Full wwPDB EM Validation Report (i)

May 19, 2025 – 06:39 PM EDT

PDB ID	:	9BUP / pdb_00009bup
EMDB ID	:	EMD-44915
Title	:	Single particle CryoEM structure of the Pf80S ribosome in non-rotated PRE state (nrt A-P-E)
Authors	:	Anton, L.; Haile, M.; Ho, C.M.
Deposited on	:	2024-05-17
Resolution	:	2.70 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

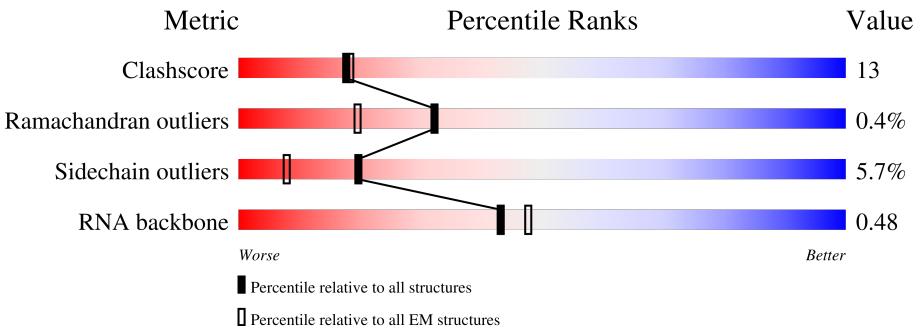
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.70 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	S1	133	• 62% 28% • 10%
2	S2	105	16% 22% 17% 61%
3	S3	107	57% 30% • 11%
4	S4	82	12% 59% 33% • 7%
5	S5	67	31% 45% 42% • 12%
6	S6	58	• 52% 21% • 26%
7	S7	74	18% 58% 24%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	SA	2092	32% 35% 10% 23%
9	SB	262	51% 26% 20%
10	SC	263	37% 33% 26%
11	SD	221	40% 29% 29%
12	SE	189	56% 40%
13	SF	261	59% 36%
14	SG	272	51% 29% 18%
15	SH	306	39% 26% 33%
16	SI	195	29% 59% 8%
17	SJ	194	15% 53% 41%
18	SK	130	59% 35% 5%
19	SL	218	54% 21% 22%
20	SM	144	13% 50% 44%
21	SN	118	10% 39% 39% 5% 17%
22	SO	137	35% 21% 42%
23	SP	151	48% 33% 16%
24	SQ	145	63% 34%
25	SR	141	30% 52% 17% 30%
26	SS	156	13% 32% 47% 18%
27	ST	54	15% 43% 46% 11%
28	SU	151	72% 24%
29	SV	161	57% 30% 9%
30	SW	137	5% 31% 35% 31%
31	SX	145	10% 37% 28% 34%
32	SY	170	5% 38% 49% 9%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	SZ	82	49% 34% 5% 12%
34	AA	3788	45% 31% 8% 16%
35	AC	159	48% 35% 12% 5%
36	AB	119	61% 34%
37	AL	215	74% 23%
38	A1	146	51% 43%
39	A2	127	58% 23% 18%
40	A4	67	84% 13%
41	A6	108	53% 35% 9%
42	A7	120	57% 21% 20%
43	AN	165	65% 24% 11%
44	A8	131	56% 36% 5%
45	A9	140	54% 19% 26%
46	Aa	150	41% 29% 29%
47	Ab	112	63% 20% 15%
48	Ad	87	38% 41% 17%
49	Ae	51	59% 22% 16%
50	Af	128	30% 9% 60%
51	AP	205	67% 27% 5%
52	Ah	96	60% 26% 11%
53	Ai	104	69% 20% 9%
54	AI	221	62% 28% 6%
55	AJ	283	49% 27% 22%
56	Ac	92	67% 28%
57	AK	202	78% 19%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
58	AM	139	68% 25% 5%
59	AS	187	73% 26%
60	AO	148	78% 19%
61	AQ	219	57% 28% 14%
62	AR	294	57% 27% 14%
63	AW	173	72% 26%
64	AY	190	35% 16% 47%
65	AT	182	70% 27%
66	AZ	126	57% 34% 5%
67	A3	124	68% 27%
68	A5	257	65% 20% 13%
69	AD	260	67% 25% 5%
70	AE	386	74% 24%
71	AF	411	71% 22% 5%
72	AG	173	46% 24% 28%
73	AU	184	68% 27%
74	AH	190	59% 34%
75	AV	161	73% 22%
76	Ag	39	72% 23% 5%
77	AX	139	43% 22% 30%
78	A0	162	27% 11% 62%
79	S8	76	43% 45% 12%
80	mR	11	64% 18% 18%
81	S9	76	25% 54% 21%
82	Sa	6	100%

2 Entry composition (i)

There are 82 unique types of molecules in this entry. The entry contains 196488 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	S1	120	985	632	189	162	2	0	0

- Molecule 2 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	S2	41	320	208	56	56	0	0

- Molecule 3 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	S3	95	781	478	169	128	6	0	0

- Molecule 4 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	S4	76	586	368	102	107	9	0	0

- Molecule 5 is a protein called 40S ribosomal protein S28e.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	S5	59	465	290	94	80	1	0	0

- Molecule 6 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	S6	43	345	213	75	57	0	0

- Molecule 7 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
7	S7	74	1571	702	275	521	73	0	0

- Molecule 8 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
8	SA	1608	34208	15346	6106	11170	1586	0	0

- Molecule 9 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	SB	210	1713	1097	301	303	12	0	0

- Molecule 10 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	SC	195	1538	990	266	273	9	0	0

- Molecule 11 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	SD	157	1228	782	225	214	7	0	0

- Molecule 12 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	SE	185	1514	962	290	260	2	0	0

- Molecule 13 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	SF	257	2061	1320	377	356	8	0	0

- Molecule 14 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	SG	224	1757	1132	307	309	9	0	0

- Molecule 15 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	SH	204	1651	1046	316	283	6	0	0

- Molecule 16 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	SI	180	1424	893	263	258	10	0	0

- Molecule 17 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	SJ	188	1528	982	264	278	4	0	0

- Molecule 18 is a protein called 40S ribosomal protein S15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	SK	129	1037	665	189	178	5	0	0

- Molecule 19 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	SL	171	1383	872	264	243	4	0	0

- Molecule 20 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	SM	138	1098	704	200	193	1	0	0

- Molecule 21 is a protein called 40S ribosomal protein S20e.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	SN	98	772	484	135	148	5	0	0

- Molecule 22 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	SO	79	686	450	116	118	2	0	0

- Molecule 23 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	SP	127	954	591	184	176	3	0	0

- Molecule 24 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	SQ	144	1129	712	222	193	2	0	0

- Molecule 25 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	SR	98	746	474	123	145	4	0	0

- Molecule 26 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	SS	128	1046	657	205	180	4	0	0

- Molecule 27 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	ST	48	405	252	85	64	4	0	0

- Molecule 28 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	SU	149	1202	769	220	210	3	0	0

- Molecule 29 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	SV	146	1206	772	227	200	7	0	0

- Molecule 30 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	SW	95	785	498	149	135	3	0	0

- Molecule 31 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	SX	96	776	497	137	138	4	0	0

- Molecule 32 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	SY	154	1266	811	239	214	2	0	0

- Molecule 33 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	SZ	72	557	346	102	105	4	0	0

- Molecule 34 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
34	AA	3193	67887	30446	12053	22226	3162	0	0

- Molecule 35 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
35	AC	151	3215	1444	589	1034	148	0	0

- Molecule 36 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
36	AB	118	2517	1126	457	817	117	0	0

- Molecule 37 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	AL	211	1761	1119	349	290	3	0	0

- Molecule 38 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	A1	140	1134	736	204	191	3	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	A2	104	830	529	151	147	3	0	0

- Molecule 40 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	A4	66	555	347	116	90	2	0	0

- Molecule 41 is a protein called 60S ribosomal protein L30e.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	A6	98	740	462	132	139	7	0	0

- Molecule 42 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	A7	96	793	508	151	129	5	0	0

- Molecule 43 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	AN	147	1210	787	212	205	6	0	0

- Molecule 44 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	A8	125	1036	660	206	163	7	0	0

- Molecule 45 is a protein called 60S ribosomal protein L35ae.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	A9	103	844	543	163	135	3	0	0

- Molecule 46 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	Aa	106	858	530	184	138	6	0	0

- Molecule 47 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
47	Ab	95	756	477	150	129	0	0

- Molecule 48 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	Ad	72	603	395	107	99	2	0	0

- Molecule 49 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	Ae	43	388	243	92	52	1	0	0

- Molecule 50 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	Af	51	413	255	87	66	5	0	0

- Molecule 51 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	AP	204	1697	1075	351	267	4	0	0

- Molecule 52 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	Ah	85	658	417	127	107	7	0	0

- Molecule 53 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	Ai	95	778	490	152	127	9	0	0

- Molecule 54 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	AI	207	1685	1096	298	286	5	0	0

- Molecule 55 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	AJ	222	1813	1174	323	309	7	0	0

- Molecule 56 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	Ac	89	709	441	150	113	5	0	0

- Molecule 57 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	AK	201	1659	1064	311	276	8	0	0

- Molecule 58 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
58	AM	132	996	631	179	178	8	0	0

- Molecule 59 is a protein called 60S ribosomal protein L18-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	AS	186	1503	958	299	241	5	0	0

- Molecule 60 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	AO	147	1172	747	232	189	4	0	0

- Molecule 61 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
61	AQ	189	1544	984	291	261	8	0	0

- Molecule 62 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
62	AR	252	2049	1301	385	357	6	0	0

- Molecule 63 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
63	AW	170	1319	824	266	222	7	0	0

- Molecule 64 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	AY	101	796	502	144	144	6	0	0

- Molecule 65 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
65	AT	181	1509	952	309	244	4	0	0

- Molecule 66 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
66	AZ	121	1000	626	206	165	3	0	0

- Molecule 67 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	A3	119	994	635	194	163	2	0	0

- Molecule 68 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
68	A5	223	1879	1211	357	306	5	0	0

- Molecule 69 is a protein called 60S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
69	AD	247	1866	1166	374	317	9	0	0

- Molecule 70 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
70	AE	380	3061	1948	575	521	17	0	0

- Molecule 71 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
71	AF	390	3094	1962	594	527	11	0	0

- Molecule 72 is a protein called 60S ribosomal protein L11a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
72	AG	124	1010	636	197	171	6	0	0

- Molecule 73 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
73	AU	180	1497	946	289	255	7	0	0

- Molecule 74 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
74	AH	185	1475	950	264	255	6	0	0

- Molecule 75 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
75	AV	155	1275	814	241	214	6	0	0

- Molecule 76 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
76	Ag	37	343	210	86	45	2	0	0

- Molecule 77 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
77	AX	97	824	548	135	139	2	0	0

- Molecule 78 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
78	A0	62	521	336	97	87	1	0	0

- Molecule 79 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
79	S8	76	1620	723	295	527	75	0	0

- Molecule 80 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
80	mR	11	230	103	35	81	11	0	0

- Molecule 81 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
81	S9	76	1619	723	290	531	75	0	0

- Molecule 82 is a protein called nascent polypeptide chain.

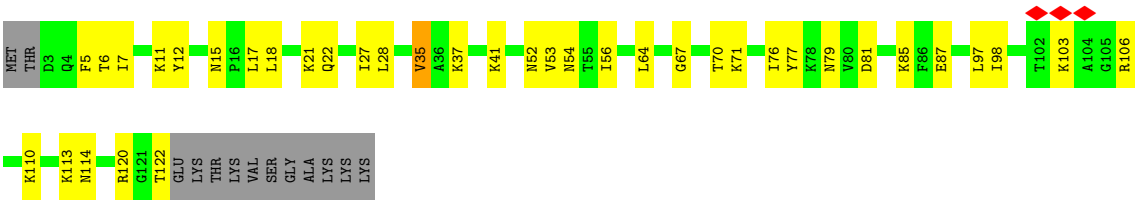
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
82	Sa	6	30	18	6	6	0	0

3 Residue-property plots (i)

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

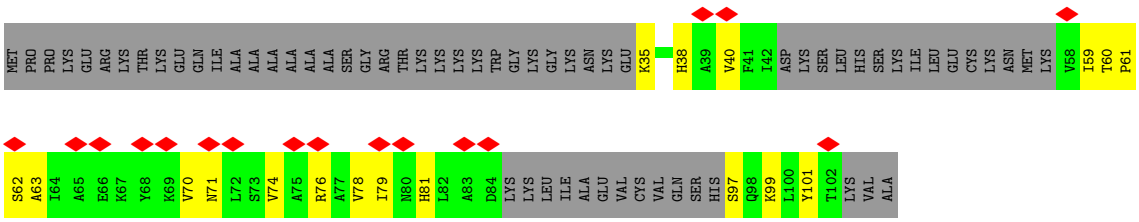
- Molecule 1: 40S ribosomal protein S24

Chain S1:



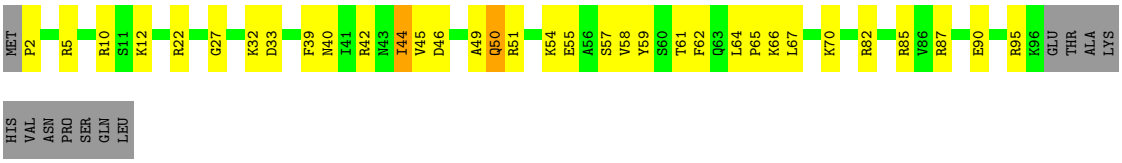
- Molecule 2: 40S ribosomal protein S25

Chain S2:



- Molecule 3: 40S ribosomal protein S26

Chain S3:

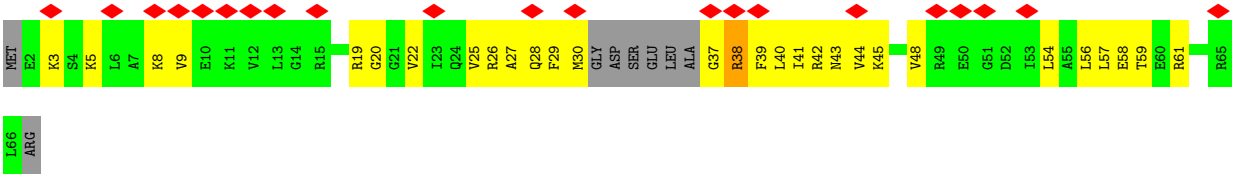


- Molecule 4: 40S ribosomal protein S27

Chain S4:

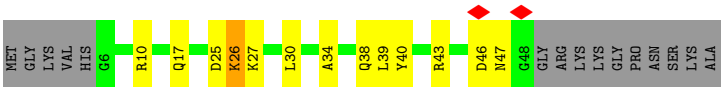
• Molecule 5: 40S ribosomal protein S28e

Chain S5:



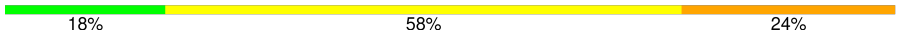
• Molecule 6: 40S ribosomal protein S30

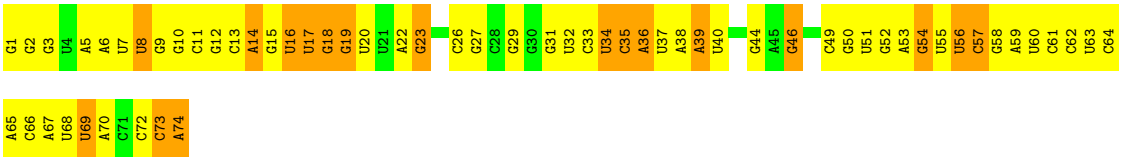
Chain S6:



• Molecule 7: tRNA

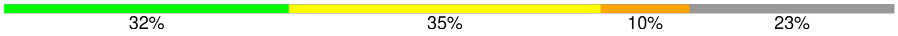
Chain S7:

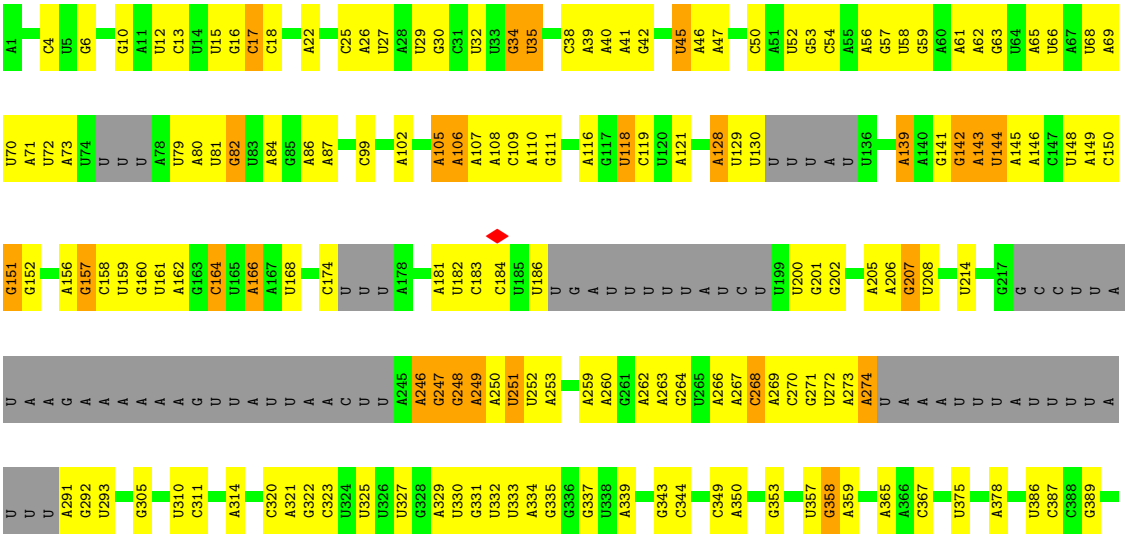


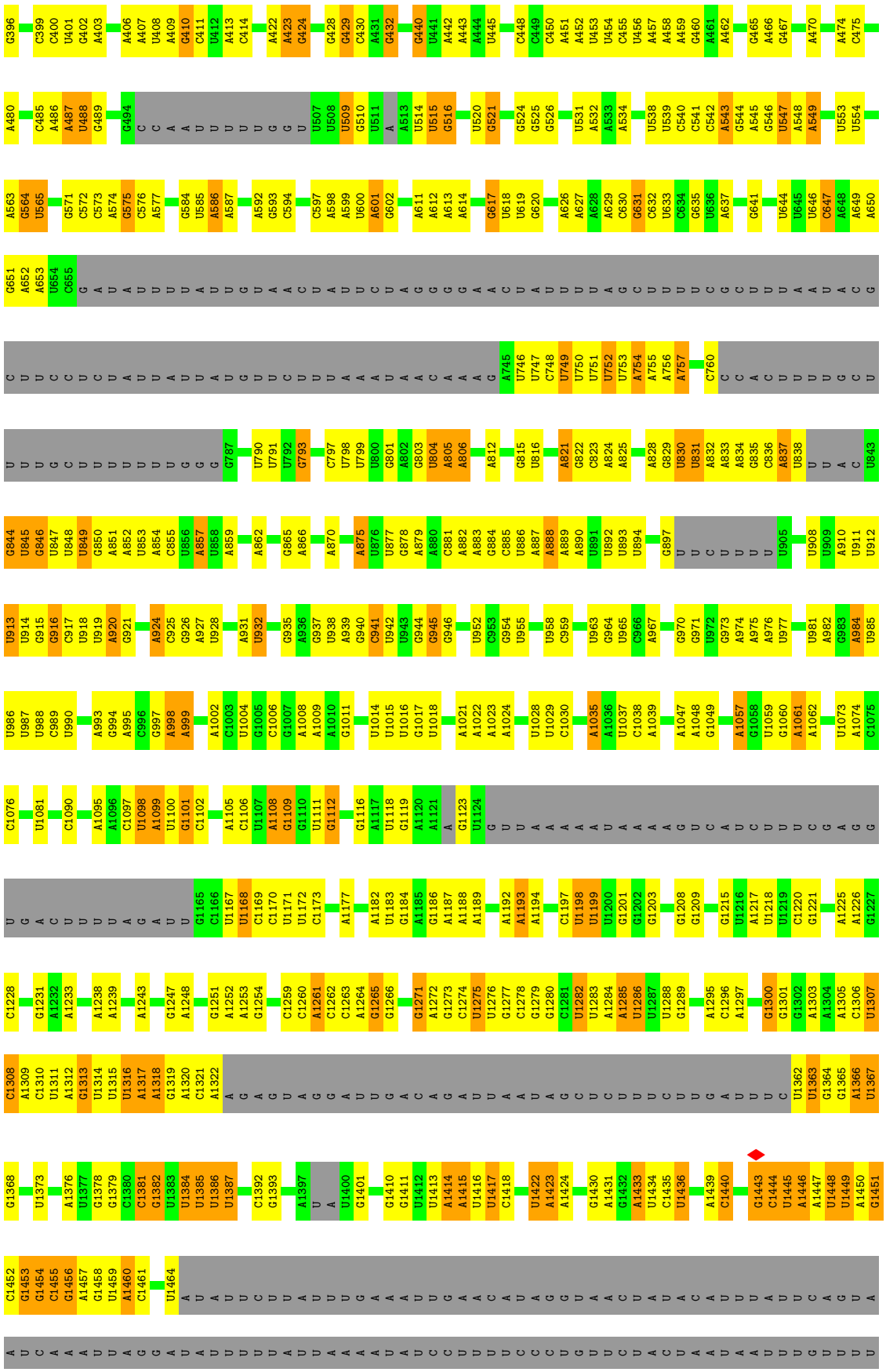


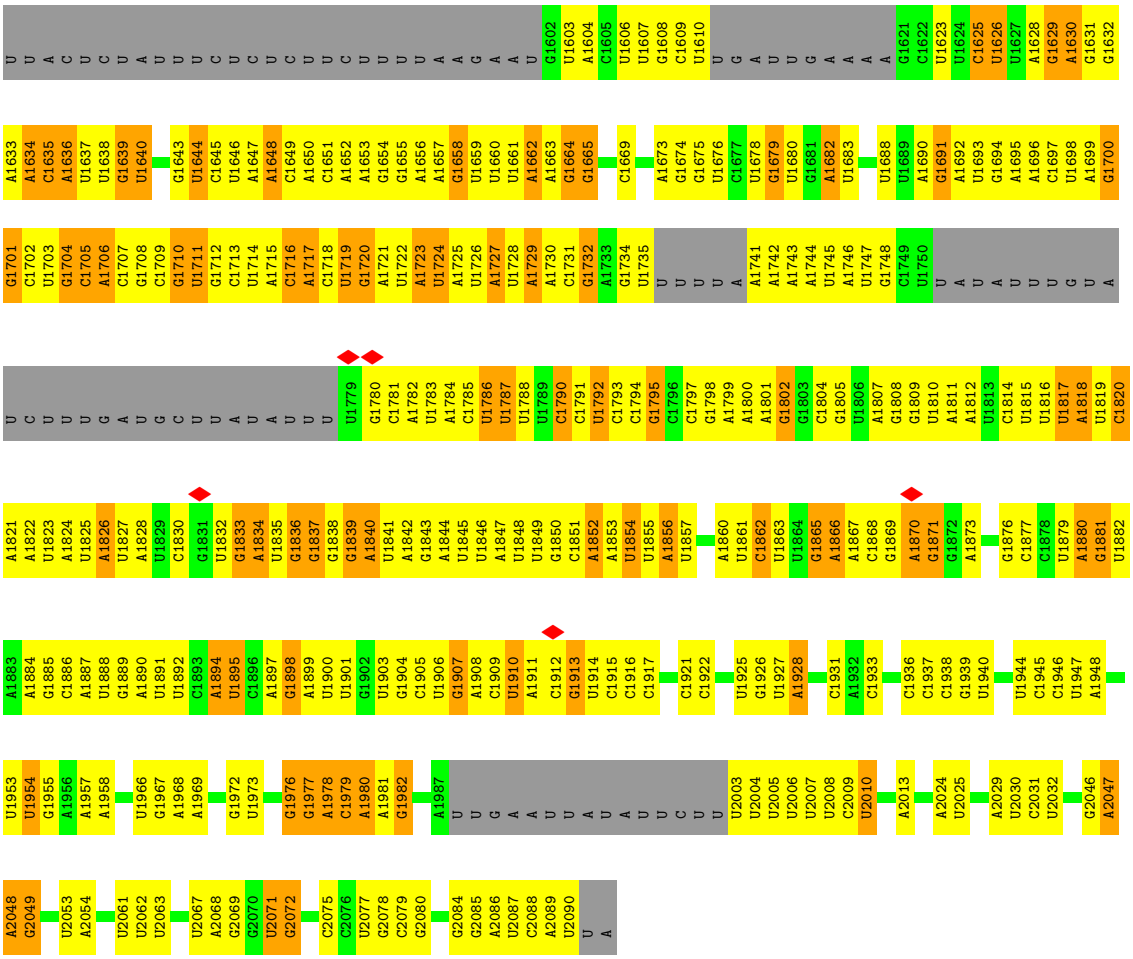
• Molecule 8: 18S ribosomal RNA

Chain SA:



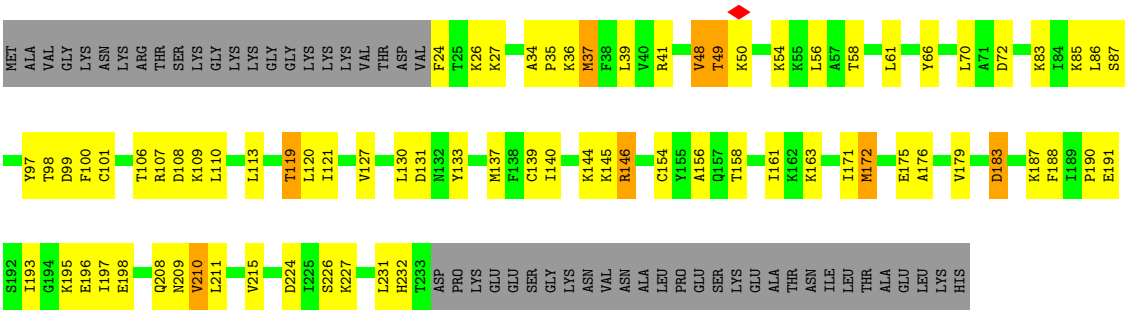



G396 C399 C400 U401 G402 A403 A406 A407 U408 A409 G410 C411 U412 A413 C414 A422 A423 G424 G428 G429 C430 A431 G432 G440 U441 A442 A443 A444 U445 C448 C449 C450 A451 A452 U453 U454 C455 U456 A457 A458 A459 G460 A461 A462 G465 A466 G467 A470 A474 C475
A480 C485 A486 A487 U488 G489 G494 C C A A U U U



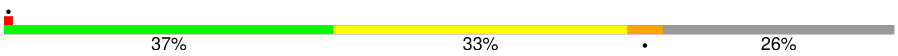
• Molecule 9: 40S ribosomal protein S3a

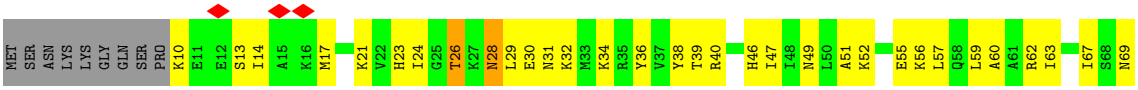
Chain SB:



• Molecule 10: 40S ribosomal protein SA

Chain SC:





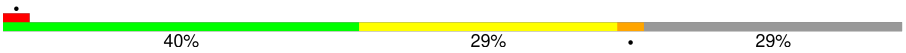
P70 V73 V74 V75 R79 P80 F81 K88 F89 A90 T93 G94 A95 Q96 A97 I98 R101 W102 T103 M106 L107 T108 I111 I112 Q113 K114 F115 T116 E117 P118 R119 L120 L121 I122 R127 T128 V133 K134 E135 S136 I141 P142 V143 I144 A145 L146 D150 H155

V156 D157 I160 P161 C162 N163 N164 K165 G166 I170 A171 L172 M173 Y174 W175 L176 Q179 Y183 L184 I188 P189 R190 S191 E192 P193 W194 N195 V196 M197 V198 D199 M200 W203 R204 ASP PRO GLU GLN PHE GLU LEU LYS ASN LEU ALA ASN GLU GLU ASN THR PRO THR ALA PRO

HIS LEU ILE GLU ASN GLN TYR ALA ALA GLU ALA PRO TYR ASP GLU TRP THR LYS LYS GLU GLU TRP ASN ASP ASN THR ASN GLU ASP TRP LYS ASN PRO ILE ALA ALA GLU GLU TRP

- Molecule 11: 40S ribosomal protein S3

Chain SD:



MET SER ALA P4 I5 S6 K7 K8 R9 K10 F11 T12 N13 V16 F17 Q18 A19 E20 L21 N22 E23 R27 V39 ARG VAL THR PRO ILE ARG THR GLU VAL VAL ILE ILE ARG ALA THR ARG THR ARG GLU VAL GLY ASP LYS GLY ARG R65 I66 L69 L72 V73 Q74 K75

R76 F77 F78 ASN LYS SER THR ASN SER VAL GLU LEU PHE ALA GLU ARG VAL GLU HIS ARG GLY L97 C98 A99 M100 A101 L106 K109 L110 L114 A115 V116 R117 R118 A119 C120 V123 L124 I127 M128 E129 S130 K133 G134 C135 E136 V137 I138 G141 K142 L143 R144

S150 M151 K152 F153 R154 Y157 L158 T161 P164 S165 K166 R167 F168 V169 N170 T171 A172 T173 R174 Q177 Q180 G181 V182 L183 K186 M190 T193 ALA ILE ASP THR ARG THR GLY LEU THR S207 I208 L209 P210 L216 GLU PRO LYS THR ASP THR VAL ASP LEU

- Molecule 12: 40S ribosomal protein S9

Chain SE:

MET P2 R6 S9 N14 P15 K16 D25 Q26 K29 L30 I31 G32 E33 Y34 G35 L36 K37 N38 K39 R40 E41 I42 W43 R44 V45 Q46 Y47 L48 L49 I52 A55 L59 D63 E64 K65 R69 I70 F71 E74 R78 R79 M80 V81 R82 Q83 G84 L85

L86 N89 V96 L97 G98 L99 T100 L101 P102 K103 L104 L105 E106 L109 Q110 V113 G117 L118 A119 K120 A125 R126 V127 R130 Q131 R132 H133 I134 R135 V136 G137 M140 V141 D142 I143 P144 R149 V150 D151 S152 E153 I156 D157 S162 G165 R168

R171 L177 E182 E185 A186 GLU ALA GLU

- Molecule 13: 40S ribosomal protein S4

Chain SF:

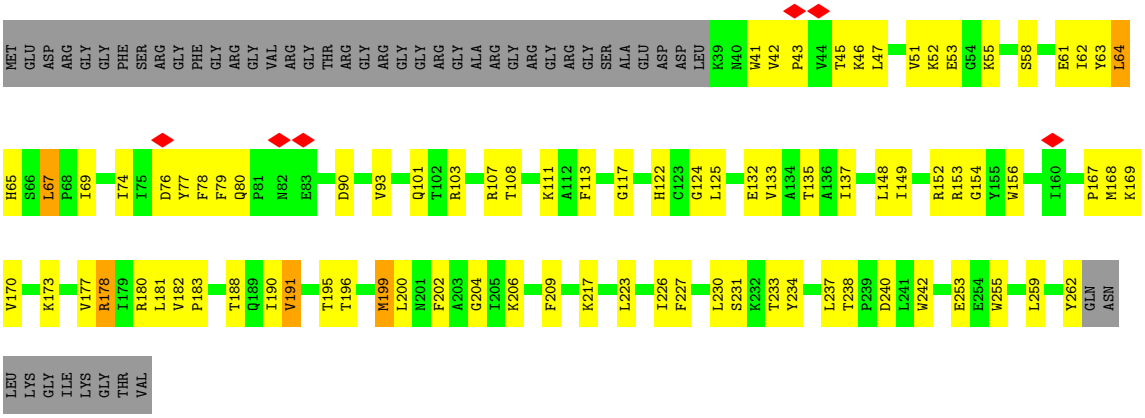
MET G2 K6 K10 R11 M19 L20 N21 K22 M23 Q26 Y27 A28 P29 K30 T31 P35 H36 E40 S41 I42 P43 L44 V45 I46 L47 L48 R49 T57 F58 D59 E60 I64 L65 I66 Q67 K68 I69 K75 V76 R77 T81 F82 P83 V84 G85 L86 M87 N96

L101 L102 Y103 D104 I105 K106 G107 R108 Y121 K125 V126 K127 L131 L136 S137 T141 H142 R145 Y149 I150 K155 V156 R161 L162 D163 L164 E165 T166 G167 K168 V169 H172 L173 K174 F175 Q176 V181 M182 G186 H187 S188 R191 V192 G193 V194 I195

S196 K200 N201 M202 G203 T204 Y205 I208 H209 V210 K211 N215 K216 V217 V225 N231 T232 K233 R240 K245 L246 D247 I248 I249 E250 E251 R252 R253 N254 K257 A258 LEU ASN ASN

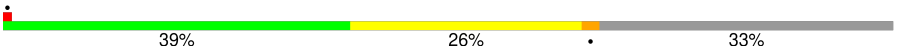
- Molecule 14: 40S ribosomal protein S5

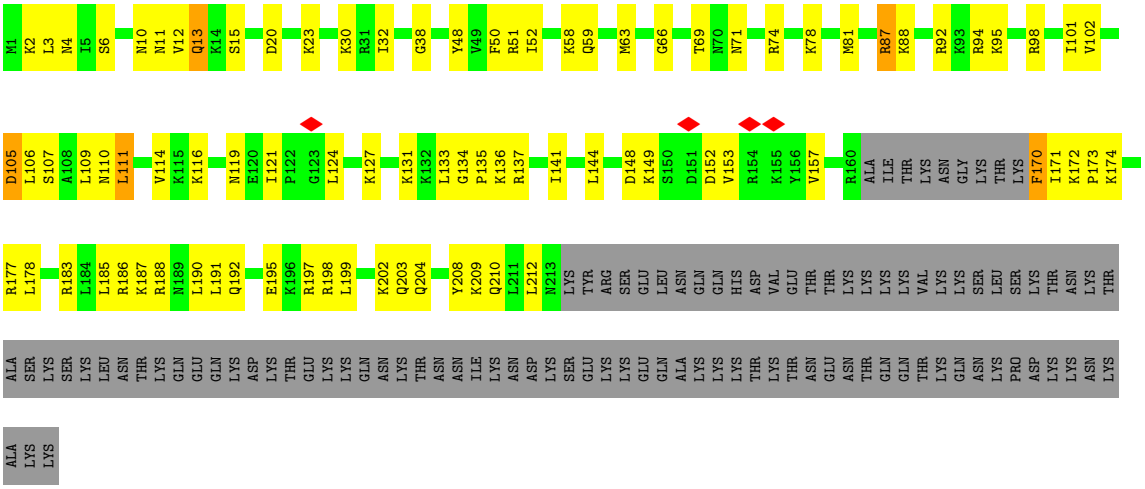
Chain SG:



- Molecule 15: 40S ribosomal protein S6

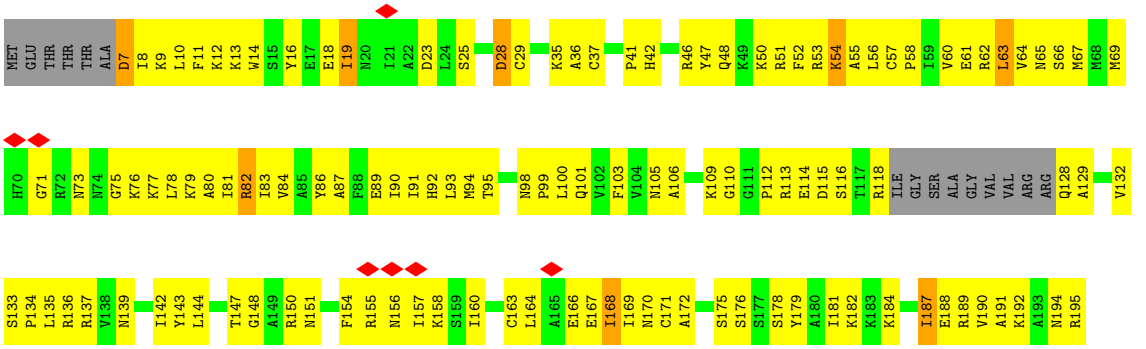
Chain SH:





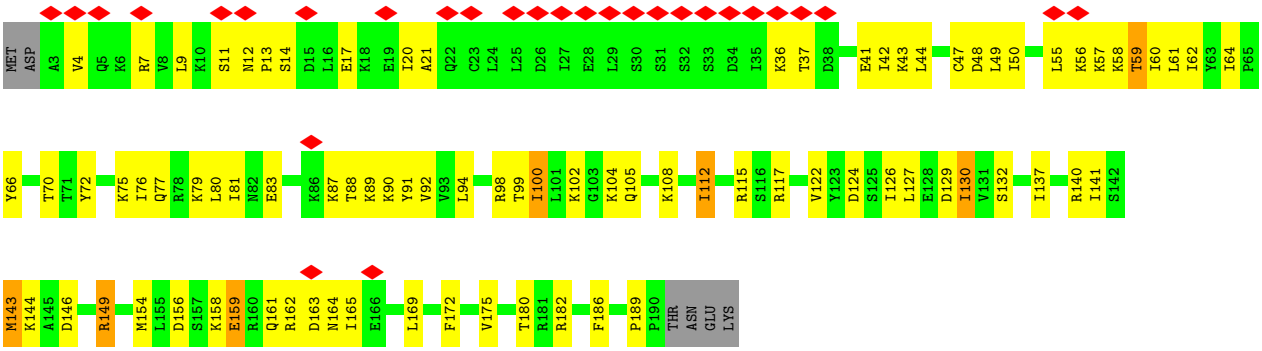
- Molecule 16: 40S ribosomal protein S5

Chain SI:



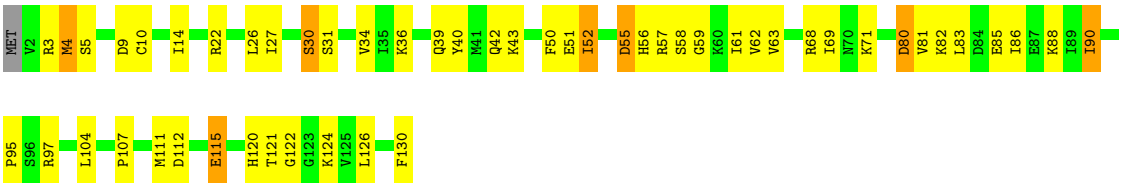
- Molecule 17: 40S ribosomal protein S7

Chain SJ:



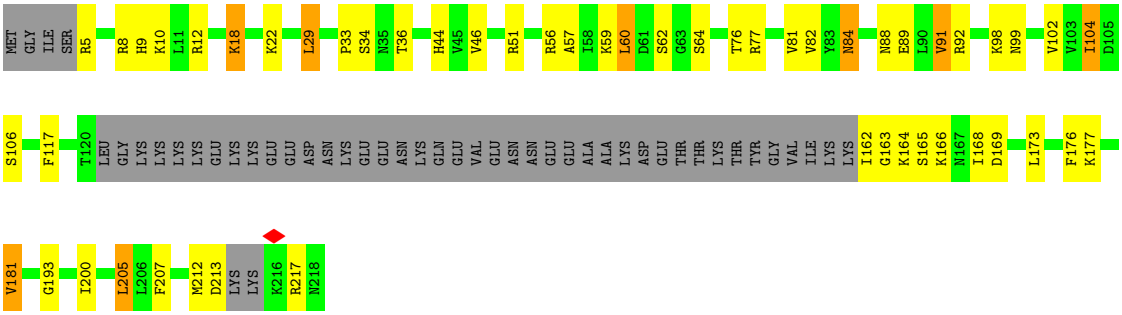
- Molecule 18: 40S ribosomal protein S15A

Chain SK:



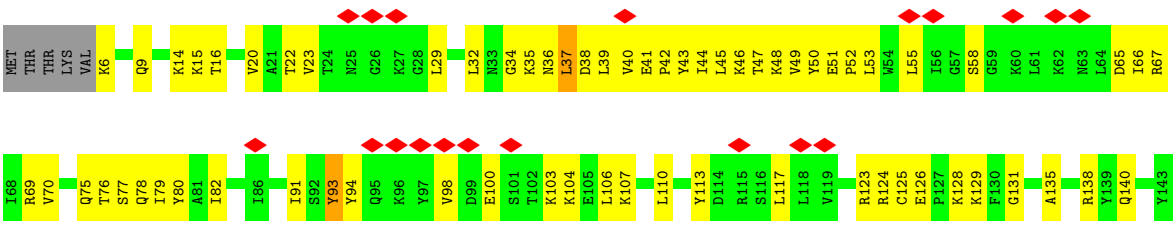
- Molecule 19: 40S ribosomal protein S8

Chain SL:



- Molecule 20: 40S ribosomal protein S16

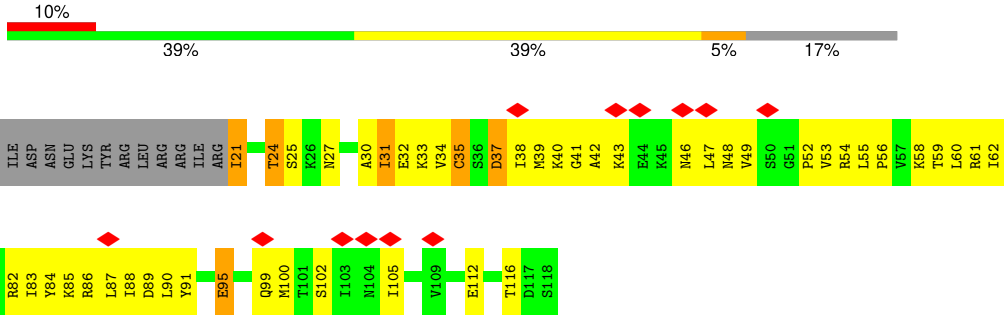
Chain SM:



ARG

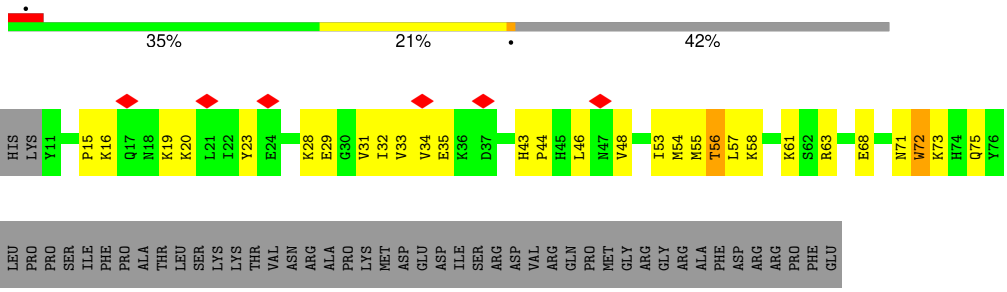
- Molecule 21: 40S ribosomal protein S20e

Chain SN:



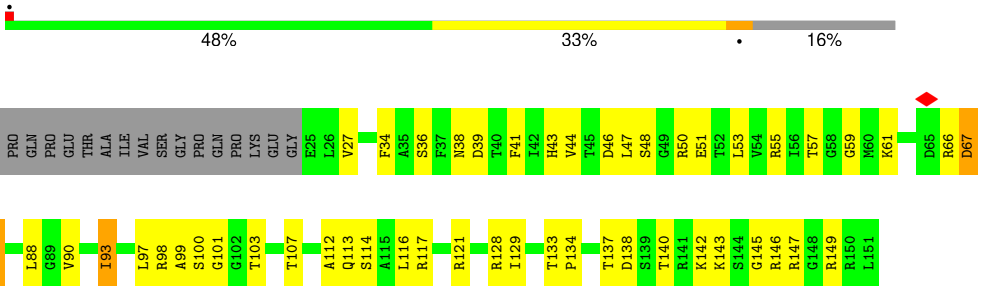
- Molecule 22: 40S ribosomal protein S10

Chain SO:



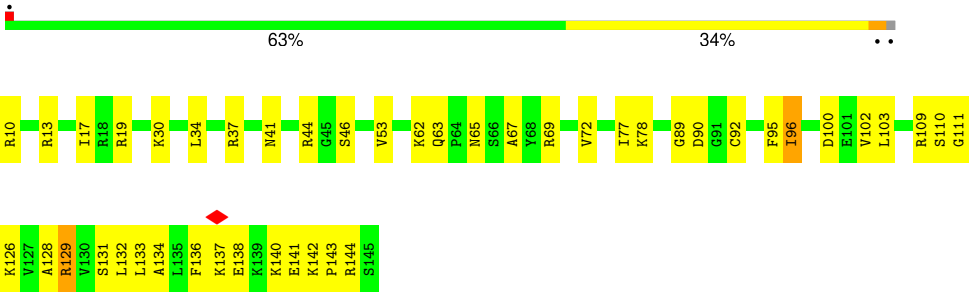
- Molecule 23: 40S ribosomal protein S11

Chain SP:



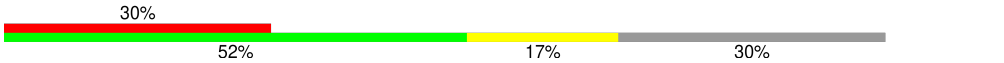
- Molecule 24: 40S ribosomal protein S23

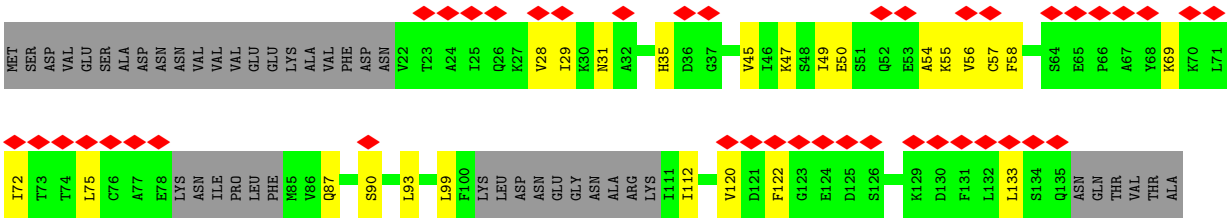
Chain SQ:



- Molecule 25: 40S ribosomal protein S12

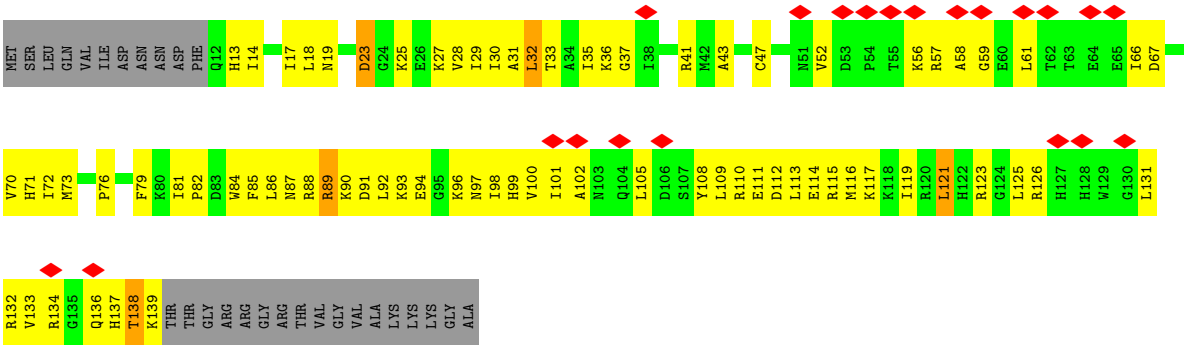
Chain SR:





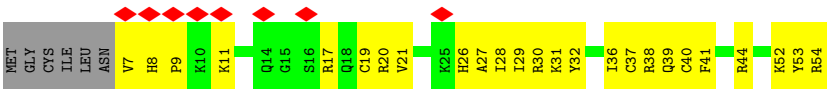
- Molecule 26: 40S ribosomal protein S18

Chain SS:



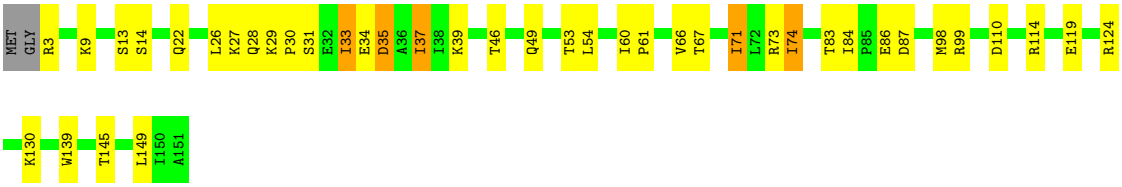
- Molecule 27: 40S ribosomal protein S29

Chain ST:



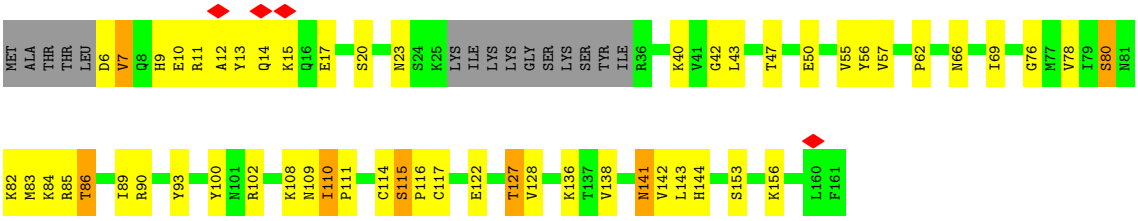
- Molecule 28: 40S ribosomal protein S15

Chain SU:



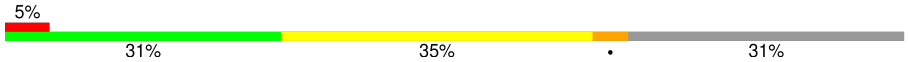
- Molecule 29: 40S ribosomal protein S11

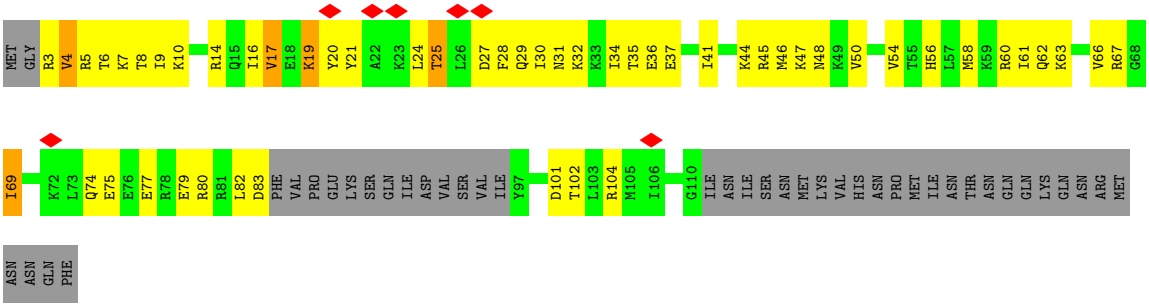
Chain SV:



- Molecule 30: 40S ribosomal protein S17

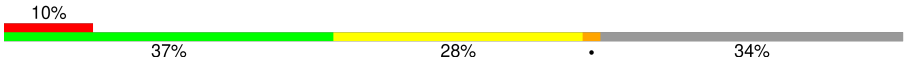
Chain SW:

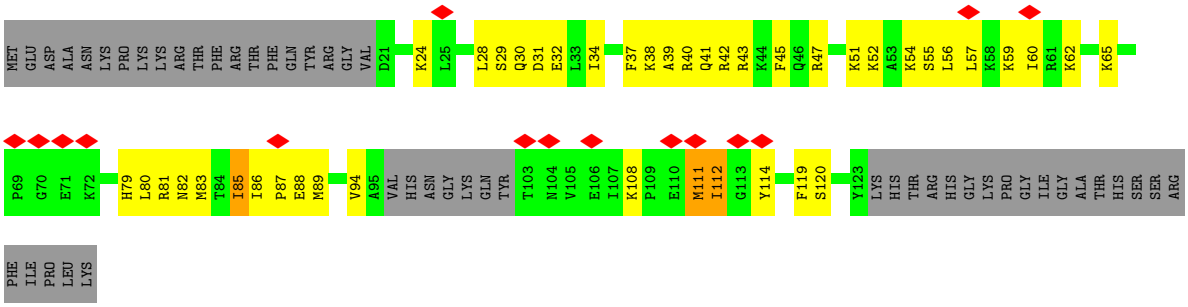




- Molecule 31: 40S ribosomal protein S19

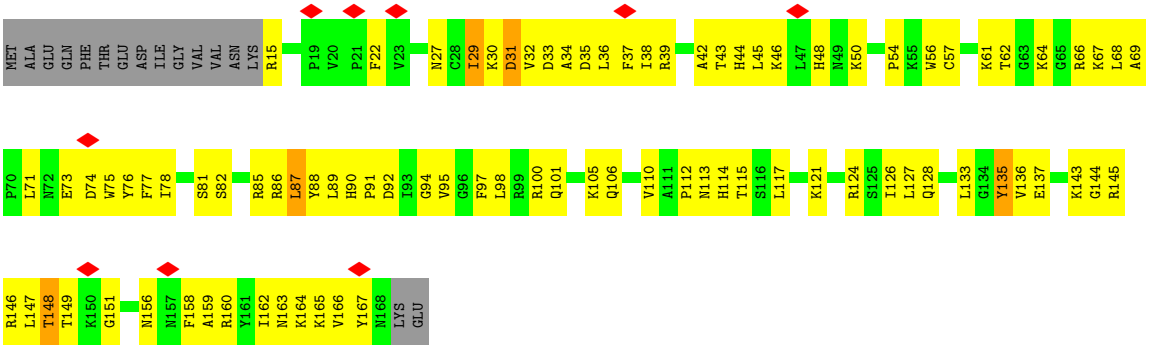
Chain SX:





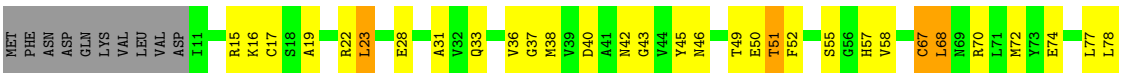
- Molecule 32: 40S ribosomal protein S19

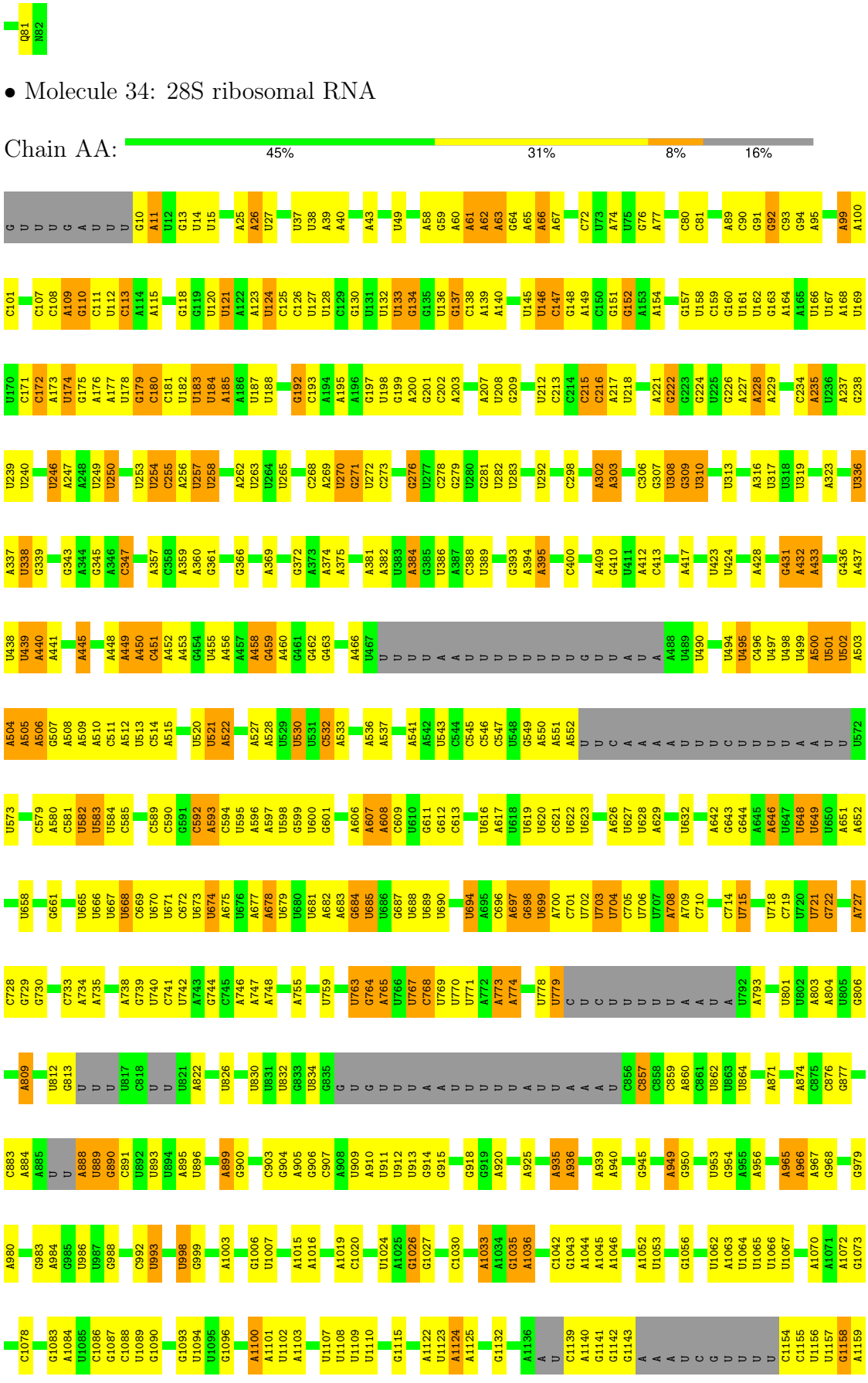
Chain SY:



- Molecule 33: 40S ribosomal protein S21

Chain SZ:

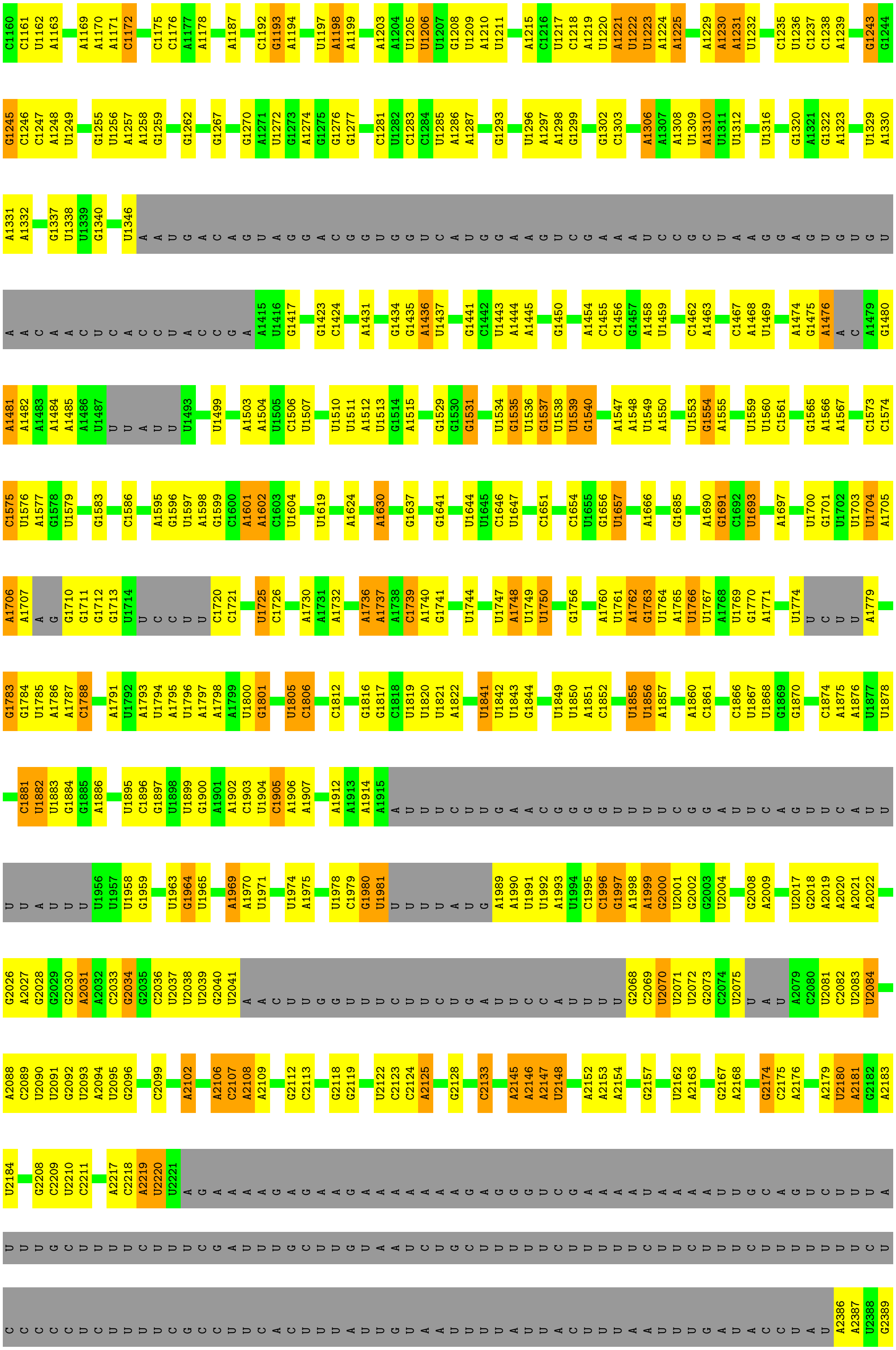


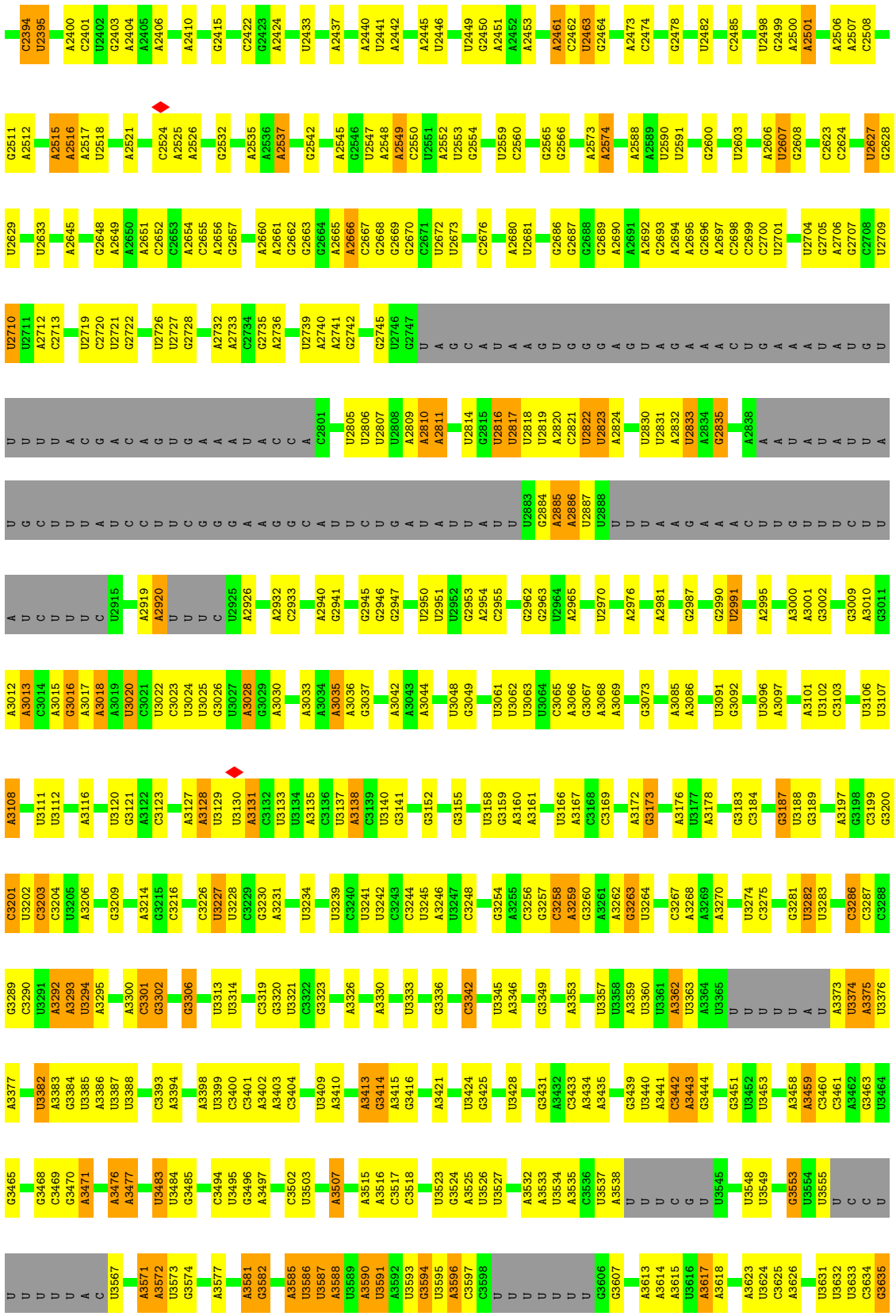


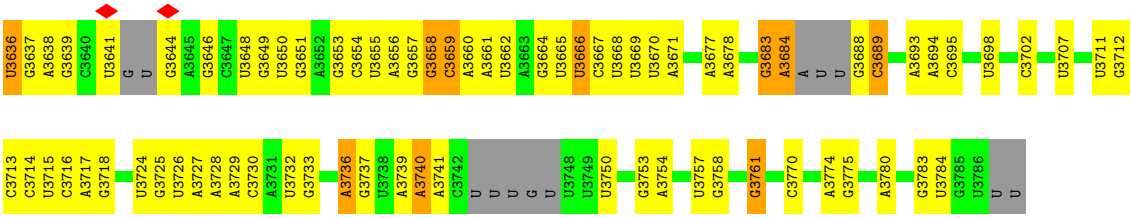
• Molecule 34: 28S ribosomal RNA

Chain AA:

