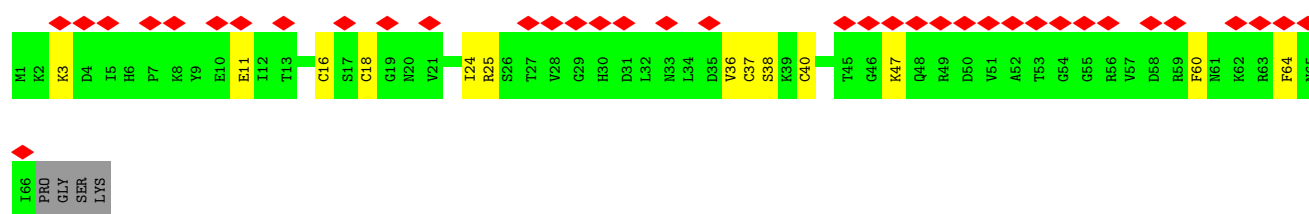
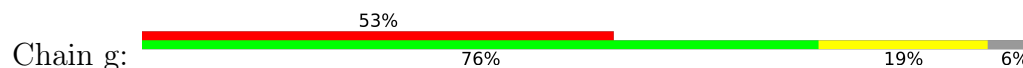
- Molecule 44: 50S ribosomal protein L29



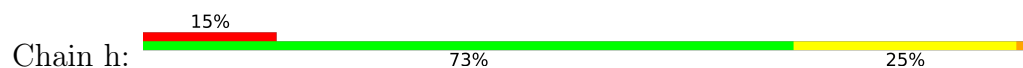
- Molecule 45: 50S ribosomal protein L30

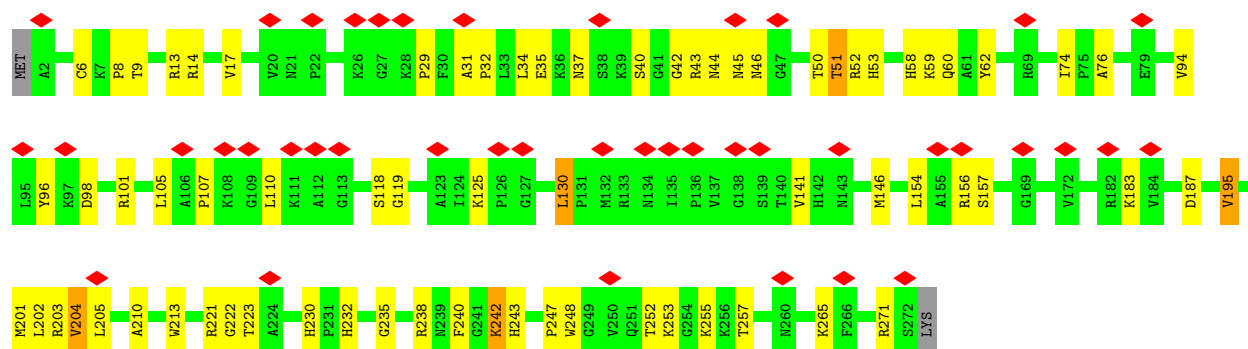


- Molecule 46: 50S ribosomal protein L31

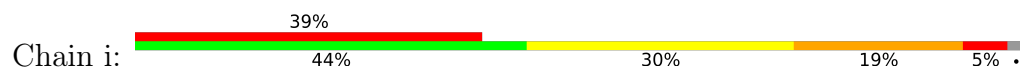


- Molecule 47: 50S ribosomal protein L2

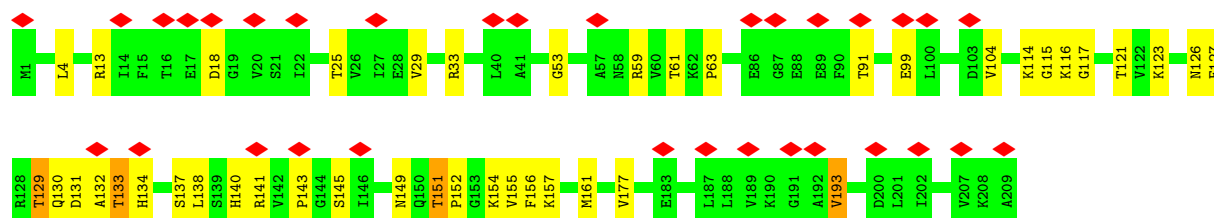
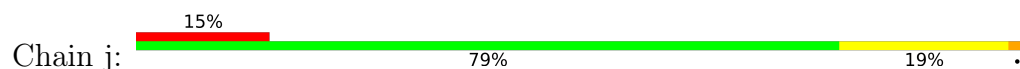




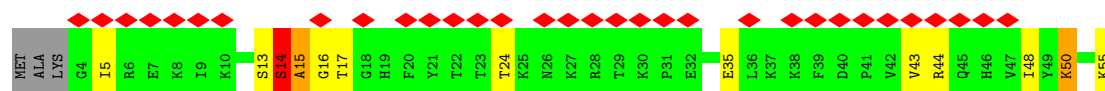
• Molecule 48: 50S ribosomal protein L32



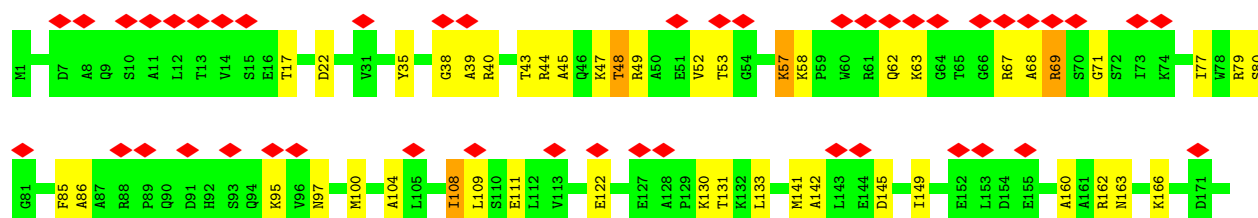
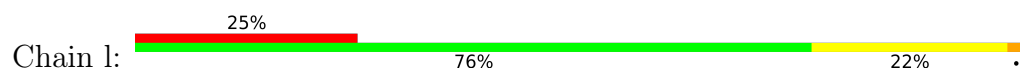
• Molecule 49: 50S ribosomal protein L3

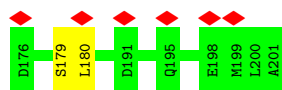


• Molecule 50: 50S ribosomal protein L33

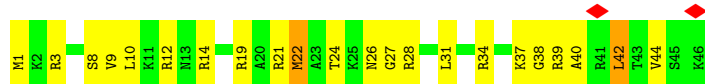


• Molecule 51: 50S ribosomal protein L4

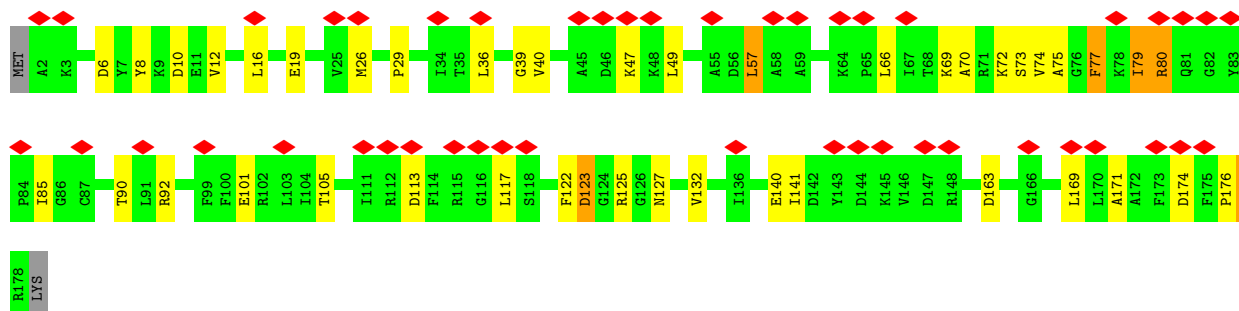
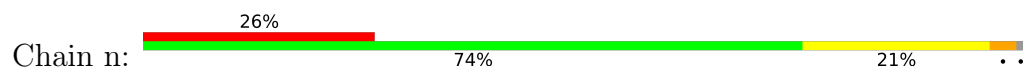




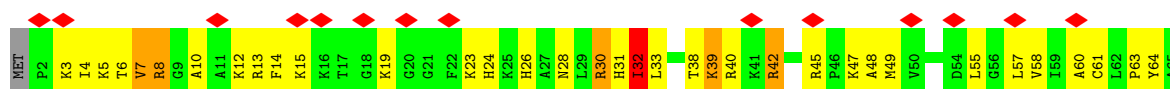
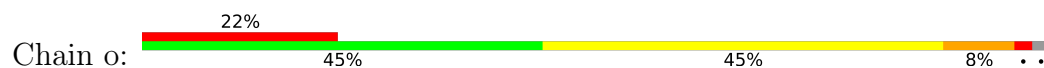
- Molecule 52: 50S ribosomal protein L34



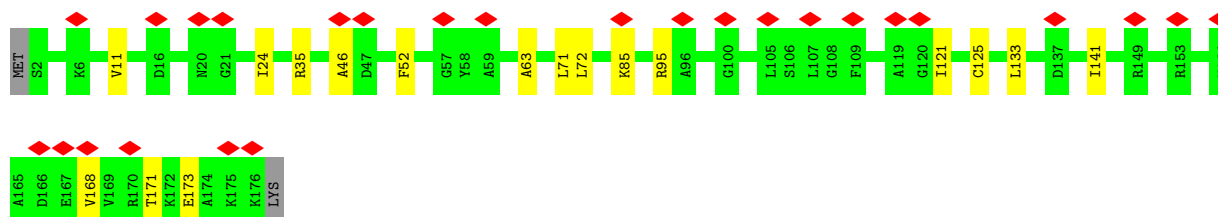
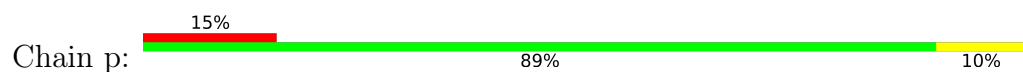
- Molecule 53: 50S ribosomal protein L5



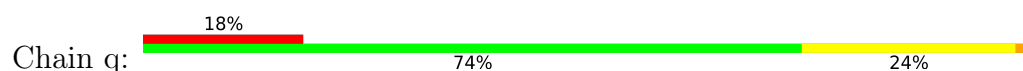
- Molecule 54: 50S ribosomal protein L35

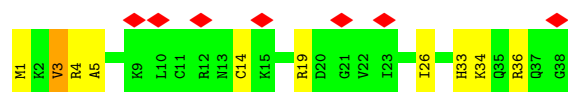


- Molecule 55: 50S ribosomal protein L6

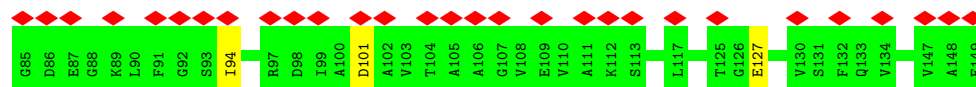
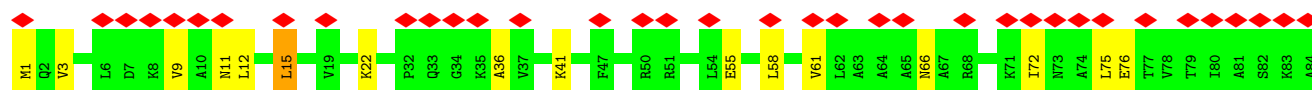
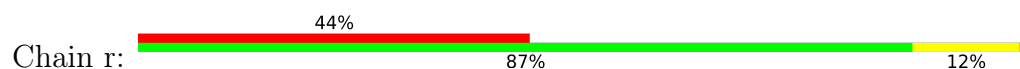


- Molecule 56: 50S ribosomal protein L36

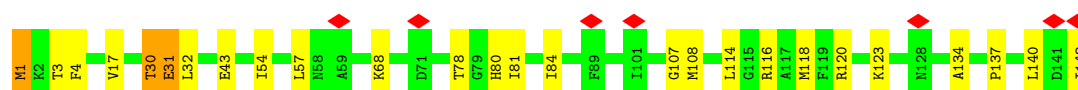
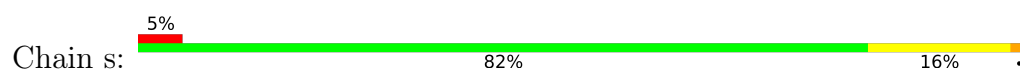




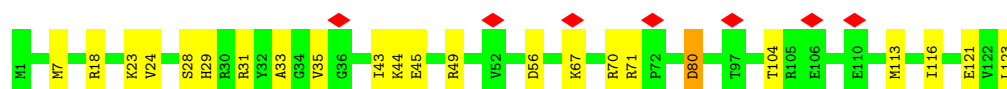
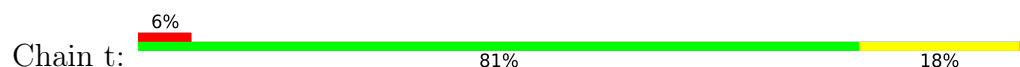
- Molecule 57: 50S ribosomal protein L9



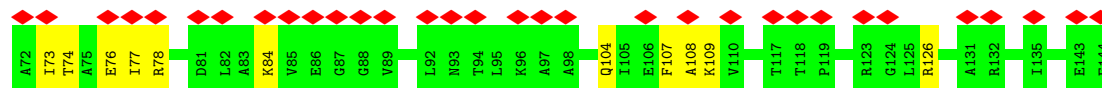
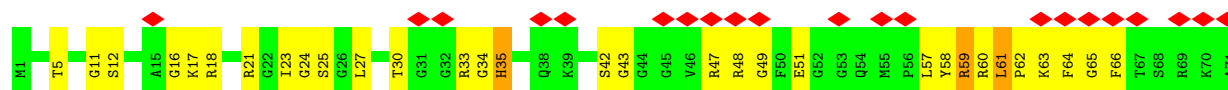
- Molecule 58: 50S ribosomal protein L13



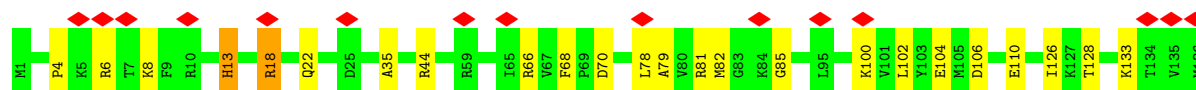
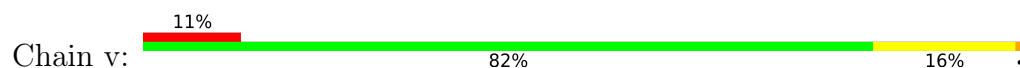
- Molecule 59: 50S ribosomal protein L14



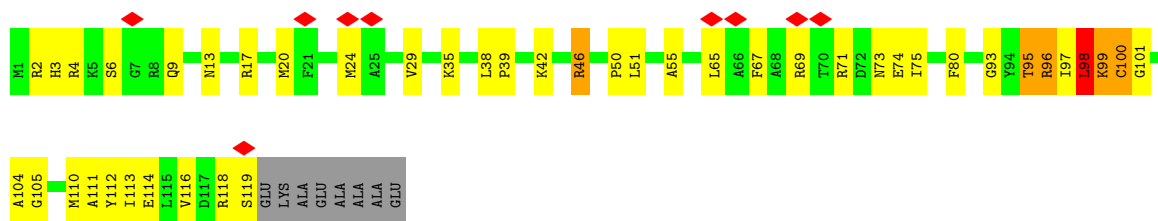
- Molecule 60: 50S ribosomal protein L15



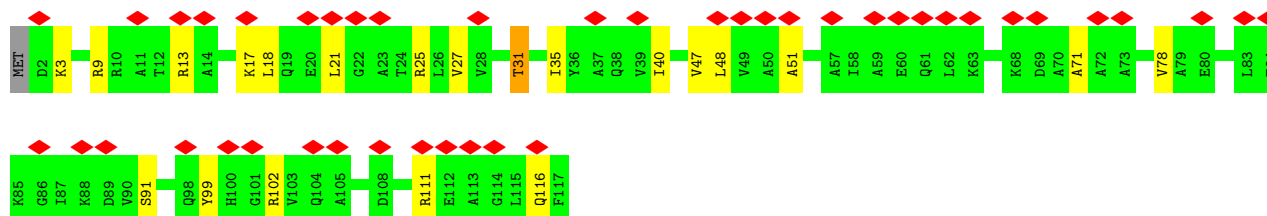
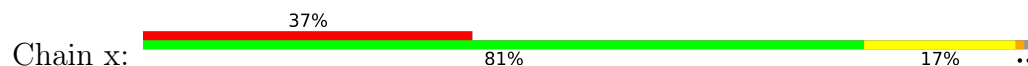
- Molecule 61: 50S ribosomal protein L16



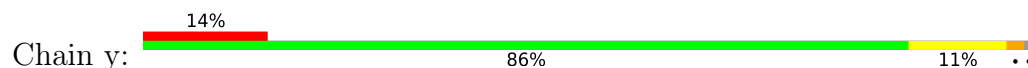
- Molecule 62: 50S ribosomal protein L17



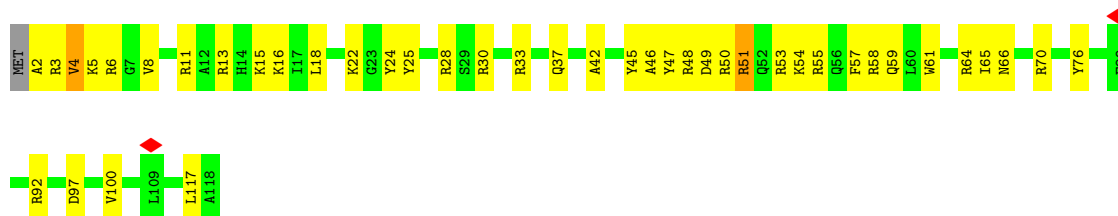
• Molecule 63: 50S ribosomal protein L18



• Molecule 64: 50S ribosomal protein L19



• Molecule 65: 50S ribosomal protein L20



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	6121	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 ($e^-/\text{\AA}^2$)	45	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.030	Depositor
Minimum map value	-0.046	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.00561	Depositor
Map size (Å)	532.48, 532.48, 532.48	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.38	0/829	0.62	1/1107 (0.1%)
2	1	0.79	2/864 (0.2%)	0.86	5/1156 (0.4%)
3	2	0.41	0/752	0.54	0/1005
4	3	0.47	0/796	0.78	0/1062
5	4	0.31	0/766	0.53	0/1025
6	5	0.63	1/528 (0.2%)	0.55	0/810
7	6	0.55	1/603 (0.2%)	0.56	0/926
8	7	0.48	1/783 (0.1%)	0.75	2/1212 (0.2%)
9	9	0.43	0/1131	0.88	2/1524 (0.1%)
10	A	0.94	10/1810 (0.6%)	0.94	16/2821 (0.6%)
10	B	0.94	10/1810 (0.6%)	0.94	16/2821 (0.6%)
11	AA	0.39	0/10736	0.64	0/14487
12	AB	1.01	3/1421 (0.2%)	1.19	6/1914 (0.3%)
13	AC	0.37	0/1718	0.61	0/2328
13	AD	0.31	0/1696	0.60	0/2298
14	AE	0.38	0/10561	0.63	5/14258 (0.0%)
15	AF	0.29	0/652	0.61	0/879
16	C	1.35	8/553 (1.4%)	1.21	8/743 (1.1%)
17	D	0.36	5/36610 (0.0%)	0.50	21/57091 (0.0%)
18	E	0.72	1/675 (0.1%)	0.73	0/895
19	F	0.42	0/597	0.61	0/792
20	G	0.38	0/1791	0.55	0/2413
21	H	0.56	1/1746 (0.1%)	1.08	9/2382 (0.4%)
22	I	0.32	0/1663	0.53	0/2241
23	J	0.34	0/1665	0.50	0/2227
24	K	0.93	7/1165 (0.6%)	0.96	10/1568 (0.6%)
25	L	0.55	1/867 (0.1%)	0.71	3/1171 (0.3%)
26	M	0.39	0/1195	0.63	0/1602
27	N	0.36	0/989	0.51	0/1326
28	O	0.59	1/1034 (0.1%)	0.81	5/1375 (0.4%)
29	P	0.85	3/800 (0.4%)	1.27	7/1082 (0.6%)
30	Q	0.42	0/893	0.61	2/1205 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	R	0.32	0/952	0.57	2/1274 (0.2%)
32	S	0.78	1/817 (0.1%)	1.45	18/1088 (1.7%)
33	T	0.45	0/722	0.60	0/964
34	U	0.34	0/659	0.58	0/884
35	V	0.28	0/657	0.50	0/881
36	W	0.51	0/680	0.85	0/915
37	X	0.50	1/909 (0.1%)	0.77	3/1215 (0.2%)
38	Y	0.25	0/1046	0.60	0/1410
39	Z	0.21	0/227	0.54	0/304
40	a	0.52	60/69247 (0.1%)	0.59	119/107985 (0.1%)
41	b	0.43	0/589	0.56	0/779
42	c	0.48	0/635	0.62	0/848
43	d	0.36	1/2872 (0.0%)	0.47	2/4478 (0.0%)
44	e	0.44	0/502	0.57	0/667
45	f	0.41	0/452	0.57	0/605
46	g	0.39	0/531	0.56	0/709
47	h	0.39	0/2121	0.55	0/2852
48	i	2.24	21/450 (4.7%)	2.46	32/599 (5.3%)
49	j	0.52	1/1586 (0.1%)	0.62	1/2134 (0.0%)
50	k	0.67	2/433 (0.5%)	0.99	7/576 (1.2%)
51	l	0.45	0/1571	0.58	0/2113
52	m	0.68	0/380	1.22	0/498
53	n	0.43	1/1434 (0.1%)	0.71	1/1926 (0.1%)
54	o	0.95	2/513 (0.4%)	0.91	3/676 (0.4%)
55	p	0.27	0/1333	0.56	2/1805 (0.1%)
56	q	0.46	0/303	0.62	0/397
57	r	0.29	0/1122	0.56	0/1515
58	s	0.41	0/1152	0.58	0/1551
59	t	0.34	0/955	0.52	0/1279
60	u	0.49	0/1062	0.69	1/1413 (0.1%)
61	v	0.38	0/1093	0.58	0/1460
62	w	0.89	8/964 (0.8%)	1.27	19/1289 (1.5%)
63	x	0.35	0/902	0.57	0/1209
64	y	0.33	0/929	0.58	2/1242 (0.2%)
65	z	0.56	0/960	0.74	1/1278 (0.1%)
All	All	0.50	153/190459 (0.1%)	0.64	331/280564 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	9	0	3
10	A	0	2
10	B	0	2
11	AA	0	1
12	AB	0	1
13	AC	0	1
13	AD	0	1
14	AE	0	4
17	D	0	1
21	H	0	5
24	K	0	2
26	M	0	1
28	O	0	1
31	R	0	1
40	a	0	3
48	i	0	1
50	k	0	1
53	n	0	1
60	u	0	1
62	w	0	1
All	All	0	34

All (153) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	a	1262	A	N1-C2	47.15	2.28	1.34
40	a	88	G	N9-C8	25.18	1.88	1.37
40	a	88	G	C5'-C4'	20.59	1.82	1.51
40	a	88	G	N7-C5	19.46	1.78	1.39
40	a	88	G	C8-N7	19.24	1.69	1.30
12	AB	45	PRO	N-CA	18.18	1.70	1.47
40	a	88	G	N9-C4	18.00	1.74	1.38
24	K	56	VAL	CA-C	-17.90	1.34	1.52
10	B	37	A	C6-N1	-15.71	1.04	1.35
10	A	37	A	C6-N1	-15.68	1.04	1.35
16	C	44	ILE	CB-CG2	-15.59	1.01	1.52
48	i	41	HIS	CA-CB	14.01	1.77	1.53
40	a	789	A	C1'-N9	13.50	1.67	1.47
48	i	5	GLN	N-CA	13.48	1.64	1.46
40	a	1262	A	C5-C6	13.29	1.67	1.41
24	K	55	GLU	CA-C	13.07	1.68	1.52
40	a	1262	A	C5-C4	13.04	1.64	1.38
29	P	55	PRO	N-CA	12.59	1.64	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	A	37	A	C5-C6	-12.58	1.15	1.41
10	B	37	A	C5-C6	-12.52	1.16	1.41
40	a	88	G	C3'-O3'	-12.42	1.23	1.42
40	a	789	A	N9-C8	12.29	1.62	1.37
48	i	4	GLN	CD-NE2	11.96	1.58	1.33
40	a	89	A	C5'-C4'	-11.87	1.33	1.51
40	a	68	G	P-O5'	11.46	1.76	1.59
2	1	39	THR	CB-CG2	-11.39	1.15	1.52
29	P	54	SER	C-N	10.93	1.48	1.34
40	a	68	G	O5'-C5'	10.92	1.58	1.42
40	a	88	G	C5-C4	10.66	1.59	1.38
16	C	40	VAL	CB-CG1	10.66	1.87	1.52
48	i	50	ARG	CZ-NH2	-10.59	1.19	1.33
16	C	24	LYS	CE-NZ	-10.46	1.18	1.49
40	a	1262	A	C6-N1	10.32	1.56	1.35
40	a	88	G	C2'-C1'	-10.29	1.38	1.53
40	a	88	G	C4'-C3'	-10.26	1.37	1.52
62	w	96	ARG	CG-CD	10.18	1.82	1.52
48	i	4	GLN	C-N	9.95	1.47	1.33
24	K	56	VAL	CB-CG2	9.83	1.84	1.52
40	a	518	G	O5'-C5'	9.79	1.57	1.42
48	i	13	ARG	CD-NE	9.48	1.59	1.46
48	i	13	ARG	NE-CZ	9.29	1.43	1.33
48	i	13	ARG	CZ-NH1	9.12	1.45	1.32
25	L	5	GLU	CB-CG	-8.45	1.27	1.52
16	C	40	VAL	CB-CG2	8.43	1.80	1.52
40	a	67	U	C3'-O3'	8.35	1.54	1.42
48	i	26	THR	CB-CG2	-8.30	1.25	1.52
48	i	41	HIS	CB-CG	8.16	1.61	1.50
62	w	99	LYS	C-N	8.02	1.44	1.33
40	a	1262	A	C2-N3	8.00	1.49	1.33
48	i	50	ARG	CB-CG	-7.97	1.28	1.52
48	i	41	HIS	N-CA	7.85	1.56	1.46
40	a	336	C	N1-C2	7.83	1.55	1.40
17	D	958	A	C6-N6	-7.83	1.18	1.33
48	i	7	LYS	CG-CD	7.81	1.75	1.52
10	B	37	A	N1-C2	-7.69	1.19	1.34
10	A	37	A	N1-C2	-7.66	1.19	1.34
54	o	39	LYS	CD-CE	-7.62	1.29	1.52
21	H	298	GLU	CB-CG	-7.61	1.29	1.52
62	w	99	LYS	N-CA	7.60	1.55	1.46
40	a	1262	A	C5'-C4'	7.56	1.62	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	K	56	VAL	CA-CB	7.53	1.63	1.54
8	7	19	G	C1'-N9	-7.49	1.36	1.48
10	B	37	A	C1'-N9	-7.45	1.36	1.48
48	i	7	LYS	CD-CE	7.42	1.74	1.52
10	A	37	A	C1'-N9	-7.42	1.36	1.48
40	a	89	A	O4'-C1'	-7.40	1.30	1.41
10	A	37	A	N9-C8	7.34	1.52	1.37
10	B	37	A	N9-C8	7.31	1.52	1.37
40	a	518	G	P-O5'	7.26	1.70	1.59
40	a	67	U	O3'-P	7.24	1.72	1.61
40	a	789	A	N7-C5	-7.15	1.25	1.39
49	j	133	THR	CB-CG2	-7.08	1.29	1.52
12	AB	169	THR	C-N	7.03	1.50	1.33
6	5	109	DT	O3'-P	7.00	1.71	1.61
40	a	1262	A	N3-C4	6.99	1.48	1.34
2	1	15	GLN	CG-CD	-6.94	1.34	1.52
40	a	88	G	C4'-O4'	6.93	1.55	1.45
10	A	37	A	C8-N7	-6.91	1.17	1.31
10	B	37	A	C8-N7	-6.90	1.17	1.31
24	K	56	VAL	CB-CG1	-6.88	1.29	1.52
40	a	516	C	O3'-P	6.87	1.71	1.61
40	a	89	A	C3'-C2'	-6.86	1.42	1.52
40	a	2493	U	C5'-C4'	-6.84	1.41	1.51
40	a	2493	U	C3'-C2'	6.84	1.63	1.52
40	a	89	A	C5-C6	6.79	1.54	1.41
17	D	958	A	C5-C4	-6.69	1.25	1.38
37	X	98	ARG	CZ-NH2	-6.68	1.24	1.33
40	a	89	A	C5-C4	-6.62	1.25	1.38
48	i	8	PRO	CB-CG	-6.49	1.17	1.49
40	a	74	A	N9-C8	-6.37	1.25	1.37
40	a	1262	A	C2'-C1'	6.32	1.62	1.53
40	a	2493	U	N1-C6	-6.27	1.25	1.38
62	w	98	LEU	CB-CG	-6.27	1.41	1.53
24	K	55	GLU	CA-CB	-6.25	1.38	1.54
40	a	1262	A	C1'-N9	6.25	1.57	1.48
16	C	23	TYR	CD2-CE2	-6.24	1.20	1.38
10	B	76	A	N9-C8	-6.23	1.25	1.37
62	w	100	CYS	N-CA	6.22	1.57	1.46
10	A	76	A	N9-C8	-6.22	1.25	1.37
10	B	76	A	C1'-N9	-6.21	1.38	1.48
10	A	76	A	C1'-N9	-6.19	1.38	1.48
40	a	789	A	C2'-C1'	6.19	1.62	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	a	336	C	C2-N3	-6.17	1.23	1.35
40	a	89	A	N1-C2	-6.04	1.22	1.34
53	n	77	PHE	CA-CB	-6.03	1.44	1.53
24	K	56	VAL	C-O	-6.02	1.16	1.24
16	C	44	ILE	N-CA	-5.99	1.39	1.46
40	a	89	A	P-OP1	5.92	1.60	1.49
29	P	55	PRO	N-CD	5.91	1.56	1.47
40	a	917	A	C2-N3	-5.89	1.21	1.33
32	S	93	ILE	N-CA	5.87	1.51	1.46
40	a	516	C	C3'-O3'	5.87	1.50	1.42
16	C	24	LYS	CG-CD	-5.87	1.34	1.52
40	a	89	A	C4'-C3'	-5.86	1.43	1.52
40	a	89	A	P-O5'	5.77	1.68	1.59
48	i	22	LEU	CG-CD1	5.76	1.71	1.52
17	D	1493	A	N1-C2	-5.73	1.22	1.34
40	a	517	C	O3'-P	-5.70	1.52	1.61
18	E	9	LYS	CE-NZ	-5.67	1.32	1.49
54	o	7	VAL	CB-CG1	-5.65	1.33	1.52
40	a	68	G	O4'-C1'	-5.61	1.33	1.41
40	a	1262	A	C4'-O4'	5.60	1.53	1.45
48	i	40	ARG	C-N	5.55	1.41	1.33
40	a	2493	U	C4'-O4'	5.55	1.53	1.45
48	i	13	ARG	CZ-NH2	-5.53	1.26	1.33
10	A	31	G	C6-O6	5.52	1.35	1.24
10	B	31	G	C6-O6	5.50	1.35	1.24
40	a	789	A	C5-C6	-5.50	1.30	1.41
48	i	7	LYS	CE-NZ	-5.49	1.32	1.49
40	a	1262	A	C6-N6	5.48	1.45	1.33
62	w	96	ARG	CB-CG	5.45	1.68	1.52
48	i	5	GLN	CA-C	5.42	1.60	1.52
48	i	5	GLN	CA-CB	-5.38	1.44	1.53
40	a	1262	A	C8-N7	5.38	1.42	1.31
7	6	10	DG	C1'-N9	-5.37	1.35	1.46
40	a	68	G	C1'-N9	-5.36	1.40	1.48
10	B	39	C	N1-C2	5.32	1.50	1.40
40	a	2493	U	C2'-C1'	5.30	1.61	1.53
40	a	2286	G	C6-N1	-5.28	1.28	1.39
10	A	39	C	N1-C2	5.27	1.50	1.40
43	d	80	U	C2'-O2'	-5.24	1.34	1.42
40	a	68	G	N9-C4	-5.24	1.27	1.38
62	w	100	CYS	CA-CB	5.18	1.60	1.53
50	k	13	SER	CA-C	-5.16	1.46	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	k	50	LYS	CE-NZ	-5.15	1.33	1.49
17	D	958	A	N1-C2	-5.15	1.24	1.34
17	D	958	A	C6-N1	-5.15	1.25	1.35
16	C	10	PHE	CD2-CE2	-5.14	1.23	1.38
12	AB	44	VAL	C-N	5.14	1.45	1.33
62	w	98	LEU	C-N	5.07	1.40	1.33
28	O	18	ARG	CD-NE	-5.04	1.39	1.46
40	a	459	U	O3'-P	5.02	1.68	1.61
40	a	2493	U	P-O5'	-5.01	1.52	1.59

All (331) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	a	336	C	N3-C2-O2	-20.46	60.51	121.90
62	w	96	ARG	NE-CZ-NH2	19.75	136.98	119.20
29	P	54	SER	CA-C-N	18.65	138.37	118.97
29	P	54	SER	C-N-CA	18.65	138.37	118.97
48	i	13	ARG	NE-CZ-NH1	16.78	138.28	121.50
48	i	4	GLN	O-C-N	-16.55	102.10	122.96
40	a	88	G	P-O3'-C3'	-16.17	95.95	120.20
12	AB	44	VAL	CA-C-N	15.88	139.69	119.84
12	AB	44	VAL	C-N-CA	15.88	139.69	119.84
12	AB	169	THR	CA-C-N	14.81	138.35	119.84
12	AB	169	THR	C-N-CA	14.81	138.35	119.84
40	a	88	G	OP1-P-O3'	-14.79	63.63	108.00
40	a	89	A	O5'-C5'-C4'	14.06	132.59	111.50
40	a	1262	A	N3-C4-N9	-13.19	87.83	127.40
16	C	40	VAL	CG1-CB-CG2	13.13	139.70	110.80
29	P	55	PRO	CA-N-CD	-13.12	93.64	112.00
48	i	50	ARG	CG-CD-NE	12.72	139.98	112.00
40	a	88	G	C5'-C4'-C3'	12.47	134.71	116.00
40	a	2493	U	O5'-C5'-C4'	-12.19	93.22	111.50
24	K	78	ASN	N-CA-CB	-12.14	89.98	110.49
40	a	89	A	C5'-C4'-C3'	-11.97	98.04	116.00
24	K	55	GLU	CA-C-O	11.47	134.53	121.11
48	i	50	ARG	NE-CZ-NH1	11.44	132.94	121.50
40	a	336	C	N1-C2-O2	11.44	153.22	118.90
40	a	518	G	OP1-P-OP2	-11.38	85.45	119.60
48	i	41	HIS	CA-CB-CG	11.28	125.08	113.80
48	i	13	ARG	NH1-CZ-NH2	-11.18	104.77	119.30
40	a	516	C	P-O3'-C3'	11.08	136.82	120.20
17	D	1348	U	OP1-P-O3'	-11.01	74.96	108.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	P	55	PRO	N-CA-CB	11.00	115.00	103.23
40	a	86	G	O5'-P-OP2	-10.97	75.08	108.00
28	O	113	ARG	NE-CZ-NH1	10.92	132.42	121.50
40	a	518	G	O5'-P-OP1	10.88	140.64	108.00
48	i	5	GLN	N-CA-C	10.73	125.63	112.54
48	i	13	ARG	CD-NE-CZ	10.66	139.33	124.40
17	D	958	A	C5-C6-N1	10.35	148.75	117.70
40	a	89	A	C5'-C4'-O4'	-10.32	94.33	109.80
48	i	40	ARG	CA-C-N	10.23	141.07	121.54
48	i	40	ARG	C-N-CA	10.23	141.07	121.54
62	w	96	ARG	NE-CZ-NH1	-10.21	111.29	121.50
16	C	66	SER	CA-CB-OG	-9.92	91.27	111.10
62	w	96	ARG	CB-CG-CD	9.88	134.02	111.30
17	D	958	A	C5-C6-N6	-9.84	94.18	123.70
40	a	789	A	C8-N9-C4	-9.82	76.33	105.80
40	a	518	G	P-O5'-C5'	9.79	135.58	120.90
24	K	55	GLU	N-CA-C	-9.51	94.48	109.50
21	H	169	SER	N-CA-C	9.47	123.82	109.62
40	a	89	A	N9-C1'-C2'	9.39	126.09	112.00
40	a	789	A	N9-C1'-C2'	9.38	128.07	114.00
17	D	1013	G	OP1-P-O3'	9.30	135.91	108.00
40	a	1262	A	N9-C4-C5	9.21	133.41	105.80
48	i	41	HIS	N-CA-CB	9.19	126.03	110.49
48	i	4	GLN	N-CA-C	9.12	122.99	109.59
53	n	177	PHE	N-CA-CB	-9.12	95.08	110.49
40	a	68	G	O5'-C5'-C4'	9.10	125.15	111.50
17	D	102	G	O5'-P-OP2	-9.01	80.98	108.00
40	a	789	A	N7-C8-N9	8.99	140.77	113.80
10	A	37	A	N1-C6-N6	-8.93	91.82	118.60
10	B	37	A	N1-C6-N6	-8.89	91.92	118.60
40	a	2493	U	O4'-C1'-N1	8.89	121.84	108.50
1	0	78	ARG	NE-CZ-NH1	-8.87	112.63	121.50
62	w	99	LYS	CA-C-O	-8.85	111.46	121.19
40	a	336	C	N1-C2-N3	8.76	145.47	119.20
40	a	1262	A	C8-N9-C4	-8.68	79.76	105.80
12	AB	45	PRO	CA-N-CD	-8.68	99.85	112.00
29	P	55	PRO	N-CA-C	-8.59	101.19	113.47
40	a	1262	A	N9-C1'-C2'	8.54	124.82	112.00
24	K	55	GLU	O-C-N	-8.54	112.74	123.24
17	D	1014	A	O5'-P-OP2	8.53	133.60	108.00
32	S	45	VAL	N-CA-CB	8.49	120.49	110.55
40	a	2493	U	C3'-C2'-O2'	8.48	123.43	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	a	67	U	P-O3'-C3'	8.46	132.88	120.20
64	y	109	ARG	NE-CZ-NH1	-8.43	113.07	121.50
50	k	14	SER	CB-CA-C	8.42	126.83	110.67
32	S	81	ARG	N-CA-CB	-8.41	97.75	110.12
10	A	37	A	C1'-C2'-O2'	-8.39	95.81	108.40
40	a	464	U	C4'-C3'-O3'	8.37	125.55	113.00
48	i	50	ARG	NE-CZ-NH2	-8.36	111.67	119.20
10	B	37	A	C1'-C2'-O2'	-8.36	95.86	108.40
32	S	81	ARG	CB-CA-C	8.32	124.60	110.79
40	a	2640	G	OP1-P-O3'	-8.31	83.08	108.00
62	w	99	LYS	CA-C-N	8.26	134.81	122.67
62	w	99	LYS	C-N-CA	8.26	134.81	122.67
40	a	789	A	C6-C5-N7	-8.25	107.54	132.30
40	a	336	C	C2-N1-C1'	8.24	143.51	118.80
10	B	37	A	N1-C2-N3	-8.23	104.61	129.30
40	a	2815	C	O5'-C5'-C4'	8.21	123.81	111.50
10	B	37	A	C4-N9-C1'	-8.20	101.69	126.30
10	A	37	A	C4-N9-C1'	-8.20	101.70	126.30
10	A	37	A	N1-C2-N3	-8.20	104.70	129.30
48	i	26	THR	CA-CB-CG2	-8.19	96.57	110.50
48	i	4	GLN	CB-CG-CD	8.17	126.49	112.60
40	a	516	C	OP2-P-O3'	8.15	132.45	108.00
40	a	464	U	C2'-C3'-O3'	-8.14	101.49	113.70
40	a	68	G	P-O5'-C5'	8.04	132.96	120.90
48	i	22	LEU	CB-CG-CD1	7.99	134.68	110.70
62	w	98	LEU	N-CA-C	7.95	124.29	107.67
40	a	1262	A	C2'-C3'-O3'	7.93	125.60	113.70
40	a	788	A	N9-C1'-C2'	7.93	125.89	114.00
9	9	80	THR	N-CA-CB	-7.88	97.17	110.49
40	a	68	G	C3'-C2'-O2'	7.87	122.50	110.70
40	a	2493	U	C6-N1-C1'	-7.83	97.71	121.20
48	i	4	GLN	CG-CD-OE1	-7.81	105.18	120.80
2	1	19	LEU	CB-CG-CD2	-7.79	87.33	110.70
64	y	109	ARG	NE-CZ-NH2	7.76	126.19	119.20
40	a	85	G	O5'-C5'-C4'	7.73	123.09	111.50
10	B	76	A	N9-C1'-C2'	-7.64	100.54	112.00
10	A	76	A	N9-C1'-C2'	-7.64	100.54	112.00
48	i	7	LYS	CG-CD-CE	7.61	128.79	111.30
48	i	4	GLN	CG-CD-NE2	7.60	127.79	116.40
40	a	89	A	OP1-P-OP2	-7.59	96.84	119.60
40	a	89	A	O5'-P-OP1	7.56	130.67	108.00
32	S	85	ARG	N-CA-CB	7.51	121.24	109.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	S	94	PRO	N-CA-C	7.50	127.91	112.47
40	a	89	A	C2-N3-C4	7.49	133.07	110.60
48	i	4	GLN	N-CA-CB	-7.47	98.21	109.71
43	d	80	U	C4'-C3'-O3'	-7.44	101.83	113.00
16	C	24	LYS	CD-CE-NZ	-7.38	88.29	111.90
40	a	1262	A	C8-N9-C1'	7.29	149.56	127.70
28	O	13	LYS	N-CA-CB	-7.26	98.22	110.49
40	a	68	G	OP1-P-OP2	-7.23	97.92	119.60
32	S	85	ARG	CB-CG-CD	7.17	127.79	111.30
29	P	55	PRO	N-CD-CG	7.17	113.95	103.20
62	w	46	ARG	NE-CZ-NH2	7.15	125.64	119.20
62	w	98	LEU	N-CA-CB	-7.15	97.75	110.90
48	i	5	GLN	CA-C-N	7.12	134.61	122.37
48	i	5	GLN	C-N-CA	7.12	134.61	122.37
40	a	67	U	O3'-P-O5'	7.11	114.67	104.00
17	D	958	A	C6-N1-C2	-7.11	97.27	118.60
28	O	113	ARG	NH1-CZ-NH2	-7.09	110.08	119.30
28	O	18	ARG	NE-CZ-NH2	-7.07	112.83	119.20
40	a	336	C	N3-C4-N4	-7.04	96.90	118.00
2	1	41	LYS	CB-CG-CD	7.03	127.48	111.30
17	D	1317	C	N1-C2-O2	-7.00	97.91	118.90
40	a	88	G	N7-C8-N9	-6.98	92.16	113.10
40	a	517	C	P-O5'-C5'	-6.96	110.46	120.90
24	K	56	VAL	CA-C-O	-6.96	110.63	119.95
40	a	336	C	O5'-C5'-C4'	-6.92	101.11	111.50
40	a	517	C	C4'-C3'-O3'	-6.92	102.62	113.00
21	H	340	ARG	NE-CZ-NH2	6.91	125.42	119.20
40	a	89	A	O5'-P-OP2	6.91	128.72	108.00
28	O	18	ARG	NH1-CZ-NH2	6.91	128.28	119.30
2	1	18	ARG	NE-CZ-NH1	6.89	128.39	121.50
40	a	1262	A	C5-C6-N6	6.85	144.25	123.70
17	D	958	A	N9-C1'-C2'	6.82	122.23	112.00
40	a	517	C	P-O3'-C3'	-6.79	110.02	120.20
40	a	67	U	OP1-P-O3'	-6.77	87.68	108.00
40	a	1262	A	N1-C2-N3	-6.76	109.03	129.30
62	w	98	LEU	CB-CG-CD2	-6.72	90.53	110.70
17	D	1368	A	OP2-P-O3'	-6.66	88.01	108.00
40	a	518	G	O5'-C5'-C4'	6.66	121.49	111.50
40	a	2349	G	OP2-P-O3'	-6.64	88.08	108.00
40	a	789	A	C8-N9-C1'	6.62	147.57	127.70
40	a	84	A	OP2-P-O3'	-6.62	88.16	108.00
21	H	125	ASN	N-CA-CB	-6.61	99.32	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	S	92	GLU	O-C-N	-6.59	115.14	122.12
2	1	39	THR	CA-CB-CG2	-6.58	99.31	110.50
24	K	89	HIS	CA-C-N	6.58	134.11	121.54
24	K	89	HIS	C-N-CA	6.58	134.11	121.54
62	w	100	CYS	CA-CB-SG	6.54	129.43	114.40
10	A	37	A	N3-C4-N9	6.52	146.95	127.40
10	B	37	A	N3-C4-N9	6.51	146.93	127.40
16	C	40	VAL	CA-CB-CG2	-6.51	99.33	110.40
16	C	44	ILE	N-CA-CB	-6.51	103.29	110.65
40	a	789	A	C5-N7-C8	-6.51	84.38	103.90
40	a	517	C	C5'-C4'-C3'	-6.50	106.25	116.00
40	a	85	G	P-O5'-C5'	6.49	130.63	120.90
55	p	46	ALA	CA-C-N	6.47	133.90	121.54
55	p	46	ALA	C-N-CA	6.47	133.90	121.54
21	H	298	GLU	CB-CA-C	-6.44	102.71	112.11
32	S	92	GLU	CA-C-N	-6.44	116.32	123.02
32	S	92	GLU	C-N-CA	-6.44	116.32	123.02
10	B	37	A	N9-C4-C5	-6.44	86.49	105.80
10	A	37	A	N9-C4-C5	-6.42	86.53	105.80
10	B	37	A	C5'-C4'-O4'	-6.41	100.18	109.80
17	D	1014	A	OP1-P-OP2	-6.41	100.36	119.60
32	S	93	ILE	CA-C-N	6.41	127.85	119.84
32	S	93	ILE	C-N-CA	6.41	127.85	119.84
10	A	37	A	C5'-C4'-O4'	-6.41	100.19	109.80
40	a	336	C	C2-N3-C4	-6.39	100.72	119.90
40	a	2678	C	O5'-P-OP2	-6.38	88.88	108.00
40	a	89	A	C3'-C2'-O2'	-6.35	101.17	110.70
62	w	98	LEU	CB-CG-CD1	-6.35	91.66	110.70
32	S	85	ARG	CB-CA-C	-6.33	100.85	110.92
10	B	76	A	C4'-C3'-O3'	6.33	122.50	113.00
40	a	89	A	N1-C6-N6	-6.33	99.62	118.60
12	AB	122	PRO	N-CA-CB	6.32	109.89	103.25
40	a	1262	A	C4-C5-N7	-6.31	91.77	110.70
50	k	14	SER	N-CA-CB	-6.31	100.50	110.28
10	A	76	A	C4'-C3'-O3'	6.30	122.46	113.00
21	H	168	VAL	CA-C-N	6.30	131.37	122.05
21	H	168	VAL	C-N-CA	6.30	131.37	122.05
16	C	24	LYS	CG-CD-CE	-6.25	96.92	111.30
8	7	11	U	C4'-C3'-O3'	6.24	118.76	109.40
32	S	85	ARG	CG-CD-NE	6.23	125.71	112.00
40	a	2493	U	C5'-C4'-C3'	6.22	125.33	116.00
40	a	88	G	O4'-C1'-N9	-6.21	99.18	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	a	68	G	O5'-P-OP1	6.21	126.63	108.00
40	a	2350	C	O5'-P-OP1	6.21	126.62	108.00
40	a	85	G	OP2-P-O3'	6.20	126.59	108.00
62	w	98	LEU	CA-C-O	-6.17	108.87	121.03
40	a	2820	A	C4'-C3'-O3'	-6.15	103.78	113.00
62	w	100	CYS	N-CA-CB	6.14	123.95	111.36
40	a	579	G	N9-C1'-C2'	6.13	121.20	112.00
17	D	1308	U	OP1-P-O3'	6.10	126.30	108.00
40	a	2815	C	C4'-C3'-O3'	-6.09	103.86	113.00
32	S	93	ILE	N-CA-C	6.08	114.58	107.77
10	B	37	A	C4-C5-C6	-6.07	98.79	117.00
10	A	37	A	C4-C5-C6	-6.04	98.88	117.00
40	a	2613	U	N3-C4-O4	-6.00	101.40	119.40
25	L	49	TYR	CE1-CZ-OH	5.98	137.85	119.90
17	D	37	U	N3-C4-O4	-5.97	101.48	119.40
40	a	67	U	C1'-C2'-O2'	-5.97	99.44	108.40
40	a	464	U	O5'-C5'-C4'	5.96	120.44	111.50
62	w	96	ARG	NH1-CZ-NH2	-5.93	111.59	119.30
48	i	26	THR	N-CA-CB	-5.90	101.52	110.07
40	a	89	A	P-O3'-C3'	-5.89	111.37	120.20
40	a	86	G	OP1-P-OP2	-5.88	101.95	119.60
48	i	4	GLN	CA-CB-CG	-5.88	102.34	114.10
30	Q	121	CYS	CA-CB-SG	-5.85	100.94	114.40
40	a	89	A	C6-N1-C2	-5.84	101.07	118.60
17	D	1493	A	N1-C6-N6	-5.83	101.11	118.60
2	l	19	LEU	CB-CG-CD1	5.83	128.18	110.70
40	a	2815	C	O4'-C4'-C3'	5.82	109.82	104.00
24	K	55	GLU	N-CA-CB	5.82	121.96	111.37
40	a	2815	C	P-O5'-C5'	-5.79	112.21	120.90
21	H	162	LYS	N-CA-C	-5.79	105.31	112.72
40	a	1266	G	O5'-P-OP2	5.78	125.34	108.00
40	a	2815	C	C5'-C4'-C3'	5.77	124.65	116.00
10	B	37	A	C4-C5-N7	5.75	127.94	110.70
10	A	37	A	C4-C5-N7	5.74	127.92	110.70
14	AE	853	THR	CA-C-N	5.73	130.99	122.74
14	AE	853	THR	C-N-CA	5.73	130.99	122.74
17	D	827	U	N3-C4-O4	-5.73	102.20	119.40
37	X	98	ARG	NE-CZ-NH1	5.72	127.22	121.50
40	a	336	C	C6-N1-C2	-5.70	103.09	120.20
62	w	96	ARG	CD-NE-CZ	5.70	132.39	124.40
40	a	2642	G	P-O5'-C5'	-5.70	112.35	120.90
50	k	13	SER	CA-C-N	-5.69	111.67	120.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	k	13	SER	C-N-CA	-5.69	111.67	120.31
49	j	129	THR	CA-CB-OG1	-5.68	101.08	109.60
31	R	101	ALA	CA-C-N	5.66	132.36	121.54
31	R	101	ALA	C-N-CA	5.66	132.36	121.54
9	9	108	VAL	N-CA-CB	-5.63	101.94	111.23
48	i	16	ARG	CG-CD-NE	-5.61	99.67	112.00
40	a	1141	U	C2-N3-C4	5.60	143.81	127.00
40	a	2815	C	O4'-C1'-N1	-5.60	100.10	108.50
54	o	42	ARG	NE-CZ-NH1	-5.60	115.90	121.50
32	S	94	PRO	CB-CA-C	-5.59	102.33	111.56
17	D	1371	G	O5'-P-OP2	-5.59	91.24	108.00
25	L	90	MET	CG-SD-CE	5.57	113.15	100.90
17	D	1013	G	OP2-P-O3'	-5.57	91.30	108.00
40	a	1614	A	C3'-C2'-O2'	5.56	119.04	110.70
40	a	107	G	O5'-P-OP2	5.55	124.67	108.00
50	k	14	SER	CA-C-N	-5.55	110.94	121.54
50	k	14	SER	C-N-CA	-5.55	110.94	121.54
40	a	68	G	C4-N9-C1'	-5.54	109.87	126.50
10	A	76	A	C3'-C2'-O2'	5.54	119.01	110.70
25	L	49	TYR	OH-CZ-CE2	-5.52	103.33	119.90
48	i	17	ARG	NE-CZ-NH1	-5.52	115.98	121.50
16	C	44	ILE	CG1-CB-CG2	-5.51	94.17	110.70
10	B	76	A	C3'-C2'-O2'	5.51	118.96	110.70
40	a	1262	A	C5'-C4'-O4'	5.50	118.05	109.80
40	a	2013	A	OP1-P-O3'	-5.49	91.53	108.00
48	i	8	PRO	CA-N-CD	-5.49	104.32	112.00
40	a	2493	U	C6-N1-C2	5.47	137.42	121.00
40	a	2286	G	N1-C6-O6	-5.47	103.49	119.90
10	B	38	A	C5'-C4'-O4'	5.46	117.99	109.80
40	a	86	G	OP2-P-O3'	-5.46	91.62	108.00
40	a	2493	U	O5'-P-OP1	-5.46	91.62	108.00
14	AE	1184	ASP	N-CA-C	5.45	121.86	109.81
40	a	89	A	C5-C6-N1	5.45	134.03	117.70
43	d	80	U	C1'-C2'-O2'	-5.45	100.23	108.40
40	a	89	A	C6-C5-N7	5.44	148.62	132.30
10	A	38	A	C5'-C4'-O4'	5.44	117.95	109.80
40	a	1262	A	N7-C8-N9	5.43	130.09	113.80
40	a	464	U	C3'-C2'-O2'	5.42	118.83	110.70
10	B	37	A	C5-C6-N1	5.42	133.95	117.70
50	k	14	SER	CA-C-O	-5.41	113.75	119.97
10	A	37	A	C5-C6-N1	5.40	133.90	117.70
40	a	88	G	C5-N7-C8	5.40	120.49	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	i	3	VAL	CA-C-N	5.38	128.99	121.24
48	i	3	VAL	C-N-CA	5.38	128.99	121.24
10	B	76	A	C1'-C2'-O2'	-5.38	100.33	108.40
32	S	93	ILE	CB-CA-C	5.37	116.95	110.78
30	Q	120	GLY	N-CA-C	5.36	125.88	113.18
40	a	88	G	C1'-C2'-O2'	5.35	116.43	108.40
54	o	32	ILE	N-CA-CB	-5.35	102.41	111.23
10	A	76	A	C1'-C2'-O2'	-5.34	100.38	108.40
40	a	1614	A	C1'-C2'-O2'	-5.34	100.39	108.40
17	D	1358	U	N3-C4-O4	-5.33	103.39	119.40
60	u	61	LEU	O-C-N	-5.33	115.56	121.53
48	i	7	LYS	CB-CG-CD	5.32	123.55	111.30
29	P	31	ARG	CG-CD-NE	-5.32	100.31	112.00
40	a	1141	U	C5-C4-O4	5.29	141.76	125.90
21	H	171	ARG	N-CA-C	-5.27	99.57	110.80
17	D	958	A	C4-C5-C6	-5.27	101.19	117.00
62	w	99	LYS	N-CA-CB	5.25	117.76	109.83
40	a	68	G	C1'-C2'-O2'	-5.25	100.53	108.40
40	a	789	A	C3'-C2'-O2'	-5.23	106.76	114.60
17	D	1317	C	C6-N1-C1'	5.21	136.42	120.80
40	a	74	A	C4-N9-C1'	5.21	141.92	126.30
40	a	1019	U	C2-N3-C4	5.19	142.57	127.00
40	a	1019	U	N3-C4-O4	-5.18	103.85	119.40
17	D	884	U	N3-C4-O4	-5.18	103.86	119.40
40	a	86	G	O5'-P-OP1	5.18	123.53	108.00
8	7	-15	U	C5'-C4'-O4'	-5.18	101.34	109.10
21	H	340	ARG	CB-CG-CD	5.15	123.14	111.30
37	X	66	GLU	N-CA-CB	-5.14	101.80	110.49
65	z	4	VAL	CA-CB-CG2	-5.14	101.65	110.40
62	w	98	LEU	CB-CA-C	-5.14	104.74	112.09
40	a	789	A	C5'-C4'-O4'	5.13	116.79	109.10
24	K	55	GLU	CA-CB-CG	-5.12	103.86	114.10
62	w	98	LEU	CD1-CG-CD2	5.12	122.05	110.80
14	AE	709	ARG	CA-C-N	5.09	135.47	126.45
14	AE	709	ARG	C-N-CA	5.09	135.47	126.45
48	i	8	PRO	CB-CA-C	-5.08	104.33	110.98
37	X	66	GLU	N-CA-C	5.08	121.61	110.80
40	a	68	G	O3'-P-O5'	-5.07	96.40	104.00
10	B	37	A	C8-N9-C4	5.06	120.98	105.80
16	C	44	ILE	CB-CA-C	5.06	118.39	111.87
54	o	42	ARG	NE-CZ-NH2	5.05	123.75	119.20
10	A	37	A	C8-N9-C4	5.05	120.95	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	a	2262	U	O5'-P-OP2	-5.05	92.85	108.00
40	a	1141	U	N3-C4-O4	-5.05	104.26	119.40
40	a	68	G	C8-N9-C4	5.04	121.50	106.40
48	i	22	LEU	CB-CG-CD2	-5.03	95.60	110.70
24	K	55	GLU	CB-CA-C	-5.02	98.88	109.38
40	a	2350	C	O5'-P-OP2	-5.01	92.97	108.00
32	S	91	GLY	CA-C-N	5.01	126.99	120.28
32	S	91	GLY	C-N-CA	5.01	126.99	120.28

There are no chirality outliers.

