



Full wwPDB EM Validation Report ⓘ

Mar 24, 2026 – 08:01 PM UTC

PDB ID : 6H58 / pdb_00006h58
EMDB ID : EMD-0139
Title : Structure of a hibernating 100S ribosome reveals an inactive conformation of the ribosomal protein S1 - Full 100S Hibernating E. coli Ribosome
Authors : Beckert, B.; Turk, M.; Czech, A.; Berninghausen, O.; Beckmann, R.; Ignatova, Z.; Plitzko, J.; Wilson, D.N.
Deposited on : 2018-07-24
Resolution : 7.90 Å (reported)
Based on initial model : 6H4N

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:

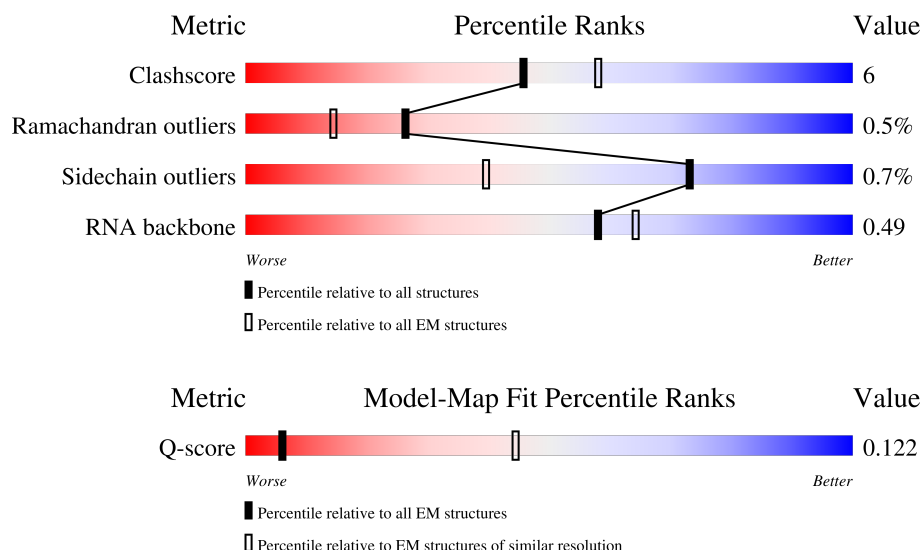
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 7.90 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	366 (7.40 - 8.40)

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	56	
1	00	56	
2	1	50	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
2	11	50	
3	2	46	
3	22	46	
4	3	64	
4	33	64	
5	4	38	
5	44	38	
6	6	66	
6	66	66	
7	A	2903	
7	AA	2903	
8	B	120	
8	BB	120	
9	C	271	
9	CC	271	
10	D	209	
10	DD	209	
11	E	201	
11	EE	201	
12	F	177	
12	FF	177	
13	G	176	
13	GG	176	
14	H	149	
14	HH	149	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
15	J	142	
15	JJ	142	
16	K	122	
16	KK	122	
17	L	143	
17	LL	143	
18	M	136	
18	MM	136	
19	N	120	
19	NN	120	
20	O	116	
20	OO	116	
21	P	114	
21	PP	114	
22	Q	117	
22	QQ	117	
23	R	103	
23	RR	103	
24	S	110	
24	SS	110	
25	T	93	
25	TT	93	
26	U	102	
26	UU	102	
27	V	94	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
27	VV	94	
28	W	75	
28	WW	75	
29	X	77	
29	XX	77	
30	Y	63	
30	YY	63	
31	Z	58	
31	ZZ	58	
32	a	1539	
32	aa	1539	
33	b	226	
33	bb	226	
34	c	206	
34	cc	206	
35	d	205	
35	dd	205	
36	e	157	
36	ee	157	
37	f	100	
37	ff	100	
38	g	161	
38	gg	161	
39	h	129	
39	hh	129	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
40	i	127	
40	ii	127	
41	j	98	
41	jj	98	
42	k	116	
42	kk	116	
43	l	123	
43	ll	123	
44	m	114	
44	mm	114	
45	n	101	
45	nn	101	
46	o	88	
46	oo	88	
47	p	82	
47	pp	82	
48	q	80	
48	qq	80	
49	r	65	
49	rr	65	
50	s	79	
50	ss	79	
51	t	85	
51	tt	85	
52	u	65	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
52	uu	65	
53	v	55	
53	vv	55	
54	x	95	
54	xx	95	
55	y	557	
55	yy	557	
56	w	77	
56	ww	77	

2 Entry composition

There are 56 unique types of molecules in this entry. The entry contains 294684 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	56	Total	C	N	O	S	0	0
			444	269	94	80	1		
1	00	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 2 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	1	50	Total	C	N	O	0	0
			409	263	75	71		
2	11	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 3 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		
3	22	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 4 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	64	Total	C	N	O	S	0	0
			504	323	105	74	2		
4	33	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 5 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	38	Total	C	N	O	S	0	0
			302	185	65	48	4		
5	44	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 6 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	6	66	Total	C	N	O	S	0	0
			522	323	99	94	6		
6	66	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 7 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A	2900	Total	C	N	O	P	0	0
			62261	27774	11460	20127	2900		
7	AA	2900	Total	C	N	O	P	0	0
			62261	27774	11460	20127	2900		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	747	C	U	conflict	GB 1036415628
A	1847	G	A	conflict	GB 1036415628
A	2069	A	G	conflict	GB 1036415628
AA	747	C	U	conflict	GB 1036415628
AA	1847	G	A	conflict	GB 1036415628
AA	2069	A	G	conflict	GB 1036415628

- Molecule 8 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	B	120	Total	C	N	O	P	0	0
			2572	1145	471	836	120		
8	BB	120	Total	C	N	O	P	0	0
			2572	1145	471	836	120		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	120	A	U	conflict	GB 1393501787

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
BB	120	A	U	conflict	GB 1393501787

- Molecule 9 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	C	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		
9	CC	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 10 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	D	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		
10	DD	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 11 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	E	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		
11	EE	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 12 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	F	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		
12	FF	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 13 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		
13	GG	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 14 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	H	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		
14	HH	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 15 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	J	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		
15	JJ	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 16 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		
16	KK	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 17 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	L	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		
17	LL	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 18 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	M	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		
18	MM	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 19 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	N	120	Total	C	N	O	S	0	0
			960	593	196	166	5		
19	NN	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 20 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	O	116	Total	C	N	O	S	0	0
			892	552	178	162			
20	OO	116	Total	C	N	O	S	0	0
			892	552	178	162			

- Molecule 21 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	P	114	Total	C	N	O	S	0	0
			917	574	179	163	1		
21	PP	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 22 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Q	117	Total	C	N	O	S	0	0
			947	604	192	151			
22	QQ	117	Total	C	N	O	S	0	0
			947	604	192	151			

- Molecule 23 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	R	103	Total	C	N	O	S	0	0
			816	516	153	145	2		
23	RR	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 24 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	S	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SS	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 25 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		
25	TT	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 26 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	U	102	Total	C	N	O	S	0	0
			779	492	146	141			
26	UU	102	Total	C	N	O	S	0	0
			779	492	146	141			

- Molecule 27 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	V	94	Total	C	N	O	S	0	0
			753	479	137	134	3		
27	VV	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 28 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	W	75	Total	C	N	O	S	0	0
			575	356	116	102	1		
28	WW	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 29 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	X	77	Total	C	N	O	S	0	0
			625	388	129	106	2		
29	XX	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 30 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		
30	YY	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 31 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		
31	ZZ	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 32 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	a	1539	Total	C	N	O	P	0	0
			33016	14725	6052	10700	1539		
32	aa	1539	Total	C	N	O	P	0	0
			33016	14725	6052	10700	1539		

- Molecule 33 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	b	226	Total	C	N	O	S	0	0
			1764	1115	315	327	7		
33	bb	226	Total	C	N	O	S	0	0
			1764	1115	315	327	7		

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b	226	GLN	-	expression tag	UNP P0A7V0
b	227	ASP	-	expression tag	UNP P0A7V0
b	228	LEU	-	expression tag	UNP P0A7V0
b	229	ALA	-	expression tag	UNP P0A7V0
b	230	SER	-	expression tag	UNP P0A7V0
b	231	GLN	-	expression tag	UNP P0A7V0
b	232	ALA	-	expression tag	UNP P0A7V0
b	233	GLU	-	expression tag	UNP P0A7V0
bb	226	GLN	-	expression tag	UNP P0A7V0

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
bb	227	ASP	-	expression tag	UNP P0A7V0
bb	228	LEU	-	expression tag	UNP P0A7V0
bb	229	ALA	-	expression tag	UNP P0A7V0
bb	230	SER	-	expression tag	UNP P0A7V0
bb	231	GLN	-	expression tag	UNP P0A7V0
bb	232	ALA	-	expression tag	UNP P0A7V0
bb	233	GLU	-	expression tag	UNP P0A7V0

- Molecule 34 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	c	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		
34	cc	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 35 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	d	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		
35	dd	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 36 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	e	157	Total	C	N	O	S	0	0
			1141	709	218	208	6		
36	ee	157	Total	C	N	O	S	0	0
			1141	709	218	208	6		

- Molecule 37 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	f	100	Total	C	N	O	S	0	0
			817	515	148	148	6		
37	ff	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 38 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	g	161	Total	C	N	O	S	0	0
			1266	791	243	228	4		
38	gg	161	Total	C	N	O	S	0	0
			1266	791	243	228	4		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
g	154	ALA	ARG	conflict	UNP P02359
g	161	ALA	PHE	conflict	UNP P02359
gg	154	ALA	ARG	conflict	UNP P02359
gg	161	ALA	PHE	conflict	UNP P02359

- Molecule 39 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	h	129	Total	C	N	O	S	0	0
			979	616	173	184	6		
39	hh	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 40 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	i	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		
40	ii	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 41 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	j	98	Total	C	N	O	S	0	0
			786	493	150	142	1		
41	jj	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 42 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	k	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
42	kk	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 43 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	l	123	Total	C	N	O	S	0	0
			955	590	196	165	4		
43	ll	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 44 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	m	114	Total	C	N	O	S	0	0
			883	546	178	156	3		
44	mm	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 45 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	n	101	Total	C	N	O	S	0	0
			799	498	165	133	3		
45	nn	101	Total	C	N	O	S	0	0
			799	498	165	133	3		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	35	ALA	-	insertion	UNP P0AG59
nn	35	ALA	-	insertion	UNP P0AG59

- Molecule 46 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	o	88	Total	C	N	O	S	0	0
			714	439	144	130	1		
46	oo	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 47 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	p	82	Total	C	N	O	S	0	0
			649	406	128	114	1		
47	pp	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 48 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		
48	qq	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 49 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	r	65	Total	C	N	O	0	0
			504	317	96	91		
49	rr	65	Total	C	N	O	0	0
			504	317	96	91		

- Molecule 50 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	s	79	Total	C	N	O	S	0	0
			637	408	120	107	2		
50	ss	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 51 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	t	85	Total	C	N	O	S	0	0
			665	411	137	114	3		
51	tt	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 52 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	u	65	Total	C	N	O	S	0	0
			495	307	100	87	1		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
52	uu	65	Total	C	N	O	S	0	0
			495	307	100	87	1		

- Molecule 53 is a protein called Ribosome modulation factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	v	55	Total	C	N	O	S	0	0
			453	275	96	77	5		
53	vv	55	Total	C	N	O	S	0	0
			453	275	96	77	5		

- Molecule 54 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	x	95	Total	C	N	O	S	0	0
			754	474	133	145	2		
54	xx	95	Total	C	N	O	S	0	0
			754	474	133	145	2		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
x	57	ASP	ASN	conflict	UNP P0AFX0
x	61	LEU	ILE	conflict	UNP P0AFX0
xx	57	ASP	ASN	conflict	UNP P0AFX0
xx	61	LEU	ILE	conflict	UNP P0AFX0

- Molecule 55 is a protein called 30S ribosomal protein S1.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	y	351	Total	C	N	O	S	0	0
			2180	1339	397	441	3		
55	yy	351	Total	C	N	O	S	0	0
			2180	1339	397	441	3		

- Molecule 56 is a RNA chain called tRNA Mixture.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	w	77	Total	C	N	O	P	0	0
			1642	732	296	537	77		
56	ww	77	Total	C	N	O	P	0	0
			1642	732	296	537	77		

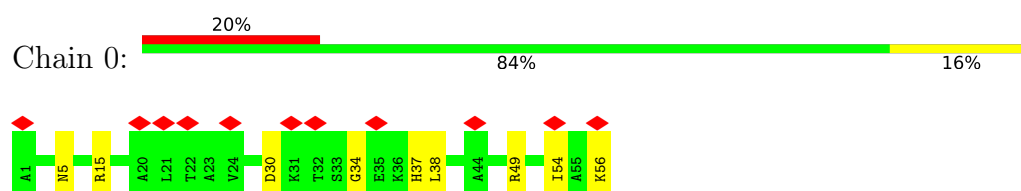
There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
w	29	U	G	conflict	GB 1063812051
w	41	A	C	conflict	GB 1063812051
ww	29	U	G	conflict	GB 1063812051
ww	41	A	C	conflict	GB 1063812051

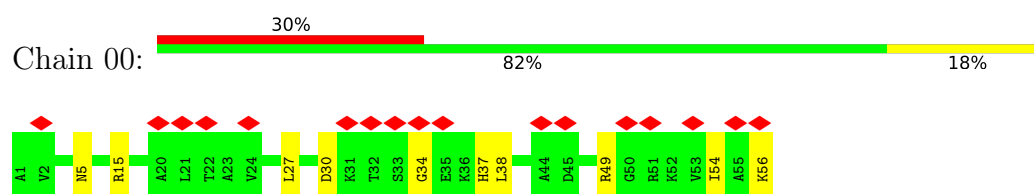
3 Residue-property plots [i](#)

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.

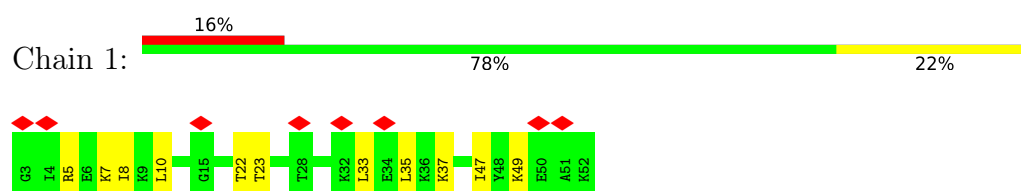
- Molecule 1: 50S ribosomal protein L32



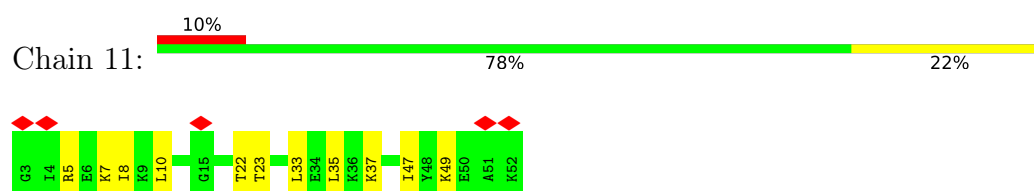
- Molecule 1: 50S ribosomal protein L32



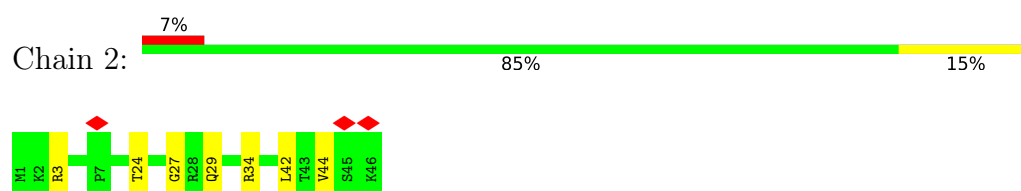
- Molecule 2: 50S ribosomal protein L33



- Molecule 2: 50S ribosomal protein L33



- Molecule 3: 50S ribosomal protein L34



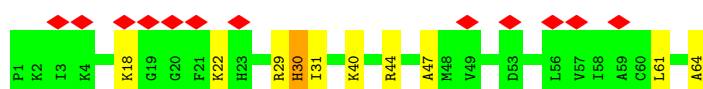
- Molecule 3: 50S ribosomal protein L34

Chain 22:  87% 13%



- Molecule 4: 50S ribosomal protein L35

Chain 3:  19% 84% 14%



- Molecule 4: 50S ribosomal protein L35

Chain 33:  11% 84% 14%



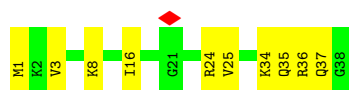
- Molecule 5: 50S ribosomal protein L36

Chain 4:  74% 26%



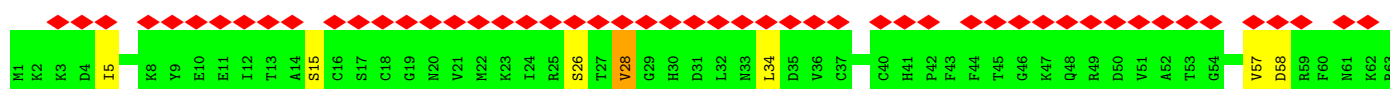
- Molecule 5: 50S ribosomal protein L36

Chain 44:  74% 26%

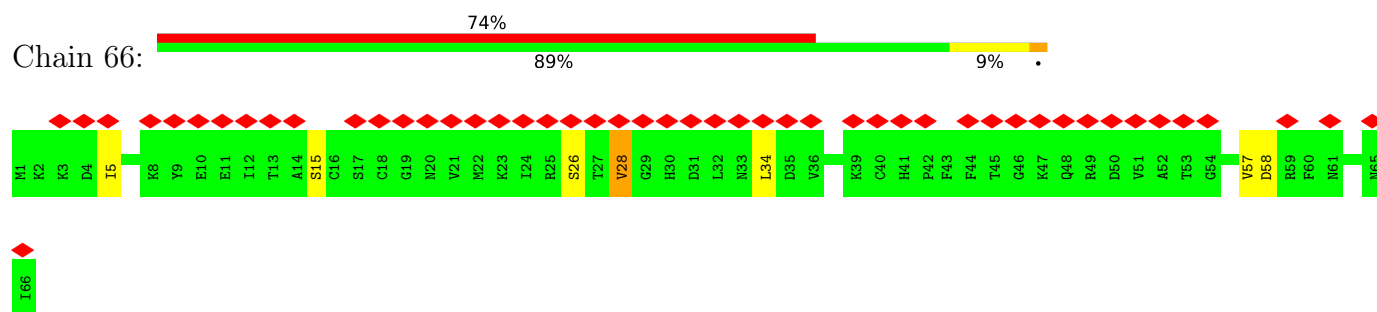


- Molecule 6: 50S ribosomal protein L31

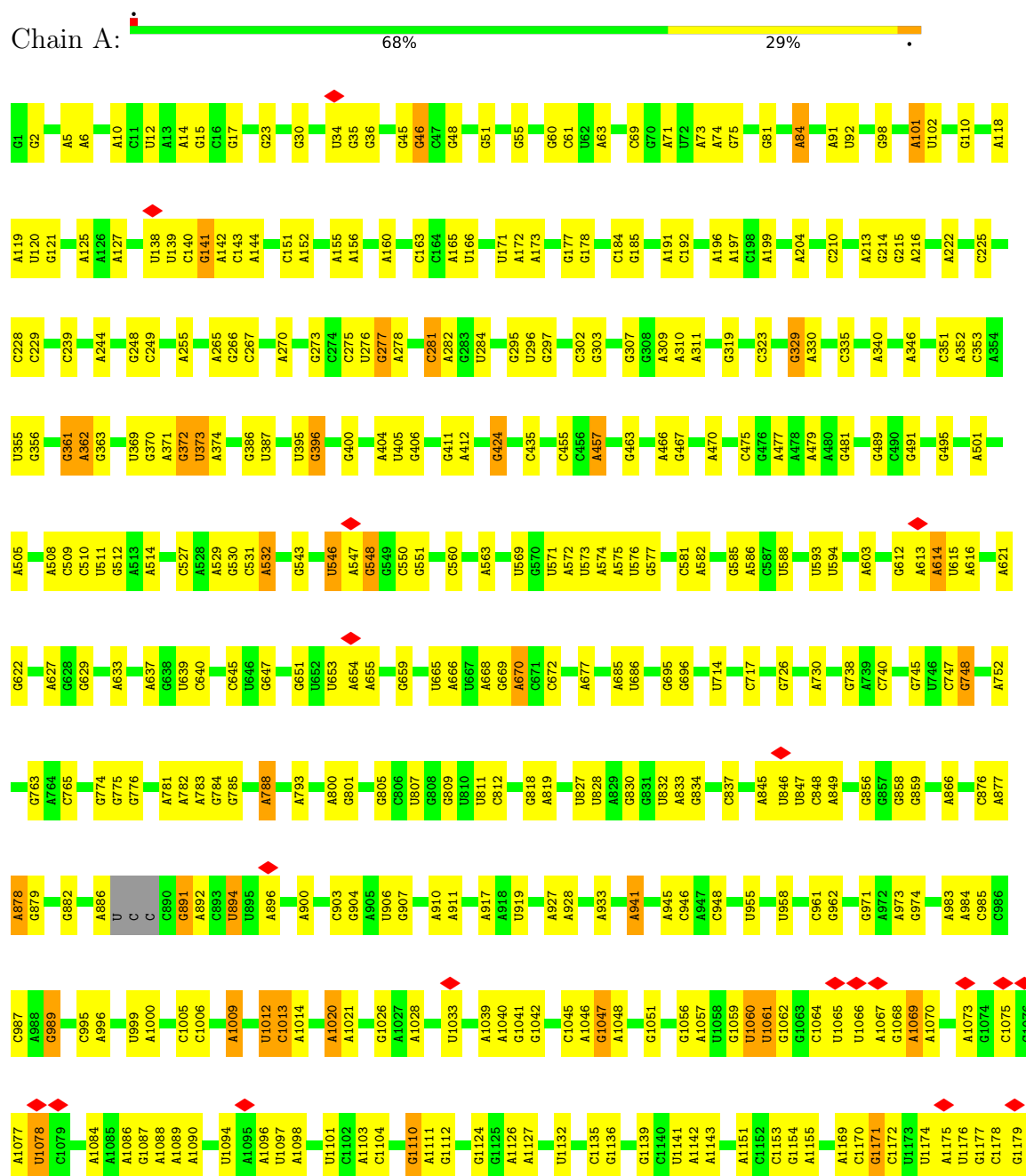
Chain 6:  82% 89% 9%



- Molecule 6: 50S ribosomal protein L31



• Molecule 7: 23S ribosomal RNA

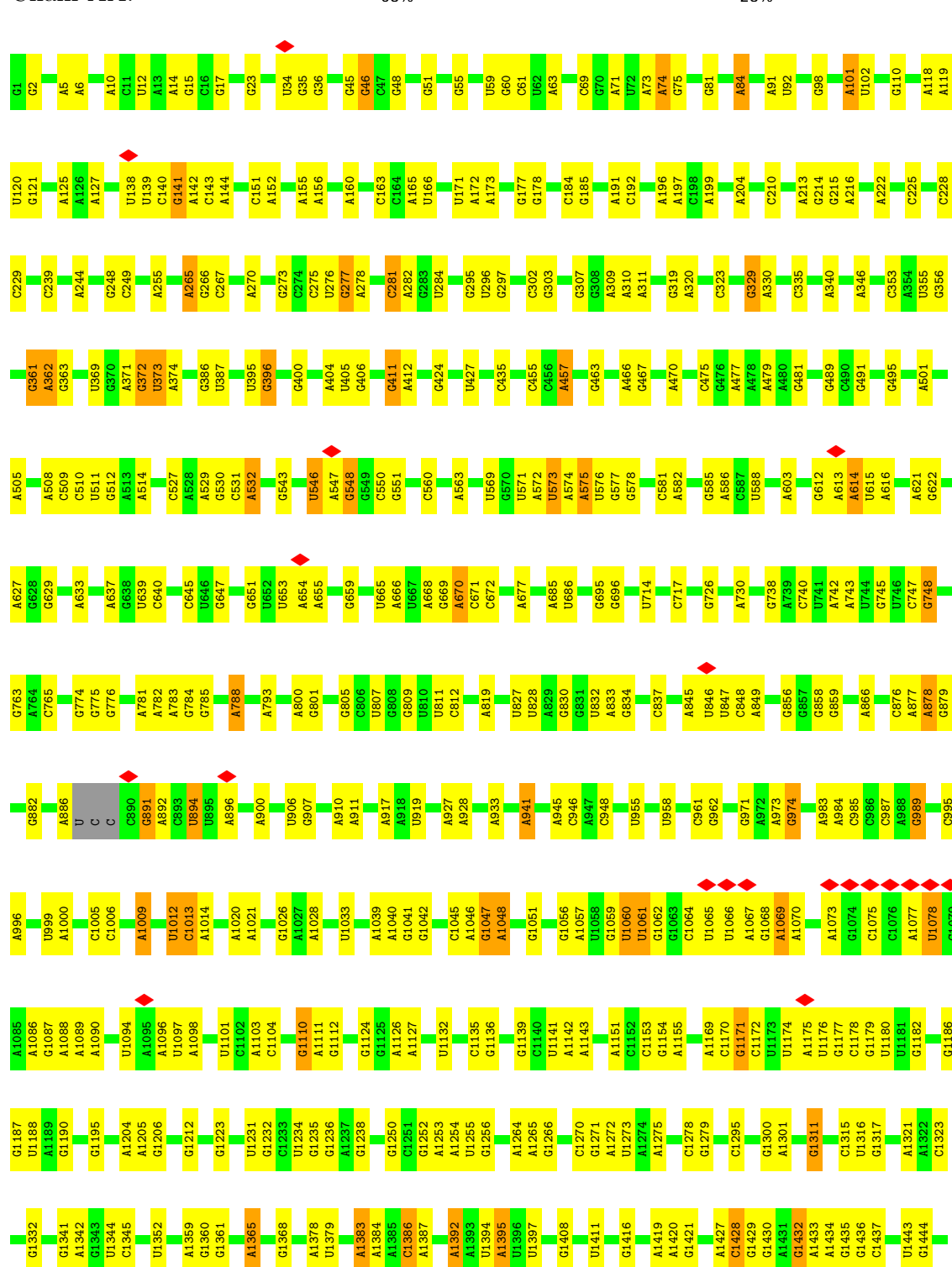


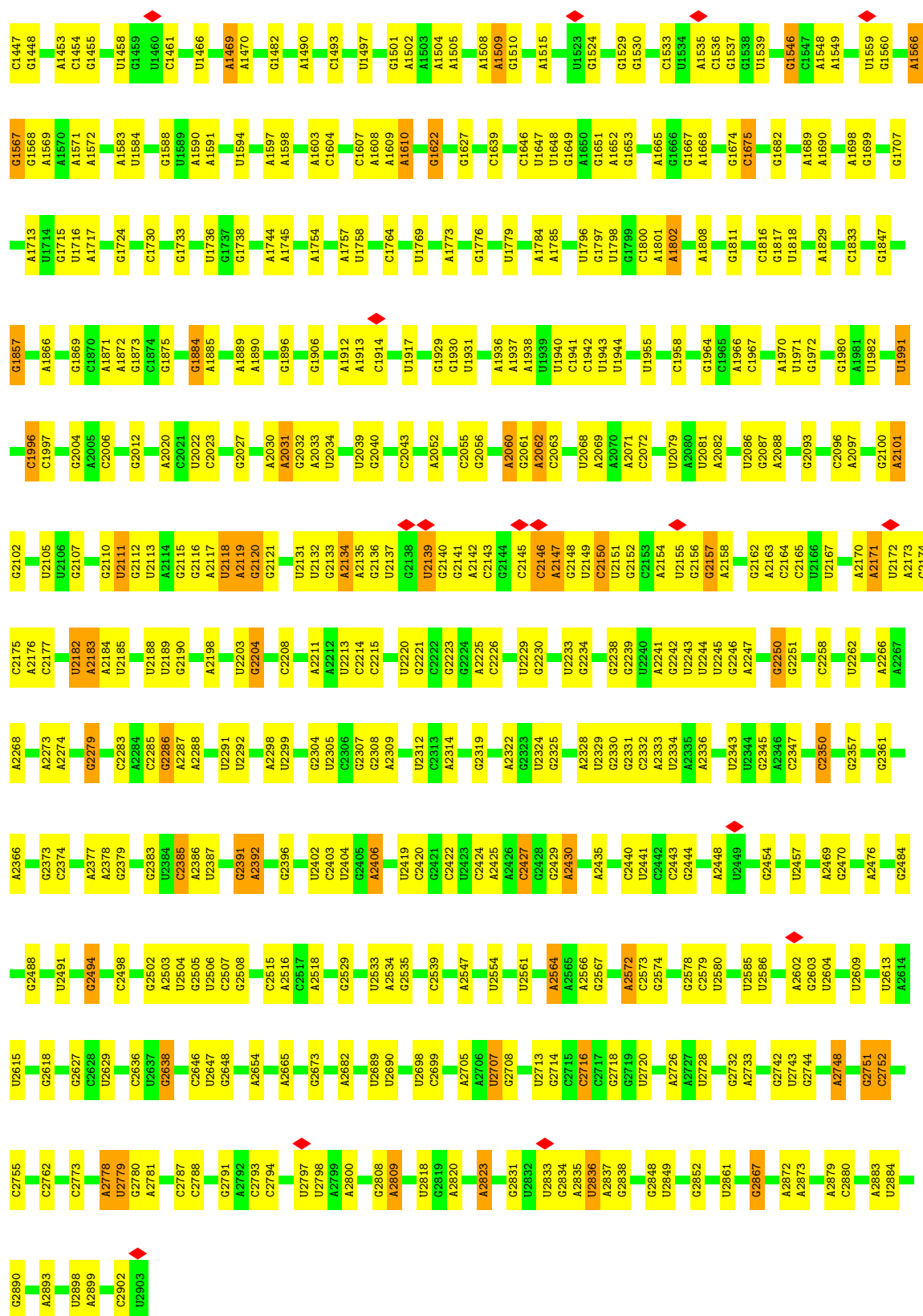
C2762	U2609	G2470	A2366	U2262	A2173	G2100	G1857	G1707	A1566	U1443	C1315	U1180
C2773	U2613	A2476	G2373	A2266	C2174	A2101	A1866	A1713	G1567	G1444	U1316	U1181
A2778	A2614	G2494	C2374	A2267	A2176	G2102	G1869	U1714	G1568	C1447	G1317	G1182
U2779	U2615	G2488	A2377	A2268	C2177	U2106	C1870	G1715	A1570	G1448	A1321	G1186
G2780	G2618	U2491	A2273	C2179	U2180	G2107	A1872	U1716	A1571	A1453	A1322	G1187
C2787	U2629	G2494	G2279	U2181	U2182	G2110	G1874	A1717	A1572	G1455	C1323	U1188
C2788	G2383	C2494	G2280	U2183	U2183	G2111	G1875	G1724	A1583	G1455	G1341	A1189
G2791	U2636	C2498	G2282	A2184	U2184	G2112	G1884	U1729	U1584	U1458	C1345	G1195
A2792	C2385	C2498	G2283	A2184	U2185	G2113	A1885	C1730	G1588	G1459	U1352	A1204
C2793	A2386	G2502	A2284	U2185	U2185	G2115	A1590	G1733	U1589	U1460	A1205	A1206
C2794	U2387	A2503	G2285	U2188	U2188	G2116	A1889	U1736	A1591	U1466	A1369	G1206
G2795	G2391	U2504	G2286	U2189	U2189	G2117	A1890	U1737	U1594	U1469	G1360	G1361
U2797	A2392	U2506	A2288	G2190	G2190	G2118	G1896	G1738	U1594	A1469	G1361	A1213
U2798	G2396	C2507	U2281	A2198	G2120	G2119	G1906	G1738	A1597	A1470	A1365	A1214
A2799	U2292	G2508	U2292	U2203	G2121	G2121	G1906	A1744	A1598	G1482	G1368	G1223
A2800	U2402	U2514	A2298	G2204	U2131	U2131	G1906	A1745	A1598	G1482	G1368	G1223
G2808	U2403	A2515	U2299	C2204	U2132	U2132	A1912	A1757	A1603	A1490	A1378	U1231
A2809	U2404	A2516	U2299	C2204	G2032	G2032	A1913	U1758	C1604	A1490	U1379	U1232
U2818	A2406	C2517	G2304	C2208	U2034	U2034	C1914	C1764	A1608	C1493	A1383	C1233
A2819	A2411	G2518	C2305	A2211	U2039	U2039	U1917	C1764	A1609	U1497	A1384	U1234
A2820	A2411	G2518	C2306	A2212	G2040	G2040	U1917	U1769	A1610	U1497	A1385	G1235
U2823	U2419	G2529	G2307	U2213	C2043	C2043	G1929	U1769	A1610	G1501	A1386	G1236
G2831	G2422	U2534	G2308	C2214	C2043	C2043	U1931	A1773	G1622	A1502	A1387	A1237
U2832	C2423	A2535	G2309	C2215	A2052	U2139	U1931	A1773	G1622	A1503	G1238	G1238
U2833	U2424	A2536	G2310	U2220	A2052	G2140	U1931	G1776	A1504	A1505	A1392	G1250
G2834	A2425	G2537	G2311	G2221	C2055	G2141	A1936	U1779	A1505	A1506	A1393	C1251
A2835	A2426	U2547	A2322	G2222	G2056	A2142	A1937	U1784	A1508	A1509	A1252	G1252
U2836	C2427	U2548	G2323	G2223	A2060	C2145	A1938	A1785	A1509	A1510	A1395	A1253
A2837	G2428	U2554	G2324	A2225	C2061	C2146	U1940	U1796	A1515	G1510	A1254	A1254
G2838	G2429	U2555	G2325	C2226	A2062	A2147	C1942	G1797	A1515	G1510	U1397	U1255
U2848	A2430	U2561	G2326	U2229	C2063	A2148	U1944	U1798	A1515	G1510	G1408	G1256
U2849	A2435	U2562	A2328	G2230	U2068	G2149	U1944	U1799	A1515	G1510	U1411	A1264
A2850	G2440	U2563	U2329	U2233	A2069	C2150	U1955	U1799	A1515	G1510	A1265	A1265
U2861	U2441	A2564	G2330	G2234	A2071	G2151	C1958	A1802	A1665	G1529	G1416	G1266
G2867	C2442	A2565	G2331	G2238	A2072	G2152	G1964	A1808	G1666	G1533	A1419	C1270
A2868	U2443	A2566	G2332	G2239	A2072	G2153	C1965	A1808	A1667	U1534	A1420	G1271
G2872	G2444	A2567	U2334	A2241	U2081	G2154	C1966	G1811	A1668	A1535	A1421	U1272
A2873	A2448	A2572	U2343	G2242	A2082	G2155	A1966	G1816	G1674	C1536	G1429	C1278
U2879	G2454	C2573	U2344	U2243	A2082	G2156	C1967	G1817	G1675	G1537	G1430	G1279
C2880	U2457	U2585	U2345	U2244	A2088	A2158	U1970	U1818	G1682	U1539	A1431	C1295
U2883	U2458	U2586	G2346	U2245	A2088	G2162	U1971	U1818	A1689	G1546	A1433	G1300
U2884	A2459	U2586	C2347	G2246	A2093	C2164	G1972	U1818	A1690	G1547	A1434	A1301
G2890	U2460	A2602	C2350	G2250	G2093	G2165	G1980	A1829	A1690	A1548	G1435	G1300
U2891	G2357	G2603	G2357	G2251	C2096	U2166	A1981	C1833	A1699	A1549	G1436	A1301
C2755	G2361	U2604	G2361	C2258	A2097	U2167	U1982	G1847	G1699	U1559	G1437	G1311
						A2170	A1987			G1560		
						U2172						



• Molecule 7: 23S ribosomal RNA

Chain AA:

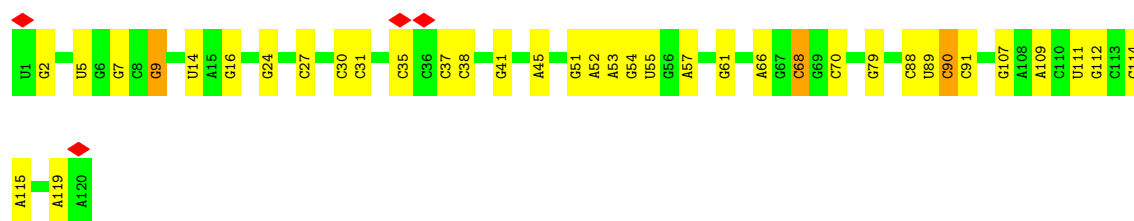




• Molecule 8: 5S ribosomal RNA

Chain B:





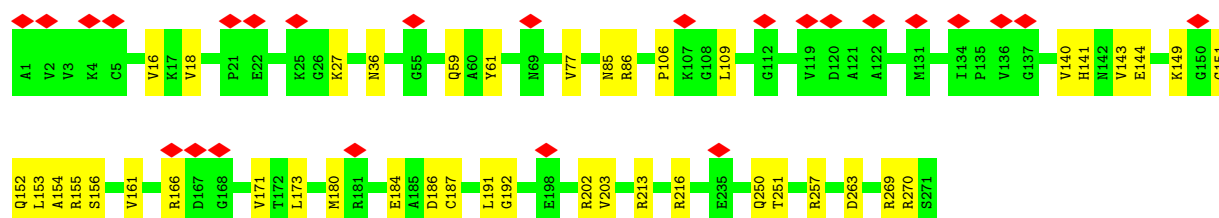
- Molecule 8: 5S ribosomal RNA

Chain BB: 70% 28%



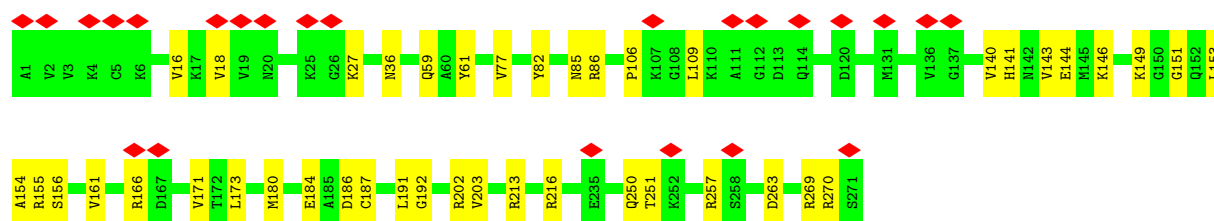
- Molecule 9: 50S ribosomal protein L2

Chain C: 9% 85% 15%



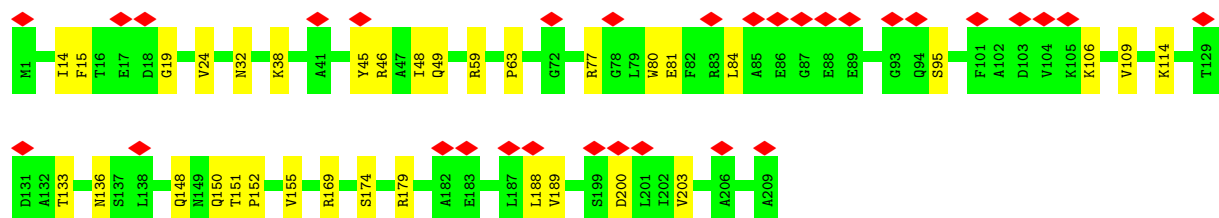
- Molecule 9: 50S ribosomal protein L2

Chain CC: 9% 84% 16%



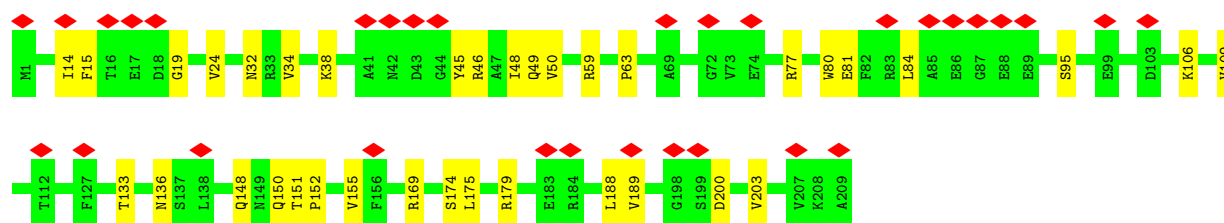
- Molecule 10: 50S ribosomal protein L3

Chain D: 15% 84% 16%



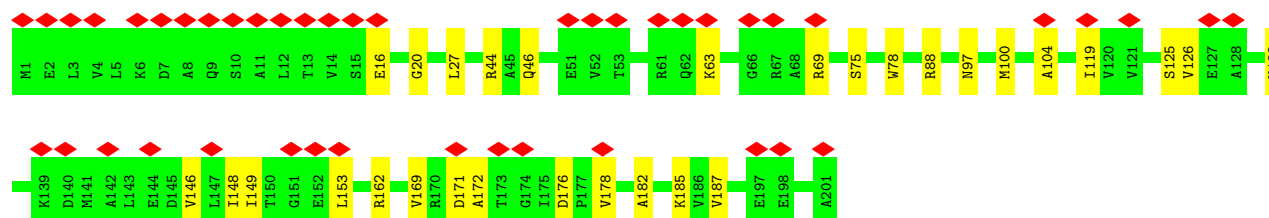
- Molecule 10: 50S ribosomal protein L3

Chain DD: 



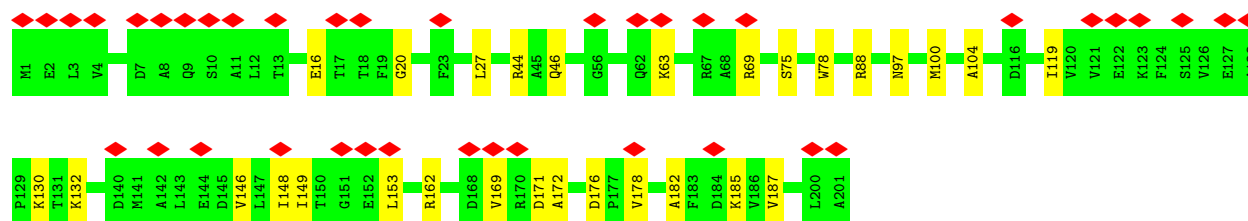
- Molecule 11: 50S ribosomal protein L4

Chain E: 



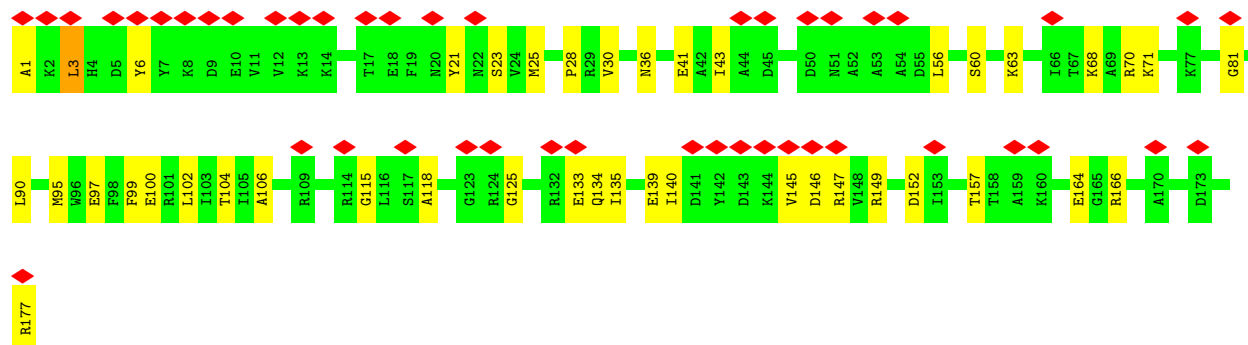
- Molecule 11: 50S ribosomal protein L4

Chain EE: 



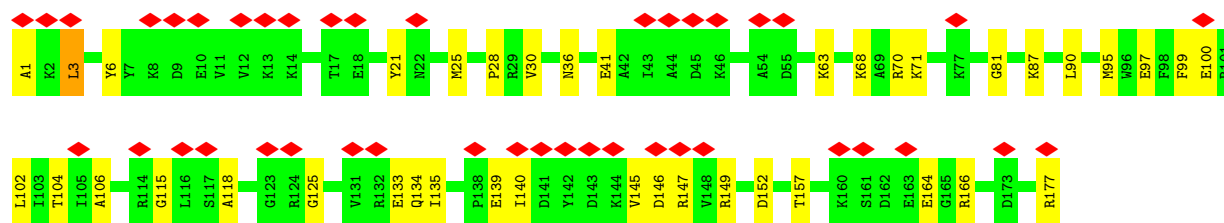
- Molecule 12: 50S ribosomal protein L5

Chain F: 

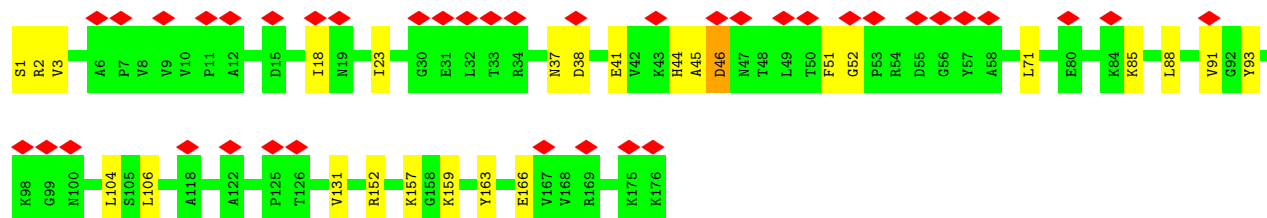
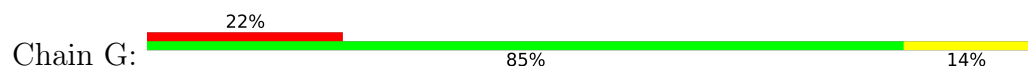


- Molecule 12: 50S ribosomal protein L5

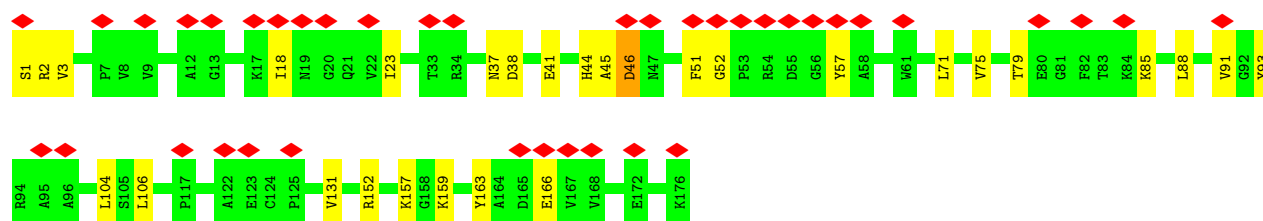
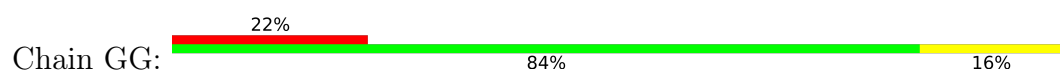
Chain FF: 



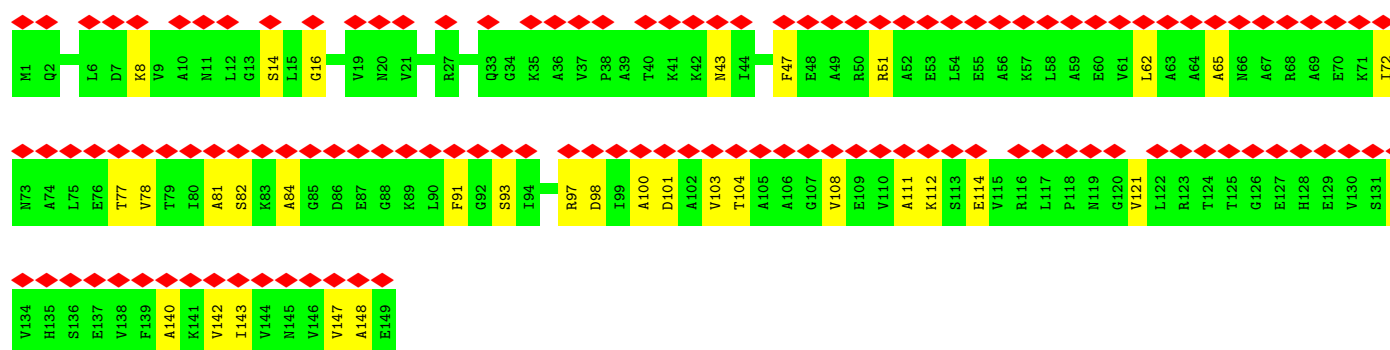
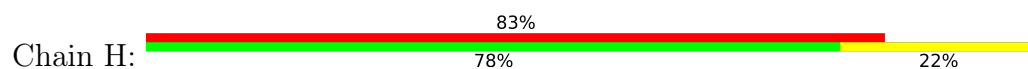
• Molecule 13: 50S ribosomal protein L6



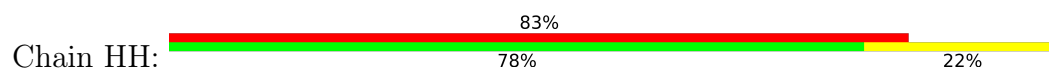
• Molecule 13: 50S ribosomal protein L6

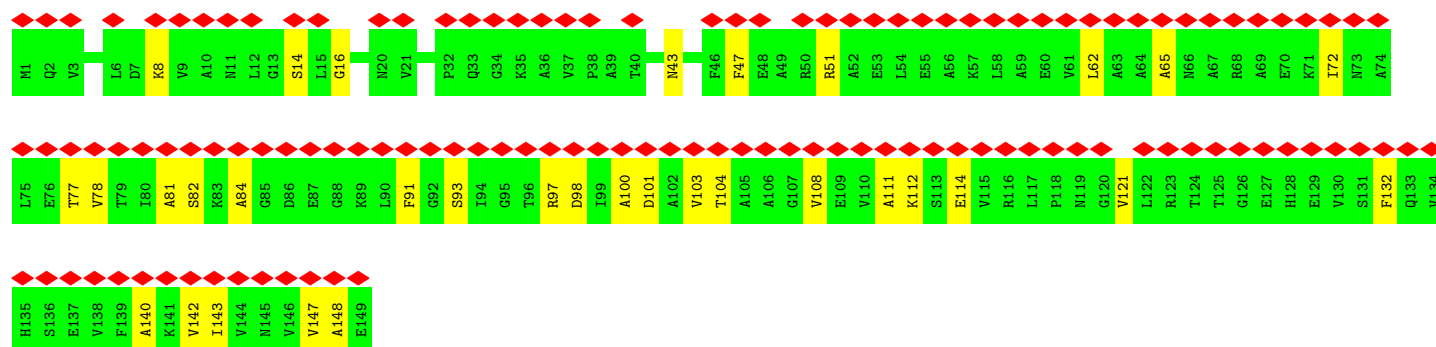


• Molecule 14: 50S ribosomal protein L9

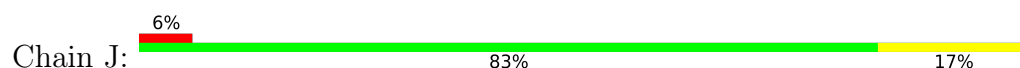


• Molecule 14: 50S ribosomal protein L9

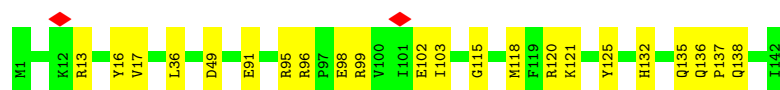
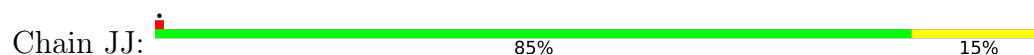




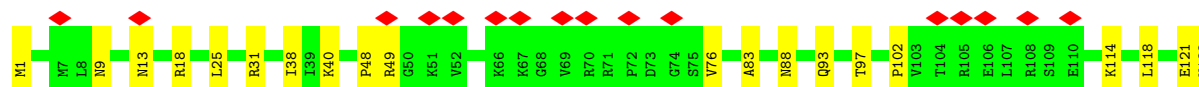
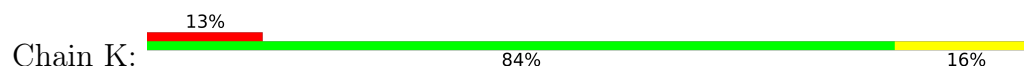
• Molecule 15: 50S ribosomal protein L13



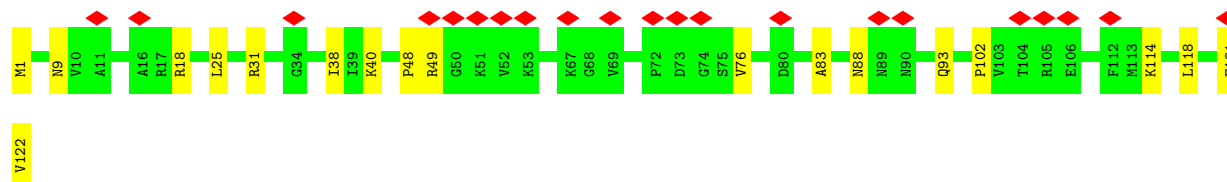
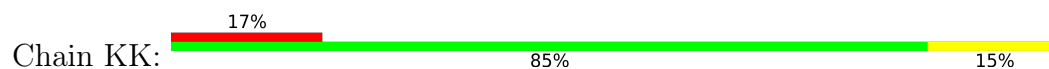
• Molecule 15: 50S ribosomal protein L13



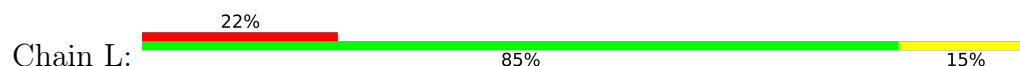
• Molecule 16: 50S ribosomal protein L14

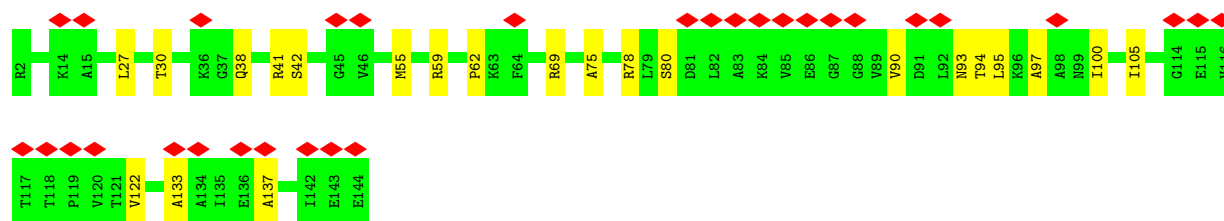


• Molecule 16: 50S ribosomal protein L14

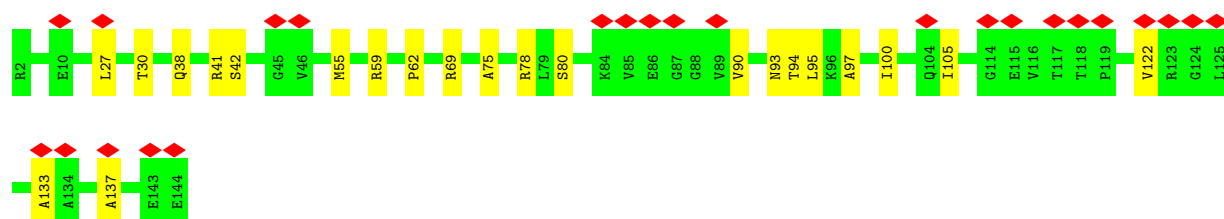
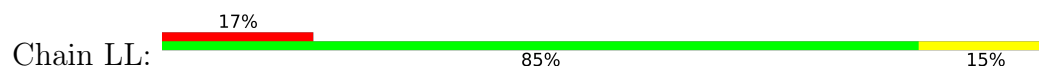


• Molecule 17: 50S ribosomal protein L15

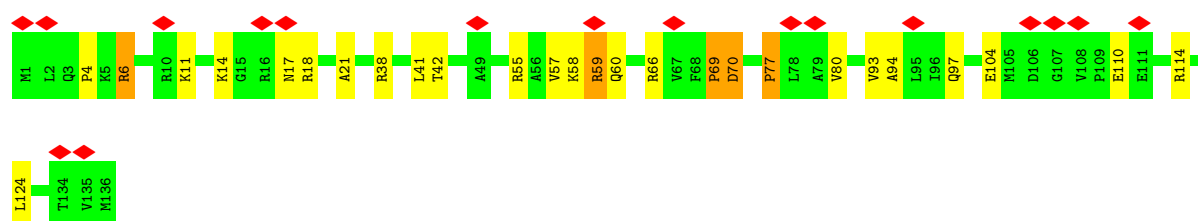
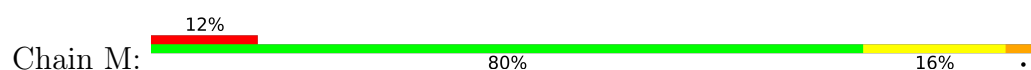




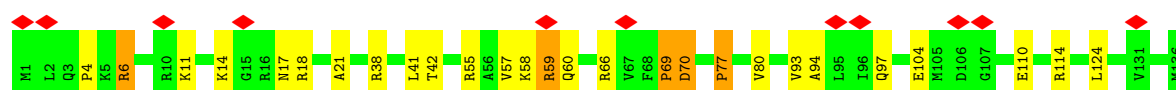
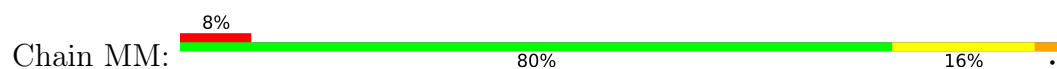
- Molecule 17: 50S ribosomal protein L15



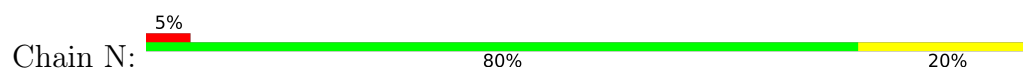
- Molecule 18: 50S ribosomal protein L16



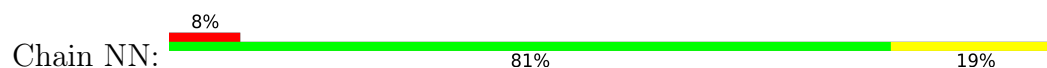
- Molecule 18: 50S ribosomal protein L16

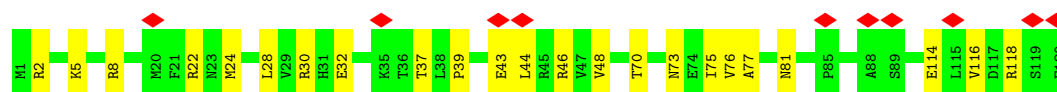


- Molecule 19: 50S ribosomal protein L17

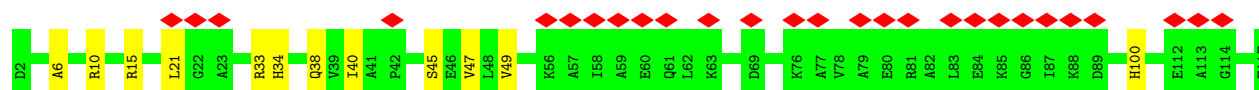
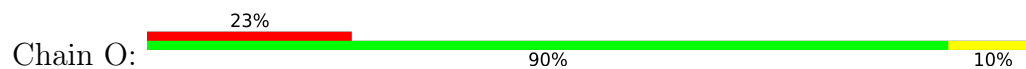


- Molecule 19: 50S ribosomal protein L17

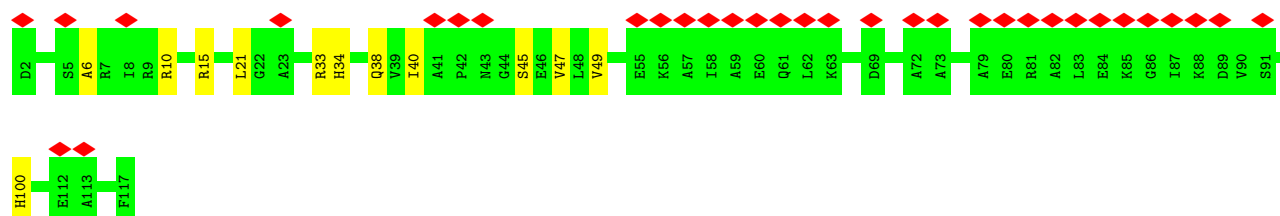




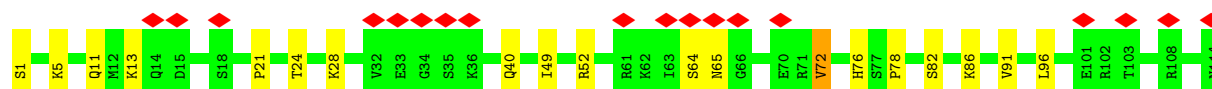
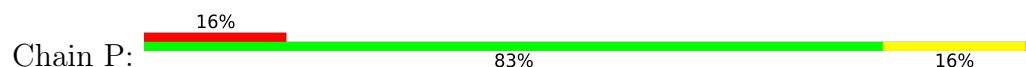
- Molecule 20: 50S ribosomal protein L18



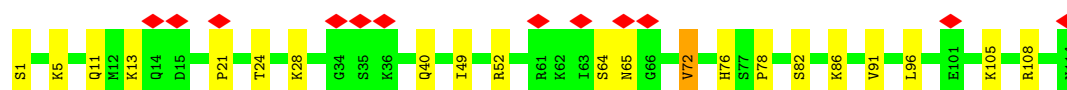
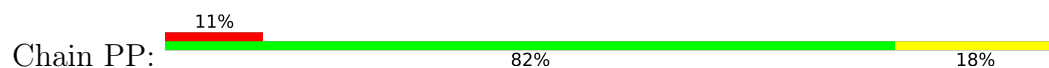
- Molecule 20: 50S ribosomal protein L18



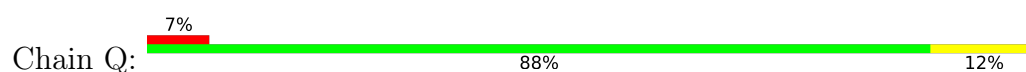
- Molecule 21: 50S ribosomal protein L19



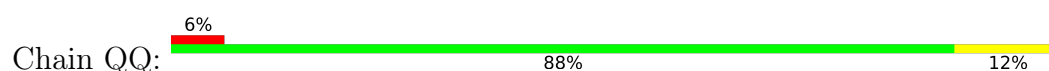
- Molecule 21: 50S ribosomal protein L19