45% 31% 8% 16%

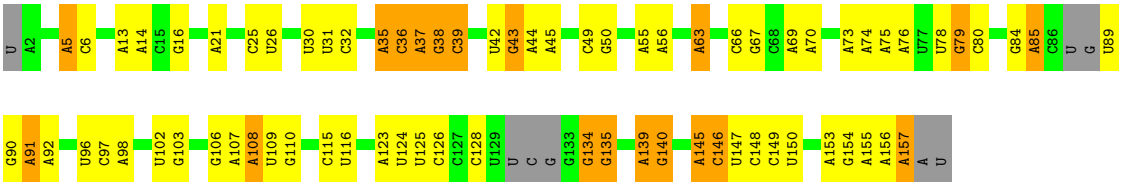

C1160 C1161 U1162 A1163 A1169 A1170 A1171 C1172 C1175 C1176 A1177 A1178 A1187 C1192 G1193 A1194 U1197 A1198 A1199 A1203 A1204 U1205 U1206 U1207 G1208 U1209 A1210 U1211 A1215 C1216 U1217 C1218 A1219 U1220 A1221 U1222 U1223 A1224 A1225 A1229 A1230 A1231 U1232 C1235 U1236 C1237 C1238 A1239 G1243 G1244
G1245 C1246 C1247 A1248 U1249 G1255 U1256 A1257 A1258 G1259 G1262 G1267 G1270 A1271 U1272 G1273 A1274 G1275 G1276 G1277 C1281 U1282 C1283 C1284 U1285 A1286 A1287 G1293 U1296 A1297 A1298 G1299 G1302 C1303 A1306 A1307 A1308 U1309 A1310 U1311 U1312 U1316 G1320 A1321 G1322 A1323 U1329 A1330
A1331 A1332 G1337 U1338 U1339 G1340 U1346 A A U G A C A G U A G G A C G G U G G U C A U G G A A G U C G A A A U C C G C U A A G G A G U G U G U
A A C A A C U C A C C U A C C G A A1415 U1416 G1417 G1423 C1424 A1431 G1434 G1435 A1436 U1437 G1441 C1442 U1443 A1444 A1445 G1450 A1454 C1455 C1456 G1457 A1458 U1459 C1462 A1463 C1467 A1468 U1469 A1474 G1475 A1476 A C A1479 G1480
A1481 A1482 A1483 A1484 A1485 A1486 U1487 U U A U U U1493 U1499 A1503 A1504 U1505 C1506 U1507 U1510 U1511 A1512 U1513 G1514 A1515 G1529 G1530 G1531 U1534 G1535 U1536 G1537 U1538 U1539 G1540 A1547 A1548 U1549 A1550 U1553 G1554 A1555 U1559 U1560 C1561 G1565 A1566 A1567 C1573 C1574
C1575 U1576 A1577 G1578 U1579 G1583 C1586 A1595 G1596 U1597 A1598 G1599 C1600 A1601 A1602 C1603 U1604 U1619 A1624 A1630 G1637 G1641 U1644 U1645 C1646 U1647 C1651 C1654 U1655 G1656 U1657 A1666 G1685 A1690 G1691 C1692 U1693 A1697 U1700 G1701 U1702 U1703 U1704 A1705
A1706 A1707 A G G1710 G1711 G1712 G1713 U1714 U C C U U C1720 C1721 U1725 C1726 A1730 A1731 A1732 A1736 A1737 A1738 C1739 A1740 G1741 U1744 U1747 A1748 U1749 U1750 G1756 A1760 U1761 A1762 G1763 U1764 A1765 U1766 U1767 A1768 U1769 G1770 A1771 U1774 U C U U A1779
G1783 G1784 U1785 A1786 A1787 C1788 A1791 U1792 A1793 U1794 A1795 U1796 A1797 A1798 A1799 U1800 G1801 U1805 C1806 C1812 G1816 G1817 C1818 U1819 U1820 U1821 A1822 U1841 U1842 U1843 G1844 U1849 U1850 A1851 C1852 U1855 U1856 A1857 A1860 C1861 C1866 U1867 U1868 G1869 G1870 C1874 A1875 A1876 U1877 U1878
C1881 U1882 U1883 G1884 G1885 A1886 U1895 C1896 G1897 U1898 U1899 G1900 A1901 A1902 C1903 U1904 C1905 A1906 A1907 A1912 A1913 A1914 A1915 A U U U C U U G A A C G G G G U U U U C G G A U U C A G U U C A U U
U U A U U U U1956 U1957 U1958 G1959 U1963 G1964 U1965 A1969 A1970 U1971 U1974 A1975 U1978 C1979 G1980 U1981 U U U U A U G A1989 A1990 U1991 U1992 A1993 U1994 C1995 C1996 G1997 A1998 A1999 G2000 U2001 G2002 G2003 U2004 G2008 A2009 U2017 G2018 A2019 A2020 A2021 A2022
G2026 A2027 G2028 G2029 G2030 A2031 A2032 C2033 G2034 G2035 C2036 U2037 U2038 U2039 G2040 U2041 A A C U U G G U U U C U U C U G A U U C C A U U U U G2068 C2069 U2070 U2071 U2072 G2073 C2074 U2075 U A U A2079 C2080 U2081 C2082 U2083 U2084
A2088 C2089 U2090 U2091 G2092 U2093 A2094 U2095 G2096 C2099 A2102 A2106 C2107 A2108 A2109 G2112 C2113 G2118 G2119 U2122 C2123 C2124 A2125 G2128 C2133 A2145 A2146 A2147 U2148 A2152 A2153 A2154 G2157 U2162 A2163 G2167 A2168 G2174 C2175 A2176 A2179 U2180 A2181 G2182 A2183
U2184 G2208 C2209 U2210 C2211 A2217 C2218 A2219 U2220 U2221 A G A A A A G A G A A G A A A A A A G A G G G U C G A A A A U A A A A U U G C A G U C U U U A
U U U G C U U U U C U U U C G A U U U G C U U G U A A U C U G C U U U U U C U U U U U C U U C U U U C U U U U U U U C U
C C C C C U C U U U U C G C C U U C A C U U U A U U G U A A U U U U A U U A C U U U A A U U U G A U A C C U A U A2386 A2387 U2388 G2389


G3465 G3468 C3469 G3470 A3471 A3476 A3477 U3483 U3484 G3485 C3494 U3495 G3496 A3497 C3502 U3503 A3507 A3515 A3516 C3517 C3518 U3523 G3524 A3525 U3526 U3527 A3532 A3533 U3534 A3535 C3536 U3537 A3538 U U U G U U3545 U3548 U3549 G3553 U3554 U3555 U C C U
A3377 U3382 A3383 G3384 U3385 A3386 U3387 U3388 C3393 A3394 A3398 U3399 C3400 C3401 A3402 A3403 C3404 U3409 A3410 A3413 G3414 A3415 G3416 A3421 U3424 G3425 U3428 G3431 A3432 C3433 A3434 A3435 G3439 U3440 A3441 C3442 A3443 G3444 G3451 U3452 U3453 A3458 A3459 C3460 C3461 A3462 G3463 U3464
G3289 C3290 U3291 A3292 A3293 U3294 A3295 A3300 C3301 G3302 G3306 U3313 U3314 C3319 G3320 U3321 C3322 G3323 A3326 A3330 U3333 G3336 C3342 U3345 A3346 G3349 A3353 U3357 U3358 A3359 U3360 U3361 A3362 U3363 A3364 U3365 U U U U A U A3373 U3374 A3375 U3376
C3201 U3202 C3203 C3204 U3205 A3206 G3209 A3214 G3215 C3216 C3226 U3227 U3228 C3229 G3230 A3231 U3234 U3239 C3240 U3241 U3242 C3243 C3244 U3245 A3246 U3247 C3248 G3254 A3255 C3256 G3257 C3258 A3259 G3260 A3261 A3262 G3263 U3264 C3267 A3268 A3269 A3270 U3274 C3275 G3281 U3282 U3283 C3286 C3287 C3288
A3108 U3111 U3112 A3116 U3120 G3121 A3122 C3123 A3127 A3128 U3129 U3130 A3131 C3132 U3133 U3134 A3135 C3136 U3137 A3138 C3139 U3140 G3141 G3152 G3155 U3158 G3159 A3160 A3161 U3166 A3167 C3168 C3169 A3172 G3173 A3176 U3177 A3178 G3183 C3184 G3187 U3188 G3189 A3197 G3198 C3199 G3200
A3012 A3013 G3014 A3015 G3016 A3017 A3018 A3019 U3020 C3021 U3022 C3023 U3024 U3025 G3026 U3027 A3028 G3029 A3030 A3033 A3034 A3035 A3036 G3037 A3042 A3043 A3044 U3048 G3049 U3061 U3062 U3063 U3064 C3065 A3066 G3067 A3068 A3069 G3073 A3085 A3086 U3091 G3092 U3096 A3097 A3101 U3102 C3103 U3106 U3107
A U C U U U C U2915 A2919 A2920 U U U C U2925 A2926 A2932 C2933 A2940 G2941 G2945 G2946 G2947 U2950 U2951 U2952 G2953 A2954 C2955 G2962 G2963 U2964 A2965 U2970 A2976 A2981 G2987 G2990 U2991 A2995 A3000 A3001 G3002 G3009 A3010 G3011
U G C U U U A U C C U U C G G U G A A U U C U U A U U U A U U U U U2883 G2884 A2885 A2886 U2887 U2888 U U U U A A G C U A U A U U A U U U U C U U
U U U U A C U3567 A3571 A3572 U3573 G3574 A3577 A3581 G3582 A3585 U3586 U3587 A3588 U3589 A3590 U3591 A3592 U3593 G3594 U3595 A3596 C3597 C3598 U U U U U U G3606 G3607 A3613 A3614 A3615 U3616 A3617 A3618 A3623 U3624 C3625 A3626 U3631 U3632 U3633 C3634 G3635
U2710 U2711 A2712 C2713 U2719 C2720 U2721 G2722 U2726 U2727 G2728 A2732 A2733 C2734 G2735 A2736 U2739 A2740 A2741 G2742 G2745 U2746 G2747 U U A G C A U A A G U G G A G U A U A A U U A A C C A C2801 U2805 U2806 U2807 U2808 A2809 A2810 A2811 U2814 G2815 U2816 U2817 U2818 U2819 A2820 C2821 U2822 U2823 A2824 U2830 U2831 A2832 U2833 A2834 G2835 A2838 A A U A U U A U U A
U2629 U2633 A2645 G2648 A2649 A2650 A2651 C2652 C2653 A2654 C2655 A2656 G2657 A2660 A2661 G2662 G2663 G2664 A2665 A2666 C2667 G2668 G2669 G2670 C2671 U2672 U2673 C2676 A2680 U2681 G2686 G2687 G2688 G2689 A2690 A2691 A2692 G2693 A2694 A2695 G2696 A2697 C2698 C2699 C2700 U2701 U2704 G2705 A2706 G2707 C2708 U2709
G2511 A2512 A2515 A2516 A2517 U2518 A2521 C2524 A2525 A2526 G2532 A2535 A2536 A2537 G2542 A2545 G2546 U2547 U2548 A2549 C2550 U2551 A2552 U2553 G2554 U2559 C2560 G2565 G2566 A2573 A2574 A2588 A2589 U2590 U2591 G2600 U2603 A2606 U2607 G2608 C2623 C2624 U2627 G2628
G2394 U2395 A2400 C2401 U2402 G2403 A2404 A2405 A2406 A2410 G2415 C2422 G2423 A2424 U2433 A2437 A2440 U2441 A2442 A2445 U2446 U2449 G2450 A2451 A2452 A2453 A2461 C2462 U2463 G2464 A2473 C2474 G2478 U2482 C2485 U2498 G2499 A2500 A2501 A2506 A2507 C2508



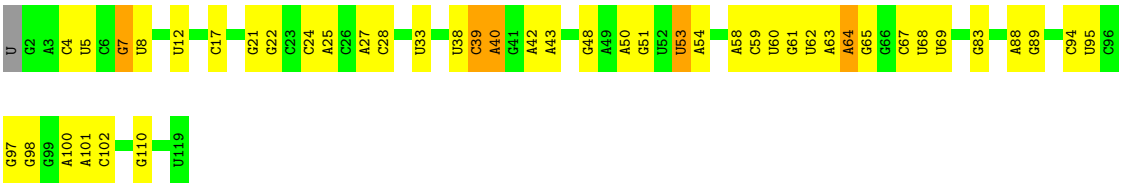
- Molecule 35: 5.8S ribosomal RNA

Chain AC:



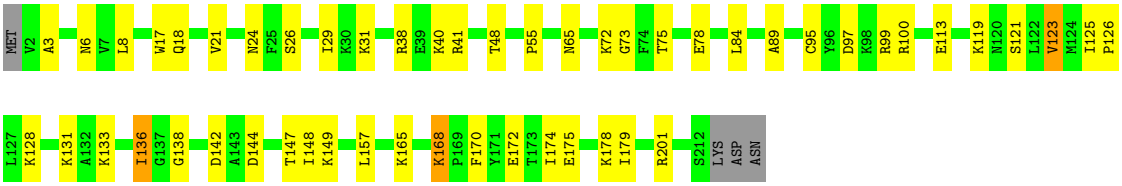
- Molecule 36: 5S ribosomal RNA

Chain AB:



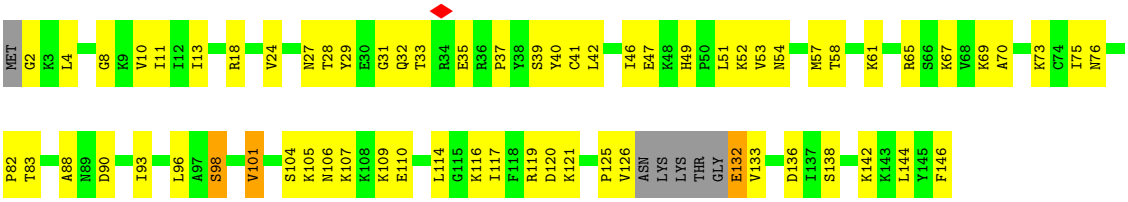
- Molecule 37: 60S ribosomal protein L13

Chain AL:



- Molecule 38: 60S ribosomal protein L27

Chain A1:



- Molecule 39: 60S ribosomal protein L28

Chain A2: 58% 23% • 18%

MET S2 N3 W10 E11 R14 K15 K21 K22 N23 K24 A25 G26 K27 K28 N39 Y40 T43 P44 S45 N53 N56 V65 K69 THR SER LYS GLU SER ASN VAL V77 F81 K82 ALA LYS ASN M86 L92 Q95 S98 PHE GLU LYS ALA K103 N104

K105 L108 L109 K110 K111 R114 Y119 GLU THR SER HIS LYS LYS THR ASN

• Molecule 40: 60S ribosomal protein L29

Chain A4: 84% 13% ••

MET A2 K3 H10 M30 N42 C46 I50 E56 L57 K62 K65 N66 N67

• Molecule 41: 60S ribosomal protein L30e

Chain A6: 53% 35% • 9%

MET ALA LYS LYS SER LYS LYS S8 N12 I13 K16 L17 Q18 L19 V20 M21 K25 Y26 Q27 F28 L37 G40 K41 L44 V45 S48 S49 N50 I54 Q55 R56 S57 V58 I59 E60 Y61 Y62 A63 M64 L65 V70 D76 N77 N78 T82 A83 R89 I90

S91 C92 D97 D100 S101 D102 I103 I104 K105 THR ASN GLU

• Molecule 42: 60S ribosomal protein L31

Chain A7: 57% 21% • 20%

MET VAL LYS GLY THR VAL LYS LYS GLN LYS LYS THR LEU LYS P15 V16 T17 L27 V31 C32 Y33 K36 A40 E43 I44 R45 S46 M52 H53 T54 V57 K65 F66 R73 P76 R80 E84 R85 K86 R87 N88 GLU ASP GLU ASP SER LYS E95

K96 M97 Y98 T99 I100 V104 K110 C116 GLU ALA ASN GLU

• Molecule 43: 60S ribosomal protein L14

Chain AN: 65% 24% • 11%

MET PRO ARG V4 E5 L6 T7 E8 E9 L12 K17 K22 R23 F24 V25 E26 P27 G28 R29 L30 C31 Y35 V49 T50 R53 V54 I55 V56 D57 G58 A59 F60 I61 T62 R66 M67 V68 I69 P70 L71 K72 R73 R80 I81 K82 K88 E103 E104 F105 N106

N107 S108 K109 D125 R136 K139 K140 K141 M142 I145 K146 N147 N150 GLY GLU ASN LYS LYS VAL LYS LYS ASN VAL GLN LYS VAL LYS ALA

• Molecule 44: 60S ribosomal protein L32

Chain A8: 56% 36% • 5%

MET A2 V3 K4 K5 I10 K11 K12 R13 T14 K15 N23 R24 W32 P35 R36 G37 I38 D39 C40 R41 V42 R43 R44 R45 Y46 K47 G48 T49 N50 L51 M52 P53 G58 K61 K64 F65 L66 N69 N70 K71 Y72 V76 K77 N78 V79 K80 E81 M82 E83 P84

M87 V94 Q95 I96 A97 H98 N99 K103 K104 R105 E110 R111 A112 K113 A124 R125 L126 GLN LYS THR GLU GLU

- Molecule 45: 60S ribosomal protein L35ae

Chain A9: 54% 19% • 26%

MET GLU ASN VAL LYS VAL LYS LYS GLU GLN THR GLU VAL SER GLN LYS LYS LYS VAL VAL LYS LYS VAL LEU LYS LYS ASN LYS LYS THR SER ASN LYS LYS L35 V38 R39 L40 Y41 K50 R51 S52 Q53 R54 D57 F60 K66 M67 V68 A74 T88 T89

H92 D93 K96 C99 K103 V104 C105 R106 T107 H108 G112 V113 I114 R115 P124 P137 SER ASN ILE

- Molecule 46: 60S ribosomal protein L34

Chain Aa: 41% 29% • 29%

MET A2 Y7 H10 N11 H12 N18 K19 V20 R21 P22 V23 P26 I32 A39 G40 K41 D46 Q52 K55 A56 L57 R58 D61 R64 A65 R66 R67 K68 T71 R74 A75 Y76 I80 I85 R86 E87 R88 I89 M90 R91 A92 F93 L94 F95

E96 E97 Q98 K99 C100 V101 V104 L105 K106 E107 LYS LYS LYS GLN GLU LYS LYS VAL LYS LYS VAL LYS LYS GLU LYS LYS LYS VAL ASN ALA LYS GLU VAL LYS LYS THR ALA THR ASP ASN LYS LYS ALA LYS LYS VAL ALA ASP LYS LYS LYS GLY LYS

- Molecule 47: 60S ribosomal protein L36

Chain Ab: 63% 20% • 15%

MET G2 K8 N27 LEU LYS LEU HIS LYS LYS LYS LYS PRO PHE S38 K41 E42 L43 V47 V48 R49 E50 I51 I61 T69 S72 L77 K81 T86 H87 K91 A92 K93 R94 E95 E96 I97 Q98 K99 V100 V101 Q104 R105 R106 LYS ALA ALA GLU

LYS HIS

- Molecule 48: 60S ribosomal protein L38

Chain Ad: 38% 41% • 17%

MET P2 I5 I8 F11 L12 K13 R16 K17 I24 I25 M26 K27 K28 K29 S30 K31 THR LYS LYS ASN T36 V37 I38 T39 K40 L41 K42 K47 Y48 L49 Y50 T51 M52 V53 F54 A55 D56 R57 K58 K59 A60 E61 R62 I63 E64 L68 P69 S70 R73 I74 Y75

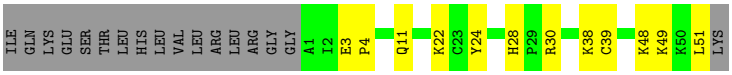
Y76 P77 GLN LYS LYS VAL GLY LYS THR VAL LYS LYS

- Molecule 49: 60S ribosomal protein L39

Chain Ae: 59% 22% • 16%

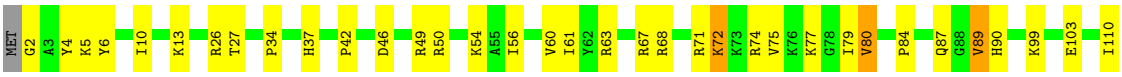
• Molecule 50: Ubiquitin-60S ribosomal protein L40

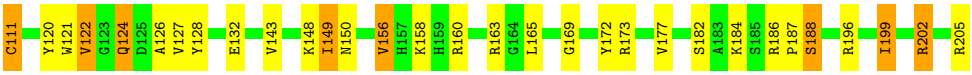
Chain Af:



• Molecule 51: Ribosomal protein L15

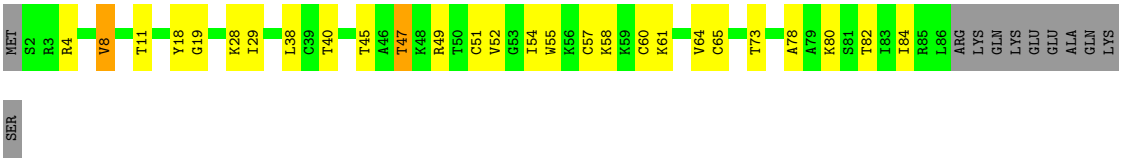
Chain AP:





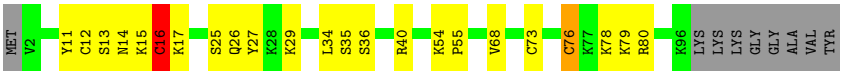
• Molecule 52: Large ribosomal subunit protein eL43

Chain Ah:



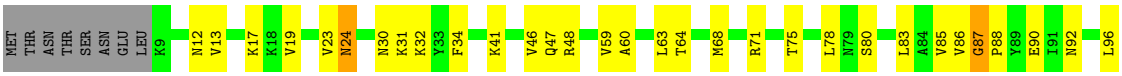
• Molecule 53: Large ribosomal subunit protein eL42

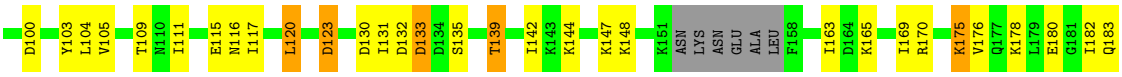
Chain Ai:



• Molecule 54: 60S ribosomal protein L6

Chain AI:





K184 D185 I186 K191 Y203 L204 K205 T209 M214 F221

• Molecule 55: 60S ribosomal protein L7a

Chain AJ: 49% 27% • 22%

MET ALA LYS ASP LYS LYS GLN GLN LYS LYS PRO SER LYS LYS THR PRO ALA PRO CYS PRO LEU SER THR LYS VAL THR VAL LYS LYS GLU ILE LYS LYS GLU LYS LYS LYS THR GLY ILE K40 D41 N42 P43 L44 I45 F46 GLU LYS LYS LYS ARG SER ASN I54 V57 K70 W71 P72

R73 Y74 I75 Q78 R79 K80 K81 K82 R87 S93 I94 N95 Q96 P102 Q105 T106 Q107 D108 L109 L110 K114 A115 Y116 E119 S120 K121 T122 D123 K124 K125 L128 L129 N130 K131 ALA LYS GLU ALA LEU ASN LYS ASN ILE THR LYS ASP LYS LYS PRO L147 K150

I153 N154 H155 I156 T157 K158 E161 N166 L167 S175 P176 I177 E178 L181 F182 L183 V192 C195 D199 K200 A201 T202 L203 L206 K210 T213 L217 E218 S219 V220 K221 K222 E223 E226 K227 L228 D229 Y230 F231 A232 K233 V234 C235 K236 E237 D244

L245 R246 R247 K248 M254 K257 S258 M259 L260 K263 K267 A268 R269 K270 I271 E272 K276 A281 K282 L283

• Molecule 56: Ribosomal protein L37

Chain Ac: 67% 28% • •

MET G2 K3 T8 F11 R14 K17 T18 L21 C22 L23 R24 R28 S29 Y30 H31 L32 Q33 K34 K35 Y42 R49 F50 N51 K55 A56 K57 R58 R63 Y69 I70 L73 R74 R75 K90 GLN ARG

• Molecule 57: 60S ribosomal protein L13

Chain AK: 78% 19% •

M1 Y2 I8 D9 C10 H13 R17 K24 N28 R31 I32 V33 A34 V35 R36 Q54 R60 T61 M64 G68 P69 L70 H71 L72 R73 E74 P75 M86 Y92 V118 L119 P120 L123 R127 R132 L137 G138 T139 R143 V144 K153

K154 N155 E156 V157 L174 E179 I180 K181 T182 L187 E191 Q192 R193 Y201 ALA

• Molecule 58: 60S ribosomal protein L23

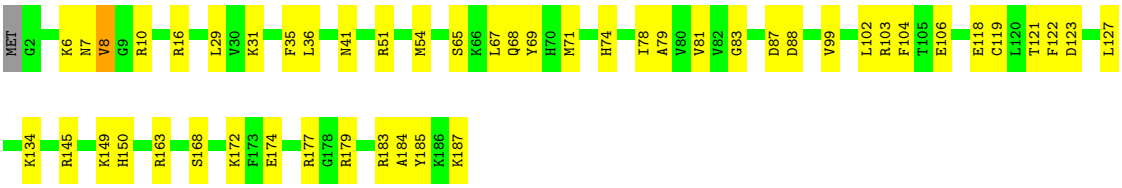
Chain AM: 68% 25% • 5%

MET LYS ARG GLY ARG ALA GLY T8 L9 K10 N11 K12 M13 L17 S18 L19 L24 N35 I39 R50 L56 G57 D58 K68 P69 D70 L71 R72 I79 K85 A86 R89 Y93 Y94 I95 Y96 F97 E98 D99 N100 V105 N106 P107 K108 M111 R122

E123 E126 L127 L131 V139

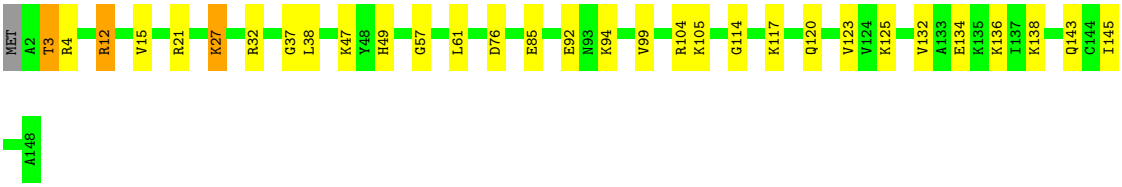
• Molecule 59: 60S ribosomal protein L18-2

Chain AS:



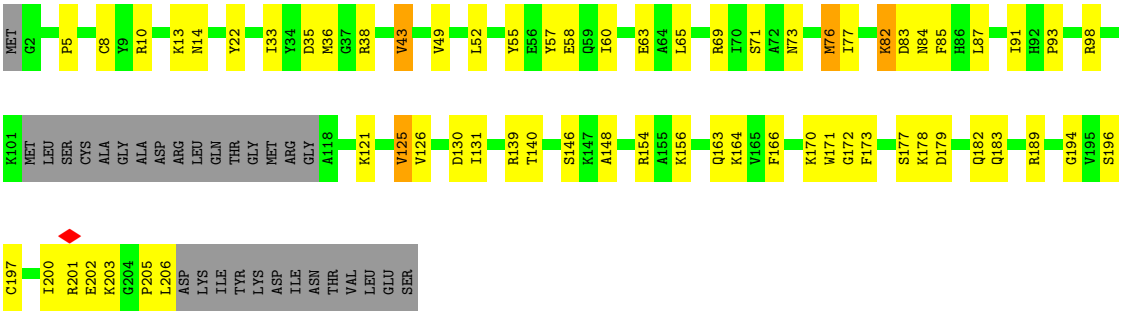
- Molecule 60: 60S ribosomal protein L27a

Chain AO:



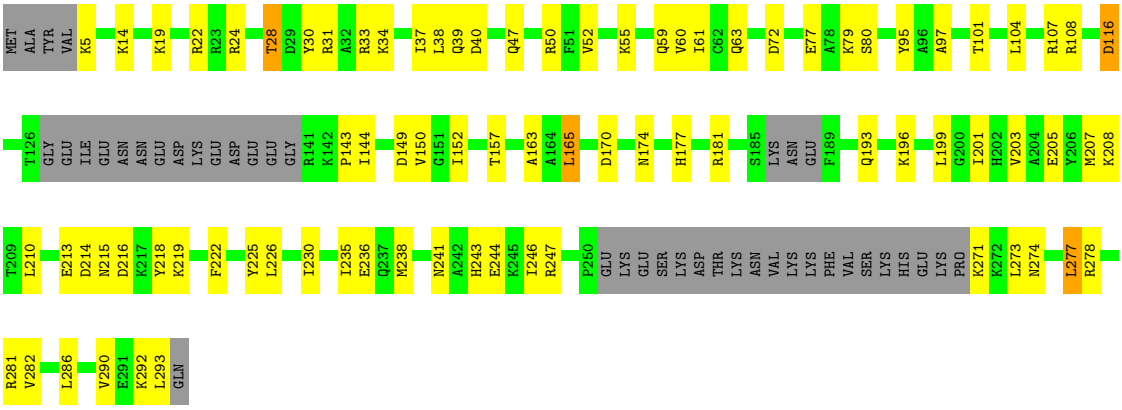
- Molecule 61: 60S ribosomal protein L10

Chain AQ:



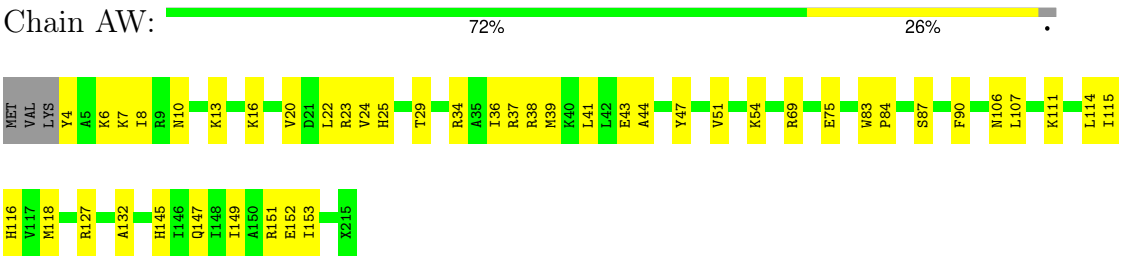
- Molecule 62: 60S ribosomal protein L5

Chain AR:



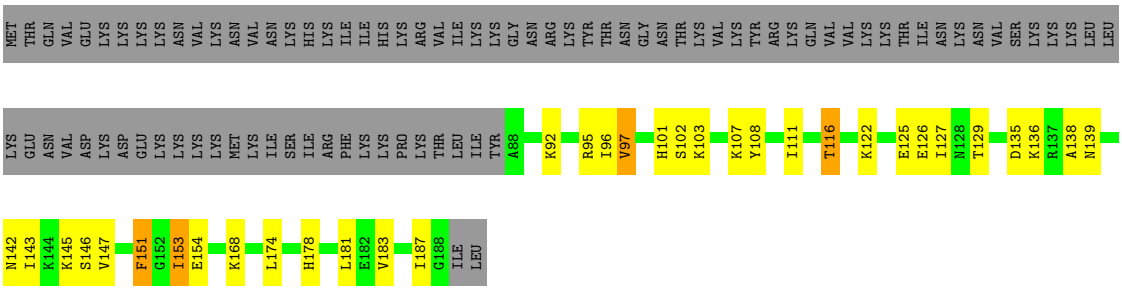
- Molecule 63: 60S ribosomal protein L17

Chain AW:



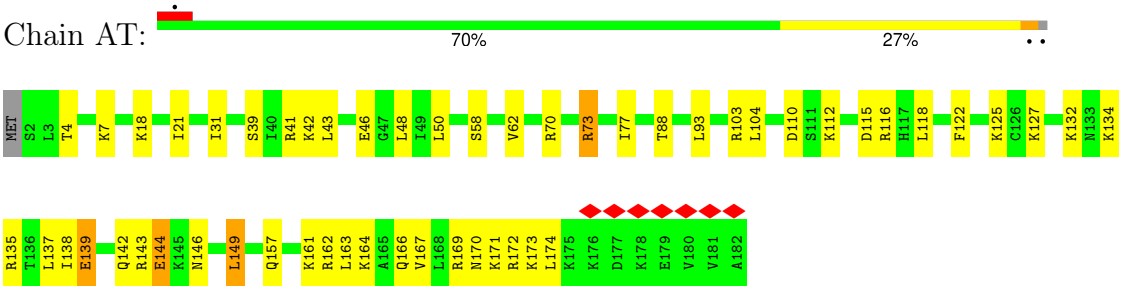
- Molecule 64: 60S ribosomal protein L23

Chain AY:



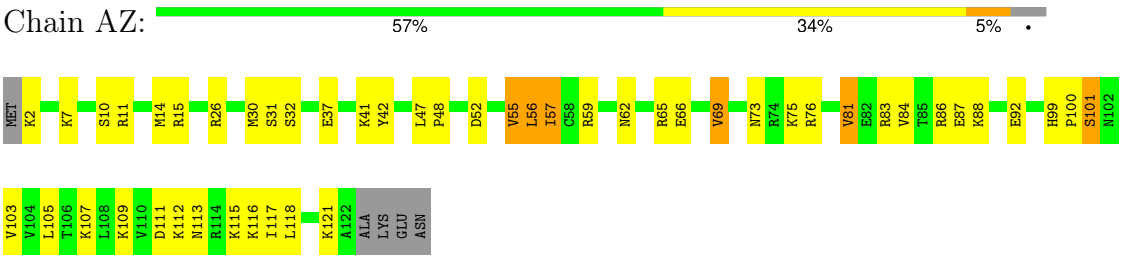
- Molecule 65: 60S ribosomal protein L19

Chain AT:



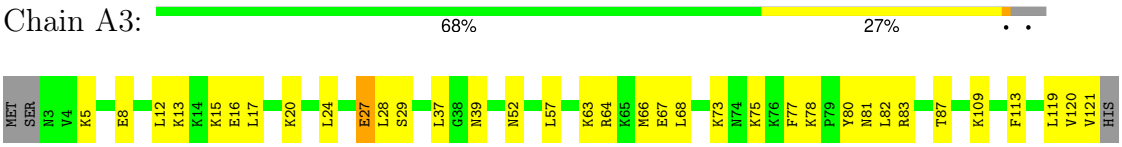
- Molecule 66: 60S ribosomal protein L26

Chain AZ:



- Molecule 67: 60S ribosomal protein L35

Chain A3:



LYS
GLU

- Molecule 68: 60S ribosomal protein L7

Chain A5:

MET ALA ASP ARG TYR GLU ASN GLN VAL GLU ASN GLU LEU GLY LYS SER MET THR SER LEU ARG ALA LYS LYS VAL ASN LYS ASN LYS GLU LEU LYS GLN ALA A35 L42 Q55 R56 E67 R68 K69 K70 I71 K75 R76 N81 N82 C83 F84 Y85 K90 V93 F94

V95 K103 L104 K107 V108 R109 S110 V111 G123 V124 F125 E134 I138 V139 Y145 G146 Y147 P148 T152 Y158 V163 R164 R169 R170 Y171 A172 R173 K174 D181 N190 D196 T203 C204 G205 K210 V211 N212 W216 P222 R231 H232 A233

E236 E246 N250 E251 R255 M256 I257

- Molecule 69: 60S ribosomal protein L2

Chain AD:

MET G2 R3 V4 I5 R6 G7 Q8 R12 G13 S14 I15 R30 Y34 C35 E36 K37 K38 G39 Y40 I41 K42 V45 K46 H50 D51 R54 I62 E67 K68 I77 T84 Y87 I88 G105 P108 E109 G110 T111 C114 N115 L116 E117 H118 G121

N122 R123 G124 T125 L126 V127 S130 V137 S140 E141 D142 K145 T146 K147 S152 K155 A160 R163 A164 M165 V169 G170 I175 D176 K177 L180 K181 A182 G183 R193 K198 V199 R200 M204 N205 P206 V207 E208 H209 P210 G213 A229 Q233

K234 V235 R241 R242 T243 L246 R247 G248 ALA LYS LYS THR LYS LEU VAL GLY LYS SER GLU GLU

- Molecule 70: 60S ribosomal protein L3

Chain AE:

MET S2 R10 H11 G12 R19 K23 I29 P41 M47 K50 M53 T54 R58 E59 V60 L67 H68 K69 K70 E71 E80 M84 V90 G91 Y92 R93 T104 V105 D112 E113 F114 R115 R116 R117 E126 K127 K128 A129 F130 T131 C143 L144

L145 K146 R147 I148 L155 P163 R169 M176 E177 G182 M185 K188 L189 E190 K193 E194 P201 V202 S203 T204 N209 I212 I215 K219 K224 R229 K233 K238 G242 A247 H253 P254 Q260 K267 F270 H271 R272

T273 E274 R281 I282 G283 N289 I297 T298 Y311 F318 L319 L320 L321 A326 G327 T328 R331 P332 I333 T334 L335 R345 V351 S352 L353 K354 S359 S360 K361 I362 T369 S370 E371 E372 K381 LYS ASP LEU LYS ALA

- Molecule 71: 60S ribosomal protein L4

Chain AF:

MET ALA THR ILE ARG P6 V10 Y11 S12 T13 N14 G15 K16 N17 V18 T30 P31 I32 Q38 T42 N43 M44 T62 S63 A64 E65 S66 W67 G68 R71 A72 V73 V79 A87 F92 M101 P104 V115 K120 C125 S126 V133 T134 S135 L136

R140 R143 L147 V150 V153 V154 S155 N156 D157 I158 L161 S162 K163 E166 L176 N181 R182 L183 V184 K185 S186 K187 K188 K193 G194 K195 R204 N205 G206 V217 K218 K219 A220 F221 R222 N223 L238 P242 S245 I246 G247 W252 S253 E254

S255 K266 I267 H268 I278 K281 S282 I283 I292 I293 V298 S301 K305 K306 K307 K311 S318 N321 V324 L328 R342 M343 R344 I347 L348 E349 K350 K355 E356 Q360 L368 I371 Y375 V379 V383 K384 K385 R389

E390 K393 A394 K395 SER LYS LYS THR ALA ASN GLN ALA VAL ILE ASN VAL ALA ALA GLU GLU

- Molecule 72: 60S ribosomal protein L11a

Chain AG: 46% 24% • 28%

MET GLU ASN LYS GLU GLN ASN V8 M9 R10 E11 I12 N15 K16 L17 I21 C22 V23 S26 G27 D28 R29 L30 R35 Q39 L40 T41 I46 F47 G48 K49 C50 R51 PHE THR ILE ARG SER PHE GLY VAL ARG ARG ASN GLU K64 I65 S66 V71 R72 L77 E78

I79 L84 K85 VAL LYS GLU TYR GLU LEU R92 R93 K94 I106 GLN GLU HIS ILE ASP LEU GLY ILE LYS TYR ASP PRO SER THR GLY ILE TYR G124 M125 D126 V129 H130 L131 S132 R133 S146 K150 V154 E157 D158 A159 M160 K161 Q164 T165 K166 PHE ASP GLY

ILE LEU LEU LYS

- Molecule 73: 60S ribosomal protein L18a

Chain AU: 68% 27% • •

MET VAL LYS LYS I5 N12 Q15 Y16 H17 I18 R21 A22 I23 P24 T25 K29 V33 Y34 R35 M36 C37 K41 N42 D43 T44 N45 A46 W51 Y52 F53 K62 I73 R76 R80 V81 K82 V86 L87 L88 R89 Y90 D91 S92 T96 H97 N98 M99

Y100 K101 E102 F103 R104 D105 T106 T107 K108 L115 I133 R134 I135 I148 K153 R154 R155 L156 R157 F158 H162 L166 K172 A175 Y182 R183 M184

- Molecule 74: 60S ribosomal protein L6

Chain AH: 59% 34% • •

MET K2 T3 I4 V10 V18 A19 I20 N21 A22 R23 K24 V25 T26 V27 S28 G29 K30 Y31 G32 T33 R36 S37 F38 R39 D44 I45 R46 L47 N48 K49 L50 K51 K52 Y53 I54 K55 V56 V57 M58 W59 F60 I69 R70 K77 T81 G82 V83 K86 N91 R92

L93 V94 H95 N101 V105 D106 R110 I113 R114 N115 G118 E119 K120 S121 V122 V125 L128 S136 P137 N138 V139 E142 S154 L155 I160 V164 L165 C166 R167 D170 I171 R172 K173 D176 G177 I178 Y179 V180 T184 T185 V186 GLU LYS ASP GLU

- Molecule 75: 60S ribosomal protein L21

Chain AV: 73% 22% • •

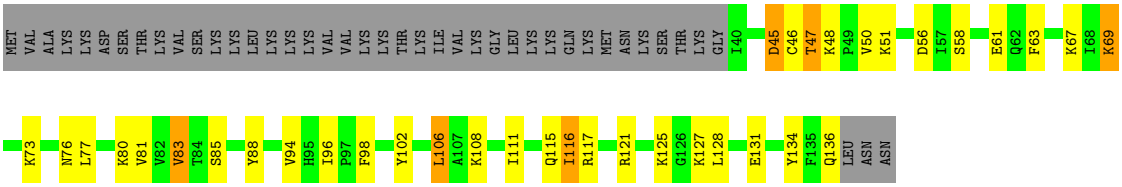
MET GLY GLY K4 K8 K15 K18 H23 K30 Y31 L32 E33 D39 Y40 V41 D46 S47 T48 G52 N56 Y57 I65 V73 G74 V75 K79 R93 H96 V97 R101 E104 D105 F106 L107 L108 I111 K112 N113 I117 K121

• Molecule 76: 60S ribosomal protein L41

Chain Ag:

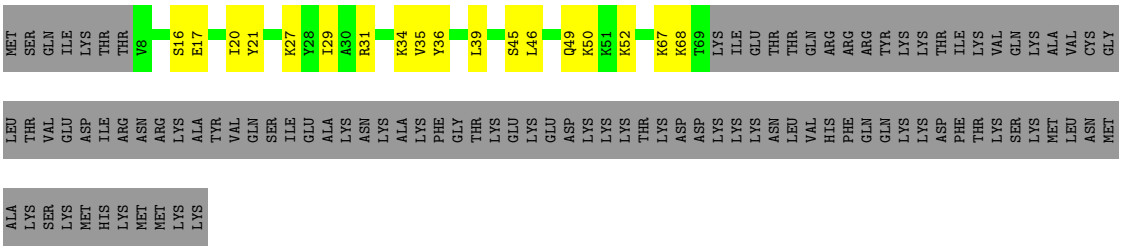
• Molecule 77: 60S ribosomal protein L22

Chain AX:



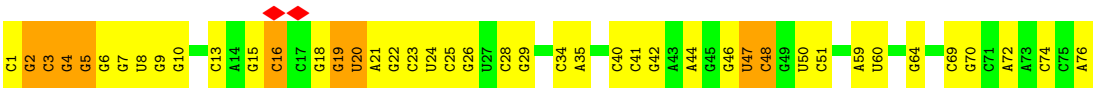
• Molecule 78: 60S ribosomal protein L24

Chain A0:



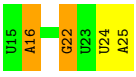
• Molecule 79: tRNA

Chain S8:



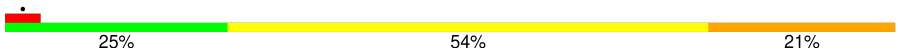
• Molecule 80: mRNA

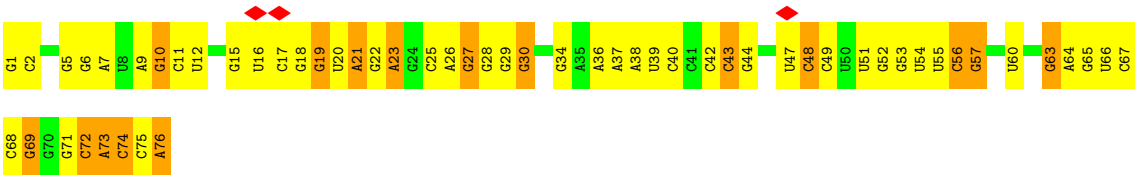
Chain mR:



• Molecule 81: tRNA

Chain S9:





• Molecule 82: nascent polypeptide chain

Chain Sa: 100%

There are no outlier residues recorded for this chain.

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	57974	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.079	Depositor
Minimum map value	-0.023	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.00615	Depositor
Map size (Å)	415.0, 415.0, 415.0	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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	S1	0.22	0/998	0.41	0/1321
2	S2	0.16	0/323	0.46	1/435 (0.2%)
3	S3	0.30	0/793	0.45	0/1055
4	S4	0.21	0/597	0.48	0/801
5	S5	0.15	0/466	0.32	0/616
6	S6	0.22	0/348	0.51	0/458
7	S7	0.23	0/1754	0.33	0/2732
8	SA	0.30	0/38276	0.34	0/59598
9	SB	0.27	0/1737	0.45	0/2321
10	SC	0.26	0/1569	0.54	0/2129
11	SD	0.21	0/1240	0.50	0/1652
12	SE	0.26	0/1538	0.47	0/2055
13	SF	0.27	0/2097	0.46	0/2819
14	SG	0.31	0/1799	0.48	0/2429
15	SH	0.21	0/1668	0.42	0/2214
16	SI	0.22	0/1443	0.52	0/1936
17	SJ	0.24	0/1544	0.50	0/2064
18	SK	0.31	0/1054	0.48	0/1411
19	SL	0.29	0/1407	0.47	0/1879
20	SM	0.21	0/1113	0.50	0/1487
21	SN	0.20	0/780	0.46	0/1053
22	SO	0.15	0/705	0.41	0/950
23	SP	0.29	0/966	0.49	0/1295
24	SQ	0.30	0/1149	0.45	0/1532
25	SR	0.12	0/754	0.34	0/1013
26	SS	0.23	0/1062	0.60	0/1425
27	ST	0.21	0/412	0.36	0/544
28	SU	0.29	0/1223	0.44	0/1634
29	SV	0.30	0/1233	0.42	0/1645
30	SW	0.23	0/792	0.61	0/1053
31	SX	0.20	0/787	0.55	1/1050 (0.1%)
32	SY	0.19	0/1294	0.44	0/1742
33	SZ	0.27	0/565	0.47	0/758
34	AA	0.41	0/75950	0.38	0/118259

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	AC	0.41	0/3599	0.38	0/5603
36	AB	0.37	0/2816	0.30	0/4388
37	AL	0.33	0/1793	0.46	0/2387
38	A1	0.30	0/1151	0.48	0/1531
39	A2	0.33	0/839	0.44	0/1114
40	A4	0.31	0/564	0.43	0/737
41	A6	0.32	0/748	0.46	0/1001
42	A7	0.34	0/805	0.43	0/1073
43	AN	0.32	0/1226	0.46	0/1632
44	A8	0.40	0/1053	0.56	1/1399 (0.1%)
45	A9	0.40	0/864	0.49	0/1160
46	Aa	0.36	0/871	0.42	0/1161
47	Ab	0.30	0/762	0.51	0/1008
48	Ad	0.32	0/611	0.57	0/812
49	Ae	0.35	0/396	0.38	0/521
50	Af	0.31	0/418	0.43	0/556
51	AP	0.40	0/1735	0.51	0/2320
52	Ah	0.36	0/667	0.43	0/887
53	Ai	0.35	0/788	0.46	1/1032 (0.1%)
54	AI	0.31	0/1708	0.46	0/2274
55	AJ	0.29	0/1840	0.54	1/2456 (0.0%)
56	Ac	0.37	0/722	0.54	0/951
57	AK	0.36	0/1689	0.41	0/2260
58	AM	0.35	0/1012	0.47	0/1363
59	AS	0.35	0/1531	0.42	0/2040
60	AO	0.37	0/1199	0.43	0/1597
61	AQ	0.30	0/1579	0.40	0/2113
62	AR	0.30	0/2078	0.40	0/2776
63	AW	0.37	0/1244	0.46	0/1663
64	AY	0.32	0/805	0.45	0/1074
65	AT	0.34	0/1525	0.46	0/2016
66	AZ	0.33	0/1012	0.47	0/1339
67	A3	0.32	0/1004	0.45	0/1329
68	A5	0.44	1/1917 (0.1%)	0.55	1/2562 (0.0%)
69	AD	0.37	0/1901	0.47	0/2544
70	AE	0.36	0/3129	0.41	0/4195
71	AF	0.33	0/3144	0.41	0/4205
72	AG	0.27	0/1020	0.47	0/1349
73	AU	0.36	0/1527	0.44	0/2043
74	AH	0.33	0/1500	0.46	0/2025
75	AV	0.35	0/1300	0.43	0/1732
76	Ag	0.35	0/348	0.48	0/448
77	AX	0.27	0/841	0.53	0/1125

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
78	A0	0.34	0/533	0.48	0/711
79	S8	0.23	0/1810	0.33	0/2821
80	mR	0.27	0/255	0.34	0/394
81	S9	0.20	0/1809	0.36	0/2819
All	All	0.35	1/211124 (0.0%)	0.41	6/309911 (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
39	A2	0	1
51	AP	0	1
54	AI	0	1
All	All	0	3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A5	222	PRO	CA-C	-5.34	1.49	1.51

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	Ai	16	CYS	CA-CB-SG	6.90	130.26	114.40
31	SX	111	MET	CA-CB-CG	5.85	125.81	114.10
68	A5	190	ASN	CA-CB-CG	5.80	118.40	112.60
44	A8	103	LYS	CB-CG-CD	-5.42	98.84	111.30
2	S2	59	ILE	N-CA-C	-5.38	107.12	111.91
55	AJ	129	LEU	CA-CB-CG	5.28	134.79	116.30

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
39	A2	26	GLY	Peptide
54	AI	87	GLY	Peptide
51	AP	120	TYR	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	S1	985	0	1076	28	0
2	S2	320	0	338	14	0
3	S3	781	0	820	32	0
4	S4	586	0	604	20	0
5	S5	465	0	505	24	0
6	S6	345	0	381	9	0
7	S7	1571	0	797	68	0
8	SA	34208	0	17266	895	0
9	SB	1713	0	1838	50	0
10	SC	1538	0	1600	91	0
11	SD	1228	0	1311	69	0
12	SE	1514	0	1605	67	0
13	SF	2061	0	2200	83	0
14	SG	1757	0	1811	62	0
15	SH	1651	0	1807	74	0
16	SI	1424	0	1471	128	0
17	SJ	1528	0	1680	71	0
18	SK	1037	0	1099	43	0
19	SL	1383	0	1434	43	0
20	SM	1098	0	1183	61	0
21	SN	772	0	813	51	0
22	SO	686	0	695	31	0
23	SP	954	0	997	48	0
24	SQ	1129	0	1196	36	0
25	SR	746	0	754	14	0
26	SS	1046	0	1101	87	0
27	ST	405	0	419	30	0
28	SU	1202	0	1299	33	0
29	SV	1206	0	1239	39	0
30	SW	785	0	858	51	0
31	SX	776	0	832	48	0
32	SY	1266	0	1316	97	0
33	SZ	557	0	558	30	0
34	AA	67887	0	34242	1058	0
35	AC	3215	0	1633	57	0
36	AB	2517	0	1275	37	0
37	AL	1761	0	1896	49	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	A1	1134	0	1245	49	0
39	A2	830	0	887	24	0
40	A4	555	0	599	7	0
41	A6	740	0	763	25	0
42	A7	793	0	869	20	0
43	AN	1210	0	1329	34	0
44	A8	1036	0	1139	44	0
45	A9	844	0	886	19	0
46	Aa	858	0	912	36	0
47	Ab	756	0	842	19	0
48	Ad	603	0	686	33	0
49	Ae	388	0	421	10	0
50	Af	413	0	452	12	0
51	AP	1697	0	1802	55	0
52	Ah	658	0	727	16	0
53	Ai	778	0	857	17	0
54	AI	1685	0	1849	49	0
55	AJ	1813	0	1985	70	0
56	Ac	709	0	761	25	0
57	AK	1659	0	1782	35	0
58	AM	996	0	1044	26	0
59	AS	1503	0	1636	30	0
60	AO	1172	0	1230	30	0
61	AQ	1544	0	1582	38	0
62	AR	2049	0	2145	70	0
63	AW	1319	0	1303	39	0
64	AY	796	0	850	23	0
65	AT	1509	0	1682	42	0
66	AZ	1000	0	1099	38	0
67	A3	994	0	1121	28	0
68	A5	1879	0	2005	36	0
69	AD	1866	0	1964	55	0
70	AE	3061	0	3205	71	0
71	AF	3094	0	3333	74	0
72	AG	1010	0	1073	34	0
73	AU	1497	0	1556	48	0
74	AH	1475	0	1574	52	0
75	AV	1275	0	1355	26	0
76	Ag	343	0	388	7	0
77	AX	824	0	882	23	0
78	A0	521	0	539	16	0
79	S8	1620	0	827	40	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	mR	230	0	116	11	0
81	S9	1619	0	822	62	0
82	Sa	30	0	10	0	0
All	All	196488	0	146083	4470	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 13.

All (4470) 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)
8:SA:1838:G:N2	8:SA:1867:A:H62	1.32	1.25
8:SA:1838:G:H21	8:SA:1867:A:N6	1.36	1.22
81:S9:15:G:N2	81:S9:48:C:H42	1.44	1.14
34:AA:10:G:H21	34:AA:1706:A:N6	1.48	1.12
80:mR:22:G:N1	81:S9:36:A:H2	1.47	1.10
81:S9:15:G:H22	81:S9:48:C:N4	1.48	1.10
80:mR:22:G:N1	81:S9:36:A:C2	2.18	1.09
79:S8:15:G:N2	79:S8:48:C:H42	1.53	1.04
67:A3:15:LYS:HE2	67:A3:15:LYS:H	1.24	1.01
79:S8:15:G:H22	79:S8:48:C:N4	1.60	0.99
34:AA:11:A:H61	35:AC:154:G:H1	0.98	0.97
34:AA:1762:A:HO2'	34:AA:1763:G:H8	1.02	0.97
34:AA:1531:G:H1	34:AA:1573:C:H5	1.13	0.96
34:AA:3571:A:H8	34:AA:3677:A:HO2'	1.09	0.95
19:SL:8:ARG:O	19:SL:9:HIS:ND1	1.99	0.95
26:SS:86:LEU:HD11	26:SS:98:ILE:HA	1.48	0.95
41:A6:37:LEU:HD11	41:A6:62:TYR:HB3	1.46	0.95
79:S8:50:U:H3	79:S8:64:G:H1	1.13	0.95
7:S7:74:A:H8	34:AA:3103:C:H42	1.09	0.94
79:S8:15:G:H22	79:S8:48:C:H42	0.95	0.94
7:S7:29:G:H1	7:S7:38:A:N6	1.66	0.93
34:AA:1102:U:H3	34:AA:1231:A:H2	1.04	0.93
7:S7:8:U:H3	7:S7:14:A:H62	1.17	0.93
35:AC:128:C:OP1	67:A3:15:LYS:NZ	2.01	0.93
34:AA:3635:G:H1	34:AA:3650:U:H3	1.17	0.92
68:A5:190:ASN:O	68:A5:190:ASN:ND2	2.01	0.92
34:AA:661:G:N2	34:AA:673:U:O2	2.03	0.92
7:S7:29:G:H1	7:S7:38:A:H61	0.95	0.91
34:AA:11:A:N6	35:AC:154:G:H1	1.67	0.91
8:SA:1910:U:O2'	16:SI:136:ARG:NH2	2.02	0.91

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1820:C:H4'	32:SY:100:ARG:HE	1.34	0.91
8:SA:70:U:H3	8:SA:82:G:H1	0.93	0.90
34:AA:2742:G:H1	34:AA:2806:U:H3	0.90	0.90
10:SC:63:ILE:HD11	10:SC:144:ILE:HD11	1.55	0.89
8:SA:1386:U:H4'	8:SA:1387:U:H5'	1.54	0.89
34:AA:3121:G:N7	37:AL:201:ARG:NH2	2.20	0.89
34:AA:2499:G:N3	34:AA:2501:A:N6	2.19	0.89
34:AA:3254:G:O2'	50:Af:24:TYR:O	1.91	0.88
20:SM:38:ASP:HA	20:SM:46:LYS:HD3	1.54	0.88
10:SC:29:LEU:O	10:SC:34:LYS:NZ	2.06	0.88
21:SN:52:PRO:HB2	21:SN:54:ARG:HE	1.37	0.88
34:AA:773:A:HO2'	34:AA:774:A:H8	0.93	0.88
34:AA:3636:U:H3	34:AA:3649:G:H1	1.18	0.88
8:SA:106:A:OP2	8:SA:314:A:N6	2.06	0.87
21:SN:21:ILE:HA	21:SN:112:GLU:O	1.75	0.86
75:AV:46:ASP:H	75:AV:96:HIS:HD2	1.22	0.86
34:AA:1141:G:H1	34:AA:1156:U:H3	0.86	0.86
8:SA:1705:C:OP2	26:SS:139:LYS:NZ	2.09	0.85
34:AA:3517:C:O2'	57:AK:54:GLN:NE2	2.09	0.85
34:AA:1277:G:OP2	45:A9:54:ARG:NH2	2.09	0.85
10:SC:23:HIS:HD2	30:SW:102:THR:HG21	1.38	0.85
8:SA:887:A:N1	8:SA:915:G:O6	2.10	0.84
63:AW:20:VAL:O	63:AW:145:HIS:ND1	2.10	0.84
34:AA:203:A:H2	34:AA:207:A:H2	1.21	0.83
34:AA:372:G:OP2	56:Ac:55:LYS:NZ	2.10	0.83
8:SA:1061:A:H2	8:SA:1081:U:H3	1.24	0.83
34:AA:1706:A:H2'	55:AJ:73:ARG:HH22	1.43	0.83
34:AA:2735:G:H1	34:AA:2814:U:H3	0.84	0.83
81:S9:1:G:H21	81:S9:72:C:H41	1.25	0.83
34:AA:1855:U:H5"	34:AA:1856:U:H4'	1.60	0.83
7:S7:8:U:H3	7:S7:14:A:N6	1.75	0.83
34:AA:10:G:N2	34:AA:1706:A:N6	2.26	0.83
34:AA:3435:A:H4'	70:AE:361:LYS:HE3	1.59	0.82
8:SA:128:A:OP2	15:SH:197:ARG:NH2	2.12	0.82
27:ST:29:ILE:HD11	27:ST:31:LYS:HB2	1.58	0.82
19:SL:163:GLY:O	19:SL:166:LYS:NZ	2.11	0.82
34:AA:1881:C:O2'	34:AA:1882:U:O5'	1.97	0.82
34:AA:2040:G:N2	34:AA:2070:U:O4	2.12	0.82
38:A1:90:ASP:O	38:A1:121:LYS:NZ	2.13	0.82
8:SA:1379:G:N2	8:SA:1679:G:O6	2.11	0.82
8:SA:1816:U:H4'	8:SA:1817:U:H5'	1.60	0.82

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1981:A:H61	8:SA:2009:C:H42	1.27	0.82
2:S2:35:LYS:NZ	8:SA:1834:A:OP1	2.13	0.81
15:SH:6:SER:HA	15:SH:13:GLN:HB3	1.62	0.81
67:A3:15:LYS:HE2	67:A3:15:LYS:N	1.95	0.81
7:S7:16:U:O2	7:S7:57:C:N3	2.13	0.81
34:AA:25:A:OP2	56:Ac:49:ARG:NH2	2.14	0.81
8:SA:886:U:O2	8:SA:916:G:N2	2.14	0.81
16:SI:176:SER:HA	16:SI:181:ILE:HD11	1.62	0.81
34:AA:1560:U:OP1	44:A8:105:ARG:NH2	2.14	0.80
8:SA:1316:U:H3	8:SA:1694:G:H1	1.29	0.80
34:AA:684:G:H22	71:AF:311:LYS:HE3	1.44	0.80
16:SI:176:SER:O	16:SI:182:LYS:NZ	2.15	0.80
34:AA:583:U:O2	34:AA:609:C:N4	2.14	0.80
38:A1:18:ARG:NH1	38:A1:47:GLU:OE1	2.15	0.80
43:AN:27:PRO:O	43:AN:80:ARG:NH1	2.14	0.80
26:SS:126:ARG:HG2	26:SS:131:LEU:HB2	1.63	0.80
34:AA:1122:A:H2	34:AA:1169:A:H62	1.30	0.80
8:SA:1655:G:N2	8:SA:1658:G:OP2	2.14	0.80
13:SF:96:ASN:ND2	13:SF:96:ASN:O	2.14	0.80
34:AA:661:G:H1	34:AA:673:U:H3	1.26	0.79
8:SA:1880:A:N6	16:SI:47:TYR:OH	2.15	0.79
8:SA:1848:U:O4	31:SX:40:ARG:NH1	2.15	0.79
23:SP:34:PHE:HB3	23:SP:41:PHE:HB2	1.64	0.79
34:AA:1630:A:O2'	34:AA:2125:A:H1'	1.82	0.79
38:A1:4:LEU:HD11	41:A6:65:LEU:HB3	1.65	0.79
51:AP:148:LYS:O	51:AP:150:ASN:N	2.15	0.79
10:SC:74:VAL:HG13	10:SC:118:PRO:HB3	1.65	0.79
24:SQ:53:VAL:HG21	24:SQ:96:ILE:HD11	1.64	0.79
81:S9:15:G:H22	81:S9:48:C:H42	0.80	0.79
14:SG:122:HIS:HB3	14:SG:148:LEU:HD11	1.64	0.79
34:AA:1219:A:OP1	75:AV:121:LYS:NZ	2.15	0.79
38:A1:109:LYS:H	38:A1:109:LYS:HE2	1.47	0.79
8:SA:1841:U:O4	8:SA:1865:G:N2	2.16	0.79
34:AA:3750:U:O2'	77:AX:73:LYS:NZ	2.16	0.79
63:AW:36:ILE:HA	63:AW:39:MET:HE2	1.63	0.79
65:AT:163:LEU:HA	65:AT:166:GLN:HE22	1.48	0.79
79:S8:1:C:H42	79:S8:72:A:H61	1.26	0.79
81:S9:51:U:H3	81:S9:63:G:H1	1.30	0.79
8:SA:150:C:O2'	15:SH:15:SER:OG	2.00	0.78
8:SA:1980:A:N6	8:SA:2010:U:O4	2.15	0.78
34:AA:453:A:N6	34:AA:502:U:O2	2.16	0.78

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:S9:19:G:N3	81:S9:57:G:N2	2.31	0.78
8:SA:1275:U:OP1	26:SS:137:HIS:ND1	2.14	0.78
8:SA:1435:C:O2'	27:ST:53:TYR:OH	1.99	0.78
30:SW:19:LYS:HD2	30:SW:20:TYR:H	1.47	0.78
8:SA:1697:C:H5"	27:ST:8:HIS:HB2	1.65	0.78
7:S7:8:U:O4	7:S7:14:A:N7	2.16	0.78
10:SC:10:LYS:N	10:SC:13:SER:HG	1.81	0.78
64:AY:154:GLU:OE1	64:AY:154:GLU:N	2.14	0.78
34:AA:1534:U:O2'	34:AA:1535:G:O5'	2.00	0.78
38:A1:11:ILE:HG22	38:A1:82:PRO:HA	1.63	0.77
79:S8:26:G:H1	79:S8:44:A:H2	1.32	0.77
23:SP:98:ARG:NH1	23:SP:100:SER:O	2.18	0.77
4:S4:68:LYS:NZ	8:SA:1119:G:OP2	2.18	0.77
66:AZ:31:SER:HA	66:AZ:48:PRO:HA	1.66	0.77
31:SX:51:LYS:HA	31:SX:54:LYS:HD2	1.66	0.77
30:SW:32:LYS:O	30:SW:35:THR:OG1	2.01	0.77
34:AA:2478:G:O2'	34:AA:2607:U:OP2	2.01	0.77
20:SM:52:PRO:HG3	20:SM:117:LEU:HD11	1.67	0.77
4:S4:9:ASP:HB2	4:S4:10:PRO:HD3	1.67	0.77
34:AA:2091:U:O2	34:AA:2094:A:N7	2.18	0.77
8:SA:1843:G:OP1	26:SS:123:ARG:NH2	2.18	0.76
3:S3:44:ILE:HG22	3:S3:45:VAL:HG13	1.67	0.76
8:SA:1910:U:H5'	16:SI:139:ASN:HD21	1.49	0.76
34:AA:1303:C:H1'	57:AK:86:MET:HG2	1.67	0.76
7:S7:3:G:H22	7:S7:68:U:H3	1.29	0.76
10:SC:74:VAL:HA	10:SC:96:GLN:O	1.85	0.76
8:SA:935:G:OP2	28:SU:3:ARG:NH1	2.19	0.76
8:SA:887:A:H2	8:SA:915:G:H1	1.30	0.76
16:SI:36:ALA:HB1	16:SI:58:PRO:HG3	1.67	0.76
34:AA:3362:A:OP1	70:AE:93:ARG:NH2	2.19	0.76
8:SA:1845:U:O2	8:SA:1860:A:N6	2.18	0.76
31:SX:34:ILE:HG13	31:SX:42:ARG:HG2	1.68	0.76
79:S8:26:G:O6	79:S8:44:A:N1	2.18	0.76
8:SA:886:U:H3	8:SA:916:G:H1	0.78	0.75
34:AA:1851:A:H62	34:AA:1969:A:H2	1.34	0.75
8:SA:1854:U:H3	31:SX:81:ARG:HB3	1.50	0.75
34:AA:3441:A:H2	34:AA:3471:A:H62	1.33	0.75
14:SG:168:MET:HE1	18:SK:95:PRO:HB2	1.68	0.75
20:SM:16:THR:OG1	20:SM:124:ARG:NH2	2.19	0.75
34:AA:998:U:H4'	63:AW:132:ALA:HB2	1.67	0.75
75:AV:101:ARG:NH1	75:AV:104:GLU:OE2	2.18	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:S7:7:U:H3	7:S7:65:A:H2	1.31	0.75
8:SA:1729:A:N6	8:SA:1821:A:N7	2.33	0.75
34:AA:956:A:OP2	52:Ah:4:ARG:NH1	2.20	0.75
74:AH:95:HIS:HA	74:AH:176:ASP:HB3	1.69	0.75
8:SA:335:G:H5"	19:SL:98:LYS:HB3	1.66	0.75
42:A7:98:TYR:HE2	42:A7:100:ILE:HD11	1.52	0.75
51:AP:121:TRP:HH2	51:AP:124:GLN:HE21	1.33	0.75
34:AA:10:G:N2	34:AA:1706:A:H61	1.85	0.75
8:SA:1447:A:N7	8:SA:1623:U:C2	2.55	0.75
26:SS:136:GLN:NE2	26:SS:138:THR:OG1	2.18	0.75
34:AA:437:A:OP2	44:A8:15:LYS:NZ	2.20	0.74
55:AJ:153:ILE:HB	55:AJ:213:THR:HG21	1.68	0.74
70:AE:126:GLU:OE1	70:AE:126:GLU:N	2.18	0.74
34:AA:1630:A:O2'	34:AA:2125:A:N3	2.19	0.74
34:AA:2830:U:H3	34:AA:2832:A:H8	1.35	0.74
7:S7:52:G:H22	7:S7:56:U:H5	1.32	0.74
8:SA:1628:A:N1	8:SA:1629:G:O6	2.20	0.74
14:SG:154:GLY:HA3	14:SG:167:PRO:HB3	1.69	0.74
32:SY:165:LYS:HD2	32:SY:166:VAL:HG13	1.67	0.74
34:AA:3496:G:H21	34:AA:3507:A:H2	1.33	0.74
35:AC:128:C:H5'	67:A3:15:LYS:HD2	1.69	0.74
8:SA:1845:U:O2'	26:SS:89:ARG:NH2	2.21	0.74
43:AN:70:PRO:HG2	43:AN:73:ARG:HD2	1.68	0.74
16:SI:136:ARG:HA	16:SI:139:ASN:HB2	1.69	0.74
8:SA:1447:A:N7	8:SA:1623:U:O2	2.20	0.74
30:SW:19:LYS:HD2	30:SW:20:TYR:N	2.01	0.74
11:SD:173:THR:O	11:SD:174:ARG:NH1	2.21	0.74
34:AA:174:U:N3	34:AA:257:U:O4	2.20	0.74
8:SA:139:A:OP1	15:SH:149:LYS:NZ	2.16	0.74
42:A7:80:ARG:HG3	42:A7:104:VAL:HB	1.68	0.74
8:SA:1888:U:H2'	8:SA:1889:G:H8	1.52	0.73
34:AA:224:G:OP1	66:AZ:15:ARG:NH1	2.20	0.73
34:AA:3388:U:O2'	70:AE:177:GLU:OE1	2.06	0.73
51:AP:158:LYS:O	51:AP:163:ARG:NH1	2.21	0.73
34:AA:1656:G:H2'	34:AA:2147:A:H1'	1.68	0.73
51:AP:177:VAL:HG23	51:AP:182:SER:HB2	1.69	0.73
81:S9:25:C:H2'	81:S9:26:A:H8	1.52	0.73
34:AA:920:A:OP1	60:AO:27:LYS:NZ	2.22	0.73
34:AA:3637:G:O6	34:AA:3648:U:O4	2.06	0.73
34:AA:3402:A:H2'	34:AA:3403:A:C8	2.23	0.73
8:SA:1460:A:O2'	32:SY:160:ARG:NH1	2.22	0.73