All (34) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	9	107	GLU	Peptide
9	9	79	PRO	Peptide
9	9	92	ALA	Peptide
10	A	37	A	Sidechain
10	A	76	A	Sidechain
11	AA	910	ALA	Peptide
12	AB	135	ARG	Sidechain
13	AC	192	VAL	Peptide
13	AD	20	SER	Peptide
14	AE	1326	GLN	Peptide
14	AE	1344	LEU	Peptide
14	AE	313	GLY	Peptide
14	AE	416	ILE	Peptide
10	B	37	A	Sidechain
10	B	76	A	Sidechain
17	D	958	A	Sidechain
21	H	124	LEU	Peptide
21	H	274	TYR	Peptide
21	H	53	PHE	Peptide
21	H	81	GLU	Peptide
21	H	82	THR	Peptide
24	K	77	ASN	Peptide
24	K	90	THR	Mainchain
26	M	56	LYS	Mainchain
28	O	12	ARG	Peptide
31	R	102	LEU	Mainchain
40	a	1262	A	Sidechain
40	a	88	G	Sidechain
40	a	89	A	Sidechain

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Mol	Chain	Res	Type	Group
48	i	41	HIS	Mainchain
50	k	14	SER	Mainchain
53	n	176	PRO	Peptide
60	u	35	HIS	Peptide
62	w	98	LEU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	816	839	839	24	0
2	1	857	922	922	106	0
3	2	746	811	811	16	0
4	3	788	844	844	49	0
5	4	753	780	780	4	0
6	5	472	260	260	17	0
7	6	542	305	306	30	0
8	7	707	97	351	102	0
9	9	1117	0	1155	137	0
10	A	1620	826	827	130	0
10	B	1620	813	827	170	0
11	AA	10567	0	10582	169	0
12	AB	1392	0	1373	149	0
13	AC	1698	0	1718	12	0
13	AD	1677	0	1713	28	0
14	AE	10404	0	10622	199	0
15	AF	650	0	658	10	0
16	C	544	559	560	110	0
17	D	32703	16423	16450	616	0
18	E	669	719	719	58	0
19	F	589	629	629	9	0
20	G	1760	1785	1787	15	0
21	H	1730	1454	1455	188	0
22	I	1636	1710	1710	45	0
23	J	1643	1707	1707	27	0
24	K	1152	1196	1196	35	0
25	L	848	846	846	31	0
26	M	1181	1235	1238	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	N	979	1031	1031	22	0
28	O	1022	1070	1070	111	0
29	P	790	831	831	94	0
30	Q	877	887	887	45	0
31	R	939	1001	1001	30	0
32	S	805	844	844	112	0
33	T	714	734	734	8	0
34	U	649	666	666	14	0
35	V	648	691	691	17	0
36	W	663	688	688	24	0
37	X	900	964	965	71	0
38	Y	1032	0	1088	72	0
39	Z	227	0	237	27	0
40	a	61841	31071	31101	1607	0
41	b	582	599	599	43	0
42	c	625	652	652	48	0
43	d	2569	1301	1301	45	0
44	e	501	531	531	4	0
45	f	448	488	488	18	0
46	g	522	520	520	18	0
47	h	2082	2154	2154	125	0
48	i	444	459	457	420	0
49	j	1565	1617	1614	118	0
50	k	426	464	464	36	0
51	l	1552	1619	1619	96	0
52	m	377	418	418	34	0
53	n	1410	1443	1444	55	0
54	o	504	572	572	110	0
55	p	1313	1358	1358	7	0
56	q	302	343	343	24	0
57	r	1111	1148	1148	6	0
58	s	1129	1162	1162	45	0
59	t	946	1023	1023	18	0
60	u	1053	1129	1129	131	0
61	v	1074	1157	1157	48	0
62	w	951	994	994	182	0
63	x	892	923	923	12	0
64	y	917	962	962	13	0
65	z	947	1020	1019	117	0
66	7	1	0	0	0	0
67	AE	2	0	0	3	0
All	All	177212	99294	128770	4206	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 14.