- Molecule 22: 50S ribosomal protein L20

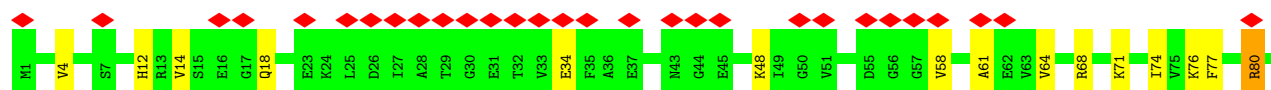
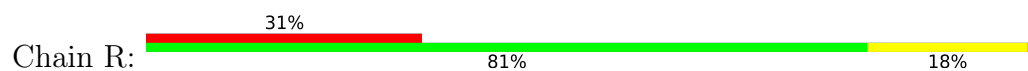


- Molecule 22: 50S ribosomal protein L20

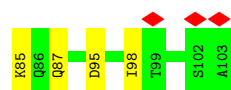
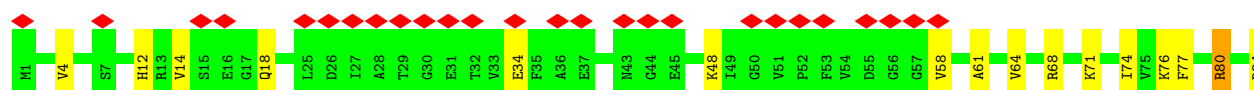
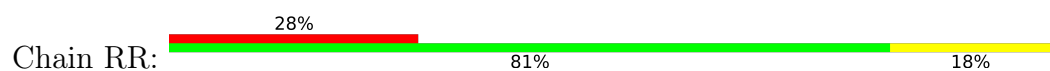




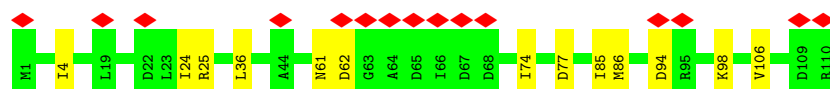
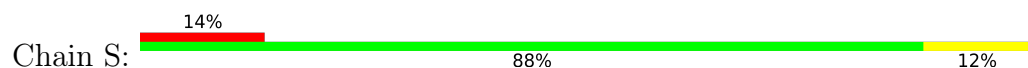
- Molecule 23: 50S ribosomal protein L21



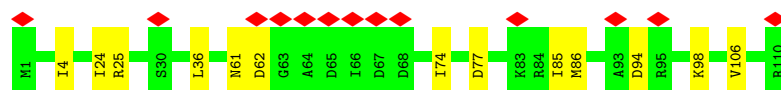
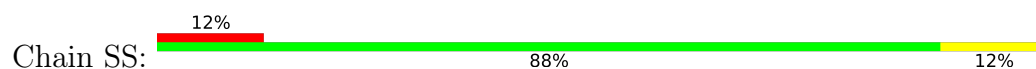
- Molecule 23: 50S ribosomal protein L21



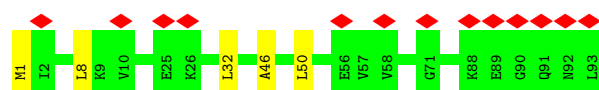
- Molecule 24: 50S ribosomal protein L22



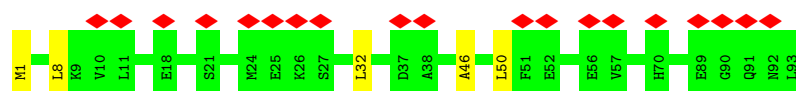
- Molecule 24: 50S ribosomal protein L22



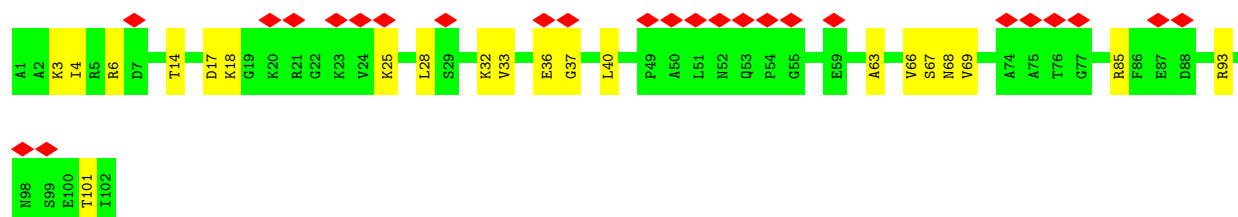
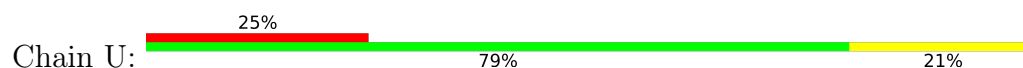
- Molecule 25: 50S ribosomal protein L23



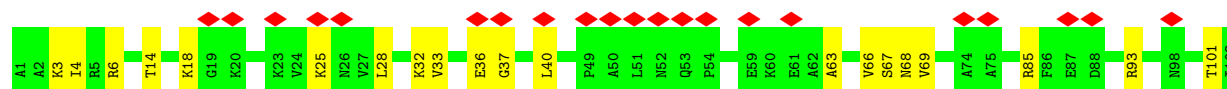
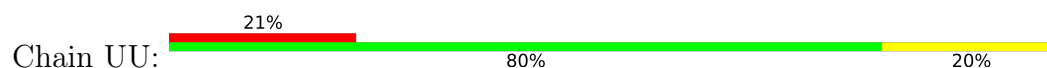
- Molecule 25: 50S ribosomal protein L23



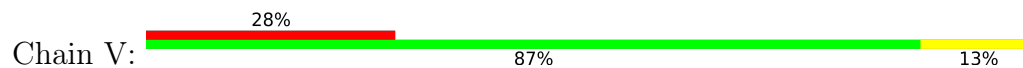
- Molecule 26: 50S ribosomal protein L24



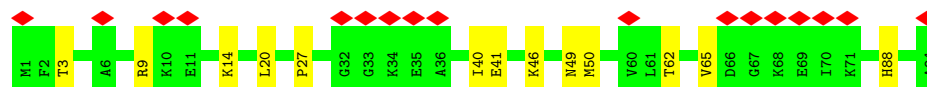
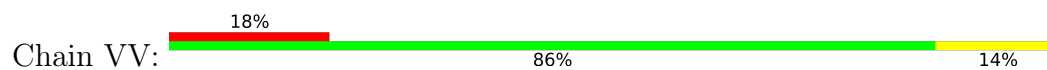
- Molecule 26: 50S ribosomal protein L24



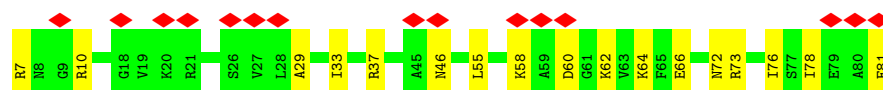
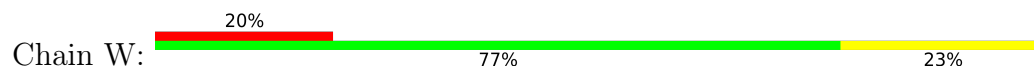
- Molecule 27: 50S ribosomal protein L25



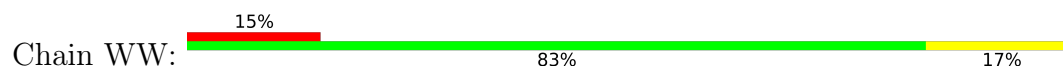
- Molecule 27: 50S ribosomal protein L25

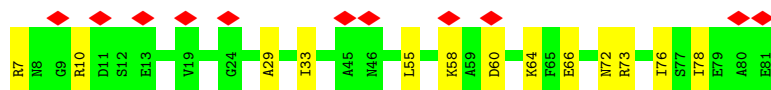


- Molecule 28: 50S ribosomal protein L27

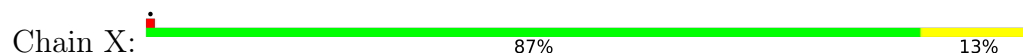


- Molecule 28: 50S ribosomal protein L27

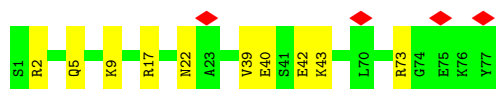




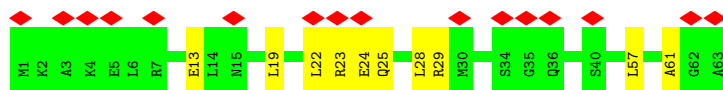
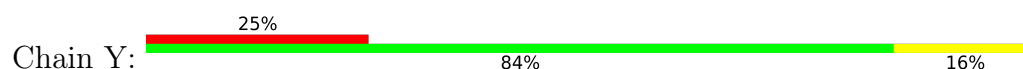
- Molecule 29: 50S ribosomal protein L28



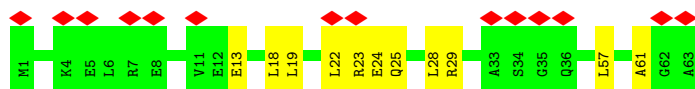
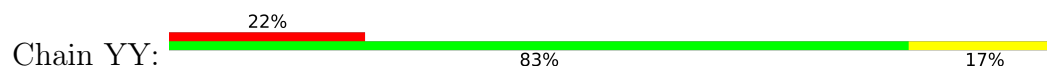
- Molecule 29: 50S ribosomal protein L28



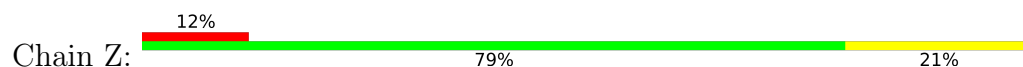
- Molecule 30: 50S ribosomal protein L29



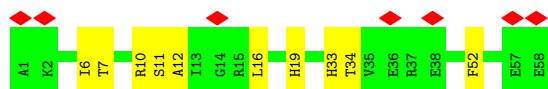
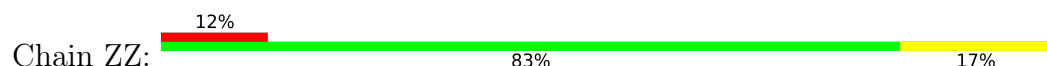
- Molecule 30: 50S ribosomal protein L29



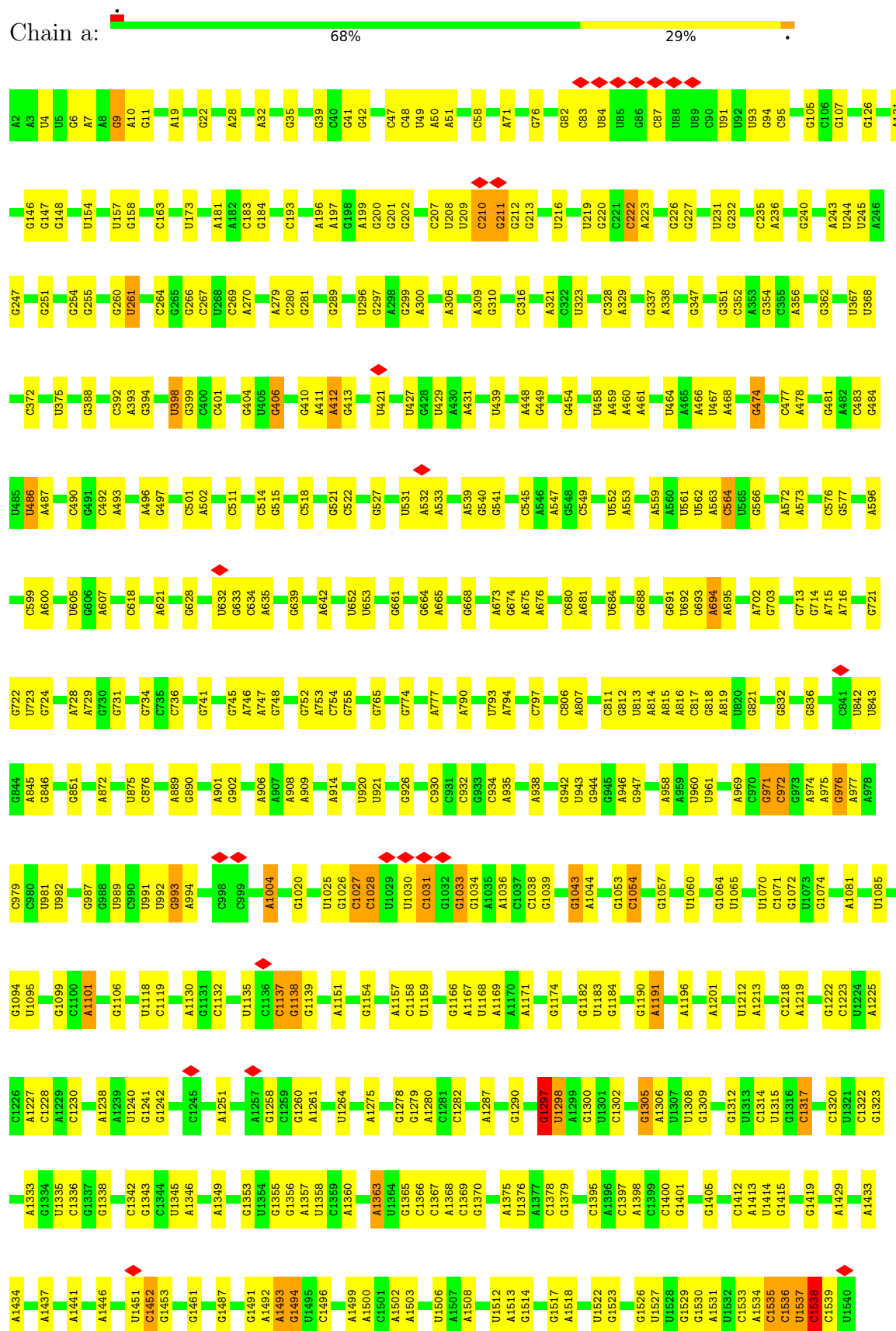
- Molecule 31: 50S ribosomal protein L30



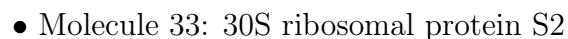
- Molecule 31: 50S ribosomal protein L30

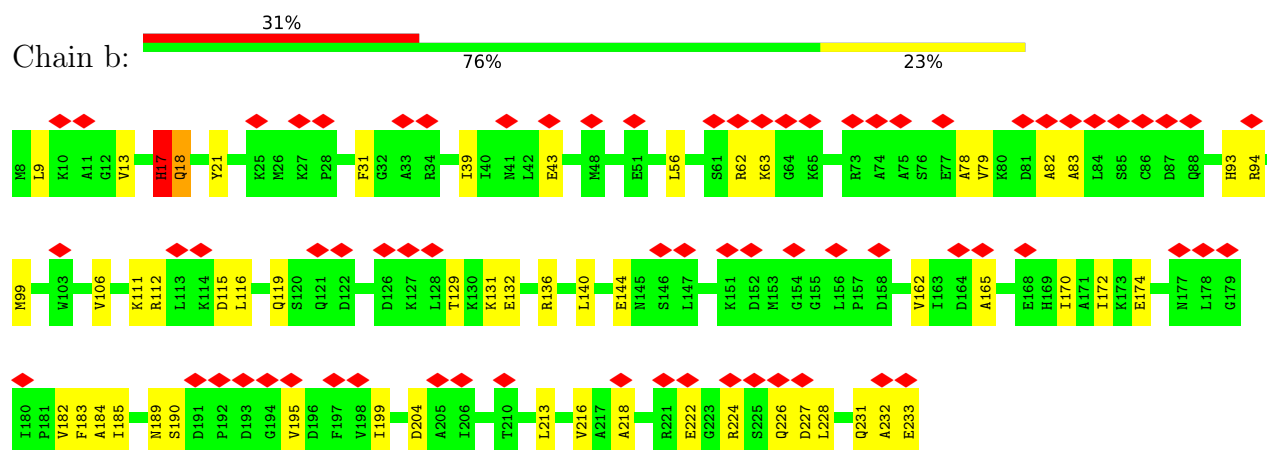


- Molecule 32: 16S ribosomal RNA

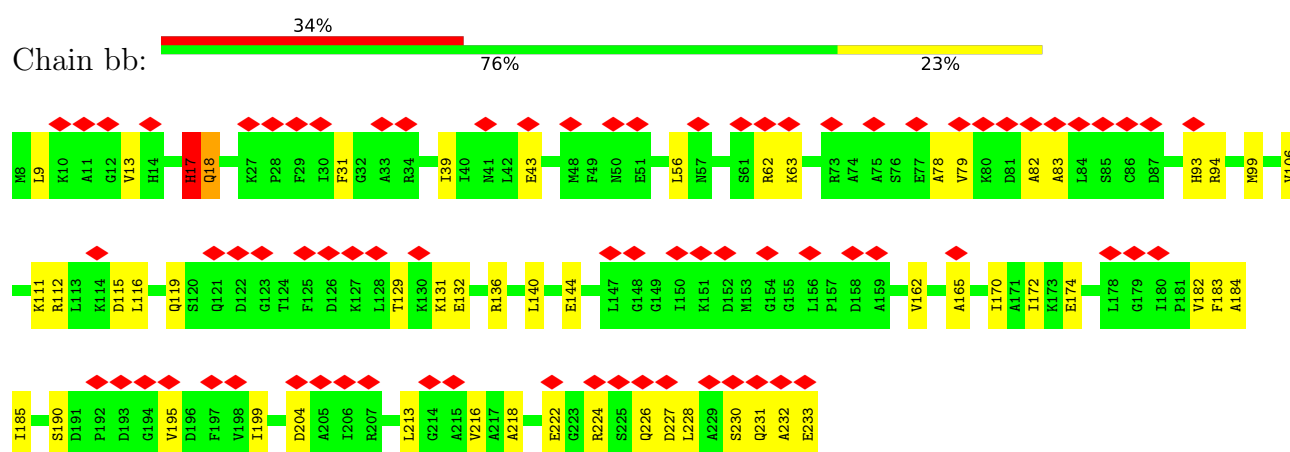


• Molecule 32: 16S ribosomal RNA

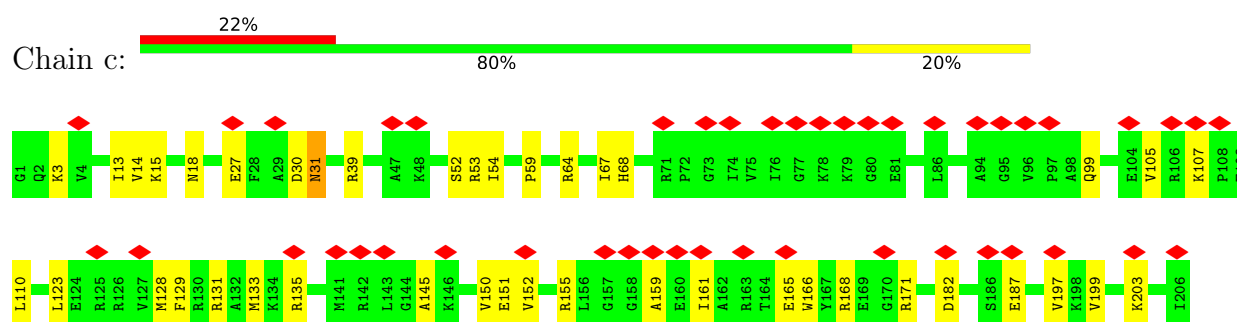




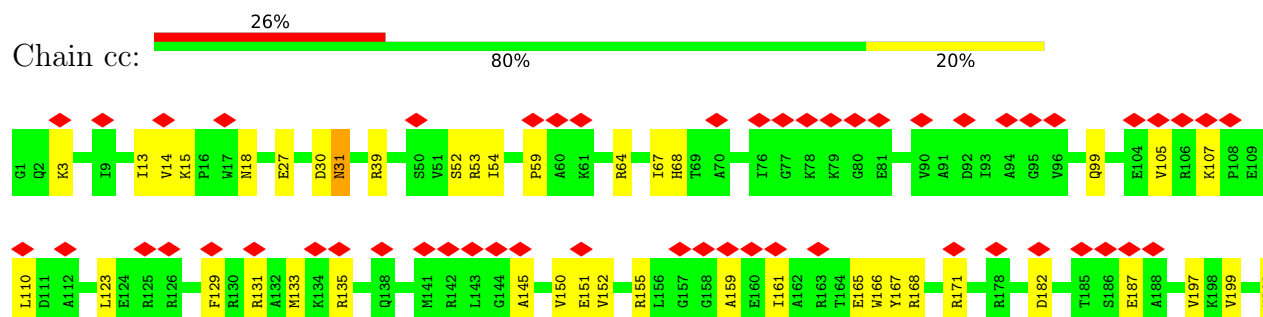
• Molecule 33: 30S ribosomal protein S2



• Molecule 34: 30S ribosomal protein S3

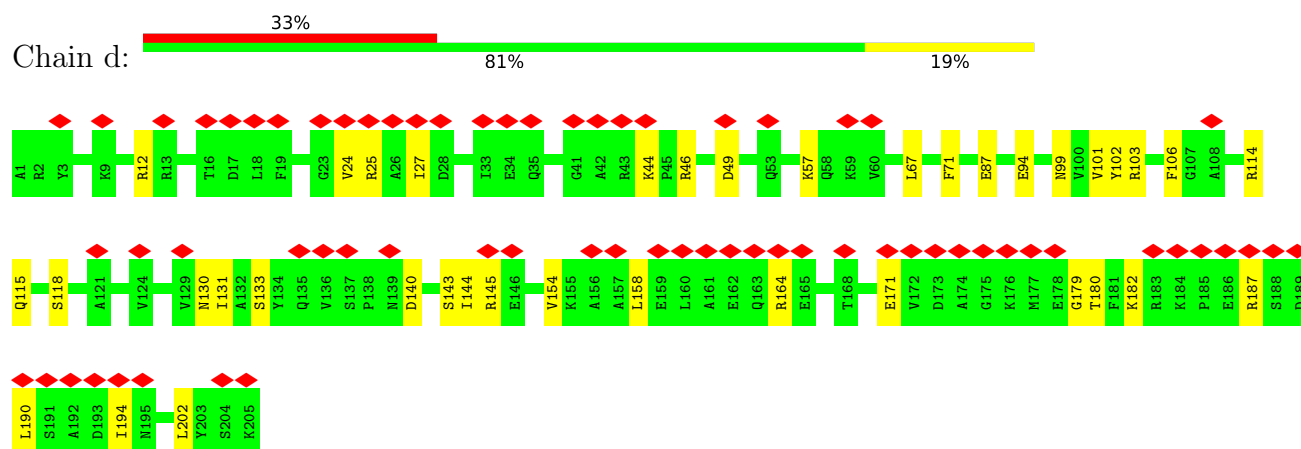


• Molecule 34: 30S ribosomal protein S3

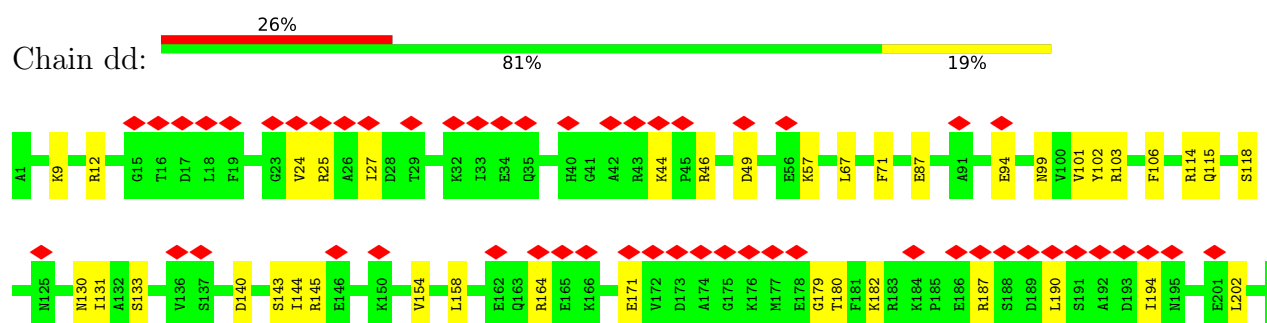




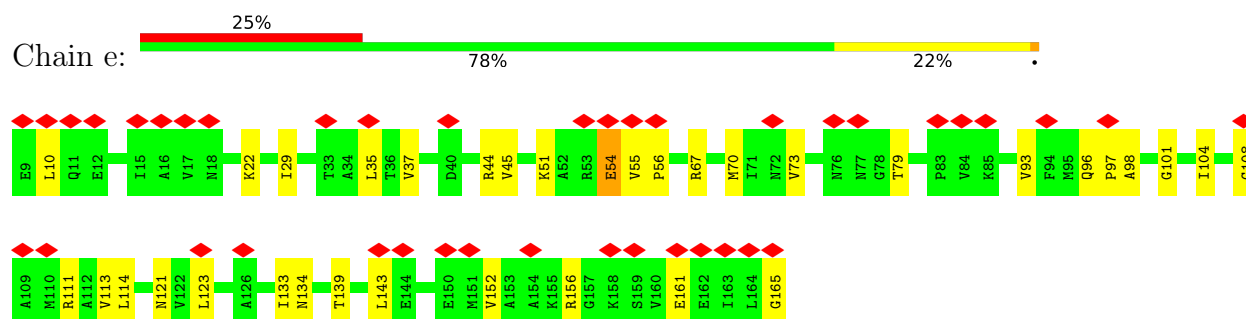
- Molecule 35: 30S ribosomal protein S4



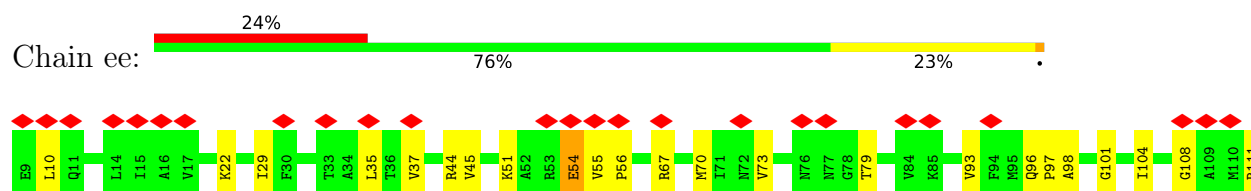
- Molecule 35: 30S ribosomal protein S4

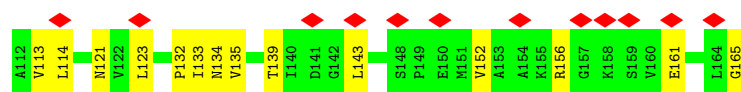


- Molecule 36: 30S ribosomal protein S5

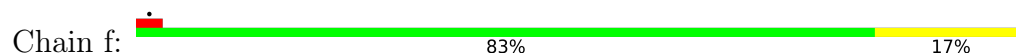


- Molecule 36: 30S ribosomal protein S5

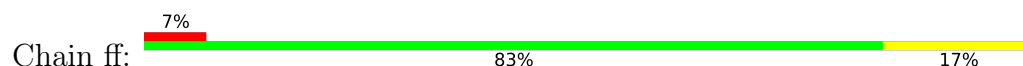




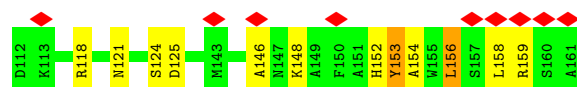
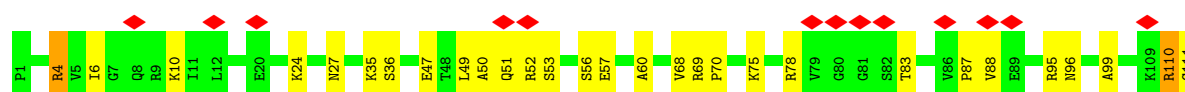
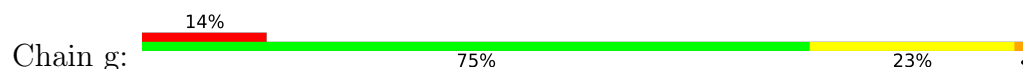
- Molecule 37: 30S ribosomal protein S6



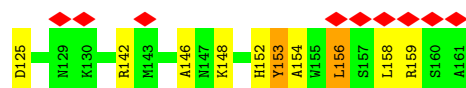
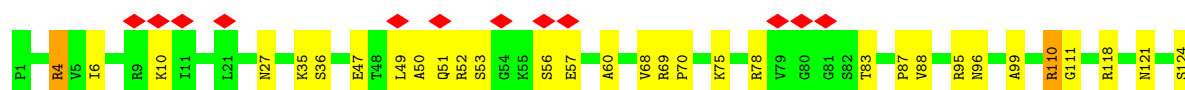
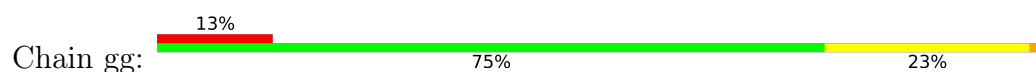
- Molecule 37: 30S ribosomal protein S6



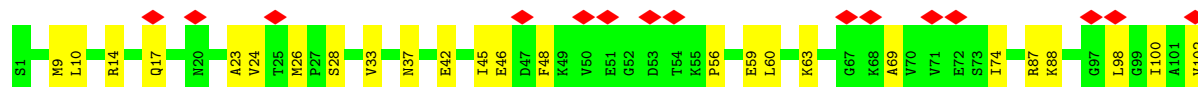
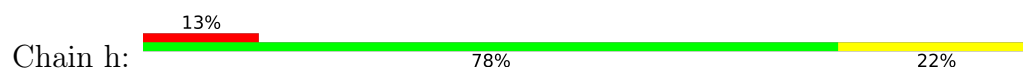
- Molecule 38: 30S ribosomal protein S7

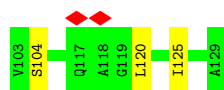


- Molecule 38: 30S ribosomal protein S7

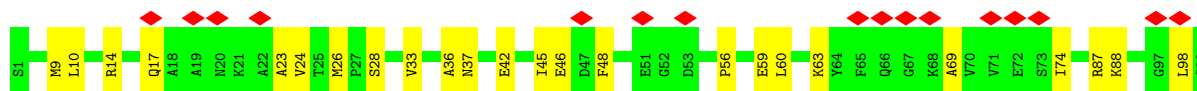
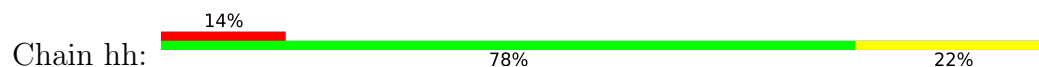


- Molecule 39: 30S ribosomal protein S8

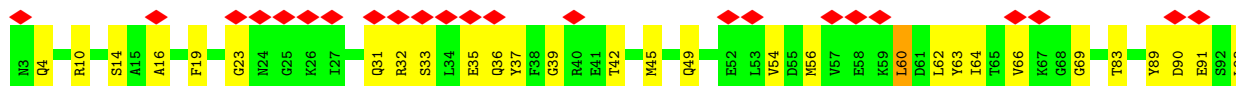




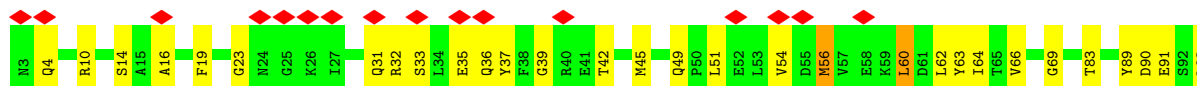
- Molecule 39: 30S ribosomal protein S8



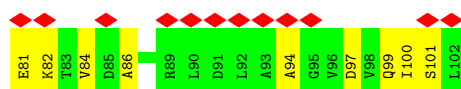
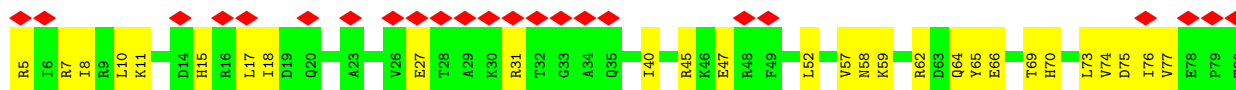
- Molecule 40: 30S ribosomal protein S9



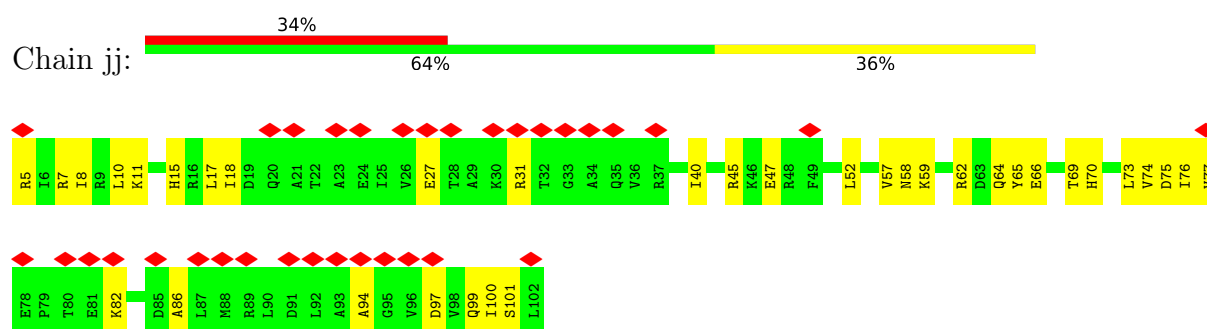
- Molecule 40: 30S ribosomal protein S9



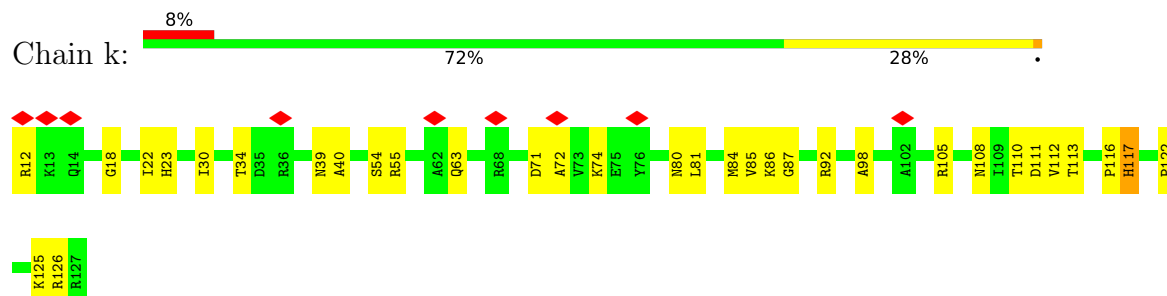
- Molecule 41: 30S ribosomal protein S10



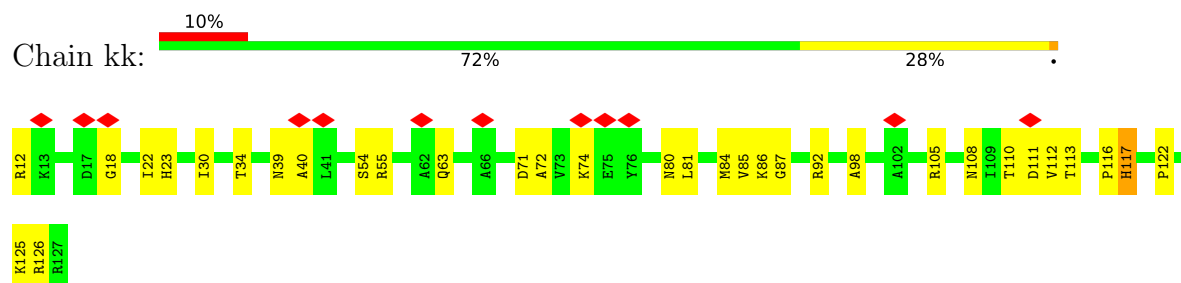
- Molecule 41: 30S ribosomal protein S10



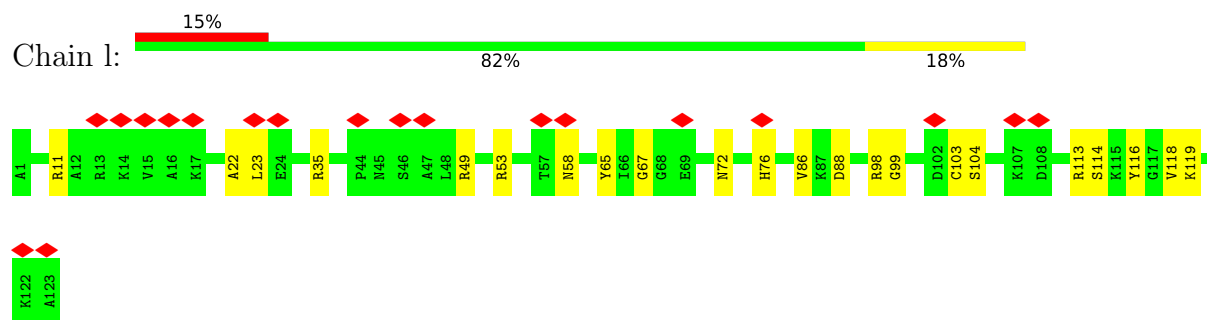
- Molecule 42: 30S ribosomal protein S11



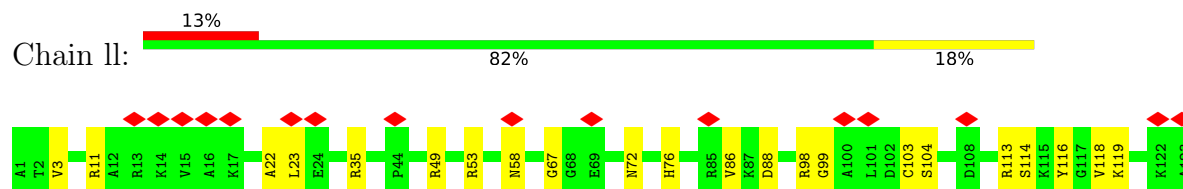
- Molecule 42: 30S ribosomal protein S11



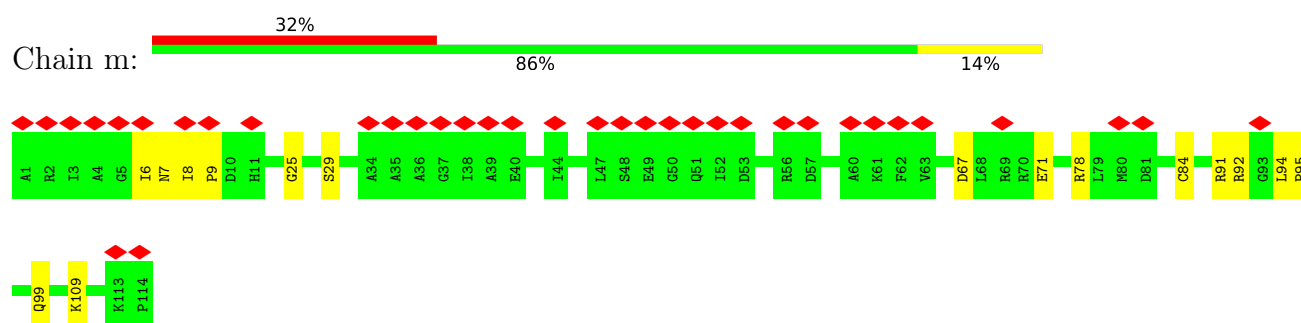
- Molecule 43: 30S ribosomal protein S12



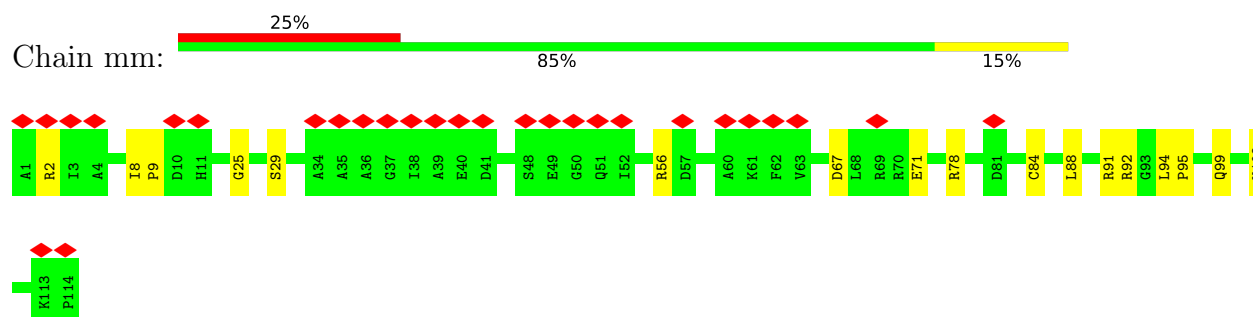
- Molecule 43: 30S ribosomal protein S12



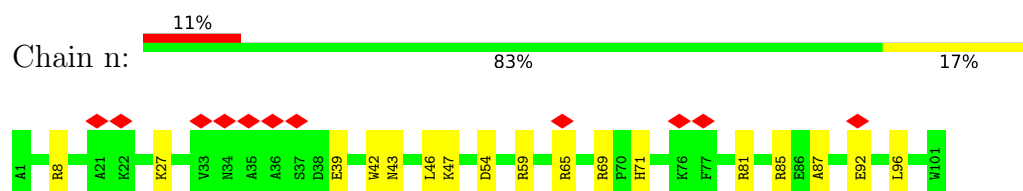
- Molecule 44: 30S ribosomal protein S13



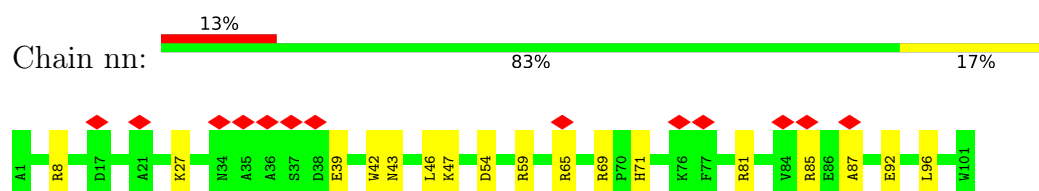
- Molecule 44: 30S ribosomal protein S13



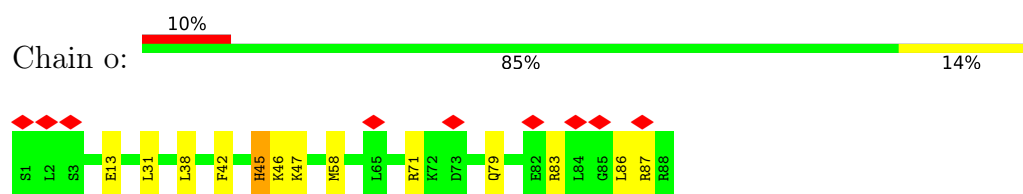
- Molecule 45: 30S ribosomal protein S14



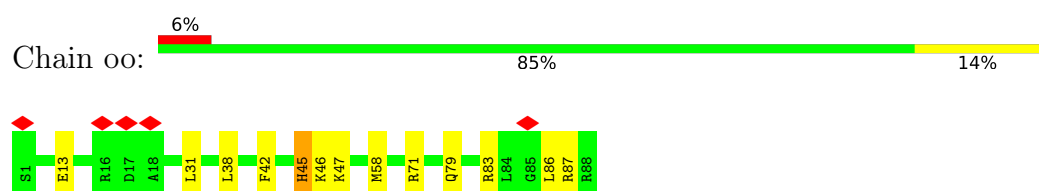
- Molecule 45: 30S ribosomal protein S14



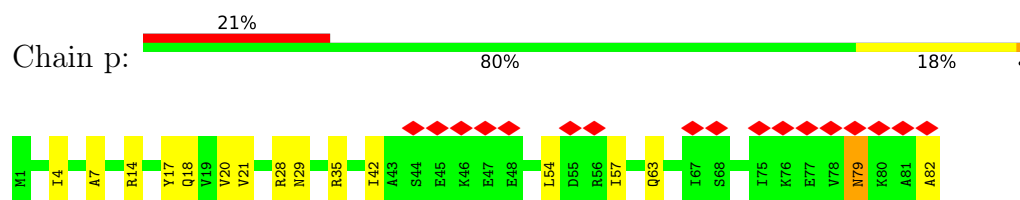
- Molecule 46: 30S ribosomal protein S15



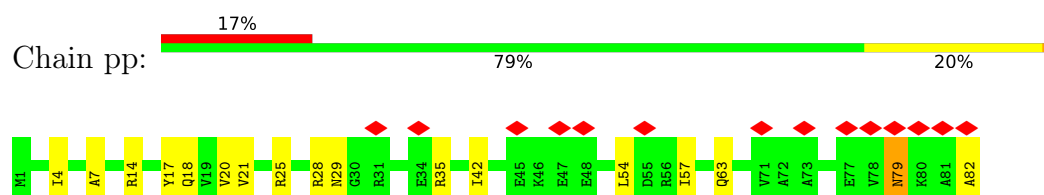
- Molecule 46: 30S ribosomal protein S15



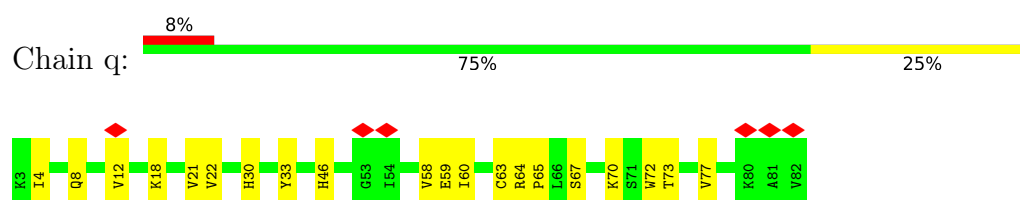
• Molecule 47: 30S ribosomal protein S16



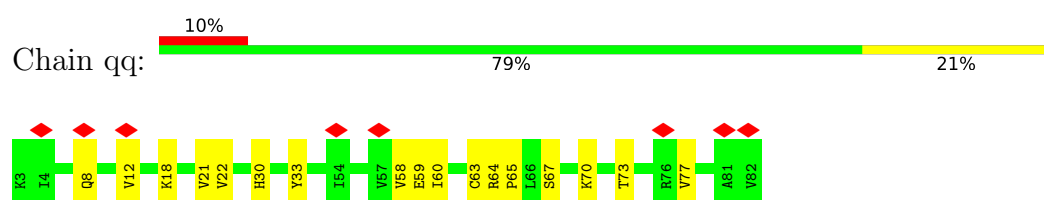
• Molecule 47: 30S ribosomal protein S16



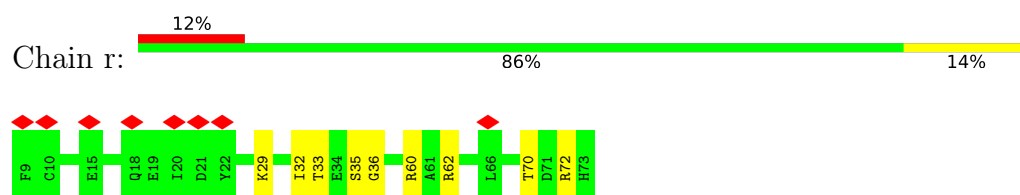
• Molecule 48: 30S ribosomal protein S17



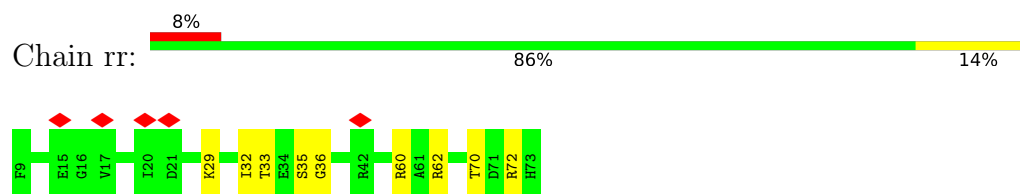
• Molecule 48: 30S ribosomal protein S17



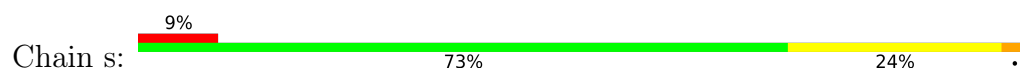
• Molecule 49: 30S ribosomal protein S18

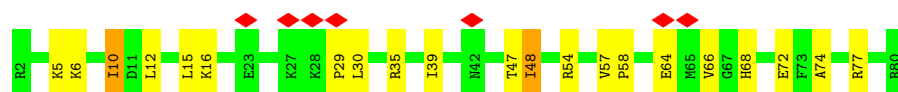


• Molecule 49: 30S ribosomal protein S18

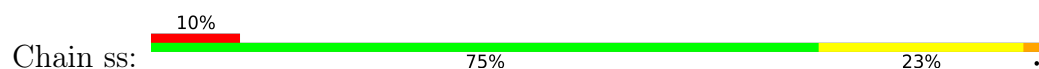


• Molecule 50: 30S ribosomal protein S19

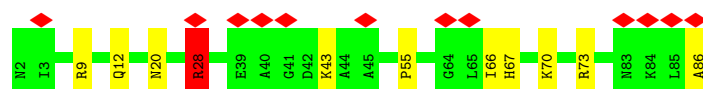
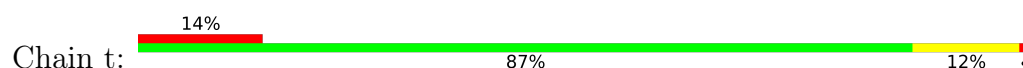




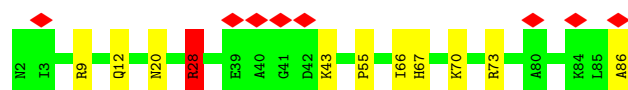
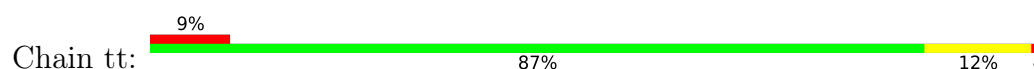
- Molecule 50: 30S ribosomal protein S19



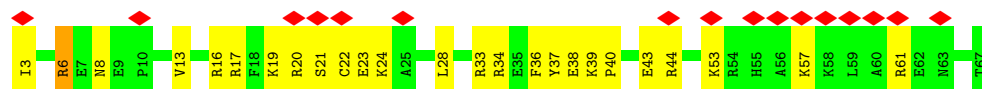
- Molecule 51: 30S ribosomal protein S20



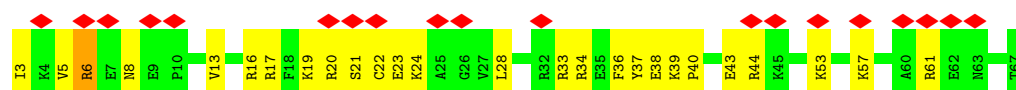
- Molecule 51: 30S ribosomal protein S20



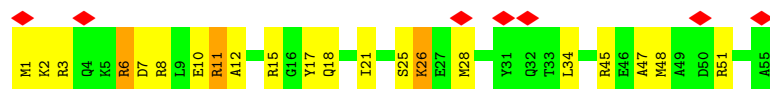
- Molecule 52: 30S ribosomal protein S21



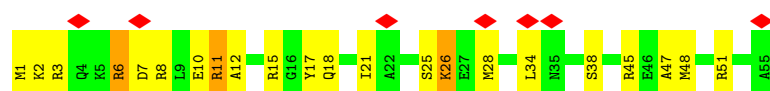
- Molecule 52: 30S ribosomal protein S21



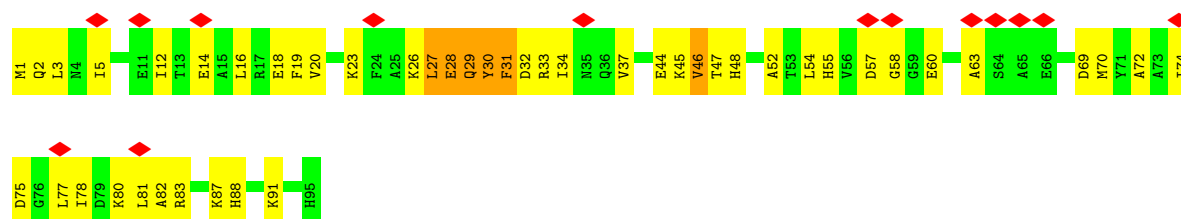
- Molecule 53: Ribosome modulation factor



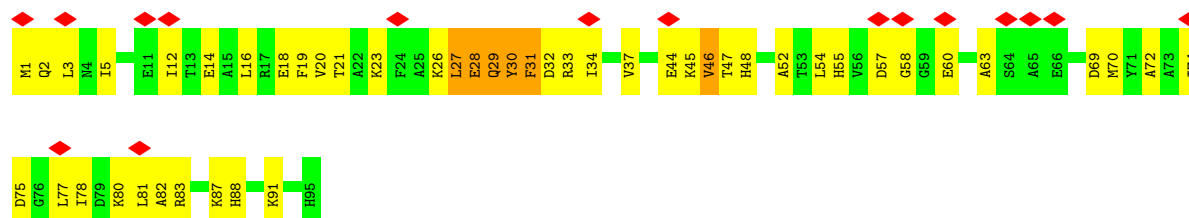
- Molecule 53: Ribosome modulation factor



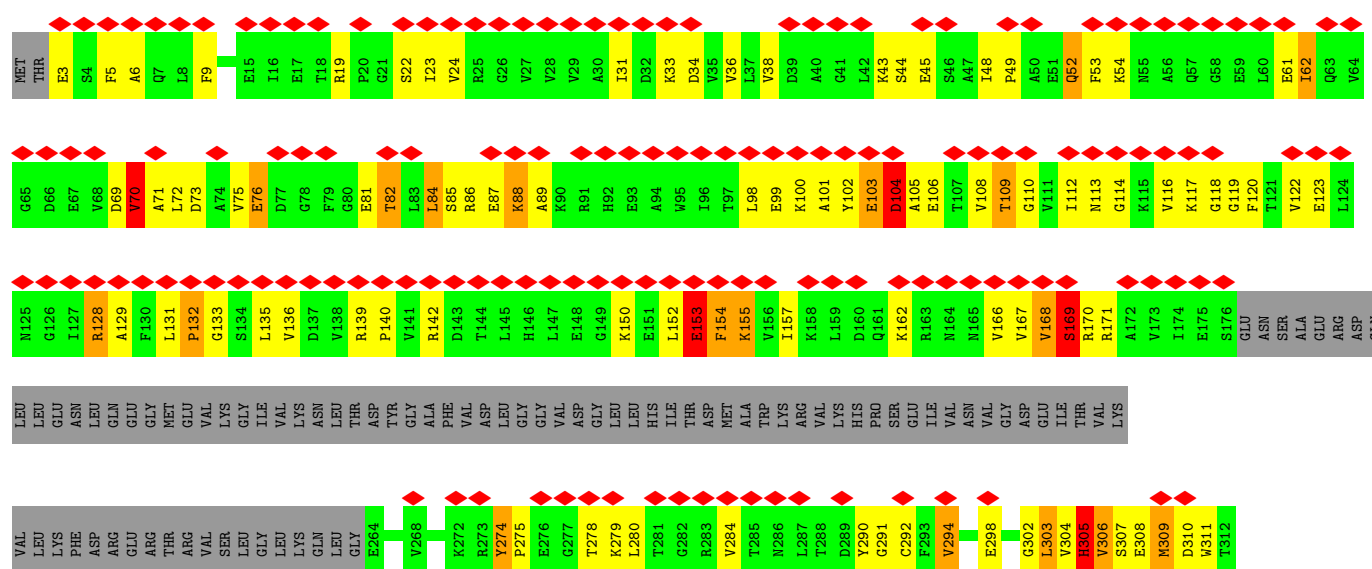
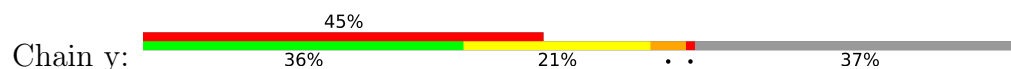
- Molecule 54: Ribosome hibernation promoting factor