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SX:51:LYS:NZ	31:SX:55:SER:OG	2.21	0.73
34:AA:2208:G:H21	34:AA:3754:A:H8	1.36	0.73
8:SA:214:U:O2'	29:SV:23:ASN:OD1	2.06	0.73
8:SA:1625:C:O2	20:SM:9:GLN:NE2	2.21	0.73
11:SD:164:PRO:HA	11:SD:167:ARG:HG2	1.70	0.73
65:AT:166:GLN:OE1	65:AT:166:GLN:N	2.19	0.73
15:SH:210:GLN:OE1	15:SH:210:GLN:N	2.19	0.73
57:AK:61:THR:HG23	57:AK:68:GLY:HA2	1.71	0.73
8:SA:1278:C:H2'	8:SA:1279:G:H8	1.54	0.72
8:SA:1310:C:N3	8:SA:1701:G:N2	2.36	0.72
8:SA:1853:A:N6	8:SA:1895:U:O2	2.17	0.72
81:S9:28:G:H2'	81:S9:29:G:H8	1.54	0.72
34:AA:3736:A:H2	34:AA:3753:G:H21	1.34	0.72
8:SA:1285:A:N6	8:SA:1700:G:O2'	2.21	0.72
8:SA:1422:U:H3'	10:SC:101:ARG:HH12	1.54	0.72
34:AA:72:C:O2'	37:AL:65:ASN:OD1	2.07	0.72
8:SA:6:G:N7	14:SG:217:LYS:NZ	2.38	0.72
65:AT:42:LYS:NZ	65:AT:46:GLU:OE1	2.21	0.72
8:SA:881:C:H2'	8:SA:882:A:H8	1.54	0.72
15:SH:178:LEU:O	15:SH:183:ARG:NH1	2.22	0.72
34:AA:10:G:H21	34:AA:1706:A:H61	1.32	0.72
34:AA:166:U:N3	34:AA:265:U:O4	2.13	0.72
8:SA:635:G:N1	8:SA:1039:A:OP2	2.22	0.72
7:S7:34:U:H3'	7:S7:35:C:H5"	1.71	0.72
8:SA:887:A:C2	8:SA:915:G:N1	2.57	0.72
8:SA:1716:C:O2	8:SA:1868:C:O2'	2.08	0.72
28:SU:37:ILE:HG22	28:SU:54:LEU:HD11	1.71	0.72
34:AA:513:U:H3	34:AA:685:U:H5	1.35	0.72
34:AA:703:U:H2'	34:AA:704:U:C6	2.24	0.72
8:SA:1436:U:O2	27:ST:54:ARG:NH1	2.22	0.72
30:SW:5:ARG:HB3	30:SW:9:ILE:HD11	1.71	0.72
32:SY:45:LEU:HD12	32:SY:50:LYS:HZ2	1.55	0.72
34:AA:249:U:H2'	34:AA:250:U:H5"	1.70	0.72
7:S7:17:U:O5'	7:S7:58:G:N2	2.22	0.72
34:AA:3106:U:O2'	53:Ai:29:LYS:O	2.07	0.72
59:AS:67:LEU:HD21	59:AS:99:VAL:HG21	1.71	0.72
8:SA:865:G:H21	18:SK:107:PRO:HG3	1.55	0.71
20:SM:94:TYR:HB3	20:SM:103:LYS:HB2	1.73	0.71
26:SS:87:ASN:HB3	26:SS:99:HIS:HB2	1.72	0.71
34:AA:1139:C:H2'	34:AA:1140:A:H8	1.54	0.71
39:A2:11:GLU:OE1	59:AS:31:LYS:NZ	2.21	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:164:C:H4'	15:SH:131:LYS:HD3	1.71	0.71
34:AA:2809:A:OP2	34:AA:2810:A:N6	2.22	0.71
1:S1:64:LEU:O	8:SA:538:U:O2'	2.09	0.71
12:SE:127:VAL:O	12:SE:131:GLN:HG2	1.90	0.71
79:S8:21:A:H61	79:S8:46:G:H2'	1.55	0.71
15:SH:98:ARG:NH2	15:SH:101:ILE:O	2.17	0.71
20:SM:38:ASP:O	20:SM:46:LYS:NZ	2.19	0.71
7:S7:29:G:N2	7:S7:38:A:N1	2.35	0.71
8:SA:1832:U:H4'	8:SA:1833:G:C2	2.25	0.71
29:SV:122:GLU:N	29:SV:122:GLU:OE2	2.22	0.71
7:S7:1:G:H22	7:S7:70:A:H2	1.37	0.71
8:SA:1799:A:H5"	32:SY:121:LYS:HD3	1.73	0.71
51:AP:84:PRO:HA	51:AP:87:GLN:HG3	1.71	0.71
20:SM:15:LYS:HB2	20:SM:77:SER:HB3	1.73	0.71
64:AY:97:VAL:O	67:A3:81:ASN:ND2	2.24	0.71
77:AX:125:LYS:HD2	77:AX:131:GLU:HB3	1.72	0.71
81:S9:15:G:N1	81:S9:48:C:N3	2.33	0.71
8:SA:1712:G:O2'	8:SA:1899:A:OP1	2.07	0.71
21:SN:42:ALA:HB1	21:SN:49:VAL:HG21	1.73	0.71
8:SA:887:A:N1	8:SA:915:G:C6	2.59	0.70
9:SB:190:PRO:O	9:SB:195:LYS:NZ	2.24	0.70
19:SL:62:SER:HA	19:SL:77:ARG:HA	1.73	0.70
24:SQ:110:SER:OG	24:SQ:111:GLY:N	2.21	0.70
53:Ai:73:CYS:SG	53:Ai:76:CYS:N	2.65	0.70
17:SJ:129:ASP:O	17:SJ:132:SER:OG	2.07	0.70
31:SX:62:LYS:HG2	31:SX:65:LYS:HE3	1.71	0.70
71:AF:375:TYR:OH	73:AU:37:CYS:SG	2.35	0.70
34:AA:506:A:H2'	34:AA:507:G:C8	2.27	0.70
34:AA:643:G:H1'	34:AA:684:G:N2	2.05	0.70
34:AA:2217:A:OP1	65:AT:103:ARG:NH1	2.24	0.70
55:AJ:267:LYS:HE3	55:AJ:271:ILE:HD11	1.73	0.70
7:S7:64:C:H2'	7:S7:65:A:C8	2.26	0.70
12:SE:80:MET:HB3	12:SE:86:LEU:HD13	1.71	0.70
12:SE:117:GLY:O	12:SE:119:ALA:N	2.25	0.70
17:SJ:144:LYS:O	18:SK:42:GLN:NE2	2.24	0.70
20:SM:47:THR:HA	20:SM:50:TYR:HB2	1.72	0.70
37:AL:123:VAL:HG13	67:A3:119:LEU:HB2	1.74	0.70
80:mR:22:G:O6	81:S9:36:A:N1	2.25	0.70
16:SI:109:LYS:NZ	16:SI:171:CYS:O	2.24	0.70
8:SA:1061:A:O2'	8:SA:2077:U:O2	2.08	0.70
31:SX:24:LYS:O	31:SX:28:LEU:HB2	1.91	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:222:G:O2'	66:AZ:14:MET:SD	2.44	0.70
34:AA:2884:G:N1	46:Aa:96:GLU:OE2	2.22	0.70
5:S5:26:ARG:HE	5:S5:41:ILE:HA	1.57	0.70
8:SA:413:A:H2'	8:SA:414:C:C6	2.27	0.70
39:A2:23:ASN:ND2	39:A2:26:GLY:O	2.25	0.70
8:SA:1417:U:OP1	8:SA:1430:G:N2	2.21	0.70
34:AA:936:A:C8	56:Ac:18:THR:HG23	2.27	0.70
1:S1:15:ASN:HD22	1:S1:22:GLN:HE22	1.39	0.70
8:SA:651:G:O6	8:SA:749:U:O4	2.10	0.70
34:AA:503:A:OP2	54:AI:144:LYS:NZ	2.25	0.70
34:AA:2401:C:H1'	34:AA:3736:A:C8	2.27	0.70
55:AJ:166:ASN:ND2	55:AJ:218:GLU:O	2.25	0.70
62:AR:225:TYR:HB3	62:AR:230:ILE:HD11	1.73	0.70
34:AA:64:G:OP1	51:AP:186:ARG:NH2	2.25	0.69
34:AA:3494:C:O3'	74:AH:154:SER:OG	2.11	0.69
47:Ab:51:ILE:HD11	55:AJ:182:PHE:HA	1.74	0.69
65:AT:122:PHE:HA	65:AT:125:LYS:HG2	1.73	0.69
3:S3:50:GLN:HG3	3:S3:64:LEU:HD12	1.74	0.69
4:S4:7:ASN:HD21	4:S4:10:PRO:HD2	1.57	0.69
16:SI:46:ARG:HG3	20:SM:123:ARG:HH22	1.56	0.69
34:AA:668:U:OP1	71:AF:344:ARG:NH2	2.25	0.69
34:AA:2219:A:N6	34:AA:2387:A:N1	2.39	0.69
48:Ad:64:GLU:OE1	48:Ad:64:GLU:N	2.23	0.69
12:SE:141:VAL:HG12	12:SE:143:ILE:H	1.57	0.69
31:SX:89:MET:HA	31:SX:89:MET:HE3	1.75	0.69
34:AA:3201:C:OP1	34:AA:3203:C:N4	2.26	0.69
3:S3:32:LYS:NZ	8:SA:999:A:OP2	2.26	0.69
8:SA:1982:G:H1	8:SA:2008:U:H3	0.75	0.69
34:AA:423:U:OP1	63:AW:34:ARG:NH1	2.26	0.69
34:AA:3639:G:H22	34:AA:3646:G:H1	1.39	0.69
34:AA:3726:U:H4'	34:AA:3727:A:H5'	1.75	0.69
36:AB:83:G:H4'	68:A5:231:ARG:HG2	1.74	0.69
59:AS:81:VAL:HG12	59:AS:83:GLY:H	1.56	0.69
65:AT:115:ASP:OD1	65:AT:116:ARG:N	2.25	0.69
71:AF:71:ARG:HB3	71:AF:73:VAL:HG22	1.75	0.69
8:SA:849:U:OP2	13:SF:240:ARG:NH1	2.25	0.69
8:SA:993:A:H2'	8:SA:994:G:C8	2.27	0.69
8:SA:1023:A:H2'	8:SA:1024:A:C8	2.28	0.69
8:SA:1637:U:H2'	8:SA:1638:U:C6	2.27	0.69
9:SB:48:VAL:HG22	9:SB:61:LEU:HD11	1.74	0.69
17:SJ:83:GLU:OE1	17:SJ:87:LYS:NZ	2.20	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2157:G:H5”	70:AE:242:GLY:HA3	1.75	0.69
51:AP:6:TYR:OH	55:AJ:161:GLU:OE1	2.05	0.69
73:AU:87:LEU:HB3	73:AU:133:ILE:HG13	1.73	0.69
8:SA:1023:A:H2’	8:SA:1024:A:H8	1.57	0.69
8:SA:1849:U:OP2	31:SX:43:ARG:NH2	2.26	0.69
34:AA:715:U:H3	34:AA:730:G:H1	1.41	0.69
11:SD:106:LEU:HD13	11:SD:110:LEU:HD13	1.75	0.69
34:AA:1822:A:N1	34:AA:2004:U:H5	1.90	0.69
11:SD:27:ARG:NH1	11:SD:27:ARG:O	2.26	0.68
34:AA:1096:G:H21	34:AA:1231:A:H8	1.41	0.68
8:SA:1653:A:H2’	8:SA:1654:G:C8	2.28	0.68
16:SI:116:SER:HA	16:SI:129:ALA:HA	1.74	0.68
34:AA:1878:U:O4	65:AT:127:LYS:NZ	2.26	0.68
55:AJ:102:PRO:HG2	55:AJ:105:GLN:HE22	1.59	0.68
8:SA:1841:U:H5”	26:SS:132:ARG:HD2	1.75	0.68
43:AN:22:LYS:H	73:AU:184:MET:HE1	1.58	0.68
48:Ad:29:LYS:NZ	48:Ad:31:LYS:O	2.25	0.68
13:SF:40:GLU:HB2	13:SF:86:LEU:HD21	1.75	0.68
13:SF:196:SER:N	13:SF:209:HIS:O	2.27	0.68
34:AA:449:A:H5”	44:A8:69:ASN:HB3	1.75	0.68
58:AM:97:PHE:CE2	78:A0:29:ILE:HD11	2.28	0.68
12:SE:48:LEU:O	12:SE:52:ILE:HD12	1.93	0.68
17:SJ:79:LYS:H	17:SJ:79:LYS:HE2	1.58	0.68
34:AA:2649:A:H61	34:AA:3342:C:H5	1.39	0.68
36:AB:62:U:OP2	62:AR:278:ARG:NH1	2.26	0.68
73:AU:17:HIS:HB2	73:AU:73:ILE:HD11	1.75	0.68
8:SA:1319:G:N2	8:SA:1690:A:OP2	2.24	0.68
17:SJ:7:ARG:O	17:SJ:43:LYS:NZ	2.24	0.68
55:AJ:125:LYS:O	55:AJ:129:LEU:HD12	1.94	0.68
34:AA:10:G:O6	35:AC:155:A:N1	2.27	0.68
34:AA:92:G:H5’	34:AA:93:C:H5”	1.75	0.68
65:AT:43:LEU:HA	65:AT:46:GLU:HG2	1.75	0.68
5:S5:29:PHE:HE2	5:S5:59:THR:HA	1.59	0.68
8:SA:1973:U:OP1	19:SL:44:HIS:ND1	2.26	0.68
34:AA:521:U:O2’	34:AA:522:A:O5’	2.12	0.68
34:AA:661:G:C2	34:AA:673:U:O2	2.46	0.68
34:AA:1905:C:H2’	34:AA:1906:A:H8	1.56	0.68
47:Ab:81:LYS:HD3	47:Ab:87:HIS:HA	1.75	0.68
8:SA:520:U:H2’	8:SA:521:G:C8	2.29	0.68
8:SA:1793:C:H5’	8:SA:1815:U:H4’	1.75	0.68
34:AA:1141:G:N2	34:AA:1156:U:O2	2.19	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1881:C:O2'	34:AA:1882:U:H6	1.77	0.68
8:SA:1794:C:H2'	8:SA:1795:G:C8	2.29	0.68
8:SA:2047:A:O2'	8:SA:2048:A:O5'	2.12	0.68
65:AT:134:LYS:O	65:AT:138:ILE:HG12	1.93	0.68
7:S7:2:G:H1	7:S7:69:U:H3	1.43	0.67
8:SA:1272:A:O2'	8:SA:1867:A:N3	2.25	0.67
13:SF:208:ILE:HD11	13:SF:225:VAL:HG21	1.75	0.67
1:S1:17:LEU:HB3	13:SF:64:ILE:HD12	1.74	0.67
3:S3:90:GLU:N	3:S3:90:GLU:OE2	2.27	0.67
8:SA:110:A:H2'	8:SA:111:G:C8	2.29	0.67
8:SA:325:U:H4'	8:SA:329:A:C8	2.29	0.67
8:SA:2049:G:HO2'	34:AA:2548:A:HO2'	1.42	0.67
18:SK:30:SER:HB2	18:SK:61:ILE:HG13	1.74	0.67
79:S8:19:G:OP1	79:S8:59:A:N6	2.27	0.67
8:SA:79:U:OP2	15:SH:170:PHE:N	2.27	0.67
8:SA:253:A:H8	13:SF:131:LEU:HD21	1.59	0.67
8:SA:598:A:H2'	8:SA:599:A:C8	2.29	0.67
8:SA:833:A:H2'	8:SA:834:A:O4'	1.95	0.67
58:AM:68:LYS:NZ	58:AM:70:ASP:OD2	2.24	0.67
70:AE:47:MET:HB2	70:AE:176:MET:HE2	1.74	0.67
14:SG:204:GLY:O	14:SG:206:LYS:NZ	2.26	0.67
16:SI:87:ALA:O	16:SI:91:ILE:HG13	1.93	0.67
20:SM:75:GLN:CD	20:SM:75:GLN:H	2.03	0.67
34:AA:2506:A:H2'	34:AA:2507:A:C8	2.29	0.67
34:AA:3669:U:C2	54:AI:68:MET:HE1	2.30	0.67
55:AJ:178:GLU:HA	55:AJ:181:LEU:HD22	1.76	0.67
55:AJ:244:ASP:O	55:AJ:248:LYS:HB2	1.94	0.67
62:AR:59:GLN:HB2	62:AR:80:SER:HB2	1.76	0.67
80:mR:22:G:C2	81:S9:36:A:H2	2.13	0.67
8:SA:1903:U:H2'	8:SA:1904:G:H8	1.59	0.67
10:SC:23:HIS:CD2	30:SW:102:THR:HG21	2.27	0.67
34:AA:3197:A:N6	34:AA:3209:G:O2'	2.27	0.67
38:A1:114:LEU:HD12	38:A1:117:ILE:HD11	1.76	0.67
46:Aa:20:VAL:HB	46:Aa:32:ILE:HG13	1.76	0.67
55:AJ:73:ARG:H	55:AJ:73:ARG:HE	1.41	0.67
5:S5:19:ARG:HB3	8:SA:1913:G:H21	1.59	0.67
8:SA:1663:A:H2'	8:SA:1664:G:C8	2.28	0.67
23:SP:44:VAL:HG11	23:SP:85:LEU:HD11	1.75	0.67
29:SV:17:GLU:OE2	29:SV:17:GLU:N	2.20	0.67
68:A5:93:VAL:HG21	68:A5:145:TYR:HD2	1.60	0.67
26:SS:100:VAL:HG23	26:SS:105:LEU:HA	1.76	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SD:127:ILE:HD12	11:SD:128:MET:H	1.59	0.67
16:SI:61:GLU:HA	16:SI:64:VAL:HG22	1.77	0.67
26:SS:132:ARG:HG3	26:SS:134:ARG:H	1.60	0.67
16:SI:18:GLU:OE1	16:SI:18:GLU:N	2.29	0.66
17:SJ:159:GLU:HG2	17:SJ:162:ARG:HD2	1.77	0.66
23:SP:138:ASP:OD2	23:SP:140:THR:N	2.24	0.66
34:AA:1905:C:H2'	34:AA:1906:A:C8	2.30	0.66
39:A2:114:ARG:HH21	44:A8:87:MET:HG2	1.59	0.66
8:SA:1719:U:H2'	16:SI:73:ASN:OD1	1.95	0.66
20:SM:131:GLY:HA3	20:SM:138:ARG:HE	1.58	0.66
34:AA:157:G:OP2	51:AP:4:TYR:OH	2.13	0.66
63:AW:116:HIS:HB3	63:AW:149:ILE:HB	1.78	0.66
75:AV:18:LYS:HD2	75:AV:48:THR:HG23	1.76	0.66
37:AL:157:LEU:HD23	67:A3:120:VAL:HG12	1.78	0.66
8:SA:411:C:O2'	15:SH:92:ARG:O	2.12	0.66
8:SA:1830:C:H4'	26:SS:27:LYS:HD2	1.77	0.66
34:AA:1468:A:OP2	44:A8:61:LYS:NZ	2.28	0.66
34:AA:1788:C:OP2	46:Aa:74:ARG:NH1	2.23	0.66
34:AA:3623:A:OP2	43:AN:139:LYS:NZ	2.29	0.66
8:SA:939:A:H2'	8:SA:940:G:C8	2.31	0.66
30:SW:16:ILE:HD12	30:SW:17:VAL:HG23	1.77	0.66
34:AA:89:A:OP2	59:AS:172:LYS:NZ	2.21	0.66
34:AA:1720:C:H2'	34:AA:1721:C:C6	2.30	0.66
78:A0:34:LYS:HD3	78:A0:36:TYR:CE2	2.31	0.66
8:SA:1436:U:H4'	21:SN:82:ARG:HH22	1.61	0.66
8:SA:1603:U:O2	32:SY:27:ASN:ND2	2.27	0.66
35:AC:106:G:OP2	35:AC:108:A:O2'	2.13	0.66
81:S9:56:C:O2'	81:S9:57:G:O4'	2.13	0.66
12:SE:36:LEU:HD12	12:SE:41:GLU:HB2	1.77	0.66
62:AR:104:LEU:HB2	62:AR:246:ILE:HD11	1.77	0.66
70:AE:190:GLU:O	70:AE:194:GLU:HG2	1.96	0.66
71:AF:44:MET:HG2	71:AF:238:LEU:HD21	1.78	0.66
73:AU:89:ARG:NH1	75:AV:155:LEU:O	2.29	0.66
1:S1:11:LYS:NZ	8:SA:825:A:N7	2.43	0.66
35:AC:153:A:H2'	35:AC:154:G:C8	2.31	0.66
62:AR:50:ARG:NH1	62:AR:149:ASP:OD1	2.26	0.66
12:SE:25:ASP:OD1	12:SE:26:GLN:N	2.29	0.66
34:AA:308:U:HO2'	34:AA:309:G:H8	1.43	0.66
8:SA:1734:G:H3'	8:SA:1811:A:H61	1.61	0.65
11:SD:167:ARG:HH22	11:SD:207:SER:HB2	1.59	0.65
33:SZ:17:CYS:HB2	33:SZ:55:SER:HB3	1.78	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1906:A:H2'	34:AA:1907:A:C8	2.31	0.65
55:AJ:156:ILE:HD11	55:AJ:183:LEU:HD21	1.78	0.65
9:SB:49:THR:OG1	9:SB:50:LYS:N	2.29	0.65
9:SB:72:ASP:OD1	23:SP:128:ARG:NH1	2.30	0.65
34:AA:2106:A:H5"	34:AA:2107:C:C5	2.31	0.65
45:A9:38:VAL:HG22	54:AI:209:THR:HB	1.77	0.65
8:SA:1636:A:N6	8:SA:1650:A:OP2	2.30	0.65
17:SJ:55:LEU:HB3	17:SJ:56:LYS:HE3	1.78	0.65
38:A1:46:ILE:HD11	38:A1:49:HIS:CE1	2.32	0.65
69:AD:6:ARG:NH1	69:AD:198:LYS:O	2.28	0.65
4:S4:35:CYS:HB3	4:S4:38:CYS:HB2	1.77	0.65
8:SA:1320:A:H1'	22:SO:58:LYS:HZ2	1.61	0.65
17:SJ:141:ILE:HB	18:SK:52:ILE:HG23	1.78	0.65
34:AA:936:A:H8	56:Ac:18:THR:HG23	1.60	0.65
51:AP:10:ILE:HD13	55:AJ:181:LEU:HD21	1.77	0.65
8:SA:1884:A:H2'	8:SA:1885:G:H8	1.62	0.65
34:AA:176:A:H2'	34:AA:177:A:H8	1.62	0.65
34:AA:440:A:H2'	34:AA:441:A:C8	2.30	0.65
34:AA:646:A:OP1	54:AI:31:LYS:NZ	2.27	0.65
34:AA:1697:A:N1	51:AP:74:ARG:NH2	2.44	0.65
34:AA:1821:U:H2'	34:AA:1822:A:C8	2.30	0.65
34:AA:3637:G:N2	34:AA:3648:U:O2	2.20	0.65
44:A8:40:CYS:O	44:A8:42:VAL:N	2.29	0.65
8:SA:1911:A:H3'	16:SI:51:ARG:NH2	2.11	0.65
33:SZ:38:MET:H	33:SZ:38:MET:HE2	1.62	0.65
34:AA:1739:C:H2'	34:AA:1740:A:C8	2.32	0.65
78:A0:29:ILE:HG22	78:A0:35:VAL:HG13	1.78	0.65
8:SA:454:U:H2'	8:SA:455:C:C6	2.32	0.65
8:SA:647:C:O2'	17:SJ:149:ARG:NH2	2.28	0.65
8:SA:812:A:OP1	12:SE:79:ARG:NH2	2.23	0.65
31:SX:30:GLN:NE2	31:SX:31:ASP:OD1	2.29	0.65
34:AA:2742:G:O6	34:AA:2806:U:O4	2.14	0.65
43:AN:142:MET:HG2	57:AK:180:ILE:HG22	1.78	0.65
8:SA:1187:A:OP2	14:SG:178:ARG:NH2	2.29	0.65
13:SF:125:LYS:H	13:SF:142:HIS:HD2	1.43	0.65
15:SH:137:ARG:HD3	15:SH:177:ARG:HH11	1.60	0.65
34:AA:1024:U:O2'	69:AD:12:ARG:NH2	2.30	0.65
8:SA:1459:U:O4	8:SA:1460:A:N6	2.30	0.64
14:SG:168:MET:HE3	14:SG:169:LYS:H	1.60	0.64
29:SV:111:PRO:HB2	29:SV:138:VAL:HG12	1.78	0.64
65:AT:7:LYS:HD3	65:AT:21:ILE:HD11	1.79	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S1:79:ASN:HD22	1:S1:81:ASP:HB2	1.61	0.64
24:SQ:142:LYS:NZ	24:SQ:143:PRO:O	2.29	0.64
8:SA:1982:G:O6	8:SA:2008:U:O4	2.15	0.64
11:SD:190:MET:HE2	11:SD:190:MET:N	2.12	0.64
12:SE:153:GLU:HA	12:SE:156:ILE:HG13	1.78	0.64
24:SQ:13:ARG:O	24:SQ:17:ILE:HG12	1.98	0.64
60:AO:85:GLU:OE1	60:AO:85:GLU:N	2.22	0.64
81:S9:5:G:H2'	81:S9:6:G:C8	2.33	0.64
13:SF:19:MET:HE3	13:SF:108:ARG:HD2	1.78	0.64
34:AA:2450:G:N7	69:AD:152:SER:OG	2.29	0.64
42:A7:52:MET:O	42:A7:85:ARG:NH1	2.30	0.64
77:AX:76:ASN:O	77:AX:80:LYS:NZ	2.30	0.64
34:AA:3553:G:H21	34:AA:3572:A:H8	1.43	0.64
8:SA:65:A:H2	8:SA:86:A:H62	1.45	0.64
8:SA:1460:A:N1	8:SA:1604:A:N6	2.45	0.64
17:SJ:159:GLU:HA	17:SJ:162:ARG:HH11	1.63	0.64
34:AA:118:G:OP2	55:AJ:158:LYS:NZ	2.26	0.64
1:S1:6:THR:HB	1:S1:28:LEU:HB2	1.79	0.64
8:SA:651:G:N2	8:SA:749:U:O2	2.19	0.64
8:SA:1690:A:H4'	8:SA:1691:G:H3'	1.80	0.64
16:SI:168:ILE:HD12	16:SI:169:ILE:H	1.62	0.64
10:SC:26:THR:OG1	10:SC:150:ASP:OD2	2.15	0.64
34:AA:366:G:N2	34:AA:369:A:OP2	2.24	0.64
7:S7:26:C:H2'	7:S7:27:G:C8	2.33	0.64
8:SA:1647:A:OP1	30:SW:56:HIS:NE2	2.29	0.64
8:SA:1911:A:O5'	16:SI:51:ARG:NH2	2.31	0.64
11:SD:190:MET:HE2	11:SD:190:MET:H	1.63	0.64
35:AC:128:C:H5"	67:A3:15:LYS:HZ2	1.62	0.64
1:S1:52:ASN:ND2	1:S1:54:ASN:OD1	2.29	0.64
8:SA:148:U:H2'	8:SA:149:A:H8	1.63	0.63
8:SA:565:U:H3	11:SD:144:ARG:HE	1.45	0.63
8:SA:1261:A:H2'	8:SA:1262:C:C6	2.33	0.63
8:SA:1418:C:H5'	30:SW:7:LYS:HB3	1.78	0.63
8:SA:1669:C:OP1	11:SD:154:ARG:NH1	2.32	0.63
34:AA:1331:A:H2'	34:AA:1332:A:C8	2.34	0.63
2:S2:60:THR:HG22	2:S2:63:ALA:H	1.63	0.63
13:SF:250:GLU:HA	13:SF:253:ARG:HG3	1.79	0.63
32:SY:148:THR:HG23	32:SY:151:GLY:H	1.63	0.63
34:AA:1779:A:O2'	38:A1:67:LYS:NZ	2.25	0.63
34:AA:3241:U:H2'	34:AA:3242:U:C6	2.33	0.63
34:AA:3402:A:H2'	34:AA:3403:A:H8	1.59	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:126:C:OP1	67:A3:64:ARG:NH2	2.29	0.63
16:SI:92:HIS:HB3	16:SI:99:PRO:HD3	1.80	0.63
34:AA:1748:A:O2'	34:AA:1750:U:OP2	2.16	0.63
34:AA:3613:A:OP1	43:AN:109:LYS:NZ	2.25	0.63
61:AQ:10:ARG:NE	61:AQ:58:GLU:OE2	2.31	0.63
8:SA:1276:U:H2'	8:SA:1277:G:H8	1.62	0.63
8:SA:1649:C:OP1	30:SW:3:ARG:N	2.32	0.63
38:A1:40:TYR:HA	38:A1:76:ASN:HA	1.80	0.63
78:A0:45:SER:O	78:A0:49:GLN:HG3	1.98	0.63
8:SA:921:G:OP1	65:AT:172:ARG:NH2	2.32	0.63
31:SX:28:LEU:HD21	31:SX:32:GLU:HB3	1.79	0.63
34:AA:2401:C:H1'	34:AA:3736:A:H8	1.62	0.63
21:SN:65:ARG:NH2	21:SN:74:ASN:OD1	2.32	0.63
34:AA:3258:C:O2'	74:AH:170:ASP:OD1	2.10	0.63
4:S4:35:CYS:HB2	4:S4:40:GLN:HE22	1.62	0.63
8:SA:1276:U:H2'	8:SA:1277:G:C8	2.34	0.63
9:SB:54:LYS:NZ	34:AA:2732:A:O2'	2.32	0.63
31:SX:86:ILE:HG22	31:SX:88:GLU:HG3	1.79	0.63
37:AL:26:SER:HA	37:AL:29:ILE:HD12	1.81	0.63
55:AJ:268:ALA:HA	55:AJ:271:ILE:HD12	1.81	0.63
65:AT:104:LEU:HD23	65:AT:137:LEU:HD23	1.81	0.63
13:SF:19:MET:CE	13:SF:108:ARG:HD2	2.29	0.63
34:AA:914:G:H2'	34:AA:915:G:C8	2.33	0.63
34:AA:2083:U:H2'	34:AA:2084:U:C6	2.34	0.63
34:AA:3431:G:N2	70:AE:274:GLU:OE2	2.30	0.63
38:A1:28:THR:HA	38:A1:41:CYS:HA	1.80	0.63
67:A3:24:LEU:HD21	67:A3:52:ASN:HB3	1.81	0.63
68:A5:164:ARG:HB3	68:A5:171:TYR:HB3	1.79	0.63
71:AF:153:VAL:HG12	71:AF:252:TRP:HB2	1.81	0.63
8:SA:1725:A:O2'	8:SA:1726:U:O4'	2.16	0.63
17:SJ:60:ILE:HD11	17:SJ:92:VAL:HG23	1.79	0.63
22:SO:16:LYS:HD3	22:SO:19:LYS:HD2	1.81	0.63
8:SA:1786:U:O2'	8:SA:1787:U:OP1	2.17	0.62
34:AA:1770:G:H21	34:AA:1798:A:H8	1.46	0.62
37:AL:168:LYS:HG2	60:AO:104:ARG:HH21	1.64	0.62
6:S6:43:ARG:NH2	12:SE:29:LYS:HD3	2.15	0.62
8:SA:756:A:H4'	17:SJ:108:LYS:HE2	1.82	0.62
22:SO:32:ILE:HD11	22:SO:57:LEU:HD22	1.81	0.62
34:AA:1322:G:H2'	34:AA:1323:A:C8	2.34	0.62
71:AF:356:GLU:O	71:AF:360:GLN:NE2	2.32	0.62
74:AH:29:GLY:HA3	74:AH:83:VAL:HG13	1.80	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:S9:28:G:H2'	81:S9:29:G:C8	2.33	0.62
7:S7:3:G:N2	7:S7:68:U:H3	1.96	0.62
8:SA:423:A:H5'	8:SA:424:G:C4	2.33	0.62
8:SA:1861:U:H2'	8:SA:1862:C:C6	2.33	0.62
24:SQ:95:PHE:O	24:SQ:144:ARG:NH1	2.33	0.62
24:SQ:138:GLU:CD	24:SQ:140:LYS:HD2	2.24	0.62
34:AA:1474:A:H5"	71:AF:306:LYS:HB2	1.80	0.62
62:AR:38:LEU:HD13	75:AV:31:TYR:HB3	1.80	0.62
7:S7:35:C:H3'	7:S7:36:A:H8	1.65	0.62
32:SY:143:LYS:O	32:SY:145:ARG:NH2	2.32	0.62
35:AC:147:U:O2'	51:AP:110:ILE:O	2.16	0.62
3:S3:57:SER:OG	3:S3:58:VAL:N	2.31	0.62
8:SA:337:G:OP1	19:SL:56:ARG:NH1	2.32	0.62
8:SA:1719:U:H5	16:SI:150:ARG:HD2	1.62	0.62
12:SE:85:LEU:HD22	12:SE:104:LEU:HD22	1.81	0.62
16:SI:41:PRO:HG3	16:SI:60:VAL:HG13	1.81	0.62
24:SQ:128:ALA:C	24:SQ:129:ARG:HD2	2.25	0.62
66:AZ:65:ARG:NH2	66:AZ:83:ARG:O	2.33	0.62
4:S4:17:HIS:O	4:S4:21:ARG:NH2	2.33	0.62
10:SC:197:MET:HG3	10:SC:199:ASP:H	1.65	0.62
18:SK:81:VAL:HG23	18:SK:85:GLU:HG2	1.81	0.62
23:SP:46:ASP:OD1	23:SP:48:SER:N	2.31	0.62
24:SQ:65:ASN:ND2	24:SQ:116:ASP:OD2	2.29	0.62
34:AA:1103:A:H62	34:AA:1230:A:H8	1.45	0.62
45:A9:88:THR:HG21	45:A9:92:HIS:CD2	2.34	0.62
74:AH:91:MET:HE2	74:AH:178:ILE:HG22	1.81	0.62
2:S2:40:VAL:HG23	2:S2:74:VAL:HB	1.81	0.62
34:AA:2219:A:O2'	34:AA:2220:U:O5'	2.13	0.62
34:AA:2699:C:H2'	34:AA:2700:C:C6	2.34	0.62
34:AA:2823:U:H5'	55:AJ:87:ARG:HG2	1.81	0.62
34:AA:3476:A:H1'	34:AA:3477:A:H2'	1.80	0.62
53:Ai:11:TYR:O	53:Ai:80:ARG:NH2	2.33	0.62
61:AQ:38:ARG:HG3	61:AQ:83:ASP:HA	1.80	0.62
7:S7:2:G:H2'	7:S7:3:G:C8	2.34	0.62
8:SA:1264:A:H3'	8:SA:1265:G:C8	2.34	0.62
12:SE:36:LEU:HD11	12:SE:42:ILE:HG22	1.82	0.62
17:SJ:66:TYR:O	17:SJ:70:THR:HG23	2.00	0.62
34:AA:1980:G:H5'	34:AA:1981:U:H5	1.65	0.62
80:mR:22:G:H1	81:S9:36:A:H2	0.73	0.62
8:SA:1628:A:C6	8:SA:1629:G:O6	2.53	0.62
8:SA:1718:C:H3'	16:SI:160:ILE:HG22	1.81	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SD:120:CYS:O	11:SD:124:LEU:HD12	2.00	0.62
16:SI:8:ILE:HG12	16:SI:37:CYS:HB3	1.81	0.62
75:AV:65:ILE:HD12	75:AV:73:VAL:HG11	1.80	0.62
7:S7:74:A:H8	34:AA:3103:C:N4	1.91	0.62
26:SS:32:LEU:HD11	26:SS:47:CYS:HB2	1.82	0.62
34:AA:123:A:OP1	55:AJ:121:LYS:NZ	2.33	0.62
69:AD:142:ASP:OD1	69:AD:142:ASP:N	2.30	0.62
8:SA:12:U:H2'	8:SA:13:C:C6	2.35	0.61
8:SA:1651:C:H2'	8:SA:1652:A:C8	2.35	0.61
34:AA:746:A:H2'	34:AA:747:A:C8	2.36	0.61
34:AA:1198:A:O2'	40:A4:42:ASN:OD1	2.16	0.61
47:Ab:42:GLU:OE2	47:Ab:42:GLU:N	2.27	0.61
8:SA:486:A:H2'	8:SA:487:A:C8	2.34	0.61
8:SA:1730:A:H2'	8:SA:1731:C:C6	2.36	0.61
9:SB:139:CYS:SG	9:SB:172:MET:HE2	2.40	0.61
15:SH:69:THR:HG23	15:SH:71:ASN:H	1.65	0.61
17:SJ:49:LEU:HD13	17:SJ:58:LYS:HD2	1.82	0.61
26:SS:35:ILE:HD12	26:SS:36:LYS:N	2.14	0.61
36:AB:17:C:OP1	72:AG:150:LYS:NZ	2.32	0.61
8:SA:1379:G:OP1	11:SD:186:LYS:NZ	2.33	0.61
22:SO:54:MET:SD	22:SO:54:MET:N	2.68	0.61
34:AA:606:A:H2'	34:AA:607:A:C8	2.35	0.61
34:AA:696:C:H4'	34:AA:697:A:H5'	1.83	0.61
34:AA:1794:U:OP2	48:Ad:13:LYS:NZ	2.34	0.61
61:AQ:49:VAL:HB	61:AQ:172:GLY:HA2	1.82	0.61
7:S7:58:G:H3'	7:S7:59:A:C8	2.35	0.61
8:SA:1646:U:H2'	8:SA:1647:A:C8	2.36	0.61
15:SH:199:LEU:HA	15:SH:202:LYS:HD2	1.81	0.61
16:SI:184:LYS:O	16:SI:188:GLU:HG2	1.99	0.61
34:AA:551:A:OP2	71:AF:384:LYS:NZ	2.33	0.61
34:AA:3085:A:H61	62:AR:150:VAL:HG21	1.65	0.61
38:A1:27:ASN:HD21	38:A1:42:LEU:HD23	1.63	0.61
58:AM:122:ARG:O	58:AM:126:GLU:HG2	2.01	0.61
8:SA:881:C:H2'	8:SA:882:A:C8	2.35	0.61
8:SA:1076:C:O3'	23:SP:149:ARG:NH1	2.33	0.61
16:SI:69:MET:HE2	16:SI:71:GLY:H	1.65	0.61
34:AA:748:A:OP1	59:AS:145:ARG:NH2	2.27	0.61
34:AA:767:U:O2'	34:AA:768:C:H5'	2.00	0.61
34:AA:773:A:O2'	34:AA:774:A:H8	1.74	0.61
37:AL:84:LEU:HD13	37:AL:89:ALA:HB2	1.82	0.61
70:AE:54:THR:HG22	70:AE:361:LYS:HE2	1.82	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AF:383:VAL:HG22	73:AU:134:ARG:HD3	1.83	0.61
74:AH:50:LEU:HD12	74:AH:51:LYS:HG3	1.81	0.61
7:S7:56:U:O2'	7:S7:58:G:OP2	2.19	0.61
8:SA:1732:G:H4'	21:SN:61:ARG:HH22	1.65	0.61
10:SC:36:TYR:OH	10:SC:56:LYS:NZ	2.33	0.61
11:SD:69:LEU:O	11:SD:73:VAL:HG23	2.01	0.61
11:SD:106:LEU:HD23	11:SD:123:VAL:HG21	1.82	0.61
13:SF:6:LYS:O	13:SF:30:LYS:NZ	2.33	0.61
17:SJ:98:ARG:NH1	17:SJ:129:ASP:OD2	2.31	0.61
29:SV:69:ILE:HG13	29:SV:143:LEU:HD21	1.83	0.61
29:SV:127:THR:HG23	29:SV:144:HIS:HB3	1.81	0.61
48:Ad:57:ARG:NH1	48:Ad:57:ARG:HA	2.15	0.61
64:AY:125:GLU:N	64:AY:125:GLU:OE2	2.31	0.61
68:A5:203:THR:O	68:A5:205:GLY:N	2.34	0.61
8:SA:1278:C:H2'	8:SA:1279:G:C8	2.35	0.61
8:SA:1445:U:O2'	21:SN:54:ARG:NH2	2.29	0.61
30:SW:29:GLN:HA	30:SW:32:LYS:HE3	1.83	0.61
34:AA:1895:U:H2'	34:AA:1896:C:C6	2.36	0.61
8:SA:56:A:OP1	8:SA:409:A:N6	2.33	0.61
8:SA:1198:U:H1'	14:SG:180:ARG:HD2	1.83	0.61
13:SF:163:ASP:HB3	13:SF:166:THR:HG22	1.83	0.61
34:AA:500:A:O2'	34:AA:501:U:O5'	2.17	0.61
35:AC:84:G:O3'	35:AC:91:A:O2'	2.19	0.61
51:AP:122:VAL:HG21	51:AP:132:GLU:HG3	1.82	0.61
8:SA:875:A:H1'	8:SA:877:U:H1'	1.83	0.61
8:SA:1284:A:N6	8:SA:1285:A:N1	2.49	0.61
8:SA:1711:U:OP1	20:SM:140:GLN:NE2	2.33	0.61
34:AA:911:U:H2'	34:AA:912:U:C6	2.36	0.61
34:AA:3386:A:H2'	34:AA:3387:U:C6	2.35	0.61
39:A2:56:ASN:HA	39:A2:108:LEU:HD11	1.83	0.61
69:AD:210:PRO:HG2	69:AD:235:VAL:HG11	1.81	0.61
72:AG:11:GLU:H	72:AG:11:GLU:CD	2.08	0.61
8:SA:150:C:O2'	15:SH:4:ASN:OD1	2.10	0.61
8:SA:1454:G:H2'	8:SA:1455:C:C6	2.34	0.61
10:SC:79:ARG:HA	10:SC:79:ARG:HE	1.64	0.61
16:SI:47:TYR:HA	16:SI:53:ARG:HG2	1.83	0.61
34:AA:765:A:O2'	34:AA:767:U:O4	2.17	0.61
34:AA:1900:G:P	46:Aa:21:ARG:HH22	2.24	0.61
34:AA:2167:G:O2'	34:AA:2627:U:O4	2.18	0.61
53:Ai:12:CYS:HB3	53:Ai:16:CYS:O	2.00	0.61
55:AJ:175:SER:OG	55:AJ:176:PRO:HD3	2.01	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:AU:80:ARG:O	73:AU:82:LYS:NZ	2.33	0.61
13:SF:127:LYS:HD2	13:SF:142:HIS:HA	1.82	0.60
16:SI:164:LEU:O	16:SI:168:ILE:HG13	2.01	0.60
32:SY:92:ASP:HA	32:SY:144:GLY:HA3	1.83	0.60
34:AA:2884:G:OP1	69:AD:87:TYR:OH	2.13	0.60
34:AA:3658:G:O2'	34:AA:3659:C:O5'	2.13	0.60
53:Ai:13:SER:O	53:Ai:17:LYS:NZ	2.30	0.60
67:A3:12:LEU:HB3	67:A3:16:GLU:HB2	1.83	0.60
2:S2:76:ARG:HA	2:S2:79:ILE:HD12	1.84	0.60
8:SA:1199:U:OP2	14:SG:180:ARG:NH2	2.33	0.60
16:SI:7:ASP:N	16:SI:7:ASP:OD1	2.34	0.60
16:SI:113:ARG:HA	16:SI:137:ARG:CZ	2.31	0.60
20:SM:29:LEU:N	20:SM:65:ASP:OD1	2.28	0.60
21:SN:24:THR:HB	21:SN:85:LYS:HZ2	1.66	0.60
34:AA:506:A:H2'	34:AA:507:G:H8	1.66	0.60
34:AA:2726:U:H1'	51:AP:126:ALA:HB2	1.84	0.60
34:AA:3197:A:OP1	61:AQ:154:ARG:NH1	2.34	0.60
3:S3:5:ARG:NH2	8:SA:2087:U:OP2	2.34	0.60
8:SA:22:A:H4'	12:SE:16:LYS:HA	1.83	0.60
8:SA:1903:U:H2'	8:SA:1904:G:C8	2.36	0.60
9:SB:183:ASP:N	9:SB:183:ASP:OD1	2.27	0.60
14:SG:168:MET:HE3	14:SG:169:LYS:N	2.16	0.60
19:SL:82:VAL:HB	19:SL:212:MET:HE3	1.83	0.60
34:AA:63:A:H4'	51:AP:186:ARG:O	2.01	0.60
41:A6:25:LYS:HG2	41:A6:97:ASP:OD1	2.00	0.60
48:Ad:42:LYS:HA	48:Ad:50:TYR:O	2.01	0.60
8:SA:148:U:H2'	8:SA:149:A:C8	2.36	0.60
8:SA:1628:A:H5'	21:SN:56:PRO:HA	1.83	0.60
12:SE:132:ARG:HE	12:SE:140:MET:HE1	1.66	0.60
14:SG:152:ARG:HD3	14:SG:167:PRO:HG3	1.83	0.60
22:SO:43:HIS:HB3	22:SO:46:LEU:HB2	1.83	0.60
34:AA:642:A:N6	34:AA:684:G:O2'	2.31	0.60
34:AA:2699:C:H2'	34:AA:2700:C:H6	1.67	0.60
43:AN:103:GLU:OE1	43:AN:107:ASN:ND2	2.35	0.60
5:S5:9:VAL:HG22	5:S5:25:VAL:HG21	1.84	0.60
8:SA:889:A:H2'	8:SA:890:A:H8	1.66	0.60
8:SA:1884:A:H2'	8:SA:1885:G:C8	2.36	0.60
13:SF:204:THR:HG22	13:SF:205:TYR:H	1.66	0.60
17:SJ:44:LEU:HD23	17:SJ:62:ILE:HG12	1.83	0.60
34:AA:1480:G:N7	39:A2:103:LYS:NZ	2.48	0.60
34:AA:2039:U:H3	34:AA:2071:U:H3	1.48	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3107:U:H2'	34:AA:3108:A:H8	1.65	0.60
47:Ab:47:VAL:HG11	51:AP:6:TYR:HE1	1.65	0.60
8:SA:1308:C:H5'	8:SA:1309:A:C4	2.37	0.60
8:SA:1683:U:O3'	11:SD:177:GLN:NE2	2.34	0.60
13:SF:125:LYS:H	13:SF:142:HIS:CD2	2.20	0.60
15:SH:121:ILE:HB	15:SH:124:LEU:HB3	1.83	0.60
16:SI:194:ASN:OD1	16:SI:195:ARG:N	2.35	0.60
20:SM:67:ARG:NH1	20:SM:69:ARG:HG2	2.16	0.60
21:SN:87:LEU:O	21:SN:88:ILE:HD13	2.02	0.60
26:SS:86:LEU:O	26:SS:89:ARG:HG3	2.02	0.60
34:AA:1086:C:OP1	60:AO:47:LYS:NZ	2.35	0.60
34:AA:2145:A:H2'	34:AA:2146:A:O4'	2.01	0.60
34:AA:3641:U:O2	34:AA:3644:G:N2	2.33	0.60
34:AA:3650:U:H2'	34:AA:3651:G:H8	1.66	0.60
35:AC:63:A:OP2	64:AY:103:LYS:NZ	2.34	0.60
35:AC:128:C:P	67:A3:15:LYS:HZ3	2.23	0.60
45:A9:104:VAL:HG13	45:A9:114:ILE:HD13	1.82	0.60
51:AP:121:TRP:CH2	51:AP:124:GLN:NE2	2.64	0.60
53:Ai:35:SER:O	53:Ai:40:ARG:NH1	2.34	0.60
65:AT:31:ILE:HD11	65:AT:48:LEU:HB3	1.83	0.60
8:SA:166:A:OP1	15:SH:136:LYS:N	2.32	0.60
8:SA:651:G:H1	8:SA:749:U:H3	0.68	0.60
8:SA:932:U:OP2	18:SK:57:ARG:HD3	2.01	0.60
14:SG:242:TRP:CD2	18:SK:68:ARG:HD3	2.37	0.60
22:SO:55:MET:N	22:SO:55:MET:SD	2.74	0.60
34:AA:1706:A:H2'	55:AJ:73:ARG:NH2	2.16	0.60
42:A7:27:LEU:HB3	42:A7:43:GLU:HG3	1.83	0.60
44:A8:35:PRO:HB2	44:A8:40:CYS:SG	2.42	0.60
71:AF:134:THR:HA	71:AF:150:VAL:HG21	1.83	0.60
80:mR:22:G:C6	81:S9:36:A:N1	2.69	0.60
8:SA:10:G:H1'	14:SG:101:GLN:HG3	1.82	0.60
8:SA:877:U:O2	8:SA:926:G:N2	2.34	0.60
8:SA:1662:A:N6	8:SA:1663:A:N6	2.50	0.60
8:SA:1792:U:O2	8:SA:1807:A:N6	2.33	0.60
8:SA:1799:A:OP2	32:SY:121:LYS:NZ	2.32	0.60
13:SF:35:PRO:HD2	13:SF:83:PRO:HG2	1.84	0.60
34:AA:2633:U:OP1	70:AE:233:LYS:NZ	2.32	0.60
35:AC:30:U:H2'	35:AC:31:U:C6	2.36	0.60
47:Ab:94:ARG:O	47:Ab:98:GLN:HG3	2.01	0.60
71:AF:115:VAL:HB	71:AF:120:LYS:HD2	1.84	0.60
3:S3:85:ARG:NH1	8:SA:1253:A:O2'	2.35	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:750:U:H2'	8:SA:751:U:C6	2.37	0.60
8:SA:1907:G:H4'	16:SI:42:HIS:CE1	2.37	0.60
12:SE:40:ARG:O	12:SE:44:ARG:HG3	2.02	0.60
33:SZ:49:THR:OG1	33:SZ:50:GLU:N	2.33	0.60
34:AA:1992:U:H2'	34:AA:1993:A:C8	2.37	0.60
34:AA:2740:A:H2'	34:AA:2741:A:H8	1.66	0.60
35:AC:78:U:OP2	66:AZ:75:LYS:NZ	2.26	0.60
37:AL:38:ARG:HA	37:AL:41:ARG:HG2	1.83	0.60
38:A1:32:GLN:HE22	38:A1:37:PRO:HA	1.67	0.60
61:AQ:189:ARG:NH2	61:AQ:200:ILE:O	2.34	0.60
8:SA:201:G:H2'	8:SA:202:G:C8	2.36	0.60
8:SA:1456:G:N1	8:SA:1607:U:N3	2.49	0.60
34:AA:452:A:O2'	34:AA:503:A:N7	2.35	0.60
34:AA:939:A:H2'	34:AA:940:A:C8	2.37	0.60
34:AA:1139:C:H2'	34:AA:1140:A:C8	2.37	0.60
34:AA:3234:U:O2'	81:S9:76:A:H4'	2.02	0.60
35:AC:103:G:O6	56:Ac:68:ARG:NH2	2.34	0.60
61:AQ:164:LYS:HE2	61:AQ:166:PHE:HE1	1.67	0.60
70:AE:115:ARG:HD2	70:AE:130:PHE:HB2	1.84	0.60
81:S9:27:G:H21	81:S9:43:C:H5	1.48	0.60
4:S4:7:ASN:ND2	4:S4:10:PRO:HD2	2.16	0.59
8:SA:1654:G:H3'	8:SA:1655:G:H8	1.66	0.59
26:SS:17:ILE:HD12	26:SS:19:ASN:H	1.67	0.59
27:ST:19:CYS:HB2	27:ST:28:ILE:HD12	1.83	0.59
34:AA:801:U:OP1	34:AA:899:A:O2'	2.17	0.59
34:AA:2394:C:HO2'	34:AA:2395:U:H6	1.49	0.59
35:AC:79:G:H2'	35:AC:80:C:C6	2.37	0.59
64:AY:116:THR:HG21	67:A3:37:LEU:HD23	1.84	0.59
70:AE:155:LEU:HB2	70:AE:185:MET:HE1	1.84	0.59
8:SA:174:C:N4	8:SA:267:A:OP2	2.35	0.59
8:SA:1311:U:H2'	8:SA:1312:A:C8	2.37	0.59
9:SB:137:MET:HE2	9:SB:172:MET:SD	2.42	0.59
24:SQ:133:LEU:HD21	24:SQ:137:LYS:HE3	1.82	0.59
34:AA:1141:G:H2'	34:AA:1142:G:C8	2.37	0.59
34:AA:1553:U:H5'	44:A8:58:GLY:HA2	1.83	0.59
34:AA:2474:C:OP1	69:AD:193:ARG:NH2	2.35	0.59
34:AA:3625:C:N3	43:AN:136:ARG:HD3	2.16	0.59
61:AQ:84:ASN:O	61:AQ:140:THR:OG1	2.20	0.59
69:AD:105:GLY:HA3	69:AD:160:ALA:HB1	1.84	0.59
75:AV:52:GLY:HA3	75:AV:93:ARG:HG3	1.84	0.59
1:S1:5:PHE:CE2	1:S1:35:VAL:HG21	2.37	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3683:G:H2'	34:AA:3684:A:H4'	1.84	0.59
71:AF:163:LYS:HB2	71:AF:166:GLU:HG2	1.82	0.59
79:S8:28:C:H2'	79:S8:29:G:H8	1.67	0.59
7:S7:73:C:O2'	53:Ai:55:PRO:O	2.15	0.59
8:SA:586:A:N7	11:SD:180:GLN:HG2	2.17	0.59
8:SA:637:A:H4'	29:SV:156:LYS:HE3	1.84	0.59
8:SA:1982:G:N2	8:SA:2008:U:O2	2.23	0.59
29:SV:7:VAL:HB	29:SV:55:VAL:HG22	1.84	0.59
59:AS:65:SER:OG	59:AS:88:ASP:OD2	2.19	0.59
7:S7:2:G:H22	7:S7:69:U:H3	1.49	0.59
8:SA:413:A:H2'	8:SA:414:C:H6	1.65	0.59
10:SC:88:LYS:HD2	10:SC:200:MET:HE1	1.83	0.59
13:SF:191:ARG:HD2	13:SF:245:LYS:HB2	1.84	0.59
15:SH:188:ARG:O	15:SH:192:GLN:HG3	2.02	0.59
16:SI:98:ASN:HB3	16:SI:101:GLN:HB2	1.83	0.59
34:AA:11:A:N1	35:AC:154:G:N2	2.40	0.59
34:AA:3650:U:H2'	34:AA:3651:G:C8	2.38	0.59
37:AL:17:TRP:CE2	37:AL:18:GLN:NE2	2.65	0.59
38:A1:33:THR:HG22	38:A1:35:GLU:H	1.67	0.59
42:A7:57:VAL:HB	42:A7:99:THR:HG23	1.85	0.59
3:S3:54:LYS:NZ	3:S3:62:PHE:O	2.36	0.59
8:SA:635:G:OP1	28:SU:124:ARG:NH1	2.35	0.59
8:SA:755:A:H2'	8:SA:756:A:H8	1.67	0.59
8:SA:844:G:H2'	8:SA:845:U:C6	2.38	0.59
10:SC:136:SER:HB2	10:SC:141:ILE:HB	1.84	0.59
13:SF:196:SER:OG	13:SF:211:LYS:HG2	2.01	0.59
14:SG:168:MET:HB3	14:SG:170:VAL:HG13	1.84	0.59
16:SI:60:VAL:O	16:SI:64:VAL:HG13	2.02	0.59
32:SY:69:ALA:O	32:SY:71:LEU:HD23	2.02	0.59
34:AA:1209:U:H2'	34:AA:1210:A:C8	2.37	0.59
34:AA:1577:A:H2'	60:AO:3:THR:HG21	1.84	0.59
34:AA:1783:G:OP1	38:A1:107:LYS:NZ	2.36	0.59
34:AA:3120:U:OP1	34:AA:3140:U:H5	1.86	0.59
34:AA:3319:C:H2'	34:AA:3320:G:C8	2.38	0.59
51:AP:80:VAL:HG11	51:AP:87:GLN:HA	1.83	0.59
61:AQ:55:TYR:HE2	61:AQ:164:LYS:HG3	1.67	0.59
8:SA:161:U:H2'	8:SA:162:A:H8	1.68	0.59
8:SA:333:U:H4'	29:SV:12:ALA:HB1	1.85	0.59
8:SA:1608:G:H2'	8:SA:1609:C:C6	2.38	0.59
8:SA:1662:A:H2'	8:SA:1663:A:C8	2.38	0.59
8:SA:1907:G:H4'	16:SI:42:HIS:HE1	1.66	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SC:73:VAL:HG22	10:SC:120:LEU:HB3	1.83	0.59
30:SW:61:ILE:HG22	30:SW:66:VAL:HG11	1.83	0.59
34:AA:1312:U:OP2	43:AN:72:LYS:NZ	2.36	0.59
34:AA:2735:G:N2	34:AA:2814:U:O2	2.27	0.59
34:AA:3256:C:H2'	34:AA:3258:C:H5'	1.84	0.59
54:AI:185:ASP:OD1	54:AI:186:ILE:N	2.36	0.59
8:SA:886:U:H2'	8:SA:887:A:C8	2.37	0.59
8:SA:1976:G:H2'	8:SA:1977:G:C8	2.38	0.59
32:SY:48:HIS:HB2	32:SY:50:LYS:NZ	2.17	0.59
34:AA:26:A:H2'	34:AA:27:U:H6	1.68	0.59
34:AA:832:U:H5"	59:AS:134:LYS:HD3	1.83	0.59
34:AA:1536:U:O2'	44:A8:99:ASN:O	2.21	0.59
34:AA:3012:A:O2'	72:AG:126:ASP:OD1	2.12	0.59
43:AN:22:LYS:N	73:AU:184:MET:HE1	2.18	0.59
14:SG:149:ILE:HD13	14:SG:231:SER:HB3	1.84	0.59
26:SS:33:THR:HA	26:SS:43:ALA:HB1	1.84	0.59
34:AA:1851:A:H2'	34:AA:1852:C:C6	2.38	0.59
34:AA:2021:A:H2'	34:AA:2022:A:C8	2.38	0.59
34:AA:3281:G:N2	81:S9:76:A:C2	2.71	0.59
36:AB:60:U:H2'	36:AB:61:G:H8	1.68	0.59
58:AM:79:ILE:HD12	58:AM:105:VAL:HG11	1.84	0.59
8:SA:454:U:H2'	8:SA:455:C:H6	1.67	0.59
8:SA:1821:A:H2'	8:SA:1822:A:C8	2.37	0.59
8:SA:2069:G:N7	76:Ag:22:LYS:NZ	2.51	0.59
9:SB:131:ASP:HB3	9:SB:133:TYR:HD1	1.67	0.59
34:AA:687:G:H2'	34:AA:688:U:C6	2.38	0.59
41:A6:54:ILE:HD11	46:Aa:90:MET:HB2	1.85	0.59
50:Af:28:HIS:HB2	50:Af:30:ARG:HH11	1.68	0.59
8:SA:986:U:O2	23:SP:55:ARG:NH1	2.35	0.58
10:SC:89:PHE:O	10:SC:93:THR:HG22	2.03	0.58
30:SW:67:ARG:NE	30:SW:67:ARG:O	2.36	0.58
34:AA:176:A:H2'	34:AA:177:A:C8	2.38	0.58
34:AA:1712:G:H2'	34:AA:1713:G:C8	2.38	0.58
34:AA:1979:C:H42	34:AA:1989:A:H61	1.51	0.58
68:A5:107:LYS:HG2	68:A5:138:ILE:HD13	1.85	0.58
77:AX:47:THR:HG22	77:AX:88:TYR:HB3	1.84	0.58
4:S4:18:LYS:HG3	4:S4:19:LEU:O	2.02	0.58
7:S7:39:A:H4'	16:SI:189:ARG:HH22	1.67	0.58
8:SA:884:G:H22	8:SA:918:U:H3	1.51	0.58
8:SA:1433:A:O3'	30:SW:46:MET:HE1	2.02	0.58
8:SA:1898:G:H5'	32:SY:112:PRO:HG2	1.85	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:SM:23:VAL:HG13	20:SM:66:ILE:HG12	1.85	0.58
20:SM:67:ARG:HD2	20:SM:67:ARG:C	2.28	0.58
25:SR:90:SER:HA	25:SR:93:LEU:HD12	1.86	0.58
30:SW:82:LEU:HD23	30:SW:83:ASP:HB2	1.85	0.58
34:AA:2112:G:H5'	34:AA:2113:C:H5"	1.85	0.58
37:AL:175:GLU:HB2	37:AL:178:LYS:HD3	1.83	0.58
62:AR:143:PRO:HG2	62:AR:174:ASN:HB2	1.83	0.58
14:SG:132:GLU:HB2	14:SG:135:THR:HG22	1.85	0.58
20:SM:37:LEU:HD23	20:SM:37:LEU:H	1.68	0.58
24:SQ:109:ARG:HG3	24:SQ:114:VAL:HG22	1.86	0.58
26:SS:100:VAL:HG21	26:SS:108:TYR:HB2	1.85	0.58
28:SU:99:ARG:NH1	28:SU:119:GLU:OE2	2.36	0.58
30:SW:34:ILE:HA	30:SW:37:GLU:HB2	1.85	0.58
34:AA:3022:U:H2'	34:AA:3023:C:C6	2.38	0.58
34:AA:3313:U:O4	81:S9:76:A:O3'	2.17	0.58
36:AB:61:G:O2'	62:AR:281:ARG:NH2	2.36	0.58
67:A3:68:LEU:HD13	67:A3:82:LEU:HD11	1.84	0.58
71:AF:181:ASN:O	71:AF:185:LYS:HG3	2.03	0.58
6:S6:10:ARG:NH1	8:SA:573:C:O3'	2.36	0.58
8:SA:756:A:C6	8:SA:757:A:N6	2.71	0.58
12:SE:36:LEU:HD23	12:SE:36:LEU:H	1.67	0.58
34:AA:193:C:H5"	66:AZ:121:LYS:HD3	1.85	0.58
34:AA:612:G:H2'	34:AA:613:C:H6	1.68	0.58
34:AA:1786:A:OP1	38:A1:73:LYS:NZ	2.36	0.58
41:A6:48:SER:HB3	41:A6:91:SER:HA	1.84	0.58
8:SA:600:U:H3'	12:SE:38:ASN:HD21	1.69	0.58
8:SA:1850:G:H2'	8:SA:1852:A:OP2	2.04	0.58
13:SF:44:LEU:HD23	13:SF:82:PHE:HB3	1.86	0.58
14:SG:90:ASP:OD1	14:SG:90:ASP:N	2.33	0.58
30:SW:69:ILE:O	30:SW:74:GLN:NE2	2.36	0.58
34:AA:307:G:C2'	34:AA:308:U:H5'	2.33	0.58
34:AA:1033:A:C2	69:AD:204:MET:HG2	2.38	0.58
34:AA:1124:A:H2'	34:AA:1125:A:H8	1.68	0.58
34:AA:3693:A:H2'	34:AA:3694:A:C8	2.38	0.58
46:Aa:39:ALA:HB2	46:Aa:58:ARG:HG2	1.84	0.58
66:AZ:41:LYS:HG2	66:AZ:42:TYR:CD2	2.39	0.58
4:S4:30:PHE:CZ	28:SU:61:PRO:HG3	2.39	0.58
8:SA:1414:A:O2'	8:SA:1415:A:OP1	2.18	0.58
8:SA:1629:G:O5'	21:SN:86:ARG:NH2	2.37	0.58
14:SG:58:SER:C	14:SG:78:PHE:HZ	2.11	0.58
14:SG:93:VAL:HG11	14:SG:223:LEU:HD21	1.86	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:SY:45:LEU:HB3	32:SY:77:PHE:CE2	2.39	0.58
32:SY:62:THR:OG1	32:SY:66:ARG:NE	2.30	0.58
34:AA:26:A:N3	34:AA:336:U:O2'	2.32	0.58
34:AA:698:G:O2'	34:AA:699:U:O5'	2.22	0.58
34:AA:1210:A:H2'	34:AA:1211:U:H6	1.69	0.58
10:SC:106:MET:HA	10:SC:112:ILE:HD11	1.86	0.58
16:SI:86:TYR:O	16:SI:90:ILE:HD12	2.03	0.58
17:SJ:72:TYR:CE2	17:SJ:76:ILE:HD11	2.38	0.58
20:SM:40:VAL:HG23	20:SM:42:PRO:HD2	1.85	0.58
34:AA:381:A:O2'	34:AA:384:A:OP1	2.13	0.58
34:AA:2163:A:O2'	34:AA:3439:G:H4'	2.02	0.58
34:AA:3042:A:N6	62:AR:28:THR:O	2.36	0.58
34:AA:3497:A:H4'	74:AH:70:ARG:HG2	1.86	0.58
43:AN:141:LYS:HG2	57:AK:187:LEU:HB2	1.84	0.58
52:Ah:8:VAL:O	52:Ah:11:THR:OG1	2.21	0.58
70:AE:201:PRO:HG2	70:AE:204:THR:HG23	1.84	0.58
8:SA:1629:G:O2'	21:SN:32:GLU:OE2	2.12	0.58
29:SV:128:VAL:HG12	29:SV:142:VAL:HA	1.86	0.58
34:AA:1443:U:OP1	57:AK:17:ARG:NH1	2.37	0.58
34:AA:1784:G:N2	34:AA:1787:A:OP2	2.33	0.58
58:AM:94:TYR:O	78:A0:27:LYS:N	2.26	0.58
8:SA:804:U:H3'	8:SA:805:A:H5'	1.84	0.58
8:SA:1247:G:H2'	8:SA:1248:A:C8	2.39	0.58
8:SA:1839:G:O2'	8:SA:1865:G:N2	2.36	0.58
21:SN:30:ALA:HA	21:SN:33:LYS:HE3	1.84	0.58
28:SU:34:GLU:CD	28:SU:34:GLU:H	2.12	0.58
34:AA:619:U:OP2	71:AF:355:LYS:NZ	2.36	0.58
74:AH:58:MET:HB2	74:AH:69:ILE:HD11	1.85	0.58
8:SA:974:A:H5"	23:SP:66:ARG:HD3	1.85	0.58
20:SM:100:GLU:HG3	20:SM:104:LYS:HE3	1.86	0.58
34:AA:727:A:OP2	34:AA:3227:U:O2'	2.21	0.58
34:AA:3001:A:H2'	34:AA:3002:G:C8	2.39	0.58
55:AJ:93:SER:O	55:AJ:96:GLN:NE2	2.37	0.58
62:AR:225:TYR:O	62:AR:230:ILE:HG13	2.04	0.58
8:SA:32:U:O2'	8:SA:601:A:N1	2.33	0.57
8:SA:1264:A:O2'	16:SI:136:ARG:NE	2.37	0.57
8:SA:1300:G:H5"	27:ST:27:ALA:HB2	1.85	0.57
8:SA:1830:C:O2'	8:SA:1836:G:N1	2.35	0.57
16:SI:11:PHE:HB2	16:SI:13:LYS:HE2	1.84	0.57
16:SI:75:GLY:O	16:SI:77:LYS:NZ	2.36	0.57
34:AA:1900:G:OP1	46:Aa:21:ARG:NH2	2.37	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:AY:122:LYS:O	64:AY:126:GLU:HG3	2.04	0.57
73:AU:108:LYS:HG2	73:AU:135:ILE:HD13	1.86	0.57
74:AH:139:VAL:HG13	74:AH:142:GLU:HB2	1.85	0.57
81:S9:1:G:N2	81:S9:72:C:H41	1.99	0.57
8:SA:882:A:H61	8:SA:920:A:H61	1.50	0.57
8:SA:1720:G:OP1	16:SI:76:LYS:HE2	2.04	0.57
20:SM:125:CYS:SG	20:SM:126:GLU:N	2.77	0.57
32:SY:48:HIS:HB2	32:SY:50:LYS:HZ1	1.68	0.57
34:AA:672:C:N4	34:AA:673:U:O4	2.36	0.57
34:AA:718:U:OP1	60:AO:21:ARG:NH1	2.36	0.57
41:A6:102:ASP:OD1	41:A6:102:ASP:N	2.31	0.57
51:AP:187:PRO:O	51:AP:188:SER:HB3	2.04	0.57
58:AM:72:ARG:HG2	58:AM:72:ARG:HH11	1.67	0.57
8:SA:66:U:OP1	15:SH:136:LYS:NZ	2.27	0.57
8:SA:453:U:O2'	13:SF:27:TYR:O	2.21	0.57
8:SA:1423:A:OP2	10:SC:101:ARG:NH1	2.36	0.57
10:SC:102:TRP:CD2	10:SC:106:MET:HE3	2.38	0.57
29:SV:83:MET:HG3	29:SV:86:THR:HG23	1.85	0.57
33:SZ:38:MET:HE1	33:SZ:49:THR:HA	1.86	0.57
34:AA:121:U:N3	55:AJ:119:GLU:OE1	2.37	0.57
34:AA:246:U:O2'	34:AA:247:A:OP2	2.21	0.57
34:AA:734:A:H2'	34:AA:735:A:C8	2.39	0.57
34:AA:1816:G:H2'	34:AA:1817:G:C8	2.39	0.57
64:AY:95:ARG:HG2	64:AY:96:ILE:HG22	1.86	0.57
66:AZ:47:LEU:HD11	66:AZ:118:LEU:HD21	1.84	0.57
71:AF:156:ASN:HD21	71:AF:255:SER:HB3	1.69	0.57
73:AU:100:TYR:OH	73:AU:102:GLU:OE1	2.18	0.57
81:S9:5:G:H2'	81:S9:6:G:H8	1.68	0.57
8:SA:1108:A:O2'	8:SA:1109:G:O5'	2.22	0.57
8:SA:1723:A:OP1	32:SY:66:ARG:NH1	2.36	0.57
8:SA:1903:U:OP2	20:SM:128:LYS:N	2.35	0.57
20:SM:49:VAL:O	20:SM:52:PRO:HD2	2.05	0.57
23:SP:103:THR:HG22	23:SP:142:LYS:HB3	1.84	0.57
29:SV:62:PRO:HG3	29:SV:141:ASN:HB3	1.85	0.57
34:AA:1210:A:H2'	34:AA:1211:U:C6	2.39	0.57
34:AA:1248:A:H2'	34:AA:1249:U:H6	1.70	0.57
34:AA:1553:U:O2'	34:AA:1554:G:O5'	2.21	0.57
34:AA:1855:U:C5'	34:AA:1856:U:H4'	2.34	0.57
39:A2:28:LYS:HD2	44:A8:72:TYR:CE2	2.39	0.57
41:A6:18:GLN:NE2	41:A6:83:ALA:O	2.36	0.57
52:Ah:29:ILE:HD11	69:AD:177:LYS:HG3	1.86	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AD:116:LEU:HB3	69:AD:126:LEU:HB2	1.86	0.57
74:AH:125:VAL:HG21	74:AH:160:ILE:HG13	1.86	0.57
1:S1:85:LYS:NZ	8:SA:460:G:O6	2.30	0.57
8:SA:1908:A:H4'	16:SI:65:ASN:HB2	1.86	0.57
16:SI:148:GLY:HA2	16:SI:179:TYR:HD2	1.69	0.57
21:SN:55:LEU:HD23	21:SN:85:LYS:HB2	1.85	0.57
23:SP:41:PHE:HA	23:SP:57:THR:HA	1.86	0.57
34:AA:1646:C:H2'	34:AA:1647:U:C6	2.39	0.57
34:AA:1794:U:N3	48:Ad:17:LYS:HD2	2.19	0.57
46:Aa:46:ASP:OD2	46:Aa:88:ARG:NH2	2.37	0.57
59:AS:7:ASN:ND2	59:AS:10:ARG:O	2.37	0.57
68:A5:148:PRO:O	68:A5:250:ASN:ND2	2.37	0.57
69:AD:5:ILE:HG12	69:AD:8:GLN:HG3	1.86	0.57
72:AG:26:SER:OG	72:AG:27:GLY:N	2.37	0.57
8:SA:884:G:H1	8:SA:918:U:H3	1.50	0.57
8:SA:1844:A:N1	8:SA:1862:C:N4	2.52	0.57
18:SK:85:GLU:OE1	18:SK:85:GLU:N	2.36	0.57
30:SW:75:GLU:O	30:SW:79:GLU:HG2	2.05	0.57
34:AA:1222:U:O2'	34:AA:1223:U:O5'	2.22	0.57
34:AA:2449:U:OP2	69:AD:241:ARG:NH2	2.37	0.57
48:Ad:27:LYS:H	48:Ad:77:PRO:HG3	1.70	0.57
70:AE:143:CYS:SG	70:AE:147:ARG:NH1	2.77	0.57
8:SA:1453:G:C6	8:SA:1454:G:C6	2.93	0.57
8:SA:1723:A:H2'	8:SA:1724:U:C6	2.39	0.57
20:SM:6:LYS:N	20:SM:93:TYR:HH	2.02	0.57
34:AA:582:U:H2'	34:AA:583:U:C6	2.40	0.57
34:AA:1247:C:H2'	34:AA:1248:A:H8	1.68	0.57
34:AA:1444:A:OP2	57:AK:132:ARG:NH1	2.37	0.57
39:A2:2:SER:OG	39:A2:3:ASN:N	2.36	0.57
46:Aa:61:ASP:OD2	46:Aa:64:ARG:NH2	2.37	0.57
8:SA:183:C:H2'	8:SA:184:C:C6	2.40	0.57
8:SA:1431:A:OP2	11:SD:161:THR:OG1	2.18	0.57
8:SA:1635:C:OP1	30:SW:48:ASN:ND2	2.25	0.57
8:SA:1979:C:O2'	8:SA:1980:A:N3	2.36	0.57
16:SI:115:ASP:OD1	16:SI:115:ASP:N	2.37	0.57
20:SM:20:VAL:HG12	20:SM:67:ARG:HH12	1.68	0.57
21:SN:55:LEU:HD12	21:SN:56:PRO:HD2	1.85	0.57
35:AC:154:G:H2'	35:AC:155:A:H8	1.70	0.57
67:A3:63:LYS:O	67:A3:67:GLU:HG3	2.05	0.57
72:AG:92:ARG:HA	72:AG:92:ARG:HE	1.70	0.57
1:S1:27:ILE:HB	1:S1:70:THR:HB	1.87	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:S3:12:LYS:NZ	8:SA:1098:U:OP2	2.37	0.57
8:SA:886:U:O4	8:SA:916:G:O6	2.23	0.57
8:SA:964:G:H2'	8:SA:965:U:C6	2.40	0.57
8:SA:1308:C:H5'	8:SA:1309:A:C5	2.39	0.57
8:SA:1723:A:H5"	32:SY:66:ARG:HH11	1.69	0.57
16:SI:52:PHE:O	16:SI:55:ALA:N	2.37	0.57
19:SL:84:ASN:ND2	19:SL:84:ASN:C	2.63	0.57
34:AA:1540:G:H8	34:AA:1566:A:H62	1.51	0.57
34:AA:1801:G:H2'	34:AA:2030:G:N2	2.20	0.57
35:AC:124:U:H2'	35:AC:125:U:C6	2.40	0.57
70:AE:128:LYS:O	70:AE:131:THR:OG1	2.19	0.57
8:SA:1790:C:H2'	8:SA:1791:C:C6	2.40	0.57
8:SA:1853:A:C2	8:SA:1857:U:H1'	2.40	0.57
13:SF:42:ILE:HB	13:SF:46:ILE:HD11	1.87	0.57
13:SF:211:LYS:HD2	13:SF:217:VAL:HG22	1.86	0.57
14:SG:61:GLU:H	14:SG:61:GLU:CD	2.12	0.57
14:SG:61:GLU:OE1	14:SG:61:GLU:N	2.31	0.57
34:AA:600:U:H2'	34:AA:601:G:C8	2.40	0.57
34:AA:3274:U:H5'	34:AA:3275:C:H5'	1.85	0.57
38:A1:126:VAL:HG22	38:A1:132:GLU:HG3	1.85	0.57
41:A6:56:ARG:O	41:A6:60:GLU:HG2	2.05	0.57
46:Aa:85:ILE:O	46:Aa:89:ILE:HG12	2.05	0.57
63:AW:22:LEU:HB3	63:AW:90:PHE:CD2	2.39	0.57
68:A5:233:ALA:HB3	68:A5:236:GLU:HG3	1.86	0.57
71:AF:62:THR:OG1	71:AF:63:SER:N	2.37	0.57
8:SA:1802:G:O2'	8:SA:1847:A:O2'	2.23	0.56
10:SC:127:ARG:HH11	10:SC:127:ARG:HG2	1.70	0.56
11:SD:74:GLN:HA	11:SD:77:PHE:CZ	2.40	0.56
12:SE:168:ARG:HH12	12:SE:171:ARG:NH2	2.02	0.56
16:SI:132:VAL:HB	16:SI:137:ARG:HH21	1.70	0.56
23:SP:101:GLY:HA2	23:SP:134:PRO:HG2	1.87	0.56
32:SY:50:LYS:HG3	32:SY:133:LEU:HD11	1.87	0.56
34:AA:2816:U:H2'	34:AA:2817:U:C6	2.39	0.56
34:AA:3634:C:H2'	34:AA:3635:G:H8	1.68	0.56
66:AZ:75:LYS:H	66:AZ:75:LYS:HE2	1.70	0.56
81:S9:43:C:H2'	81:S9:44:G:O4'	2.05	0.56
10:SC:121:LEU:HB3	10:SC:143:VAL:HG22	1.87	0.56
11:SD:127:ILE:HD12	11:SD:128:MET:N	2.19	0.56
12:SE:79:ARG:O	12:SE:83:GLN:HG2	2.05	0.56
30:SW:17:VAL:H	30:SW:19:LYS:HE3	1.70	0.56
34:AA:2735:G:O6	34:AA:2814:U:O4	2.23	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AJ:254:MET:HG2	55:AJ:259:MET:HE2	1.86	0.56
63:AW:16:LYS:HG2	63:AW:149:ILE:HG12	1.87	0.56
8:SA:70:U:O4	8:SA:82:G:O6	2.24	0.56
8:SA:914:U:H2'	8:SA:915:G:H8	1.70	0.56
8:SA:1734:G:O2'	8:SA:1790:C:O2'	2.21	0.56
10:SC:40:ARG:HB3	10:SC:46:HIS:CD2	2.41	0.56
16:SI:63:LEU:HD22	16:SI:142:ILE:HG23	1.88	0.56
34:AA:195:A:H8	34:AA:216:C:O2'	1.89	0.56
34:AA:257:U:HO2'	34:AA:258:U:H6	1.54	0.56
34:AA:582:U:O2'	34:AA:583:U:O5'	2.17	0.56
34:AA:607:A:O2'	34:AA:608:A:O5'	2.18	0.56
34:AA:683:A:O2'	54:AI:41:LYS:NZ	2.33	0.56
34:AA:1064:U:H2'	34:AA:1065:U:C6	2.41	0.56
34:AA:1511:U:H2'	34:AA:1512:A:C8	2.40	0.56
34:AA:3443:A:H2'	34:AA:3444:G:H5'	1.87	0.56
34:AA:3533:A:O2'	70:AE:104:THR:HG22	2.05	0.56
34:AA:3657:G:H2'	34:AA:3658:G:C8	2.40	0.56
35:AC:79:G:H2'	35:AC:80:C:H6	1.70	0.56
41:A6:12:ASN:OD1	41:A6:13:ILE:N	2.39	0.56
44:A8:61:LYS:HA	44:A8:64:LYS:HB2	1.87	0.56
51:AP:63:ARG:NH1	51:AP:132:GLU:OE1	2.38	0.56
57:AK:8:ILE:HD12	57:AK:32:ILE:HD13	1.87	0.56
58:AM:12:LYS:NZ	58:AM:58:ASP:OD1	2.39	0.56
61:AQ:57:TYR:HA	61:AQ:130:ASP:HA	1.87	0.56
61:AQ:201:ARG:HH21	61:AQ:203:LYS:HG3	1.70	0.56
62:AR:201:ILE:HD11	62:AR:236:GLU:HG3	1.86	0.56
75:AV:15:LYS:NZ	75:AV:56:ASN:OD1	2.21	0.56
13:SF:231:ASN:OD1	13:SF:231:ASN:N	2.24	0.56
30:SW:6:THR:HG22	30:SW:8:THR:H	1.69	0.56
34:AA:158:U:OP2	51:AP:49:ARG:NH1	2.38	0.56
34:AA:440:A:H2'	34:AA:441:A:H8	1.70	0.56
34:AA:1142:G:H2'	34:AA:1143:G:H8	1.70	0.56
43:AN:35:TYR:HB3	43:AN:73:ARG:HG2	1.87	0.56
55:AJ:203:LEU:HD23	55:AJ:203:LEU:H	1.70	0.56
62:AR:222:PHE:HB3	62:AR:225:TYR:HB2	1.86	0.56
69:AD:51:ASP:HB3	69:AD:54:ARG:HG2	1.87	0.56
71:AF:157:ASP:N	71:AF:157:ASP:OD1	2.35	0.56
8:SA:1300:G:C4	27:ST:38:ARG:HD2	2.41	0.56
9:SB:97:TYR:O	9:SB:232:HIS:NE2	2.39	0.56
28:SU:29:LYS:HG3	28:SU:31:SER:H	1.70	0.56
34:AA:1142:G:H2'	34:AA:1143:G:C8	2.41	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1156:U:H2'	34:AA:1157:U:H6	1.70	0.56
34:AA:1515:A:O2'	44:A8:45:ARG:NH1	2.39	0.56
34:AA:2885:A:O2'	34:AA:2886:A:O5'	2.23	0.56
39:A2:81:PHE:HB2	39:A2:92:LEU:HD21	1.85	0.56
48:Ad:40:LYS:HE2	48:Ad:53:VAL:HG12	1.87	0.56
57:AK:61:THR:OG1	57:AK:64:ASN:O	2.24	0.56
8:SA:1303:A:O2'	8:SA:1308:C:N4	2.38	0.56
13:SF:188:SER:HB2	13:SF:191:ARG:HG3	1.87	0.56
13:SF:254:ASN:HA	13:SF:257:LYS:HG2	1.88	0.56
14:SG:238:THR:HG23	14:SG:240:ASP:H	1.71	0.56
34:AA:1654:C:OP2	63:AW:23:ARG:NH2	2.38	0.56
37:AL:172:GLU:HG2	60:AO:99:VAL:HB	1.87	0.56
66:AZ:56:LEU:HD23	66:AZ:66:GLU:HG2	1.87	0.56
4:S4:13:GLU:OE1	4:S4:15:LYS:NZ	2.30	0.56
8:SA:1228:C:OP1	76:Ag:25:ARG:NH2	2.34	0.56
11:SD:72:LEU:HD13	22:SO:31:VAL:HB	1.87	0.56
30:SW:46:MET:N	30:SW:46:MET:SD	2.79	0.56
34:AA:501:U:O2'	34:AA:502:U:OP1	2.23	0.56
34:AA:600:U:H2'	34:AA:601:G:H8	1.69	0.56
34:AA:1030:C:H5"	69:AD:15:ILE:HD13	1.85	0.56
35:AC:31:U:H2'	35:AC:32:C:C6	2.40	0.56
81:S9:6:G:H2'	81:S9:7:A:C8	2.41	0.56
8:SA:1368:G:H1	8:SA:1688:U:H3	1.54	0.56
17:SJ:9:LEU:HD23	17:SJ:13:PRO:HG3	1.88	0.56
17:SJ:14:SER:H	17:SJ:17:GLU:HB2	1.71	0.56
20:SM:43:TYR:HA	20:SM:46:LYS:HE3	1.87	0.56
24:SQ:134:ALA:HB1	24:SQ:141:GLU:HB2	1.87	0.56
34:AA:668:U:H4'	34:AA:669:C:H5"	1.87	0.56
34:AA:733:C:H2'	34:AA:734:A:H8	1.71	0.56
34:AA:2732:A:H2'	34:AA:2733:A:C8	2.41	0.56
35:AC:26:U:OP1	66:AZ:11:ARG:NH2	2.38	0.56
8:SA:1021:A:H5"	28:SU:98:MET:HE2	1.87	0.56
8:SA:1279:G:H2'	8:SA:1280:G:O4'	2.06	0.56
8:SA:1636:A:OP1	30:SW:3:ARG:NH2	2.39	0.56
8:SA:1822:A:H2'	8:SA:1823:U:C6	2.41	0.56
8:SA:1906:U:O2	16:SI:77:LYS:NZ	2.36	0.56
34:AA:10:G:N2	34:AA:1706:A:C6	2.73	0.56
34:AA:510:A:HO2'	54:AI:103:TYR:HH	1.53	0.56
34:AA:770:U:OP2	34:AA:771:U:O2'	2.23	0.56
34:AA:3000:A:H2'	34:AA:3001:A:C8	2.41	0.56
34:AA:3590:A:H4'	34:AA:3591:U:O5'	2.05	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:AT:118:LEU:HD21	65:AT:144:GLU:OE2	2.06	0.56
79:S8:3:C:O2'	79:S8:4:G:OP1	2.19	0.56
8:SA:651:G:H2'	8:SA:652:A:H8	1.70	0.56
8:SA:1008:A:H2'	8:SA:1009:A:C8	2.41	0.56
8:SA:1456:G:N1	8:SA:1607:U:C2	2.73	0.56
8:SA:1826:A:H2'	8:SA:1827:U:C6	2.40	0.56
8:SA:1843:G:OP2	8:SA:1856:A:N6	2.38	0.56
34:AA:496:C:OP1	44:A8:113:LYS:NZ	2.23	0.56
34:AA:979:G:C5	69:AD:181:LYS:HB2	2.41	0.56
8:SA:632:C:H2'	8:SA:633:U:C6	2.41	0.55
8:SA:828:A:H2'	8:SA:829:G:C8	2.41	0.55
8:SA:1275:U:H5"	26:SS:137:HIS:ND1	2.21	0.55
8:SA:1679:G:O2'	8:SA:1680:U:O4'	2.20	0.55
8:SA:1980:A:O2'	8:SA:1981:A:H8	1.89	0.55
22:SO:68:GLU:OE2	22:SO:75:GLN:NE2	2.40	0.55
34:AA:1644:U:H5	34:AA:2102:A:N1	2.04	0.55
34:AA:1693:U:O2'	34:AA:2461:A:N3	2.33	0.55
34:AA:3096:U:H4'	75:AV:8:LYS:HB2	1.87	0.55
40:A4:56:GLU:OE2	40:A4:57:LEU:HD12	2.06	0.55
69:AD:137:VAL:HG23	69:AD:147:LYS:HG2	1.87	0.55
73:AU:133:ILE:HG22	75:AV:154:PRO:HG2	1.89	0.55
4:S4:40:GLN:NE2	4:S4:54:CYS:SG	2.80	0.55
8:SA:70:U:O2	8:SA:82:G:N2	2.31	0.55
8:SA:531:U:N3	8:SA:534:A:OP2	2.29	0.55
9:SB:27:LYS:NZ	23:SP:51:GLU:OE2	2.28	0.55
9:SB:110:LEU:HA	9:SB:113:LEU:HD12	1.89	0.55
10:SC:184:LEU:HD12	33:SZ:45:TYR:HB2	1.88	0.55
11:SD:100:MET:HE2	11:SD:100:MET:HA	1.87	0.55
15:SH:198:ARG:O	15:SH:202:LYS:HG3	2.06	0.55
34:AA:3022:U:H2'	34:AA:3023:C:H6	1.71	0.55
47:Ab:69:THR:HG23	47:Ab:72:SER:H	1.71	0.55
5:S5:27:ALA:HB3	5:S5:40:LEU:HB3	1.88	0.55
8:SA:1696:A:H2'	8:SA:1697:C:C6	2.40	0.55
8:SA:1723:A:H5"	32:SY:66:ARG:HD3	1.88	0.55
8:SA:1889:G:H1	8:SA:1901:U:H3	1.53	0.55
13:SF:105:ILE:HB	13:SF:245:LYS:HG3	1.89	0.55
16:SI:164:LEU:HA	16:SI:167:GLU:HG3	1.87	0.55
22:SO:72:TRP:H	22:SO:72:TRP:CD1	2.22	0.55
34:AA:110:G:OP2	37:AL:72:LYS:NZ	2.39	0.55
34:AA:1019:A:H2'	34:AA:1020:C:C6	2.41	0.55
34:AA:2590:U:O2	34:AA:2590:U:H2'	2.05	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AS:149:LYS:HB3	59:AS:163:ARG:HG3	1.88	0.55
65:AT:163:LEU:HD12	65:AT:166:GLN:HE22	1.71	0.55
73:AU:91:ASP:OD1	73:AU:91:ASP:N	2.34	0.55
81:S9:27:G:H2'	81:S9:28:G:N7	2.21	0.55
8:SA:756:A:H2'	8:SA:757:A:C8	2.42	0.55
8:SA:1651:C:H2'	8:SA:1652:A:H8	1.70	0.55
26:SS:112:ASP:OD1	26:SS:115:ARG:NH1	2.39	0.55
34:AA:709:A:N3	45:A9:124:PRO:HG2	2.22	0.55
34:AA:979:G:OP2	69:AD:181:LYS:NZ	2.31	0.55
34:AA:2662:G:H2'	34:AA:2663:G:C8	2.41	0.55
37:AL:78:GLU:OE2	37:AL:100:ARG:NH2	2.40	0.55
61:AQ:178:LYS:O	61:AQ:182:GLN:HG2	2.06	0.55
66:AZ:32:SER:OG	66:AZ:100:PRO:O	2.23	0.55
8:SA:1285:A:O2'	8:SA:1310:C:O2'	2.22	0.55
8:SA:1747:U:H2'	8:SA:1748:G:H8	1.72	0.55
34:AA:445:A:N1	34:AA:702:U:H5	2.05	0.55
43:AN:49:VAL:HG13	43:AN:53:ARG:HB3	1.89	0.55
72:AG:41:THR:HG21	72:AG:71:VAL:HG11	1.87	0.55
6:S6:30:LEU:HD23	6:S6:38:GLN:OE1	2.07	0.55
7:S7:14:A:H2'	7:S7:15:G:H8	1.72	0.55
8:SA:485:C:H2'	8:SA:486:A:C8	2.42	0.55
8:SA:1285:A:H62	8:SA:1701:G:H5'	1.71	0.55
23:SP:117:ARG:O	23:SP:121:ARG:HG2	2.07	0.55
30:SW:16:ILE:O	30:SW:17:VAL:HB	2.07	0.55
34:AA:530:U:H4'	71:AF:368:LEU:HD13	1.89	0.55
34:AA:3433:C:H5'	70:AE:326:ALA:HA	1.89	0.55
35:AC:37:A:O2'	35:AC:38:G:H4'	2.05	0.55
77:AX:77:LEU:H	77:AX:77:LEU:HD12	1.71	0.55
7:S7:61:C:N3	7:S7:62:C:N4	2.55	0.55
8:SA:1320:A:H1'	22:SO:58:LYS:NZ	2.22	0.55
8:SA:1701:G:H2'	8:SA:1702:C:C2	2.41	0.55
8:SA:1834:A:H61	8:SA:1868:C:H2'	1.71	0.55
8:SA:1880:A:O2'	16:SI:48:GLN:OE1	2.23	0.55
10:SC:60:ALA:HB1	10:SC:144:ILE:HD13	1.89	0.55
14:SG:125:LEU:HB2	14:SG:199:MET:HE1	1.87	0.55
17:SJ:172:PHE:HB3	17:SJ:186:PHE:CE2	2.40	0.55
24:SQ:72:VAL:HG11	24:SQ:96:ILE:HD13	1.89	0.55
34:AA:733:C:H2'	34:AA:734:A:C8	2.42	0.55
34:AA:1083:G:H2'	34:AA:1084:A:C8	2.41	0.55
34:AA:2099:C:OP1	64:AY:168:LYS:NZ	2.33	0.55
34:AA:3639:G:H1	34:AA:3646:G:H1	1.54	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:110:G:H4'	35:AC:145:A:H5'	1.88	0.55
57:AK:120:PRO:HA	57:AK:123:LEU:CD2	2.36	0.55
71:AF:383:VAL:HG13	73:AU:134:ARG:HD2	1.89	0.55
7:S7:2:G:H2'	7:S7:3:G:H8	1.72	0.55
8:SA:565:U:H3	11:SD:144:ARG:NE	2.04	0.55
16:SI:61:GLU:OE1	16:SI:65:ASN:ND2	2.40	0.55
19:SL:8:ARG:NH2	19:SL:22:LYS:O	2.40	0.55
34:AA:1843:U:H2'	34:AA:1844:G:C8	2.41	0.55
34:AA:3044:A:OP1	62:AR:31:ARG:NH1	2.36	0.55
36:AB:39:C:O2'	36:AB:40:A:OP1	2.25	0.55
38:A1:116:LYS:HD3	38:A1:119:ARG:HH21	1.72	0.55
39:A2:105:LYS:H	39:A2:105:LYS:HD2	1.72	0.55
71:AF:38:GLN:O	71:AF:42:THR:HG23	2.06	0.55
7:S7:57:C:H3'	7:S7:58:G:H8	1.71	0.55
8:SA:121:A:H1'	8:SA:403:A:C5	2.42	0.55
8:SA:440:G:N2	8:SA:443:A:OP2	2.32	0.55
8:SA:954:G:H2'	8:SA:955:U:C6	2.42	0.55
8:SA:1448:U:H2'	8:SA:1449:U:H2'	1.89	0.55
8:SA:1841:U:H4'	26:SS:132:ARG:NH1	2.21	0.55
8:SA:1844:A:OP1	31:SX:114:TYR:OH	2.25	0.55
26:SS:121:LEU:O	26:SS:125:LEU:HG	2.07	0.55
34:AA:1974:U:H2'	34:AA:1975:A:C8	2.42	0.55
34:AA:3435:A:C8	70:AE:53:MET:HE2	2.42	0.55
34:AA:3784:U:O2'	63:AW:75:GLU:OE1	2.25	0.55
54:AI:24:ASN:OD1	54:AI:24:ASN:N	2.39	0.55
55:AJ:259:MET:O	55:AJ:263:LYS:HG2	2.07	0.55
8:SA:423:A:H4'	8:SA:424:G:O5'	2.07	0.55
8:SA:576:C:H41	24:SQ:69:ARG:HH22	1.54	0.55
16:SI:168:ILE:HD12	16:SI:169:ILE:N	2.22	0.55
18:SK:95:PRO:HD3	18:SK:130:PHE:CD1	2.41	0.55
43:AN:23:ARG:HA	43:AN:29:ARG:CZ	2.37	0.55
57:AK:10:CYS:SG	57:AK:34:ALA:HB1	2.47	0.55
73:AU:17:HIS:HE1	73:AU:35:ARG:HB2	1.72	0.55
74:AH:30:LYS:HE3	74:AH:31:TYR:CZ	2.41	0.55
8:SA:455:C:H2'	8:SA:456:U:C6	2.42	0.54
8:SA:1172:U:H2'	8:SA:1173:C:C6	2.41	0.54
29:SV:56:TYR:CD2	29:SV:116:PRO:HG2	2.42	0.54
34:AA:1015:A:H5"	69:AD:183:GLY:HA2	1.89	0.54
34:AA:3036:A:H2'	34:AA:3037:G:C8	2.42	0.54
34:AA:3655:U:H2'	34:AA:3656:A:C8	2.43	0.54
42:A7:27:LEU:HD13	42:A7:43:GLU:HB3	1.90	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1821:A:H2'	8:SA:1822:A:H8	1.71	0.54
8:SA:1979:C:O2'	8:SA:1980:A:H5'	2.08	0.54
13:SF:103:TYR:HB2	13:SF:182:MET:HE3	1.89	0.54
16:SI:67:MET:HE2	16:SI:67:MET:O	2.07	0.54
27:ST:36:ILE:HD12	27:ST:37:CYS:H	1.72	0.54
32:SY:61:LYS:HZ2	32:SY:67:LYS:HD2	1.71	0.54
34:AA:179:G:O2'	34:AA:180:C:OP1	2.19	0.54
34:AA:1100:A:N6	68:A5:164:ARG:O	2.40	0.54
34:AA:1553:U:O2'	34:AA:1554:G:C8	2.58	0.54
34:AA:3633:U:H2'	34:AA:3634:C:C6	2.42	0.54
46:Aa:92:ALA:O	46:Aa:96:GLU:HG2	2.07	0.54
70:AE:229:ARG:HA	70:AE:267:LYS:HD2	1.89	0.54
7:S7:73:C:O2	53:Ai:54:LYS:NZ	2.38	0.54
8:SA:914:U:H2'	8:SA:915:G:C8	2.42	0.54
8:SA:976:A:H2'	8:SA:977:U:H6	1.70	0.54
8:SA:1704:G:N3	8:SA:1704:G:H2'	2.21	0.54
12:SE:82:ARG:HH21	12:SE:149:ARG:NH1	2.06	0.54
15:SH:63:MET:SD	15:SH:106:LEU:HD11	2.46	0.54
20:SM:103:LYS:HE2	20:SM:107:LYS:HE3	1.90	0.54
34:AA:67:A:O2'	34:AA:323:A:N3	2.39	0.54
36:AB:27:A:H2'	36:AB:28:C:C6	2.42	0.54
51:AP:182:SER:O	51:AP:184:LYS:N	2.39	0.54
8:SA:1311:U:H2'	8:SA:1312:A:H8	1.71	0.54
8:SA:1410:G:H2'	8:SA:1411:G:H8	1.72	0.54
8:SA:1842:A:H5'	26:SS:132:ARG:HH21	1.72	0.54
15:SH:78:LYS:H	15:SH:81:MET:HG3	1.71	0.54
19:SL:213:ASP:C	19:SL:217:ARG:HE	2.15	0.54
20:SM:53:LEU:HD21	20:SM:58:SER:HA	1.89	0.54
26:SS:110:ARG:HA	26:SS:113:LEU:HG	1.88	0.54
33:SZ:70:ARG:NH1	33:SZ:74:GLU:OE2	2.41	0.54
34:AA:125:C:H2'	34:AA:126:C:H6	1.73	0.54
34:AA:161:U:O2'	34:AA:164:A:OP1	2.23	0.54
34:AA:809:A:OP1	60:AO:132:VAL:HB	2.08	0.54
34:AA:1248:A:H2'	34:AA:1249:U:C6	2.42	0.54
34:AA:1423:G:OP1	73:AU:92:SER:HB2	2.06	0.54
34:AA:1560:U:H2'	34:AA:1561:C:C6	2.43	0.54
34:AA:1690:A:H2'	34:AA:1691:G:O4'	2.06	0.54
34:AA:2712:A:H2'	34:AA:2713:C:C6	2.41	0.54
34:AA:2740:A:H2'	34:AA:2741:A:C8	2.42	0.54
51:AP:99:LYS:O	51:AP:103:GLU:HG2	2.07	0.54
69:AD:30:ARG:HH21	69:AD:36:GLU:HG3	1.71	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:AX:111:ILE:HB	77:AX:116:ILE:HG13	1.88	0.54
11:SD:136:GLU:HB2	11:SD:158:LEU:HD11	1.90	0.54
32:SY:57:CYS:SG	32:SY:75:TRP:NE1	2.77	0.54
34:AA:3302:G:OP2	70:AE:2:SER:OG	2.24	0.54
43:AN:59:ALA:O	43:AN:61:ILE:N	2.40	0.54
5:S5:22:VAL:HG13	5:S5:43:ASN:HB3	1.89	0.54
7:S7:13:C:H2'	7:S7:14:A:C8	2.43	0.54
7:S7:50:G:H22	7:S7:60:U:H3	1.55	0.54
8:SA:1321:C:H4'	22:SO:63:ARG:HE	1.72	0.54
8:SA:1637:U:H2'	8:SA:1638:U:H6	1.70	0.54
8:SA:1665:G:O3'	27:ST:52:LYS:NZ	2.38	0.54
8:SA:1795:G:H5"	32:SY:145:ARG:HH12	1.73	0.54
20:SM:53:LEU:HD11	20:SM:58:SER:HB3	1.88	0.54
32:SY:113:ASN:OD1	32:SY:114:HIS:N	2.40	0.54
34:AA:438:U:OP1	44:A8:2:ALA:N	2.41	0.54
34:AA:2152:A:H2'	34:AA:2153:A:O4'	2.08	0.54
34:AA:2183:A:H2'	34:AA:2184:U:C6	2.43	0.54
34:AA:3306:G:N3	70:AE:247:ALA:HB1	2.23	0.54
54:AI:63:LEU:HD11	54:AI:105:VAL:HG23	1.89	0.54
54:AI:96:LEU:HB2	54:AI:183:GLN:HG3	1.90	0.54
57:AK:75:PRO:HB3	57:AK:137:LEU:HG	1.90	0.54
8:SA:888:A:H2'	8:SA:889:A:C8	2.43	0.54
8:SA:1637:U:H5"	30:SW:28:PHE:CZ	2.43	0.54
8:SA:1662:A:C6	8:SA:1663:A:N6	2.76	0.54
10:SC:146:LEU:O	10:SC:164:ASN:ND2	2.37	0.54
10:SC:176:LEU:HA	10:SC:179:GLN:HB3	1.89	0.54
34:AA:727:A:H2'	34:AA:728:C:C6	2.43	0.54
34:AA:2962:G:O2'	79:S8:2:G:O2'	2.23	0.54
34:AA:3458:A:H2'	34:AA:3459:A:O4'	2.08	0.54
39:A2:28:LYS:HD2	44:A8:72:TYR:CZ	2.42	0.54
62:AR:22:ARG:HB3	62:AR:28:THR:HG23	1.88	0.54
70:AE:212:ILE:HD12	70:AE:335:LEU:HB3	1.90	0.54
81:S9:7:A:O2'	81:S9:49:C:O4'	2.25	0.54
8:SA:1381:C:H2'	8:SA:1382:G:H8	1.71	0.54
20:SM:91:ILE:HG23	20:SM:103:LYS:HE2	1.89	0.54
23:SP:80:ASP:OD2	23:SP:81:VAL:N	2.40	0.54
33:SZ:42:ASN:OD1	33:SZ:42:ASN:N	2.40	0.54
34:AA:308:U:O2'	34:AA:309:G:H8	1.91	0.54
34:AA:450:A:H5"	34:AA:451:C:H5'	1.89	0.54
34:AA:2027:A:H4'	46:Aa:76:TYR:O	2.08	0.54
34:AA:2179:A:H2'	34:AA:2180:U:C5	2.43	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3282:U:H3	81:S9:74:C:H41	1.56	0.54
38:A1:53:VAL:HG12	38:A1:65:ARG:HD3	1.89	0.54
61:AQ:55:TYR:CE2	61:AQ:164:LYS:HG3	2.43	0.54
8:SA:755:A:H2'	8:SA:756:A:C8	2.43	0.54
8:SA:1312:A:N6	8:SA:1313:G:C5	2.76	0.54
8:SA:1444:C:C4	8:SA:1445:U:C4	2.96	0.54
8:SA:1869:G:O2'	16:SI:155:ARG:NH1	2.41	0.54
10:SC:119:ARG:NH2	14:SG:253:GLU:HB2	2.23	0.54
26:SS:66:ILE:O	26:SS:70:VAL:HG13	2.07	0.54
26:SS:88:ARG:HG2	26:SS:91:ASP:HB2	1.90	0.54
34:AA:63:A:OP1	51:AP:173:ARG:NH1	2.36	0.54
34:AA:276:G:H5'	51:AP:121:TRP:CG	2.43	0.54
34:AA:709:A:H2'	34:AA:710:C:C6	2.42	0.54
34:AA:2559:U:H2'	34:AA:2560:C:C6	2.43	0.54
47:Ab:91:LYS:O	47:Ab:95:GLU:HG3	2.08	0.54
63:AW:10:ASN:HD22	63:AW:13:LYS:HE2	1.73	0.54
68:A5:83:CYS:SG	68:A5:84:PHE:N	2.81	0.54
70:AE:60:VAL:HB	70:AE:68:HIS:O	2.08	0.54
10:SC:75:VAL:HG13	10:SC:122:ILE:HB	1.89	0.54
11:SD:11:PHE:HE2	21:SN:83:ILE:HG23	1.73	0.54
12:SE:135:ARG:HG2	12:SE:137:GLY:H	1.73	0.54
16:SI:190:VAL:O	16:SI:194:ASN:ND2	2.40	0.54
19:SL:84:ASN:ND2	19:SL:84:ASN:O	2.41	0.54
34:AA:2209:C:OP2	65:AT:73:ARG:HG3	2.08	0.54
34:AA:3386:A:H2'	34:AA:3387:U:H6	1.73	0.54
35:AC:145:A:H2'	35:AC:146:C:C6	2.43	0.54
37:AL:126:PRO:HA	37:AL:142:ASP:OD1	2.08	0.54
37:AL:168:LYS:CG	60:AO:104:ARG:HH21	2.21	0.54
51:AP:202:ARG:HG3	51:AP:205:ARG:HA	1.90	0.54
52:Ah:78:ALA:O	52:Ah:82:THR:HG23	2.07	0.54
8:SA:1098:U:O2'	8:SA:1099:A:OP1	2.15	0.53
8:SA:1278:C:C2	8:SA:1279:G:C8	2.97	0.53
8:SA:1727:A:H61	8:SA:1825:U:H1'	1.73	0.53
10:SC:57:LEU:HD11	10:SC:173:MET:HE1	1.89	0.53
18:SK:80:ASP:OD1	18:SK:80:ASP:N	2.34	0.53
34:AA:3035:A:N7	34:AA:3097:A:N6	2.56	0.53
39:A2:43:THR:HG22	39:A2:45:SER:H	1.74	0.53
71:AF:12:SER:OG	71:AF:14:ASN:O	2.19	0.53
74:AH:184:THR:OG1	74:AH:185:THR:N	2.40	0.53
8:SA:975:A:OP1	23:SP:66:ARG:HB2	2.08	0.53
8:SA:1308:C:H5'	8:SA:1309:A:C8	2.44	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1981:A:H61	8:SA:2009:C:N4	2.03	0.53
11:SD:75:LYS:HE3	22:SO:31:VAL:O	2.08	0.53
12:SE:37:LYS:HG3	12:SE:38:ASN:HB2	1.91	0.53
12:SE:102:PRO:O	12:SE:106:GLU:HG2	2.08	0.53
19:SL:117:PHE:CZ	19:SL:164:LYS:HB3	2.44	0.53
28:SU:49:GLN:O	28:SU:53:THR:HG22	2.08	0.53
31:SX:57:LEU:HA	31:SX:60:ILE:HG22	1.90	0.53
34:AA:888:A:H61	34:AA:3111:U:H5	1.56	0.53
34:AA:2819:U:H2'	34:AA:2820:A:H8	1.73	0.53
34:AA:3399:U:H2'	34:AA:3400:C:C6	2.43	0.53
41:A6:50:ASN:OD1	52:Ah:40:THR:O	2.26	0.53
43:AN:59:ALA:C	43:AN:61:ILE:H	2.17	0.53
54:AI:120:LEU:HD23	54:AI:120:LEU:H	1.73	0.53
74:AH:20:ILE:HG12	74:AH:25:VAL:HG13	1.88	0.53
79:S8:19:G:H4'	79:S8:20:U:OP2	2.08	0.53
8:SA:1717:A:H2	8:SA:1720:G:N3	2.07	0.53
8:SA:1747:U:H2'	8:SA:1748:G:C8	2.44	0.53
8:SA:2024:A:H2'	8:SA:2025:U:C6	2.42	0.53
10:SC:117:GLU:OE2	14:SG:46:LYS:HG2	2.08	0.53
17:SJ:57:LYS:HZ2	17:SJ:89:LYS:HG2	1.73	0.53
32:SY:100:ARG:HA	32:SY:117:LEU:HD22	1.90	0.53
34:AA:193:C:OP1	66:AZ:121:LYS:NZ	2.34	0.53
34:AA:1073:G:H1	34:AA:1243:G:H1'	1.74	0.53
34:AA:1537:G:H4'	34:AA:1537:G:OP1	2.08	0.53
34:AA:1996:C:O2'	34:AA:1997:G:N2	2.34	0.53
34:AA:3688:G:H2'	34:AA:3689:C:O4'	2.09	0.53
8:SA:837:A:H2'	8:SA:838:U:C6	2.43	0.53
8:SA:889:A:H2'	8:SA:890:A:C8	2.44	0.53
8:SA:1741:A:H4'	27:ST:11:LYS:HE2	1.89	0.53
10:SC:114:LYS:O	10:SC:116:THR:OG1	2.25	0.53
13:SF:45:VAL:O	13:SF:49:ARG:HB3	2.08	0.53
25:SR:35:HIS:CG	25:SR:122:PHE:HB2	2.42	0.53
26:SS:27:LYS:O	26:SS:30:ILE:HG22	2.09	0.53
34:AA:2020:A:H2'	34:AA:2021:A:C8	2.44	0.53
34:AA:3183:G:H2'	34:AA:3184:C:H6	1.73	0.53
34:AA:3443:A:N6	34:AA:3470:G:O2'	2.41	0.53
34:AA:3636:U:O2	34:AA:3649:G:N2	2.38	0.53
44:A8:105:ARG:HD2	44:A8:125:ARG:HD2	1.90	0.53
51:AP:143:VAL:HG13	51:AP:149:ILE:HD12	1.90	0.53
55:AJ:246:ARG:HB3	55:AJ:247:ARG:HD2	1.91	0.53
57:AK:60:ARG:HA	57:AK:69:PRO:HD2	1.89	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Ag:7:ARG:HG3	76:Ag:17:TRP:CE2	2.43	0.53
8:SA:539:U:OP1	12:SE:132:ARG:NH2	2.42	0.53
8:SA:1839:G:N2	8:SA:1866:A:OP2	2.41	0.53
8:SA:1849:U:O2'	8:SA:1894:A:N3	2.33	0.53
11:SD:16:VAL:O	11:SD:20:GLU:HG2	2.08	0.53
13:SF:57:THR:HG23	13:SF:60:GLU:H	1.73	0.53
20:SM:39:LEU:O	20:SM:39:LEU:HD13	2.09	0.53
34:AA:1576:U:OP2	60:AO:4:ARG:NH1	2.36	0.53
55:AJ:102:PRO:O	55:AJ:106:THR:HG22	2.09	0.53
69:AD:34:TYR:CZ	69:AD:38:LYS:HG2	2.44	0.53
72:AG:157:GLU:O	72:AG:161:LYS:HD3	2.08	0.53
74:AH:136:SER:OG	74:AH:139:VAL:O	2.25	0.53
8:SA:1264:A:H61	8:SA:1911:A:H8	1.57	0.53
12:SE:64:GLU:HA	12:SE:69:ARG:HD3	1.89	0.53
13:SF:31:THR:HA	13:SF:81:THR:HB	1.91	0.53
16:SI:28:ASP:N	16:SI:28:ASP:OD1	2.41	0.53
22:SO:23:TYR:CD1	22:SO:87:LEU:HD21	2.43	0.53
30:SW:25:THR:O	30:SW:31:ASN:ND2	2.42	0.53
34:AA:221:A:OP1	66:AZ:2:LYS:NZ	2.34	0.53
66:AZ:37:GLU:CD	66:AZ:37:GLU:H	2.17	0.53
21:SN:80:GLU:OE2	21:SN:82:ARG:NH1	2.41	0.53
22:SO:28:LYS:NZ	22:SO:29:GLU:OE1	2.34	0.53
34:AA:3256:C:OP2	50:Af:48:LYS:NZ	2.42	0.53
34:AA:3660:A:H2'	34:AA:3661:A:C8	2.44	0.53
51:AP:34:PRO:HG2	51:AP:37:HIS:HB3	1.90	0.53
58:AM:86:ALA:HA	58:AM:96:TYR:HB3	1.90	0.53
71:AF:66:SER:O	71:AF:66:SER:OG	2.13	0.53
73:AU:82:LYS:NZ	73:AU:106:THR:O	2.39	0.53
8:SA:45:U:O2'	8:SA:46:A:H2'	2.09	0.53
8:SA:1846:U:OP2	31:SX:39:ALA:N	2.24	0.53
8:SA:1910:U:OP1	16:SI:62:ARG:NH2	2.42	0.53
9:SB:145:LYS:HD3	9:SB:154:CYS:SG	2.49	0.53
31:SX:108:LYS:H	31:SX:111:MET:HB3	1.74	0.53
34:AA:1003:A:OP1	56:Ac:8:THR:OG1	2.20	0.53
34:AA:1331:A:H2'	34:AA:1332:A:H8	1.73	0.53
49:Ae:21:ARG:HH12	49:Ae:24:PRO:HD3	1.73	0.53
77:AX:102:TYR:O	77:AX:106:LEU:HD22	2.09	0.53
8:SA:1277:G:H2'	8:SA:1278:C:H6	1.74	0.53
8:SA:1456:G:C6	8:SA:1607:U:N3	2.77	0.53
8:SA:1838:G:N2	8:SA:1867:A:N6	2.15	0.53
8:SA:2049:G:O2'	34:AA:2548:A:O2'	2.17	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SG:41:TRP:CZ2	14:SG:43:PRO:HA	2.44	0.53
25:SR:99:LEU:HG	25:SR:112:ILE:HG21	1.90	0.53
28:SU:37:ILE:HD11	28:SU:74:ILE:HG13	1.90	0.53
34:AA:3443:A:H2	34:AA:3470:G:H21	1.57	0.53
35:AC:145:A:H2'	35:AC:146:C:H6	1.73	0.53
55:AJ:72:PRO:HD2	55:AJ:75:ILE:HD11	1.91	0.53
56:Ac:70:ILE:HA	56:Ac:73:LEU:HG	1.91	0.53
2:S2:78:VAL:HA	2:S2:81:HIS:CD2	2.44	0.53
8:SA:1808:G:H2'	8:SA:1809:G:C8	2.44	0.53
34:AA:701:C:H2'	34:AA:702:U:O2	2.09	0.53
34:AA:1208:G:H2'	34:AA:1209:U:C6	2.44	0.53
35:AC:139:A:OP2	64:AY:145:LYS:NZ	2.39	0.53
70:AE:47:MET:H	70:AE:84:MET:HE2	1.74	0.53
70:AE:372:GLU:OE2	78:A0:21:TYR:OH	2.21	0.53
7:S7:64:C:H2'	7:S7:65:A:H8	1.70	0.52
14:SG:133:VAL:O	14:SG:137:ILE:HG12	2.08	0.52
18:SK:55:ASP:OD1	18:SK:56:HIS:N	2.42	0.52
26:SS:30:ILE:HA	26:SS:33:THR:OG1	2.09	0.52
30:SW:9:ILE:HB	30:SW:50:VAL:HG12	1.90	0.52
34:AA:1539:U:C2	44:A8:103:LYS:HE2	2.44	0.52
34:AA:2709:U:H2'	34:AA:2710:U:C6	2.44	0.52
34:AA:3000:A:H2'	34:AA:3001:A:H8	1.74	0.52
51:AP:67:ARG:O	51:AP:71:ARG:NH2	2.42	0.52
55:AJ:158:LYS:HA	55:AJ:161:GLU:HG3	1.91	0.52
62:AR:19:LYS:O	62:AR:24:ARG:NH1	2.38	0.52
71:AF:183:LEU:HD11	71:AF:206:GLY:HA3	1.90	0.52
8:SA:460:G:N1	13:SF:66:ILE:HG21	2.23	0.52
8:SA:952:U:H3	8:SA:1014:U:H3	1.56	0.52
8:SA:1172:U:H2'	8:SA:1173:C:H6	1.75	0.52
8:SA:1444:C:N4	8:SA:1630:A:N1	2.57	0.52
8:SA:1636:A:H5"	30:SW:3:ARG:HH12	1.74	0.52
8:SA:1800:A:H2'	8:SA:1801:A:C8	2.44	0.52
8:SA:1837:G:H3'	8:SA:1838:G:H8	1.73	0.52
8:SA:1925:U:H2'	8:SA:1926:G:C8	2.44	0.52
11:SD:66:ILE:HD12	11:SD:69:LEU:HD21	1.91	0.52
17:SJ:37:THR:HG1	17:SJ:72:TYR:HH	1.52	0.52
23:SP:66:ARG:HG2	23:SP:67:ASP:H	1.75	0.52
29:SV:69:ILE:HG21	29:SV:143:LEU:HD11	1.90	0.52
34:AA:125:C:H2'	34:AA:126:C:C6	2.45	0.52
34:AA:1534:U:OP2	71:AF:204:ARG:NH1	2.43	0.52
34:AA:3319:C:H2'	34:AA:3320:G:H8	1.73	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:64:A:H4'	61:AQ:205:PRO:HD3	1.90	0.52
62:AR:210:LEU:HB3	62:AR:218:TYR:HB2	1.91	0.52
66:AZ:111:ASP:OD1	66:AZ:112:LYS:N	2.43	0.52
70:AE:71:GLU:OE2	70:AE:354:LYS:NZ	2.42	0.52
7:S7:14:A:H2'	7:S7:15:G:C8	2.44	0.52
8:SA:485:C:H2'	8:SA:486:A:H8	1.75	0.52
8:SA:945:G:OP1	9:SB:158:THR:OG1	2.23	0.52
26:SS:88:ARG:HD3	26:SS:97:ASN:HB2	1.91	0.52
34:AA:1657:U:OP1	63:AW:127:ARG:NH1	2.41	0.52
34:AA:2588:A:C5	58:AM:39:ILE:HD12	2.44	0.52
34:AA:3301:C:OP1	34:AA:3301:C:H3'	2.09	0.52
34:AA:3639:G:N2	34:AA:3646:G:H1	2.07	0.52
34:AA:3683:G:N2	34:AA:3684:A:O3'	2.39	0.52
37:AL:72:LYS:HE2	37:AL:97:ASP:HB3	1.90	0.52
41:A6:78:ASN:O	41:A6:82:THR:HG23	2.09	0.52
74:AH:45:ILE:HG12	74:AH:56:VAL:HG12	1.92	0.52
8:SA:586:A:O2'	8:SA:587:A:H5"	2.08	0.52
8:SA:1679:G:H2'	8:SA:1680:U:C6	2.44	0.52
8:SA:1717:A:N7	8:SA:1837:G:H1'	2.24	0.52
10:SC:79:ARG:CD	10:SC:128:THR:HG21	2.39	0.52
26:SS:29:ILE:O	26:SS:33:THR:HG23	2.10	0.52
31:SX:111:MET:O	31:SX:111:MET:HE3	2.09	0.52
34:AA:1534:U:OP1	71:AF:143:ARG:NH1	2.39	0.52
37:AL:72:LYS:HG3	37:AL:72:LYS:O	2.08	0.52
37:AL:128:LYS:HB2	37:AL:131:LYS:HB2	1.91	0.52
58:AM:18:SER:HB2	58:AM:85:LYS:HB3	1.90	0.52
1:S1:56:ILE:HG22	1:S1:76:ILE:HA	1.90	0.52
3:S3:40:ASN:ND2	3:S3:42:ARG:HD3	2.25	0.52
7:S7:39:A:H4'	16:SI:189:ARG:HH12	1.74	0.52
8:SA:16:G:H2'	8:SA:17:C:C6	2.45	0.52
8:SA:553:U:H2'	8:SA:554:U:C6	2.44	0.52
15:SH:157:VAL:HG11	15:SH:172:LYS:HD3	1.92	0.52
26:SS:90:LYS:HD3	26:SS:92:LEU:HD13	1.92	0.52
30:SW:50:VAL:O	30:SW:54:VAL:HG23	2.09	0.52
34:AA:2739:U:H2'	34:AA:2740:A:C8	2.45	0.52
35:AC:84:G:C2	35:AC:85:A:N6	2.77	0.52
36:AB:21:G:O2'	36:AB:22:G:H5'	2.10	0.52
37:AL:17:TRP:NE1	37:AL:18:GLN:NE2	2.57	0.52
39:A2:103:LYS:N	39:A2:105:LYS:HZ2	2.07	0.52
46:Aa:86:ARG:O	46:Aa:90:MET:HG3	2.10	0.52
59:AS:29:LEU:HD21	59:AS:122:PHE:HB2	1.90	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:AT:139:GLU:OE1	65:AT:143:ARG:NH2	2.37	0.52
1:S1:110:LYS:NZ	1:S1:114:ASN:HB2	2.25	0.52
8:SA:387:C:OP1	13:SF:10:LYS:NZ	2.38	0.52
8:SA:1650:A:H2'	8:SA:1651:C:C6	2.45	0.52
11:SD:17:PHE:O	11:SD:21:LEU:HD23	2.10	0.52
21:SN:31:ILE:O	21:SN:35:CYS:HB3	2.08	0.52
34:AA:439:U:H2'	34:AA:440:A:H8	1.74	0.52
34:AA:583:U:H2'	34:AA:584:U:C6	2.44	0.52
34:AA:888:A:H2	34:AA:3138:A:H5'	1.74	0.52
34:AA:3106:U:H2'	34:AA:3107:U:C6	2.45	0.52
61:AQ:170:LYS:HA	61:AQ:177:SER:HA	1.91	0.52
66:AZ:55:VAL:HG13	66:AZ:103:VAL:HB	1.91	0.52
79:S8:69:C:H2'	79:S8:70:G:H8	1.75	0.52
80:mR:24:U:H3	81:S9:34:G:H1	1.57	0.52
81:S9:63:G:H2'	81:S9:64:A:H8	1.73	0.52
3:S3:22:ARG:NH2	3:S3:27:GLY:O	2.43	0.52
8:SA:158:C:O2'	15:SH:95:LYS:NZ	2.32	0.52
8:SA:2031:C:H2'	8:SA:2032:U:H6	1.73	0.52
10:SC:67:ILE:HG23	10:SC:119:ARG:NH1	2.25	0.52
14:SG:190:ILE:HD13	14:SG:200:LEU:HB3	1.92	0.52
32:SY:31:ASP:OD2	32:SY:31:ASP:N	2.43	0.52
33:SZ:36:VAL:HG11	33:SZ:77:LEU:HD13	1.91	0.52
34:AA:282:U:H2'	34:AA:283:U:C6	2.44	0.52
34:AA:549:G:H2'	34:AA:550:A:C8	2.45	0.52
34:AA:911:U:H2'	34:AA:912:U:H6	1.72	0.52
34:AA:1762:A:O2'	34:AA:1763:G:H8	1.80	0.52
34:AA:3715:U:H2'	34:AA:3716:C:C6	2.44	0.52
36:AB:68:U:H2'	36:AB:69:U:C6	2.45	0.52
70:AE:84:MET:HE1	70:AE:176:MET:HE3	1.92	0.52
70:AE:112:ASP:OD1	70:AE:115:ARG:NH1	2.42	0.52
2:S2:97:SER:N	8:SA:1827:U:OP2	2.43	0.52
3:S3:51:ARG:HB2	3:S3:51:ARG:NH1	2.25	0.52
8:SA:144:U:H2'	8:SA:145:A:H8	1.74	0.52
8:SA:2003:U:H2'	8:SA:2004:U:C6	2.45	0.52
8:SA:2008:U:H2'	8:SA:2009:C:C6	2.45	0.52
15:SH:152:ASP:OD1	15:SH:153:VAL:N	2.43	0.52
20:SM:34:GLY:C	32:SY:30:LYS:HD2	2.34	0.52
34:AA:1980:G:H3'	34:AA:1981:U:C6	2.45	0.52
34:AA:2700:C:H2'	34:AA:2701:U:H6	1.73	0.52
34:AA:3108:A:H5'	53:Ai:79:LYS:HD2	1.91	0.52
36:AB:61:G:H4'	62:AR:281:ARG:HH12	1.75	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AF:379:VAL:O	71:AF:383:VAL:HG23	2.09	0.52
74:AH:24:LYS:HE3	74:AH:39:ARG:HD2	1.91	0.52
77:AX:61:GLU:OE1	77:AX:83:VAL:HG22	2.09	0.52
7:S7:1:G:N2	7:S7:70:A:H2	2.07	0.52
8:SA:17:C:O2'	8:SA:1238:A:N1	2.36	0.52
8:SA:1277:G:H2'	8:SA:1278:C:C6	2.44	0.52
8:SA:1794:C:H2'	8:SA:1795:G:H8	1.74	0.52
8:SA:1981:A:N6	8:SA:2009:C:H42	2.03	0.52
26:SS:23:ASP:OD1	26:SS:23:ASP:N	2.31	0.52
30:SW:6:THR:O	30:SW:9:ILE:HG13	2.10	0.52
33:SZ:33:GLN:NE2	33:SZ:51:THR:OG1	2.43	0.52
34:AA:521:U:O2'	34:AA:522:A:H8	1.93	0.52
34:AA:1820:U:H2'	34:AA:1821:U:C6	2.45	0.52
34:AA:1881:C:O2'	34:AA:1882:U:C6	2.61	0.52
66:AZ:11:ARG:O	66:AZ:15:ARG:HG2	2.10	0.52
77:AX:108:LYS:HE3	77:AX:117:ARG:HH21	1.75	0.52
8:SA:1366:A:H2'	8:SA:1367:U:C6	2.45	0.52
8:SA:1876:G:H2'	8:SA:1877:C:C6	2.45	0.52
17:SJ:88:THR:OG1	17:SJ:90:LYS:NZ	2.28	0.52
34:AA:234:C:H2'	34:AA:235:A:O4'	2.10	0.52
34:AA:1015:A:H5"	69:AD:183:GLY:CA	2.38	0.52
34:AA:2088:A:H2'	34:AA:2089:C:C6	2.45	0.52
34:AA:2809:A:H5"	34:AA:2810:A:C6	2.45	0.52
45:A9:74:ALA:HB2	45:A9:112:GLY:HA2	1.90	0.52
52:Ah:51:CYS:SG	52:Ah:52:VAL:N	2.80	0.52
55:AJ:116:TYR:HE2	55:AJ:220:VAL:HG12	1.75	0.52
62:AR:215:ASN:O	62:AR:219:LYS:HG2	2.09	0.52
4:S4:13:GLU:HA	4:S4:15:LYS:HE2	1.92	0.51
8:SA:1863:U:H5"	26:SS:37:GLY:HA2	1.92	0.51
26:SS:70:VAL:HA	26:SS:73:MET:SD	2.51	0.51
26:SS:105:LEU:HG	26:SS:109:LEU:HD23	1.92	0.51
26:SS:126:ARG:O	26:SS:131:LEU:HD12	2.10	0.51
29:SV:153:SER:HB3	29:SV:156:LYS:HG2	1.92	0.51
43:AN:57:ASP:HB2	43:AN:66:ARG:HG3	1.92	0.51
45:A9:51:ARG:HG2	45:A9:52:SER:O	2.11	0.51
62:AR:235:ILE:HD12	62:AR:238:MET:HE2	1.91	0.51
73:AU:88:LEU:HD12	73:AU:115:LEU:HD11	1.91	0.51
7:S7:8:U:N3	7:S7:14:A:N6	2.41	0.51
7:S7:35:C:H3'	7:S7:36:A:C8	2.46	0.51
8:SA:877:U:H3	8:SA:926:G:H1	1.57	0.51
8:SA:1215:G:O2'	8:SA:1231:G:O6	2.28	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1265:G:H2'	8:SA:1266:G:C8	2.45	0.51
8:SA:1609:C:H2'	8:SA:1610:U:C6	2.45	0.51
9:SB:145:LYS:O	9:SB:146:ARG:HG2	2.10	0.51
20:SM:39:LEU:CD2	32:SY:33:ASP:HA	2.40	0.51
28:SU:29:LYS:HD2	28:SU:30:PRO:HD2	1.93	0.51
34:AA:3637:G:H1	34:AA:3648:U:H3	0.65	0.51
34:AA:3713:C:H2'	34:AA:3714:C:C6	2.46	0.51
38:A1:125:PRO:HB3	38:A1:133:VAL:HG22	1.91	0.51
48:Ad:58:LYS:O	48:Ad:61:GLU:HG2	2.10	0.51
8:SA:166:A:H5'	15:SH:137:ARG:HE	1.76	0.51
8:SA:186:U:H3	8:SA:200:U:H3	1.57	0.51
8:SA:268:C:OP1	15:SH:183:ARG:NE	2.40	0.51
8:SA:1264:A:H3'	8:SA:1265:G:H8	1.74	0.51
10:SC:188:ILE:HD12	10:SC:188:ILE:O	2.11	0.51
11:SD:141:GLY:HA3	11:SD:183:LEU:HD13	1.92	0.51
32:SY:29:ILE:HG12	32:SY:88:TYR:CE2	2.46	0.51
34:AA:2666:A:N3	34:AA:3183:G:O2'	2.35	0.51
36:AB:5:U:H4'	62:AR:61:ILE:HD11	1.93	0.51
39:A2:82:LYS:C	39:A2:82:LYS:HD2	2.35	0.51
54:AI:90:GLU:HB3	54:AI:191:LYS:HD3	1.92	0.51
70:AE:41:PRO:HA	70:AE:182:GLY:HA3	1.91	0.51
73:AU:12:ASN:O	73:AU:41:LYS:HA	2.10	0.51
77:AX:63:PHE:CE1	77:AX:67:LYS:HE3	2.46	0.51
79:S8:46:G:H4'	79:S8:47:U:H5	1.75	0.51
81:S9:37:A:H3'	81:S9:38:A:H8	1.75	0.51
8:SA:572:C:H5'	8:SA:573:C:C6	2.45	0.51
8:SA:1636:A:H5"	30:SW:3:ARG:NH1	2.25	0.51
8:SA:2003:U:H2'	8:SA:2004:U:H6	1.75	0.51
16:SI:114:GLU:OE1	16:SI:191:ALA:HB2	2.10	0.51
17:SJ:126:ILE:O	17:SJ:130:ILE:HD12	2.09	0.51
25:SR:45:VAL:O	25:SR:49:ILE:HG13	2.11	0.51
34:AA:1283:C:OP1	68:A5:103:LYS:NZ	2.44	0.51
34:AA:1624:A:H4'	42:A7:65:LYS:HG3	1.91	0.51
38:A1:8:GLY:HA3	38:A1:88:ALA:HB2	1.91	0.51
48:Ad:58:LYS:HA	48:Ad:61:GLU:CD	2.35	0.51
55:AJ:199:ASP:OD1	55:AJ:201:ALA:N	2.44	0.51
61:AQ:63:GLU:OE1	61:AQ:63:GLU:N	2.43	0.51
8:SA:273:A:H3'	8:SA:274:A:H5"	1.93	0.51
8:SA:330:U:OP1	29:SV:136:LYS:NZ	2.28	0.51
8:SA:987:U:H2'	8:SA:988:U:C6	2.46	0.51
8:SA:1890:A:O2'	27:ST:31:LYS:NZ	2.40	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SG:117:GLY:HA3	14:SG:202:PHE:HB3	1.91	0.51
23:SP:114:SER:HA	23:SP:117:ARG:HB3	1.93	0.51
26:SS:67:ASP:HA	26:SS:70:VAL:HG22	1.92	0.51
29:SV:6:ASP:O	29:SV:9:HIS:NE2	2.43	0.51
29:SV:10:GLU:O	29:SV:12:ALA:N	2.43	0.51
32:SY:39:ARG:NH1	32:SY:78:ILE:HG12	2.26	0.51
32:SY:94:GLY:H	32:SY:97:PHE:HB2	1.75	0.51
32:SY:135:TYR:O	32:SY:147:LEU:HD12	2.11	0.51
34:AA:1156:U:H2'	34:AA:1157:U:C6	2.44	0.51
34:AA:3502:C:O3'	50:Af:30:ARG:NH2	2.43	0.51
38:A1:2:GLY:HA3	41:A6:40:GLY:HA3	1.93	0.51
81:S9:63:G:H2'	81:S9:64:A:C8	2.46	0.51
7:S7:49:C:H42	7:S7:62:C:H42	1.57	0.51
7:S7:61:C:H2'	7:S7:62:C:C6	2.46	0.51
8:SA:1303:A:H3'	8:SA:1303:A:N3	2.26	0.51
8:SA:1890:A:H2'	8:SA:1891:U:C6	2.46	0.51
8:SA:1938:C:H2'	8:SA:1939:G:C8	2.45	0.51
9:SB:227:LYS:HE3	9:SB:231:LEU:HD23	1.93	0.51
16:SI:170:ASN:HA	16:SI:175:SER:HB3	1.92	0.51
18:SK:26:LEU:HD23	18:SK:62:VAL:HG22	1.93	0.51
20:SM:39:LEU:HD21	32:SY:33:ASP:HA	1.92	0.51
34:AA:459:G:H2'	34:AA:460:A:H8	1.75	0.51
34:AA:979:G:C6	69:AD:181:LYS:HB2	2.45	0.51
50:Af:30:ARG:H	50:Af:30:ARG:CD	2.23	0.51
4:S4:21:ARG:H	4:S4:21:ARG:HD2	1.75	0.51
8:SA:597:C:H2'	8:SA:598:A:C8	2.46	0.51
8:SA:1392:C:H2'	8:SA:1393:G:H8	1.76	0.51
8:SA:1746:A:H2'	8:SA:1747:U:C6	2.46	0.51
11:SD:11:PHE:CE2	21:SN:83:ILE:HD12	2.44	0.51
14:SG:191:VAL:HG13	14:SG:209:PHE:HA	1.91	0.51
16:SI:179:TYR:HA	16:SI:182:LYS:HE2	1.92	0.51
18:SK:14:ILE:HD11	18:SK:27:ILE:HD11	1.93	0.51
28:SU:3:ARG:NH2	28:SU:9:LYS:O	2.43	0.51
34:AA:2183:A:H2'	34:AA:2184:U:H6	1.76	0.51
44:A8:14:THR:HG22	44:A8:15:LYS:H	1.76	0.51
62:AR:34:LYS:HA	62:AR:37:ILE:HG12	1.91	0.51
79:S8:3:C:O2'	79:S8:4:G:H5'	2.11	0.51
8:SA:247:G:N1	8:SA:250:A:OP2	2.43	0.51
8:SA:253:A:O2'	13:SF:131:LEU:O	2.21	0.51
8:SA:573:C:H2'	8:SA:574:A:O4'	2.10	0.51
8:SA:1028:U:H5"	28:SU:14:SER:HB2	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:2031:C:H2'	8:SA:2032:U:C6	2.46	0.51
10:SC:98:ILE:O	10:SC:98:ILE:HD12	2.11	0.51
11:SD:127:ILE:HD11	11:SD:128:MET:HE2	1.93	0.51
12:SE:135:ARG:NH2	12:SE:157:ASP:OD2	2.43	0.51
13:SF:75:LYS:HD2	13:SF:77:ARG:NH2	2.25	0.51
13:SF:201:ASN:OD1	13:SF:201:ASN:N	2.43	0.51
16:SI:8:ILE:O	16:SI:9:LYS:NZ	2.37	0.51
23:SP:27:VAL:HG13	23:SP:90:VAL:HA	1.93	0.51
33:SZ:70:ARG:O	33:SZ:74:GLU:HG3	2.11	0.51
34:AA:1247:C:H2'	34:AA:1248:A:C8	2.46	0.51
40:A4:62:LYS:HA	40:A4:65:LYS:HE3	1.92	0.51
54:AI:111:ILE:HG12	54:AI:117:ILE:HG21	1.93	0.51
57:AK:13:HIS:HE1	57:AK:118:VAL:HG22	1.75	0.51
71:AF:375:TYR:HE2	73:AU:73:ILE:HD11	1.76	0.51
8:SA:1633:A:OP2	30:SW:44:LYS:HD2	2.10	0.51
8:SA:1715:A:H2'	8:SA:1716:C:O4'	2.10	0.51
10:SC:47:ILE:HD12	10:SC:47:ILE:O	2.11	0.51
13:SF:172:HIS:CE1	13:SF:174:LYS:HD3	2.45	0.51
15:SH:148:ASP:OD1	15:SH:149:LYS:N	2.44	0.51
31:SX:39:ALA:HA	31:SX:42:ARG:HG3	1.93	0.51
34:AA:1841:U:OP1	77:AX:69:LYS:NZ	2.43	0.51
34:AA:1978:U:OP1	77:AX:121:ARG:NH2	2.40	0.51
62:AR:214:ASP:OD1	62:AR:214:ASP:N	2.44	0.51
79:S8:21:A:N6	79:S8:46:G:H2'	2.25	0.51
79:S8:50:U:H2'	79:S8:51:C:C6	2.45	0.51
8:SA:34:G:H2'	8:SA:35:U:H5"	1.93	0.51
8:SA:892:U:H2'	8:SA:893:U:C6	2.46	0.51
8:SA:1248:A:OP1	14:SG:103:ARG:NH1	2.44	0.51
15:SH:69:THR:OG1	15:SH:71:ASN:OD1	2.24	0.51
16:SI:78:LEU:HA	16:SI:81:ILE:HD12	1.92	0.51
18:SK:27:ILE:HD12	18:SK:27:ILE:N	2.26	0.51
18:SK:82:LYS:HB2	18:SK:85:GLU:OE1	2.11	0.51
34:AA:953:U:H2'	34:AA:954:G:O4'	2.10	0.51
34:AA:1467:C:H2'	34:AA:1468:A:C8	2.46	0.51
34:AA:2162:U:O2'	34:AA:3440:U:OP1	2.27	0.51
43:AN:125:ASP:OD2	54:AI:203:TYR:OH	2.18	0.51
55:AJ:116:TYR:HD2	55:AJ:217:LEU:HD11	1.76	0.51
5:S5:29:PHE:HD1	5:S5:30:MET:H	1.57	0.50
8:SA:331:G:H4'	29:SV:86:THR:HG21	1.92	0.50
8:SA:1746:A:H2'	8:SA:1747:U:H6	1.75	0.50
8:SA:1797:C:OP2	32:SY:124:ARG:NH1	2.43	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1845:U:H2'	8:SA:1846:U:C6	2.47	0.50
8:SA:2062:U:H2'	8:SA:2063:U:C6	2.46	0.50
10:SC:190:ARG:NH2	33:SZ:43:GLY:O	2.36	0.50
11:SD:127:ILE:CD1	11:SD:128:MET:HE2	2.41	0.50
11:SD:138:ILE:HG12	11:SD:152:LYS:HG3	1.93	0.50
15:SH:58:LYS:HA	15:SH:107:SER:HB2	1.92	0.50
30:SW:60:ARG:HA	30:SW:63:LYS:HE3	1.92	0.50
31:SX:119:PHE:CG	31:SX:120:SER:N	2.77	0.50
34:AA:661:G:N1	34:AA:673:U:N3	2.57	0.50
34:AA:2511:G:H2'	34:AA:2512:A:H8	1.76	0.50
34:AA:2806:U:H2'	34:AA:2807:U:C6	2.46	0.50
37:AL:84:LEU:HB3	37:AL:138:GLY:HA3	1.92	0.50
38:A1:31:GLY:H	38:A1:39:SER:HB3	1.76	0.50
48:Ad:52:MET:HE3	48:Ad:54:PHE:CZ	2.45	0.50
51:AP:121:TRP:HH2	51:AP:124:GLN:NE2	2.06	0.50
8:SA:141:G:H2'	8:SA:142:G:C8	2.47	0.50
8:SA:251:U:C4	29:SV:17:GLU:HB2	2.46	0.50
8:SA:644:U:O2	17:SJ:115:ARG:NH2	2.31	0.50
9:SB:107:ARG:NH2	23:SP:133:THR:O	2.36	0.50
21:SN:102:SER:HA	21:SN:105:ILE:HG12	1.93	0.50
22:SO:58:LYS:HD3	22:SO:58:LYS:C	2.37	0.50
24:SQ:46:SER:OG	24:SQ:78:LYS:NZ	2.43	0.50
34:AA:172:C:OP2	37:AL:133:LYS:NZ	2.37	0.50
34:AA:494:U:O2'	34:AA:495:U:H5'	2.11	0.50
34:AA:3036:A:H2'	34:AA:3037:G:H8	1.77	0.50
37:AL:170:PHE:HB3	60:AO:104:ARG:HG2	1.93	0.50
60:AO:117:LYS:HG2	60:AO:120:GLN:HG3	1.93	0.50
61:AQ:201:ARG:NH2	61:AQ:203:LYS:HG3	2.25	0.50
68:A5:173:ARG:HB2	68:A5:216:TRP:CE3	2.45	0.50
71:AF:292:ILE:HG13	71:AF:293:ILE:N	2.26	0.50
8:SA:1392:C:H2'	8:SA:1393:G:C8	2.46	0.50
8:SA:1808:G:N3	8:SA:1814:C:H1'	2.25	0.50
8:SA:1810:U:H1'	11:SD:6:SER:HB3	1.93	0.50
8:SA:1854:U:N3	31:SX:81:ARG:HB3	2.24	0.50
8:SA:2005:U:H2'	8:SA:2006:U:C6	2.46	0.50
12:SE:132:ARG:NE	12:SE:140:MET:HE1	2.25	0.50
16:SI:46:ARG:HG3	20:SM:123:ARG:NH2	2.25	0.50
23:SP:112:ALA:O	23:SP:116:LEU:HD12	2.11	0.50
24:SQ:100:ASP:OD2	24:SQ:144:ARG:NH2	2.44	0.50
34:AA:433:A:N1	44:A8:24:ARG:NH1	2.59	0.50
34:AA:739:G:H4'	34:AA:740:U:C6	2.46	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:A7:17:THR:OG1	42:A7:84:GLU:OE1	2.28	0.50
42:A7:32:CYS:SG	42:A7:33:TYR:N	2.84	0.50
52:Ah:58:LYS:O	52:Ah:61:LYS:HE2	2.11	0.50
55:AJ:74:TYR:O	55:AJ:75:ILE:HG12	2.11	0.50
62:AR:241:ASN:O	62:AR:244:GLU:HG3	2.11	0.50
74:AH:48:ASN:HB3	74:AH:52:LYS:O	2.10	0.50
74:AH:110:ARG:HB3	74:AH:110:ARG:HH11	1.76	0.50
79:S8:1:C:H2'	79:S8:2:G:H8	1.77	0.50
81:S9:19:G:P	81:S9:60:U:H3	2.33	0.50
8:SA:457:A:OP2	8:SA:459:A:N6	2.44	0.50
8:SA:888:A:H2'	8:SA:889:A:H8	1.76	0.50
8:SA:1679:G:C2	27:ST:39:GLN:HB3	2.47	0.50
8:SA:1722:U:H4'	32:SY:68:LEU:CD2	2.41	0.50
8:SA:2029:A:H2'	8:SA:2030:U:C6	2.47	0.50
10:SC:93:THR:HG23	10:SC:95:ALA:H	1.76	0.50
16:SI:187:ILE:O	16:SI:190:VAL:HG22	2.11	0.50
34:AA:670:U:H2'	34:AA:671:U:C6	2.46	0.50
34:AA:3013:A:C2	72:AG:124:GLY:HA3	2.46	0.50
36:AB:40:A:N3	72:AG:72:ARG:NH1	2.59	0.50
41:A6:50:ASN:HB2	41:A6:76:ASP:HB2	1.93	0.50
47:Ab:38:SER:HA	47:Ab:41:LYS:HZ3	1.76	0.50
55:AJ:57:VAL:O	55:AJ:57:VAL:HG12	2.10	0.50
60:AO:125:LYS:HG2	60:AO:145:ILE:HB	1.92	0.50
69:AD:67:GLU:HG2	69:AD:68:LYS:HG2	1.93	0.50
75:AV:18:LYS:HD3	75:AV:23:HIS:HA	1.93	0.50
79:S8:6:G:H2'	79:S8:7:G:H8	1.76	0.50
81:S9:15:G:O6	81:S9:48:C:O2	2.29	0.50
8:SA:181:A:H2'	8:SA:182:U:C6	2.46	0.50
8:SA:1285:A:HO2'	8:SA:1310:C:HO2'	1.52	0.50
8:SA:1840:A:N6	8:SA:1866:A:OP2	2.45	0.50
14:SG:230:LEU:O	14:SG:233:THR:OG1	2.22	0.50
17:SJ:164:ASN:OD1	17:SJ:164:ASN:N	2.44	0.50
21:SN:84:TYR:O	21:SN:85:LYS:HD3	2.11	0.50
32:SY:43:THR:HA	32:SY:46:LYS:HE2	1.93	0.50
34:AA:673:U:O2'	34:AA:674:U:H5'	2.11	0.50
34:AA:966:A:H2'	34:AA:967:A:C8	2.46	0.50
34:AA:1154:C:H2'	34:AA:1155:C:C6	2.46	0.50
35:AC:139:A:H4'	35:AC:140:G:O5'	2.11	0.50
41:A6:21:MET:HA	41:A6:26:TYR:CE2	2.47	0.50
55:AJ:102:PRO:HG2	55:AJ:105:GLN:NE2	2.24	0.50
56:Ac:74:ARG:O	56:Ac:75:ARG:NE	2.35	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:AQ:76:MET:HE2	61:AQ:148:ALA:HA	1.93	0.50
68:A5:83:CYS:SG	75:AV:141:MET:HE3	2.52	0.50
69:AD:34:TYR:O	69:AD:38:LYS:HG3	2.11	0.50
72:AG:160:MET:O	72:AG:164:GLN:HG3	2.12	0.50
3:S3:10:ARG:HB2	3:S3:33:ASP:OD1	2.10	0.50
8:SA:109:C:OP1	8:SA:389:G:O2'	2.23	0.50
8:SA:1282:U:H2'	8:SA:1283:U:O4'	2.11	0.50
8:SA:1732:G:O3'	21:SN:61:ARG:NH2	2.45	0.50
9:SB:119:THR:HG21	9:SB:156:ALA:H	1.77	0.50
10:SC:79:ARG:HA	10:SC:79:ARG:NE	2.27	0.50
11:SD:117:ARG:NE	11:SD:117:ARG:H	2.10	0.50
17:SJ:81:ILE:HD12	17:SJ:92:VAL:HG13	1.94	0.50
19:SL:46:VAL:HG21	19:SL:56:ARG:HE	1.75	0.50
23:SP:43:HIS:CD2	23:SP:55:ARG:HB2	2.45	0.50
33:SZ:16:LYS:HA	33:SZ:23:LEU:HA	1.93	0.50
34:AA:2574:A:H8	34:AA:3333:U:HO2'	1.59	0.50
34:AA:3577:A:OP2	57:AK:31:ARG:NH1	2.45	0.50
37:AL:125:ILE:HG13	37:AL:148:ILE:HD13	1.93	0.50
42:A7:86:LYS:HB2	42:A7:98:TYR:CZ	2.46	0.50
47:Ab:38:SER:HA	47:Ab:41:LYS:NZ	2.26	0.50
51:AP:169:GLY:HA2	51:AP:172:TYR:CE2	2.46	0.50
74:AH:113:ILE:HD12	74:AH:113:ILE:O	2.12	0.50
5:S5:27:ALA:N	5:S5:40:LEU:O	2.43	0.50
7:S7:69:U:H3'	7:S7:70:A:H8	1.76	0.50
8:SA:1017:G:H2'	8:SA:1018:U:C6	2.46	0.50
8:SA:1376:A:O2'	11:SD:142:LYS:NZ	2.37	0.50
15:SH:192:GLN:HA	15:SH:195:GLU:HG2	1.92	0.50
16:SI:191:ALA:HB3	16:SI:192:LYS:HE2	1.93	0.50
34:AA:949:A:H1'	34:AA:2133:C:H2'	1.93	0.50
34:AA:2816:U:H2'	34:AA:2817:U:H6	1.76	0.50
34:AA:2947:G:O2'	51:AP:79:ILE:HG13	2.11	0.50
34:AA:3577:A:H3'	34:AA:3581:A:N6	2.26	0.50
34:AA:3633:U:H2'	34:AA:3634:C:H6	1.76	0.50
38:A1:46:ILE:HA	38:A1:70:ALA:HA	1.93	0.50
56:Ac:11:PHE:HA	56:Ac:14:ARG:HD2	1.94	0.50
69:AD:108:PRO:O	69:AD:111:THR:HG23	2.11	0.50
8:SA:259:A:O2'	19:SL:64:SER:OG	2.15	0.50
8:SA:1701:G:O2'	8:SA:1702:C:O4'	2.17	0.50
8:SA:1783:U:H2'	8:SA:1784:A:C8	2.47	0.50
8:SA:1843:G:H2'	8:SA:1844:A:O4'	2.12	0.50
8:SA:1846:U:P	31:SX:39:ALA:H	2.34	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1879:U:O2'	8:SA:1911:A:N6	2.44	0.50
8:SA:1888:U:H2'	8:SA:1889:G:C8	2.41	0.50
12:SE:64:GLU:O	12:SE:65:LYS:HG2	2.11	0.50
16:SI:105:ASN:O	16:SI:109:LYS:HG2	2.11	0.50
18:SK:10:CYS:SG	18:SK:27:ILE:HG21	2.52	0.50
28:SU:33:ILE:HG12	28:SU:66:VAL:HG11	1.94	0.50
31:SX:34:ILE:HD13	31:SX:45:PHE:HD2	1.77	0.50
34:AA:38:U:H2'	34:AA:39:A:O4'	2.11	0.50
34:AA:38:U:H5"	60:AO:32:ARG:HD2	1.94	0.50
34:AA:459:G:H2'	34:AA:460:A:C8	2.46	0.50
34:AA:3101:A:H2'	34:AA:3102:U:H6	1.75	0.50
35:AC:69:A:H2'	35:AC:70:A:H8	1.77	0.50
64:AY:143:ILE:O	64:AY:147:VAL:HG13	2.11	0.50
71:AF:385:LYS:HG2	71:AF:389:ARG:NH1	2.27	0.50
81:S9:27:G:H2'	81:S9:28:G:C8	2.47	0.50
8:SA:52:U:H2'	8:SA:53:G:C8	2.47	0.50
8:SA:53:G:H2'	8:SA:54:C:H6	1.77	0.50
8:SA:310:U:H2'	8:SA:311:C:C6	2.46	0.50
8:SA:455:C:H2'	8:SA:456:U:H6	1.75	0.50
13:SF:23:MET:HA	13:SF:23:MET:HE3	1.92	0.50
15:SH:199:LEU:HD22	15:SH:202:LYS:HE2	1.93	0.50
18:SK:40:TYR:CE1	18:SK:112:ASP:HB3	2.47	0.50
21:SN:35:CYS:HA	21:SN:38:ILE:HG12	1.94	0.50
21:SN:87:LEU:C	21:SN:88:ILE:HD13	2.37	0.50
28:SU:33:ILE:O	28:SU:37:ILE:HG23	2.12	0.50
32:SY:33:ASP:OD1	32:SY:34:ALA:N	2.45	0.50
32:SY:95:VAL:HA	32:SY:98:LEU:HD12	1.94	0.50
33:SZ:22:ARG:HD3	33:SZ:57:HIS:CE1	2.47	0.50
34:AA:147:C:H2'	34:AA:148:G:O4'	2.11	0.50
34:AA:238:G:H2'	34:AA:239:U:O4'	2.12	0.50
34:AA:2037:U:H2'	34:AA:2038:U:C6	2.47	0.50
34:AA:3658:G:O2'	34:AA:3659:C:H6	1.95	0.50
36:AB:12:U:OP2	36:AB:67:C:O2'	2.30	0.50
54:AI:75:THR:OG1	54:AI:86:VAL:HG12	2.12	0.50
62:AR:292:LYS:HE3	62:AR:293:LEU:HB2	1.93	0.50
72:AG:49:LYS:HD3	72:AG:51:ARG:HG2	1.93	0.50
74:AH:10:VAL:O	74:AH:53:TYR:HA	2.11	0.50
8:SA:1944:U:H2'	8:SA:1945:C:C6	2.47	0.49
10:SC:175:TRP:HE1	10:SC:196:VAL:HG12	1.76	0.49
15:SH:32:ILE:HD13	15:SH:52:ILE:HG22	1.94	0.49
17:SJ:144:LYS:HB2	17:SJ:146:ASP:OD1	2.12	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SK:36:LYS:HA	18:SK:39:GLN:HG2	1.94	0.49
30:SW:41:ILE:HG21	30:SW:46:MET:HB2	1.92	0.49
32:SY:62:THR:HG1	32:SY:66:ARG:HE	1.57	0.49
34:AA:428:A:O2'	34:AA:708:A:OP1	2.21	0.49
34:AA:744:G:H22	34:AA:915:G:N2	2.10	0.49
34:AA:1255:G:OP2	61:AQ:98:ARG:NH2	2.31	0.49
34:AA:2440:A:OP2	69:AD:200:ARG:NH1	2.45	0.49
38:A1:106:ASN:O	38:A1:110:GLU:HG3	2.12	0.49
44:A8:5:LYS:HG3	44:A8:10:ILE:HG12	1.93	0.49
44:A8:38:ILE:HG22	44:A8:39:ASP:OD1	2.13	0.49
46:Aa:76:TYR:CD1	46:Aa:85:ILE:HD11	2.47	0.49
48:Ad:57:ARG:HA	48:Ad:57:ARG:HH11	1.76	0.49
55:AJ:121:LYS:HE2	55:AJ:121:LYS:HA	1.93	0.49
66:AZ:57:ILE:HB	66:AZ:103:VAL:HG12	1.94	0.49
77:AX:48:LYS:HG2	77:AX:134:TYR:HE1	1.77	0.49
81:S9:67:C:H2'	81:S9:68:C:C6	2.47	0.49
1:S1:120:ARG:HG3	1:S1:122:THR:H	1.76	0.49
7:S7:8:U:N3	7:S7:15:G:O6	2.45	0.49
8:SA:428:G:H2'	8:SA:429:G:C8	2.47	0.49
8:SA:751:U:H2'	8:SA:752:U:C6	2.47	0.49
8:SA:974:A:O3'	23:SP:66:ARG:NH1	2.40	0.49
8:SA:1457:A:H2'	8:SA:1458:G:O4'	2.11	0.49
8:SA:1715:A:O2'	8:SA:1837:G:N2	2.44	0.49
10:SC:60:ALA:O	10:SC:63:ILE:HG13	2.12	0.49
13:SF:125:LYS:NZ	13:SF:225:VAL:O	2.37	0.49
18:SK:30:SER:HB3	18:SK:59:GLY:O	2.12	0.49
18:SK:83:LEU:HG	18:SK:122:GLY:H	1.77	0.49
34:AA:1506:C:H2'	34:AA:1507:U:H6	1.77	0.49
34:AA:1575:C:H5'	71:AF:42:THR:HG21	1.94	0.49
34:AA:1706:A:O5'	55:AJ:73:ARG:NH2	2.45	0.49
34:AA:1793:A:H2'	34:AA:1795:A:H62	1.75	0.49
34:AA:2549:A:N1	81:S9:37:A:O2'	2.37	0.49
34:AA:3409:U:H2'	34:AA:3410:A:H8	1.77	0.49
34:AA:3757:U:H2'	34:AA:3758:G:C8	2.46	0.49
57:AK:118:VAL:HG12	73:AU:175:ALA:HB3	1.94	0.49
63:AW:10:ASN:ND2	63:AW:13:LYS:HE2	2.26	0.49
81:S9:66:U:H2'	81:S9:67:C:C6	2.48	0.49
8:SA:875:A:H8	8:SA:875:A:OP1	1.96	0.49
8:SA:1434:U:H2'	8:SA:1435:C:C6	2.47	0.49
8:SA:1450:A:H1'	8:SA:1626:U:C2	2.46	0.49
8:SA:1644:U:H2'	8:SA:1646:U:C4	2.47	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1797:C:H2'	8:SA:1798:G:C8	2.47	0.49
8:SA:1944:U:H2'	8:SA:1945:C:H6	1.78	0.49
9:SB:188:PHE:CZ	9:SB:215:VAL:HG21	2.47	0.49
14:SG:55:LYS:HG3	14:SG:255:TRP:CE2	2.46	0.49
16:SI:46:ARG:HH12	16:SI:53:ARG:HH11	1.60	0.49
23:SP:59:GLY:HA2	23:SP:68:GLU:HG2	1.95	0.49
25:SR:54:ALA:HB3	25:SR:75:LEU:HD13	1.94	0.49
29:SV:50:GLU:CD	29:SV:50:GLU:H	2.19	0.49
34:AA:61:A:H2'	34:AA:62:A:C8	2.47	0.49
34:AA:149:A:OP1	55:AJ:125:LYS:NZ	2.32	0.49
34:AA:596:A:O3'	74:AH:46:ARG:NH1	2.43	0.49
65:AT:163:LEU:HA	65:AT:166:GLN:NE2	2.23	0.49
68:A5:172:ALA:O	68:A5:174:LYS:HG2	2.11	0.49
1:S1:77:TYR:OH	1:S1:87:GLU:OE2	2.22	0.49
8:SA:39:A:OP1	12:SE:6:ARG:NH1	2.45	0.49
8:SA:887:A:H2	8:SA:915:G:N1	2.01	0.49
8:SA:941:C:O2'	9:SB:163:LYS:NZ	2.30	0.49
8:SA:1947:U:H2'	8:SA:1948:A:C8	2.48	0.49
23:SP:34:PHE:HE1	23:SP:100:SER:HA	1.77	0.49
26:SS:17:ILE:HD12	26:SS:18:LEU:N	2.28	0.49
26:SS:126:ARG:HG2	26:SS:131:LEU:HD13	1.93	0.49
31:SX:34:ILE:HD12	31:SX:37:PHE:HB2	1.94	0.49
32:SY:29:ILE:O	32:SY:85:ARG:NH2	2.41	0.49
34:AA:338:U:H2'	34:AA:339:G:H8	1.77	0.49
34:AA:528:A:OP1	68:A5:76:ARG:NH2	2.40	0.49
34:AA:779:U:H2'	37:AL:165:LYS:NZ	2.27	0.49
34:AA:1205:U:H4'	34:AA:1206:U:O4'	2.12	0.49
34:AA:1506:C:H2'	34:AA:1507:U:C6	2.47	0.49
35:AC:13:A:H2'	35:AC:14:A:C8	2.47	0.49
54:AI:100:ASP:HB3	54:AI:103:TYR:HD2	1.76	0.49
70:AE:331:ARG:HG3	70:AE:332:PRO:HD2	1.94	0.49
1:S1:7:ILE:HD12	1:S1:27:ILE:HD12	1.95	0.49
5:S5:28:GLN:NE2	5:S5:38:ARG:HD3	2.27	0.49
8:SA:597:C:H2'	8:SA:598:A:H8	1.77	0.49
15:SH:63:MET:HG2	15:SH:98:ARG:HG3	1.93	0.49
19:SL:162:ILE:N	19:SL:164:LYS:HD3	2.28	0.49
21:SN:42:ALA:HA	21:SN:47:LEU:HD12	1.94	0.49
22:SO:46:LEU:HB3	22:SO:48:VAL:HG12	1.95	0.49
26:SS:126:ARG:NH1	26:SS:133:VAL:HA	2.27	0.49
34:AA:909:U:H2'	34:AA:910:A:C8	2.46	0.49
36:AB:48:G:OP1	62:AR:225:TYR:OH	2.25	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:AB:63:A:O4'	62:AR:282:VAL:HG21	2.13	0.49
41:A6:90:ILE:HG22	41:A6:92:CYS:H	1.77	0.49
58:AM:93:TYR:CD1	78:A0:27:LYS:HD3	2.47	0.49
62:AR:222:PHE:O	62:AR:226:LEU:HG	2.11	0.49
70:AE:289:ASN:OD1	70:AE:289:ASN:N	2.45	0.49
8:SA:248:G:C2	13:SF:203:GLY:HA2	2.48	0.49
8:SA:1381:C:H2'	8:SA:1382:G:C8	2.47	0.49
8:SA:1662:A:H2'	8:SA:1663:A:H8	1.76	0.49
8:SA:1822:A:N1	8:SA:1905:C:H1'	2.28	0.49
17:SJ:48:ASP:O	17:SJ:60:ILE:HA	2.12	0.49
23:SP:36:SER:C	23:SP:38:ASN:H	2.19	0.49
34:AA:61:A:H2'	34:AA:62:A:H8	1.78	0.49
34:AA:1779:A:N7	34:AA:2033:C:O2'	2.41	0.49
34:AA:1801:G:O2'	34:AA:2031:A:N6	2.45	0.49
34:AA:1850:U:O2	46:Aa:26:PRO:HB3	2.13	0.49
34:AA:1875:A:H2'	34:AA:1876:A:C8	2.48	0.49
34:AA:2410:A:O2'	34:AA:3465:G:O2'	2.28	0.49
38:A1:88:ALA:HA	38:A1:93:ILE:HD11	1.95	0.49
50:Af:3:GLU:OE2	50:Af:4:PRO:HD2	2.13	0.49
54:AI:71:ARG:O	54:AI:92:ASN:ND2	2.45	0.49
66:AZ:73:ASN:OD1	66:AZ:76:ARG:HD2	2.13	0.49
79:S8:9:G:H5"	79:S8:46:G:H1'	1.93	0.49
81:S9:26:A:C4	81:S9:27:G:C8	3.01	0.49
8:SA:207:G:N2	8:SA:208:U:O4	2.39	0.49
8:SA:564:G:O2'	8:SA:565:U:H5'	2.13	0.49
16:SI:64:VAL:HG12	16:SI:84:VAL:HG21	1.94	0.49
16:SI:181:ILE:HG13	16:SI:182:LYS:N	2.28	0.49
19:SL:84:ASN:C	19:SL:84:ASN:HD22	2.21	0.49
20:SM:37:LEU:HD21	32:SY:22:PHE:CD1	2.47	0.49
34:AA:455:U:H2'	34:AA:456:A:C8	2.48	0.49
34:AA:1237:C:H2'	34:AA:1238:C:C6	2.47	0.49
34:AA:1963:U:C2'	34:AA:1964:G:H5'	2.43	0.49
34:AA:3183:G:H2'	34:AA:3184:C:C6	2.47	0.49
34:AA:3241:U:H2'	34:AA:3242:U:H6	1.76	0.49
8:SA:335:G:H5'	19:SL:99:ASN:HB2	1.94	0.49
8:SA:857:A:N7	8:SA:859:A:C8	2.81	0.49
8:SA:1208:G:O2'	8:SA:1209:G:H5'	2.12	0.49
8:SA:1461:C:O4'	32:SY:160:ARG:NH2	2.46	0.49
8:SA:1717:A:H5'	16:SI:154:PHE:CE1	2.48	0.49
8:SA:1862:C:H1'	26:SS:87:ASN:HB2	1.95	0.49
8:SA:1911:A:N3	16:SI:51:ARG:NH2	2.38	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:SH:209:LYS:O	15:SH:212:LEU:HB2	2.13	0.49
17:SJ:158:LYS:O	17:SJ:162:ARG:NH1	2.46	0.49
22:SO:72:TRP:CE3	27:ST:21:VAL:HB	2.48	0.49
24:SQ:117:LEU:HD12	24:SQ:118:PRO:HD2	1.95	0.49
34:AA:431:G:O6	34:AA:2676:C:O2'	2.24	0.49
34:AA:1162:U:H2'	34:AA:1163:A:C8	2.47	0.49
34:AA:2027:A:H2'	34:AA:2028:G:H8	1.77	0.49
54:AI:86:VAL:HG22	54:AI:88:PRO:HA	1.93	0.49
61:AQ:156:LYS:HG3	61:AQ:163:GLN:HB2	1.95	0.49
75:AV:30:LYS:NZ	75:AV:33:GLU:OE1	2.46	0.49
76:Ag:7:ARG:HG2	76:Ag:8:TYR:CD1	2.47	0.49
5:S5:44:VAL:HG11	5:S5:48:VAL:HG21	1.94	0.49
8:SA:30:G:H4'	24:SQ:131:SER:OG	2.13	0.49
8:SA:53:G:H2'	8:SA:54:C:C6	2.48	0.49
8:SA:205:A:H2'	8:SA:206:A:C8	2.48	0.49
16:SI:143:TYR:O	16:SI:147:THR:HG23	2.13	0.49
19:SL:104:ILE:N	19:SL:181:VAL:O	2.30	0.49
30:SW:10:LYS:HB3	30:SW:14:ARG:NH1	2.28	0.49
32:SY:37:PHE:HD1	32:SY:162:ILE:HG21	1.77	0.49
34:AA:133:U:H2'	34:AA:134:G:C8	2.48	0.49
34:AA:172:C:H2'	34:AA:173:A:C8	2.48	0.49
34:AA:262:A:H2'	34:AA:263:U:C6	2.48	0.49
34:AA:451:C:N4	34:AA:694:U:O2'	2.44	0.49
34:AA:1454:A:H2'	34:AA:1455:C:O4'	2.13	0.49
34:AA:2394:C:O2'	34:AA:2395:U:H6	1.95	0.49
34:AA:3585:A:O2'	34:AA:3586:U:H6	1.96	0.49
34:AA:3641:U:H3	34:AA:3644:G:H1	1.60	0.49
35:AC:76:A:C5	35:AC:84:G:C2	3.00	0.49
62:AR:165:LEU:HD11	62:AR:177:HIS:HB3	1.95	0.49
75:AV:39:ASP:O	75:AV:65:ILE:HG12	2.12	0.49
8:SA:509:U:H2'	8:SA:510:G:C8	2.47	0.49
8:SA:1414:A:H2'	8:SA:1415:A:C8	2.48	0.49
8:SA:1908:A:H2'	8:SA:1909:C:C6	2.48	0.49
9:SB:66:TYR:CE2	23:SP:48:SER:HB3	2.48	0.49
11:SD:135:CYS:SG	11:SD:136:GLU:N	2.86	0.49
13:SF:247:ASP:N	13:SF:250:GLU:OE1	2.46	0.49
21:SN:91:TYR:HB2	21:SN:116:THR:HG23	1.94	0.49
26:SS:121:LEU:HD11	31:SX:111:MET:SD	2.53	0.49
33:SZ:57:HIS:CE1	33:SZ:58:VAL:HG23	2.48	0.49
34:AA:1298:A:H2'	34:AA:1299:G:O4'	2.13	0.49
34:AA:3442:C:H5	42:A7:32:CYS:SG	2.36	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:102:U:OP1	64:AY:103:LYS:HD2	2.13	0.49
36:AB:22:G:N1	36:AB:53:U:O2'	2.44	0.49
63:AW:41:LEU:HD12	63:AW:114:LEU:HD21	1.95	0.49
73:AU:18:ILE:HD11	73:AU:46:ALA:HB1	1.95	0.49
79:S8:6:G:H2'	79:S8:7:G:C8	2.48	0.49
1:S1:97:LEU:HD23	1:S1:98:ILE:HG23	1.95	0.48
8:SA:987:U:H2'	8:SA:988:U:H6	1.78	0.48
8:SA:1712:G:H2'	8:SA:1713:C:C6	2.48	0.48
8:SA:1851:C:H5"	31:SX:47:ARG:NH1	2.28	0.48
10:SC:30:GLU:OE1	10:SC:31:ASN:N	2.45	0.48
10:SC:30:GLU:OE1	10:SC:32:LYS:N	2.44	0.48
11:SD:123:VAL:O	11:SD:127:ILE:HG13	2.13	0.48
17:SJ:43:LYS:HA	17:SJ:43:LYS:HD3	1.70	0.48
17:SJ:62:ILE:HG23	17:SJ:94:LEU:HD13	1.95	0.48
21:SN:39:MET:SD	21:SN:39:MET:N	2.66	0.48
26:SS:36:LYS:NZ	26:SS:102:ALA:H	2.11	0.48
28:SU:26:LEU:HD11	28:SU:28:GLN:HB3	1.95	0.48
34:AA:76:G:H3'	37:AL:72:LYS:HG2	1.95	0.48
34:AA:154:A:OP2	55:AJ:210:LYS:NZ	2.44	0.48
34:AA:203:A:H2	34:AA:207:A:C2	2.13	0.48
34:AA:536:A:O2'	34:AA:537:A:H5"	2.11	0.48
37:AL:136:ILE:HD13	67:A3:113:PHE:CE2	2.48	0.48
46:Aa:10:HIS:ND1	46:Aa:10:HIS:O	2.46	0.48
55:AJ:124:LYS:O	55:AJ:128:LEU:HD23	2.13	0.48
58:AM:12:LYS:CG	58:AM:127:LEU:HD11	2.42	0.48
62:AR:216:ASP:HA	62:AR:219:LYS:HZ2	1.77	0.48
72:AG:92:ARG:HG3	72:AG:94:LYS:H	1.77	0.48
8:SA:1384:U:H5"	8:SA:1385:U:H2'	1.95	0.48
8:SA:1634:A:C2	8:SA:1657:A:H2'	2.48	0.48
11:SD:209:LEU:HD12	11:SD:210:PRO:HD2	1.94	0.48
15:SH:10:ASN:HB3	15:SH:12:VAL:HG12	1.96	0.48
34:AA:670:U:H2'	34:AA:671:U:H6	1.78	0.48
34:AA:1765:A:H2'	34:AA:1766:U:C6	2.47	0.48
34:AA:3345:U:H2'	34:AA:3346:A:H8	1.78	0.48
34:AA:3428:U:OP1	58:AM:50:ARG:NH1	2.46	0.48
48:Ad:24:ILE:HG13	48:Ad:74:ILE:HB	1.95	0.48
50:Af:51:LEU:HD11	74:AH:173:LYS:HB2	1.95	0.48
55:AJ:42:ASN:OD1	55:AJ:42:ASN:N	2.39	0.48
55:AJ:119:GLU:HB2	55:AJ:123:ASP:HB2	1.95	0.48
62:AR:196:LYS:HB2	62:AR:201:ILE:HB	1.95	0.48
62:AR:273:LEU:O	62:AR:278:ARG:NH2	2.46	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AF:14:ASN:HD21	71:AF:16:LYS:HB2	1.78	0.48
81:S9:64:A:H2'	81:S9:65:G:H8	1.78	0.48
8:SA:862:A:H4'	13:SF:201:ASN:HD22	1.78	0.48
8:SA:1279:G:H3'	8:SA:1280:G:H8	1.78	0.48
8:SA:1695:A:H2'	8:SA:1696:A:H8	1.78	0.48
8:SA:1854:U:N3	31:SX:81:ARG:O	2.46	0.48
20:SM:20:VAL:HB	20:SM:69:ARG:HG3	1.95	0.48
34:AA:700:A:H5'	45:A9:92:HIS:O	2.12	0.48
34:AA:949:A:H2	34:AA:983:G:H21	1.59	0.48
34:AA:1285:U:O2'	34:AA:1297:A:N3	2.40	0.48
34:AA:3345:U:H2'	34:AA:3346:A:C8	2.48	0.48
34:AA:3387:U:H2'	34:AA:3388:U:C6	2.48	0.48
34:AA:3669:U:H1'	34:AA:3671:A:H62	1.79	0.48
36:AB:7:G:OP1	62:AR:33:ARG:NH1	2.44	0.48
36:AB:24:C:N4	36:AB:25:A:N3	2.61	0.48
62:AR:50:ARG:NH2	62:AR:72:ASP:OD2	2.45	0.48
72:AG:92:ARG:NE	72:AG:93:ARG:H	2.11	0.48
75:AV:113:ASN:O	75:AV:117:ILE:HG23	2.14	0.48
5:S5:37:GLY:O	5:S5:39:PHE:N	2.46	0.48
8:SA:1696:A:H4'	27:ST:7:VAL:HG12	1.95	0.48
10:SC:29:LEU:HD13	10:SC:46:HIS:CD2	2.49	0.48
10:SC:162:CYS:HB3	10:SC:173:MET:HE2	1.95	0.48
12:SE:42:ILE:HG13	12:SE:43:TRP:N	2.28	0.48
13:SF:103:TYR:HB2	13:SF:182:MET:CE	2.44	0.48
17:SJ:59:THR:HB	17:SJ:91:TYR:HB2	1.95	0.48
19:SL:165:SER:O	19:SL:165:SER:OG	2.28	0.48
26:SS:73:MET:C	26:SS:73:MET:HE2	2.39	0.48
30:SW:101:ASP:O	30:SW:104:ARG:NH2	2.46	0.48
34:AA:1874:C:H2'	34:AA:1875:A:C8	2.48	0.48
34:AA:2036:C:N4	34:AA:2037:U:O4	2.45	0.48
34:AA:2119:G:H5"	56:Ac:3:LYS:HG3	1.95	0.48
34:AA:2654:A:H2'	34:AA:2655:C:C6	2.49	0.48
34:AA:3001:A:H2'	34:AA:3002:G:H8	1.78	0.48
41:A6:55:GLN:O	41:A6:58:VAL:HG12	2.13	0.48
52:Ah:51:CYS:HB3	52:Ah:54:ILE:HD12	1.94	0.48
55:AJ:244:ASP:OD1	55:AJ:248:LYS:HE3	2.13	0.48
64:AY:139:ASN:H	64:AY:142:ASN:HB2	1.78	0.48
72:AG:12:ILE:HG12	72:AG:154:VAL:HG12	1.94	0.48
76:Ag:3:HIS:CD2	76:Ag:4:GLY:H	2.32	0.48
3:S3:45:VAL:O	3:S3:50:GLN:NE2	2.38	0.48
5:S5:27:ALA:HB2	5:S5:42:ARG:HG3	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:353:G:OP1	29:SV:80:SER:OG	2.19	0.48
8:SA:1836:G:O2'	8:SA:1837:G:H5'	2.13	0.48
15:SH:30:LYS:O	15:SH:102:VAL:HG12	2.12	0.48
21:SN:46:ASN:O	21:SN:46:ASN:ND2	2.45	0.48
25:SR:57:CYS:HB2	25:SR:72:ILE:HB	1.95	0.48
26:SS:110:ARG:NH1	26:SS:114:GLU:HB3	2.28	0.48
34:AA:76:G:N7	37:AL:100:ARG:HG3	2.29	0.48
34:AA:688:U:H2'	34:AA:689:U:C6	2.49	0.48
34:AA:1093:G:H2'	34:AA:1094:U:C6	2.48	0.48
34:AA:1646:C:H2'	34:AA:1647:U:H6	1.77	0.48
34:AA:1740:A:H2'	34:AA:1741:G:C8	2.48	0.48
34:AA:3657:G:O2'	34:AA:3658:G:H5'	2.14	0.48
44:A8:13:ARG:HG3	44:A8:14:THR:O	2.14	0.48
48:Ad:47:LYS:HG2	48:Ad:48:TYR:CE2	2.49	0.48
48:Ad:68:LEU:HD12	48:Ad:70:SER:H	1.78	0.48
50:Af:51:LEU:HG	74:AH:172:ARG:HG3	1.95	0.48
59:AS:177:ARG:HA	59:AS:183:ARG:HB2	1.94	0.48
62:AR:104:LEU:CB	62:AR:246:ILE:HD11	2.43	0.48
62:AR:205:GLU:HA	62:AR:208:LYS:HG3	1.94	0.48
67:A3:78:LYS:O	67:A3:83:ARG:NH2	2.41	0.48
74:AH:77:LYS:O	74:AH:81:THR:HG22	2.13	0.48
8:SA:847:U:H2'	8:SA:848:U:H6	1.78	0.48
15:SH:63:MET:HG2	15:SH:98:ARG:CG	2.43	0.48
32:SY:61:LYS:NZ	32:SY:67:LYS:HD2	2.28	0.48
34:AA:494:U:H2'	34:AA:495:U:C6	2.49	0.48
34:AA:740:U:H2'	34:AA:741:C:C6	2.47	0.48
34:AA:2441:U:H2'	34:AA:2442:A:C5	2.49	0.48
46:Aa:76:TYR:CD2	46:Aa:80:ILE:HG13	2.48	0.48
58:AM:11:ASN:OD1	58:AM:11:ASN:N	2.40	0.48
61:AQ:179:ASP:O	61:AQ:183:GLN:HG2	2.13	0.48
62:AR:286:LEU:O	62:AR:290:VAL:HG23	2.14	0.48
71:AF:342:ARG:NH1	71:AF:342:ARG:HB2	2.28	0.48
71:AF:347:ILE:HB	71:AF:350:LYS:NZ	2.28	0.48
73:AU:90:TYR:HE1	73:AU:99:MET:HE3	1.77	0.48
8:SA:99:C:H1'	8:SA:432:G:H5'	1.96	0.48
8:SA:2030:U:H2'	8:SA:2031:C:C6	2.49	0.48
12:SE:100:THR:H	12:SE:103:LYS:HG2	1.78	0.48
15:SH:20:ASP:OD2	15:SH:23:LYS:HG3	2.12	0.48
17:SJ:72:TYR:HE2	17:SJ:76:ILE:HD11	1.79	0.48
28:SU:60:ILE:HD12	28:SU:60:ILE:O	2.13	0.48
32:SY:30:LYS:HB2	32:SY:88:TYR:HE2	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:642:A:H62	34:AA:684:G:HO2'	1.55	0.48
34:AA:1208:G:H2'	34:AA:1209:U:H6	1.78	0.48
34:AA:2108:A:H1'	49:Ae:45:ARG:HH22	1.79	0.48
34:AA:3023:C:OP1	72:AG:16:LYS:NZ	2.43	0.48
34:AA:3433:C:O2'	34:AA:3434:A:H5'	2.13	0.48
34:AA:3702:C:N3	63:AW:69:ARG:NH2	2.61	0.48
52:Ah:47:THR:HA	52:Ah:57:CYS:HA	1.96	0.48
59:AS:121:THR:OG1	59:AS:123:ASP:OD1	2.29	0.48
68:A5:56:ARG:NH1	68:A5:196:ASP:OD2	2.46	0.48
73:AU:182:TYR:O	73:AU:184:MET:N	2.47	0.48
79:S8:15:G:N1	79:S8:48:C:N3	2.54	0.48
8:SA:1434:U:OP2	30:SW:45:ARG:NE	2.47	0.48
8:SA:1781:C:H2'	8:SA:1782:A:C8	2.48	0.48
8:SA:1881:G:H5"	20:SM:123:ARG:HE	1.78	0.48
10:SC:79:ARG:HD2	10:SC:128:THR:HG21	1.96	0.48
25:SR:28:VAL:HA	25:SR:31:ASN:ND2	2.28	0.48
26:SS:41:ARG:HB3	26:SS:85:PHE:CZ	2.49	0.48
26:SS:67:ASP:O	26:SS:71:HIS:ND1	2.47	0.48
26:SS:132:ARG:HB3	26:SS:136:GLN:N	2.29	0.48
32:SY:87:LEU:HD23	32:SY:145:ARG:HB2	1.95	0.48
33:SZ:46:ASN:OD1	33:SZ:46:ASN:N	2.47	0.48
34:AA:417:A:C2	35:AC:21:A:H1'	2.49	0.48
34:AA:939:A:H2'	34:AA:940:A:H8	1.79	0.48
34:AA:1220:U:O2'	34:AA:1221:A:OP1	2.24	0.48
34:AA:3256:C:H5"	50:Af:49:LYS:HD2	1.95	0.48
34:AA:3553:G:O2'	34:AA:3572:A:N6	2.47	0.48
36:AB:58:A:H2'	36:AB:59:C:C6	2.48	0.48
54:AI:139:THR:HG22	54:AI:175:LYS:HD2	1.96	0.48
64:AY:151:PHE:O	64:AY:153:ILE:N	2.43	0.48
74:AH:44:ASP:HB3	74:AH:57:VAL:HG22	1.96	0.48
7:S7:22:A:H62	7:S7:44:G:H22	1.62	0.48
8:SA:401:U:H2'	8:SA:402:G:O4'	2.13	0.48
8:SA:926:G:OP1	17:SJ:117:ARG:NH2	2.47	0.48
8:SA:1653:A:H2'	8:SA:1654:G:H8	1.79	0.48
8:SA:1664:G:C2	8:SA:1665:G:N2	2.82	0.48
8:SA:1743:A:H2'	8:SA:1744:A:O4'	2.14	0.48
8:SA:1821:A:H4'	32:SY:115:THR:HG21	1.95	0.48
17:SJ:102:LYS:HB3	17:SJ:105:GLN:HG2	1.95	0.48
19:SL:81:VAL:HG22	19:SL:102:VAL:HG12	1.96	0.48
27:ST:17:ARG:HG3	27:ST:30:ARG:HH21	1.78	0.48
29:SV:76:GLY:HA3	29:SV:89:ILE:HG23	1.96	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SW:29:GLN:HG3	30:SW:32:LYS:NZ	2.29	0.48
34:AA:1035:G:H5'	34:AA:1036:A:OP1	2.13	0.48
34:AA:1875:A:H2'	34:AA:1876:A:H8	1.79	0.48
34:AA:2654:A:H2'	34:AA:2655:C:H6	1.78	0.48
34:AA:2739:U:H2'	34:AA:2740:A:H8	1.77	0.48
36:AB:51:G:H21	72:AG:9:MET:HE1	1.79	0.48
37:AL:149:LYS:HE2	37:AL:149:LYS:HB3	1.76	0.48
56:Ac:31:HIS:CD2	56:Ac:34:LYS:HG2	2.49	0.48
1:S1:41:LYS:HG2	1:S1:56:ILE:HD11	1.96	0.48
7:S7:3:G:H1	7:S7:68:U:H3	1.61	0.48
8:SA:1743:A:C6	8:SA:1787:U:H5	2.31	0.48
19:SL:57:ALA:HB2	19:SL:193:GLY:HA2	1.96	0.48
28:SU:149:LEU:HD13	28:SU:149:LEU:O	2.14	0.48
34:AA:394:A:H2'	34:AA:395:A:C8	2.49	0.48
34:AA:642:A:N6	34:AA:684:G:HO2'	2.09	0.48
34:AA:1819:U:H2'	34:AA:1820:U:C6	2.49	0.48
34:AA:2831:U:O2'	34:AA:2833:U:OP2	2.32	0.48
34:AA:3263:G:H2'	34:AA:3264:U:C6	2.49	0.48
34:AA:3323:G:N2	34:AA:3326:A:OP2	2.38	0.48
36:AB:22:G:N2	36:AB:53:U:H2'	2.29	0.48
54:AI:132:ASP:O	54:AI:135:SER:OG	2.32	0.48
57:AK:73:ARG:HG2	57:AK:144:VAL:HG12	1.96	0.48
3:S3:85:ARG:NH1	8:SA:1254:G:H5'	2.28	0.47
8:SA:268:C:H3'	15:SH:186:ARG:HH22	1.78	0.47
8:SA:989:C:H2'	8:SA:990:U:H6	1.78	0.47
8:SA:1446:A:H1'	21:SN:54:ARG:CZ	2.44	0.47
8:SA:1696:A:H2'	8:SA:1697:C:H6	1.79	0.47
8:SA:1745:U:H2'	8:SA:1746:A:H8	1.79	0.47
8:SA:1837:G:C5	8:SA:1838:G:C5	3.02	0.47
12:SE:153:GLU:OE1	12:SE:153:GLU:N	2.40	0.47
18:SK:57:ARG:HB2	18:SK:57:ARG:HH11	1.79	0.47
34:AA:773:A:O2'	34:AA:774:A:P	2.72	0.47
34:AA:1115:G:N3	34:AA:2976:A:H2'	2.28	0.47
34:AA:1475:G:H5"	71:AF:305:LYS:HG2	1.95	0.47
34:AA:3524:G:H2'	34:AA:3525:A:O4'	2.14	0.47
54:AI:116:ASN:OD1	54:AI:116:ASN:N	2.38	0.47
2:S2:99:LYS:CE	32:SY:15:ARG:HE	2.27	0.47
8:SA:454:U:OP1	13:SF:29:PRO:HD3	2.14	0.47
8:SA:1015:U:H2'	8:SA:1016:U:C6	2.49	0.47
8:SA:1022:A:H2'	8:SA:1023:A:C8	2.49	0.47
8:SA:1275:U:OP2	26:SS:137:HIS:HB2	2.13	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1443:G:OP1	8:SA:1443:G:H4'	2.14	0.47
10:SC:98:ILE:HD11	10:SC:102:TRP:HE3	1.77	0.47
13:SF:11:ARG:CZ	13:SF:20:LEU:HD13	2.44	0.47
13:SF:45:VAL:HG11	13:SF:58:PHE:CD2	2.49	0.47
13:SF:121:TYR:HB3	13:SF:161:ARG:HD2	1.96	0.47
13:SF:191:ARG:CD	13:SF:245:LYS:HB2	2.44	0.47
30:SW:36:GLU:OE1	30:SW:36:GLU:N	2.37	0.47
33:SZ:72:MET:HG2	33:SZ:77:LEU:HD12	1.95	0.47
34:AA:316:A:H2'	34:AA:317:U:C6	2.50	0.47
34:AA:1510:U:H2'	34:AA:1511:U:C6	2.49	0.47
34:AA:1534:U:HO2'	34:AA:1535:G:P	2.33	0.47
34:AA:2041:U:H3	34:AA:2068:G:H1	1.61	0.47
34:AA:2806:U:H2'	34:AA:2807:U:H6	1.80	0.47
34:AA:2823:U:OP1	34:AA:2823:U:H6	1.96	0.47
34:AA:3320:G:H2'	34:AA:3321:U:C6	2.49	0.47
72:AG:157:GLU:OE2	72:AG:157:GLU:HA	2.14	0.47
8:SA:12:U:H2'	8:SA:13:C:H6	1.78	0.47
8:SA:66:U:C2	15:SH:173:PRO:HG3	2.49	0.47
8:SA:821:A:OP1	12:SE:9:SER:OG	2.27	0.47
8:SA:1285:A:N3	8:SA:1311:U:H1'	2.28	0.47
8:SA:1364:G:C2	8:SA:1365:G:H1'	2.49	0.47
8:SA:1842:A:H5'	26:SS:132:ARG:NH2	2.29	0.47
11:SD:23:GLU:OE1	22:SO:71:ASN:ND2	2.40	0.47
11:SD:177:GLN:HG2	11:SD:182:VAL:HG12	1.96	0.47
18:SK:71:LYS:HB3	18:SK:130:PHE:CE2	2.50	0.47
32:SY:29:ILE:O	32:SY:32:VAL:HG12	2.14	0.47
32:SY:38:ILE:HB	32:SY:81:SER:HB2	1.97	0.47
34:AA:2727:U:H5	34:AA:2933:C:OP2	1.98	0.47
34:AA:3258:C:O2'	34:AA:3259:A:H5"	2.14	0.47
34:AA:3431:G:O3'	70:AE:272:ARG:NH1	2.46	0.47