All (4206) 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)
40:a:1262:A:C4	48:i:4:GLN:HG3	1.25	1.66
48:i:7:LYS:CG	48:i:7:LYS:CD	1.75	1.64
16:C:40:VAL:CB	16:C:40:VAL:CG2	1.80	1.59
48:i:7:LYS:CD	48:i:7:LYS:CE	1.74	1.59
14:AE:79:LYS:HA	14:AE:81:ARG:CZ	1.26	1.58
48:i:41:HIS:CA	48:i:41:HIS:CB	1.77	1.57
40:a:88:G:C8	40:a:88:G:N7	1.69	1.56
62:w:96:ARG:CD	62:w:96:ARG:CG	1.83	1.55
24:K:56:VAL:CB	24:K:56:VAL:CG2	1.85	1.54
40:a:88:G:C4'	40:a:88:G:C5'	1.82	1.54
40:a:88:G:C4	40:a:88:G:N9	1.73	1.53
40:a:88:G:N7	40:a:88:G:C5	1.78	1.51
16:C:40:VAL:CB	16:C:40:VAL:CG1	1.87	1.51
14:AE:72:CYS:SG	67:AE:1501:ZN:ZN	1.03	1.45
14:AE:79:LYS:HA	14:AE:81:ARG:NH1	1.21	1.43
12:AB:45:PRO:N	12:AB:45:PRO:CA	1.70	1.41
48:i:41:HIS:ND1	62:w:99:LYS:HA	1.31	1.41
40:a:88:G:C8	40:a:88:G:N9	1.88	1.40
40:a:1262:A:N9	48:i:4:GLN:HG3	1.37	1.37
12:AB:133:MET:CG	12:AB:146:GLY:O	1.74	1.36
40:a:2724:U:OP1	49:j:123:LYS:NZ	1.59	1.34
14:AE:79:LYS:CA	14:AE:81:ARG:NH1	1.90	1.33
14:AE:79:LYS:CA	14:AE:81:ARG:CZ	2.06	1.33
12:AB:133:MET:HG2	12:AB:146:GLY:O	1.26	1.32
40:a:1262:A:C8	48:i:4:GLN:HG3	1.66	1.30
28:O:113:ARG:NH2	32:S:101:TRP:CE2	2.01	1.29
12:AB:44:VAL:CB	12:AB:45:PRO:HD2	1.65	1.27
7:6:5:DT:OP1	14:AE:1172:LYS:NZ	1.68	1.25
40:a:2350:C:OP2	54:o:45:ARG:NH2	1.66	1.25
40:a:1262:A:C4	48:i:4:GLN:CG	2.18	1.25
29:P:49:PHE:CZ	32:S:76:LYS:HD3	1.72	1.23
40:a:1262:A:H5''	48:i:4:GLN:OE1	1.39	1.23
10:B:76:A:O3'	40:a:2493:U:C4'	1.86	1.22
12:AB:164:ILE:HD11	12:AB:167:ARG:O	1.36	1.22
40:a:2365:G:N7	54:o:39:LYS:NZ	1.87	1.22
48:i:41:HIS:HA	62:w:98:LEU:O	1.32	1.22
17:D:1126:U:O4	29:P:9:ARG:NH1	1.73	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1463:U:OP1	64:y:109:ARG:NE	1.75	1.20
17:D:1349:A:OP1	28:O:123:ARG:N	1.75	1.19
48:i:50:ARG:HD2	62:w:98:LEU:CD1	1.72	1.19
40:a:518:G:P	48:i:13:ARG:HH11	1.66	1.19
29:P:49:PHE:CE1	32:S:76:LYS:HD3	1.76	1.18
40:a:1262:A:O2'	48:i:7:LYS:HA	1.42	1.18
16:C:44:ILE:CG2	21:H:340:ARG:HB2	1.73	1.17
54:o:13:ARG:NH2	60:u:61:LEU:O	1.78	1.16
12:AB:164:ILE:H	12:AB:168:ALA:HB2	1.02	1.16
40:a:2017:U:C2	48:i:5:GLN:HB2	1.80	1.16
12:AB:133:MET:HG3	12:AB:146:GLY:C	1.71	1.15
8:7:11:U:O2	11:AA:1253:LEU:HD12	1.43	1.15
2:1:19:LEU:HD21	48:i:20:ASP:CB	1.75	1.15
17:D:1123:U:O2'	29:P:39:PRO:O	1.66	1.14
6:5:100:DA:H5'	14:AE:278:ARG:NH1	1.62	1.14
40:a:518:G:P	48:i:13:ARG:HD3	1.89	1.13
12:AB:159:LYS:HZ1	12:AB:170:PRO:CB	1.60	1.13
21:H:267:TRP:CE3	21:H:340:ARG:HG2	1.83	1.12
36:W:65:GLU:HB2	37:X:83:LEU:HD12	1.26	1.12
17:D:1348:U:H4'	28:O:122:ARG:HB2	1.20	1.11
40:a:518:G:H5''	48:i:13:ARG:NH1	1.65	1.11
36:W:65:GLU:CB	37:X:83:LEU:HD12	1.81	1.11
40:a:516:C:H5''	48:i:7:LYS:HB2	1.17	1.11
40:a:518:G:C5'	48:i:13:ARG:NH1	2.13	1.11
14:AE:79:LYS:HA	14:AE:81:ARG:NH2	1.66	1.11
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.17	1.10
2:1:19:LEU:CD2	48:i:20:ASP:HB3	1.81	1.10
28:O:113:ARG:NE	32:S:101:TRP:CD1	2.18	1.10
40:a:2311:A:H4'	53:n:74:VAL:HG11	1.32	1.10
48:i:41:HIS:CE1	62:w:99:LYS:HA	1.86	1.10
40:a:30:G:OP2	65:z:5:LYS:NZ	1.85	1.10
40:a:686:U:O4	52:m:12:ARG:HB2	1.49	1.10
40:a:2815:C:H4'	48:i:26:THR:CG2	1.82	1.10
12:AB:159:LYS:HZ1	12:AB:170:PRO:HB3	1.10	1.10
17:D:1308:U:OP2	37:X:100:GLN:NE2	1.85	1.10
22:I:30:ALA:HB1	32:S:65:ARG:NH2	1.65	1.10
40:a:1266:G:H5''	48:i:16:ARG:HG3	1.34	1.09
40:a:1266:G:C5'	48:i:16:ARG:HG3	1.83	1.09
12:AB:133:MET:CG	12:AB:146:GLY:C	2.25	1.09
17:D:1202:U:C2	32:S:82:ILE:HD12	1.87	1.09
2:1:41:LYS:HG2	48:i:22:LEU:CD2	1.82	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1458:G:OP1	18:E:26:SER:OG	1.70	1.09
40:a:518:G:P	48:i:13:ARG:NH1	2.24	1.08
40:a:1251:C:OP2	65:z:6:ARG:NH2	1.83	1.08
12:AB:164:ILE:HG23	12:AB:168:ALA:HB2	1.33	1.08
12:AB:164:ILE:HG23	12:AB:168:ALA:CB	1.82	1.08
16:C:44:ILE:HG22	21:H:340:ARG:HB2	1.10	1.08
12:AB:44:VAL:HB	12:AB:45:PRO:CD	1.80	1.08
11:AA:845:LEU:CD2	11:AA:890:LYS:O	2.02	1.07
40:a:1998:A:OP1	49:j:141:ARG:NH2	1.87	1.07
54:o:5:LYS:O	60:u:48:ARG:NH2	1.87	1.07
11:AA:887:VAL:HB	11:AA:913:VAL:HG21	1.28	1.07
12:AB:164:ILE:CD1	12:AB:167:ARG:O	2.03	1.07
21:H:163:ARG:N	21:H:298:GLU:OE2	1.87	1.07
11:AA:887:VAL:HB	11:AA:913:VAL:CG2	1.85	1.07
16:C:45:THR:HA	21:H:340:ARG:CD	1.85	1.07
40:a:2815:C:H4'	48:i:26:THR:HG21	1.32	1.06
17:D:102:G:OP2	18:E:5:LYS:NZ	1.87	1.06
12:AB:164:ILE:CD1	12:AB:167:ARG:C	2.28	1.06
28:O:113:ARG:NH1	32:S:101:TRP:OXT	1.88	1.06
37:X:83:LEU:HD23	37:X:85:CYS:HB3	1.31	1.06
40:a:1199:U:O2'	65:z:2:ALA:O	1.71	1.06
12:AB:164:ILE:HD13	12:AB:168:ALA:CA	1.86	1.06
40:a:468:G:N7	52:m:39:ARG:NH2	2.04	1.05
48:i:41:HIS:ND1	62:w:99:LYS:CA	2.18	1.05
12:AB:164:ILE:HD13	12:AB:168:ALA:N	1.72	1.05
40:a:1993:U:H4'	49:j:133:THR:HG21	1.35	1.05
40:a:38:A:H4'	51:l:45:ALA:HB3	1.38	1.05
48:i:50:ARG:HD2	62:w:98:LEU:HD11	1.05	1.05
40:a:1812:U:O2'	47:h:45:ASN:N	1.90	1.05
28:O:113:ARG:NH1	32:S:101:TRP:H	1.51	1.05
6:5:99:DT:OP1	12:AB:63:LYS:HE3	1.56	1.04
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.87	1.04
12:AB:140:PRO:HG3	29:P:102:LEU:CD2	1.87	1.04
48:i:41:HIS:CB	62:w:100:CYS:HB3	1.87	1.04
2:1:39:THR:HG21	48:i:22:LEU:CD1	1.88	1.04
40:a:1262:A:C8	48:i:4:GLN:CG	2.39	1.04
40:a:994:C:P	65:z:50:ARG:HD2	1.98	1.04
8:7:14:U:H4'	14:AE:322:ARG:CD	1.88	1.04
16:C:45:THR:HA	21:H:340:ARG:HD2	1.38	1.04
2:1:15:GLN:HG3	48:i:17:ARG:NE	1.71	1.03
10:B:31:G:H5'	17:D:1339:A:N1	1.71	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1346:A:O5'	28:O:122:ARG:NH1	1.92	1.03
4:3:69:ASN:ND2	40:a:329:G:OP2	1.90	1.03
21:H:339:ARG:O	21:H:341:ARG:N	1.89	1.03
36:W:65:GLU:CB	37:X:83:LEU:CD1	2.35	1.03
12:AB:159:LYS:NZ	12:AB:170:PRO:CB	2.20	1.03
40:a:516:C:O3'	48:i:7:LYS:HG3	1.59	1.03
1:0:76:LYS:NZ	40:a:992:C:OP1	1.92	1.03
40:a:918:A:H1'	43:d:80:U:O2'	1.58	1.03
40:a:1266:G:H5''	48:i:16:ARG:CG	1.89	1.03
48:i:41:HIS:HB2	62:w:100:CYS:N	1.73	1.03
48:i:42:HIS:HD2	62:w:100:CYS:HB2	1.23	1.02
2:1:78:GLU:O	40:a:24:G:O2'	1.76	1.02
9:9:138:ARG:HH12	39:Z:22:LEU:HD21	1.24	1.02
40:a:74:A:N6	40:a:88:G:O6	1.90	1.02
3:2:66:LYS:NZ	40:a:1338:G:N7	2.07	1.02
21:H:131:LEU:CB	21:H:167:VAL:HA	1.89	1.02
40:a:1824:G:OP1	47:h:52:ARG:NE	1.92	1.02
40:a:1997:C:P	49:j:129:THR:HG1	1.81	1.02
48:i:41:HIS:HB2	62:w:100:CYS:CA	1.90	1.02
11:AA:903:ARG:NH1	29:P:90:LEU:HD11	1.74	1.01
17:D:194:C:O2'	18:E:63:ALA:HB2	1.58	1.01
48:i:41:HIS:HB2	62:w:100:CYS:CB	1.91	1.01
8:7:12:G:C1'	14:AE:253:VAL:HG11	1.89	1.01
10:B:76:A:O2'	40:a:2493:U:C1'	2.09	1.01
40:a:516:C:H3'	48:i:7:LYS:CE	1.90	1.01
40:a:518:G:C5'	48:i:13:ARG:CZ	2.39	1.01
10:A:76:A:H1'	40:a:2421:G:C2	1.95	1.00
17:D:104:G:N7	18:E:9:LYS:NZ	2.08	1.00
17:D:1130:A:OP1	28:O:18:ARG:NH1	1.94	1.00
43:d:43:C:O2	53:n:92:ARG:NH2	1.94	1.00
40:a:2484:G:OP1	61:v:44:ARG:NE	1.94	1.00
48:i:41:HIS:CA	62:w:98:LEU:O	2.08	1.00
40:a:1262:A:C2	48:i:6:ASN:N	2.30	1.00
40:a:396:G:H1'	42:c:29:PHE:HB3	1.44	1.00
40:a:1019:U:O4	40:a:1142:A:N1	1.95	1.00
10:B:76:A:O3'	40:a:2493:U:O4'	1.80	0.99
17:D:184:G:O2'	18:E:69:LYS:NZ	1.95	0.99
36:W:65:GLU:HB3	37:X:83:LEU:CD1	1.92	0.99
48:i:50:ARG:HH22	62:w:96:ARG:HB3	1.25	0.99
12:AB:65:PHE:HZ	12:AB:70:LEU:HD13	1.25	0.99
16:C:23:TYR:CE2	25:L:90:MET:SD	2.56	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:41:LYS:HG2	48:i:22:LEU:HD23	1.43	0.98
1:0:78:ARG:NH1	40:a:990:A:N1	2.09	0.98
40:a:1262:A:N9	48:i:4:GLN:CG	2.17	0.98
40:a:1814:G:C4'	47:h:51:THR:HG21	1.93	0.98
12:AB:65:PHE:CE2	12:AB:68:TYR:O	2.15	0.98
2:1:83:LYS:NZ	40:a:1261:C:OP1	1.97	0.98
40:a:2678:C:OP2	49:j:126:ASN:ND2	1.94	0.98
40:a:2822:G:OP1	49:j:117:GLY:HA2	1.62	0.98
40:a:2831:G:OP2	49:j:59:ARG:NH1	1.95	0.98
40:a:1198:U:O2	65:z:4:VAL:HG21	1.64	0.98
8:7:12:G:H1'	14:AE:253:VAL:HG11	1.41	0.97
17:D:437:U:O2'	23:J:120:HIS:ND1	1.95	0.97
17:D:675:A:H2	30:Q:120:GLY:HA2	1.27	0.97
48:i:50:ARG:CD	62:w:98:LEU:HD11	1.92	0.97
8:7:-15:U:H1'	17:D:1493:A:C2	1.99	0.97
12:AB:133:MET:HG3	12:AB:146:GLY:O	1.57	0.97
40:a:88:G:C5'	40:a:88:G:H4'	1.90	0.97
40:a:1997:C:P	49:j:129:THR:OG1	2.22	0.97
48:i:41:HIS:CB	48:i:41:HIS:HA	1.94	0.97
7:6:5:DT:P	14:AE:1172:LYS:HZ1	1.88	0.97
40:a:1082:U:O4	40:a:1086:A:N1	1.96	0.97
40:a:2351:G:O6	54:o:42:ARG:NH1	1.97	0.97
2:1:18:ARG:HD2	48:i:17:ARG:NH1	1.79	0.97
17:D:827:U:O4	17:D:872:A:N1	1.97	0.97
40:a:2362:C:OP1	54:o:40:ARG:NH1	1.97	0.96
10:B:76:A:O3'	40:a:2493:U:C1'	2.13	0.96
40:a:2642:G:H5'	58:s:80:HIS:CD2	2.00	0.96
10:B:76:A:O2'	40:a:2493:U:H1'	1.64	0.96
10:B:76:A:O2'	40:a:2493:U:O2'	1.81	0.96
28:O:113:ARG:NH2	32:S:101:TRP:CD2	2.34	0.96
17:D:1349:A:O3'	28:O:123:ARG:NH1	1.98	0.96
40:a:631:A:H4'	60:u:64:PHE:CD2	1.99	0.96
12:AB:164:ILE:HD11	12:AB:167:ARG:C	1.87	0.96
40:a:1021:A:N1	40:a:1141:U:O4	1.99	0.96
10:B:76:A:O3'	40:a:2493:U:H4'	1.65	0.96
14:AE:85:CYS:HG	67:AE:1501:ZN:ZN	0.70	0.95
17:D:689:C:OP1	30:Q:29:ASN:ND2	1.99	0.95
40:a:518:G:P	48:i:13:ARG:CZ	2.54	0.95
40:a:1263:U:C4	40:a:1264:A:C6	2.53	0.95
11:AA:895:LEU:HD11	29:P:91:ASP:OD2	1.66	0.95
48:i:41:HIS:NE2	62:w:97:ILE:HG22	1.81	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1130:A:O4'	28:O:18:ARG:NH2	2.00	0.95
17:D:1202:U:C2	32:S:82:ILE:CD1	2.50	0.95
40:a:396:G:C1'	42:c:29:PHE:HB3	1.97	0.95
29:P:52:LEU:HD12	32:S:81:ARG:NH1	1.80	0.95
40:a:956:G:O2'	61:v:82:MET:SD	2.24	0.95
7:6:15:DC:N4	7:6:16:DC:N4	2.15	0.95
10:B:31:G:O3'	17:D:1340:A:O2'	1.84	0.95
17:D:1241:G:OP1	26:M:35:LYS:NZ	2.00	0.95
40:a:1262:A:O2'	48:i:7:LYS:CA	2.15	0.95
40:a:2838:G:O3'	62:w:46:ARG:HD2	1.65	0.95
40:a:1198:U:C2'	65:z:4:VAL:HG13	1.95	0.94
17:D:1358:U:O4	17:D:1363:A:N1	2.00	0.94
40:a:2015:A:OP2	48:i:2:ALA:N	2.01	0.94
40:a:1198:U:O2'	65:z:4:VAL:HG13	1.67	0.94
4:3:48:PRO:HG2	40:a:484:C:OP1	1.67	0.94
8:7:14:U:H4'	14:AE:322:ARG:HD3	1.48	0.94
48:i:41:HIS:CD2	62:w:98:LEU:C	2.46	0.94
21:H:119:GLY:HA2	21:H:133:GLY:HA2	1.50	0.94
36:W:65:GLU:C	37:X:83:LEU:HD11	1.91	0.94
11:AA:887:VAL:CB	11:AA:913:VAL:HG21	1.96	0.94
16:C:44:ILE:HG22	21:H:340:ARG:CB	1.97	0.94
2:1:39:THR:HG23	48:i:22:LEU:HB3	1.49	0.94
40:a:2512:C:O2'	49:j:145:SER:O	1.86	0.93
22:I:12:LEU:HD11	32:S:91:GLY:HA2	1.48	0.93
40:a:918:A:O2'	43:d:81:G:O4'	1.86	0.93
40:a:1262:A:C2	48:i:5:GLN:C	2.45	0.93
17:D:981:U:OP1	32:S:9:ARG:NH1	2.01	0.93
17:D:826:C:O2'	27:N:16:ASN:ND2	2.00	0.93
17:D:1369:C:OP2	28:O:114:LYS:HB3	1.68	0.93
12:AB:44:VAL:HB	12:AB:45:PRO:HD2	0.96	0.93
40:a:518:G:H5'	48:i:13:ARG:CZ	1.98	0.93
12:AB:159:LYS:NZ	12:AB:170:PRO:HB2	1.83	0.93
16:C:40:VAL:CG1	21:H:339:ARG:HA	1.97	0.93
17:D:1249:C:O2'	28:O:70:GLY:O	1.86	0.93
16:C:23:TYR:HE2	25:L:90:MET:SD	1.91	0.93
16:C:23:TYR:OH	25:L:90:MET:SD	2.26	0.93
2:1:78:GLU:OE1	40:a:517:C:O2'	1.86	0.93
16:C:41:PRO:HD2	21:H:339:ARG:CG	1.99	0.93
21:H:267:TRP:CD2	21:H:340:ARG:HG2	2.02	0.93
10:A:19:G:C2	40:a:2112:G:O4'	2.21	0.92
17:D:37:U:O4	17:D:397:A:N1	2.03	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:39:THR:HG21	48:i:22:LEU:HD13	1.49	0.92
40:a:518:G:P	48:i:13:ARG:CD	2.57	0.92
2:1:20:VAL:HG22	48:i:22:LEU:HD11	1.50	0.92
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.99	0.92
10:B:76:A:O2'	40:a:2493:U:O2	1.87	0.92
40:a:2619:C:C4'	49:j:155:VAL:HB	2.00	0.92
11:AA:845:LEU:HD22	11:AA:890:LYS:O	1.66	0.92
40:a:1141:U:OP2	58:s:68:LYS:NZ	2.03	0.92
40:a:1262:A:O2'	48:i:8:PRO:HD3	1.69	0.92
48:i:50:ARG:HH21	62:w:96:ARG:HH21	0.93	0.92
17:D:1240:U:C2	26:M:32:VAL:HG12	2.04	0.92
40:a:2013:A:N1	40:a:2613:U:O4	2.03	0.92
11:AA:855:PRO:HG3	11:AA:912:ASP:O	1.69	0.92
40:a:1262:A:H5''	48:i:4:GLN:CD	1.95	0.92
40:a:258:G:O2'	60:u:104:GLN:NE2	2.03	0.92
16:C:41:PRO:HD2	21:H:339:ARG:HG2	1.52	0.91
2:1:15:GLN:HG3	48:i:17:ARG:HE	1.32	0.91
12:AB:19:GLU:OE2	12:AB:65:PHE:HD2	1.53	0.91
12:AB:164:ILE:HD13	12:AB:167:ARG:C	1.94	0.91
16:C:33:ILE:O	21:H:338:GLU:HG3	1.71	0.91
17:D:563:A:N1	17:D:884:U:O4	2.02	0.91
40:a:516:C:H5''	48:i:7:LYS:CB	2.00	0.91
40:a:517:C:P	48:i:7:LYS:CG	2.59	0.91
40:a:630:G:OP2	54:o:23:LYS:NZ	2.02	0.91
10:B:32:C:H5'	17:D:1340:A:O3'	1.71	0.91
10:B:76:A:H4'	40:a:2493:U:O2'	1.69	0.91
16:C:40:VAL:HG13	21:H:339:ARG:HA	1.52	0.91
40:a:1263:U:C5	48:i:4:GLN:HB3	2.06	0.91
40:a:1826:G:OP1	47:h:223:THR:N	2.04	0.91
17:D:1309:G:C8	37:X:98:ARG:NH2	2.39	0.90
40:a:2619:C:H4'	49:j:155:VAL:HB	1.50	0.90
17:D:1124:G:H4'	29:P:40:ILE:HG12	1.51	0.90
17:D:1225:A:H4'	36:W:78:ARG:NH1	1.86	0.90
40:a:812:C:H5	60:u:21:ARG:HB3	1.33	0.90
9:9:142:THR:HG21	39:Z:7:ILE:HD13	1.51	0.90
10:B:76:A:C2'	40:a:2493:U:H1'	2.01	0.90
40:a:615:U:N3	51:l:35:TYR:O	2.03	0.90
40:a:1263:U:P	48:i:8:PRO:HG3	2.11	0.90
4:3:66:GLN:HG3	40:a:328:U:O3'	1.72	0.90
11:AA:895:LEU:CD2	29:P:91:ASP:OD1	2.20	0.90
40:a:856:G:HO2'	41:b:26:PHE:HD2	0.98	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:i:50:ARG:HH21	62:w:96:ARG:NH2	1.70	0.90
16:C:40:VAL:HG11	21:H:338:GLU:O	1.71	0.90
40:a:1657:U:H5''	49:j:138:LEU:HA	1.53	0.90
40:a:1993:U:C4'	49:j:133:THR:HG21	2.01	0.90
8:7:-11:U:H5	22:I:162:ILE:HG13	1.37	0.90
10:A:19:G:C6	40:a:2112:G:O5'	2.25	0.90
12:AB:159:LYS:NZ	12:AB:170:PRO:HB3	1.84	0.90
40:a:2017:U:O2	48:i:5:GLN:HB2	1.71	0.90
17:D:1186:G:H4'	28:O:115:LYS:NZ	1.86	0.90
28:O:113:ARG:CZ	32:S:101:TRP:CG	2.54	0.90
40:a:2262:U:OP2	41:b:16:SER:OG	1.88	0.90
9:9:3:LEU:HD13	9:9:5:LEU:HG	1.55	0.89
12:AB:164:ILE:CD1	12:AB:168:ALA:HA	2.02	0.89
40:a:2277:G:N7	41:b:12:ASN:ND2	2.20	0.89
43:d:90:C:H5'	61:v:18:ARG:HB3	1.54	0.89
10:B:76:A:H2'	10:B:76:A:N3	1.86	0.89
17:D:1463:U:H5''	64:y:109:ARG:NH1	1.87	0.89
40:a:1263:U:C4	48:i:4:GLN:HA	2.07	0.89
7:6:5:DT:P	14:AE:1172:LYS:NZ	2.43	0.89
36:W:65:GLU:HB3	37:X:83:LEU:HD13	1.50	0.89
24:K:56:VAL:CG2	24:K:56:VAL:CG1	2.50	0.89
40:a:1262:A:C5'	48:i:4:GLN:OE1	2.21	0.89
12:AB:164:ILE:N	12:AB:168:ALA:HB2	1.87	0.89
40:a:244:A:OP2	54:o:8:ARG:NH2	2.04	0.89
40:a:516:C:H3'	48:i:7:LYS:HE3	1.51	0.89
17:D:973:G:H5'	29:P:57:VAL:HG23	1.54	0.89
17:D:1458:G:H5''	18:E:26:SER:HB3	1.53	0.89
48:i:41:HIS:CD2	62:w:98:LEU:H	1.90	0.89
16:C:10:PHE:O	21:H:264:GLU:N	2.06	0.89
16:C:24:LYS:NZ	25:L:5:GLU:HG2	1.86	0.89
40:a:631:A:O2'	60:u:65:GLY:HA2	1.71	0.89
37:X:83:LEU:HD23	37:X:85:CYS:CB	2.02	0.89
40:a:1262:A:H2'	48:i:4:GLN:HB2	1.52	0.89
40:a:2754:U:O3'	56:q:19:ARG:NH2	2.05	0.89
17:D:177:G:OP2	18:E:64:LYS:NZ	2.05	0.89
17:D:1129:C:P	28:O:68:LYS:HZ3	1.96	0.89
17:D:1458:G:H5''	18:E:26:SER:CB	2.03	0.89
48:i:41:HIS:CG	62:w:111:ALA:HA	2.08	0.89
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.51	0.89
38:Y:20:SER:HB3	38:Y:21:PRO:HD3	1.53	0.89
40:a:579:G:C8	48:i:5:GLN:HG2	2.08	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:i:40:ARG:HD2	62:w:99:LYS:HE2	1.52	0.89
10:A:76:A:N3	10:A:76:A:H2'	1.86	0.88
40:a:1199:U:O2	65:z:2:ALA:HB3	1.74	0.88
48:i:41:HIS:CE1	62:w:111:ALA:HB1	2.09	0.88
12:AB:65:PHE:CZ	12:AB:70:LEU:HD13	2.08	0.88
40:a:68:G:H2'	40:a:69:C:C6	2.08	0.88
9:9:129:LEU:N	9:9:130:PRO:HD3	1.89	0.88
17:D:675:A:C2	30:Q:120:GLY:HA2	2.08	0.88
17:D:1309:G:N7	37:X:98:ARG:NH2	2.20	0.88
9:9:73:LYS:HB2	9:9:117:LEU:HD21	1.53	0.88
40:a:675:A:OP1	51:l:58:LYS:NZ	2.05	0.88
40:a:2297:A:N1	40:a:2321:U:C4	2.41	0.88
10:B:36:U:H2'	10:B:37:A:C8	2.09	0.88
17:D:1309:G:OP2	37:X:98:ARG:NE	2.05	0.88
40:a:2311:A:C4	53:n:77:PHE:HB3	2.08	0.88
10:B:76:A:C4'	40:a:2493:U:O2'	2.21	0.88
38:Y:104:GLN:HG2	38:Y:108:ILE:HD11	1.54	0.88
10:A:36:U:H2'	10:A:37:A:C8	2.09	0.88
12:AB:44:VAL:CG1	12:AB:45:PRO:HD2	2.03	0.88
40:a:74:A:N7	40:a:88:G:N7	2.21	0.88
40:a:1998:A:P	49:j:141:ARG:HH21	1.96	0.88
48:i:40:ARG:HB3	62:w:99:LYS:C	1.99	0.88
26:M:13:LEU:HD23	28:O:46:MET:HE1	1.54	0.88
40:a:518:G:OP2	48:i:13:ARG:NH1	2.06	0.88
40:a:1262:A:H2	48:i:6:ASN:H	1.20	0.88
2:1:18:ARG:HD2	48:i:17:ARG:HH12	1.36	0.88
48:i:41:HIS:CB	62:w:100:CYS:N	2.37	0.88
17:D:1348:U:H4'	28:O:122:ARG:CB	2.02	0.87
48:i:41:HIS:CG	62:w:99:LYS:CA	2.57	0.87
14:AE:79:LYS:HA	14:AE:81:ARG:HH12	1.32	0.87
16:C:40:VAL:CG2	16:C:40:VAL:CA	2.51	0.87
40:a:671:C:OP1	60:u:43:GLY:N	2.07	0.87
48:i:49:TYR:CZ	62:w:98:LEU:HD13	2.07	0.87
12:AB:167:ARG:HG2	22:I:61:ALA:CB	2.03	0.87
40:a:631:A:OP1	54:o:47:LYS:NZ	2.05	0.87
40:a:1261:C:H2'	48:i:4:GLN:NE2	1.89	0.87
48:i:41:HIS:CB	62:w:100:CYS:CB	2.51	0.87
40:a:449:A:OP1	51:l:80:SER:N	2.08	0.87
14:AE:79:LYS:N	14:AE:81:ARG:NH1	2.22	0.87
17:D:675:A:H2	30:Q:120:GLY:CA	1.85	0.87
40:a:446:G:OP1	65:z:3:ARG:NH2	2.08	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:39:THR:HA	9:9:42:ARG:HD2	1.55	0.87
10:A:76:A:N7	40:a:2421:G:H2'	1.88	0.86
12:AB:164:ILE:H	12:AB:168:ALA:CB	1.87	0.86
12:AB:167:ARG:HG2	22:I:61:ALA:HB2	1.54	0.86
40:a:670:A:H3'	60:u:43:GLY:N	1.90	0.86
40:a:870:U:OP1	61:v:6:ARG:NH1	2.07	0.86
40:a:1657:U:O3'	49:j:138:LEU:HD22	1.73	0.86
16:C:45:THR:CA	21:H:340:ARG:HD2	2.04	0.86
17:D:1370:G:H5''	28:O:111:VAL:HG21	1.56	0.86
48:i:41:HIS:CG	62:w:98:LEU:C	2.54	0.86
17:D:1152:A:OP1	29:P:70:HIS:ND1	2.09	0.86
17:D:1202:U:O2	32:S:82:ILE:HD12	1.74	0.86
40:a:606:U:O3'	51:l:95:LYS:NZ	2.09	0.86
40:a:2344:U:O2'	50:k:50:LYS:HD3	1.76	0.86
40:a:2675:A:OP1	59:t:31:ARG:HD2	1.76	0.86
17:D:1060:U:O2'	29:P:58:ASN:OD1	1.94	0.86
40:a:88:G:H5''	40:a:89:A:OP2	1.76	0.86
17:D:1368:A:OP2	28:O:114:LYS:NZ	2.09	0.85
2:1:15:GLN:HE22	48:i:16:ARG:HE	1.22	0.85
12:AB:140:PRO:HG3	29:P:102:LEU:HD23	1.55	0.85
29:P:52:LEU:CD1	32:S:81:ARG:NH1	2.39	0.85
40:a:861:A:C2	43:d:79:G:O2'	2.29	0.85
40:a:2223:G:O3'	47:h:265:LYS:NZ	2.09	0.85
46:g:60:PHE:CE2	46:g:64:PHE:HE1	1.93	0.85
40:a:662:G:H4'	60:u:16:GLY:HA2	1.55	0.85
40:a:2016:U:C4	40:a:2017:U:O4	2.29	0.85
2:1:15:GLN:HA	48:i:17:ARG:CZ	2.07	0.85
40:a:517:C:P	48:i:7:LYS:CE	2.64	0.85
40:a:1262:A:O3'	48:i:8:PRO:CD	2.24	0.85
40:a:919:U:C4'	43:d:81:G:H4'	2.06	0.85
40:a:1130:U:C2	49:j:152:PRO:HA	2.11	0.85
40:a:1670:C:O2	49:j:134:HIS:CE1	2.29	0.85
40:a:1262:A:O2'	48:i:8:PRO:CD	2.25	0.85
10:A:16:C:O2	40:a:2181:U:H5'	1.76	0.85
40:a:534:U:OP1	65:z:24:TYR:OH	1.95	0.84
2:1:18:ARG:CD	48:i:17:ARG:HH12	1.89	0.84
40:a:1009:A:O4'	65:z:59:GLN:NE2	2.09	0.84
14:AE:78:LEU:C	14:AE:81:ARG:HH11	1.79	0.84
2:1:18:ARG:CZ	40:a:518:G:H4'	2.08	0.84
9:9:129:LEU:H	9:9:130:PRO:HD3	1.43	0.84
16:C:64:TYR:OH	17:D:672:U:O2'	1.95	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:O:113:ARG:NH1	32:S:101:TRP:N	2.25	0.84
28:O:113:ARG:CZ	32:S:101:TRP:CD1	2.59	0.84
21:H:163:ARG:CB	21:H:298:GLU:HG3	2.07	0.84
50:k:14:SER:O	50:k:16:GLY:N	2.10	0.84
10:A:76:A:H1'	40:a:2421:G:N2	1.93	0.84
8:7:-12:U:H3'	8:7:-12:U:H6	1.42	0.84
12:AB:164:ILE:CD1	12:AB:168:ALA:CA	2.56	0.84
40:a:814:C:N4	60:u:24:GLY:O	2.10	0.84
40:a:2356:U:H4'	41:b:20:ARG:NE	1.93	0.84
21:H:135:LEU:CB	21:H:167:VAL:CB	2.56	0.83
17:D:105:G:OP2	18:E:13:GLN:NE2	2.11	0.83
17:D:1186:G:H4'	28:O:115:LYS:HZ2	1.41	0.83
38:Y:60:VAL:HG13	38:Y:66:PHE:HB3	1.58	0.83
48:i:41:HIS:CG	62:w:99:LYS:HA	2.13	0.83
16:C:44:ILE:CG2	21:H:340:ARG:CB	2.53	0.83
17:D:1458:G:H4'	18:E:23:SER:HA	1.60	0.83
40:a:1262:A:O3'	48:i:8:PRO:HD3	1.78	0.83
9:9:11:ILE:HD11	9:9:62:ARG:HA	1.58	0.83
17:D:1349:A:OP1	28:O:123:ARG:CA	2.25	0.83
49:j:157:LYS:HB3	58:s:80:HIS:CD2	2.13	0.83
16:C:45:THR:O	21:H:340:ARG:NH2	2.12	0.83
17:D:194:C:OP1	18:E:60:ARG:NH1	2.11	0.83
10:B:31:G:O4'	17:D:1339:A:C2	2.31	0.83
40:a:674:G:O4'	51:l:69:ARG:HD3	1.78	0.83
7:6:18:DC:H42	8:7:17:G:H1	1.27	0.83
7:6:21:DA:N1	8:7:15:G:N2	2.26	0.83
10:B:30:G:O2'	17:D:1339:A:N1	2.11	0.83
28:O:113:ARG:NH1	32:S:101:TRP:C	2.37	0.83
40:a:1199:U:O2	65:z:2:ALA:CB	2.27	0.83
48:i:41:HIS:CG	62:w:98:LEU:O	2.31	0.83
48:i:41:HIS:HD1	62:w:99:LYS:HA	1.43	0.83
12:AB:44:VAL:CB	12:AB:45:PRO:CD	2.47	0.83
40:a:1261:C:C2	40:a:1262:A:C8	2.67	0.83
17:D:1249:C:O2'	28:O:71:GLY:HA2	1.79	0.82
37:X:83:LEU:CD2	37:X:85:CYS:HB3	2.09	0.82
40:a:2378:A:O2'	63:x:21:LEU:HD13	1.79	0.82
48:i:50:ARG:HH11	62:w:98:LEU:CD1	1.92	0.82
16:C:65:LEU:HD11	25:L:88:MET:SD	2.18	0.82
40:a:606:U:O2'	51:l:95:LYS:NZ	2.12	0.82
12:AB:65:PHE:CD2	12:AB:68:TYR:O	2.33	0.82
40:a:2477:U:H2'	56:q:4:ARG:HH21	1.42	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.58	0.82
22:I:30:ALA:HB1	32:S:65:ARG:HH22	1.40	0.82
40:a:869:G:O2'	61:v:8:LYS:HB2	1.78	0.82
4:3:69:ASN:HD21	40:a:329:G:P	2.03	0.82
12:AB:158:LEU:HD21	12:AB:175:PHE:CE1	2.14	0.82
10:B:76:A:H5''	40:a:2493:U:O3'	1.77	0.82
40:a:2016:U:H2'	40:a:2017:U:C6	2.13	0.82
48:i:41:HIS:C	62:w:100:CYS:HB3	2.05	0.82
10:B:18:G:N2	10:B:55:U:O2	2.13	0.82
21:H:267:TRP:CZ3	21:H:340:ARG:HG2	2.14	0.82
40:a:2681:C:OP1	49:j:114:LYS:NZ	2.13	0.82
48:i:50:ARG:NH2	62:w:96:ARG:HH21	1.74	0.82
29:P:47:GLU:OE1	32:S:76:LYS:NZ	2.11	0.82
40:a:372:G:O2'	42:c:54:LYS:HE2	1.80	0.82
40:a:1006:C:O2'	58:s:108:MET:O	1.98	0.82
40:a:2286:G:O6	40:a:2346:A:C2	2.33	0.82
2:1:15:GLN:HG3	48:i:17:ARG:CG	2.10	0.82
48:i:42:HIS:CD2	62:w:100:CYS:HB2	2.14	0.82
2:1:19:LEU:HD21	48:i:20:ASP:HB3	0.88	0.81
2:1:18:ARG:NH2	40:a:518:G:H4'	1.94	0.81
14:AE:81:ARG:H	14:AE:81:ARG:HD2	1.45	0.81
38:Y:102:ARG:HB3	38:Y:141:ASP:HA	1.62	0.81
2:1:39:THR:CG2	48:i:22:LEU:HD13	2.09	0.81
16:C:23:TYR:CZ	25:L:90:MET:SD	2.73	0.81
29:P:49:PHE:CZ	32:S:76:LYS:CD	2.60	0.81
36:W:65:GLU:C	37:X:83:LEU:CD1	2.53	0.81
40:a:1263:U:N3	48:i:4:GLN:HA	1.96	0.81
40:a:1814:G:H4'	47:h:51:THR:HG21	1.60	0.81
40:a:2286:G:C6	50:k:14:SER:O	2.33	0.81
40:a:2311:A:C2	53:n:77:PHE:HB3	2.16	0.81
40:a:1566:A:O4'	47:h:213:TRP:HB3	1.80	0.81
10:B:76:A:H4'	40:a:2493:U:C2'	2.10	0.81
16:C:40:VAL:CG1	16:C:40:VAL:HB	2.08	0.81
40:a:1839:G:H1'	40:a:1927:A:C8	2.15	0.81
2:1:39:THR:CG2	48:i:22:LEU:HB3	2.10	0.81
10:B:76:A:O2'	40:a:2493:U:C2'	2.27	0.81
17:D:1225:A:H4'	36:W:78:ARG:HH11	1.42	0.81
29:P:52:LEU:CD1	32:S:81:ARG:CZ	2.58	0.81
9:9:18:VAL:HA	9:9:86:MET:HE2	1.62	0.81
14:AE:78:LEU:C	14:AE:81:ARG:NH1	2.24	0.81
40:a:516:C:H3'	48:i:7:LYS:CD	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:15:GLN:NE2	48:i:16:ARG:HE	1.78	0.81
40:a:125:A:OP2	52:m:19:ARG:NH2	2.14	0.81
40:a:587:C:O2	60:u:33:ARG:NH2	2.14	0.81
40:a:1190:G:OP1	60:u:30:THR:OG1	1.97	0.81
10:B:32:C:C5'	17:D:1340:A:O3'	2.29	0.81
40:a:381:G:OP1	42:c:16:ASN:ND2	2.12	0.81
40:a:1262:A:C5	48:i:4:GLN:HG3	2.14	0.81
40:a:2262:U:OP2	41:b:16:SER:CB	2.28	0.81
17:D:194:C:O2'	18:E:63:ALA:CB	2.29	0.81
12:AB:133:MET:SD	12:AB:146:GLY:N	2.55	0.80
40:a:670:A:H3'	60:u:43:GLY:CA	2.11	0.80
9:9:139:LEU:CD2	39:Z:11:VAL:HG13	2.11	0.80
10:A:6:G:O2'	10:A:7:G:O5'	1.99	0.80
40:a:1263:U:C2	48:i:4:GLN:HA	2.16	0.80
40:a:2511:U:H4'	49:j:130:GLN:CG	2.10	0.80
54:o:13:ARG:NH2	60:u:59:ARG:O	2.14	0.80
7:6:21:DA:N1	8:7:15:G:C2	2.49	0.80
17:D:1368:A:OP1	28:O:116:VAL:HB	1.81	0.80
22:I:30:ALA:CB	32:S:65:ARG:HH22	1.95	0.80
24:K:165:LEU:HD12	27:N:114:ARG:HD2	1.64	0.80
40:a:2356:U:H4'	41:b:20:ARG:HE	1.47	0.80
40:a:1568:G:H4'	47:h:59:LYS:HB3	1.62	0.80
40:a:2817:U:OP1	62:w:42:LYS:NZ	2.13	0.80
10:B:6:G:O2'	10:B:7:G:O5'	1.99	0.80
10:A:19:G:O6	40:a:2112:G:OP2	2.00	0.80
17:D:1160:G:O2'	20:G:131:LYS:NZ	2.14	0.80
17:D:1463:U:OP1	64:y:109:ARG:CZ	2.29	0.80
22:I:30:ALA:HB1	32:S:65:ARG:HH21	1.46	0.80
40:a:1997:C:H5'	49:j:129:THR:OG1	1.82	0.80
2:1:15:GLN:OE1	48:i:16:ARG:HG2	1.83	0.80
8:7:-20:A:H1'	17:D:790:A:H62	1.45	0.80
48:i:40:ARG:HB3	62:w:99:LYS:CB	2.12	0.80
4:3:45:HIS:HB2	40:a:482:A:H4'	1.62	0.79
16:C:10:PHE:HE2	21:H:267:TRP:CD1	2.00	0.79
17:D:1240:U:O4	26:M:109:ARG:NH2	2.15	0.79
40:a:1997:C:C5'	49:j:129:THR:OG1	2.30	0.79
8:7:-17:U:C4	17:D:1403:C:H1'	2.17	0.79
10:A:54:U:H3	10:A:58:A:N6	1.81	0.79
10:B:76:A:C2	40:a:2460:U:O2'	2.34	0.79
21:H:163:ARG:CA	21:H:298:GLU:HG3	2.13	0.79
21:H:305:HIS:CD2	21:H:306:VAL:H	2.00	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:348:GLN:N	21:H:348:GLN:OE1	2.15	0.79
28:O:113:ARG:CZ	32:S:101:TRP:C	2.55	0.79
28:O:113:ARG:HH11	32:S:101:TRP:C	1.88	0.79
40:a:74:A:C8	40:a:88:G:N7	2.50	0.79
40:a:1258:U:P	51:l:67:ARG:HH22	2.05	0.79
2:1:15:GLN:HG3	48:i:17:ARG:CD	2.13	0.79
10:B:54:U:H3	10:B:58:A:N6	1.81	0.79
17:D:1307:U:H1'	37:X:108:THR:HG21	1.61	0.79
17:D:1371:G:OP2	28:O:111:VAL:HG11	1.82	0.79
12:AB:158:LEU:HD11	12:AB:175:PHE:CD1	2.17	0.79
40:a:752:A:H3'	52:m:1:MET:SD	2.22	0.79
40:a:2286:G:C4	50:k:14:SER:HB2	2.16	0.79
10:A:18:G:N2	10:A:55:U:O2	2.13	0.79
17:D:1130:A:H5'	28:O:18:ARG:NH1	1.97	0.79
40:a:674:G:H4'	51:l:69:ARG:HB2	1.65	0.79
48:i:49:TYR:HH	62:w:112:TYR:HD2	1.30	0.79
17:D:437:U:O2'	23:J:120:HIS:CE1	2.35	0.79
40:a:1262:A:C2'	40:a:1262:A:N3	2.46	0.79
40:a:674:G:O2'	51:l:62:GLN:NE2	2.16	0.79
40:a:988:A:H3'	45:f:14:ILE:HD12	1.63	0.79
40:a:1789:A:OP2	47:h:221:ARG:NH1	2.16	0.79
54:o:7:VAL:HG11	60:u:58:TYR:CZ	2.18	0.79
2:1:41:LYS:HG2	48:i:22:LEU:HD21	1.64	0.79
16:C:25:ASP:CG	25:L:101:PRO:HG3	2.07	0.79
17:D:1202:U:N1	32:S:82:ILE:CD1	2.46	0.79
17:D:1130:A:H4'	28:O:20:PHE:CZ	2.18	0.79
29:P:52:LEU:HD13	32:S:81:ARG:CZ	2.14	0.78
40:a:1657:U:H5''	49:j:138:LEU:CA	2.13	0.78
40:a:2742:G:OP1	56:q:36:ARG:NE	2.15	0.78
48:i:41:HIS:CD2	62:w:98:LEU:N	2.50	0.78
17:D:1130:A:H5'	28:O:18:ARG:HH12	1.46	0.78
40:a:38:A:C4'	51:l:45:ALA:HB3	2.13	0.78
4:3:46:GLN:O	40:a:483:A:H4'	1.84	0.78
4:3:16:GLY:HA2	40:a:309:A:H4'	1.64	0.78
10:A:67:C:OP1	50:k:44:ARG:NH1	2.16	0.78
21:H:71:ALA:C	21:H:72:LEU:HD12	2.09	0.78
40:a:251:A:H5''	60:u:47:ARG:CZ	2.14	0.78
40:a:2094:A:OP1	57:r:22:LYS:HD2	1.82	0.78
2:1:39:THR:HG21	48:i:22:LEU:CG	2.12	0.78
40:a:1266:G:H5''	48:i:16:ARG:CD	2.14	0.78
40:a:18:U:OP1	65:z:30:ARG:NH1	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1262:A:N6	48:i:3:VAL:O	2.17	0.78
40:a:872:U:H5'	61:v:68:PHE:CD1	2.18	0.78
40:a:1256:G:H4'	51:l:68:ALA:HB2	1.63	0.78
40:a:917:A:N1	43:d:80:U:H4'	1.97	0.78
40:a:2311:A:C8	53:n:77:PHE:CD2	2.71	0.78
46:g:16:CYS:HB2	46:g:37:CYS:HB3	1.66	0.78
40:a:254:G:N7	54:o:5:LYS:NZ	2.32	0.78
40:a:2311:A:H4'	53:n:74:VAL:CG1	2.13	0.78
4:3:43:LYS:HE2	40:a:499:U:H5''	1.66	0.77
16:C:66:SER:HG	25:L:49:TYR:HH	0.91	0.77
40:a:1189:A:H4'	60:u:35:HIS:CE1	2.19	0.77
17:D:1158:C:O2'	20:G:132:LYS:NZ	2.17	0.77
29:P:49:PHE:HZ	32:S:76:LYS:HD3	1.48	0.77
63:x:31:THR:O	63:x:102:ARG:NH1	2.16	0.77
40:a:1261:C:C2	40:a:1262:A:H8	2.02	0.77
48:i:50:ARG:NH2	62:w:96:ARG:HB3	1.98	0.77
40:a:320:A:N3	51:l:163:ASN:ND2	2.33	0.77
40:a:919:U:O4'	43:d:81:G:H4'	1.85	0.77
40:a:1993:U:O3'	49:j:133:THR:HG22	1.84	0.77
1:0:82:HIS:NE2	60:u:23:ILE:HG12	2.00	0.77
10:A:18:G:N7	10:A:57:A:N6	2.33	0.77
40:a:38:A:H4'	51:l:45:ALA:CB	2.13	0.77
40:a:674:G:H1'	51:l:69:ARG:CZ	2.15	0.77
7:6:15:DC:C4	7:6:16:DC:N4	2.53	0.77
40:a:518:G:OP1	48:i:13:ARG:HD3	1.84	0.77
40:a:686:U:O4	52:m:12:ARG:CB	2.32	0.77
38:Y:85:ILE:H	38:Y:85:ILE:HD12	1.50	0.77
8:7:-15:U:H1'	17:D:1493:A:H2	1.49	0.76
9:9:93:ALA:HB1	9:9:94:ARG:NH2	1.99	0.76
40:a:674:G:C4'	51:l:69:ARG:HD3	2.15	0.76
40:a:1997:C:O5'	49:j:129:THR:OG1	2.03	0.76
40:a:2356:U:C4'	41:b:20:ARG:HE	1.98	0.76
9:9:139:LEU:HD21	39:Z:11:VAL:HG13	1.67	0.76
10:A:70:G:H2'	10:A:71:C:H5''	1.67	0.76
17:D:186:C:H5'	18:E:73:ALA:HB1	1.66	0.76
40:a:1262:A:C3'	48:i:8:PRO:HD3	2.16	0.76
40:a:1796:U:O2'	47:h:252:THR:O	2.03	0.76
40:a:2017:U:C4	48:i:5:GLN:HG3	2.20	0.76
40:a:2312:U:OP1	53:n:72:LYS:O	2.04	0.76
17:D:1202:U:H1'	32:S:82:ILE:CD1	2.15	0.76
40:a:675:A:OP1	51:l:58:LYS:CE	2.34	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1568:G:O3'	47:h:59:LYS:HE3	1.84	0.76
54:o:58:VAL:CG2	60:u:57:LEU:HD23	2.15	0.76
17:D:1458:G:C5'	18:E:26:SER:HB3	2.16	0.76
21:H:279:LYS:HA	21:H:331:MET:HB3	1.65	0.76
40:a:918:A:C1'	43:d:80:U:O2'	2.33	0.76
40:a:2899:A:H1'	58:s:134:ALA:HB1	1.66	0.76
17:D:1492:A:H5''	31:R:44:LYS:NZ	2.00	0.76
40:a:518:G:O5'	48:i:13:ARG:NH1	2.19	0.76
2:l:41:LYS:CG	48:i:22:LEU:CD2	2.64	0.76
10:B:18:G:N7	10:B:57:A:N6	2.33	0.76
40:a:579:G:H1'	48:i:5:GLN:HB3	1.68	0.76
48:i:41:HIS:CE1	62:w:111:ALA:CB	2.68	0.76
9:9:52:MET:C	9:9:52:MET:HE3	2.11	0.76
12:AB:158:LEU:HD11	12:AB:175:PHE:CE1	2.21	0.76
17:D:194:C:H4'	18:E:60:ARG:HA	1.67	0.76
21:H:267:TRP:CH2	21:H:340:ARG:HB3	2.21	0.76
40:a:516:C:C3'	48:i:7:LYS:HE3	2.15	0.76
40:a:2642:G:H5'	58:s:80:HIS:CG	2.20	0.76
40:a:2642:G:C5'	58:s:80:HIS:CD2	2.68	0.76
7:6:18:DC:N3	8:7:17:G:N2	2.31	0.76
40:a:517:C:P	48:i:7:LYS:HE3	2.26	0.76
40:a:1490:A:C2	47:h:98:ASP:HB3	2.20	0.76
48:i:40:ARG:O	62:w:100:CYS:HA	1.86	0.76
12:AB:140:PRO:HG3	29:P:102:LEU:HD21	1.66	0.76
17:D:1310:G:P	37:X:87:ARG:HH22	2.08	0.76
40:a:615:U:O4	51:l:39:ALA:HB2	1.86	0.76
40:a:917:A:C2	43:d:80:U:H4'	2.21	0.76
40:a:1263:U:OP1	48:i:8:PRO:HG3	1.86	0.76
2:l:15:GLN:CG	48:i:17:ARG:HG2	2.15	0.75
9:9:142:THR:HG21	39:Z:7:ILE:CD1	2.16	0.75
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.15	0.75
17:D:13:U:O4	17:D:21:G:C2	2.39	0.75
38:Y:72:THR:OG1	38:Y:73:PRO:HD2	1.87	0.75
40:a:250:G:H4'	60:u:59:ARG:NE	2.01	0.75
46:g:16:CYS:CB	46:g:37:CYS:HB3	2.16	0.75
48:i:41:HIS:CB	62:w:98:LEU:O	2.34	0.75
4:3:36:VAL:HG11	4:3:39:ILE:HD12	1.68	0.75
28:O:113:ARG:CZ	32:S:101:TRP:CD2	2.69	0.75
10:B:76:A:O2'	40:a:2493:U:C2	2.37	0.75
38:Y:32:VAL:HG13	38:Y:60:VAL:HG21	1.67	0.75
40:a:956:G:H4'	61:v:82:MET:SD	2.26	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1263:U:C4	48:i:4:GLN:CA	2.70	0.75
10:B:76:A:C2'	40:a:2493:U:O2'	2.35	0.75
17:D:973:G:C5'	29:P:57:VAL:HG23	2.17	0.75
17:D:1152:A:H4'	29:P:15:HIS:CD2	2.21	0.75
17:D:1309:G:OP2	37:X:98:ARG:HG2	1.86	0.75
40:a:1568:G:H5''	47:h:59:LYS:HG2	1.69	0.75
40:a:918:A:N3	43:d:81:G:H5'	2.02	0.75
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.67	0.75
10:B:70:G:H2'	10:B:71:C:H5''	1.67	0.75
17:D:693:G:P	30:Q:127:ARG:HH22	2.09	0.75
21:H:163:ARG:N	21:H:298:GLU:CG	2.48	0.75
40:a:675:A:H4'	51:l:62:GLN:CD	2.12	0.75
40:a:1993:U:O2'	49:j:134:HIS:NE2	2.18	0.75
11:AA:895:LEU:HD22	29:P:91:ASP:OD1	1.85	0.75
12:AB:164:ILE:HD12	12:AB:168:ALA:HA	1.68	0.75
17:D:538:G:OP1	31:R:112:GLN:N	2.20	0.75
24:K:111:MET:HE2	24:K:125:ALA:HB1	1.67	0.75
40:a:1262:A:H2'	40:a:1262:A:N3	2.01	0.75
40:a:1825:U:OP1	47:h:230:HIS:NE2	2.20	0.75
2:1:20:VAL:CG2	48:i:22:LEU:HD11	2.16	0.75
17:D:136:C:H1'	34:U:1:MET:HB3	1.69	0.75
17:D:675:A:C2	30:Q:120:GLY:CA	2.68	0.74
17:D:1240:U:O2	26:M:32:VAL:HG12	1.86	0.74
17:D:1349:A:OP1	28:O:123:ARG:CB	2.35	0.74
22:I:8:ASN:ND2	32:S:90:ARG:O	2.20	0.74
40:a:2820:A:H4'	62:w:3:HIS:CD2	2.22	0.74
48:i:50:ARG:NH1	62:w:114:GLU:HG2	2.02	0.74
53:n:125:ARG:O	53:n:127:ASN:ND2	2.20	0.74
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.70	0.74
32:S:77:PHE:CE1	32:S:96:LEU:HD21	2.22	0.74
40:a:534:U:O2'	65:z:45:TYR:HB3	1.87	0.74
28:O:113:ARG:HE	32:S:101:TRP:CD1	2.05	0.74
40:a:579:G:O4'	48:i:5:GLN:OE1	2.05	0.74
40:a:1198:U:O2	65:z:4:VAL:CG2	2.35	0.74
40:a:1216:G:OP1	65:z:11:ARG:NH2	2.19	0.74
40:a:2477:U:H2'	56:q:4:ARG:NH2	2.01	0.74
40:a:2678:C:P	49:j:126:ASN:ND2	2.61	0.74
12:AB:53:ARG:HB3	12:AB:123:ARG:HD3	1.68	0.74
16:C:40:VAL:HG11	16:C:45:THR:HG23	1.67	0.74
17:D:1369:C:OP1	32:S:101:TRP:NE1	2.18	0.74
40:a:663:G:H5''	60:u:17:LYS:HD2	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:742:A:H2'	40:a:743:A:C8	2.22	0.74
40:a:2016:U:N3	40:a:2017:U:C4	2.56	0.74
16:C:40:VAL:CG2	16:C:40:VAL:HB	2.12	0.74
40:a:1812:U:O4'	47:h:45:ASN:ND2	2.21	0.74
54:o:15:LYS:HE3	60:u:64:PHE:CZ	2.22	0.74
8:7:-11:U:C5	22:I:162:ILE:HG13	2.20	0.74
10:A:19:G:O6	40:a:2112:G:P	2.46	0.74
23:J:162:ALA:HA	23:J:165:ARG:CZ	2.18	0.74
48:i:41:HIS:CB	62:w:99:LYS:C	2.60	0.74
14:AE:81:ARG:HD2	14:AE:81:ARG:N	2.03	0.74
17:D:1202:U:C1'	32:S:82:ILE:CD1	2.66	0.74
40:a:631:A:H4'	60:u:64:PHE:HD2	1.45	0.74
41:b:18:ALA:HB3	41:b:20:ARG:NH1	2.03	0.74
8:7:0:U:H4'	22:I:80:LYS:HB2	1.70	0.73
9:9:31:ARG:HH11	9:9:31:ARG:HG3	1.53	0.73
16:C:66:SER:OG	25:L:49:TYR:CZ	2.38	0.73
17:D:626:G:OP1	34:U:18:GLN:NE2	2.21	0.73
38:Y:74:PRO:HG2	38:Y:77:VAL:HB	1.68	0.73
12:AB:140:PRO:CG	29:P:102:LEU:HD23	2.17	0.73
16:C:64:TYR:HE1	17:D:673:A:O4'	1.71	0.73
17:D:43:C:OP1	34:U:12:LYS:HE3	1.89	0.73
40:a:850:U:O4'	45:f:22:ALA:HB1	1.89	0.73
40:a:1251:C:OP2	65:z:6:ARG:HD2	1.88	0.73
2:1:23:LEU:HD11	48:i:22:LEU:HB2	1.69	0.73
9:9:52:MET:HG3	9:9:95:LEU:HD11	1.69	0.73
10:A:56:C:H2'	10:A:57:A:H5''	1.70	0.73
12:AB:148:VAL:HG13	12:AB:148:VAL:O	1.89	0.73
40:a:241:A:O2'	54:o:3:LYS:NZ	2.22	0.73
40:a:2356:U:H4'	41:b:20:ARG:CD	2.18	0.73
17:D:705:G:H21	30:Q:31:ILE:HD13	1.53	0.73
40:a:579:G:H1'	48:i:5:GLN:O	1.89	0.73
40:a:1262:A:C8	48:i:4:GLN:CD	2.66	0.73
40:a:2232:C:P	42:c:27:ARG:HH12	2.11	0.73
48:i:41:HIS:CA	62:w:100:CYS:HB3	2.18	0.73
8:7:-12:U:H6	8:7:-12:U:C3'	1.97	0.73
40:a:2311:A:O4'	53:n:74:VAL:HG21	1.89	0.73
54:o:13:ARG:HB3	60:u:61:LEU:HB2	1.69	0.73
10:B:76:A:H2	40:a:2460:U:HO2'	1.33	0.73
17:D:1308:U:P	37:X:100:GLN:NE2	2.62	0.73
8:7:-12:U:C3'	8:7:-12:U:C6	2.71	0.73
9:9:28:ALA:H	9:9:110:ALA:HA	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:58:A:O2'	10:B:59:A:H3'	1.88	0.73
16:C:40:VAL:HG21	21:H:338:GLU:CB	2.19	0.73
17:D:677:U:H1'	30:Q:121:CYS:SG	2.28	0.73
28:O:113:ARG:NH2	32:S:101:TRP:NE1	2.37	0.73
40:a:1993:U:O3'	49:j:133:THR:CG2	2.36	0.73
40:a:2357:G:P	41:b:20:ARG:HH21	2.10	0.73
10:A:76:A:N3	10:A:76:A:C2'	2.48	0.73
40:a:2019:A:OP1	48:i:6:ASN:ND2	2.20	0.73
40:a:2642:G:OP1	58:s:80:HIS:HB2	1.88	0.73
40:a:2815:C:H4'	48:i:26:THR:CB	2.19	0.73
14:AE:77:ARG:NE	14:AE:77:ARG:HA	2.04	0.73
33:T:53:ARG:NH1	40:a:715:A:N1	2.37	0.73
40:a:404:A:O2'	40:a:405:U:OP2	2.06	0.73
40:a:1839:G:C8	40:a:1927:A:H1'	2.24	0.73
10:B:56:C:H2'	10:B:57:A:H5''	1.70	0.72
16:C:40:VAL:CG1	16:C:40:VAL:CA	2.67	0.72
17:D:1309:G:OP2	37:X:98:ARG:CD	2.37	0.72
40:a:579:G:N9	48:i:5:GLN:HG2	2.02	0.72
40:a:1263:U:C5	48:i:4:GLN:CB	2.72	0.72
9:9:35:VAL:HG21	38:Y:2:LYS:HA	1.70	0.72
16:C:23:TYR:OH	25:L:88:MET:SD	2.43	0.72
28:O:113:ARG:HH21	32:S:101:TRP:NE1	1.87	0.72
17:D:193:C:O2'	18:E:59:ASP:HB2	1.90	0.72
17:D:1348:U:C4'	28:O:122:ARG:HB2	2.09	0.72
40:a:588:U:H1'	51:l:85:PHE:CD1	2.24	0.72
49:j:133:THR:HG23	49:j:134:HIS:N	2.03	0.72
8:7:-20:A:H1'	17:D:790:A:N6	2.04	0.72
12:AB:150:GLU:HB3	12:AB:159:LYS:HB3	1.69	0.72
10:B:56:C:OP1	53:n:80:ARG:NE	2.22	0.72
40:a:1657:U:O3'	49:j:138:LEU:CD2	2.36	0.72
2:1:41:LYS:HE3	48:i:20:ASP:O	1.89	0.72
2:1:49:LYS:HE2	40:a:488:G:H4'	1.72	0.72
10:A:58:A:O2'	10:A:59:A:H3'	1.88	0.72
40:a:2641:G:O2'	58:s:80:HIS:CE1	2.43	0.72
7:6:21:DA:C6	8:7:15:G:N2	2.57	0.72
10:A:56:C:C5	40:a:2168:G:C6	2.76	0.72
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.72
10:B:6:G:HO2'	10:B:7:G:C5'	2.03	0.72
40:a:516:C:O5'	48:i:7:LYS:HD2	1.89	0.72
12:AB:54:GLY:HA3	12:AB:59:LYS:HE3	1.70	0.72
12:AB:113:ASN:O	12:AB:117:GLN:HG3	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:158:LEU:HD21	12:AB:175:PHE:CZ	2.24	0.72
28:O:113:ARG:CZ	32:S:101:TRP:OXT	2.38	0.72
40:a:2014:A:P	48:i:2:ALA:HA	2.30	0.72
40:a:2279:G:O6	41:b:14:ARG:NE	2.22	0.72
43:d:90:C:OP2	61:v:18:ARG:HD2	1.89	0.72
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.71	0.72
16:C:40:VAL:CG1	16:C:45:THR:HG23	2.20	0.72
16:C:24:LYS:HZ3	25:L:5:GLU:HG2	1.53	0.72
17:D:193:C:H4'	18:E:56:PRO:HA	1.72	0.72
40:a:579:G:N1	40:a:1262:A:C5	2.58	0.72
40:a:2511:U:H4'	49:j:130:GLN:HG2	1.70	0.72
2:1:39:THR:CG2	48:i:22:LEU:HD22	2.19	0.72
17:D:1317:C:N4	32:S:53:ARG:HD3	2.04	0.71
21:H:19:ARG:O	21:H:72:LEU:HB2	1.90	0.71
40:a:1263:U:C6	48:i:4:GLN:HB3	2.24	0.71
9:9:3:LEU:H	9:9:3:LEU:HD12	1.54	0.71
40:a:517:C:P	48:i:7:LYS:HG3	2.26	0.71
40:a:1567:G:H5'	47:h:58:HIS:CG	2.24	0.71
40:a:1812:U:C2'	47:h:44:ASN:HB2	2.20	0.71
40:a:2277:G:C8	41:b:12:ASN:ND2	2.58	0.71
8:7:-20:A:N6	10:B:37:A:N6	2.38	0.71
40:a:851:C:OP1	45:f:19:LYS:HE2	1.90	0.71
46:g:18:CYS:HB3	46:g:40:CYS:CB	2.19	0.71
48:i:40:ARG:CD	62:w:99:LYS:HB2	2.20	0.71
16:C:44:ILE:HD13	21:H:339:ARG:O	1.90	0.71
29:P:65:TYR:CZ	32:S:88:ALA:CB	2.73	0.71
2:1:18:ARG:NH1	40:a:518:G:H4'	2.06	0.71
17:D:675:A:O2'	30:Q:118:HIS:N	2.24	0.71
17:D:1377:A:H2'	26:M:2:PRO:N	2.05	0.71
38:Y:81:LYS:O	38:Y:81:LYS:HE3	1.90	0.71
8:7:-15:U:C6	17:D:1493:A:N3	2.58	0.71
9:9:11:ILE:CD1	9:9:62:ARG:HD3	2.20	0.71
38:Y:19:PRO:HG2	38:Y:24:GLY:H	1.54	0.71
40:a:674:G:C1'	51:l:69:ARG:HD3	2.21	0.71
14:AE:68:TYR:HA	14:AE:92:VAL:HG23	1.72	0.71
14:AE:79:LYS:CA	14:AE:81:ARG:NH2	2.40	0.71
10:B:75:C:O2'	10:B:76:A:C8	2.43	0.71
40:a:631:A:HO2'	60:u:65:GLY:HA2	1.54	0.71
48:i:41:HIS:ND1	62:w:111:ALA:CB	2.53	0.71
2:1:18:ARG:CD	48:i:17:ARG:NH1	2.50	0.71
8:7:12:G:H1'	14:AE:253:VAL:CG1	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:75:C:O2'	10:A:76:A:C8	2.43	0.71
10:B:76:A:H4'	40:a:2493:U:C3'	2.21	0.71
16:C:40:VAL:HG21	21:H:338:GLU:C	2.15	0.71
17:D:13:U:C4	17:D:915:A:N6	2.59	0.71
40:a:1262:A:C5'	48:i:4:GLN:CD	2.58	0.71
40:a:2619:C:H4'	49:j:155:VAL:CB	2.20	0.71
8:7:14:U:H4'	14:AE:322:ARG:CZ	2.21	0.71
10:A:31:G:H2'	10:A:32:C:O4'	1.91	0.71
17:D:909:A:H5''	31:R:18:LYS:HE3	1.71	0.71
17:D:1457:G:H5''	18:E:30:THR:HG21	1.73	0.71
40:a:1406:U:O2'	40:a:1407:G:O5'	2.08	0.71
40:a:1814:G:C5'	47:h:51:THR:HG21	2.21	0.71
40:a:632:A:H4'	60:u:66:PHE:CE1	2.26	0.71
40:a:1263:U:C6	48:i:4:GLN:CB	2.74	0.71
40:a:1670:C:O2	49:j:134:HIS:NE2	2.24	0.71
40:a:2286:G:C8	40:a:2286:G:H5'	2.26	0.71
29:P:52:LEU:HD12	32:S:81:ARG:CZ	2.21	0.70
40:a:631:A:O2'	60:u:65:GLY:CA	2.39	0.70
40:a:813:U:O4	60:u:25:SER:HA	1.91	0.70
40:a:988:A:H3'	45:f:14:ILE:CD1	2.21	0.70
48:i:40:ARG:HD3	62:w:99:LYS:H	1.56	0.70
21:H:291:GLY:HA2	21:H:305:HIS:HA	1.73	0.70
40:a:2561:U:O2'	59:t:23:LYS:HE2	1.90	0.70
9:9:97:LYS:HD3	9:9:127:ALA:HA	1.74	0.70
40:a:1812:U:O2	47:h:44:ASN:ND2	2.21	0.70
40:a:2641:G:OP1	58:s:78:THR:HG22	1.91	0.70
2:1:20:VAL:HG13	48:i:22:LEU:HD12	1.73	0.70
3:2:66:LYS:CE	40:a:1338:G:N7	2.53	0.70
10:A:75:C:HO2'	10:A:76:A:H8	1.35	0.70
10:B:76:A:N1	61:v:78:LEU:HD21	2.05	0.70
17:D:915:A:N6	17:D:916:U:C4	2.59	0.70
40:a:1263:U:C5	48:i:4:GLN:CA	2.73	0.70
40:a:2350:C:C5	54:o:42:ARG:CZ	2.75	0.70
1:0:80:ARG:NH2	40:a:572:A:OP2	2.24	0.70
2:1:41:LYS:CG	48:i:22:LEU:HD21	2.21	0.70
17:D:1240:U:C2	26:M:32:VAL:CG1	2.74	0.70
40:a:1261:C:N3	40:a:1262:A:N7	2.39	0.70
2:1:20:VAL:HG22	48:i:22:LEU:CD1	2.22	0.70
10:A:56:C:H1'	40:a:2112:G:C6	2.26	0.70
17:D:19:A:OP1	24:K:130:SER:OG	2.10	0.70
40:a:918:A:C2'	43:d:81:G:O4'	2.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2356:U:H4'	41:b:20:ARG:HD3	1.74	0.70
2:l:15:GLN:CG	48:i:17:ARG:NE	2.54	0.70
10:B:31:G:H2'	10:B:32:C:O4'	1.91	0.70
16:C:41:PRO:HD2	21:H:339:ARG:HG3	1.71	0.70
17:D:1349:A:P	28:O:123:ARG:HB2	2.32	0.70
40:a:518:G:P	48:i:13:ARG:NE	2.65	0.70
10:B:76:A:C2'	10:B:76:A:N3	2.48	0.70
40:a:1813:G:N3	47:h:50:THR:OG1	2.25	0.70
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.70
12:AB:127:LEU:HD12	12:AB:153:TYR:OH	1.90	0.70
2:l:39:THR:HG22	48:i:22:LEU:HD22	1.73	0.70
17:D:1112:C:O2	22:I:177:THR:HA	1.91	0.70
17:D:1160:G:H4'	20:G:131:LYS:HE3	1.72	0.70
38:Y:14:ALA:HB2	38:Y:54:ILE:HD12	1.73	0.70
40:a:2820:A:O4'	62:w:3:HIS:HB3	1.92	0.70
54:o:13:ARG:CZ	60:u:61:LEU:O	2.39	0.70
9:9:125:ARG:NH1	9:9:125:ARG:HA	2.07	0.69
17:D:1517:G:H1'	40:a:1919:A:O2'	1.91	0.69
40:a:1262:A:C2'	48:i:8:PRO:HD3	2.23	0.69
40:a:2311:A:N3	53:n:77:PHE:HB3	2.06	0.69
48:i:41:HIS:CD2	62:w:98:LEU:CA	2.75	0.69
6:5:100:DA:H5'	14:AE:278:ARG:HH11	1.56	0.69
17:D:193:C:O2'	18:E:59:ASP:CB	2.40	0.69
17:D:686:U:O4'	30:Q:44:TRP:NE1	2.25	0.69
40:a:2815:C:H5''	48:i:26:THR:HG21	1.74	0.69
9:9:43:LYS:HD2	9:9:43:LYS:C	2.18	0.69
21:H:332:VAL:HG11	21:H:335:ILE:HG13	1.74	0.69
40:a:606:U:C3'	51:l:95:LYS:HZ1	2.04	0.69
11:AA:895:LEU:CD1	29:P:91:ASP:OD1	2.40	0.69
28:O:113:ARG:NH2	32:S:101:TRP:CZ2	2.60	0.69
40:a:2495:G:OP1	61:v:81:ARG:NE	2.26	0.69
40:a:2641:G:H5''	58:s:78:THR:HB	1.73	0.69
8:7:-20:A:H61	10:B:37:A:N6	1.91	0.69
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.92	0.69
40:a:2780:G:OP2	58:s:120:ARG:NH1	2.17	0.69
48:i:41:HIS:HB3	62:w:112:TYR:H	1.57	0.69
11:AA:895:LEU:HD11	29:P:91:ASP:CG	2.18	0.69
17:D:1308:U:OP1	37:X:96:PRO:HB3	1.93	0.69
40:a:1262:A:C2'	48:i:4:GLN:HB2	2.20	0.69
40:a:927:A:H2'	40:a:928:A:C8	2.28	0.69
54:o:13:ARG:HD3	60:u:58:TYR:O	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:-12:U:H3'	8:7:-12:U:C6	2.27	0.69
12:AB:133:MET:HG2	12:AB:146:GLY:C	2.03	0.69
17:D:186:C:C5'	18:E:73:ALA:HB1	2.23	0.69
17:D:675:A:O2'	30:Q:117:PRO:HA	1.93	0.69
21:H:118:GLY:O	21:H:133:GLY:CA	2.40	0.69
21:H:123:GLU:HA	21:H:128:ARG:HA	1.75	0.69
40:a:517:C:OP2	48:i:7:LYS:CE	2.41	0.69
40:a:682:G:H5'	52:m:26:ASN:ND2	2.07	0.69
40:a:2822:G:OP1	49:j:117:GLY:CA	2.38	0.69
8:7:14:U:H4'	14:AE:322:ARG:NH1	2.08	0.69
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.74	0.69
10:A:56:C:C6	40:a:2168:G:C6	2.81	0.69
17:D:254:G:OP1	35:V:70:THR:HG23	1.93	0.69
40:a:1657:U:H4'	49:j:138:LEU:HD22	1.74	0.69
40:a:2014:A:OP1	48:i:2:ALA:HA	1.93	0.69
4:3:43:LYS:HE2	40:a:499:U:C5'	2.22	0.69
7:6:21:DA:C2	8:7:15:G:N2	2.61	0.69
21:H:117:LYS:CB	21:H:279:LYS:O	2.40	0.69
40:a:2880:C:O2'	62:w:93:GLY:HA3	1.93	0.69
54:o:58:VAL:HG22	60:u:57:LEU:HD23	1.74	0.69
16:C:45:THR:N	21:H:340:ARG:HD2	2.08	0.68
17:D:1129:C:OP1	28:O:68:LYS:NZ	2.23	0.68
40:a:250:G:H4'	60:u:59:ARG:CZ	2.22	0.68
40:a:396:G:H1'	42:c:29:PHE:CB	2.22	0.68
10:B:31:G:H5'	17:D:1339:A:C6	2.27	0.68
40:a:579:G:C1'	48:i:5:GLN:HB3	2.22	0.68
40:a:801:G:C5	51:l:49:ARG:HD3	2.28	0.68
40:a:380:G:O2'	42:c:15:GLY:CA	2.41	0.68
10:A:76:A:C1'	40:a:2421:G:C2	2.72	0.68
40:a:517:C:P	48:i:7:LYS:CD	2.81	0.68
48:i:50:ARG:NE	62:w:96:ARG:HD2	2.09	0.68
54:o:12:LYS:HE2	60:u:63:LYS:HD2	1.75	0.68
6:5:100:DA:H5'	14:AE:278:ARG:HH12	1.54	0.68
10:B:44:A:O2'	37:X:117:LYS:HD3	1.94	0.68
10:B:76:A:H2	40:a:2460:U:O2'	1.72	0.68
17:D:1463:U:H5''	64:y:109:ARG:HH11	1.56	0.68
21:H:131:LEU:CB	21:H:167:VAL:CA	2.71	0.68
40:a:579:G:O4'	48:i:5:GLN:CD	2.36	0.68
40:a:2286:G:O6	50:k:14:SER:O	2.11	0.68
40:a:2820:A:H4'	62:w:3:HIS:CG	2.28	0.68
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:375:U:O2'	34:U:28:ARG:HD2	1.94	0.68
21:H:308:GLU:O	21:H:310:ASP:N	2.26	0.68
17:D:401:C:OP2	23:J:70:ARG:NH1	2.27	0.68
8:7:14:U:H4'	14:AE:322:ARG:NE	2.08	0.68
10:B:31:G:O2'	17:D:1340:A:O4'	2.12	0.68
40:a:2466:C:OP1	56:q:5:ALA:HB3	1.93	0.68
8:7:-20:A:N6	10:B:37:A:H61	1.91	0.68
10:A:22:G:H2'	10:A:23:C:C6	2.29	0.68
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.74	0.68
40:a:1997:C:C5'	49:j:129:THR:HG1	2.06	0.68
40:a:2016:U:C2	40:a:2017:U:C4	2.81	0.68
48:i:41:HIS:CG	62:w:99:LYS:C	2.72	0.68
54:o:14:PHE:HZ	60:u:57:LEU:HG	1.58	0.68
2:1:18:ARG:HH11	48:i:17:ARG:HH12	1.42	0.68
16:C:40:VAL:HG22	21:H:339:ARG:HB2	1.76	0.68
16:C:45:THR:HA	21:H:340:ARG:NE	2.08	0.68
40:a:2297:A:N1	40:a:2321:U:O4	2.27	0.68
17:D:673:A:H2'	17:D:674:G:C8	2.29	0.67
40:a:16:C:H5''	48:i:11:SER:CA	2.25	0.67
40:a:459:U:OP1	52:m:40:ALA:N	2.24	0.67
46:g:18:CYS:CB	46:g:40:CYS:CB	2.71	0.67
38:Y:21:PRO:HB2	38:Y:22:PRO:HD3	1.77	0.67
40:a:533:G:H4'	65:z:28:ARG:HH21	1.59	0.67
40:a:1250:G:H4'	65:z:6:ARG:CD	2.25	0.67
40:a:1825:U:H4'	47:h:232:HIS:HE1	1.58	0.67
40:a:2017:U:C2	48:i:5:GLN:CB	2.68	0.67
16:C:45:THR:HA	21:H:340:ARG:CZ	2.24	0.67
40:a:517:C:OP2	48:i:7:LYS:HE2	1.93	0.67
40:a:2419:U:OP2	54:o:33:LEU:HD13	1.95	0.67
40:a:2678:C:P	49:j:126:ASN:HD21	2.18	0.67
9:9:58:THR:HG21	9:9:81:LEU:HG	1.77	0.67
9:9:78:GLY:N	9:9:79:PRO:HD2	2.09	0.67
16:C:45:THR:HG22	21:H:340:ARG:NE	2.09	0.67
17:D:407:U:H5''	23:J:3:ARG:HH22	1.58	0.67
17:D:1347:G:OP1	28:O:122:ARG:NH2	2.28	0.67
40:a:868:U:H2'	61:v:8:LYS:HZ1	1.60	0.67
40:a:917:A:C2	43:d:80:U:C4'	2.77	0.67
48:i:41:HIS:O	62:w:112:TYR:CD2	2.47	0.67
9:9:11:ILE:HD12	9:9:62:ARG:HD3	1.75	0.67
17:D:1202:U:H1'	32:S:82:ILE:HD12	1.75	0.67
40:a:37:C:O3'	51:l:47:LYS:NZ	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2356:U:C3'	41:b:20:ARG:HE	2.08	0.67
40:a:2547:A:H4'	59:t:29:HIS:NE2	2.09	0.67
40:a:1250:G:H4'	65:z:6:ARG:HD2	1.76	0.67
40:a:2786:U:O2'	49:j:63:PRO:CA	2.42	0.67
23:J:61:VAL:HG21	23:J:200:ILE:HD11	1.75	0.67
28:O:84:THR:HG21	28:O:103:PHE:HB3	1.77	0.67
40:a:686:U:C4	52:m:12:ARG:HB2	2.29	0.67
40:a:814:C:H41	60:u:24:GLY:C	2.03	0.67
48:i:50:ARG:HD2	62:w:98:LEU:CG	2.25	0.67
4:3:57:GLY:HA2	40:a:483:A:O2'	1.95	0.67
7:6:8:DC:C2'	7:6:9:DT:H71	2.24	0.67
17:D:1308:U:OP1	37:X:96:PRO:CB	2.42	0.67
40:a:16:C:H5''	48:i:11:SER:HB2	1.75	0.67
40:a:448:U:C4'	51:l:79:ARG:NE	2.58	0.67
40:a:1189:A:H4'	60:u:35:HIS:HE1	1.58	0.67
46:g:18:CYS:CB	46:g:40:CYS:HB3	2.25	0.67
10:B:22:G:H2'	10:B:23:C:C6	2.29	0.67
17:D:1225:A:C4'	36:W:78:ARG:HH11	2.08	0.67
40:a:448:U:O3'	51:l:79:ARG:HG3	1.95	0.67
40:a:1596:A:H2'	40:a:1597:A:C8	2.29	0.67
40:a:2017:U:N3	48:i:5:GLN:HB2	2.09	0.67
9:9:62:ARG:HG2	9:9:62:ARG:HH21	1.59	0.66
9:9:88:HIS:CB	9:9:89:PRO:CD	2.67	0.66
17:D:973:G:H5'	29:P:57:VAL:CG2	2.24	0.66
17:D:1343:G:H5''	28:O:127:PHE:HB3	1.76	0.66
40:a:1262:A:O3'	48:i:8:PRO:CG	2.43	0.66
17:D:185:U:O4'	18:E:69:LYS:HE2	1.95	0.66
40:a:68:G:H2'	40:a:69:C:H6	1.57	0.66
40:a:1263:U:C5	40:a:1264:A:C6	2.83	0.66
40:a:2286:G:C5	50:k:14:SER:O	2.48	0.66
4:3:15:THR:HA	40:a:310:A:OP1	1.96	0.66
12:AB:128:PHE:HE1	12:AB:180:LYS:HB2	1.59	0.66
12:AB:167:ARG:NE	12:AB:167:ARG:HA	2.10	0.66
10:B:76:A:O3'	40:a:2493:U:H1'	1.93	0.66
17:D:948:C:O5'	37:X:105:ASN:OD1	2.12	0.66
21:H:163:ARG:N	21:H:298:GLU:CD	2.53	0.66
40:a:579:G:H1'	48:i:5:GLN:CB	2.26	0.66
48:i:41:HIS:CE1	62:w:99:LYS:CA	2.73	0.66
48:i:41:HIS:HB3	62:w:100:CYS:HB3	1.75	0.66
53:n:74:VAL:HG21	53:n:77:PHE:HD2	1.61	0.66
9:9:51:TYR:CD1	9:9:88:HIS:HB2	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:134:VAL:CG2	12:AB:160:VAL:HG11	2.25	0.66
40:a:2880:C:C2'	62:w:93:GLY:HA3	2.26	0.66
2:1:39:THR:CG2	48:i:22:LEU:CD1	2.71	0.66
10:A:5:G:H2'	10:A:6:G:H5'	1.78	0.66
12:AB:48:GLU:HB3	12:AB:62:ARG:HG2	1.76	0.66
16:C:19:GLN:OE1	25:L:94:HIS:CE1	2.49	0.66
40:a:1262:A:O3'	48:i:8:PRO:HG3	1.96	0.66
8:7:0:U:H4'	22:I:80:LYS:HG3	1.78	0.66
12:AB:44:VAL:CG1	12:AB:45:PRO:CD	2.74	0.66
40:a:242:G:C8	54:o:5:LYS:HG2	2.31	0.66
40:a:675:A:OP1	51:l:58:LYS:HE2	1.94	0.66
40:a:1501:G:H5''	47:h:101:ARG:HH22	1.61	0.66
40:a:1262:A:N9	48:i:4:GLN:CD	2.49	0.66
40:a:2418:A:H4'	50:k:55:LYS:CE	2.26	0.66
12:AB:148:VAL:CA	12:AB:160:VAL:HG22	2.25	0.66
17:D:1350:A:P	28:O:123:ARG:CZ	2.84	0.66
17:D:1367:C:H5'	29:P:62:ARG:NH1	2.10	0.66
38:Y:96:LYS:HE3	38:Y:136:GLY:HA3	1.78	0.66
16:C:24:LYS:NZ	25:L:5:GLU:CG	2.57	0.66
17:D:194:C:H4'	18:E:60:ARG:CA	2.26	0.66
48:i:41:HIS:CB	62:w:100:CYS:CA	2.68	0.66
12:AB:142:ALA:O	12:AB:143:ASP:HB2	1.94	0.66
16:C:40:VAL:HG21	21:H:338:GLU:HB2	1.78	0.66
17:D:723:U:O2	19:F:49:LYS:HE2	1.96	0.66
32:S:47:LYS:O	32:S:50:THR:OG1	2.12	0.66
39:Z:20:VAL:O	39:Z:20:VAL:HG12	1.96	0.66
48:i:40:ARG:HB3	62:w:99:LYS:HB2	1.75	0.66
48:i:49:TYR:CE2	62:w:98:LEU:HD13	2.30	0.66
21:H:118:GLY:O	21:H:133:GLY:HA2	1.96	0.65
40:a:2350:C:P	54:o:45:ARG:HH21	2.16	0.65
17:D:1368:A:P	28:O:116:VAL:HA	2.36	0.65
40:a:654:A:N6	54:o:19:LYS:CE	2.59	0.65
54:o:61:CYS:SG	60:u:49:GLY:HA3	2.35	0.65
11:AA:903:ARG:NH1	29:P:90:LEU:CD1	2.55	0.65
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.65
17:D:676:A:C2	30:Q:121:CYS:SG	2.89	0.65
21:H:135:LEU:O	21:H:169:SER:HA	1.97	0.65
40:a:518:G:OP1	48:i:13:ARG:CD	2.44	0.65
40:a:2839:G:OP1	62:w:46:ARG:NH2	2.23	0.65
2:1:18:ARG:HH11	48:i:17:ARG:NH1	1.95	0.65
4:3:45:HIS:N	40:a:481:G:OP2	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:14:U:C4'	14:AE:322:ARG:NH1	2.59	0.65
9:9:129:LEU:N	9:9:130:PRO:CD	2.58	0.65
17:D:1290:G:OP1	26:M:35:LYS:NZ	2.28	0.65
40:a:465:G:H8	40:a:465:G:O5'	1.78	0.65
40:a:666:A:H4'	60:u:48:ARG:HD3	1.78	0.65
40:a:752:A:O5'	52:m:1:MET:SD	2.55	0.65
40:a:2356:U:H5''	41:b:20:ARG:HG2	1.77	0.65
40:a:2815:C:C5'	48:i:26:THR:HG21	2.26	0.65
3:2:77:ARG:HH22	40:a:1337:G:P	2.19	0.65
17:D:197:A:C6	17:D:221:C:H4'	2.30	0.65
17:D:948:C:P	37:X:105:ASN:OD1	2.55	0.65
17:D:1309:G:OP2	37:X:98:ARG:CG	2.44	0.65
21:H:119:GLY:HA3	21:H:131:LEU:O	1.96	0.65
29:P:65:TYR:CE1	32:S:88:ALA:HB1	2.32	0.65
40:a:2016:U:C4	40:a:2017:U:C4	2.83	0.65
48:i:40:ARG:HB3	62:w:99:LYS:CA	2.27	0.65
10:B:76:A:C2'	40:a:2493:U:C1'	2.72	0.65