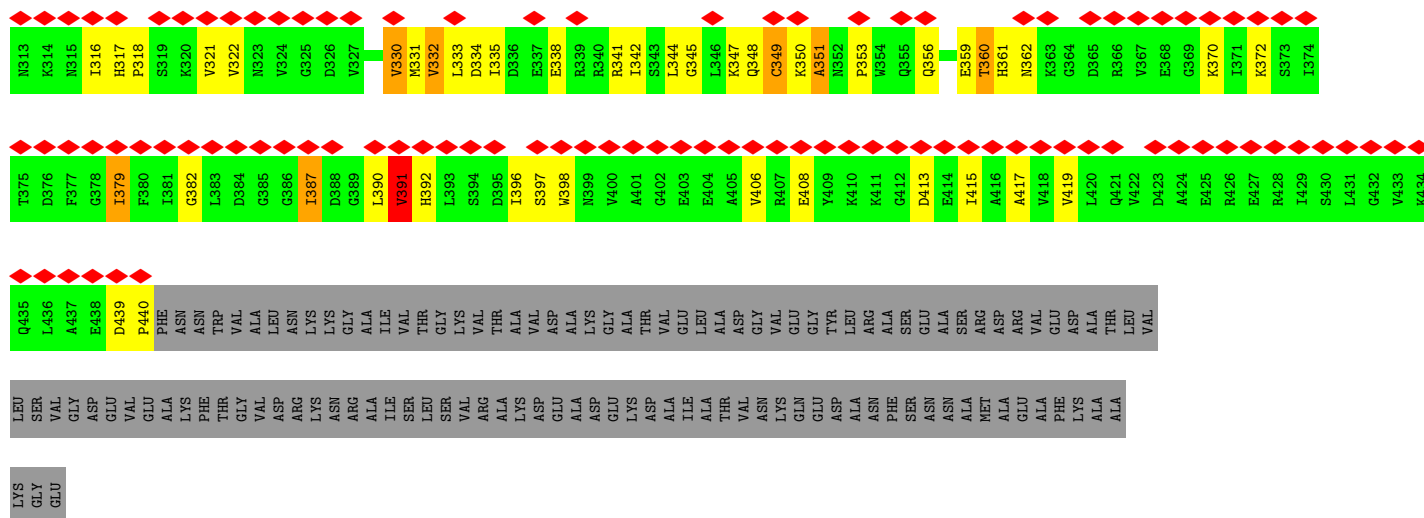


- Molecule 54: Ribosome hibernation promoting factor

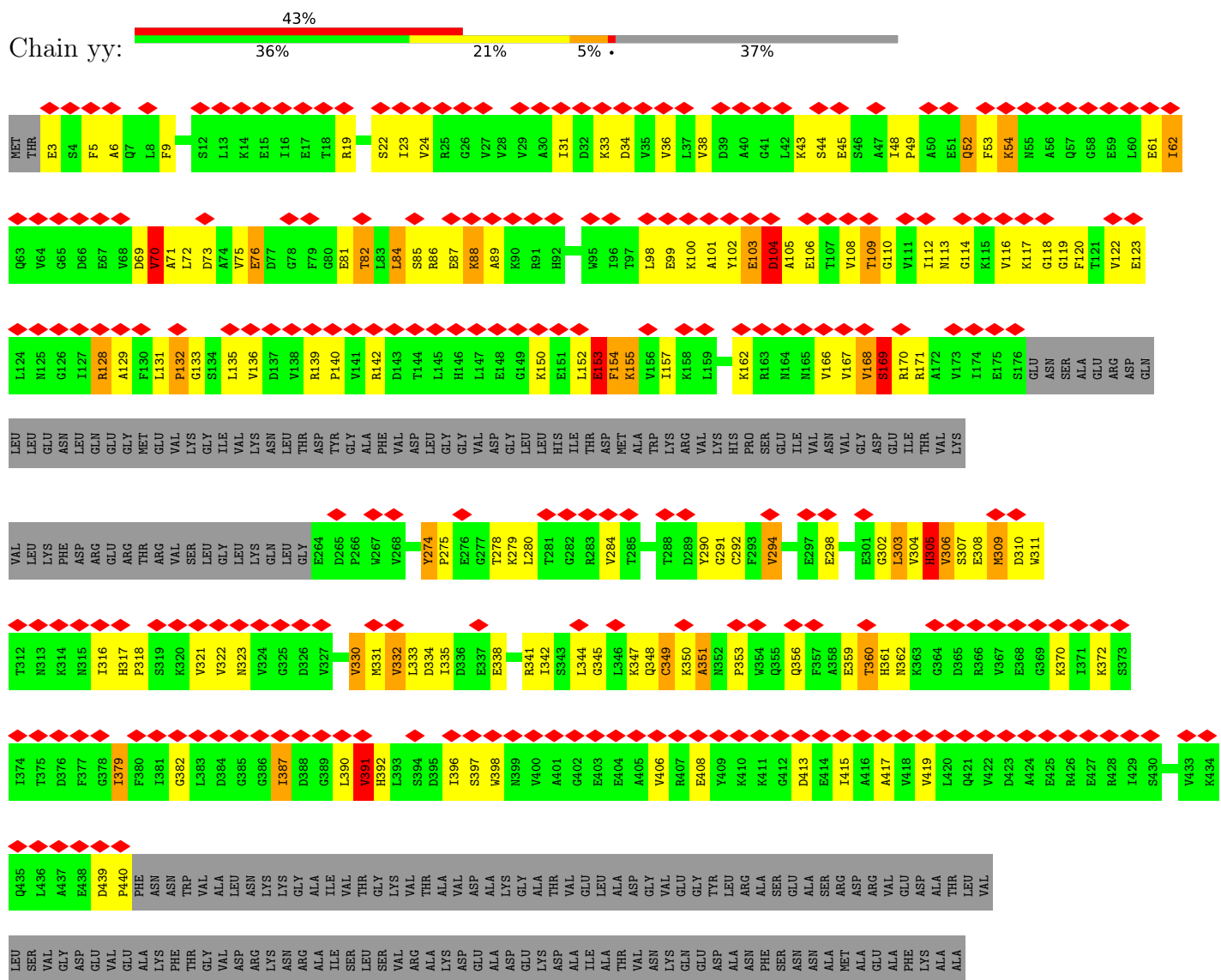


- Molecule 55: 30S ribosomal protein S1



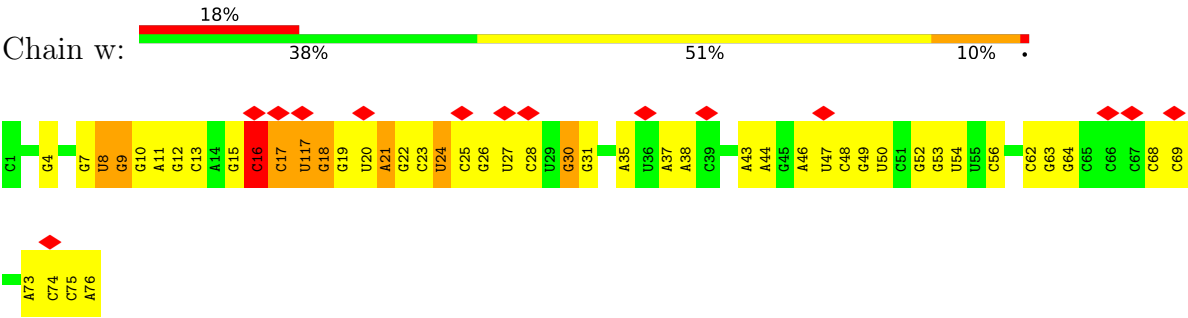


• Molecule 55: 30S ribosomal protein S1

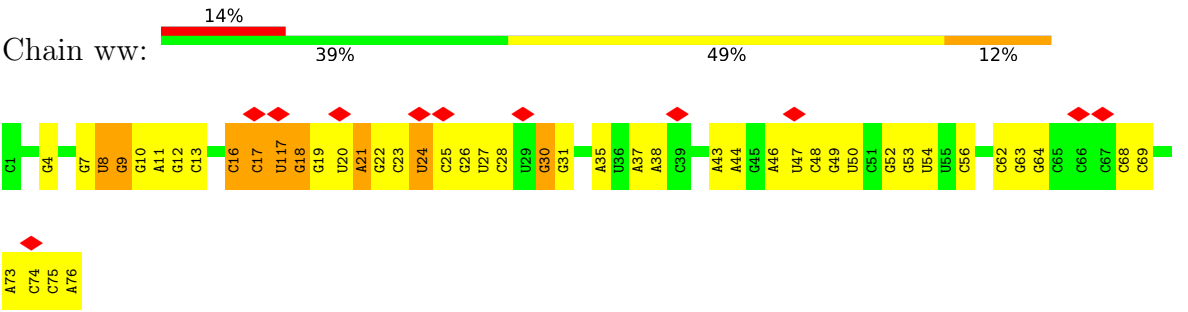


LYS
GLY
GLU

● Molecule 56: tRNA Mixture



● Molecule 56: tRNA Mixture



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	18000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.15	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	0.312	Depositor
Minimum map value	-0.097	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.075	Depositor
Map size ($\text{\AA}$)	615.60004, 615.60004, 615.60004	wwPDB
Map dimensions	228, 228, 228	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	2.7, 2.7, 2.7	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.35	0/450	0.61	0/599
1	00	0.34	0/450	0.60	0/599
2	1	0.31	0/416	0.54	0/554
2	11	0.31	0/416	0.54	0/554
3	2	0.40	0/380	0.62	0/498
3	22	0.40	0/380	0.62	0/498
4	3	0.40	0/513	0.71	0/676
4	33	0.40	0/513	0.71	0/676
5	4	0.39	0/303	0.60	0/397
5	44	0.39	0/303	0.60	0/397
6	6	0.27	0/531	0.60	0/709
6	66	0.27	0/531	0.60	0/709
7	A	0.38	0/69733	0.41	1/108786 (0.0%)
7	AA	0.38	0/69733	0.41	0/108786
8	B	0.33	0/2876	0.39	0/4483
8	BB	0.33	0/2876	0.39	0/4483
9	C	0.42	0/2121	0.63	0/2852
9	CC	0.42	0/2121	0.63	0/2852
10	D	0.38	0/1586	0.60	0/2134
10	DD	0.38	0/1586	0.59	0/2134
11	E	0.32	0/1571	0.54	0/2113
11	EE	0.32	0/1571	0.54	0/2113
12	F	0.32	0/1434	0.61	0/1926
12	FF	0.32	0/1434	0.61	0/1926
13	G	0.27	0/1343	0.55	0/1816
13	GG	0.27	0/1343	0.55	0/1816
14	H	0.24	0/1122	0.56	0/1515
14	HH	0.24	0/1122	0.56	0/1515
15	J	0.37	0/1152	0.55	0/1551
15	JJ	0.37	0/1152	0.55	0/1551
16	K	0.36	0/947	0.66	0/1268
16	KK	0.36	0/947	0.66	0/1268
17	L	0.38	0/1054	0.73	2/1403 (0.1%)
17	LL	0.38	0/1054	0.73	2/1403 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
18	M	0.36	0/1093	0.66	3/1460 (0.2%)
18	MM	0.36	0/1093	0.66	3/1460 (0.2%)
19	N	0.38	0/973	0.75	0/1301
19	NN	0.38	0/973	0.75	0/1301
20	O	0.31	0/902	0.58	0/1209
20	OO	0.30	0/902	0.58	0/1209
21	P	0.36	0/929	0.59	0/1242
21	PP	0.36	0/929	0.59	0/1242
22	Q	0.39	0/960	0.57	0/1278
22	QQ	0.39	0/960	0.57	0/1278
23	R	0.36	0/829	0.60	0/1107
23	RR	0.36	0/829	0.60	0/1107
24	S	0.39	0/864	0.61	0/1156
24	SS	0.39	0/864	0.61	0/1156
25	T	0.31	0/744	0.60	0/994
25	TT	0.31	0/744	0.61	0/994
26	U	0.29	0/787	0.60	0/1051
26	UU	0.29	0/787	0.60	0/1051
27	V	0.34	0/766	0.60	0/1025
27	VV	0.34	0/766	0.60	0/1025
28	W	0.39	0/582	0.56	0/769
28	WW	0.38	0/582	0.56	0/769
29	X	0.39	0/635	0.56	0/848
29	XX	0.39	0/635	0.56	0/848
30	Y	0.33	0/510	0.59	0/677
30	YY	0.33	0/510	0.58	0/677
31	Z	0.34	0/453	0.54	0/605
31	ZZ	0.34	0/453	0.54	0/605
32	a	0.36	0/36967	0.41	7/57666 (0.0%)
32	aa	0.36	0/36967	0.41	6/57666 (0.0%)
33	b	0.35	0/1795	0.77	4/2418 (0.2%)
33	bb	0.35	0/1795	0.77	4/2418 (0.2%)
34	c	0.35	0/1651	0.60	0/2225
34	cc	0.34	0/1651	0.60	0/2225
35	d	0.33	0/1665	0.71	0/2227
35	dd	0.34	0/1665	0.71	0/2227
36	e	0.36	0/1154	0.74	2/1554 (0.1%)
36	ee	0.36	0/1154	0.74	2/1554 (0.1%)
37	f	0.34	0/835	0.78	2/1128 (0.2%)
37	ff	0.34	0/835	0.78	2/1128 (0.2%)
38	g	0.32	0/1284	0.68	0/1724
38	gg	0.32	0/1284	0.68	0/1724
39	h	0.33	0/989	0.58	0/1326

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
39	hh	0.33	0/989	0.59	0/1326
40	i	0.34	0/1034	0.70	0/1375
40	ii	0.34	0/1034	0.70	0/1375
41	j	0.35	0/796	0.71	3/1077 (0.3%)
41	jj	0.35	0/796	0.71	3/1077 (0.3%)
42	k	0.35	0/885	0.69	0/1195
42	kk	0.35	0/885	0.69	0/1195
43	l	0.37	0/969	0.68	2/1300 (0.2%)
43	ll	0.37	0/969	0.68	2/1300 (0.2%)
44	m	0.30	0/892	0.70	0/1193
44	mm	0.30	0/892	0.70	0/1193
45	n	0.34	0/811	0.61	0/1081
45	nn	0.34	0/811	0.61	0/1081
46	o	0.32	0/722	0.62	0/964
46	oo	0.32	0/722	0.62	0/964
47	p	0.36	0/659	0.60	0/884
47	pp	0.36	0/659	0.60	0/884
48	q	0.32	0/657	0.64	0/881
48	qq	0.32	0/657	0.64	0/881
49	r	0.33	0/511	0.56	0/689
49	rr	0.33	0/511	0.56	0/689
50	s	0.39	1/652 (0.2%)	0.64	0/877
50	ss	0.38	1/652 (0.2%)	0.64	0/877
51	t	0.29	0/671	0.65	2/888 (0.2%)
51	tt	0.29	0/671	0.65	2/888 (0.2%)
52	u	0.42	0/500	0.95	0/668
52	uu	0.43	0/500	0.95	0/668
53	v	0.35	0/460	0.83	1/611 (0.2%)
53	vv	0.35	0/460	0.83	1/611 (0.2%)
54	x	0.38	0/764	0.83	2/1028 (0.2%)
54	xx	0.38	0/764	0.83	2/1028 (0.2%)
55	y	0.69	4/2196 (0.2%)	1.50	43/3006 (1.4%)
55	yy	0.69	4/2196 (0.2%)	1.50	43/3006 (1.4%)
56	w	0.26	0/1833	0.58	3/2851 (0.1%)
56	ww	0.32	2/1834 (0.1%)	0.56	1/2855 (0.0%)
All	All	0.37	12/319823 (0.0%)	0.51	150/477680 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	3	0	1
4	33	0	1
13	G	0	1
13	GG	0	1
18	M	0	1
18	MM	0	1
19	N	0	1
19	NN	0	1
20	O	0	1
20	OO	0	1
33	b	0	1
33	bb	0	1
35	d	0	2
35	dd	0	2
38	g	0	4
38	gg	0	4
40	i	0	1
40	ii	0	1
42	k	0	4
42	kk	0	4
43	l	0	2
43	ll	0	2
44	m	0	1
44	mm	0	1
46	o	0	1
46	oo	0	1
51	t	0	1
51	tt	0	1
52	u	0	3
52	uu	0	3
53	v	0	2
53	vv	0	2
55	y	0	6
55	yy	0	6
All	All	0	66

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	y	169	SER	N-CA	11.72	1.61	1.46
55	yy	169	SER	N-CA	11.71	1.61	1.46
55	y	88	LYS	N-CA	6.97	1.55	1.46
55	yy	88	LYS	N-CA	6.94	1.55	1.46

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	y	168	VAL	C-N	6.40	1.42	1.33
55	yy	168	VAL	C-N	6.40	1.42	1.33
55	y	88	LYS	CA-C	5.87	1.60	1.52
55	yy	88	LYS	CA-C	5.87	1.60	1.52
50	s	39	ILE	C-N	-5.72	1.22	1.33
50	ss	39	ILE	C-N	-5.70	1.22	1.33
56	ww	16	C	O3'-P	-5.67	1.52	1.61
56	ww	18	G	O3'-P	-5.35	1.53	1.61

All (150) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	yy	88	LYS	CA-C-N	16.97	143.62	120.38
55	yy	88	LYS	C-N-CA	16.97	143.62	120.38
55	y	88	LYS	CA-C-N	16.93	143.57	120.38
55	y	88	LYS	C-N-CA	16.93	143.57	120.38
55	y	332	VAL	N-CA-C	13.74	124.64	110.62
55	yy	332	VAL	N-CA-C	13.70	124.60	110.62
55	yy	169	SER	N-CA-C	12.75	137.97	110.80
55	y	169	SER	N-CA-C	12.75	137.96	110.80
55	y	330	VAL	N-CA-C	12.17	126.92	109.51
55	yy	330	VAL	N-CA-C	12.17	126.91	109.51
55	y	305	HIS	N-CA-C	11.98	131.13	111.37
55	yy	305	HIS	N-CA-C	11.97	131.13	111.37
33	b	226	GLN	N-CA-C	-10.80	97.41	113.61
33	bb	226	GLN	N-CA-C	-10.77	97.45	113.61
55	y	103	GLU	N-CA-C	-10.08	100.12	111.82
55	yy	103	GLU	N-CA-C	-10.07	100.13	111.82
33	b	17	HIS	N-CA-C	9.84	120.88	108.19
33	bb	17	HIS	N-CA-C	9.80	120.83	108.19
55	y	104	ASP	N-CA-C	-8.64	92.39	110.80
55	yy	104	ASP	N-CA-C	-8.61	92.46	110.80
54	xx	30	TYR	N-CA-C	8.29	120.40	111.36
54	x	30	TYR	N-CA-C	8.27	120.37	111.36
55	yy	155	LYS	CA-C-N	-7.92	110.73	121.66
55	yy	155	LYS	C-N-CA	-7.92	110.73	121.66
55	y	440	PRO	N-CA-CB	7.92	111.71	103.00
55	y	155	LYS	CA-C-N	-7.90	110.76	121.66
55	y	155	LYS	C-N-CA	-7.90	110.76	121.66
55	yy	440	PRO	N-CA-CB	7.89	111.69	103.00
54	xx	31	PHE	N-CA-C	7.88	123.16	112.68
54	x	31	PHE	N-CA-C	7.79	123.04	112.68

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	1537	U	C2'-C3'-O3'	7.72	121.08	109.50
55	y	168	VAL	CA-C-N	7.72	136.28	121.54
55	y	168	VAL	C-N-CA	7.72	136.28	121.54
55	yy	168	VAL	CA-C-N	7.70	136.25	121.54
55	yy	168	VAL	C-N-CA	7.70	136.25	121.54
32	aa	1537	U	C2'-C3'-O3'	7.67	121.01	109.50
55	y	84	LEU	N-CA-C	7.66	121.03	110.24
55	yy	84	LEU	N-CA-C	7.64	121.02	110.24
55	yy	52	GLN	N-CA-C	-7.60	104.15	113.50
55	y	52	GLN	N-CA-C	-7.59	104.17	113.50
55	y	101	ALA	N-CA-C	-7.45	103.24	111.36
55	yy	101	ALA	N-CA-C	-7.35	103.35	111.36
37	ff	17	GLN	CA-C-N	7.20	124.78	120.24
37	ff	17	GLN	C-N-CA	7.20	124.78	120.24
56	w	16	C	C2'-C3'-O3'	-7.18	102.94	113.70
37	f	17	GLN	CA-C-N	7.17	124.76	120.24
37	f	17	GLN	C-N-CA	7.17	124.76	120.24
32	a	1538	C	C2'-C3'-O3'	-7.16	98.76	109.50
32	aa	1538	C	C2'-C3'-O3'	-7.16	98.76	109.50
53	vv	11	ARG	N-CA-C	-6.92	103.98	113.18
55	yy	140	PRO	N-CA-CB	6.89	110.48	103.25
53	v	11	ARG	N-CA-C	-6.88	104.04	113.18
55	y	140	PRO	N-CA-CB	6.87	110.46	103.25
33	bb	226	GLN	CA-C-N	-6.70	110.01	122.60
33	bb	226	GLN	C-N-CA	-6.70	110.01	122.60
33	b	226	GLN	CA-C-N	-6.69	110.02	122.60
33	b	226	GLN	C-N-CA	-6.69	110.02	122.60
55	y	303	LEU	N-CA-C	6.69	121.29	112.13
55	y	170	ARG	N-CA-C	6.67	119.64	110.24
55	yy	303	LEU	N-CA-C	6.67	121.26	112.13
55	y	87	GLU	N-CA-C	-6.65	104.03	111.28
55	yy	87	GLU	N-CA-C	-6.64	104.04	111.28
55	yy	170	ARG	N-CA-C	6.64	119.60	110.24
55	y	112	ILE	N-CA-C	6.63	117.26	106.72
55	y	132	PRO	N-CA-CB	6.61	110.32	103.38
55	yy	112	ILE	N-CA-C	6.61	117.22	106.72
55	yy	132	PRO	N-CA-CB	6.58	110.29	103.38
55	y	353	PRO	N-CA-CB	6.53	110.51	103.33
55	yy	155	LYS	N-CA-C	-6.52	98.27	108.90
55	yy	353	PRO	N-CA-CB	6.52	110.50	103.33
55	y	155	LYS	N-CA-C	-6.48	98.34	108.90
56	w	16	C	C3'-C2'-O2'	6.33	120.19	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	yy	113	ASN	N-CA-C	6.26	118.19	111.36
55	y	153	GLU	N-CA-C	-6.24	97.50	110.80
55	y	113	ASN	N-CA-C	6.23	118.15	111.36
55	yy	153	GLU	N-CA-C	-6.19	97.62	110.80
55	yy	103	GLU	CA-C-N	-6.14	109.81	121.54
55	yy	103	GLU	C-N-CA	-6.14	109.81	121.54
55	y	103	GLU	CA-C-N	-6.11	109.88	121.54
55	y	103	GLU	C-N-CA	-6.11	109.88	121.54
56	ww	18	G	P-O3'-C3'	6.08	129.33	120.20
32	aa	1538	C	C4'-C3'-O3'	-5.90	100.55	109.40
55	yy	387	ILE	N-CA-C	5.86	121.53	109.34
32	a	1538	C	C4'-C3'-O3'	-5.84	100.63	109.40
55	y	387	ILE	N-CA-C	5.84	121.49	109.34
55	yy	75	VAL	N-CA-C	5.84	116.52	108.12
55	y	75	VAL	N-CA-C	5.83	116.52	108.12
55	yy	109	THR	N-CA-C	-5.83	99.14	109.06
36	e	54	GLU	CA-C-N	5.80	124.97	120.33
36	e	54	GLU	C-N-CA	5.80	124.97	120.33
55	y	109	THR	N-CA-C	-5.79	99.21	109.06
55	yy	150	LYS	N-CA-C	5.79	118.18	110.53
43	l	119	LYS	CA-C-N	5.79	131.36	121.35
43	l	119	LYS	C-N-CA	5.79	131.36	121.35
36	ee	54	GLU	CA-C-N	5.76	124.94	120.33
36	ee	54	GLU	C-N-CA	5.76	124.94	120.33
55	y	150	LYS	N-CA-C	5.74	118.10	110.53
43	ll	119	LYS	CA-C-N	5.72	131.24	121.35
43	ll	119	LYS	C-N-CA	5.72	131.24	121.35
55	y	413	ASP	N-CA-C	5.69	117.56	110.91
55	yy	413	ASP	N-CA-C	5.67	117.54	110.91
55	y	114	GLY	N-CA-C	5.65	121.31	111.14
55	yy	114	GLY	N-CA-C	5.64	121.29	111.14
17	LL	93	ASN	CA-C-N	5.63	132.29	121.54
17	LL	93	ASN	C-N-CA	5.63	132.29	121.54
55	y	351	ALA	N-CA-C	-5.61	105.25	111.36
17	L	93	ASN	CA-C-N	5.59	132.22	121.54
17	L	93	ASN	C-N-CA	5.59	132.22	121.54
55	yy	351	ALA	N-CA-C	-5.56	105.30	111.36
32	aa	1538	C	C3'-C2'-O2'	5.55	122.92	114.60
32	a	1538	C	C3'-C2'-O2'	5.52	122.87	114.60
41	jj	57	VAL	CA-C-N	5.43	131.91	121.54
41	jj	57	VAL	C-N-CA	5.43	131.91	121.54
41	j	57	VAL	CA-C-N	5.42	131.90	121.54

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	j	57	VAL	C-N-CA	5.42	131.90	121.54
41	jj	17	LEU	N-CA-C	-5.39	107.35	114.04
41	j	17	LEU	N-CA-C	-5.37	107.38	114.04
56	w	16	C	C4'-C3'-O3'	-5.36	104.96	113.00
18	MM	6	ARG	CA-CB-CG	5.27	124.63	114.10
18	M	6	ARG	CA-CB-CG	5.26	124.62	114.10
55	y	390	LEU	N-CA-C	5.25	121.98	110.80
18	MM	57	VAL	CA-C-N	5.25	131.56	121.54
18	MM	57	VAL	C-N-CA	5.25	131.56	121.54
55	yy	390	LEU	N-CA-C	5.24	121.97	110.80
55	yy	391	VAL	CA-C-N	5.22	129.70	121.56
55	yy	391	VAL	C-N-CA	5.22	129.70	121.56
18	M	57	VAL	CA-C-N	5.21	131.50	121.54
18	M	57	VAL	C-N-CA	5.21	131.50	121.54
55	yy	154	PHE	N-CA-C	-5.21	100.20	109.06
55	y	154	PHE	N-CA-C	-5.19	100.23	109.06
55	yy	128	ARG	CA-C-N	-5.16	114.14	122.81
55	yy	128	ARG	C-N-CA	-5.16	114.14	122.81
55	y	391	VAL	CA-C-N	5.15	129.60	121.56
55	y	391	VAL	C-N-CA	5.15	129.60	121.56
55	y	128	ARG	CA-C-N	-5.13	114.20	122.81
55	y	128	ARG	C-N-CA	-5.13	114.20	122.81
32	aa	1535	C	P-O3'-C3'	-5.13	112.51	120.20
55	yy	406	VAL	N-CA-C	5.13	120.00	109.34
55	y	406	VAL	N-CA-C	5.11	119.96	109.34
32	a	1535	C	P-O3'-C3'	-5.10	112.55	120.20
55	y	275	PRO	N-CA-C	5.07	120.71	113.47
51	tt	67	HIS	CA-C-N	5.05	135.40	126.45
51	tt	67	HIS	C-N-CA	5.05	135.40	126.45
51	t	67	HIS	CA-C-N	5.05	135.39	126.45
51	t	67	HIS	C-N-CA	5.05	135.39	126.45
32	aa	1297	G	P-O3'-C3'	5.05	127.77	120.20
7	A	1020	A	P-O3'-C3'	5.01	127.72	120.20
32	a	1305	G	P-O3'-C3'	5.00	127.71	120.20
55	yy	275	PRO	N-CA-C	5.00	120.63	113.47
32	a	1297	G	P-O3'-C3'	5.00	127.70	120.20

There are no chirality outliers.

All (66) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	3	30	HIS	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
4	33	30	HIS	Peptide
13	G	45	ALA	Peptide
13	GG	45	ALA	Peptide
18	M	58	LYS	Peptide
18	MM	58	LYS	Peptide
19	N	116	VAL	Peptide
19	NN	116	VAL	Peptide
20	O	33	ARG	Peptide
20	OO	33	ARG	Peptide
33	b	17	HIS	Peptide
33	bb	17	HIS	Peptide
35	d	190	LEU	Peptide
35	d	27	ILE	Peptide
35	dd	190	LEU	Peptide
35	dd	27	ILE	Peptide
38	g	110	ARG	Peptide
38	g	152	HIS	Peptide
38	g	158	LEU	Peptide
38	g	4	ARG	Peptide
38	gg	110	ARG	Peptide
38	gg	152	HIS	Peptide
38	gg	158	LEU	Peptide
38	gg	4	ARG	Peptide
40	i	56	MET	Peptide
40	ii	56	MET	Peptide
42	k	117	HIS	Peptide
42	k	12	ARG	Peptide
42	k	125	LYS	Peptide
42	k	72	ALA	Peptide
42	kk	117	HIS	Peptide
42	kk	12	ARG	Peptide
42	kk	125	LYS	Peptide
42	kk	72	ALA	Peptide
43	l	22	ALA	Peptide
43	l	76	HIS	Peptide
43	ll	22	ALA	Peptide
43	ll	76	HIS	Peptide
44	m	8	ILE	Peptide
44	mm	8	ILE	Peptide
46	o	45	HIS	Peptide
46	oo	45	HIS	Peptide
51	t	28	ARG	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
51	tt	28	ARG	Peptide
52	u	39	LYS	Peptide
52	u	6	ARG	Peptide
52	u	8	ASN	Peptide
52	uu	39	LYS	Peptide
52	uu	6	ARG	Peptide
52	uu	8	ASN	Peptide
53	v	26	LYS	Peptide
53	v	6	ARG	Peptide
53	vv	26	LYS	Peptide
53	vv	6	ARG	Peptide
55	y	274	TYR	Peptide
55	y	391	VAL	Peptide
55	y	417	ALA	Peptide
55	y	419	VAL	Peptide
55	y	81	GLU	Peptide
55	y	82	THR	Peptide
55	yy	274	TYR	Peptide
55	yy	391	VAL	Peptide
55	yy	417	ALA	Peptide
55	yy	419	VAL	Peptide
55	yy	81	GLU	Peptide
55	yy	82	THR	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	444	0	461	7	0
1	00	444	0	461	8	0
2	1	409	0	440	7	0
2	11	409	0	440	7	0
3	2	377	0	418	4	0
3	22	377	0	418	3	0
4	3	504	0	574	7	0
4	33	504	0	574	7	0
5	4	302	0	343	7	0
5	44	302	0	343	7	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	6	522	0	522	6	0
6	66	522	0	522	6	0
7	A	62261	0	31314	321	0
7	AA	62261	0	31314	332	0
8	B	2572	0	1302	16	0
8	BB	2572	0	1302	15	0
9	C	2082	0	2157	27	0
9	CC	2082	0	2157	28	0
10	D	1565	0	1616	24	0
10	DD	1565	0	1616	25	0
11	E	1552	0	1619	22	0
11	EE	1552	0	1619	23	0
12	F	1410	0	1447	31	0
12	FF	1410	0	1447	29	0
13	G	1323	0	1374	15	0
13	GG	1323	0	1374	18	0
14	H	1111	0	1148	22	0
14	HH	1111	0	1148	22	0
15	J	1129	0	1162	16	0
15	JJ	1129	0	1162	15	0
16	K	938	0	1012	14	0
16	KK	938	0	1012	13	0
17	L	1045	0	1117	15	0
17	LL	1045	0	1117	14	0
18	M	1074	0	1157	15	0
18	MM	1074	0	1157	15	0
19	N	960	0	1000	14	0
19	NN	960	0	1000	13	0
20	O	892	0	923	9	0
20	OO	892	0	923	9	0
21	P	917	0	965	13	0
21	PP	917	0	965	14	0
22	Q	947	0	1022	14	0
22	QQ	947	0	1022	13	0
23	R	816	0	839	15	0
23	RR	816	0	839	15	0
24	S	857	0	922	10	0
24	SS	857	0	922	10	0
25	T	738	0	807	3	0
25	TT	738	0	807	3	0
26	U	779	0	834	13	0
26	UU	779	0	834	13	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	V	753	0	780	7	0
27	VV	753	0	780	8	0
28	W	575	0	592	10	0
28	WW	575	0	592	8	0
29	X	625	0	655	7	0
29	XX	625	0	655	7	0
30	Y	509	0	543	6	0
30	YY	509	0	543	7	0
31	Z	449	0	491	6	0
31	ZZ	449	0	491	5	0
32	a	33016	0	16616	238	0
32	aa	33016	0	16616	233	0
33	b	1764	0	1779	84	0
33	bb	1764	0	1779	83	0
34	c	1624	0	1697	28	0
34	cc	1624	0	1698	29	0
35	d	1643	0	1707	33	0
35	dd	1643	0	1707	34	0
36	e	1141	0	1170	48	0
36	ee	1141	0	1170	50	0
37	f	817	0	808	11	0
37	ff	817	0	808	11	0
38	g	1266	0	1320	50	0
38	gg	1266	0	1320	50	0
39	h	979	0	1034	21	0
39	hh	979	0	1034	22	0
40	i	1022	0	1070	29	0
40	ii	1022	0	1070	30	0
41	j	786	0	828	26	0
41	jj	786	0	828	24	0
42	k	869	0	878	25	0
42	kk	869	0	878	25	0
43	l	955	0	1019	13	0
43	ll	955	0	1019	13	0
44	m	883	0	944	10	0
44	mm	883	0	944	10	0
45	n	799	0	841	15	0
45	nn	799	0	841	15	0
46	o	714	0	737	9	0
46	oo	714	0	737	9	0
47	p	649	0	666	11	0
47	pp	649	0	666	12	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	q	648	0	691	12	0
48	qq	648	0	691	11	0
49	r	504	0	502	8	0
49	rr	504	0	502	8	0
50	s	637	0	665	15	0
50	ss	637	0	665	13	0
51	t	665	0	714	9	0
51	tt	665	0	714	9	0
52	u	495	0	486	22	0
52	uu	495	0	486	24	0
53	v	453	0	453	48	0
53	vv	453	0	453	51	0
54	x	754	0	756	96	0
54	xx	754	0	756	106	0
55	y	2180	0	1667	243	0
55	yy	2180	0	1667	248	0
56	w	1642	0	836	22	0
56	ww	1642	0	835	14	0
All	All	294684	0	198880	2976	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 6.

All (2976) 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)
55:yy:311:TRP:CZ2	55:yy:351:ALA:CB	1.75	1.68
55:y:100:LYS:CB	55:y:106:GLU:CB	1.75	1.65
55:y:311:TRP:CZ2	55:y:351:ALA:HB2	1.11	1.62
55:y:311:TRP:CZ2	55:y:351:ALA:CB	1.75	1.61
55:yy:100:LYS:CB	55:yy:106:GLU:CB	1.75	1.60
54:xx:3:LEU:HD21	54:xx:5:ILE:CD1	1.14	1.60
55:yy:311:TRP:CZ2	55:yy:351:ALA:HB2	1.11	1.59
54:x:3:LEU:HD21	54:x:5:ILE:CD1	1.29	1.58
55:yy:131:LEU:CB	55:yy:167:VAL:CA	1.78	1.57
54:x:19:PHE:CE1	54:x:23:LYS:HE2	1.04	1.56
54:xx:19:PHE:CE1	54:xx:23:LYS:HE2	1.04	1.55
55:y:131:LEU:CB	55:y:167:VAL:CA	1.78	1.55
33:b:232:ALA:C	36:ee:55:VAL:HG11	1.21	1.54
55:y:131:LEU:CB	55:y:167:VAL:HA	1.03	1.51
33:b:232:ALA:HB1	36:ee:55:VAL:CG1	1.36	1.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:131:LEU:CB	55:yy:167:VAL:HA	1.03	1.49
54:x:19:PHE:CE1	54:x:23:LYS:CE	1.97	1.44
54:xx:19:PHE:CE1	54:xx:23:LYS:CE	1.97	1.43
54:x:19:PHE:CZ	54:x:23:LYS:CE	2.03	1.42
54:xx:19:PHE:CZ	54:xx:23:LYS:CE	2.03	1.41
33:b:232:ALA:CB	36:ee:55:VAL:CG1	2.01	1.38
33:b:232:ALA:CB	36:ee:55:VAL:HG12	1.52	1.38
33:b:18:GLN:NE2	55:y:76:GLU:HG2	1.38	1.37
55:yy:71:ALA:C	55:yy:72:LEU:HD12	1.50	1.37
33:bb:18:GLN:NE2	55:yy:76:GLU:HG2	1.38	1.36
55:y:71:ALA:C	55:y:72:LEU:HD12	1.49	1.36
55:y:118:GLY:O	55:y:133:GLY:CA	1.74	1.34
32:a:1538:C:C4	55:y:341:ARG:HG3	1.63	1.33
54:x:3:LEU:CD2	54:x:5:ILE:HD11	1.57	1.33
54:xx:19:PHE:CZ	54:xx:23:LYS:HE2	1.62	1.33
55:yy:118:GLY:O	55:yy:133:GLY:CA	1.74	1.32
32:aa:1534:A:C5'	53:vv:25:SER:HB3	1.59	1.32
32:aa:1538:C:C4	55:yy:341:ARG:HG3	1.63	1.32
55:yy:311:TRP:HZ2	55:yy:351:ALA:CB	1.16	1.32
55:y:311:TRP:HZ2	55:y:351:ALA:CB	1.16	1.32
54:x:3:LEU:CD2	54:x:5:ILE:CD1	2.08	1.31
32:a:1534:A:C5'	53:v:25:SER:HB3	1.59	1.31
55:yy:118:GLY:O	55:yy:133:GLY:HA3	1.28	1.30
33:b:232:ALA:CA	36:ee:55:VAL:HG11	1.61	1.29
54:xx:3:LEU:CD2	54:xx:5:ILE:HD11	1.61	1.29
54:x:19:PHE:CZ	54:x:23:LYS:HE2	1.62	1.28
38:g:4:ARG:NH2	53:v:1:MET:HA	1.49	1.27
54:x:44:GLU:O	54:x:45:LYS:HG2	1.28	1.27
54:xx:44:GLU:O	54:xx:45:LYS:HG2	1.28	1.27
33:b:43:GLU:OE2	55:y:6:ALA:HB3	1.33	1.27
55:y:311:TRP:CZ2	55:y:351:ALA:CA	2.16	1.27
32:aa:1538:C:C5	55:yy:341:ARG:CD	2.18	1.27
55:yy:311:TRP:CZ2	55:yy:351:ALA:CA	2.16	1.26
36:e:55:VAL:HG21	33:bb:232:ALA:O	1.28	1.25
38:gg:4:ARG:NH2	53:vv:1:MET:HA	1.49	1.25
54:xx:3:LEU:CD2	54:xx:5:ILE:CD1	2.11	1.25
32:a:1538:C:C5	55:y:341:ARG:CD	2.18	1.24
33:bb:43:GLU:OE2	55:yy:6:ALA:HB3	1.33	1.23
33:b:232:ALA:C	36:ee:55:VAL:CG1	2.12	1.22
55:yy:99:GLU:O	55:yy:103:GLU:N	1.74	1.21
55:y:99:GLU:O	55:y:103:GLU:N	1.74	1.20

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:y:100:LYS:HA	55:y:105:ALA:O	1.40	1.19
55:yy:100:LYS:HA	55:yy:105:ALA:O	1.40	1.19
54:xx:44:GLU:O	54:xx:45:LYS:CG	1.90	1.18
54:x:44:GLU:O	54:x:45:LYS:CG	1.90	1.16
32:a:1538:C:H5	55:y:341:ARG:HD3	1.05	1.15
55:y:118:GLY:O	55:y:133:GLY:HA3	1.28	1.14
36:e:55:VAL:CG2	33:bb:232:ALA:O	1.94	1.14
33:bb:18:GLN:NE2	55:yy:76:GLU:CG	2.10	1.13
35:d:46:ARG:HH12	33:bb:228:LEU:HA	1.01	1.13
55:yy:119:GLY:HA2	55:yy:133:GLY:HA2	1.14	1.13
33:b:18:GLN:NE2	55:y:76:GLU:CG	2.10	1.13
55:y:135:LEU:CB	55:y:167:VAL:CB	2.27	1.12
33:b:227:ASP:OD2	35:dd:44:LYS:NZ	1.81	1.12
33:b:228:LEU:HA	35:dd:46:ARG:NH1	1.66	1.11
55:yy:135:LEU:CB	55:yy:167:VAL:CB	2.27	1.11
55:y:119:GLY:HA2	55:y:133:GLY:HA2	1.15	1.10
32:aa:1534:A:H5'	53:vv:25:SER:CB	1.81	1.10
32:aa:1538:C:H5	55:yy:341:ARG:HD3	1.05	1.10
55:yy:311:TRP:CH2	55:yy:351:ALA:CB	2.34	1.10
55:y:311:TRP:CH2	55:y:351:ALA:CB	2.34	1.10
54:xx:19:PHE:CZ	54:xx:23:LYS:HE3	1.79	1.09
32:aa:1534:A:C5'	53:vv:25:SER:CB	2.30	1.09
32:a:1534:A:C5'	53:v:25:SER:CB	2.30	1.08
54:x:19:PHE:CZ	54:x:23:LYS:HE3	1.79	1.08
55:yy:71:ALA:O	55:yy:72:LEU:HD12	1.54	1.08
32:a:1534:A:H5'	53:v:25:SER:CB	1.82	1.08
33:b:62:ARG:CD	36:ee:10:LEU:HD21	1.84	1.07
32:a:1538:C:C4	55:y:341:ARG:CG	2.37	1.07
55:y:71:ALA:O	55:y:72:LEU:HD12	1.53	1.07
32:a:1538:C:H5	55:y:341:ARG:CD	1.60	1.07
33:b:18:GLN:HE22	55:y:76:GLU:CD	1.63	1.07
32:aa:1538:C:C4	55:yy:341:ARG:CG	2.37	1.07
32:a:1538:C:C5	55:y:341:ARG:HD3	1.87	1.06
54:x:3:LEU:HD21	54:x:5:ILE:HD13	1.14	1.06
32:aa:1538:C:H5	55:yy:341:ARG:CD	1.60	1.06
33:bb:43:GLU:CD	55:yy:6:ALA:HB3	1.81	1.05
33:bb:18:GLN:HE22	55:yy:76:GLU:CD	1.63	1.05
33:b:43:GLU:CD	55:y:6:ALA:HB3	1.81	1.05
54:xx:3:LEU:HD21	54:xx:5:ILE:CG1	1.85	1.04
55:yy:311:TRP:CH2	55:yy:351:ALA:HB2	1.93	1.04
38:g:159:ARG:NH2	53:v:10:GLU:OE1	1.91	1.03

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:228:LEU:HA	35:dd:46:ARG:HH12	0.89	1.03
32:aa:1538:C:C5	55:yy:341:ARG:NE	2.26	1.03
54:xx:19:PHE:HZ	54:xx:23:LYS:HE3	1.13	1.03
32:a:1538:C:C5	55:y:341:ARG:NE	2.26	1.03
54:xx:28:GLU:HG3	54:xx:34:ILE:HD12	1.41	1.03
55:y:19:ARG:O	55:y:72:LEU:HB2	1.58	1.02
55:yy:103:GLU:O	55:yy:104:ASP:CB	2.04	1.02
33:b:62:ARG:HD2	36:ee:10:LEU:HD21	1.41	1.02
54:xx:3:LEU:HD21	54:xx:5:ILE:HD13	1.36	1.02
55:yy:162:LYS:CB	55:yy:298:GLU:CD	2.30	1.02
33:b:43:GLU:OE2	55:y:3:GLU:O	1.78	1.02
55:y:162:LYS:CB	55:y:298:GLU:CD	2.30	1.02
55:y:311:TRP:CH2	55:y:351:ALA:HB2	1.93	1.02
55:y:359:GLU:O	55:y:362:ASN:N	1.92	1.02
33:bb:43:GLU:OE2	55:yy:3:GLU:O	1.78	1.02
55:yy:19:ARG:O	55:yy:72:LEU:HB2	1.58	1.02
55:yy:100:LYS:CB	55:yy:106:GLU:CA	2.37	1.02
55:yy:290:TYR:O	55:yy:305:HIS:O	1.77	1.02
38:gg:159:ARG:NH2	53:vv:10:GLU:OE1	1.91	1.01
55:y:311:TRP:CZ2	55:y:351:ALA:HA	1.95	1.01
55:y:103:GLU:O	55:y:104:ASP:CB	2.04	1.00
55:yy:359:GLU:O	55:yy:362:ASN:N	1.92	1.00
55:y:100:LYS:CB	55:y:106:GLU:CA	2.37	1.00
32:a:1538:C:C5	55:y:341:ARG:HG3	1.96	1.00
55:y:290:TYR:O	55:y:305:HIS:O	1.77	1.00
36:e:55:VAL:CG2	33:bb:233:GLU:HA	1.91	1.00
32:a:1538:C:C5	55:y:341:ARG:CG	2.45	1.00
33:b:227:ASP:OD2	35:dd:44:LYS:CE	2.09	1.00
54:x:28:GLU:HG3	54:x:34:ILE:HD12	1.41	0.99
33:b:232:ALA:O	36:ee:55:VAL:HG11	1.61	0.99
55:yy:131:LEU:CB	55:yy:167:VAL:CB	2.40	0.99
55:y:131:LEU:CB	55:y:167:VAL:CB	2.40	0.99
32:aa:1538:C:C5	55:yy:341:ARG:CG	2.45	0.99
54:x:3:LEU:HD21	54:x:5:ILE:HD11	1.02	0.98
32:aa:1538:C:C5	55:yy:341:ARG:HG3	1.96	0.98
35:d:46:ARG:NH1	33:bb:228:LEU:HA	1.78	0.98
33:b:228:LEU:CA	35:dd:46:ARG:HH12	1.75	0.98
36:e:55:VAL:HG21	33:bb:232:ALA:C	1.88	0.98
54:x:19:PHE:HZ	54:x:23:LYS:HE3	1.13	0.98
55:y:100:LYS:O	55:y:105:ALA:N	1.97	0.97
33:b:232:ALA:CB	36:ee:55:VAL:HG11	1.83	0.97

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:100:LYS:O	55:yy:105:ALA:N	1.97	0.97
55:yy:311:TRP:CZ2	55:yy:351:ALA:HA	1.95	0.97
33:b:232:ALA:O	36:ee:55:VAL:HG21	1.63	0.97
55:y:118:GLY:O	55:y:133:GLY:HA2	1.63	0.96
32:aa:1538:C:C5	55:yy:341:ARG:HD3	1.87	0.96
36:e:10:LEU:HD21	33:bb:62:ARG:CD	1.90	0.96
38:gg:6:ILE:HG23	53:vv:2:LYS:HD3	1.47	0.96
32:aa:1534:A:H5''	53:vv:25:SER:OG	1.64	0.96
55:yy:119:GLY:CA	55:yy:133:GLY:HA2	1.95	0.96
56:w:16:C:C3'	56:w:17:C:P	2.54	0.95
38:gg:4:ARG:HE	53:vv:2:LYS:H	1.05	0.95
38:g:6:ILE:HG23	53:v:2:LYS:HD3	1.47	0.95
32:a:1534:A:H5''	53:v:25:SER:OG	1.64	0.95
38:gg:4:ARG:HE	53:vv:2:LYS:N	1.64	0.95
55:y:119:GLY:CA	55:y:133:GLY:HA2	1.95	0.95
32:a:1534:A:H5''	53:v:25:SER:CB	1.97	0.94
32:a:1538:C:N4	55:y:341:ARG:CG	2.30	0.94
33:b:18:GLN:HE21	55:y:76:GLU:HG2	1.00	0.94
38:g:4:ARG:HE	53:v:2:LYS:N	1.64	0.94
32:aa:1534:A:H5''	53:vv:25:SER:CB	1.97	0.94
38:gg:4:ARG:CZ	53:vv:1:MET:HA	1.97	0.94
55:yy:118:GLY:O	55:yy:133:GLY:HA2	1.63	0.94
55:y:135:LEU:HA	55:y:157:ILE:CB	1.98	0.94
32:aa:1538:C:N4	55:yy:341:ARG:CG	2.29	0.93
38:g:4:ARG:HE	53:v:2:LYS:H	1.05	0.93
38:g:4:ARG:CZ	53:v:1:MET:HA	1.98	0.93
55:yy:119:GLY:HA3	55:yy:131:LEU:O	1.69	0.93
38:g:4:ARG:HH21	53:v:1:MET:HA	1.14	0.92
55:yy:135:LEU:HA	55:yy:157:ILE:CB	1.98	0.92
55:y:119:GLY:HA3	55:y:131:LEU:O	1.69	0.92
33:bb:43:GLU:OE2	55:yy:6:ALA:CB	2.17	0.92
55:y:71:ALA:C	55:y:72:LEU:CD1	2.42	0.92
33:b:43:GLU:OE2	55:y:6:ALA:CB	2.17	0.92
32:a:1534:A:H5'	53:v:25:SER:HB3	0.92	0.92
54:xx:20:VAL:HG22	54:xx:74:ILE:HD13	1.51	0.91
32:a:1401:G:N7	54:x:83:ARG:NH1	2.18	0.91
32:aa:1401:G:N7	54:xx:83:ARG:NH1	2.19	0.91
32:aa:1534:A:H5'	53:vv:25:SER:HB3	0.92	0.91
34:cc:27:GLU:O	34:cc:31:ASN:HB2	1.70	0.91
55:yy:71:ALA:C	55:yy:72:LEU:CD1	2.42	0.91
34:c:27:GLU:O	34:c:31:ASN:HB2	1.70	0.91

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:e:10:LEU:HD21	33:bb:62:ARG:HD2	1.52	0.90
38:gg:4:ARG:HH21	53:vv:1:MET:HA	1.14	0.90
55:y:119:GLY:HA2	55:y:133:GLY:CA	2.01	0.90
55:yy:279:LYS:HA	55:yy:331:MET:HB3	1.54	0.90
54:x:20:VAL:HG22	54:x:74:ILE:HD13	1.52	0.89
55:y:162:LYS:N	55:y:298:GLU:OE2	2.06	0.89
33:bb:18:GLN:NE2	55:yy:76:GLU:OE1	2.06	0.88
30:YY:19:LEU:O	30:YY:23:ARG:HB2	1.73	0.88
54:x:26:LYS:HE2	54:x:30:TYR:CE1	2.08	0.88
55:y:131:LEU:CB	55:y:167:VAL:N	2.37	0.88
55:yy:162:LYS:N	55:yy:298:GLU:OE2	2.06	0.88
32:a:1538:C:N4	55:y:341:ARG:HG2	1.89	0.88
54:xx:1:MET:HG3	54:xx:28:GLU:HG2	1.56	0.88
33:b:18:GLN:NE2	55:y:76:GLU:OE1	2.06	0.88
54:x:32:ASP:OD1	54:x:33:ARG:N	2.07	0.88
54:xx:32:ASP:OD1	54:xx:33:ARG:N	2.07	0.88
30:Y:19:LEU:O	30:Y:23:ARG:HB2	1.73	0.88
33:bb:43:GLU:CD	55:yy:3:GLU:O	2.17	0.87
55:y:279:LYS:HA	55:y:331:MET:HB3	1.54	0.87
56:w:16:C:H3'	56:w:17:C:P	2.13	0.87
54:xx:26:LYS:HE2	54:xx:30:TYR:CE1	2.08	0.87
33:b:43:GLU:CD	55:y:3:GLU:O	2.17	0.87
35:d:46:ARG:HH12	33:bb:228:LEU:CA	1.85	0.87
32:aa:1538:C:N4	55:yy:341:ARG:HG2	1.88	0.87
55:yy:348:GLN:N	55:yy:348:GLN:OE1	2.08	0.87
55:y:332:VAL:HG11	55:y:335:ILE:HG13	1.57	0.86
55:yy:162:LYS:CA	55:yy:298:GLU:OE2	2.16	0.86
55:y:311:TRP:CH2	55:y:351:ALA:HB1	2.10	0.86
55:yy:131:LEU:CB	55:yy:167:VAL:N	2.37	0.86
55:yy:332:VAL:HG11	55:yy:335:ILE:HG13	1.57	0.86
55:y:348:GLN:OE1	55:y:348:GLN:N	2.08	0.86
55:yy:311:TRP:CH2	55:yy:351:ALA:HB1	2.10	0.86
32:aa:1534:A:H5''	53:vv:25:SER:HG	1.36	0.85
55:yy:98:LEU:O	55:yy:102:TYR:N	2.08	0.85
55:yy:119:GLY:HA2	55:yy:133:GLY:CA	2.01	0.85
54:x:1:MET:HG3	54:x:28:GLU:HG2	1.56	0.85
55:y:98:LEU:O	55:y:102:TYR:N	2.08	0.85
55:y:162:LYS:CA	55:y:298:GLU:OE2	2.17	0.85
36:e:55:VAL:CB	33:bb:232:ALA:C	2.37	0.85
56:w:16:C:O3'	56:w:17:C:P	2.35	0.85
38:gg:10:LYS:HZ1	55:yy:408:GLU:HA	1.41	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:100:LYS:CB	55:yy:106:GLU:N	2.40	0.85
54:xx:27:LEU:HD23	54:xx:78:ILE:HG13	1.58	0.85
54:x:3:LEU:HD22	54:x:5:ILE:HD11	1.55	0.85
38:g:10:LYS:HZ1	55:y:408:GLU:HA	1.41	0.84
55:y:100:LYS:CB	55:y:106:GLU:N	2.40	0.84
55:yy:135:LEU:CB	55:yy:167:VAL:C	2.51	0.84
32:aa:1400:C:H1'	54:xx:80:LYS:HD3	1.60	0.84
36:e:55:VAL:HG21	33:bb:233:GLU:CA	2.06	0.84
33:bb:18:GLN:HE21	55:yy:76:GLU:HG2	1.00	0.84
54:x:27:LEU:HD23	54:x:78:ILE:HG13	1.58	0.84
55:y:135:LEU:CB	55:y:167:VAL:C	2.51	0.83
33:bb:43:GLU:CG	55:yy:6:ALA:HB3	2.09	0.83
32:a:1400:C:H1'	54:x:80:LYS:HD3	1.60	0.83
33:b:43:GLU:CG	55:y:6:ALA:HB3	2.09	0.83
38:g:159:ARG:HH22	53:v:10:GLU:CD	1.87	0.83
33:b:232:ALA:HB1	36:ee:55:VAL:HG12	0.85	0.83
55:y:131:LEU:CB	55:y:166:VAL:O	2.26	0.83
38:gg:159:ARG:HH22	53:vv:10:GLU:CD	1.87	0.83
54:xx:26:LYS:O	54:xx:30:TYR:HD1	1.62	0.83
55:y:100:LYS:HA	55:y:105:ALA:C	2.03	0.83
54:xx:3:LEU:CD2	54:xx:5:ILE:CG1	2.52	0.83
36:e:55:VAL:CG2	33:bb:232:ALA:C	2.47	0.82
55:yy:131:LEU:CB	55:yy:166:VAL:O	2.26	0.82
38:gg:4:ARG:NE	53:vv:2:LYS:H	1.77	0.82
55:yy:100:LYS:HA	55:yy:105:ALA:C	2.03	0.82
33:b:227:ASP:OD2	35:dd:44:LYS:HE3	1.79	0.82
38:g:10:LYS:HZ1	55:y:408:GLU:CA	1.92	0.82
55:y:5:PHE:CE1	35:dd:24:VAL:O	2.12	0.82
54:x:44:GLU:C	54:x:45:LYS:HG2	2.05	0.82
55:y:311:TRP:CE2	55:y:351:ALA:CA	2.63	0.82
41:j:27:GLU:O	41:j:31:ARG:HB2	1.80	0.82
55:yy:305:HIS:CD2	55:yy:306:VAL:H	1.98	0.82
55:yy:311:TRP:CE2	55:yy:351:ALA:CA	2.63	0.82
54:x:26:LYS:O	54:x:30:TYR:HD1	1.62	0.81
38:gg:4:ARG:HH21	53:vv:1:MET:CA	1.93	0.81
55:yy:155:LYS:CB	55:yy:169:SER:CB	2.59	0.81
38:g:154:ALA:HB3	53:v:18:GLN:HE21	1.45	0.81
38:gg:154:ALA:HB3	53:vv:18:GLN:HE21	1.45	0.81
54:xx:3:LEU:HD21	54:xx:5:ILE:HD11	0.82	0.81
54:xx:3:LEU:CD2	54:xx:5:ILE:HG12	2.10	0.81
55:yy:122:VAL:O	55:yy:129:ALA:N	2.13	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:jj:27:GLU:O	41:jj:31:ARG:HB2	1.80	0.81
36:e:55:VAL:CG2	33:bb:233:GLU:CA	2.58	0.81
54:xx:44:GLU:C	54:xx:45:LYS:HG2	2.05	0.81
55:y:311:TRP:CE2	55:y:351:ALA:HA	2.16	0.81
55:y:305:HIS:CD2	55:y:306:VAL:H	1.98	0.81
33:b:233:GLU:HA	36:ee:55:VAL:CG2	2.11	0.80
38:g:4:ARG:NE	53:v:2:LYS:H	1.77	0.80
38:g:4:ARG:HH21	53:v:1:MET:CA	1.93	0.80
55:y:155:LYS:CB	55:y:169:SER:CB	2.59	0.80
33:b:17:HIS:CE1	55:y:43:LYS:HG3	2.15	0.80
38:g:154:ALA:HB2	53:v:17:TYR:CD2	2.16	0.80
38:gg:154:ALA:HB2	53:vv:17:TYR:CD2	2.16	0.80
55:yy:311:TRP:CE2	55:yy:351:ALA:HA	2.16	0.80
55:y:123:GLU:HA	55:y:128:ARG:HA	1.63	0.80
13:G:41:GLU:HB3	13:G:52:GLY:O	1.83	0.79
38:g:159:ARG:NH2	53:v:10:GLU:CD	2.41	0.79
55:yy:123:GLU:HA	55:yy:128:ARG:HA	1.63	0.79
33:bb:17:HIS:CE1	55:yy:43:LYS:HG3	2.15	0.79
55:y:19:ARG:HD3	55:y:73:ASP:CG	2.08	0.79
25:T:46:ALA:O	25:T:50:LEU:HB2	1.82	0.78
32:a:1538:C:C6	55:y:341:ARG:NE	2.51	0.78
25:TT:46:ALA:O	25:TT:50:LEU:HB2	1.82	0.78
32:a:1535:C:O2	53:v:51:ARG:NH1	2.16	0.78
32:aa:1174:G:OP1	53:vv:3:ARG:NH2	2.17	0.78
13:GG:41:GLU:HB3	13:GG:52:GLY:O	1.83	0.78
35:d:44:LYS:NZ	33:bb:227:ASP:OD2	2.16	0.78
55:y:122:VAL:O	55:y:129:ALA:N	2.13	0.78
32:aa:1538:C:C6	55:yy:341:ARG:NE	2.51	0.78
32:aa:1535:C:O2	53:vv:51:ARG:NH1	2.16	0.78
33:bb:18:GLN:HE22	55:yy:76:GLU:CG	1.86	0.78
32:a:1174:G:OP1	53:v:3:ARG:NH2	2.16	0.77
54:x:3:LEU:CD2	54:x:5:ILE:HD13	1.93	0.77
55:yy:19:ARG:HD3	55:yy:73:ASP:CG	2.08	0.77
33:b:43:GLU:CG	55:y:6:ALA:CB	2.62	0.77
33:b:232:ALA:O	36:ee:55:VAL:CG2	2.32	0.77
32:a:1230:C:C5'	54:x:2:GLN:HE22	1.97	0.77
55:y:305:HIS:CD2	55:y:306:VAL:N	2.53	0.77
54:xx:27:LEU:HD23	54:xx:78:ILE:CG1	2.14	0.77
55:yy:305:HIS:CD2	55:yy:306:VAL:N	2.53	0.77
33:bb:43:GLU:CG	55:yy:6:ALA:CB	2.62	0.77
38:gg:159:ARG:NH2	53:vv:10:GLU:CD	2.41	0.77