39:A2:10:TRP:CZ2	39:A2:44:PRO:HD3	2.49	0.47
44:A8:78:ASN:OD1	44:A8:81:GLU:HG3	2.15	0.47
53:Ai:27:TYR:HB3	53:Ai:68:VAL:HB	1.95	0.47
57:AK:13:HIS:CE1	57:AK:118:VAL:HG22	2.49	0.47
62:AR:5:LYS:HD2	62:AR:5:LYS:HA	1.66	0.47
81:S9:43:C:H4'	81:S9:43:C:OP1	2.14	0.47
8:SA:158:C:H2'	8:SA:159:U:O4'	2.14	0.47
8:SA:480:A:OP2	12:SE:44:ARG:NH1	2.42	0.47
8:SA:797:C:H2'	8:SA:798:U:C6	2.49	0.47
8:SA:885:C:H2'	8:SA:886:U:H6	1.80	0.47
8:SA:1187:A:H2'	8:SA:1188:A:C8	2.50	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SG:206:LYS:HE3	14:SG:206:LYS:HB3	1.77	0.47
16:SI:42:HIS:CD2	16:SI:81:ILE:HD11	2.49	0.47
18:SK:43:LYS:HD2	18:SK:43:LYS:C	2.38	0.47
30:SW:61:ILE:HG13	30:SW:62:GLN:OE1	2.14	0.47
34:AA:504:A:O2'	34:AA:505:A:OP1	2.28	0.47
34:AA:1154:C:H2'	34:AA:1155:C:H6	1.78	0.47
34:AA:1158:G:H2'	34:AA:1159:A:C8	2.49	0.47
34:AA:2515:A:H2'	34:AA:2516:A:C8	2.49	0.47
34:AA:2537:A:H5"	69:AD:243:THR:CG2	2.44	0.47
34:AA:2588:A:C6	58:AM:39:ILE:HD12	2.49	0.47
34:AA:2732:A:H2'	34:AA:2733:A:H8	1.79	0.47
38:A1:69:LYS:HB2	38:A1:69:LYS:HE3	1.52	0.47
52:Ah:51:CYS:SG	69:AD:50:HIS:ND1	2.87	0.47
54:AI:87:GLY:O	54:AI:88:PRO:C	2.58	0.47
54:AI:176:VAL:O	54:AI:180:GLU:HG2	2.14	0.47
61:AQ:36:MET:HE1	61:AQ:69:ARG:HG3	1.97	0.47
63:AW:25:HIS:O	63:AW:29:THR:OG1	2.27	0.47
66:AZ:87:GLU:OE1	66:AZ:87:GLU:HA	2.14	0.47
69:AD:34:TYR:CE2	69:AD:38:LYS:HE2	2.49	0.47
69:AD:118:HIS:ND1	69:AD:125:THR:HG21	2.29	0.47
73:AU:15:GLN:HG2	73:AU:73:ILE:HD12	1.95	0.47
79:S8:4:G:O2'	79:S8:5:G:H8	1.96	0.47
79:S8:26:G:C6	79:S8:44:A:N1	2.82	0.47
5:S5:8:LYS:HB2	5:S5:28:GLN:HB2	1.95	0.47
8:SA:1307:U:O2'	27:ST:26:HIS:NE2	2.39	0.47
8:SA:1638:U:H2'	8:SA:1639:G:C8	2.49	0.47
8:SA:1709:C:C2	8:SA:1710:G:C8	3.02	0.47
8:SA:1838:G:C2	8:SA:1867:A:N6	2.80	0.47
10:SC:142:PRO:O	10:SC:143:VAL:HB	2.14	0.47
16:SI:110:GLY:O	16:SI:184:LYS:HD2	2.15	0.47
26:SS:116:MET:HE3	26:SS:117:LYS:N	2.29	0.47
34:AA:384:A:OP2	66:AZ:86:ARG:HD3	2.14	0.47
34:AA:936:A:C5	56:Ac:17:LYS:HA	2.50	0.47
34:AA:2394:C:OP2	65:AT:70:ARG:NH1	2.43	0.47
34:AA:3434:A:OP2	70:AE:219:LYS:NZ	2.27	0.47
48:Ad:39:THR:HG22	48:Ad:54:PHE:HB2	1.97	0.47
57:AK:191:GLU:H	57:AK:191:GLU:CD	2.22	0.47
59:AS:71:MET:SD	59:AS:79:ALA:HB2	2.54	0.47
62:AR:213:GLU:N	62:AR:213:GLU:OE2	2.46	0.47
68:A5:190:ASN:ND2	68:A5:190:ASN:C	2.69	0.47
7:S7:17:U:O2'	7:S7:18:G:H5"	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:576:C:H2'	8:SA:577:A:O4'	2.15	0.47
8:SA:877:U:H4'	65:AT:162:ARG:NH1	2.30	0.47
8:SA:976:A:H2'	8:SA:977:U:C6	2.49	0.47
8:SA:1035:A:OP2	28:SU:124:ARG:NE	2.41	0.47
8:SA:1698:U:H2'	8:SA:1699:A:C8	2.50	0.47
9:SB:224:ASP:OD2	9:SB:227:LYS:N	2.33	0.47
10:SC:127:ARG:NH2	10:SC:150:ASP:O	2.47	0.47
10:SC:157:ASP:HB3	33:SZ:68:LEU:HD23	1.96	0.47
15:SH:198:ARG:HE	15:SH:202:LYS:NZ	2.12	0.47
32:SY:73:GLU:H	32:SY:75:TRP:HZ3	1.62	0.47
34:AA:687:G:H2'	34:AA:688:U:H6	1.78	0.47
34:AA:698:G:OP2	34:AA:700:A:N6	2.47	0.47
34:AA:718:U:H2'	34:AA:719:C:C6	2.50	0.47
34:AA:1765:A:H2'	34:AA:1766:U:H6	1.79	0.47
34:AA:2122:U:H2'	34:AA:2123:C:H6	1.80	0.47
35:AC:79:G:H1'	49:Ae:29:LEU:HD11	1.96	0.47
37:AL:24:ASN:OD1	51:AP:202:ARG:HA	2.15	0.47
39:A2:108:LEU:HD12	39:A2:108:LEU:HA	1.76	0.47
46:Aa:7:TYR:CD2	46:Aa:12:HIS:HA	2.49	0.47
54:AI:214:MET:HE2	54:AI:214:MET:HB3	1.76	0.47
59:AS:106:GLU:HG3	71:AF:278:ILE:HD13	1.97	0.47
63:AW:39:MET:HE3	63:AW:44:ALA:HA	1.96	0.47
71:AF:10:VAL:HA	71:AF:153:VAL:HG23	1.97	0.47
71:AF:147:LEU:HD23	71:AF:176:LEU:HD21	1.96	0.47
7:S7:5:A:H61	7:S7:66:C:H42	1.63	0.47
8:SA:15:U:H2'	8:SA:16:G:O4'	2.15	0.47
8:SA:547:U:N3	8:SA:549:A:N7	2.61	0.47
8:SA:592:A:H2'	8:SA:593:G:H8	1.79	0.47
8:SA:641:G:H4'	18:SK:4:MET:HA	1.97	0.47
8:SA:649:A:H2'	8:SA:650:A:C8	2.50	0.47
8:SA:832:A:O2'	8:SA:833:A:H5"	2.14	0.47
8:SA:885:C:H2'	8:SA:886:U:C6	2.50	0.47
8:SA:946:G:H5'	8:SA:1006:C:H1'	1.96	0.47
8:SA:1698:U:H2'	8:SA:1699:A:H8	1.80	0.47
8:SA:1705:C:C4	26:SS:139:LYS:HG3	2.50	0.47
8:SA:1801:A:H8	8:SA:1801:A:O5'	1.96	0.47
10:SC:183:TYR:HB3	10:SC:190:ARG:CZ	2.45	0.47
11:SD:114:LEU:HD23	11:SD:119:ALA:HB2	1.96	0.47
11:SD:116:VAL:HB	11:SD:117:ARG:NH1	2.29	0.47
15:SH:3:LEU:HD23	15:SH:111:LEU:HD11	1.97	0.47
17:SJ:122:VAL:O	17:SJ:126:ILE:HD13	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:SQ:63:GLN:HE21	80:mR:24:U:H5'	1.78	0.47
26:SS:88:ARG:NE	26:SS:98:ILE:O	2.48	0.47
26:SS:111:GLU:O	26:SS:114:GLU:HG3	2.14	0.47
29:SV:13:TYR:CE2	29:SV:15:LYS:HA	2.49	0.47
31:SX:87:PRO:HD3	31:SX:112:ILE:HD12	1.97	0.47
32:SY:124:ARG:HA	32:SY:127:LEU:HG	1.96	0.47
34:AA:107:C:H2'	34:AA:108:C:O4'	2.14	0.47
34:AA:192:G:O6	34:AA:239:U:H5	1.97	0.47
34:AA:510:A:H1'	34:AA:3666:U:O4	2.15	0.47
34:AA:616:U:H2'	34:AA:617:A:H8	1.78	0.47
34:AA:803:A:H2'	34:AA:804:A:O4'	2.14	0.47
34:AA:936:A:H8	56:Ac:18:THR:CG2	2.28	0.47
34:AA:1559:U:H5"	44:A8:98:HIS:HB3	1.95	0.47
34:AA:1736:A:O2'	34:AA:1737:A:OP1	2.31	0.47
34:AA:1866:C:H2'	34:AA:1867:U:H6	1.79	0.47
34:AA:2473:A:H2'	34:AA:2474:C:C6	2.49	0.47
34:AA:2525:A:H2'	34:AA:2526:A:C8	2.50	0.47
34:AA:2537:A:O4'	69:AD:243:THR:HG21	2.14	0.47
34:AA:2700:C:H2'	34:AA:2701:U:C6	2.48	0.47
34:AA:3260:G:O2'	34:AA:3410:A:N1	2.47	0.47
36:AB:101:A:H2'	36:AB:102:C:C6	2.50	0.47
42:A7:40:ALA:O	42:A7:44:ILE:HG13	2.14	0.47
44:A8:76:VAL:HG11	44:A8:82:MET:HG2	1.95	0.47
46:Aa:106:LYS:HE3	46:Aa:107:GLU:HG2	1.97	0.47
49:Ae:46:ARG:HA	49:Ae:46:ARG:HD3	1.71	0.47
53:Ai:25:SER:OG	53:Ai:26:GLN:N	2.47	0.47
54:AI:117:ILE:O	54:AI:120:LEU:HD23	2.14	0.47
55:AJ:223:GLU:CD	55:AJ:223:GLU:H	2.23	0.47
58:AM:24:LEU:HD22	58:AM:35:ASN:HB2	1.96	0.47
60:AO:134:GLU:O	60:AO:138:LYS:HG2	2.15	0.47
72:AG:154:VAL:O	72:AG:158:ASP:HB2	2.15	0.47
74:AH:18:VAL:HG22	74:AH:27:VAL:HG22	1.96	0.47
75:AV:104:GLU:O	75:AV:108:LEU:HG	2.15	0.47
78:A0:16:SER:OG	78:A0:17:GLU:N	2.48	0.47
79:S8:28:C:H2'	79:S8:29:G:C8	2.47	0.47
81:S9:9:A:N6	81:S9:23:A:N7	2.63	0.47
8:SA:649:A:H2'	8:SA:650:A:H8	1.80	0.47
8:SA:1705:C:C5	26:SS:139:LYS:HG3	2.48	0.47
9:SB:196:GLU:HA	9:SB:196:GLU:OE2	2.15	0.47
10:SC:121:LEU:HD23	10:SC:143:VAL:HG22	1.96	0.47
12:SE:64:GLU:OE2	12:SE:69:ARG:HD3	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SI:52:PHE:C	16:SI:52:PHE:CD2	2.92	0.47
17:SJ:11:SER:OG	17:SJ:12:ASN:N	2.46	0.47
19:SL:213:ASP:HA	19:SL:217:ARG:HH21	1.79	0.47
21:SN:52:PRO:HG2	21:SN:54:ARG:HH21	1.79	0.47
23:SP:44:VAL:HG12	23:SP:53:LEU:HD12	1.97	0.47
24:SQ:140:LYS:HG2	24:SQ:141:GLU:N	2.30	0.47
31:SX:52:LYS:HD2	31:SX:52:LYS:HA	1.63	0.47
34:AA:746:A:H2'	34:AA:747:A:H8	1.78	0.47
34:AA:3677:A:H2'	34:AA:3678:A:C8	2.50	0.47
46:Aa:39:ALA:HB3	46:Aa:56:ALA:O	2.15	0.47
53:Ai:15:LYS:HD3	53:Ai:15:LYS:HA	1.74	0.47
64:AY:127:ILE:HD12	64:AY:129:THR:OG1	2.14	0.47
65:AT:163:LEU:HD12	65:AT:166:GLN:NE2	2.29	0.47
73:AU:86:VAL:HB	73:AU:135:ILE:HG13	1.97	0.47
73:AU:156:LEU:HD11	74:AH:4:ILE:HD13	1.96	0.47
7:S7:62:C:H2'	7:S7:63:U:C6	2.50	0.47
8:SA:247:G:N2	8:SA:249:A:H8	2.13	0.47
8:SA:248:G:H3'	8:SA:248:G:H8	1.79	0.47
8:SA:927:A:C5	28:SU:73:ARG:HD3	2.49	0.47
8:SA:937:G:H2'	8:SA:938:U:C6	2.50	0.47
8:SA:1261:A:H2'	8:SA:1262:C:H6	1.78	0.47
8:SA:1850:G:O6	31:SX:40:ARG:NH2	2.48	0.47
8:SA:2006:U:H2'	8:SA:2007:U:C6	2.49	0.47
8:SA:2068:A:H2'	8:SA:2069:G:C8	2.49	0.47
17:SJ:137:ILE:N	17:SJ:154:MET:O	2.44	0.47
19:SL:169:ASP:OD2	19:SL:169:ASP:C	2.57	0.47
28:SU:46:THR:HB	28:SU:86:GLU:OE2	2.14	0.47
34:AA:179:G:HO2'	34:AA:180:C:P	2.35	0.47
34:AA:684:G:H1	71:AF:311:LYS:NZ	2.13	0.47
34:AA:1026:G:H2'	34:AA:1045:A:H62	1.79	0.47
34:AA:1198:A:H1'	40:A4:46:CYS:SG	2.55	0.47
34:AA:2537:A:H5"	69:AD:243:THR:HG23	1.97	0.47
34:AA:3187:G:H5'	61:AQ:8:CYS:SG	2.55	0.47
34:AA:3292:A:O2'	34:AA:3293:A:O5'	2.33	0.47
36:AB:17:C:H5"	72:AG:150:LYS:HD2	1.97	0.47
46:Aa:98:GLN:HA	46:Aa:101:VAL:HG22	1.97	0.47
59:AS:150:HIS:ND1	59:AS:163:ARG:O	2.47	0.47
69:AD:46:LYS:HG3	69:AD:62:ILE:HG12	1.96	0.47
70:AE:10:ARG:NH1	70:AE:12:GLY:O	2.45	0.47
70:AE:143:CYS:O	70:AE:147:ARG:HD2	2.15	0.47
73:AU:183:ARG:CG	73:AU:184:MET:H	2.28	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S5:30:MET:HG3	5:S5:38:ARG:NH2	2.30	0.47
8:SA:574:A:O2'	24:SQ:90:ASP:OD1	2.33	0.47
8:SA:750:U:H2'	8:SA:751:U:H6	1.77	0.47
8:SA:756:A:H2'	8:SA:757:A:H8	1.78	0.47
8:SA:852:A:O2'	13:SF:106:LYS:HE2	2.15	0.47
8:SA:1264:A:N6	8:SA:1911:A:H8	2.12	0.47
8:SA:1631:G:H2'	8:SA:1632:G:C8	2.50	0.47
12:SE:37:LYS:HB3	12:SE:126:ARG:NH2	2.29	0.47
17:SJ:100:ILE:HD11	17:SJ:122:VAL:HG21	1.97	0.47
26:SS:28:VAL:HG23	26:SS:61:LEU:HG	1.97	0.47
34:AA:99:A:OP1	51:AP:196:ARG:HD2	2.15	0.47
34:AA:195:A:H8	34:AA:216:C:HO2'	1.57	0.47
34:AA:1262:G:O2'	34:AA:2981:A:N3	2.41	0.47
34:AA:3188:U:C2	34:AA:3189:G:C8	3.03	0.47
35:AC:44:A:H2'	35:AC:45:A:C8	2.50	0.47
39:A2:10:TRP:O	39:A2:14:ARG:HG2	2.13	0.47
59:AS:127:LEU:HD23	71:AF:292:ILE:HB	1.97	0.47
60:AO:76:ASP:N	60:AO:76:ASP:OD1	2.46	0.47
66:AZ:52:ASP:HB2	66:AZ:109:LYS:HD2	1.96	0.47
67:A3:5:LYS:HB2	67:A3:8:GLU:OE2	2.15	0.47
75:AV:46:ASP:H	75:AV:96:HIS:CD2	2.14	0.47
2:S2:99:LYS:HD2	32:SY:15:ARG:HH21	1.79	0.46
3:S3:46:ASP:H	23:SP:113:GLN:HE22	1.62	0.46
8:SA:440:G:N2	8:SA:442:A:H3'	2.30	0.46
8:SA:576:C:H5	24:SQ:69:ARG:HH12	1.62	0.46
8:SA:1838:G:H2'	8:SA:1839:G:C8	2.50	0.46
8:SA:1868:C:H3'	8:SA:1869:G:H21	1.80	0.46
10:SC:194:TRP:HE3	10:SC:196:VAL:H	1.62	0.46
16:SI:63:LEU:HG	16:SI:103:PHE:HZ	1.80	0.46
16:SI:112:PRO:HB3	16:SI:187:ILE:HG21	1.97	0.46
31:SX:85:ILE:HB	31:SX:112:ILE:HA	1.97	0.46
33:SZ:19:ALA:HB1	33:SZ:67:CYS:SG	2.55	0.46
34:AA:589:C:H2'	34:AA:590:C:C6	2.51	0.46
34:AA:622:U:H2'	34:AA:623:U:H6	1.80	0.46
34:AA:1331:A:N3	34:AA:3214:A:O2'	2.42	0.46
34:AA:1434:G:C5	57:AK:61:THR:HA	2.49	0.46
34:AA:1540:G:OP1	44:A8:125:ARG:NH1	2.48	0.46
34:AA:1883:U:H2'	34:AA:1884:G:C8	2.51	0.46
34:AA:2034:G:H1	34:AA:2075:U:H3	1.63	0.46
34:AA:2574:A:H8	34:AA:3333:U:H1'	1.79	0.46
34:AA:2623:C:H2'	34:AA:2624:C:C6	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3465:G:P	42:A7:73:ARG:HH22	2.37	0.46
35:AC:134:G:O2'	35:AC:135:G:OP1	2.31	0.46
43:AN:145:ILE:HD11	57:AK:180:ILE:HG23	1.97	0.46
49:Ae:50:GLY:O	56:Ac:28:ARG:HD3	2.14	0.46
63:AW:116:HIS:CD2	63:AW:149:ILE:HD12	2.50	0.46
3:S3:2:PRO:HB3	8:SA:1243:A:H5"	1.96	0.46
8:SA:1856:A:P	8:SA:1857:U:H5'	2.55	0.46
10:SC:56:LYS:HA	10:SC:56:LYS:HD2	1.65	0.46
11:SD:19:ALA:O	11:SD:23:GLU:HG3	2.16	0.46
13:SF:126:VAL:HA	13:SF:141:THR:HA	1.96	0.46
16:SI:53:ARG:H	16:SI:53:ARG:NE	2.13	0.46
30:SW:21:TYR:HA	30:SW:24:LEU:HD12	1.97	0.46
32:SY:66:ARG:HG2	32:SY:68:LEU:H	1.79	0.46
34:AA:63:A:P	51:AP:173:ARG:HH22	2.38	0.46
34:AA:2919:A:N3	34:AA:2919:A:H2'	2.30	0.46
34:AA:3403:A:H2'	34:AA:3404:C:C6	2.50	0.46
35:AC:124:U:H2'	35:AC:125:U:H6	1.79	0.46
52:Ah:80:LYS:O	52:Ah:84:ILE:HG12	2.15	0.46
65:AT:157:GLN:O	65:AT:161:LYS:HE2	2.14	0.46
71:AF:101:MET:SD	71:AF:104:PRO:HA	2.55	0.46
71:AF:161:LEU:HD11	71:AF:221:PHE:CE2	2.50	0.46
72:AG:23:VAL:HG11	72:AG:29:ARG:HG3	1.97	0.46
72:AG:35:ARG:O	72:AG:39:GLN:HG2	2.15	0.46
73:AU:183:ARG:HG3	73:AU:184:MET:H	1.80	0.46
8:SA:466:A:H5'	8:SA:467:G:OP2	2.15	0.46
8:SA:509:U:H2'	8:SA:510:G:H8	1.81	0.46
8:SA:893:U:H2'	8:SA:894:U:O4'	2.16	0.46
8:SA:989:C:H2'	8:SA:990:U:C6	2.50	0.46
8:SA:1061:A:H2	8:SA:1081:U:N3	2.03	0.46
8:SA:1845:U:H5"	31:SX:38:LYS:HD3	1.98	0.46
10:SC:107:LEU:HB2	10:SC:135:GLU:HB3	1.98	0.46
10:SC:172:LEU:O	10:SC:176:LEU:HG	2.15	0.46
13:SF:211:LYS:HE2	13:SF:215:ASN:HA	1.96	0.46
15:SH:2:LYS:O	15:SH:4:ASN:ND2	2.48	0.46
15:SH:185:LEU:HA	15:SH:188:ARG:HG2	1.98	0.46
16:SI:13:LYS:HB2	16:SI:13:LYS:HE3	1.71	0.46
16:SI:80:ALA:HA	16:SI:83:ILE:HG22	1.97	0.46
30:SW:41:ILE:HB	30:SW:47:LYS:HE3	1.98	0.46
34:AA:1850:U:O2'	34:AA:1969:A:N6	2.46	0.46
34:AA:3595:U:H2'	34:AA:3596:A:C8	2.50	0.46
37:AL:3:ALA:O	37:AL:6:ASN:ND2	2.48	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:27:ASN:ND2	38:A1:42:LEU:HD23	2.29	0.46
38:A1:138:SER:HA	55:AJ:44:LEU:HD21	1.97	0.46
39:A2:21:LYS:HB3	39:A2:21:LYS:HE3	1.73	0.46
70:AE:80:GLU:OE1	70:AE:311:TYR:OH	2.23	0.46
79:S8:13:C:H42	79:S8:46:G:N2	2.13	0.46
2:S2:38:HIS:HB3	2:S2:70:VAL:HA	1.96	0.46
5:S5:30:MET:O	5:S5:37:GLY:N	2.48	0.46
7:S7:16:U:C2	7:S7:57:C:N3	2.83	0.46
10:SC:49:ASN:C	10:SC:51:ALA:H	2.24	0.46
10:SC:111:ILE:HD13	10:SC:111:ILE:HA	1.86	0.46
17:SJ:80:LEU:HD12	17:SJ:81:ILE:N	2.30	0.46
17:SJ:124:ASP:OD2	17:SJ:124:ASP:N	2.48	0.46
28:SU:35:ASP:OD2	28:SU:35:ASP:N	2.48	0.46
32:SY:82:SER:O	32:SY:86:ARG:HG2	2.16	0.46
32:SY:160:ARG:O	32:SY:164:LYS:HD2	2.15	0.46
34:AA:505:A:O2'	34:AA:506:A:OP1	2.30	0.46
34:AA:648:U:O2'	34:AA:649:U:O5'	2.33	0.46
34:AA:719:C:OP1	60:AO:21:ARG:HG2	2.15	0.46
34:AA:1740:A:H2'	34:AA:1741:G:H8	1.81	0.46
34:AA:2706:A:H2'	34:AA:2707:G:H8	1.80	0.46
38:A1:146:PHE:HB2	46:Aa:88:ARG:HG2	1.96	0.46
39:A2:105:LYS:H	39:A2:105:LYS:CD	2.28	0.46
51:AP:121:TRP:CZ2	51:AP:124:GLN:HB2	2.49	0.46
54:AI:12:ASN:HA	54:AI:17:LYS:H	1.80	0.46
74:AH:30:LYS:HE3	74:AH:31:TYR:CE2	2.51	0.46
78:A0:34:LYS:HE2	78:A0:36:TYR:CZ	2.50	0.46
8:SA:105:A:H5'	8:SA:107:A:C4	2.50	0.46
8:SA:830:U:H4'	8:SA:831:U:O4'	2.15	0.46
8:SA:883:A:H2'	8:SA:884:G:H8	1.79	0.46
8:SA:1869:G:OP2	8:SA:1869:G:N2	2.39	0.46
20:SM:45:LEU:O	20:SM:49:VAL:HG23	2.14	0.46
23:SP:93:ILE:HA	23:SP:93:ILE:HD12	1.69	0.46
34:AA:2128:G:H5"	65:AT:62:VAL:HG21	1.97	0.46
34:AA:2445:A:H2'	34:AA:2446:U:H6	1.79	0.46
34:AA:2884:G:O6	46:Aa:99:LYS:NZ	2.48	0.46
43:AN:59:ALA:C	43:AN:61:ILE:N	2.74	0.46
43:AN:141:LYS:O	43:AN:145:ILE:HG23	2.16	0.46
45:A9:103:LYS:HB2	45:A9:103:LYS:HE3	1.48	0.46
62:AR:104:LEU:HD13	62:AR:246:ILE:HG13	1.98	0.46
69:AD:180:LEU:HD23	69:AD:180:LEU:HA	1.67	0.46
81:S9:75:C:O2	81:S9:75:C:H3'	2.15	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:157:G:C5	15:SH:87:ARG:NH1	2.84	0.46
8:SA:1721:A:H4'	8:SA:1837:G:O3'	2.16	0.46
8:SA:1827:U:OP1	32:SY:15:ARG:NH2	2.49	0.46
9:SB:130:LEU:HD12	9:SB:179:VAL:C	2.40	0.46
16:SI:106:ALA:HB2	16:SI:172:ALA:HB2	1.98	0.46
17:SJ:47:CYS:HA	17:SJ:61:LEU:O	2.15	0.46
28:SU:83:THR:HG23	28:SU:84:ILE:HG13	1.98	0.46
34:AA:127:U:H2'	34:AA:128:U:C6	2.51	0.46
34:AA:307:G:H2'	34:AA:308:U:H5'	1.95	0.46
34:AA:616:U:H2'	34:AA:617:A:C8	2.51	0.46
34:AA:744:G:N2	34:AA:915:G:N2	2.63	0.46
34:AA:1725:U:H2'	34:AA:1726:C:C6	2.50	0.46
36:AB:4:C:H2'	36:AB:5:U:C6	2.51	0.46
37:AL:119:LYS:HE2	37:AL:119:LYS:HB3	1.75	0.46
58:AM:108:LYS:HE2	58:AM:108:LYS:HB2	1.71	0.46
62:AR:116:ASP:OD1	62:AR:116:ASP:N	2.43	0.46
69:AD:246:LEU:O	69:AD:247:ARG:HD3	2.15	0.46
70:AE:155:LEU:HD22	70:AE:189:LEU:HD22	1.98	0.46
71:AF:154:VAL:HG21	71:AF:158:ILE:HD12	1.98	0.46
74:AH:91:MET:HG2	74:AH:180:VAL:HA	1.98	0.46
77:AX:51:LYS:NZ	77:AX:88:TYR:OH	2.46	0.46
79:S8:69:C:H2'	79:S8:70:G:C8	2.50	0.46
5:S5:26:ARG:HH21	5:S5:42:ARG:H	1.62	0.46
8:SA:823:C:H5"	13:SF:21:ASN:HB2	1.97	0.46
8:SA:1271:G:C2	8:SA:1272:A:C8	3.04	0.46
8:SA:1643:G:C2	8:SA:1648:A:C6	3.04	0.46
8:SA:1675:G:H2'	8:SA:1676:U:C6	2.51	0.46
9:SB:48:VAL:CG2	9:SB:61:LEU:HD11	2.44	0.46
16:SI:35:LYS:HA	16:SI:35:LYS:HD3	1.65	0.46
17:SJ:77:GLN:O	17:SJ:81:ILE:HG12	2.16	0.46
27:ST:27:ALA:HB1	27:ST:38:ARG:HG2	1.97	0.46
31:SX:39:ALA:HA	31:SX:42:ARG:HB2	1.97	0.46
32:SY:32:VAL:HB	32:SY:163:ASN:HD21	1.80	0.46
34:AA:172:C:H2'	34:AA:173:A:H8	1.79	0.46
34:AA:432:A:C2	34:AA:2656:A:H4'	2.51	0.46
34:AA:906:G:H2'	34:AA:907:C:C6	2.51	0.46
34:AA:3128:A:H2'	34:AA:3129:U:C6	2.51	0.46
35:AC:73:A:H2'	35:AC:74:A:O4'	2.16	0.46
36:AB:101:A:H2'	36:AB:102:C:H6	1.81	0.46
37:AL:73:GLY:HA2	37:AL:95:CYS:C	2.41	0.46
38:A1:13:ILE:HG23	38:A1:75:ILE:HD13	1.98	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:A8:32:TRP:CZ2	44:A8:53:PRO:HD2	2.50	0.46
58:AM:139:VAL:HG11	78:A0:29:ILE:HD12	1.97	0.46
62:AR:165:LEU:HD21	62:AR:177:HIS:CG	2.51	0.46
1:S1:79:ASN:ND2	1:S1:81:ASP:HB2	2.29	0.46
8:SA:572:C:O2'	8:SA:584:G:N2	2.49	0.46
8:SA:850:G:H2'	8:SA:851:A:C8	2.50	0.46
8:SA:1401:G:O3'	14:SG:111:LYS:NZ	2.49	0.46
8:SA:1648:A:H5'	30:SW:4:VAL:HG12	1.98	0.46
8:SA:1827:U:H2'	8:SA:1828:A:H8	1.81	0.46
10:SC:63:ILE:HG22	33:SZ:36:VAL:HA	1.98	0.46
11:SD:124:LEU:O	11:SD:128:MET:HG2	2.15	0.46
14:SG:69:ILE:HG23	14:SG:74:ILE:HD13	1.98	0.46
14:SG:170:VAL:HG23	14:SG:181:LEU:HB2	1.98	0.46
16:SI:10:LEU:HB3	16:SI:14:TRP:HB2	1.97	0.46
16:SI:91:ILE:O	16:SI:95:THR:OG1	2.31	0.46
17:SJ:91:TYR:OH	17:SJ:164:ASN:HB2	2.15	0.46
21:SN:52:PRO:HB2	21:SN:54:ARG:NE	2.17	0.46
26:SS:84:TRP:HA	26:SS:89:ARG:HG2	1.98	0.46
26:SS:90:LYS:HA	26:SS:96:LYS:HD3	1.98	0.46
26:SS:126:ARG:CG	26:SS:131:LEU:HB2	2.40	0.46
31:SX:62:LYS:O	31:SX:65:LYS:HG3	2.15	0.46
34:AA:439:U:H2'	34:AA:440:A:C8	2.50	0.46
34:AA:445:A:N1	34:AA:702:U:C5	2.84	0.46
34:AA:2832:A:C2	55:AJ:70:LYS:HA	2.51	0.46
34:AA:3586:U:O2	34:AA:3593:U:H5"	2.16	0.46
38:A1:46:ILE:HD11	38:A1:49:HIS:NE2	2.30	0.46
47:Ab:43:LEU:O	47:Ab:47:VAL:HG12	2.15	0.46
61:AQ:139:ARG:HD3	61:AQ:173:PHE:CD2	2.51	0.46
65:AT:166:GLN:HA	65:AT:169:ARG:HB3	1.98	0.46
68:A5:158:TYR:O	71:AF:318:SER:OG	2.28	0.46
69:AD:130:SER:HA	69:AD:169:VAL:HG22	1.96	0.46
70:AE:369:THR:HB	70:AE:371:GLU:OE1	2.16	0.46
71:AF:140:ARG:HD3	71:AF:247:GLY:O	2.15	0.46
8:SA:334:A:H2'	8:SA:335:G:O4'	2.15	0.46
8:SA:1723:A:H5"	32:SY:66:ARG:NH1	2.30	0.46
8:SA:1978:A:H1'	15:SH:66:GLY:HA2	1.97	0.46
9:SB:99:ASP:OD1	9:SB:100:PHE:N	2.47	0.46
9:SB:175:GLU:OE2	9:SB:193:ILE:HD12	2.15	0.46
10:SC:90:ALA:HB1	10:SC:96:GLN:HA	1.97	0.46
10:SC:117:GLU:OE2	14:SG:46:LYS:NZ	2.33	0.46
14:SG:152:ARG:O	14:SG:167:PRO:HD3	2.16	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SI:9:LYS:HB3	16:SI:12:LYS:HA	1.98	0.46
16:SI:67:MET:HE2	16:SI:67:MET:C	2.41	0.46
17:SJ:36:LYS:HE3	17:SJ:76:ILE:HD13	1.98	0.46
20:SM:35:LYS:HG2	20:SM:39:LEU:HB3	1.98	0.46
22:SO:43:HIS:CD2	22:SO:44:PRO:HD2	2.51	0.46
29:SV:100:TYR:O	29:SV:102:ARG:HG3	2.15	0.46
32:SY:145:ARG:HE	32:SY:145:ARG:N	2.14	0.46
34:AA:596:A:OP2	74:AH:55:LYS:NZ	2.38	0.46
34:AA:628:U:H2'	34:AA:629:A:H8	1.81	0.46
34:AA:935:A:OP2	56:Ac:31:HIS:HE1	1.98	0.46
34:AA:2990:G:H5"	34:AA:2991:U:O4'	2.16	0.46
36:AB:4:C:H2'	36:AB:5:U:H6	1.81	0.46
42:A7:31:VAL:O	42:A7:36:LYS:NZ	2.49	0.46
46:Aa:105:LEU:O	46:Aa:105:LEU:HD13	2.16	0.46
54:AI:205:LYS:HE2	54:AI:205:LYS:HB2	1.67	0.46
55:AJ:257:LYS:O	55:AJ:260:LEU:HD23	2.16	0.46
62:AR:95:TYR:CZ	62:AR:163:ALA:HB2	2.51	0.46
65:AT:164:LYS:O	65:AT:167:VAL:HG22	2.15	0.46
68:A5:111:VAL:HG21	68:A5:138:ILE:HG12	1.98	0.46
69:AD:45:VAL:HG22	69:AD:84:THR:HA	1.97	0.46
70:AE:209:ASN:OD1	70:AE:351:VAL:HG12	2.16	0.46
8:SA:487:A:H2'	8:SA:488:U:C6	2.51	0.46
8:SA:924:A:C8	17:SJ:99:THR:HG23	2.51	0.46
8:SA:1168:U:P	9:SB:146:ARG:HH21	2.39	0.46
8:SA:1460:A:H1'	32:SY:156:ASN:ND2	2.32	0.46
8:SA:1629:G:O4'	21:SN:86:ARG:NH2	2.49	0.46
8:SA:1861:U:O2'	8:SA:1862:C:H5'	2.16	0.46
8:SA:1882:U:OP1	20:SM:126:GLU:HG3	2.16	0.46
16:SI:10:LEU:HG	16:SI:11:PHE:CD2	2.51	0.46
18:SK:112:ASP:C	18:SK:112:ASP:OD2	2.58	0.46
31:SX:59:LYS:HD2	31:SX:59:LYS:HA	1.74	0.46
32:SY:42:ALA:O	32:SY:46:LYS:HG3	2.15	0.46
32:SY:127:LEU:HD12	32:SY:128:GLN:N	2.31	0.46
34:AA:3373:A:H2'	34:AA:3374:U:C6	2.51	0.46
34:AA:3517:C:H2'	34:AA:3518:C:C6	2.51	0.46
48:Ad:5:ILE:HD13	48:Ad:11:PHE:HB2	1.98	0.46
51:AP:46:ASP:OD2	51:AP:50:ARG:NH2	2.48	0.46
51:AP:72:LYS:HG2	51:AP:89:VAL:HG23	1.98	0.46
54:AI:144:LYS:O	54:AI:148:LYS:HG2	2.16	0.46
61:AQ:65:LEU:HD21	61:AQ:91:ILE:HD11	1.97	0.46
1:S1:106:ARG:HH22	8:SA:465:G:P	2.39	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:251:U:N3	29:SV:66:ASN:OD1	2.48	0.45
8:SA:1288:U:H2'	8:SA:1289:G:H8	1.81	0.45
8:SA:1314:U:H2'	8:SA:1315:U:C6	2.51	0.45
8:SA:1603:U:H2'	8:SA:1604:A:C8	2.51	0.45
8:SA:1837:G:C6	8:SA:1838:G:C6	3.04	0.45
15:SH:174:LYS:HE2	15:SH:174:LYS:HB2	1.82	0.45
16:SI:53:ARG:HA	16:SI:56:LEU:HB2	1.98	0.45
26:SS:90:LYS:HA	26:SS:96:LYS:CD	2.46	0.45
27:ST:17:ARG:CG	27:ST:30:ARG:HH21	2.29	0.45
31:SX:40:ARG:HD2	31:SX:40:ARG:HA	1.63	0.45
34:AA:509:A:H2'	34:AA:510:A:C8	2.52	0.45
34:AA:632:U:O2'	71:AF:343:MET:HE1	2.16	0.45
34:AA:1169:A:H2'	34:AA:1172:C:C5	2.51	0.45
34:AA:1230:A:H5'	68:A5:169:ARG:HH12	1.81	0.45
34:AA:1897:G:OP2	46:Aa:55:LYS:NZ	2.33	0.45
34:AA:3577:A:H3'	34:AA:3581:A:H61	1.82	0.45
37:AL:144:ASP:OD1	37:AL:147:THR:HG22	2.16	0.45
54:AI:123:ASP:OD1	54:AI:123:ASP:N	2.49	0.45
55:AJ:116:TYR:HE1	55:AJ:221:LYS:HE2	1.80	0.45
68:A5:104:LEU:O	68:A5:109:ARG:NH1	2.48	0.45
70:AE:58:ARG:HD3	70:AE:351:VAL:HG23	1.99	0.45
70:AE:145:LEU:HD13	70:AE:193:LYS:HD2	1.97	0.45
79:S8:41:C:H2'	79:S8:42:G:O4'	2.16	0.45
81:S9:27:G:N2	81:S9:43:C:H41	2.14	0.45
8:SA:118:U:H2'	8:SA:119:C:C6	2.51	0.45
8:SA:1276:U:C2	8:SA:1277:G:N7	2.84	0.45
8:SA:1679:G:N2	27:ST:39:GLN:HB3	2.31	0.45
8:SA:1860:A:H5"	32:SY:64:LYS:HD2	1.98	0.45
8:SA:2067:U:H2'	8:SA:2068:A:C8	2.52	0.45
8:SA:2071:U:O2'	8:SA:2072:G:OP1	2.33	0.45
10:SC:59:LEU:HD21	33:SZ:72:MET:SD	2.55	0.45
12:SE:130:ARG:HA	12:SE:130:ARG:HD2	1.54	0.45
17:SJ:57:LYS:HE2	17:SJ:91:TYR:CD2	2.52	0.45
18:SK:111:MET:HB2	18:SK:115:GLU:CG	2.46	0.45
19:SL:92:ARG:NH2	34:AA:2211:C:O2	2.49	0.45
27:ST:30:ARG:HG2	27:ST:30:ARG:HH11	1.82	0.45
28:SU:130:LYS:NZ	28:SU:139:TRP:O	2.39	0.45
33:SZ:28:GLU:OE2	33:SZ:31:ALA:HB2	2.16	0.45
34:AA:159:C:H2'	34:AA:160:G:H8	1.82	0.45
34:AA:499:U:H2'	34:AA:500:A:C8	2.51	0.45
34:AA:612:G:H2'	34:AA:613:C:C6	2.50	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1064:U:H2'	34:AA:1065:U:H6	1.81	0.45
34:AA:1109:U:H2'	34:AA:1110:U:C6	2.51	0.45
34:AA:1657:U:OP1	63:AW:127:ARG:NH2	2.48	0.45
34:AA:1725:U:H2'	34:AA:1726:C:H6	1.81	0.45
34:AA:1760:A:H2'	34:AA:1761:U:O4'	2.17	0.45
34:AA:2835:G:N1	34:AA:2919:A:N7	2.64	0.45
34:AA:3567:U:C2	63:AW:153:ILE:HD12	2.51	0.45
47:Ab:97:ILE:O	47:Ab:100:VAL:HG12	2.16	0.45
48:Ad:8:ILE:HD12	48:Ad:52:MET:HE1	1.98	0.45
55:AJ:72:PRO:HD2	55:AJ:75:ILE:CD1	2.46	0.45
71:AF:32:ILE:O	71:AF:126:SER:HB3	2.16	0.45
71:AF:155:SER:OG	71:AF:157:ASP:OD1	2.24	0.45
73:AU:104:ARG:HG2	73:AU:148:ILE:HD12	1.98	0.45
7:S7:46:G:C6	7:S7:57:C:C4	3.04	0.45
8:SA:269:A:OP2	15:SH:186:ARG:NH2	2.46	0.45
8:SA:539:U:H2'	8:SA:540:C:H6	1.82	0.45
8:SA:1451:G:H2'	8:SA:1452:C:C6	2.51	0.45
8:SA:1936:C:H2'	8:SA:1937:C:O4'	2.16	0.45
9:SB:34:ALA:HB3	9:SB:41:ARG:HA	1.98	0.45
11:SD:9:ARG:NH1	11:SD:13:ASN:OD1	2.49	0.45
12:SE:39:LYS:HB3	12:SE:39:LYS:HE2	1.55	0.45
16:SI:29:CYS:SG	16:SI:134:PRO:HB2	2.56	0.45
19:SL:177:LYS:HE3	19:SL:177:LYS:HB3	1.83	0.45
21:SN:60:LEU:HG	27:ST:32:TYR:CZ	2.50	0.45
26:SS:36:LYS:HZ2	26:SS:102:ALA:H	1.63	0.45
34:AA:1203:A:C8	62:AR:144:ILE:HD13	2.51	0.45
34:AA:2482:U:H4'	52:Ah:19:GLY:HA3	1.99	0.45
62:AR:193:GLN:HA	62:AR:196:LYS:HG2	1.99	0.45
66:AZ:88:LYS:HE2	66:AZ:92:GLU:HG3	1.97	0.45
67:A3:73:LYS:O	67:A3:75:LYS:HG2	2.17	0.45
74:AH:114:ARG:HG2	74:AH:122:VAL:HG22	1.97	0.45
4:S4:54:CYS:SG	4:S4:61:LEU:HD21	2.56	0.45
8:SA:181:A:H2'	8:SA:182:U:H6	1.82	0.45
8:SA:747:U:H2'	8:SA:748:C:C6	2.52	0.45
8:SA:1170:C:H2'	8:SA:1171:U:C6	2.52	0.45
8:SA:1797:C:H2'	8:SA:1798:G:H8	1.81	0.45
8:SA:1945:C:H2'	8:SA:1946:C:C6	2.51	0.45
16:SI:52:PHE:C	16:SI:52:PHE:HD2	2.23	0.45
29:SV:89:ILE:HA	29:SV:89:ILE:HD13	1.77	0.45
34:AA:132:U:O2'	34:AA:133:U:O5'	2.28	0.45
34:AA:532:C:OP1	73:AU:76:ARG:NH2	2.48	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1704:U:C2	55:AJ:73:ARG:HG2	2.52	0.45
34:AA:2118:G:O3'	56:Ac:3:LYS:HE2	2.16	0.45
34:AA:2559:U:H2'	34:AA:2560:C:H6	1.80	0.45
34:AA:3585:A:O2'	34:AA:3586:U:C6	2.68	0.45
38:A1:83:THR:HG23	46:Aa:93:PHE:CZ	2.51	0.45
65:AT:142:GLN:O	65:AT:146:ASN:ND2	2.48	0.45
66:AZ:37:GLU:CD	66:AZ:37:GLU:N	2.74	0.45
73:AU:51:TRP:CD1	73:AU:62:LYS:HG3	2.51	0.45
7:S7:17:U:H3	7:S7:56:U:P	2.40	0.45
8:SA:248:G:H3'	8:SA:248:G:C8	2.51	0.45
8:SA:614:A:H5'	8:SA:620:G:N2	2.31	0.45
8:SA:917:C:H2'	8:SA:918:U:C6	2.51	0.45
8:SA:1271:G:H1'	8:SA:1871:G:O2'	2.17	0.45
8:SA:1363:U:H2'	8:SA:1364:G:H8	1.81	0.45
8:SA:1459:U:O2'	32:SY:149:THR:HG23	2.16	0.45
8:SA:1656:A:H8	8:SA:1656:A:OP1	1.99	0.45
10:SC:103:THR:HG21	10:SC:114:LYS:HD3	1.98	0.45
11:SD:7:LYS:HG2	11:SD:10:LYS:HZ1	1.82	0.45
12:SE:78:ARG:HA	12:SE:81:VAL:HG22	1.97	0.45
12:SE:82:ARG:NE	12:SE:149:ARG:HD3	2.32	0.45
12:SE:101:LEU:HD23	12:SE:101:LEU:HA	1.77	0.45
14:SG:156:TRP:CZ2	18:SK:97:ARG:NH2	2.85	0.45
14:SG:237:LEU:HD23	33:SZ:23:LEU:HD23	1.98	0.45
16:SI:29:CYS:SG	16:SI:135:LEU:HD22	2.56	0.45
26:SS:31:ALA:HB2	26:SS:58:ALA:HB2	1.98	0.45
31:SX:34:ILE:HA	31:SX:37:PHE:HB2	1.98	0.45
34:AA:123:A:H3'	34:AA:124:U:H5"	1.98	0.45
34:AA:272:U:H2'	34:AA:273:C:O4'	2.17	0.45
34:AA:1030:C:OP1	69:AD:14:SER:OG	2.33	0.45
34:AA:2511:G:H2'	34:AA:2512:A:C8	2.51	0.45
34:AA:3017:A:H2'	34:AA:3018:A:O4'	2.16	0.45
58:AM:12:LYS:HG2	58:AM:127:LEU:HD11	1.99	0.45
74:AH:119:GLU:HG3	74:AH:121:SER:H	1.82	0.45
8:SA:29:U:H2'	8:SA:30:G:H8	1.82	0.45
8:SA:611:A:H2'	8:SA:612:A:O4'	2.16	0.45
8:SA:1273:G:H2'	8:SA:1274:C:C6	2.51	0.45
8:SA:1306:C:H3'	8:SA:1307:U:C5	2.52	0.45
10:SC:166:GLY:O	10:SC:170:ILE:HG13	2.17	0.45
11:SD:7:LYS:HA	11:SD:10:LYS:HZ2	1.81	0.45
34:AA:138:C:H2'	34:AA:139:A:O4'	2.17	0.45
34:AA:184:U:H2'	34:AA:185:A:C8	2.52	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:549:G:H2'	34:AA:550:A:H8	1.80	0.45
34:AA:876:C:H2'	34:AA:877:G:H8	1.81	0.45
34:AA:1316:U:OP1	34:AA:1338:U:O2'	2.31	0.45
34:AA:1710:G:H2'	34:AA:1711:G:H8	1.82	0.45
34:AA:1747:U:H4'	34:AA:2102:A:H4'	1.99	0.45
34:AA:3713:C:H2'	34:AA:3714:C:H6	1.82	0.45
38:A1:96:LEU:HD23	38:A1:96:LEU:HA	1.74	0.45
42:A7:96:LYS:HB3	42:A7:96:LYS:HE2	1.72	0.45
44:A8:41:ARG:HG2	44:A8:49:THR:HG21	1.97	0.45
47:Ab:8:LYS:HE2	47:Ab:8:LYS:HB2	1.65	0.45
70:AE:219:LYS:HE2	70:AE:328:THR:HG22	1.98	0.45
71:AF:383:VAL:HG22	73:AU:134:ARG:CD	2.46	0.45
75:AV:107:LEU:O	75:AV:111:ILE:HG13	2.16	0.45
79:S8:19:G:P	79:S8:60:U:H3	2.40	0.45
80:mR:24:U:H2'	80:mR:25:A:C8	2.51	0.45
8:SA:862:A:H4'	13:SF:201:ASN:ND2	2.32	0.45
8:SA:1679:G:N3	27:ST:39:GLN:HB3	2.32	0.45
12:SE:162:SER:OG	12:SE:165:GLY:N	2.50	0.45
14:SG:52:LYS:HD2	14:SG:77:TYR:CE2	2.52	0.45
14:SG:154:GLY:HA3	14:SG:167:PRO:CB	2.44	0.45
14:SG:169:LYS:HG2	14:SG:182:VAL:HG22	1.98	0.45
15:SH:198:ARG:C	15:SH:202:LYS:HZ2	2.24	0.45
17:SJ:140:ARG:HD3	18:SK:51:GLU:OE2	2.17	0.45
23:SP:88:LEU:HD23	23:SP:88:LEU:HA	1.83	0.45
25:SR:45:VAL:HB	25:SR:49:ILE:HD11	1.97	0.45
34:AA:498:U:H2'	34:AA:499:U:H6	1.82	0.45
34:AA:505:A:H2'	34:AA:506:A:H8	1.82	0.45
34:AA:734:A:H2'	34:AA:735:A:H8	1.82	0.45
34:AA:1073:G:H22	34:AA:1243:G:C4'	2.30	0.45
34:AA:2021:A:H2'	34:AA:2022:A:H8	1.79	0.45
34:AA:3453:U:OP1	65:AT:58:SER:N	2.42	0.45
34:AA:3585:A:O2'	34:AA:3586:U:P	2.74	0.45
55:AJ:108:ASP:OD2	55:AJ:108:ASP:N	2.44	0.45
61:AQ:194:GLY:C	61:AQ:196:SER:H	2.25	0.45
63:AW:54:LYS:HA	63:AW:83:TRP:CD1	2.52	0.45
68:A5:125:PHE:O	68:A5:212:ASN:ND2	2.42	0.45
69:AD:121:GLY:C	69:AD:123:ARG:H	2.25	0.45
70:AE:148:ILE:HG22	70:AE:189:LEU:HD21	1.99	0.45
72:AG:35:ARG:NE	72:AG:35:ARG:HA	2.31	0.45
72:AG:77:LEU:HD13	72:AG:77:LEU:HA	1.85	0.45
73:AU:154:ARG:HG3	73:AU:155:ARG:H	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:AH:171:ILE:HD12	74:AH:171:ILE:HA	1.77	0.45
6:S6:46:ASP:OD1	6:S6:47:ASN:N	2.50	0.45
8:SA:121:A:H1'	8:SA:403:A:C4	2.51	0.45
8:SA:793:G:C8	17:SJ:104:LYS:NZ	2.85	0.45
13:SF:126:VAL:HG13	13:SF:156:VAL:O	2.17	0.45
15:SH:74:ARG:NH2	15:SH:94:ARG:HG2	2.32	0.45
15:SH:170:PHE:HB3	15:SH:171:ILE:H	1.61	0.45
16:SI:178:SER:O	16:SI:182:LYS:HG3	2.17	0.45
21:SN:40:LYS:HD2	21:SN:41:GLY:N	2.31	0.45
32:SY:94:GLY:O	32:SY:98:LEU:HD12	2.17	0.45
32:SY:159:ALA:O	32:SY:163:ASN:ND2	2.47	0.45
34:AA:115:A:P	51:AP:49:ARG:HH21	2.39	0.45
34:AA:2660:A:H2'	34:AA:2661:A:C8	2.52	0.45
34:AA:3761:G:OP2	78:A0:68:LYS:HD3	2.17	0.45
36:AB:64:A:H2'	36:AB:65:G:C8	2.51	0.45
37:AL:40:LYS:HE3	37:AL:40:LYS:HB2	1.82	0.45
41:A6:77:ASN:OD1	41:A6:77:ASN:N	2.48	0.45
43:AN:25:VAL:HG23	73:AU:158:PHE:O	2.15	0.45
48:Ad:39:THR:HG21	48:Ad:60:ALA:HB1	1.99	0.45
61:AQ:93:PRO:HB2	61:AQ:125:VAL:HB	1.99	0.45
69:AD:14:SER:OG	69:AD:15:ILE:N	2.49	0.45
71:AF:188:LYS:HB2	71:AF:188:LYS:HE3	1.70	0.45
79:S8:50:U:H2'	79:S8:51:C:H6	1.82	0.45
81:S9:12:U:H3	81:S9:23:A:H61	1.65	0.45
7:S7:6:A:H2'	7:S7:7:U:C6	2.52	0.45
8:SA:1724:U:OP2	32:SY:66:ARG:NH2	2.50	0.45
8:SA:1724:U:C4	8:SA:1725:A:C6	3.05	0.45
12:SE:78:ARG:HG3	12:SE:79:ARG:N	2.32	0.45
13:SF:211:LYS:HE2	13:SF:211:LYS:HB3	1.86	0.45
16:SI:41:PRO:HG2	16:SI:64:VAL:HG11	1.98	0.45
16:SI:151:ASN:OD1	16:SI:151:ASN:N	2.49	0.45
19:SL:200:ILE:HG13	19:SL:205:LEU:HD23	1.99	0.45
29:SV:43:LEU:HD12	29:SV:43:LEU:HA	1.82	0.45
32:SY:54:PRO:HD3	32:SY:76:TYR:CE2	2.52	0.45
34:AA:545:C:O2	34:AA:612:G:H1'	2.17	0.45
34:AA:698:G:OP1	34:AA:698:G:H3'	2.17	0.45
34:AA:1999:A:O2'	34:AA:2000:G:OP1	2.34	0.45
34:AA:2449:U:P	69:AD:241:ARG:HH22	2.40	0.45
34:AA:2742:G:N2	34:AA:2806:U:O2	2.40	0.45
51:AP:42:PRO:HG3	51:AP:61:ILE:HD12	1.99	0.45
68:A5:251:GLU:O	68:A5:255:ARG:HG3	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:AD:38:LYS:HD2	69:AD:38:LYS:C	2.42	0.45
70:AE:92:TYR:OH	70:AE:177:GLU:OE2	2.30	0.45
8:SA:882:A:H2'	8:SA:883:A:C8	2.52	0.45
8:SA:913:U:H2'	8:SA:914:U:C6	2.52	0.45
8:SA:975:A:H2'	8:SA:976:A:C8	2.52	0.45
8:SA:997:G:H4'	8:SA:998:A:H5'	1.99	0.45
8:SA:1849:U:H2'	8:SA:1850:G:C8	2.52	0.45
8:SA:2004:U:H2'	8:SA:2005:U:C6	2.52	0.45
9:SB:37:MET:HE3	9:SB:37:MET:HB3	1.89	0.45
30:SW:77:GLU:HA	30:SW:80:ARG:HH21	1.82	0.45
34:AA:212:U:H2'	34:AA:213:C:C6	2.51	0.45
34:AA:512:A:H4'	54:AI:48:ARG:NE	2.31	0.45
34:AA:2719:U:H2'	34:AA:2720:C:C6	2.51	0.45
34:AA:2884:G:H8	46:Aa:91:ARG:HD2	1.82	0.45
34:AA:3131:A:O2'	34:AA:3133:U:OP2	2.31	0.45
34:AA:3532:A:H2'	34:AA:3533:A:C8	2.52	0.45
41:A6:19:LEU:HD12	41:A6:101:SER:OG	2.17	0.45
63:AW:47:TYR:O	63:AW:51:VAL:HG23	2.17	0.45
65:AT:21:ILE:C	65:AT:21:ILE:HD12	2.42	0.45
77:AX:45:ASP:OD2	77:AX:45:ASP:C	2.60	0.45
8:SA:410:G:H2'	8:SA:411:C:C6	2.52	0.44
8:SA:448:C:O2'	8:SA:532:A:N1	2.46	0.44
8:SA:480:A:H5"	12:SE:144:PRO:HD2	1.99	0.44
8:SA:592:A:H2'	8:SA:593:G:C8	2.51	0.44
8:SA:1410:G:H2'	8:SA:1411:G:C8	2.52	0.44
8:SA:1414:A:O5'	8:SA:1414:A:H8	2.00	0.44
8:SA:1433:A:H2	11:SD:164:PRO:HD2	1.81	0.44
8:SA:1435:C:H2'	8:SA:1436:U:C6	2.52	0.44
8:SA:1446:A:N3	21:SN:54:ARG:HD3	2.32	0.44
8:SA:1713:C:H2'	8:SA:1714:U:C6	2.52	0.44
8:SA:1846:U:C5	31:SX:39:ALA:HB3	2.52	0.44
8:SA:1888:U:OP1	32:SY:114:HIS:ND1	2.39	0.44
14:SG:65:HIS:HB2	14:SG:67:LEU:CD2	2.47	0.44
20:SM:128:LYS:HG2	20:SM:135:ALA:HA	1.99	0.44
21:SN:88:ILE:HG22	21:SN:89:ASP:N	2.32	0.44
29:SV:114:CYS:HA	29:SV:142:VAL:HG12	1.99	0.44
34:AA:347:C:OP1	34:AA:1529:G:O2'	2.34	0.44
34:AA:393:G:H2'	34:AA:394:A:O4'	2.16	0.44
34:AA:721:U:H5"	34:AA:1072:A:C2	2.52	0.44
34:AA:728:C:H2'	34:AA:729:G:C8	2.52	0.44
34:AA:912:U:H2'	34:AA:913:U:C6	2.52	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1066:U:H2'	34:AA:1067:U:C6	2.52	0.44
34:AA:1158:G:H2'	34:AA:1159:A:H8	1.82	0.44
34:AA:2168:A:O2'	34:AA:2174:G:N7	2.40	0.44
41:A6:16:LYS:HE2	41:A6:16:LYS:HB2	1.78	0.44
61:AQ:76:MET:HB3	61:AQ:85:PHE:CE1	2.52	0.44
70:AE:29:ILE:HD13	70:AE:215:ILE:HD13	1.99	0.44
71:AF:44:MET:HE3	71:AF:44:MET:HB2	1.85	0.44
8:SA:110:A:H2'	8:SA:111:G:H8	1.80	0.44
8:SA:337:G:H5'	19:SL:33:PRO:HA	2.00	0.44
8:SA:805:A:HO2'	8:SA:806:A:P	2.40	0.44
8:SA:1682:A:H2'	8:SA:1683:U:C6	2.53	0.44
8:SA:1780:G:H2'	8:SA:1781:C:C6	2.52	0.44
9:SB:187:LYS:C	9:SB:190:PRO:HD2	2.42	0.44
12:SE:2:PRO:N	13:SF:26:GLN:HE22	2.15	0.44
13:SF:84:VAL:HB	13:SF:101:LEU:HD22	1.99	0.44
13:SF:87:MET:HA	13:SF:101:LEU:O	2.18	0.44
14:SG:196:THR:HA	14:SG:226:ILE:HD13	1.99	0.44
23:SP:53:LEU:HD13	23:SP:90:VAL:HG21	1.99	0.44
24:SQ:126:LYS:HA	24:SQ:132:LEU:HD23	1.99	0.44
25:SR:55:LYS:HB3	25:SR:56:VAL:H	1.56	0.44
31:SX:87:PRO:HB3	31:SX:112:ILE:HD13	1.98	0.44
32:SY:30:LYS:HB2	32:SY:88:TYR:CE2	2.53	0.44
34:AA:709:A:H5"	57:AK:92:TYR:CD2	2.52	0.44
34:AA:1006:G:H2'	34:AA:1007:U:C6	2.53	0.44
34:AA:2712:A:H2'	34:AA:2713:C:H6	1.80	0.44
34:AA:3028:A:N3	34:AA:3028:A:H2'	2.33	0.44
35:AC:69:A:H2'	35:AC:70:A:C8	2.51	0.44
47:Ab:47:VAL:HG11	51:AP:6:TYR:CE1	2.47	0.44
53:Ai:76:CYS:O	53:Ai:78:LYS:N	2.50	0.44
8:SA:142:G:O2'	8:SA:143:A:H5'	2.17	0.44
8:SA:1713:C:H2'	8:SA:1714:U:H6	1.83	0.44
8:SA:1848:U:H2'	8:SA:1849:U:C6	2.53	0.44
13:SF:232:THR:OG1	13:SF:233:LYS:N	2.51	0.44
14:SG:62:ILE:HG13	14:SG:63:TYR:N	2.32	0.44
26:SS:41:ARG:NH1	32:SY:61:LYS:HE2	2.33	0.44
33:SZ:38:MET:SD	33:SZ:38:MET:N	2.91	0.44
34:AA:180:C:H2'	34:AA:181:C:C6	2.52	0.44
34:AA:596:A:C5	34:AA:597:A:C6	3.04	0.44
34:AA:722:G:OP1	34:AA:1270:G:O2'	2.28	0.44
34:AA:1192:C:H2'	34:AA:1193:G:H5"	1.99	0.44
34:AA:1235:C:H2'	34:AA:1236:U:H6	1.81	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:1468:A:H2'	34:AA:1469:U:C6	2.53	0.44
34:AA:1597:U:H2'	34:AA:1598:A:H8	1.82	0.44
34:AA:1805:U:O2'	34:AA:1806:C:H5'	2.17	0.44
34:AA:2645:A:H5"	63:AW:83:TRP:O	2.17	0.44
34:AA:3587:U:H2'	34:AA:3588:A:H8	1.81	0.44
45:A9:53:GLN:O	45:A9:54:ARG:HG2	2.17	0.44
53:Ai:36:SER:O	53:Ai:40:ARG:HG3	2.17	0.44
53:Ai:76:CYS:C	53:Ai:78:LYS:H	2.25	0.44
55:AJ:233:LYS:HE3	55:AJ:233:LYS:HB3	1.56	0.44
59:AS:36:LEU:HD23	59:AS:36:LEU:HA	1.86	0.44
65:AT:112:LYS:HE3	65:AT:112:LYS:HB2	1.75	0.44
66:AZ:41:LYS:HG2	66:AZ:42:TYR:CE2	2.53	0.44
66:AZ:59:ARG:HD3	66:AZ:59:ARG:HA	1.74	0.44
68:A5:203:THR:O	68:A5:203:THR:OG1	2.35	0.44
73:AU:43:ASP:OD1	73:AU:44:THR:N	2.51	0.44
73:AU:99:MET:HE2	73:AU:99:MET:HB3	1.83	0.44
81:S9:71:G:N2	81:S9:72:C:H1'	2.32	0.44
7:S7:66:C:H2'	7:S7:67:A:H8	1.82	0.44
8:SA:321:A:C2	8:SA:359:A:C5	3.04	0.44
8:SA:1456:G:O6	8:SA:1607:U:O4	2.35	0.44
8:SA:1629:G:H5'	21:SN:84:TYR:HE1	1.82	0.44
8:SA:1669:C:H5"	11:SD:154:ARG:NH2	2.32	0.44
17:SJ:17:GLU:O	17:SJ:20:ILE:HG22	2.18	0.44
20:SM:113:TYR:HE2	20:SM:117:LEU:HD12	1.83	0.44
34:AA:66:A:OP2	37:AL:99:ARG:NH1	2.47	0.44
34:AA:541:A:H2	34:AA:611:G:H22	1.66	0.44
34:AA:546:C:O4'	34:AA:613:C:H5'	2.18	0.44
34:AA:677:A:H2'	34:AA:678:A:O4'	2.17	0.44
34:AA:1548:A:H3'	34:AA:1549:U:H5"	2.00	0.44
34:AA:1596:G:O2'	34:AA:2648:G:O6	2.34	0.44
34:AA:1964:G:O2'	34:AA:1965:U:H4'	2.16	0.44
34:AA:2070:U:H2'	34:AA:2071:U:C6	2.52	0.44
48:Ad:12:LEU:HB3	48:Ad:16:ARG:NH1	2.33	0.44
48:Ad:56:ASP:OD2	48:Ad:59:LYS:HG3	2.16	0.44
60:AO:61:LEU:HD23	60:AO:61:LEU:HA	1.63	0.44
63:AW:6:LYS:NZ	63:AW:115:ILE:O	2.50	0.44
65:AT:104:LEU:HD21	65:AT:138:ILE:HD13	2.00	0.44
70:AE:90:VAL:HG22	70:AE:104:THR:HB	1.99	0.44
72:AG:92:ARG:HG3	72:AG:93:ARG:N	2.32	0.44
81:S9:6:G:H2'	81:S9:7:A:H8	1.81	0.44
1:S1:110:LYS:HZ2	1:S1:114:ASN:HB2	1.83	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S5:20:GLY:HA3	8:SA:1913:G:O2'	2.16	0.44
7:S7:74:A:N1	34:AA:3152:G:H2'	2.32	0.44
8:SA:524:G:C6	8:SA:543:A:N1	2.85	0.44
8:SA:1451:G:N3	8:SA:1625:C:N4	2.66	0.44
14:SG:41:TRP:NE1	14:SG:42:VAL:O	2.51	0.44
14:SG:152:ARG:HG3	14:SG:234:TYR:CE1	2.53	0.44
20:SM:131:GLY:HA3	20:SM:138:ARG:NE	2.29	0.44
22:SO:72:TRP:HB2	27:ST:21:VAL:HA	1.99	0.44
31:SX:56:LEU:HD12	31:SX:83:MET:SD	2.58	0.44
32:SY:45:LEU:HD12	32:SY:50:LYS:NZ	2.26	0.44
34:AA:1238:C:H2'	34:AA:1239:A:O4'	2.18	0.44
34:AA:1867:U:H2'	34:AA:1868:U:C6	2.53	0.44
34:AA:1995:C:H5"	34:AA:1996:C:O5'	2.17	0.44
34:AA:2547:U:H2'	34:AA:2554:G:N2	2.33	0.44
34:AA:2721:U:H2'	34:AA:2722:G:C8	2.53	0.44
34:AA:2954:A:H2'	34:AA:2955:C:H6	1.82	0.44
34:AA:2970:U:OP1	34:AA:3096:U:O2'	2.32	0.44
34:AA:3065:C:O2'	34:AA:3066:A:H2'	2.18	0.44
34:AA:3537:U:H2'	34:AA:3538:A:C8	2.52	0.44
34:AA:3724:U:H2'	34:AA:3725:G:O4'	2.17	0.44
47:Ab:41:LYS:HB2	47:Ab:41:LYS:HE2	1.63	0.44
49:Ae:40:LYS:HE3	49:Ae:40:LYS:HB2	1.73	0.44
56:Ac:22:CYS:HB2	56:Ac:30:TYR:HB2	2.00	0.44
62:AR:97:ALA:O	62:AR:101:THR:OG1	2.35	0.44
69:AD:206:PRO:HD3	69:AD:213:GLY:CA	2.48	0.44
79:S8:1:C:N4	79:S8:72:A:H61	2.04	0.44
3:S3:66:LYS:HD3	3:S3:66:LYS:HA	1.79	0.44
7:S7:19:G:H8	7:S7:19:G:OP2	2.01	0.44
8:SA:87:A:N3	8:SA:146:A:O2'	2.49	0.44
8:SA:149:A:N6	8:SA:162:A:N6	2.66	0.44
8:SA:1848:U:H2'	8:SA:1849:U:H6	1.81	0.44
8:SA:1868:C:H3'	8:SA:1869:G:N2	2.32	0.44
8:SA:1957:A:H2'	8:SA:1958:A:C8	2.53	0.44
10:SC:14:ILE:HA	10:SC:17:MET:HE3	2.00	0.44
10:SC:30:GLU:CD	10:SC:31:ASN:H	2.25	0.44
10:SC:79:ARG:HD3	10:SC:128:THR:HG21	2.00	0.44
15:SH:48:TYR:OH	15:SH:119:ASN:O	2.25	0.44
16:SI:23:ASP:C	16:SI:25:SER:H	2.24	0.44
20:SM:14:LYS:HE3	20:SM:80:TYR:O	2.17	0.44
26:SS:88:ARG:CD	26:SS:97:ASN:HB2	2.47	0.44
29:SV:115:SER:OG	29:SV:117:CYS:SG	2.67	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:644:G:H5"	54:AI:32:LYS:HB2	2.00	0.44
34:AA:822:A:C2	59:AS:69:TYR:HB2	2.52	0.44
34:AA:1045:A:H2'	34:AA:1046:A:C8	2.53	0.44
34:AA:1860:A:H2'	34:AA:1861:C:C6	2.53	0.44
34:AA:3382:U:H2'	34:AA:3383:A:O4'	2.17	0.44
34:AA:3424:U:H2'	34:AA:3425:G:O4'	2.16	0.44
37:AL:72:LYS:HE2	37:AL:97:ASP:CB	2.48	0.44
43:AN:105:PHE:C	43:AN:107:ASN:H	2.26	0.44
48:Ad:12:LEU:O	48:Ad:16:ARG:HD3	2.18	0.44
48:Ad:26:MET:HE3	48:Ad:26:MET:HB3	1.86	0.44
56:Ac:51:ASN:OD1	56:Ac:57:LYS:NZ	2.49	0.44
60:AO:99:VAL:HG22	60:AO:123:VAL:HB	1.99	0.44
64:AY:111:ILE:HG12	64:AY:146:SER:OG	2.17	0.44
70:AE:155:LEU:HD12	70:AE:155:LEU:HA	1.80	0.44
71:AF:79:VAL:HG22	71:AF:87:ALA:HA	1.98	0.44
75:AV:112:LYS:HE3	75:AV:112:LYS:HB3	1.71	0.44
79:S8:22:G:N7	79:S8:46:G:O6	2.51	0.44
5:S5:28:GLN:HE21	5:S5:38:ARG:HD3	1.81	0.44
5:S5:29:PHE:HB2	5:S5:40:LEU:HD22	2.00	0.44
6:S6:38:GLN:HG2	6:S6:39:LEU:HD22	1.98	0.44
8:SA:62:A:N1	8:SA:293:U:O2'	2.42	0.44
8:SA:68:U:H2'	8:SA:69:A:H8	1.83	0.44
8:SA:466:A:H3'	8:SA:467:G:H8	1.82	0.44
8:SA:1279:G:C4	8:SA:1280:G:C8	3.06	0.44
9:SB:85:LYS:O	9:SB:101:CYS:N	2.43	0.44
10:SC:133:VAL:HG12	10:SC:155:HIS:HB2	2.00	0.44
11:SD:23:GLU:CD	22:SO:71:ASN:HD21	2.24	0.44
12:SE:42:ILE:O	12:SE:46:GLN:HG2	2.17	0.44
12:SE:55:ALA:O	12:SE:59:LEU:HD22	2.17	0.44
20:SM:48:LYS:NZ	20:SM:80:TYR:OH	2.50	0.44
20:SM:51:GLU:HB2	20:SM:52:PRO:HD3	1.98	0.44
20:SM:129:LYS:HB2	20:SM:135:ALA:O	2.17	0.44
26:SS:100:VAL:CG2	26:SS:105:LEU:HA	2.45	0.44
28:SU:54:LEU:HD13	28:SU:60:ILE:HD11	2.00	0.44
34:AA:187:U:H2'	34:AA:188:U:C6	2.53	0.44
34:AA:628:U:H2'	34:AA:629:A:C8	2.53	0.44
34:AA:684:G:N2	71:AF:311:LYS:HE3	2.22	0.44
34:AA:1764:U:H2'	34:AA:1765:A:C8	2.52	0.44
34:AA:3101:A:H2'	34:AA:3102:U:C6	2.52	0.44
34:AA:3387:U:H2'	34:AA:3388:U:H6	1.82	0.44
34:AA:3459:A:H2'	34:AA:3460:C:C6	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3617:A:HO2'	73:AU:172:LYS:HZ3	1.60	0.44
39:A2:40:TYR:CD1	44:A8:84:PRO:HA	2.53	0.44
42:A7:110:LYS:H	42:A7:110:LYS:HG2	1.67	0.44
47:Ab:61:ILE:HG22	47:Ab:97:ILE:HG21	2.00	0.44
60:AO:37:GLY:O	60:AO:38:LEU:HB2	2.17	0.44
61:AQ:13:LYS:O	61:AQ:14:ASN:HB2	2.18	0.44
62:AR:292:LYS:HG3	62:AR:293:LEU:N	2.32	0.44
66:AZ:69:VAL:HA	66:AZ:81:VAL:HA	2.00	0.44
68:A5:90:LYS:HA	68:A5:90:LYS:HD3	1.79	0.44
72:AG:15:ASN:H	72:AG:131:LEU:HA	1.83	0.44
72:AG:47:PHE:HA	72:AG:66:SER:O	2.18	0.44
77:AX:61:GLU:HG2	77:AX:85:SER:HB3	1.99	0.44
8:SA:1049:G:H4'	8:SA:2068:A:H4'	1.99	0.44
8:SA:1378:G:H2'	8:SA:1379:G:C8	2.53	0.44
8:SA:1790:C:O2'	8:SA:1791:C:O4'	2.36	0.44
8:SA:1914:U:H2'	8:SA:1915:C:C6	2.52	0.44
11:SD:8:LYS:HG3	21:SN:58:LYS:NZ	2.33	0.44
11:SD:133:LYS:HD2	11:SD:157:TYR:CE2	2.53	0.44
11:SD:133:LYS:NZ	11:SD:157:TYR:H	2.15	0.44
12:SE:63:ASP:O	12:SE:69:ARG:HD2	2.18	0.44
13:SF:44:LEU:HD12	13:SF:48:LEU:HD11	1.98	0.44
14:SG:111:LYS:HD3	14:SG:113:PHE:CZ	2.53	0.44
22:SO:61:LYS:HB2	22:SO:77:PHE:HE2	1.83	0.44
26:SS:86:LEU:C	26:SS:86:LEU:HD13	2.43	0.44
30:SW:24:LEU:HD22	30:SW:58:MET:CE	2.48	0.44
34:AA:763:U:C2'	34:AA:764:G:H5'	2.48	0.44
34:AA:1062:U:H2'	60:AO:12:ARG:O	2.18	0.44
34:AA:1235:C:H2'	34:AA:1236:U:C6	2.52	0.44
34:AA:2026:G:H5"	46:Aa:71:THR:HG22	1.99	0.44
34:AA:2069:C:H2'	34:AA:2070:U:C5	2.52	0.44
55:AJ:110:LEU:O	55:AJ:114:LYS:HG2	2.18	0.44
55:AJ:226:GLU:OE1	55:AJ:227:LYS:N	2.50	0.44
61:AQ:43:VAL:HG11	61:AQ:197:CYS:SG	2.58	0.44
62:AR:107:ARG:NH2	62:AR:116:ASP:HB3	2.33	0.44
68:A5:68:ARG:O	68:A5:71:ILE:HG22	2.18	0.44
69:AD:140:SER:OG	69:AD:145:LYS:HB3	2.17	0.44
70:AE:253:HIS:HA	70:AE:254:PRO:C	2.42	0.44
70:AE:371:GLU:OE1	70:AE:371:GLU:N	2.26	0.44
71:AF:64:ALA:HB2	71:AF:92:PHE:HZ	1.83	0.44
71:AF:158:ILE:O	71:AF:217:VAL:HG13	2.18	0.44
2:S2:35:LYS:HD3	8:SA:1833:G:H4'	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S5:42:ARG:HH22	5:S5:61:ARG:C	2.25	0.44
8:SA:1037:U:H2'	8:SA:1038:C:O4'	2.17	0.44
8:SA:1456:G:O6	8:SA:1607:U:C4	2.71	0.44
8:SA:1818:A:N6	20:SM:69:ARG:HH11	2.15	0.44
8:SA:1822:A:H2'	8:SA:1823:U:H6	1.80	0.44
8:SA:1870:A:N6	16:SI:154:PHE:HZ	2.16	0.44
9:SB:227:LYS:HA	9:SB:227:LYS:HD2	1.89	0.44
13:SF:67:GLN:O	13:SF:69:ILE:N	2.51	0.44
13:SF:252:ARG:HA	13:SF:252:ARG:HD2	1.55	0.44
14:SG:53:GLU:OE2	14:SG:55:LYS:N	2.51	0.44
16:SI:53:ARG:H	16:SI:53:ARG:HE	1.65	0.44
17:SJ:180:THR:O	17:SJ:182:ARG:N	2.50	0.44
18:SK:3:ARG:O	18:SK:5:SER:N	2.51	0.44
20:SM:91:ILE:HD13	20:SM:91:ILE:HA	1.86	0.44
22:SO:15:PRO:O	22:SO:19:LYS:HG3	2.18	0.44
25:SR:58:PHE:HD2	25:SR:87:GLN:HB2	1.83	0.44
34:AA:2817:U:H2'	34:AA:2818:U:C6	2.53	0.44
34:AA:2919:A:H3'	34:AA:2920:A:H8	1.83	0.44
34:AA:3403:A:H2'	34:AA:3404:C:H6	1.83	0.44
48:Ad:5:ILE:HD12	48:Ad:5:ILE:O	2.18	0.44
50:Af:38:LYS:HD3	50:Af:38:LYS:HA	1.78	0.44
56:Ac:31:HIS:CD2	56:Ac:34:LYS:H	2.36	0.44
62:AR:77:GLU:O	62:AR:108:ARG:NH1	2.43	0.44
72:AG:29:ARG:O	72:AG:29:ARG:HD2	2.18	0.44
74:AH:101:ASN:O	74:AH:113:ILE:HA	2.18	0.44
3:S3:39:PHE:HA	3:S3:70:LYS:HA	1.99	0.43
8:SA:515:U:H2'	8:SA:516:G:H5'	2.00	0.43
8:SA:538:U:H2'	8:SA:539:U:H6	1.84	0.43
8:SA:617:G:H21	24:SQ:19:ARG:HH22	1.65	0.43
8:SA:1168:U:H2'	8:SA:1169:C:H6	1.83	0.43
8:SA:1265:G:H8	8:SA:1265:G:OP2	2.01	0.43
8:SA:1695:A:H2'	8:SA:1696:A:C8	2.53	0.43
8:SA:1706:A:H2'	8:SA:1707:C:O4'	2.18	0.43
8:SA:1794:C:H5"	32:SY:94:GLY:HA3	1.99	0.43
8:SA:1881:G:O2'	8:SA:1907:G:O6	2.34	0.43
8:SA:2030:U:H2'	8:SA:2031:C:H6	1.82	0.43
10:SC:21:LYS:HE2	10:SC:21:LYS:HB2	1.77	0.43
10:SC:28:ASN:HB2	10:SC:150:ASP:HB3	2.00	0.43
11:SD:17:PHE:O	11:SD:20:GLU:HB2	2.18	0.43
11:SD:166:LYS:HA	11:SD:166:LYS:HD2	1.77	0.43
12:SE:31:ILE:HA	12:SE:36:LEU:HD21	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SE:151:ASP:OD1	12:SE:151:ASP:N	2.51	0.43
14:SG:61:GLU:O	14:SG:65:HIS:ND1	2.47	0.43
20:SM:79:ILE:HG22	20:SM:80:TYR:CD1	2.54	0.43
24:SQ:137:LYS:HG3	24:SQ:138:GLU:OE1	2.18	0.43
31:SX:28:LEU:HD23	31:SX:29:SER:N	2.33	0.43
34:AA:589:C:H2'	34:AA:590:C:H6	1.82	0.43
34:AA:909:U:H2'	34:AA:910:A:H8	1.82	0.43
34:AA:1225:A:O5'	75:AV:130:LYS:HB2	2.18	0.43
34:AA:1267:G:O6	40:A4:10:HIS:NE2	2.49	0.43
34:AA:2027:A:H2'	34:AA:2028:G:C8	2.53	0.43
34:AA:3016:G:H2'	34:AA:3016:G:N3	2.33	0.43
34:AA:3289:G:H2'	34:AA:3290:C:C6	2.54	0.43
34:AA:3595:U:H2'	34:AA:3596:A:H8	1.83	0.43
38:A1:98:SER:O	38:A1:101:VAL:HG12	2.18	0.43
39:A2:27:LYS:HB3	39:A2:27:LYS:HE3	1.65	0.43
48:Ad:62:ARG:HE	48:Ad:62:ARG:HB3	1.65	0.43
55:AJ:229:ASP:N	55:AJ:229:ASP:OD1	2.51	0.43
58:AM:19:LEU:HD21	58:AM:100:ASN:CG	2.43	0.43
61:AQ:202:GLU:O	61:AQ:203:LYS:HD2	2.17	0.43
63:AW:152:GLU:O	63:AW:153:ILE:HD13	2.18	0.43
64:AY:153:ILE:HD12	64:AY:153:ILE:O	2.18	0.43
66:AZ:62:ASN:HB3	66:AZ:65:ARG:HG3	1.99	0.43
68:A5:81:ASN:OD1	68:A5:82:ASN:N	2.51	0.43
73:AU:88:LEU:HD22	73:AU:99:MET:HG2	2.00	0.43
77:AX:56:ASP:OD1	77:AX:58:SER:N	2.51	0.43
81:S9:10:G:H2'	81:S9:11:C:C6	2.53	0.43
81:S9:68:C:H2'	81:S9:69:G:O4'	2.16	0.43
5:S5:42:ARG:HD2	5:S5:56:LEU:HD13	2.00	0.43
8:SA:882:A:H2'	8:SA:883:A:H8	1.83	0.43
8:SA:1192:A:H4'	8:SA:1193:A:O4'	2.18	0.43
8:SA:1220:C:H2'	8:SA:1221:G:C8	2.53	0.43
10:SC:39:THR:O	10:SC:47:ILE:HG13	2.19	0.43
12:SE:120:LYS:HE3	12:SE:120:LYS:HB3	1.89	0.43
13:SF:57:THR:HG22	13:SF:60:GLU:HG3	2.01	0.43
16:SI:110:GLY:C	16:SI:184:LYS:HD2	2.43	0.43
20:SM:91:ILE:O	20:SM:103:LYS:HE3	2.19	0.43
31:SX:86:ILE:O	31:SX:88:GLU:N	2.51	0.43
34:AA:203:A:C2	34:AA:207:A:H2	2.13	0.43
34:AA:779:U:O2'	37:AL:168:LYS:HD3	2.18	0.43
34:AA:1285:U:H2'	34:AA:1286:A:O4'	2.18	0.43
34:AA:2209:C:H2'	34:AA:2210:U:C6	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3293:A:H2'	34:AA:3294:U:O4'	2.19	0.43
55:AJ:276:LYS:HE3	55:AJ:276:LYS:HB3	1.78	0.43
57:AK:191:GLU:OE2	57:AK:191:GLU:N	2.40	0.43
61:AQ:171:TRP:HA	61:AQ:178:LYS:HD3	2.00	0.43
64:AY:183:VAL:O	64:AY:187:ILE:HG23	2.19	0.43
65:AT:146:ASN:HA	65:AT:149:LEU:HD23	1.99	0.43
66:AZ:26:ARG:O	66:AZ:30:MET:HG3	2.18	0.43
70:AE:224:LYS:HA	70:AE:224:LYS:HD3	1.76	0.43
70:AE:345:ARG:HE	70:AE:345:ARG:HB2	1.58	0.43
71:AF:348:LEU:HD13	71:AF:348:LEU:HA	1.80	0.43
74:AH:110:ARG:HA	74:AH:125:VAL:O	2.18	0.43
74:AH:170:ASP:OD2	74:AH:172:ARG:HG2	2.18	0.43
3:S3:55:GLU:OE2	3:S3:55:GLU:C	2.62	0.43
4:S4:30:PHE:CE1	28:SU:61:PRO:HG3	2.52	0.43
4:S4:68:LYS:HZ2	8:SA:1119:G:P	2.35	0.43
8:SA:453:U:H2'	8:SA:454:U:O4'	2.17	0.43
8:SA:844:G:O2'	8:SA:845:U:O5'	2.31	0.43
8:SA:1822:A:H5"	32:SY:105:LYS:HG3	1.99	0.43
8:SA:1851:C:H5"	31:SX:47:ARG:HH12	1.84	0.43
8:SA:1873:A:O2'	79:S8:40:C:O2'	2.33	0.43
8:SA:1900:U:H2'	8:SA:1901:U:H6	1.83	0.43
10:SC:62:ARG:NH1	33:SZ:38:MET:HA	2.34	0.43
17:SJ:143:MET:HG3	18:SK:50:PHE:CZ	2.53	0.43
26:SS:36:LYS:HZ1	26:SS:105:LEU:HD22	1.83	0.43
31:SX:30:GLN:H	31:SX:30:GLN:HG3	1.64	0.43
32:SY:39:ARG:HH12	32:SY:78:ILE:HG23	1.83	0.43
34:AA:302:A:H2'	34:AA:303:A:C8	2.53	0.43
34:AA:514:C:H2'	34:AA:515:A:C8	2.53	0.43
34:AA:1175:C:H2'	34:AA:1176:C:O4'	2.19	0.43
34:AA:2672:U:H2'	34:AA:2673:U:C6	2.54	0.43
34:AA:3401:C:H2'	34:AA:3402:A:H8	1.83	0.43
36:AB:60:U:H2'	36:AB:61:G:C8	2.51	0.43
47:Ab:49:ARG:HG2	47:Ab:49:ARG:HH11	1.84	0.43
62:AR:77:GLU:OE2	62:AR:79:LYS:NZ	2.39	0.43
62:AR:170:ASP:O	62:AR:247:ARG:NH2	2.48	0.43
67:A3:16:GLU:O	67:A3:20:LYS:HB3	2.18	0.43
67:A3:17:LEU:HD23	67:A3:17:LEU:HA	1.87	0.43
71:AF:193:LYS:NZ	71:AF:193:LYS:HB3	2.33	0.43
6:S6:40:TYR:CG	12:SE:32:GLY:HA3	2.54	0.43
7:S7:11:C:H2'	7:S7:12:G:C8	2.53	0.43
7:S7:16:U:C2	7:S7:58:G:H1'	2.52	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:403:A:H5”	19:SL:51:ARG:HB2	2.00	0.43
8:SA:1059:U:H2’	8:SA:1060:G:O4’	2.18	0.43
8:SA:1321:C:H4’	22:SO:63:ARG:NE	2.33	0.43
8:SA:1635:C:O4’	30:SW:48:ASN:ND2	2.52	0.43
8:SA:1810:U:H5”	8:SA:1811:A:O4’	2.18	0.43
8:SA:1953:U:H5”	8:SA:1954:U:OP2	2.19	0.43
14:SG:168:MET:O	14:SG:183:PRO:HD3	2.19	0.43
16:SI:9:LYS:HD3	16:SI:9:LYS:HA	1.57	0.43
17:SJ:159:GLU:OE2	17:SJ:165:ILE:HA	2.17	0.43
18:SK:22:ARG:HD2	18:SK:22:ARG:HA	1.80	0.43
19:SL:18:LYS:H	19:SL:18:LYS:HG2	1.59	0.43
19:SL:36:THR:OG1	19:SL:57:ALA:O	2.33	0.43
22:SO:53:ILE:O	22:SO:56:THR:HG23	2.18	0.43
26:SS:86:LEU:HD13	26:SS:87:ASN:O	2.19	0.43
32:SY:162:ILE:HA	32:SY:165:LYS:HE3	1.99	0.43
34:AA:215:C:O2’	34:AA:216:C:OP1	2.30	0.43
34:AA:424:U:OP1	63:AW:37:ARG:HD2	2.18	0.43
34:AA:857:C:H5”	59:AS:41:ASN:HD21	1.83	0.43
34:AA:1467:C:OP1	44:A8:61:LYS:HG2	2.17	0.43
34:AA:1796:U:H2’	46:Aa:66:ARG:HD3	1.99	0.43
34:AA:2008:G:H2’	34:AA:2009:A:C8	2.53	0.43
34:AA:2700:C:C2	34:AA:2701:U:C5	3.07	0.43
34:AA:3413:A:O2’	34:AA:3414:G:OP1	2.33	0.43
34:AA:3636:U:H2’	34:AA:3637:G:H8	1.83	0.43
41:A6:77:ASN:ND2	41:A6:89:ARG:HD2	2.34	0.43
43:AN:57:ASP:OD2	43:AN:66:ARG:NH1	2.51	0.43
57:AK:36:ARG:HD3	57:AK:156:GLU:OE2	2.18	0.43
62:AR:274:ASN:OD1	62:AR:277:LEU:HD12	2.19	0.43
64:AY:135:ASP:OD1	64:AY:136:LYS:N	2.52	0.43
67:A3:80:TYR:HA	67:A3:83:ARG:HG2	2.01	0.43
1:S1:64:LEU:HD11	1:S1:71:LYS:HG3	1.99	0.43
3:S3:82:ARG:HG2	3:S3:85:ARG:NH2	2.34	0.43
8:SA:331:G:H2’	8:SA:332:U:H6	1.83	0.43
8:SA:631:G:H2’	8:SA:632:C:C6	2.54	0.43
8:SA:1639:G:H2’	8:SA:1640:U:C6	2.54	0.43
8:SA:1745:U:H2’	8:SA:1746:A:C8	2.53	0.43
8:SA:2079:C:H2’	8:SA:2080:G:C8	2.54	0.43
9:SB:56:LEU:HB3	9:SB:58:THR:HG22	2.00	0.43
11:SD:72:LEU:O	11:SD:75:LYS:HG2	2.18	0.43
20:SM:106:LEU:O	20:SM:110:LEU:HG	2.18	0.43
21:SN:31:ILE:HA	21:SN:34:VAL:HG22	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SV:84:LYS:HD2	29:SV:85:ARG:HG3	2.00	0.43
32:SY:29:ILE:HG13	32:SY:85:ARG:NH2	2.33	0.43
34:AA:374:A:H2'	34:AA:375:A:O4'	2.18	0.43
34:AA:1866:C:H2'	34:AA:1867:U:C6	2.53	0.43
34:AA:3239:U:H1'	70:AE:247:ALA:HB3	2.01	0.43
34:AA:3534:U:H2'	34:AA:3535:A:C8	2.54	0.43
34:AA:3693:A:O2'	34:AA:3780:A:N1	2.49	0.43
35:AC:31:U:H2'	35:AC:32:C:H6	1.82	0.43
36:AB:8:U:OP2	62:AR:30:TYR:OH	2.25	0.43
37:AL:75:THR:HG22	37:AL:100:ARG:HB3	2.01	0.43
39:A2:15:LYS:HD3	39:A2:15:LYS:HA	1.79	0.43
42:A7:98:TYR:CE2	42:A7:100:ILE:HD11	2.42	0.43
47:Ab:8:LYS:HG3	47:Ab:8:LYS:O	2.19	0.43
57:AK:193:ARG:HG2	57:AK:193:ARG:HH11	1.83	0.43
58:AM:98:GLU:OE2	78:A0:31:ARG:N	2.51	0.43
66:AZ:86:ARG:NH1	66:AZ:87:GLU:O	2.52	0.43
70:AE:283:GLY:HA3	70:AE:318:PHE:CE1	2.53	0.43
73:AU:91:ASP:HA	73:AU:96:THR:HA	2.00	0.43
74:AH:166:CYS:O	74:AH:167:ARG:HD3	2.19	0.43
79:S8:15:G:OP2	79:S8:16:C:H5	2.02	0.43
7:S7:56:U:H1'	7:S7:58:G:C8	2.52	0.43
8:SA:38:C:N4	8:SA:39:A:H62	2.16	0.43
8:SA:756:A:N6	8:SA:757:A:N6	2.66	0.43
8:SA:928:U:O4'	17:SJ:115:ARG:HG3	2.19	0.43
8:SA:944:G:OP1	9:SB:158:THR:N	2.39	0.43
8:SA:1312:A:H3'	8:SA:1313:G:H5"	2.01	0.43
8:SA:1320:A:C2	8:SA:1321:C:H1'	2.53	0.43
8:SA:1830:C:HO2'	8:SA:1836:G:H1	1.64	0.43
11:SD:100:MET:HE1	11:SD:174:ARG:HH21	1.82	0.43
12:SE:96:VAL:O	12:SE:99:LEU:HG	2.19	0.43
15:SH:98:ARG:NH1	15:SH:105:ASP:OD2	2.39	0.43
17:SJ:100:ILE:HD13	17:SJ:100:ILE:HA	1.84	0.43
17:SJ:156:ASP:OD1	17:SJ:156:ASP:N	2.46	0.43
20:SM:22:THR:HB	20:SM:67:ARG:HG3	1.99	0.43
26:SS:92:LEU:O	26:SS:93:LYS:HE2	2.18	0.43
34:AA:1535:G:O6	71:AF:188:LYS:HD3	2.19	0.43
34:AA:1785:U:H4'	38:A1:75:ILE:HA	2.01	0.43
34:AA:3596:A:H2'	34:AA:3597:C:H6	1.84	0.43
42:A7:54:THR:OG1	42:A7:99:THR:HG22	2.18	0.43
55:AJ:150:LYS:HA	55:AJ:150:LYS:HD3	1.91	0.43
66:AZ:109:LYS:HE2	66:AZ:109:LYS:HB2	1.89	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:AE:155:LEU:HD23	70:AE:188:LYS:HB3	2.00	0.43
71:AF:162:SER:HA	71:AF:220:ALA:HB2	2.00	0.43
3:S3:85:ARG:HH12	8:SA:1254:G:H5'	1.84	0.43
8:SA:803:G:OP1	13:SF:186:GLY:HA3	2.19	0.43
8:SA:805:A:H2'	8:SA:806:A:O4'	2.18	0.43
8:SA:984:A:OP2	8:SA:985:U:H5	2.02	0.43
8:SA:1439:A:H2'	8:SA:1440:C:C6	2.54	0.43
8:SA:1654:G:H3'	8:SA:1655:G:C8	2.49	0.43
8:SA:1698:U:C2	8:SA:1699:A:C8	3.07	0.43
8:SA:1834:A:N6	8:SA:1868:C:H2'	2.34	0.43
15:SH:116:LYS:HA	15:SH:116:LYS:HD2	1.77	0.43
16:SI:19:ILE:HA	16:SI:101:GLN:NE2	2.34	0.43
16:SI:78:LEU:HA	16:SI:78:LEU:HD23	1.85	0.43
16:SI:144:LEU:HD23	16:SI:144:LEU:HA	1.92	0.43
17:SJ:50:ILE:O	17:SJ:58:LYS:HD3	2.18	0.43
18:SK:88:LYS:HB2	18:SK:88:LYS:HE3	1.53	0.43
32:SY:86:ARG:HH21	32:SY:89:LEU:HD12	1.83	0.43
34:AA:1481:A:O2'	34:AA:1482:A:H5"	2.19	0.43
34:AA:2112:G:C5'	34:AA:2113:C:H5"	2.47	0.43
34:AA:2218:C:H2'	34:AA:2219:A:H5"	2.00	0.43
34:AA:2507:A:H2'	34:AA:2508:C:O4'	2.19	0.43
34:AA:3025:U:H2'	34:AA:3026:G:O4'	2.18	0.43
34:AA:3107:U:H2'	34:AA:3108:A:C8	2.50	0.43
34:AA:3587:U:H2'	34:AA:3588:A:C8	2.54	0.43
35:AC:5:A:N1	63:AW:38:ARG:NH1	2.66	0.43
47:Ab:101:VAL:HA	47:Ab:104:GLN:HG2	2.01	0.43
63:AW:22:LEU:HB3	63:AW:90:PHE:CE2	2.54	0.43
71:AF:30:THR:HG21	71:AF:125:CYS:HB3	2.01	0.43
71:AF:385:LYS:HG2	71:AF:389:ARG:HH12	1.84	0.43
73:AU:153:LYS:HA	73:AU:153:LYS:HE3	2.00	0.43
75:AV:65:ILE:HD12	75:AV:73:VAL:CG1	2.46	0.43
76:Ag:9:LYS:HB2	76:Ag:9:LYS:HE3	1.54	0.43
78:A0:20:ILE:HG12	78:A0:39:LEU:HD23	2.01	0.43
6:S6:27:LYS:HD3	6:S6:27:LYS:HA	1.85	0.43
8:SA:151:G:H2'	8:SA:152:G:H8	1.83	0.43
8:SA:883:A:H2'	8:SA:884:G:C8	2.53	0.43
8:SA:964:G:H1	8:SA:986:U:H3	1.66	0.43
8:SA:1030:C:H5"	28:SU:71:ILE:HG21	2.00	0.43
8:SA:1423:A:H4'	8:SA:1424:A:O5'	2.19	0.43
8:SA:1711:U:H2'	8:SA:1712:G:O4'	2.18	0.43
8:SA:1928:A:C2	76:Ag:13:ALA:HB2	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SC:98:ILE:HD12	10:SC:98:ILE:C	2.44	0.43
14:SG:255:TRP:O	14:SG:259:LEU:HD12	2.19	0.43
20:SM:52:PRO:HA	20:SM:55:LEU:HB2	2.01	0.43
21:SN:39:MET:HB2	21:SN:43:LYS:HZ3	1.84	0.43
25:SR:35:HIS:ND1	25:SR:122:PHE:HB2	2.34	0.43
32:SY:86:ARG:HD2	32:SY:101:GLN:NE2	2.34	0.43
33:SZ:52:PHE:HE2	33:SZ:72:MET:HG3	1.84	0.43
34:AA:744:G:N2	34:AA:915:G:H22	2.16	0.43
34:AA:1257:A:H2'	34:AA:1258:A:C8	2.54	0.43
34:AA:2549:A:C6	81:S9:38:A:H5'	2.54	0.43
34:AA:2884:G:C8	46:Aa:91:ARG:HD2	2.53	0.43
34:AA:3166:U:O3'	34:AA:3167:A:H3'	2.18	0.43
34:AA:3387:U:H4'	70:AE:117:ARG:HG3	1.99	0.43
34:AA:3596:A:H2'	34:AA:3597:C:C6	2.53	0.43
37:AL:157:LEU:HD22	67:A3:121:VAL:HG12	2.01	0.43
48:Ad:76:TYR:N	48:Ad:77:PRO:HD2	2.34	0.43
54:AI:68:MET:HE3	54:AI:68:MET:HB2	1.76	0.43
68:A5:95:VAL:O	68:A5:123:GLY:HA2	2.18	0.43
72:AG:106:ILE:HG12	72:AG:125:MET:HG3	2.00	0.43
74:AH:115:ASN:OD1	74:AH:118:GLY:HA2	2.18	0.43
75:AV:104:GLU:HG3	75:AV:105:ASP:N	2.34	0.43
1:S1:12:TYR:OH	1:S1:21:LYS:HD3	2.19	0.43
8:SA:139:A:H2'	8:SA:139:A:N3	2.33	0.43
8:SA:554:U:OP1	24:SQ:140:LYS:NZ	2.39	0.43
8:SA:1220:C:H2'	8:SA:1221:G:H8	1.84	0.43
8:SA:1862:C:H2'	8:SA:1863:U:C6	2.54	0.43
13:SF:166:THR:HG23	13:SF:168:LYS:HB2	2.00	0.43
17:SJ:58:LYS:HE2	17:SJ:58:LYS:HB2	1.73	0.43
28:SU:60:ILE:O	28:SU:60:ILE:CD1	2.67	0.43
34:AA:1297:A:H2'	34:AA:1298:A:C8	2.53	0.43
34:AA:1312:U:O3'	43:AN:53:ARG:NH1	2.51	0.43
34:AA:1975:A:N1	34:AA:1993:A:C2	2.87	0.43
34:AA:2445:A:H2'	34:AA:2446:U:C6	2.54	0.43
34:AA:2462:C:H2'	34:AA:2463:U:O4'	2.19	0.43
34:AA:2830:U:N3	34:AA:2832:A:H8	2.11	0.43
34:AA:2950:U:H2'	34:AA:2951:U:C6	2.53	0.43
34:AA:3020:U:OP1	72:AG:49:LYS:HD2	2.19	0.43
34:AA:3062:U:H2'	34:AA:3063:U:C6	2.53	0.43
34:AA:3226:C:O2'	34:AA:3227:U:H5'	2.19	0.43
34:AA:3281:G:N2	81:S9:76:A:H2	2.17	0.43
34:AA:3494:C:H2'	34:AA:3495:U:C6	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:148:C:H4'	51:AP:111:CYS:HB3	2.01	0.43
37:AL:131:LYS:HA	37:AL:131:LYS:HD2	1.81	0.43
40:A4:30:MET:HE2	40:A4:30:MET:HB3	1.70	0.43
43:AN:49:VAL:HG22	43:AN:50:THR:HG23	2.00	0.43
48:Ad:31:LYS:HD3	48:Ad:31:LYS:HA	1.81	0.43
59:AS:87:ASP:OD1	59:AS:88:ASP:N	2.51	0.43
61:AQ:57:TYR:HB2	61:AQ:131:ILE:HG12	2.01	0.43
74:AH:136:SER:OG	74:AH:142:GLU:HB3	2.19	0.43
5:S5:5:LYS:HD3	5:S5:29:PHE:CZ	2.54	0.43
7:S7:2:G:N2	7:S7:69:U:H3	2.16	0.43
8:SA:540:C:C2	8:SA:541:C:C5	3.07	0.43
8:SA:846:G:C2	8:SA:847:U:C2	3.07	0.43
8:SA:1017:G:H2'	8:SA:1018:U:H6	1.83	0.43
8:SA:1823:U:P	32:SY:105:LYS:HZ2	2.41	0.43
9:SB:120:LEU:HD13	9:SB:140:ILE:HD11	2.00	0.43
12:SE:64:GLU:HA	12:SE:64:GLU:OE2	2.19	0.43
13:SF:193:GLY:HA3	13:SF:210:VAL:HG12	2.01	0.43
16:SI:167:GLU:OE2	16:SI:168:ILE:HG23	2.18	0.43
19:SL:34:SER:HB2	19:SL:56:ARG:CG	2.48	0.43
22:SO:16:LYS:O	22:SO:20:LYS:HG2	2.18	0.43
30:SW:63:LYS:HE2	30:SW:63:LYS:HB3	1.75	0.43
32:SY:158:PHE:O	32:SY:162:ILE:HG12	2.19	0.43
34:AA:237:A:H2'	34:AA:238:G:O4'	2.18	0.43
34:AA:510:A:H2'	34:AA:511:C:C6	2.54	0.43
34:AA:594:C:H5"	34:AA:595:U:OP2	2.19	0.43
34:AA:739:G:H4'	34:AA:740:U:H6	1.84	0.43
34:AA:993:U:OP2	70:AE:238:LYS:HG2	2.19	0.43
34:AA:1423:G:H2'	34:AA:1424:C:C6	2.54	0.43
34:AA:3393:C:H2'	34:AA:3394:A:H8	1.84	0.43
35:AC:42:U:H3'	35:AC:43:G:H5'	2.01	0.43
37:AL:8:LEU:HD23	37:AL:8:LEU:HA	1.89	0.43
54:AI:165:LYS:O	54:AI:169:ILE:HG13	2.19	0.43
58:AM:111:MET:HE2	58:AM:111:MET:HB3	1.87	0.43
67:A3:13:LYS:HB3	67:A3:15:LYS:HZ1	1.84	0.43
68:A5:147:TYR:HA	68:A5:148:PRO:HD3	1.79	0.43
70:AE:359:SER:O	70:AE:361:LYS:HD3	2.18	0.43
4:S4:18:LYS:HD3	8:SA:1173:C:H5'	2.01	0.42
7:S7:7:U:N3	7:S7:65:A:H2	2.06	0.42
8:SA:66:U:O4	15:SH:134:GLY:N	2.43	0.42
8:SA:139:A:C6	15:SH:183:ARG:HG2	2.54	0.42
8:SA:1203:G:OP1	24:SQ:7:SER:OG	2.36	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1722:U:H4'	32:SY:68:LEU:HD22	2.01	0.42
8:SA:1833:G:OP2	16:SI:157:ILE:HA	2.20	0.42
8:SA:1889:G:C4	8:SA:1890:A:C8	3.06	0.42
10:SC:62:ARG:NH1	33:SZ:37:GLY:O	2.52	0.42
11:SD:143:LEU:HD23	11:SD:151:MET:HE1	2.01	0.42
12:SE:109:LEU:O	12:SE:113:VAL:HG12	2.19	0.42
16:SI:11:PHE:O	16:SI:13:LYS:HG3	2.18	0.42
16:SI:77:LYS:O	16:SI:81:ILE:HD12	2.19	0.42
16:SI:93:LEU:HD23	16:SI:93:LEU:HA	1.83	0.42
17:SJ:162:ARG:HB2	17:SJ:164:ASN:OD1	2.19	0.42
23:SP:143:LYS:HE3	23:SP:143:LYS:HB3	1.62	0.42
24:SQ:136:PHE:CD1	24:SQ:137:LYS:N	2.87	0.42
25:SR:69:LYS:O	25:SR:72:ILE:HG13	2.18	0.42
32:SY:89:LEU:HD23	32:SY:89:LEU:HA	1.76	0.42
34:AA:80:C:H2'	34:AA:81:C:H6	1.83	0.42
34:AA:281:G:H2'	34:AA:282:U:C6	2.53	0.42
34:AA:593:A:C2	43:AN:6:LEU:HD21	2.54	0.42
34:AA:694:U:H5"	54:AI:147:LYS:HD3	2.01	0.42
34:AA:1462:C:H2'	34:AA:1463:A:C8	2.54	0.42
34:AA:2422:C:H4'	34:AA:2574:A:C2	2.53	0.42
34:AA:3483:U:O2'	34:AA:3484:U:H5'	2.19	0.42
38:A1:47:GLU:HB3	38:A1:69:LYS:HE2	2.01	0.42
41:A6:58:VAL:HA	46:Aa:94:LEU:HD11	2.01	0.42
51:AP:160:ARG:HB3	51:AP:165:LEU:HB2	2.01	0.42
54:AI:78:LEU:C	54:AI:80:SER:H	2.26	0.42
60:AO:114:GLY:O	60:AO:136:LYS:NZ	2.35	0.42
61:AQ:35:ASP:HA	61:AQ:87:LEU:O	2.19	0.42
62:AR:243:HIS:O	62:AR:246:ILE:HG22	2.18	0.42
62:AR:293:LEU:HD23	62:AR:293:LEU:HA	1.87	0.42
69:AD:36:GLU:OE1	69:AD:163:ARG:NH1	2.50	0.42
72:AG:46:ILE:HD13	72:AG:46:ILE:HA	1.88	0.42
77:AX:77:LEU:HB3	77:AX:81:VAL:O	2.19	0.42
3:S3:59:TYR:O	3:S3:61:THR:HG22	2.19	0.42
8:SA:424:G:H1'	15:SH:59:GLN:HE21	1.84	0.42
8:SA:1081:U:H5"	69:AD:247:ARG:HB3	2.00	0.42
9:SB:137:MET:HG2	9:SB:215:VAL:HG22	2.01	0.42
13:SF:137:SER:HB3	13:SF:150:ILE:HD11	2.01	0.42
16:SI:47:TYR:HA	16:SI:53:ARG:CG	2.47	0.42
19:SL:5:ARG:HD2	19:SL:29:LEU:O	2.19	0.42
23:SP:74:ALA:HB3	23:SP:114:SER:OG	2.19	0.42
34:AA:90:C:C2'	34:AA:91:G:H5'	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:100:A:H2'	34:AA:101:C:O2	2.19	0.42
34:AA:195:A:C8	34:AA:216:C:O2'	2.68	0.42
34:AA:527:A:H2'	34:AA:528:A:C8	2.54	0.42
34:AA:532:C:H2'	34:AA:533:A:O4'	2.18	0.42
34:AA:965:A:O2'	34:AA:966:A:OP1	2.33	0.42
34:AA:1161:C:H2'	34:AA:1162:U:H6	1.84	0.42
34:AA:2499:G:O2'	34:AA:2501:A:N1	2.48	0.42
34:AA:2692:A:N6	34:AA:2693:G:O6	2.52	0.42
34:AA:3244:C:O2'	34:AA:3245:U:H5'	2.19	0.42
34:AA:3634:C:O2'	43:AN:147:ASN:HB3	2.20	0.42
36:AB:68:U:H2'	36:AB:69:U:H6	1.84	0.42
41:A6:65:LEU:HD23	41:A6:65:LEU:HA	1.86	0.42
43:AN:9:GLU:O	43:AN:12:LEU:HD23	2.18	0.42
55:AJ:199:ASP:HB3	55:AJ:202:THR:OG1	2.19	0.42
66:AZ:116:LYS:HE3	66:AZ:116:LYS:HB2	1.89	0.42
1:S1:5:PHE:HE2	1:S1:35:VAL:HG21	1.83	0.42
1:S1:37:LYS:O	1:S1:41:LYS:HG3	2.19	0.42
3:S3:22:ARG:NH2	23:SP:145:GLY:O	2.53	0.42
8:SA:854:A:H2'	8:SA:855:C:C6	2.55	0.42
8:SA:1100:U:H4'	8:SA:1101:G:OP2	2.19	0.42
8:SA:1434:U:H2'	8:SA:1435:C:O4'	2.19	0.42
8:SA:1808:G:C6	8:SA:1809:G:C6	3.08	0.42
9:SB:171:ILE:HG21	9:SB:197:ILE:HG13	2.00	0.42
9:SB:198:GLU:HG3	9:SB:210:VAL:CG1	2.49	0.42
10:SC:34:LYS:HD3	10:SC:34:LYS:HA	1.71	0.42
10:SC:38:TYR:HD1	10:SC:47:ILE:HD11	1.84	0.42
15:SH:178:LEU:HD12	15:SH:178:LEU:HA	1.82	0.42
23:SP:99:ALA:N	23:SP:133:THR:OG1	2.52	0.42
29:SV:40:LYS:C	29:SV:42:GLY:H	2.27	0.42
30:SW:27:ASP:HB3	30:SW:30:ILE:HB	2.01	0.42
34:AA:175:G:O6	34:AA:256:A:N6	2.52	0.42
34:AA:202:C:H2'	34:AA:203:A:C8	2.54	0.42
34:AA:598:U:OP2	43:AN:17:LYS:NZ	2.51	0.42
34:AA:830:U:H5	34:AA:864:U:O2	2.03	0.42
34:AA:1763:G:H2'	34:AA:1764:U:C6	2.54	0.42
34:AA:1963:U:O2'	34:AA:1964:G:H5'	2.19	0.42
34:AA:2128:G:O2'	34:AA:3451:G:OP1	2.34	0.42
34:AA:2810:A:H4'	34:AA:2811:A:H5'	2.01	0.42
34:AA:3283:U:C4	81:S9:74:C:N4	2.87	0.42
34:AA:3695:C:O2	70:AE:169:ARG:NH2	2.52	0.42
34:AA:3736:A:H2'	34:AA:3736:A:N3	2.34	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Ae:9:LEU:O	49:Ae:13:LEU:HG	2.19	0.42
55:AJ:80:LYS:HE2	55:AJ:80:LYS:HB2	1.91	0.42
62:AR:207:MET:HE3	62:AR:222:PHE:CG	2.55	0.42
63:AW:7:LYS:HA	63:AW:7:LYS:HD3	1.85	0.42
63:AW:39:MET:HB2	63:AW:43:GLU:OE1	2.19	0.42
64:AY:181:LEU:HD13	64:AY:181:LEU:HA	1.93	0.42
70:AE:47:MET:HB2	70:AE:176:MET:CE	2.47	0.42
71:AF:10:VAL:HG21	71:AF:254:GLU:OE1	2.19	0.42
71:AF:318:SER:HB2	71:AF:328:LEU:HD12	2.00	0.42
72:AG:41:THR:HG23	72:AG:79:ILE:HD11	2.01	0.42
78:A0:67:LYS:HB3	78:A0:67:LYS:HE2	1.58	0.42
79:S8:24:U:H2'	79:S8:25:C:C6	2.55	0.42
3:S3:45:VAL:HB	3:S3:49:ALA:HB3	2.01	0.42
3:S3:67:LEU:HD23	3:S3:67:LEU:HA	1.89	0.42
8:SA:454:U:OP2	13:SF:49:ARG:NH1	2.47	0.42
8:SA:1118:U:H2'	8:SA:1119:G:C8	2.54	0.42
8:SA:1373:U:O2'	8:SA:1376:A:OP2	2.31	0.42
8:SA:1434:U:H2'	8:SA:1435:C:H6	1.84	0.42
8:SA:1939:G:H2'	8:SA:1940:U:H6	1.85	0.42
11:SD:72:LEU:HD12	11:SD:72:LEU:HA	1.85	0.42
11:SD:75:LYS:NZ	22:SO:33:VAL:HG23	2.34	0.42
16:SI:89:GLU:O	16:SI:93:LEU:HG	2.19	0.42
20:SM:20:VAL:HG12	20:SM:67:ARG:HH22	1.84	0.42
23:SP:39:ASP:HB3	23:SP:68:GLU:HB3	2.01	0.42
23:SP:80:ASP:OD2	23:SP:80:ASP:C	2.62	0.42
29:SV:78:VAL:HA	29:SV:89:ILE:HD13	2.01	0.42
34:AA:124:U:H1'	34:AA:158:U:O2	2.19	0.42
34:AA:1066:U:H2'	34:AA:1067:U:H6	1.85	0.42
34:AA:1245:G:H2'	34:AA:1246:C:C6	2.54	0.42
34:AA:3613:A:C5	34:AA:3614:A:C6	3.07	0.42
34:AA:3677:A:H2'	34:AA:3678:A:H8	1.83	0.42
36:AB:94:C:C2	36:AB:95:U:C5	3.07	0.42
38:A1:105:LYS:HA	38:A1:105:LYS:HD2	1.70	0.42
54:AI:47:GLN:HG3	54:AI:48:ARG:N	2.33	0.42
54:AI:115:GLU:CD	54:AI:115:GLU:N	2.78	0.42
57:AK:24:LYS:HD2	57:AK:24:LYS:HA	1.81	0.42
65:AT:139:GLU:O	65:AT:143:ARG:HB2	2.19	0.42
77:AX:46:CYS:O	77:AX:50:VAL:HG22	2.19	0.42
8:SA:68:U:H2'	8:SA:69:A:C8	2.55	0.42
8:SA:399:C:H2'	8:SA:400:C:C6	2.55	0.42
8:SA:1277:G:N3	8:SA:1296:C:O2'	2.49	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1303:A:N7	8:SA:1702:C:C2	2.87	0.42
8:SA:1313:G:C6	8:SA:1698:U:O4	2.73	0.42
8:SA:1436:U:O2'	27:ST:54:ARG:NE	2.52	0.42
8:SA:1628:A:C2	8:SA:1629:G:O6	2.73	0.42
8:SA:1654:G:C5	8:SA:1655:G:C5	3.08	0.42
8:SA:1818:A:H61	20:SM:69:ARG:HH11	1.68	0.42
10:SC:52:LYS:HA	10:SC:55:GLU:CD	2.44	0.42
10:SC:63:ILE:CG2	33:SZ:36:VAL:HG22	2.50	0.42
10:SC:88:LYS:HD3	10:SC:88:LYS:HA	1.79	0.42
13:SF:208:ILE:O	13:SF:208:ILE:HG13	2.20	0.42
13:SF:246:LEU:HB3	13:SF:250:GLU:OE1	2.20	0.42
18:SK:58:SER:O	18:SK:58:SER:OG	2.27	0.42
26:SS:36:LYS:NZ	26:SS:105:LEU:HD22	2.35	0.42
34:AA:1171:A:H2'	61:AQ:22:TYR:CZ	2.54	0.42
34:AA:1232:U:H5	59:AS:6:LYS:O	2.02	0.42
34:AA:1330:A:C2	34:AA:3216:C:H5'	2.54	0.42
34:AA:2039:U:H3'	34:AA:2040:G:C8	2.54	0.42
34:AA:2499:G:H1'	34:AA:2501:A:H61	1.84	0.42
34:AA:3655:U:H2'	34:AA:3656:A:H8	1.83	0.42
48:Ad:58:LYS:HB3	48:Ad:62:ARG:NH2	2.34	0.42
57:AK:127:ARG:HE	57:AK:127:ARG:HB3	1.61	0.42
62:AR:104:LEU:CA	62:AR:246:ILE:HD11	2.50	0.42
63:AW:84:PRO:HB2	63:AW:87:SER:HB3	2.01	0.42
81:S9:54:U:C4	81:S9:55:U:C4	3.08	0.42
3:S3:65:PRO:HG3	23:SP:129:ILE:O	2.20	0.42
8:SA:1105:A:H2'	8:SA:1106:C:C6	2.55	0.42
8:SA:1456:G:H2'	8:SA:1457:A:C8	2.55	0.42
8:SA:1832:U:O2'	8:SA:1833:G:N2	2.53	0.42
12:SE:71:PHE:HD1	13:SF:249:ILE:HA	1.83	0.42
15:SH:203:GLN:OE1	15:SH:203:GLN:HA	2.19	0.42
16:SI:47:TYR:CD1	16:SI:54:LYS:HE3	2.54	0.42
19:SL:88:ASN:O	19:SL:91:VAL:HG13	2.20	0.42
23:SP:36:SER:C	23:SP:38:ASN:N	2.77	0.42
26:SS:72:ILE:HD13	26:SS:79:PHE:CE2	2.54	0.42
27:ST:40:CYS:O	27:ST:44:ARG:HG2	2.18	0.42
31:SX:34:ILE:HD13	31:SX:45:PHE:CD2	2.54	0.42
34:AA:92:G:H5"	34:AA:94:G:N7	2.34	0.42
34:AA:270:U:O2'	34:AA:271:G:OP2	2.30	0.42
34:AA:1779:A:H62	34:AA:2033:C:H2'	1.85	0.42
34:AA:2036:C:C4	34:AA:2037:U:C4	3.07	0.42
34:AA:2516:A:H2'	34:AA:2517:A:C8	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3306:G:C2	70:AE:247:ALA:HB1	2.54	0.42
36:AB:67:C:OP1	62:AR:14:LYS:HG3	2.18	0.42
38:A1:76:ASN:OD1	38:A1:76:ASN:C	2.63	0.42
39:A2:110:LYS:HG3	39:A2:111:LYS:N	2.33	0.42
41:A6:44:LEU:HD22	41:A6:45:VAL:H	1.85	0.42
52:Ah:65:CYS:SG	69:AD:170:GLY:HA3	2.60	0.42
56:Ac:21:LEU:HD23	56:Ac:21:LEU:HA	1.84	0.42
56:Ac:24:ARG:HD3	56:Ac:42:TYR:HD1	1.83	0.42
2:S2:99:LYS:HE3	32:SY:15:ARG:HE	1.85	0.42
7:S7:39:A:H5'	16:SI:189:ARG:HH12	1.84	0.42
7:S7:50:G:H2'	7:S7:51:U:H6	1.85	0.42
8:SA:973:G:C4	80:mR:16:A:H1'	2.54	0.42
8:SA:1225:A:H2'	8:SA:1226:A:C8	2.54	0.42
8:SA:1844:A:H5'	26:SS:115:ARG:HH22	1.85	0.42
8:SA:1873:A:HO2'	79:S8:40:C:HO2'	1.61	0.42
8:SA:1881:G:H1'	8:SA:1907:G:C5	2.54	0.42
8:SA:1892:U:OP1	27:ST:29:ILE:HD12	2.20	0.42
8:SA:1906:U:O4	8:SA:1907:G:N1	2.53	0.42
13:SF:176:GLN:N	13:SF:176:GLN:OE1	2.53	0.42
14:SG:46:LYS:HG3	14:SG:47:LEU:N	2.34	0.42
23:SP:44:VAL:HG13	23:SP:93:ILE:HD11	2.01	0.42
26:SS:93:LYS:HG3	26:SS:94:GLU:OE1	2.20	0.42
34:AA:432:A:HO2'	34:AA:433:A:P	2.42	0.42
34:AA:449:A:H5"	44:A8:69:ASN:CB	2.46	0.42
34:AA:1087:G:H2'	34:AA:1088:C:C6	2.55	0.42
34:AA:1276:G:O4'	34:AA:1298:A:H2	2.01	0.42
34:AA:1641:G:N7	49:Ae:2:GLY:N	2.67	0.42
34:AA:1980:G:H3'	34:AA:1981:U:H6	1.85	0.42
34:AA:2552:A:H2'	34:AA:2553:U:O4'	2.20	0.42
34:AA:3172:A:H2'	34:AA:3173:G:O4'	2.20	0.42
34:AA:3282:U:H3	81:S9:74:C:N4	2.17	0.42
35:AC:38:G:C4	35:AC:39:C:C5	3.08	0.42
39:A2:114:ARG:NH2	44:A8:87:MET:HG2	2.31	0.42
43:AN:55:ILE:CD1	43:AN:68:VAL:HG22	2.50	0.42
43:AN:72:LYS:HA	73:AU:162:HIS:CD2	2.54	0.42
47:Ab:93:LYS:HA	47:Ab:93:LYS:HD3	1.76	0.42
48:Ad:73:ARG:HB3	48:Ad:75:TYR:CE2	2.54	0.42
49:Ae:42:ARG:HB2	49:Ae:47:THR:HG23	2.02	0.42
55:AJ:195:CYS:HB3	55:AJ:235:CYS:SG	2.60	0.42
58:AM:10:LYS:HD2	58:AM:10:LYS:HA	1.81	0.42
59:AS:102:LEU:HD23	59:AS:102:LEU:HA	1.88	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:AT:173:LYS:HD2	65:AT:173:LYS:HA	1.80	0.42
66:AZ:99:HIS:ND1	66:AZ:101:SER:HB3	2.35	0.42
72:AG:12:ILE:HG21	72:AG:131:LEU:HD13	2.02	0.42
73:AU:184:MET:SD	73:AU:184:MET:C	3.02	0.42
8:SA:1105:A:H2'	8:SA:1106:C:H6	1.85	0.42
8:SA:1709:C:H2'	8:SA:1710:G:O4'	2.19	0.42
8:SA:1972:G:H2'	8:SA:1973:U:C6	2.54	0.42
9:SB:26:LYS:HD3	9:SB:50:LYS:HD3	2.01	0.42
11:SD:143:LEU:HD13	11:SD:183:LEU:HD12	2.01	0.42
20:SM:70:VAL:HG12	20:SM:78:GLN:OE1	2.20	0.42
24:SQ:67:ALA:HB3	24:SQ:69:ARG:HE	1.84	0.42
26:SS:28:VAL:HG21	26:SS:56:LYS:HE3	2.02	0.42
26:SS:67:ASP:O	26:SS:70:VAL:HG22	2.20	0.42
32:SY:163:ASN:HB3	32:SY:167:TYR:CE2	2.55	0.42
34:AA:217:A:N3	71:AF:223:ASN:ND2	2.66	0.42
34:AA:748:A:P	59:AS:145:ARG:HH22	2.41	0.42
34:AA:1560:U:H5"	44:A8:124:ALA:HB2	2.01	0.42
34:AA:1788:C:H5'	46:Aa:52:GLN:HG3	2.02	0.42
34:AA:2962:G:H3'	34:AA:2963:G:H8	1.84	0.42
34:AA:3048:U:H2'	34:AA:3049:G:C8	2.54	0.42
34:AA:3593:U:H2'	34:AA:3594:G:H8	1.84	0.42
34:AA:3661:A:O2'	34:AA:3662:U:H5'	2.19	0.42
37:AL:168:LYS:HG2	60:AO:104:ARG:NH2	2.32	0.42
38:A1:58:THR:HG23	38:A1:61:LYS:H	1.85	0.42
44:A8:23:ASN:OD1	44:A8:23:ASN:N	2.50	0.42
45:A9:108:HIS:HB2	45:A9:115:ARG:HG3	2.01	0.42
46:Aa:11:ASN:O	46:Aa:18:ASN:ND2	2.49	0.42
48:Ad:8:ILE:HD12	48:Ad:8:ILE:HA	1.88	0.42
51:AP:26:ARG:HE	51:AP:26:ARG:HB3	1.51	0.42
51:AP:79:ILE:HD12	51:AP:79:ILE:H	1.84	0.42
54:AI:131:ILE:HG12	54:AI:182:ILE:HD13	2.01	0.42
55:AJ:217:LEU:HD23	55:AJ:217:LEU:HA	1.85	0.42
56:Ac:32:LEU:O	56:Ac:35:LYS:HD2	2.20	0.42
75:AV:152:ILE:HD13	75:AV:152:ILE:HA	1.86	0.42
77:AX:61:GLU:OE2	77:AX:61:GLU:HA	2.19	0.42
3:S3:58:VAL:HG23	3:S3:59:TYR:CE2	2.55	0.42
8:SA:17:C:H2'	8:SA:18:C:C6	2.55	0.42
8:SA:887:A:C6	8:SA:915:G:O6	2.71	0.42
8:SA:1037:U:OP1	8:SA:1102:C:O2'	2.35	0.42
8:SA:1317:A:O2'	8:SA:1690:A:N1	2.48	0.42
8:SA:1631:G:H2'	8:SA:1632:G:H8	1.85	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SB:70:LEU:HD23	9:SB:70:LEU:HA	1.88	0.42
10:SC:55:GLU:HG3	33:SZ:78:LEU:HD12	2.02	0.42
10:SC:60:ALA:HB2	10:SC:160:ILE:HD11	2.02	0.42
12:SE:65:LYS:HA	12:SE:70:ILE:HD13	2.02	0.42
12:SE:113:VAL:HG13	12:SE:125:ALA:HB1	2.01	0.42
13:SF:36:HIS:CE1	13:SF:85:GLY:HA3	2.54	0.42
15:SH:191:LEU:HD13	15:SH:191:LEU:HA	1.89	0.42
16:SI:10:LEU:CD2	16:SI:100:LEU:HD11	2.50	0.42
16:SI:158:LYS:HE2	16:SI:166:GLU:CD	2.45	0.42
17:SJ:154:MET:SD	17:SJ:189:PRO:HD3	2.60	0.42
17:SJ:169:LEU:HD12	17:SJ:186:PHE:HB2	2.01	0.42
19:SL:59:LYS:O	19:SL:60:LEU:HD13	2.19	0.42
19:SL:76:THR:HG21	19:SL:104:ILE:HG23	2.02	0.42
34:AA:137:G:H8	34:AA:140:A:N7	2.18	0.42
34:AA:338:U:H2'	34:AA:339:G:C8	2.54	0.42
34:AA:2122:U:H2'	34:AA:2123:C:C6	2.55	0.42
34:AA:3199:C:H2'	34:AA:3200:G:O4'	2.20	0.42
34:AA:3359:A:H2'	34:AA:3360:U:C6	2.55	0.42
34:AA:3631:U:O4	34:AA:3654:C:N3	2.53	0.42
35:AC:25:C:OP1	71:AF:195:LYS:NZ	2.43	0.42
41:A6:17:LEU:O	41:A6:21:MET:HG2	2.20	0.42
43:AN:82:LYS:HA	43:AN:82:LYS:HD2	1.76	0.42
44:A8:38:ILE:HD13	44:A8:38:ILE:HA	1.92	0.42
46:Aa:32:ILE:HD12	46:Aa:32:ILE:HA	1.92	0.42
54:AI:87:GLY:O	54:AI:92:ASN:HB3	2.19	0.42
63:AW:4:TYR:HB3	63:AW:147:GLN:NE2	2.35	0.42
63:AW:8:ILE:HD11	63:AW:149:ILE:HG21	2.01	0.42
63:AW:10:ASN:HB2	63:AW:13:LYS:NZ	2.34	0.42
68:A5:71:ILE:HD11	68:A5:85:TYR:HE2	1.85	0.42
68:A5:190:ASN:C	68:A5:190:ASN:HD22	2.14	0.42
69:AD:229:ALA:HB1	69:AD:233:GLN:HB3	2.01	0.42
71:AF:298:VAL:HA	71:AF:301:SER:HB3	2.01	0.42
73:AU:24:PRO:HB3	73:AU:29:LYS:O	2.20	0.42
81:S9:20:U:H2'	81:S9:21:A:H4'	2.01	0.42
81:S9:72:C:H2'	81:S9:73:A:H5'	2.02	0.42
2:S2:71:ASN:HB2	2:S2:74:VAL:HG22	2.02	0.42
3:S3:64:LEU:HD23	3:S3:64:LEU:HA	1.83	0.42
8:SA:593:G:H2'	8:SA:594:C:C6	2.54	0.42
8:SA:958:U:H2'	8:SA:959:C:C6	2.55	0.42
8:SA:1314:U:H2'	8:SA:1315:U:H6	1.84	0.42
11:SD:75:LYS:HZ2	22:SO:33:VAL:HG23	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SE:74:GLU:H	12:SE:74:GLU:CD	2.19	0.42
15:SH:109:LEU:HD23	15:SH:110:ASN:N	2.35	0.42
19:SL:10:LYS:O	19:SL:18:LYS:HD3	2.20	0.42
23:SP:85:LEU:HD23	23:SP:85:LEU:HA	1.90	0.42
24:SQ:34:LEU:O	24:SQ:37:ARG:HG2	2.20	0.42
24:SQ:41:ASN:OD1	24:SQ:44:ARG:N	2.52	0.42
26:SS:35:ILE:HD12	26:SS:36:LYS:H	1.83	0.42
26:SS:110:ARG:O	26:SS:113:LEU:HD12	2.20	0.42
31:SX:82:ASN:N	31:SX:82:ASN:OD1	2.52	0.42
34:AA:109:A:H4'	34:AA:110:G:OP1	2.20	0.42
34:AA:151:G:H2'	34:AA:152:G:O4'	2.20	0.42
34:AA:212:U:H2'	34:AA:213:C:H6	1.85	0.42
34:AA:705:C:H2'	34:AA:706:U:C6	2.54	0.42
34:AA:1579:U:O4	60:AO:3:THR:HG23	2.20	0.42
34:AA:1980:G:H5'	34:AA:1981:U:C5	2.49	0.42
34:AA:3009:G:H2'	34:AA:3010:A:C8	2.55	0.42
34:AA:3023:C:H2'	34:AA:3024:U:H6	1.85	0.42
34:AA:3717:A:H2'	34:AA:3718:G:C8	2.55	0.42
34:AA:3739:A:O2'	34:AA:3740:A:H5'	2.19	0.42
35:AC:38:G:HO2'	35:AC:39:C:H6	1.64	0.42
41:A6:16:LYS:HB3	41:A6:103:ILE:HD12	2.02	0.42
51:AP:2:GLY:N	55:AJ:154:ASN:HD22	2.18	0.42
51:AP:122:VAL:HG21	51:AP:132:GLU:CG	2.49	0.42
55:AJ:75:ILE:O	55:AJ:79:ARG:HG3	2.20	0.42
57:AK:61:THR:HG23	57:AK:68:GLY:CA	2.46	0.42
62:AR:50:ARG:HD2	62:AR:149:ASP:OD1	2.20	0.42
65:AT:132:LYS:HB2	65:AT:132:LYS:HE3	1.64	0.42
71:AF:66:SER:O	71:AF:68:GLY:N	2.53	0.42
73:AU:182:TYR:O	73:AU:184:MET:HG3	2.18	0.42
74:AH:105:VAL:HG23	74:AH:106:ASP:OD2	2.20	0.42
77:AX:94:VAL:HG21	77:AX:98:PHE:HB3	2.02	0.42
79:S8:23:C:H2'	79:S8:24:U:C6	2.55	0.42
1:S1:41:LYS:HB3	1:S1:53:VAL:HG22	2.02	0.41
7:S7:54:G:H3'	7:S7:55:U:C6	2.55	0.41
8:SA:1217:A:H2'	8:SA:1218:U:C6	2.55	0.41
8:SA:1283:U:H4'	8:SA:1284:A:OP2	2.19	0.41
8:SA:1453:G:C2	8:SA:1454:G:C4	3.08	0.41
8:SA:1921:C:H2'	8:SA:1922:C:H6	1.85	0.41
15:SH:38:GLY:HA3	15:SH:50:PHE:CE2	2.55	0.41
16:SI:50:LYS:HG2	16:SI:51:ARG:H	1.84	0.41
17:SJ:9:LEU:HD11	17:SJ:21:ALA:HB2	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:SK:57:ARG:HB2	18:SK:57:ARG:NH1	2.35	0.41
18:SK:86:ILE:O	18:SK:90:ILE:HG12	2.20	0.41
20:SM:32:LEU:HD13	20:SM:36:ASN:C	2.45	0.41
24:SQ:103:LEU:HB3	24:SQ:126:LYS:HG2	2.01	0.41
29:SV:110:ILE:HA	29:SV:111:PRO:HD3	1.93	0.41
34:AA:91:G:OP2	34:AA:93:C:N4	2.45	0.41
34:AA:94:G:H2'	34:AA:95:A:C8	2.54	0.41
34:AA:175:G:C6	34:AA:256:A:C6	3.08	0.41
34:AA:361:G:O6	56:Ac:58:ARG:NH2	2.49	0.41
34:AA:388:C:H2'	34:AA:389:U:C6	2.55	0.41
34:AA:652:A:N1	34:AA:682:A:O2'	2.47	0.41
34:AA:883:C:H2'	34:AA:884:A:O4'	2.20	0.41
34:AA:1597:U:H2'	34:AA:1598:A:C8	2.55	0.41
34:AA:1764:U:H2'	34:AA:1765:A:H8	1.85	0.41
34:AA:1791:A:OP2	46:Aa:68:LYS:NZ	2.50	0.41
34:AA:1875:A:H4'	65:AT:116:ARG:HD2	2.03	0.41
34:AA:2669:G:H2'	34:AA:2670:G:C8	2.54	0.41
34:AA:3069:A:H4'	59:AS:185:TYR:CG	2.55	0.41
34:AA:3085:A:H61	62:AR:150:VAL:CG2	2.32	0.41
34:AA:3262:A:H2'	34:AA:3263:G:O4'	2.19	0.41
34:AA:3401:C:H2'	34:AA:3402:A:C8	2.55	0.41
35:AC:43:G:OP2	35:AC:43:G:H8	2.03	0.41
37:AL:174:ILE:HD11	60:AO:123:VAL:HG21	2.02	0.41
42:A7:86:LYS:HB2	42:A7:98:TYR:CE1	2.54	0.41
44:A8:80:LYS:O	44:A8:83:GLU:HG3	2.20	0.41
51:AP:13:LYS:HA	51:AP:13:LYS:HD3	1.83	0.41
54:AI:130:ASP:OD1	54:AI:130:ASP:C	2.63	0.41
55:AJ:206:LEU:HD23	55:AJ:206:LEU:HA	1.94	0.41
55:AJ:231:PHE:HA	55:AJ:234:VAL:HG12	2.01	0.41
70:AE:113:GLU:HG2	70:AE:163:PRO:HD2	2.03	0.41
81:S9:29:G:H2'	81:S9:30:G:O4'	2.20	0.41
4:S4:16:LYS:HD2	8:SA:1171:U:H4'	2.01	0.41
8:SA:543:A:H2'	8:SA:544:G:O4'	2.20	0.41
8:SA:754:A:H62	17:SJ:105:GLN:CD	2.28	0.41
8:SA:910:A:H2'	8:SA:911:U:C6	2.55	0.41
8:SA:1047:A:H2'	8:SA:1048:A:O4'	2.20	0.41
8:SA:1233:A:OP1	24:SQ:30:LYS:NZ	2.33	0.41
8:SA:1272:A:H2'	8:SA:1273:G:C8	2.54	0.41
8:SA:1306:C:O2	8:SA:1306:C:H2'	2.20	0.41
8:SA:1713:C:H4'	32:SY:112:PRO:HG3	2.01	0.41
8:SA:1717:A:C2	8:SA:1720:G:N3	2.87	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:SA:1732:G:C4'	21:SN:61:ARG:HH22	2.31	0.41
8:SA:1885:G:H2'	8:SA:1886:C:O4'	2.20	0.41
8:SA:1966:U:H2'	8:SA:1967:G:O4'	2.20	0.41
9:SB:86:LEU:HA	9:SB:99:ASP:O	2.20	0.41
9:SB:106:THR:HG23	9:SB:109:LYS:H	1.85	0.41
9:SB:121:ILE:HG23	9:SB:161:ILE:HG23	2.02	0.41
12:SE:16:LYS:HE2	12:SE:16:LYS:HB2	1.82	0.41
15:SH:187:LYS:O	15:SH:190:LEU:HG	2.20	0.41
16:SI:64:VAL:HG12	16:SI:84:VAL:HG11	2.00	0.41
26:SS:25:LYS:O	26:SS:57:ARG:NH1	2.52	0.41
27:ST:7:VAL:HG23	27:ST:9:PRO:HD3	2.01	0.41
28:SU:114:ARG:HA	28:SU:114:ARG:HD3	1.94	0.41
31:SX:86:ILE:HD13	31:SX:86:ILE:HA	1.86	0.41
32:SY:67:LYS:HD2	32:SY:67:LYS:HA	1.85	0.41
34:AA:507:G:H2'	34:AA:508:A:C8	2.55	0.41
34:AA:1124:A:H2'	34:AA:1125:A:C8	2.50	0.41
38:A1:54:ASN:C	38:A1:54:ASN:OD1	2.63	0.41
38:A1:83:THR:HG23	46:Aa:93:PHE:HZ	1.85	0.41
44:A8:110:GLU:HG3	44:A8:111:ARG:N	2.33	0.41
59:AS:103:ARG:NH2	71:AF:283:ILE:HD11	2.35	0.41
61:AQ:73:ASN:O	61:AQ:77:ILE:HG12	2.20	0.41
62:AR:181:ARG:HA	62:AR:181:ARG:HD3	1.72	0.41
69:AD:175:ILE:HD13	69:AD:175:ILE:HA	1.84	0.41
70:AE:10:ARG:NH2	70:AE:260:GLN:O	2.53	0.41
70:AE:224:LYS:HG3	70:AE:267:LYS:HD3	2.01	0.41
70:AE:233:LYS:HB2	70:AE:233:LYS:HE2	1.60	0.41
7:S7:12:G:N1	7:S7:23:G:C6	2.88	0.41
8:SA:988:U:H1'	23:SP:50:ARG:HG2	2.03	0.41
8:SA:1321:C:H2'	8:SA:1322:A:C8	2.56	0.41
8:SA:1785:C:H2'	8:SA:1786:U:C5	2.55	0.41
8:SA:1890:A:H2'	8:SA:1891:U:H6	1.85	0.41
8:SA:1891:U:H2'	8:SA:1892:U:C6	2.56	0.41
9:SB:224:ASP:OD2	9:SB:226:SER:HB3	2.21	0.41
10:SC:10:LYS:N	10:SC:13:SER:OG	2.49	0.41
11:SD:78:PHE:HD1	11:SD:78:PHE:HA	1.68	0.41
18:SK:83:LEU:HD11	18:SK:121:THR:H	1.83	0.41
20:SM:49:VAL:HG22	20:SM:79:ILE:HG23	2.02	0.41
21:SN:65:ARG:HB3	27:ST:38:ARG:HH21	1.84	0.41
24:SQ:9:LEU:HA	24:SQ:9:LEU:HD12	1.85	0.41
25:SR:122:PHE:CZ	25:SR:133:LEU:HD11	2.56	0.41
32:SY:91:PRO:O	32:SY:146:ARG:HG2	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:145:U:H2'	34:AA:146:U:C5	2.55	0.41
34:AA:177:A:H2'	34:AA:178:U:H6	1.85	0.41
34:AA:436:G:H2'	34:AA:437:A:C8	2.56	0.41
34:AA:741:C:H2'	34:AA:742:U:C6	2.55	0.41
34:AA:2395:U:H4'	65:AT:88:THR:OG1	2.20	0.41
34:AA:2821:C:O2'	34:AA:2822:U:H5'	2.19	0.41
34:AA:3035:A:H2'	34:AA:3036:A:C8	2.55	0.41
34:AA:3477:A:H8	34:AA:3477:A:OP1	2.03	0.41
36:AB:39:C:HO2'	36:AB:40:A:P	2.43	0.41
38:A1:29:TYR:HD2	38:A1:40:TYR:CE2	2.38	0.41
44:A8:36:ARG:O	44:A8:43:ARG:HD3	2.21	0.41
45:A9:39:ARG:O	45:A9:40:LEU:C	2.63	0.41
51:AP:54:LYS:HB3	51:AP:56:ILE:CD1	2.49	0.41
51:AP:75:VAL:HG23	51:AP:77:LYS:O	2.20	0.41
59:AS:51:ARG:HA	59:AS:54:MET:HG3	2.02	0.41
60:AO:85:GLU:H	60:AO:85:GLU:CD	2.14	0.41
61:AQ:52:LEU:HD12	61:AQ:164:LYS:O	2.20	0.41
64:AY:136:LYS:HA	64:AY:168:LYS:HE2	2.02	0.41
66:AZ:65:ARG:NH2	66:AZ:84:VAL:HA	2.35	0.41
66:AZ:81:VAL:HG22	66:AZ:84:VAL:HG22	2.03	0.41
68:A5:173:ARG:HB2	68:A5:216:TRP:CZ3	2.56	0.41
69:AD:42:LYS:HA	69:AD:88:ILE:O	2.20	0.41
70:AE:50:LYS:HB2	70:AE:333:ILE:CD1	2.49	0.41
71:AF:321:ASN:HB3	71:AF:324:VAL:HG22	2.02	0.41
73:AU:21:ARG:HG2	73:AU:22:ALA:O	2.20	0.41
4:S4:29:TYR:H	4:S4:46:SER:HB3	1.85	0.41
8:SA:107:A:OP1	19:SL:12:ARG:NH1	2.50	0.41
8:SA:539:U:C2	8:SA:540:C:C5	3.08	0.41
8:SA:619:U:OP2	24:SQ:5:LYS:NZ	2.53	0.41
8:SA:1168:U:H2'	8:SA:1169:C:C6	2.55	0.41
8:SA:1186:G:N2	8:SA:1189:A:OP2	2.39	0.41
8:SA:1271:G:H2'	8:SA:1271:G:N3	2.35	0.41
8:SA:1271:G:H1	8:SA:1715:A:H61	1.68	0.41
8:SA:1880:A:C5	16:SI:48:GLN:HG2	2.55	0.41
8:SA:1911:A:P	16:SI:51:ARG:HH21	2.43	0.41
8:SA:2079:C:OP2	23:SP:146:ARG:HG2	2.21	0.41
13:SF:125:LYS:O	13:SF:142:HIS:N	2.48	0.41
15:SH:209:LYS:HA	15:SH:212:LEU:HD12	2.01	0.41
19:SL:207:PHE:HZ	29:SV:11:ARG:HE	1.67	0.41
22:SO:73:LYS:HG3	27:ST:20:ARG:O	2.20	0.41
23:SP:61:LYS:HA	23:SP:61:LYS:HD3	1.62	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SS:17:ILE:CD1	26:SS:19:ASN:H	2.33	0.41
34:AA:62:A:H2'	34:AA:63:A:C8	2.56	0.41
34:AA:112:U:O2'	34:AA:113:C:OP2	2.34	0.41
34:AA:218:U:H5'	71:AF:219:LYS:O	2.20	0.41
34:AA:253:U:H2'	34:AA:254:U:C6	2.55	0.41
34:AA:514:C:H2'	34:AA:515:A:H8	1.85	0.41
34:AA:803:A:H1'	60:AO:57:GLY:HA2	2.02	0.41
34:AA:1256:U:H2'	34:AA:1257:A:O4'	2.20	0.41
34:AA:2091:U:C2	34:AA:2094:A:N7	2.88	0.41
34:AA:3459:A:H2'	34:AA:3460:C:H6	1.85	0.41
34:AA:3664:G:C6	54:AI:170:ARG:HG3	2.56	0.41
34:AA:3684:A:N3	34:AA:3684:A:H2'	2.35	0.41
37:AL:55:PRO:HG3	37:AL:73:GLY:O	2.19	0.41
54:AI:135:SER:HA	54:AI:175:LYS:HE2	2.02	0.41
55:AJ:203:LEU:HA	55:AJ:206:LEU:HB2	2.02	0.41
55:AJ:270:LYS:HA	55:AJ:270:LYS:HD2	1.85	0.41
57:AK:153:LYS:O	57:AK:157:VAL:HG13	2.21	0.41
58:AM:57:GLY:HA3	58:AM:127:LEU:HD12	2.02	0.41
58:AM:89:ARG:HH21	58:AM:123:GLU:CD	2.28	0.41
62:AR:230:ILE:C	62:AR:230:ILE:HD12	2.45	0.41
81:S9:66:U:H2'	81:S9:67:C:H6	1.84	0.41
4:S4:47:HIS:HA	4:S4:67:GLY:O	2.21	0.41
8:SA:452:A:C6	8:SA:453:U:C4	3.08	0.41
8:SA:520:U:H4'	12:SE:131:GLN:HB3	2.02	0.41
8:SA:970:G:C6	8:SA:971:G:C6	3.08	0.41
8:SA:1845:U:H4'	26:SS:89:ARG:HH21	1.85	0.41
8:SA:1904:G:H2'	8:SA:1905:C:C6	2.56	0.41
8:SA:1945:C:H2'	8:SA:1946:C:H6	1.86	0.41
9:SB:144:LYS:HG3	9:SB:208:GLN:HB3	2.02	0.41
10:SC:189:PRO:HG2	10:SC:192:GLU:OE1	2.21	0.41
12:SE:177:LEU:HD23	12:SE:177:LEU:HA	1.94	0.41
16:SI:79:LYS:HA	16:SI:82:ARG:HB2	2.02	0.41
21:SN:39:MET:HB2	21:SN:43:LYS:NZ	2.36	0.41
21:SN:95:GLU:O	21:SN:99:GLN:HG2	2.21	0.41
26:SS:119:ILE:HG22	26:SS:121:LEU:H	1.85	0.41
34:AA:592:C:H5'	34:AA:593:A:OP1	2.21	0.41
34:AA:1849:U:O2'	34:AA:1850:U:H5'	2.21	0.41
34:AA:1881:C:H1'	34:AA:1882:U:OP1	2.21	0.41
34:AA:3593:U:H2'	34:AA:3594:G:C8	2.55	0.41
35:AC:49:C:H2'	35:AC:50:G:O4'	2.21	0.41
37:AL:113:GLU:OE1	37:AL:113:GLU:O	2.39	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:A7:66:PHE:CE2	42:A7:76:PRO:HG3	2.55	0.41
59:AS:179:ARG:HH12	59:AS:187:LYS:HE2	1.85	0.41
71:AF:307:LYS:HE3	71:AF:307:LYS:HB3	1.84	0.41
2:S2:61:PRO:HD2	2:S2:101:TYR:OH	2.21	0.41
3:S3:45:VAL:HG23	3:S3:50:GLN:NE2	2.36	0.41
5:S5:3:LYS:HD2	5:S5:3:LYS:HA	1.84	0.41
5:S5:45:LYS:HB3	16:SI:133:SER:HB2	2.03	0.41
6:S6:30:LEU:HD21	6:S6:34:ALA:HB1	2.02	0.41
8:SA:1123:G:N2	8:SA:1167:U:C2	2.89	0.41
10:SC:81:PHE:HA	10:SC:203:TRP:CD1	2.55	0.41
11:SD:109:LYS:HB3	11:SD:110:LEU:HD12	2.01	0.41
13:SF:181:VAL:O	13:SF:192:VAL:HA	2.21	0.41
16:SI:156:ASN:O	16:SI:158:LYS:N	2.49	0.41
17:SJ:57:LYS:HD2	17:SJ:57:LYS:HA	1.88	0.41
25:SR:47:LYS:HD3	25:SR:50:GLU:OE2	2.20	0.41
34:AA:533:A:N3	34:AA:623:U:H1'	2.35	0.41
34:AA:616:U:C2	34:AA:617:A:N7	2.87	0.41
34:AA:698:G:HO2'	34:AA:699:U:P	2.43	0.41
34:AA:704:U:H2'	34:AA:705:C:C6	2.56	0.41
34:AA:1512:A:H2'	34:AA:1513:U:O4'	2.21	0.41
34:AA:2741:A:H2'	34:AA:2742:G:C8	2.56	0.41
34:AA:3129:U:H6	34:AA:3129:U:O5'	2.04	0.41
34:AA:3300:A:OP2	34:AA:3300:A:H8	2.04	0.41
34:AA:3523:U:OP1	70:AE:271:HIS:ND1	2.51	0.41
38:A1:109:LYS:H	38:A1:109:LYS:CE	2.25	0.41
38:A1:120:ASP:N	38:A1:120:ASP:OD1	2.53	0.41
44:A8:96:ILE:HG21	44:A8:105:ARG:HG2	2.02	0.41
63:AW:22:LEU:HB3	63:AW:90:PHE:HD2	1.83	0.41
63:AW:107:LEU:HB2	63:AW:152:GLU:OE2	2.20	0.41
63:AW:111:LYS:HD3	63:AW:111:LYS:HA	1.89	0.41
65:AT:171:LYS:O	65:AT:174:LEU:HG	2.21	0.41
69:AD:3:ARG:HG2	69:AD:207:VAL:HG22	2.01	0.41
70:AE:19:ARG:HB3	70:AE:270:PHE:CZ	2.56	0.41
70:AE:283:GLY:HA3	70:AE:318:PHE:CZ	2.56	0.41
70:AE:321:LEU:HD23	70:AE:321:LEU:HA	1.87	0.41
3:S3:46:ASP:OD1	3:S3:46:ASP:C	2.63	0.41
8:SA:1708:G:H2'	8:SA:1709:C:H6	1.84	0.41
11:SD:174:ARG:HD3	11:SD:174:ARG:HA	1.97	0.41
13:SF:155:LYS:HA	13:SF:155:LYS:HD3	1.68	0.41
14:SG:173:LYS:HB2	14:SG:178:ARG:HH11	1.84	0.41
16:SI:16:TYR:CD2	16:SI:100:LEU:HD12	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SI:62:ARG:O	16:SI:66:SER:HB3	2.21	0.41
18:SK:10:CYS:O	18:SK:14:ILE:HG12	2.20	0.41
19:SL:173:LEU:HA	19:SL:176:PHE:CD2	2.56	0.41
21:SN:31:ILE:HD13	21:SN:84:TYR:HB3	2.03	0.41
21:SN:54:ARG:N	21:SN:54:ARG:HD2	2.36	0.41
26:SS:13:HIS:CD2	26:SS:59:GLY:HA3	2.56	0.41
34:AA:209:G:H4'	34:AA:228:A:N7	2.35	0.41
34:AA:388:C:H2'	34:AA:389:U:H6	1.85	0.41
34:AA:458:A:O2'	34:AA:459:G:H8	2.04	0.41
34:AA:501:U:HO2'	34:AA:502:U:P	2.43	0.41
34:AA:1293:G:H5'	45:A9:60:PHE:HZ	1.85	0.41
34:AA:1895:U:H2'	34:AA:1896:C:H6	1.83	0.41
34:AA:2809:A:O2'	34:AA:2810:A:O4'	2.38	0.41
34:AA:3286:C:H2'	34:AA:3287:C:C6	2.56	0.41
34:AA:3534:U:H2'	34:AA:3535:A:H8	1.86	0.41
35:AC:125:U:H2'	35:AC:126:C:C6	2.56	0.41
35:AC:156:A:O2'	35:AC:157:A:O5'	2.38	0.41
37:AL:6:ASN:O	60:AO:49:HIS:NE2	2.51	0.41
48:Ad:25:ILE:HD11	48:Ad:73:ARG:HG3	2.02	0.41
51:AP:5:LYS:HD2	51:AP:5:LYS:HA	1.77	0.41
52:Ah:49:ARG:HG3	52:Ah:55:TRP:CE2	2.56	0.41
54:AI:31:LYS:HE2	54:AI:34:PHE:CZ	2.55	0.41
70:AE:67:LEU:O	70:AE:70:LYS:HG2	2.20	0.41
70:AE:281:ARG:NH2	70:AE:353:LEU:HD11	2.35	0.41
72:AG:92:ARG:HG3	72:AG:94:LYS:N	2.36	0.41
74:AH:86:LYS:HB2	74:AH:86:LYS:HE2	1.81	0.41
75:AV:57:TYR:CE2	75:AV:79:LYS:HG3	2.56	0.41
7:S7:12:G:C2	7:S7:23:G:C6	3.08	0.41
8:SA:38:C:H42	8:SA:39:A:N6	2.19	0.41
8:SA:151:G:C6	8:SA:160:G:C6	3.09	0.41
8:SA:349:C:H2'	8:SA:350:A:C8	2.56	0.41
8:SA:1628:A:N3	8:SA:1629:G:N7	2.68	0.41
8:SA:1662:A:N6	8:SA:1663:A:H62	2.18	0.41
8:SA:1663:A:H2'	8:SA:1664:G:H8	1.78	0.41
8:SA:1824:A:H3'	8:SA:1825:U:C6	2.56	0.41
9:SB:35:PRO:HB3	9:SB:231:LEU:HD13	2.01	0.41
10:SC:70:PRO:O	10:SC:95:ALA:HA	2.20	0.41
10:SC:81:PHE:HA	10:SC:203:TRP:CG	2.56	0.41
10:SC:146:LEU:HB3	10:SC:162:CYS:SG	2.61	0.41
12:SE:83:GLN:HG2	12:SE:83:GLN:H	1.77	0.41
13:SF:200:LYS:HB2	13:SF:200:LYS:HE2	1.65	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SG:64:LEU:O	33:SZ:15:ARG:NH1	2.48	0.41
19:SL:106:SER:OG	19:SL:181:VAL:HB	2.21	0.41
20:SM:100:GLU:O	20:SM:104:LYS:HG2	2.20	0.41
21:SN:25:SER:HB2	21:SN:31:ILE:HG22	2.03	0.41
26:SS:76:PRO:HA	26:SS:79:PHE:CD1	2.56	0.41
28:SU:39:LYS:HE2	28:SU:39:LYS:HB3	1.77	0.41
29:SV:14:GLN:O	29:SV:57:VAL:HG21	2.21	0.41
30:SW:44:LYS:HA	30:SW:47:LYS:HB2	2.03	0.41
32:SY:162:ILE:O	32:SY:165:LYS:HG3	2.21	0.41
34:AA:298:C:OP1	51:AP:68:ARG:HB3	2.20	0.41
34:AA:671:U:H2'	34:AA:672:C:H6	1.86	0.41
34:AA:1109:U:OP1	68:A5:134:GLU:HG2	2.21	0.41
34:AA:1274:A:H4'	34:AA:1459:U:C4	2.56	0.41
34:AA:1306:A:N3	34:AA:1456:C:O2'	2.51	0.41
34:AA:1601:A:O2'	34:AA:1602:A:H5'	2.21	0.41
34:AA:1958:U:C2	34:AA:1959:G:C8	3.09	0.41
34:AA:2026:G:H2'	34:AA:2027:A:O4'	2.21	0.41
34:AA:2885:A:O2'	34:AA:2886:A:C8	2.74	0.41
34:AA:3582:G:H8	34:AA:3582:G:OP2	2.04	0.41
34:AA:3607:G:OP1	74:AH:21:ASN:ND2	2.46	0.41
34:AA:3693:A:H2'	34:AA:3694:A:H8	1.83	0.41
45:A9:39:ARG:HG3	45:A9:40:LEU:N	2.36	0.41
45:A9:106:ARG:CD	45:A9:115:ARG:HD2	2.51	0.41
54:AI:60:ALA:HB1	54:AI:104:LEU:HG	2.03	0.41
74:AH:2:LYS:HD2	74:AH:60:PHE:HB3	2.03	0.41
1:S1:18:LEU:HD22	13:SF:64:ILE:HD11	2.03	0.41
7:S7:58:G:P	7:S7:59:A:H62	2.44	0.41
8:SA:247:G:H21	8:SA:249:A:H8	1.69	0.41
8:SA:331:G:H2'	8:SA:332:U:C6	2.56	0.41
8:SA:571:G:O2'	8:SA:584:G:H4'	2.20	0.41
8:SA:574:A:H2'	8:SA:575:G:O4'	2.21	0.41
8:SA:799:U:H5'	18:SK:121:THR:HA	2.03	0.41
8:SA:1305:A:C4	8:SA:1306:C:C5	3.08	0.41
8:SA:1313:G:N1	8:SA:1698:U:O4	2.54	0.41
8:SA:1699:A:H2'	8:SA:1700:G:O4'	2.20	0.41
8:SA:1804:C:H2'	8:SA:1805:G:C8	2.55	0.41
8:SA:1830:C:H4'	8:SA:1836:G:H1	1.86	0.41
8:SA:1904:G:H2'	8:SA:1905:C:H6	1.85	0.41
8:SA:2068:A:H2'	8:SA:2069:G:H8	1.86	0.41
9:SB:191:GLU:O	9:SB:195:LYS:HG2	2.21	0.41
10:SC:164:ASN:O	10:SC:170:ILE:HD11	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:SC:199:ASP:OD2	10:SC:199:ASP:N	2.54	0.41
14:SG:124:GLY:HA2	14:SG:227:PHE:HE1	1.85	0.41
14:SG:153:ARG:NH1	14:SG:204:GLY:O	2.54	0.41
15:SH:135:PRO:O	15:SH:141:ILE:HD11	2.21	0.41
16:SI:53:ARG:HA	16:SI:56:LEU:CB	2.50	0.41
17:SJ:88:THR:HG1	17:SJ:90:LYS:HZ3	1.56	0.41
17:SJ:100:ILE:HD11	17:SJ:122:VAL:CG2	2.51	0.41
19:SL:89:GLU:OE1	19:SL:92:ARG:HD2	2.21	0.41
20:SM:79:ILE:O	20:SM:82:ILE:HG22	2.21	0.41
21:SN:48:ASN:HB3	21:SN:91:TYR:HB3	2.03	0.41
21:SN:79:PHE:HE2	27:ST:41:PHE:CE2	2.39	0.41
24:SQ:89:GLY:HA3	24:SQ:92:CYS:SG	2.60	0.41
28:SU:13:SER:OG	28:SU:14:SER:N	2.54	0.41
28:SU:86:GLU:HA	28:SU:86:GLU:OE1	2.21	0.41
31:SX:41:GLN:HB3	31:SX:45:PHE:CE2	2.56	0.41
32:SY:35:ASP:HA	32:SY:38:ILE:HG12	2.02	0.41
34:AA:37:U:H5'	34:AA:1053:U:O2	2.21	0.41
34:AA:209:G:H5'	34:AA:228:A:O2'	2.21	0.41
34:AA:309:G:H2'	34:AA:310:U:C6	2.56	0.41
34:AA:508:A:H2'	34:AA:509:A:C8	2.56	0.41
34:AA:626:A:H2'	34:AA:627:U:C6	2.55	0.41
34:AA:936:A:N7	56:Ac:17:LYS:HA	2.36	0.41
34:AA:1219:A:N7	34:AA:1224:A:C6	2.89	0.41
34:AA:1308:A:C4	34:AA:1310:A:C8	3.09	0.41
34:AA:1666:A:OP1	49:Ae:41:ARG:NH1	2.34	0.41
34:AA:2535:A:H5'	69:AD:243:THR:HG22	2.03	0.41
34:AA:2657:G:H22	34:AA:2689:G:H1'	1.85	0.41
34:AA:2741:A:H2'	34:AA:2742:G:H8	1.85	0.41
34:AA:2940:A:H2'	34:AA:2941:G:C8	2.55	0.41
34:AA:3460:C:H2'	34:AA:3461:C:C6	2.55	0.41
34:AA:3729:A:H2'	34:AA:3730:C:C6	2.56	0.41
35:AC:154:G:C2	35:AC:155:A:C5	3.09	0.41
36:AB:58:A:H2'	36:AB:59:C:H6	1.86	0.41
37:AL:21:VAL:HA	51:AP:199:ILE:HG23	2.03	0.41
37:AL:179:ILE:HG23	60:AO:143:GLN:HB2	2.02	0.41
38:A1:8:GLY:HA2	38:A1:93:ILE:HD12	2.02	0.41
44:A8:13:ARG:HH12	44:A8:51:LEU:HD11	1.86	0.41
44:A8:40:CYS:HB3	44:A8:43:ARG:HB3	2.02	0.41
44:A8:69:ASN:ND2	44:A8:71:LYS:HB2	2.36	0.41
45:A9:66:LYS:HA	57:AK:2:TYR:CE1	2.56	0.41
48:Ad:26:MET:HA	48:Ad:77:PRO:HD3	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Ah:28:LYS:HD3	52:Ah:28:LYS:C	2.45	0.41
52:Ah:38:LEU:HA	52:Ah:45:THR:HA	2.03	0.41
54:AI:31:LYS:HB3	54:AI:31:LYS:HE3	1.85	0.41
54:AI:178:LYS:O	54:AI:182:ILE:HG22	2.21	0.41
57:AK:154:LYS:O	57:AK:157:VAL:HG22	2.21	0.41
59:AS:104:PHE:CE1	59:AS:119:CYS:HB3	2.55	0.41
60:AO:105:LYS:HA	60:AO:105:LYS:HD2	1.82	0.41
61:AQ:5:PRO:HD2	61:AQ:8:CYS:SG	2.61	0.41
62:AR:203:VAL:O	62:AR:207:MET:HG3	2.21	0.41
62:AR:210:LEU:HA	62:AR:210:LEU:HD12	1.81	0.41
64:AY:92:LYS:HD2	67:A3:77:PHE:CE2	2.56	0.41
64:AY:138:ALA:O	64:AY:168:LYS:HE3	2.21	0.41
65:AT:104:LEU:HD21	65:AT:138:ILE:CD1	2.51	0.41
72:AG:133:ARG:NH2	72:AG:154:VAL:HA	2.35	0.41
73:AU:53:PHE:CE1	75:AV:154:PRO:HB3	2.56	0.41
74:AH:31:TYR:CD2	74:AH:86:LYS:HG3	2.55	0.41
74:AH:86:LYS:O	74:AH:186:VAL:HG23	2.21	0.41
77:AX:56:ASP:OD1	77:AX:56:ASP:C	2.64	0.41
79:S8:15:G:N7	79:S8:16:C:C2	2.89	0.41
79:S8:23:C:H2'	79:S8:24:U:H6	1.86	0.41
81:S9:39:U:H2'	81:S9:40:C:C6	2.55	0.41
1:S1:15:ASN:ND2	1:S1:22:GLN:HE22	2.12	0.41
8:SA:40:A:H2'	8:SA:41:A:O4'	2.21	0.41
8:SA:877:U:H2'	8:SA:878:G:C8	2.56	0.41
8:SA:912:U:H2'	8:SA:913:U:C6	2.56	0.41
8:SA:1720:G:C2	8:SA:1721:A:N7	2.89	0.41
8:SA:1743:A:N6	8:SA:1787:U:H5	2.19	0.41
8:SA:2078:G:OP2	23:SP:147:ARG:NH1	2.54	0.41
11:SD:99:ALA:HB3	11:SD:170:ASN:ND2	2.36	0.41
12:SE:97:LEU:HD23	12:SE:97:LEU:HA	1.86	0.41
12:SE:120:LYS:H	12:SE:120:LYS:HG2	1.66	0.41
16:SI:46:ARG:HH22	16:SI:53:ARG:NH1	2.19	0.41
18:SK:80:ASP:HA	18:SK:124:LYS:HG3	2.03	0.41
19:SL:51:ARG:HH11	19:SL:51:ARG:HG3	1.85	0.41
26:SS:76:PRO:HA	26:SS:79:PHE:HD1	1.86	0.41
32:SY:133:LEU:HD23	32:SY:133:LEU:HA	1.92	0.41
34:AA:278:C:H2'	34:AA:279:G:O4'	2.21	0.41
34:AA:536:A:HO2'	34:AA:537:A:H5"	1.86	0.41
34:AA:1436:A:OP2	34:AA:1436:A:C8	2.74	0.41
34:AA:2180:U:H1'	34:AA:2181:A:C5'	2.51	0.41
34:AA:2721:U:H2'	34:AA:2722:G:H8	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3267:C:H2'	34:AA:3268:A:C8	2.56	0.41
34:AA:3362:A:H2'	34:AA:3363:U:O4'	2.21	0.41
34:AA:3375:A:H8	34:AA:3375:A:OP2	2.04	0.41
34:AA:3638:A:H2'	34:AA:3639:G:C8	2.56	0.41
35:AC:89:U:H5	66:AZ:113:ASN:ND2	2.19	0.41
40:A4:46:CYS:O	40:A4:50:ILE:HG13	2.21	0.41
44:A8:13:ARG:HG3	44:A8:14:THR:N	2.34	0.41
55:AJ:234:VAL:HA	55:AJ:237:GLU:HG3	2.02	0.41
57:AK:139:THR:O	57:AK:143:ARG:HG2	2.20	0.41
62:AR:39:GLN:HG3	62:AR:40:ASP:N	2.36	0.41
65:AT:110:ASP:OD1	65:AT:110:ASP:C	2.63	0.41
65:AT:135:ARG:CZ	65:AT:135:ARG:HB3	2.51	0.41
71:AF:158:ILE:O	71:AF:161:LEU:HG	2.20	0.41
74:AH:36:ARG:HG2	74:AH:38:PHE:CZ	2.55	0.41
74:AH:113:ILE:HD12	74:AH:113:ILE:C	2.46	0.41
78:A0:50:LYS:HB2	78:A0:50:LYS:HE2	1.71	0.41
80:mR:22:G:N2	81:S9:36:A:H2	2.19	0.41
8:SA:268:C:H3'	15:SH:186:ARG:NH2	2.35	0.40
8:SA:651:G:H2'	8:SA:652:A:C8	2.54	0.40
8:SA:849:U:P	13:SF:240:ARG:HH12	2.43	0.40
8:SA:1264:A:N1	8:SA:1911:A:C8	2.90	0.40
8:SA:1274:C:H5'	8:SA:1840:A:O2'	2.21	0.40
8:SA:1285:A:C3'	8:SA:1286:U:H4'	2.52	0.40
8:SA:1652:A:C4	8:SA:1653:A:C8	3.09	0.40
8:SA:1704:G:N2	8:SA:1705:C:O4'	2.54	0.40
8:SA:1726:U:H3	8:SA:1727:A:H62	1.68	0.40
9:SB:87:SER:O	9:SB:98:THR:HA	2.21	0.40
13:SF:66:ILE:HD13	13:SF:66:ILE:HA	1.85	0.40
14:SG:76:ASP:O	14:SG:80:GLN:HG3	2.20	0.40
15:SH:30:LYS:HA	15:SH:30:LYS:HD3	1.83	0.40
15:SH:191:LEU:O	15:SH:195:GLU:HG2	2.21	0.40
22:SO:34:VAL:HG21	22:SO:57:LEU:HD23	2.03	0.40
23:SP:46:ASP:OD1	23:SP:47:LEU:N	2.54	0.40
26:SS:81:ILE:HD12	26:SS:82:PRO:O	2.20	0.40
26:SS:100:VAL:HG21	26:SS:108:TYR:CD2	2.57	0.40
28:SU:110:ASP:O	28:SU:114:ARG:HG2	2.21	0.40
29:SV:93:TYR:OH	29:SV:108:LYS:NZ	2.44	0.40
31:SX:80:LEU:HD11	31:SX:83:MET:HG2	2.01	0.40
34:AA:183:U:H2'	34:AA:184:U:C6	2.56	0.40
34:AA:1881:C:HO2'	34:AA:1882:U:P	2.39	0.40
34:AA:2146:A:H3'	34:AA:2148:U:OP1	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:2706:A:H2'	34:AA:2707:G:C8	2.56	0.40
34:AA:2810:A:N3	34:AA:2810:A:H2'	2.36	0.40
34:AA:3314:U:OP2	34:AA:3336:G:N1	2.37	0.40
34:AA:3469:C:H2'	34:AA:3470:G:O4'	2.21	0.40
43:AN:8:GLU:OE1	43:AN:8:GLU:C	2.64	0.40
54:AI:133:ASP:OD1	54:AI:133:ASP:N	2.52	0.40
55:AJ:105:GLN:HA	55:AJ:108:ASP:OD2	2.21	0.40
62:AR:274:ASN:H	62:AR:277:LEU:HD12	1.85	0.40
63:AW:24:VAL:HG21	63:AW:87:SER:HA	2.03	0.40
66:AZ:115:LYS:HD2	66:AZ:115:LYS:HA	1.95	0.40
67:A3:27:GLU:HG3	67:A3:28:LEU:N	2.36	0.40
67:A3:57:LEU:HD23	67:A3:57:LEU:HA	1.91	0.40
67:A3:109:LYS:HB2	67:A3:109:LYS:HE3	1.85	0.40
6:S6:25:ASP:C	6:S6:26:LYS:HG3	2.47	0.40
7:S7:66:C:H2'	7:S7:67:A:C8	2.56	0.40
8:SA:58:U:OP1	8:SA:462:A:O2'	2.32	0.40
8:SA:246:A:H4'	8:SA:247:G:OP1	2.21	0.40
8:SA:248:G:O2'	8:SA:249:A:O4'	2.33	0.40
8:SA:963:U:H2'	8:SA:964:G:C8	2.56	0.40
8:SA:1364:G:C6	8:SA:1365:G:C4	3.08	0.40
8:SA:1450:A:H1'	8:SA:1626:U:O2	2.20	0.40
8:SA:1880:A:C4	16:SI:48:GLN:HG2	2.56	0.40
9:SB:127:VAL:HG21	9:SB:176:ALA:HB3	2.02	0.40
11:SD:106:LEU:O	11:SD:110:LEU:HD13	2.21	0.40
12:SE:34:TYR:O	12:SE:110:GLN:NE2	2.54	0.40
12:SE:133:HIS:ND1	12:SE:162:SER:HB2	2.36	0.40
16:SI:10:LEU:N	16:SI:14:TRP:O	2.35	0.40
16:SI:42:HIS:HD2	16:SI:81:ILE:HD11	1.84	0.40
19:SL:51:ARG:HG3	19:SL:51:ARG:NH1	2.35	0.40
24:SQ:62:LYS:CE	24:SQ:118:PRO:HB3	2.52	0.40
32:SY:136:VAL:HG22	32:SY:137:GLU:H	1.86	0.40
34:AA:176:A:N6	34:AA:255:C:H42	2.18	0.40
34:AA:888:A:H4'	34:AA:889:U:O5'	2.20	0.40
34:AA:1178:A:H5"	36:AB:98:G:O2'	2.21	0.40
34:AA:1484:A:H2'	34:AA:1485:A:C8	2.56	0.40
34:AA:1857:A:OP2	34:AA:1900:G:N2	2.46	0.40
34:AA:2123:C:H2'	34:AA:2124:C:H6	1.86	0.40
34:AA:2386:A:H2'	34:AA:2387:A:C8	2.57	0.40
34:AA:2885:A:O2'	34:AA:2886:A:H8	2.04	0.40
34:AA:3362:A:H62	34:AA:3376:U:H3	1.69	0.40
34:AA:3503:U:H4'	50:Af:28:HIS:CE1	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:AC:35:A:H2'	35:AC:36:C:C6	2.57	0.40
38:A1:49:HIS:NE2	38:A1:142:LYS:O	2.54	0.40
45:A9:53:GLN:C	45:A9:54:ARG:HG2	2.46	0.40
53:Ai:14:ASN:C	53:Ai:16:CYS:H	2.29	0.40
54:AI:64:THR:HG21	54:AI:103:TYR:CD1	2.56	0.40
54:AI:163:ILE:HD13	54:AI:163:ILE:HA	1.96	0.40
57:AK:1:MET:HE1	57:AK:28:ASN:HB3	2.02	0.40
58:AM:97:PHE:CD2	78:A0:29:ILE:HD11	2.55	0.40
62:AR:22:ARG:HE	62:AR:28:THR:CG2	2.34	0.40
1:S1:67:GLY:HA2	8:SA:539:U:H4'	2.02	0.40
8:SA:378:A:OP1	18:SK:88:LYS:NZ	2.45	0.40
8:SA:1111:U:H2'	8:SA:1112:G:O4'	2.20	0.40
8:SA:1170:C:H2'	8:SA:1171:U:H6	1.85	0.40
8:SA:1317:A:O3'	8:SA:1318:A:H3'	2.20	0.40
8:SA:1447:A:C5	8:SA:1623:U:O2	2.75	0.40
8:SA:1628:A:C5'	21:SN:56:PRO:HA	2.51	0.40
8:SA:1862:C:O2'	26:SS:87:ASN:HB2	2.21	0.40
8:SA:1866:A:H8	8:SA:1866:A:P	2.44	0.40
13:SF:45:VAL:O	13:SF:49:ARG:CB	2.68	0.40
13:SF:149:TYR:HB3	15:SH:208:TYR:CG	2.56	0.40
14:SG:47:LEU:O	14:SG:51:VAL:HG23	2.21	0.40
14:SG:78:PHE:O	14:SG:79:PHE:HD1	2.04	0.40
15:SH:127:LYS:N	15:SH:127:LYS:HD2	2.37	0.40
15:SH:198:ARG:NE	15:SH:202:LYS:HZ3	2.20	0.40
17:SJ:75:LYS:HD3	17:SJ:75:LYS:N	2.36	0.40
21:SN:37:ASP:O	21:SN:40:LYS:HE3	2.20	0.40
22:SO:16:LYS:HD3	22:SO:16:LYS:HA	1.79	0.40
30:SW:3:ARG:O	30:SW:4:VAL:HG22	2.22	0.40
32:SY:29:ILE:HG12	32:SY:88:TYR:CZ	2.56	0.40
34:AA:171:C:H5'	37:AL:133:LYS:HB3	2.03	0.40
34:AA:316:A:H1'	34:AA:2515:A:N3	2.37	0.40
34:AA:498:U:C2	34:AA:499:U:C5	3.09	0.40
34:AA:1794:U:C2	48:Ad:17:LYS:HD2	2.57	0.40
34:AA:2017:U:H2'	69:AD:50:HIS:CD2	2.57	0.40
34:AA:3023:C:H2'	34:AA:3024:U:C6	2.56	0.40
45:A9:39:ARG:NH1	45:A9:41:TYR:O	2.54	0.40
50:Af:22:LYS:HB2	50:Af:39:CYS:SG	2.61	0.40
51:AP:127:VAL:HG23	51:AP:128:TYR:CD2	2.56	0.40
53:Ai:17:LYS:HD2	53:Ai:17:LYS:HA	1.92	0.40
57:AK:179:GLU:HA	57:AK:182:THR:HG22	2.03	0.40
63:AW:116:HIS:NE2	63:AW:118:MET:HG3	2.36	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:AW:151:ARG:NH1	63:AW:152:GLU:O	2.54	0.40
64:AY:107:LYS:HE3	64:AY:108:TYR:CZ	2.56	0.40
65:AT:39:SER:O	65:AT:43:LEU:HG	2.22	0.40
68:A5:148:PRO:O	68:A5:152:THR:OG1	2.30	0.40
68:A5:210:LYS:HA	68:A5:210:LYS:HD2	1.73	0.40
73:AU:133:ILE:HD13	73:AU:133:ILE:HG21	1.83	0.40
74:AH:138:ASN:OD1	74:AH:139:VAL:HG12	2.21	0.40
74:AH:155:LEU:HD12	74:AH:155:LEU:HA	1.93	0.40
3:S3:85:ARG:HA	3:S3:85:ARG:HD3	1.81	0.40
8:SA:271:G:OP2	8:SA:271:G:H8	2.05	0.40
8:SA:805:A:O2'	8:SA:806:A:OP1	2.34	0.40
8:SA:836:C:O2'	8:SA:837:A:H5'	2.20	0.40
8:SA:995:A:H1'	8:SA:1057:A:C2	2.56	0.40
8:SA:998:A:N7	23:SP:137:THR:HG23	2.36	0.40
8:SA:1368:G:O6	8:SA:1688:U:O4	2.40	0.40
8:SA:1634:A:C2	8:SA:1658:G:C4	3.10	0.40
8:SA:1644:U:H2'	8:SA:1646:U:C5	2.55	0.40
8:SA:1799:A:H5'	32:SY:56:TRP:CZ2	2.56	0.40
10:SC:47:ILE:HD12	10:SC:47:ILE:C	2.47	0.40
13:SF:162:LEU:HD12	13:SF:162:LEU:HA	1.85	0.40
15:SH:135:PRO:HG2	15:SH:141:ILE:HD13	2.03	0.40
17:SJ:161:GLN:H	17:SJ:161:GLN:CD	2.27	0.40
29:SV:82:LYS:HB3	29:SV:82:LYS:HE3	1.85	0.40
29:SV:90:ARG:HA	29:SV:109:ASN:HA	2.04	0.40
30:SW:46:MET:O	30:SW:50:VAL:HG22	2.22	0.40
34:AA:239:U:H2'	34:AA:240:U:C6	2.57	0.40
34:AA:888:A:H8	34:AA:890:G:H1'	1.87	0.40
34:AA:1089:U:H2'	34:AA:1090:G:C8	2.56	0.40
34:AA:1093:G:OP1	59:AS:16:ARG:HG2	2.22	0.40
34:AA:1302:G:H2'	34:AA:1303:C:C6	2.57	0.40
34:AA:1476:A:H2	59:AS:35:PHE:HB2	1.86	0.40
34:AA:1744:U:OP1	65:AT:41:ARG:NH2	2.54	0.40
34:AA:1769:U:O2'	34:AA:1793:A:O2'	2.31	0.40
34:AA:1999:A:H2'	34:AA:2000:G:H8	1.87	0.40
34:AA:2071:U:O5'	34:AA:2071:U:H6	2.03	0.40
34:AA:2623:C:H2'	34:AA:2624:C:H6	1.87	0.40
34:AA:3289:G:H2'	34:AA:3290:C:H6	1.86	0.40
34:AA:3590:A:O3'	74:AH:23:ARG:NH1	2.54	0.40
35:AC:96:U:H2'	35:AC:97:C:O4'	2.21	0.40
35:AC:149:C:H2'	35:AC:150:U:C6	2.56	0.40
38:A1:10:VAL:HG22	38:A1:24:VAL:HG12	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A1:52:LYS:HE2	38:A1:52:LYS:HB2	1.71	0.40
39:A2:111:LYS:HB2	44:A8:87:MET:SD	2.61	0.40
51:AP:148:LYS:C	51:AP:150:ASN:H	2.18	0.40
55:AJ:177:ILE:HD12	55:AJ:177:ILE:HA	1.94	0.40
62:AR:22:ARG:HE	62:AR:28:THR:HG23	1.86	0.40
62:AR:271:LYS:HE2	62:AR:271:LYS:N	2.36	0.40
68:A5:246:GLU:HG3	73:AU:44:THR:HG23	2.04	0.40
71:AF:242:PRO:O	71:AF:245:SER:OG	2.36	0.40
71:AF:266:LYS:O	71:AF:267:ILE:C	2.65	0.40
74:AH:136:SER:CB	74:AH:142:GLU:HB3	2.51	0.40
74:AH:164:VAL:HG11	74:AH:178:ILE:HG13	2.03	0.40
2:S2:60:THR:OG1	16:SI:93:LEU:HD13	2.21	0.40
7:S7:49:C:N4	7:S7:62:C:H42	2.18	0.40
8:SA:246:A:H2'	8:SA:247:G:C8	2.56	0.40
8:SA:357:U:H3'	8:SA:358:G:H5'	2.03	0.40
8:SA:1313:G:H2'	8:SA:1314:U:C6	2.57	0.40
8:SA:1723:A:C6	8:SA:1828:A:N1	2.90	0.40
8:SA:1827:U:C2	8:SA:1828:A:C8	3.09	0.40
8:SA:1916:C:H2'	8:SA:1917:C:H6	1.86	0.40
10:SC:63:ILE:HG22	33:SZ:36:VAL:HG22	2.03	0.40
11:SD:23:GLU:HG3	11:SD:23:GLU:H	1.73	0.40
15:SH:11:ASN:HD22	15:SH:11:ASN:C	2.30	0.40
15:SH:131:LYS:C	15:SH:133:LEU:H	2.28	0.40
16:SI:47:TYR:CG	16:SI:54:LYS:HE3	2.56	0.40
17:SJ:41:GLU:HB2	17:SJ:72:TYR:CE1	2.57	0.40
17:SJ:61:LEU:HD22	17:SJ:175:VAL:HG23	2.04	0.40
18:SK:31:SER:H	18:SK:34:VAL:HG22	1.86	0.40
18:SK:126:LEU:HD12	18:SK:126:LEU:HA	1.88	0.40
32:SY:74:ASP:O	32:SY:78:ILE:HD12	2.22	0.40
32:SY:106:GLN:O	32:SY:106:GLN:HG3	2.21	0.40
34:AA:58:A:H4'	51:AP:156:VAL:HG22	2.02	0.40
34:AA:282:U:H2'	34:AA:283:U:H6	1.83	0.40
34:AA:651:A:H2'	34:AA:652:A:O4'	2.22	0.40
34:AA:689:U:H2'	34:AA:690:U:C6	2.57	0.40
34:AA:992:C:H4'	34:AA:2176:A:H5'	2.03	0.40
34:AA:1644:U:C5	34:AA:2102:A:N1	2.88	0.40
34:AA:2001:U:H2'	34:AA:2002:G:O4'	2.21	0.40
34:AA:2498:U:O2'	34:AA:2499:G:H5'	2.22	0.40
34:AA:2698:C:O2	34:AA:3178:A:N1	2.54	0.40
34:AA:2736:A:C2	34:AA:2814:U:C2	3.09	0.40
34:AA:2832:A:O2'	34:AA:2926:A:H1'	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:AA:3409:U:H2'	34:AA:3410:A:C8	2.55	0.40
36:AB:42:A:C4	36:AB:43:A:C8	3.09	0.40
38:A1:32:GLN:HE22	38:A1:37:PRO:CA	2.33	0.40
45:A9:50:LYS:NZ	45:A9:57:ASP:OD2	2.46	0.40
55:AJ:75:ILE:HA	55:AJ:78:GLN:HB2	2.04	0.40
56:Ac:74:ARG:HE	56:Ac:74:ARG:HB2	1.61	0.40
57:AK:120:PRO:HA	57:AK:123:LEU:HD22	2.02	0.40
61:AQ:77:ILE:HD12	61:AQ:82:LYS:HG2	2.04	0.40
62:AR:52:VAL:HA	62:AR:149:ASP:HB3	2.02	0.40
69:AD:114:CYS:SG	69:AD:165:MET:HB3	2.62	0.40
77:AX:127:LYS:C	77:AX:128:LEU:HD23	2.47	0.40
81:S9:27:G:H21	81:S9:43:C:H41	1.69	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	S1	118/133 (89%)	113 (96%)	5 (4%)	0	100	100
2	S2	35/105 (33%)	34 (97%)	1 (3%)	0	100	100
3	S3	93/107 (87%)	84 (90%)	8 (9%)	1 (1%)	12	30
4	S4	74/82 (90%)	62 (84%)	12 (16%)	0	100	100
5	S5	55/67 (82%)	51 (93%)	3 (6%)	1 (2%)	7	18
6	S6	41/58 (71%)	36 (88%)	4 (10%)	1 (2%)	5	13
9	SB	208/262 (79%)	197 (95%)	10 (5%)	1 (0%)	25	49
10	SC	193/263 (73%)	176 (91%)	16 (8%)	1 (0%)	25	49
11	SD	149/221 (67%)	140 (94%)	9 (6%)	0	100	100
12	SE	183/189 (97%)	169 (92%)	14 (8%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	SF	255/261 (98%)	235 (92%)	19 (8%)	1 (0%)	30	55
14	SG	222/272 (82%)	209 (94%)	13 (6%)	0	100	100
15	SH	200/306 (65%)	188 (94%)	12 (6%)	0	100	100
16	SI	176/195 (90%)	159 (90%)	17 (10%)	0	100	100
17	SJ	186/194 (96%)	171 (92%)	14 (8%)	1 (0%)	25	49
18	SK	127/130 (98%)	116 (91%)	10 (8%)	1 (1%)	16	38
19	SL	165/218 (76%)	148 (90%)	16 (10%)	1 (1%)	22	45
20	SM	136/144 (94%)	127 (93%)	8 (6%)	1 (1%)	19	42
21	SN	96/118 (81%)	89 (93%)	7 (7%)	0	100	100
22	SO	77/137 (56%)	70 (91%)	6 (8%)	1 (1%)	10	26
23	SP	125/151 (83%)	105 (84%)	20 (16%)	0	100	100
24	SQ	142/145 (98%)	134 (94%)	8 (6%)	0	100	100
25	SR	92/141 (65%)	86 (94%)	6 (6%)	0	100	100
26	SS	126/156 (81%)	105 (83%)	19 (15%)	2 (2%)	8	21
27	ST	46/54 (85%)	42 (91%)	4 (9%)	0	100	100
28	SU	147/151 (97%)	135 (92%)	12 (8%)	0	100	100
29	SV	142/161 (88%)	133 (94%)	8 (6%)	1 (1%)	19	42
30	SW	91/137 (66%)	79 (87%)	9 (10%)	3 (3%)	3	7
31	SX	92/145 (63%)	80 (87%)	12 (13%)	0	100	100
32	SY	152/170 (89%)	137 (90%)	15 (10%)	0	100	100
33	SZ	70/82 (85%)	64 (91%)	5 (7%)	1 (1%)	9	24
37	AL	209/215 (97%)	198 (95%)	11 (5%)	0	100	100
38	A1	136/146 (93%)	123 (90%)	13 (10%)	0	100	100
39	A2	96/127 (76%)	90 (94%)	6 (6%)	0	100	100
40	A4	64/67 (96%)	60 (94%)	4 (6%)	0	100	100
41	A6	96/108 (89%)	91 (95%)	5 (5%)	0	100	100
42	A7	92/120 (77%)	91 (99%)	1 (1%)	0	100	100
43	AN	145/165 (88%)	134 (92%)	11 (8%)	0	100	100
44	A8	123/131 (94%)	113 (92%)	10 (8%)	0	100	100
45	A9	101/140 (72%)	94 (93%)	7 (7%)	0	100	100
46	Aa	104/150 (69%)	98 (94%)	5 (5%)	1 (1%)	13	33