40:a:907:G:O5'	61:v:22:GLN:HB2	1.96	0.65
40:a:2365:G:O6	54:o:39:LYS:HE3	1.95	0.65
40:a:2754:U:O2'	56:q:19:ARG:NH2	2.29	0.65
48:i:41:HIS:O	48:i:49:TYR:CE1	2.49	0.65
9:9:60:LEU:HA	9:9:64:VAL:HB	1.79	0.65
10:B:70:G:C2'	10:B:71:C:H5''	2.26	0.65
17:D:1358:U:OP1	32:S:75:ARG:HG3	1.97	0.65
29:P:31:ARG:HB2	29:P:31:ARG:CZ	2.26	0.65
40:a:68:G:H2'	40:a:69:C:O4'	1.96	0.65
40:a:462:C:O5'	40:a:462:C:H6	1.79	0.65
40:a:1266:G:O5'	48:i:16:ARG:HG3	1.96	0.65
40:a:2511:U:H4'	49:j:130:GLN:HG3	1.77	0.65
40:a:2680:U:OP1	49:j:114:LYS:HB2	1.97	0.65
48:i:41:HIS:CE1	62:w:97:ILE:HG22	2.31	0.65
48:i:50:ARG:CZ	62:w:96:ARG:HD2	2.27	0.65
12:AB:166:GLY:O	22:I:61:ALA:HB1	1.97	0.65
17:D:230:G:O4'	34:U:25:ARG:NH2	2.29	0.65
38:Y:116:MET:HE2	38:Y:116:MET:HA	1.78	0.65
40:a:517:C:P	48:i:7:LYS:HG2	2.37	0.65
40:a:1262:A:C4	48:i:4:GLN:CB	2.80	0.65
2:1:92:ARG:CZ	40:a:2014:A:H4'	2.26	0.65
9:9:146:ALA:HA	39:Z:3:THR:CB	2.27	0.65
10:A:53:G:C2	10:A:54:U:C5	2.84	0.65
10:B:53:G:C2	10:B:54:U:C5	2.84	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:878:A:OP1	27:N:82:GLY:HA3	1.96	0.65
40:a:449:A:P	51:l:79:ARG:HG3	2.37	0.65
21:H:135:LEU:CB	21:H:167:VAL:C	2.70	0.65
29:P:24:GLU:OE2	29:P:90:LEU:HD11	1.96	0.65
29:P:47:GLU:CD	32:S:76:LYS:HZ2	2.05	0.65
38:Y:36:GLU:OE1	38:Y:36:GLU:HA	1.95	0.65
40:a:674:G:C2'	51:l:62:GLN:HE22	2.10	0.65
40:a:770:G:O3'	52:m:14:ARG:NH2	2.29	0.65
40:a:1406:U:O2'	40:a:1407:G:C5'	2.44	0.65
40:a:1798:U:H5'	47:h:257:THR:OG1	1.96	0.65
14:AE:85:CYS:SG	67:AE:1501:ZN:ZN	1.79	0.64
40:a:670:A:H3'	60:u:43:GLY:HA2	1.78	0.64
40:a:686:U:O4	52:m:12:ARG:NE	2.29	0.64
40:a:1997:C:OP1	49:j:129:THR:OG1	2.14	0.64
40:a:2815:C:C4'	48:i:26:THR:HG21	2.20	0.64
48:i:39:LEU:O	48:i:40:ARG:C	2.38	0.64
9:9:47:GLU:HG3	9:9:95:LEU:HD21	1.79	0.64
10:A:70:G:C2'	10:A:71:C:H5''	2.26	0.64
11:AA:895:LEU:HD21	29:P:91:ASP:OD1	1.97	0.64
10:B:69:C:H2'	10:B:70:G:O4'	1.98	0.64
16:C:44:ILE:HG23	21:H:340:ARG:HB2	1.75	0.64
17:D:1492:A:C5'	31:R:44:LYS:HE3	2.27	0.64
21:H:331:MET:N	21:H:331:MET:SD	2.70	0.64
40:a:320:A:H2'	51:l:163:ASN:ND2	2.12	0.64
40:a:917:A:H2	43:d:80:U:C4'	2.10	0.64
40:a:1227:G:P	65:z:13:ARG:NH2	2.70	0.64
40:a:2351:G:O6	54:o:39:LYS:HG3	1.97	0.64
40:a:2444:G:OP1	51:l:63:LYS:NZ	2.27	0.64
54:o:14:PHE:CZ	60:u:61:LEU:HD12	2.32	0.64
2:1:15:GLN:HG3	48:i:17:ARG:HG2	1.77	0.64
10:A:6:G:HO2'	10:A:7:G:C5'	2.09	0.64
10:A:69:C:H2'	10:A:70:G:O4'	1.97	0.64
14:AE:79:LYS:C	14:AE:81:ARG:NH2	2.56	0.64
10:B:72:A:H2'	10:B:73:A:H5''	1.79	0.64
17:D:136:C:H1'	34:U:1:MET:CB	2.27	0.64
21:H:163:ARG:H	21:H:298:GLU:CD	2.00	0.64
10:B:68:C:C3'	10:B:69:C:H5''	2.27	0.64
17:D:910:C:OP2	31:R:18:LYS:NZ	2.27	0.64
40:a:1262:A:HO2'	48:i:8:PRO:HD3	1.60	0.64
54:o:57:LEU:HD22	60:u:51:GLU:HG2	1.77	0.64
2:1:15:GLN:HE22	48:i:16:ARG:NE	1.93	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:-15:U:H1'	17:D:1493:A:N3	2.13	0.64
8:7:-15:U:N1	17:D:1493:A:N3	2.45	0.64
11:AA:896:THR:HB	11:AA:897:PRO:HD2	1.79	0.64
17:D:780:A:OP1	30:Q:125:LYS:HD3	1.98	0.64
17:D:1368:A:OP1	28:O:116:VAL:CB	2.44	0.64
38:Y:76:ALA:HB2	40:a:1059:G:O2'	1.97	0.64
40:a:448:U:H4'	51:l:79:ARG:NE	2.12	0.64
40:a:851:C:P	45:f:19:LYS:HE2	2.37	0.64
40:a:1226:A:H5''	65:z:13:ARG:HH22	1.63	0.64
48:i:50:ARG:HG2	62:w:98:LEU:HD21	1.79	0.64
6:5:100:DA:H4'	12:AB:16:SER:OG	1.98	0.64
16:C:24:LYS:HZ1	25:L:5:GLU:HG2	1.61	0.64
40:a:1262:A:N3	48:i:4:GLN:CB	2.61	0.64
40:a:2351:G:C6	54:o:42:ARG:NH1	2.66	0.64
2:1:39:THR:CG2	48:i:22:LEU:CB	2.76	0.64
5:4:18:ARG:NH1	43:d:93:C:OP1	2.30	0.64
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.78	0.64
17:D:1343:G:C5'	28:O:127:PHE:HB3	2.28	0.64
17:D:1369:C:OP2	28:O:114:LYS:HD3	1.98	0.64
22:I:12:LEU:CD1	32:S:91:GLY:HA2	2.27	0.64
40:a:516:C:O3'	48:i:7:LYS:CG	2.39	0.64
40:a:615:U:C2	51:l:35:TYR:O	2.50	0.64
40:a:1262:A:C8	48:i:4:GLN:NE2	2.64	0.64
10:A:72:A:H2'	10:A:73:A:H5''	1.80	0.64
17:D:266:G:H3'	35:V:69:LYS:HD2	1.80	0.64
17:D:881:G:OP2	31:R:6:GLN:NE2	2.25	0.64
40:a:606:U:O3'	51:l:95:LYS:CE	2.45	0.64
54:o:10:ALA:HA	60:u:58:TYR:CB	2.27	0.64
8:7:-15:U:C2	17:D:1493:A:C2	2.85	0.64
32:S:74:LEU:HD12	32:S:77:PHE:CD2	2.33	0.64
9:9:138:ARG:HH12	39:Z:22:LEU:CD2	2.07	0.64
10:A:15:G:N1	10:A:20:U:O2	2.31	0.64
10:B:32:C:OP1	17:D:1341:U:H5'	1.97	0.64
17:D:1130:A:C5'	28:O:18:ARG:HH22	2.10	0.64
40:a:1263:U:C5	40:a:1264:A:C5	2.86	0.64
40:a:1263:U:O4	40:a:1264:A:C6	2.49	0.64
40:a:2298:A:C4	40:a:2321:U:C5	2.85	0.64
40:a:2495:G:OP1	61:v:81:ARG:NH2	2.31	0.64
48:i:41:HIS:C	62:w:100:CYS:CB	2.70	0.64
9:9:23:LEU:HB3	9:9:92:ALA:HA	1.80	0.63
17:D:974:A:OP1	32:S:69:ARG:NH1	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:783:A:N3	40:a:783:A:H2'	2.12	0.63
40:a:918:A:O2'	43:d:80:U:O2'	2.07	0.63
40:a:1263:U:C4	40:a:1264:A:N6	2.66	0.63
49:j:4:LEU:HD23	49:j:29:VAL:HG11	1.80	0.63
10:A:68:C:C3'	10:A:69:C:H5''	2.27	0.63
14:AE:79:LYS:C	14:AE:81:ARG:CZ	2.71	0.63
17:D:1202:U:C2	32:S:82:ILE:HG21	2.34	0.63
40:a:516:C:C3'	48:i:7:LYS:CD	2.76	0.63
40:a:533:G:C4'	65:z:28:ARG:HH21	2.11	0.63
40:a:2017:U:C4	48:i:5:GLN:CG	2.81	0.63
40:a:2352:A:C2	41:b:34:GLY:HA3	2.33	0.63
40:a:2882:A:OP1	62:w:96:ARG:HD3	1.97	0.63
2:l:78:GLU:CD	40:a:517:C:O2'	2.41	0.63
9:9:18:VAL:HG13	9:9:71:CYS:HB2	1.79	0.63
12:AB:128:PHE:CZ	12:AB:180:LYS:HG3	2.33	0.63
16:C:41:PRO:CD	21:H:339:ARG:HG3	2.28	0.63
17:D:1130:A:H5'	28:O:18:ARG:CZ	2.29	0.63
40:a:754:U:H2'	40:a:755:U:C6	2.33	0.63
40:a:1813:G:N3	47:h:50:THR:CB	2.61	0.63
40:a:2820:A:O5'	62:w:3:HIS:HA	1.97	0.63
48:i:41:HIS:NE2	62:w:98:LEU:N	2.47	0.63
10:A:76:A:C5	40:a:2421:G:H2'	2.33	0.63
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.63
12:AB:128:PHE:CE1	12:AB:180:LYS:HG3	2.33	0.63
10:B:5:G:H2'	10:B:6:G:H5'	1.78	0.63
21:H:135:LEU:HA	21:H:157:ILE:CB	2.28	0.63
32:S:64:CYS:HB2	32:S:80:SER:HB2	1.80	0.63
38:Y:116:MET:HB3	38:Y:124:MET:HG2	1.80	0.63
40:a:88:G:N7	40:a:88:G:C4	2.66	0.63
40:a:381:G:P	42:c:16:ASN:HD22	2.21	0.63
40:a:1263:U:C5	48:i:4:GLN:HA	2.34	0.63
40:a:2756:U:OP2	56:q:19:ARG:CD	2.46	0.63
6:5:98:DA:C2'	6:5:99:DT:H72	2.28	0.63
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.63
12:AB:148:VAL:HG21	12:AB:151:VAL:CG2	2.29	0.63
10:B:15:G:N1	10:B:20:U:O2	2.31	0.63
17:D:193:C:H4'	18:E:56:PRO:CA	2.28	0.63
17:D:1350:A:H62	28:O:120:LYS:NZ	1.97	0.63
40:a:671:C:H3'	60:u:42:SER:HB2	1.80	0.63
40:a:1656:C:OP1	49:j:141:ARG:HB2	1.98	0.63
5:4:83:LYS:HE2	40:a:1119:U:OP1	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:76:A:N6	40:a:2422:C:O5'	2.30	0.63
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.63
11:AA:887:VAL:CB	11:AA:913:VAL:CG2	2.68	0.63
12:AB:134:VAL:HG21	12:AB:160:VAL:HG21	1.80	0.63
17:D:185:U:C4'	18:E:69:LYS:HE2	2.28	0.63
17:D:1369:C:P	28:O:114:LYS:HB3	2.37	0.63
40:a:871:U:H4'	61:v:68:PHE:CD2	2.34	0.63
40:a:1454:C:H5	62:w:73:ASN:OD1	1.82	0.63
40:a:2307:G:C2	40:a:2311:A:C8	2.86	0.63
40:a:2527:C:H5'	56:q:1:MET:H3	1.64	0.63
7:6:15:DC:N4	7:6:16:DC:H41	1.96	0.63
12:AB:133:MET:CG	12:AB:146:GLY:CA	2.76	0.63
12:AB:164:ILE:HG23	12:AB:168:ALA:HB1	1.78	0.63
17:D:1130:A:OP1	28:O:18:ARG:CZ	2.47	0.63
22:I:30:ALA:CB	32:S:65:ARG:NH2	2.48	0.63
40:a:607:U:OP1	51:l:95:LYS:HE3	1.99	0.63
40:a:615:U:O4	51:l:39:ALA:CB	2.47	0.63
40:a:2286:G:N7	50:k:14:SER:C	2.57	0.63
48:i:41:HIS:HE1	62:w:38:LEU:HD13	1.63	0.63
54:o:15:LYS:CE	60:u:64:PHE:CZ	2.81	0.63
17:D:176:C:H5'	18:E:20:HIS:NE2	2.13	0.63
40:a:910:A:C6	40:a:911:A:C6	2.87	0.63
40:a:2017:U:N3	48:i:5:GLN:HG3	2.14	0.63
40:a:2311:A:C5	53:n:77:PHE:HB3	2.32	0.63
40:a:2344:U:C2	50:k:50:LYS:NZ	2.66	0.63
9:9:3:LEU:HD12	9:9:3:LEU:N	2.13	0.63
16:C:40:VAL:CB	21:H:339:ARG:HA	2.28	0.63
16:C:65:LEU:HD11	25:L:88:MET:CE	2.28	0.63
17:D:692:U:H5''	30:Q:127:ARG:HH21	1.64	0.63
17:D:1130:A:C4'	28:O:18:ARG:HH22	2.11	0.63
24:K:137:VAL:O	24:K:140:THR:OG1	2.17	0.63
29:P:47:GLU:CD	32:S:76:LYS:NZ	2.56	0.63
40:a:1997:C:H5'	49:j:129:THR:CG2	2.29	0.63
9:9:29:ASP:HB2	9:9:56:ARG:HD3	1.81	0.62
40:a:380:G:O3'	42:c:16:ASN:HB2	1.99	0.62
40:a:995:C:P	65:z:53:ARG:HH11	2.22	0.62
40:a:2561:U:O2'	59:t:23:LYS:CE	2.47	0.62
48:i:41:HIS:CD2	62:w:98:LEU:O	2.48	0.62
1:0:76:LYS:CE	40:a:992:C:H5''	2.28	0.62
2:1:39:THR:CG2	48:i:22:LEU:CG	2.77	0.62
16:C:44:ILE:CG2	21:H:340:ARG:CA	2.77	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:812:C:C5	60:u:21:ARG:HB3	2.25	0.62
40:a:1198:U:H2'	65:z:4:VAL:HG13	1.82	0.62
40:a:1287:A:OP1	62:w:105:GLY:N	2.31	0.62
10:B:46:G:H1'	10:B:47:U:C5	2.35	0.62
17:D:827:U:O4	17:D:872:A:C2	2.52	0.62
48:i:50:ARG:HH22	62:w:96:ARG:CB	2.07	0.62
2:1:15:GLN:CG	48:i:17:ARG:HE	2.10	0.62
9:9:34:THR:HG22	9:9:38:MET:HE3	1.80	0.62
12:AB:128:PHE:CE1	12:AB:180:LYS:CG	2.82	0.62
12:AB:159:LYS:HZ3	12:AB:170:PRO:CB	2.09	0.62
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.62
17:D:1152:A:O3'	29:P:15:HIS:NE2	2.32	0.62
40:a:2786:U:O2'	49:j:63:PRO:CB	2.47	0.62
40:a:2820:A:OP1	62:w:4:ARG:N	2.31	0.62
48:i:40:ARG:HD3	62:w:99:LYS:N	2.13	0.62
8:7:0:U:H4'	22:I:80:LYS:CG	2.29	0.62
8:7:12:G:O4'	14:AE:253:VAL:HG11	1.99	0.62
10:A:56:C:C5	40:a:2168:G:N1	2.67	0.62
21:H:304:VAL:HG12	21:H:309:MET:SD	2.39	0.62
40:a:1082:U:O4	40:a:1086:A:C2	2.53	0.62
40:a:2527:C:H5'	56:q:1:MET:N	2.14	0.62
48:i:3:VAL:HG22	48:i:4:GLN:HG2	1.82	0.62
16:C:44:ILE:HG21	21:H:339:ARG:C	2.24	0.62
17:D:1117:A:H5''	28:O:110:GLN:HG3	1.80	0.62
12:AB:44:VAL:HG12	12:AB:45:PRO:CD	2.30	0.62
24:K:157:ARG:NH2	27:N:99:LEU:O	2.33	0.62
40:a:1019:U:O4	40:a:1142:A:C2	2.52	0.62
40:a:1263:U:C4	40:a:1264:A:N1	2.68	0.62
40:a:1266:G:H5''	48:i:16:ARG:HD2	1.81	0.62
40:a:2286:G:C6	50:k:14:SER:HA	2.34	0.62
10:A:46:G:H1'	10:A:47:U:C5	2.35	0.62
17:D:1125:U:H5'	29:P:40:ILE:HD13	1.80	0.62
40:a:399:U:O4	42:c:54:LYS:NZ	2.33	0.62
40:a:910:A:C8	61:v:13:HIS:CD2	2.87	0.62
40:a:2620:C:H4'	49:j:161:MET:HB2	1.82	0.62
54:o:14:PHE:HZ	60:u:57:LEU:CG	2.13	0.62
9:9:146:ALA:HA	39:Z:3:THR:HG21	1.82	0.62
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.62
21:H:304:VAL:HG12	21:H:304:VAL:O	2.00	0.62
40:a:380:G:H5'	42:c:18:ARG:HG2	1.81	0.62
40:a:682:G:H5'	52:m:26:ASN:CG	2.24	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2419:U:P	54:o:33:LEU:HB2	2.40	0.62
48:i:42:HIS:HD2	62:w:100:CYS:CB	2.07	0.62
9:9:78:GLY:N	9:9:79:PRO:CD	2.63	0.62
10:A:76:A:H1'	40:a:2421:G:N1	2.14	0.62
17:D:363:A:C5	31:R:28:PRO:HD2	2.35	0.62
17:D:517:G:O2'	17:D:530:G:H4'	1.99	0.62
17:D:684:U:O2'	30:Q:41:ALA:N	2.31	0.62
40:a:674:G:H1'	51:l:69:ARG:NE	2.15	0.62
40:a:682:G:O3'	52:m:26:ASN:HB3	2.00	0.62
40:a:2356:U:O3'	41:b:20:ARG:NE	2.31	0.62
60:u:58:TYR:O	60:u:59:ARG:C	2.43	0.62
3:2:1:MET:HE3	40:a:139:U:C5	2.35	0.61
4:3:16:GLY:CA	40:a:309:A:H4'	2.30	0.61
14:AE:72:CYS:HG	14:AE:85:CYS:HG	1.41	0.61
17:D:975:A:O2'	32:S:72:GLY:HA2	1.99	0.61
17:D:1280:A:C4	29:P:43:PRO:HG2	2.35	0.61
17:D:1515:G:H2'	17:D:1516:G:H8	1.66	0.61
40:a:518:G:O5'	48:i:13:ARG:CZ	2.47	0.61
40:a:588:U:H1'	51:l:85:PHE:CE1	2.35	0.61
40:a:670:A:H3'	60:u:43:GLY:H	1.65	0.61
40:a:1262:A:N3	48:i:4:GLN:HB2	2.15	0.61
40:a:2017:U:C4	48:i:5:GLN:CD	2.77	0.61
40:a:2822:G:P	49:j:117:GLY:CA	2.88	0.61
10:B:76:A:H4'	40:a:2493:U:O3'	1.99	0.61
17:D:1492:A:H5''	31:R:44:LYS:CE	2.30	0.61
38:Y:27:LEU:HD12	38:Y:27:LEU:O	2.00	0.61
40:a:16:C:H5''	48:i:11:SER:CB	2.30	0.61
40:a:534:U:H5'	65:z:42:ALA:CB	2.30	0.61
40:a:1568:G:OP1	47:h:60:GLN:HA	1.99	0.61
40:a:2365:G:O6	54:o:39:LYS:CE	2.49	0.61
9:9:142:THR:HB	39:Z:7:ILE:HG12	1.81	0.61
17:D:176:C:C5'	18:E:20:HIS:NE2	2.63	0.61
17:D:974:A:P	32:S:69:ARG:NH1	2.73	0.61
17:D:1060:U:P	22:I:2:GLY:HA3	2.40	0.61
17:D:1309:G:P	37:X:97:VAL:HB	2.40	0.61
40:a:942:G:H5''	60:u:34:GLY:HA3	1.83	0.61
40:a:1263:U:O4	40:a:1264:A:N1	2.34	0.61
40:a:1839:G:O4'	40:a:1927:A:O4'	2.19	0.61
40:a:2620:C:O4'	49:j:161:MET:SD	2.57	0.61
5:4:18:ARG:NH1	43:d:93:C:P	2.74	0.61
17:D:686:U:C4'	30:Q:44:TRP:NE1	2.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:972:C:O2'	29:P:57:VAL:HG21	2.01	0.61
17:D:975:A:C6	29:P:62:ARG:NH2	2.68	0.61
40:a:397:U:P	42:c:31:PRO:HA	2.40	0.61
40:a:516:C:C3'	48:i:7:LYS:HG3	2.30	0.61
48:i:41:HIS:CB	62:w:111:ALA:HA	2.30	0.61
40:a:30:G:OP1	65:z:5:LYS:HD3	2.01	0.61
40:a:588:U:H1'	51:l:85:PHE:CG	2.35	0.61
40:a:1252:G:H4'	65:z:33:ARG:NH1	2.15	0.61
40:a:2289:G:N2	40:a:2344:U:O2	2.34	0.61
7:6:15:DC:C4	7:6:16:DC:C4	2.89	0.61
40:a:989:G:OP2	45:f:14:ILE:HD11	1.99	0.61
40:a:1814:G:H5'	47:h:51:THR:HG21	1.81	0.61
10:A:19:G:O6	40:a:2112:G:O5'	2.19	0.61
12:AB:148:VAL:HA	12:AB:160:VAL:HG22	1.81	0.61
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.82	0.61
17:D:104:G:OP2	18:E:9:LYS:HE3	2.01	0.61
17:D:974:A:H5'	32:S:71:HIS:HB3	1.82	0.61
40:a:517:C:OP2	48:i:7:LYS:CD	2.49	0.61
40:a:2286:G:C5	50:k:14:SER:C	2.78	0.61
40:a:2356:U:H5''	41:b:20:ARG:CG	2.31	0.61
46:g:38:SER:HB3	53:n:105:THR:CG2	2.30	0.61
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.61
10:B:32:C:H5'	17:D:1340:A:O2'	2.01	0.61
21:H:267:TRP:CD1	21:H:340:ARG:NH2	2.68	0.61
21:H:270:ILE:CG2	21:H:337:GLU:HB3	2.30	0.61
40:a:2305:U:O4	53:n:39:GLY:O	2.18	0.61
40:a:2328:A:H2'	40:a:2329:U:C6	2.36	0.61
40:a:2707:U:O2'	62:w:71:ARG:NH1	2.34	0.61
40:a:2786:U:O2'	49:j:63:PRO:HB3	2.01	0.61
48:i:39:LEU:C	48:i:40:ARG:O	2.44	0.61
48:i:41:HIS:O	62:w:112:TYR:CE2	2.53	0.61
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.61
10:B:18:G:H1'	10:B:58:A:C2	2.36	0.61
16:C:44:ILE:HG12	21:H:301:GLU:OE2	2.00	0.61
17:D:676:A:C4'	30:Q:117:PRO:HB3	2.31	0.61
17:D:1202:U:H1'	32:S:82:ILE:HD11	1.82	0.61
17:D:1463:U:OP1	64:y:109:ARG:NH1	2.33	0.61
40:a:1263:U:C5	40:a:1264:A:N6	2.68	0.61
40:a:2311:A:C8	53:n:77:PHE:CE2	2.89	0.61
54:o:12:LYS:HD3	60:u:63:LYS:CD	2.31	0.61
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.61
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.61
10:B:68:C:H2'	10:B:69:C:H5''	1.83	0.61
10:B:76:A:C4'	40:a:2493:U:C2'	2.78	0.61
17:D:1350:A:P	28:O:123:ARG:NH1	2.73	0.61
37:X:71:ARG:NH2	53:n:113:ASP:OD1	2.34	0.61
40:a:614:A:O2'	40:a:615:U:OP2	2.18	0.61
40:a:1263:U:O4	40:a:1264:A:N6	2.33	0.61
2:1:41:LYS:CG	48:i:22:LEU:HD23	2.25	0.60
9:9:43:LYS:HD2	9:9:43:LYS:O	2.00	0.60
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.60
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
17:D:102:G:OP2	18:E:5:LYS:CE	2.48	0.60
40:a:380:G:O2'	42:c:16:ASN:N	2.32	0.60
40:a:516:C:C5'	48:i:7:LYS:HD2	2.31	0.60
40:a:1406:U:O2'	40:a:1407:G:P	2.58	0.60
40:a:1825:U:H4'	47:h:232:HIS:CE1	2.36	0.60
40:a:2017:U:N3	48:i:5:GLN:CG	2.63	0.60
40:a:2262:U:OP1	40:a:2387:U:O2'	2.15	0.60
6:5:110:DA:N7	11:AA:183:TRP:CH2	2.69	0.60
10:A:19:G:N2	40:a:2112:G:O4'	2.34	0.60
10:A:68:C:H2'	10:A:69:C:H5''	1.83	0.60
10:A:75:C:O2'	10:A:76:A:H8	1.81	0.60
12:AB:164:ILE:CG2	12:AB:168:ALA:HB2	2.20	0.60
24:K:56:VAL:CG2	24:K:56:VAL:CA	2.77	0.60
36:W:69:HIS:HD2	37:X:85:CYS:HB2	1.65	0.60
40:a:2311:A:C4	53:n:77:PHE:CB	2.82	0.60
10:A:18:G:H1'	10:A:58:A:C2	2.36	0.60
16:C:44:ILE:C	21:H:340:ARG:HD2	2.26	0.60
40:a:1795:C:O2	47:h:253:LYS:HE2	2.00	0.60
40:a:2526:G:O2'	56:q:1:MET:HB3	2.01	0.60
2:1:96:ILE:HA	40:a:2013:A:OP1	2.01	0.60
14:AE:79:LYS:CA	14:AE:81:ARG:HH12	1.96	0.60
10:B:76:A:C3'	40:a:2493:U:C2'	2.80	0.60
16:C:19:GLN:OE1	25:L:94:HIS:ND1	2.35	0.60
48:i:41:HIS:CG	62:w:111:ALA:CA	2.83	0.60
49:j:156:PHE:CE1	58:s:81:ILE:HD13	2.36	0.60
21:H:332:VAL:HG12	21:H:334:ASP:H	1.65	0.60
40:a:861:A:H2	43:d:79:G:O2'	1.84	0.60
40:a:2838:G:O3'	62:w:46:ARG:CD	2.46	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:92:ARG:NH1	40:a:2014:A:H4'	2.16	0.60
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.60
22:I:6:HIS:CG	32:S:89:MET:HB3	2.37	0.60
40:a:917:A:H2	43:d:80:U:O4'	1.84	0.60
40:a:2365:G:C6	54:o:39:LYS:HE3	2.37	0.60
16:C:40:VAL:CG1	21:H:338:GLU:O	2.48	0.60
17:D:194:C:HO2'	18:E:63:ALA:HB2	1.63	0.60
17:D:439:U:O2	17:D:440:C:C6	2.54	0.60
17:D:1202:U:C1'	32:S:82:ILE:HD12	2.32	0.60
28:O:112:GLU:OE2	28:O:115:LYS:NZ	2.33	0.60
28:O:113:ARG:HH11	32:S:101:TRP:H	1.44	0.60
40:a:671:C:OP1	60:u:42:SER:HA	2.02	0.60
40:a:1021:A:H3'	40:a:1021:A:N3	2.16	0.60
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.83	0.60
17:D:1350:A:H62	28:O:120:LYS:HZ1	1.47	0.60
21:H:70:VAL:HA	21:H:85:SER:HA	1.83	0.60
40:a:84:A:N1	40:a:98:G:O2'	2.34	0.60
40:a:919:U:H4'	43:d:81:G:H4'	1.80	0.60
40:a:1130:U:C6	49:j:151:THR:OG1	2.51	0.60
40:a:2017:U:C5	48:i:5:GLN:CD	2.80	0.60
49:j:33:ARG:NH1	49:j:53:GLY:O	2.34	0.60
7:6:18:DC:N4	8:7:17:G:H1	1.99	0.60
12:AB:151:VAL:HG12	12:AB:151:VAL:O	2.01	0.60
17:D:1152:A:OP1	29:P:70:HIS:CE1	2.55	0.60
40:a:16:C:H5''	48:i:11:SER:HA	1.84	0.60
40:a:654:A:N6	54:o:19:LYS:HE3	2.17	0.60
40:a:995:C:H5'	65:z:53:ARG:HD2	1.84	0.60
40:a:2243:U:H2'	40:a:2244:U:C6	2.36	0.60
40:a:2547:A:H4'	59:t:29:HIS:CE1	2.37	0.60
9:9:93:ALA:HB1	9:9:94:ARG:CZ	2.31	0.60
11:AA:845:LEU:HD21	11:AA:890:LYS:O	1.99	0.60
10:B:70:G:C3'	10:B:71:C:H5''	2.31	0.60
17:D:193:C:H5''	18:E:56:PRO:HB3	1.84	0.60
36:W:66:MET:N	37:X:83:LEU:HD11	2.16	0.60
40:a:868:U:O2	61:v:8:LYS:NZ	2.35	0.60
40:a:1261:C:O2	40:a:1262:A:C8	2.55	0.60
8:7:20:G:OP1	11:AA:1073:LYS:NZ	2.25	0.59
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.59
10:B:76:A:C1'	40:a:2493:U:O2'	2.49	0.59
17:D:1317:C:C4	32:S:53:ARG:HD3	2.37	0.59
17:D:1317:C:H42	32:S:53:ARG:NH1	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1492:A:H5''	31:R:44:LYS:HZ1	1.65	0.59
40:a:579:G:C8	48:i:5:GLN:CG	2.83	0.59
40:a:1779:U:H5	40:a:1784:A:N7	1.99	0.59
40:a:2245:U:O2'	40:a:2436:G:OP2	2.18	0.59
52:m:31:LEU:HD22	52:m:42:LEU:HD13	1.84	0.59
2:l:83:LYS:NZ	40:a:1261:C:P	2.74	0.59
9:9:27:VAL:HB	9:9:99:PHE:HE2	1.68	0.59
12:AB:148:VAL:HG21	12:AB:151:VAL:HG22	1.83	0.59
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.59
16:C:40:VAL:CG2	16:C:40:VAL:N	2.65	0.59
17:D:321:A:N7	17:D:328:C:O2'	2.31	0.59
17:D:738:C:OP1	25:L:2:ARG:NH2	2.35	0.59
29:P:65:TYR:OH	32:S:88:ALA:CB	2.50	0.59
58:s:4:PHE:CB	65:z:100:VAL:HG11	2.32	0.59
9:9:123:ILE:O	9:9:123:ILE:HG12	2.02	0.59
40:a:1198:U:C2	65:z:4:VAL:HG21	2.37	0.59
54:o:26:HIS:CE1	54:o:48:ALA:HB2	2.38	0.59
8:7:-11:U:H5''	8:7:-11:U:O2	2.02	0.59
8:7:14:U:C4'	14:AE:322:ARG:CZ	2.80	0.59
10:B:5:G:H2'	10:B:6:G:C5'	2.33	0.59
10:B:76:A:C3'	40:a:2493:U:C1'	2.80	0.59
17:D:1160:G:C4'	20:G:131:LYS:HE3	2.32	0.59
17:D:1202:U:C1'	32:S:82:ILE:HD11	2.32	0.59
17:D:1202:U:N3	32:S:82:ILE:HG21	2.18	0.59
40:a:517:C:H5	48:i:7:LYS:HZ1	1.46	0.59
40:a:797:G:OP1	51:l:57:LYS:HD2	2.01	0.59
40:a:1012:U:H5	58:s:30:THR:HG21	1.67	0.59
40:a:2351:G:O6	54:o:39:LYS:CG	2.50	0.59
61:v:66:ARG:NH1	61:v:104:GLU:OE1	2.35	0.59
11:AA:887:VAL:HB	11:AA:913:VAL:HG23	1.82	0.59
12:AB:148:VAL:CG2	12:AB:150:GLU:O	2.51	0.59
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.59
17:D:229:U:O2'	34:U:25:ARG:NH2	2.33	0.59
21:H:155:LYS:O	21:H:169:SER:N	2.35	0.59
40:a:20:C:OP1	65:z:22:LYS:NZ	2.33	0.59
40:a:380:G:O2'	42:c:15:GLY:HA2	2.03	0.59
40:a:1262:A:O2'	48:i:6:ASN:O	2.19	0.59
40:a:1813:G:H1'	47:h:50:THR:OG1	2.02	0.59
40:a:2899:A:C1'	58:s:134:ALA:HB1	2.32	0.59
48:i:52:ARG:NH2	62:w:118:ARG:NH1	2.50	0.59
54:o:14:PHE:CZ	60:u:57:LEU:CD2	2.86	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:15:GLN:HG2	48:i:17:ARG:HG2	1.83	0.59
16:C:33:ILE:O	21:H:338:GLU:CG	2.48	0.59
17:D:13:U:N3	17:D:915:A:N6	2.50	0.59
17:D:13:U:N3	17:D:915:A:C6	2.70	0.59
22:I:75:ILE:O	22:I:75:ILE:HD13	2.02	0.59
40:a:517:C:H5	48:i:7:LYS:NZ	2.01	0.59
40:a:600:G:O2'	51:l:100:MET:HG2	2.02	0.59
40:a:1263:U:H5'	48:i:8:PRO:CD	2.32	0.59
40:a:2298:A:C4	40:a:2321:U:H5	2.20	0.59
40:a:2357:G:P	41:b:20:ARG:NH2	2.75	0.59
49:j:157:LYS:HB3	58:s:80:HIS:NE2	2.18	0.59
3:2:66:LYS:HE2	40:a:1338:G:O6	2.02	0.59
8:7:0:U:C4'	22:I:80:LYS:HG3	2.31	0.59
10:A:65:C:H2'	10:A:66:C:H5'	1.84	0.59
12:AB:128:PHE:HE1	12:AB:180:LYS:CG	2.16	0.59
17:D:73:C:O2	17:D:73:C:C2'	2.47	0.59
17:D:769:G:H4'	17:D:1513:A:H4'	1.83	0.59
17:D:1218:C:H2'	17:D:1219:A:C8	2.38	0.59
21:H:22:SER:N	21:H:69:ASP:OD2	2.36	0.59
40:a:1138:G:O2'	58:s:107:GLY:HA3	2.02	0.59
8:7:-15:U:C1'	17:D:1493:A:C2	2.80	0.59
17:D:676:A:O4'	30:Q:117:PRO:HB3	2.03	0.59
40:a:579:G:H2'	40:a:580:U:H6	1.67	0.59
40:a:639:U:H2'	40:a:640:C:C6	2.37	0.59
40:a:752:A:P	52:m:3:ARG:HH12	2.26	0.59
40:a:2312:U:H4'	53:n:85:ILE:HG21	1.85	0.59
40:a:2756:U:N3	40:a:2758:A:N6	2.51	0.59
48:i:40:ARG:C	48:i:42:HIS:H	2.09	0.59
16:C:32:TYR:O	16:C:40:VAL:HG23	2.02	0.59
40:a:533:G:OP1	65:z:28:ARG:HD3	2.02	0.59
40:a:1047:G:HO2'	40:a:1110:G:H1	1.50	0.59
40:a:1199:U:C2'	65:z:2:ALA:O	2.51	0.59
40:a:1262:A:C4	48:i:4:GLN:CA	2.86	0.59
40:a:1994:C:P	49:j:133:THR:HG22	2.43	0.59
10:A:70:G:C3'	10:A:71:C:H5''	2.31	0.59
12:AB:45:PRO:HA	12:AB:65:PHE:HB2	1.84	0.59
12:AB:128:PHE:CE1	12:AB:180:LYS:HB2	2.37	0.59
17:D:186:C:H5'	18:E:73:ALA:CB	2.32	0.59
17:D:430:A:O5'	23:J:7:PRO:HG3	2.03	0.59
17:D:945:G:C2	17:D:946:A:C8	2.91	0.59
17:D:1349:A:OP1	28:O:123:ARG:HB2	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1368:A:OP1	28:O:116:VAL:HA	2.02	0.59
40:a:2232:C:OP1	42:c:27:ARG:NH1	2.36	0.59
40:a:2311:A:H3'	40:a:2312:U:C6	2.37	0.59
48:i:10:ARG:HB2	48:i:13:ARG:NH2	2.16	0.59
54:o:13:ARG:CD	60:u:58:TYR:O	2.51	0.59
8:7:-17:U:C5	17:D:1403:C:H1'	2.37	0.58
10:A:5:G:H2'	10:A:6:G:C5'	2.33	0.58
17:D:197:A:N6	17:D:221:C:H4'	2.18	0.58
17:D:1151:A:HO2'	17:D:1152:A:P	2.26	0.58
40:a:397:U:OP1	42:c:31:PRO:HA	2.03	0.58
40:a:1263:U:H5'	48:i:8:PRO:CG	2.33	0.58
54:o:13:ARG:HG2	60:u:61:LEU:C	2.28	0.58
8:7:-19:U:H2'	8:7:-18:G:C8	2.38	0.58
8:7:0:U:H4'	22:I:80:LYS:CB	2.32	0.58
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.58
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.37	0.58
10:B:75:C:O2'	10:B:76:A:H8	1.81	0.58
17:D:1202:U:C2	32:S:82:ILE:HD13	2.35	0.58
40:a:16:C:C5'	48:i:11:SER:HB2	2.32	0.58
40:a:89:A:O5'	40:a:89:A:H8	1.86	0.58
40:a:2378:A:O2'	63:x:21:LEU:CD1	2.49	0.58
17:D:1160:G:H4'	20:G:131:LYS:CE	2.32	0.58
17:D:1457:G:H4'	18:E:27:MET:HA	1.85	0.58
26:M:55:GLY:O	26:M:56:LYS:C	2.46	0.58
40:a:2276:G:H5'	41:b:10:THR:HG21	1.85	0.58
40:a:2815:C:C4'	48:i:26:THR:CG2	2.71	0.58
48:i:40:ARG:HB3	62:w:99:LYS:O	2.02	0.58
12:AB:133:MET:HG2	12:AB:146:GLY:H	1.68	0.58
12:AB:156:SER:O	12:AB:156:SER:OG	2.21	0.58
17:D:430:A:P	23:J:7:PRO:HA	2.43	0.58
22:I:6:HIS:CB	32:S:89:MET:HB3	2.33	0.58
33:T:21:ASP:O	33:T:22:THR:HG22	2.03	0.58
40:a:850:U:H4'	45:f:22:ALA:HB3	1.86	0.58
48:i:41:HIS:CE1	62:w:38:LEU:HD13	2.39	0.58
3:2:1:MET:HE3	40:a:139:U:C4	2.39	0.58
4:3:36:VAL:CG1	4:3:39:ILE:HD12	2.32	0.58
9:9:52:MET:HE1	9:9:85:SER:HB2	1.85	0.58
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.58
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.85	0.58
40:a:2307:G:N2	40:a:2311:A:C8	2.71	0.58
40:a:2356:U:O3'	41:b:20:ARG:NH2	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2815:C:C5'	48:i:26:THR:CG2	2.80	0.58
46:g:38:SER:CB	53:n:105:THR:HG23	2.34	0.58
6:5:99:DT:H2''	6:5:100:DA:H5''	1.85	0.58
10:A:56:C:O2	40:a:2112:G:C5	2.57	0.58
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.58
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.58
21:H:70:VAL:HA	21:H:85:SER:CA	2.33	0.58
40:a:448:U:O4'	51:l:79:ARG:NE	2.36	0.58
40:a:598:U:H4'	60:u:11:GLY:C	2.29	0.58
40:a:1568:G:N3	47:h:58:HIS:CE1	2.72	0.58
40:a:2013:A:C2	40:a:2613:U:O4	2.57	0.58
40:a:2620:C:H4'	49:j:161:MET:CG	2.34	0.58
40:a:2641:G:C5'	58:s:78:THR:HB	2.33	0.58
8:7:-20:A:C6	10:B:37:A:C2	2.92	0.58
10:A:15:G:H2'	10:A:15:G:N3	2.19	0.58
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.04	0.58
17:D:677:U:C1'	30:Q:121:CYS:SG	2.92	0.58
17:D:718:A:O4'	30:Q:119:ASN:HB2	2.03	0.58
21:H:305:HIS:CD2	21:H:306:VAL:N	2.71	0.58
40:a:396:G:H5'	42:c:13:VAL:HG13	1.84	0.58
40:a:517:C:OP1	48:i:8:PRO:O	2.20	0.58
40:a:579:G:C4	48:i:5:GLN:HG2	2.39	0.58
40:a:1131:G:OP1	58:s:81:ILE:HD12	2.03	0.58
40:a:1200:C:C1'	65:z:2:ALA:HB1	2.34	0.58
40:a:2286:G:C4	50:k:14:SER:CB	2.86	0.58
40:a:2311:A:O2'	40:a:2312:U:O4'	2.19	0.58
43:d:42:C:N3	53:n:90:THR:OG1	2.33	0.58
10:B:18:G:N2	10:B:58:A:N7	2.51	0.58
16:C:40:VAL:CG1	16:C:40:VAL:C	2.76	0.58
17:D:1253:G:OP1	29:P:48:ARG:NH1	2.37	0.58
40:a:1262:A:C5	48:i:4:GLN:CG	2.81	0.58
40:a:2404:U:H4'	60:u:66:PHE:CZ	2.39	0.58
8:7:-12:U:O4	17:D:1196:A:C5	2.56	0.58
10:A:47:U:O2'	10:A:50:U:P	2.62	0.58
17:D:1317:C:H42	32:S:53:ARG:HH11	1.52	0.58
17:D:1359:C:OP1	32:S:62:ASN:HB2	2.04	0.58
40:a:250:G:H4'	60:u:59:ARG:NH2	2.19	0.58
40:a:517:C:OP1	48:i:8:PRO:HD2	2.03	0.58
40:a:1263:U:H5''	48:i:8:PRO:HB3	1.85	0.58
40:a:250:G:P	60:u:59:ARG:HD2	2.44	0.58
40:a:448:U:C4'	51:l:79:ARG:HE	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1198:U:O2	65:z:4:VAL:HG11	2.03	0.58
40:a:2512:C:O2	49:j:145:SER:HB3	2.03	0.58
43:d:42:C:C5	53:n:66:LEU:HD22	2.39	0.58
43:d:47:C:P	63:x:3:LYS:HE2	2.43	0.58
48:i:7:LYS:CD	48:i:7:LYS:NZ	2.57	0.58
54:o:10:ALA:HA	60:u:58:TYR:HB3	1.86	0.58
54:o:39:LYS:HA	54:o:42:ARG:CZ	2.34	0.58
4:3:48:PRO:HD3	40:a:483:A:O3'	2.03	0.57
17:D:13:U:O2	17:D:914:A:C8	2.57	0.57
17:D:1280:A:N9	29:P:43:PRO:HG2	2.19	0.57
29:P:57:VAL:O	29:P:58:ASN:CG	2.47	0.57
40:a:752:A:OP2	52:m:3:ARG:NH1	2.36	0.57
40:a:1824:G:OP1	47:h:52:ARG:CZ	2.51	0.57
58:s:114:LEU:HG	58:s:118:MET:HE3	1.86	0.57
2:1:88:ARG:NH2	40:a:2013:A:N3	2.47	0.57
4:3:82:ARG:NE	40:a:335:C:OP2	2.35	0.57
8:7:17:G:OP2	11:AA:540:ARG:NH1	2.37	0.57
10:B:22:G:HO2'	10:B:23:C:P	2.27	0.57
10:B:31:G:O4'	17:D:1339:A:N3	2.36	0.57
16:C:10:PHE:HE2	21:H:267:TRP:NE1	2.02	0.57
16:C:10:PHE:CE2	21:H:267:TRP:NE1	2.71	0.57
21:H:19:ARG:O	21:H:72:LEU:HD13	2.04	0.57
29:P:65:TYR:OH	32:S:88:ALA:HB3	2.02	0.57
40:a:1252:G:O4'	65:z:33:ARG:NH2	2.37	0.57
40:a:1980:G:O2'	40:a:1982:U:OP2	2.22	0.57
40:a:2271:G:H5''	41:b:18:ALA:CB	2.34	0.57
43:d:5:U:OP1	43:d:61:G:O2'	2.21	0.57
9:9:93:ALA:CB	9:9:94:ARG:NH2	2.68	0.57
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.57
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.57
12:AB:47:GLU:HB3	12:AB:64:PHE:HD1	1.70	0.57
10:B:65:C:H2'	10:B:66:C:H5'	1.84	0.57
40:a:88:G:C5'	40:a:89:A:OP2	2.50	0.57
40:a:784:G:H5'	40:a:785:G:OP1	2.04	0.57
40:a:861:A:C2	40:a:917:A:C4	2.92	0.57
40:a:907:G:N2	61:v:70:ASP:OD2	2.38	0.57
40:a:1913:A:OP2	40:a:1913:A:H3'	2.04	0.57
10:A:18:G:N2	10:A:58:A:N7	2.51	0.57
40:a:321:U:C1'	51:l:162:ARG:HH11	2.17	0.57
40:a:2286:G:C6	40:a:2346:A:C6	2.93	0.57
40:a:2618:G:O2'	49:j:154:LYS:HA	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:58:ILE:HD11	40:a:483:A:C6	2.39	0.57
8:7:-19:U:O4	10:B:35:A:N1	2.37	0.57
10:A:76:A:O2'	40:a:2394:C:N4	2.36	0.57
12:AB:50:VAL:HG22	12:AB:62:ARG:HD2	1.86	0.57
12:AB:148:VAL:HG22	12:AB:150:GLU:O	2.04	0.57
17:D:956:U:O2'	17:D:957:U:H5'	2.05	0.57
17:D:1225:A:C4'	36:W:78:ARG:NH1	2.65	0.57
26:M:69:VAL:HG23	26:M:100:ALA:HB1	1.86	0.57
40:a:1266:G:O2'	40:a:2012:G:O6	2.21	0.57
40:a:1820:U:C2	47:h:201:MET:HB3	2.39	0.57
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.86	0.57
10:B:47:U:O2'	10:B:50:U:P	2.62	0.57
17:D:1310:G:P	37:X:87:ARG:NH2	2.77	0.57
17:D:1367:C:C5'	29:P:62:ARG:NH1	2.68	0.57
36:W:65:GLU:HB2	37:X:83:LEU:CD1	2.08	0.57
40:a:1216:G:P	65:z:11:ARG:HH21	2.27	0.57
40:a:2512:C:H1'	49:j:145:SER:H	1.68	0.57
1:0:78:ARG:CZ	40:a:990:A:N1	2.66	0.57
11:AA:845:LEU:CD2	11:AA:890:LYS:C	2.78	0.57
10:B:15:G:H2'	10:B:15:G:N3	2.19	0.57
17:D:1107:C:H5'	22:I:169:ARG:NH1	2.20	0.57
24:K:83:HIS:HB3	27:N:97:ALA:HB3	1.86	0.57
24:K:153:VAL:HG21	27:N:99:LEU:HB3	1.86	0.57
40:a:670:A:H4'	60:u:42:SER:OG	2.05	0.57
40:a:1065:U:O2'	40:a:1066:U:O5'	2.21	0.57
40:a:1566:A:C5	47:h:213:TRP:CE2	2.92	0.57
40:a:1657:U:C3'	49:j:138:LEU:HD22	2.34	0.57
40:a:1813:G:O2'	47:h:42:GLY:C	2.48	0.57
40:a:2512:C:O2'	49:j:145:SER:C	2.48	0.57
48:i:13:ARG:HD2	48:i:17:ARG:NH2	2.18	0.57
55:p:121:ILE:HD12	55:p:141:ILE:HG22	1.86	0.57
17:D:496:A:N3	17:D:496:A:H2'	2.18	0.57
38:Y:59:THR:HG22	38:Y:61:TYR:HE1	1.69	0.57
40:a:579:G:C2	40:a:1262:A:C5	2.93	0.57
40:a:2579:C:H4'	49:j:137:SER:HB2	1.86	0.57
50:k:14:SER:O	50:k:15:ALA:C	2.44	0.57
53:n:73:SER:OG	53:n:79:ILE:O	2.20	0.57
54:o:12:LYS:HD3	60:u:63:LYS:HD3	1.86	0.57
54:o:30:ARG:NH2	60:u:62:PRO:HB3	2.20	0.57
62:w:100:CYS:O	62:w:101:GLY:C	2.45	0.57
6:5:100:DA:C5'	14:AE:278:ARG:NH1	2.53	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.57
10:B:21:A:H4'	10:B:21:A:OP1	2.05	0.57
10:B:60:U:P	10:B:61:C:H41	2.28	0.57
17:D:589:U:OP1	27:N:6:PRO:HG2	2.04	0.57
17:D:948:C:OP2	37:X:105:ASN:OD1	2.23	0.57
17:D:975:A:N1	29:P:62:ARG:NH2	2.52	0.57
17:D:1458:G:H5''	18:E:26:SER:OG	2.04	0.57
22:I:6:HIS:CD2	32:S:89:MET:HB3	2.40	0.57
40:a:1262:A:H3'	48:i:4:GLN:CB	2.35	0.57
40:a:1490:A:N3	47:h:98:ASP:HB3	2.19	0.57
40:a:1567:G:H4'	47:h:58:HIS:CE1	2.40	0.57
10:A:22:G:O2'	10:A:23:C:P	2.63	0.57
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.57
17:D:1371:G:P	28:O:111:VAL:HG11	2.45	0.57
38:Y:32:VAL:HA	38:Y:60:VAL:HG11	1.86	0.57
40:a:451:U:OP1	51:l:47:LYS:HD2	2.04	0.57
40:a:910:A:C6	61:v:13:HIS:CE1	2.93	0.57
40:a:1200:C:H1'	65:z:2:ALA:CB	2.34	0.57
40:a:2308:G:N7	53:n:77:PHE:CZ	2.73	0.57
10:A:56:C:OP1	40:a:2168:G:N3	2.38	0.56
12:AB:133:MET:SD	12:AB:146:GLY:CA	2.93	0.56
10:B:22:G:O2'	10:B:23:C:P	2.62	0.56
16:C:41:PRO:CD	21:H:339:ARG:CG	2.78	0.56
38:Y:116:MET:HG3	38:Y:124:MET:HB3	1.87	0.56
40:a:1266:G:OP2	48:i:16:ARG:HD3	2.04	0.56
40:a:2311:A:H3'	40:a:2312:U:C5	2.40	0.56
9:9:77:VAL:HG12	9:9:77:VAL:O	2.05	0.56
10:A:11:A:H2'	10:A:12:G:O4'	2.05	0.56
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.56
12:AB:49:VAL:O	12:AB:49:VAL:HG13	2.04	0.56
17:D:1457:G:OP1	18:E:30:THR:HG21	2.05	0.56
17:D:1457:G:O2'	18:E:27:MET:HB2	2.05	0.56
9:9:17:GLU:HB3	9:9:86:MET:HB2	1.86	0.56
9:9:138:ARG:NH1	39:Z:22:LEU:HD21	2.07	0.56
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.56
10:B:11:A:H2'	10:B:12:G:O4'	2.06	0.56
17:D:521:G:OP1	31:R:70:GLU:HA	2.06	0.56
17:D:927:G:O2'	17:D:1503:A:N7	2.35	0.56
17:D:1130:A:H4'	28:O:20:PHE:HZ	1.66	0.56
17:D:1380:U:C4	26:M:3:ARG:NH2	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:579:G:C6	40:a:1262:A:C6	2.93	0.56
40:a:674:G:H4'	51:l:69:ARG:HD3	1.88	0.56
40:a:2881:U:H4'	62:w:95:THR:O	2.05	0.56
40:a:2884:U:O4	48:i:28:LEU:O	2.23	0.56
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.56
40:a:1501:G:H5'	47:h:101:ARG:HH12	1.70	0.56
40:a:1812:U:H4'	47:h:45:ASN:HB3	1.87	0.56
40:a:1813:G:N3	47:h:50:THR:HB	2.20	0.56
2:1:20:VAL:HG13	48:i:22:LEU:CD1	2.36	0.56
7:6:21:DA:N6	8:7:15:G:H1	2.04	0.56
8:7:-15:U:C1'	17:D:1493:A:N3	2.69	0.56
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.23	0.56
12:AB:133:MET:CG	12:AB:146:GLY:N	2.68	0.56
10:B:31:G:C3'	17:D:1340:A:HO2'	2.18	0.56
17:D:193:C:HO2'	18:E:59:ASP:HB2	1.69	0.56
17:D:1309:G:OP1	37:X:97:VAL:CG1	2.54	0.56
17:D:1397:C:OP1	17:D:1397:C:H2'	2.05	0.56
24:K:165:LEU:HD12	27:N:114:ARG:CD	2.32	0.56
35:V:25:ILE:HD11	35:V:61:ILE:HD11	1.86	0.56
40:a:684:G:OP1	52:m:21:ARG:NH1	2.38	0.56
40:a:994:C:OP2	65:z:50:ARG:HD2	2.05	0.56
40:a:1839:G:O4'	40:a:1927:A:C1'	2.53	0.56
48:i:42:HIS:CD2	62:w:100:CYS:C	2.84	0.56
48:i:50:ARG:NH2	62:w:96:ARG:CB	2.67	0.56
7:6:8:DC:H2'	7:6:9:DT:H71	1.86	0.56
10:B:32:C:H5''	17:D:1341:U:H5'	1.88	0.56
40:a:2286:G:N3	50:k:14:SER:HB2	2.21	0.56
40:a:2873:A:H5'	62:w:6:SER:CB	2.35	0.56
40:a:2875:C:OP1	62:w:4:ARG:NH2	2.38	0.56
43:d:47:C:OP1	63:x:3:LYS:HE2	2.05	0.56
53:n:74:VAL:HG21	53:n:77:PHE:CD2	2.41	0.56
1:0:76:LYS:HE2	40:a:992:C:H5''	1.87	0.56
9:9:93:ALA:O	9:9:129:LEU:HD12	2.06	0.56
12:AB:128:PHE:HE1	12:AB:180:LYS:CB	2.18	0.56
17:D:1186:G:H4'	28:O:115:LYS:HZ3	1.66	0.56
17:D:1349:A:OP2	28:O:120:LYS:HE3	2.04	0.56
30:Q:67:ALA:HB2	30:Q:96:THR:HG23	1.87	0.56
38:Y:54:ILE:O	38:Y:54:ILE:HG22	2.05	0.56
40:a:548:G:H3'	40:a:549:G:O4'	2.06	0.56
40:a:1262:A:HO2'	48:i:7:LYS:CA	2.18	0.56
40:a:2619:C:H4'	49:j:155:VAL:CG1	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:76:LYS:HZ1	40:a:992:C:P	2.25	0.56
10:A:21:A:H4'	10:A:21:A:OP1	2.05	0.56
10:A:60:U:P	10:A:61:C:H41	2.28	0.56
10:B:56:C:C2'	10:B:57:A:H5''	2.36	0.56
17:D:1148:U:OP1	28:O:11:ARG:NH2	2.39	0.56
17:D:1169:A:H2'	17:D:1170:A:C8	2.41	0.56
17:D:1492:A:H5''	31:R:44:LYS:HE3	1.88	0.56
38:Y:78:LEU:HD13	38:Y:108:ILE:HG22	1.88	0.56
40:a:615:U:C4	51:l:39:ALA:HA	2.41	0.56
40:a:995:C:H5'	65:z:53:ARG:CD	2.36	0.56
40:a:2002:G:OP1	62:w:13:ASN:HA	2.06	0.56
40:a:2189:U:P	40:a:2189:U:O4'	2.64	0.56
40:a:2191:A:H2'	40:a:2192:U:C6	2.41	0.56
2:1:19:LEU:HD23	48:i:20:ASP:O	2.06	0.56
12:AB:157:ARG:NH2	12:AB:174:ASP:OD2	2.38	0.56
16:C:40:VAL:HG12	16:C:41:PRO:O	2.06	0.56
21:H:36:VAL:HB	21:H:48:ILE:HB	1.86	0.56
21:H:119:GLY:CA	21:H:133:GLY:HA2	2.28	0.56
40:a:70:G:H4'	40:a:71:A:OP1	2.05	0.56
40:a:467:G:OP2	52:m:34:ARG:CG	2.53	0.56
40:a:671:C:P	60:u:42:SER:HA	2.46	0.56
40:a:2311:A:H1'	53:n:79:ILE:HD11	1.88	0.56
16:C:40:VAL:CG2	21:H:339:ARG:N	2.69	0.56
20:G:126:PHE:O	20:G:127:ASP:C	2.49	0.56
37:X:83:LEU:HD23	37:X:85:CYS:SG	2.45	0.56
38:Y:109:ALA:HB2	38:Y:128:ILE:HG13	1.88	0.56
40:a:1262:A:HO2'	48:i:8:PRO:CD	2.16	0.56
48:i:52:ARG:HH22	62:w:118:ARG:NH1	2.04	0.56
2:1:19:LEU:HD11	48:i:17:ARG:HB3	1.88	0.55
4:3:45:HIS:CB	40:a:482:A:H4'	2.35	0.55
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.36	0.55
17:D:43:C:P	34:U:12:LYS:HE3	2.46	0.55
17:D:718:A:O4'	30:Q:119:ASN:CG	2.49	0.55
40:a:67:U:N3	40:a:74:A:C6	2.74	0.55
40:a:1056:G:O2'	40:a:1103:A:N6	2.38	0.55
40:a:1130:U:C2	40:a:2025:C:H5''	2.41	0.55
40:a:2286:G:C6	40:a:2346:A:C2	2.94	0.55
48:i:49:TYR:OH	62:w:112:TYR:HB2	2.06	0.55
54:o:10:ALA:CA	60:u:58:TYR:CB	2.84	0.55
10:A:76:A:C1'	40:a:2421:G:N2	2.68	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:164:ILE:HD13	12:AB:168:ALA:CB	2.36	0.55
17:D:1190:G:OP1	22:I:4:LYS:HA	2.07	0.55
40:a:579:G:H2'	40:a:580:U:C6	2.41	0.55
40:a:1920:C:O5'	40:a:1920:C:H6	1.89	0.55
40:a:2017:U:C6	48:i:5:GLN:OE1	2.59	0.55
40:a:2349:G:OP2	54:o:38:THR:CG2	2.55	0.55
40:a:2822:G:P	49:j:117:GLY:HA3	2.45	0.55
58:s:3:THR:HG22	65:z:64:ARG:HH12	1.70	0.55
36:W:74:PHE:CE1	37:X:85:CYS:HB3	2.42	0.55
38:Y:21:PRO:CB	38:Y:22:PRO:HD3	2.35	0.55
40:a:1012:U:C5	58:s:30:THR:HG21	2.41	0.55
40:a:1568:G:H4'	47:h:59:LYS:CB	2.35	0.55
40:a:2286:G:C6	40:a:2346:A:N1	2.75	0.55
40:a:2311:A:O4'	53:n:77:PHE:HD2	1.89	0.55
40:a:2820:A:P	62:w:3:HIS:HA	2.46	0.55
47:h:146:MET:HE3	47:h:154:LEU:HD21	1.89	0.55
55:p:24:ILE:HD13	55:p:72:LEU:HD21	1.87	0.55
2:l:16:LYS:O	2:l:19:LEU:HD22	2.07	0.55
9:9:93:ALA:O	9:9:129:LEU:O	2.25	0.55
10:B:31:G:O2'	17:D:1340:A:C1'	2.55	0.55
17:D:439:U:O2	17:D:440:C:C5	2.59	0.55
17:D:959:A:C2	17:D:1222:G:O4'	2.59	0.55
21:H:267:TRP:CZ3	21:H:342:ILE:HD11	2.41	0.55
40:a:671:C:P	60:u:43:GLY:H	2.28	0.55
40:a:1141:U:O2	40:a:1142:A:N6	2.39	0.55
40:a:1262:A:C5	48:i:4:GLN:N	2.74	0.55
40:a:1813:G:C2'	47:h:50:THR:OG1	2.54	0.55
46:g:60:PHE:CE2	46:g:64:PHE:CE1	2.85	0.55
8:7:-20:A:H2'	8:7:-19:U:H6	1.70	0.55
8:7:-12:U:O4	17:D:1196:A:C8	2.60	0.55
10:B:68:C:C2'	10:B:69:C:H5''	2.36	0.55
16:C:34:THR:N	16:C:38:LYS:O	2.36	0.55
36:W:15:LEU:HD13	36:W:33:THR:HG21	1.88	0.55
40:a:856:G:O2'	41:b:26:PHE:HD2	1.77	0.55
40:a:2839:G:P	62:w:46:ARG:HD2	2.47	0.55
10:B:19:G:N2	10:B:57:A:C8	2.75	0.55
10:B:72:A:C3'	10:B:73:A:H5''	2.37	0.55
10:B:76:A:C6	61:v:78:LEU:HD21	2.41	0.55
17:D:73:C:O2	17:D:73:C:H2'	2.05	0.55
24:K:150:PRO:HA	27:N:99:LEU:HD22	1.88	0.55
40:a:523:C:O2	40:a:554:U:O2'	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1252:G:N3	65:z:33:ARG:NH2	2.54	0.55
40:a:2189:U:O4'	40:a:2189:U:OP1	2.24	0.55
48:i:49:TYR:OH	62:w:98:LEU:HD13	2.07	0.55
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.55
38:Y:72:THR:HG1	38:Y:73:PRO:HD2	1.69	0.55
38:Y:77:VAL:O	38:Y:77:VAL:HG12	2.07	0.55
40:a:250:G:H4'	60:u:59:ARG:HE	1.72	0.55
40:a:516:C:C5'	48:i:7:LYS:HB2	2.12	0.55
40:a:1286:A:H5''	62:w:104:ALA:HB3	1.89	0.55
40:a:1657:U:C4'	49:j:138:LEU:HD22	2.36	0.55
46:g:38:SER:HB3	53:n:105:THR:HG23	1.88	0.55
48:i:40:ARG:CB	62:w:99:LYS:HB2	2.37	0.55
2:1:88:ARG:HG3	2:1:94:ASP:OD2	2.06	0.55
10:A:56:C:C2'	10:A:57:A:H5''	2.36	0.55
11:AA:896:THR:HB	11:AA:897:PRO:CD	2.36	0.55
17:D:13:U:C4	17:D:21:G:C2	2.94	0.55
17:D:974:A:OP2	32:S:81:ARG:NH1	2.38	0.55
40:a:2350:C:H5''	54:o:42:ARG:HD2	1.89	0.55
48:i:41:HIS:CA	62:w:100:CYS:CA	2.85	0.55
10:A:68:C:C2'	10:A:69:C:H5''	2.36	0.55
40:a:1021:A:C2	40:a:1141:U:O4	2.60	0.55
40:a:1454:C:N4	62:w:67:PHE:CD2	2.74	0.55
40:a:1590:A:H2'	40:a:1591:A:C8	2.41	0.55
8:7:14:U:C1'	14:AE:322:ARG:NH1	2.70	0.55
16:C:10:PHE:CE2	21:H:267:TRP:CD1	2.91	0.55
17:D:1457:G:C5'	18:E:30:THR:HG21	2.36	0.55
40:a:559:G:N2	65:z:48:ARG:HH11	2.05	0.55
40:a:1217:U:OP2	65:z:11:ARG:HD2	2.07	0.55
40:a:1263:U:C5'	48:i:8:PRO:HB3	2.36	0.55
40:a:2189:U:O2'	40:a:2190:G:C5'	2.55	0.55
40:a:2225:A:H4'	40:a:2226:C:O5'	2.06	0.55
40:a:2230:G:H5''	42:c:30:LEU:HD12	1.90	0.55
40:a:2261:C:N4	41:b:14:ARG:HD2	2.22	0.55
59:t:71:ARG:NH2	59:t:123:LEU:O	2.39	0.55
2:1:18:ARG:NH1	48:i:17:ARG:HH12	2.04	0.54
7:6:26:DT:H2''	7:6:27:DG:H5'	1.89	0.54
10:A:19:G:N2	10:A:57:A:C8	2.75	0.54
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.89	0.54
17:D:1233:G:OP1	28:O:126:GLN:HB3	2.07	0.54
17:D:1240:U:O4	26:M:109:ARG:CZ	2.54	0.54
40:a:663:G:OP1	60:u:17:LYS:HB2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:995:C:C5'	65:z:53:ARG:HD2	2.37	0.54
40:a:1754:A:OP1	64:y:94:LYS:HE2	2.08	0.54
40:a:2547:A:H2'	40:a:2548:U:C6	2.42	0.54
40:a:2641:G:H5''	58:s:78:THR:O	2.07	0.54
3:2:1:MET:HB2	40:a:141:G:O6	2.07	0.54
9:9:11:ILE:HG13	9:9:65:GLU:HB3	1.88	0.54
21:H:339:ARG:C	21:H:341:ARG:N	2.62	0.54
40:a:67:U:H1'	40:a:88:G:C2	2.42	0.54
40:a:910:A:C5	61:v:13:HIS:CE1	2.96	0.54
40:a:1567:G:C5'	47:h:58:HIS:CG	2.90	0.54
40:a:2756:U:N3	40:a:2758:A:C6	2.75	0.54
54:o:7:VAL:CG1	60:u:58:TYR:CE2	2.90	0.54
9:9:31:ARG:NH2	40:a:1053:C:O2'	2.40	0.54
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.54
12:AB:133:MET:HG2	12:AB:146:GLY:N	2.21	0.54
18:E:25:ARG:HA	18:E:66:LEU:HD21	1.88	0.54
21:H:280:LEU:N	21:H:330:VAL:O	2.33	0.54
40:a:2786:U:O2'	49:j:63:PRO:HA	2.07	0.54
54:o:10:ALA:N	60:u:58:TYR:HB2	2.22	0.54
7:6:2:DC:H2''	7:6:3:DC:C5	2.43	0.54
10:A:60:U:O2'	10:A:61:C:OP1	2.24	0.54
10:A:72:A:C2'	10:A:73:A:H5''	2.37	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
10:B:32:C:C5'	17:D:1341:U:H5'	2.38	0.54
10:B:76:A:C3'	40:a:2493:U:H1'	2.37	0.54
17:D:975:A:C2	29:P:59:LYS:CE	2.90	0.54
21:H:70:VAL:HA	21:H:85:SER:CB	2.38	0.54
29:P:49:PHE:CE1	32:S:76:LYS:CD	2.71	0.54
40:a:871:U:H2'	40:a:872:U:C6	2.42	0.54
40:a:1813:G:N2	47:h:50:THR:O	2.39	0.54
40:a:2303:G:C2	40:a:2314:A:C2	2.96	0.54
40:a:2311:A:C4'	53:n:74:VAL:HG11	2.22	0.54
48:i:50:ARG:CZ	62:w:114:GLU:CG	2.86	0.54
4:3:44:LYS:HG3	40:a:481:G:OP2	2.07	0.54
17:D:8:A:C6	23:J:206:LYS:HD3	2.42	0.54
32:S:77:PHE:CZ	32:S:96:LEU:HD21	2.42	0.54
40:a:1994:C:OP1	49:j:132:ALA:N	2.41	0.54
40:a:2619:C:O4'	49:j:155:VAL:HB	2.07	0.54
2:1:39:THR:CG2	48:i:22:LEU:CD2	2.86	0.54
6:5:110:DA:N7	11:AA:183:TRP:HH2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:24:SER:HB2	9:9:116:GLU:HG2	1.90	0.54
10:A:19:G:C2	40:a:2112:G:C1'	2.89	0.54
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.54
17:D:973:G:O4'	29:P:57:VAL:HB	2.07	0.54
40:a:615:U:C4	51:l:39:ALA:CA	2.90	0.54
54:o:14:PHE:CZ	60:u:61:LEU:CD1	2.91	0.54
7:6:22:DC:H4'	11:AA:508:SER:OG	2.07	0.54
10:A:72:A:C3'	10:A:73:A:H5''	2.37	0.54
21:H:118:GLY:O	21:H:133:GLY:HA3	2.07	0.54
40:a:674:G:C1'	51:l:69:ARG:CD	2.86	0.54
40:a:1813:G:H1'	47:h:44:ASN:HB3	1.89	0.54
49:j:152:PRO:HG3	49:j:156:PHE:CZ	2.43	0.54
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.54
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.54
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.54
17:D:1124:G:C4'	29:P:40:ILE:HG12	2.31	0.54
40:a:674:G:OP1	51:l:71:GLY:N	2.40	0.54
40:a:675:A:H4'	51:l:62:GLN:NE2	2.23	0.54
40:a:1827:U:H5	47:h:221:ARG:HD2	1.72	0.54
40:a:2754:U:C3'	56:q:19:ARG:NH2	2.71	0.54
40:a:2848:G:N7	64:y:95:ALA:HB2	2.22	0.54
54:o:10:ALA:HA	60:u:58:TYR:HB2	1.90	0.54
9:9:31:ARG:HG3	9:9:31:ARG:NH1	2.20	0.54
9:9:57:ASN:OD1	9:9:62:ARG:CG	2.56	0.54
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.54
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.54
17:D:826:C:C2'	27:N:16:ASN:HD22	2.16	0.54
17:D:1463:U:C5'	64:y:109:ARG:HH11	2.20	0.54
21:H:45:GLU:OE1	21:H:45:GLU:N	2.39	0.54
21:H:49:PRO:CD	21:H:84:LEU:HD11	2.38	0.54
24:K:165:LEU:CD1	27:N:114:ARG:HD2	2.34	0.54
40:a:907:G:OP1	61:v:22:GLN:C	2.50	0.54
40:a:1218:G:OP2	65:z:15:LYS:HE3	2.07	0.54
40:a:2276:G:C5'	41:b:10:THR:HG21	2.38	0.54
2:1:15:GLN:CD	48:i:16:ARG:HE	2.15	0.54
8:7:-3:U:O2	8:7:-3:U:H2'	2.08	0.54
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.89	0.54
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.54
21:H:122:VAL:O	21:H:129:ALA:N	2.34	0.54
40:a:579:G:C4	40:a:580:U:C5	2.95	0.54
40:a:1190:G:OP1	60:u:30:THR:CB	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1668:A:O2'	40:a:1674:G:N7	2.38	0.54
1:0:74:ILE:HG12	40:a:992:C:O3'	2.08	0.53
9:9:3:LEU:HD13	9:9:5:LEU:H	1.73	0.53
10:A:16:C:O2	40:a:2181:U:C5'	2.53	0.53
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.53
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.53
10:B:72:A:C2'	10:B:73:A:H5''	2.37	0.53
19:F:4:ILE:CD1	19:F:19:PHE:HA	2.38	0.53
40:a:579:G:C1'	48:i:5:GLN:CB	2.84	0.53
40:a:674:G:H1'	51:l:69:ARG:CD	2.38	0.53
40:a:868:U:H2'	61:v:8:LYS:NZ	2.23	0.53
40:a:2563:U:H4'	59:t:28:SER:N	2.23	0.53
53:n:123:ASP:C	53:n:123:ASP:OD1	2.51	0.53
54:o:10:ALA:CA	60:u:58:TYR:HB2	2.38	0.53
9:9:1:MET:SD	9:9:2:ALA:N	2.81	0.53
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.53
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.53
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	0.53
17:D:430:A:OP1	23:J:7:PRO:HB3	2.07	0.53
17:D:1356:G:H2'	17:D:1357:A:C8	2.43	0.53
17:D:1409:C:H1'	40:a:1913:A:C8	2.43	0.53
28:O:113:ARG:NH1	32:S:101:TRP:CA	2.70	0.53
38:Y:59:THR:HG22	38:Y:61:TYR:CE1	2.43	0.53
40:a:1198:U:O2'	65:z:4:VAL:CG1	2.52	0.53
40:a:2344:U:H2'	50:k:35:GLU:OE1	2.07	0.53
4:3:13:VAL:CG2	4:3:39:ILE:HD13	2.39	0.53
4:3:45:HIS:CE1	40:a:498:G:N3	2.76	0.53
8:7:11:U:C2	11:AA:1253:LEU:HD12	2.35	0.53
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.53
10:B:76:A:C5'	40:a:2493:U:O3'	2.51	0.53
16:C:65:LEU:O	16:C:66:SER:HB2	2.08	0.53
16:C:66:SER:CB	25:L:49:TYR:CE1	2.91	0.53
17:D:1208:C:H2'	17:D:1209:C:C6	2.43	0.53
17:D:1358:U:O4	17:D:1363:A:C2	2.60	0.53
34:U:4:ILE:HG12	34:U:21:VAL:HG22	1.89	0.53
40:a:380:G:OP1	42:c:18:ARG:HB2	2.09	0.53
40:a:606:U:C2'	51:l:95:LYS:HZ1	2.21	0.53
40:a:2271:G:OP1	41:b:18:ALA:HB1	2.08	0.53
40:a:2308:G:C6	53:n:77:PHE:CE1	2.97	0.53
40:a:2311:A:O4'	53:n:77:PHE:CD2	2.62	0.53
54:o:7:VAL:HG11	60:u:58:TYR:CE2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:14:PHE:CZ	60:u:57:LEU:HG	2.42	0.53
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.53
17:D:1368:A:H5''	28:O:114:LYS:NZ	2.22	0.53
40:a:1813:G:H4'	47:h:43:ARG:O	2.07	0.53
40:a:2787:C:H5'	49:j:63:PRO:HA	1.90	0.53
8:7:-20:A:C6	10:B:37:A:N1	2.76	0.53
8:7:17:G:H2'	8:7:18:A:C8	2.44	0.53
9:9:47:GLU:O	9:9:49:GLY:N	2.35	0.53
17:D:687:A:H5'	30:Q:44:TRP:CH2	2.43	0.53
40:a:533:G:OP1	65:z:25:TYR:HB3	2.09	0.53
40:a:1567:G:OP1	47:h:58:HIS:HB3	2.08	0.53
40:a:2168:G:C6	40:a:2169:A:C6	2.97	0.53
40:a:2821:A:OP2	49:j:115:GLY:O	2.26	0.53
59:t:80:ASP:HB2	64:y:68:GLU:OE1	2.09	0.53
8:7:15:G:H2'	8:7:16:A:C8	2.43	0.53
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.53
12:AB:19:GLU:OE2	12:AB:65:PHE:CD2	2.45	0.53
12:AB:19:GLU:HG2	12:AB:44:VAL:CG1	2.39	0.53
17:D:1280:A:C8	29:P:43:PRO:CD	2.91	0.53
17:D:1492:A:H5'	31:R:44:LYS:HE3	1.90	0.53
38:Y:80:LYS:HG3	38:Y:86:LYS:HA	1.90	0.53
40:a:869:G:O2'	61:v:8:LYS:CB	2.53	0.53
40:a:2192:U:H2'	40:a:2193:G:C8	2.44	0.53
40:a:2495:G:OP1	61:v:81:ARG:CZ	2.57	0.53
40:a:2563:U:H4'	59:t:28:SER:CA	2.38	0.53
43:d:106:G:H2'	43:d:107:G:O4'	2.08	0.53
58:s:30:THR:HG22	58:s:31:GLU:N	2.24	0.53
10:A:11:A:H2'	10:A:12:G:C8	2.43	0.53
12:AB:44:VAL:HG12	12:AB:45:PRO:HD3	1.90	0.53
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.91	0.53
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.53
10:B:50:U:H2'	10:B:51:C:C6	2.44	0.53
17:D:37:U:O4	17:D:397:A:C2	2.62	0.53
29:P:49:PHE:HE1	32:S:76:LYS:HD3	1.57	0.53
34:U:21:VAL:HG21	34:U:60:TRP:CD1	2.43	0.53
40:a:861:A:N3	43:d:79:G:O2'	2.35	0.53
40:a:871:U:OP1	61:v:4:PRO:HB3	2.09	0.53
40:a:1693:U:O2'	47:h:14:ARG:NH2	2.42	0.53
40:a:2232:C:P	42:c:27:ARG:NH1	2.81	0.53
40:a:2557:G:H2'	40:a:2558:C:C6	2.43	0.53
48:i:40:ARG:CG	62:w:99:LYS:HB2	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:56:C:O2	40:a:2112:G:C4	2.62	0.53
12:AB:65:PHE:CZ	12:AB:70:LEU:CD1	2.86	0.53
10:B:76:A:HO3'	40:a:2493:U:C4'	2.13	0.53
16:C:33:ILE:N	21:H:338:GLU:HB3	2.24	0.53
17:D:718:A:O2'	19:F:35:ARG:NH2	2.42	0.53
17:D:1150:A:O2'	29:P:43:PRO:HA	2.09	0.53
54:o:60:ALA:O	60:u:48:ARG:HG2	2.09	0.53
60:u:58:TYR:O	60:u:60:ARG:N	2.41	0.53
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.42	0.53
10:B:11:A:H2'	10:B:12:G:C8	2.43	0.53
17:D:1346:A:C5'	28:O:122:ARG:NH1	2.72	0.53
40:a:2262:U:OP2	41:b:16:SER:HB3	2.08	0.53
48:i:50:ARG:HH11	62:w:98:LEU:HD11	1.69	0.53
2:1:36:LEU:HD13	2:1:48:LYS:HA	1.91	0.53
10:A:22:G:H2'	10:A:23:C:H6	1.74	0.53
10:A:50:U:H2'	10:A:51:C:C6	2.44	0.53
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.53
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.53
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.53
10:B:30:G:O2'	17:D:1339:A:C2	2.49	0.53
17:D:337:G:H2'	17:D:338:A:C8	2.44	0.53
17:D:1308:U:H5''	37:X:97:VAL:H	1.74	0.53
17:D:1457:G:H5''	18:E:30:THR:CG2	2.38	0.53
21:H:19:ARG:HD3	21:H:73:ASP:CG	2.34	0.53
26:M:23:LEU:O	26:M:27:VAL:HG13	2.08	0.53
40:a:674:G:O3'	51:l:62:GLN:OE1	2.26	0.53
40:a:1261:C:N3	40:a:1262:A:C8	2.76	0.53
40:a:1262:A:C1'	48:i:4:GLN:CG	2.87	0.53
40:a:2017:U:N3	48:i:5:GLN:CB	2.71	0.53
40:a:2017:U:C5	48:i:5:GLN:NE2	2.77	0.53
40:a:2484:G:OP1	61:v:44:ARG:CZ	2.57	0.53
40:a:2641:G:OP1	58:s:78:THR:HA	2.08	0.53
8:7:15:G:H2'	8:7:16:A:H8	1.75	0.52
10:A:18:G:C5	10:A:57:A:N6	2.77	0.52
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
17:D:767:A:H2'	17:D:768:A:O4'	2.09	0.52
17:D:1054:C:C5	17:D:1196:A:C8	2.97	0.52
17:D:1329:A:OP1	37:X:26:GLY:HA3	2.09	0.52
17:D:1457:G:H5''	18:E:30:THR:CB	2.39	0.52
22:I:6:HIS:HB2	32:S:89:MET:HG3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Z:2:ILE:HB	39:Z:5:ASP:HB3	1.90	0.52
40:a:1199:U:C6	65:z:4:VAL:HG22	2.44	0.52
40:a:2016:U:N3	40:a:2017:U:N3	2.58	0.52
40:a:2038:G:H2'	40:a:2039:U:O4'	2.09	0.52
2:1:15:GLN:CA	48:i:17:ARG:CZ	2.84	0.52
11:AA:895:LEU:CD1	29:P:91:ASP:CG	2.83	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
12:AB:133:MET:SD	12:AB:145:ASN:CG	2.92	0.52
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.52
10:B:18:G:C5	10:B:57:A:N6	2.77	0.52
17:D:707:U:OP1	30:Q:87:LYS:NZ	2.34	0.52
17:D:1125:U:H5'	29:P:40:ILE:CD1	2.39	0.52
22:I:6:HIS:HB2	32:S:89:MET:HB3	1.89	0.52
40:a:321:U:H1'	51:l:162:ARG:NH1	2.24	0.52
40:a:396:G:O3'	42:c:31:PRO:HA	2.08	0.52
40:a:1252:G:O4'	65:z:33:ARG:CZ	2.57	0.52
40:a:1814:G:OP1	47:h:40:SER:HB3	2.09	0.52
40:a:2512:C:H1'	49:j:145:SER:HB3	1.90	0.52
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.92	0.52
10:A:19:G:N1	40:a:2112:G:O5'	2.42	0.52
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.52
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.52
14:AE:77:ARG:HD3	14:AE:78:LEU:H	1.73	0.52
16:C:66:SER:HB3	25:L:49:TYR:CE1	2.43	0.52
17:D:911:U:H2'	17:D:912:C:C6	2.44	0.52
21:H:284:VAL:HG12	21:H:294:VAL:HB	1.91	0.52
36:W:69:HIS:CD2	37:X:85:CYS:HB2	2.43	0.52