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:x:27:LEU:HD23	54:x:78:ILE:CG1	2.14	0.76
32:a:1537:U:O2	55:y:303:LEU:HD23	1.85	0.76
54:x:87:LYS:O	54:x:91:LYS:HB2	1.86	0.76
42:k:110:THR:HA	52:u:3:ILE:O	1.86	0.75
55:y:131:LEU:CB	55:y:166:VAL:C	2.60	0.75
32:aa:1538:C:OP2	55:yy:341:ARG:NH2	2.19	0.75
54:xx:26:LYS:C	54:xx:26:LYS:HD3	2.11	0.75
56:w:16:C:O3'	56:w:18:G:OP1	2.04	0.75
32:aa:1537:U:O2	55:yy:303:LEU:HD23	1.85	0.75
55:y:109:THR:HA	55:y:153:GLU:HA	1.68	0.75
54:xx:87:LYS:O	54:xx:91:LYS:HB2	1.86	0.75
42:kk:110:THR:HA	52:uu:3:ILE:O	1.86	0.75
14:HH:77:THR:HA	14:HH:143:ILE:O	1.87	0.75
32:a:1534:A:H5''	53:v:25:SER:HG	1.49	0.74
38:gg:10:LYS:HZ3	55:yy:408:GLU:CB	2.00	0.74
54:x:26:LYS:C	54:x:26:LYS:HD3	2.11	0.74
55:y:100:LYS:CA	55:y:105:ALA:O	2.29	0.74
55:yy:109:THR:CA	55:yy:153:GLU:HA	2.17	0.74
55:y:109:THR:CA	55:y:153:GLU:HA	2.17	0.74
54:xx:19:PHE:HE1	54:xx:23:LYS:CE	1.67	0.74
55:yy:109:THR:HA	55:yy:153:GLU:HA	1.68	0.74
55:yy:131:LEU:CB	55:yy:166:VAL:C	2.60	0.74
52:u:33:ARG:HG2	52:u:34:ARG:HG2	1.69	0.74
52:uu:33:ARG:HG2	52:uu:34:ARG:HG2	1.69	0.74
32:a:1538:C:OP2	55:y:341:ARG:NH2	2.19	0.74
54:x:26:LYS:HE2	54:x:30:TYR:CD1	2.23	0.74
38:g:10:LYS:NZ	55:y:408:GLU:HA	2.03	0.74
55:y:110:GLY:CA	55:y:153:GLU:O	2.36	0.73
38:gg:10:LYS:HZ1	55:yy:408:GLU:CA	2.01	0.73
14:H:77:THR:HA	14:H:143:ILE:O	1.87	0.73
55:yy:304:VAL:HG12	55:yy:309:MET:SD	2.28	0.73
33:bb:18:GLN:NE2	55:yy:76:GLU:CD	2.36	0.73
33:b:18:GLN:HE22	55:y:76:GLU:CG	1.86	0.73
19:N:77:ALA:O	19:N:81:ASN:HB2	1.89	0.73
38:gg:10:LYS:NZ	55:yy:408:GLU:HA	2.03	0.73
55:y:19:ARG:HB2	55:y:73:ASP:OD2	1.88	0.73
38:gg:36:SER:HG	40:ii:42:THR:HG1	1.36	0.73
55:y:304:VAL:HG12	55:y:309:MET:SD	2.28	0.73
54:xx:26:LYS:HE2	54:xx:30:TYR:CD1	2.23	0.72
55:yy:98:LEU:O	55:yy:102:TYR:CB	2.36	0.72
55:yy:110:GLY:CA	55:yy:153:GLU:O	2.36	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:100:LYS:CA	55:yy:105:ALA:O	2.30	0.72
55:yy:19:ARG:HB2	55:yy:73:ASP:OD2	1.88	0.72
36:e:55:VAL:HG23	33:bb:233:GLU:HA	1.71	0.72
55:y:70:VAL:HA	55:y:85:SER:CB	2.20	0.72
55:y:98:LEU:O	55:y:102:TYR:CB	2.36	0.72
19:NN:77:ALA:O	19:NN:81:ASN:HB2	1.89	0.72
36:e:55:VAL:CB	33:bb:233:GLU:N	2.53	0.72
54:xx:3:LEU:HD23	54:xx:3:LEU:C	2.15	0.72
38:g:36:SER:HG	40:i:42:THR:HG1	1.37	0.72
55:y:100:LYS:CA	55:y:105:ALA:C	2.62	0.71
32:aa:1230:C:C5'	54:xx:2:GLN:HE22	2.02	0.71
33:b:231:GLN:NE2	35:dd:46:ARG:HA	2.05	0.71
38:gg:4:ARG:HB2	53:vv:2:LYS:HB2	1.72	0.71
55:yy:86:ARG:O	55:yy:89:ALA:HB3	1.91	0.71
55:yy:70:VAL:HA	55:yy:85:SER:CB	2.20	0.71
38:g:10:LYS:NZ	55:y:408:GLU:CB	2.54	0.71
40:i:128:LYS:HE3	54:x:60:GLU:OE2	1.91	0.71
38:gg:10:LYS:NZ	55:yy:408:GLU:CB	2.54	0.71
55:yy:100:LYS:CA	55:yy:105:ALA:C	2.62	0.71
54:x:48:HIS:ND1	54:x:70:MET:HE2	2.06	0.70
33:b:232:ALA:HB3	36:ee:55:VAL:HG12	1.66	0.70
55:y:86:ARG:O	55:y:89:ALA:HB3	1.91	0.70
55:yy:70:VAL:HA	55:yy:85:SER:CA	2.22	0.70
55:y:19:ARG:HD3	55:y:73:ASP:OD1	1.92	0.70
55:y:359:GLU:O	55:y:360:THR:C	2.34	0.70
40:ii:128:LYS:HE3	54:xx:60:GLU:OE2	1.91	0.70
55:y:70:VAL:HA	55:y:85:SER:CA	2.21	0.70
54:xx:27:LEU:C	54:xx:27:LEU:HD12	2.17	0.70
11:EE:178:VAL:O	11:EE:182:ALA:HB2	1.92	0.70
54:xx:19:PHE:CZ	54:xx:23:LYS:CD	2.75	0.70
55:y:19:ARG:HD3	55:y:73:ASP:OD2	1.92	0.70
54:xx:48:HIS:ND1	54:xx:70:MET:HE2	2.06	0.70
33:b:43:GLU:HG3	55:y:6:ALA:CB	2.22	0.69
33:bb:43:GLU:HG3	55:yy:6:ALA:CB	2.22	0.69
54:x:27:LEU:C	54:x:27:LEU:HD12	2.17	0.69
11:E:178:VAL:O	11:E:182:ALA:HB2	1.92	0.69
55:yy:359:GLU:O	55:yy:360:THR:C	2.34	0.69
38:g:4:ARG:HB2	53:v:2:LYS:HB2	1.72	0.69
32:aa:1230:C:H5'	54:xx:2:GLN:HE22	1.56	0.69
33:b:18:GLN:HE21	55:y:76:GLU:CG	1.89	0.69
36:e:55:VAL:HB	33:bb:233:GLU:N	2.07	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:19:ARG:HD3	55:yy:73:ASP:OD2	1.92	0.69
54:x:3:LEU:HD23	54:x:3:LEU:C	2.17	0.69
55:y:379:ILE:CB	55:y:392:HIS:O	2.41	0.69
55:yy:99:GLU:O	55:yy:103:GLU:CB	2.41	0.69
55:yy:117:LYS:CB	55:yy:279:LYS:O	2.41	0.69
55:yy:379:ILE:CB	55:yy:392:HIS:O	2.41	0.69
32:a:1537:U:O2'	55:y:341:ARG:NH1	2.26	0.68
33:b:232:ALA:O	36:ee:55:VAL:CG1	2.30	0.68
38:gg:154:ALA:HB3	53:vv:18:GLN:NE2	2.09	0.68
54:x:19:PHE:CZ	54:x:23:LYS:CD	2.75	0.68
54:xx:44:GLU:O	54:xx:45:LYS:HG3	1.90	0.68
55:yy:19:ARG:HD3	55:yy:73:ASP:OD1	1.92	0.68
32:a:1230:C:H5'	54:x:2:GLN:HE22	1.59	0.68
55:y:356:GLN:O	55:y:360:THR:N	2.27	0.68
32:aa:1537:U:O2'	55:yy:341:ARG:NH1	2.26	0.68
55:yy:110:GLY:HA3	55:yy:153:GLU:O	1.94	0.68
55:yy:356:GLN:O	55:yy:360:THR:N	2.27	0.68
33:b:18:GLN:NE2	55:y:76:GLU:CD	2.36	0.67
55:y:99:GLU:O	55:y:103:GLU:CB	2.42	0.67
55:y:117:LYS:CB	55:y:279:LYS:O	2.41	0.67
7:AA:1252:G:H1	22:QQ:36:GLN:HE21	1.42	0.67
55:yy:110:GLY:H	55:yy:153:GLU:CA	2.07	0.67
33:b:31:PHE:HB2	33:b:39:ILE:HB	1.77	0.67
40:ii:83:THR:HG21	40:ii:102:PHE:HB3	1.77	0.67
55:yy:70:VAL:HA	55:yy:85:SER:HA	1.76	0.67
7:A:2116:G:H22	7:A:2171:A:H61	1.43	0.67
55:y:110:GLY:N	55:y:153:GLU:C	2.53	0.67
40:i:83:THR:HG21	40:i:102:PHE:HB3	1.77	0.67
55:y:311:TRP:NE1	55:y:351:ALA:N	2.43	0.67
33:bb:140:LEU:O	33:bb:144:GLU:HB2	1.95	0.67
32:aa:664:G:H22	32:aa:741:G:H1	1.43	0.67
55:y:110:GLY:H	55:y:153:GLU:CA	2.08	0.66
55:y:110:GLY:HA3	55:y:153:GLU:O	1.94	0.66
42:kk:92:ARG:HE	52:uu:20:ARG:HD3	1.60	0.66
55:yy:311:TRP:NE1	55:yy:351:ALA:N	2.43	0.66
7:A:1252:G:H1	22:Q:36:GLN:HE21	1.41	0.66
33:b:140:LEU:O	33:b:144:GLU:HB2	1.95	0.66
38:g:154:ALA:HB3	53:v:18:GLN:NE2	2.08	0.66
54:x:19:PHE:HE1	54:x:23:LYS:CE	1.67	0.66
55:yy:110:GLY:N	55:yy:153:GLU:C	2.53	0.66
7:AA:2116:G:H22	7:AA:2171:A:H61	1.43	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:2848:G:O2'	7:AA:2867:G:N2	2.28	0.66
54:xx:33:ARG:HD2	54:xx:57:ASP:OD2	1.95	0.66
7:A:571:U:H3'	23:R:80:ARG:HH22	1.60	0.66
33:bb:31:PHE:HB2	33:bb:39:ILE:HB	1.77	0.66
32:aa:684:U:H1'	42:kk:39:ASN:HB2	1.78	0.66
32:a:664:G:H22	32:a:741:G:H1	1.43	0.66
54:x:19:PHE:HE1	54:x:23:LYS:HE2	0.83	0.66
33:b:231:GLN:NE2	35:dd:46:ARG:CA	2.54	0.66
55:y:162:LYS:CB	55:y:298:GLU:OE1	2.44	0.66
7:AA:2139:U:O2	7:AA:2152:G:C2	2.49	0.66
48:qq:63:CYS:HG	48:qq:73:THR:HG1	1.44	0.66
55:yy:118:GLY:C	55:yy:133:GLY:CA	2.68	0.66
7:A:2139:U:O2	7:A:2152:G:C2	2.49	0.66
7:A:2848:G:O2'	7:A:2867:G:N2	2.28	0.66
32:a:932:C:OP2	53:v:11:ARG:NH2	2.29	0.66
55:y:135:LEU:CA	55:y:157:ILE:CB	2.74	0.66
42:k:92:ARG:HE	52:u:20:ARG:HD3	1.60	0.65
55:yy:135:LEU:CA	55:yy:157:ILE:CB	2.74	0.65
32:a:1401:G:O6	54:x:83:ARG:NH2	2.30	0.65
33:b:62:ARG:HD2	36:ee:10:LEU:CD2	2.22	0.65
34:cc:53:ARG:O	34:cc:68:HIS:HB2	1.96	0.65
32:a:684:U:H1'	42:k:39:ASN:HB2	1.78	0.65
52:u:20:ARG:O	52:u:24:LYS:HB3	1.96	0.65
32:a:1230:C:H5''	54:x:2:GLN:HE22	1.61	0.65
54:x:33:ARG:HD2	54:x:57:ASP:OD2	1.95	0.65
55:yy:52:GLN:O	55:yy:53:PHE:CD1	2.50	0.65
55:yy:162:LYS:CB	55:yy:298:GLU:OE1	2.44	0.65
32:a:1367:C:H5''	40:i:115:VAL:HG23	1.79	0.65
55:y:52:GLN:O	55:y:53:PHE:CD1	2.50	0.65
55:yy:85:SER:O	55:yy:88:LYS:CB	2.45	0.65
55:y:85:SER:O	55:y:88:LYS:CB	2.45	0.65
55:y:332:VAL:HG12	55:y:334:ASP:H	1.61	0.65
32:aa:932:C:OP2	53:vv:11:ARG:NH2	2.29	0.65
55:yy:311:TRP:NE1	55:yy:350:LYS:C	2.55	0.65
55:y:311:TRP:NE1	55:y:350:LYS:C	2.55	0.64
7:AA:571:U:H3'	23:RR:80:ARG:HH22	1.60	0.64
31:ZZ:7:THR:HA	31:ZZ:33:HIS:O	1.97	0.64
32:aa:1367:C:H5''	40:ii:115:VAL:HG23	1.79	0.64
32:aa:1493:A:OP2	54:xx:72:ALA:HB2	1.97	0.64
55:y:70:VAL:HA	55:y:85:SER:HA	1.76	0.64
34:c:53:ARG:O	34:c:68:HIS:HB2	1.97	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:x:44:GLU:O	54:x:45:LYS:HG3	1.90	0.64
32:aa:1401:G:O6	54:xx:83:ARG:NH2	2.30	0.64
31:Z:7:THR:HA	31:Z:33:HIS:O	1.97	0.64
52:uu:20:ARG:O	52:uu:24:LYS:HB3	1.96	0.64
1:0:30:ASP:HB3	1:0:34:GLY:H	1.63	0.64
31:ZZ:6:ILE:O	31:ZZ:34:THR:HA	1.98	0.64
54:xx:44:GLU:C	54:xx:45:LYS:CG	2.69	0.64
48:qq:30:HIS:HD2	48:qq:33:TYR:H	1.46	0.64
50:ss:30:LEU:HB2	50:ss:48:ILE:HG22	1.79	0.64
41:j:8:ILE:HG12	41:j:100:ILE:HG22	1.79	0.64
48:q:30:HIS:HD2	48:q:33:TYR:H	1.45	0.64
55:yy:162:LYS:CB	55:yy:298:GLU:OE2	2.45	0.64
54:x:14:GLU:O	54:x:18:GLU:HG3	1.98	0.64
10:DD:38:LYS:O	10:DD:46:ARG:HA	1.97	0.64
33:b:232:ALA:C	36:ee:55:VAL:CB	2.71	0.64
41:j:52:LEU:HD21	41:j:59:LYS:HD2	1.80	0.64
14:HH:82:SER:O	14:HH:148:ALA:HA	1.98	0.64
54:xx:19:PHE:HE1	54:xx:23:LYS:HE2	0.84	0.64
31:Z:6:ILE:O	31:Z:34:THR:HA	1.98	0.63
54:x:58:GLY:HA3	54:x:88:HIS:CE1	2.33	0.63
1:00:30:ASP:HB3	1:00:34:GLY:H	1.63	0.63
24:SS:86:MET:O	24:SS:94:ASP:HB3	1.98	0.63
55:yy:49:PRO:CD	55:yy:84:LEU:HD11	2.28	0.63
7:A:277:G:H1'	7:A:361:G:H1	1.63	0.63
7:A:1153:C:OP1	22:Q:91:ARG:NH2	2.30	0.63
24:S:86:MET:O	24:S:94:ASP:HB3	1.98	0.63
54:xx:58:GLY:HA3	54:xx:88:HIS:CE1	2.33	0.63
55:yy:332:VAL:HG12	55:yy:334:ASP:H	1.62	0.63
10:D:38:LYS:O	10:D:46:ARG:HA	1.97	0.63
33:b:233:GLU:HA	36:ee:55:VAL:HG21	1.79	0.63
33:bb:78:ALA:O	33:bb:82:ALA:HB3	1.99	0.63
54:xx:14:GLU:O	54:xx:18:GLU:HG3	1.98	0.63
14:H:82:SER:O	14:H:148:ALA:HA	1.98	0.63
54:xx:23:LYS:HE3	54:xx:75:ASP:OD1	1.98	0.63
15:J:98:GLU:O	15:J:102:GLU:HB2	1.99	0.63
33:b:78:ALA:O	33:b:82:ALA:HB3	1.98	0.63
33:b:204:ASP:OD2	55:y:43:LYS:NZ	2.32	0.63
35:d:24:VAL:O	55:yy:5:PHE:CE1	2.47	0.63
7:AA:1153:C:OP1	22:QQ:91:ARG:NH2	2.30	0.63
49:rr:33:THR:HG23	49:rr:35:SER:H	1.63	0.63
32:a:1493:A:OP2	54:x:72:ALA:HB2	1.98	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:k:87:GLY:H	42:k:113:THR:HG22	1.63	0.63
50:s:30:LEU:HB2	50:s:48:ILE:HG22	1.79	0.63
37:ff:6:ILE:HD11	37:ff:71:ILE:HD11	1.81	0.63
41:jj:8:ILE:HG12	41:jj:100:ILE:HG22	1.79	0.63
9:C:106:PRO:HD2	9:C:109:LEU:HD22	1.81	0.63
55:y:49:PRO:CD	55:y:84:LEU:HD11	2.28	0.63
55:y:359:GLU:C	55:y:362:ASN:H	2.04	0.63
54:xx:23:LYS:O	54:xx:78:ILE:HD11	1.98	0.63
30:Y:24:GLU:O	30:Y:28:LEU:HB2	2.00	0.62
33:b:218:ALA:O	33:b:222:GLU:HB3	2.00	0.62
15:JJ:98:GLU:O	15:JJ:102:GLU:HB2	1.99	0.62
35:dd:102:TYR:O	35:dd:164:ARG:NH2	2.32	0.62
55:yy:99:GLU:O	55:yy:103:GLU:CA	2.46	0.62
26:UU:14:THR:OG1	26:UU:68:ASN:ND2	2.32	0.62
34:c:150:VAL:O	34:c:166:TRP:HA	1.99	0.62
52:u:16:ARG:O	52:u:20:ARG:HB3	1.99	0.62
54:x:20:VAL:CG2	54:x:74:ILE:HD13	2.28	0.62
54:x:23:LYS:HE3	54:x:75:ASP:OD1	1.99	0.62
7:AA:2143:C:O2	7:AA:2148:G:N2	2.32	0.62
33:bb:218:ALA:O	33:bb:222:GLU:HB3	1.99	0.62
42:kk:87:GLY:H	42:kk:113:THR:HG22	1.63	0.62
45:nn:42:TRP:O	45:nn:46:LEU:HB2	1.99	0.62
47:pp:4:ILE:HG12	47:pp:21:VAL:HG22	1.81	0.62
52:uu:16:ARG:O	52:uu:20:ARG:HB3	1.99	0.62
32:a:1494:G:OP1	54:x:75:ASP:CB	2.47	0.62
41:j:82:LYS:O	41:j:86:ALA:HB2	2.00	0.62
7:AA:585:G:N7	22:QQ:5:ARG:NH1	2.47	0.62
7:A:2279:G:N7	28:W:10:ARG:NH2	2.48	0.62
47:p:4:ILE:HG12	47:p:21:VAL:HG22	1.81	0.62
54:x:23:LYS:O	54:x:78:ILE:HD11	1.98	0.62
55:yy:119:GLY:CA	55:yy:131:LEU:O	2.46	0.62
4:3:18:LYS:HG3	7:A:651:G:H5'	1.82	0.62
7:A:585:G:N7	22:Q:5:ARG:NH1	2.47	0.62
49:r:33:THR:HG23	49:r:35:SER:H	1.63	0.62
55:y:19:ARG:O	55:y:72:LEU:CB	2.41	0.62
55:y:110:GLY:N	55:y:153:GLU:O	2.32	0.62
40:i:33:SER:H	40:i:36:GLN:HE21	1.48	0.62
55:y:304:VAL:HG12	55:y:304:VAL:O	1.99	0.62
40:ii:33:SER:H	40:ii:36:GLN:HE21	1.48	0.62
18:M:59:ARG:HH21	18:M:60:GLN:HB3	1.64	0.62
33:b:233:GLU:CA	36:ee:55:VAL:HG21	2.29	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:102:TYR:O	35:d:164:ARG:NH2	2.32	0.62
55:y:280:LEU:N	55:y:330:VAL:O	2.32	0.62
7:AA:277:G:H1'	7:AA:361:G:H1	1.63	0.62
32:aa:1494:G:OP1	54:xx:75:ASP:CB	2.47	0.62
34:cc:150:VAL:O	34:cc:166:TRP:HA	1.99	0.62
41:jj:52:LEU:HD21	41:jj:59:LYS:HD2	1.80	0.62
55:yy:110:GLY:N	55:yy:153:GLU:O	2.32	0.62
7:A:2773:C:OP1	10:D:169:ARG:NH2	2.33	0.62
7:AA:2279:G:N7	28:WW:10:ARG:NH2	2.48	0.62
35:d:140:ASP:O	35:d:180:THR:HA	2.00	0.61
37:f:6:ILE:HD11	37:f:71:ILE:HD11	1.81	0.61
55:y:119:GLY:CA	55:y:131:LEU:O	2.46	0.61
35:dd:140:ASP:O	35:dd:180:THR:HA	2.00	0.61
54:xx:27:LEU:CD2	54:xx:78:ILE:HG13	2.30	0.61
50:s:10:ILE:HD13	50:s:15:LEU:HB2	1.82	0.61
38:g:10:LYS:NZ	55:y:408:GLU:CA	2.63	0.61
33:bb:204:ASP:OD2	55:yy:43:LYS:NZ	2.32	0.61
45:n:42:TRP:O	45:n:46:LEU:HB2	1.99	0.61
55:y:84:LEU:HD22	55:y:84:LEU:N	2.16	0.61
40:ii:91:GLU:OE2	40:ii:94:ARG:NH1	2.33	0.61
26:U:14:THR:OG1	26:U:68:ASN:ND2	2.33	0.61
55:y:99:GLU:O	55:y:103:GLU:CA	2.47	0.61
18:MM:59:ARG:HH21	18:MM:60:GLN:HB3	1.64	0.61
55:yy:280:LEU:N	55:yy:330:VAL:O	2.32	0.61
14:H:43:ASN:O	14:H:47:PHE:HB2	2.01	0.61
33:b:204:ASP:CG	55:y:43:LYS:NZ	2.58	0.61
7:AA:1566:A:H5'	9:CC:213:ARG:HE	1.64	0.61
26:UU:6:ARG:NH2	26:UU:25:LYS:O	2.34	0.61
33:bb:204:ASP:CG	55:yy:43:LYS:NZ	2.58	0.61
26:U:6:ARG:NH2	26:U:25:LYS:O	2.34	0.61
9:CC:106:PRO:HD2	9:CC:109:LEU:HD22	1.81	0.61
30:YY:24:GLU:O	30:YY:28:LEU:HB2	2.00	0.61
32:a:76:G:H1	32:a:93:U:H3	1.47	0.61
43:ll:113:ARG:HB2	43:ll:118:VAL:HB	1.83	0.61
7:AA:2773:C:OP1	10:DD:169:ARG:NH2	2.33	0.61
54:xx:20:VAL:CG2	54:xx:74:ILE:HD13	2.28	0.61
55:yy:19:ARG:O	55:yy:72:LEU:CB	2.41	0.61
7:A:309:A:N3	7:A:329:G:O2'	2.34	0.61
32:a:1533:C:H5''	53:v:26:LYS:HG3	1.83	0.61
55:y:162:LYS:CB	55:y:298:GLU:OE2	2.45	0.61
7:AA:2304:G:H22	7:AA:2312:U:H3	1.48	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:jj:82:LYS:O	41:jj:86:ALA:HB2	2.00	0.61
7:A:837:C:N3	7:A:941:A:N6	2.49	0.60
7:A:1566:A:H5'	9:C:213:ARG:HE	1.64	0.60
7:AA:1857:G:N2	7:AA:1884:G:O2'	2.34	0.60
55:yy:304:VAL:HG12	55:yy:304:VAL:O	1.99	0.60
38:g:27:ASN:OD1	38:g:35:LYS:NZ	2.34	0.60
54:x:33:ARG:O	54:x:33:ARG:HG3	2.01	0.60
4:33:18:LYS:HG3	7:AA:651:G:H5'	1.82	0.60
19:NN:24:MET:HE2	19:NN:44:LEU:HD22	1.83	0.60
30:YY:57:LEU:O	30:YY:61:ALA:HB3	2.01	0.60
50:ss:10:ILE:HD13	50:ss:15:LEU:HB2	1.82	0.60
54:xx:33:ARG:HG3	54:xx:33:ARG:O	2.01	0.60
7:A:2304:G:H22	7:A:2312:U:H3	1.48	0.60
40:i:91:GLU:OE2	40:i:94:ARG:NH1	2.34	0.60
55:y:117:LYS:CB	55:y:278:THR:HG23	2.32	0.60
55:y:118:GLY:C	55:y:133:GLY:CA	2.68	0.60
54:x:27:LEU:CD2	54:x:78:ILE:HG13	2.30	0.60
7:A:1154:G:OP2	22:Q:57:ARG:NH1	2.34	0.60
33:bb:18:GLN:HE21	55:yy:76:GLU:CG	1.89	0.60
55:yy:359:GLU:C	55:yy:362:ASN:H	2.04	0.60
7:A:475:C:O2	7:A:479:A:N6	2.33	0.60
55:y:305:HIS:O	55:y:306:VAL:HB	2.00	0.60
1:00:37:HIS:ND1	1:00:38:LEU:O	2.35	0.60
14:HH:43:ASN:O	14:HH:47:PHE:HB2	2.01	0.60
32:aa:76:G:H1	32:aa:93:U:H3	1.47	0.60
46:oo:31:LEU:HD22	46:oo:58:MET:HB2	1.83	0.60
16:K:76:VAL:H	21:P:72:VAL:HG22	1.67	0.60
19:N:24:MET:HE2	19:N:44:LEU:HD22	1.82	0.60
55:y:284:VAL:HG12	55:y:294:VAL:HB	1.84	0.60
55:yy:84:LEU:HD22	55:yy:84:LEU:N	2.16	0.60
7:A:2298:A:OP1	12:F:70:ARG:NH2	2.35	0.60
9:C:184:GLU:HG3	9:C:186:ASP:H	1.66	0.60
7:AA:2298:A:OP1	12:FF:70:ARG:NH2	2.35	0.60
9:CC:184:GLU:HG3	9:CC:186:ASP:H	1.66	0.60
55:yy:305:HIS:O	55:yy:306:VAL:HB	2.00	0.60
14:H:47:PHE:HA	14:H:51:ARG:HB2	1.84	0.60
40:i:104:THR:HG22	40:i:106:ASP:H	1.66	0.60
54:x:3:LEU:HA	54:x:37:VAL:HG13	1.83	0.60
10:DD:179:ARG:HB3	10:DD:188:LEU:HD12	1.83	0.60
7:A:1857:G:N2	7:A:1884:G:O2'	2.34	0.60
10:D:19:GLY:HA2	21:P:78:PRO:HG2	1.84	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:1154:G:OP2	22:QQ:57:ARG:NH1	2.34	0.60
32:a:673:A:O3'	37:f:86:ARG:NH2	2.35	0.59
45:n:39:GLU:O	45:n:43:ASN:HB2	2.02	0.59
46:o:31:LEU:HD22	46:o:58:MET:HB2	1.83	0.59
55:y:305:HIS:CD2	55:y:307:SER:H	2.19	0.59
55:y:331:MET:N	55:y:331:MET:SD	2.75	0.59
9:CC:18:VAL:HB	9:CC:202:ARG:HH21	1.67	0.59
7:A:2143:C:O2	7:A:2148:G:N2	2.32	0.59
15:J:96:ARG:NH2	15:J:98:GLU:OE1	2.35	0.59
33:b:232:ALA:HB1	36:ee:55:VAL:HG13	1.69	0.59
16:KK:9:ASN:OD1	16:KK:18:ARG:NH1	2.35	0.59
32:aa:673:A:O3'	37:ff:86:ARG:NH2	2.35	0.59
32:aa:1533:C:H5''	53:vv:26:LYS:HG3	1.83	0.59
42:kk:23:HIS:HB3	42:kk:30:ILE:HG13	1.84	0.59
55:yy:117:LYS:CB	55:yy:278:THR:HG23	2.31	0.59
50:s:35:ARG:NH2	50:s:74:ALA:O	2.36	0.59
54:x:77:LEU:C	54:x:77:LEU:HD13	2.28	0.59
55:y:118:GLY:C	55:y:133:GLY:HA2	2.28	0.59
40:ii:104:THR:HG22	40:ii:106:ASP:H	1.66	0.59
45:nn:39:GLU:O	45:nn:43:ASN:HB2	2.03	0.59
5:4:1:MET:HE2	5:4:36:ARG:HB2	1.85	0.59
10:D:14:ILE:HA	21:P:11:GLN:HE22	1.68	0.59
13:G:1:SER:OG	13:G:2:ARG:N	2.36	0.59
16:K:9:ASN:OD1	16:K:18:ARG:NH1	2.35	0.59
56:w:50:U:H3	56:w:64:G:H1	1.50	0.59
7:AA:2618:G:H21	10:DD:155:VAL:HG21	1.67	0.59
33:b:43:GLU:OE1	55:y:3:GLU:O	2.20	0.59
7:AA:475:C:O2	7:AA:479:A:N6	2.33	0.59
55:yy:305:HIS:HD2	55:yy:306:VAL:H	1.49	0.59
55:yy:331:MET:N	55:yy:331:MET:SD	2.75	0.59
23:R:76:LYS:O	23:R:84:ARG:HA	2.03	0.59
55:y:119:GLY:HA3	55:y:132:PRO:C	2.28	0.59
55:yy:305:HIS:CD2	55:yy:307:SER:H	2.20	0.59
10:D:179:ARG:HB3	10:D:188:LEU:HD12	1.83	0.59
16:K:88:ASN:ND2	16:K:93:GLN:O	2.36	0.59
43:l:113:ARG:HB2	43:l:118:VAL:HB	1.83	0.59
32:aa:1538:C:H41	55:yy:341:ARG:HG2	1.65	0.59
40:ii:89:TYR:HB3	40:ii:93:LEU:HD12	1.85	0.59
55:y:100:LYS:O	55:y:104:ASP:N	2.36	0.59
7:AA:1508:A:O2'	7:AA:1509:A:O4'	2.21	0.59
7:A:2618:G:H21	10:D:155:VAL:HG21	1.68	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:22:ARG:HG3	19:N:70:THR:HA	1.85	0.59
30:Y:57:LEU:O	30:Y:61:ALA:HB3	2.02	0.59
55:y:110:GLY:H	55:y:153:GLU:C	2.11	0.59
5:44:1:MET:HE2	5:44:36:ARG:HB2	1.84	0.59
50:ss:35:ARG:NH2	50:ss:74:ALA:O	2.36	0.59
55:yy:100:LYS:O	55:yy:104:ASP:N	2.36	0.59
32:a:1368:A:OP1	41:j:64:GLN:NE2	2.36	0.59
38:g:10:LYS:HZ3	55:y:408:GLU:CB	2.16	0.59
38:g:111:GLY:HA2	38:g:118:ARG:HD3	1.85	0.59
55:y:305:HIS:HD2	55:y:306:VAL:H	1.49	0.59
7:AA:837:C:N3	7:AA:941:A:N6	2.49	0.59
7:AA:948:C:O2	7:AA:984:A:O2'	2.20	0.59
16:KK:76:VAL:H	21:PP:72:VAL:HG22	1.67	0.59
28:WW:7:ARG:O	28:WW:10:ARG:NH1	2.36	0.59
32:aa:1441:A:H62	32:aa:1461:G:H21	1.50	0.59
33:bb:43:GLU:OE1	55:yy:3:GLU:O	2.20	0.59
36:ee:156:ARG:NH2	39:hh:42:GLU:OE2	2.36	0.59
38:gg:27:ASN:OD1	38:gg:35:LYS:NZ	2.34	0.59
38:gg:111:GLY:HA2	38:gg:118:ARG:HD3	1.85	0.58
39:hh:9:MET:HG3	39:hh:26:MET:HE2	1.85	0.58
34:c:52:SER:N	34:c:68:HIS:O	2.36	0.58
36:e:156:ARG:NH2	39:h:42:GLU:OE2	2.37	0.58
39:h:10:LEU:HD22	39:h:74:ILE:HD11	1.85	0.58
7:AA:2139:U:O2	7:AA:2152:G:N2	2.36	0.58
54:xx:77:LEU:HD13	54:xx:77:LEU:C	2.27	0.58
55:yy:284:VAL:HG12	55:yy:294:VAL:HB	1.84	0.58
9:C:18:VAL:HB	9:C:202:ARG:HH21	1.67	0.58
12:F:134:GLN:HB3	12:F:140:ILE:HG13	1.85	0.58
28:W:7:ARG:O	28:W:10:ARG:NH1	2.36	0.58
33:b:232:ALA:CA	36:ee:55:VAL:CG1	2.42	0.58
7:AA:309:A:N3	7:AA:329:G:O2'	2.34	0.58
7:AA:2720:U:OP1	21:PP:52:ARG:NH2	2.36	0.58
38:gg:10:LYS:NZ	55:yy:408:GLU:CA	2.63	0.58
55:yy:119:GLY:HA3	55:yy:132:PRO:C	2.28	0.58
33:b:204:ASP:OD1	55:y:43:LYS:NZ	2.37	0.58
14:HH:47:PHE:HA	14:HH:51:ARG:HB2	1.84	0.58
54:xx:28:GLU:HG3	54:xx:34:ILE:CD1	2.25	0.58
55:yy:110:GLY:H	55:yy:153:GLU:C	2.11	0.58
56:ww:50:U:H3	56:ww:64:G:H1	1.50	0.58
36:e:55:VAL:CB	33:bb:233:GLU:HA	2.33	0.58
41:j:7:ARG:HB3	41:j:101:SER:HB2	1.85	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:JJ:96:ARG:NH2	15:JJ:98:GLU:OE1	2.35	0.58
38:gg:146:ALA:O	42:kk:55:ARG:NH2	2.37	0.58
41:jj:7:ARG:HB3	41:jj:101:SER:HB2	1.85	0.58
11:E:44:ARG:HH11	11:E:46:GLN:HE22	1.52	0.58
17:L:95:LEU:HD22	17:L:100:ILE:HD11	1.86	0.58
38:g:146:ALA:O	42:k:55:ARG:NH2	2.37	0.58
16:KK:88:ASN:ND2	16:KK:93:GLN:O	2.36	0.58
17:LL:95:LEU:HD22	17:LL:100:ILE:HD11	1.86	0.58
1:O:37:HIS:ND1	1:O:38:LEU:O	2.35	0.58
7:A:2720:U:OP1	21:P:52:ARG:NH2	2.36	0.58
7:AA:807:U:OP2	17:LL:41:ARG:NH1	2.36	0.58
12:FF:134:GLN:HB3	12:FF:140:ILE:HG13	1.85	0.58
34:cc:52:SER:N	34:cc:68:HIS:O	2.36	0.58
49:rr:33:THR:OG1	55:yy:338:GLU:HG3	2.04	0.58
55:yy:291:GLY:HA2	55:yy:305:HIS:HA	1.86	0.58
32:a:816:A:OP1	32:a:1526:G:O2'	2.22	0.58
38:g:69:ARG:HH12	38:g:96:ASN:HB3	1.69	0.58
55:y:36:VAL:HB	55:y:48:ILE:HB	1.85	0.58
55:y:330:VAL:HB	55:y:344:LEU:HD23	1.86	0.58
7:A:807:U:OP2	17:L:41:ARG:NH1	2.36	0.58
32:a:958:A:N7	50:s:54:ARG:NH1	2.52	0.58
32:a:1027:C:OP2	32:a:1028:C:N4	2.37	0.58
35:d:171:GLU:HB2	35:d:182:LYS:HE3	1.86	0.58
42:k:23:HIS:HB3	42:k:30:ILE:HG13	1.84	0.58
55:y:72:LEU:HD12	55:y:72:LEU:N	2.11	0.58
7:AA:244:A:O2'	17:LL:69:ARG:NH2	2.37	0.58
33:bb:204:ASP:OD1	55:yy:43:LYS:NZ	2.37	0.58
35:dd:171:GLU:HB2	35:dd:182:LYS:HE3	1.86	0.58
55:yy:100:LYS:O	55:yy:105:ALA:CA	2.51	0.58
7:A:1996:C:OP1	16:K:31:ARG:NH1	2.37	0.58
15:J:115:GLY:HA2	15:J:118:MET:HG2	1.86	0.58
24:S:25:ARG:NH1	24:S:74:ILE:O	2.37	0.58
32:a:618:C:O2'	47:p:14:ARG:NH1	2.37	0.58
32:a:1060:U:OP1	45:n:85:ARG:NH2	2.35	0.58
38:g:56:SER:O	38:g:60:ALA:HB2	2.04	0.58
11:EE:44:ARG:HH11	11:EE:46:GLN:HE22	1.52	0.58
34:cc:64:ARG:HG2	34:cc:99:GLN:HB2	1.86	0.58
55:yy:311:TRP:CE2	55:yy:351:ALA:N	2.72	0.58
1:O:5:ASN:HD21	7:A:2020:A:H62	1.52	0.57
7:A:1508:A:O2'	7:A:1509:A:O4'	2.21	0.57
38:g:4:ARG:NE	53:v:1:MET:HA	2.19	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:00:5:ASN:HD21	7:AA:2020:A:H62	1.52	0.57
10:DD:14:ILE:HA	21:PP:11:GLN:HE22	1.67	0.57
10:DD:19:GLY:HA2	21:PP:78:PRO:HG2	1.84	0.57
15:JJ:115:GLY:HA2	15:JJ:118:MET:HG2	1.85	0.57
23:RR:76:LYS:O	23:RR:84:ARG:HA	2.02	0.57
55:yy:36:VAL:HB	55:yy:48:ILE:HB	1.85	0.57
7:A:781:A:OP1	9:C:216:ARG:NH2	2.36	0.57
7:A:2139:U:O2	7:A:2152:G:N2	2.36	0.57
32:a:1441:A:H62	32:a:1461:G:H21	1.51	0.57
39:h:28:SER:HB3	39:h:56:PRO:HB2	1.85	0.57
55:y:100:LYS:O	55:y:105:ALA:CA	2.51	0.57
55:y:110:GLY:N	55:y:153:GLU:CA	2.66	0.57
19:NN:22:ARG:HG3	19:NN:70:THR:HA	1.85	0.57
24:SS:25:ARG:NH1	24:SS:74:ILE:O	2.37	0.57
32:aa:1027:C:OP2	32:aa:1028:C:N4	2.37	0.57
32:aa:1368:A:OP1	41:jj:64:GLN:NE2	2.36	0.57
38:gg:69:ARG:HH12	38:gg:96:ASN:HB3	1.69	0.57
8:B:37:C:O2	20:O:100:HIS:NE2	2.35	0.57
14:H:97:ARG:HG2	14:H:112:LYS:HD2	1.85	0.57
38:g:10:LYS:HZ1	55:y:408:GLU:CB	2.15	0.57
39:h:9:MET:HG3	39:h:26:MET:HE2	1.85	0.57
32:aa:618:C:O2'	47:pp:14:ARG:NH1	2.37	0.57
7:A:1817:G:OP1	9:C:86:ARG:NH2	2.38	0.57
49:r:33:THR:OG1	55:y:338:GLU:HG3	2.04	0.57
7:AA:781:A:OP1	9:CC:216:ARG:NH2	2.36	0.57
7:AA:877:A:O2'	7:AA:900:A:N6	2.37	0.57
32:aa:673:A:H2'	32:aa:674:G:C8	2.40	0.57
36:ee:54:GLU:HG2	36:ee:56:PRO:HD2	1.87	0.57
7:AA:1817:G:OP1	9:CC:86:ARG:NH2	2.38	0.57
7:AA:1996:C:OP1	16:KK:31:ARG:NH1	2.37	0.57
38:gg:4:ARG:NE	53:vv:1:MET:HA	2.19	0.57
55:yy:72:LEU:HD12	55:yy:72:LEU:N	2.11	0.57
55:yy:370:LYS:O	55:yy:415:ILE:HA	2.04	0.57
7:A:2831:G:OP2	10:D:59:ARG:NH1	2.37	0.57
33:b:233:GLU:HA	36:ee:55:VAL:HB	1.86	0.57
42:k:84:MET:SD	42:k:110:THR:OG1	2.62	0.57
39:hh:28:SER:HB3	39:hh:56:PRO:HB2	1.85	0.57
55:yy:110:GLY:N	55:yy:153:GLU:CA	2.66	0.57
7:A:877:A:O2'	7:A:900:A:N6	2.37	0.57
40:i:89:TYR:HB3	40:i:93:LEU:HD12	1.85	0.57
55:y:311:TRP:CE2	55:y:351:ALA:N	2.72	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:1230:C:H5'	54:xx:2:GLN:NE2	2.19	0.57
7:A:848:C:H2'	7:A:849:A:H8	1.70	0.57
11:E:119:ILE:O	11:E:187:VAL:HA	2.05	0.57
36:e:54:GLU:HG2	36:e:56:PRO:HD2	1.87	0.57
55:y:370:LYS:O	55:y:415:ILE:HA	2.05	0.57
32:aa:816:A:OP1	32:aa:1526:G:O2'	2.22	0.57
34:c:64:ARG:HG2	34:c:99:GLN:HB2	1.86	0.57
7:AA:848:C:H2'	7:AA:849:A:H8	1.69	0.57
32:aa:1345:U:OP1	40:ii:121:ARG:NH1	2.38	0.57
32:aa:1494:G:OP1	54:xx:75:ASP:HB3	2.05	0.57
38:gg:56:SER:O	38:gg:60:ALA:HB2	2.04	0.57
39:hh:10:LEU:HD22	39:hh:74:ILE:HD11	1.85	0.57
7:A:1798:U:OP1	9:C:269:ARG:NH2	2.38	0.57
32:a:1099:G:OP1	33:b:94:ARG:NH2	2.38	0.57
42:k:87:GLY:O	42:k:92:ARG:NH1	2.38	0.57
7:AA:2204:G:H4'	9:CC:149:LYS:HD3	1.87	0.57
22:Q:43:GLN:HE21	23:R:77:PHE:HB3	1.70	0.56
54:x:1:MET:HG3	54:x:28:GLU:CG	2.33	0.56
55:y:291:GLY:HA2	55:y:305:HIS:HA	1.86	0.56
9:CC:173:LEU:O	9:CC:180:MET:HA	2.05	0.56
11:EE:119:ILE:O	11:EE:187:VAL:HA	2.05	0.56
32:aa:722:G:OP2	52:uu:44:ARG:NH1	2.38	0.56
32:aa:1099:G:OP1	33:bb:94:ARG:NH2	2.38	0.56
55:yy:49:PRO:HD3	55:yy:84:LEU:HD11	1.86	0.56
32:a:1345:U:OP1	40:i:121:ARG:NH1	2.38	0.56
47:p:14:ARG:HE	47:p:42:ILE:HD12	1.70	0.56
4:33:22:LYS:HA	4:33:47:ALA:O	2.05	0.56
7:AA:1798:U:OP1	9:CC:269:ARG:NH2	2.38	0.56
14:HH:97:ARG:HG2	14:HH:112:LYS:HD2	1.85	0.56
7:A:84:A:N1	7:A:98:G:O2'	2.37	0.56
7:A:244:A:O2'	17:L:69:ARG:NH2	2.37	0.56
36:e:55:VAL:HG21	33:bb:233:GLU:N	2.19	0.56
55:y:311:TRP:HE1	55:y:351:ALA:N	2.04	0.56
7:AA:2788:C:O2'	7:AA:2809:A:N3	2.34	0.56
32:aa:958:A:N7	50:ss:54:ARG:NH1	2.52	0.56
38:gg:68:VAL:HG23	38:gg:99:ALA:HB1	1.88	0.56
41:jj:45:ARG:HB2	41:jj:69:THR:HB	1.87	0.56
42:kk:87:GLY:O	42:kk:92:ARG:NH1	2.38	0.56
55:yy:71:ALA:O	55:yy:72:LEU:CD1	2.42	0.56
55:yy:330:VAL:HB	55:yy:344:LEU:HD23	1.86	0.56
14:H:62:LEU:HA	14:H:65:ALA:HB3	1.88	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:99:GLY:N	43:l:103:CYS:O	2.35	0.56
7:AA:1171:G:H22	7:AA:1177:G:H1	1.54	0.56
54:xx:1:MET:SD	54:xx:37:VAL:HG12	2.46	0.56
55:yy:118:GLY:C	55:yy:133:GLY:HA2	2.28	0.56
55:yy:290:TYR:C	55:yy:305:HIS:O	2.47	0.56
4:3:22:LYS:HA	4:3:47:ALA:O	2.05	0.56
32:a:673:A:H2'	32:a:674:G:C8	2.39	0.56
32:a:1535:C:C4'	53:v:25:SER:HG	2.18	0.56
35:d:87:GLU:HG2	35:d:187:ARG:HB2	1.88	0.56
54:x:28:GLU:HG3	54:x:34:ILE:CD1	2.25	0.56
7:AA:2391:G:H2'	7:AA:2424:C:H41	1.70	0.56
32:aa:938:A:N3	32:aa:1376:U:O2'	2.37	0.56
42:kk:126:ARG:O	52:uu:34:ARG:NH2	2.39	0.56
7:A:2391:G:H2'	7:A:2424:C:H41	1.70	0.56
32:a:599:C:OP1	39:h:87:ARG:NH1	2.39	0.56
54:x:1:MET:SD	54:x:37:VAL:HG12	2.46	0.56
32:aa:255:G:OP1	48:qq:70:LYS:NZ	2.39	0.56
54:xx:1:MET:HG3	54:xx:28:GLU:CG	2.33	0.56
55:yy:311:TRP:HE1	55:yy:351:ALA:N	2.04	0.56
32:a:107:G:N7	51:t:9:ARG:NH2	2.54	0.56
46:o:45:HIS:O	46:o:47:LYS:N	2.38	0.56
52:u:40:PRO:HA	52:u:43:GLU:HG2	1.88	0.56
7:AA:2332:C:OP1	28:WW:73:ARG:NH1	2.39	0.56
22:QQ:43:GLN:HE21	23:RR:77:PHE:HB3	1.70	0.56
36:ee:156:ARG:HD3	39:hh:42:GLU:HG3	1.87	0.56
7:A:2638:G:O2'	7:A:2778:A:N6	2.39	0.56
32:a:261:U:OP2	51:t:73:ARG:NH2	2.39	0.56
32:a:890:G:O2'	32:a:906:A:N6	2.39	0.56
36:e:156:ARG:HD3	39:h:42:GLU:HG3	1.87	0.56
41:j:45:ARG:HB2	41:j:69:THR:HB	1.86	0.56
55:y:49:PRO:HD3	55:y:84:LEU:HD11	1.87	0.56
7:AA:1270:C:H5''	7:AA:1271:G:H5'	1.87	0.56
7:AA:2831:G:OP2	10:DD:59:ARG:NH1	2.37	0.56
41:jj:7:ARG:NE	41:jj:75:ASP:OD1	2.36	0.56
46:oo:45:HIS:O	46:oo:47:LYS:N	2.38	0.56
54:xx:58:GLY:HA3	54:xx:88:HIS:HE1	1.70	0.56
7:A:572:A:OP2	23:R:80:ARG:NH2	2.39	0.56
9:C:173:LEU:O	9:C:180:MET:HA	2.05	0.56
18:M:66:ARG:NH1	18:M:104:GLU:OE2	2.39	0.56
27:V:46:LYS:O	27:V:50:MET:HB2	2.06	0.56
34:c:129:PHE:O	34:c:133:MET:HB3	2.06	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:NN:30:ARG:HG3	19:NN:75:ILE:HD11	1.88	0.56
7:A:2788:C:O2'	7:A:2809:A:N3	2.34	0.56
27:VV:46:LYS:O	27:VV:50:MET:HB2	2.06	0.56
32:aa:261:U:OP2	51:tt:73:ARG:NH2	2.39	0.56
52:uu:40:PRO:HA	52:uu:43:GLU:HG2	1.88	0.56
7:A:1779:U:OP2	7:A:1784:A:N6	2.39	0.55
7:A:2312:U:O2	12:F:36:ASN:ND2	2.39	0.55
35:d:44:LYS:CE	33:bb:227:ASP:OD2	2.54	0.55
54:x:58:GLY:HA3	54:x:88:HIS:HE1	1.70	0.55
7:AA:629:G:N3	7:AA:639:U:O2'	2.39	0.55
32:aa:1400:C:Cl'	54:xx:80:LYS:HD3	2.34	0.55
34:cc:129:PHE:O	34:cc:133:MET:HB3	2.06	0.55
7:A:2032:G:N2	10:D:151:THR:OG1	2.38	0.55
32:a:1494:G:OP1	54:x:75:ASP:HB3	2.05	0.55
38:g:68:VAL:HG23	38:g:99:ALA:HB1	1.88	0.55
7:AA:572:A:OP2	23:RR:80:ARG:NH2	2.39	0.55
7:AA:2312:U:O2	12:FF:36:ASN:ND2	2.39	0.55
32:aa:890:G:O2'	32:aa:906:A:N6	2.39	0.55
32:aa:1538:C:N4	55:yy:341:ARG:HG3	1.98	0.55
35:dd:87:GLU:HG2	35:dd:187:ARG:HB2	1.88	0.55
40:ii:91:GLU:O	40:ii:95:SER:HB3	2.06	0.55
55:yy:119:GLY:CA	55:yy:133:GLY:CA	2.74	0.55
7:A:629:G:N3	7:A:639:U:O2'	2.39	0.55
42:k:126:ARG:O	52:u:34:ARG:NH2	2.39	0.55
55:y:290:TYR:C	55:y:305:HIS:O	2.47	0.55
7:AA:2638:G:O2'	7:AA:2778:A:N6	2.39	0.55
53:vv:26:LYS:HB3	53:vv:28:MET:HB2	1.89	0.55
7:A:878:A:H3'	7:A:879:G:H8	1.72	0.55
7:A:2204:G:H4'	9:C:149:LYS:HD3	1.87	0.55
8:B:9:G:OP2	20:O:15:ARG:NH1	2.40	0.55
27:V:3:THR:HA	27:V:62:THR:O	2.07	0.55
33:b:233:GLU:HA	36:ee:55:VAL:CB	2.37	0.55
40:i:91:GLU:O	40:i:95:SER:CB	2.55	0.55
50:s:29:PRO:HA	50:s:47:THR:O	2.07	0.55
7:AA:878:A:H3'	7:AA:879:G:H8	1.72	0.55
7:A:1270:C:H5''	7:A:1271:G:H5'	1.87	0.55
32:a:722:G:OP2	52:u:44:ARG:NH1	2.39	0.55
53:v:26:LYS:HB3	53:v:28:MET:HB2	1.89	0.55
53:v:34:LEU:HD22	55:y:317:HIS:NE2	2.22	0.55
7:AA:396:G:OP2	29:XX:9:LYS:NZ	2.40	0.55
8:BB:9:G:OP2	20:OO:15:ARG:NH1	2.40	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:EE:16:GLU:O	11:EE:20:GLY:N	2.40	0.55
14:H:8:LYS:HA	14:H:14:SER:HA	1.89	0.55
7:AA:1041:G:H2'	7:AA:1042:G:H8	1.72	0.55
48:qq:8:GLN:NE2	48:qq:59:GLU:OE1	2.39	0.55
55:yy:279:LYS:HA	55:yy:331:MET:CB	2.33	0.55
56:ww:117:U:O2	56:ww:117:U:H2'	2.05	0.55
7:A:2332:C:OP1	28:W:73:ARG:NH1	2.39	0.55
9:C:144:GLU:HB2	9:C:187:CYS:HB3	1.89	0.55
38:g:70:PRO:O	38:g:95:ARG:NH1	2.40	0.55
41:j:97:ASP:OD2	41:j:99:GLN:NE2	2.40	0.55
7:AA:2032:G:N2	10:DD:151:THR:OG1	2.38	0.55
18:MM:66:ARG:NH1	18:MM:104:GLU:OE2	2.39	0.55
23:RR:14:VAL:HG23	23:RR:18:GLN:HE21	1.71	0.55
32:aa:599:C:OP1	39:hh:87:ARG:NH1	2.39	0.55
7:A:396:G:OP2	29:X:9:LYS:NZ	2.40	0.55
19:N:30:ARG:HG3	19:N:75:ILE:HD11	1.88	0.55
23:R:14:VAL:HG23	23:R:18:GLN:HE21	1.71	0.55
32:a:1137:C:H5'	32:a:1138:G:H5'	1.88	0.55
36:e:10:LEU:CD2	33:bb:62:ARG:HD2	2.32	0.55
55:y:332:VAL:CG1	55:y:335:ILE:HG13	2.33	0.55
56:w:17:C:O2	56:w:17:C:H2'	2.07	0.55
7:AA:84:A:N1	7:AA:98:G:O2'	2.37	0.55
7:AA:1223:G:N7	23:RR:71:LYS:NZ	2.55	0.55
7:AA:1682:G:OP2	7:AA:1699:G:N2	2.36	0.55
14:HH:62:LEU:HA	14:HH:65:ALA:HB3	1.88	0.55
27:VV:3:THR:HA	27:VV:62:THR:O	2.07	0.55
32:aa:514:C:H2'	32:aa:515:G:H8	1.72	0.55
40:ii:4:GLN:HE21	40:ii:19:PHE:HB3	1.71	0.55
41:jj:97:ASP:OD2	41:jj:99:GLN:NE2	2.40	0.55
7:A:1223:G:N7	23:R:71:LYS:NZ	2.55	0.55
7:A:2155:U:OP2	7:A:2157:G:N2	2.40	0.55
7:AA:1779:U:OP2	7:AA:1784:A:N6	2.39	0.55
14:HH:8:LYS:HA	14:HH:14:SER:HA	1.89	0.55
47:pp:14:ARG:HE	47:pp:42:ILE:HD12	1.70	0.55
7:A:1171:G:H22	7:A:1177:G:H1	1.54	0.55
29:X:39:VAL:HG12	29:X:42:GLU:H	1.71	0.55
41:j:8:ILE:HB	41:j:74:VAL:HB	1.89	0.55
43:l:67:GLY:O	43:l:98:ARG:NH1	2.40	0.55
48:q:8:GLN:NE2	48:q:59:GLU:OE1	2.39	0.55
26:UU:3:LYS:O	26:UU:93:ARG:NH2	2.40	0.55
43:ll:67:GLY:O	43:ll:98:ARG:NH1	2.40	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:22:SER:N	55:yy:69:ASP:OD2	2.40	0.55
7:A:2134:A:H62	7:A:2156:G:H2'	1.72	0.54
54:x:1:MET:SD	54:x:28:GLU:OE2	2.65	0.54
42:kk:92:ARG:NH2	42:kk:111:ASP:OD1	2.40	0.54
55:yy:154:PHE:CB	55:yy:168:VAL:CB	2.85	0.54
55:yy:332:VAL:O	55:yy:334:ASP:N	2.40	0.54
7:A:1041:G:H2'	7:A:1042:G:H8	1.72	0.54
40:i:4:GLN:HE21	40:i:19:PHE:HB3	1.71	0.54
40:i:91:GLU:O	40:i:95:SER:HB3	2.06	0.54
55:y:52:GLN:OE1	55:y:86:ARG:CB	2.55	0.54
17:LL:55:MET:SD	17:LL:59:ARG:NH1	2.80	0.54
29:XX:39:VAL:HG12	29:XX:42:GLU:H	1.71	0.54
55:yy:311:TRP:CZ2	55:yy:351:ALA:N	2.75	0.54
7:A:891:G:N2	7:A:892:A:N3	2.55	0.54
11:E:16:GLU:O	11:E:20:GLY:N	2.40	0.54
32:a:944:G:N1	32:a:1338:G:OP2	2.38	0.54
32:a:1064:G:O2'	32:a:1190:G:N2	2.41	0.54
52:u:20:ARG:O	52:u:24:LYS:CB	2.56	0.54
55:y:154:PHE:CB	55:y:168:VAL:CB	2.85	0.54
7:AA:2898:U:O2'	15:JJ:136:GLN:NE2	2.38	0.54
12:FF:102:LEU:HA	12:FF:106:ALA:HB3	1.89	0.54
32:aa:1064:G:O2'	32:aa:1190:G:N2	2.41	0.54
38:gg:70:PRO:O	38:gg:95:ARG:NH1	2.40	0.54
40:ii:91:GLU:O	40:ii:95:SER:CB	2.55	0.54
55:yy:52:GLN:OE1	55:yy:86:ARG:CB	2.55	0.54
55:yy:84:LEU:HD22	55:yy:84:LEU:H	1.72	0.54
11:E:119:ILE:HB	11:E:187:VAL:HG12	1.89	0.54
42:k:92:ARG:NH2	42:k:111:ASP:OD1	2.40	0.54
7:AA:958:U:OP2	18:MM:14:LYS:NZ	2.41	0.54
42:kk:110:THR:O	52:uu:16:ARG:NH2	2.40	0.54
33:b:232:ALA:C	36:ee:55:VAL:HG21	2.31	0.54
36:e:55:VAL:HB	33:bb:233:GLU:CA	2.37	0.54
40:ii:32:ARG:HD2	40:ii:37:TYR:HD1	1.73	0.54
43:ll:99:GLY:N	43:ll:103:CYS:O	2.35	0.54
52:uu:17:ARG:O	52:uu:21:SER:CB	2.56	0.54
53:vv:34:LEU:HD22	55:yy:317:HIS:NE2	2.22	0.54
55:yy:116:VAL:C	55:yy:279:LYS:HB2	2.33	0.54
4:3:29:ARG:HH11	17:L:62:PRO:HB2	1.73	0.54
29:X:40:GLU:OE2	29:X:43:LYS:NZ	2.38	0.54
9:CC:143:VAL:HB	9:CC:153:LEU:HB2	1.90	0.54
50:ss:29:PRO:HA	50:ss:47:THR:O	2.07	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:275:C:O2'	7:A:362:A:N6	2.41	0.54
7:A:1675:C:O2	10:D:133:THR:OG1	2.26	0.54
7:A:2898:U:O2'	15:J:136:GLN:NE2	2.38	0.54
12:F:41:GLU:OE1	12:F:147:ARG:NH1	2.41	0.54
41:j:11:LYS:HA	41:j:70:HIS:O	2.07	0.54
55:y:84:LEU:HD22	55:y:84:LEU:H	1.72	0.54
55:y:311:TRP:CZ2	55:y:351:ALA:N	2.75	0.54
32:aa:1060:U:OP1	45:nn:85:ARG:NH2	2.35	0.54
52:uu:20:ARG:O	52:uu:24:LYS:CB	2.56	0.54
54:xx:1:MET:SD	54:xx:28:GLU:OE2	2.65	0.54
32:a:514:C:H2'	32:a:515:G:H8	1.72	0.54
32:a:1494:G:OP1	54:x:75:ASP:OD2	2.26	0.54
55:y:100:LYS:CB	55:y:105:ALA:C	2.81	0.54
55:y:116:VAL:C	55:y:279:LYS:HB2	2.33	0.54
32:aa:107:G:N7	51:tt:9:ARG:NH2	2.54	0.54
6:6:28:VAL:HG22	12:F:139:GLU:HG3	1.90	0.54
7:AA:891:G:N2	7:AA:892:A:N3	2.55	0.54
19:NN:43:GLU:OE2	19:NN:46:ARG:NH2	2.41	0.54
32:aa:1081:A:OP2	36:ee:51:LYS:NZ	2.39	0.54
32:aa:1137:C:H5'	32:aa:1138:G:H5'	1.88	0.54
39:hh:45:ILE:HG21	39:hh:60:LEU:HD23	1.90	0.54
32:a:255:G:OP1	48:q:70:LYS:NZ	2.39	0.54
55:y:321:VAL:HG13	55:y:322:VAL:HG23	1.90	0.54
7:AA:270:A:N1	7:AA:369:U:O2'	2.38	0.54
7:AA:340:A:O2'	11:EE:162:ARG:NH1	2.39	0.54
55:yy:135:LEU:CB	55:yy:167:VAL:CA	2.86	0.54
12:F:100:GLU:O	12:F:104:THR:CB	2.56	0.53
36:e:98:ALA:HB2	36:e:123:LEU:HG	1.90	0.53
40:i:32:ARG:HD2	40:i:37:TYR:HD1	1.73	0.53
42:k:22:ILE:HB	42:k:85:VAL:HG12	1.89	0.53
46:o:86:LEU:HD12	46:o:87:ARG:HG2	1.90	0.53
55:y:22:SER:N	55:y:69:ASP:OD2	2.40	0.53
55:y:332:VAL:O	55:y:334:ASP:N	2.40	0.53
11:EE:146:VAL:HG12	11:EE:185:LYS:HB2	1.91	0.53
12:FF:100:GLU:O	12:FF:104:THR:CB	2.56	0.53
32:aa:264:C:O3'	48:qq:64:ARG:NH2	2.42	0.53
36:ee:98:ALA:HB2	36:ee:123:LEU:HG	1.90	0.53
41:jj:8:ILE:HB	41:jj:74:VAL:HB	1.89	0.53
43:ll:86:VAL:HG23	43:ll:88:ASP:H	1.73	0.53
7:A:2113:U:O4	7:A:2119:A:N6	2.41	0.53
32:a:1081:A:OP2	36:e:51:LYS:NZ	2.39	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:86:VAL:HG23	43:l:88:ASP:H	1.73	0.53
7:AA:2155:U:OP2	7:AA:2157:G:N2	2.40	0.53
7:AA:2780:G:N1	15:JJ:102:GLU:OE2	2.42	0.53
32:aa:1494:G:OP1	54:xx:75:ASP:OD2	2.26	0.53
32:a:264:C:O3'	48:q:64:ARG:NH2	2.42	0.53
42:k:110:THR:O	52:u:16:ARG:NH2	2.40	0.53
11:EE:119:ILE:HB	11:EE:187:VAL:HG12	1.89	0.53
32:aa:126:G:OP1	32:aa:605:U:O2'	2.23	0.53
41:jj:11:LYS:HA	41:jj:70:HIS:O	2.07	0.53
42:kk:84:MET:SD	42:kk:110:THR:OG1	2.62	0.53
11:E:146:VAL:HG12	11:E:185:LYS:HB2	1.91	0.53
32:a:981:U:OP1	45:n:8:ARG:NH1	2.41	0.53
32:a:1400:C:C1'	54:x:80:LYS:HD3	2.34	0.53
32:a:1538:C:H41	55:y:341:ARG:HG2	1.66	0.53
52:u:17:ARG:O	52:u:21:SER:CB	2.56	0.53
55:y:103:GLU:CB	55:y:105:ALA:O	2.56	0.53
55:y:119:GLY:CA	55:y:133:GLY:CA	2.74	0.53
4:33:44:ARG:NH1	7:AA:2350:C:OP2	2.41	0.53
7:AA:275:C:O2'	7:AA:362:A:N6	2.41	0.53
9:CC:144:GLU:HB2	9:CC:187:CYS:HB3	1.89	0.53
12:FF:1:ALA:N	12:FF:97:GLU:OE2	2.41	0.53
24:SS:85:ILE:HA	24:SS:94:ASP:O	2.09	0.53
27:VV:20:LEU:HD11	27:VV:41:GLU:HG3	1.91	0.53
32:aa:981:U:OP1	45:nn:8:ARG:NH1	2.41	0.53
42:kk:22:ILE:HB	42:kk:85:VAL:HG12	1.89	0.53
42:kk:63:GLN:HG3	42:kk:98:ALA:HB2	1.91	0.53
54:xx:3:LEU:CG	54:xx:5:ILE:HD11	2.32	0.53
7:A:665:U:H2'	7:A:666:A:H8	1.73	0.53
15:J:13:ARG:NH1	15:J:49:ASP:O	2.42	0.53
32:a:9:G:H4'	36:e:108:GLY:H	1.74	0.53
55:y:71:ALA:O	55:y:72:LEU:CD1	2.42	0.53
7:AA:665:U:H2'	7:AA:666:A:H8	1.73	0.53
12:FF:41:GLU:OE1	12:FF:147:ARG:NH1	2.41	0.53
55:yy:84:LEU:H	55:yy:84:LEU:CD2	2.21	0.53
55:yy:100:LYS:CB	55:yy:105:ALA:C	2.81	0.53
4:3:44:ARG:NH1	7:A:2350:C:OP2	2.41	0.53
12:F:102:LEU:HA	12:F:106:ALA:HB3	1.89	0.53
17:L:55:MET:SD	17:L:59:ARG:NH1	2.80	0.53
27:V:20:LEU:HD11	27:V:41:GLU:HG3	1.91	0.53
35:d:49:ASP:OD1	36:e:111:ARG:NH1	2.42	0.53
55:y:19:ARG:O	55:y:72:LEU:HD22	2.09	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:y:84:LEU:H	55:y:84:LEU:CD2	2.21	0.53
3:22:29:GLN:NE2	7:AA:210:C:OP1	2.41	0.53
10:DD:32:ASN:O	10:DD:95:SER:HA	2.09	0.53
32:aa:28:A:O2'	32:aa:296:U:OP1	2.23	0.53
43:ll:72:ASN:ND2	43:ll:104:SER:OG	2.41	0.53
46:oo:86:LEU:HD12	46:oo:87:ARG:HG2	1.90	0.53
54:xx:19:PHE:CE1	54:xx:23:LYS:CD	2.86	0.53
7:A:141:G:H1	25:T:1:MET:HE1	1.73	0.53
7:A:958:U:OP2	18:M:14:LYS:NZ	2.41	0.53
7:A:1466:U:O2'	7:A:1546:G:O2'	2.26	0.53
7:A:2031:A:O2'	7:A:2454:G:N2	2.42	0.53
32:a:105:G:OP2	51:t:12:GLN:NE2	2.41	0.53
39:h:45:ILE:HG21	39:h:60:LEU:HD23	1.90	0.53
42:k:63:GLN:HG3	42:k:98:ALA:HB2	1.91	0.53
54:x:19:PHE:CE1	54:x:23:LYS:CD	2.86	0.53
25:TT:8:LEU:HD11	30:YY:22:LEU:HD22	1.91	0.53
7:A:340:A:O2'	11:E:162:ARG:NH1	2.39	0.53
7:A:1434:A:H2'	7:A:1435:G:H8	1.74	0.53
12:F:1:ALA:N	12:F:97:GLU:OE2	2.41	0.53
15:J:17:VAL:HG23	15:J:137:PRO:HB2	1.91	0.53
11:EE:46:GLN:O	11:EE:88:ARG:NH1	2.42	0.53
33:bb:99:MET:HA	33:bb:106:VAL:HG21	1.91	0.53
3:2:29:GLN:NE2	7:A:210:C:OP1	2.41	0.53
9:C:143:VAL:HB	9:C:153:LEU:HB2	1.90	0.53
36:ee:156:ARG:NH1	39:hh:98:LEU:O	2.42	0.53
55:yy:103:GLU:CB	55:yy:105:ALA:O	2.56	0.53
55:yy:321:VAL:HG13	55:yy:322:VAL:HG23	1.90	0.53
7:A:1311:G:H21	7:A:1603:A:H62	1.57	0.53
9:C:250:GLN:NE2	9:C:251:THR:O	2.42	0.53
33:b:99:MET:HA	33:b:106:VAL:HG21	1.91	0.53
38:g:75:LYS:HE3	38:g:88:VAL:HG11	1.91	0.53
45:n:54:ASP:OD1	45:n:59:ARG:NE	2.41	0.53
55:y:24:VAL:HG12	55:y:69:ASP:H	1.74	0.53
7:AA:2134:A:H62	7:AA:2156:G:H2'	1.72	0.53
32:aa:9:G:H4'	36:ee:108:GLY:H	1.74	0.53
39:hh:42:GLU:HG2	39:hh:100:ILE:HG12	1.91	0.53
55:yy:49:PRO:HD2	55:yy:84:LEU:CD1	2.39	0.53
32:a:28:A:O2'	32:a:296:U:OP1	2.23	0.52
34:c:39:ARG:NH1	34:c:54:ILE:O	2.41	0.52
4:33:29:ARG:HH11	17:LL:62:PRO:HB2	1.73	0.52
7:AA:141:G:H1	25:TT:1:MET:HE1	1.74	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:1053:G:H4'	32:aa:1054:C:H3'	1.91	0.52
34:cc:39:ARG:NH1	34:cc:54:ILE:O	2.41	0.52
7:A:560:C:O2'	22:Q:47:ARG:NH2	2.42	0.52
24:S:85:ILE:HA	24:S:94:ASP:O	2.09	0.52
39:h:42:GLU:HG2	39:h:100:ILE:HG12	1.91	0.52
52:u:17:ARG:O	52:u:21:SER:HB3	2.09	0.52
54:x:46:VAL:HG23	54:x:47:THR:HG23	1.91	0.52
55:y:347:LYS:O	55:y:349:CYS:N	2.42	0.52
32:aa:765:G:N1	32:aa:812:G:O2'	2.39	0.52
32:aa:1437:A:OP1	51:tt:28:ARG:NH2	2.42	0.52
35:dd:49:ASP:OD1	36:ee:111:ARG:NH1	2.41	0.52
52:uu:17:ARG:O	52:uu:21:SER:HB3	2.09	0.52
55:yy:135:LEU:CB	55:yy:157:ILE:CB	2.87	0.52
25:T:8:LEU:HD11	30:Y:22:LEU:HD22	1.91	0.52
54:x:87:LYS:O	54:x:91:LYS:CB	2.57	0.52
55:y:135:LEU:CB	55:y:167:VAL:CA	2.86	0.52
32:aa:356:A:N3	32:aa:368:U:O2'	2.38	0.52
32:aa:398:U:H2'	32:aa:399:G:H8	1.74	0.52
37:ff:38:ARG:HB3	37:ff:63:ASN:HB3	1.91	0.52
41:jj:59:LYS:HE2	41:jj:62:ARG:HH21	1.75	0.52
11:E:46:GLN:O	11:E:88:ARG:NH1	2.42	0.52
40:i:31:GLN:NE2	40:i:63:TYR:OH	2.43	0.52
55:y:135:LEU:CB	55:y:157:ILE:CB	2.87	0.52
7:AA:1187:G:OP1	23:RR:85:LYS:NZ	2.35	0.52
7:AA:2113:U:O4	7:AA:2119:A:N6	2.41	0.52
18:MM:17:ASN:O	18:MM:38:ARG:NH1	2.43	0.52
32:aa:105:G:OP2	51:tt:12:GLN:NE2	2.42	0.52
32:aa:427:U:OP1	35:dd:12:ARG:NH2	2.41	0.52
35:dd:118:SER:O	35:dd:130:ASN:ND2	2.40	0.52
40:ii:31:GLN:NE2	40:ii:63:TYR:OH	2.42	0.52
7:A:685:A:H5''	7:A:788:A:H62	1.75	0.52
7:A:1682:G:OP2	7:A:1699:G:N2	2.36	0.52
7:A:2780:G:N1	15:J:102:GLU:OE2	2.42	0.52
18:M:17:ASN:O	18:M:38:ARG:NH1	2.43	0.52
18:M:41:LEU:HD22	18:M:124:LEU:HD22	1.92	0.52
37:f:38:ARG:HB3	37:f:63:ASN:HB3	1.91	0.52
8:BB:37:C:O2	20:OO:100:HIS:NE2	2.35	0.52
9:CC:250:GLN:NE2	9:CC:251:THR:O	2.42	0.52
12:FF:100:GLU:O	12:FF:104:THR:HB	2.09	0.52
32:aa:1534:A:OP1	53:vv:25:SER:C	2.53	0.52
55:yy:332:VAL:CG1	55:yy:335:ILE:HG13	2.33	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1009:A:N3	7:A:1153:C:O2'	2.42	0.52
32:a:410:G:OP1	35:d:25:ARG:NH2	2.43	0.52
32:a:1053:G:H4'	32:a:1054:C:H3'	1.91	0.52
32:a:1437:A:OP1	51:t:28:ARG:NH2	2.42	0.52
43:l:72:ASN:ND2	43:l:104:SER:OG	2.41	0.52
5:4:8:LYS:O	5:4:35:GLN:NE2	2.43	0.52
41:j:65:TYR:HB3	45:n:96:LEU:HD11	1.92	0.52
7:AA:81:G:HO2'	7:AA:295:G:HO2'	1.57	0.52
11:EE:75:SER:HB3	11:EE:78:TRP:HD1	1.75	0.52
18:MM:21:ALA:HB2	18:MM:97:GLN:HB2	1.91	0.52
42:kk:86:LYS:HB2	42:kk:112:VAL:HG23	1.92	0.52
54:xx:33:ARG:NH2	56:ww:35:A:H1'	2.25	0.52
55:yy:19:ARG:O	55:yy:72:LEU:HD22	2.09	0.52
7:A:1187:G:N2	7:A:1188:U:O4	2.42	0.52
7:A:1652:A:OP1	19:N:8:ARG:NH2	2.42	0.52
7:A:2469:A:H4'	18:M:55:ARG:HD2	1.92	0.52
10:D:24:VAL:HA	10:D:189:VAL:O	2.10	0.52
10:D:32:ASN:O	10:D:95:SER:HA	2.09	0.52
32:a:930:C:OP1	53:v:15:ARG:HD3	2.09	0.52
32:a:1534:A:OP1	53:v:25:SER:C	2.53	0.52
55:y:5:PHE:O	55:y:9:PHE:HB2	2.10	0.52
6:66:28:VAL:HG22	12:FF:139:GLU:HG3	1.90	0.52
18:MM:41:LEU:HD22	18:MM:124:LEU:HD22	1.91	0.52
18:MM:77:PRO:HD2	18:MM:80:VAL:HG21	1.92	0.52
22:QQ:111:LYS:HD3	23:RR:48:LYS:HE3	1.92	0.52
29:XX:40:GLU:OE2	29:XX:43:LYS:NZ	2.37	0.52
33:bb:129:THR:HG22	33:bb:131:LYS:H	1.75	0.52
44:mm:67:ASP:O	44:mm:71:GLU:HB2	2.10	0.52
55:yy:332:VAL:C	55:yy:334:ASP:H	2.18	0.52
7:A:270:A:N1	7:A:369:U:O2'	2.38	0.52
18:M:21:ALA:HB2	18:M:97:GLN:HB2	1.90	0.52
36:e:156:ARG:NH1	39:h:98:LEU:O	2.41	0.52
55:y:308:GLU:O	55:y:310:ASP:N	2.43	0.52
14:HH:93:SER:OG	14:HH:121:VAL:O	2.28	0.52
32:aa:401:C:O2'	32:aa:621:A:N3	2.40	0.52
32:aa:410:G:OP1	35:dd:25:ARG:NH2	2.43	0.52
54:xx:46:VAL:HG23	54:xx:47:THR:HG23	1.91	0.52
3:2:34:ARG:NE	3:2:42:LEU:O	2.39	0.52
7:A:2743:U:O2'	13:G:152:ARG:NH1	2.42	0.52
33:b:162:VAL:O	33:b:184:ALA:HA	2.10	0.52
36:e:55:VAL:HG21	33:bb:233:GLU:C	2.34	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:22:34:ARG:NE	3:22:42:LEU:O	2.39	0.52
7:AA:560:C:O2'	22:QQ:47:ARG:NH2	2.42	0.52
7:AA:685:A:H5''	7:AA:788:A:H62	1.75	0.52
32:aa:481:G:O2'	32:aa:483:C:N4	2.43	0.52
32:aa:790:A:C8	54:xx:30:TYR:O	2.62	0.52
32:aa:1230:C:H5''	54:xx:2:GLN:HE22	1.71	0.52
38:gg:75:LYS:HE3	38:gg:88:VAL:HG11	1.91	0.52
41:jj:52:LEU:HB2	45:nn:81:ARG:HD2	1.92	0.52
45:nn:69:ARG:NH1	45:nn:71:HIS:O	2.43	0.52
7:A:495:G:O2'	24:S:61:ASN:ND2	2.43	0.51
7:A:668:A:H2'	7:A:670:A:H62	1.75	0.51
14:H:93:SER:OG	14:H:121:VAL:O	2.28	0.51
32:a:1074:G:O2'	32:a:1101:A:N1	2.40	0.51
36:e:35:LEU:HD22	36:e:133:ILE:HG13	1.92	0.51
36:e:79:THR:OG1	36:e:97:PRO:O	2.29	0.51
41:j:59:LYS:HE2	41:j:62:ARG:HH21	1.75	0.51
44:m:95:PRO:HB3	44:m:99:GLN:HE21	1.75	0.51
15:JJ:13:ARG:NH1	15:JJ:49:ASP:O	2.42	0.51
32:aa:930:C:OP1	53:vv:15:ARG:HD3	2.09	0.51
33:bb:183:PHE:HA	33:bb:195:VAL:HG13	1.92	0.51
45:nn:54:ASP:OD1	45:nn:59:ARG:NE	2.41	0.51
46:oo:13:GLU:O	46:oo:83:ARG:NH2	2.43	0.51
6:6:26:SER:OG	12:F:139:GLU:OE2	2.24	0.51
7:A:962:G:H21	7:A:2250:G:H1	1.58	0.51
24:S:86:MET:O	24:S:94:ASP:CB	2.59	0.51
26:U:3:LYS:O	26:U:93:ARG:NH2	2.40	0.51
29:X:5:GLN:O	29:X:73:ARG:NH2	2.43	0.51
32:a:790:A:C8	54:x:30:TYR:O	2.62	0.51
32:a:972:C:OP2	41:j:59:LYS:NZ	2.38	0.51
55:y:49:PRO:HD2	55:y:84:LEU:CD1	2.39	0.51
7:AA:1187:G:N2	7:AA:1188:U:O4	2.42	0.51
7:AA:1223:G:OP1	23:RR:68:ARG:NH2	2.43	0.51
7:AA:1434:A:H2'	7:AA:1435:G:H8	1.74	0.51
14:HH:84:ALA:HA	14:HH:91:PHE:H	1.75	0.51
29:XX:5:GLN:O	29:XX:73:ARG:NH2	2.43	0.51
32:aa:972:C:OP2	41:jj:59:LYS:NZ	2.38	0.51
33:bb:162:VAL:O	33:bb:184:ALA:HA	2.10	0.51
44:mm:95:PRO:HB3	44:mm:99:GLN:HE21	1.75	0.51
55:yy:49:PRO:HD2	55:yy:84:LEU:HD11	1.92	0.51
7:A:745:G:O2'	7:A:748:G:O2'	2.28	0.51
12:F:100:GLU:O	12:F:104:THR:HB	2.09	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:77:PRO:HD2	18:M:80:VAL:HG21	1.92	0.51
45:n:69:ARG:NH1	45:n:71:HIS:O	2.43	0.51
15:JJ:17:VAL:HG23	15:JJ:137:PRO:HB2	1.91	0.51
34:cc:110:LEU:HD22	34:cc:145:ALA:HB2	1.92	0.51
55:yy:5:PHE:O	55:yy:9:PHE:HB2	2.10	0.51
14:H:84:ALA:HA	14:H:91:PHE:H	1.75	0.51
36:e:55:VAL:HB	33:bb:233:GLU:HA	1.92	0.51
55:y:49:PRO:HD2	55:y:84:LEU:HD11	1.92	0.51
5:44:8:LYS:O	5:44:35:GLN:NE2	2.43	0.51
7:AA:457:A:H61	7:AA:470:A:H5''	1.75	0.51
54:xx:33:ARG:NH2	56:ww:35:A:N3	2.58	0.51
7:A:1936:A:H2	7:A:1943:U:H3	1.59	0.51
12:F:133:GLU:HB3	12:F:135:ILE:HG12	1.92	0.51
35:d:171:GLU:O	35:d:179:GLY:HA2	2.10	0.51
40:i:128:LYS:HE3	54:x:60:GLU:CD	2.35	0.51
54:x:33:ARG:NH2	56:w:35:A:N3	2.58	0.51
55:y:103:GLU:C	55:y:105:ALA:H	2.16	0.51
2:11:35:LEU:HD13	2:11:37:LYS:HE2	1.93	0.51
7:AA:1936:A:H2	7:AA:1943:U:H3	1.59	0.51
7:AA:2743:U:O2'	13:GG:152:ARG:NH1	2.42	0.51
21:PP:28:LYS:HB2	21:PP:82:SER:HB3	1.92	0.51
35:dd:171:GLU:O	35:dd:179:GLY:HA2	2.10	0.51
36:ee:79:THR:OG1	36:ee:97:PRO:O	2.29	0.51
55:yy:308:GLU:O	55:yy:310:ASP:N	2.43	0.51
2:1:35:LEU:HD13	2:1:37:LYS:HE2	1.93	0.51
8:B:7:G:O2'	20:O:38:GLN:NE2	2.44	0.51
11:E:75:SER:HB3	11:E:78:TRP:HD1	1.75	0.51
19:N:43:GLU:OE2	19:N:46:ARG:NH2	2.41	0.51
32:a:398:U:H2'	32:a:399:G:H8	1.74	0.51
32:a:427:U:OP1	35:d:12:ARG:NH2	2.41	0.51
49:r:33:THR:OG1	55:y:338:GLU:CG	2.59	0.51
50:s:12:LEU:HB3	50:s:16:LYS:HE2	1.93	0.51
56:w:117:U:H2'	56:w:117:U:O2	2.10	0.51
7:AA:793:A:OP2	7:AA:2071:A:O2'	2.27	0.51
7:AA:1311:G:H21	7:AA:1603:A:H62	1.57	0.51
34:cc:182:ASP:OD2	34:cc:203:LYS:NZ	2.44	0.51
40:ii:128:LYS:HE3	54:xx:60:GLU:CD	2.34	0.51
7:A:911:A:N6	18:M:11:LYS:O	2.44	0.51
19:N:28:LEU:HD23	19:N:48:VAL:HG21	1.93	0.51
42:k:86:LYS:HB2	42:k:112:VAL:HG23	1.92	0.51
54:x:33:ARG:NH2	56:w:35:A:H1'	2.25	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:1744:A:H3'	7:AA:1745:A:H8	1.76	0.51
27:VV:27:PRO:O	27:VV:88:HIS:HA	2.11	0.51
42:kk:71:ASP:HA	42:kk:74:LYS:HG2	1.93	0.51
49:rr:33:THR:OG1	55:yy:338:GLU:CG	2.59	0.51
55:yy:24:VAL:HG12	55:yy:69:ASP:H	1.74	0.51
7:A:1724:G:H1	7:A:1736:U:H3	1.59	0.51
20:O:38:GLN:HA	20:O:49:VAL:O	2.11	0.51
32:a:481:G:O2'	32:a:483:C:N4	2.43	0.51
33:b:129:THR:HG22	33:b:131:LYS:H	1.75	0.51
42:k:71:ASP:HA	42:k:74:LYS:HG2	1.93	0.51
2:11:10:LEU:HA	2:11:49:LYS:O	2.11	0.51
6:66:26:SER:OG	12:FF:139:GLU:OE2	2.24	0.51
7:AA:2469:A:H4'	18:MM:55:ARG:HD2	1.92	0.51
21:PP:64:SER:OG	21:PP:65:ASN:N	2.43	0.51
32:aa:1057:G:O2'	34:cc:187:GLU:OE1	2.29	0.51
32:aa:1537:U:OP1	53:vv:45:ARG:NE	2.35	0.51
41:jj:65:TYR:HB3	45:nn:96:LEU:HD11	1.92	0.51
32:a:264:C:O2'	48:q:65:PRO:O	2.28	0.51
48:q:63:CYS:SG	48:q:73:THR:OG1	2.64	0.51
51:t:66:ILE:HD12	51:t:70:LYS:HD3	1.93	0.51
55:y:359:GLU:O	55:y:361:HIS:N	2.44	0.51
7:AA:1652:A:OP1	19:NN:8:ARG:NH2	2.42	0.51
8:BB:7:G:O2'	20:OO:38:GLN:NE2	2.44	0.51
24:SS:77:ASP:OD1	24:SS:77:ASP:N	2.44	0.51
34:cc:15:LYS:NZ	34:cc:182:ASP:OD1	2.43	0.51
56:ww:9:G:O2'	56:ww:10:G:N7	2.38	0.51
7:A:457:A:H61	7:A:470:A:H5''	1.75	0.51
7:A:1341:G:OP2	7:A:1394:U:O2'	2.28	0.51
7:A:2006:C:O2'	7:A:2823:A:N3	2.45	0.51
54:x:26:LYS:HG2	54:x:30:TYR:HE1	1.76	0.51
7:AA:668:A:H2'	7:AA:670:A:H62	1.75	0.51
7:AA:911:A:N6	18:MM:11:LYS:O	2.44	0.51
9:CC:61:TYR:HA	9:CC:85:ASN:HD21	1.76	0.51
24:SS:86:MET:O	24:SS:94:ASP:CB	2.59	0.51
32:aa:41:G:H2'	32:aa:42:G:H8	1.76	0.51
34:cc:13:ILE:HG22	34:cc:14:VAL:HG23	1.93	0.51
2:1:10:LEU:HA	2:1:49:LYS:O	2.11	0.50
22:Q:111:LYS:HD3	23:R:48:LYS:HE3	1.92	0.50
33:b:119:GLN:OE1	33:b:136:ARG:NH2	2.44	0.50
44:m:67:ASP:O	44:m:71:GLU:HB2	2.10	0.50
7:AA:962:G:H21	7:AA:2250:G:H1	1.58	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:2031:A:O2'	7:AA:2454:G:N2	2.42	0.50
11:EE:149:ILE:HD11	11:EE:172:ALA:HA	1.93	0.50
16:KK:122:VAL:HG22	21:PP:40:GLN:HE22	1.76	0.50
36:ee:44:ARG:NH1	36:ee:70:MET:SD	2.84	0.50
38:gg:154:ALA:HB2	53:vv:17:TYR:CE2	2.46	0.50
49:rr:33:THR:OG1	55:yy:338:GLU:CD	2.54	0.50
55:yy:347:LYS:O	55:yy:349:CYS:N	2.42	0.50
7:A:84:A:H62	7:A:101:A:H2	1.59	0.50
7:A:1223:G:OP1	23:R:68:ARG:NH2	2.43	0.50
7:A:1744:A:H3'	7:A:1745:A:H8	1.76	0.50
13:G:51:PHE:HZ	13:G:71:LEU:HD22	1.76	0.50
32:a:41:G:H2'	32:a:42:G:H8	1.76	0.50
32:a:938:A:N3	32:a:1376:U:O2'	2.37	0.50
36:e:55:VAL:CB	33:bb:233:GLU:CA	2.89	0.50
38:g:49:LEU:O	38:g:53:SER:HB3	2.11	0.50
55:y:332:VAL:C	55:y:334:ASP:H	2.18	0.50
7:AA:495:G:O2'	24:SS:61:ASN:ND2	2.43	0.50
7:AA:1342:A:O2'	7:AA:1344:U:OP2	2.30	0.50
21:PP:24:THR:O	21:PP:86:LYS:HB2	2.12	0.50
7:A:793:A:OP2	7:A:2071:A:O2'	2.27	0.50
32:a:993:G:O2'	32:a:994:A:N7	2.44	0.50
33:b:112:ARG:O	33:b:116:LEU:HB2	2.11	0.50
36:e:44:ARG:NH1	36:e:70:MET:SD	2.84	0.50
36:e:121:ASN:OD1	36:e:121:ASN:N	2.45	0.50
42:k:113:THR:HB	52:u:28:LEU:HD11	1.93	0.50
20:OO:40:ILE:HG12	20:OO:47:VAL:HG12	1.93	0.50
32:aa:404:G:OP2	35:dd:114:ARG:NH2	2.41	0.50
32:aa:944:G:N1	32:aa:1338:G:OP2	2.38	0.50
32:aa:993:G:O2'	32:aa:994:A:N7	2.44	0.50
32:aa:1071:C:H2'	32:aa:1072:G:H8	1.77	0.50
34:cc:18:ASN:O	34:cc:39:ARG:NH2	2.44	0.50
38:gg:49:LEU:O	38:gg:53:SER:HB3	2.11	0.50
38:gg:87:PRO:HG3	38:gg:148:LYS:HA	1.93	0.50
42:kk:113:THR:HB	52:uu:28:LEU:HD11	1.93	0.50
54:xx:1:MET:SD	54:xx:1:MET:C	2.94	0.50
7:A:1061:U:O2'	7:A:1069:A:OP2	2.26	0.50
11:E:149:ILE:HD11	11:E:172:ALA:HA	1.93	0.50
35:d:118:SER:O	35:d:130:ASN:ND2	2.40	0.50
36:e:55:VAL:CG2	33:bb:233:GLU:N	2.74	0.50
38:g:87:PRO:HG3	38:g:148:LYS:HA	1.93	0.50
39:h:23:ALA:HA	39:h:60:LEU:O	2.12	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:84:A:H62	7:AA:101:A:H2	1.59	0.50
7:AA:2221:G:H5'	14:HH:97:ARG:HH21	1.76	0.50
10:DD:24:VAL:HA	10:DD:189:VAL:O	2.10	0.50
36:ee:37:VAL:HG11	36:ee:113:VAL:HG23	1.94	0.50
21:P:28:LYS:HB2	21:P:82:SER:HB3	1.92	0.50
32:a:216:U:H4'	32:a:464:U:H4'	1.94	0.50
32:a:254:G:OP1	48:q:67:SER:OG	2.29	0.50
32:a:1057:G:O2'	34:c:187:GLU:OE1	2.29	0.50
32:a:1230:C:H5'	54:x:2:GLN:NE2	2.26	0.50
7:AA:745:G:O2'	7:AA:748:G:O2'	2.28	0.50
7:AA:1675:C:O2	10:DD:133:THR:OG1	2.26	0.50
7:AA:1724:G:H1	7:AA:1736:U:H3	1.59	0.50
7:AA:2006:C:O2'	7:AA:2823:A:N3	2.45	0.50
7:AA:2229:U:H2'	7:AA:2230:G:H8	1.76	0.50
7:AA:2780:G:OP2	15:JJ:120:ARG:NH2	2.38	0.50
33:bb:112:ARG:O	33:bb:116:LEU:HB2	2.11	0.50
7:A:6:A:N3	15:J:135:GLN:NE2	2.60	0.50
33:b:183:PHE:HA	33:b:195:VAL:HG13	1.92	0.50
34:c:13:ILE:HG22	34:c:14:VAL:HG23	1.93	0.50
35:d:67:LEU:O	35:d:71:PHE:HB2	2.12	0.50
41:j:5:ARG:N	41:j:76:ILE:O	2.45	0.50
49:r:33:THR:OG1	55:y:338:GLU:CD	2.54	0.50
55:y:279:LYS:HA	55:y:331:MET:CB	2.33	0.50
19:NN:73:ASN:HA	19:NN:76:VAL:HG12	1.94	0.50
26:UU:28:LEU:HB2	26:UU:32:LYS:HB2	1.94	0.50
32:aa:210:C:O2'	32:aa:211:G:N2	2.44	0.50
32:aa:875:U:O2'	39:hh:14:ARG:NH1	2.43	0.50
33:bb:165:ALA:HB3	33:bb:190:SER:HB3	1.94	0.50
36:ee:35:LEU:HD22	36:ee:133:ILE:HG13	1.92	0.50
41:jj:40:ILE:HB	41:jj:73:LEU:HB2	1.94	0.50
51:tt:66:ILE:HD12	51:tt:70:LYS:HD3	1.92	0.50
55:yy:359:GLU:O	55:yy:361:HIS:N	2.44	0.50
7:A:948:C:O2	7:A:984:A:O2'	2.20	0.50
7:A:2221:G:H5'	14:H:97:ARG:HH21	1.76	0.50
32:a:210:C:O2'	32:a:211:G:N2	2.44	0.50
32:a:618:C:H1'	47:p:14:ARG:HH12	1.76	0.50
32:a:652:U:O4	32:a:752:G:O2'	2.28	0.50
32:a:674:G:H2'	32:a:675:A:H8	1.76	0.50
32:a:765:G:N1	32:a:812:G:O2'	2.38	0.50
34:c:110:LEU:HD22	34:c:145:ALA:HB2	1.92	0.50
41:j:52:LEU:HB2	45:n:81:ARG:HD2	1.92	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:1568:G:H5'	9:CC:59:GLN:HA	1.93	0.50
12:FF:133:GLU:HB3	12:FF:135:ILE:HG12	1.92	0.50
18:MM:42:THR:HG22	18:MM:93:VAL:HG12	1.94	0.50
32:aa:674:G:H21	42:kk:117:HIS:HB2	1.77	0.50
32:aa:976:G:OP2	32:aa:1358:U:O2'	2.29	0.50
33:bb:79:VAL:O	33:bb:83:ALA:HB3	2.12	0.50
54:xx:3:LEU:CD1	54:xx:5:ILE:HD11	2.42	0.50
54:xx:26:LYS:HG2	54:xx:30:TYR:HE1	1.76	0.50
7:A:1434:A:H2'	7:A:1435:G:C8	2.47	0.50
8:B:27:C:OP1	20:O:34:HIS:NE2	2.43	0.50
20:O:40:ILE:HG12	20:O:47:VAL:HG12	1.93	0.50
21:P:24:THR:O	21:P:86:LYS:HB2	2.12	0.50
32:a:674:G:H21	42:k:117:HIS:HB2	1.77	0.50
41:j:40:ILE:HB	41:j:73:LEU:HB2	1.94	0.50
48:q:12:VAL:HB	48:q:21:VAL:HG23	1.94	0.50
7:AA:6:A:N3	15:JJ:135:GLN:NE2	2.60	0.50
13:GG:51:PHE:HZ	13:GG:71:LEU:HD22	1.76	0.50
14:HH:132:PHE:HB2	14:HH:140:ALA:HB3	1.94	0.50
20:OO:38:GLN:HA	20:OO:49:VAL:O	2.11	0.50
32:aa:618:C:H1'	47:pp:14:ARG:HH12	1.76	0.50
32:aa:1537:U:C5	55:yy:305:HIS:CE1	3.00	0.50
33:bb:17:HIS:NE2	33:bb:204:ASP:OD1	2.45	0.50
43:ll:49:ARG:NH1	43:ll:88:ASP:OD2	2.45	0.50
54:xx:31:PHE:CZ	54:xx:82:ALA:HB1	2.47	0.50
7:A:1568:G:H5'	9:C:59:GLN:HA	1.93	0.50
7:A:1798:U:OP2	9:C:270:ARG:NH2	2.37	0.50
7:A:2183:A:H2'	7:A:2184:A:H8	1.77	0.50
16:K:122:VAL:HG22	21:P:40:GLN:HE22	1.77	0.50
32:a:974:A:OP1	45:n:69:ARG:NH2	2.41	0.50
32:a:976:G:OP2	32:a:1358:U:O2'	2.29	0.50
32:aa:216:U:H4'	32:aa:464:U:H4'	1.94	0.50
34:cc:30:ASP:OD1	45:nn:65:ARG:NH1	2.43	0.50
38:gg:4:ARG:CB	53:vv:2:LYS:HB2	2.40	0.50
44:mm:84:CYS:HB2	50:ss:72:GLU:HG3	1.94	0.50
47:pp:79:ASN:HB3	47:pp:82:ALA:H	1.77	0.50
54:xx:19:PHE:CZ	54:xx:23:LYS:HD2	2.47	0.50
55:yy:117:LYS:CB	55:yy:278:THR:CG2	2.90	0.50
5:4:16:ILE:HD13	5:4:25:VAL:HG22	1.94	0.49
7:A:372:G:O2'	7:A:400:G:O6	2.28	0.49
19:N:73:ASN:HA	19:N:76:VAL:HG12	1.94	0.49
54:x:1:MET:SD	54:x:1:MET:C	2.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:x:1:MET:HB2	54:x:34:ILE:O	2.12	0.49
3:22:24:THR:HG23	3:22:27:GLY:H	1.76	0.49
7:AA:1009:A:N3	7:AA:1153:C:O2'	2.42	0.49
19:NN:28:LEU:HD23	19:NN:48:VAL:HG21	1.93	0.49
32:aa:674:G:H2'	32:aa:675:A:H8	1.76	0.49
39:hh:23:ALA:HA	39:hh:60:LEU:O	2.12	0.49
41:jj:5:ARG:N	41:jj:77:VAL:O	2.45	0.49
54:xx:33:ARG:CZ	56:ww:35:A:H1'	2.42	0.49
55:yy:120:PHE:CB	55:yy:136:VAL:CB	2.90	0.49
55:yy:356:GLN:O	55:yy:360:THR:CB	2.60	0.49
9:C:61:TYR:HA	9:C:85:ASN:HD21	1.76	0.49
26:U:28:LEU:HB2	26:U:32:LYS:HB2	1.94	0.49
27:V:27:PRO:O	27:V:88:HIS:HA	2.11	0.49
32:a:323:U:H5''	51:t:20:ASN:HD22	1.77	0.49
38:g:154:ALA:HB2	53:v:17:TYR:CE2	2.47	0.49
5:44:37:GLN:O	7:AA:1124:G:O2'	2.30	0.49
33:bb:119:GLN:OE1	33:bb:136:ARG:NH2	2.44	0.49
54:xx:1:MET:HB2	54:xx:34:ILE:O	2.12	0.49
7:A:1275:A:N1	7:A:1295:C:O2'	2.41	0.49
7:A:2189:U:H2'	7:A:2190:G:H8	1.77	0.49
10:D:77:ARG:NH1	10:D:200:ASP:OD1	2.45	0.49
33:b:93:HIS:HB3	33:b:94:ARG:HD2	1.94	0.49
47:p:79:ASN:HB3	47:p:82:ALA:H	1.77	0.49
8:BB:66:A:H61	8:BB:107:G:H2'	1.77	0.49
48:qq:12:VAL:HB	48:qq:21:VAL:HG23	1.94	0.49
55:yy:318:PRO:HA	55:yy:321:VAL:HG12	1.95	0.49
7:A:917:A:H5''	7:A:2268:A:H61	1.77	0.49
7:A:1818:U:H5''	9:C:156:SER:HB2	1.94	0.49
7:A:2141:G:H2'	7:A:2142:A:H8	1.78	0.49
7:A:2220:U:O2'	14:H:97:ARG:NH2	2.45	0.49
14:H:132:PHE:HB2	14:H:140:ALA:HB3	1.94	0.49
33:b:17:HIS:NE2	33:b:204:ASP:OD1	2.45	0.49
34:c:18:ASN:O	34:c:39:ARG:NH2	2.45	0.49
55:y:356:GLN:O	55:y:360:THR:CB	2.60	0.49
7:AA:1432:G:H2'	7:AA:1433:A:C8	2.48	0.49
41:jj:5:ARG:N	41:jj:76:ILE:O	2.45	0.49
7:A:2229:U:H2'	7:A:2230:G:H8	1.76	0.49
15:J:99:ARG:O	15:J:103:ILE:HB	2.12	0.49
32:a:1135:U:N3	32:a:1137:C:O2	2.46	0.49
41:j:5:ARG:N	41:j:77:VAL:O	2.45	0.49
7:AA:373:U:H2'	7:AA:374:A:H8	1.77	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:1604:C:O2'	7:AA:1610:A:N1	2.41	0.49
7:AA:2220:U:O2'	14:HH:97:ARG:NH2	2.45	0.49
8:BB:27:C:OP1	20:OO:34:HIS:NE2	2.43	0.49
33:bb:111:LYS:O	33:bb:115:ASP:CB	2.61	0.49
3:2:24:THR:HG23	3:2:27:GLY:H	1.76	0.49
8:B:66:A:H61	8:B:107:G:H2'	1.77	0.49
16:K:114:LYS:HE3	16:K:118:LEU:HD11	1.95	0.49
18:M:42:THR:HG22	18:M:93:VAL:HG12	1.94	0.49
32:a:979:C:O2	45:n:59:ARG:NH1	2.45	0.49
32:a:1414:U:H2'	32:a:1415:G:H8	1.77	0.49
34:c:182:ASP:OD2	34:c:203:LYS:NZ	2.44	0.49
35:d:46:ARG:NH2	33:bb:227:ASP:O	2.45	0.49
52:u:53:LYS:O	52:u:57:LYS:CB	2.60	0.49
7:AA:917:A:H5''	7:AA:2268:A:H61	1.77	0.49
7:AA:987:C:O2'	7:AA:1000:A:N3	2.42	0.49
14:HH:81:ALA:HA	14:HH:147:VAL:O	2.12	0.49
15:JJ:99:ARG:O	15:JJ:103:ILE:HB	2.12	0.49
15:JJ:125:TYR:OH	15:JJ:132:HIS:NE2	2.43	0.49
16:KK:114:LYS:HE3	16:KK:118:LEU:HD11	1.95	0.49
42:kk:80:ASN:HB3	42:kk:105:ARG:HB3	1.95	0.49
48:qq:58:VAL:HG23	48:qq:77:VAL:HG22	1.95	0.49
50:ss:12:LEU:HB3	50:ss:16:LYS:HE2	1.93	0.49
7:A:69:C:O2	7:A:73:A:O2'	2.29	0.49
7:A:1323:C:OP1	24:S:98:LYS:NZ	2.46	0.49
9:C:154:ALA:HB2	9:C:161:VAL:HG23	1.95	0.49
12:F:95:MET:O	12:F:99:PHE:HB2	2.13	0.49
32:a:401:C:O2'	32:a:621:A:N3	2.40	0.49
32:a:1413:A:H2	32:a:1487:G:H22	1.61	0.49
32:a:1538:C:H41	55:y:341:ARG:CG	2.22	0.49
33:b:111:LYS:O	33:b:115:ASP:CB	2.61	0.49
33:b:165:ALA:HB3	33:b:190:SER:HB3	1.94	0.49
6:66:15:SER:O	6:66:34:LEU:N	2.44	0.49
7:AA:69:C:O2	7:AA:73:A:O2'	2.29	0.49
10:DD:77:ARG:NH1	10:DD:200:ASP:OD1	2.45	0.49
11:EE:176:ASP:OD1	11:EE:176:ASP:N	2.46	0.49
47:pp:20:VAL:HG23	47:pp:35:ARG:HA	1.95	0.49
7:A:833:A:H2'	7:A:834:G:C8	2.48	0.49
7:A:2809:A:OP2	7:A:2890:G:N1	2.37	0.49
12:F:30:VAL:HA	12:F:157:THR:HA	1.95	0.49
24:S:77:ASP:OD1	24:S:77:ASP:N	2.44	0.49
32:a:1522:U:H2'	32:a:1523:G:H8	1.77	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:b:79:VAL:O	33:b:83:ALA:HB3	2.12	0.49
37:f:45:ARG:O	37:f:56:LYS:HA	2.13	0.49
53:v:21:ILE:HG13	53:v:47:ALA:HB1	1.94	0.49
54:x:31:PHE:CZ	54:x:82:ALA:HB1	2.47	0.49
55:y:117:LYS:CB	55:y:278:THR:CG2	2.90	0.49
55:y:311:TRP:HZ2	55:y:351:ALA:HB2	0.38	0.49
7:AA:160:A:N3	7:AA:2208:C:O2'	2.43	0.49
7:AA:2457:U:H5	7:AA:2494:G:H1	1.61	0.49
12:FF:118:ALA:HB1	12:FF:166:ARG:HH12	1.77	0.49
55:yy:132:PRO:N	55:yy:167:VAL:CB	2.75	0.49
7:A:184:C:H2'	7:A:185:G:H8	1.78	0.49
12:F:118:ALA:HB1	12:F:166:ARG:HH12	1.77	0.49
32:a:1537:U:C5	55:y:305:HIS:CE1	3.00	0.49
32:a:1537:U:OP1	53:v:45:ARG:NE	2.35	0.49
43:l:49:ARG:NH1	43:l:88:ASP:OD2	2.45	0.49
55:y:132:PRO:N	55:y:167:VAL:CB	2.75	0.49
7:AA:2162:G:H2'	7:AA:2163:A:H8	1.78	0.49
32:aa:908:A:H2'	32:aa:909:A:H8	1.77	0.49
32:aa:974:A:OP1	45:nn:69:ARG:NH2	2.41	0.49
35:dd:94:GLU:HA	35:dd:99:ASN:HD22	1.77	0.49
55:yy:44:SER:OG	55:yy:45:GLU:N	2.36	0.49
7:A:1432:G:H2'	7:A:1433:A:C8	2.48	0.49
32:a:908:A:H2'	32:a:909:A:H8	1.77	0.49
48:q:58:VAL:HG23	48:q:77:VAL:HG22	1.95	0.49
55:y:120:PHE:CB	55:y:136:VAL:CB	2.90	0.49
9:CC:257:ARG:NH1	9:CC:263:ASP:OD1	2.46	0.49
35:dd:67:LEU:O	35:dd:71:PHE:HB2	2.12	0.49
53:vv:21:ILE:HG13	53:vv:47:ALA:HB1	1.94	0.49
55:yy:23:ILE:N	55:yy:69:ASP:OD2	2.46	0.49
28:W:33:ILE:HD11	28:W:78:ILE:HD11	1.95	0.48
32:a:1071:C:H2'	32:a:1072:G:H8	1.77	0.48
44:m:84:CYS:HB2	50:s:72:GLU:HG3	1.94	0.48
55:y:52:GLN:O	55:y:53:PHE:HD1	1.95	0.48
7:AA:2141:G:H2'	7:AA:2142:A:H8	1.78	0.48
7:AA:2189:U:H2'	7:AA:2190:G:H8	1.77	0.48
34:cc:54:ILE:HG22	34:cc:67:ILE:HA	1.95	0.48
55:yy:52:GLN:O	55:yy:53:PHE:HD1	1.95	0.48
7:A:335:C:O2	26:U:67:SER:OG	2.28	0.48
7:A:373:U:H2'	7:A:374:A:H8	1.77	0.48
9:C:257:ARG:NH1	9:C:263:ASP:OD1	2.46	0.48
36:e:37:VAL:HG11	36:e:113:VAL:HG23	1.94	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:o:13:GLU:O	46:o:83:ARG:NH2	2.43	0.48
55:y:23:ILE:N	55:y:69:ASP:OD2	2.46	0.48
7:AA:1469:A:H2'	7:AA:1470:A:H8	1.78	0.48
7:AA:2183:A:H2'	7:AA:2184:A:H8	1.77	0.48
32:aa:979:C:O2	45:nn:59:ARG:NH1	2.45	0.48
32:aa:1218:C:H2'	32:aa:1219:A:C8	2.49	0.48
32:aa:1414:U:H2'	32:aa:1415:G:H8	1.77	0.48
32:aa:1535:C:C4'	53:vv:25:SER:HG	2.26	0.48
37:ff:45:ARG:O	37:ff:56:LYS:HA	2.12	0.48
1:0:5:ASN:ND2	7:A:2020:A:N7	2.61	0.48
14:H:81:ALA:HA	14:H:147:VAL:O	2.12	0.48
38:g:4:ARG:CB	53:v:2:LYS:HB2	2.40	0.48
38:g:154:ALA:HB2	53:v:17:TYR:HD2	1.70	0.48
42:k:80:ASN:HB3	42:k:105:ARG:HB3	1.95	0.48
54:x:33:ARG:CZ	56:w:35:A:H1'	2.42	0.48
5:44:16:ILE:HD13	5:44:25:VAL:HG22	1.94	0.48
32:aa:323:U:H5''	51:tt:20:ASN:HD22	1.77	0.48
38:gg:4:ARG:NE	53:vv:1:MET:CA	2.76	0.48
52:uu:53:LYS:O	52:uu:57:LYS:CB	2.60	0.48
7:A:1469:A:H2'	7:A:1470:A:H8	1.78	0.48
7:A:2139:U:H2'	7:A:2152:G:H22	1.78	0.48
35:d:94:GLU:HA	35:d:99:ASN:HD22	1.77	0.48
38:g:4:ARG:NE	53:v:1:MET:CA	2.76	0.48
55:y:100:LYS:O	55:y:104:ASP:C	2.56	0.48
1:00:15:ARG:NH1	7:AA:1264:A:OP1	2.41	0.48
7:AA:577:G:O2'	7:AA:1254:A:OP1	2.31	0.48
7:AA:1341:G:OP2	7:AA:1394:U:O2'	2.28	0.48
7:AA:2139:U:H2'	7:AA:2152:G:H22	1.78	0.48
9:CC:36:ASN:HB2	9:CC:61:TYR:HB2	1.95	0.48
32:aa:676:A:H1'	42:kk:116:PRO:HB3	1.96	0.48
2:1:8:ILE:HD11	2:1:33:LEU:HD12	1.96	0.48
2:1:22:THR:OG1	7:A:2286:G:O6	2.28	0.48
7:A:2162:G:H2'	7:A:2163:A:H8	1.78	0.48
9:C:141:HIS:ND1	9:C:192:GLY:O	2.40	0.48
13:G:88:LEU:HD23	13:G:93:TYR:HB3	1.96	0.48
32:a:1218:C:H2'	32:a:1219:A:C8	2.48	0.48
34:c:54:ILE:HG22	34:c:67:ILE:HA	1.95	0.48
38:g:110:ARG:HH21	38:g:121:ASN:HB3	1.79	0.48
55:y:72:LEU:CD1	55:y:72:LEU:N	2.73	0.48
7:AA:1818:U:H5''	9:CC:156:SER:HB2	1.94	0.48
7:AA:2175:C:H2'	7:AA:2176:A:H8	1.77	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:EE:75:SER:HB3	11:EE:78:TRP:CD1	2.47	0.48
28:WW:33:ILE:HD11	28:WW:78:ILE:HD11	1.95	0.48
32:aa:1135:U:N3	32:aa:1137:C:O2	2.46	0.48
32:aa:1413:A:H2	32:aa:1487:G:H22	1.61	0.48
36:ee:22:LYS:HB3	36:ee:29:ILE:HG23	1.96	0.48
37:ff:5:GLU:HA	37:ff:63:ASN:HA	1.95	0.48
54:xx:69:ASP:O	54:xx:70:MET:HB3	2.14	0.48
55:yy:311:TRP:HE1	55:yy:350:LYS:C	2.21	0.48
7:A:2175:C:H2'	7:A:2176:A:H8	1.77	0.48
26:U:32:LYS:HB3	26:U:63:ALA:HB1	1.95	0.48
32:a:713:G:H2'	32:a:714:G:C8	2.48	0.48
36:e:10:LEU:HD13	36:e:67:ARG:HH22	1.78	0.48
55:y:318:PRO:HA	55:y:321:VAL:HG12	1.95	0.48
7:AA:586:A:N1	7:AA:809:G:O2'	2.45	0.48
36:ee:10:LEU:HD13	36:ee:67:ARG:HH22	1.78	0.48
54:xx:12:ILE:HG23	54:xx:16:LEU:HD12	1.95	0.48
7:A:2636:C:O2'	10:D:45:TYR:OH	2.32	0.48
7:A:2743:U:OP2	7:A:2755:C:N4	2.45	0.48
32:a:1437:A:H5''	51:t:28:ARG:HH22	1.79	0.48
41:j:7:ARG:NE	41:j:75:ASP:OD1	2.37	0.48
7:AA:1434:A:H2'	7:AA:1435:G:C8	2.47	0.48
44:mm:78:ARG:NH2	50:ss:64:GLU:O	2.46	0.48
54:xx:87:LYS:O	54:xx:91:LYS:CB	2.57	0.48
7:A:1127:A:N7	7:A:2488:G:O2'	2.46	0.48
7:A:1187:G:OP1	23:R:85:LYS:NZ	2.35	0.48
11:E:176:ASP:OD1	11:E:176:ASP:N	2.46	0.48
27:V:9:ARG:HG2	27:V:41:GLU:HB2	1.96	0.48
45:n:42:TRP:O	45:n:46:LEU:CB	2.62	0.48
54:x:26:LYS:HG2	54:x:30:TYR:CE1	2.49	0.48
1:00:5:ASN:ND2	7:AA:2020:A:N7	2.61	0.48
7:AA:2627:G:O2'	7:AA:2781:A:N1	2.42	0.48
27:VV:9:ARG:HG2	27:VV:41:GLU:HB2	1.96	0.48
32:aa:1405:G:O2'	32:aa:1518:A:O2'	2.31	0.48
32:aa:1522:U:H2'	32:aa:1523:G:H8	1.77	0.48
33:bb:93:HIS:HB3	33:bb:94:ARG:HD2	1.94	0.48
1:0:49:ARG:NH1	7:A:2883:A:OP2	2.47	0.48
7:A:2515:C:H2'	7:A:2516:A:H8	1.78	0.48
11:E:75:SER:HB3	11:E:78:TRP:CD1	2.47	0.48
26:U:28:LEU:N	26:U:32:LYS:O	2.45	0.48
34:c:152:VAL:HG12	34:c:197:VAL:HG22	1.95	0.48
37:f:29:ILE:HD13	37:f:64:VAL:HG21	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:i:33:SER:HB3	40:i:36:GLN:HG2	1.95	0.48
55:y:5:PHE:CE1	35:dd:25:ARG:CB	2.63	0.48
55:y:330:VAL:HG12	55:y:345:GLY:O	2.14	0.48
7:AA:833:A:H2'	7:AA:834:G:C8	2.48	0.48
7:AA:1127:A:N7	7:AA:2488:G:O2'	2.46	0.48
19:NN:2:ARG:NH2	19:NN:5:LYS:O	2.47	0.48
26:UU:32:LYS:HB3	26:UU:63:ALA:HB1	1.95	0.48
32:aa:458:U:H3	32:aa:474:G:H1	1.60	0.48
40:ii:33:SER:HB3	40:ii:36:GLN:HG2	1.95	0.48
55:yy:100:LYS:O	55:yy:104:ASP:C	2.57	0.48
7:A:577:G:O2'	7:A:1254:A:OP1	2.31	0.48
7:A:1667:G:O2'	7:A:1991:U:O4	2.31	0.48
7:A:2457:U:H5	7:A:2494:G:H1	1.61	0.48
17:L:94:THR:HA	17:L:97:ALA:HB3	1.96	0.48
32:a:126:G:OP1	32:a:605:U:O2'	2.23	0.48
18:MM:110:GLU:OE2	18:MM:114:ARG:NH1	2.47	0.48
32:aa:1437:A:H5''	51:tt:28:ARG:HH22	1.79	0.48
54:xx:26:LYS:C	54:xx:26:LYS:CD	2.85	0.48
7:A:2241:A:H2'	7:A:2242:G:C8	2.49	0.47
11:E:178:VAL:O	11:E:182:ALA:CB	2.62	0.47
36:e:22:LYS:HB3	36:e:29:ILE:HG23	1.96	0.47
44:m:78:ARG:NH2	50:s:64:GLU:O	2.46	0.47
1:00:49:ARG:NH1	7:AA:2883:A:OP2	2.47	0.47
5:44:24:ARG:NH1	7:AA:2742:G:OP2	2.42	0.47
7:AA:2743:U:OP2	7:AA:2755:C:N4	2.45	0.47
26:UU:25:LYS:HE2	26:UU:36:GLU:HB3	1.96	0.47
38:gg:110:ARG:HH21	38:gg:121:ASN:HB3	1.79	0.47
7:A:2850:A:N7	7:A:2868:A:O2'	2.43	0.47
19:N:2:ARG:NH2	19:N:5:LYS:O	2.47	0.47
26:U:33:VAL:HG13	26:U:66:VAL:HG22	1.96	0.47
36:e:104:ILE:HD11	36:e:114:LEU:HB3	1.96	0.47
2:11:5:ARG:NH1	7:AA:2285:C:OP2	2.45	0.47
7:AA:2241:A:H2'	7:AA:2242:G:C8	2.49	0.47
7:AA:2366:A:H4'	28:WW:58:LYS:HE3	1.96	0.47
7:AA:2515:C:H2'	7:AA:2516:A:H8	1.78	0.47
40:ii:14:SER:HB2	40:ii:69:GLY:HA3	1.96	0.47
55:yy:330:VAL:HG12	55:yy:345:GLY:O	2.14	0.47
56:ww:17:C:H2'	56:ww:17:C:O2	2.13	0.47
32:a:458:U:H3	32:a:474:G:H1	1.61	0.47
54:x:3:LEU:CD2	54:x:5:ILE:CG1	2.85	0.47
56:w:15:G:H5''	56:w:16:C:OP2	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:GG:1:SER:OG	13:GG:2:ARG:N	2.36	0.47
32:aa:1493:A:OP2	54:xx:72:ALA:CB	2.61	0.47
32:aa:1535:C:O4'	53:vv:25:SER:OG	2.26	0.47
42:kk:108:ASN:HB3	52:uu:6:ARG:HG3	1.96	0.47
45:nn:42:TRP:O	45:nn:46:LEU:CB	2.62	0.47
6:6:15:SER:O	6:6:34:LEU:N	2.44	0.47
7:A:1428:C:OP2	9:C:27:LYS:NZ	2.47	0.47
7:A:2299:U:OP1	12:F:71:LYS:NZ	2.46	0.47
7:A:2707:U:H2'	7:A:2708:G:H8	1.79	0.47
8:B:30:C:H1'	8:B:57:A:H61	1.80	0.47
13:G:18:ILE:HD11	13:G:44:HIS:HD2	1.78	0.47
13:G:157:LYS:HD3	13:G:159:LYS:HD2	1.95	0.47
18:M:110:GLU:OE2	18:M:114:ARG:NH1	2.47	0.47
54:x:12:ILE:HG23	54:x:16:LEU:HD12	1.95	0.47
7:AA:1769:U:O2'	7:AA:1958:C:OP1	2.32	0.47
13:GG:157:LYS:HD3	13:GG:159:LYS:HD2	1.95	0.47
17:LL:75:ALA:HB2	17:LL:105:ILE:HD13	1.96	0.47
26:UU:28:LEU:N	26:UU:32:LYS:O	2.45	0.47
32:aa:264:C:O2'	48:qq:65:PRO:O	2.28	0.47
55:yy:309:MET:HE2	55:yy:318:PRO:HB3	1.97	0.47
7:A:511:U:H4'	7:A:1235:G:H4'	1.96	0.47
12:F:56:LEU:O	12:F:60:SER:OG	2.25	0.47
14:H:100:ALA:O	14:H:104:THR:OG1	2.30	0.47
32:a:676:A:H1'	42:k:116:PRO:HB3	1.96	0.47
33:b:9:LEU:HD11	33:b:13:VAL:HG13	1.96	0.47
34:c:30:ASP:OD1	45:n:65:ARG:NH1	2.43	0.47
34:c:129:PHE:O	34:c:133:MET:CB	2.63	0.47
37:f:5:GLU:HA	37:f:63:ASN:HA	1.95	0.47
38:g:110:ARG:NH2	38:g:125:ASP:OD2	2.35	0.47
40:i:14:SER:HB2	40:i:69:GLY:HA3	1.96	0.47
52:u:16:ARG:O	52:u:20:ARG:CB	2.63	0.47
7:AA:143:C:H2'	7:AA:144:A:H8	1.79	0.47
7:AA:1012:U:OP2	22:QQ:69:ARG:NH1	2.40	0.47
7:AA:2204:G:OP2	9:CC:146:LYS:NZ	2.40	0.47
7:AA:2707:U:H2'	7:AA:2708:G:H8	1.79	0.47
9:CC:154:ALA:HB2	9:CC:161:VAL:HG23	1.95	0.47
31:ZZ:16:LEU:HB2	31:ZZ:19:HIS:HD2	1.80	0.47
32:aa:713:G:H2'	32:aa:714:G:C8	2.48	0.47
32:aa:715:A:H2'	32:aa:716:A:C8	2.49	0.47
32:aa:946:A:O2'	32:aa:1333:A:N3	2.44	0.47
32:aa:1230:C:C5'	54:xx:2:GLN:NE2	2.73	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:1512:U:H2'	32:aa:1513:A:C8	2.50	0.47
35:dd:103:ARG:HA	35:dd:164:ARG:HH12	1.80	0.47
55:yy:72:LEU:CD1	55:yy:72:LEU:N	2.73	0.47
15:J:125:TYR:OH	15:J:132:HIS:NE2	2.42	0.47
26:U:25:LYS:HE2	26:U:36:GLU:HB3	1.96	0.47
30:Y:13:GLU:HG3	30:Y:57:LEU:HD13	1.96	0.47
42:k:108:ASN:HB3	52:u:6:ARG:HG3	1.96	0.47
54:x:19:PHE:CZ	54:x:23:LYS:HD2	2.47	0.47
2:11:8:ILE:HD11	2:11:33:LEU:HD12	1.96	0.47
7:AA:511:U:H4'	7:AA:1235:G:H4'	1.96	0.47
7:AA:1590:A:H2'	7:AA:1591:A:C8	2.49	0.47
7:AA:2060:A:N7	11:EE:69:ARG:NH1	2.63	0.47
8:BB:30:C:H1'	8:BB:57:A:H61	1.79	0.47
12:FF:30:VAL:HA	12:FF:157:THR:HA	1.95	0.47
13:GG:18:ILE:HD11	13:GG:44:HIS:HD2	1.78	0.47
32:aa:1356:G:H2'	32:aa:1357:A:C8	2.50	0.47
34:cc:129:PHE:O	34:cc:133:MET:CB	2.63	0.47
7:A:1365:A:OP1	29:X:2:ARG:NH1	2.41	0.47
7:A:1429:G:H2'	7:A:1430:G:H8	1.80	0.47
7:A:1571:A:H2'	7:A:1572:A:C8	2.50	0.47
7:A:1590:A:H2'	7:A:1591:A:C8	2.49	0.47
7:A:2780:G:OP2	15:J:120:ARG:NH2	2.38	0.47
17:L:90:VAL:HB	17:L:122:VAL:HA	1.96	0.47
32:a:961:U:OP2	32:a:1223:C:O2'	2.26	0.47
32:a:1452:C:O2'	32:a:1453:G:N2	2.48	0.47
32:a:1493:A:OP2	54:x:72:ALA:CB	2.61	0.47
33:b:79:VAL:HA	33:b:213:LEU:HD21	1.97	0.47
34:c:18:ASN:OD1	34:c:53:ARG:NH2	2.38	0.47
55:y:69:ASP:O	55:y:85:SER:CB	2.63	0.47
55:y:84:LEU:N	55:y:84:LEU:CD2	2.78	0.47
55:y:332:VAL:HG11	55:y:335:ILE:CG1	2.38	0.47
2:11:22:THR:OG1	7:AA:2286:G:O6	2.28	0.47
7:AA:48:G:N1	7:AA:177:G:OP2	2.45	0.47
7:AA:1667:G:O2'	7:AA:1991:U:O4	2.31	0.47
11:EE:178:VAL:O	11:EE:182:ALA:CB	2.62	0.47
12:FF:95:MET:O	12:FF:99:PHE:HB2	2.13	0.47
23:RR:74:ILE:HB	23:RR:87:GLN:HB3	1.97	0.47
32:aa:811:C:O2'	32:aa:901:A:N1	2.48	0.47
36:ee:104:ILE:HD11	36:ee:114:LEU:HB3	1.96	0.47
40:ii:128:LYS:HE2	54:xx:60:GLU:HG3	1.97	0.47
55:yy:316:ILE:HD11	55:yy:321:VAL:HG11	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:581:C:H2'	7:A:582:A:C8	2.49	0.47
16:K:9:ASN:O	16:K:83:ALA:HA	2.15	0.47
32:a:1363:A:O2'	32:a:1365:G:N7	2.43	0.47
33:b:9:LEU:HD21	33:b:13:VAL:HG22	1.97	0.47
35:d:46:ARG:NH2	33:bb:231:GLN:H	2.13	0.47
55:y:309:MET:HE2	55:y:318:PRO:HB3	1.97	0.47
55:y:372:LYS:HA	55:y:382:GLY:HA2	1.97	0.47
7:AA:1428:C:OP2	9:CC:27:LYS:NZ	2.47	0.47
16:KK:9:ASN:O	16:KK:83:ALA:HA	2.15	0.47
26:UU:33:VAL:HG13	26:UU:66:VAL:HG22	1.96	0.47
32:aa:458:U:H2'	32:aa:459:A:C8	2.50	0.47
37:ff:29:ILE:HD13	37:ff:64:VAL:HG21	1.95	0.47
56:ww:50:U:H3	56:ww:64:G:H22	1.63	0.47
7:A:1653:G:H3'	19:N:2:ARG:HG2	1.96	0.47
38:g:88:VAL:HG23	38:g:156:LEU:HD23	1.96	0.47
47:p:20:VAL:HG23	47:p:35:ARG:HA	1.95	0.47
55:y:44:SER:OG	55:y:45:GLU:N	2.36	0.47
56:w:9:G:O2'	56:w:10:G:N7	2.38	0.47
7:AA:184:C:H2'	7:AA:185:G:H8	1.78	0.47
7:AA:1469:A:H2'	7:AA:1470:A:C8	2.50	0.47
7:AA:1798:U:OP2	9:CC:270:ARG:NH2	2.37	0.47
7:AA:2809:A:OP2	7:AA:2890:G:N1	2.37	0.47
9:CC:141:HIS:ND1	9:CC:192:GLY:O	2.40	0.47
13:GG:88:LEU:HD23	13:GG:93:TYR:HB3	1.96	0.47
30:YY:13:GLU:HG3	30:YY:57:LEU:HD13	1.96	0.47
32:aa:961:U:OP2	32:aa:1223:C:O2'	2.26	0.47
54:xx:26:LYS:HG2	54:xx:30:TYR:CE1	2.49	0.47
55:yy:69:ASP:O	55:yy:85:SER:CB	2.63	0.47
7:A:48:G:N1	7:A:177:G:OP2	2.45	0.47
9:C:36:ASN:HB2	9:C:61:TYR:HB2	1.95	0.47
17:L:75:ALA:HB2	17:L:105:ILE:HD13	1.96	0.47
39:h:24:VAL:O	39:h:59:GLU:HA	2.15	0.47
39:h:46:GLU:HG2	39:h:63:LYS:HD2	1.95	0.47
55:y:291:GLY:HA2	55:y:305:HIS:O	2.15	0.47
7:AA:581:C:H2'	7:AA:582:A:C8	2.50	0.47
7:AA:1653:G:H3'	19:NN:2:ARG:HG2	1.96	0.47
19:NN:37:THR:HG22	19:NN:39:PRO:HD2	1.97	0.47
32:aa:754:C:OP1	46:oo:71:ARG:NH2	2.48	0.47
32:aa:1106:G:H5''	34:cc:171:ARG:HG2	1.97	0.47
32:aa:1222:G:H5''	50:ss:77:ARG:HH11	1.80	0.47
34:cc:152:VAL:HG12	34:cc:197:VAL:HG22	1.95	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:40:LYS:NZ	7:A:2419:U:OP1	2.42	0.46
5:4:37:GLN:O	7:A:1124:G:O2'	2.30	0.46
7:A:143:C:H2'	7:A:144:A:H8	1.79	0.46
7:A:532:A:H5''	22:Q:27:ARG:HH12	1.80	0.46
7:A:550:C:H2'	7:A:551:G:H8	1.80	0.46
7:A:2366:A:H4'	28:W:58:LYS:HE3	1.97	0.46
14:H:72:ILE:HB	14:H:108:VAL:HG22	1.97	0.46
32:a:564:C:OP1	43:l:11:ARG:NE	2.48	0.46
32:a:875:U:O2'	39:h:14:ARG:NH1	2.43	0.46
35:d:187:ARG:NH2	35:d:194:ILE:O	2.49	0.46
7:AA:550:C:H2'	7:AA:551:G:H8	1.80	0.46
17:LL:90:VAL:HB	17:LL:122:VAL:HA	1.96	0.46
17:LL:94:THR:HA	17:LL:97:ALA:HB3	1.96	0.46
38:gg:88:VAL:HG23	38:gg:156:LEU:HD23	1.96	0.46
40:ii:23:GLY:H	40:ii:60:LEU:HA	1.81	0.46
50:ss:5:LYS:HB2	50:ss:6:LYS:HZ2	1.80	0.46
55:yy:291:GLY:HA2	55:yy:305:HIS:O	2.15	0.46
7:A:2060:A:N7	11:E:69:ARG:NH1	2.63	0.46
7:A:2748:A:H5'	13:G:3:VAL:HG21	1.97	0.46
12:F:140:ILE:HG23	12:F:145:VAL:HG11	1.97	0.46
32:a:356:A:N3	32:a:368:U:O2'	2.38	0.46
32:a:458:U:H2'	32:a:459:A:C8	2.50	0.46
32:a:715:A:H2'	32:a:716:A:C8	2.49	0.46
32:a:1356:G:H2'	32:a:1357:A:C8	2.50	0.46
40:i:35:GLU:HA	40:i:39:GLY:HA3	1.97	0.46
7:AA:1571:A:H2'	7:AA:1572:A:C8	2.50	0.46
32:aa:564:C:OP1	43:ll:11:ARG:NE	2.48	0.46
55:yy:84:LEU:N	55:yy:84:LEU:CD2	2.78	0.46
55:yy:372:LYS:HA	55:yy:382:GLY:HA2	1.97	0.46
5:4:3:VAL:HG21	7:A:2539:C:H5'	1.97	0.46
32:a:754:C:OP1	46:o:71:ARG:NH2	2.48	0.46
32:a:797:C:OP1	42:k:126:ARG:NH2	2.49	0.46
55:y:311:TRP:HE1	55:y:350:LYS:C	2.21	0.46
7:AA:578:G:OP1	7:AA:1255:U:O2'	2.32	0.46
7:AA:1386:C:H2'	7:AA:1387:A:C8	2.50	0.46
7:AA:1429:G:H2'	7:AA:1430:G:H8	1.80	0.46
7:AA:2258:C:O2'	7:AA:2427:C:OP2	2.34	0.46
32:aa:486:U:H2'	32:aa:487:A:H8	1.81	0.46
32:aa:745:G:H2'	32:aa:746:A:C8	2.50	0.46
33:bb:9:LEU:HD11	33:bb:13:VAL:HG13	1.96	0.46
34:cc:18:ASN:OD1	34:cc:53:ARG:NH2	2.38	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:ii:35:GLU:HA	40:ii:39:GLY:HA3	1.97	0.46
7:A:1796:U:H2'	7:A:1797:G:H8	1.81	0.46
12:F:125:GLY:O	12:F:157:THR:OG1	2.30	0.46
32:a:490:C:OP1	35:d:145:ARG:NH2	2.49	0.46
7:AA:1433:A:H2'	7:AA:1434:A:C8	2.50	0.46
7:AA:1466:U:O2'	7:AA:1546:G:O2'	2.26	0.46
38:gg:4:ARG:HA	53:vv:3:ARG:O	2.15	0.46
39:hh:46:GLU:HG2	39:hh:63:LYS:HD2	1.96	0.46
7:A:171:U:H2'	7:A:172:A:H8	1.80	0.46
7:A:2079:U:O2'	29:X:22:ASN:OD1	2.34	0.46
8:B:90:C:H5''	18:M:18:ARG:HG2	1.98	0.46
32:a:946:A:H2'	32:a:947:G:C8	2.51	0.46
38:g:4:ARG:HA	53:v:3:ARG:O	2.16	0.46
39:h:26:MET:N	39:h:26:MET:SD	2.88	0.46
7:AA:171:U:H2'	7:AA:172:A:H8	1.80	0.46
7:AA:1077:A:N6	7:AA:1078:U:O2	2.48	0.46
28:WW:64:LYS:HG3	28:WW:66:GLU:HG3	1.98	0.46
32:aa:110:C:O2'	47:pp:25:ARG:O	2.30	0.46
32:aa:477:C:H2'	32:aa:478:A:C8	2.51	0.46
54:xx:3:LEU:CD2	54:xx:5:ILE:HD13	2.16	0.46
7:A:81:G:HO2'	7:A:295:G:HO2'	1.64	0.46
7:A:2508:G:H1	7:A:2580:U:H5	1.63	0.46
7:A:2681:C:OP2	10:D:114:LYS:NZ	2.39	0.46
22:Q:85:ALA:HB1	22:Q:111:LYS:HE2	1.97	0.46
23:R:74:ILE:HB	23:R:87:GLN:HB3	1.96	0.46
28:W:64:LYS:HG3	28:W:66:GLU:HG3	1.98	0.46
32:a:1106:G:H5''	34:c:171:ARG:HG2	1.97	0.46
32:a:1512:U:H2'	32:a:1513:A:C8	2.50	0.46
36:e:56:PRO:HD3	33:bb:233:GLU:HG3	1.97	0.46
49:r:70:THR:HG23	49:r:72:ARG:H	1.81	0.46
50:s:5:LYS:HB2	50:s:6:LYS:HZ2	1.80	0.46
55:y:349:CYS:C	55:y:351:ALA:H	2.24	0.46
7:AA:1796:U:H2'	7:AA:1797:G:H8	1.81	0.46
7:AA:2748:A:H5'	13:GG:3:VAL:HG21	1.97	0.46
23:RR:64:VAL:HB	23:RR:95:ASP:O	2.16	0.46
32:aa:797:C:OP1	42:kk:126:ARG:NH2	2.49	0.46
32:aa:1452:C:O2'	32:aa:1453:G:N2	2.48	0.46
35:dd:187:ARG:NH2	35:dd:194:ILE:O	2.49	0.46
7:A:1469:A:H2'	7:A:1470:A:C8	2.50	0.46
32:a:1222:G:H5''	50:s:77:ARG:HH11	1.80	0.46
34:c:105:VAL:HG22	34:c:107:LYS:H	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:y:316:ILE:HD11	55:y:321:VAL:HG11	1.97	0.46
56:w:43:A:H2'	56:w:44:A:C8	2.51	0.46
56:w:50:U:H3	56:w:64:G:H22	1.63	0.46
26:UU:85:ARG:HH11	26:UU:101:THR:HG1	1.63	0.46
32:aa:202:G:H21	32:aa:466:A:H61	1.64	0.46
32:aa:294:U:OP1	32:aa:610:U:O2'	2.31	0.46
32:aa:1191:A:H5''	34:cc:3:LYS:HE3	1.98	0.46
36:ee:121:ASN:N	36:ee:121:ASN:OD1	2.45	0.46
52:uu:16:ARG:O	52:uu:20:ARG:CB	2.63	0.46
7:A:1433:A:H2'	7:A:1434:A:C8	2.50	0.46
19:N:37:THR:HG22	19:N:39:PRO:HD2	1.97	0.46
32:a:492:C:H2'	32:a:493:A:C8	2.51	0.46
32:a:971:G:HO2'	32:a:1365:G:HO2'	1.63	0.46
35:d:103:ARG:HA	35:d:164:ARG:HH12	1.80	0.46
36:e:93:VAL:HG11	36:e:139:THR:HG22	1.98	0.46
7:AA:2508:G:H1	7:AA:2580:U:H5	1.63	0.46
7:AA:2636:C:O2'	10:DD:45:TYR:OH	2.32	0.46
14:HH:72:ILE:HB	14:HH:108:VAL:HG22	1.97	0.46
21:PP:91:VAL:HG21	21:PP:96:LEU:HD11	1.97	0.46
32:aa:412:A:H62	32:aa:431:A:H61	1.64	0.46
32:aa:428:G:OP2	35:dd:9:LYS:NZ	2.45	0.46
32:aa:490:C:OP1	35:dd:145:ARG:NH2	2.49	0.46
39:hh:26:MET:SD	39:hh:26:MET:N	2.88	0.46
7:A:955:U:H5	7:A:962:G:H1	1.64	0.46
7:A:987:C:O2'	7:A:1000:A:N3	2.42	0.46
7:A:1047:G:O2'	7:A:1110:G:N2	2.49	0.46
7:A:1769:U:O2'	7:A:1958:C:OP1	2.32	0.46
8:B:66:A:H2	8:B:68:C:H41	1.64	0.46
16:K:25:LEU:HD12	16:K:38:ILE:HG22	1.98	0.46
32:a:745:G:H2'	32:a:746:A:C8	2.50	0.46
35:d:154:VAL:O	35:d:158:LEU:CB	2.64	0.46
54:x:69:ASP:O	54:x:70:MET:HB3	2.14	0.46
7:AA:335:C:O2	26:UU:67:SER:OG	2.28	0.46
7:AA:532:A:H5''	22:QQ:27:ARG:HH12	1.80	0.46
7:AA:639:U:H2'	7:AA:640:C:C6	2.51	0.46
8:BB:90:C:H5''	18:MM:18:ARG:HG2	1.98	0.46
12:FF:125:GLY:O	12:FF:157:THR:OG1	2.30	0.46
16:KK:25:LEU:HD12	16:KK:38:ILE:HG22	1.98	0.46
33:bb:129:THR:HB	33:bb:132:GLU:H	1.81	0.46
56:ww:43:A:H2'	56:ww:44:A:C8	2.51	0.46
7:A:1386:C:H2'	7:A:1387:A:C8	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:91:VAL:HG21	21:P:96:LEU:HD11	1.97	0.46
32:a:563:A:HO2'	32:a:566:G:HO2'	1.64	0.46
55:y:19:ARG:O	55:y:72:LEU:HD13	2.16	0.46
5:44:3:VAL:HG21	7:AA:2539:C:H5'	1.97	0.46
7:AA:296:U:H2'	7:AA:297:G:H8	1.81	0.46
7:AA:832:U:H5'	17:LL:38:GLN:HB3	1.97	0.46
7:AA:1028:A:OP2	7:AA:1126:A:N6	2.42	0.46
32:aa:1074:G:O2'	32:aa:1101:A:N1	2.40	0.46
33:bb:9:LEU:HD21	33:bb:13:VAL:HG22	1.97	0.46
40:ii:90:ASP:O	40:ii:93:LEU:N	2.40	0.46
45:nn:87:ALA:HB1	45:nn:92:GLU:HB2	1.97	0.46
7:A:574:A:N6	7:A:2034:U:OP1	2.49	0.45
7:A:633:A:O2'	7:A:2404:U:OP1	2.32	0.45
7:A:906:U:O2'	18:M:66:ARG:NH2	2.49	0.45
7:A:1077:A:N6	7:A:1078:U:O2	2.48	0.45
7:A:1315:C:O2'	7:A:1392:A:N3	2.48	0.45
32:a:1166:G:N1	32:a:1169:A:OP2	2.50	0.45
40:i:128:LYS:HE2	54:x:60:GLU:HG3	1.97	0.45
7:AA:1323:C:OP1	24:SS:98:LYS:NZ	2.46	0.45
7:AA:1980:G:O2'	7:AA:1982:U:OP2	2.28	0.45
7:AA:2079:U:O2'	29:XX:22:ASN:OD1	2.34	0.45
32:aa:147:G:H2'	32:aa:148:G:C8	2.51	0.45
32:aa:714:G:H2'	32:aa:715:A:C8	2.51	0.45
32:aa:946:A:H2'	32:aa:947:G:C8	2.51	0.45
33:bb:79:VAL:HA	33:bb:213:LEU:HD21	1.97	0.45
34:cc:105:VAL:HG22	34:cc:107:LYS:H	1.81	0.45
7:AA:1047:G:O2'	7:AA:1110:G:N2	2.49	0.45
7:AA:1509:A:H2'	7:AA:1510:G:C8	2.52	0.45
22:QQ:85:ALA:HB1	22:QQ:111:LYS:HE2	1.98	0.45
32:aa:1166:G:N1	32:aa:1169:A:OP2	2.50	0.45
37:ff:23:GLU:O	37:ff:27:ALA:HB2	2.17	0.45
53:vv:6:ARG:O	53:vv:8:ARG:N	2.50	0.45
56:ww:8:U:O2'	56:ww:21:A:N1	2.45	0.45
7:A:1668:A:O2'	7:A:1674:G:N7	2.40	0.45
13:G:104:LEU:HD13	13:G:106:LEU:HD11	1.97	0.45
21:P:64:SER:OG	21:P:65:ASN:N	2.43	0.45
32:a:811:C:O2'	32:a:901:A:N1	2.48	0.45
32:a:1191:A:H5''	34:c:3:LYS:HE3	1.98	0.45
32:a:1538:C:OP2	55:y:341:ARG:CZ	2.64	0.45
35:d:57:LYS:HD3	35:d:202:LEU:HD22	1.97	0.45
7:AA:17:G:H4'	22:QQ:24:TYR:HE1	1.82	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:574:A:N6	7:AA:2034:U:OP1	2.49	0.45
7:AA:633:A:O2'	7:AA:2404:U:OP1	2.32	0.45
13:GG:104:LEU:HD13	13:GG:106:LEU:HD11	1.97	0.45
32:aa:501:C:OP1	43:ll:113:ARG:NH2	2.49	0.45
40:ii:45:MET:O	40:ii:49:GLN:HB2	2.16	0.45
55:yy:135:LEU:CB	55:yy:167:VAL:O	2.63	0.45
7:A:160:A:N3	7:A:2208:C:O2'	2.43	0.45
7:A:307:G:N1	7:A:310:A:OP2	2.43	0.45
7:A:1056:G:O2'	7:A:1086:A:O2'	2.30	0.45
32:a:477:C:H2'	32:a:478:A:C8	2.51	0.45
32:a:486:U:H2'	32:a:487:A:H8	1.81	0.45
32:a:1308:U:H2'	32:a:1309:G:H8	1.81	0.45
45:n:87:ALA:HB1	45:n:92:GLU:HB2	1.97	0.45
51:t:43:LYS:HG3	51:t:86:ALA:HB3	1.99	0.45
53:v:6:ARG:O	53:v:8:ARG:N	2.50	0.45
2:11:7:LYS:HA	2:11:23:THR:HA	1.98	0.45
7:AA:1278:C:H2'	7:AA:1279:G:H8	1.81	0.45
7:AA:2146:C:O2'	7:AA:2147:A:N7	2.48	0.45
7:AA:2291:U:O2'	7:AA:2374:C:O2	2.35	0.45
32:aa:1308:U:H2'	32:aa:1309:G:H8	1.81	0.45
32:aa:1538:C:OP2	55:yy:341:ARG:CZ	2.64	0.45
35:dd:57:LYS:HD3	35:dd:202:LEU:HD22	1.97	0.45
7:A:2175:C:H2'	7:A:2176:A:C8	2.52	0.45
7:A:2258:C:O2'	7:A:2427:C:OP2	2.34	0.45
32:a:147:G:H2'	32:a:148:G:C8	2.51	0.45
32:a:1317:C:OP2	45:n:27:LYS:NZ	2.44	0.45
32:a:1513:A:H2'	32:a:1514:G:C8	2.52	0.45
40:i:23:GLY:H	40:i:60:LEU:HA	1.80	0.45
55:y:38:VAL:HG22	55:y:48:ILE:HD11	1.99	0.45
55:y:294:VAL:HG21	55:y:330:VAL:HG21	1.99	0.45
7:AA:1548:A:H2'	7:AA:1549:A:C8	2.51	0.45
12:FF:21:TYR:OH	12:FF:164:GLU:OE2	2.34	0.45
14:HH:100:ALA:O	14:HH:104:THR:OG1	2.30	0.45
32:aa:1118:U:H2'	32:aa:1119:C:H6	1.82	0.45
7:A:639:U:H2'	7:A:640:C:C6	2.51	0.45
7:A:832:U:H5'	17:L:38:GLN:HB3	1.97	0.45
7:A:2146:C:O2'	7:A:2147:A:N7	2.48	0.45
31:Z:16:LEU:HB2	31:Z:19:HIS:HD2	1.80	0.45
32:a:412:A:H62	32:a:431:A:H61	1.64	0.45
32:a:1251:A:N3	32:a:1369:C:O2'	2.44	0.45
35:d:101:VAL:HG13	35:d:106:PHE:HB2	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:p:7:ALA:O	47:p:17:TYR:HA	2.17	0.45
7:AA:2299:U:OP1	12:FF:71:LYS:NZ	2.45	0.45
12:FF:100:GLU:O	12:FF:104:THR:OG1	2.33	0.45
23:RR:34:GLU:HG3	23:RR:58:VAL:HG13	1.99	0.45
32:aa:1405:G:H21	32:aa:1518:A:H8	1.65	0.45
35:dd:171:GLU:O	35:dd:179:GLY:CA	2.65	0.45
39:hh:24:VAL:O	39:hh:59:GLU:HA	2.15	0.45
7:A:1028:A:OP2	7:A:1126:A:N6	2.42	0.45
7:A:1386:C:H2'	7:A:1387:A:H8	1.81	0.45
7:A:1548:A:H2'	7:A:1549:A:C8	2.51	0.45
12:F:100:GLU:O	12:F:104:THR:OG1	2.33	0.45
16:K:25:LEU:HD21	16:K:40:LYS:HG2	1.99	0.45
33:b:111:LYS:O	33:b:115:ASP:HB2	2.17	0.45
33:b:129:THR:HB	33:b:132:GLU:H	1.81	0.45
35:d:131:ILE:HG22	35:d:133:SER:H	1.82	0.45
7:AA:955:U:H5	7:AA:962:G:H1	1.64	0.45
7:AA:1056:G:O2'	7:AA:1086:A:O2'	2.30	0.45
7:AA:1386:C:H2'	7:AA:1387:A:H8	1.82	0.45
7:AA:2175:C:H2'	7:AA:2176:A:C8	2.51	0.45
7:AA:2443:C:H2'	7:AA:2444:G:C8	2.52	0.45
12:FF:115:GLY:O	12:FF:177:ARG:NE	2.50	0.45
32:aa:908:A:H2'	32:aa:909:A:C8	2.52	0.45
36:ee:93:VAL:HG11	36:ee:139:THR:HG22	1.98	0.45
38:gg:52:ARG:NH1	38:gg:124:SER:OG	2.50	0.45
54:xx:3:LEU:HD11	54:xx:5:ILE:HD11	1.97	0.45
55:yy:19:ARG:O	55:yy:72:LEU:HD13	2.16	0.45
55:yy:103:GLU:C	55:yy:105:ALA:H	2.16	0.45
55:yy:396:ILE:O	55:yy:398:TRP:N	2.49	0.45
5:4:24:ARG:NH1	7:A:2742:G:OP2	2.42	0.45
7:A:971:G:OP1	7:A:989:G:N1	2.45	0.45
7:A:1604:C:O2'	7:A:1610:A:N1	2.41	0.45
7:A:2291:U:O2'	7:A:2374:C:O2	2.35	0.45
23:R:64:VAL:HB	23:R:95:ASP:O	2.16	0.45
32:a:19:A:OP1	36:e:134:ASN:ND2	2.45	0.45
32:a:1412:C:H2'	32:a:1413:A:C8	2.52	0.45
40:i:45:MET:O	40:i:49:GLN:HB2	2.16	0.45
40:i:90:ASP:O	40:i:93:LEU:N	2.41	0.45
55:y:135:LEU:CB	55:y:167:VAL:O	2.63	0.45
6:66:58:ASP:N	6:66:58:ASP:OD1	2.50	0.45
8:BB:66:A:H2	8:BB:68:C:H41	1.64	0.45
12:FF:140:ILE:HG23	12:FF:145:VAL:HG11	1.97	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:MM:69:PRO:HA	18:MM:94:ALA:HB2	1.99	0.45
35:dd:154:VAL:O	35:dd:158:LEU:CB	2.64	0.45
55:yy:332:VAL:HG11	55:yy:335:ILE:CG1	2.38	0.45
7:A:1231:U:H2'	7:A:1232:G:H8	1.81	0.45
7:A:2508:G:O2'	7:A:2554:U:O2'	2.33	0.45
18:M:69:PRO:HA	18:M:94:ALA:HB2	1.99	0.45
32:a:458:U:H2'	32:a:459:A:H8	1.82	0.45
32:a:459:A:H2'	32:a:460:A:H8	1.81	0.45
32:a:765:G:N2	32:a:813:U:OP2	2.46	0.45
35:d:171:GLU:O	35:d:179:GLY:CA	2.65	0.45
36:e:55:VAL:CB	33:bb:232:ALA:O	2.51	0.45
52:u:22:CYS:SG	52:u:23:GLU:N	2.90	0.45
8:BB:112:G:N2	20:OO:45:SER:O	2.46	0.45
32:aa:492:C:H2'	32:aa:493:A:C8	2.51	0.45
38:gg:78:ARG:HA	38:gg:83:THR:HA	1.99	0.45
52:uu:13:VAL:HG22	52:uu:17:ARG:HH11	1.82	0.45
6:6:58:ASP:N	6:6:58:ASP:OD1	2.50	0.45
7:A:171:U:H2'	7:A:172:A:C8	2.52	0.45
7:A:355:U:H2'	7:A:356:G:H8	1.82	0.45
7:A:1509:A:H2'	7:A:1510:G:C8	2.52	0.45
7:A:2443:C:H2'	7:A:2444:G:C8	2.52	0.45
8:B:112:G:N2	20:O:45:SER:O	2.46	0.45
32:a:1297:G:N2	32:a:1298:U:O4	2.49	0.45
42:k:18:GLY:O	42:k:81:LEU:HA	2.17	0.45
7:AA:1275:A:OP2	7:AA:1646:C:N4	2.49	0.45
8:BB:114:C:H2'	8:BB:115:A:H8	1.82	0.45
11:EE:153:LEU:HD22	11:EE:171:ASP:HB2	1.98	0.45
23:RR:4:VAL:HA	23:RR:12:HIS:O	2.17	0.45
32:aa:1317:C:OP2	45:nn:27:LYS:NZ	2.44	0.45
32:aa:1513:A:H2'	32:aa:1514:G:C8	2.52	0.45
36:ee:96:GLN:HB3	36:ee:123:LEU:HB2	1.99	0.45
42:kk:18:GLY:O	42:kk:81:LEU:HA	2.17	0.45
55:yy:349:CYS:C	55:yy:351:ALA:H	2.24	0.45
2:1:5:ARG:NH1	7:A:2285:C:OP2	2.45	0.44
7:A:151:C:H2'	7:A:152:A:H8	1.82	0.44
7:A:1716:U:H2'	7:A:1717:A:H8	1.82	0.44
32:a:202:G:H21	32:a:466:A:H61	1.64	0.44
38:g:4:ARG:HE	53:v:1:MET:CA	2.30	0.44
7:AA:372:G:O2'	7:AA:400:G:O6	2.28	0.44
7:AA:906:U:O2'	18:MM:66:ARG:NH2	2.49	0.44
7:AA:1013:C:H2'	7:AA:1014:A:H8	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:2291:U:H2'	7:AA:2292:U:C6	2.53	0.44
13:GG:23:ILE:HG21	13:GG:71:LEU:HD21	1.99	0.44
33:bb:111:LYS:O	33:bb:115:ASP:HB2	2.17	0.44
38:gg:154:ALA:HB2	53:vv:17:TYR:HD2	1.71	0.44
7:A:296:U:H2'	7:A:297:G:H8	1.81	0.44
12:F:115:GLY:O	12:F:177:ARG:NE	2.50	0.44
23:R:4:VAL:HA	23:R:12:HIS:O	2.17	0.44
32:a:404:G:OP2	35:d:114:ARG:NH2	2.41	0.44
32:a:501:C:OP1	43:l:113:ARG:NH2	2.49	0.44
32:a:946:A:O2'	32:a:1333:A:N3	2.44	0.44
38:g:78:ARG:HA	38:g:83:THR:HA	1.99	0.44
55:y:332:VAL:HG13	55:y:342:ILE:HG23	1.98	0.44
7:AA:1315:C:O2'	7:AA:1392:A:N3	2.48	0.44
12:FF:28:PRO:HG3	12:FF:164:GLU:HB3	1.99	0.44
32:aa:1349:A:OP2	40:ii:119:LYS:NZ	2.50	0.44
32:aa:1537:U:HO2'	55:yy:341:ARG:NH1	2.15	0.44
51:tt:43:LYS:HG3	51:tt:86:ALA:HB3	1.99	0.44
56:ww:11:A:H2'	56:ww:12:G:C8	2.53	0.44
2:1:7:LYS:HA	2:1:23:THR:HA	1.98	0.44
7:A:1278:C:H2'	7:A:1279:G:H8	1.81	0.44
8:B:54:G:N2	12:F:25:MET:SD	2.90	0.44
19:N:59:SER:OG	19:N:62:ASN:OD1	2.35	0.44
32:a:235:C:H2'	32:a:236:A:C8	2.52	0.44
32:a:1118:U:H2'	32:a:1119:C:H6	1.82	0.44
56:w:11:A:H2'	56:w:12:G:C8	2.52	0.44
7:AA:171:U:H2'	7:AA:172:A:C8	2.52	0.44
7:AA:281:C:H2'	7:AA:282:A:H8	1.82	0.44
7:AA:296:U:H2'	7:AA:297:G:C8	2.53	0.44
7:AA:639:U:H2'	7:AA:640:C:H6	1.83	0.44
7:AA:878:A:H3'	7:AA:879:G:C8	2.52	0.44
7:AA:1275:A:N1	7:AA:1295:C:O2'	2.41	0.44
16:KK:25:LEU:HD21	16:KK:40:LYS:HG2	1.99	0.44
17:LL:133:ALA:O	17:LL:137:ALA:HB2	2.18	0.44
32:aa:674:G:H2'	32:aa:675:A:C8	2.52	0.44
33:bb:218:ALA:O	33:bb:222:GLU:CB	2.66	0.44
49:rr:70:THR:HG23	49:rr:72:ARG:H	1.81	0.44
54:xx:63:ALA:HB3	54:xx:77:LEU:CD2	2.48	0.44
54:xx:69:ASP:O	54:xx:70:MET:CB	2.65	0.44
7:A:17:G:H4'	22:Q:24:TYR:HE1	1.82	0.44
7:A:818:G:N1	7:A:1188:U:OP2	2.43	0.44
11:E:153:LEU:HD22	11:E:171:ASP:HB2	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:102:PRO:HB3	16:K:121:GLU:HB2	1.99	0.44
17:L:133:ALA:O	17:L:137:ALA:HB2	2.18	0.44
32:a:1038:C:H2'	32:a:1039:G:H8	1.83	0.44
33:b:233:GLU:CA	36:ee:55:VAL:HB	2.48	0.44
46:o:79:GLN:O	46:o:83:ARG:HB2	2.17	0.44
54:x:63:ALA:HB3	54:x:77:LEU:CD2	2.48	0.44
55:y:396:ILE:O	55:y:398:TRP:N	2.49	0.44
1:00:54:ILE:HG13	1:00:56:LYS:HB3	1.98	0.44
7:AA:1231:U:H2'	7:AA:1232:G:H8	1.81	0.44
7:AA:2328:A:H2'	7:AA:2329:U:C6	2.53	0.44
32:aa:235:C:H2'	32:aa:236:A:C8	2.52	0.44
32:aa:458:U:H2'	32:aa:459:A:H8	1.83	0.44
32:aa:459:A:H2'	32:aa:460:A:H8	1.81	0.44
32:aa:746:A:H2'	32:aa:747:A:C8	2.52	0.44
47:pp:7:ALA:O	47:pp:17:TYR:HA	2.17	0.44
55:yy:294:VAL:HG21	55:yy:330:VAL:HG21	1.99	0.44
55:yy:332:VAL:HG13	55:yy:342:ILE:HG23	1.98	0.44
7:A:2291:U:H2'	7:A:2292:U:C6	2.53	0.44
7:A:2328:A:H2'	7:A:2329:U:C6	2.53	0.44
7:A:2377:A:H2'	7:A:2378:A:C8	2.53	0.44
7:A:2647:U:H2'	7:A:2648:G:H8	1.83	0.44
32:a:746:A:H2'	32:a:747:A:C8	2.52	0.44
32:a:1537:U:HO2'	55:y:341:ARG:NH1	2.15	0.44
54:x:23:LYS:HB3	54:x:78:ILE:CD1	2.48	0.44
5:44:1:MET:HE3	5:44:34:LYS:HG2	1.99	0.44
7:AA:1039:A:O2'	27:VV:49:ASN:ND2	2.49	0.44
7:AA:2707:U:H2'	7:AA:2708:G:C8	2.53	0.44
8:BB:54:G:N2	12:FF:25:MET:SD	2.90	0.44
22:QQ:49:ARG:HG2	22:QQ:52:ARG:HH22	1.83	0.44
32:aa:1174:G:OP2	53:vv:3:ARG:NH1	2.51	0.44
55:yy:311:TRP:HZ2	55:yy:351:ALA:HB2	0.38	0.44
1:0:54:ILE:HG13	1:0:56:LYS:HB3	1.98	0.44
7:A:514:A:N3	7:A:581:C:O2'	2.42	0.44
7:A:1013:C:H2'	7:A:1014:A:H8	1.82	0.44
11:E:125:SER:OG	11:E:126:VAL:N	2.49	0.44
30:Y:25:GLN:O	30:Y:29:ARG:HB2	2.18	0.44
32:a:200:G:H2'	32:a:201:G:H8	1.82	0.44
32:a:714:G:H2'	32:a:715:A:C8	2.51	0.44
37:f:23:GLU:O	37:f:27:ALA:HB2	2.17	0.44
38:g:52:ARG:NH1	38:g:124:SER:OG	2.50	0.44
54:x:69:ASP:O	54:x:70:MET:CB	2.65	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:y:335:ILE:HG12	55:y:342:ILE:HG23	2.00	0.44
4:33:30:HIS:NE2	7:AA:2392:A:OP2	2.51	0.44
7:AA:1266:G:O2'	7:AA:2012:G:O6	2.31	0.44
14:HH:111:ALA:HB3	14:HH:114:GLU:HB2	2.00	0.44
24:SS:62:ASP:OD1	24:SS:62:ASP:N	2.50	0.44
32:aa:200:G:H2'	32:aa:201:G:H8	1.82	0.44
32:aa:222:C:H2'	32:aa:223:A:H8	1.83	0.44
32:aa:1043:G:H2'	32:aa:1044:A:C8	2.53	0.44
54:xx:27:LEU:CD2	54:xx:78:ILE:CG1	2.88	0.44
7:A:927:A:H2'	7:A:928:A:C8	2.53	0.44
7:A:2579:C:O2'	10:D:136:ASN:OD1	2.36	0.44
23:R:34:GLU:HG3	23:R:58:VAL:HG13	1.99	0.44
32:a:406:G:H21	35:d:115:GLN:HE22	1.65	0.44
32:a:674:G:H2'	32:a:675:A:C8	2.52	0.44
7:AA:2579:C:O2'	10:DD:136:ASN:OD1	2.36	0.44
16:KK:102:PRO:HB3	16:KK:121:GLU:HB2	1.99	0.44
21:PP:13:LYS:HE3	21:PP:76:HIS:HA	1.99	0.44
30:YY:25:GLN:O	30:YY:29:ARG:HB2	2.18	0.44
32:aa:309:A:H2'	32:aa:310:G:H8	1.83	0.44
37:ff:6:ILE:HG12	37:ff:89:VAL:HG22	2.00	0.44
41:jj:82:LYS:O	41:jj:86:ALA:CB	2.65	0.44
52:uu:22:CYS:SG	52:uu:23:GLU:N	2.90	0.44
11:E:16:GLU:O	11:E:20:GLY:CA	2.66	0.44
32:a:943:U:H1'	40:i:125:GLN:HE22	1.83	0.44
32:a:1043:G:H2'	32:a:1044:A:C8	2.53	0.44
33:b:218:ALA:O	33:b:222:GLU:CB	2.66	0.44
34:c:166:TRP:HZ3	34:c:168:ARG:HG2	1.83	0.44
46:o:79:GLN:O	46:o:83:ARG:CB	2.66	0.44
52:u:13:VAL:HG22	52:u:17:ARG:HH11	1.82	0.44
55:y:136:VAL:HA	55:y:168:VAL:O	2.18	0.44
7:AA:191:A:H2'	7:AA:192:C:C6	2.53	0.44
7:AA:463:G:N2	7:AA:466:A:OP2	2.43	0.44
10:DD:148:GLN:HB2	10:DD:152:PRO:HG2	2.00	0.44
32:aa:35:G:O2'	43:ll:114:SER:O	2.31	0.44
32:aa:254:G:OP1	48:qq:67:SER:OG	2.29	0.44
32:aa:728:A:H2'	32:aa:729:A:C8	2.53	0.44
32:aa:1412:C:H2'	32:aa:1413:A:C8	2.52	0.44
35:dd:101:VAL:HG13	35:dd:106:PHE:HB2	1.99	0.44
56:ww:30:G:H2'	56:ww:31:G:H8	1.83	0.44
7:A:1443:U:H2'	7:A:1444:G:H8	1.82	0.44
9:C:77:VAL:HG21	9:C:109:LEU:HD11	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:13:LYS:HE3	21:P:76:HIS:HA	1.99	0.44
32:a:908:A:H2'	32:a:909:A:C8	2.52	0.44
54:x:3:LEU:CD2	54:x:3:LEU:C	2.87	0.44
56:w:16:C:H3'	56:w:17:C:O5'	2.18	0.44
6:66:5:ILE:HD12	12:FF:63:LYS:HE2	2.00	0.44
7:AA:151:C:H2'	7:AA:152:A:H8	1.82	0.44
7:AA:832:U:H2'	7:AA:833:A:C8	2.53	0.44
7:AA:1443:U:H2'	7:AA:1444:G:H8	1.82	0.44
7:AA:1665:A:H1'	16:KK:1:MET:HG2	2.00	0.44
7:AA:1724:G:O6	7:AA:1736:U:O4	2.36	0.44
7:AA:2243:U:H2'	7:AA:2244:U:C6	2.53	0.44
9:CC:77:VAL:HG21	9:CC:109:LEU:HD11	1.99	0.44
11:EE:16:GLU:O	11:EE:20:GLY:CA	2.66	0.44
23:RR:61:ALA:HB2	23:RR:98:ILE:HD13	2.00	0.44
46:oo:79:GLN:O	46:oo:83:ARG:HB2	2.17	0.44
54:xx:3:LEU:CD2	54:xx:3:LEU:C	2.86	0.44
7:A:184:C:H2'	7:A:185:G:C8	2.53	0.43
7:A:832:U:H2'	7:A:833:A:C8	2.52	0.43
7:A:1361:G:O2'	7:A:2215:C:O2'	2.34	0.43
7:A:2120:G:H2'	7:A:2121:G:H8	1.83	0.43
12:F:21:TYR:OH	12:F:164:GLU:OE2	2.34	0.43
24:S:62:ASP:N	24:S:62:ASP:OD1	2.51	0.43
32:a:222:C:H2'	32:a:223:A:H8	1.83	0.43
32:a:1355:G:H2'	32:a:1356:G:H8	1.83	0.43
36:e:96:GLN:HB3	36:e:123:LEU:HB2	1.99	0.43
41:j:47:GLU:O	41:j:66:GLU:HA	2.18	0.43
14:HH:100:ALA:O	14:HH:104:THR:CB	2.66	0.43
14:HH:132:PHE:HE2	14:HH:142:VAL:HB	1.83	0.43
32:aa:1218:C:H2'	32:aa:1219:A:H8	1.82	0.43
32:aa:1241:G:H2'	32:aa:1242:G:H8	1.83	0.43
46:oo:79:GLN:O	46:oo:83:ARG:CB	2.66	0.43
54:xx:80:LYS:HE3	54:xx:80:LYS:HB2	1.83	0.43
55:yy:109:THR:C	55:yy:153:GLU:HA	2.42	0.43
55:yy:302:GLY:HA3	55:yy:344:LEU:HD13	2.00	0.43
7:A:672:C:OP2	17:L:42:SER:OG	2.35	0.43
7:A:832:U:H2'	7:A:833:A:H8	1.84	0.43
7:A:2243:U:H2'	7:A:2244:U:C6	2.53	0.43
8:B:114:C:H2'	8:B:115:A:H8	1.83	0.43
10:D:109:VAL:HG22	10:D:203:VAL:HG22	2.00	0.43
14:H:100:ALA:O	14:H:104:THR:CB	2.66	0.43
32:a:634:C:H2'	32:a:635:A:C8	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:m:92:ARG:HH12	44:m:94:LEU:HD12	1.83	0.43
7:AA:172:A:H2'	7:AA:173:A:C8	2.54	0.43
7:AA:2141:G:H2'	7:AA:2142:A:C8	2.53	0.43
7:AA:2377:A:H2'	7:AA:2378:A:C8	2.53	0.43
7:AA:2647:U:H2'	7:AA:2648:G:H8	1.83	0.43
7:AA:2705:A:O2'	7:AA:2852:G:OP1	2.32	0.43
26:UU:85:ARG:NH1	26:UU:101:THR:OG1	2.47	0.43
32:aa:736:C:OP1	49:rr:60:ARG:NH2	2.36	0.43
36:ee:152:VAL:HG21	39:hh:98:LEU:HD13	2.00	0.43
7:A:296:U:H2'	7:A:297:G:C8	2.53	0.43
7:A:1266:G:O2'	7:A:2012:G:O6	2.31	0.43
12:F:43:ILE:H	12:F:43:ILE:HG13	1.69	0.43
23:R:76:LYS:HE3	23:R:85:LYS:HD2	2.00	0.43
36:e:55:VAL:CG1	33:bb:232:ALA:O	2.31	0.43
7:AA:832:U:H2'	7:AA:833:A:H8	1.84	0.43
7:AA:2343:U:O2'	7:AA:2373:G:O2'	2.27	0.43
32:aa:19:A:OP1	36:ee:134:ASN:ND2	2.45	0.43
32:aa:1355:G:H2'	32:aa:1356:G:H8	1.83	0.43
37:ff:23:GLU:O	37:ff:27:ALA:CB	2.67	0.43
38:gg:110:ARG:NH2	38:gg:125:ASP:OD2	2.35	0.43
41:jj:47:GLU:O	41:jj:66:GLU:HA	2.18	0.43
44:mm:92:ARG:HH12	44:mm:94:LEU:HD12	1.83	0.43
55:yy:119:GLY:O	55:yy:120:PHE:C	2.62	0.43
7:A:2141:G:H2'	7:A:2142:A:C8	2.53	0.43
7:A:2233:U:H2'	7:A:2234:G:C8	2.54	0.43
12:F:28:PRO:HG3	12:F:164:GLU:HB3	1.99	0.43
13:G:23:ILE:HG21	13:G:71:LEU:HD21	1.99	0.43
14:H:111:ALA:HB3	14:H:114:GLU:HB2	2.00	0.43
32:a:460:A:H2'	32:a:461:A:H8	1.83	0.43
32:a:1174:G:OP2	53:v:3:ARG:NH1	2.51	0.43
32:a:1241:G:H2'	32:a:1242:G:H8	1.83	0.43
32:a:1405:G:H21	32:a:1518:A:H8	1.65	0.43
32:a:1496:C:OP1	54:x:26:LYS:HE3	2.19	0.43
33:b:79:VAL:O	33:b:83:ALA:CB	2.67	0.43
41:j:82:LYS:O	41:j:86:ALA:CB	2.65	0.43
47:p:54:LEU:HD23	47:p:57:ILE:HD12	2.01	0.43
50:s:12:LEU:HA	50:s:12:LEU:HD23	1.83	0.43
7:AA:184:C:H2'	7:AA:185:G:C8	2.53	0.43
7:AA:355:U:H2'	7:AA:356:G:H8	1.82	0.43
7:AA:2107:G:H1	7:AA:2182:U:H3	1.65	0.43
32:aa:41:G:H2'	32:aa:42:G:C8	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:1297:G:N2	32:aa:1298:U:O4	2.49	0.43
38:gg:4:ARG:HE	53:vv:1:MET:CA	2.30	0.43
55:yy:38:VAL:HG22	55:yy:48:ILE:HD11	1.99	0.43
55:yy:119:GLY:CA	55:yy:132:PRO:C	2.92	0.43
1:0:15:ARG:NH1	7:A:1264:A:OP1	2.41	0.43
6:6:5:ILE:HD12	12:F:63:LYS:HE2	2.00	0.43
7:A:2707:U:H2'	7:A:2708:G:C8	2.52	0.43
8:B:5:U:OP1	8:B:61:G:O2'	2.30	0.43
32:a:398:U:H2'	32:a:399:G:C8	2.53	0.43
32:a:728:A:H2'	32:a:729:A:C8	2.53	0.43
32:a:1218:C:H2'	32:a:1219:A:H8	1.82	0.43
35:d:44:LYS:HE3	33:bb:227:ASP:OD2	2.16	0.43
38:g:47:GLU:O	38:g:51:GLN:NE2	2.52	0.43
55:y:33:LYS:HA	55:y:34:ASP:HA	1.61	0.43
55:y:76:GLU:HA	55:y:76:GLU:OE2	2.19	0.43
55:y:109:THR:C	55:y:153:GLU:HA	2.43	0.43
7:AA:45:G:H5''	7:AA:46:G:H5'	2.00	0.43
7:AA:927:A:H2'	7:AA:928:A:C8	2.53	0.43
21:PP:21:PRO:HD3	21:PP:49:ILE:HD12	2.01	0.43
32:aa:406:G:H21	35:dd:115:GLN:HE22	1.66	0.43
32:aa:765:G:N2	32:aa:813:U:OP2	2.46	0.43
34:cc:166:TRP:HZ3	34:cc:168:ARG:HG2	1.83	0.43
54:xx:27:LEU:C	54:xx:27:LEU:CD1	2.90	0.43
55:yy:290:TYR:O	55:yy:305:HIS:C	2.56	0.43
7:A:512:G:OP1	7:A:1234:U:O2'	2.36	0.43
7:A:2385:C:H2'	7:A:2386:A:C8	2.54	0.43
8:B:14:U:OP2	8:B:70:C:O2'	2.35	0.43
14:H:132:PHE:HE2	14:H:142:VAL:HB	1.83	0.43
32:a:309:A:H2'	32:a:310:G:H8	1.83	0.43
32:a:448:A:H3'	32:a:449:G:H8	1.84	0.43
40:i:16:ALA:HA	40:i:66:VAL:HA	2.01	0.43
55:y:152:LEU:CB	55:y:171:ARG:H	2.32	0.43
55:y:302:GLY:HA3	55:y:344:LEU:HD13	2.00	0.43
7:AA:302:C:H2'	7:AA:303:G:H8	1.83	0.43
7:AA:2245:U:H5''	7:AA:2246:G:H5'	2.00	0.43
10:DD:109:VAL:HG22	10:DD:203:VAL:HG22	2.00	0.43
32:aa:634:C:H2'	32:aa:635:A:C8	2.54	0.43
32:aa:694:A:H5'	42:kk:54:SER:HB3	2.01	0.43
32:aa:790:A:N9	54:xx:30:TYR:O	2.51	0.43
55:yy:280:LEU:HB2	55:yy:330:VAL:O	2.19	0.43
55:yy:332:VAL:HG12	55:yy:334:ASP:N	2.33	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:191:A:H2'	7:A:192:C:C6	2.53	0.43
7:A:639:U:H2'	7:A:640:C:H6	1.83	0.43
7:A:2107:G:H1	7:A:2182:U:H3	1.65	0.43
7:A:2183:A:H2'	7:A:2184:A:C8	2.54	0.43
7:A:2561:U:O3'	16:K:40:LYS:NZ	2.49	0.43
32:a:563:A:O2'	32:a:566:G:O2'	2.36	0.43
47:p:18:GLN:NE2	47:p:35:ARG:HE	2.17	0.43
52:u:57:LYS:O	52:u:61:ARG:CB	2.67	0.43
54:x:33:ARG:O	54:x:33:ARG:CG	2.65	0.43
56:w:62:C:H2'	56:w:63:G:H8	1.84	0.43
7:AA:672:C:OP2	17:LL:42:SER:OG	2.35	0.43
7:AA:1171:G:H1	7:AA:1177:G:H1	1.67	0.43
7:AA:1716:U:H2'	7:AA:1717:A:H8	1.82	0.43
7:AA:1889:A:H2'	7:AA:1890:A:C8	2.53	0.43
7:AA:2385:C:H2'	7:AA:2386:A:C8	2.54	0.43
7:AA:2561:U:O3'	16:KK:40:LYS:NZ	2.50	0.43
10:DD:46:ARG:HD3	10:DD:84:LEU:HB2	2.01	0.43
18:MM:4:PRO:HG3	18:MM:70:ASP:HA	2.01	0.43
39:hh:104:SER:HB2	39:hh:125:ILE:HD11	2.00	0.43
40:ii:115:VAL:HG21	41:jj:62:ARG:HG3	2.01	0.43
54:xx:23:LYS:HB3	54:xx:78:ILE:CD1	2.48	0.43
54:xx:52:ALA:HB3	54:xx:81:LEU:HD11	2.01	0.43
55:yy:110:GLY:H	55:yy:153:GLU:N	2.17	0.43
55:yy:152:LEU:CB	55:yy:171:ARG:H	2.32	0.43
7:A:281:C:H2'	7:A:282:A:H8	1.82	0.43
7:A:1796:U:H2'	7:A:1797:G:C8	2.54	0.43
7:A:1818:U:O2'	9:C:152:GLN:O	2.37	0.43
7:A:1980:G:O2'	7:A:1982:U:OP2	2.28	0.43
32:a:297:G:N2	32:a:300:A:OP2	2.40	0.43
32:a:393:A:H2'	32:a:394:G:H8	1.84	0.43
34:c:155:ARG:NE	34:c:159:ALA:O	2.44	0.43
39:h:104:SER:HB2	39:h:125:ILE:HD11	1.99	0.43
40:i:115:VAL:HG21	41:j:62:ARG:HG3	2.01	0.43
54:x:23:LYS:O	54:x:78:ILE:CD1	2.66	0.43
55:y:110:GLY:H	55:y:153:GLU:N	2.17	0.43
55:y:119:GLY:O	55:y:120:PHE:C	2.62	0.43
7:AA:512:G:OP1	7:AA:1234:U:O2'	2.36	0.43
32:aa:806:C:H2'	32:aa:807:A:H8	1.83	0.43
32:aa:1118:U:OP1	40:ii:10:ARG:NH1	2.40	0.43
33:bb:79:VAL:O	33:bb:83:ALA:CB	2.67	0.43
35:dd:131:ILE:HG22	35:dd:133:SER:H	1.82	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:136:VAL:HA	55:yy:168:VAL:O	2.18	0.43
55:yy:335:ILE:HG12	55:yy:342:ILE:HG23	2.00	0.43
5:4:1:MET:HE3	5:4:34:LYS:HG2	2.00	0.43
7:A:581:C:H2'	7:A:582:A:H8	1.84	0.43
7:A:1039:A:O2'	27:V:49:ASN:ND2	2.49	0.43
7:A:1724:G:O6	7:A:1736:U:O4	2.36	0.43
7:A:2233:U:H2'	7:A:2234:G:H8	1.84	0.43
16:K:13:ASN:HD21	16:K:97:THR:HG1	1.60	0.43
22:Q:49:ARG:HG2	22:Q:52:ARG:HH22	1.83	0.43
23:R:61:ALA:HB2	23:R:98:ILE:HD13	2.00	0.43
32:a:1349:A:OP2	40:i:119:LYS:NZ	2.50	0.43
40:i:62:LEU:HD23	40:i:64:ILE:HD11	2.01	0.43
7:AA:1395:A:O2'	7:AA:1397:U:OP2	2.35	0.43
7:AA:1689:A:H2'	7:AA:1690:A:C8	2.54	0.43
7:AA:1796:U:H2'	7:AA:1797:G:C8	2.54	0.43
8:BB:14:U:OP2	8:BB:70:C:O2'	2.34	0.43
32:aa:393:A:H2'	32:aa:394:G:H8	1.84	0.43
32:aa:486:U:H2'	32:aa:487:A:C8	2.54	0.43
37:ff:50:PRO:HG3	37:ff:55:HIS:CE1	2.54	0.43
38:gg:47:GLU:O	38:gg:51:GLN:NE2	2.52	0.43
55:yy:342:ILE:HG22	55:yy:344:LEU:HD12	2.01	0.43
7:A:463:G:N2	7:A:466:A:OP2	2.43	0.43
7:A:1012:U:OP2	22:Q:69:ARG:NH1	2.40	0.43
7:A:1275:A:OP2	7:A:1646:C:N4	2.49	0.43
12:F:68:LYS:HB3	12:F:81:GLY:HA2	2.01	0.43
14:H:16:GLY:HA2	14:H:47:PHE:HZ	1.84	0.43
14:H:78:VAL:HG21	14:H:103:VAL:HG22	2.00	0.43
15:J:98:GLU:O	15:J:102:GLU:CB	2.67	0.43
32:a:806:C:H2'	32:a:807:A:H8	1.83	0.43
37:f:6:ILE:HG12	37:f:89:VAL:HG22	1.99	0.43
37:f:23:GLU:O	37:f:27:ALA:CB	2.67	0.43
38:g:50:ALA:HB2	38:g:57:GLU:HG2	2.01	0.43
41:j:27:GLU:O	41:j:31:ARG:CB	2.60	0.43
46:o:38:LEU:HD23	46:o:42:PHE:HE2	1.83	0.43
6:66:57:VAL:HG22	50:ss:66:VAL:HG21	2.01	0.43
7:AA:2233:U:H2'	7:AA:2234:G:H8	1.84	0.43
7:AA:2787:C:H1'	10:DD:63:PRO:HG3	2.01	0.43
13:GG:37:ASN:HD22	13:GG:38:ASP:H	1.66	0.43
16:KK:48:PRO:HB2	16:KK:49:ARG:HD2	2.01	0.43
32:aa:1031:C:O2'	32:aa:1033:G:N3	2.52	0.43
32:aa:1535:C:C4'	53:vv:25:SER:OG	2.67	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:ii:62:LEU:HD23	40:ii:64:ILE:HD11	2.01	0.43
43:ll:35:ARG:HD3	43:ll:53:ARG:HH12	1.84	0.43
49:rr:29:LYS:HA	49:rr:32:ILE:HG13	2.01	0.43
56:ww:62:C:H2'	56:ww:63:G:H8	1.84	0.43
7:A:45:G:H5''	7:A:46:G:H5'	2.00	0.42
7:A:143:C:H2'	7:A:144:A:C8	2.54	0.42
7:A:172:A:H2'	7:A:173:A:C8	2.54	0.42
7:A:302:C:H2'	7:A:303:G:H8	1.83	0.42
7:A:1171:G:H1	7:A:1177:G:H1	1.67	0.42
7:A:2087:G:H2'	7:A:2088:A:H8	1.84	0.42
15:J:16:TYR:HE1	15:J:138:GLN:HE21	1.66	0.42
21:P:21:PRO:HD3	21:P:49:ILE:HD12	2.01	0.42
32:a:486:U:H2'	32:a:487:A:C8	2.54	0.42
32:a:600:A:OP1	39:h:88:LYS:N	2.47	0.42
32:a:1375:A:OP1	38:g:24:LYS:NZ	2.43	0.42
56:w:30:G:H2'	56:w:31:G:H8	1.84	0.42
7:AA:2329:U:H2'	7:AA:2330:G:C8	2.54	0.42
7:AA:2331:G:O2'	7:AA:2336:A:N1	2.47	0.42
7:AA:2837:A:H2'	7:AA:2838:G:H8	1.84	0.42
32:aa:10:A:H2'	32:aa:11:G:H8	1.84	0.42
32:aa:668:G:H21	46:oo:45:HIS:CE1	2.37	0.42
7:A:373:U:H2'	7:A:374:A:C8	2.54	0.42
7:A:1889:A:H2'	7:A:1890:A:C8	2.53	0.42
7:A:2329:U:H2'	7:A:2330:G:C8	2.54	0.42
10:D:46:ARG:HD3	10:D:84:LEU:HB2	2.01	0.42
10:D:148:GLN:HB2	10:D:152:PRO:HG2	2.00	0.42
32:a:736:C:OP1	49:r:60:ARG:NH2	2.36	0.42
32:a:1535:C:O4'	53:v:25:SER:OG	2.26	0.42
34:c:151:GLU:HA	34:c:165:GLU:O	2.19	0.42
55:y:61:GLU:HG2	55:y:62:ILE:HG23	2.00	0.42
4:33:40:LYS:NZ	7:AA:2419:U:OP1	2.42	0.42
7:AA:177:G:H3'	7:AA:178:G:H8	1.84	0.42
7:AA:213:A:H2'	7:AA:214:G:C8	2.54	0.42
7:AA:1060:U:H4'	7:AA:1061:U:H5'	2.01	0.42
7:AA:2751:G:H5''	7:AA:2752:C:H5	1.84	0.42
12:FF:134:GLN:HE22	12:FF:149:ARG:HG3	1.84	0.42
13:GG:44:HIS:ND1	13:GG:46:ASP:OD1	2.52	0.42
48:qq:22:VAL:HG11	48:qq:60:ILE:HD11	2.00	0.42
55:yy:19:ARG:CD	55:yy:73:ASP:OD1	2.65	0.42
4:3:30:HIS:NE2	7:A:2392:A:OP2	2.51	0.42
7:A:213:A:H2'	7:A:214:G:C8	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:586:A:N1	7:A:809:G:O2'	2.45	0.42
7:A:1395:A:O2'	7:A:1397:U:OP2	2.35	0.42
7:A:2751:G:H5''	7:A:2752:C:H5	1.84	0.42
32:a:668:G:H21	46:o:45:HIS:CE1	2.37	0.42
32:a:1118:U:OP1	40:i:10:ARG:NH1	2.40	0.42
36:e:152:VAL:HG21	39:h:98:LEU:HD13	2.00	0.42
41:j:15:HIS:HA	41:j:18:ILE:HG22	2.02	0.42
43:l:35:ARG:HD3	43:l:53:ARG:HH12	1.84	0.42
55:y:280:LEU:HB2	55:y:330:VAL:O	2.19	0.42
55:y:290:TYR:O	55:y:305:HIS:C	2.56	0.42
2:11:35:LEU:O	2:11:47:ILE:HA	2.20	0.42
7:AA:1361:G:O2'	7:AA:2215:C:O2'	2.34	0.42
7:AA:2111:U:OP1	7:AA:2118:U:O2'	2.35	0.42
7:AA:2147:A:H2'	7:AA:2148:G:C8	2.54	0.42
7:AA:2233:U:H2'	7:AA:2234:G:C8	2.54	0.42
7:AA:2273:A:H2'	7:AA:2274:A:C8	2.55	0.42
26:UU:4:ILE:HD13	26:UU:69:VAL:HG23	2.01	0.42
32:aa:235:C:H2'	32:aa:236:A:H8	1.85	0.42
32:aa:1071:C:H2'	32:aa:1072:G:C8	2.54	0.42
32:aa:1363:A:O2'	32:aa:1365:G:N7	2.43	0.42
52:uu:57:LYS:O	52:uu:61:ARG:CB	2.67	0.42
53:vv:8:ARG:O	53:vv:12:ALA:HB2	2.19	0.42
54:xx:33:ARG:O	54:xx:33:ARG:CG	2.65	0.42
4:3:61:LEU:HD13	4:3:64:ALA:HB3	2.01	0.42
7:A:1571:A:H2'	7:A:1572:A:H8	1.85	0.42
7:A:1665:A:H1'	16:K:1:MET:HG2	2.00	0.42
7:A:2245:U:H5''	7:A:2246:G:H5'	2.00	0.42
11:E:27:LEU:HG	11:E:104:ALA:HB2	2.01	0.42
32:a:694:A:H5'	42:k:54:SER:HB3	2.01	0.42
40:i:54:VAL:HG12	40:i:93:LEU:HD22	2.01	0.42
52:u:36:PHE:C	52:u:38:GLU:H	2.28	0.42
55:y:119:GLY:CA	55:y:132:PRO:C	2.92	0.42
7:AA:971:G:OP1	7:AA:989:G:N1	2.45	0.42
7:AA:2262:U:OP1	7:AA:2387:U:O2'	2.36	0.42
10:DD:49:GLN:HA	10:DD:80:TRP:O	2.20	0.42
19:NN:114:GLU:HB2	19:NN:118:ARG:HD2	2.01	0.42
32:aa:460:A:H2'	32:aa:461:A:H8	1.83	0.42
44:mm:2:ARG:O	44:mm:56:ARG:NE	2.39	0.42
55:yy:292:CYS:SG	55:yy:304:VAL:HB	2.60	0.42
10:D:106:LYS:HE3	10:D:174:SER:HB3	2.01	0.42
13:G:163:TYR:HB2	13:G:166:GLU:HB2	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:a:1342:C:H2'	32:a:1343:G:C8	2.54	0.42
54:x:27:LEU:CD2	54:x:78:ILE:CG1	2.88	0.42
56:w:8:U:O2'	56:w:21:A:N1	2.44	0.42
56:w:23:C:H2'	56:w:24:U:C6	2.55	0.42
4:33:61:LEU:HD13	4:33:64:ALA:HB3	2.02	0.42
7:AA:886:A:O3'	44:mm:91:ARG:NH1	2.49	0.42
14:HH:78:VAL:HG21	14:HH:103:VAL:HG22	2.00	0.42
17:LL:133:ALA:O	17:LL:137:ALA:CB	2.67	0.42
23:RR:76:LYS:HE3	23:RR:85:LYS:HD2	2.00	0.42
32:aa:219:U:H2'	32:aa:220:G:H8	1.85	0.42
42:kk:122:PRO:HB2	52:uu:33:ARG:HA	2.02	0.42
47:pp:54:LEU:HD23	47:pp:57:ILE:HD12	2.01	0.42
7:A:882:G:O6	7:A:894:U:O2	2.38	0.42
7:A:1278:C:H2'	7:A:1279:G:C8	2.55	0.42
7:A:1689:A:H2'	7:A:1690:A:C8	2.54	0.42
10:D:48:ILE:O	10:D:81:GLU:HA	2.19	0.42
12:F:134:GLN:HE22	12:F:149:ARG:HG3	1.84	0.42
19:N:75:ILE:HD13	19:N:75:ILE:HA	1.87	0.42
32:a:235:C:H2'	32:a:236:A:H8	1.85	0.42
32:a:1004:A:C8	32:a:1025:U:H1'	2.55	0.42
32:a:1538:C:N4	55:y:341:ARG:HG3	1.98	0.42
44:m:25:GLY:O	44:m:29:SER:CB	2.68	0.42
48:q:22:VAL:HG11	48:q:60:ILE:HD11	2.01	0.42
54:x:29:GLN:OE1	54:x:29:GLN:N	2.53	0.42
55:y:292:CYS:SG	55:y:304:VAL:HB	2.60	0.42
7:AA:1889:A:N3	7:AA:2086:U:O2'	2.46	0.42
7:AA:2087:G:H2'	7:AA:2088:A:H8	1.84	0.42
7:AA:2162:G:OP2	7:AA:2162:G:N2	2.38	0.42
7:AA:2304:G:H1	7:AA:2312:U:H3	1.68	0.42
32:aa:501:C:H2'	32:aa:502:A:C8	2.55	0.42
32:aa:1038:C:H2'	32:aa:1039:G:H8	1.83	0.42
36:ee:161:GLU:O	36:ee:165:GLY:HA2	2.19	0.42
47:pp:18:GLN:NE2	47:pp:35:ARG:HE	2.17	0.42
7:A:2147:A:H2'	7:A:2148:G:C8	2.54	0.42
7:A:2837:A:H2'	7:A:2838:G:H8	1.84	0.42
13:G:37:ASN:HD22	13:G:38:ASP:H	1.66	0.42
13:G:44:HIS:ND1	13:G:46:ASP:OD1	2.52	0.42
32:a:790:A:N9	54:x:30:TYR:O	2.51	0.42
32:a:920:U:H2'	32:a:921:U:C6	2.55	0.42
32:a:1031:C:O2'	32:a:1033:G:N3	2.52	0.42
36:e:161:GLU:O	36:e:165:GLY:HA2	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:x:52:ALA:HB3	54:x:81:LEU:HD11	2.01	0.42
55:y:359:GLU:HA	55:y:362:ASN:CB	2.50	0.42
13:GG:38:ASP:OD2	13:GG:57:TYR:OH	2.28	0.42
32:aa:600:A:OP1	39:hh:88:LYS:N	2.47	0.42
32:aa:943:U:H1'	40:ii:125:GLN:HE22	1.83	0.42
55:yy:33:LYS:HA	55:yy:34:ASP:HA	1.61	0.42
55:yy:61:GLU:HG2	55:yy:62:ILE:HG23	2.00	0.42
7:A:30:G:O2'	7:A:1214:A:N3	2.48	0.42
7:A:177:G:H3'	7:A:178:G:H8	1.84	0.42
7:A:1060:U:H4'	7:A:1061:U:H5'	2.01	0.42
7:A:2189:U:H2'	7:A:2190:G:C8	2.55	0.42
16:K:48:PRO:HB2	16:K:49:ARG:HD2	2.01	0.42
32:a:193:C:H4'	51:t:55:PRO:HG3	2.02	0.42
32:a:1535:C:C4'	53:v:25:SER:OG	2.67	0.42
38:g:153:TYR:C	53:v:17:TYR:HE2	2.28	0.42
7:AA:882:G:O6	7:AA:894:U:O2	2.38	0.42
7:AA:1278:C:H2'	7:AA:1279:G:C8	2.55	0.42
7:AA:2183:A:H2'	7:AA:2184:A:C8	2.54	0.42
9:CC:166:ARG:HG3	9:CC:171:VAL:HG22	2.01	0.42
15:JJ:98:GLU:O	15:JJ:102:GLU:CB	2.67	0.42
24:SS:4:ILE:HG22	24:SS:106:VAL:HG22	2.01	0.42
27:VV:40:ILE:HD13	27:VV:40:ILE:HA	1.93	0.42
32:aa:398:U:H2'	32:aa:399:G:C8	2.53	0.42
32:aa:1004:A:C8	32:aa:1025:U:H1'	2.54	0.42
32:aa:1342:C:H2'	32:aa:1343:G:C8	2.54	0.42
33:bb:172:ILE:HG23	33:bb:182:VAL:HG21	2.02	0.42
40:ii:16:ALA:HA	40:ii:66:VAL:HA	2.01	0.42
46:oo:38:LEU:HD23	46:oo:42:PHE:HE2	1.83	0.42
52:uu:36:PHE:C	52:uu:38:GLU:H	2.28	0.42
2:1:35:LEU:O	2:1:47:ILE:HA	2.20	0.42
7:A:527:C:N4	7:A:2779:U:OP2	2.50	0.42
7:A:576:U:H2'	7:A:577:G:C8	2.55	0.42
12:F:3:LEU:HA	12:F:6:TYR:HB3	2.01	0.42
13:G:85:LYS:HG3	13:G:131:VAL:HG22	2.02	0.42
19:N:114:GLU:HB2	19:N:118:ARG:HD2	2.02	0.42
24:S:4:ILE:HG22	24:S:106:VAL:HG22	2.01	0.42
26:U:37:GLY:HA2	26:U:40:LEU:HD21	2.01	0.42
32:a:459:A:H2'	32:a:460:A:C8	2.54	0.42
33:b:172:ILE:HG23	33:b:182:VAL:HG21	2.02	0.42
34:c:128:MET:HE1	33:bb:230:SER:OG	2.19	0.42
53:v:8:ARG:O	53:v:12:ALA:HB2	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:319:G:OP1	11:EE:132:LYS:NZ	2.46	0.42
7:AA:546:U:H1'	7:AA:548:G:C6	2.55	0.42
7:AA:2120:G:H2'	7:AA:2121:G:H8	1.84	0.42
7:AA:2139:U:C2	7:AA:2152:G:N1	2.88	0.42
7:AA:2533:U:OP1	7:AA:2665:A:O2'	2.34	0.42
8:BB:111:U:H2'	8:BB:112:G:H8	1.85	0.42
12:FF:68:LYS:HB3	12:FF:81:GLY:HA2	2.01	0.42
15:JJ:16:TYR:HE1	15:JJ:138:GLN:HE21	1.66	0.42
32:aa:552:U:H2'	32:aa:553:A:H8	1.85	0.42
44:mm:25:GLY:O	44:mm:29:SER:CB	2.68	0.42
54:xx:23:LYS:O	54:xx:78:ILE:CD1	2.66	0.42
7:A:2139:U:C2	7:A:2152:G:N1	2.88	0.42
7:A:2184:A:H2'	7:A:2185:U:H6	1.85	0.42
7:A:2343:U:O2'	7:A:2373:G:O2'	2.27	0.42
9:C:140:VAL:HG12	9:C:191:LEU:HD23	2.02	0.42
32:a:35:G:O2'	43:l:114:SER:O	2.31	0.42
32:a:41:G:H2'	32:a:42:G:C8	2.54	0.42
32:a:454:G:H22	32:a:478:A:H2	1.68	0.42
32:a:1536:C:C6	53:v:48:MET:HB3	2.55	0.42
7:AA:576:U:H2'	7:AA:577:G:C8	2.55	0.42
7:AA:1607:C:N4	7:AA:1622:G:OP2	2.44	0.42
7:AA:2151:U:H2'	7:AA:2152:G:C8	2.55	0.42
7:AA:2898:U:H2'	7:AA:2899:A:C8	2.55	0.42
11:EE:27:LEU:HG	11:EE:104:ALA:HB2	2.01	0.42
32:aa:269:C:H2'	32:aa:270:A:C8	2.55	0.42
32:aa:459:A:H2'	32:aa:460:A:C8	2.54	0.42
34:cc:151:GLU:HA	34:cc:165:GLU:O	2.19	0.42
36:ee:98:ALA:O	36:ee:101:GLY:N	2.48	0.42
38:gg:50:ALA:HB2	38:gg:57:GLU:HG2	2.01	0.42
54:xx:29:GLN:OE1	54:xx:29:GLN:N	2.53	0.42
7:A:886:A:O3'	44:m:91:ARG:NH1	2.49	0.41
7:A:1013:C:H2'	7:A:1014:A:C8	2.55	0.41
7:A:1316:U:H2'	7:A:1317:G:H8	1.85	0.41
7:A:1501:G:H2'	7:A:1502:A:H8	1.85	0.41
7:A:2087:G:H2'	7:A:2088:A:C8	2.55	0.41
7:A:2273:A:H2'	7:A:2274:A:C8	2.55	0.41
17:L:133:ALA:O	17:L:137:ALA:CB	2.67	0.41
26:U:4:ILE:HD13	26:U:69:VAL:HG23	2.01	0.41
32:a:1500:A:H5''	32:a:1508:A:H5''	2.03	0.41
37:f:50:PRO:HG3	37:f:55:HIS:CE1	2.54	0.41
41:j:81:GLU:HA	41:j:84:VAL:HG12	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:23:LEU:HB2	43:l:58:ASN:ND2	2.35	0.41
1:00:27:LEU:HD12	1:00:27:LEU:HA	1.91	0.41
7:AA:143:C:H2'	7:AA:144:A:C8	2.54	0.41
7:AA:307:G:N1	7:AA:310:A:OP2	2.43	0.41
7:AA:1798:U:O2'	7:AA:1802:A:N3	2.47	0.41
13:GG:85:LYS:HG3	13:GG:131:VAL:HG22	2.02	0.41
28:WW:55:LEU:HD12	28:WW:76:ILE:HD12	2.02	0.41
32:aa:790:A:C4	54:xx:30:TYR:O	2.73	0.41
32:aa:1496:C:OP1	54:xx:26:LYS:HE3	2.19	0.41
33:bb:56:LEU:HD13	33:bb:216:VAL:HG13	2.02	0.41
9:C:151:GLY:O	9:C:155:ARG:NH1	2.53	0.41
10:D:15:PHE:H	21:P:11:GLN:NE2	2.18	0.41
18:M:4:PRO:HG3	18:M:70:ASP:HA	2.01	0.41
31:Z:11:SER:OG	31:Z:12:ALA:N	2.53	0.41
32:a:501:C:H2'	32:a:502:A:C8	2.55	0.41
32:a:1366:C:O2'	41:j:62:ARG:NH2	2.38	0.41
34:c:59:PRO:HB3	41:j:94:ALA:HB2	2.02	0.41
34:c:123:LEU:HD21	34:c:129:PHE:HB3	2.03	0.41
37:f:38:ARG:HE	37:f:39:LEU:H	1.68	0.41
55:y:274:TYR:HD1	55:y:335:ILE:HD12	1.85	0.41
7:AA:1443:U:H2'	7:AA:1444:G:C8	2.55	0.41
7:AA:1871:A:H8	7:AA:1872:A:C8	2.38	0.41
13:GG:163:TYR:HB2	13:GG:166:GLU:HB2	2.02	0.41
15:JJ:36:LEU:HD22	15:JJ:121:LYS:HB2	2.02	0.41
32:aa:157:U:H2'	32:aa:158:G:H8	1.85	0.41
54:xx:3:LEU:HD13	54:xx:21:THR:HA	2.00	0.41
55:yy:76:GLU:HA	55:yy:76:GLU:OE2	2.19	0.41
55:yy:123:GLU:CA	55:yy:128:ARG:HA	2.43	0.41
7:A:319:G:OP1	11:E:132:LYS:NZ	2.46	0.41
7:A:2533:U:OP1	7:A:2665:A:O2'	2.34	0.41
7:A:2834:G:H2'	7:A:2879:A:H61	1.85	0.41
15:J:36:LEU:HD22	15:J:121:LYS:HB2	2.02	0.41
31:Z:47:ILE:O	31:Z:51:SER:HB3	2.21	0.41
32:a:269:C:H2'	32:a:270:A:C8	2.55	0.41
34:c:131:ARG:O	34:c:135:ARG:HB2	2.21	0.41
42:k:34:THR:HG22	42:k:40:ALA:HA	2.03	0.41
55:y:155:LYS:O	55:y:169:SER:CB	2.68	0.41
7:AA:1365:A:OP1	29:XX:2:ARG:NH1	2.41	0.41
7:AA:2837:A:H2'	7:AA:2838:G:C8	2.56	0.41
9:CC:16:VAL:HB	9:CC:203:VAL:HG22	2.02	0.41
32:aa:227:G:O2'	47:pp:63:GLN:NE2	2.54	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:231:U:H2'	32:aa:232:G:H8	1.85	0.41
32:aa:509:A:N3	32:aa:543:U:O2'	2.51	0.41
41:jj:15:HIS:HA	41:jj:18:ILE:HG22	2.02	0.41
7:A:141:G:OP2	7:A:141:G:N2	2.37	0.41
7:A:1443:U:H2'	7:A:1444:G:C8	2.55	0.41
8:B:111:U:H2'	8:B:112:G:H8	1.85	0.41
24:S:24:ILE:HD13	24:S:36:LEU:HD11	2.02	0.41
32:a:790:A:C4	54:x:30:TYR:O	2.73	0.41
55:y:110:GLY:N	55:y:153:GLU:HA	2.36	0.41
7:AA:612:G:N2	7:AA:614:A:O2'	2.54	0.41
7:AA:1501:G:H2'	7:AA:1502:A:H8	1.85	0.41
7:AA:2087:G:H2'	7:AA:2088:A:C8	2.55	0.41
7:AA:2572:A:H5''	7:AA:2574:G:H4'	2.02	0.41
9:CC:151:GLY:O	9:CC:155:ARG:NH1	2.53	0.41
10:DD:15:PHE:H	21:PP:11:GLN:NE2	2.17	0.41
14:HH:16:GLY:HA2	14:HH:47:PHE:HZ	1.84	0.41
15:JJ:91:GLU:O	15:JJ:95:ARG:CB	2.69	0.41
32:aa:34:C:H2'	32:aa:35:G:H8	1.86	0.41
32:aa:448:A:H3'	32:aa:449:G:H8	1.84	0.41
33:bb:63:LYS:NZ	33:bb:224:ARG:HD2	2.36	0.41
39:hh:48:PHE:HA	39:hh:59:GLU:O	2.20	0.41
7:A:1383:A:H2'	7:A:1384:A:C8	2.56	0.41
7:A:2282:G:O2'	7:A:2425:A:N6	2.53	0.41
7:A:2787:C:H1'	10:D:63:PRO:HG3	2.01	0.41
10:D:49:GLN:HA	10:D:80:TRP:O	2.20	0.41
12:F:152:ASP:N	12:F:152:ASP:OD1	2.53	0.41
28:W:55:LEU:HD12	28:W:76:ILE:HD12	2.02	0.41
32:a:219:U:H2'	32:a:220:G:H8	1.85	0.41
32:a:545:C:O2'	32:a:549:C:OP1	2.37	0.41
35:d:46:ARG:NH2	33:bb:231:GLN:N	2.61	0.41
44:m:109:LYS:HE3	44:m:109:LYS:HB2	1.87	0.41
50:s:57:VAL:HA	50:s:58:PRO:HD3	1.91	0.41
56:w:16:C:C3'	56:w:17:C:O5'	2.69	0.41
7:AA:411:G:OP2	7:AA:2406:A:O2'	2.32	0.41
7:AA:581:C:H2'	7:AA:582:A:H8	1.84	0.41
7:AA:1866:A:N6	7:AA:1875:G:O2'	2.54	0.41
10:DD:106:LYS:HE3	10:DD:174:SER:HB3	2.01	0.41
12:FF:3:LEU:HA	12:FF:6:TYR:HB3	2.01	0.41
13:GG:93:TYR:OH	13:GG:159:LYS:NZ	2.53	0.41
21:PP:105:LYS:O	21:PP:108:ARG:NH2	2.53	0.41
29:XX:17:ARG:HA	29:XX:22:ASN:O	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:1536:C:C6	53:vv:48:MET:HB3	2.55	0.41
38:gg:153:TYR:C	53:vv:17:TYR:HE2	2.28	0.41
39:hh:17:GLN:NE2	39:hh:69:ALA:HB1	2.35	0.41
40:ii:54:VAL:HG12	40:ii:93:LEU:HD22	2.02	0.41
55:yy:274:TYR:HD1	55:yy:335:ILE:HD12	1.84	0.41
56:ww:23:C:H2'	56:ww:24:U:C6	2.55	0.41
6:6:57:VAL:HG22	50:s:66:VAL:HG21	2.01	0.41
7:A:612:G:N2	7:A:614:A:O2'	2.54	0.41
7:A:2837:A:H2'	7:A:2838:G:C8	2.56	0.41
13:G:93:TYR:OH	13:G:159:LYS:NZ	2.53	0.41
17:L:30:THR:OG1	17:L:30:THR:O	2.38	0.41
32:a:231:U:H2'	32:a:232:G:H8	1.84	0.41
32:a:552:U:H2'	32:a:553:A:H8	1.85	0.41
33:b:56:LEU:HD13	33:b:216:VAL:HG13	2.02	0.41
39:h:17:GLN:NE2	39:h:69:ALA:HB1	2.35	0.41
48:q:46:HIS:N	48:q:72:TRP:O	2.46	0.41
49:r:29:LYS:HA	49:r:32:ILE:HG13	2.01	0.41
49:r:36:GLY:O	49:r:62:ARG:NH2	2.53	0.41
50:s:48:ILE:H	50:s:48:ILE:HG13	1.68	0.41
52:u:3:ILE:HB	52:u:19:LYS:HE2	2.02	0.41
54:x:37:VAL:HB	54:x:54:LEU:HD23	2.03	0.41
54:x:55:HIS:CD2	54:x:60:GLU:HG2	2.56	0.41
55:y:342:ILE:HG22	55:y:344:LEU:HD12	2.01	0.41
7:AA:1013:C:H2'	7:AA:1014:A:C8	2.55	0.41
7:AA:1316:U:H2'	7:AA:1317:G:H8	1.85	0.41
7:AA:1387:A:H5'	7:AA:1469:A:H1'	2.03	0.41
31:ZZ:11:SER:OG	31:ZZ:12:ALA:N	2.53	0.41
32:aa:1500:A:H5''	32:aa:1508:A:H5''	2.03	0.41
55:yy:155:LYS:O	55:yy:169:SER:CB	2.69	0.41
55:yy:359:GLU:HA	55:yy:362:ASN:CB	2.50	0.41
3:2:3:ARG:NH1	7:A:752:A:OP1	2.41	0.41
7:A:370:G:O2'	7:A:424:G:OP1	2.34	0.41
7:A:2379:G:H4'	20:O:21:LEU:HD11	2.02	0.41
7:A:2898:U:H2'	7:A:2899:A:C8	2.55	0.41
28:W:37:ARG:HD3	28:W:37:ARG:HA	1.76	0.41
32:a:1071:C:H2'	32:a:1072:G:C8	2.54	0.41
32:a:1533:C:H2'	32:a:1534:A:C8	2.56	0.41
33:b:170:ILE:O	33:b:174:GLU:HB2	2.21	0.41
45:n:43:ASN:O	45:n:47:LYS:HB2	2.21	0.41
48:q:4:ILE:H	48:q:4:ILE:HG13	1.76	0.41
54:x:31:PHE:CE2	54:x:82:ALA:HB1	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AA:1408:G:H1	7:AA:1594:U:H3	1.69	0.41
7:AA:2039:U:H2'	7:AA:2040:G:C8	2.56	0.41
17:LL:30:THR:OG1	17:LL:30:THR:O	2.38	0.41
32:aa:10:A:H2'	32:aa:11:G:C8	2.55	0.41
32:aa:672:U:H2'	32:aa:673:A:C8	2.56	0.41
32:aa:1032:G:H21	32:aa:1033:G:H4'	1.85	0.41
32:aa:1314:C:H2'	32:aa:1315:U:C6	2.56	0.41
32:aa:1533:C:H2'	32:aa:1534:A:C8	2.56	0.41
34:cc:123:LEU:HD21	34:cc:129:PHE:HB3	2.03	0.41
34:cc:155:ARG:NE	34:cc:159:ALA:O	2.44	0.41
44:mm:109:LYS:HE3	44:mm:109:LYS:HB2	1.87	0.41
7:A:546:U:H1'	7:A:548:G:C6	2.55	0.41
7:A:2182:U:H2'	7:A:2183:A:C8	2.56	0.41
7:A:2458:G:O2'	7:A:2460:U:O4	2.29	0.41
8:B:55:U:O2'	12:F:23:SER:OG	2.32	0.41
29:X:17:ARG:HA	29:X:22:ASN:O	2.20	0.41
32:a:10:A:H2'	32:a:11:G:H8	1.85	0.41
32:a:634:C:H2'	32:a:635:A:H8	1.86	0.41
32:a:1118:U:H2'	32:a:1119:C:C6	2.56	0.41
34:c:15:LYS:NZ	34:c:182:ASP:OD1	2.43	0.41
44:m:6:ILE:HG13	44:m:7:ASN:H	1.85	0.41
7:AA:373:U:H2'	7:AA:374:A:C8	2.55	0.41
7:AA:527:C:N4	7:AA:2779:U:OP2	2.50	0.41
7:AA:1567:G:OP2	9:CC:82:TYR:OH	2.32	0.41
7:AA:1754:A:N1	7:AA:2716:C:O2'	2.51	0.41
12:FF:152:ASP:OD1	12:FF:152:ASP:N	2.53	0.41
22:QQ:47:ARG:HH21	22:QQ:51:GLN:HE22	1.69	0.41
32:aa:920:U:H2'	32:aa:921:U:C6	2.55	0.41
32:aa:1538:C:H41	55:yy:341:ARG:CG	2.21	0.41
34:cc:31:ASN:HD22	34:cc:31:ASN:HA	1.57	0.41
54:xx:3:LEU:HA	54:xx:37:VAL:HG13	2.02	0.41
7:A:629:G:H1'	7:A:639:U:H1'	2.02	0.41
7:A:1866:A:N6	7:A:1875:G:O2'	2.54	0.41
7:A:2032:G:O2'	10:D:150:GLN:NE2	2.54	0.41
7:A:2062:A:OP1	11:E:63:LYS:NZ	2.54	0.41
8:B:79:G:N7	27:V:14:LYS:NZ	2.69	0.41
9:C:166:ARG:HG3	9:C:171:VAL:HG22	2.01	0.41
11:E:97:ASN:ND2	11:E:100:MET:SD	2.94	0.41
12:F:146:ASP:OD1	12:F:146:ASP:N	2.53	0.41
17:L:78:ARG:NH2	17:L:80:SER:OG	2.54	0.41
21:P:1:SER:O	21:P:5:LYS:CB	2.69	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:85:ARG:NH1	26:U:101:THR:OG1	2.48	0.41
32:a:227:G:O2'	47:p:63:GLN:NE2	2.54	0.41
32:a:299:G:H2'	32:a:300:A:C8	2.56	0.41
32:a:522:C:OP2	43:l:65:TYR:OH	2.32	0.41
32:a:680:C:H2'	32:a:681:A:H8	1.86	0.41
32:a:1314:C:H2'	32:a:1315:U:C6	2.56	0.41
32:a:1536:C:O2	32:a:1536:C:C2'	2.69	0.41
35:d:67:LEU:O	35:d:71:PHE:CB	2.69	0.41
36:e:98:ALA:O	36:e:101:GLY:N	2.48	0.41
42:k:122:PRO:HB2	52:u:33:ARG:HA	2.02	0.41
47:p:28:ARG:HH11	47:p:29:ASN:HD21	1.69	0.41
7:AA:197:A:H62	7:AA:2430:A:H2'	1.86	0.41
7:AA:265:A:N1	7:AA:427:U:O2'	2.51	0.41
7:AA:514:A:N3	7:AA:581:C:O2'	2.42	0.41
7:AA:974:G:O2'	7:AA:989:G:N2	2.51	0.41
7:AA:1383:A:H2'	7:AA:1384:A:C8	2.56	0.41
7:AA:1597:A:H5''	7:AA:1598:A:H5'	2.03	0.41
7:AA:2032:G:O2'	10:DD:150:GLN:NE2	2.54	0.41
7:AA:2834:G:H2'	7:AA:2879:A:H61	1.85	0.41
8:BB:79:G:N7	27:VV:14:LYS:NZ	2.69	0.41
10:DD:48:ILE:O	10:DD:81:GLU:HA	2.19	0.41
10:DD:106:LYS:HA	10:DD:175:LEU:O	2.21	0.41
11:EE:148:ILE:HA	11:EE:187:VAL:HG23	2.03	0.41
13:GG:75:VAL:O	13:GG:79:THR:OG1	2.30	0.41
14:HH:98:ASP:HA	14:HH:101:ASP:HB2	2.03	0.41
26:UU:37:GLY:HA2	26:UU:40:LEU:HD21	2.01	0.41
31:ZZ:10:ARG:NH2	31:ZZ:52:PHE:O	2.54	0.41
32:aa:193:C:H4'	51:tt:55:PRO:HG3	2.02	0.41
32:aa:1366:C:O2'	41:jj:62:ARG:NH2	2.38	0.41
43:ll:98:ARG:HB2	43:ll:116:TYR:HA	2.02	0.41
54:xx:31:PHE:CE2	54:xx:82:ALA:HB1	2.55	0.41
7:A:5:A:H2'	7:A:6:A:C8	2.56	0.41
7:A:1408:G:H1	7:A:1594:U:H3	1.69	0.41
7:A:1447:C:H2'	7:A:1448:G:C8	2.56	0.41
7:A:2405:G:O2'	7:A:2411:A:N6	2.51	0.41
11:E:148:ILE:HB	11:E:169:VAL:HG22	2.03	0.41
17:L:75:ALA:HB2	17:L:105:ILE:HG21	2.03	0.41
28:W:29:ALA:N	28:W:60:ASP:OD1	2.54	0.41
32:a:157:U:H2'	32:a:158:G:H8	1.85	0.41
32:a:539:A:H2'	32:a:540:G:C8	2.56	0.41
35:d:143:SER:OG	35:d:144:ILE:N	2.54	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:l:98:ARG:HB2	43:l:116:TYR:HA	2.02	0.41
7:AA:59:U:O2'	7:AA:74:A:OP2	2.33	0.41
7:AA:573:U:O2'	7:AA:575:A:OP1	2.38	0.41
7:AA:2081:U:H2'	7:AA:2082:A:H8	1.86	0.41
7:AA:2246:G:H2'	7:AA:2247:A:C8	2.56	0.41
32:aa:299:G:H2'	32:aa:300:A:C8	2.56	0.41
32:aa:1118:U:H2'	32:aa:1119:C:C6	2.56	0.41
34:cc:131:ARG:O	34:cc:135:ARG:HB2	2.21	0.41
35:dd:143:SER:OG	35:dd:144:ILE:N	2.54	0.41
36:ee:132:PRO:HA	36:ee:135:VAL:HG22	2.03	0.41
39:hh:102:VAL:O	39:hh:125:ILE:N	2.49	0.41
40:ii:51:LEU:HB3	40:ii:56:MET:HG2	2.03	0.41
52:uu:36:PHE:O	52:uu:38:GLU:N	2.55	0.41
7:A:197:A:H62	7:A:2430:A:H2'	1.86	0.40
7:A:1597:A:H5''	7:A:1598:A:H5'	2.03	0.40
7:A:1871:A:H8	7:A:1872:A:C8	2.38	0.40
7:A:2039:U:H2'	7:A:2040:G:C8	2.56	0.40
7:AA:5:A:H2'	7:AA:6:A:C8	2.56	0.40
7:AA:155:A:H2'	7:AA:156:A:C8	2.56	0.40
7:AA:320:A:OP1	11:EE:130:LYS:NZ	2.51	0.40
7:AA:742:A:H2'	7:AA:743:A:C8	2.56	0.40
7:AA:1332:G:N7	7:AA:1609:A:O2'	2.45	0.40
10:DD:34:VAL:HG22	10:DD:50:VAL:HG12	2.03	0.40
11:EE:148:ILE:HB	11:EE:169:VAL:HG22	2.03	0.40
12:FF:146:ASP:OD1	12:FF:146:ASP:N	2.53	0.40
24:SS:24:ILE:HD13	24:SS:36:LEU:HD11	2.02	0.40
32:aa:337:G:H2'	32:aa:338:A:C8	2.56	0.40
32:aa:454:G:H22	32:aa:478:A:H2	1.68	0.40
33:bb:170:ILE:O	33:bb:174:GLU:HB2	2.21	0.40
34:cc:59:PRO:HB3	41:jj:94:ALA:HB2	2.02	0.40
35:dd:67:LEU:O	35:dd:71:PHE:CB	2.69	0.40
36:ee:73:VAL:HG21	36:ee:143:LEU:HB3	2.03	0.40
43:ll:23:LEU:HB2	43:ll:58:ASN:ND2	2.35	0.40
52:uu:3:ILE:HB	52:uu:19:LYS:HE2	2.02	0.40
7:A:351:C:H2'	7:A:352:A:C8	2.57	0.40
7:A:848:C:H2'	7:A:849:A:C8	2.52	0.40
7:A:878:A:H3'	7:A:879:G:C8	2.52	0.40
7:A:903:C:H2'	7:A:904:G:H8	1.87	0.40
7:A:1429:G:H2'	7:A:1430:G:C8	2.56	0.40
7:A:2081:U:H2'	7:A:2082:A:H8	1.86	0.40
14:H:8:LYS:HG2	14:H:14:SER:HB2	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:91:GLU:O	15:J:95:ARG:CB	2.69	0.40
31:Z:8:GLN:HB2	31:Z:28:LEU:HD13	2.03	0.40
32:a:49:U:H3	32:a:362:G:H1'	1.86	0.40
32:a:337:G:H2'	32:a:338:A:C8	2.56	0.40
36:e:73:VAL:HG21	36:e:143:LEU:HB3	2.04	0.40
39:h:33:VAL:O	39:h:37:ASN:HB2	2.21	0.40
39:h:48:PHE:HA	39:h:59:GLU:O	2.20	0.40
7:AA:1429:G:H2'	7:AA:1430:G:C8	2.57	0.40
7:AA:1435:G:H2'	7:AA:1436:G:C8	2.56	0.40
7:AA:1571:A:H2'	7:AA:1572:A:H8	1.85	0.40
7:AA:2062:A:OP1	11:EE:63:LYS:NZ	2.54	0.40
7:AA:2379:G:H4'	20:OO:21:LEU:HD11	2.02	0.40
7:AA:2564:A:OP1	7:AA:2648:G:O2'	2.38	0.40
7:AA:2698:U:H2'	7:AA:2699:C:C6	2.57	0.40
17:LL:78:ARG:NH2	17:LL:80:SER:OG	2.54	0.40
19:NN:28:LEU:O	19:NN:32:GLU:HA	2.21	0.40
21:PP:1:SER:O	21:PP:5:LYS:CB	2.69	0.40
38:gg:159:ARG:NH2	53:vv:10:GLU:OE2	2.55	0.40
42:kk:34:THR:HG22	42:kk:40:ALA:HA	2.03	0.40
47:pp:28:ARG:HH11	47:pp:29:ASN:HD21	1.69	0.40
53:vv:38:SER:HB3	55:yy:317:HIS:HB2	2.03	0.40
54:xx:37:VAL:HB	54:xx:54:LEU:HD23	2.03	0.40
54:xx:55:HIS:CD2	54:xx:60:GLU:HG2	2.56	0.40
55:yy:54:LYS:HE3	55:yy:54:LYS:HB3	1.91	0.40
7:A:1387:A:H5'	7:A:1469:A:H1'	2.03	0.40
7:A:1435:G:H2'	7:A:1436:G:C8	2.57	0.40
14:H:98:ASP:HA	14:H:101:ASP:HB2	2.03	0.40
55:y:98:LEU:O	55:y:102:TYR:CA	2.70	0.40
7:AA:1447:C:H2'	7:AA:1448:G:C8	2.56	0.40
7:AA:2111:U:H1'	7:AA:2118:U:H4'	2.03	0.40
7:AA:2184:A:H2'	7:AA:2185:U:H6	1.85	0.40
8:BB:28:C:H2'	8:BB:29:A:C8	2.56	0.40
11:EE:97:ASN:ND2	11:EE:100:MET:SD	2.93	0.40
20:OO:6:ALA:O	20:OO:10:ARG:HB2	2.22	0.40
28:WW:29:ALA:N	28:WW:60:ASP:OD1	2.54	0.40
30:YY:18:LEU:O	30:YY:22:LEU:HB2	2.22	0.40
32:aa:1536:C:O2	32:aa:1536:C:O2'	2.34	0.40
37:ff:38:ARG:HE	37:ff:39:LEU:H	1.68	0.40
39:hh:9:MET:HE1	39:hh:36:ALA:HB2	2.03	0.40
39:hh:33:VAL:O	39:hh:37:ASN:HB2	2.21	0.40
43:ll:3:VAL:HG23	48:qq:33:TYR:HB3	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:yy:110:GLY:N	55:yy:153:GLU:HA	2.36	0.40
7:A:593:U:H2'	7:A:594:U:C6	2.57	0.40
7:A:1987:A:H2'	7:A:1988:G:C8	2.57	0.40
7:A:2262:U:OP1	7:A:2387:U:O2'	2.36	0.40
7:A:2514:U:H2'	7:A:2515:C:C6	2.57	0.40
9:C:16:VAL:HB	9:C:203:VAL:HG22	2.02	0.40
15:J:67:ASN:O	15:J:71:ASP:HB2	2.21	0.40
22:Q:52:ARG:HH11	22:Q:52:ARG:HD3	1.77	0.40
26:U:17:ASP:OD1	26:U:17:ASP:N	2.53	0.40
28:W:62:LYS:HB2	28:W:81:GLU:HG3	2.03	0.40
32:a:10:A:H2'	32:a:11:G:C8	2.55	0.40
32:a:691:G:H2'	32:a:692:U:C6	2.57	0.40
32:a:1405:G:O2'	32:a:1518:A:O2'	2.31	0.40
33:b:63:LYS:NZ	33:b:224:ARG:HD2	2.36	0.40
33:b:185:ILE:HA	33:b:199:ILE:HB	2.03	0.40
36:e:10:LEU:HD13	36:e:67:ARG:HH12	1.87	0.40
38:g:159:ARG:NH2	53:v:10:GLU:OE2	2.54	0.40
39:h:102:VAL:O	39:h:125:ILE:N	2.49	0.40
44:m:78:ARG:HH22	50:s:68:HIS:HE1	1.70	0.40
7:AA:671:C:H2'	7:AA:672:C:H6	1.87	0.40
9:CC:140:VAL:HG12	9:CC:191:LEU:HD23	2.02	0.40
33:bb:185:ILE:HA	33:bb:199:ILE:HB	2.03	0.40
44:mm:84:CYS:O	44:mm:88:LEU:HB2	2.22	0.40
45:nn:43:ASN:O	45:nn:47:LYS:HB2	2.20	0.40
49:rr:36:GLY:O	49:rr:62:ARG:NH2	2.53	0.40
52:uu:5:VAL:HG11	52:uu:16:ARG:HB2	2.03	0.40
53:vv:34:LEU:HD22	55:yy:317:HIS:CE1	2.57	0.40
7:A:155:A:H2'	7:A:156:A:C8	2.56	0.40
7:A:2101:A:H2'	7:A:2102:G:H8	1.87	0.40
20:O:6:ALA:O	20:O:10:ARG:HB2	2.22	0.40
22:Q:47:ARG:HH21	22:Q:51:GLN:HE22	1.69	0.40
32:a:427:U:O2'	32:a:541:G:OP1	2.37	0.40
33:b:21:TYR:HE2	33:b:189:ASN:HD22	1.68	0.40
56:w:17:C:O2	56:w:17:C:C2'	2.70	0.40
7:AA:1048:A:H61	13:GG:2:ARG:HH12	1.69	0.40
7:AA:1061:U:O2'	7:AA:1069:A:OP2	2.26	0.40
7:AA:2101:A:H2'	7:AA:2102:G:H8	1.87	0.40
7:AA:2149:U:H2'	7:AA:2150:C:C6	2.57	0.40
7:AA:2314:A:OP1	12:FF:87:LYS:NZ	2.41	0.40
7:AA:2836:U:H2'	7:AA:2837:A:C8	2.57	0.40
14:HH:8:LYS:HG2	14:HH:14:SER:HB2	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:aa:539:A:H2'	32:aa:540:G:C8	2.56	0.40
32:aa:662:U:H2'	32:aa:663:A:C8	2.57	0.40
34:cc:167:TYR:HD1	34:cc:167:TYR:HA	1.80	0.40
38:gg:4:ARG:N	53:vv:3:ARG:O	2.54	0.40
38:gg:142:ARG:O	38:gg:146:ALA:HB2	2.22	0.40
50:ss:12:LEU:HD23	50:ss:12:LEU:HA	1.83	0.40
50:ss:49:ALA:HA	50:ss:57:VAL:O	2.22	0.40
55:yy:98:LEU:O	55:yy:102:TYR:CA	2.70	0.40
55:yy:322:VAL:HG12	55:yy:323:ASN:HB2	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
1	00	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
2	1	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
2	11	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
3	2	44/46 (96%)	41 (93%)	3 (7%)	0	100	100
3	22	44/46 (96%)	41 (93%)	3 (7%)	0	100	100
4	3	62/64 (97%)	57 (92%)	4 (6%)	1 (2%)	7	38
4	33	62/64 (97%)	57 (92%)	4 (6%)	1 (2%)	7	38
5	4	36/38 (95%)	34 (94%)	2 (6%)	0	100	100
5	44	36/38 (95%)	34 (94%)	2 (6%)	0	100	100
6	6	64/66 (97%)	56 (88%)	8 (12%)	0	100	100
6	66	64/66 (97%)	55 (86%)	9 (14%)	0	100	100
9	C	269/271 (99%)	244 (91%)	25 (9%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	CC	269/271 (99%)	244 (91%)	25 (9%)	0	100	100
10	D	207/209 (99%)	192 (93%)	15 (7%)	0	100	100
10	DD	207/209 (99%)	192 (93%)	15 (7%)	0	100	100
11	E	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
11	EE	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
12	F	175/177 (99%)	163 (93%)	12 (7%)	0	100	100
12	FF	175/177 (99%)	163 (93%)	12 (7%)	0	100	100
13	G	174/176 (99%)	160 (92%)	13 (8%)	1 (1%)	21	59
13	GG	174/176 (99%)	160 (92%)	13 (8%)	1 (1%)	21	59
14	H	147/149 (99%)	127 (86%)	20 (14%)	0	100	100
14	HH	147/149 (99%)	127 (86%)	20 (14%)	0	100	100
15	J	140/142 (99%)	134 (96%)	6 (4%)	0	100	100
15	JJ	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
16	K	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
16	KK	120/122 (98%)	103 (86%)	17 (14%)	0	100	100
17	L	141/143 (99%)	127 (90%)	14 (10%)	0	100	100
17	LL	141/143 (99%)	126 (89%)	15 (11%)	0	100	100
18	M	134/136 (98%)	126 (94%)	4 (3%)	4 (3%)	3	23
18	MM	134/136 (98%)	126 (94%)	4 (3%)	4 (3%)	3	23
19	N	118/120 (98%)	108 (92%)	10 (8%)	0	100	100
19	NN	118/120 (98%)	108 (92%)	10 (8%)	0	100	100
20	O	114/116 (98%)	103 (90%)	11 (10%)	0	100	100
20	OO	114/116 (98%)	103 (90%)	11 (10%)	0	100	100
21	P	112/114 (98%)	105 (94%)	7 (6%)	0	100	100
21	PP	112/114 (98%)	105 (94%)	7 (6%)	0	100	100
22	Q	115/117 (98%)	114 (99%)	1 (1%)	0	100	100
22	QQ	115/117 (98%)	114 (99%)	1 (1%)	0	100	100
23	R	101/103 (98%)	89 (88%)	12 (12%)	0	100	100
23	RR	101/103 (98%)	89 (88%)	12 (12%)	0	100	100
24	S	108/110 (98%)	100 (93%)	8 (7%)	0	100	100
24	SS	108/110 (98%)	100 (93%)	8 (7%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	T	91/93 (98%)	82 (90%)	9 (10%)	0	100	100
25	TT	91/93 (98%)	82 (90%)	9 (10%)	0	100	100
26	U	100/102 (98%)	86 (86%)	14 (14%)	0	100	100
26	UU	100/102 (98%)	86 (86%)	14 (14%)	0	100	100
27	V	92/94 (98%)	91 (99%)	1 (1%)	0	100	100
27	VV	92/94 (98%)	91 (99%)	1 (1%)	0	100	100
28	W	73/75 (97%)	68 (93%)	5 (7%)	0	100	100
28	WW	73/75 (97%)	68 (93%)	5 (7%)	0	100	100
29	X	75/77 (97%)	72 (96%)	3 (4%)	0	100	100
29	XX	75/77 (97%)	72 (96%)	3 (4%)	0	100	100
30	Y	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
30	YY	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
31	Z	56/58 (97%)	54 (96%)	2 (4%)	0	100	100
31	ZZ	56/58 (97%)	54 (96%)	2 (4%)	0	100	100
33	b	224/226 (99%)	190 (85%)	33 (15%)	1 (0%)	30	67
33	bb	224/226 (99%)	190 (85%)	33 (15%)	1 (0%)	30	67
34	c	204/206 (99%)	191 (94%)	13 (6%)	0	100	100
34	cc	204/206 (99%)	191 (94%)	13 (6%)	0	100	100
35	d	203/205 (99%)	181 (89%)	22 (11%)	0	100	100
35	dd	203/205 (99%)	181 (89%)	22 (11%)	0	100	100
36	e	155/157 (99%)	142 (92%)	13 (8%)	0	100	100
36	ee	155/157 (99%)	142 (92%)	13 (8%)	0	100	100
37	f	98/100 (98%)	86 (88%)	12 (12%)	0	100	100
37	ff	98/100 (98%)	86 (88%)	12 (12%)	0	100	100
38	g	159/161 (99%)	137 (86%)	21 (13%)	1 (1%)	21	59
38	gg	159/161 (99%)	136 (86%)	22 (14%)	1 (1%)	21	59
39	h	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
39	hh	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
40	i	125/127 (98%)	102 (82%)	23 (18%)	0	100	100
40	ii	125/127 (98%)	102 (82%)	23 (18%)	0	100	100
41	j	96/98 (98%)	82 (85%)	13 (14%)	1 (1%)	12	49