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	Ab	91/112 (81%)	82 (90%)	8 (9%)	1 (1%)	12	30
48	Ad	68/87 (78%)	67 (98%)	1 (2%)	0	100	100
49	Ae	39/51 (76%)	36 (92%)	3 (8%)	0	100	100
50	Af	49/128 (38%)	49 (100%)	0	0	100	100
51	AP	202/205 (98%)	182 (90%)	16 (8%)	4 (2%)	6	16
52	Ah	83/96 (86%)	79 (95%)	4 (5%)	0	100	100
53	Ai	93/104 (89%)	86 (92%)	7 (8%)	0	100	100
54	AI	203/221 (92%)	188 (93%)	14 (7%)	1 (0%)	25	49
55	AJ	216/283 (76%)	205 (95%)	11 (5%)	0	100	100
56	Ac	87/92 (95%)	79 (91%)	8 (9%)	0	100	100
57	AK	199/202 (98%)	190 (96%)	8 (4%)	1 (0%)	25	49
58	AM	130/139 (94%)	120 (92%)	9 (7%)	1 (1%)	16	38
59	AS	184/187 (98%)	176 (96%)	6 (3%)	2 (1%)	12	30
60	AO	145/148 (98%)	134 (92%)	10 (7%)	1 (1%)	19	42
61	AQ	185/219 (84%)	172 (93%)	12 (6%)	1 (0%)	25	49
62	AR	244/294 (83%)	231 (95%)	12 (5%)	1 (0%)	30	55
63	AW	149/173 (86%)	138 (93%)	11 (7%)	0	100	100
64	AY	99/190 (52%)	94 (95%)	5 (5%)	0	100	100
65	AT	179/182 (98%)	178 (99%)	1 (1%)	0	100	100
66	AZ	119/126 (94%)	115 (97%)	4 (3%)	0	100	100
67	A3	117/124 (94%)	109 (93%)	8 (7%)	0	100	100
68	A5	221/257 (86%)	200 (90%)	20 (9%)	1 (0%)	25	49
69	AD	245/260 (94%)	234 (96%)	9 (4%)	2 (1%)	16	38
70	AE	378/386 (98%)	367 (97%)	10 (3%)	1 (0%)	37	61
71	AF	388/411 (94%)	369 (95%)	18 (5%)	1 (0%)	37	61
72	AG	116/173 (67%)	105 (90%)	10 (9%)	1 (1%)	14	35
73	AU	178/184 (97%)	168 (94%)	9 (5%)	1 (1%)	22	45
74	AH	183/190 (96%)	170 (93%)	13 (7%)	0	100	100
75	AV	153/161 (95%)	146 (95%)	7 (5%)	0	100	100
76	Ag	35/39 (90%)	29 (83%)	6 (17%)	0	100	100
77	AX	95/139 (68%)	88 (93%)	7 (7%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
78	A0	60/162 (37%)	58 (97%)	2 (3%)	0	100	100
All	All	10113/12049 (84%)	9410 (93%)	664 (7%)	39 (0%)	32	55