40:a:705:A:C4'	47:h:9:THR:HG21	2.38	0.52
40:a:1261:C:N4	48:i:3:VAL:HG11	2.24	0.52
40:a:1263:U:O4	48:i:3:VAL:C	2.52	0.52
40:a:1971:U:O2'	47:h:238:ARG:HB3	2.09	0.52
40:a:2286:G:O2'	50:k:48:ILE:HD12	2.09	0.52
4:3:4:LYS:NZ	40:a:337:C:OP2	2.38	0.52
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.52
10:B:60:U:O2'	10:B:61:C:OP1	2.24	0.52
17:D:1309:G:OP1	37:X:97:VAL:HG11	2.09	0.52
17:D:1348:U:OP1	28:O:121:ALA:HB3	2.09	0.52
40:a:243:U:OP1	54:o:6:THR:HB	2.09	0.52
40:a:995:C:OP2	65:z:53:ARG:NH1	2.43	0.52
40:a:2527:C:H4'	56:q:1:MET:H2	1.74	0.52
43:d:83:G:OP1	45:f:17:LEU:HD11	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:6:CYS:SG	47:h:13:ARG:NH1	2.82	0.52
2:l:41:LYS:CB	48:i:22:LEU:HD21	2.38	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
17:D:17:U:H2'	17:D:18:C:C6	2.45	0.52
40:a:516:C:C3'	48:i:7:LYS:CE	2.75	0.52
40:a:1266:G:OP2	48:i:16:ARG:HB2	2.08	0.52
40:a:2189:U:O2'	40:a:2190:G:O5'	2.28	0.52
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.25	0.52
11:AA:374:GLU:HB2	12:AB:80:TRP:HH2	1.75	0.52
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.52
17:D:1360:A:C8	32:S:58:SER:HB3	2.44	0.52
38:Y:7:TYR:HB2	38:Y:57:VAL:HG22	1.92	0.52
40:a:1842:G:H1'	47:h:243:HIS:NE2	2.24	0.52
40:a:2312:U:H5''	53:n:70:ALA:HA	1.92	0.52
40:a:2820:A:C4'	62:w:3:HIS:CG	2.93	0.52
54:o:13:ARG:CD	60:u:61:LEU:O	2.57	0.52
57:r:58:LEU:O	57:r:61:VAL:HG22	2.09	0.52
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.52
10:A:7:G:H4'	10:A:8:U:OP1	2.09	0.52
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.74	0.52
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.52
12:AB:133:MET:SD	12:AB:145:ASN:C	2.92	0.52
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.52
17:D:538:G:P	31:R:112:GLN:HG3	2.49	0.52
38:Y:116:MET:HE2	38:Y:117:THR:H	1.74	0.52
40:a:1263:U:N1	48:i:4:GLN:HA	2.24	0.52
40:a:1433:A:H2'	40:a:1434:A:O4'	2.09	0.52
40:a:2310:C:O2	53:n:75:ALA:HB3	2.10	0.52
40:a:2527:C:C5'	56:q:1:MET:N	2.73	0.52
40:a:2642:G:OP1	58:s:80:HIS:CB	2.58	0.52
40:a:2680:U:OP2	49:j:116:LYS:CE	2.57	0.52
46:g:18:CYS:HB3	46:g:40:CYS:HB2	1.90	0.52
3:2:19:LYS:NZ	40:a:1341:G:O6	2.37	0.52
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.52
38:Y:138:VAL:HG12	38:Y:138:VAL:O	2.10	0.52
40:a:1172:C:H2'	40:a:1173:U:O4'	2.10	0.52
40:a:1819:A:OP1	47:h:157:SER:HB2	2.09	0.52
40:a:2418:A:C5'	50:k:55:LYS:NZ	2.72	0.52
52:m:31:LEU:HD22	52:m:42:LEU:CD1	2.40	0.52
11:AA:895:LEU:HD13	29:P:91:ASP:OD1	2.09	0.52
12:AB:136:VAL:HG11	12:AB:141:PHE:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:23:TYR:CZ	25:L:88:MET:SD	3.03	0.52
20:G:217:VAL:O	20:G:220:THR:HG22	2.09	0.52
38:Y:57:VAL:O	38:Y:57:VAL:HG12	2.09	0.52
38:Y:100:ILE:HB	38:Y:105:LEU:HD11	1.92	0.52
40:a:559:G:N2	65:z:48:ARG:NH1	2.58	0.52
40:a:1263:U:C6	48:i:4:GLN:CA	2.92	0.52
40:a:1568:G:C4'	47:h:59:LYS:HB3	2.36	0.52
40:a:2419:U:OP2	54:o:33:LEU:CD1	2.57	0.52
40:a:2884:U:O4	48:i:29:SER:HA	2.08	0.52
8:7:-15:U:N1	17:D:1493:A:C2	2.78	0.52
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.91	0.52
16:C:64:TYR:HE1	17:D:673:A:C4'	2.23	0.52
21:H:19:ARG:HB2	21:H:73:ASP:OD2	2.09	0.52
40:a:458:G:H3'	52:m:38:GLY:O	2.10	0.52
40:a:907:G:C5'	61:v:22:GLN:HB2	2.40	0.52
40:a:1262:A:C3'	48:i:4:GLN:CD	2.83	0.52
4:3:12:ILE:HG21	4:3:80:ALA:HB2	1.92	0.51
9:9:7:ASP:OD1	9:9:7:ASP:N	2.31	0.51
16:C:40:VAL:CG2	21:H:338:GLU:C	2.82	0.51
40:a:910:A:N7	61:v:13:HIS:CG	2.78	0.51
40:a:2311:A:C6	53:n:77:PHE:HB3	2.45	0.51
49:j:61:THR:HB	49:j:63:PRO:HD2	1.93	0.51
53:n:8:TYR:HA	53:n:12:VAL:HB	1.92	0.51
2:1:25:ARG:NH1	2:1:74:ILE:O	2.43	0.51
8:7:-20:A:H2'	8:7:-19:U:C6	2.45	0.51
11:AA:888:THR:O	11:AA:913:VAL:HB	2.10	0.51
12:AB:167:ARG:HG2	22:I:61:ALA:CA	2.41	0.51
10:B:7:G:H4'	10:B:8:U:OP1	2.09	0.51
17:D:562:U:H1'	31:R:12:ARG:HD3	1.92	0.51
17:D:686:U:H4'	30:Q:44:TRP:CE2	2.45	0.51
17:D:1129:C:OP1	28:O:68:LYS:CE	2.58	0.51
17:D:1368:A:OP1	28:O:116:VAL:CA	2.58	0.51
21:H:23:ILE:N	21:H:69:ASP:OD2	2.43	0.51
40:a:1262:A:N3	48:i:4:GLN:HG3	2.12	0.51
40:a:2297:A:C6	40:a:2321:U:O4	2.63	0.51
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.51
17:D:430:A:OP2	23:J:7:PRO:HA	2.10	0.51
17:D:538:G:P	31:R:112:GLN:HB2	2.50	0.51
17:D:1145:A:HO2'	17:D:1146:A:P	2.33	0.51
33:T:53:ARG:NH1	40:a:715:A:C2	2.78	0.51
40:a:1263:U:C6	48:i:4:GLN:HA	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1287:A:OP1	62:w:105:GLY:CA	2.57	0.51
40:a:1994:C:H5''	49:j:131:ASP:OD1	2.11	0.51
40:a:2307:G:C2	40:a:2311:A:N7	2.78	0.51
40:a:2308:G:C5	53:n:77:PHE:CE1	2.98	0.51
54:o:7:VAL:HG11	60:u:58:TYR:CE1	2.45	0.51
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.51
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.93	0.51
23:J:162:ALA:HB2	23:J:165:ARG:NH2	2.25	0.51
40:a:2014:A:OP1	48:i:2:ALA:O	2.28	0.51
40:a:2620:C:H4'	49:j:161:MET:CB	2.40	0.51
1:0:90:ARG:NH1	40:a:1222:U:OP1	2.39	0.51
17:D:50:A:O2'	17:D:360:G:N2	2.44	0.51
17:D:426:U:H4'	23:J:40:GLN:HA	1.91	0.51
17:D:1310:G:OP1	37:X:87:ARG:NH1	2.42	0.51
21:H:162:LYS:CB	21:H:298:GLU:CD	2.83	0.51
21:H:330:VAL:HB	21:H:344:LEU:HD23	1.92	0.51
40:a:88:G:N7	40:a:88:G:N9	2.57	0.51
40:a:2017:U:C6	48:i:5:GLN:CD	2.89	0.51
40:a:2271:G:OP1	41:b:18:ALA:CB	2.59	0.51
40:a:2469:A:N6	40:a:2481:G:O2'	2.44	0.51
40:a:2748:A:O2'	55:p:63:ALA:HB1	2.10	0.51
48:i:38:HIS:ND1	48:i:39:LEU:O	2.43	0.51
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.51
12:AB:159:LYS:CE	12:AB:170:PRO:HB2	2.40	0.51
14:AE:77:ARG:HB3	14:AE:80:HIS:HB2	1.93	0.51
17:D:739:C:O2'	33:T:42:HIS:CE1	2.63	0.51
17:D:1343:G:OP1	28:O:127:PHE:CD2	2.63	0.51
40:a:464:U:OP1	40:a:464:U:C6	2.64	0.51
40:a:588:U:H2'	40:a:589:U:C6	2.45	0.51
40:a:994:C:OP1	65:z:50:ARG:HD2	2.11	0.51
40:a:1198:U:H1'	65:z:4:VAL:HG11	1.93	0.51
40:a:1795:C:O2	47:h:253:LYS:CE	2.58	0.51
47:h:210:ALA:HA	47:h:213:TRP:CE3	2.46	0.51
4:3:43:LYS:CE	40:a:499:U:OP1	2.58	0.51
6:5:96:DT:H2''	6:5:97:DC:C5	2.46	0.51
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.51
12:AB:64:PHE:CZ	14:AE:285:LEU:HD21	2.46	0.51
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.51
17:D:13:U:O4	17:D:20:U:O4	2.29	0.51
40:a:321:U:H1'	51:l:162:ARG:HH11	1.75	0.51
40:a:813:U:H2'	40:a:814:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:943:A:OP1	60:u:35:HIS:HB2	2.11	0.51
40:a:1412:U:C4	40:a:1413:A:N7	2.79	0.51
40:a:1720:U:H2'	40:a:1721:G:O4'	2.10	0.51
40:a:2311:A:N9	53:n:77:PHE:CD2	2.79	0.51
40:a:2641:G:OP1	58:s:78:THR:CB	2.59	0.51
43:d:89:U:O2'	43:d:90:C:P	2.69	0.51
62:w:35:LYS:HE3	62:w:100:CYS:SG	2.50	0.51
9:9:146:ALA:HA	39:Z:3:THR:CG2	2.40	0.51
12:AB:123:ARG:NE	12:AB:123:ARG:HA	2.24	0.51
40:a:850:U:H4'	45:f:22:ALA:CB	2.40	0.51
40:a:1262:A:C5	48:i:4:GLN:CA	2.92	0.51
40:a:1263:U:H5'	48:i:8:PRO:HD3	1.92	0.51
40:a:2883:A:P	48:i:40:ARG:HH12	2.33	0.51
48:i:41:HIS:O	62:w:112:TYR:HD2	1.89	0.51
58:s:17:VAL:HG23	58:s:137:PRO:HB2	1.92	0.51
4:3:56:GLY:C	40:a:483:A:O2'	2.53	0.51
8:7:16:A:H2'	8:7:17:G:C8	2.45	0.51
17:D:194:C:H4'	18:E:60:ARG:N	2.26	0.51
17:D:1346:A:C4'	28:O:122:ARG:NH1	2.74	0.51
40:a:670:A:C5'	60:u:42:SER:OG	2.59	0.51
40:a:1453:A:N1	62:w:74:GLU:HB2	2.26	0.51
40:a:1869:G:N2	40:a:1871:A:O2'	2.43	0.51
40:a:2286:G:N7	50:k:14:SER:O	2.44	0.51
40:a:2291:U:H2'	40:a:2292:U:C6	2.46	0.51
40:a:2881:U:O3'	62:w:96:ARG:HG3	2.11	0.51
48:i:41:HIS:NE2	62:w:111:ALA:HB1	2.26	0.51
9:9:71:CYS:HA	9:9:117:LEU:HD13	1.92	0.51
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.51
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.51
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.51
16:C:33:ILE:O	16:C:33:ILE:HG12	2.11	0.51
21:H:321:VAL:HG13	21:H:322:VAL:HG23	1.91	0.51
40:a:1199:U:N1	65:z:4:VAL:HG22	2.25	0.51
40:a:2443:C:O3'	51:l:63:LYS:HD2	2.10	0.51
2:1:19:LEU:CD1	48:i:17:ARG:HB3	2.41	0.50
33:T:21:ASP:OD1	33:T:22:THR:N	2.42	0.50
38:Y:42:ASN:HA	38:Y:45:THR:HB	1.93	0.50
40:a:5:A:H2'	40:a:6:A:C8	2.46	0.50
40:a:615:U:C4	51:l:39:ALA:HB2	2.45	0.50
40:a:752:A:H3'	52:m:1:MET:CE	2.41	0.50
40:a:1258:U:P	51:l:67:ARG:NH2	2.81	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1670:C:O2	49:j:134:HIS:HE1	1.91	0.50
7:6:8:DC:H2''	7:6:9:DT:H71	1.91	0.50
8:7:-20:A:C4	8:7:-19:U:C5	2.99	0.50
10:A:37:A:O2'	10:A:38:A:H5'	2.12	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
10:B:37:A:O2'	10:B:38:A:H5'	2.12	0.50
10:B:76:A:C8	61:v:79:ALA:HB2	2.46	0.50
17:D:13:U:O4	17:D:21:G:N3	2.43	0.50
17:D:35:G:O2'	31:R:115:SER:HA	2.11	0.50
17:D:1499:A:O2'	17:D:1500:A:H5'	2.11	0.50
21:H:52:GLN:OE1	21:H:86:ARG:CB	2.59	0.50
21:H:337:GLU:CD	21:H:338:GLU:OE1	2.54	0.50
22:I:12:LEU:HD11	32:S:91:GLY:CA	2.31	0.50
40:a:320:A:C2'	51:l:163:ASN:ND2	2.75	0.50
40:a:579:G:N3	48:i:5:GLN:O	2.44	0.50
40:a:919:U:P	43:d:81:G:H1'	2.51	0.50
40:a:1263:U:C4	48:i:4:GLN:N	2.78	0.50
40:a:1385:A:O2'	40:a:1396:U:O2	2.29	0.50
40:a:1813:G:C1'	47:h:50:THR:OG1	2.59	0.50
5:4:18:ARG:NH1	43:d:93:C:OP2	2.42	0.50
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.50
10:B:60:U:H4'	10:B:61:C:OP2	2.11	0.50
17:D:877:G:H5''	27:N:80:ARG:HD2	1.92	0.50
20:G:148:LEU:HD22	20:G:151:ILE:HD11	1.92	0.50
40:a:17:G:H4'	65:z:25:TYR:CE2	2.46	0.50
40:a:650:C:H5''	54:o:49:MET:CG	2.40	0.50
40:a:1386:C:H2'	40:a:1387:A:C8	2.46	0.50
40:a:1812:U:C4'	47:h:45:ASN:ND2	2.74	0.50
40:a:2286:G:O2'	50:k:48:ILE:HB	2.11	0.50
40:a:2646:C:O5'	40:a:2646:C:H6	1.95	0.50
51:l:104:ALA:O	51:l:108:ILE:HG23	2.11	0.50
54:o:10:ALA:CA	60:u:58:TYR:HB3	2.42	0.50
54:o:14:PHE:HZ	60:u:57:LEU:CD2	2.24	0.50
60:u:77:ILE:HD11	60:u:108:ALA:HB1	1.94	0.50
6:5:98:DA:N9	6:5:99:DT:H72	2.26	0.50
8:7:-10:U:O2	8:7:-10:U:H2'	2.11	0.50
12:AB:47:GLU:HB3	12:AB:64:PHE:CD1	2.46	0.50
10:B:30:G:OP1	17:D:1229:A:O2'	2.27	0.50
17:D:1208:C:H2'	17:D:1209:C:H6	1.76	0.50
25:L:67:PRO:O	25:L:70:VAL:HG22	2.11	0.50
40:a:1657:U:H5''	49:j:138:LEU:CB	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1657:U:H5''	49:j:138:LEU:HB3	1.94	0.50
40:a:1812:U:O2'	47:h:44:ASN:HB2	2.11	0.50
40:a:1820:U:O2	47:h:201:MET:N	2.45	0.50
40:a:2756:U:C4	40:a:2759:G:O6	2.64	0.50
40:a:2899:A:O2'	58:s:134:ALA:HB2	2.11	0.50
8:7:-12:U:C6	8:7:-12:U:OP2	2.65	0.50
11:AA:910:ALA:HB1	11:AA:913:VAL:HG12	1.93	0.50
10:B:22:G:H2'	10:B:23:C:H6	1.74	0.50
16:C:30:LYS:HA	16:C:33:ILE:HD13	1.93	0.50
17:D:1129:C:OP1	28:O:68:LYS:HE2	2.12	0.50
19:F:62:ARG:O	19:F:66:ARG:HG3	2.11	0.50
19:F:67:ARG:HD3	19:F:67:ARG:N	2.27	0.50
24:K:107:ALA:HB2	24:K:125:ALA:HB3	1.93	0.50
40:a:18:U:P	65:z:30:ARG:HH22	2.34	0.50
40:a:396:G:O4'	42:c:13:VAL:HG22	2.10	0.50
40:a:606:U:H5''	51:l:97:ASN:OD1	2.11	0.50
40:a:1824:G:N2	47:h:253:LYS:HE3	2.27	0.50
40:a:2756:U:OP2	56:q:19:ARG:NE	2.44	0.50
40:a:2839:G:P	62:w:46:ARG:HH21	2.33	0.50
9:9:80:THR:OG1	9:9:81:LEU:N	2.45	0.50
10:A:67:C:P	50:k:44:ARG:HH11	2.34	0.50
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.76	0.50
10:B:76:A:HO3'	40:a:2493:U:H4'	1.70	0.50
17:D:538:G:P	31:R:112:GLN:CG	3.00	0.50
17:D:1309:G:C6	17:D:1329:A:C2	2.99	0.50
36:W:74:PHE:CE1	37:X:85:CYS:HA	2.46	0.50
38:Y:77:VAL:HG13	38:Y:80:LYS:CE	2.42	0.50
40:a:67:U:N3	40:a:68:G:C5	2.80	0.50
40:a:95:A:O2'	44:e:40:SER:HB2	2.10	0.50
40:a:654:A:N6	54:o:19:LYS:HE2	2.25	0.50
40:a:1813:G:H4'	47:h:43:ARG:C	2.36	0.50
40:a:1826:G:OP2	47:h:222:GLY:N	2.44	0.50
40:a:2620:C:C1'	49:j:161:MET:SD	3.00	0.50
40:a:2822:G:P	49:j:117:GLY:HA2	2.46	0.50
41:b:18:ALA:HB3	41:b:20:ARG:HH12	1.75	0.50
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.26	0.50
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.94	0.50
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.42	0.50
10:B:49:G:O5'	10:B:49:G:H8	1.95	0.50
16:C:40:VAL:HG21	21:H:339:ARG:N	2.26	0.50
17:D:890:G:O2'	17:D:906:A:N6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1064:G:O2'	17:D:1190:G:N2	2.44	0.50
17:D:1125:U:P	29:P:40:ILE:HD13	2.52	0.50
17:D:1349:A:H5''	28:O:123:ARG:HH11	1.77	0.50
40:a:1095:A:H2'	40:a:1096:A:C8	2.47	0.50
40:a:1813:G:C1'	47:h:44:ASN:HB3	2.41	0.50
40:a:2286:G:C5	50:k:14:SER:CA	2.95	0.50
48:i:40:ARG:C	62:w:100:CYS:HA	2.36	0.50
12:AB:71:VAL:HG12	12:AB:73:MET:HB2	1.93	0.50
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.50
10:B:3:C:H2'	10:B:4:G:H8	1.76	0.50
17:D:1323:G:H2'	17:D:1324:A:C8	2.46	0.50
38:Y:58:ILE:HD13	38:Y:58:ILE:N	2.27	0.50
40:a:250:G:P	60:u:59:ARG:CD	3.00	0.50
40:a:258:G:O2'	60:u:104:GLN:CD	2.54	0.50
40:a:606:U:H5''	51:l:97:ASN:CG	2.37	0.50
40:a:1262:A:N7	48:i:3:VAL:HG22	2.27	0.50
40:a:2526:G:O2'	56:q:1:MET:CB	2.60	0.50
40:a:2618:G:HO2'	49:j:154:LYS:HA	1.76	0.50
48:i:40:ARG:HD3	62:w:99:LYS:HB2	1.93	0.50
2:1:18:ARG:NH1	48:i:17:ARG:HH22	2.09	0.50
8:7:-12:U:C4	17:D:1196:A:C5	2.99	0.50
10:A:60:U:H4'	10:A:61:C:OP2	2.11	0.50
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.93	0.50
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.50
17:D:597:G:O2'	35:V:37:PHE:CE2	2.63	0.50
28:O:98:LEU:HB3	28:O:104:VAL:HG13	1.94	0.50
29:P:65:TYR:CZ	32:S:88:ALA:HB1	2.45	0.50
40:a:869:G:H1'	61:v:8:LYS:HD2	1.94	0.50
40:a:907:G:O5'	61:v:22:GLN:CB	2.60	0.50
40:a:2527:C:H4'	56:q:1:MET:N	2.25	0.50
48:i:50:ARG:NH1	62:w:98:LEU:HD11	2.27	0.50
8:7:12:G:C4	14:AE:253:VAL:HG21	2.47	0.49
10:A:49:G:H8	10:A:49:G:O5'	1.95	0.49
10:A:56:C:H1'	40:a:2112:G:O6	2.12	0.49
17:D:707:U:OP1	30:Q:87:LYS:CD	2.60	0.49
38:Y:33:ASN:H	38:Y:66:PHE:HE1	1.57	0.49
40:a:16:C:H4'	48:i:11:SER:HB2	1.93	0.49
40:a:66:C:C2'	40:a:67:U:H5'	2.42	0.49
40:a:615:U:H6	40:a:615:U:H5'	1.76	0.49
40:a:1070:A:N7	40:a:1096:A:O2'	2.45	0.49
40:a:1263:U:C4	40:a:1264:A:C5	2.99	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1266:G:P	48:i:16:ARG:HG3	2.52	0.49
40:a:2641:G:OP1	58:s:78:THR:CG2	2.58	0.49
47:h:107:PRO:HD2	47:h:110:LEU:HD22	1.94	0.49
51:l:108:ILE:HD11	51:l:180:LEU:HD13	1.93	0.49
9:9:43:LYS:HG2	9:9:98:GLU:HG2	1.94	0.49
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.49
12:AB:148:VAL:CG2	12:AB:151:VAL:HG23	2.42	0.49
16:C:10:PHE:CE2	21:H:266:PRO:HD2	2.47	0.49
16:C:66:SER:CB	25:L:49:TYR:CZ	2.95	0.49
17:D:718:A:H4'	30:Q:119:ASN:ND2	2.27	0.49
17:D:1123:U:O2'	29:P:41:PRO:HD3	2.11	0.49
21:H:309:MET:HE2	21:H:318:PRO:HB3	1.94	0.49
24:K:94:VAL:HG13	24:K:111:MET:HE1	1.94	0.49
29:P:28:THR:HG21	29:P:87:LEU:CD1	2.42	0.49
40:a:1657:U:C5'	49:j:138:LEU:HB3	2.42	0.49
40:a:2352:A:H2	41:b:34:GLY:HA3	1.77	0.49
40:a:2875:C:P	62:w:4:ARG:HH21	2.35	0.49
62:w:67:PHE:O	62:w:71:ARG:N	2.45	0.49
9:9:52:MET:HE3	9:9:52:MET:O	2.12	0.49
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.49
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.49
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.49
17:D:976:G:OP1	32:S:71:HIS:HA	2.12	0.49
17:D:1338:G:C2	17:D:1339:A:C2	3.00	0.49
21:H:291:GLY:HA2	21:H:305:HIS:O	2.12	0.49
36:W:69:HIS:CD2	37:X:85:CYS:CB	2.96	0.49
40:a:1826:G:OP1	47:h:223:THR:HB	2.12	0.49
40:a:1842:G:H1'	47:h:243:HIS:CD2	2.48	0.49
48:i:41:HIS:CA	62:w:100:CYS:HA	2.42	0.49
2:l:20:VAL:HG11	2:l:44:ALA:HA	1.94	0.49
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.95	0.49
16:C:30:LYS:O	21:H:338:GLU:OE2	2.30	0.49
17:D:791:G:N2	17:D:1497:G:O3'	2.45	0.49
17:D:1060:U:OP2	22:I:2:GLY:HA3	2.13	0.49
17:D:1367:C:H5'	29:P:62:ARG:HH12	1.76	0.49
21:H:338:GLU:C	21:H:340:ARG:H	2.20	0.49
22:I:8:ASN:HD22	32:S:90:ARG:C	2.20	0.49
26:M:55:GLY:O	26:M:56:LYS:O	2.29	0.49
40:a:74:A:N7	40:a:88:G:C5	2.80	0.49
40:a:243:U:OP1	54:o:6:THR:CB	2.60	0.49
40:a:1805:A:C5'	47:h:248:TRP:CE2	2.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2349:G:OP2	54:o:38:THR:HG23	2.13	0.49
40:a:2619:C:O2'	49:j:155:VAL:HG11	2.13	0.49
48:i:50:ARG:HH11	62:w:98:LEU:CG	2.25	0.49
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.92	0.49
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.33	0.49
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.95	0.49
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	0.49
17:D:604:G:H2'	17:D:605:U:O4'	2.13	0.49
17:D:1152:A:P	29:P:70:HIS:CE1	3.06	0.49
17:D:1202:U:N1	32:S:82:ILE:HD12	2.16	0.49
17:D:1346:A:C5'	28:O:122:ARG:HH11	2.26	0.49
21:H:117:LYS:CB	21:H:278:THR:HG23	2.43	0.49
40:a:66:C:H2'	40:a:67:U:H5'	1.93	0.49
40:a:67:U:H1'	40:a:88:G:N1	2.27	0.49
40:a:579:G:H1'	48:i:5:GLN:C	2.37	0.49
64:y:106:LYS:HA	64:y:109:ARG:HD3	1.94	0.49
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.49
10:B:3:C:H2'	10:B:4:G:C8	2.48	0.49
17:D:130:A:OP1	35:V:65:ARG:CB	2.61	0.49
17:D:538:G:OP2	31:R:112:GLN:HB2	2.12	0.49
29:P:51:VAL:HG11	32:S:84:VAL:HG11	1.93	0.49
38:Y:77:VAL:HG13	38:Y:80:LYS:HE3	1.95	0.49
38:Y:92:PRO:O	38:Y:94:LYS:N	2.45	0.49
40:a:335:C:H2'	40:a:336:C:O4'	2.13	0.49
40:a:516:C:O5'	40:a:516:C:H6	1.95	0.49
40:a:869:G:O4'	61:v:8:LYS:HE3	2.13	0.49
40:a:1249:U:N3	60:u:18:ARG:NH2	2.60	0.49
40:a:1670:C:C2'	49:j:134:HIS:NE2	2.76	0.49
40:a:2016:U:C5	40:a:2017:U:O4	2.65	0.49
40:a:2344:U:O2'	50:k:50:LYS:CD	2.56	0.49
40:a:2396:G:C2	40:a:2421:G:C2	3.00	0.49
40:a:2754:U:H4'	56:q:19:ARG:NH2	2.27	0.49
58:s:4:PHE:CG	65:z:100:VAL:HG11	2.48	0.49
2:1:39:THR:HG21	48:i:22:LEU:CB	2.41	0.49
6:5:108:DT:H73	11:AA:199:ASP:HB3	1.95	0.49
7:6:5:DT:P	14:AE:1172:LYS:HZ3	2.29	0.49
12:AB:136:VAL:HG22	12:AB:173:LEU:CD1	2.42	0.49
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.94	0.49
16:C:24:LYS:HZ1	25:L:5:GLU:CG	2.24	0.49
17:D:102:G:P	18:E:5:LYS:NZ	2.84	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:587:G:H4'	27:N:4:GLN:OE1	2.12	0.49
17:D:686:U:C4'	30:Q:44:TRP:HE1	2.23	0.49
17:D:946:A:H2'	17:D:947:G:C8	2.47	0.49
17:D:1189:U:P	32:S:98:LYS:HZ1	2.35	0.49
40:a:1263:U:H5'	48:i:8:PRO:CB	2.43	0.49
40:a:1805:A:C5'	47:h:248:TRP:CD2	2.95	0.49
47:h:51:THR:O	47:h:51:THR:HG23	2.13	0.49
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.49
12:AB:65:PHE:HE2	12:AB:68:TYR:O	1.89	0.49
10:B:76:A:C6	61:v:78:LEU:CD2	2.95	0.49
17:D:371:A:H2'	17:D:372:C:O4'	2.13	0.49
21:H:120:PHE:CB	21:H:136:VAL:CB	2.90	0.49
40:a:1130:U:O2	49:j:152:PRO:CB	2.61	0.49
40:a:2271:G:H5''	41:b:18:ALA:HB2	1.95	0.49
44:e:18:LEU:HB2	44:e:53:VAL:HG11	1.94	0.49
10:A:58:A:H1'	10:A:60:U:C5	2.48	0.49
10:A:68:C:H3'	10:A:69:C:H5''	1.95	0.49
12:AB:173:LEU:HB3	12:AB:178:VAL:HG13	1.93	0.49
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.49
10:B:58:A:H1'	10:B:60:U:C5	2.48	0.49
10:B:68:C:H3'	10:B:69:C:H5''	1.95	0.49
16:C:31:ASN:O	21:H:338:GLU:OE1	2.31	0.49
17:D:500:G:H2'	17:D:501:C:C6	2.48	0.49
17:D:1145:A:O2'	17:D:1146:A:O5'	2.29	0.49
21:H:135:LEU:CB	21:H:157:ILE:CB	2.91	0.49
38:Y:125:THR:HA	38:Y:128:ILE:HG12	1.94	0.49
39:Z:4:LYS:O	39:Z:4:LYS:HD2	2.12	0.49
40:a:994:C:P	65:z:50:ARG:CD	2.88	0.49
40:a:1199:U:O4'	65:z:4:VAL:HA	2.12	0.49
40:a:2418:A:H5'	50:k:55:LYS:HE3	1.94	0.49
54:o:12:LYS:CE	60:u:63:LYS:HD2	2.41	0.49
59:t:43:ILE:HD12	59:t:56:ASP:HB2	1.95	0.49
9:9:146:ALA:CB	39:Z:3:THR:OG1	2.61	0.49
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.95	0.49
40:a:68:G:C2'	40:a:69:C:C6	2.89	0.49
40:a:251:A:H5''	60:u:47:ARG:NH1	2.28	0.49
40:a:1490:A:C2	47:h:98:ASP:CB	2.94	0.49
40:a:1805:A:H5''	47:h:248:TRP:CG	2.48	0.49
40:a:2815:C:H5''	48:i:26:THR:CG2	2.42	0.49
49:j:133:THR:O	49:j:134:HIS:HB2	2.12	0.49
7:6:18:DC:C2	8:7:17:G:N2	2.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:3:C:H2'	10:A:4:G:H8	1.76	0.48
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.48
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.48
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.48
17:D:1227:A:C8	37:X:116:ILE:HD13	2.48	0.48
21:H:270:ILE:HG21	21:H:337:GLU:HB3	1.95	0.48
29:P:28:THR:HG21	29:P:87:LEU:HD12	1.95	0.48
40:a:372:G:OP2	42:c:62:LYS:HE3	2.12	0.48
40:a:995:C:O5'	65:z:54:LYS:HE3	2.13	0.48
40:a:995:C:N3	65:z:57:PHE:CZ	2.81	0.48
40:a:1190:G:P	60:u:30:THR:OG1	2.70	0.48
40:a:2015:A:P	48:i:2:ALA:N	2.85	0.48
43:d:41:G:O6	53:n:69:LYS:HD3	2.12	0.48
52:m:24:THR:HG23	52:m:27:GLY:H	1.78	0.48
2:l:88:ARG:HH21	40:a:2013:A:HO2'	1.61	0.48
4:3:48:PRO:CD	40:a:483:A:O3'	2.61	0.48
10:A:19:G:N3	10:A:57:A:C4	2.81	0.48
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.48
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.48
11:AA:845:LEU:HD21	11:AA:890:LYS:C	2.37	0.48
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.48
17:D:675:A:C2	30:Q:120:GLY:HA3	2.48	0.48
17:D:1191:A:P	22:I:3:GLN:OE1	2.72	0.48
21:H:267:TRP:CE2	21:H:340:ARG:HD3	2.47	0.48
29:P:49:PHE:HZ	32:S:76:LYS:CE	2.26	0.48
40:a:579:G:C8	48:i:5:GLN:CD	2.92	0.48
40:a:1805:A:H5''	47:h:248:TRP:CD2	2.48	0.48
40:a:2070:A:H2'	40:a:2071:A:O4'	2.13	0.48
40:a:2296:U:H4'	40:a:2297:A:OP1	2.13	0.48
40:a:2756:U:OP2	56:q:19:ARG:HD3	2.13	0.48
43:d:48:U:H2'	43:d:49:C:C6	2.49	0.48
2:l:91:GLY:HA2	40:a:1614:A:C6	2.48	0.48
4:3:82:ARG:HD3	40:a:335:C:O5'	2.13	0.48
10:A:3:C:H2'	10:A:4:G:C8	2.48	0.48
11:AA:896:THR:H	11:AA:899:GLU:HB2	1.78	0.48
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.94	0.48
10:B:22:G:O2'	10:B:23:C:O5'	2.32	0.48
10:B:57:A:O5'	10:B:58:A:P	2.71	0.48
10:B:66:C:H5'	10:B:66:C:H6	1.79	0.48
16:C:29:LEU:O	16:C:33:ILE:HG23	2.13	0.48
16:C:32:TYR:C	21:H:338:GLU:HB3	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:363:A:C8	31:R:28:PRO:HD2	2.49	0.48
17:D:407:U:P	23:J:5:LEU:HG	2.54	0.48
17:D:429:U:N3	17:D:431:A:N6	2.61	0.48
21:H:154:PHE:CB	21:H:168:VAL:CB	2.91	0.48
40:a:254:G:N7	54:o:5:LYS:CE	2.76	0.48
40:a:258:G:H4'	60:u:104:GLN:HE22	1.78	0.48
40:a:457:A:N1	40:a:470:A:H5''	2.28	0.48
40:a:1067:A:O2'	40:a:1068:G:O4'	2.26	0.48
40:a:1805:A:H4'	47:h:248:TRP:CZ2	2.48	0.48
40:a:2384:U:OP1	41:b:55:ARG:NH1	2.46	0.48
40:a:2627:G:O2'	40:a:2781:A:N1	2.39	0.48
48:i:41:HIS:CG	62:w:99:LYS:N	2.80	0.48
59:t:113:MET:O	59:t:116:ILE:HG13	2.12	0.48
8:7:-9:U:H3'	8:7:-9:U:H6	1.77	0.48
8:7:12:G:N3	14:AE:253:VAL:HG21	2.29	0.48
10:A:57:A:O5'	10:A:58:A:P	2.71	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.48
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.48
10:B:19:G:N3	10:B:57:A:C4	2.81	0.48
10:B:76:A:C3'	40:a:2493:U:O2'	2.61	0.48
38:Y:37:PHE:CZ	38:Y:56:VAL:HG11	2.49	0.48
40:a:452:G:OP1	51:l:53:THR:O	2.31	0.48
40:a:839:U:H2'	40:a:840:C:C6	2.49	0.48
40:a:2572:A:OP1	49:j:149:ASN:HB3	2.13	0.48
40:a:2873:A:O3'	62:w:4:ARG:O	2.31	0.48
50:k:15:ALA:HB1	50:k:43:VAL:HG21	1.95	0.48
52:m:22:MET:O	52:m:28:ARG:NH1	2.45	0.48
54:o:30:ARG:NH2	60:u:62:PRO:CB	2.75	0.48
2:1:15:GLN:CB	48:i:17:ARG:NE	2.77	0.48
7:6:21:DA:N6	8:7:15:G:N1	2.61	0.48
9:9:43:LYS:HZ1	9:9:95:LEU:HD13	1.78	0.48
12:AB:65:PHE:HZ	12:AB:70:LEU:CD1	2.11	0.48
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.48
16:C:44:ILE:HG23	21:H:340:ARG:CB	2.38	0.48
21:H:112:ILE:HA	21:H:121:THR:O	2.12	0.48
21:H:342:ILE:HG22	21:H:344:LEU:HD12	1.96	0.48
37:X:96:PRO:HG3	37:X:102:THR:HG22	1.95	0.48
40:a:96:C:H4'	44:e:41:HIS:HB3	1.96	0.48
40:a:1130:U:N3	49:j:152:PRO:HA	2.28	0.48
40:a:1198:U:H1'	65:z:4:VAL:CG1	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1246:A:H2	65:z:2:ALA:CB	2.25	0.48
40:a:1816:C:N4	47:h:35:GLU:OE2	2.37	0.48
40:a:2133:G:O2'	40:a:2157:G:N2	2.46	0.48
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.95	0.48
4:3:44:LYS:NZ	40:a:481:G:O5'	2.44	0.48
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.48
12:AB:133:MET:SD	12:AB:145:ASN:HB2	2.53	0.48
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.48
21:H:337:GLU:HG3	21:H:338:GLU:CD	2.38	0.48
25:L:100:SER:HB3	25:L:101:PRO:HD2	1.96	0.48
33:T:5:THR:O	33:T:8:THR:OG1	2.26	0.48
40:a:1263:U:C5'	48:i:8:PRO:HG3	2.43	0.48
40:a:1923:U:H2'	40:a:1923:U:OP2	2.13	0.48
40:a:2620:C:C4'	49:j:161:MET:SD	3.01	0.48
48:i:50:ARG:CZ	62:w:114:GLU:HG2	2.44	0.48
50:k:14:SER:CB	50:k:48:ILE:O	2.61	0.48
7:6:16:DC:H1'	14:AE:426:ALA:HB1	1.95	0.48
16:C:40:VAL:N	16:C:40:VAL:HG23	2.28	0.48
17:D:1358:U:OP1	32:S:75:ARG:N	2.44	0.48
17:D:1408:A:H2	40:a:1913:A:C5	2.31	0.48
21:H:267:TRP:CE2	21:H:340:ARG:HG2	2.48	0.48
33:T:4:SER:O	33:T:8:THR:HG23	2.14	0.48
40:a:242:G:H2'	54:o:5:LYS:HA	1.95	0.48
40:a:579:G:C4	48:i:5:GLN:HA	2.49	0.48
40:a:1405:U:H2'	40:a:1406:U:C6	2.49	0.48
40:a:2404:U:H4'	60:u:66:PHE:HZ	1.78	0.48
42:c:31:PRO:HG2	42:c:33:LEU:HD13	1.94	0.48
10:A:66:C:H5'	10:A:66:C:H6	1.79	0.48
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.48
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.48
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	0.48
10:B:31:G:O2'	17:D:1340:A:C4'	2.62	0.48
17:D:13:U:C4	17:D:20:U:O4	2.67	0.48
24:K:150:PRO:HA	27:N:99:LEU:CD2	2.44	0.48
37:X:100:GLN:N	37:X:100:GLN:OE1	2.46	0.48
40:a:396:G:H5''	42:c:11:ARG:O	2.14	0.48
40:a:942:G:C5'	60:u:34:GLY:HA3	2.44	0.48
46:g:16:CYS:CB	46:g:37:CYS:CB	2.89	0.48
48:i:41:HIS:ND1	62:w:111:ALA:HB2	2.28	0.48
1:0:14:VAL:HG21	1:0:98:ILE:HG13	1.95	0.48
2:1:98:LYS:HG2	40:a:2012:G:OP1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:16:C:O2	10:A:16:C:H2'	2.14	0.48
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.48
40:a:396:G:O4'	42:c:29:PHE:HB3	2.13	0.48
40:a:458:G:H8	52:m:37:LYS:O	1.97	0.48
40:a:1262:A:C6	48:i:3:VAL:O	2.67	0.48
40:a:2311:A:H1'	53:n:79:ILE:CD1	2.44	0.48
40:a:2395:C:H2'	40:a:2396:G:O4'	2.14	0.48
40:a:2460:U:H4'	61:v:78:LEU:HD13	1.96	0.48
40:a:2803:G:H2'	40:a:2804:U:C6	2.48	0.48
46:g:37:CYS:N	46:g:40:CYS:SG	2.77	0.48
3:2:64:LYS:HE3	40:a:1601:G:OP1	2.14	0.48
4:3:19:LYS:HD2	40:a:310:A:OP1	2.14	0.48
9:9:54:VAL:O	9:9:54:VAL:HG22	2.13	0.48
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.48
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.48
12:AB:151:VAL:HG13	12:AB:158:LEU:HD23	1.95	0.48
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.48
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.48
10:B:32:C:H4'	17:D:1340:A:O3'	2.14	0.48
10:B:56:C:OP1	53:n:80:ARG:CZ	2.62	0.48
17:D:108:G:H5''	17:D:108:G:N3	2.28	0.48
17:D:1124:G:O2'	17:D:1145:A:N6	2.45	0.48
17:D:1130:A:P	28:O:18:ARG:HH12	2.35	0.48
17:D:1346:A:H4'	28:O:122:ARG:NH1	2.29	0.48
21:H:116:VAL:C	21:H:279:LYS:HB2	2.38	0.48
24:K:99:ALA:HB1	24:K:103:THR:HG21	1.96	0.48
40:a:150:U:H2'	40:a:151:C:C6	2.49	0.48
40:a:645:C:H2'	40:a:647:G:C8	2.48	0.48
40:a:2275:C:H4'	41:b:10:THR:HG23	1.95	0.48
40:a:2286:G:C5	50:k:14:SER:CB	2.97	0.48
45:f:25:LEU:C	45:f:25:LEU:HD13	2.39	0.48
1:0:51:VAL:HG22	1:0:51:VAL:O	2.14	0.47
12:AB:174:ASP:O	12:AB:178:VAL:HG22	2.14	0.47
10:B:18:G:C5	10:B:57:A:C6	3.03	0.47
17:D:37:U:O2	17:D:548:G:C2	2.67	0.47
17:D:401:C:P	23:J:70:ARG:NH1	2.87	0.47
17:D:408:A:P	23:J:8:LYS:HE2	2.54	0.47
21:H:86:ARG:O	21:H:89:ALA:HB3	2.14	0.47
40:a:68:G:C2'	40:a:68:G:N3	2.65	0.47
40:a:523:C:H4'	40:a:540:C:O2	2.13	0.47
40:a:850:U:C4'	45:f:22:ALA:HB1	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1348:C:C5	40:a:1349:C:C5	3.02	0.47
40:a:2899:A:H4'	58:s:134:ALA:HA	1.96	0.47
43:d:43:C:O2'	53:n:92:ARG:HD2	2.14	0.47
48:i:13:ARG:O	48:i:16:ARG:HB3	2.13	0.47
48:i:50:ARG:NH1	62:w:98:LEU:CD1	2.71	0.47
61:v:82:MET:HE2	61:v:82:MET:HA	1.96	0.47
9:9:138:ARG:HH22	39:Z:22:LEU:HD22	1.79	0.47
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.47
17:D:692:U:O3'	30:Q:127:ARG:NH2	2.46	0.47
17:D:692:U:C5'	30:Q:127:ARG:HH21	2.26	0.47
17:D:1150:A:H2	29:P:41:PRO:HG2	1.79	0.47
17:D:1378:C:P	26:M:2:PRO:N	2.87	0.47
21:H:119:GLY:HA3	21:H:132:PRO:C	2.39	0.47
22:I:77:ILE:HA	22:I:84:VAL:HG23	1.95	0.47
29:P:49:PHE:HZ	32:S:76:LYS:CD	2.14	0.47
40:a:17:G:H2'	40:a:18:U:C6	2.50	0.47
40:a:67:U:N3	40:a:74:A:N6	2.61	0.47
40:a:674:G:H1'	51:l:69:ARG:NH1	2.28	0.47
40:a:850:U:C4'	45:f:22:ALA:CB	2.92	0.47
40:a:851:C:H2'	40:a:852:U:C6	2.49	0.47
40:a:995:C:C6	65:z:53:ARG:HD3	2.49	0.47
40:a:1252:G:C4'	65:z:33:ARG:NH1	2.77	0.47
40:a:1568:G:H5'	47:h:59:LYS:O	2.14	0.47
40:a:1824:G:H4'	47:h:247:PRO:HD3	1.95	0.47
40:a:2547:A:H4'	59:t:29:HIS:HE2	1.77	0.47
40:a:2884:U:C4	48:i:29:SER:HA	2.49	0.47
49:j:157:LYS:HG2	58:s:80:HIS:NE2	2.28	0.47
8:7:14:U:H5''	14:AE:322:ARG:HD2	1.94	0.47
10:A:18:G:C5	10:A:57:A:C6	3.03	0.47
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.79	0.47
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.47
17:D:538:G:O5'	31:R:112:GLN:NE2	2.38	0.47
17:D:1280:A:C4	29:P:43:PRO:CG	2.97	0.47
17:D:1280:A:N7	29:P:43:PRO:HD3	2.29	0.47
21:H:69:ASP:OD1	21:H:70:VAL:N	2.45	0.47
21:H:109:THR:HA	21:H:153:GLU:HA	1.94	0.47
40:a:327:G:C2	40:a:336:C:O2	2.67	0.47
40:a:615:U:O2	51:l:35:TYR:HA	2.14	0.47
40:a:1454:C:N4	62:w:67:PHE:CG	2.82	0.47
40:a:1824:G:OP2	47:h:53:HIS:CD2	2.68	0.47
40:a:2297:A:C2	40:a:2321:U:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:130:LYS:HB2	51:l:133:LEU:HD12	1.96	0.47
9:9:67:THR:N	9:9:68:PRO:CD	2.77	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
12:AB:48:GLU:HB3	12:AB:62:ARG:CG	2.43	0.47
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.47
17:D:195:A:OP1	18:E:60:ARG:HG3	2.14	0.47
17:D:346:G:OP2	59:t:121:GLU:HG3	2.14	0.47
39:Z:18:ASP:HB3	39:Z:22:LEU:CD1	2.44	0.47
40:a:118:A:C8	40:a:119:A:C8	3.03	0.47
40:a:396:G:C1'	42:c:29:PHE:CB	2.81	0.47
40:a:449:A:P	51:l:79:ARG:CG	3.02	0.47
40:a:588:U:C2	51:l:85:PHE:CE1	3.03	0.47
40:a:770:G:H5''	52:m:10:LEU:HD23	1.97	0.47
40:a:1964:G:H4'	40:a:1965:C:OP2	2.13	0.47
40:a:2063:C:O2	40:a:2450:A:N1	2.47	0.47
40:a:2311:A:C5	53:n:77:PHE:CG	3.02	0.47
8:7:-13:U:C2	17:D:530:G:O6	2.67	0.47
9:9:62:ARG:HH21	9:9:62:ARG:CG	2.24	0.47
9:9:139:LEU:CD1	39:Z:11:VAL:HG13	2.44	0.47
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.47
14:AE:79:LYS:CB	14:AE:81:ARG:NH1	2.73	0.47
10:B:76:A:C2'	40:a:2493:U:C2'	2.92	0.47
17:D:1113:C:O4'	22:I:178:LEU:HD23	2.15	0.47
17:D:1227:A:C8	37:X:116:ILE:CD1	2.98	0.47
21:H:162:LYS:C	21:H:298:GLU:HG2	2.39	0.47
24:K:81:LEU:HD13	24:K:123:VAL:HG12	1.97	0.47
38:Y:55:PRO:O	38:Y:71:LYS:HB2	2.15	0.47
38:Y:137:LEU:N	38:Y:137:LEU:HD23	2.29	0.47
40:a:995:C:P	65:z:53:ARG:NH1	2.87	0.47
40:a:1226:A:OP1	65:z:16:LYS:NZ	2.42	0.47
40:a:2014:A:O5'	48:i:2:ALA:HA	2.15	0.47
40:a:2230:G:H4'	42:c:30:LEU:HB2	1.96	0.47
40:a:2286:G:C5	50:k:14:SER:HB2	2.50	0.47
40:a:2786:U:C2'	49:j:63:PRO:HB3	2.44	0.47
57:r:55:GLU:HA	57:r:58:LEU:HD12	1.96	0.47
58:s:84:ILE:HG23	58:s:84:ILE:O	2.15	0.47
59:t:18:ARG:HB2	59:t:45:GLU:HB3	1.97	0.47
61:v:106:ASP:C	61:v:106:ASP:OD1	2.58	0.47
63:x:35:ILE:HG21	63:x:71:ALA:HA	1.97	0.47
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.47
17:D:1186:G:C4'	28:O:115:LYS:HZ3	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1276:G:O5'	17:D:1276:G:H8	1.97	0.47
17:D:1382:C:H1'	26:M:79:ARG:HH11	1.79	0.47
21:H:24:VAL:HG12	21:H:69:ASP:H	1.79	0.47
40:a:16:C:C5'	48:i:11:SER:HA	2.44	0.47
40:a:299:A:N1	40:a:322:A:O2'	2.43	0.47
40:a:1216:G:H5''	65:z:11:ARG:NH2	2.30	0.47
40:a:1657:U:OP1	49:j:140:HIS:HD2	1.97	0.47
40:a:1824:G:O3'	47:h:247:PRO:HD3	2.15	0.47
48:i:41:HIS:CE1	62:w:111:ALA:HB2	2.50	0.47
54:o:4:ILE:HG22	60:u:48:ARG:NH2	2.29	0.47
65:z:58:ARG:HA	65:z:61:TRP:CE3	2.49	0.47
9:9:93:ALA:CB	9:9:94:ARG:HH21	2.28	0.47
10:A:42:G:H2'	10:A:43:A:H8	1.78	0.47
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.47
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.47
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.47
10:B:16:C:O2	10:B:16:C:H2'	2.14	0.47
10:B:18:G:O2'	10:B:60:U:C2	2.68	0.47
10:B:30:G:H5''	17:D:1230:C:OP1	2.15	0.47
10:B:59:A:H2'	10:B:60:U:H5'	1.97	0.47
16:C:44:ILE:HD13	16:C:44:ILE:HG21	1.77	0.47
17:D:176:C:OP1	18:E:20:HIS:CE1	2.68	0.47
17:D:197:A:C6	17:D:221:C:C4'	2.98	0.47
17:D:676:A:H4'	30:Q:117:PRO:HB3	1.95	0.47
17:D:1017:U:O2'	17:D:1018:G:O4'	2.33	0.47
17:D:1130:A:H5'	28:O:18:ARG:NH2	2.29	0.47
17:D:1308:U:OP1	37:X:100:GLN:CD	2.58	0.47
17:D:1492:A:O2'	17:D:1493:A:H5''	2.14	0.47
21:H:76:GLU:HA	21:H:76:GLU:OE2	2.15	0.47
27:N:10:MET:HE3	27:N:61:LEU:HD11	1.96	0.47
39:Z:7:ILE:HG23	39:Z:7:ILE:O	2.14	0.47
40:a:16:C:C5'	48:i:11:SER:CB	2.92	0.47
40:a:244:A:P	54:o:8:ARG:HH22	2.29	0.47
40:a:607:U:P	51:l:95:LYS:HE3	2.54	0.47
40:a:682:G:C5'	52:m:26:ASN:CG	2.87	0.47
40:a:1200:C:C1'	65:z:2:ALA:CB	2.92	0.47
40:a:1287:A:OP1	62:w:105:GLY:HA3	2.14	0.47
40:a:1589:U:C2	40:a:1590:A:C8	3.03	0.47
40:a:2091:C:H1'	42:c:34:HIS:NE2	2.30	0.47
40:a:2297:A:C2	40:a:2321:U:C4	3.02	0.47
40:a:2357:G:O5'	41:b:20:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:i:4:GLN:HG2	48:i:4:GLN:H	1.09	0.47
63:x:51:ALA:HB3	63:x:78:VAL:HB	1.95	0.47
1:0:14:VAL:CG2	1:0:98:ILE:HG13	2.44	0.47
10:A:22:G:O2'	10:A:23:C:O5'	2.32	0.47
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.47
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.47
21:H:338:GLU:OE1	21:H:338:GLU:N	2.48	0.47
37:X:17:ILE:O	37:X:20:THR:OG1	2.26	0.47
40:a:371:A:N3	42:c:61:LYS:NZ	2.63	0.47
40:a:380:G:HO2'	42:c:15:GLY:HA2	1.80	0.47
40:a:615:U:C2	51:l:38:GLY:HA3	2.50	0.47
40:a:663:G:H5''	60:u:17:LYS:CD	2.43	0.47
40:a:1198:U:O2	65:z:4:VAL:CG1	2.63	0.47
40:a:1993:U:C5'	49:j:133:THR:HG21	2.43	0.47
40:a:2514:U:H2'	40:a:2515:C:C6	2.49	0.47
40:a:2602:A:H4'	40:a:2603:G:OP2	2.15	0.47
2:1:38:TYR:HB3	48:i:25:VAL:HG12	1.97	0.47
2:1:88:ARG:NH2	40:a:2013:A:H2'	2.29	0.47
9:9:111:ALA:HB3	9:9:114:GLU:HG3	1.97	0.47
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.47
12:AB:128:PHE:CE1	12:AB:180:LYS:HD2	2.49	0.47
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.96	0.47
10:B:11:A:H8	10:B:11:A:O5'	1.98	0.47
16:C:23:TYR:CE1	25:L:88:MET:SD	3.08	0.47
17:D:8:A:H61	23:J:206:LYS:HE2	1.80	0.47
17:D:1124:G:O3'	29:P:40:ILE:HD13	2.15	0.47
21:H:100:LYS:O	21:H:104:ASP:N	2.47	0.47
21:H:163:ARG:CB	21:H:298:GLU:CG	2.87	0.47
21:H:336:ASP:N	21:H:336:ASP:OD1	2.47	0.47
27:N:3:MET:HA	27:N:3:MET:HE3	1.96	0.47
35:V:75:LEU:C	35:V:75:LEU:HD12	2.40	0.47
37:X:101:ARG:O	37:X:101:ARG:HD3	2.15	0.47
37:X:104:THR:O	37:X:104:THR:HG22	2.15	0.47
40:a:579:G:H1'	48:i:5:GLN:CA	2.45	0.47
40:a:685:A:H4'	40:a:686:U:O5'	2.15	0.47
40:a:1588:G:C6	40:a:1589:U:O4	2.68	0.47
40:a:1813:G:O4'	47:h:44:ASN:HA	2.15	0.47
40:a:1814:G:O4'	47:h:51:THR:HG21	2.13	0.47
40:a:2168:G:N3	40:a:2168:G:H2'	2.29	0.47
40:a:2641:G:P	58:s:78:THR:HB	2.54	0.47
42:c:33:LEU:O	42:c:34:HIS:CG	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:85:LYS:HE2	40:a:815:C:OP2	2.15	0.47
4:3:16:GLY:C	40:a:309:A:H4'	2.40	0.47
9:9:43:LYS:NZ	9:9:95:LEU:HD13	2.30	0.47
9:9:51:TYR:CD1	9:9:51:TYR:C	2.92	0.47
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.47
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.47
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.47
14:AE:77:ARG:HA	14:AE:77:ARG:CZ	2.44	0.47
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.47
10:B:60:U:OP2	10:B:61:C:N4	2.46	0.47
17:D:718:A:C4'	30:Q:119:ASN:CG	2.88	0.47
21:H:302:GLY:HA3	21:H:344:LEU:HD13	1.97	0.47
37:X:16:VAL:HG13	37:X:34:LEU:CD1	2.45	0.47
40:a:404:A:HO2'	40:a:405:U:P	2.35	0.47
40:a:1155:A:OP1	65:z:55:ARG:HD3	2.15	0.47
40:a:1567:G:C5'	47:h:58:HIS:ND1	2.78	0.47
40:a:2527:C:C4'	56:q:1:MET:N	2.78	0.47
40:a:2756:U:C4	40:a:2758:A:N6	2.83	0.47
48:i:50:ARG:CZ	62:w:96:ARG:CD	2.93	0.47
2:1:41:LYS:HB2	48:i:22:LEU:HD21	1.97	0.46
2:1:78:GLU:OE2	40:a:517:C:H1'	2.14	0.46
4:3:4:LYS:HE3	40:a:337:C:P	2.55	0.46
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.46
10:B:42:G:H2'	10:B:43:A:H8	1.78	0.46
17:D:662:U:O2'	17:D:836:G:OP1	2.27	0.46
17:D:675:A:H1'	30:Q:118:HIS:HB2	1.97	0.46
21:H:19:ARG:O	21:H:72:LEU:HD22	2.15	0.46
21:H:305:HIS:CD2	21:H:307:SER:H	2.33	0.46
28:O:113:ARG:NE	32:S:101:TRP:CG	2.72	0.46
37:X:96:PRO:CG	37:X:102:THR:CG2	2.94	0.46
38:Y:34:ILE:HG22	38:Y:34:ILE:O	2.14	0.46
40:a:516:C:C3'	48:i:7:LYS:CG	2.93	0.46
40:a:1199:U:C2	65:z:2:ALA:HB3	2.46	0.46
40:a:2112:G:N7	40:a:2113:U:C4	2.83	0.46
48:i:52:ARG:NH2	62:w:118:ARG:CZ	2.78	0.46
49:j:121:THR:HB	49:j:127:PHE:CD2	2.50	0.46
51:l:141:MET:O	51:l:142:ALA:HB3	2.14	0.46
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.45	0.46
9:9:6:GLN:OE1	9:9:6:GLN:HA	2.16	0.46
9:9:58:THR:HB	9:9:82:ILE:H	1.81	0.46
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.46
10:B:76:A:O3'	40:a:2493:U:C2'	2.64	0.46
17:D:718:A:O4'	30:Q:119:ASN:CB	2.64	0.46
18:E:54:MET:O	18:E:57:ILE:HG22	2.15	0.46
21:H:49:PRO:HD3	21:H:84:LEU:HD11	1.96	0.46
30:Q:88:GLY:H	30:Q:114:THR:HG22	1.80	0.46
40:a:994:C:OP1	65:z:50:ARG:CD	2.63	0.46
40:a:1190:G:P	60:u:30:THR:HG1	2.36	0.46
40:a:2756:U:C4	40:a:2759:G:C6	3.02	0.46
9:9:23:LEU:HA	9:9:118:ILE:HG13	1.96	0.46
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.46
10:A:12:G:C2'	10:A:13:C:OP1	2.63	0.46
10:A:71:C:H2'	10:A:72:A:C1'	2.45	0.46
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.46
14:AE:79:LYS:CB	14:AE:81:ARG:HH12	2.28	0.46
16:C:64:TYR:CE1	17:D:673:A:C4'	2.99	0.46
17:D:1175:G:N3	17:D:1176:A:C8	2.83	0.46
17:D:1457:G:OP1	18:E:30:THR:CG2	2.64	0.46
22:I:117:ALA:HB2	22:I:200:VAL:CG1	2.46	0.46
29:P:28:THR:HA	29:P:31:ARG:HH21	1.81	0.46
38:Y:73:PRO:O	38:Y:112:LYS:NZ	2.48	0.46
40:a:560:C:H1'	65:z:48:ARG:NH1	2.30	0.46
40:a:1094:U:OP1	55:p:173:GLU:OE1	2.33	0.46
40:a:1141:U:H4'	40:a:1142:A:O5'	2.15	0.46
40:a:1200:C:N1	65:z:2:ALA:HB1	2.30	0.46
40:a:1256:G:O3'	51:l:68:ALA:HB3	2.14	0.46
40:a:1501:G:C5'	47:h:101:ARG:HH12	2.27	0.46
40:a:2638:G:O2'	40:a:2775:G:N2	2.36	0.46
46:g:38:SER:CB	53:n:105:THR:CG2	2.92	0.46
2:1:83:LYS:HZ2	40:a:1261:C:P	2.38	0.46
8:7:-15:U:C1'	17:D:1493:A:H2	2.23	0.46
8:7:1:U:H6	8:7:1:U:H3'	1.80	0.46
8:7:12:G:H1'	14:AE:253:VAL:HG21	1.97	0.46
8:7:14:U:O4'	14:AE:322:ARG:NH1	2.48	0.46
12:AB:128:PHE:CE1	12:AB:180:LYS:CB	2.96	0.46
12:AB:167:ARG:HA	12:AB:167:ARG:CZ	2.45	0.46
14:AE:649:LYS:NZ	14:AE:652:GLU:OE1	2.38	0.46
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.46
17:D:908:A:H2'	17:D:909:A:C8	2.50	0.46
17:D:961:U:O4	17:D:974:A:N1	2.49	0.46
17:D:1348:U:H4'	28:O:122:ARG:CG	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:170:ARG:O	21:H:171:ARG:CB	2.64	0.46
40:a:662:G:H4'	60:u:16:GLY:CA	2.37	0.46
40:a:2016:U:C2	40:a:2017:U:C5	3.03	0.46
40:a:2071:A:H2'	40:a:2072:C:C6	2.50	0.46
48:i:41:HIS:ND1	62:w:111:ALA:HA	2.29	0.46
54:o:15:LYS:CG	60:u:64:PHE:HZ	2.28	0.46
2:1:4:ILE:HG12	2:1:106:VAL:HG22	1.98	0.46
10:A:18:G:O2'	10:A:60:U:C2	2.68	0.46
12:AB:135:ARG:O	12:AB:178:VAL:HA	2.15	0.46
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.46
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.46
17:D:915:A:C8	17:D:915:A:H3'	2.51	0.46
24:K:150:PRO:O	24:K:153:VAL:HG22	2.14	0.46
35:V:30:LYS:HB2	35:V:37:PHE:CE2	2.50	0.46
40:a:452:G:OP1	51:l:52:VAL:HG13	2.15	0.46
40:a:1263:U:C4	48:i:3:VAL:C	2.94	0.46
40:a:2820:A:O2'	62:w:3:HIS:CE1	2.68	0.46
48:i:41:HIS:CA	62:w:100:CYS:CB	2.92	0.46
56:q:3:VAL:HA	56:q:36:ARG:O	2.15	0.46
4:3:56:GLY:O	40:a:483:A:O2'	2.34	0.46
10:B:12:G:H2'	10:B:13:C:OP1	2.16	0.46
10:B:71:C:H2'	10:B:72:A:C1'	2.45	0.46
17:D:109:A:C6	17:D:326:G:C6	3.03	0.46
17:D:684:U:H2'	17:D:685:G:O4'	2.15	0.46
17:D:977:A:H1'	17:D:982:U:O4	2.16	0.46
17:D:1458:G:C5'	18:E:26:SER:CB	2.83	0.46
17:D:1458:G:P	18:E:26:SER:OG	2.71	0.46
38:Y:123:ALA:HA	38:Y:126:ARG:HG3	1.98	0.46
40:a:598:U:O2'	60:u:12:SER:HA	2.15	0.46
40:a:615:U:N3	51:l:39:ALA:N	2.63	0.46
40:a:663:G:O3'	60:u:17:LYS:NZ	2.42	0.46
40:a:686:U:O2	52:m:8:SER:HB3	2.16	0.46
40:a:801:G:C4	51:l:49:ARG:HD3	2.50	0.46
40:a:1453:A:C6	62:w:74:GLU:HB2	2.51	0.46
40:a:1805:A:H4'	47:h:248:TRP:CE2	2.51	0.46
40:a:2189:U:O2'	40:a:2190:G:O4'	2.30	0.46
40:a:2252:G:H2'	40:a:2253:G:H8	1.81	0.46
40:a:2591:C:H2'	40:a:2592:G:C8	2.51	0.46
54:o:4:ILE:CG2	60:u:48:ARG:NH1	2.79	0.46
62:w:100:CYS:O	62:w:101:GLY:O	2.33	0.46
62:w:100:CYS:SG	62:w:110:MET:CB	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:108:DT:O4	11:AA:199:ASP:OD2	2.33	0.46
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.81	0.46
11:AA:887:VAL:CG2	11:AA:913:VAL:HG21	2.45	0.46
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.46
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.46
16:C:25:ASP:OD1	25:L:101:PRO:HG3	2.16	0.46
17:D:280:C:O2	35:V:40:ARG:CZ	2.64	0.46
17:D:528:C:H6	17:D:528:C:H5''	1.80	0.46
17:D:685:G:H5'	30:Q:41:ALA:O	2.14	0.46
17:D:705:G:N2	30:Q:31:ILE:HD13	2.25	0.46
17:D:842:U:H3'	17:D:843:U:C5'	2.46	0.46
17:D:973:G:C4'	29:P:57:VAL:HG23	2.46	0.46
17:D:1176:A:H2'	17:D:1177:G:O4'	2.15	0.46
40:a:89:A:C2	40:a:90:U:N3	2.83	0.46
40:a:517:C:OP1	48:i:8:PRO:CD	2.64	0.46
40:a:2305:U:O4	53:n:39:GLY:C	2.58	0.46
40:a:2563:U:O2'	59:t:28:SER:HB2	2.15	0.46
47:h:157:SER:O	47:h:195:VAL:HG11	2.15	0.46
2:l:15:GLN:HA	48:i:17:ARG:NE	2.29	0.46
9:9:23:LEU:HD22	9:9:92:ALA:HB1	1.98	0.46
10:A:11:A:O5'	10:A:11:A:H8	1.98	0.46
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.46
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.97	0.46
10:B:12:G:C2'	10:B:13:C:OP1	2.63	0.46
17:D:868:C:H2'	17:D:869:G:O4'	2.16	0.46
17:D:1380:U:C5	26:M:3:ARG:NH1	2.84	0.46
38:Y:12:VAL:HG12	38:Y:23:VAL:HG21	1.98	0.46
40:a:16:C:OP1	48:i:11:SER:HA	2.16	0.46
40:a:66:C:H2'	40:a:67:U:C5'	2.46	0.46
40:a:534:U:C5'	65:z:42:ALA:HB1	2.45	0.46
40:a:1020:A:C2	40:a:1141:U:C2	3.04	0.46
40:a:1130:U:C5	49:j:151:THR:HB	2.51	0.46
40:a:1256:G:O3'	51:l:68:ALA:CB	2.64	0.46
63:x:27:VAL:HG21	63:x:40:ILE:HD12	1.98	0.46
8:7:14:U:H4'	14:AE:322:ARG:HH11	1.79	0.46
9:9:78:GLY:H	9:9:79:PRO:CD	2.28	0.46
10:A:12:G:H2'	10:A:13:C:OP1	2.16	0.46
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.46
10:A:68:C:C4	10:A:69:C:C5	3.04	0.46
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.46
12:AB:135:ARG:HG2	12:AB:135:ARG:HH11	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:159:LYS:HZ1	12:AB:170:PRO:HB2	1.48	0.46
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.46
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.46
10:B:32:C:OP1	17:D:1341:U:C5'	2.64	0.46
17:D:1202:U:N1	32:S:82:ILE:HD13	2.27	0.46
17:D:1366:C:O2'	29:P:59:LYS:HE2	2.16	0.46
21:H:318:PRO:HA	21:H:321:VAL:HG12	1.98	0.46
25:L:95:ALA:O	25:L:96:VAL:C	2.59	0.46
29:P:52:LEU:HD13	32:S:81:ARG:NH2	2.30	0.46
40:a:995:C:N3	65:z:57:PHE:CE2	2.84	0.46
40:a:995:C:C2	65:z:57:PHE:CE2	3.04	0.46
40:a:1252:G:H1	65:z:37:GLN:HE21	1.63	0.46
40:a:1394:U:H4'	40:a:1603:A:H4'	1.96	0.46
40:a:1568:G:O4'	47:h:58:HIS:HE1	1.99	0.46
40:a:1657:U:OP1	49:j:138:LEU:C	2.59	0.46
40:a:2249:U:H3'	40:a:2250:G:C5'	2.46	0.46
48:i:50:ARG:NH2	62:w:96:ARG:CG	2.78	0.46
54:o:4:ILE:HG21	60:u:48:ARG:NH1	2.30	0.46
9:9:26:VAL:HG23	9:9:110:ALA:HB1	1.98	0.46
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.46
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.49	0.46
17:D:676:A:N3	30:Q:121:CYS:SG	2.76	0.46
35:V:48:ASP:HB3	35:V:75:LEU:HD23	1.98	0.46
40:a:372:G:OP2	42:c:62:LYS:CE	2.64	0.46
40:a:396:G:H4'	42:c:29:PHE:O	2.15	0.46
40:a:565:C:H2'	40:a:566:U:O4'	2.16	0.46
40:a:579:G:N2	40:a:1262:A:C4	2.84	0.46
40:a:2361:G:C5'	54:o:28:ASN:OD1	2.64	0.46
40:a:2364:C:H4'	41:b:56:ASP:OD2	2.16	0.46
40:a:2484:G:OP1	61:v:44:ARG:CD	2.62	0.46
40:a:2803:G:H2'	40:a:2804:U:C5	2.51	0.46
7:6:15:DC:N3	7:6:16:DC:C4	2.85	0.45
8:7:14:U:H2'	8:7:15:G:C8	2.51	0.45
11:AA:895:LEU:HD21	29:P:91:ASP:CG	2.41	0.45
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.45
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.45
10:B:18:G:N2	10:B:58:A:C5	2.84	0.45
10:B:68:C:C4	10:B:69:C:C5	3.04	0.45
17:D:619:U:C2	23:J:132:ILE:HD11	2.51	0.45
21:H:267:TRP:CD2	21:H:340:ARG:CG	2.88	0.45
38:Y:140:GLU:OE1	38:Y:140:GLU:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:88:G:C8	40:a:88:G:C4	3.03	0.45
40:a:88:G:C4	40:a:88:G:C1'	2.86	0.45
40:a:126:A:O5'	52:m:19:ARG:HG3	2.16	0.45
40:a:532:A:N7	40:a:2021:C:O2'	2.45	0.45
40:a:579:G:N9	48:i:5:GLN:CG	2.77	0.45
40:a:1257:C:O3'	51:l:67:ARG:NH2	2.43	0.45
40:a:1812:U:O2'	47:h:44:ASN:CA	2.64	0.45
40:a:2168:G:H8	40:a:2168:G:OP1	1.99	0.45
40:a:2787:C:O4'	49:j:63:PRO:HG3	2.17	0.45
50:k:14:SER:HB3	50:k:48:ILE:O	2.16	0.45
6:5:110:DA:N1	11:AA:536:GLY:O	2.50	0.45
8:7:16:A:H2'	8:7:17:G:H8	1.79	0.45
9:9:43:LYS:HD3	9:9:98:GLU:OE1	2.16	0.45
10:A:59:A:H2'	10:A:60:U:H5'	1.97	0.45
10:A:67:C:OP1	50:k:44:ARG:CZ	2.63	0.45
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.45
17:D:714:G:H2'	17:D:715:A:C8	2.51	0.45
17:D:915:A:H8	17:D:915:A:O5'	1.98	0.45
28:O:113:ARG:HH12	32:S:101:TRP:H	1.49	0.45
40:a:64:A:H2'	40:a:65:U:C6	2.51	0.45
40:a:464:U:C6	40:a:464:U:P	3.09	0.45
40:a:685:A:O2'	40:a:773:U:O4	2.27	0.45
40:a:705:A:O4'	47:h:9:THR:HG21	2.15	0.45
40:a:1262:A:O2'	48:i:6:ASN:C	2.60	0.45
40:a:2006:C:O2'	40:a:2823:A:N3	2.46	0.45
40:a:2355:G:C2'	40:a:2356:U:H5'	2.47	0.45
40:a:2537:U:H2'	40:a:2538:C:C6	2.51	0.45
40:a:2880:C:O2'	62:w:93:GLY:CA	2.62	0.45
62:w:55:ALA:HA	62:w:80:PHE:CE1	2.50	0.45
2:1:59:GLU:CG	2:1:66:ILE:HD11	2.46	0.45
11:AA:641:GLU:OE2	14:AE:749:LYS:NZ	2.42	0.45
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.45
12:AB:148:VAL:O	12:AB:148:VAL:CG1	2.61	0.45
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.99	0.45
10:B:46:G:O2'	10:B:47:U:H5''	2.16	0.45
16:C:40:VAL:CG1	21:H:339:ARG:CA	2.85	0.45
17:D:8:A:N6	23:J:206:LYS:HE2	2.31	0.45
17:D:104:G:OP1	18:E:13:GLN:HG2	2.16	0.45
17:D:580:C:H2'	17:D:581:G:O4'	2.17	0.45
21:H:52:GLN:O	21:H:53:PHE:CD1	2.68	0.45
26:M:24:ALA:O	26:M:27:VAL:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:752:A:C5'	52:m:1:MET:SD	3.04	0.45
40:a:783:A:O2'	40:a:785:G:OP1	2.35	0.45
40:a:1813:G:C2	47:h:50:THR:HB	2.52	0.45
40:a:1824:G:OP1	47:h:52:ARG:NH1	2.49	0.45
40:a:1932:A:H2'	40:a:1933:G:O4'	2.16	0.45
40:a:2598:A:OP1	47:h:235:GLY:HA2	2.17	0.45
40:a:2873:A:H5'	62:w:6:SER:HB3	1.97	0.45
1:0:85:LYS:NZ	40:a:815:C:OP1	2.45	0.45
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.45
12:AB:52:ILE:HG22	12:AB:53:ARG:HG3	1.97	0.45
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.74	0.45
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.45
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.45
10:B:38:A:O2'	17:D:790:A:H5'	2.16	0.45
21:H:267:TRP:CZ3	21:H:340:ARG:CG	2.95	0.45
40:a:89:A:C6	40:a:90:U:O4	2.70	0.45
40:a:534:U:H5'	65:z:42:ALA:HA	1.97	0.45
48:i:52:ARG:HD2	62:w:119:SER:OG	2.16	0.45
54:o:58:VAL:CG2	60:u:57:LEU:CD2	2.89	0.45
1:0:76:LYS:CE	40:a:992:C:C5'	2.94	0.45
8:7:-20:A:C6	8:7:-19:U:C4	3.05	0.45
9:9:35:VAL:HA	9:9:38:MET:HB2	1.98	0.45
9:9:72:LEU:O	9:9:72:LEU:HD22	2.16	0.45
10:A:19:G:N2	40:a:2112:G:C1'	2.79	0.45
10:A:46:G:O2'	10:A:47:U:H5''	2.15	0.45
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.98	0.45
12:AB:161:SER:C	12:AB:163:SER:N	2.74	0.45
17:D:1123:U:O2	29:P:41:PRO:CG	2.65	0.45
30:Q:34:ILE:HG12	30:Q:70:CYS:SG	2.57	0.45
40:a:1262:A:N3	48:i:4:GLN:CG	2.75	0.45
40:a:2788:C:H2'	40:a:2789:C:C6	2.52	0.45
40:a:2840:C:P	62:w:50:PRO:HG3	2.57	0.45
40:a:2882:A:OP1	62:w:96:ARG:CD	2.64	0.45
51:l:131:THR:HG22	51:l:160:ALA:O	2.17	0.45
54:o:12:LYS:CD	60:u:63:LYS:HD2	2.47	0.45
54:o:13:ARG:CB	60:u:61:LEU:HB2	2.41	0.45
58:s:32:LEU:CD2	58:s:54:ILE:HG21	2.46	0.45
4:3:48:PRO:CG	40:a:484:C:OP1	2.52	0.45
8:7:-12:U:O4	17:D:1196:A:N7	2.50	0.45
10:A:18:G:N2	10:A:58:A:C5	2.84	0.45
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:138:ASP:OD1	12:AB:139:GLY:N	2.49	0.45
12:AB:173:LEU:HD13	12:AB:178:VAL:CG1	2.47	0.45
17:D:474:G:OP1	34:U:76:LYS:HD3	2.16	0.45
17:D:1368:A:H3'	28:O:114:LYS:HD3	1.98	0.45
21:H:294:VAL:HG21	21:H:330:VAL:HG21	1.98	0.45
28:O:81:HIS:O	28:O:84:THR:OG1	2.30	0.45
40:a:516:C:H5''	48:i:7:LYS:CG	2.43	0.45
40:a:532:A:H3'	65:z:28:ARG:NE	2.32	0.45
40:a:1020:A:C6	40:a:1141:U:O2	2.69	0.45
40:a:1994:C:OP1	49:j:131:ASP:OD1	2.34	0.45
40:a:2512:C:H1'	49:j:145:SER:CB	2.46	0.45
40:a:2598:A:OP1	47:h:235:GLY:CA	2.65	0.45
54:o:12:LYS:HB3	60:u:63:LYS:HA	1.99	0.45
9:9:18:VAL:HA	9:9:86:MET:CE	2.41	0.45
9:9:125:ARG:O	9:9:125:ARG:HG3	2.16	0.45