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	jj	96/98 (98%)	82 (85%)	13 (14%)	1 (1%)	12	49
42	k	114/116 (98%)	97 (85%)	17 (15%)	0	100	100
42	kk	114/116 (98%)	97 (85%)	17 (15%)	0	100	100
43	l	121/123 (98%)	103 (85%)	18 (15%)	0	100	100
43	ll	121/123 (98%)	103 (85%)	18 (15%)	0	100	100
44	m	112/114 (98%)	96 (86%)	15 (13%)	1 (1%)	14	51
44	mm	112/114 (98%)	96 (86%)	15 (13%)	1 (1%)	14	51
45	n	99/101 (98%)	85 (86%)	14 (14%)	0	100	100
45	nn	99/101 (98%)	85 (86%)	14 (14%)	0	100	100
46	o	86/88 (98%)	77 (90%)	8 (9%)	1 (1%)	10	44
46	oo	86/88 (98%)	77 (90%)	8 (9%)	1 (1%)	10	44
47	p	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
47	pp	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
48	q	78/80 (98%)	66 (85%)	12 (15%)	0	100	100
48	qq	78/80 (98%)	66 (85%)	12 (15%)	0	100	100
49	r	63/65 (97%)	61 (97%)	2 (3%)	0	100	100
49	rr	63/65 (97%)	61 (97%)	2 (3%)	0	100	100
50	s	77/79 (98%)	71 (92%)	6 (8%)	0	100	100
50	ss	77/79 (98%)	71 (92%)	6 (8%)	0	100	100
51	t	83/85 (98%)	80 (96%)	3 (4%)	0	100	100
51	tt	83/85 (98%)	80 (96%)	3 (4%)	0	100	100
52	u	63/65 (97%)	46 (73%)	16 (25%)	1 (2%)	7	38
52	uu	63/65 (97%)	46 (73%)	16 (25%)	1 (2%)	7	38
53	v	53/55 (96%)	43 (81%)	9 (17%)	1 (2%)	6	32
53	vv	53/55 (96%)	43 (81%)	9 (17%)	1 (2%)	6	32
54	x	93/95 (98%)	86 (92%)	6 (6%)	1 (1%)	11	46
54	xx	93/95 (98%)	86 (92%)	6 (6%)	1 (1%)	11	46
55	y	347/557 (62%)	253 (73%)	75 (22%)	19 (6%)	1	15
55	yy	347/557 (62%)	253 (73%)	75 (22%)	19 (6%)	1	15
All	All	12180/12804 (95%)	10888 (89%)	1226 (10%)	66 (0%)	26	63