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	SB	146	ARG
17	SJ	112	ILE
19	SL	168	ILE
20	SM	41	GLU
26	SS	101	ILE
30	SW	4	VAL
51	AP	149	ILE
73	AU	183	ARG
26	SS	14	ILE
51	AP	188	SER
5	S5	38	ARG
18	SK	4	MET
29	SV	20	SER
51	AP	156	VAL
57	AK	72	LEU
6	S6	26	LYS
10	SC	143	VAL
30	SW	17	VAL
33	SZ	81	GLN
47	Ab	86	THR
54	AI	19	VAL
58	AM	13	MET
69	AD	199	VAL
13	SF	195	ILE
61	AQ	60	ILE
72	AG	28	ASP
3	S3	87	ARG
22	SO	35	GLU
46	Aa	75	ALA
51	AP	72	LYS
59	AS	184	ALA
62	AR	152	ILE
68	A5	190	ASN
70	AE	297	ILE
30	SW	69	ILE
59	AS	8	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
60	AO	15	VAL
69	AD	127	VAL
71	AF	267	ILE

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	S1	104/115 (90%)	101 (97%)	3 (3%)	37	67
2	S2	35/88 (40%)	34 (97%)	1 (3%)	37	67
3	S3	87/98 (89%)	84 (97%)	3 (3%)	32	61
4	S4	70/76 (92%)	62 (89%)	8 (11%)	4	11
5	S5	48/54 (89%)	45 (94%)	3 (6%)	15	35
6	S6	36/47 (77%)	35 (97%)	1 (3%)	38	68
9	SB	195/238 (82%)	181 (93%)	14 (7%)	12	30
10	SC	167/227 (74%)	154 (92%)	13 (8%)	10	26
11	SD	132/188 (70%)	122 (92%)	10 (8%)	11	27
12	SE	161/167 (96%)	154 (96%)	7 (4%)	25	52
13	SF	233/237 (98%)	220 (94%)	13 (6%)	17	41
14	SG	191/222 (86%)	179 (94%)	12 (6%)	15	35
15	SH	182/279 (65%)	172 (94%)	10 (6%)	18	41
16	SI	154/165 (93%)	141 (92%)	13 (8%)	9	22
17	SJ	177/183 (97%)	165 (93%)	12 (7%)	13	32
18	SK	115/116 (99%)	104 (90%)	11 (10%)	7	17
19	SL	151/193 (78%)	143 (95%)	8 (5%)	19	43
20	SM	116/122 (95%)	111 (96%)	5 (4%)	25	52
21	SN	91/109 (84%)	79 (87%)	12 (13%)	3	8
22	SO	76/129 (59%)	74 (97%)	2 (3%)	41	70
23	SP	99/119 (83%)	93 (94%)	6 (6%)	15	36