10:A:7:G:O6	10:A:49:G:O6	2.35	0.45
12:AB:165:PHE:CG	12:AB:165:PHE:O	2.69	0.45
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.45
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.45
10:B:65:C:C2'	10:B:66:C:H5'	2.47	0.45
16:C:10:PHE:CD2	21:H:266:PRO:HD2	2.51	0.45
17:D:176:C:H2'	17:D:177:G:N3	2.32	0.45
21:H:19:ARG:HD3	21:H:73:ASP:OD2	2.16	0.45
32:S:85:ARG:HG3	32:S:89:MET:SD	2.57	0.45
38:Y:10:LEU:HD13	38:Y:10:LEU:HA	1.81	0.45
40:a:88:G:C8	40:a:88:G:C5	3.01	0.45
40:a:372:G:O2'	42:c:54:LYS:CE	2.58	0.45
40:a:528:A:OP2	58:s:116:ARG:NH2	2.44	0.45
40:a:812:C:H5	60:u:21:ARG:CB	2.18	0.45
40:a:871:U:OP1	61:v:4:PRO:HA	2.17	0.45
40:a:1142:A:H2'	40:a:1142:A:N3	2.32	0.45
40:a:1262:A:C6	48:i:3:VAL:C	2.95	0.45
40:a:2298:A:C6	40:a:2299:U:C2	3.05	0.45
64:y:106:LYS:O	64:y:109:ARG:NH2	2.48	0.45
7:6:15:DC:C4	7:6:16:DC:C5	3.05	0.45
7:6:21:DA:C6	8:7:15:G:C2	3.03	0.45
14:AE:68:TYR:CA	14:AE:92:VAL:HG23	2.45	0.45
21:H:270:ILE:HG23	21:H:337:GLU:HB3	1.98	0.45
24:K:136:VAL:O	24:K:140:THR:HG23	2.16	0.45
40:a:242:G:H5''	54:o:64:TYR:CE2	2.51	0.45
40:a:677:A:O2'	40:a:2071:A:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:917:A:N1	43:d:80:U:C4'	2.76	0.45
40:a:1251:C:OP2	65:z:6:ARG:CZ	2.59	0.45
40:a:2273:A:H2'	40:a:2274:A:C8	2.52	0.45
40:a:2350:C:C5'	54:o:42:ARG:HD2	2.46	0.45
40:a:2815:C:C2	40:a:2816:G:C8	3.05	0.45
40:a:2820:A:P	62:w:4:ARG:H	2.39	0.45
59:t:7:MET:HE1	59:t:44:LYS:HD2	1.98	0.45
4:3:36:VAL:HG11	4:3:39:ILE:CD1	2.44	0.45
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.45
13:AC:218:ARG:NH1	13:AD:231:PHE:O	2.50	0.45
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.45
17:D:373:A:C2	17:D:374:A:C8	3.04	0.45
17:D:384:G:H2'	17:D:385:C:C6	2.52	0.45
38:Y:93:ASN:HA	38:Y:135:MET:CE	2.47	0.45
38:Y:102:ARG:HD2	38:Y:103:ALA:N	2.32	0.45
40:a:1657:U:H4'	49:j:138:LEU:HB3	1.98	0.45
50:k:14:SER:OG	50:k:48:ILE:O	2.32	0.45
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.45
10:B:30:G:H1'	17:D:1338:G:H22	1.82	0.45
10:B:31:G:C5'	17:D:1339:A:N1	2.60	0.45
17:D:622:A:C8	17:D:623:C:C6	3.05	0.45
20:G:206:ALA:O	20:G:210:VAL:HG23	2.17	0.45
21:H:19:ARG:HD3	21:H:73:ASP:OD1	2.17	0.45
21:H:316:ILE:HD11	21:H:321:VAL:HG11	1.99	0.45
28:O:113:ARG:CD	32:S:101:TRP:CD1	2.99	0.45
40:a:88:G:N9	40:a:88:G:C5	2.70	0.45
40:a:650:C:H5''	54:o:49:MET:HG2	1.99	0.45
40:a:1568:G:C5'	47:h:59:LYS:HG2	2.41	0.45
40:a:2378:A:C2	63:x:17:LYS:HG2	2.52	0.45
41:b:37:ILE:HD11	41:b:82:ILE:HD11	1.98	0.45
2:1:19:LEU:CD2	48:i:20:ASP:CB	2.65	0.44
2:1:44:ALA:HB2	48:i:22:LEU:HD13	1.99	0.44
9:9:62:ARG:CZ	9:9:62:ARG:HB2	2.47	0.44
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.44
12:AB:133:MET:SD	12:AB:145:ASN:CB	3.05	0.44
13:AD:83:LEU:HD11	14:AE:526:VAL:HB	1.99	0.44
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.44
17:D:429:U:O2	17:D:430:A:N7	2.50	0.44
17:D:909:A:OP1	31:R:18:LYS:HD2	2.17	0.44
40:a:247:G:H4'	40:a:386:G:C5	2.52	0.44
40:a:396:G:H1'	42:c:29:PHE:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1047:G:N2	40:a:1110:G:O2'	2.49	0.44
40:a:2880:C:O2'	62:w:93:GLY:O	2.35	0.44
47:h:119:GLY:O	47:h:130:LEU:HB3	2.17	0.44
48:i:7:LYS:CE	48:i:7:LYS:HD3	2.20	0.44
54:o:10:ALA:CB	60:u:58:TYR:HB3	2.47	0.44
58:s:3:THR:CG2	65:z:64:ARG:HH12	2.30	0.44
2:1:24:ILE:HD13	2:1:36:LEU:HD11	1.99	0.44
8:7:17:G:H2'	8:7:18:A:H8	1.80	0.44
9:9:31:ARG:NH1	9:9:31:ARG:CG	2.80	0.44
9:9:47:GLU:HG3	9:9:95:LEU:CD2	2.46	0.44
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.44
10:B:14:A:N3	10:B:14:A:H2'	2.32	0.44
10:B:50:U:H2'	10:B:51:C:H6	1.82	0.44
16:C:24:LYS:HZ1	25:L:5:GLU:CD	2.24	0.44
17:D:363:A:C4	31:R:28:PRO:HD2	2.53	0.44
17:D:1130:A:C4'	28:O:18:ARG:NH2	2.77	0.44
19:F:4:ILE:HD12	19:F:19:PHE:HA	1.98	0.44
37:X:75:MET:HA	37:X:75:MET:HE3	2.00	0.44
38:Y:24:GLY:HA3	38:Y:25:PRO:HD3	1.85	0.44
40:a:57:C:H2'	40:a:58:G:O4'	2.16	0.44
40:a:461:C:OP2	40:a:461:C:C6	2.70	0.44
40:a:1182:G:H2'	40:a:1183:U:O4'	2.18	0.44
40:a:1262:A:N7	48:i:4:GLN:HG3	2.21	0.44
40:a:1796:U:H2'	40:a:1797:G:C8	2.53	0.44
40:a:1997:C:H5'	49:j:129:THR:CB	2.47	0.44
40:a:2168:G:OP1	40:a:2168:G:C8	2.70	0.44
40:a:2677:G:OP1	49:j:126:ASN:HB2	2.17	0.44
64:y:52:ASN:O	64:y:53:ARG:HD3	2.18	0.44
9:9:11:ILE:CD1	9:9:11:ILE:N	2.80	0.44
11:AA:133:ASN:O	11:AA:527:LYS:NZ	2.42	0.44
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.44
14:AE:708:ASN:N	14:AE:708:ASN:OD1	2.50	0.44
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.44
17:D:1499:A:H3'	17:D:1499:A:OP2	2.16	0.44
20:G:47:VAL:N	20:G:48:PRO:HD2	2.32	0.44
31:R:86:ARG:O	31:R:86:ARG:HG3	2.17	0.44
40:a:400:G:N7	42:c:57:ARG:NH1	2.65	0.44
40:a:1790:C:H2'	40:a:1791:A:C5	2.53	0.44
40:a:1797:G:H4'	47:h:255:LYS:O	2.17	0.44
40:a:2840:C:OP1	62:w:50:PRO:HA	2.18	0.44
46:g:38:SER:HB3	53:n:105:THR:HG22	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:i:41:HIS:HD2	62:w:98:LEU:H	1.53	0.44
62:w:38:LEU:N	62:w:39:PRO:CD	2.81	0.44
4:3:58:ILE:HD11	40:a:483:A:C5	2.53	0.44
9:9:129:LEU:H	9:9:129:LEU:HG	1.65	0.44
10:A:65:C:C2'	10:A:66:C:H5'	2.47	0.44
10:B:7:G:O6	10:B:49:G:O6	2.35	0.44
17:D:429:U:O2	17:D:430:A:C8	2.70	0.44
17:D:718:A:C4'	30:Q:119:ASN:ND2	2.81	0.44
17:D:1130:A:C5'	28:O:18:ARG:NH2	2.78	0.44
17:D:1343:G:H5'	28:O:127:PHE:HB3	1.99	0.44
21:H:337:GLU:HG3	21:H:338:GLU:OE1	2.18	0.44
38:Y:63:ASP:O	38:Y:65:SER:N	2.40	0.44
40:a:588:U:H1'	51:l:85:PHE:CZ	2.52	0.44
40:a:592:A:O2'	54:o:4:ILE:HG13	2.17	0.44
40:a:984:A:N3	40:a:984:A:H2'	2.32	0.44
40:a:1198:U:O2'	65:z:5:LYS:O	2.35	0.44
40:a:2017:U:O5'	40:a:2017:U:H6	2.01	0.44
58:s:30:THR:CG2	58:s:31:GLU:N	2.79	0.44
3:2:77:ARG:NH2	40:a:1337:G:P	2.90	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	2.00	0.44
12:AB:134:VAL:HG22	12:AB:160:VAL:HG11	1.98	0.44
12:AB:148:VAL:HG22	12:AB:151:VAL:HG23	2.00	0.44
17:D:872:A:H2'	17:D:872:A:N3	2.33	0.44
17:D:878:A:P	27:N:80:ARG:HE	2.41	0.44
21:H:332:VAL:CG1	21:H:335:ILE:HG13	2.43	0.44
23:J:162:ALA:HA	23:J:165:ARG:NH2	2.33	0.44
25:L:18:VAL:N	25:L:19:PRO:CD	2.81	0.44
28:O:113:ARG:NE	32:S:101:TRP:NE1	2.63	0.44
40:a:3:U:H2'	40:a:4:U:C6	2.53	0.44
40:a:752:A:P	52:m:3:ARG:NH1	2.91	0.44
40:a:1095:A:O2'	40:a:1096:A:O4'	2.34	0.44
40:a:1217:U:P	65:z:11:ARG:HD2	2.58	0.44
40:a:1262:A:O2'	48:i:7:LYS:N	2.51	0.44
40:a:1812:U:H2'	47:h:44:ASN:HB2	1.95	0.44
40:a:1921:G:O5'	40:a:1921:G:H8	2.01	0.44
40:a:2902:C:O2	40:a:2902:C:C2'	2.56	0.44
46:g:38:SER:OG	53:n:105:THR:HG23	2.17	0.44
8:7:-12:U:N3	17:D:1196:A:N7	2.64	0.44
10:A:56:C:H5	40:a:2168:G:N1	2.15	0.44
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.44
17:D:254:G:OP1	35:V:69:LYS:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1457:G:P	18:E:30:THR:HG21	2.57	0.44
21:H:38:VAL:HG22	21:H:48:ILE:HD11	1.98	0.44
21:H:332:VAL:O	21:H:333:LEU:HB2	2.16	0.44
38:Y:93:ASN:HA	38:Y:135:MET:HE3	2.00	0.44
40:a:532:A:H4'	40:a:533:G:C8	2.53	0.44
40:a:1155:A:H5''	65:z:55:ARG:CZ	2.47	0.44
40:a:1227:G:OP1	65:z:13:ARG:HD2	2.18	0.44
40:a:1249:U:C2	60:u:18:ARG:NH2	2.85	0.44
40:a:1774:C:O2	40:a:1774:C:H2'	2.17	0.44
40:a:1921:G:C2'	40:a:1922:G:H5'	2.48	0.44
40:a:2014:A:P	48:i:2:ALA:CA	3.05	0.44
40:a:2308:G:C5	53:n:77:PHE:HE1	2.36	0.44
9:9:122:GLN:H	9:9:122:GLN:HG2	1.53	0.44
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.44
12:AB:167:ARG:NE	12:AB:167:ARG:CA	2.74	0.44
17:D:1241:G:P	26:M:35:LYS:NZ	2.88	0.44
19:F:37:PHE:HB3	30:Q:126:LYS:HA	1.99	0.44
21:H:270:ILE:HG21	21:H:337:GLU:CB	2.47	0.44
38:Y:28:GLY:HA3	38:Y:32:VAL:HB	1.99	0.44
38:Y:79:LEU:HD13	38:Y:132:ALA:HA	2.00	0.44
40:a:879:G:H2'	40:a:880:G:O4'	2.17	0.44
40:a:1199:U:C2	65:z:4:VAL:CG2	3.01	0.44
40:a:2277:G:OP1	61:v:85:GLY:HA2	2.18	0.44
40:a:2522:U:O2'	40:a:2647:U:OP1	2.35	0.44
40:a:2620:C:H1'	49:j:161:MET:SD	2.58	0.44
40:a:2698:U:H2'	40:a:2699:C:C6	2.53	0.44
54:o:31:HIS:O	54:o:32:ILE:C	2.61	0.44
58:s:3:THR:CG2	65:z:64:ARG:NH1	2.81	0.44
10:A:60:U:HO2'	10:A:61:C:P	2.41	0.44
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.44
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.44
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.44
17:D:560:A:C6	24:K:128:TYR:CZ	3.06	0.44
17:D:1191:A:OP2	22:I:3:GLN:OE1	2.35	0.44
21:H:49:PRO:HD2	21:H:84:LEU:HD11	2.00	0.44
24:K:56:VAL:HB	24:K:57:PRO:HD3	2.00	0.44
31:R:80:ILE:HD12	31:R:97:THR:HG22	1.99	0.44
40:a:995:C:C5'	65:z:54:LYS:HG3	2.47	0.44
47:h:37:ASN:HB2	47:h:62:TYR:HB2	2.00	0.44
65:z:47:TYR:CD1	65:z:47:TYR:C	2.94	0.44
3:2:69:ARG:HB2	40:a:1335:C:OP1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:57:GLY:CA	40:a:483:A:O2'	2.65	0.44
8:7:11:U:C5	8:7:11:U:OP2	2.71	0.44
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.44
11:AA:800:MET:HE3	11:AA:800:MET:HB2	1.69	0.44
14:AE:288:PRO:HG2	14:AE:291:ILE:HD12	2.00	0.44
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.44
16:C:40:VAL:HG21	21:H:338:GLU:CA	2.48	0.44
17:D:976:G:OP1	32:S:71:HIS:CA	2.66	0.44
17:D:1054:C:C6	17:D:1196:A:C8	3.06	0.44
17:D:1060:U:OP2	22:I:2:GLY:CA	2.65	0.44
17:D:1309:G:O6	17:D:1329:A:C6	2.71	0.44
21:H:70:VAL:HG12	21:H:83:LEU:O	2.18	0.44
21:H:304:VAL:HG11	21:H:346:LEU:HB2	1.99	0.44
29:P:22:THR:O	29:P:25:ILE:HG22	2.17	0.44
36:W:74:PHE:CE1	37:X:85:CYS:CB	3.00	0.44
39:Z:26:MET:HE2	39:Z:26:MET:HB2	1.70	0.44
40:a:918:A:H2'	43:d:81:G:C4'	2.48	0.44
40:a:1453:A:C2	62:w:74:GLU:HA	2.53	0.44
40:a:2017:U:N1	48:i:5:GLN:OE1	2.50	0.44
42:c:12:PRO:HB3	42:c:30:LEU:HD23	1.99	0.44
45:f:24:LEU:HD11	45:f:54:MET:HE2	2.00	0.44
47:h:240:PHE:CD2	47:h:240:PHE:O	2.71	0.44
2:1:92:ARG:NH1	40:a:2014:A:C4'	2.81	0.43
8:7:11:U:OP2	8:7:11:U:C4	2.70	0.43
9:9:61:ARG:C	9:9:65:GLU:HB2	2.42	0.43
10:A:50:U:H2'	10:A:51:C:H6	1.82	0.43
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.43
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.43
17:D:686:U:C4'	30:Q:44:TRP:CE2	3.01	0.43
40:a:65:U:H2'	40:a:66:C:H6	1.83	0.43
47:h:45:ASN:OD1	47:h:46:ASN:N	2.50	0.43
65:z:76:TYR:OH	65:z:92:ARG:NH1	2.51	0.43
10:A:14:A:H2'	10:A:14:A:N3	2.33	0.43
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.43
16:C:31:ASN:O	21:H:338:GLU:HA	2.18	0.43
17:D:1226:C:H4'	17:D:1227:A:OP1	2.18	0.43
21:H:135:LEU:CA	21:H:157:ILE:CB	2.95	0.43
29:P:8:ILE:HD12	29:P:25:ILE:HD11	2.00	0.43
34:U:6:LEU:HG	34:U:17:TYR:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:379:G:N3	42:c:29:PHE:CZ	2.85	0.43
40:a:533:G:H5'	65:z:24:TYR:CD1	2.53	0.43
40:a:1568:G:H4'	47:h:59:LYS:HG2	2.00	0.43
40:a:2351:G:O6	54:o:39:LYS:HD2	2.18	0.43
40:a:2680:U:OP2	49:j:116:LYS:HE2	2.17	0.43
40:a:2822:G:O2'	40:a:2824:C:OP2	2.33	0.43
55:p:121:ILE:HD12	55:p:141:ILE:CG2	2.48	0.43
2:1:20:VAL:HG21	2:1:43:ALA:HB3	2.00	0.43
2:1:39:THR:HG22	2:1:40:ASN:N	2.27	0.43
8:7:-11:U:O2	8:7:-11:U:C3'	2.66	0.43
9:9:27:VAL:HG12	9:9:83:ALA:HB3	2.00	0.43
9:9:73:LYS:CB	9:9:117:LEU:HD11	2.48	0.43
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.43
12:AB:165:PHE:O	12:AB:165:PHE:CD2	2.70	0.43
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.43
14:AE:79:LYS:HG3	14:AE:81:ARG:HH12	1.83	0.43
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.43
10:B:60:U:HO2'	10:B:61:C:P	2.42	0.43
17:D:5:U:O2	17:D:5:U:O4'	2.35	0.43
17:D:538:G:OP2	31:R:112:GLN:NE2	2.52	0.43
17:D:555:U:H2'	17:D:556:C:C6	2.54	0.43
17:D:816:A:OP1	17:D:1526:G:O2'	2.32	0.43
17:D:867:G:O2'	17:D:873:A:N1	2.50	0.43
17:D:959:A:C6	17:D:1222:G:H4'	2.53	0.43
17:D:1227:A:H2'	37:X:116:ILE:CG1	2.48	0.43
17:D:1360:A:N7	32:S:58:SER:HB3	2.33	0.43
23:J:100:ASN:OD1	23:J:111:ARG:NH1	2.52	0.43
36:W:65:GLU:O	37:X:83:LEU:CD1	2.64	0.43
40:a:242:G:C5'	54:o:64:TYR:CE2	3.01	0.43
40:a:372:G:HO2'	42:c:54:LYS:HE2	1.78	0.43
40:a:907:G:P	61:v:22:GLN:HB3	2.58	0.43
40:a:1811:G:N2	47:h:46:ASN:ND2	2.65	0.43
40:a:1813:G:C4'	47:h:44:ASN:HA	2.48	0.43
40:a:2351:G:O6	54:o:39:LYS:CD	2.66	0.43
40:a:2619:C:O2'	49:j:161:MET:HE3	2.18	0.43
54:o:24:HIS:HB2	60:u:61:LEU:HD13	2.01	0.43
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.99	0.43
8:7:-14:U:C3'	8:7:-14:U:C6	3.01	0.43
9:9:125:ARG:HA	9:9:125:ARG:CZ	2.47	0.43
11:AA:444:ASP:OD1	11:AA:444:ASP:N	2.51	0.43
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:864:A:H2'	17:D:865:A:C8	2.53	0.43
21:H:322:VAL:HG12	21:H:323:ASN:HB2	2.00	0.43
22:I:50:ALA:HB2	22:I:75:ILE:HD12	1.99	0.43
29:P:24:GLU:OE2	29:P:90:LEU:CD1	2.64	0.43
36:W:69:HIS:NE2	37:X:85:CYS:SG	2.85	0.43
40:a:197:A:N6	40:a:2430:A:H2'	2.33	0.43
40:a:322:A:OP2	51:l:163:ASN:OD1	2.36	0.43
40:a:666:A:H4'	60:u:48:ARG:CD	2.46	0.43
40:a:973:A:O4'	40:a:1188:U:C6	2.71	0.43
40:a:993:G:P	65:z:51:ARG:HH22	2.41	0.43
40:a:1824:G:H4'	47:h:247:PRO:CD	2.49	0.43
40:a:1927:A:C8	40:a:1927:A:O5'	2.71	0.43
40:a:2639:A:H2'	40:a:2640:G:O4'	2.19	0.43
48:i:50:ARG:CG	62:w:98:LEU:HD21	2.45	0.43
52:m:12:ARG:HG3	52:m:44:VAL:HG11	2.00	0.43
53:n:171:ALA:O	53:n:174:ASP:N	2.50	0.43
2:1:29:VAL:HB	2:1:55:ILE:HD11	2.00	0.43
6:5:116:DG:C6	6:5:117:DA:C6	3.06	0.43
7:6:12:DC:O5'	7:6:12:DC:H6	2.01	0.43
8:7:-14:U:H5''	8:7:-14:U:H6	1.83	0.43
9:9:106:PHE:CD2	9:9:106:PHE:C	2.96	0.43
10:A:9:G:O2'	10:A:45:G:H2'	2.18	0.43
12:AB:7:LYS:HG2	12:AB:74:VAL:HG13	2.01	0.43
12:AB:136:VAL:HG11	12:AB:141:PHE:CB	2.49	0.43
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.43
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.01	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.43
16:C:45:THR:HA	21:H:340:ARG:NH2	2.32	0.43
17:D:560:A:C5	24:K:128:TYR:CE1	3.07	0.43
17:D:1358:U:OP1	32:S:75:ARG:CG	2.66	0.43
17:D:1360:A:C8	32:S:58:SER:CB	3.02	0.43
21:H:270:ILE:CG2	21:H:337:GLU:CB	2.97	0.43
21:H:305:HIS:CG	21:H:306:VAL:N	2.86	0.43
24:K:99:ALA:CB	24:K:103:THR:HG21	2.48	0.43
24:K:159:LYS:NZ	27:N:43:GLU:HA	2.33	0.43
40:a:588:U:H1'	51:l:85:PHE:CD2	2.53	0.43
40:a:1262:A:C3'	48:i:8:PRO:CD	2.90	0.43
40:a:1805:A:H5'	47:h:248:TRP:CD2	2.54	0.43
40:a:2112:G:C8	40:a:2113:U:C4	3.06	0.43
47:h:17:VAL:HB	47:h:204:VAL:CG1	2.48	0.43
63:x:99:TYR:OH	63:x:111:ARG:NH1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:94:ASP:CG	40:a:2014:A:H5'	2.44	0.43
3:2:1:MET:CG	40:a:139:U:N3	2.82	0.43
17:D:1174:G:H2'	17:D:1175:G:H5'	1.99	0.43
17:D:1186:G:C4'	28:O:115:LYS:NZ	2.70	0.43
22:I:155:GLY:HA2	22:I:163:ALA:HB1	2.00	0.43
40:a:251:A:OP1	60:u:58:TYR:OH	2.37	0.43
40:a:662:G:C4'	60:u:16:GLY:HA2	2.36	0.43
40:a:869:G:HO2'	61:v:8:LYS:HB2	1.82	0.43
40:a:1501:G:H5''	47:h:101:ARG:NH2	2.32	0.43
40:a:1996:C:H4'	40:a:1997:C:OP1	2.18	0.43
40:a:2418:A:C4'	50:k:55:LYS:HE3	2.49	0.43
40:a:2479:U:OP1	40:a:2537:U:O2'	2.29	0.43
40:a:2885:G:N1	48:i:30:VAL:HG21	2.33	0.43
53:n:29:PRO:HB2	53:n:169:LEU:HD22	2.00	0.43
3:2:1:MET:HG2	40:a:139:U:C2	2.53	0.43
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.01	0.43
10:A:15:G:N3	10:A:15:G:C2'	2.82	0.43
10:A:48:C:C2'	10:A:49:G:OP2	2.67	0.43
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.43
17:D:739:C:O2'	33:T:42:HIS:ND1	2.51	0.43
17:D:1317:C:H42	32:S:53:ARG:HD3	1.82	0.43
17:D:1404:C:O2	17:D:1404:C:H2'	2.18	0.43
21:H:155:LYS:O	21:H:169:SER:CB	2.67	0.43
21:H:337:GLU:CG	21:H:338:GLU:OE1	2.67	0.43
38:Y:133:ARG:O	38:Y:133:ARG:HG2	2.18	0.43
40:a:89:A:C5	40:a:90:U:C4	3.07	0.43
40:a:705:A:H4'	47:h:9:THR:HG21	1.99	0.43
40:a:869:G:O2'	61:v:8:LYS:CG	2.66	0.43
40:a:919:U:OP1	43:d:81:G:H1'	2.19	0.43
40:a:1824:G:O2'	47:h:252:THR:HG21	2.19	0.43
40:a:2418:A:H4'	50:k:55:LYS:HZ1	1.83	0.43
49:j:25:THR:HG21	49:j:193:VAL:HG22	2.01	0.43
54:o:10:ALA:HB2	60:u:58:TYR:HB3	2.00	0.43
54:o:42:ARG:HG3	54:o:45:ARG:NH2	2.34	0.43
4:3:43:LYS:CE	40:a:499:U:H5''	2.43	0.43
4:3:97:LYS:HD2	40:a:300:A:OP2	2.19	0.43
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.43
10:B:48:C:N4	10:B:59:A:C5	2.87	0.43
17:D:8:A:N6	23:J:206:LYS:CE	2.82	0.43
17:D:589:U:P	27:N:6:PRO:HG2	2.59	0.43
17:D:676:A:H2	30:Q:121:CYS:SG	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1125:U:C5'	29:P:40:ILE:HD13	2.48	0.43
17:D:1360:A:C1'	32:S:58:SER:HG	2.32	0.43
17:D:1368:A:H5''	28:O:114:LYS:HZ2	1.84	0.43
17:D:1378:C:OP2	26:M:2:PRO:N	2.52	0.43
21:H:332:VAL:HG13	21:H:342:ILE:HG23	2.01	0.43
37:X:102:THR:O	37:X:104:THR:N	2.52	0.43
38:Y:64:ARG:HE	38:Y:64:ARG:HB2	1.53	0.43
38:Y:121:ILE:HA	38:Y:124:MET:SD	2.58	0.43
40:a:68:G:N2	40:a:74:A:OP2	2.49	0.43
40:a:493:G:H2'	40:a:494:G:O4'	2.19	0.43
40:a:756:A:H2'	40:a:757:G:O4'	2.19	0.43
40:a:1084:A:N7	40:a:1085:A:C6	2.87	0.43
40:a:1794:A:H2'	40:a:1795:C:C6	2.54	0.43
40:a:2029:G:N1	40:a:2033:A:OP2	2.37	0.43
40:a:2244:U:O2'	40:a:2245:U:H5'	2.18	0.43
40:a:2295:C:OP2	63:x:9:ARG:NH2	2.51	0.43
48:i:42:HIS:N	62:w:100:CYS:HA	2.33	0.43
48:i:50:ARG:CZ	62:w:96:ARG:CG	2.96	0.43
54:o:7:VAL:CG1	60:u:58:TYR:CZ	2.96	0.43
9:9:58:THR:HG21	9:9:81:LEU:HA	2.00	0.43
10:A:60:U:OP2	10:A:61:C:N4	2.46	0.43
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.43
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43
12:AB:136:VAL:HG22	12:AB:178:VAL:HG12	2.01	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
17:D:296:U:O2'	17:D:556:C:O2	2.33	0.43
17:D:1333:A:H2'	17:D:1334:G:O4'	2.19	0.43
20:G:126:PHE:C	20:G:127:ASP:O	2.61	0.43
26:M:55:GLY:C	26:M:56:LYS:O	2.62	0.43
28:O:55:VAL:O	28:O:57:MET:N	2.52	0.43
40:a:250:G:OP2	60:u:59:ARG:CD	2.67	0.43
40:a:396:G:H1'	42:c:29:PHE:CG	2.54	0.43
40:a:1263:U:C5'	48:i:8:PRO:CG	2.95	0.43
40:a:1825:U:OP1	47:h:230:HIS:CD2	2.72	0.43
40:a:2585:U:O2	40:a:2585:U:O4'	2.36	0.43
40:a:2754:U:O2'	56:q:19:ARG:NE	2.52	0.43
48:i:40:ARG:CB	62:w:99:LYS:C	2.83	0.43
8:7:-2:U:O2	8:7:-2:U:H2'	2.18	0.43
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.49	0.43
9:9:59:LEU:HB2	9:9:62:ARG:HB3	2.01	0.43
10:A:37:A:H2'	10:A:38:A:O5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	1.99	0.43
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.43
12:AB:128:PHE:HE1	12:AB:180:LYS:HD2	1.83	0.43
12:AB:167:ARG:HG2	22:I:61:ALA:HA	2.01	0.43
10:B:37:A:H2'	10:B:38:A:O5'	2.19	0.43
10:B:54:U:N3	10:B:58:A:N6	2.59	0.43
17:D:563:A:C2	17:D:884:U:O4	2.69	0.43
17:D:956:U:H2'	17:D:957:U:C6	2.54	0.43
17:D:975:A:C2	29:P:59:LYS:NZ	2.87	0.43
18:E:55:GLN:N	18:E:56:PRO:HD2	2.33	0.43
40:a:37:C:H4'	51:l:47:LYS:HZ3	1.84	0.43
40:a:1688:U:O2'	40:a:1700:A:N7	2.47	0.43
40:a:1993:U:C3'	49:j:133:THR:HG21	2.48	0.43
54:o:13:ARG:HD3	60:u:61:LEU:O	2.19	0.43
55:p:35:ARG:HD3	55:p:71:LEU:HD13	2.01	0.43
62:w:29:VAL:HG11	62:w:75:ILE:HG23	2.01	0.43
63:x:18:LEU:HD23	63:x:25:ARG:HD2	2.00	0.43
2:1:59:GLU:HG3	2:1:66:ILE:HD11	2.01	0.42
8:7:-15:U:C2	17:D:1493:A:H2	2.35	0.42
8:7:-12:U:C4	17:D:1196:A:N7	2.87	0.42
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
11:AA:1244:HIS:NE2	11:AA:1266:GLY:O	2.44	0.42
17:D:8:A:N6	23:J:206:LYS:CD	2.82	0.42
17:D:375:U:O2'	34:U:28:ARG:CD	2.64	0.42
17:D:597:G:O2'	35:V:37:PHE:CD2	2.71	0.42
17:D:598:U:H5'	35:V:37:PHE:CZ	2.54	0.42
17:D:707:U:OP1	30:Q:87:LYS:HD2	2.18	0.42
17:D:973:G:C4'	29:P:57:VAL:HB	2.49	0.42
21:H:51:GLU:OE1	21:H:51:GLU:N	2.52	0.42
40:a:78:U:H2'	40:a:79:C:C6	2.54	0.42
40:a:89:A:C6	40:a:90:U:C4	3.06	0.42
40:a:399:U:C4	42:c:54:LYS:NZ	2.87	0.42
40:a:399:U:C5	42:c:54:LYS:NZ	2.87	0.42
40:a:600:G:O2'	51:l:100:MET:CG	2.66	0.42
40:a:2259:U:C2	40:a:2260:C:C6	3.07	0.42
40:a:2299:U:H2'	40:a:2300:C:C6	2.54	0.42
40:a:2308:G:N7	53:n:77:PHE:CE1	2.87	0.42
40:a:2444:G:P	51:l:63:LYS:HD2	2.59	0.42
46:g:11:GLU:HA	46:g:25:ARG:HA	2.00	0.42
47:h:232:HIS:CG	47:h:240:PHE:HE1	2.37	0.42
48:i:50:ARG:HH11	62:w:98:LEU:HG	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:78:ARG:HH22	40:a:975:A:H1'	1.84	0.42
10:A:22:G:HO2'	10:A:23:C:P	2.42	0.42
11:AA:909:LYS:HE2	11:AA:909:LYS:HB2	1.94	0.42
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.42
10:B:9:G:O2'	10:B:45:G:H2'	2.18	0.42
17:D:109:A:H2'	17:D:326:G:N2	2.35	0.42
17:D:1107:C:C5'	22:I:169:ARG:NH1	2.81	0.42
17:D:1428:A:H2'	17:D:1429:A:O4'	2.18	0.42
24:K:153:VAL:HG23	24:K:164:ILE:HD13	2.00	0.42
29:P:65:TYR:CZ	32:S:88:ALA:HB2	2.53	0.42
38:Y:27:LEU:HD12	38:Y:27:LEU:C	2.44	0.42
38:Y:75:ALA:HB2	38:Y:112:LYS:HE2	2.01	0.42
40:a:74:A:H8	40:a:88:G:C8	2.37	0.42
40:a:517:C:C5	48:i:7:LYS:NZ	2.81	0.42
40:a:535:G:O4'	65:z:49:ASP:OD2	2.38	0.42
40:a:918:A:H2'	43:d:81:G:O4'	2.16	0.42
40:a:1130:U:O2	49:j:152:PRO:CA	2.67	0.42
40:a:1130:U:C5	49:j:151:THR:CB	3.02	0.42
40:a:2286:G:H5'	40:a:2286:G:H8	1.81	0.42
40:a:2785:C:H2'	40:a:2786:U:O4'	2.19	0.42
41:b:18:ALA:HB3	41:b:20:ARG:HH11	1.79	0.42
46:g:18:CYS:HB2	46:g:40:CYS:HB3	2.01	0.42
48:i:41:HIS:CD2	62:w:111:ALA:HB1	2.54	0.42
1:O:78:ARG:NH2	40:a:990:A:N1	2.67	0.42
2:1:18:ARG:HH22	40:a:518:G:H4'	1.79	0.42
9:9:71:CYS:CA	9:9:117:LEU:HD13	2.50	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.02	0.42
14:AE:224:LEU:HD23	14:AE:224:LEU:HA	1.83	0.42
17:D:176:C:H5''	18:E:20:HIS:NE2	2.32	0.42
17:D:1026:G:N1	17:D:1035:A:N1	2.66	0.42
17:D:1363:A:C5	17:D:1365:G:C6	3.07	0.42
21:H:33:LYS:HA	21:H:34:ASP:HA	1.73	0.42
23:J:197:GLU:HA	23:J:200:ILE:HD12	2.00	0.42
24:K:83:HIS:HB3	27:N:97:ALA:CB	2.48	0.42
29:P:52:LEU:HB2	32:S:81:ARG:HB2	2.02	0.42
37:X:106:ALA:HB3	37:X:110:LYS:CD	2.50	0.42
39:Z:1:SER:HB3	39:Z:2:ILE:H	1.53	0.42
40:a:136:G:H2'	40:a:137:U:C6	2.53	0.42
40:a:242:G:C5	54:o:5:LYS:HE2	2.54	0.42
40:a:516:C:O3'	48:i:7:LYS:HE3	2.19	0.42
40:a:631:A:N3	40:a:2415:G:O2'	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:797:G:OP2	51:l:57:LYS:HE3	2.20	0.42
40:a:948:C:H1'	40:a:984:A:C8	2.54	0.42
40:a:1141:U:H4'	40:a:1142:A:O4'	2.19	0.42
40:a:1670:C:H2'	49:j:134:HIS:NE2	2.34	0.42
40:a:1994:C:P	49:j:132:ALA:HB3	2.59	0.42
43:d:41:G:H8	53:n:66:LEU:HD11	1.84	0.42
48:i:50:ARG:CZ	62:w:114:GLU:CD	2.92	0.42
60:u:109:LYS:HG2	60:u:126:ARG:HB2	2.02	0.42
1:0:76:LYS:HE3	40:a:992:C:H5'	2.01	0.42
2:1:19:LEU:CD2	48:i:20:ASP:C	2.92	0.42
4:3:12:ILE:CG2	4:3:80:ALA:HB2	2.49	0.42
8:7:-14:U:H6	8:7:-14:U:H3'	1.85	0.42
10:A:76:A:N1	40:a:2422:C:C5	2.86	0.42
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.42
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.02	0.42
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.42
10:B:25:C:H2'	10:B:26:G:H5'	2.02	0.42
10:B:48:C:C2'	10:B:49:G:OP2	2.67	0.42
17:D:104:G:C8	18:E:9:LYS:NZ	2.58	0.42
36:W:65:GLU:O	37:X:83:LEU:HD11	2.15	0.42
40:a:250:G:H5'	60:u:59:ARG:HD3	2.00	0.42
40:a:444:C:OP2	51:l:44:ARG:NE	2.53	0.42
40:a:471:A:OP1	51:l:79:ARG:NH1	2.52	0.42
40:a:1266:G:OP2	48:i:16:ARG:CB	2.67	0.42
40:a:1548:A:H2'	40:a:1549:A:C8	2.54	0.42
40:a:2259:U:N3	40:a:2260:C:C5	2.87	0.42
41:b:37:ILE:HG21	41:b:80:ILE:HG21	2.02	0.42
54:o:13:ARG:HH21	60:u:61:LEU:C	2.18	0.42
54:o:15:LYS:HE3	60:u:64:PHE:CE2	2.53	0.42
2:1:94:ASP:OD2	40:a:2014:A:H5'	2.20	0.42
4:3:4:LYS:HE3	40:a:337:C:OP1	2.19	0.42
4:3:39:ILE:HG22	4:3:40:ASN:N	2.34	0.42
8:7:13:G:H5''	8:7:13:G:H8	1.85	0.42
9:9:52:MET:CE	9:9:85:SER:HB2	2.47	0.42
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.42
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.42
16:C:14:THR:CG2	16:C:48:ARG:HE	2.33	0.42
16:C:44:ILE:CG1	21:H:301:GLU:OE2	2.67	0.42
17:D:176:C:H4'	18:E:24:ARG:HH12	1.84	0.42
17:D:910:C:P	31:R:18:LYS:NZ	2.93	0.42
17:D:1463:U:H2'	17:D:1464:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:77:SER:O	20:G:80:VAL:HG12	2.20	0.42
29:P:57:VAL:O	29:P:57:VAL:HG13	2.18	0.42
40:a:26:G:H1'	40:a:514:A:N6	2.34	0.42
40:a:39:G:O2'	51:l:43:THR:CG2	2.68	0.42
40:a:449:A:OP1	51:l:79:ARG:HA	2.19	0.42
40:a:533:G:N3	65:z:45:TYR:CE2	2.87	0.42
40:a:1857:G:O2'	40:a:1884:G:N2	2.50	0.42
40:a:2356:U:O3'	41:b:20:ARG:CZ	2.67	0.42
40:a:2563:U:H4'	59:t:28:SER:HB2	2.00	0.42
47:h:76:ALA:HB2	47:h:96:TYR:CD1	2.54	0.42
53:n:101:GLU:O	53:n:105:THR:OG1	2.34	0.42
1:O:85:LYS:HE2	40:a:815:C:P	2.60	0.42
2:1:88:ARG:NH2	40:a:2013:A:C2'	2.82	0.42
3:2:1:MET:CG	40:a:139:U:C2	3.02	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42
10:B:5:G:C2'	10:B:6:G:C5'	2.97	0.42
10:B:56:C:H2'	10:B:57:A:C5'	2.46	0.42
10:B:76:A:N9	61:v:79:ALA:HB2	2.34	0.42
17:D:176:C:H4'	18:E:24:ARG:NH1	2.35	0.42
17:D:218:U:H2'	17:D:219:U:O4'	2.20	0.42
22:I:75:ILE:HD13	22:I:75:ILE:C	2.45	0.42
28:O:113:ARG:HE	32:S:101:TRP:NE1	2.17	0.42
37:X:106:ALA:HB3	37:X:110:LYS:HD2	2.02	0.42
40:a:1028:A:N6	40:a:1125:G:H2'	2.34	0.42
40:a:1042:G:O2'	40:a:1043:C:H6	2.03	0.42
40:a:1682:G:H2'	40:a:1683:U:C6	2.54	0.42
40:a:2350:C:C6	54:o:42:ARG:NE	2.88	0.42
40:a:2527:C:C5'	56:q:1:MET:H3	2.31	0.42
42:c:3:ARG:HD2	42:c:30:LEU:HD22	2.01	0.42
42:c:37:ARG:HG2	42:c:48:THR:HG23	2.02	0.42
57:r:3:VAL:HG22	57:r:36:ALA:HB1	2.00	0.42
9:9:146:ALA:HA	39:Z:3:THR:OG1	2.19	0.42
10:A:48:C:C5	10:A:59:A:C8	3.08	0.42
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.42
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.42
12:AB:135:ARG:O	12:AB:178:VAL:CA	2.67	0.42
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.42
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.42
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.42
17:D:216:U:H2'	17:D:217:C:C6	2.53	0.42
20:G:126:PHE:O	20:G:127:ASP:O	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:41:ARG:O	32:S:45:VAL:HG12	2.20	0.42
35:V:68:SER:OG	35:V:69:LYS:N	2.49	0.42
37:X:96:PRO:CG	37:X:102:THR:HG22	2.50	0.42
40:a:671:C:O5'	60:u:42:SER:HA	2.18	0.42
40:a:2356:U:H5''	41:b:20:ARG:CD	2.50	0.42
40:a:2815:C:C4'	40:a:2815:C:C6	2.96	0.42
48:i:52:ARG:HD2	62:w:119:SER:CB	2.49	0.42
3:2:61:LEU:C	3:2:61:LEU:HD12	2.44	0.42
4:3:44:LYS:HA	40:a:481:G:OP2	2.18	0.42
9:9:24:SER:HB2	9:9:116:GLU:CG	2.48	0.42
10:A:48:C:N4	10:A:59:A:C5	2.87	0.42
12:AB:136:VAL:HB	12:AB:141:PHE:O	2.20	0.42
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.01	0.42
14:AE:205:LEU:HD23	14:AE:205:LEU:HA	1.90	0.42
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.42
16:C:65:LEU:HD11	25:L:88:MET:HE3	2.00	0.42
17:D:15:G:O2'	24:K:29:ARG:HD3	2.19	0.42
17:D:1370:G:C2	17:D:1371:G:C8	3.08	0.42
26:M:27:VAL:HG12	26:M:43:VAL:HG11	2.02	0.42
37:X:102:THR:O	37:X:103:LYS:C	2.63	0.42
40:a:396:G:OP1	42:c:13:VAL:CG1	2.67	0.42
40:a:671:C:H3'	60:u:42:SER:CB	2.48	0.42
40:a:947:A:H2'	40:a:948:C:C6	2.55	0.42
40:a:1130:U:O2	49:j:152:PRO:HA	2.16	0.42
40:a:1199:U:H1'	65:z:3:ARG:C	2.45	0.42
40:a:1209:U:O2'	40:a:1237:A:N1	2.44	0.42
40:a:1570:A:H2'	40:a:1571:A:C8	2.55	0.42
40:a:2899:A:H2'	40:a:2900:A:C8	2.55	0.42
48:i:13:ARG:HD2	48:i:17:ARG:CZ	2.49	0.42
53:n:36:LEU:HB3	53:n:57:LEU:HD21	2.01	0.42
54:o:12:LYS:CD	60:u:63:LYS:CD	2.96	0.42
54:o:63:PRO:HG3	60:u:48:ARG:HH12	1.83	0.42
58:s:1:MET:HE3	65:z:97:ASP:OD2	2.19	0.42
2:1:38:TYR:CB	48:i:25:VAL:HG12	2.50	0.42
9:9:31:ARG:CZ	40:a:1053:C:O2'	2.67	0.42
10:B:76:A:C4'	40:a:2493:U:C3'	2.94	0.42
16:C:42:SER:O	16:C:46:GLY:N	2.53	0.42
17:D:102:G:OP2	18:E:5:LYS:HE3	2.19	0.42
17:D:1081:A:OP1	24:K:22:SER:C	2.63	0.42
17:D:1306:A:C2	37:X:108:THR:HG21	2.55	0.42
20:G:187:VAL:HG21	20:G:199:VAL:HG23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:49:PRO:HD2	21:H:84:LEU:CD1	2.50	0.42
21:H:267:TRP:CG	21:H:340:ARG:CZ	3.02	0.42
29:P:90:LEU:HD22	29:P:90:LEU:HA	1.92	0.42
39:Z:28:GLU:H	39:Z:28:GLU:HG3	1.57	0.42
40:a:918:A:HO2'	43:d:81:G:C1'	2.16	0.42
40:a:994:C:OP2	65:z:50:ARG:HB3	2.20	0.42
40:a:1344:U:O2'	40:a:1345:C:OP1	2.34	0.42
48:i:17:ARG:O	48:i:18:SER:C	2.63	0.42
48:i:40:ARG:CB	62:w:99:LYS:CB	2.93	0.42
48:i:41:HIS:ND1	62:w:111:ALA:CA	2.83	0.42
48:i:42:HIS:CD2	62:w:100:CYS:CA	3.02	0.42
53:n:16:LEU:HA	53:n:19:GLU:HG2	2.02	0.42
2:1:55:ILE:HG23	2:1:66:ILE:HD12	2.01	0.42
8:7:13:G:H8	8:7:13:G:C5'	2.33	0.42
9:9:11:ILE:HD11	9:9:62:ARG:HD3	1.98	0.42
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.01	0.42
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
16:C:33:ILE:O	16:C:33:ILE:CG1	2.66	0.42
17:D:136:C:H1'	34:U:1:MET:CG	2.50	0.42
17:D:860:A:H2'	17:D:861:G:O4'	2.20	0.42
17:D:915:A:C6	17:D:916:U:C4	3.07	0.42
17:D:1486:G:H2'	17:D:1487:G:O4'	2.20	0.42
24:K:46:VAL:HG21	24:K:118:ALA:HB2	2.02	0.42
24:K:148:ASN:HD21	27:N:96:MET:HE1	1.85	0.42
28:O:9:THR:O	28:O:85:ARG:HD2	2.19	0.42
39:Z:19:VAL:HG12	39:Z:20:VAL:HG23	2.01	0.42
40:a:579:G:C1'	48:i:5:GLN:CG	2.98	0.42
40:a:632:A:H4'	60:u:66:PHE:CD1	2.54	0.42
40:a:829:A:N7	40:a:2247:A:O2'	2.45	0.42
40:a:988:A:OP1	45:f:12:SER:HB3	2.20	0.42
40:a:1064:C:H2'	40:a:1065:U:C6	2.54	0.42
40:a:1227:G:P	65:z:13:ARG:HH21	2.40	0.42
40:a:1239:G:H2'	40:a:1240:U:O4'	2.20	0.42
40:a:1309:G:H5''	52:m:9:VAL:HG23	2.01	0.42
40:a:1568:G:H4'	47:h:59:LYS:CG	2.48	0.42
40:a:1805:A:H5''	47:h:248:TRP:CE2	2.55	0.42
40:a:1909:C:O5'	40:a:1909:C:H6	2.02	0.42
40:a:1999:C:O3'	40:a:2722:G:N2	2.53	0.42
40:a:2873:A:H5'	62:w:6:SER:HB2	2.00	0.42
65:z:66:ASN:OD1	65:z:70:ARG:NE	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:-11:U:O2	8:7:-11:U:H3'	2.20	0.41
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.85	0.41
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.41
12:AB:103:ILE:HG13	12:AB:104:SER:H	1.85	0.41
10:B:48:C:C5	10:B:59:A:C8	3.08	0.41
17:D:821:G:H2'	17:D:822:U:C6	2.55	0.41
17:D:1515:G:H2'	17:D:1516:G:C8	2.50	0.41
39:Z:18:ASP:HB3	39:Z:22:LEU:HD12	2.03	0.41
40:a:68:G:H3'	40:a:69:C:H6	1.85	0.41
40:a:243:U:OP1	54:o:6:THR:OG1	2.35	0.41
40:a:468:G:C8	52:m:39:ARG:NH2	2.82	0.41
40:a:753:A:C5	40:a:754:U:C5	3.08	0.41
40:a:1997:C:H5'	49:j:129:THR:HG21	2.02	0.41
40:a:2261:C:N4	41:b:14:ARG:CD	2.83	0.41
40:a:2418:A:H4'	50:k:55:LYS:NZ	2.35	0.41
60:u:74:THR:HG22	60:u:107:PHE:HB2	2.02	0.41
62:w:100:CYS:SG	62:w:110:MET:HB3	2.60	0.41
2:1:49:LYS:NZ	40:a:488:G:O2'	2.47	0.41
9:9:31:ARG:HH21	40:a:1053:C:H1'	1.84	0.41
10:A:9:G:H5''	10:A:10:G:OP2	2.21	0.41
12:AB:164:ILE:O	12:AB:164:ILE:HG12	2.12	0.41
16:C:23:TYR:HE2	25:L:90:MET:CE	2.33	0.41
17:D:1309:G:P	37:X:98:ARG:HE	2.43	0.41
17:D:1348:U:H5''	28:O:122:ARG:HG3	2.02	0.41
19:F:67:ARG:HD3	19:F:67:ARG:H	1.84	0.41
40:a:675:A:C4'	51:l:62:GLN:NE2	2.83	0.41
40:a:929:U:O2	45:f:25:LEU:HD11	2.21	0.41
40:a:1266:G:OP2	48:i:16:ARG:CG	2.69	0.41
40:a:1490:A:C5	47:h:74:ILE:HG12	2.55	0.41
47:h:31:ALA:N	47:h:32:PRO:CD	2.83	0.41
62:w:97:ILE:HD12	62:w:97:ILE:HG23	1.72	0.41
1:0:76:LYS:HE3	40:a:992:C:C5'	2.49	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.48	0.41
12:AB:157:ARG:HD2	12:AB:172:GLU:HB3	2.02	0.41
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.41
17:D:920:U:H2'	17:D:921:U:C6	2.55	0.41
17:D:1071:C:H2'	17:D:1072:G:C8	2.55	0.41
17:D:1255:G:O2'	17:D:1258:G:N3	2.47	0.41
17:D:1347:G:H5'	28:O:112:GLU:OE1	2.21	0.41
17:D:1348:U:OP1	28:O:121:ALA:CB	2.69	0.41
21:H:332:VAL:HG12	21:H:334:ASP:N	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:132:ASN:O	24:K:133:PRO:C	2.63	0.41
37:X:98:ARG:HB2	37:X:100:GLN:HE22	1.85	0.41
40:a:910:A:N1	40:a:2277:G:H1'	2.36	0.41
40:a:2252:G:O2'	40:a:2253:G:H5'	2.19	0.41
40:a:2815:C:H2'	40:a:2816:G:O4'	2.20	0.41
40:a:2873:A:C5'	62:w:6:SER:HB2	2.50	0.41
40:a:2880:C:H2'	62:w:93:GLY:HA3	2.02	0.41
48:i:41:HIS:C	62:w:100:CYS:HA	2.44	0.41
48:i:52:ARG:HD2	62:w:119:SER:HB2	2.03	0.41
57:r:15:LEU:HD13	57:r:15:LEU:C	2.45	0.41
2:1:89:ALA:HB2	40:a:748:G:OP2	2.21	0.41
7:6:27:DG:H1'	7:6:28:DA:C5	2.55	0.41
10:A:67:C:OP1	50:k:44:ARG:NE	2.54	0.41
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.41
14:AE:501:VAL:HA	14:AE:502:PRO:HD3	1.94	0.41
17:D:294:U:OP1	17:D:610:U:O2'	2.30	0.41
17:D:363:A:C5	31:R:28:PRO:CD	3.01	0.41
17:D:619:U:O2	23:J:132:ILE:HD11	2.19	0.41
17:D:1128:C:O3'	28:O:68:LYS:NZ	2.53	0.41
28:O:63:LEU:HD13	28:O:65:ILE:HD11	2.01	0.41
40:a:534:U:P	65:z:24:TYR:HH	2.33	0.41
40:a:910:A:C5	40:a:911:A:C6	3.08	0.41
40:a:1261:C:H2'	48:i:4:GLN:HE21	1.78	0.41
40:a:1327:A:H2'	40:a:1328:A:O4'	2.20	0.41
40:a:1796:U:H2'	40:a:1797:G:H8	1.84	0.41
40:a:1805:A:H5''	47:h:248:TRP:CD1	2.55	0.41
40:a:2287:A:C8	40:a:2289:G:C8	3.08	0.41
40:a:2349:G:OP2	54:o:38:THR:HG21	2.19	0.41
43:d:78:A:H2'	43:d:79:G:O4'	2.20	0.41
45:f:24:LEU:HD11	45:f:54:MET:CE	2.51	0.41
1:0:93:PHE:CD1	1:0:93:PHE:C	2.99	0.41
6:5:98:DA:C2'	6:5:99:DT:C7	2.96	0.41
8:7:14:U:C4'	14:AE:322:ARG:CD	2.79	0.41
9:9:102:ALA:O	9:9:107:GLU:HB2	2.21	0.41
10:A:56:C:OP1	40:a:2168:G:C4	2.74	0.41
12:AB:175:PHE:O	12:AB:178:VAL:O	2.38	0.41
13:AD:205:MET:HE1	13:AD:217:ILE:HG13	2.03	0.41
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.41
10:B:15:G:N3	10:B:15:G:C2'	2.82	0.41
17:D:8:A:N6	23:J:206:LYS:HD3	2.36	0.41
17:D:1530:G:H2'	17:D:1531:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:163:ARG:CA	21:H:298:GLU:CG	2.89	0.41
27:N:102:ALA:HB3	27:N:113:ASP:HB3	2.02	0.41
37:X:98:ARG:HB2	37:X:100:GLN:NE2	2.35	0.41
40:a:134:G:H2'	40:a:135:U:C6	2.56	0.41
40:a:518:G:OP1	48:i:13:ARG:NE	2.53	0.41
40:a:1200:C:H1'	65:z:2:ALA:HB2	2.02	0.41
40:a:1997:C:C5'	49:j:129:THR:HG21	2.50	0.41
40:a:2016:U:N1	40:a:2017:U:C5	2.88	0.41
47:h:29:PRO:HG2	47:h:34:LEU:HD11	2.02	0.41
48:i:49:TYR:CZ	62:w:112:TYR:CD2	3.09	0.41
48:i:52:ARG:CD	62:w:119:SER:HB2	2.50	0.41
52:m:12:ARG:CG	52:m:44:VAL:HG11	2.50	0.41
54:o:4:ILE:HG22	60:u:48:ARG:HH22	1.86	0.41
9:9:60:LEU:HB2	9:9:61:ARG:NH2	2.36	0.41
10:A:5:G:C2'	10:A:6:G:C5'	2.97	0.41
10:A:25:C:H2'	10:A:26:G:H5'	2.02	0.41
10:A:65:C:C2	10:A:66:C:C5	3.09	0.41
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.41
14:AE:800:LEU:HB3	14:AE:920:ALA:HB1	2.02	0.41
10:B:29:G:C6	10:B:42:G:C6	3.09	0.41
10:B:36:U:N3	10:B:37:A:N6	2.58	0.41
16:C:40:VAL:C	16:C:40:VAL:HG12	2.45	0.41
17:D:320:A:H2'	17:D:321:A:O4'	2.21	0.41
17:D:502:A:H2'	17:D:503:C:O4'	2.20	0.41
17:D:1225:A:H2'	17:D:1226:C:C5	2.56	0.41
17:D:1389:C:H2'	17:D:1390:U:O4'	2.20	0.41
21:H:279:LYS:HA	21:H:331:MET:CB	2.45	0.41
39:Z:7:ILE:HD13	39:Z:7:ILE:HA	1.90	0.41
40:a:797:G:P	51:l:57:LYS:HD2	2.60	0.41
40:a:1262:A:C2'	48:i:6:ASN:O	2.68	0.41
40:a:1406:U:C2	40:a:1407:G:C8	3.08	0.41
48:i:39:LEU:O	48:i:40:ARG:O	2.38	0.41
48:i:41:HIS:CA	62:w:100:CYS:N	2.84	0.41
54:o:14:PHE:CZ	60:u:57:LEU:HD21	2.55	0.41
1:0:40:MET:HE3	1:0:49:ILE:CD1	2.50	0.41
3:2:63:VAL:HG21	3:2:80:TRP:CZ2	2.56	0.41
9:9:52:MET:HE3	9:9:52:MET:CA	2.51	0.41
9:9:88:HIS:O	9:9:89:PRO:C	2.63	0.41
12:AB:164:ILE:HD13	12:AB:168:ALA:HB2	2.01	0.41
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.41
10:B:9:G:H5''	10:B:10:G:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:32:C:H2'	10:B:33:U:H5'	2.03	0.41
17:D:1309:G:C5	17:D:1329:A:C2	3.08	0.41
17:D:1340:A:H2'	17:D:1341:U:C6	2.56	0.41
21:H:339:ARG:C	21:H:341:ARG:H	2.23	0.41
28:O:28:ILE:HD12	28:O:28:ILE:N	2.36	0.41
38:Y:37:PHE:CD2	38:Y:37:PHE:O	2.74	0.41
40:a:150:U:H2'	40:a:151:C:H6	1.86	0.41
40:a:631:A:P	54:o:47:LYS:HZ3	2.28	0.41
40:a:1798:U:OP1	47:h:257:THR:N	2.45	0.41
40:a:2299:U:H2'	40:a:2300:C:H6	1.86	0.41
40:a:2444:G:P	51:l:63:LYS:NZ	2.93	0.41
40:a:2815:C:H4'	48:i:26:THR:HG22	1.91	0.41
40:a:2899:A:O2'	58:s:134:ALA:CB	2.69	0.41
54:o:39:LYS:HA	54:o:42:ARG:NH1	2.36	0.41
65:z:76:TYR:CD1	65:z:76:TYR:C	2.98	0.41
9:9:106:PHE:O	9:9:106:PHE:CD2	2.74	0.41
9:9:139:LEU:HD22	39:Z:11:VAL:HG13	1.97	0.41
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.41
10:B:32:C:H5'	17:D:1340:A:C3'	2.50	0.41
17:D:194:C:H5''	18:E:60:ARG:HB2	2.03	0.41
17:D:255:G:OP1	35:V:68:SER:HB2	2.21	0.41
17:D:1227:A:C2'	37:X:116:ILE:HG12	2.50	0.41
32:S:74:LEU:HD22	32:S:74:LEU:HA	1.85	0.41
35:V:30:LYS:HG3	35:V:37:PHE:CZ	2.55	0.41
37:X:96:PRO:HG2	37:X:102:THR:CG2	2.50	0.41
38:Y:77:VAL:HG13	38:Y:80:LYS:NZ	2.35	0.41
38:Y:78:LEU:CD1	38:Y:108:ILE:HG22	2.51	0.41
40:a:207:A:H2'	40:a:208:C:O4'	2.20	0.41
40:a:251:A:H4'	60:u:47:ARG:NH2	2.36	0.41
40:a:918:A:N3	43:d:81:G:C5'	2.80	0.41
40:a:918:A:C2'	43:d:80:U:HO2'	2.27	0.41
40:a:1198:U:C1'	65:z:4:VAL:HG13	2.49	0.41
40:a:1215:G:H5''	65:z:8:VAL:HG21	2.01	0.41
40:a:2839:G:C5'	62:w:46:ARG:HA	2.50	0.41
56:q:14:CYS:SG	56:q:33:HIS:HB3	2.61	0.41
4:3:45:HIS:NE2	40:a:498:G:H1'	2.36	0.41
9:9:93:ALA:O	9:9:129:LEU:CD1	2.69	0.41
10:A:36:U:N3	10:A:37:A:N6	2.58	0.41
10:A:76:A:N6	40:a:2422:C:O4'	2.53	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.02	0.41
11:AA:657:THR:HG21	11:AA:1188:ASP:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:755:LYS:HA	11:AA:755:LYS:HD2	1.86	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.41
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.41
12:AB:64:PHE:CZ	14:AE:285:LEU:CD2	3.04	0.41
13:AC:42:ALA:HB1	13:AC:224:LEU:HD11	2.03	0.41
13:AD:86:LYS:NZ	14:AE:532:GLU:OE2	2.41	0.41
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.41
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.41
14:AE:641:ILE:HD12	14:AE:641:ILE:HA	1.89	0.41
14:AE:802:ASP:OD1	14:AE:1348:LYS:NZ	2.42	0.41
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41
16:C:32:TYR:O	16:C:40:VAL:CG2	2.67	0.41
16:C:45:THR:C	21:H:340:ARG:NH2	2.78	0.41
17:D:324:G:N2	17:D:327:A:C8	2.89	0.41
17:D:1308:U:H5'	37:X:109:ARG:HD3	2.02	0.41
17:D:1326:U:H2'	17:D:1327:C:C6	2.56	0.41
17:D:1378:C:OP1	26:M:2:PRO:CD	2.69	0.41
17:D:1442:G:H4'	64:y:114:LEU:HD23	2.03	0.41
17:D:1499:A:O2'	17:D:1500:A:C5'	2.69	0.41
22:I:11:ARG:NH1	22:I:177:THR:O	2.54	0.41
24:K:94:VAL:CG1	24:K:111:MET:HE1	2.50	0.41
24:K:133:PRO:HA	24:K:136:VAL:HG12	2.02	0.41
28:O:80:ARG:O	28:O:84:THR:HG23	2.21	0.41
35:V:8:LEU:HD23	35:V:25:ILE:HG21	2.03	0.41
37:X:16:VAL:HG23	37:X:17:ILE:HD12	2.02	0.41
40:a:271:G:C4	40:a:272:A:C8	3.09	0.41
40:a:319:G:H2'	40:a:320:A:O4'	2.20	0.41
40:a:516:C:H3'	48:i:7:LYS:HD2	2.01	0.41
40:a:516:C:P	48:i:7:LYS:HD2	2.61	0.41
40:a:534:U:H5'	65:z:42:ALA:CA	2.50	0.41
40:a:580:U:H2'	40:a:581:C:C6	2.55	0.41
40:a:644:A:H2'	40:a:645:C:O4'	2.21	0.41
40:a:851:C:OP1	45:f:19:LYS:CE	2.66	0.41
40:a:989:G:P	45:f:14:ILE:HD11	2.61	0.41
40:a:1156:A:P	65:z:55:ARG:HH21	2.44	0.41
40:a:1262:A:HO2'	48:i:7:LYS:C	2.29	0.41
40:a:1509:A:HO2'	40:a:1510:G:P	2.44	0.41
40:a:1670:C:O2'	49:j:134:HIS:CD2	2.73	0.41
40:a:2082:A:H2'	40:a:2083:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2094:A:P	57:r:22:LYS:HD2	2.58	0.41
40:a:2492:U:H2'	40:a:2493:U:O4'	2.21	0.41
40:a:2512:C:H4'	49:j:143:PRO:O	2.21	0.41
40:a:2815:C:C5'	48:i:26:THR:HG22	2.50	0.41
41:b:18:ALA:O	41:b:20:ARG:HD2	2.21	0.41
51:l:145:ASP:HA	51:l:166:LYS:HB3	2.02	0.41
62:w:96:ARG:O	62:w:113:ILE:HA	2.21	0.41
2:l:19:LEU:HD11	48:i:17:ARG:O	2.21	0.41
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.41
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.41
11:AA:936:ARG:HB2	11:AA:1042:LEU:HD12	2.03	0.41
10:B:65:C:C2	10:B:66:C:C5	3.09	0.41
17:D:363:A:C4	31:R:28:PRO:CG	3.04	0.41
17:D:363:A:C4	31:R:28:PRO:CD	3.04	0.41
17:D:376:G:C2	17:D:389:A:C2	3.09	0.41
17:D:1059:C:O2'	29:P:55:PRO:HD3	2.20	0.41
17:D:1117:A:H5''	28:O:110:GLN:CG	2.49	0.41
17:D:1117:A:O2'	28:O:108:ALA:HB1	2.20	0.41
21:H:117:LYS:CB	21:H:278:THR:CG2	2.99	0.41
21:H:136:VAL:HA	21:H:168:VAL:O	2.21	0.41
21:H:136:VAL:O	21:H:170:ARG:N	2.54	0.41
40:a:88:G:C8	40:a:88:G:O4'	2.73	0.41
40:a:534:U:H5''	65:z:42:ALA:HB1	2.02	0.41
40:a:1177:G:O2'	40:a:1178:C:O4'	2.38	0.41
40:a:1252:G:C1'	65:z:33:ARG:NH2	2.84	0.41
40:a:1585:C:H2'	40:a:1586:A:O4'	2.21	0.41
40:a:1826:G:H5''	47:h:223:THR:HG21	2.03	0.41
9:9:34:THR:HG22	9:9:38:MET:CE	2.47	0.40
10:A:29:G:C6	10:A:42:G:C6	3.09	0.40
12:AB:161:SER:C	12:AB:163:SER:H	2.29	0.40
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.01	0.40
16:C:40:VAL:HG12	16:C:45:THR:HG23	2.01	0.40
17:D:160:A:H2'	17:D:161:A:O4'	2.21	0.40
17:D:407:U:H5''	23:J:3:ARG:NH2	2.32	0.40
17:D:1310:G:H2'	17:D:1311:A:O4'	2.21	0.40
21:H:61:GLU:HG2	21:H:62:ILE:HG23	2.03	0.40
29:P:49:PHE:CZ	32:S:76:LYS:CE	3.03	0.40
38:Y:45:THR:O	38:Y:45:THR:CG2	2.67	0.40
40:a:614:A:O2'	40:a:615:U:P	2.79	0.40
40:a:1266:G:OP2	48:i:16:ARG:CD	2.69	0.40
40:a:1694:C:OP1	47:h:8:PRO:HG3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2098:U:H2'	40:a:2099:U:O4'	2.20	0.40
40:a:2286:G:C6	50:k:14:SER:CA	3.04	0.40
40:a:2298:A:N3	40:a:2321:U:C5	2.89	0.40
40:a:2512:C:O2	49:j:145:SER:CB	2.69	0.40
40:a:2620:C:H4'	49:j:161:MET:HG3	2.02	0.40
59:t:24:VAL:HG13	59:t:33:ALA:HB2	2.03	0.40
65:z:65:ILE:CD1	65:z:92:ARG:HB2	2.51	0.40
10:A:32:C:H2'	10:A:33:U:H5'	2.03	0.40
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.40
11:AA:845:LEU:HD12	11:AA:909:LYS:NZ	2.37	0.40
14:AE:513:MET:HE2	14:AE:513:MET:HB3	1.79	0.40
17:D:979:C:O2'	32:S:59:ARG:NH1	2.54	0.40
17:D:1176:A:H2'	17:D:1177:G:C8	2.55	0.40
20:G:76:ALA:CB	20:G:210:VAL:HG11	2.52	0.40
21:H:87:GLU:O	21:H:90:LYS:N	2.47	0.40
24:K:114:VAL:HG21	24:K:141:ILE:HD12	2.03	0.40
38:Y:11:GLN:HB3	38:Y:53:PRO:HB3	2.03	0.40
38:Y:80:LYS:HG3	38:Y:86:LYS:CA	2.52	0.40
38:Y:85:ILE:H	38:Y:85:ILE:CD1	2.24	0.40
40:a:136:G:C6	40:a:144:A:C6	3.09	0.40
40:a:476:G:H4'	40:a:502:A:N1	2.36	0.40
40:a:534:U:P	65:z:24:TYR:CE1	3.15	0.40
40:a:956:G:C4'	61:v:82:MET:SD	3.04	0.40
40:a:995:C:OP1	65:z:53:ARG:NH1	2.54	0.40
40:a:1082:U:C4	40:a:1086:A:N1	2.83	0.40
40:a:1421:G:C2	40:a:1422:G:C8	3.09	0.40
40:a:1442:U:H2'	40:a:1443:U:C6	2.56	0.40
40:a:2466:C:P	56:q:5:ALA:HB3	2.62	0.40
48:i:50:ARG:CG	62:w:98:LEU:CD2	3.00	0.40
9:9:73:LYS:HB2	9:9:117:LEU:HD11	2.03	0.40
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.40
14:AE:144:TYR:HH	14:AE:293:ARG:HH22	1.63	0.40
10:B:26:G:H1	10:B:44:A:N6	2.20	0.40
17:D:176:C:H5''	18:E:24:ARG:NH1	2.35	0.40
17:D:723:U:C2	19:F:49:LYS:HE2	2.57	0.40
17:D:1071:C:H2'	17:D:1072:G:H8	1.85	0.40
17:D:1151:A:OP1	29:P:44:THR:HB	2.21	0.40
17:D:1157:A:C2	17:D:1181:G:C4	3.09	0.40
17:D:1397:C:C6	17:D:1397:C:O5'	2.75	0.40
17:D:1473:G:H2'	17:D:1474:U:O4'	2.20	0.40
21:H:335:ILE:HG12	21:H:342:ILE:HG23	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:50:ALA:HB1	36:W:57:HIS:HB3	2.04	0.40
40:a:16:C:C4'	48:i:11:SER:HB2	2.50	0.40
40:a:332:A:C5	40:a:335:C:C4	3.10	0.40
40:a:1370:C:H2'	40:a:1371:G:O4'	2.22	0.40
40:a:2091:C:O2	42:c:34:HIS:CE1	2.74	0.40
40:a:2455:G:H2'	40:a:2456:C:C6	2.57	0.40
40:a:2642:G:C5'	58:s:80:HIS:CG	2.97	0.40
40:a:2899:A:H1'	58:s:134:ALA:CB	2.44	0.40
62:w:100:CYS:SG	62:w:111:ALA:N	2.95	0.40
4:3:61:LYS:NZ	40:a:480:A:OP2	2.50	0.40
8:7:-15:U:C1'	8:7:-15:U:O5'	2.69	0.40
9:9:80:THR:H	9:9:80:THR:HG23	1.24	0.40
9:9:141:ALA:O	9:9:142:THR:HG23	2.21	0.40
10:A:49:G:C2'	10:A:50:U:H5'	2.52	0.40
11:AA:374:GLU:HB2	12:AB:80:TRP:CH2	2.56	0.40
11:AA:572:ILE:HD12	11:AA:572:ILE:HG23	1.88	0.40
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	0.40
12:AB:173:LEU:CD1	12:AB:178:VAL:CG1	3.00	0.40
13:AC:48:LEU:HA	13:AC:48:LEU:HD23	1.86	0.40
14:AE:289:ASP:HA	14:AE:292:VAL:HG22	2.01	0.40
14:AE:536:LEU:HD23	14:AE:536:LEU:HA	1.92	0.40
14:AE:591:ILE:HG23	14:AE:592:VAL:HG13	2.03	0.40
14:AE:1063:ASP:O	14:AE:1067:ARG:NH1	2.55	0.40
10:B:56:C:N3	10:B:57:A:C8	2.90	0.40
17:D:198:G:OP2	17:D:198:G:C8	2.75	0.40
17:D:399:G:H2'	17:D:400:C:C6	2.57	0.40
17:D:789:U:O2'	17:D:791:G:N7	2.50	0.40
17:D:1125:U:O2'	17:D:1126:U:O5'	2.36	0.40
17:D:1130:A:C5'	28:O:18:ARG:HH12	2.27	0.40
21:H:10:GLU:O	21:H:14:LYS:HG2	2.20	0.40
21:H:284:VAL:HA	21:H:294:VAL:HA	2.04	0.40
40:a:68:G:C2'	40:a:69:C:H6	2.30	0.40
40:a:413:C:H2'	40:a:414:C:C6	2.56	0.40
40:a:515:A:H2'	40:a:516:C:H5'	2.03	0.40
40:a:535:G:H5'	65:z:46:ALA:HA	2.04	0.40
40:a:1057:A:C2	40:a:1082:U:N3	2.88	0.40
40:a:1589:U:O2'	40:a:1590:A:O5'	2.36	0.40
40:a:2352:A:N1	41:b:34:GLY:HA3	2.35	0.40
42:c:36:HIS:CG	42:c:56:MET:HE3	2.57	0.40
47:h:52:ARG:HB3	47:h:53:HIS:CE1	2.57	0.40
47:h:232:HIS:HA	47:h:242:LYS:HE3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:48:THR:HG23	51:l:86:ALA:HB3	2.04	0.40
55:p:52:PHE:CZ	55:p:72:LEU:HD22	2.56	0.40
61:v:35:ALA:HB2	61:v:102:LEU:HD11	2.03	0.40
4:3:92:LYS:NZ	40:a:297:G:OP1	2.50	0.40
11:AA:310:ILE:HG21	11:AA:325:LEU:HB3	2.03	0.40
11:AA:559:CYS:HA	11:AA:560:PRO:HD3	1.90	0.40
14:AE:706:VAL:HG12	14:AE:715:LYS:HB3	2.04	0.40
14:AE:847:ASP:N	14:AE:847:ASP:OD1	2.54	0.40
17:D:110:C:H2'	17:D:111:G:O4'	2.21	0.40
17:D:501:C:H2'	17:D:502:A:C8	2.57	0.40
17:D:538:G:P	31:R:112:GLN:NE2	2.95	0.40
17:D:586:C:OP1	35:V:36:LYS:HE3	2.21	0.40
17:D:650:G:C6	17:D:651:C:C4	3.10	0.40
21:H:267:TRP:CD2	21:H:340:ARG:CD	3.05	0.40
22:I:121:THR:HG23	22:I:189:ALA:CA	2.51	0.40
38:Y:80:LYS:HG3	38:Y:86:LYS:CB	2.52	0.40
38:Y:95:ASP:OD2	38:Y:95:ASP:N	2.55	0.40
40:a:38:A:H2'	40:a:39:G:O4'	2.22	0.40
40:a:265:A:N1	40:a:427:U:O2'	2.47	0.40
40:a:869:G:C4'	61:v:8:LYS:HE3	2.52	0.40
40:a:910:A:C5	61:v:13:HIS:NE2	2.90	0.40
40:a:1067:A:O2'	40:a:1068:G:O5'	2.39	0.40
40:a:1802:A:H2'	40:a:1803:A:C8	2.57	0.40
40:a:1814:G:H5'	47:h:51:THR:CG2	2.50	0.40
40:a:2517:C:C2	40:a:2542:A:N6	2.89	0.40
43:d:89:U:O2	43:d:89:U:O4'	2.40	0.40
44:e:59:GLU:O	44:e:63:ALA:HB3	2.21	0.40
62:w:9:GLN:O	62:w:17:ARG:NH2	2.48	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	101/103 (98%)	95 (94%)	6 (6%)	0	100	100
2	1	108/110 (98%)	105 (97%)	3 (3%)	0	100	100
3	2	92/100 (92%)	90 (98%)	2 (2%)	0	100	100
4	3	101/104 (97%)	96 (95%)	4 (4%)	1 (1%)	12	47
5	4	92/94 (98%)	91 (99%)	1 (1%)	0	100	100
9	9	146/165 (88%)	101 (69%)	33 (23%)	12 (8%)	0	9
11	AA	1338/1342 (100%)	1220 (91%)	114 (8%)	4 (0%)	36	72
12	AB	173/181 (96%)	137 (79%)	27 (16%)	9 (5%)	1	15
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14	49
13	AD	214/329 (65%)	198 (92%)	16 (8%)	0	100	100
14	AE	1331/1407 (95%)	1219 (92%)	109 (8%)	3 (0%)	43	78
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100	100
16	C	64/75 (85%)	62 (97%)	2 (3%)	0	100	100
18	E	84/87 (97%)	83 (99%)	1 (1%)	0	100	100
19	F	68/71 (96%)	68 (100%)	0	0	100	100
20	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30	67
21	H	255/557 (46%)	192 (75%)	52 (20%)	11 (4%)	2	17
22	I	206/233 (88%)	197 (96%)	9 (4%)	0	100	100
23	J	203/206 (98%)	200 (98%)	3 (2%)	0	100	100
24	K	154/167 (92%)	144 (94%)	8 (5%)	2 (1%)	9	41
25	L	102/135 (76%)	98 (96%)	3 (3%)	1 (1%)	12	47
26	M	149/179 (83%)	144 (97%)	4 (3%)	1 (1%)	18	55
27	N	127/130 (98%)	121 (95%)	6 (5%)	0	100	100
28	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	53
29	P	97/103 (94%)	87 (90%)	10 (10%)	0	100	100
30	Q	115/129 (89%)	106 (92%)	9 (8%)	0	100	100
31	R	117/124 (94%)	116 (99%)	0	1 (1%)	14	49
32	S	98/101 (97%)	96 (98%)	1 (1%)	1 (1%)	12	47
33	T	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
34	U	80/82 (98%)	75 (94%)	5 (6%)	0	100	100
35	V	78/84 (93%)	75 (96%)	3 (4%)	0	100	100
36	W	81/92 (88%)	78 (96%)	3 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	X	114/118 (97%)	105 (92%)	7 (6%)	2 (2%)	6	33
38	Y	139/142 (98%)	107 (77%)	31 (22%)	1 (1%)	18	55
39	Z	28/121 (23%)	21 (75%)	7 (25%)	0	100	100
41	b	74/85 (87%)	72 (97%)	2 (3%)	0	100	100
42	c	75/78 (96%)	73 (97%)	2 (3%)	0	100	100
44	e	60/63 (95%)	58 (97%)	2 (3%)	0	100	100
45	f	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
46	g	64/70 (91%)	63 (98%)	1 (2%)	0	100	100
47	h	269/273 (98%)	259 (96%)	10 (4%)	0	100	100
48	i	54/57 (95%)	48 (89%)	5 (9%)	1 (2%)	6	32
49	j	207/209 (99%)	196 (95%)	11 (5%)	0	100	100
50	k	50/55 (91%)	49 (98%)	0	1 (2%)	6	31
51	l	199/201 (99%)	192 (96%)	7 (4%)	0	100	100
52	m	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
53	n	175/179 (98%)	164 (94%)	10 (6%)	1 (1%)	21	59
54	o	62/65 (95%)	58 (94%)	3 (5%)	1 (2%)	7	37
55	p	173/177 (98%)	163 (94%)	10 (6%)	0	100	100
56	q	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
57	r	147/149 (99%)	137 (93%)	10 (7%)	0	100	100
58	s	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
59	t	121/123 (98%)	113 (93%)	8 (7%)	0	100	100
60	u	142/144 (99%)	133 (94%)	9 (6%)	0	100	100
61	v	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
62	w	117/127 (92%)	107 (92%)	10 (8%)	0	100	100
63	x	114/117 (97%)	109 (96%)	5 (4%)	0	100	100
64	y	112/115 (97%)	106 (95%)	6 (5%)	0	100	100
65	z	115/118 (98%)	111 (96%)	4 (4%)	0	100	100
All	All	9526/10577 (90%)	8823 (93%)	646 (7%)	57 (1%)	23	59