All (66) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
33	b	18	GLN
52	u	37	TYR
55	y	139	ARG
55	y	153	GLU
55	y	169	SER
55	y	306	VAL
55	y	379	ILE
55	y	387	ILE
33	bb	18	GLN
52	uu	37	TYR
55	yy	139	ARG
55	yy	153	GLU
55	yy	169	SER
55	yy	306	VAL
55	yy	379	ILE
55	yy	387	ILE
46	o	46	LYS
55	y	104	ASP
55	y	108	VAL
55	y	309	MET
55	y	333	LEU
55	y	360	THR
55	y	397	SER
46	oo	46	LYS
55	yy	104	ASP
55	yy	108	VAL
55	yy	309	MET
55	yy	333	LEU
55	yy	360	THR
55	yy	397	SER
38	g	153	TYR
53	v	7	ASP
55	y	76	GLU
55	y	142	ARG
55	y	349	CYS
38	gg	153	TYR
53	vv	7	ASP
55	yy	76	GLU
55	yy	142	ARG
55	yy	349	CYS
4	3	31	ILE
13	G	46	ASP
18	M	70	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	33	31	ILE
13	GG	46	ASP
18	MM	70	ASP
55	yy	82	THR
18	M	59	ARG
18	M	77	PRO
55	y	70	VAL
55	y	82	THR
55	y	439	ASP
18	MM	59	ARG
18	MM	77	PRO
55	yy	70	VAL
55	yy	439	ASP
18	M	69	PRO
41	j	58	ASN
55	y	391	VAL
18	MM	69	PRO
41	jj	58	ASN
55	yy	391	VAL
44	m	9	PRO
44	mm	9	PRO
54	x	46	VAL
54	xx	46	VAL