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	SQ	120/121 (99%)	113 (94%)	7 (6%)	17	39
25	SR	83/121 (69%)	81 (98%)	2 (2%)	44	73
26	SS	114/136 (84%)	108 (95%)	6 (5%)	19	43
27	ST	43/48 (90%)	43 (100%)	0	100	100
28	SU	132/133 (99%)	122 (92%)	10 (8%)	11	27
29	SV	131/144 (91%)	123 (94%)	8 (6%)	15	36
30	SW	86/127 (68%)	84 (98%)	2 (2%)	45	74
31	SX	88/130 (68%)	84 (96%)	4 (4%)	23	50
32	SY	137/151 (91%)	127 (93%)	10 (7%)	11	29
33	SZ	60/70 (86%)	55 (92%)	5 (8%)	9	22
37	AL	190/194 (98%)	184 (97%)	6 (3%)	34	63
38	A1	127/132 (96%)	119 (94%)	8 (6%)	15	35
39	A2	97/118 (82%)	92 (95%)	5 (5%)	19	44
40	A4	60/61 (98%)	58 (97%)	2 (3%)	33	62
41	A6	83/92 (90%)	74 (89%)	9 (11%)	5	13
42	A7	90/112 (80%)	85 (94%)	5 (6%)	17	41
43	AN	136/152 (90%)	131 (96%)	5 (4%)	29	58
44	A8	114/120 (95%)	105 (92%)	9 (8%)	10	25
45	A9	90/127 (71%)	83 (92%)	7 (8%)	10	26
46	Aa	89/128 (70%)	84 (94%)	5 (6%)	17	41
47	Ab	82/97 (84%)	79 (96%)	3 (4%)	29	58
48	Ad	69/83 (83%)	64 (93%)	5 (7%)	12	30
49	Ae	40/48 (83%)	38 (95%)	2 (5%)	20	46
50	Af	45/114 (40%)	44 (98%)	1 (2%)	47	76
51	AP	179/180 (99%)	169 (94%)	10 (6%)	17	41
52	Ah	70/80 (88%)	64 (91%)	6 (9%)	8	21
53	Ai	87/93 (94%)	84 (97%)	3 (3%)	32	61
54	AI	189/203 (93%)	174 (92%)	15 (8%)	10	25
55	AJ	204/260 (78%)	195 (96%)	9 (4%)	24	51
56	Ac	74/77 (96%)	72 (97%)	2 (3%)	40	69
57	AK	181/182 (100%)	174 (96%)	7 (4%)	27	56