All (57) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	9	88	HIS

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Mol	Chain	Res	Type
9	9	108	VAL
11	AA	913	VAL
12	AB	44	VAL
12	AB	49	VAL
12	AB	122	PRO
12	AB	165	PHE
20	G	127	ASP
21	H	125	ASN
21	H	171	ARG
21	H	309	MET
21	H	340	ARG
24	K	78	ASN
25	L	96	VAL
26	M	56	LYS
28	O	13	LYS
37	X	66	GLU
37	X	103	LYS
48	i	40	ARG
53	n	177	PHE
54	o	32	ILE
9	9	48	ALA
9	9	80	THR
12	AB	50	VAL
12	AB	52	ILE
14	AE	92	VAL
14	AE	175	GLU
21	H	306	VAL
50	k	15	ALA
9	9	93	ALA
9	9	119	PRO
11	AA	893	THR
12	AB	59	LYS
21	H	108	VAL
21	H	153	GLU
9	9	130	PRO
11	AA	895	LEU
12	AB	45	PRO
12	AB	105	ASP
13	AC	193	GLU
31	R	102	LEU
9	9	91	ALA
14	AE	74	LYS

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Mol	Chain	Res	Type
21	H	139	ARG
21	H	305	HIS
24	K	90	THR
4	3	39	ILE
9	9	118	ILE
13	AC	192	VAL
21	H	82	THR
21	H	304	VAL
32	S	94	PRO
38	Y	20	SER
9	9	33	VAL
9	9	129	LEU
9	9	79	PRO
11	AA	1317	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	84/84 (100%)	76 (90%)	8 (10%)	8	26
2	1	93/93 (100%)	86 (92%)	7 (8%)	12	33
3	2	81/84 (96%)	77 (95%)	4 (5%)	22	44
4	3	84/85 (99%)	79 (94%)	5 (6%)	17	40
5	4	78/78 (100%)	75 (96%)	3 (4%)	29	51
9	9	112/123 (91%)	68 (61%)	44 (39%)	0	1
11	AA	1155/1157 (100%)	1142 (99%)	13 (1%)	65	74
12	AB	150/158 (95%)	128 (85%)	22 (15%)	3	14
13	AC	186/286 (65%)	186 (100%)	0	100	100
13	AD	185/286 (65%)	185 (100%)	0	100	100
14	AE	1122/1168 (96%)	1107 (99%)	15 (1%)	61	72
15	AF	70/75 (93%)	69 (99%)	1 (1%)	59	72
16	C	57/65 (88%)	55 (96%)	2 (4%)	32	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	E	65/66 (98%)	61 (94%)	4 (6%)	16	38
19	F	60/61 (98%)	56 (93%)	4 (7%)	15	37
20	G	187/199 (94%)	178 (95%)	9 (5%)	23	45
21	H	137/461 (30%)	126 (92%)	11 (8%)	11	32
22	I	171/190 (90%)	163 (95%)	8 (5%)	23	45
23	J	172/173 (99%)	164 (95%)	8 (5%)	23	45
24	K	119/126 (94%)	111 (93%)	8 (7%)	15	37
25	L	91/116 (78%)	82 (90%)	9 (10%)	7	24
26	M	124/147 (84%)	114 (92%)	10 (8%)	11	31
27	N	104/105 (99%)	100 (96%)	4 (4%)	29	51
28	O	105/107 (98%)	99 (94%)	6 (6%)	18	41
29	P	86/90 (96%)	78 (91%)	8 (9%)	8	27
30	Q	90/99 (91%)	88 (98%)	2 (2%)	45	64
31	R	101/104 (97%)	96 (95%)	5 (5%)	22	43
32	S	83/84 (99%)	74 (89%)	9 (11%)	6	22
33	T	76/77 (99%)	65 (86%)	11 (14%)	3	14
34	U	65/65 (100%)	59 (91%)	6 (9%)	8	27
35	V	74/78 (95%)	72 (97%)	2 (3%)	39	60
36	W	72/79 (91%)	66 (92%)	6 (8%)	10	31
37	X	94/96 (98%)	85 (90%)	9 (10%)	8	25
38	Y	109/110 (99%)	71 (65%)	38 (35%)	0	1
39	Z	26/85 (31%)	12 (46%)	14 (54%)	0	0
41	b	58/63 (92%)	57 (98%)	1 (2%)	53	68
42	c	67/68 (98%)	64 (96%)	3 (4%)	24	47
44	e	54/55 (98%)	51 (94%)	3 (6%)	19	41
45	f	48/49 (98%)	45 (94%)	3 (6%)	16	38
46	g	59/62 (95%)	55 (93%)	4 (7%)	14	37
47	h	216/218 (99%)	199 (92%)	17 (8%)	11	32
48	i	47/48 (98%)	41 (87%)	6 (13%)	4	17
49	j	164/164 (100%)	156 (95%)	8 (5%)	22	44
50	k	47/49 (96%)	44 (94%)	3 (6%)	16	38

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
51	l	165/165 (100%)	152 (92%)	13 (8%)	11	32
52	m	38/38 (100%)	36 (95%)	2 (5%)	20	42
53	n	148/150 (99%)	132 (89%)	16 (11%)	6	22
54	o	51/52 (98%)	48 (94%)	3 (6%)	18	40
55	p	136/138 (99%)	129 (95%)	7 (5%)	21	43
56	q	34/34 (100%)	31 (91%)	3 (9%)	9	29
57	r	114/114 (100%)	101 (89%)	13 (11%)	5	20
58	s	116/116 (100%)	108 (93%)	8 (7%)	14	37
59	t	104/104 (100%)	98 (94%)	6 (6%)	18	40
60	u	103/103 (100%)	96 (93%)	7 (7%)	14	37
61	v	109/109 (100%)	102 (94%)	7 (6%)	16	38
62	w	99/103 (96%)	91 (92%)	8 (8%)	11	31
63	x	86/87 (99%)	80 (93%)	6 (7%)	14	36
64	y	99/100 (99%)	91 (92%)	8 (8%)	11	31
65	z	89/90 (99%)	86 (97%)	3 (3%)	32	55
All	All	7919/8739 (91%)	7446 (94%)	473 (6%)	19	40

All (473) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	10	LYS
1	0	38	VAL
1	0	47	VAL
1	0	48	LYS
1	0	51	VAL
1	0	68	ARG
1	0	86	GLN
1	0	96	VAL
2	1	19	LEU
2	1	30	SER
2	1	41	LYS
2	1	69	LEU
2	1	97	LEU
2	1	107	VAL
2	1	110	ARG
3	2	1	MET
3	2	24	MET

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Mol	Chain	Res	Type
3	2	37	ASP
3	2	93	LEU
4	3	52	LEU
4	3	70	VAL
4	3	72	ILE
4	3	99	ASN
4	3	101	GLU
5	4	40	ILE
5	4	69	GLU
5	4	71	LYS
9	9	1	MET
9	9	3	LEU
9	9	4	ASN
9	9	5	LEU
9	9	6	GLN
9	9	7	ASP
9	9	11	ILE
9	9	14	GLU
9	9	24	SER
9	9	33	VAL
9	9	34	THR
9	9	35	VAL
9	9	36	ASP
9	9	37	LYS
9	9	42	ARG
9	9	43	LYS
9	9	50	VAL
9	9	52	MET
9	9	54	VAL
9	9	55	VAL
9	9	56	ARG
9	9	61	ARG
9	9	69	PHE
9	9	71	CYS
9	9	72	LEU
9	9	73	LYS
9	9	81	LEU
9	9	86	MET
9	9	94	ARG
9	9	96	PHE
9	9	98	GLU
9	9	106	PHE

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Mol	Chain	Res	Type
9	9	107	GLU
9	9	113	PHE
9	9	117	LEU
9	9	122	GLN
9	9	123	ILE
9	9	125	ARG
9	9	129	LEU
9	9	133	GLU
9	9	134	GLU
9	9	138	ARG
9	9	142	THR
9	9	143	MET
11	AA	145	ILE
11	AA	615	VAL
11	AA	892	GLU
11	AA	894	GLN
11	AA	895	LEU
11	AA	900	LYS
11	AA	903	ARG
11	AA	905	ILE
11	AA	909	LYS
11	AA	913	VAL
11	AA	914	LYS
11	AA	1076	ILE
11	AA	1151	LEU
12	AB	44	VAL
12	AB	46	THR
12	AB	47	GLU
12	AB	49	VAL
12	AB	52	ILE
12	AB	53	ARG
12	AB	57	ARG
12	AB	59	LYS
12	AB	62	ARG
12	AB	64	PHE
12	AB	65	PHE
12	AB	104	SER
12	AB	105	ASP
12	AB	106	LYS
12	AB	114	ARG
12	AB	127	LEU
12	AB	129	GLU

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Mol	Chain	Res	Type
12	AB	159	LYS
12	AB	161	SER
12	AB	164	ILE
12	AB	165	PHE
12	AB	169	THR
14	AE	69	GLU
14	AE	70	CYS
14	AE	71	LEU
14	AE	74	LYS
14	AE	76	LYS
14	AE	77	ARG
14	AE	78	LEU
14	AE	79	LYS
14	AE	81	ARG
14	AE	84	ILE
14	AE	85	CYS
14	AE	92	VAL
14	AE	93	THR
14	AE	514	THR
14	AE	1261	LEU
15	AF	63	ILE
16	C	33	ILE
16	C	74	HIS
18	E	6	SER
18	E	10	ARG
18	E	48	GLN
18	E	64	LYS
19	F	16	LEU
19	F	34	ARG
19	F	62	ARG
19	F	67	ARG
20	G	45	LYS
20	G	59	LYS
20	G	105	LYS
20	G	108	ARG
20	G	128	LYS
20	G	129	LEU
20	G	132	LYS
20	G	161	LEU
20	G	208	ARG
21	H	9	PHE
21	H	31	ILE

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Mol	Chain	Res	Type
21	H	54	LYS
21	H	62	ILE
21	H	288	THR
21	H	294	VAL
21	H	305	HIS
21	H	336	ASP
21	H	337	GLU
21	H	338	GLU
21	H	339	ARG
22	I	14	ILE
22	I	21	THR
22	I	33	LEU
22	I	75	ILE
22	I	89	LYS
22	I	175	LEU
22	I	178	LEU
22	I	200	VAL
23	J	47	ARG
23	J	48	LEU
23	J	95	GLU
23	J	104	ARG
23	J	105	MET
23	J	116	GLN
23	J	138	SER
23	J	143	VAL
24	K	10	GLU
24	K	15	LEU
24	K	60	ILE
24	K	114	VAL
24	K	115	LEU
24	K	138	ARG
24	K	141	ILE
24	K	162	GLU
25	L	7	VAL
25	L	16	GLU
25	L	24	ARG
25	L	36	ILE
25	L	38	ARG
25	L	54	LEU
25	L	84	VAL
25	L	86	ARG
25	L	88	MET

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Mol	Chain	Res	Type
26	M	7	ILE
26	M	17	LYS
26	M	21	GLU
26	M	23	LEU
26	M	27	VAL
26	M	50	LEU
26	M	79	ARG
26	M	91	VAL
26	M	109	ARG
26	M	146	GLU
27	N	96	MET
27	N	104	VAL
27	N	117	ARG
27	N	121	LEU
28	O	27	LYS
28	O	60	LYS
28	O	61	LEU
28	O	63	LEU
28	O	116	VAL
28	O	118	LEU
29	P	17	LEU
29	P	18	ILE
29	P	24	GLU
29	P	25	ILE
29	P	27	GLU
29	P	37	ARG
29	P	87	LEU
29	P	90	LEU
30	Q	15	GLN
30	Q	107	ILE
31	R	5	ASN
31	R	24	LEU
31	R	62	GLU
31	R	64	THR
31	R	74	LEU
32	S	45	VAL
32	S	46	LEU
32	S	74	LEU
32	S	80	SER
32	S	81	ARG
32	S	82	ILE
32	S	89	MET

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Mol	Chain	Res	Type
32	S	92	GLU
32	S	94	PRO
33	T	10	LYS
33	T	22	THR
33	T	39	LEU
33	T	40	GLN
33	T	64	ARG
33	T	66	LEU
33	T	67	LEU
33	T	70	LEU
33	T	73	LYS
33	T	84	ARG
33	T	85	LEU
34	U	1	MET
34	U	2	VAL
34	U	6	LEU
34	U	19	VAL
34	U	20	VAL
34	U	50	THR
35	V	75	LEU
35	V	81	LYS
36	W	21	LYS
36	W	33	THR
36	W	49	ILE
36	W	58	VAL
36	W	79	THR
36	W	81	ARG
37	X	16	VAL
37	X	25	VAL
37	X	29	ARG
37	X	59	GLU
37	X	81	MET
37	X	92	ARG
37	X	93	ARG
37	X	101	ARG
37	X	117	LYS
38	Y	4	VAL
38	Y	10	LEU
38	Y	16	MET
38	Y	23	VAL
38	Y	27	LEU
38	Y	30	GLN

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Mol	Chain	Res	Type
38	Y	36	GLU
38	Y	44	LYS
38	Y	45	THR
38	Y	48	ILE
38	Y	50	LYS
38	Y	57	VAL
38	Y	58	ILE
38	Y	60	VAL
38	Y	61	TYR
38	Y	64	ARG
38	Y	67	THR
38	Y	69	VAL
38	Y	71	LYS
38	Y	78	LEU
38	Y	80	LYS
38	Y	81	LYS
38	Y	91	LYS
38	Y	95	ASP
38	Y	99	LYS
38	Y	100	ILE
38	Y	102	ARG
38	Y	104	GLN
38	Y	108	ILE
38	Y	112	LYS
38	Y	116	MET
38	Y	124	MET
38	Y	125	THR
38	Y	126	ARG
38	Y	133	ARG
38	Y	135	MET
38	Y	137	LEU
38	Y	138	VAL
39	Z	1	SER
39	Z	2	ILE
39	Z	4	LYS
39	Z	6	GLN
39	Z	7	ILE
39	Z	8	ILE
39	Z	14	MET
39	Z	16	VAL
39	Z	17	MET
39	Z	23	ILE

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Mol	Chain	Res	Type
39	Z	26	MET
39	Z	28	GLU
39	Z	29	LYS
39	Z	30	PHE
41	b	70	GLU
42	c	33	LEU
42	c	48	THR
42	c	71	LEU
44	e	18	LEU
44	e	58	ASN
44	e	60	LYS
45	f	3	LYS
45	f	11	ARG
45	f	25	LEU
46	g	3	LYS
46	g	24	ILE
46	g	36	VAL
46	g	47	LYS
47	h	51	THR
47	h	94	VAL
47	h	105	LEU
47	h	118	SER
47	h	125	LYS
47	h	130	LEU
47	h	141	VAL
47	h	156	ARG
47	h	183	LYS
47	h	187	ASP
47	h	195	VAL
47	h	202	LEU
47	h	203	ARG
47	h	204	VAL
47	h	205	LEU
47	h	242	LYS
47	h	271	ARG
48	i	9	THR
48	i	12	LYS
48	i	26	THR
48	i	27	SER
48	i	29	SER
48	i	40	ARG
49	j	13	ARG