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	47/47 (100%)	47 (100%)	0	100	100
1	00	47/47 (100%)	47 (100%)	0	100	100
2	1	45/45 (100%)	45 (100%)	0	100	100
2	11	45/45 (100%)	45 (100%)	0	100	100
3	2	38/38 (100%)	37 (97%)	1 (3%)	40	62
3	22	38/38 (100%)	37 (97%)	1 (3%)	40	62

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	3	51/51 (100%)	51 (100%)	0	100	100
4	33	51/51 (100%)	51 (100%)	0	100	100
5	4	34/34 (100%)	34 (100%)	0	100	100
5	44	34/34 (100%)	34 (100%)	0	100	100
6	6	59/59 (100%)	58 (98%)	1 (2%)	53	69
6	66	59/59 (100%)	58 (98%)	1 (2%)	53	69
9	C	216/216 (100%)	216 (100%)	0	100	100
9	CC	216/216 (100%)	216 (100%)	0	100	100
10	D	164/164 (100%)	164 (100%)	0	100	100
10	DD	164/164 (100%)	164 (100%)	0	100	100
11	E	165/165 (100%)	165 (100%)	0	100	100
11	EE	165/165 (100%)	165 (100%)	0	100	100
12	F	148/148 (100%)	146 (99%)	2 (1%)	59	72
12	FF	148/148 (100%)	146 (99%)	2 (1%)	59	72
13	G	137/137 (100%)	136 (99%)	1 (1%)	76	81
13	GG	137/137 (100%)	136 (99%)	1 (1%)	76	81
14	H	114/114 (100%)	114 (100%)	0	100	100
14	HH	114/114 (100%)	114 (100%)	0	100	100
15	J	116/116 (100%)	116 (100%)	0	100	100
15	JJ	116/116 (100%)	116 (100%)	0	100	100
16	K	103/103 (100%)	103 (100%)	0	100	100
16	KK	103/103 (100%)	103 (100%)	0	100	100
17	L	102/102 (100%)	101 (99%)	1 (1%)	68	78
17	LL	102/102 (100%)	101 (99%)	1 (1%)	68	78
18	M	109/109 (100%)	108 (99%)	1 (1%)	70	79
18	MM	109/109 (100%)	108 (99%)	1 (1%)	70	79
19	N	100/100 (100%)	100 (100%)	0	100	100
19	NN	100/100 (100%)	100 (100%)	0	100	100
20	O	86/86 (100%)	86 (100%)	0	100	100
20	OO	86/86 (100%)	86 (100%)	0	100	100
21	P	99/99 (100%)	98 (99%)	1 (1%)	68	78

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	PP	99/99 (100%)	98 (99%)	1 (1%)	68	78
22	Q	89/89 (100%)	89 (100%)	0	100	100
22	QQ	89/89 (100%)	89 (100%)	0	100	100
23	R	84/84 (100%)	83 (99%)	1 (1%)	63	75
23	RR	84/84 (100%)	83 (99%)	1 (1%)	63	75
24	S	93/93 (100%)	93 (100%)	0	100	100
24	SS	93/93 (100%)	93 (100%)	0	100	100
25	T	80/80 (100%)	79 (99%)	1 (1%)	61	74
25	TT	80/80 (100%)	79 (99%)	1 (1%)	61	74
26	U	83/83 (100%)	82 (99%)	1 (1%)	63	75
26	UU	83/83 (100%)	82 (99%)	1 (1%)	63	75
27	V	78/78 (100%)	77 (99%)	1 (1%)	61	74
27	VV	78/78 (100%)	77 (99%)	1 (1%)	61	74
28	W	57/57 (100%)	55 (96%)	2 (4%)	32	53
28	WW	57/57 (100%)	56 (98%)	1 (2%)	51	68
29	X	67/67 (100%)	67 (100%)	0	100	100
29	XX	67/67 (100%)	67 (100%)	0	100	100
30	Y	55/55 (100%)	55 (100%)	0	100	100
30	YY	55/55 (100%)	55 (100%)	0	100	100
31	Z	48/48 (100%)	48 (100%)	0	100	100
31	ZZ	48/48 (100%)	48 (100%)	0	100	100
33	b	186/186 (100%)	186 (100%)	0	100	100
33	bb	186/186 (100%)	186 (100%)	0	100	100
34	c	170/170 (100%)	167 (98%)	3 (2%)	51	68
34	cc	170/170 (100%)	167 (98%)	3 (2%)	51	68
35	d	172/172 (100%)	172 (100%)	0	100	100
35	dd	172/172 (100%)	172 (100%)	0	100	100
36	e	114/119 (96%)	113 (99%)	1 (1%)	70	79
36	ee	114/119 (96%)	113 (99%)	1 (1%)	70	79
37	f	87/87 (100%)	87 (100%)	0	100	100
37	ff	87/87 (100%)	87 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	g	132/132 (100%)	131 (99%)	1 (1%)	73	80
38	gg	132/132 (100%)	131 (99%)	1 (1%)	73	80
39	h	104/104 (100%)	103 (99%)	1 (1%)	68	78
39	hh	104/104 (100%)	103 (99%)	1 (1%)	68	78
40	i	105/105 (100%)	104 (99%)	1 (1%)	68	78
40	ii	105/105 (100%)	104 (99%)	1 (1%)	68	78
41	j	86/86 (100%)	85 (99%)	1 (1%)	63	75
41	jj	86/86 (100%)	85 (99%)	1 (1%)	63	75
42	k	89/89 (100%)	89 (100%)	0	100	100
42	kk	89/89 (100%)	89 (100%)	0	100	100
43	l	103/103 (100%)	103 (100%)	0	100	100
43	ll	103/103 (100%)	103 (100%)	0	100	100
44	m	92/92 (100%)	92 (100%)	0	100	100
44	mm	92/92 (100%)	92 (100%)	0	100	100
45	n	79/83 (95%)	79 (100%)	0	100	100
45	nn	79/83 (95%)	79 (100%)	0	100	100
46	o	76/76 (100%)	76 (100%)	0	100	100
46	oo	76/76 (100%)	76 (100%)	0	100	100
47	p	65/65 (100%)	64 (98%)	1 (2%)	57	72
47	pp	65/65 (100%)	64 (98%)	1 (2%)	57	72
48	q	74/74 (100%)	73 (99%)	1 (1%)	59	72
48	qq	74/74 (100%)	73 (99%)	1 (1%)	59	72
49	r	48/56 (86%)	48 (100%)	0	100	100
49	rr	48/56 (86%)	48 (100%)	0	100	100
50	s	70/70 (100%)	68 (97%)	2 (3%)	37	58
50	ss	70/70 (100%)	68 (97%)	2 (3%)	37	58
51	t	65/65 (100%)	64 (98%)	1 (2%)	57	72
51	tt	65/65 (100%)	64 (98%)	1 (2%)	57	72
52	u	44/55 (80%)	44 (100%)	0	100	100
52	uu	44/55 (80%)	44 (100%)	0	100	100
53	v	44/44 (100%)	44 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
53	vv	44/44 (100%)	44 (100%)	0	100	100
54	x	80/81 (99%)	77 (96%)	3 (4%)	29	50
54	xx	80/81 (99%)	77 (96%)	3 (4%)	29	50
55	y	137/461 (30%)	131 (96%)	6 (4%)	25	47
55	yy	137/461 (30%)	131 (96%)	6 (4%)	25	47
All	All	9778/10484 (93%)	9707 (99%)	71 (1%)	73	81

All (71) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	2	44	VAL
6	6	28	VAL
12	F	3	LEU
12	F	90	LEU
13	G	91	VAL
17	L	27	LEU
18	M	6	ARG
21	P	72	VAL
23	R	80	ARG
25	T	32	LEU
26	U	18	LYS
27	V	65	VAL
28	W	46	ASN
28	W	72	ASN
34	c	31	ASN
34	c	161	ILE
34	c	199	VAL
36	e	45	VAL
38	g	156	LEU
39	h	120	LEU
40	i	60	LEU
41	j	10	LEU
47	p	79	ASN
48	q	18	LYS
50	s	10	ILE
50	s	48	ILE
51	t	28	ARG
54	x	27	LEU
54	x	28	GLU
54	x	29	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
55	y	31	ILE
55	y	54	LYS
55	y	62	ILE
55	y	70	VAL
55	y	294	VAL
55	y	305	HIS
3	22	44	VAL
6	66	28	VAL
12	FF	3	LEU
12	FF	90	LEU
13	GG	91	VAL
17	LL	27	LEU
18	MM	6	ARG
21	PP	72	VAL
23	RR	80	ARG
25	TT	32	LEU
26	UU	18	LYS
27	VV	65	VAL
28	WW	72	ASN
34	cc	31	ASN
34	cc	161	ILE
34	cc	199	VAL
36	ee	45	VAL
38	gg	156	LEU
39	hh	120	LEU
40	ii	60	LEU
41	jj	10	LEU
47	pp	79	ASN
48	qq	18	LYS
50	ss	10	ILE
50	ss	48	ILE
51	tt	28	ARG
54	xx	27	LEU
54	xx	28	GLU
54	xx	29	GLN
55	yy	31	ILE
55	yy	54	LYS
55	yy	62	ILE
55	yy	70	VAL
55	yy	294	VAL
55	yy	305	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (193)

such sidechains are listed below:

Mol	Chain	Res	Type
1	0	5	ASN
1	0	41	HIS
2	1	44	GLN
3	2	26	ASN
4	3	42	HIS
5	4	35	GLN
9	C	24	HIS
9	C	85	ASN
9	C	116	GLN
9	C	152	GLN
9	C	199	HIS
9	C	259	ASN
10	D	42	ASN
10	D	150	GLN
10	D	164	GLN
11	E	136	GLN
11	E	156	ASN
11	E	163	ASN
11	E	165	HIS
13	G	110	HIS
13	G	115	GLN
14	H	11	ASN
14	H	73	ASN
14	H	135	HIS
14	H	145	ASN
15	J	40	HIS
15	J	58	ASN
15	J	136	GLN
15	J	138	GLN
16	K	5	GLN
16	K	29	HIS
17	L	35	HIS
17	L	104	GLN
20	O	38	GLN
21	P	11	GLN
21	P	40	GLN
22	Q	36	GLN
22	Q	43	GLN
22	Q	51	GLN
22	Q	71	ASN
23	R	11	GLN
23	R	12	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
23	R	18	GLN
23	R	91	GLN
24	S	9	HIS
24	S	61	ASN
25	T	92	ASN
26	U	68	ASN
28	W	72	ASN
31	Z	8	GLN
33	b	18	GLN
33	b	23	ASN
33	b	38	HIS
33	b	169	HIS
33	b	177	ASN
33	b	202	ASN
34	c	99	GLN
34	c	122	GLN
34	c	139	ASN
35	d	99	ASN
35	d	115	GLN
35	d	130	ASN
36	e	60	GLN
36	e	69	ASN
37	f	3	HIS
37	f	55	HIS
38	g	8	GLN
38	g	51	GLN
38	g	85	GLN
39	h	37	ASN
40	i	4	GLN
40	i	24	ASN
40	i	30	ASN
40	i	31	GLN
40	i	36	GLN
40	i	49	GLN
40	i	125	GLN
45	n	43	ASN
46	o	49	HIS
47	p	18	GLN
47	p	29	ASN
47	p	63	GLN
47	p	79	ASN
48	q	8	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
48	q	30	HIS
49	r	51	GLN
50	s	13	HIS
50	s	68	HIS
51	t	20	ASN
51	t	47	GLN
51	t	51	ASN
53	v	18	GLN
54	x	2	GLN
54	x	36	GLN
54	x	88	HIS
1	00	5	ASN
1	00	41	HIS
2	11	44	GLN
3	22	26	ASN
4	33	42	HIS
5	44	35	GLN
9	CC	24	HIS
9	CC	85	ASN
9	CC	116	GLN
9	CC	152	GLN
9	CC	199	HIS
9	CC	259	ASN
10	DD	42	ASN
10	DD	150	GLN
10	DD	164	GLN
11	EE	136	GLN
11	EE	156	ASN
11	EE	163	ASN
11	EE	165	HIS
13	GG	110	HIS
13	GG	115	GLN
14	HH	11	ASN
14	HH	135	HIS
14	HH	145	ASN
15	JJ	40	HIS
15	JJ	58	ASN
15	JJ	136	GLN
15	JJ	138	GLN
16	KK	5	GLN
16	KK	29	HIS
17	LL	35	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
17	LL	104	GLN
20	OO	38	GLN
21	PP	11	GLN
21	PP	40	GLN
22	QQ	36	GLN
22	QQ	43	GLN
22	QQ	51	GLN
22	QQ	71	ASN
23	RR	11	GLN
23	RR	12	HIS
23	RR	18	GLN
23	RR	86	GLN
23	RR	91	GLN
24	SS	61	ASN
25	TT	92	ASN
26	UU	68	ASN
28	WW	72	ASN
31	ZZ	8	GLN
33	bb	18	GLN
33	bb	23	ASN
33	bb	38	HIS
33	bb	169	HIS
33	bb	177	ASN
33	bb	202	ASN
34	cc	99	GLN
34	cc	122	GLN
34	cc	139	ASN
35	dd	99	ASN
35	dd	115	GLN
35	dd	130	ASN
36	ee	60	GLN
36	ee	69	ASN
37	ff	3	HIS
37	ff	55	HIS
38	gg	8	GLN
38	gg	51	GLN
38	gg	67	ASN
38	gg	85	GLN
39	hh	17	GLN
39	hh	37	ASN
40	ii	4	GLN
40	ii	24	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	ii	30	ASN
40	ii	31	GLN
40	ii	36	GLN
40	ii	49	GLN
40	ii	125	GLN
45	nn	43	ASN
46	oo	45	HIS
46	oo	49	HIS
47	pp	18	GLN
47	pp	29	ASN
47	pp	63	GLN
47	pp	79	ASN
48	qq	8	GLN
48	qq	30	HIS
49	rr	51	GLN
50	ss	13	HIS
50	ss	68	HIS
51	tt	20	ASN
51	tt	47	GLN
51	tt	51	ASN
51	tt	60	GLN
53	vv	18	GLN
54	xx	2	GLN
54	xx	36	GLN
54	xx	88	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
32	a	1538/1539 (99%)	263 (17%)	0
32	aa	1538/1539 (99%)	263 (17%)	0
56	w	76/77 (98%)	35 (46%)	0
56	ww	76/77 (98%)	35 (46%)	0
7	A	2898/2903 (99%)	568 (19%)	13 (0%)
7	AA	2898/2903 (99%)	568 (19%)	13 (0%)
8	B	119/120 (99%)	18 (15%)	1 (0%)
8	BB	119/120 (99%)	18 (15%)	1 (0%)
All	All	9262/9278 (99%)	1768 (19%)	28 (0%)

All (1768) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	A	2	G
7	A	10	A
7	A	12	U
7	A	14	A
7	A	15	G
7	A	23	G
7	A	34	U
7	A	35	G
7	A	36	G
7	A	46	G
7	A	51	G
7	A	55	G
7	A	60	G
7	A	61	C
7	A	63	A
7	A	71	A
7	A	74	A
7	A	75	G
7	A	84	A
7	A	91	A
7	A	92	U
7	A	101	A
7	A	102	U
7	A	110	G
7	A	118	A
7	A	119	A
7	A	120	U
7	A	121	G
7	A	125	A
7	A	127	A
7	A	138	U
7	A	139	U
7	A	140	C
7	A	141	G
7	A	142	A
7	A	163	C
7	A	165	A
7	A	166	U
7	A	196	A
7	A	199	A
7	A	204	A
7	A	215	G
7	A	216	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	222	A
7	A	225	C
7	A	228	C
7	A	229	C
7	A	239	C
7	A	248	G
7	A	249	C
7	A	255	A
7	A	265	A
7	A	266	G
7	A	267	C
7	A	273	G
7	A	276	U
7	A	277	G
7	A	278	A
7	A	281	C
7	A	284	U
7	A	311	A
7	A	323	C
7	A	329	G
7	A	330	A
7	A	346	A
7	A	353	C
7	A	361	G
7	A	362	A
7	A	363	G
7	A	371	A
7	A	372	G
7	A	373	U
7	A	386	G
7	A	387	U
7	A	395	U
7	A	396	G
7	A	404	A
7	A	405	U
7	A	406	G
7	A	411	G
7	A	412	A
7	A	424	G
7	A	435	C
7	A	455	C
7	A	457	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	467	G
7	A	477	A
7	A	481	G
7	A	489	G
7	A	491	G
7	A	501	A
7	A	505	A
7	A	508	A
7	A	509	C
7	A	510	C
7	A	529	A
7	A	530	G
7	A	531	C
7	A	532	A
7	A	543	G
7	A	546	U
7	A	547	A
7	A	548	G
7	A	563	A
7	A	569	U
7	A	573	U
7	A	575	A
7	A	588	U
7	A	603	A
7	A	613	A
7	A	614	A
7	A	615	U
7	A	616	A
7	A	621	A
7	A	622	G
7	A	627	A
7	A	637	A
7	A	645	C
7	A	647	G
7	A	653	U
7	A	654	A
7	A	655	A
7	A	659	G
7	A	669	G
7	A	670	A
7	A	677	A
7	A	686	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	695	G
7	A	696	G
7	A	714	U
7	A	717	C
7	A	726	G
7	A	730	A
7	A	738	G
7	A	740	C
7	A	747	C
7	A	748	G
7	A	763	G
7	A	765	C
7	A	774	G
7	A	775	G
7	A	776	G
7	A	782	A
7	A	783	A
7	A	784	G
7	A	785	G
7	A	788	A
7	A	800	A
7	A	801	G
7	A	805	G
7	A	811	U
7	A	812	C
7	A	819	A
7	A	827	U
7	A	828	U
7	A	830	G
7	A	845	A
7	A	846	U
7	A	847	U
7	A	856	G
7	A	858	G
7	A	859	G
7	A	866	A
7	A	876	C
7	A	878	A
7	A	891	G
7	A	894	U
7	A	896	A
7	A	907	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	910	A
7	A	919	U
7	A	933	A
7	A	941	A
7	A	945	A
7	A	946	C
7	A	961	C
7	A	973	A
7	A	974	G
7	A	983	A
7	A	985	C
7	A	989	G
7	A	995	C
7	A	996	A
7	A	999	U
7	A	1005	C
7	A	1006	C
7	A	1009	A
7	A	1012	U
7	A	1013	C
7	A	1021	A
7	A	1026	G
7	A	1033	U
7	A	1040	A
7	A	1045	C
7	A	1046	A
7	A	1047	G
7	A	1048	A
7	A	1051	G
7	A	1057	A
7	A	1059	G
7	A	1060	U
7	A	1061	U
7	A	1062	G
7	A	1064	C
7	A	1065	U
7	A	1066	U
7	A	1067	A
7	A	1068	G
7	A	1069	A
7	A	1070	A
7	A	1073	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	1075	C
7	A	1078	U
7	A	1084	A
7	A	1087	G
7	A	1088	A
7	A	1089	A
7	A	1090	A
7	A	1094	U
7	A	1096	A
7	A	1097	U
7	A	1098	A
7	A	1101	U
7	A	1103	A
7	A	1104	C
7	A	1110	G
7	A	1111	A
7	A	1112	G
7	A	1132	U
7	A	1135	C
7	A	1136	G
7	A	1139	G
7	A	1141	U
7	A	1142	A
7	A	1143	A
7	A	1151	A
7	A	1155	A
7	A	1169	A
7	A	1170	C
7	A	1171	G
7	A	1172	C
7	A	1174	U
7	A	1175	A
7	A	1176	U
7	A	1178	C
7	A	1179	G
7	A	1180	U
7	A	1186	G
7	A	1195	G
7	A	1204	A
7	A	1205	A
7	A	1206	G
7	A	1212	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	1236	G
7	A	1238	G
7	A	1250	G
7	A	1253	A
7	A	1256	G
7	A	1265	A
7	A	1272	A
7	A	1273	U
7	A	1300	G
7	A	1301	A
7	A	1311	G
7	A	1321	A
7	A	1345	C
7	A	1352	U
7	A	1359	A
7	A	1360	G
7	A	1365	A
7	A	1368	G
7	A	1378	A
7	A	1379	U
7	A	1383	A
7	A	1386	C
7	A	1392	A
7	A	1395	A
7	A	1411	U
7	A	1416	G
7	A	1419	A
7	A	1420	A
7	A	1421	G
7	A	1427	A
7	A	1428	C
7	A	1429	G
7	A	1437	C
7	A	1453	A
7	A	1454	C
7	A	1455	G
7	A	1458	U
7	A	1461	C
7	A	1469	A
7	A	1482	G
7	A	1490	A
7	A	1493	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	1497	U
7	A	1504	A
7	A	1505	A
7	A	1509	A
7	A	1515	A
7	A	1524	G
7	A	1529	G
7	A	1530	G
7	A	1533	C
7	A	1535	A
7	A	1536	C
7	A	1537	G
7	A	1539	U
7	A	1546	G
7	A	1559	U
7	A	1560	G
7	A	1566	A
7	A	1567	G
7	A	1569	A
7	A	1583	A
7	A	1588	G
7	A	1608	A
7	A	1610	A
7	A	1622	G
7	A	1627	G
7	A	1639	C
7	A	1647	U
7	A	1648	U
7	A	1649	G
7	A	1651	G
7	A	1668	A
7	A	1674	G
7	A	1675	C
7	A	1698	A
7	A	1707	G
7	A	1713	A
7	A	1715	G
7	A	1730	C
7	A	1733	G
7	A	1738	G
7	A	1757	A
7	A	1758	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	1764	C
7	A	1773	A
7	A	1776	G
7	A	1785	A
7	A	1800	C
7	A	1801	A
7	A	1802	A
7	A	1808	A
7	A	1811	G
7	A	1816	C
7	A	1829	A
7	A	1833	C
7	A	1847	G
7	A	1857	G
7	A	1869	G
7	A	1873	G
7	A	1884	G
7	A	1885	A
7	A	1896	G
7	A	1906	G
7	A	1912	A
7	A	1913	A
7	A	1914	C
7	A	1917	U
7	A	1929	G
7	A	1930	G
7	A	1931	U
7	A	1937	A
7	A	1938	A
7	A	1940	U
7	A	1941	C
7	A	1942	C
7	A	1944	U
7	A	1955	U
7	A	1964	G
7	A	1966	A
7	A	1967	C
7	A	1970	A
7	A	1971	U
7	A	1972	G
7	A	1991	U
7	A	1996	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	1997	C
7	A	2004	G
7	A	2022	U
7	A	2023	C
7	A	2027	G
7	A	2030	A
7	A	2031	A
7	A	2033	A
7	A	2043	C
7	A	2052	A
7	A	2055	C
7	A	2056	G
7	A	2060	A
7	A	2061	G
7	A	2062	A
7	A	2063	C
7	A	2068	U
7	A	2069	A
7	A	2072	C
7	A	2093	G
7	A	2096	C
7	A	2097	A
7	A	2100	G
7	A	2101	A
7	A	2105	U
7	A	2110	G
7	A	2111	U
7	A	2112	G
7	A	2115	G
7	A	2117	A
7	A	2118	U
7	A	2119	A
7	A	2120	G
7	A	2131	U
7	A	2132	U
7	A	2133	G
7	A	2134	A
7	A	2135	A
7	A	2136	G
7	A	2137	U
7	A	2139	U
7	A	2140	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	2145	C
7	A	2146	C
7	A	2147	A
7	A	2150	C
7	A	2154	A
7	A	2157	G
7	A	2158	A
7	A	2164	C
7	A	2165	C
7	A	2167	U
7	A	2170	A
7	A	2171	A
7	A	2172	U
7	A	2173	A
7	A	2174	C
7	A	2177	C
7	A	2182	U
7	A	2183	A
7	A	2188	U
7	A	2198	A
7	A	2203	U
7	A	2204	G
7	A	2211	A
7	A	2213	U
7	A	2214	C
7	A	2223	G
7	A	2225	A
7	A	2226	C
7	A	2238	G
7	A	2239	G
7	A	2250	G
7	A	2251	G
7	A	2266	A
7	A	2279	G
7	A	2283	C
7	A	2287	A
7	A	2288	A
7	A	2305	U
7	A	2307	G
7	A	2308	G
7	A	2309	A
7	A	2319	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	2322	A
7	A	2325	G
7	A	2333	A
7	A	2334	U
7	A	2345	G
7	A	2347	C
7	A	2350	C
7	A	2357	G
7	A	2361	G
7	A	2383	G
7	A	2385	C
7	A	2392	A
7	A	2396	G
7	A	2402	U
7	A	2403	C
7	A	2406	A
7	A	2420	C
7	A	2422	C
7	A	2425	A
7	A	2427	C
7	A	2429	G
7	A	2430	A
7	A	2435	A
7	A	2440	C
7	A	2441	U
7	A	2448	A
7	A	2470	G
7	A	2476	A
7	A	2484	G
7	A	2491	U
7	A	2494	G
7	A	2498	C
7	A	2502	G
7	A	2503	A
7	A	2504	U
7	A	2505	G
7	A	2506	U
7	A	2507	C
7	A	2518	A
7	A	2529	G
7	A	2534	A
7	A	2535	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	2547	A
7	A	2554	U
7	A	2564	A
7	A	2566	A
7	A	2567	G
7	A	2572	A
7	A	2573	C
7	A	2578	G
7	A	2585	U
7	A	2586	U
7	A	2602	A
7	A	2603	G
7	A	2604	U
7	A	2609	U
7	A	2613	U
7	A	2615	U
7	A	2629	U
7	A	2638	G
7	A	2646	C
7	A	2654	A
7	A	2673	G
7	A	2682	A
7	A	2689	U
7	A	2690	U
7	A	2707	U
7	A	2713	U
7	A	2714	G
7	A	2716	C
7	A	2718	G
7	A	2726	A
7	A	2728	U
7	A	2732	G
7	A	2733	A
7	A	2744	G
7	A	2748	A
7	A	2751	G
7	A	2752	C
7	A	2762	C
7	A	2778	A
7	A	2779	U
7	A	2791	G
7	A	2793	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	A	2794	C
7	A	2797	U
7	A	2798	U
7	A	2800	A
7	A	2808	G
7	A	2809	A
7	A	2818	U
7	A	2820	A
7	A	2823	A
7	A	2833	U
7	A	2835	A
7	A	2836	U
7	A	2849	U
7	A	2861	U
7	A	2867	G
7	A	2872	A
7	A	2873	A
7	A	2880	C
7	A	2884	U
7	A	2893	A
7	A	2902	C
8	B	2	G
8	B	9	G
8	B	16	G
8	B	24	G
8	B	31	C
8	B	35	C
8	B	38	C
8	B	41	G
8	B	45	A
8	B	51	G
8	B	53	A
8	B	68	C
8	B	88	C
8	B	89	U
8	B	90	C
8	B	91	C
8	B	109	A
8	B	119	A
32	a	4	U
32	a	6	G
32	a	7	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	9	G
32	a	22	G
32	a	32	A
32	a	39	G
32	a	47	C
32	a	48	C
32	a	50	A
32	a	51	A
32	a	58	C
32	a	71	A
32	a	82	G
32	a	83	C
32	a	84	U
32	a	87	C
32	a	91	U
32	a	94	G
32	a	95	C
32	a	131	A
32	a	146	G
32	a	154	U
32	a	163	C
32	a	173	U
32	a	181	A
32	a	183	C
32	a	184	G
32	a	196	A
32	a	197	A
32	a	199	A
32	a	207	C
32	a	208	U
32	a	209	U
32	a	210	C
32	a	211	G
32	a	212	G
32	a	213	G
32	a	222	C
32	a	226	G
32	a	240	G
32	a	243	A
32	a	244	U
32	a	245	U
32	a	247	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	251	G
32	a	260	G
32	a	261	U
32	a	266	G
32	a	267	C
32	a	279	A
32	a	280	C
32	a	281	G
32	a	289	G
32	a	306	A
32	a	316	C
32	a	321	A
32	a	328	C
32	a	329	A
32	a	347	G
32	a	351	G
32	a	352	C
32	a	354	G
32	a	367	U
32	a	372	C
32	a	375	U
32	a	388	G
32	a	392	C
32	a	398	U
32	a	406	G
32	a	411	A
32	a	412	A
32	a	413	G
32	a	421	U
32	a	429	U
32	a	439	U
32	a	467	U
32	a	468	A
32	a	474	G
32	a	484	G
32	a	486	U
32	a	496	A
32	a	497	G
32	a	511	C
32	a	518	C
32	a	521	G
32	a	527	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	531	U
32	a	532	A
32	a	533	A
32	a	547	A
32	a	559	A
32	a	561	U
32	a	562	U
32	a	564	C
32	a	572	A
32	a	573	A
32	a	576	C
32	a	577	G
32	a	596	A
32	a	607	A
32	a	628	G
32	a	632	U
32	a	633	G
32	a	639	G
32	a	642	A
32	a	653	U
32	a	661	G
32	a	665	A
32	a	688	G
32	a	693	G
32	a	694	A
32	a	695	A
32	a	702	A
32	a	703	G
32	a	721	G
32	a	723	U
32	a	724	G
32	a	731	G
32	a	734	G
32	a	748	G
32	a	753	A
32	a	755	G
32	a	774	G
32	a	777	A
32	a	793	U
32	a	794	A
32	a	814	A
32	a	815	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	817	C
32	a	818	G
32	a	819	A
32	a	821	G
32	a	832	G
32	a	836	G
32	a	842	U
32	a	843	U
32	a	845	A
32	a	846	G
32	a	851	G
32	a	872	A
32	a	876	C
32	a	889	A
32	a	902	G
32	a	914	A
32	a	926	G
32	a	934	C
32	a	935	A
32	a	942	G
32	a	960	U
32	a	969	A
32	a	971	G
32	a	972	C
32	a	975	A
32	a	976	G
32	a	977	A
32	a	982	U
32	a	987	G
32	a	989	U
32	a	991	U
32	a	992	U
32	a	993	G
32	a	1004	A
32	a	1020	G
32	a	1026	G
32	a	1027	C
32	a	1028	C
32	a	1030	U
32	a	1031	C
32	a	1033	G
32	a	1034	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	1036	A
32	a	1043	G
32	a	1054	C
32	a	1065	U
32	a	1070	U
32	a	1085	U
32	a	1094	G
32	a	1095	U
32	a	1101	A
32	a	1130	A
32	a	1132	C
32	a	1137	C
32	a	1138	G
32	a	1139	G
32	a	1151	A
32	a	1154	G
32	a	1157	A
32	a	1158	C
32	a	1159	U
32	a	1167	A
32	a	1168	U
32	a	1171	A
32	a	1182	G
32	a	1183	U
32	a	1184	G
32	a	1191	A
32	a	1196	A
32	a	1201	A
32	a	1212	U
32	a	1213	A
32	a	1225	A
32	a	1227	A
32	a	1228	C
32	a	1238	A
32	a	1240	U
32	a	1258	G
32	a	1260	G
32	a	1261	A
32	a	1264	U
32	a	1275	A
32	a	1278	G
32	a	1279	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	1280	A
32	a	1282	C
32	a	1287	A
32	a	1290	G
32	a	1297	G
32	a	1298	U
32	a	1300	G
32	a	1302	C
32	a	1305	G
32	a	1306	A
32	a	1312	G
32	a	1317	C
32	a	1320	C
32	a	1322	C
32	a	1323	G
32	a	1335	U
32	a	1336	C
32	a	1346	A
32	a	1353	G
32	a	1360	A
32	a	1363	A
32	a	1370	G
32	a	1378	C
32	a	1379	G
32	a	1395	C
32	a	1397	C
32	a	1398	A
32	a	1419	G
32	a	1429	A
32	a	1433	A
32	a	1434	A
32	a	1446	A
32	a	1451	U
32	a	1452	C
32	a	1491	G
32	a	1492	A
32	a	1493	A
32	a	1494	G
32	a	1499	A
32	a	1502	A
32	a	1503	A
32	a	1506	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	a	1517	G
32	a	1527	U
32	a	1529	G
32	a	1530	G
32	a	1531	A
32	a	1536	C
32	a	1538	C
32	a	1539	C
56	w	4	G
56	w	7	G
56	w	8	U
56	w	9	G
56	w	13	C
56	w	16	C
56	w	17	C
56	w	117	U
56	w	18	G
56	w	19	G
56	w	20	U
56	w	21	A
56	w	22	G
56	w	24	U
56	w	25	C
56	w	26	G
56	w	27	U
56	w	28	C
56	w	30	G
56	w	37	A
56	w	38	A
56	w	46	A
56	w	47	U
56	w	48	C
56	w	49	G
56	w	52	G
56	w	53	G
56	w	54	U
56	w	56	C
56	w	68	C
56	w	69	C
56	w	73	A
56	w	74	C
56	w	75	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
56	w	76	A
7	AA	2	G
7	AA	10	A
7	AA	12	U
7	AA	14	A
7	AA	15	G
7	AA	23	G
7	AA	34	U
7	AA	35	G
7	AA	36	G
7	AA	46	G
7	AA	51	G
7	AA	55	G
7	AA	60	G
7	AA	61	C
7	AA	63	A
7	AA	71	A
7	AA	74	A
7	AA	75	G
7	AA	84	A
7	AA	91	A
7	AA	92	U
7	AA	101	A
7	AA	102	U
7	AA	110	G
7	AA	118	A
7	AA	119	A
7	AA	120	U
7	AA	121	G
7	AA	125	A
7	AA	127	A
7	AA	138	U
7	AA	139	U
7	AA	140	C
7	AA	141	G
7	AA	142	A
7	AA	163	C
7	AA	165	A
7	AA	166	U
7	AA	196	A
7	AA	199	A
7	AA	204	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	215	G
7	AA	216	A
7	AA	222	A
7	AA	225	C
7	AA	228	C
7	AA	229	C
7	AA	239	C
7	AA	248	G
7	AA	249	C
7	AA	255	A
7	AA	265	A
7	AA	266	G
7	AA	267	C
7	AA	273	G
7	AA	276	U
7	AA	277	G
7	AA	278	A
7	AA	281	C
7	AA	284	U
7	AA	311	A
7	AA	323	C
7	AA	329	G
7	AA	330	A
7	AA	346	A
7	AA	353	C
7	AA	361	G
7	AA	362	A
7	AA	363	G
7	AA	371	A
7	AA	372	G
7	AA	373	U
7	AA	386	G
7	AA	387	U
7	AA	395	U
7	AA	396	G
7	AA	404	A
7	AA	405	U
7	AA	406	G
7	AA	411	G
7	AA	412	A
7	AA	424	G
7	AA	435	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	455	C
7	AA	457	A
7	AA	467	G
7	AA	477	A
7	AA	481	G
7	AA	489	G
7	AA	491	G
7	AA	501	A
7	AA	505	A
7	AA	508	A
7	AA	509	C
7	AA	510	C
7	AA	529	A
7	AA	530	G
7	AA	531	C
7	AA	532	A
7	AA	543	G
7	AA	546	U
7	AA	547	A
7	AA	548	G
7	AA	563	A
7	AA	569	U
7	AA	573	U
7	AA	575	A
7	AA	588	U
7	AA	603	A
7	AA	613	A
7	AA	614	A
7	AA	615	U
7	AA	616	A
7	AA	621	A
7	AA	622	G
7	AA	627	A
7	AA	637	A
7	AA	645	C
7	AA	647	G
7	AA	653	U
7	AA	654	A
7	AA	655	A
7	AA	659	G
7	AA	669	G
7	AA	670	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	677	A
7	AA	686	U
7	AA	695	G
7	AA	696	G
7	AA	714	U
7	AA	717	C
7	AA	726	G
7	AA	730	A
7	AA	738	G
7	AA	740	C
7	AA	747	C
7	AA	748	G
7	AA	763	G
7	AA	765	C
7	AA	774	G
7	AA	775	G
7	AA	776	G
7	AA	782	A
7	AA	783	A
7	AA	784	G
7	AA	785	G
7	AA	788	A
7	AA	800	A
7	AA	801	G
7	AA	805	G
7	AA	811	U
7	AA	812	C
7	AA	819	A
7	AA	827	U
7	AA	828	U
7	AA	830	G
7	AA	845	A
7	AA	846	U
7	AA	847	U
7	AA	856	G
7	AA	858	G
7	AA	859	G
7	AA	866	A
7	AA	876	C
7	AA	878	A
7	AA	891	G
7	AA	894	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	896	A
7	AA	907	G
7	AA	910	A
7	AA	919	U
7	AA	933	A
7	AA	941	A
7	AA	945	A
7	AA	946	C
7	AA	961	C
7	AA	973	A
7	AA	974	G
7	AA	983	A
7	AA	985	C
7	AA	989	G
7	AA	995	C
7	AA	996	A
7	AA	999	U
7	AA	1005	C
7	AA	1006	C
7	AA	1009	A
7	AA	1012	U
7	AA	1013	C
7	AA	1021	A
7	AA	1026	G
7	AA	1033	U
7	AA	1040	A
7	AA	1045	C
7	AA	1046	A
7	AA	1047	G
7	AA	1048	A
7	AA	1051	G
7	AA	1057	A
7	AA	1059	G
7	AA	1060	U
7	AA	1061	U
7	AA	1062	G
7	AA	1064	C
7	AA	1065	U
7	AA	1066	U
7	AA	1067	A
7	AA	1068	G
7	AA	1069	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	1070	A
7	AA	1073	A
7	AA	1075	C
7	AA	1078	U
7	AA	1084	A
7	AA	1087	G
7	AA	1088	A
7	AA	1089	A
7	AA	1090	A
7	AA	1094	U
7	AA	1096	A
7	AA	1097	U
7	AA	1098	A
7	AA	1101	U
7	AA	1103	A
7	AA	1104	C
7	AA	1110	G
7	AA	1111	A
7	AA	1112	G
7	AA	1132	U
7	AA	1135	C
7	AA	1136	G
7	AA	1139	G
7	AA	1141	U
7	AA	1142	A
7	AA	1143	A
7	AA	1151	A
7	AA	1155	A
7	AA	1169	A
7	AA	1170	C
7	AA	1171	G
7	AA	1172	C
7	AA	1174	U
7	AA	1175	A
7	AA	1176	U
7	AA	1178	C
7	AA	1179	G
7	AA	1180	U
7	AA	1186	G
7	AA	1195	G
7	AA	1204	A
7	AA	1205	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	1206	G
7	AA	1212	G
7	AA	1236	G
7	AA	1238	G
7	AA	1250	G
7	AA	1253	A
7	AA	1256	G
7	AA	1265	A
7	AA	1272	A
7	AA	1273	U
7	AA	1300	G
7	AA	1301	A
7	AA	1311	G
7	AA	1321	A
7	AA	1345	C
7	AA	1352	U
7	AA	1359	A
7	AA	1360	G
7	AA	1365	A
7	AA	1368	G
7	AA	1378	A
7	AA	1379	U
7	AA	1383	A
7	AA	1386	C
7	AA	1392	A
7	AA	1395	A
7	AA	1411	U
7	AA	1416	G
7	AA	1419	A
7	AA	1420	A
7	AA	1421	G
7	AA	1427	A
7	AA	1428	C
7	AA	1437	C
7	AA	1453	A
7	AA	1454	C
7	AA	1455	G
7	AA	1458	U
7	AA	1461	C
7	AA	1469	A
7	AA	1482	G
7	AA	1490	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	1493	C
7	AA	1497	U
7	AA	1504	A
7	AA	1505	A
7	AA	1509	A
7	AA	1515	A
7	AA	1524	G
7	AA	1529	G
7	AA	1530	G
7	AA	1533	C
7	AA	1535	A
7	AA	1536	C
7	AA	1537	G
7	AA	1539	U
7	AA	1546	G
7	AA	1559	U
7	AA	1560	G
7	AA	1566	A
7	AA	1567	G
7	AA	1569	A
7	AA	1583	A
7	AA	1584	U
7	AA	1588	G
7	AA	1608	A
7	AA	1610	A
7	AA	1622	G
7	AA	1627	G
7	AA	1639	C
7	AA	1647	U
7	AA	1648	U
7	AA	1649	G
7	AA	1651	G
7	AA	1668	A
7	AA	1674	G
7	AA	1675	C
7	AA	1698	A
7	AA	1707	G
7	AA	1713	A
7	AA	1715	G
7	AA	1730	C
7	AA	1733	G
7	AA	1738	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	1757	A
7	AA	1758	U
7	AA	1764	C
7	AA	1773	A
7	AA	1776	G
7	AA	1785	A
7	AA	1800	C
7	AA	1801	A
7	AA	1802	A
7	AA	1808	A
7	AA	1811	G
7	AA	1816	C
7	AA	1829	A
7	AA	1833	C
7	AA	1847	G
7	AA	1857	G
7	AA	1869	G
7	AA	1873	G
7	AA	1884	G
7	AA	1885	A
7	AA	1896	G
7	AA	1906	G
7	AA	1912	A
7	AA	1913	A
7	AA	1914	C
7	AA	1917	U
7	AA	1929	G
7	AA	1930	G
7	AA	1931	U
7	AA	1937	A
7	AA	1938	A
7	AA	1940	U
7	AA	1941	C
7	AA	1942	C
7	AA	1944	U
7	AA	1955	U
7	AA	1964	G
7	AA	1966	A
7	AA	1967	C
7	AA	1970	A
7	AA	1971	U
7	AA	1972	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	1991	U
7	AA	1996	C
7	AA	1997	C
7	AA	2004	G
7	AA	2022	U
7	AA	2023	C
7	AA	2027	G
7	AA	2030	A
7	AA	2031	A
7	AA	2033	A
7	AA	2043	C
7	AA	2052	A
7	AA	2055	C
7	AA	2056	G
7	AA	2060	A
7	AA	2061	G
7	AA	2062	A
7	AA	2063	C
7	AA	2068	U
7	AA	2069	A
7	AA	2072	C
7	AA	2093	G
7	AA	2096	C
7	AA	2097	A
7	AA	2100	G
7	AA	2101	A
7	AA	2105	U
7	AA	2110	G
7	AA	2111	U
7	AA	2112	G
7	AA	2115	G
7	AA	2117	A
7	AA	2118	U
7	AA	2119	A
7	AA	2120	G
7	AA	2131	U
7	AA	2132	U
7	AA	2133	G
7	AA	2134	A
7	AA	2135	A
7	AA	2136	G
7	AA	2137	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	2139	U
7	AA	2140	G
7	AA	2145	C
7	AA	2146	C
7	AA	2147	A
7	AA	2150	C
7	AA	2154	A
7	AA	2157	G
7	AA	2158	A
7	AA	2164	C
7	AA	2165	C
7	AA	2167	U
7	AA	2170	A
7	AA	2171	A
7	AA	2172	U
7	AA	2173	A
7	AA	2174	C
7	AA	2177	C
7	AA	2182	U
7	AA	2183	A
7	AA	2188	U
7	AA	2198	A
7	AA	2203	U
7	AA	2204	G
7	AA	2211	A
7	AA	2213	U
7	AA	2214	C
7	AA	2223	G
7	AA	2225	A
7	AA	2226	C
7	AA	2238	G
7	AA	2239	G
7	AA	2250	G
7	AA	2251	G
7	AA	2266	A
7	AA	2279	G
7	AA	2283	C
7	AA	2287	A
7	AA	2288	A
7	AA	2305	U
7	AA	2307	G
7	AA	2308	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	2309	A
7	AA	2319	G
7	AA	2322	A
7	AA	2325	G
7	AA	2333	A
7	AA	2334	U
7	AA	2345	G
7	AA	2347	C
7	AA	2350	C
7	AA	2357	G
7	AA	2361	G
7	AA	2383	G
7	AA	2385	C
7	AA	2392	A
7	AA	2396	G
7	AA	2402	U
7	AA	2403	C
7	AA	2406	A
7	AA	2420	C
7	AA	2422	C
7	AA	2425	A
7	AA	2427	C
7	AA	2429	G
7	AA	2430	A
7	AA	2435	A
7	AA	2440	C
7	AA	2441	U
7	AA	2448	A
7	AA	2470	G
7	AA	2476	A
7	AA	2484	G
7	AA	2491	U
7	AA	2494	G
7	AA	2498	C
7	AA	2502	G
7	AA	2503	A
7	AA	2504	U
7	AA	2505	G
7	AA	2506	U
7	AA	2507	C
7	AA	2518	A
7	AA	2529	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	2534	A
7	AA	2535	G
7	AA	2547	A
7	AA	2554	U
7	AA	2564	A
7	AA	2566	A
7	AA	2567	G
7	AA	2572	A
7	AA	2573	C
7	AA	2578	G
7	AA	2585	U
7	AA	2586	U
7	AA	2602	A
7	AA	2603	G
7	AA	2604	U
7	AA	2609	U
7	AA	2613	U
7	AA	2615	U
7	AA	2629	U
7	AA	2638	G
7	AA	2646	C
7	AA	2654	A
7	AA	2673	G
7	AA	2682	A
7	AA	2689	U
7	AA	2690	U
7	AA	2707	U
7	AA	2713	U
7	AA	2714	G
7	AA	2716	C
7	AA	2718	G
7	AA	2726	A
7	AA	2728	U
7	AA	2732	G
7	AA	2733	A
7	AA	2744	G
7	AA	2748	A
7	AA	2751	G
7	AA	2752	C
7	AA	2762	C
7	AA	2778	A
7	AA	2779	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	AA	2791	G
7	AA	2793	C
7	AA	2794	C
7	AA	2797	U
7	AA	2798	U
7	AA	2800	A
7	AA	2808	G
7	AA	2809	A
7	AA	2818	U
7	AA	2820	A
7	AA	2823	A
7	AA	2833	U
7	AA	2835	A
7	AA	2836	U
7	AA	2849	U
7	AA	2861	U
7	AA	2867	G
7	AA	2872	A
7	AA	2873	A
7	AA	2880	C
7	AA	2884	U
7	AA	2893	A
7	AA	2902	C
8	BB	2	G
8	BB	9	G
8	BB	16	G
8	BB	24	G
8	BB	31	C
8	BB	35	C
8	BB	38	C
8	BB	41	G
8	BB	45	A
8	BB	51	G
8	BB	53	A
8	BB	68	C
8	BB	88	C
8	BB	89	U
8	BB	90	C
8	BB	91	C
8	BB	109	A
8	BB	119	A
32	aa	4	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	6	G
32	aa	7	A
32	aa	9	G
32	aa	22	G
32	aa	32	A
32	aa	39	G
32	aa	47	C
32	aa	48	C
32	aa	50	A
32	aa	51	A
32	aa	58	C
32	aa	71	A
32	aa	82	G
32	aa	83	C
32	aa	84	U
32	aa	87	C
32	aa	91	U
32	aa	94	G
32	aa	95	C
32	aa	131	A
32	aa	146	G
32	aa	154	U
32	aa	163	C
32	aa	173	U
32	aa	181	A
32	aa	183	C
32	aa	184	G
32	aa	196	A
32	aa	197	A
32	aa	199	A
32	aa	207	C
32	aa	208	U
32	aa	209	U
32	aa	210	C
32	aa	211	G
32	aa	212	G
32	aa	213	G
32	aa	222	C
32	aa	226	G
32	aa	240	G
32	aa	243	A
32	aa	244	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	245	U
32	aa	247	G
32	aa	251	G
32	aa	260	G
32	aa	261	U
32	aa	266	G
32	aa	267	C
32	aa	279	A
32	aa	280	C
32	aa	281	G
32	aa	289	G
32	aa	306	A
32	aa	316	C
32	aa	321	A
32	aa	328	C
32	aa	329	A
32	aa	347	G
32	aa	351	G
32	aa	352	C
32	aa	354	G
32	aa	367	U
32	aa	372	C
32	aa	375	U
32	aa	388	G
32	aa	392	C
32	aa	398	U
32	aa	406	G
32	aa	411	A
32	aa	412	A
32	aa	413	G
32	aa	421	U
32	aa	429	U
32	aa	439	U
32	aa	467	U
32	aa	468	A
32	aa	474	G
32	aa	484	G
32	aa	486	U
32	aa	496	A
32	aa	497	G
32	aa	511	C
32	aa	518	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	521	G
32	aa	527	G
32	aa	531	U
32	aa	532	A
32	aa	533	A
32	aa	547	A
32	aa	559	A
32	aa	561	U
32	aa	562	U
32	aa	564	C
32	aa	572	A
32	aa	573	A
32	aa	576	C
32	aa	577	G
32	aa	596	A
32	aa	607	A
32	aa	628	G
32	aa	632	U
32	aa	633	G
32	aa	639	G
32	aa	642	A
32	aa	653	U
32	aa	661	G
32	aa	665	A
32	aa	688	G
32	aa	693	G
32	aa	694	A
32	aa	695	A
32	aa	702	A
32	aa	703	G
32	aa	721	G
32	aa	723	U
32	aa	724	G
32	aa	731	G
32	aa	734	G
32	aa	748	G
32	aa	753	A
32	aa	755	G
32	aa	774	G
32	aa	777	A
32	aa	793	U
32	aa	794	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	814	A
32	aa	815	A
32	aa	817	C
32	aa	818	G
32	aa	819	A
32	aa	821	G
32	aa	832	G
32	aa	836	G
32	aa	842	U
32	aa	843	U
32	aa	845	A
32	aa	846	G
32	aa	851	G
32	aa	872	A
32	aa	876	C
32	aa	889	A
32	aa	902	G
32	aa	914	A
32	aa	926	G
32	aa	934	C
32	aa	935	A
32	aa	942	G
32	aa	960	U
32	aa	969	A
32	aa	971	G
32	aa	972	C
32	aa	975	A
32	aa	976	G
32	aa	977	A
32	aa	982	U
32	aa	987	G
32	aa	989	U
32	aa	991	U
32	aa	992	U
32	aa	993	G
32	aa	1004	A
32	aa	1020	G
32	aa	1026	G
32	aa	1027	C
32	aa	1028	C
32	aa	1030	U
32	aa	1031	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	1033	G
32	aa	1034	G
32	aa	1036	A
32	aa	1043	G
32	aa	1054	C
32	aa	1065	U
32	aa	1070	U
32	aa	1085	U
32	aa	1094	G
32	aa	1095	U
32	aa	1101	A
32	aa	1130	A
32	aa	1132	C
32	aa	1137	C
32	aa	1138	G
32	aa	1139	G
32	aa	1151	A
32	aa	1154	G
32	aa	1157	A
32	aa	1158	C
32	aa	1159	U
32	aa	1167	A
32	aa	1168	U
32	aa	1171	A
32	aa	1182	G
32	aa	1183	U
32	aa	1184	G
32	aa	1191	A
32	aa	1196	A
32	aa	1201	A
32	aa	1212	U
32	aa	1213	A
32	aa	1225	A
32	aa	1227	A
32	aa	1228	C
32	aa	1238	A
32	aa	1240	U
32	aa	1258	G
32	aa	1260	G
32	aa	1261	A
32	aa	1264	U
32	aa	1275	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	1278	G
32	aa	1279	G
32	aa	1280	A
32	aa	1282	C
32	aa	1287	A
32	aa	1290	G
32	aa	1297	G
32	aa	1298	U
32	aa	1300	G
32	aa	1302	C
32	aa	1305	G
32	aa	1306	A
32	aa	1312	G
32	aa	1317	C
32	aa	1320	C
32	aa	1322	C
32	aa	1323	G
32	aa	1335	U
32	aa	1336	C
32	aa	1346	A
32	aa	1353	G
32	aa	1360	A
32	aa	1363	A
32	aa	1370	G
32	aa	1378	C
32	aa	1379	G
32	aa	1395	C
32	aa	1397	C
32	aa	1398	A
32	aa	1419	G
32	aa	1429	A
32	aa	1433	A
32	aa	1434	A
32	aa	1446	A
32	aa	1451	U
32	aa	1452	C
32	aa	1491	G
32	aa	1492	A
32	aa	1493	A
32	aa	1494	G
32	aa	1499	A
32	aa	1502	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
32	aa	1503	A
32	aa	1506	U
32	aa	1517	G
32	aa	1527	U
32	aa	1529	G
32	aa	1530	G
32	aa	1531	A
32	aa	1536	C
32	aa	1538	C
32	aa	1539	C
56	ww	4	G
56	ww	7	G
56	ww	8	U
56	ww	9	G
56	ww	13	C
56	ww	16	C
56	ww	17	C
56	ww	117	U
56	ww	18	G
56	ww	19	G
56	ww	20	U
56	ww	21	A
56	ww	22	G
56	ww	24	U
56	ww	25	C
56	ww	26	G
56	ww	27	U
56	ww	28	C
56	ww	30	G
56	ww	37	A
56	ww	38	A
56	ww	46	A
56	ww	47	U
56	ww	48	C
56	ww	49	G
56	ww	52	G
56	ww	53	G
56	ww	54	U
56	ww	56	C
56	ww	68	C
56	ww	69	C
56	ww	73	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
56	ww	74	C
56	ww	75	C
56	ww	76	A

All (28) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
7	A	91	A
7	A	784	G
7	A	858	G
7	A	1020	A
7	A	1182	G
7	A	1190	G
7	A	1432	G
7	A	1930	G
7	A	1940	U
7	A	2286	G
7	A	2324	U
7	A	2391	G
7	A	2808	G
8	B	52	A
7	AA	91	A
7	AA	784	G
7	AA	858	G
7	AA	1020	A
7	AA	1182	G
7	AA	1190	G
7	AA	1432	G
7	AA	1930	G
7	AA	1940	U
7	AA	2286	G
7	AA	2324	U
7	AA	2391	G
7	AA	2808	G
8	BB	52	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 [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
56	w	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	w	16:C	O3'	17:C	P	2.35

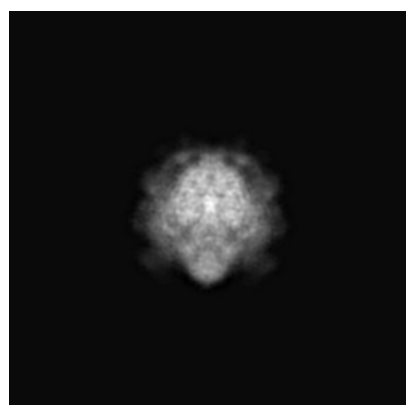
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0139. These allow visual inspection of the internal detail of the map and identification of artifacts.

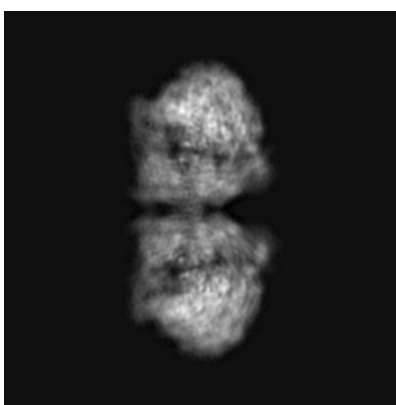
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

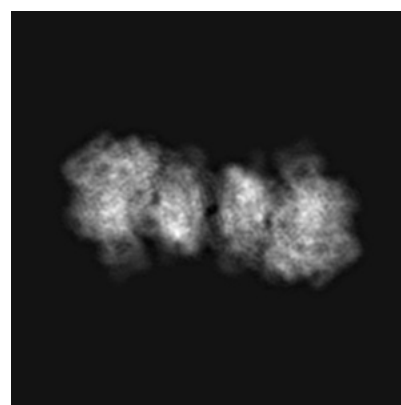
6.1.1 Primary map



X



Y



Z

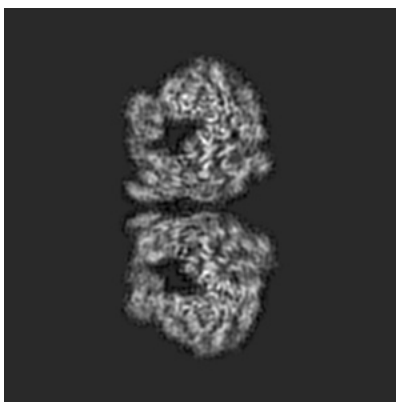
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

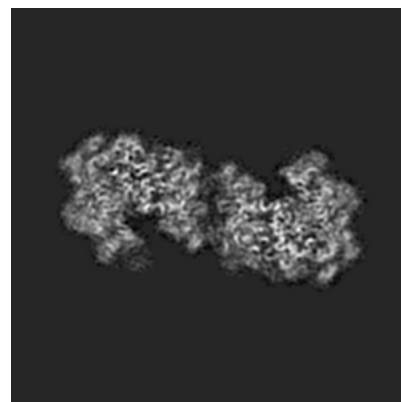
6.2.1 Primary map



X Index: 114



Y Index: 114

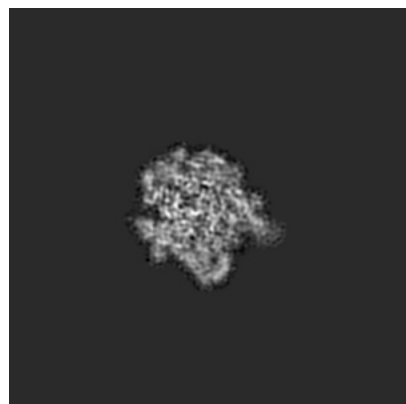


Z Index: 114

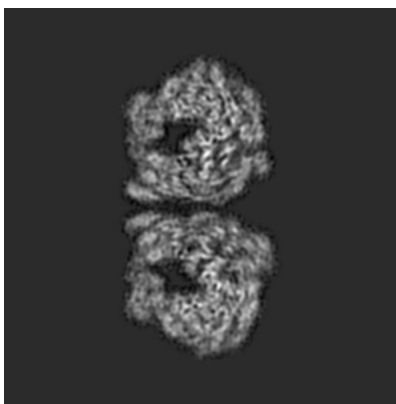
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

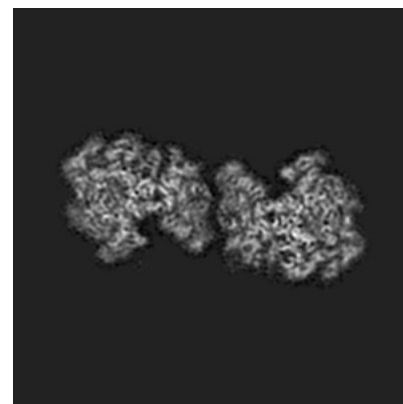
6.3.1 Primary map



X Index: 169



Y Index: 113

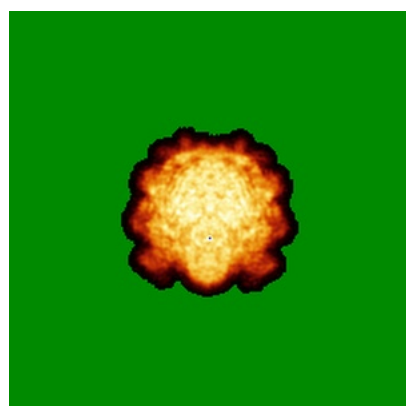


Z Index: 117

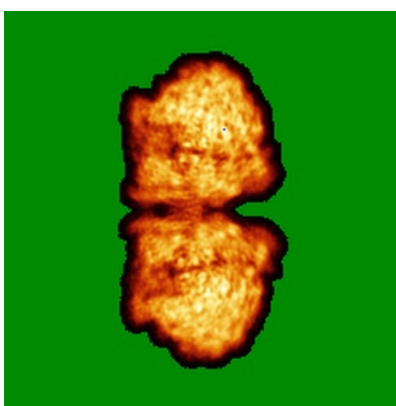
The images above show the largest variance slices of the map in three orthogonal directions.

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

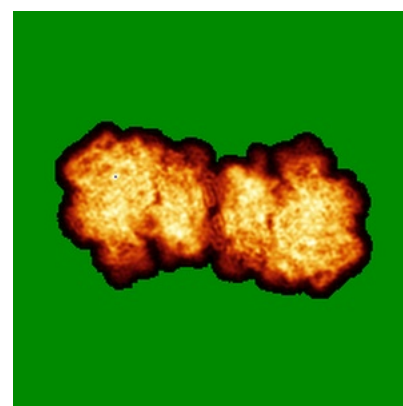
6.4.1 Primary map



X



Y

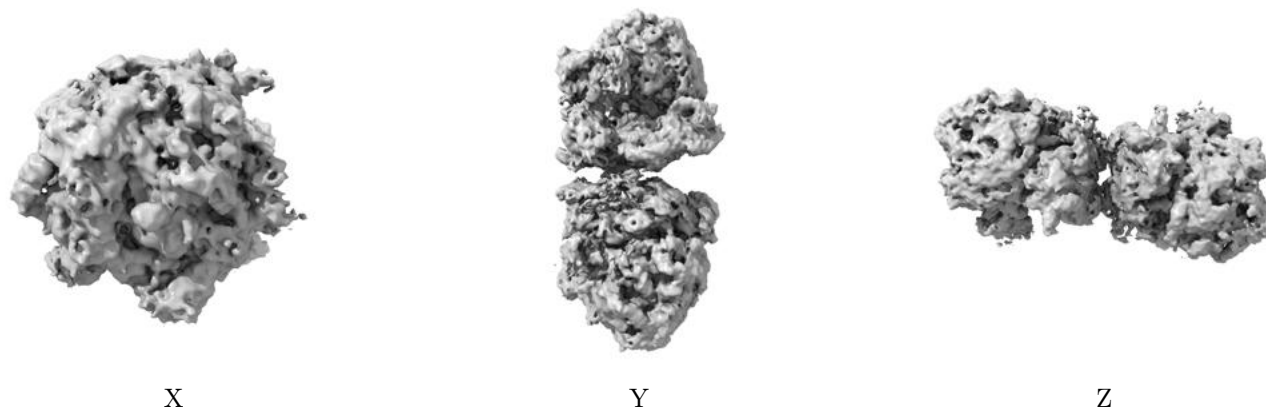


Z

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

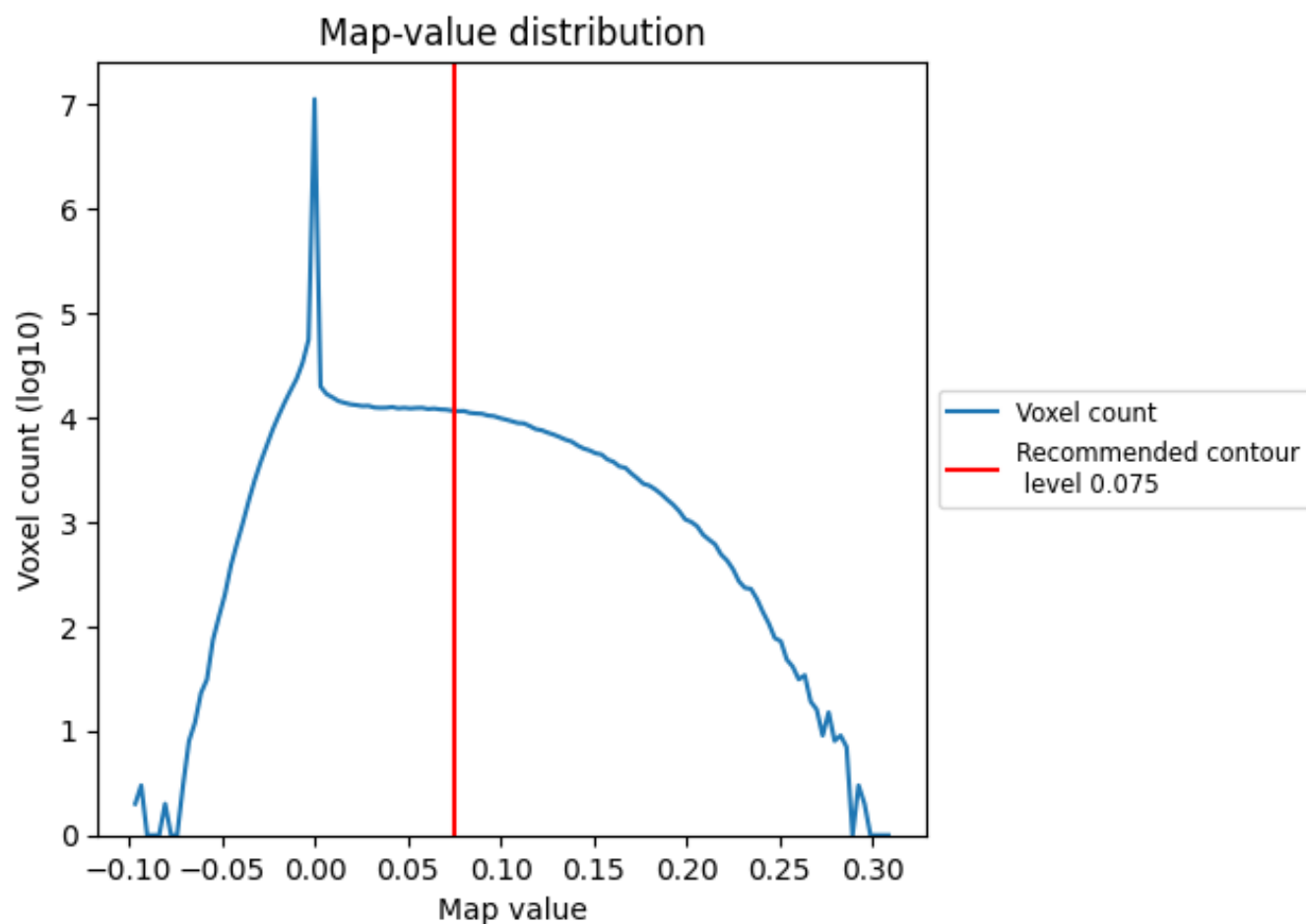
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

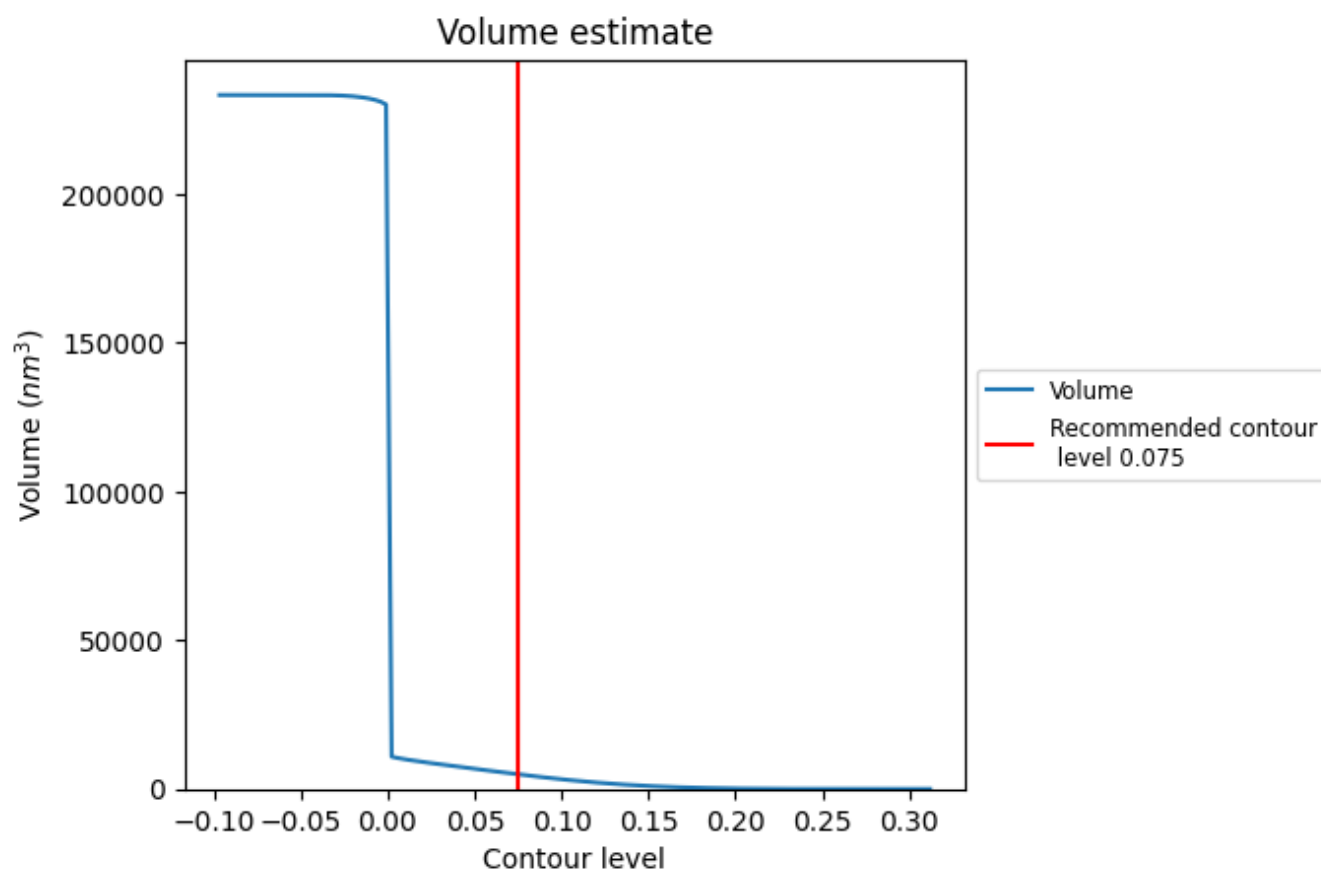
This section contains the results of statistical analysis of the map.

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.

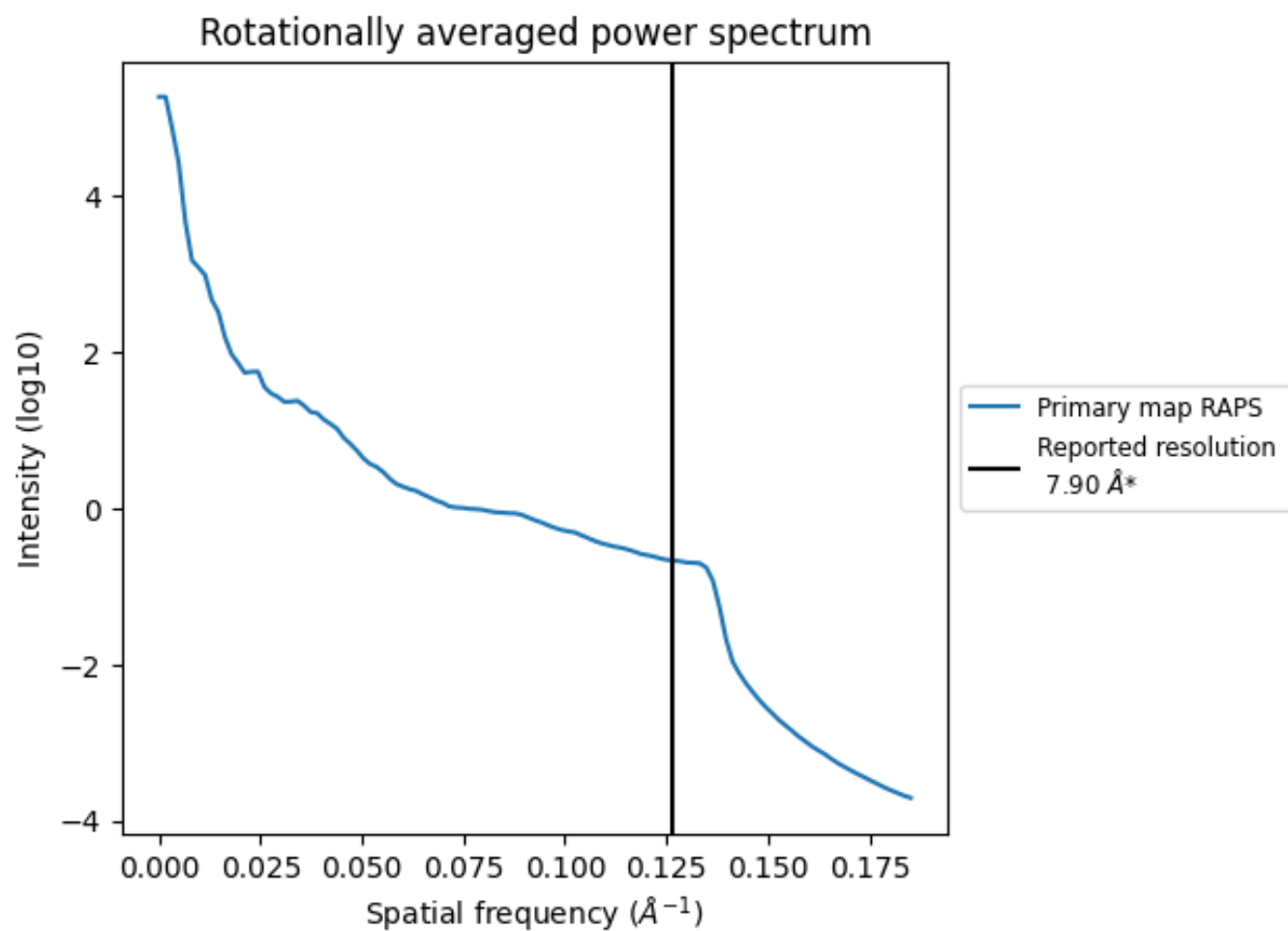
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4934 nm³; this corresponds to an approximate mass of 4457 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 ⓘ

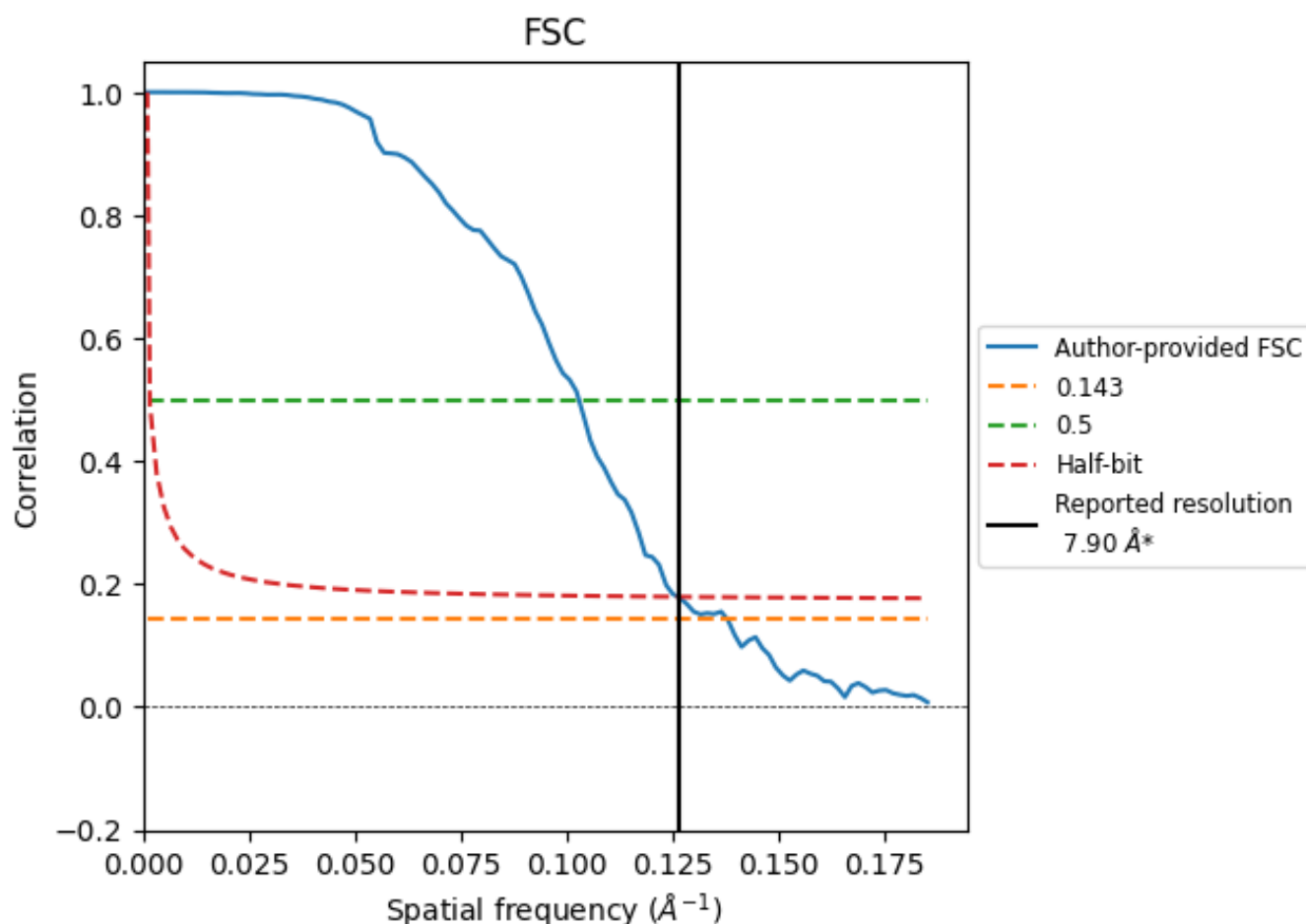


*Reported resolution corresponds to spatial frequency of 0.127 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.127 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

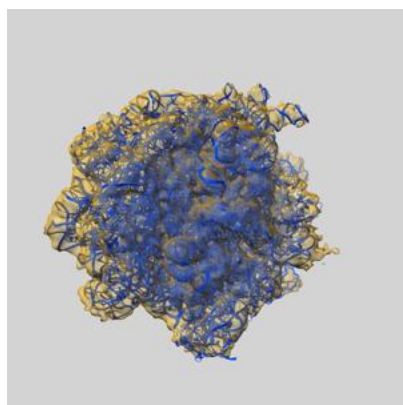
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.90	-	-
Author-provided FSC curve	7.26	9.72	7.92
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

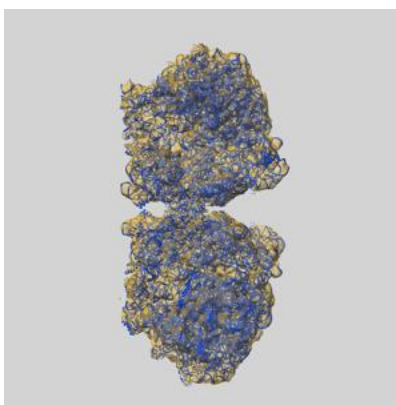
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-0139 and PDB model 6H58. Per-residue inclusion information can be found in section [3](#) on page [21](#).

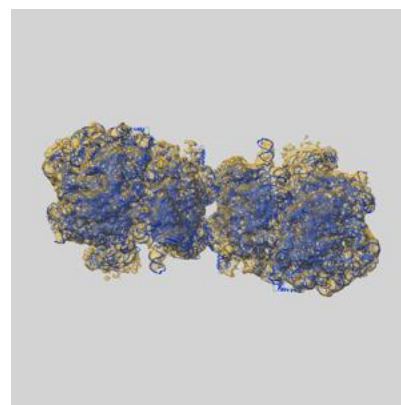
9.1 Map-model overlay [i](#)



X



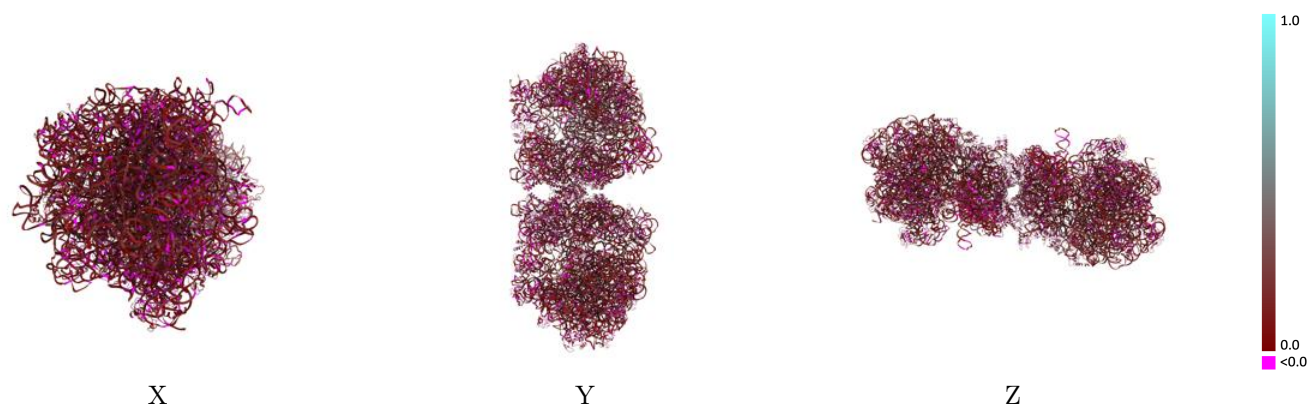
Y



Z

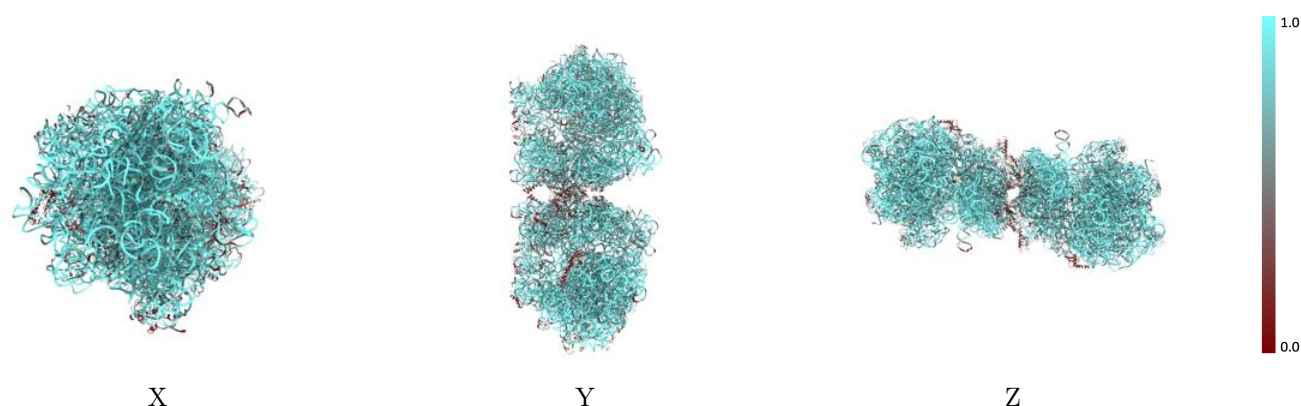
The images above show the 3D surface view of the map at the recommended contour level 0.075 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



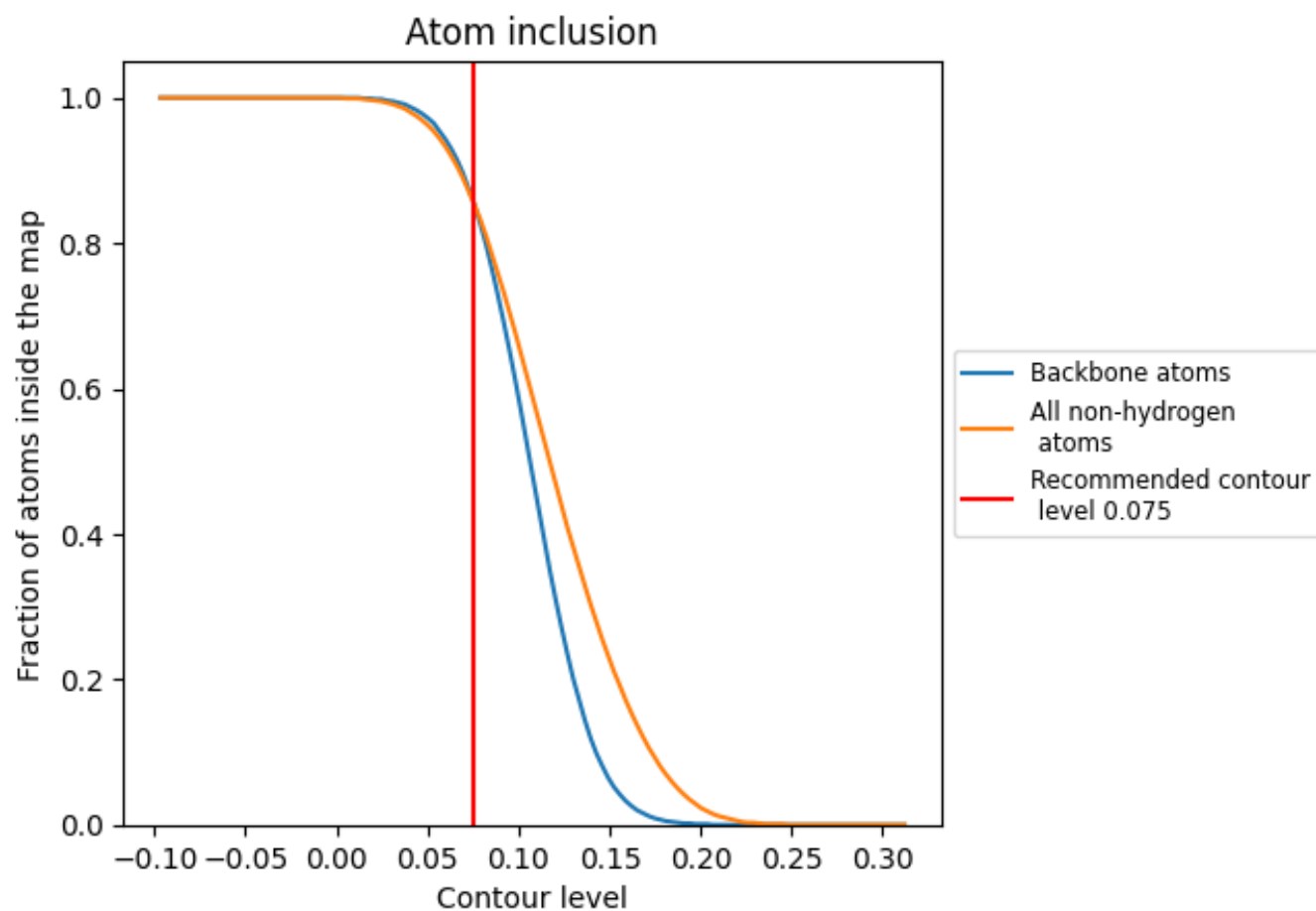
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.075).

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 86% 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 (0.075) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8580	 0.1220
0	 0.7430	 0.0670
00	 0.6920	 0.0410
1	 0.7800	 0.0580
11	 0.7900	 0.0960
2	 0.8200	 0.0900
22	 0.8340	 0.0980
3	 0.7350	 0.0610
33	 0.7580	 0.0700
4	 0.8870	 0.0600
44	 0.9210	 0.0890
6	 0.1660	 0.0460
66	 0.2250	 0.0650
A	 0.9490	 0.1410
AA	 0.9510	 0.1440
B	 0.8890	 0.1150
BB	 0.9030	 0.1220
C	 0.7640	 0.1050
CC	 0.7600	 0.1090
D	 0.7560	 0.0680
DD	 0.7570	 0.0730
E	 0.7110	 0.0820
EE	 0.7160	 0.0900
F	 0.6440	 0.0860
FF	 0.6630	 0.0730
G	 0.6580	 0.0910
GG	 0.6820	 0.0930
H	 0.1700	 0.1020
HH	 0.1590	 0.1230
J	 0.8560	 0.1210
JJ	 0.8730	 0.1040
K	 0.7260	 0.0940
KK	 0.6880	 0.0950
L	 0.7090	 0.0680
LL	 0.7420	 0.0770



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
M	 0.7560	 0.0950
MM	 0.7480	 0.0840
N	 0.8460	 0.0800
NN	 0.8430	 0.0840
O	 0.6870	 0.0520
OO	 0.6710	 0.0530
P	 0.7370	 0.0920
PP	 0.7690	 0.0860
Q	 0.8360	 0.0780
QQ	 0.8360	 0.0720
R	 0.6420	 0.0800
RR	 0.6600	 0.0850
S	 0.7950	 0.0790
SS	 0.7750	 0.0840
T	 0.7450	 0.0910
TT	 0.7380	 0.0640
U	 0.7180	 0.0920
UU	 0.7200	 0.0840
V	 0.6490	 0.1020
VV	 0.7030	 0.1110
W	 0.7210	 0.0580
WW	 0.7660	 0.0520
X	 0.7720	 0.1010
XX	 0.7770	 0.1080
Y	 0.6660	 0.0640
YY	 0.7180	 0.0860
Z	 0.7960	 0.1190
ZZ	 0.8120	 0.1080
a	 0.9350	 0.1260
aa	 0.9410	 0.1330
b	 0.5580	 0.1080
bb	 0.5540	 0.1150
c	 0.6290	 0.0980
cc	 0.6250	 0.1030
d	 0.5990	 0.0630
dd	 0.6220	 0.0870
e	 0.6300	 0.0930
ee	 0.6480	 0.0960
f	 0.7990	 0.1280
ff	 0.7610	 0.1170
g	 0.7730	 0.0840
gg	 0.7570	 0.1010

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
h	 0.7150	 0.0870
hh	 0.7270	 0.0880
i	 0.7580	 0.0670
ii	 0.7590	 0.0660
j	 0.5770	 0.0360
jj	 0.5940	 0.0560
k	 0.7820	 0.1070
kk	 0.7600	 0.1110
l	 0.7550	 0.0920
ll	 0.7370	 0.1010
m	 0.6340	 0.0840
mm	 0.6730	 0.0980
n	 0.7890	 0.0880
nn	 0.7750	 0.0900
o	 0.7940	 0.1030
oo	 0.8260	 0.1320
p	 0.7080	 0.0540
pp	 0.7460	 0.0730
q	 0.7800	 0.0800
qq	 0.7670	 0.0800
r	 0.7860	 0.1050
rr	 0.8250	 0.1200
s	 0.7940	 0.0720
ss	 0.8290	 0.0740
t	 0.7890	 0.1010
tt	 0.8200	 0.1050
u	 0.6340	 0.1340
uu	 0.6410	 0.1150
v	 0.7660	 0.0990
vv	 0.7430	 0.0850
w	 0.6400	 0.1320
ww	 0.6500	 0.1290
x	 0.6470	 0.1030
xx	 0.6740	 0.1190
y	 0.2620	 0.0920
yy	 0.2970	 0.0860