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Mol	Chain	Res	Type
49	j	18	ASP
49	j	91	THR
49	j	99	GLU
49	j	104	VAL
49	j	151	THR
49	j	177	VAL
49	j	193	VAL
50	k	5	ILE
50	k	17	THR
50	k	24	THR
51	l	17	THR
51	l	22	ASP
51	l	40	ARG
51	l	48	THR
51	l	57	LYS
51	l	69	ARG
51	l	77	ILE
51	l	108	ILE
51	l	109	LEU
51	l	111	GLU
51	l	122	GLU
51	l	149	ILE
51	l	179	SER
52	m	22	MET
52	m	42	LEU
53	n	6	ASP
53	n	10	ASP
53	n	26	MET
53	n	40	VAL
53	n	47	LYS
53	n	49	LEU
53	n	57	LEU
53	n	79	ILE
53	n	80	ARG
53	n	117	LEU
53	n	122	PHE
53	n	123	ASP
53	n	132	VAL
53	n	140	GLU
53	n	141	ILE
53	n	163	ASP
54	o	8	ARG

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Mol	Chain	Res	Type
54	o	30	ARG
54	o	55	LEU
55	p	11	VAL
55	p	85	LYS
55	p	95	ARG
55	p	125	CYS
55	p	133	LEU
55	p	168	VAL
55	p	171	THR
56	q	3	VAL
56	q	26	ILE
56	q	34	LYS
57	r	1	MET
57	r	9	VAL
57	r	11	ASN
57	r	12	LEU
57	r	15	LEU
57	r	41	LYS
57	r	66	ASN
57	r	72	ILE
57	r	75	LEU
57	r	76	GLU
57	r	94	ILE
57	r	101	ASP
57	r	127	GLU
58	s	1	MET
58	s	30	THR
58	s	31	GLU
58	s	43	GLU
58	s	57	LEU
58	s	123	LYS
58	s	140	LEU
58	s	142	ILE
59	t	35	VAL
59	t	49	ARG
59	t	67	LYS
59	t	70	ARG
59	t	80	ASP
59	t	104	THR
60	u	5	THR
60	u	27	LEU
60	u	59	ARG

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Mol	Chain	Res	Type
60	u	73	ILE
60	u	76	GLU
60	u	78	ARG
60	u	84	LYS
61	v	13	HIS
61	v	18	ARG
61	v	100	LYS
61	v	110	GLU
61	v	126	ILE
61	v	128	THR
61	v	133	LYS
62	w	2	ARG
62	w	20	MET
62	w	24	MET
62	w	51	LEU
62	w	65	LEU
62	w	69	ARG
62	w	95	THR
62	w	116	VAL
63	x	13	ARG
63	x	31	THR
63	x	47	VAL
63	x	48	LEU
63	x	91	SER
63	x	116	GLN
64	y	8	LEU
64	y	10	GLN
64	y	27	GLU
64	y	40	LEU
64	y	81	VAL
64	y	85	SER
64	y	102	GLU
64	y	114	LEU
65	z	18	LEU
65	z	51	ARG
65	z	117	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (88) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	86	GLN
2	1	7	HIS

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Mol	Chain	Res	Type
4	3	54	GLN
5	4	78	GLN
9	9	122	GLN
11	AA	69	GLN
11	AA	314	ASN
11	AA	330	HIS
11	AA	343	HIS
11	AA	513	GLN
11	AA	554	HIS
11	AA	688	GLN
11	AA	762	ASN
11	AA	808	ASN
11	AA	1008	GLN
11	AA	1237	HIS
11	AA	1288	GLN
11	AA	1313	HIS
13	AC	23	HIS
13	AD	66	HIS
13	AD	84	ASN
13	AD	117	HIS
13	AD	128	HIS
13	AD	227	GLN
14	AE	80	HIS
14	AE	157	GLN
14	AE	164	GLN
14	AE	232	ASN
14	AE	365	GLN
14	AE	424	ASN
14	AE	450	HIS
14	AE	469	HIS
14	AE	777	HIS
14	AE	910	ASN
14	AE	1108	GLN
14	AE	1197	ASN
14	AE	1235	ASN
14	AE	1238	GLN
14	AE	1326	GLN
15	AF	31	GLN
15	AF	62	GLN
16	C	31	ASN
20	G	18	HIS
20	G	94	HIS

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Mol	Chain	Res	Type
21	H	305	HIS
22	I	123	GLN
23	J	36	GLN
23	J	40	GLN
23	J	41	HIS
23	J	71	GLN
23	J	136	GLN
24	K	97	GLN
25	L	11	HIS
26	M	148	ASN
27	N	16	ASN
28	O	81	HIS
30	Q	15	GLN
31	R	72	HIS
32	S	60	GLN
33	T	46	HIS
34	U	59	HIS
42	c	36	HIS
46	g	6	HIS
47	h	15	HIS
47	h	37	ASN
47	h	46	ASN
47	h	53	HIS
47	h	70	ASN
48	i	41	HIS
48	i	42	HIS
49	j	130	GLN
49	j	148	GLN
51	l	62	GLN
51	l	165	HIS
53	n	63	GLN
54	o	43	HIS
55	p	88	GLN
56	q	35	GLN
57	r	11	ASN
57	r	20	ASN
57	r	133	GLN
58	s	80	HIS
58	s	135	GLN
60	u	35	HIS
60	u	104	GLN
61	v	13	HIS

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Mol	Chain	Res	Type
62	w	3	HIS
62	w	107	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	75/76 (98%)	29 (38%)	7 (9%)
10	B	75/76 (98%)	29 (38%)	6 (8%)
17	D	1515/1542 (98%)	298 (19%)	26 (1%)
40	a	2859/2904 (98%)	540 (18%)	0
43	d	119/120 (99%)	17 (14%)	0
8	7	33/44 (75%)	21 (63%)	3 (9%)
All	All	4676/4762 (98%)	934 (19%)	42 (0%)

All (934) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
8	7	-18	G
8	7	-17	U
8	7	-16	U
8	7	-15	U
8	7	-14	U
8	7	-13	U
8	7	-12	U
8	7	-11	U
8	7	-10	U
8	7	-9	U
8	7	-8	U
8	7	-7	U
8	7	-6	U
8	7	-5	U
8	7	-4	U
8	7	-3	U
8	7	-2	U
8	7	0	U
8	7	1	U
8	7	12	G
8	7	13	G
10	A	2	G
10	A	6	G
10	A	7	G

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Mol	Chain	Res	Type
10	A	8	U
10	A	10	G
10	A	13	C
10	A	14	A
10	A	15	G
10	A	16	C
10	A	17	C
10	A	18	G
10	A	19	G
10	A	20	U
10	A	21	A
10	A	22	G
10	A	23	C
10	A	46	G
10	A	47	U
10	A	48	C
10	A	49	G
10	A	52	G
10	A	57	A
10	A	58	A
10	A	59	A
10	A	61	C
10	A	66	C
10	A	69	C
10	A	71	C
10	A	73	A
10	B	2	G
10	B	6	G
10	B	7	G
10	B	8	U
10	B	10	G
10	B	13	C
10	B	14	A
10	B	15	G
10	B	16	C
10	B	17	C
10	B	18	G
10	B	19	G
10	B	20	U
10	B	21	A
10	B	22	G
10	B	23	C

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Mol	Chain	Res	Type
10	B	46	G
10	B	47	U
10	B	48	C
10	B	49	G
10	B	52	G
10	B	57	A
10	B	58	A
10	B	59	A
10	B	61	C
10	B	66	C
10	B	69	C
10	B	71	C
10	B	73	A
17	D	4	U
17	D	5	U
17	D	9	G
17	D	22	G
17	D	29	U
17	D	32	A
17	D	39	G
17	D	47	C
17	D	48	C
17	D	50	A
17	D	51	A
17	D	52	C
17	D	54	C
17	D	69	G
17	D	71	A
17	D	72	A
17	D	74	A
17	D	76	G
17	D	82	G
17	D	83	C
17	D	84	U
17	D	87	C
17	D	90	C
17	D	94	G
17	D	95	C
17	D	96	U
17	D	108	G
17	D	120	A
17	D	121	U

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Mol	Chain	Res	Type
17	D	122	G
17	D	128	G
17	D	131	A
17	D	141	G
17	D	144	G
17	D	148	G
17	D	149	A
17	D	160	A
17	D	164	G
17	D	173	U
17	D	181	A
17	D	182	A
17	D	183	C
17	D	184	G
17	D	197	A
17	D	198	G
17	D	204	G
17	D	208	U
17	D	209	U
17	D	210	C
17	D	211	G
17	D	212	G
17	D	216	U
17	D	226	G
17	D	245	U
17	D	247	G
17	D	251	G
17	D	253	A
17	D	258	G
17	D	262	A
17	D	266	G
17	D	267	C
17	D	271	C
17	D	279	A
17	D	289	G
17	D	299	G
17	D	306	A
17	D	321	A
17	D	328	C
17	D	329	A
17	D	332	G
17	D	347	G

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Mol	Chain	Res	Type
17	D	352	C
17	D	353	A
17	D	354	G
17	D	355	C
17	D	367	U
17	D	372	C
17	D	373	A
17	D	376	G
17	D	382	A
17	D	384	G
17	D	392	C
17	D	393	A
17	D	397	A
17	D	398	U
17	D	406	G
17	D	411	A
17	D	412	A
17	D	413	G
17	D	414	A
17	D	421	U
17	D	422	C
17	D	424	G
17	D	429	U
17	D	446	G
17	D	451	A
17	D	457	G
17	D	458	U
17	D	460	A
17	D	463	U
17	D	464	U
17	D	467	U
17	D	468	A
17	D	469	C
17	D	478	A
17	D	479	U
17	D	481	G
17	D	484	G
17	D	485	U
17	D	486	U
17	D	496	A
17	D	497	G
17	D	505	G

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Mol	Chain	Res	Type
17	D	509	A
17	D	511	C
17	D	518	C
17	D	519	C
17	D	526	C
17	D	531	U
17	D	532	A
17	D	533	A
17	D	542	G
17	D	547	A
17	D	559	A
17	D	564	C
17	D	568	G
17	D	572	A
17	D	573	A
17	D	576	C
17	D	577	G
17	D	579	A
17	D	596	A
17	D	626	G
17	D	628	G
17	D	633	G
17	D	642	A
17	D	649	A
17	D	650	G
17	D	653	U
17	D	665	A
17	D	700	G
17	D	721	G
17	D	723	U
17	D	724	G
17	D	731	G
17	D	734	G
17	D	747	A
17	D	748	G
17	D	755	G
17	D	760	G
17	D	777	A
17	D	793	U
17	D	794	A
17	D	815	A
17	D	817	C

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Mol	Chain	Res	Type
17	D	828	U
17	D	829	G
17	D	832	G
17	D	841	C
17	D	844	G
17	D	845	A
17	D	846	G
17	D	849	G
17	D	874	G
17	D	887	G
17	D	902	G
17	D	914	A
17	D	916	U
17	D	926	G
17	D	934	C
17	D	935	A
17	D	942	G
17	D	954	G
17	D	960	U
17	D	963	G
17	D	965	U
17	D	969	A
17	D	972	C
17	D	975	A
17	D	976	G
17	D	987	G
17	D	991	U
17	D	992	U
17	D	993	G
17	D	996	A
17	D	999	C
17	D	1004	A
17	D	1008	U
17	D	1009	U
17	D	1017	U
17	D	1018	G
17	D	1021	A
17	D	1024	G
17	D	1026	G
17	D	1028	C
17	D	1030	U
17	D	1031	C

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Mol	Chain	Res	Type
17	D	1032	G
17	D	1037	C
17	D	1043	G
17	D	1044	A
17	D	1046	A
17	D	1065	U
17	D	1085	U
17	D	1094	G
17	D	1095	U
17	D	1099	G
17	D	1101	A
17	D	1124	G
17	D	1133	G
17	D	1135	U
17	D	1136	C
17	D	1137	C
17	D	1139	G
17	D	1140	C
17	D	1141	C
17	D	1142	G
17	D	1143	G
17	D	1145	A
17	D	1146	A
17	D	1151	A
17	D	1152	A
17	D	1158	C
17	D	1159	U
17	D	1160	G
17	D	1167	A
17	D	1171	A
17	D	1174	G
17	D	1175	G
17	D	1176	A
17	D	1184	G
17	D	1193	G
17	D	1196	A
17	D	1197	A
17	D	1206	G
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C

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Mol	Chain	Res	Type
17	D	1215	G
17	D	1226	C
17	D	1227	A
17	D	1228	C
17	D	1238	A
17	D	1257	A
17	D	1260	G
17	D	1275	A
17	D	1276	G
17	D	1278	G
17	D	1279	G
17	D	1280	A
17	D	1285	A
17	D	1286	U
17	D	1287	A
17	D	1299	A
17	D	1300	G
17	D	1302	C
17	D	1305	G
17	D	1312	G
17	D	1317	C
17	D	1320	C
17	D	1323	G
17	D	1338	G
17	D	1340	A
17	D	1346	A
17	D	1347	G
17	D	1353	G
17	D	1363	A
17	D	1370	G
17	D	1378	C
17	D	1379	G
17	D	1381	U
17	D	1391	U
17	D	1396	A
17	D	1397	C
17	D	1398	A
17	D	1404	C
17	D	1419	G
17	D	1429	A
17	D	1441	A
17	D	1446	A

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Mol	Chain	Res	Type
17	D	1447	A
17	D	1448	C
17	D	1452	C
17	D	1453	G
17	D	1487	G
17	D	1491	G
17	D	1492	A
17	D	1493	A
17	D	1494	G
17	D	1495	U
17	D	1497	G
17	D	1503	A
17	D	1506	U
17	D	1517	G
17	D	1529	G
17	D	1530	G
17	D	1534	A
40	a	4	U
40	a	10	A
40	a	15	G
40	a	23	G
40	a	34	U
40	a	35	G
40	a	46	G
40	a	58	G
40	a	60	G
40	a	62	U
40	a	63	A
40	a	68	G
40	a	71	A
40	a	74	A
40	a	75	G
40	a	83	A
40	a	84	A
40	a	85	G
40	a	88	G
40	a	89	A
40	a	93	G
40	a	96	C
40	a	101	A
40	a	102	U
40	a	103	A

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Mol	Chain	Res	Type
40	a	110	G
40	a	118	A
40	a	119	A
40	a	120	U
40	a	122	G
40	a	131	A
40	a	136	G
40	a	139	U
40	a	140	C
40	a	141	G
40	a	145	C
40	a	163	C
40	a	165	A
40	a	181	A
40	a	196	A
40	a	215	G
40	a	216	A
40	a	221	A
40	a	222	A
40	a	225	C
40	a	248	G
40	a	249	C
40	a	261	G
40	a	264	C
40	a	265	A
40	a	266	G
40	a	267	C
40	a	271	G
40	a	272	A
40	a	275	C
40	a	276	U
40	a	278	A
40	a	285	G
40	a	311	A
40	a	329	G
40	a	330	A
40	a	353	C
40	a	361	G
40	a	362	A
40	a	371	A
40	a	372	G
40	a	373	U

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Mol	Chain	Res	Type
40	a	375	G
40	a	383	C
40	a	386	G
40	a	396	G
40	a	405	U
40	a	411	G
40	a	412	A
40	a	420	C
40	a	424	G
40	a	451	U
40	a	457	A
40	a	464	U
40	a	477	A
40	a	481	G
40	a	491	G
40	a	501	A
40	a	503	A
40	a	504	A
40	a	505	A
40	a	509	C
40	a	522	A
40	a	529	A
40	a	532	A
40	a	543	G
40	a	546	U
40	a	547	A
40	a	548	G
40	a	549	G
40	a	551	G
40	a	563	A
40	a	569	U
40	a	573	U
40	a	575	A
40	a	588	U
40	a	603	A
40	a	609	A
40	a	613	A
40	a	614	A
40	a	615	U
40	a	616	A
40	a	618	G
40	a	627	A

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Mol	Chain	Res	Type
40	a	637	A
40	a	645	C
40	a	647	G
40	a	654	A
40	a	668	A
40	a	685	A
40	a	686	U
40	a	710	U
40	a	717	C
40	a	730	A
40	a	738	G
40	a	757	G
40	a	764	A
40	a	765	C
40	a	775	G
40	a	776	G
40	a	782	A
40	a	784	G
40	a	785	G
40	a	800	A
40	a	805	G
40	a	812	C
40	a	819	A
40	a	827	U
40	a	828	U
40	a	845	A
40	a	846	U
40	a	858	G
40	a	859	G
40	a	869	G
40	a	878	A
40	a	881	G
40	a	884	U
40	a	885	C
40	a	887	A
40	a	888	C
40	a	891	G
40	a	892	A
40	a	893	C
40	a	895	U
40	a	896	A
40	a	897	C

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Mol	Chain	Res	Type
40	a	899	A
40	a	907	G
40	a	910	A
40	a	914	G
40	a	915	C
40	a	931	U
40	a	941	A
40	a	945	A
40	a	946	C
40	a	953	G
40	a	961	C
40	a	974	G
40	a	983	A
40	a	995	C
40	a	996	A
40	a	999	U
40	a	1005	C
40	a	1012	U
40	a	1013	C
40	a	1022	G
40	a	1023	U
40	a	1026	G
40	a	1033	U
40	a	1041	G
40	a	1042	G
40	a	1045	C
40	a	1046	A
40	a	1047	G
40	a	1060	U
40	a	1061	U
40	a	1063	G
40	a	1064	C
40	a	1065	U
40	a	1066	U
40	a	1067	A
40	a	1068	G
40	a	1069	A
40	a	1070	A
40	a	1071	G
40	a	1073	A
40	a	1074	G
40	a	1076	C

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Mol	Chain	Res	Type
40	a	1079	C
40	a	1080	A
40	a	1081	U
40	a	1082	U
40	a	1083	U
40	a	1084	A
40	a	1087	G
40	a	1088	A
40	a	1090	A
40	a	1095	A
40	a	1107	G
40	a	1110	G
40	a	1111	A
40	a	1112	G
40	a	1119	U
40	a	1122	G
40	a	1132	U
40	a	1134	A
40	a	1135	C
40	a	1142	A
40	a	1169	A
40	a	1170	C
40	a	1173	U
40	a	1174	U
40	a	1175	A
40	a	1176	U
40	a	1177	G
40	a	1178	C
40	a	1179	G
40	a	1180	U
40	a	1186	G
40	a	1236	G
40	a	1238	G
40	a	1248	G
40	a	1253	A
40	a	1256	G
40	a	1266	G
40	a	1271	G
40	a	1272	A
40	a	1273	U
40	a	1301	A
40	a	1321	A

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Mol	Chain	Res	Type
40	a	1345	C
40	a	1352	U
40	a	1365	A
40	a	1368	G
40	a	1378	A
40	a	1379	U
40	a	1380	G
40	a	1383	A
40	a	1392	A
40	a	1395	A
40	a	1406	U
40	a	1408	G
40	a	1409	U
40	a	1411	U
40	a	1414	C
40	a	1415	U
40	a	1416	G
40	a	1417	C
40	a	1419	A
40	a	1420	A
40	a	1428	C
40	a	1452	G
40	a	1453	A
40	a	1460	U
40	a	1478	G
40	a	1482	G
40	a	1490	A
40	a	1497	U
40	a	1503	A
40	a	1508	A
40	a	1509	A
40	a	1510	G
40	a	1515	A
40	a	1529	G
40	a	1534	U
40	a	1535	A
40	a	1536	C
40	a	1537	G
40	a	1554	U
40	a	1559	U
40	a	1566	A
40	a	1569	A

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Mol	Chain	Res	Type
40	a	1578	U
40	a	1580	A
40	a	1581	G
40	a	1582	C
40	a	1583	A
40	a	1584	U
40	a	1585	C
40	a	1589	U
40	a	1590	A
40	a	1608	A
40	a	1610	A
40	a	1613	G
40	a	1647	U
40	a	1648	U
40	a	1649	G
40	a	1651	G
40	a	1674	G
40	a	1677	A
40	a	1703	G
40	a	1714	U
40	a	1715	G
40	a	1718	G
40	a	1729	U
40	a	1730	C
40	a	1732	C
40	a	1738	G
40	a	1750	G
40	a	1755	A
40	a	1758	U
40	a	1764	C
40	a	1773	A
40	a	1791	A
40	a	1800	C
40	a	1801	A
40	a	1808	A
40	a	1811	G
40	a	1816	C
40	a	1829	A
40	a	1833	C
40	a	1847	A
40	a	1848	A
40	a	1858	A

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Mol	Chain	Res	Type
40	a	1859	U
40	a	1862	G
40	a	1864	U
40	a	1869	G
40	a	1870	C
40	a	1872	A
40	a	1873	G
40	a	1905	C
40	a	1906	G
40	a	1907	G
40	a	1913	A
40	a	1914	C
40	a	1919	A
40	a	1920	C
40	a	1922	G
40	a	1923	U
40	a	1924	C
40	a	1925	C
40	a	1926	U
40	a	1928	A
40	a	1929	G
40	a	1930	G
40	a	1936	A
40	a	1938	A
40	a	1955	U
40	a	1965	C
40	a	1967	C
40	a	1970	A
40	a	1971	U
40	a	1972	G
40	a	1987	A
40	a	1991	U
40	a	1992	G
40	a	1993	U
40	a	1997	C
40	a	2002	G
40	a	2020	A
40	a	2022	U
40	a	2023	C
40	a	2027	G
40	a	2033	A
40	a	2043	C

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Mol	Chain	Res	Type
40	a	2051	A
40	a	2052	A
40	a	2055	C
40	a	2056	G
40	a	2060	A
40	a	2061	G
40	a	2062	A
40	a	2063	C
40	a	2093	G
40	a	2097	A
40	a	2099	U
40	a	2100	G
40	a	2107	G
40	a	2108	A
40	a	2110	G
40	a	2111	U
40	a	2113	U
40	a	2115	G
40	a	2116	G
40	a	2117	A
40	a	2118	U
40	a	2121	G
40	a	2122	U
40	a	2124	G
40	a	2125	G
40	a	2126	A
40	a	2127	G
40	a	2128	G
40	a	2131	U
40	a	2132	U
40	a	2133	G
40	a	2134	A
40	a	2139	U
40	a	2141	G
40	a	2146	C
40	a	2147	A
40	a	2154	A
40	a	2157	G
40	a	2158	A
40	a	2159	G
40	a	2162	G
40	a	2163	A

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Mol	Chain	Res	Type
40	a	2164	C
40	a	2165	C
40	a	2169	A
40	a	2171	A
40	a	2172	U
40	a	2178	C
40	a	2182	U
40	a	2183	A
40	a	2185	U
40	a	2189	U
40	a	2190	G
40	a	2191	A
40	a	2193	G
40	a	2194	U
40	a	2198	A
40	a	2204	G
40	a	2210	U
40	a	2211	A
40	a	2212	A
40	a	2213	U
40	a	2225	A
40	a	2226	C
40	a	2229	U
40	a	2238	G
40	a	2239	G
40	a	2250	G
40	a	2268	A
40	a	2278	A
40	a	2283	C
40	a	2287	A
40	a	2288	A
40	a	2297	A
40	a	2305	U
40	a	2308	G
40	a	2309	A
40	a	2315	G
40	a	2322	A
40	a	2325	G
40	a	2327	A
40	a	2333	A
40	a	2335	A
40	a	2339	C

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Mol	Chain	Res	Type
40	a	2345	G
40	a	2347	C
40	a	2350	C
40	a	2361	G
40	a	2372	U
40	a	2376	A
40	a	2383	G
40	a	2385	C
40	a	2402	U
40	a	2403	C
40	a	2406	A
40	a	2410	G
40	a	2423	U
40	a	2424	C
40	a	2425	A
40	a	2426	A
40	a	2429	G
40	a	2430	A
40	a	2431	U
40	a	2434	A
40	a	2435	A
40	a	2441	U
40	a	2447	G
40	a	2448	A
40	a	2470	G
40	a	2474	U
40	a	2476	A
40	a	2478	A
40	a	2484	G
40	a	2491	U
40	a	2502	G
40	a	2506	U
40	a	2507	C
40	a	2512	C
40	a	2513	A
40	a	2518	A
40	a	2520	C
40	a	2525	G
40	a	2529	G
40	a	2535	G
40	a	2547	A
40	a	2554	U

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Mol	Chain	Res	Type
40	a	2566	A
40	a	2567	G
40	a	2572	A
40	a	2573	C
40	a	2574	G
40	a	2585	U
40	a	2586	U
40	a	2602	A
40	a	2603	G
40	a	2609	U
40	a	2610	C
40	a	2611	C
40	a	2613	U
40	a	2629	U
40	a	2663	G
40	a	2669	G
40	a	2671	G
40	a	2689	U
40	a	2690	U
40	a	2714	G
40	a	2722	G
40	a	2724	U
40	a	2726	A
40	a	2744	G
40	a	2748	A
40	a	2758	A
40	a	2765	A
40	a	2777	G
40	a	2778	A
40	a	2791	G
40	a	2793	C
40	a	2796	U
40	a	2797	U
40	a	2798	U
40	a	2799	A
40	a	2801	G
40	a	2818	U
40	a	2820	A
40	a	2821	A
40	a	2823	A
40	a	2825	G
40	a	2835	A

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Mol	Chain	Res	Type
40	a	2859	G
40	a	2861	U
40	a	2867	G
40	a	2873	A
40	a	2874	C
40	a	2880	C
40	a	2883	A
40	a	2884	U
40	a	2885	G
40	a	2891	U
40	a	2902	C
43	d	2	G
43	d	9	G
43	d	13	G
43	d	16	G
43	d	17	C
43	d	35	C
43	d	36	C
43	d	45	A
43	d	51	G
43	d	56	G
43	d	64	G
43	d	66	A
43	d	88	C
43	d	89	U
43	d	90	C
43	d	99	A
43	d	109	A

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	7	-17	U
8	7	-11	U
8	7	11	U
10	A	6	G
10	A	7	G
10	A	9	G
10	A	12	G
10	A	22	G
10	A	60	U
10	A	70	G

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Mol	Chain	Res	Type
10	B	6	G
10	B	7	G
10	B	9	G
10	B	12	G
10	B	22	G
10	B	60	U
17	D	70	U
17	D	121	U
17	D	181	A
17	D	183	C
17	D	197	A
17	D	209	U
17	D	328	C
17	D	428	G
17	D	496	A
17	D	517	G
17	D	531	U
17	D	793	U
17	D	991	U
17	D	992	U
17	D	1109	C
17	D	1145	A
17	D	1196	A
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1299	A
17	D	1447	A
17	D	1491	G
17	D	1492	A
17	D	1493	A

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

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

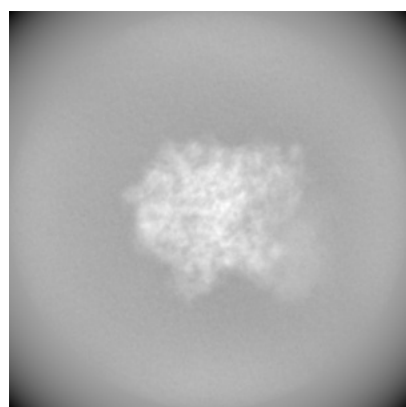
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-22142. These allow visual inspection of the internal detail of the map and identification of artifacts.

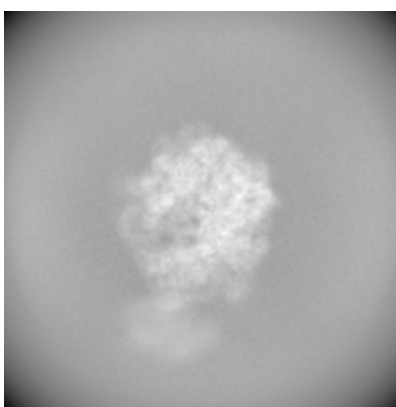
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

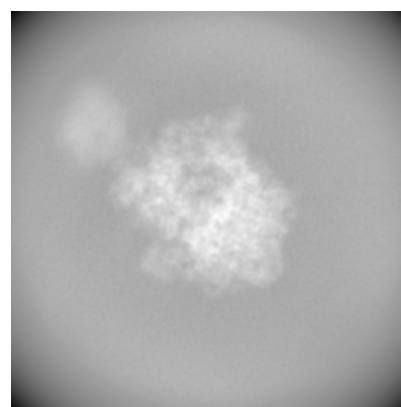
6.1.1 Primary map



X



Y

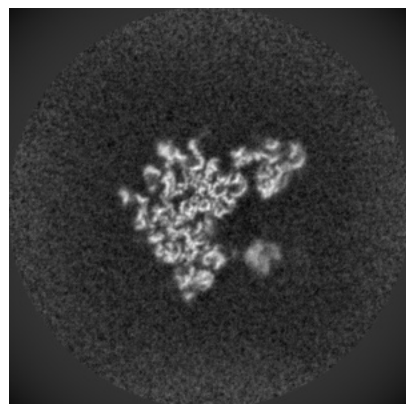


Z

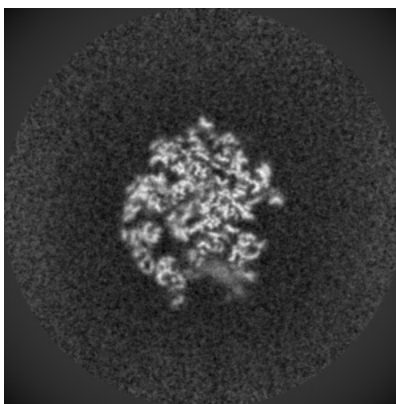
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

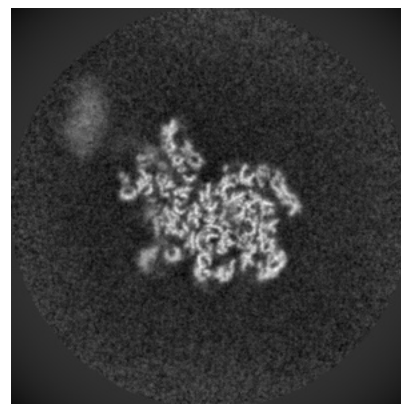
6.2.1 Primary map



X Index: 256



Y Index: 256

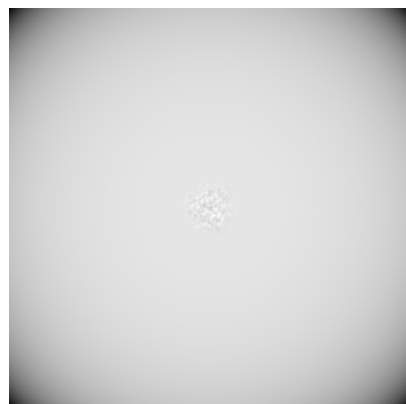


Z Index: 256

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: 0



Y Index: 0

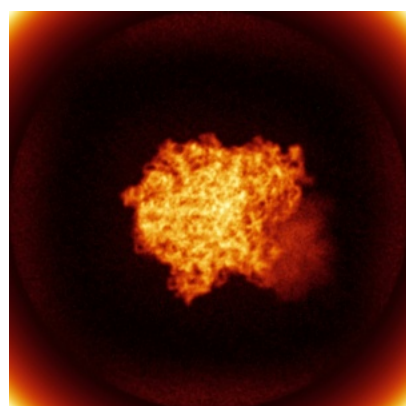


Z Index: 0

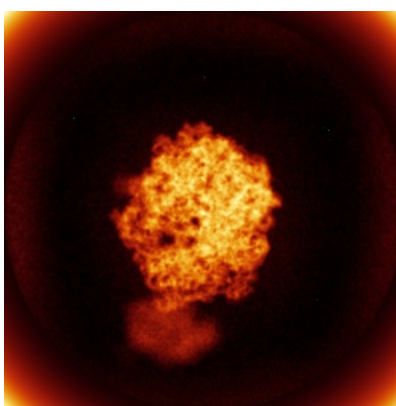
The images above show the largest variance slices of the map in three orthogonal directions.

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

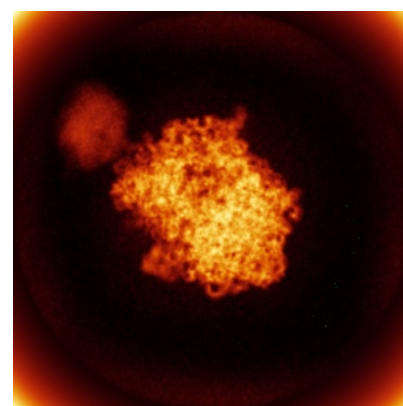
6.4.1 Primary map



X



Y

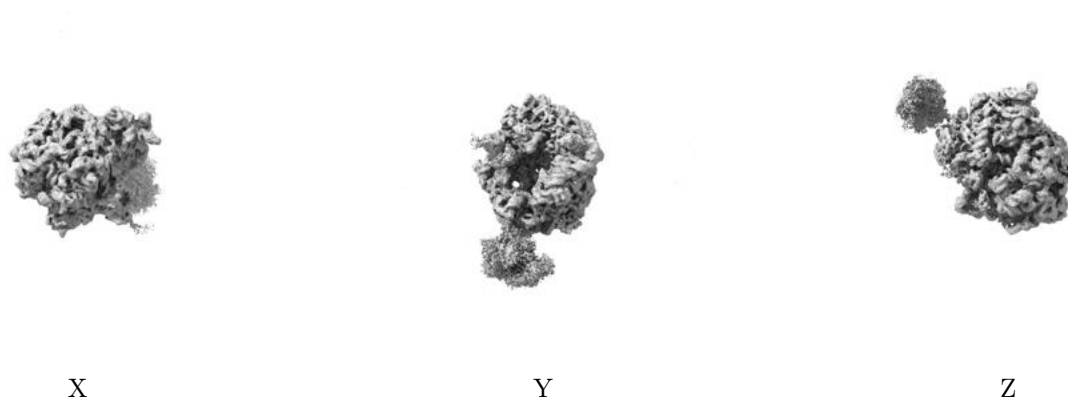


Z

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 0.00561. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

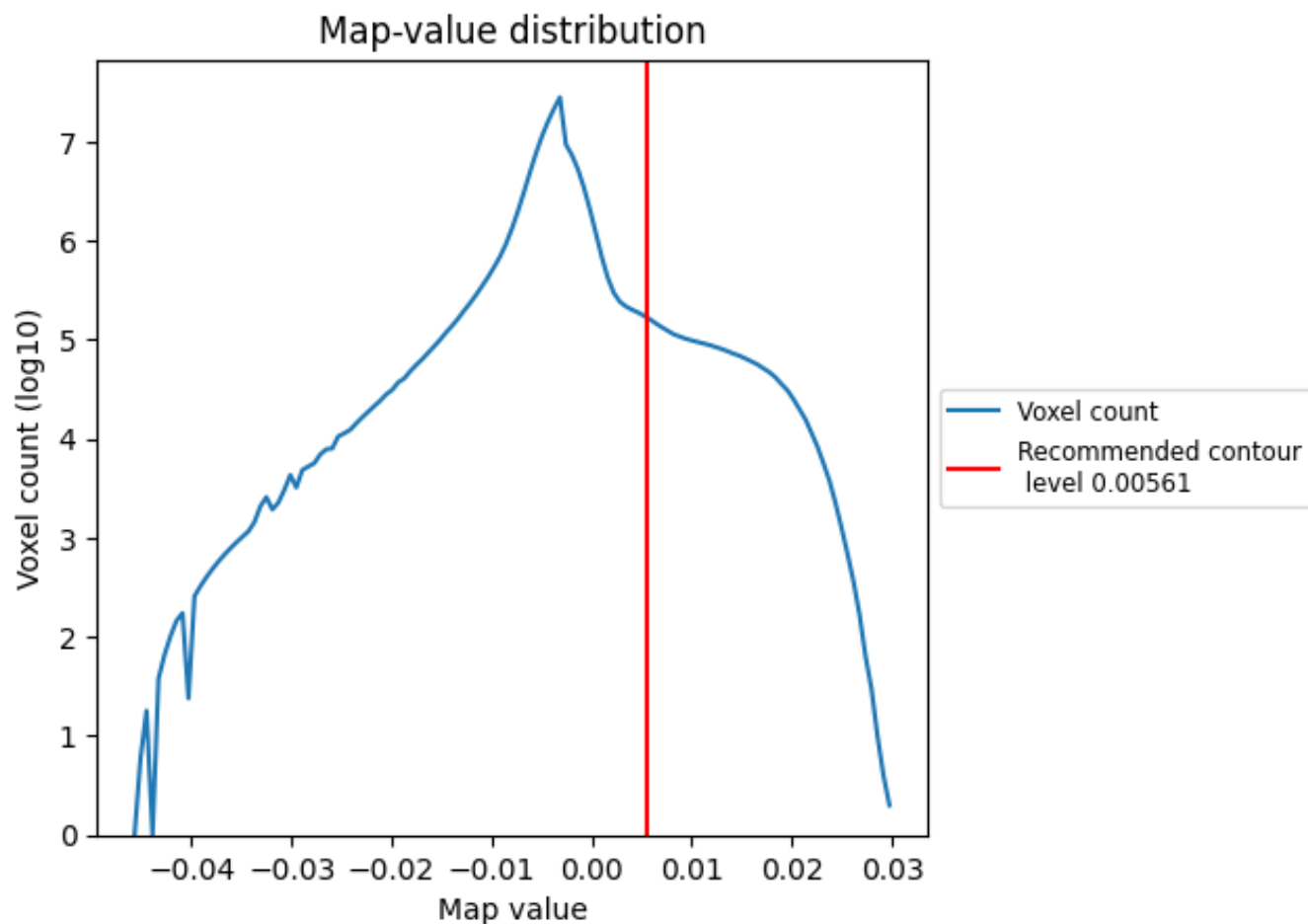
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

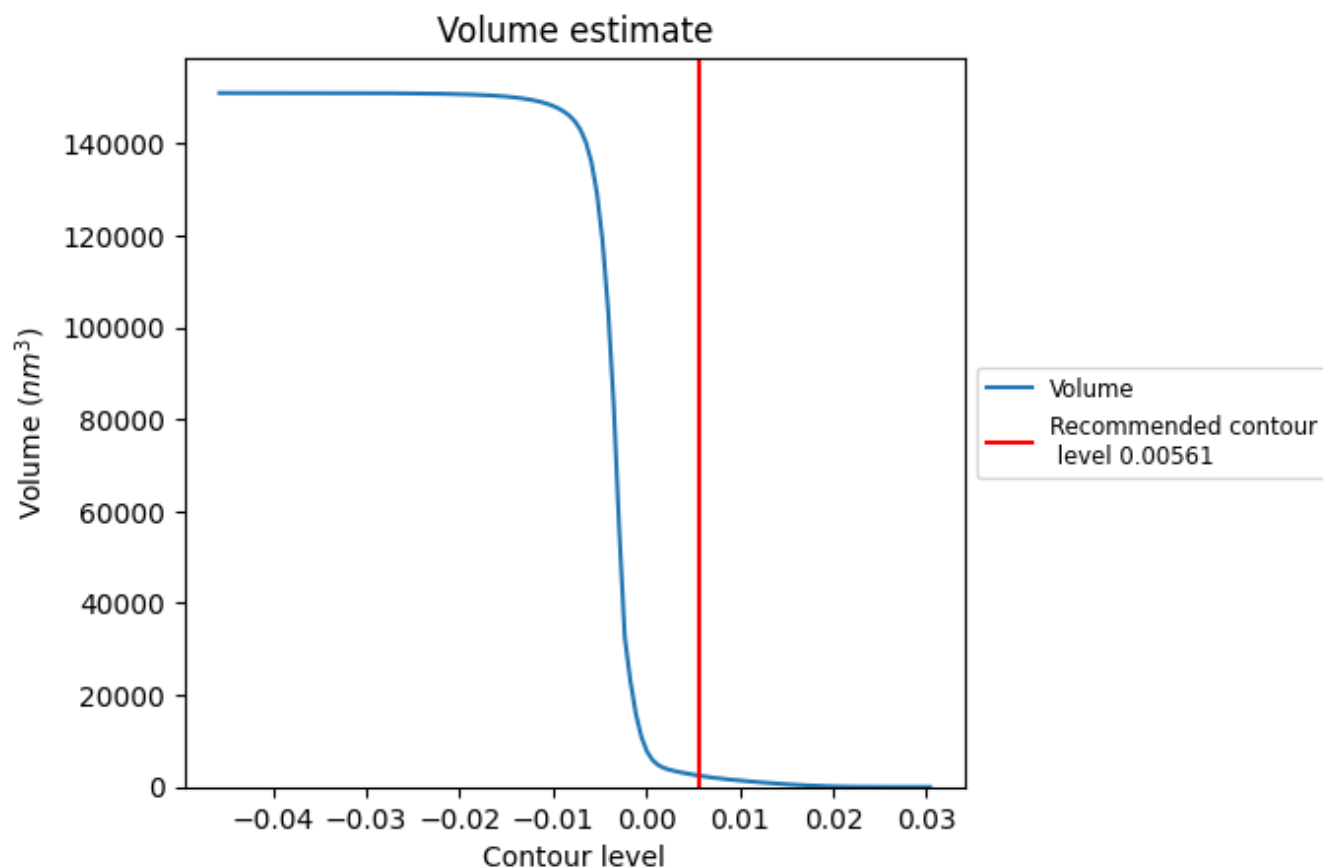
This section contains the results of statistical analysis of the map.

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.

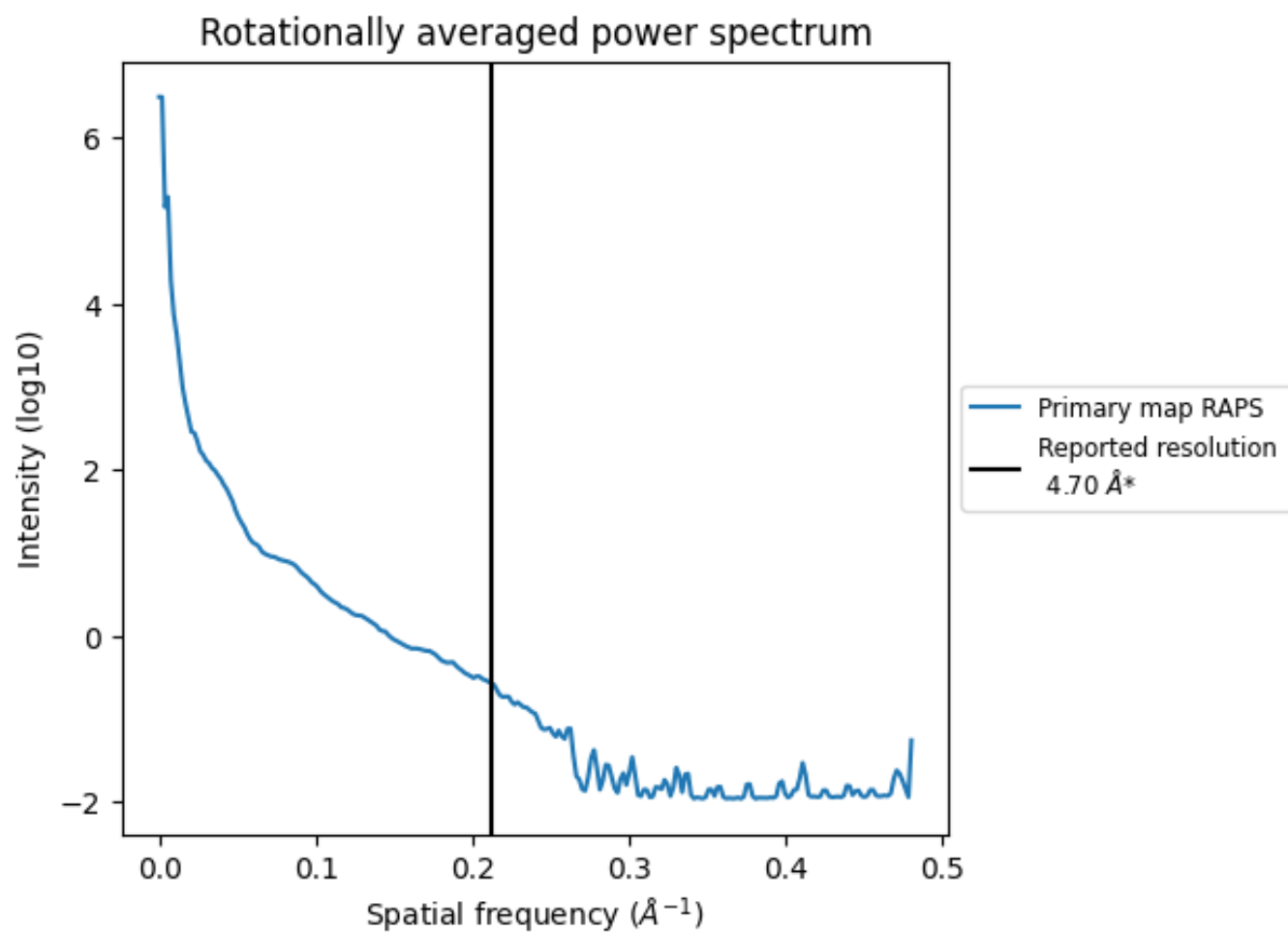
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2463 nm³; this corresponds to an approximate mass of 2225 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 0.213 Å⁻¹

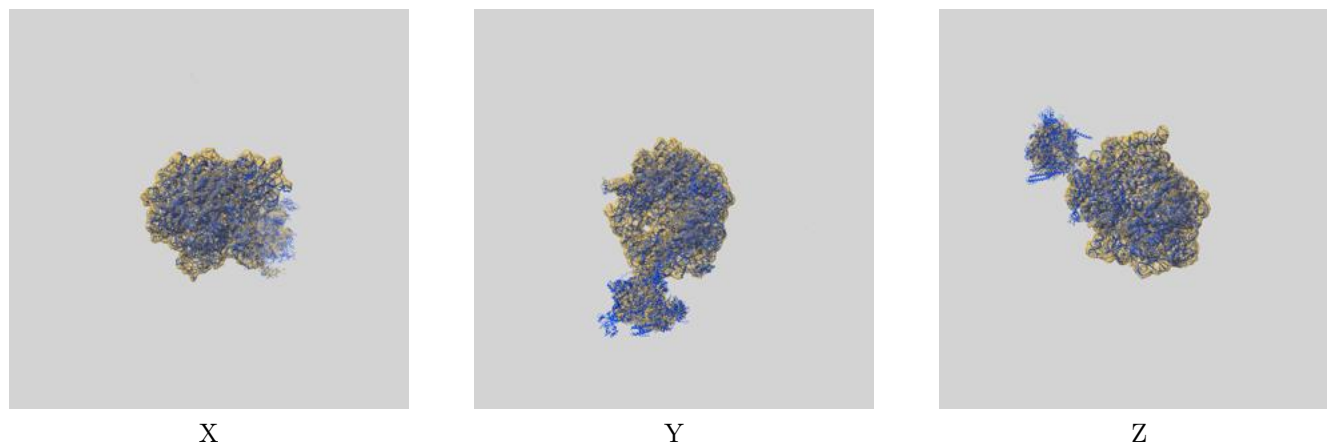
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

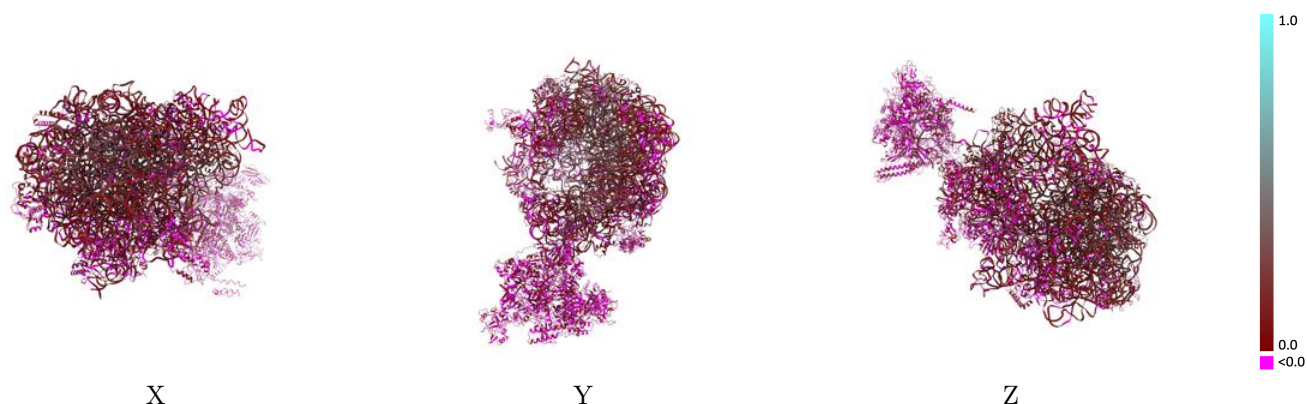
This section contains information regarding the fit between EMDB map EMD-22142 and PDB model 6XDR. Per-residue inclusion information can be found in [section 3](#) on [page 17](#).

9.1 Map-model overlay [i](#)



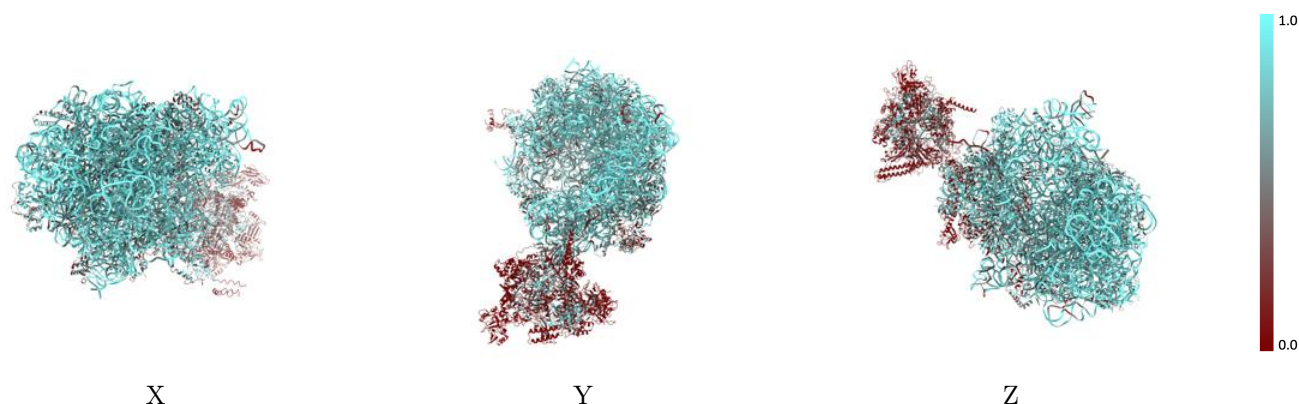
The images above show the 3D surface view of the map at the recommended contour level 0.00561 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



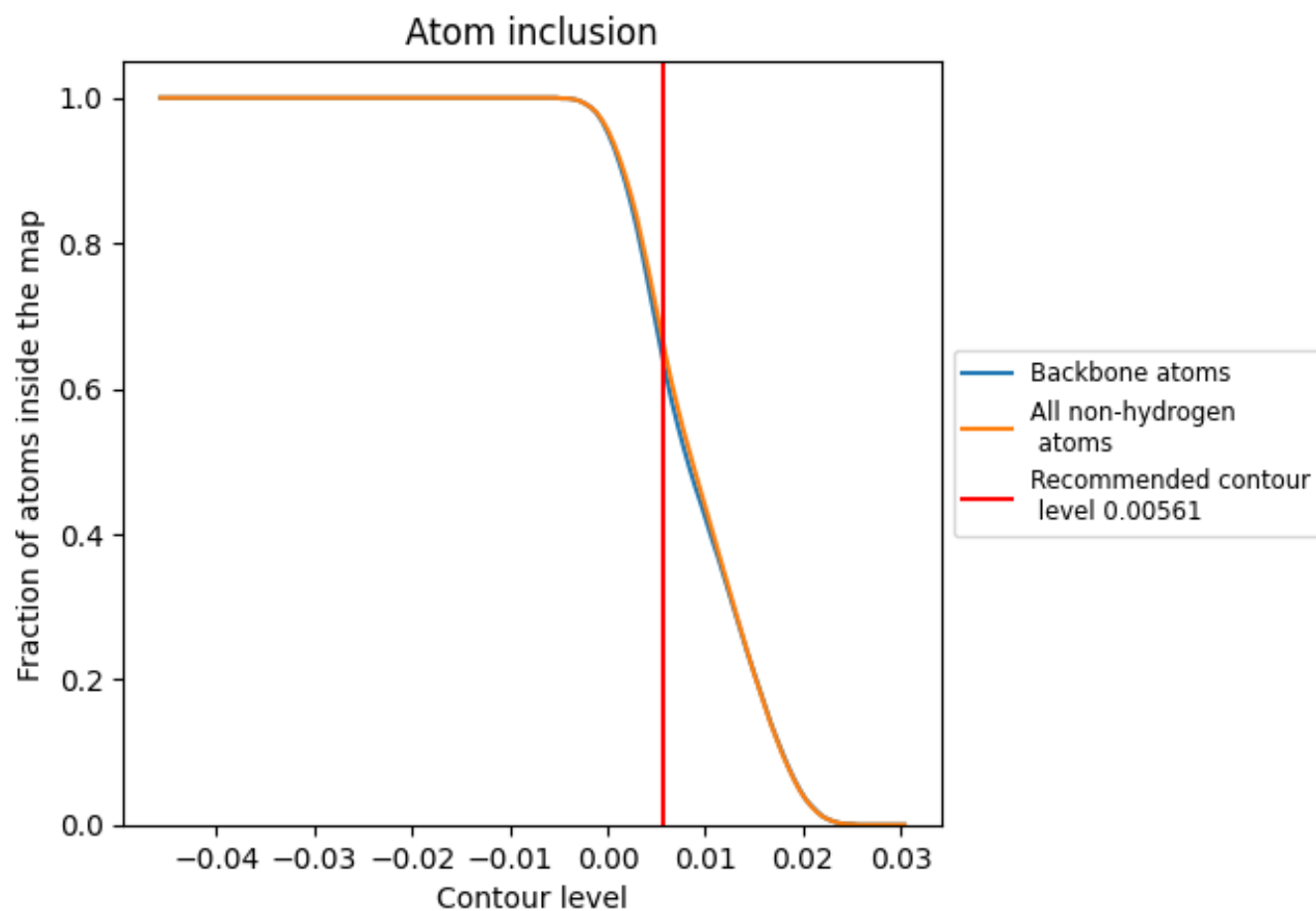
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.00561).

9.4 Atom inclusion [i](#)



At the recommended contour level, 64% of all backbone atoms, 67% 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 (0.00561) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6680	 0.1070
0	 0.7420	 0.1220
1	 0.7890	 0.2450
2	 0.7220	 0.1010
3	 0.7710	 0.1020
4	 0.7560	 0.1040
5	 0.2730	 0.0330
6	 0.4170	 0.0410
7	 0.3970	 0.0630
9	 0.5570	 0.0390
A	 0.7780	 0.1070
AA	 0.2720	 0.0290
AB	 0.1760	 0.0840
AC	 0.1270	 0.0270
AD	 0.0540	 0.0130
AE	 0.2270	 0.0200
AF	 0.0270	 0.0140
B	 0.7760	 0.1310
C	 0.5330	 0.0400
D	 0.8660	 0.1230
E	 0.6710	 0.0850
F	 0.4720	 0.0640
G	 0.5050	 0.0490
H	 0.1990	 0.0420
I	 0.7480	 0.2030
J	 0.7610	 0.1840
K	 0.7430	 0.1450
L	 0.6500	 0.1040
M	 0.5250	 0.0530
N	 0.6290	 0.0660
O	 0.6230	 0.0370
P	 0.6650	 0.1190
Q	 0.6720	 0.0630
R	 0.6570	 0.1250
S	 0.6370	 0.0020



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Chain	Atom inclusion	Q-score
T	 0.5380	 0.0560
U	 0.7100	 0.0890
V	 0.6900	 0.0850
W	 0.6290	 0.0210
X	 0.6570	 0.0940
Y	 0.5290	 0.0530
Z	 0.0440	 0.0440
a	 0.8870	 0.1450
b	 0.6500	 -0.0120
c	 0.6790	 0.1070
d	 0.8570	 0.0770
e	 0.6830	 0.1190
f	 0.7870	 0.1190
g	 0.4250	 0.0960
h	 0.7240	 0.0940
i	 0.5440	 -0.0090
j	 0.7170	 0.1020
k	 0.3590	 0.0070
l	 0.6570	 0.0690
m	 0.7830	 0.1470
n	 0.6420	 0.0630
o	 0.6580	 0.0380
p	 0.7330	 0.1220
q	 0.7300	 0.0820
r	 0.5010	 0.0700
s	 0.8180	 0.1770
t	 0.7420	 0.2010
u	 0.5350	 0.0160
v	 0.7390	 0.1140
w	 0.7870	 0.1490
x	 0.5540	 -0.0010
y	 0.6910	 0.0980
z	 0.8390	 0.1820