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
58	AM	106/110 (96%)	100 (94%)	6 (6%)	17	40
59	AS	158/159 (99%)	151 (96%)	7 (4%)	24	51
60	AO	121/122 (99%)	116 (96%)	5 (4%)	26	54
61	AQ	165/190 (87%)	155 (94%)	10 (6%)	15	36
62	AR	215/254 (85%)	205 (95%)	10 (5%)	22	49
63	AW	128/131 (98%)	127 (99%)	1 (1%)	79	91
64	AY	90/177 (51%)	82 (91%)	8 (9%)	8	20
65	AT	162/163 (99%)	152 (94%)	10 (6%)	15	36
66	AZ	111/115 (96%)	100 (90%)	11 (10%)	6	16
67	A3	110/115 (96%)	105 (96%)	5 (4%)	23	50
68	A5	201/231 (87%)	190 (94%)	11 (6%)	18	41
69	AD	191/202 (95%)	178 (93%)	13 (7%)	13	32
70	AE	335/340 (98%)	326 (97%)	9 (3%)	40	69
71	AF	336/352 (96%)	319 (95%)	17 (5%)	20	45
72	AG	110/155 (71%)	99 (90%)	11 (10%)	6	16
73	AU	162/166 (98%)	153 (94%)	9 (6%)	17	41
74	AH	168/173 (97%)	156 (93%)	12 (7%)	12	30
75	AV	140/144 (97%)	134 (96%)	6 (4%)	25	52
76	Ag	34/35 (97%)	34 (100%)	0	100	100
77	AX	92/131 (70%)	83 (90%)	9 (10%)	6	16
78	A0	53/146 (36%)	51 (96%)	2 (4%)	28	56
All	All	9098/10617 (86%)	8581 (94%)	517 (6%)	20	40

All (517) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	S1	35	VAL
1	S1	103	LYS
1	S1	113	LYS
2	S2	62	SER
3	S3	44	ILE
3	S3	50	GLN
3	S3	95	ARG
4	S4	21	ARG
4	S4	41	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	S4	43	THR
4	S4	44	LEU
4	S4	49	GLN
4	S4	50	ASN
4	S4	59	ILE
4	S4	77	PHE
5	S5	54	LEU
5	S5	57	LEU
5	S5	58	GLU
6	S6	17	GLN
9	SB	24	PHE
9	SB	36	LYS
9	SB	37	MET
9	SB	39	LEU
9	SB	48	VAL
9	SB	49	THR
9	SB	83	LYS
9	SB	108	ASP
9	SB	119	THR
9	SB	172	MET
9	SB	183	ASP
9	SB	209	ASN
9	SB	210	VAL
9	SB	211	LEU
10	SC	24	ILE
10	SC	26	THR
10	SC	28	ASN
10	SC	69	ASN
10	SC	81	PHE
10	SC	103	THR
10	SC	108	THR
10	SC	111	ILE
10	SC	114	LYS
10	SC	116	THR
10	SC	156	VAL
10	SC	157	ASP
10	SC	184	LEU
11	SD	11	PHE
11	SD	21	LEU
11	SD	74	GLN
11	SD	78	PHE
11	SD	106	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	SD	137	VAL
11	SD	150	SER
11	SD	168	PHE
11	SD	171	THR
11	SD	173	THR
12	SE	14	ASN
12	SE	42	ILE
12	SE	49	LEU
12	SE	59	LEU
12	SE	74	GLU
12	SE	150	VAL
12	SE	171	ARG
13	SF	20	LEU
13	SF	76	VAL
13	SF	87	MET
13	SF	105	ILE
13	SF	121	TYR
13	SF	131	LEU
13	SF	136	LEU
13	SF	145	ARG
13	SF	150	ILE
13	SF	164	LEU
13	SF	169	VAL
13	SF	201	ASN
13	SF	231	ASN
14	SG	45	THR
14	SG	64	LEU
14	SG	67	LEU
14	SG	107	ARG
14	SG	108	THR
14	SG	177	VAL
14	SG	178	ARG
14	SG	188	THR
14	SG	191	VAL
14	SG	195	THR
14	SG	199	MET
14	SG	262	TYR
15	SH	13	GLN
15	SH	51	ARG
15	SH	87	ARG
15	SH	88	LYS
15	SH	105	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	SH	111	LEU
15	SH	114	VAL
15	SH	144	LEU
15	SH	170	PHE
15	SH	204	GLN
16	SI	7	ASP
16	SI	19	ILE
16	SI	28	ASP
16	SI	54	LYS
16	SI	57	CYS
16	SI	63	LEU
16	SI	82	ARG
16	SI	94	MET
16	SI	118	ARG
16	SI	128	GLN
16	SI	163	CYS
16	SI	168	ILE
16	SI	187	ILE
17	SJ	4	VAL
17	SJ	42	ILE
17	SJ	59	THR
17	SJ	64	ILE
17	SJ	100	ILE
17	SJ	112	ILE
17	SJ	127	LEU
17	SJ	130	ILE
17	SJ	143	MET
17	SJ	149	ARG
17	SJ	159	GLU
17	SJ	163	ASP
18	SK	9	ASP
18	SK	30	SER
18	SK	52	ILE
18	SK	55	ASP
18	SK	63	VAL
18	SK	69	ILE
18	SK	80	ASP
18	SK	90	ILE
18	SK	104	LEU
18	SK	115	GLU
18	SK	120	HIS
19	SL	18	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	SL	29	LEU
19	SL	60	LEU
19	SL	84	ASN
19	SL	91	VAL
19	SL	104	ILE
19	SL	181	VAL
19	SL	205	LEU
20	SM	37	LEU
20	SM	44	ILE
20	SM	76	THR
20	SM	93	TYR
20	SM	98	VAL
21	SN	21	ILE
21	SN	24	THR
21	SN	27	ASN
21	SN	31	ILE
21	SN	35	CYS
21	SN	37	ASP
21	SN	53	VAL
21	SN	59	THR
21	SN	62	ILE
21	SN	90	LEU
21	SN	95	GLU
21	SN	100	MET
22	SO	56	THR
22	SO	72	TRP
23	SP	67	ASP
23	SP	81	VAL
23	SP	85	LEU
23	SP	93	ILE
23	SP	97	LEU
23	SP	107	THR
24	SQ	7	SER
24	SQ	10	ARG
24	SQ	77	ILE
24	SQ	96	ILE
24	SQ	102	VAL
24	SQ	125	VAL
24	SQ	129	ARG
25	SR	29	ILE
25	SR	120	VAL
26	SS	23	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
26	SS	32	LEU
26	SS	52	VAL
26	SS	89	ARG
26	SS	121	LEU
26	SS	138	THR
28	SU	22	GLN
28	SU	27	LYS
28	SU	33	ILE
28	SU	35	ASP
28	SU	37	ILE
28	SU	67	THR
28	SU	71	ILE
28	SU	74	ILE
28	SU	87	ASP
28	SU	145	THR
29	SV	7	VAL
29	SV	47	THR
29	SV	80	SER
29	SV	86	THR
29	SV	110	ILE
29	SV	115	SER
29	SV	127	THR
29	SV	141	ASN
30	SW	19	LYS
30	SW	25	THR
31	SX	79	HIS
31	SX	85	ILE
31	SX	94	VAL
31	SX	112	ILE
32	SY	29	ILE
32	SY	31	ASP
32	SY	36	LEU
32	SY	44	HIS
32	SY	87	LEU
32	SY	90	HIS
32	SY	110	VAL
32	SY	126	ILE
32	SY	135	TYR
32	SY	148	THR
33	SZ	23	LEU
33	SZ	40	ASP
33	SZ	51	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	SZ	67	CYS
33	SZ	68	LEU
37	AL	31	LYS
37	AL	48	THR
37	AL	121	SER
37	AL	123	VAL
37	AL	136	ILE
37	AL	168	LYS
38	A1	51	LEU
38	A1	57	MET
38	A1	98	SER
38	A1	101	VAL
38	A1	104	SER
38	A1	132	GLU
38	A1	136	ASP
38	A1	144	LEU
39	A2	24	LYS
39	A2	39	ASN
39	A2	53	ASN
39	A2	65	VAL
39	A2	95	GLN
40	A4	3	LYS
40	A4	56	GLU
41	A6	16	LYS
41	A6	27	GLN
41	A6	28	PHE
41	A6	41	LYS
41	A6	44	LEU
41	A6	64	MET
41	A6	70	VAL
41	A6	100	ASP
41	A6	102	ASP
42	A7	46	SER
42	A7	57	VAL
42	A7	95	GLU
42	A7	96	LYS
42	A7	99	THR
43	AN	31	CYS
43	AN	49	VAL
43	AN	62	THR
43	AN	67	MET
43	AN	88	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
44	A8	3	VAL
44	A8	11	LYS
44	A8	13	ARG
44	A8	39	ASP
44	A8	47	LYS
44	A8	51	LEU
44	A8	66	LEU
44	A8	94	VAL
44	A8	126	LEU
45	A9	40	LEU
45	A9	68	VAL
45	A9	89	THR
45	A9	93	ASP
45	A9	96	LYS
45	A9	99	CYS
45	A9	106	ARG
46	Aa	23	VAL
46	Aa	41	LYS
46	Aa	57	LEU
46	Aa	85	ILE
46	Aa	104	VAL
47	Ab	8	LYS
47	Ab	77	LEU
47	Ab	100	VAL
48	Ad	5	ILE
48	Ad	36	THR
48	Ad	38	ILE
48	Ad	53	VAL
48	Ad	64	GLU
49	Ae	42	ARG
49	Ae	47	THR
50	Af	11	GLN
51	AP	27	THR
51	AP	60	VAL
51	AP	80	VAL
51	AP	89	VAL
51	AP	90	HIS
51	AP	111	CYS
51	AP	122	VAL
51	AP	124	GLN
51	AP	199	ILE
51	AP	202	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
52	Ah	8	VAL
52	Ah	18	TYR
52	Ah	47	THR
52	Ah	60	CYS
52	Ah	64	VAL
52	Ah	73	THR
53	Ai	16	CYS
53	Ai	34	LEU
53	Ai	76	CYS
54	AI	13	VAL
54	AI	23	VAL
54	AI	24	ASN
54	AI	30	ASN
54	AI	46	VAL
54	AI	59	VAL
54	AI	83	LEU
54	AI	85	VAL
54	AI	109	THR
54	AI	120	LEU
54	AI	123	ASP
54	AI	133	ASP
54	AI	139	THR
54	AI	142	ILE
54	AI	175	LYS
55	AJ	42	ASN
55	AJ	75	ILE
55	AJ	82	LYS
55	AJ	95	ASN
55	AJ	161	GLU
55	AJ	167	LEU
55	AJ	192	VAL
55	AJ	236	LYS
55	AJ	254	MET
56	Ac	75	ARG
56	Ac	90	LYS
57	AK	32	ILE
57	AK	70	LEU
57	AK	86	MET
57	AK	118	VAL
57	AK	123	LEU
57	AK	144	VAL
57	AK	174	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
58	AM	12	LYS
58	AM	13	MET
58	AM	17	LEU
58	AM	56	LEU
58	AM	106	ASN
58	AM	131	LEU
59	AS	8	VAL
59	AS	68	GLN
59	AS	74	HIS
59	AS	78	ILE
59	AS	118	GLU
59	AS	168	SER
59	AS	174	GLU
60	AO	3	THR
60	AO	12	ARG
60	AO	27	LYS
60	AO	92	GLU
60	AO	94	LYS
61	AQ	33	ILE
61	AQ	43	VAL
61	AQ	71	SER
61	AQ	76	MET
61	AQ	82	LYS
61	AQ	121	LYS
61	AQ	125	VAL
61	AQ	126	VAL
61	AQ	146	SER
61	AQ	206	LEU
62	AR	28	THR
62	AR	47	GLN
62	AR	55	LYS
62	AR	60	VAL
62	AR	63	GLN
62	AR	116	ASP
62	AR	157	THR
62	AR	165	LEU
62	AR	199	LEU
62	AR	277	LEU
63	AW	106	ASN
64	AY	97	VAL
64	AY	101	HIS
64	AY	102	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
64	AY	116	THR
64	AY	151	PHE
64	AY	153	ILE
64	AY	174	LEU
64	AY	178	HIS
65	AT	4	THR
65	AT	18	LYS
65	AT	50	LEU
65	AT	73	ARG
65	AT	77	ILE
65	AT	93	LEU
65	AT	139	GLU
65	AT	144	GLU
65	AT	149	LEU
65	AT	170	ASN
66	AZ	7	LYS
66	AZ	10	SER
66	AZ	55	VAL
66	AZ	56	LEU
66	AZ	57	ILE
66	AZ	69	VAL
66	AZ	81	VAL
66	AZ	101	SER
66	AZ	105	LEU
66	AZ	107	LYS
66	AZ	117	ILE
67	A3	27	GLU
67	A3	29	SER
67	A3	39	ASN
67	A3	66	MET
67	A3	87	THR
68	A5	42	LEU
68	A5	55	GLN
68	A5	67	GLU
68	A5	70	LYS
68	A5	75	LYS
68	A5	138	ILE
68	A5	139	VAL
68	A5	163	VAL
68	A5	181	ASP
68	A5	190	ASN
68	A5	203	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
69	AD	40	TYR
69	AD	45	VAL
69	AD	77	ILE
69	AD	88	ILE
69	AD	109	GLU
69	AD	125	THR
69	AD	142	ASP
69	AD	155	LYS
69	AD	169	VAL
69	AD	208	GLU
69	AD	235	VAL
69	AD	243	THR
69	AD	246	LEU
70	AE	23	LYS
70	AE	93	ARG
70	AE	105	VAL
70	AE	189	LEU
70	AE	202	VAL
70	AE	298	THR
70	AE	319	LEU
70	AE	353	LEU
70	AE	362	ILE
71	AF	18	VAL
71	AF	62	THR
71	AF	71	ARG
71	AF	79	VAL
71	AF	133	VAL
71	AF	136	LEU
71	AF	150	VAL
71	AF	157	ASP
71	AF	187	LYS
71	AF	217	VAL
71	AF	254	GLU
71	AF	268	HIS
71	AF	281	LYS
71	AF	292	ILE
71	AF	307	LYS
71	AF	324	VAL
71	AF	371	ILE
72	AG	9	MET
72	AG	17	LEU
72	AG	21	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
72	AG	30	LEU
72	AG	40	LEU
72	AG	41	THR
72	AG	84	LEU
72	AG	106	ILE
72	AG	129	VAL
72	AG	131	LEU
72	AG	146	SER
73	AU	25	THR
73	AU	33	VAL
73	AU	37	CYS
73	AU	82	LYS
73	AU	86	VAL
73	AU	91	ASP
73	AU	98	ASN
73	AU	135	ILE
73	AU	166	LEU
74	AH	33	THR
74	AH	53	TYR
74	AH	57	VAL
74	AH	83	VAL
74	AH	93	LEU
74	AH	94	VAL
74	AH	110	ARG
74	AH	125	VAL
74	AH	128	LEU
74	AH	138	ASN
74	AH	176	ASP
74	AH	186	VAL
75	AV	41	VAL
75	AV	75	VAL
75	AV	97	VAL
75	AV	117	ILE
75	AV	130	LYS
75	AV	151	THR
77	AX	45	ASP
77	AX	47	THR
77	AX	69	LYS
77	AX	83	VAL
77	AX	96	ILE
77	AX	106	LEU
77	AX	115	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
77	AX	116	ILE
77	AX	136	GLN
78	A0	46	LEU
78	A0	52	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

Mol	Chain	Res	Type
1	S1	15	ASN
1	S1	52	ASN
2	S2	80	ASN
2	S2	81	HIS
3	S3	91	GLN
5	S5	28	GLN
5	S5	43	ASN
9	SB	93	ASN
9	SB	134	HIS
9	SB	149	GLN
10	SC	23	HIS
10	SC	91	GLN
11	SD	177	GLN
12	SE	139	GLN
13	SF	74	ASN
13	SF	96	ASN
13	SF	142	HIS
13	SF	172	HIS
15	SH	7	ASN
15	SH	65	GLN
16	SI	139	ASN
18	SK	42	GLN
22	SO	43	HIS
25	SR	26	GLN
25	SR	87	GLN
26	SS	78	GLN
26	SS	128	HIS
27	ST	18	GLN
28	SU	22	GLN
29	SV	130	GLN
32	SY	26	ASN
32	SY	168	ASN
33	SZ	33	GLN
38	A1	15	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
39	A2	80	HIS
40	A4	9	ASN
40	A4	27	HIS
43	AN	97	ASN
43	AN	130	GLN
45	A9	56	GLN
46	Aa	12	HIS
46	Aa	62	ASN
49	Ae	11	GLN
49	Ae	19	GLN
51	AP	154	ASN
54	AI	202	HIS
55	AJ	162	ASN
56	Ac	31	HIS
56	Ac	60	ASN
57	AK	54	GLN
59	AS	18	HIS
59	AS	68	GLN
60	AO	14	HIS
60	AO	28	HIS
61	AQ	44	ASN
62	AR	68	HIS
62	AR	221	HIS
63	AW	80	GLN
63	AW	106	ASN
65	AT	57	HIS
66	AZ	18	HIS
68	A5	121	HIS
68	A5	179	ASN
68	A5	190	ASN
68	A5	213	ASN
69	AD	21	HIS
69	AD	22	HIS
69	AD	186	HIS
70	AE	68	HIS
70	AE	207	ASN
70	AE	368	GLN
71	AF	364	GLN
73	AU	12	ASN
73	AU	17	HIS
74	AH	168	ASN
75	AV	87	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
75	AV	96	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	AA	3162/3788 (83%)	624 (19%)	70 (2%)
35	AC	148/159 (93%)	30 (20%)	5 (3%)
36	AB	117/119 (98%)	13 (11%)	2 (1%)
7	S7	73/74 (98%)	28 (38%)	0
79	S8	75/76 (98%)	16 (21%)	2 (2%)
8	SA	1588/2092 (75%)	372 (23%)	32 (2%)
80	mR	10/11 (90%)	2 (20%)	0
81	S9	75/76 (98%)	24 (32%)	1 (1%)
All	All	5248/6395 (82%)	1109 (21%)	112 (2%)

All (1109) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	S7	8	U
7	S7	9	G
7	S7	10	G
7	S7	14	A
7	S7	16	U
7	S7	17	U
7	S7	18	G
7	S7	19	G
7	S7	20	U
7	S7	23	G
7	S7	31	G
7	S7	32	U
7	S7	33	C
7	S7	34	U
7	S7	35	C
7	S7	36	A
7	S7	37	U
7	S7	39	A
7	S7	40	U
7	S7	46	G
7	S7	53	A
7	S7	54	G
7	S7	56	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	S7	57	C
7	S7	69	U
7	S7	72	C
7	S7	73	C
7	S7	74	A
8	SA	4	C
8	SA	17	C
8	SA	25	C
8	SA	26	A
8	SA	27	U
8	SA	34	G
8	SA	35	U
8	SA	42	G
8	SA	45	U
8	SA	47	A
8	SA	50	C
8	SA	57	G
8	SA	59	G
8	SA	61	A
8	SA	63	G
8	SA	71	A
8	SA	72	U
8	SA	73	A
8	SA	80	A
8	SA	81	U
8	SA	82	G
8	SA	84	A
8	SA	102	A
8	SA	106	A
8	SA	108	A
8	SA	116	A
8	SA	118	U
8	SA	128	A
8	SA	129	U
8	SA	130	U
8	SA	139	A
8	SA	142	G
8	SA	143	A
8	SA	144	U
8	SA	151	G
8	SA	156	A
8	SA	157	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	164	C
8	SA	166	A
8	SA	168	U
8	SA	207	G
8	SA	247	G
8	SA	248	G
8	SA	249	A
8	SA	251	U
8	SA	252	U
8	SA	260	A
8	SA	262	A
8	SA	263	A
8	SA	264	G
8	SA	266	A
8	SA	268	C
8	SA	270	C
8	SA	272	U
8	SA	274	A
8	SA	292	G
8	SA	305	G
8	SA	320	C
8	SA	322	G
8	SA	323	C
8	SA	327	U
8	SA	339	A
8	SA	343	G
8	SA	344	C
8	SA	358	G
8	SA	365	A
8	SA	367	C
8	SA	375	U
8	SA	386	U
8	SA	396	G
8	SA	406	A
8	SA	407	A
8	SA	408	U
8	SA	410	G
8	SA	422	A
8	SA	423	A
8	SA	424	G
8	SA	429	G
8	SA	430	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	432	G
8	SA	440	G
8	SA	445	U
8	SA	450	C
8	SA	451	A
8	SA	458	A
8	SA	470	A
8	SA	474	A
8	SA	475	C
8	SA	487	A
8	SA	488	U
8	SA	489	G
8	SA	509	U
8	SA	514	U
8	SA	515	U
8	SA	516	G
8	SA	521	G
8	SA	526	G
8	SA	542	C
8	SA	543	A
8	SA	545	A
8	SA	546	G
8	SA	547	U
8	SA	548	A
8	SA	549	A
8	SA	563	A
8	SA	564	G
8	SA	565	U
8	SA	575	G
8	SA	585	U
8	SA	586	A
8	SA	601	A
8	SA	602	G
8	SA	613	A
8	SA	617	G
8	SA	618	U
8	SA	626	A
8	SA	627	A
8	SA	629	A
8	SA	630	C
8	SA	631	G
8	SA	646	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	647	C
8	SA	653	A
8	SA	746	U
8	SA	749	U
8	SA	753	U
8	SA	754	A
8	SA	757	A
8	SA	760	C
8	SA	790	U
8	SA	791	U
8	SA	793	G
8	SA	801	G
8	SA	804	U
8	SA	805	A
8	SA	806	A
8	SA	815	G
8	SA	816	U
8	SA	821	A
8	SA	822	G
8	SA	824	A
8	SA	830	U
8	SA	831	U
8	SA	835	G
8	SA	837	A
8	SA	845	U
8	SA	846	G
8	SA	849	U
8	SA	853	U
8	SA	857	A
8	SA	866	A
8	SA	870	A
8	SA	875	A
8	SA	879	A
8	SA	888	A
8	SA	897	G
8	SA	908	U
8	SA	913	U
8	SA	916	G
8	SA	919	U
8	SA	920	A
8	SA	924	A
8	SA	925	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	931	A
8	SA	932	U
8	SA	941	C
8	SA	942	U
8	SA	945	G
8	SA	967	A
8	SA	982	A
8	SA	984	A
8	SA	999	A
8	SA	1002	A
8	SA	1004	U
8	SA	1011	G
8	SA	1029	U
8	SA	1035	A
8	SA	1057	A
8	SA	1061	A
8	SA	1062	A
8	SA	1073	U
8	SA	1074	A
8	SA	1090	C
8	SA	1095	A
8	SA	1097	C
8	SA	1098	U
8	SA	1099	A
8	SA	1101	G
8	SA	1108	A
8	SA	1109	G
8	SA	1112	G
8	SA	1116	G
8	SA	1168	U
8	SA	1177	A
8	SA	1182	A
8	SA	1183	U
8	SA	1184	G
8	SA	1193	A
8	SA	1194	A
8	SA	1197	C
8	SA	1198	U
8	SA	1199	U
8	SA	1201	G
8	SA	1239	A
8	SA	1251	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	1252	A
8	SA	1259	C
8	SA	1260	C
8	SA	1261	A
8	SA	1263	C
8	SA	1265	G
8	SA	1271	G
8	SA	1275	U
8	SA	1282	U
8	SA	1285	A
8	SA	1286	U
8	SA	1295	A
8	SA	1297	A
8	SA	1300	G
8	SA	1301	G
8	SA	1307	U
8	SA	1308	C
8	SA	1313	G
8	SA	1316	U
8	SA	1317	A
8	SA	1318	A
8	SA	1363	U
8	SA	1366	A
8	SA	1367	U
8	SA	1382	G
8	SA	1384	U
8	SA	1385	U
8	SA	1386	U
8	SA	1387	U
8	SA	1414	A
8	SA	1415	A
8	SA	1416	U
8	SA	1417	U
8	SA	1422	U
8	SA	1423	A
8	SA	1433	A
8	SA	1436	U
8	SA	1440	C
8	SA	1443	G
8	SA	1444	C
8	SA	1445	U
8	SA	1446	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	1448	U
8	SA	1449	U
8	SA	1451	G
8	SA	1453	G
8	SA	1454	G
8	SA	1456	G
8	SA	1460	A
8	SA	1464	U
8	SA	1606	U
8	SA	1625	C
8	SA	1626	U
8	SA	1629	G
8	SA	1630	A
8	SA	1634	A
8	SA	1635	C
8	SA	1636	A
8	SA	1639	G
8	SA	1640	U
8	SA	1644	U
8	SA	1645	C
8	SA	1648	A
8	SA	1658	G
8	SA	1659	U
8	SA	1660	U
8	SA	1661	U
8	SA	1662	A
8	SA	1664	G
8	SA	1665	G
8	SA	1673	A
8	SA	1674	G
8	SA	1678	U
8	SA	1679	G
8	SA	1682	A
8	SA	1691	G
8	SA	1692	A
8	SA	1693	U
8	SA	1700	G
8	SA	1701	G
8	SA	1703	U
8	SA	1704	G
8	SA	1705	C
8	SA	1706	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	1710	G
8	SA	1711	U
8	SA	1716	C
8	SA	1717	A
8	SA	1719	U
8	SA	1720	G
8	SA	1723	A
8	SA	1724	U
8	SA	1727	A
8	SA	1728	U
8	SA	1729	A
8	SA	1732	G
8	SA	1735	U
8	SA	1742	A
8	SA	1787	U
8	SA	1788	U
8	SA	1790	C
8	SA	1792	U
8	SA	1795	G
8	SA	1802	G
8	SA	1812	A
8	SA	1817	U
8	SA	1818	A
8	SA	1819	U
8	SA	1820	C
8	SA	1826	A
8	SA	1833	G
8	SA	1834	A
8	SA	1835	U
8	SA	1836	G
8	SA	1837	G
8	SA	1839	G
8	SA	1840	A
8	SA	1852	A
8	SA	1854	U
8	SA	1855	U
8	SA	1856	A
8	SA	1862	C
8	SA	1865	G
8	SA	1866	A
8	SA	1870	A
8	SA	1871	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	1880	A
8	SA	1881	G
8	SA	1887	A
8	SA	1894	A
8	SA	1895	U
8	SA	1897	A
8	SA	1898	G
8	SA	1907	G
8	SA	1910	U
8	SA	1912	C
8	SA	1913	G
8	SA	1927	U
8	SA	1928	A
8	SA	1931	C
8	SA	1933	C
8	SA	1954	U
8	SA	1955	G
8	SA	1968	A
8	SA	1969	A
8	SA	1976	G
8	SA	1977	G
8	SA	1978	A
8	SA	1979	C
8	SA	1980	A
8	SA	1982	G
8	SA	2010	U
8	SA	2013	A
8	SA	2046	G
8	SA	2047	A
8	SA	2048	A
8	SA	2049	G
8	SA	2054	A
8	SA	2061	U
8	SA	2072	G
8	SA	2075	C
8	SA	2084	G
8	SA	2085	G
8	SA	2086	A
8	SA	2088	C
8	SA	2089	A
8	SA	2090	U
34	AA	11	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	13	G
34	AA	14	U
34	AA	15	U
34	AA	26	A
34	AA	40	A
34	AA	43	A
34	AA	49	U
34	AA	59	G
34	AA	60	A
34	AA	62	A
34	AA	63	A
34	AA	65	A
34	AA	66	A
34	AA	74	A
34	AA	77	A
34	AA	92	G
34	AA	99	A
34	AA	109	A
34	AA	110	G
34	AA	111	C
34	AA	113	C
34	AA	120	U
34	AA	121	U
34	AA	124	U
34	AA	130	G
34	AA	133	U
34	AA	134	G
34	AA	136	U
34	AA	137	G
34	AA	146	U
34	AA	147	C
34	AA	152	G
34	AA	163	G
34	AA	167	U
34	AA	168	A
34	AA	169	U
34	AA	172	C
34	AA	174	U
34	AA	180	C
34	AA	182	U
34	AA	183	U
34	AA	185	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	192	G
34	AA	197	G
34	AA	198	U
34	AA	199	G
34	AA	200	A
34	AA	201	G
34	AA	208	U
34	AA	215	C
34	AA	216	C
34	AA	222	G
34	AA	226	G
34	AA	227	A
34	AA	228	A
34	AA	229	A
34	AA	235	A
34	AA	246	U
34	AA	250	U
34	AA	254	U
34	AA	255	C
34	AA	258	U
34	AA	268	C
34	AA	269	A
34	AA	270	U
34	AA	271	G
34	AA	276	G
34	AA	292	U
34	AA	302	A
34	AA	303	A
34	AA	306	C
34	AA	308	U
34	AA	309	G
34	AA	310	U
34	AA	313	U
34	AA	319	U
34	AA	336	U
34	AA	337	A
34	AA	338	U
34	AA	343	G
34	AA	345	G
34	AA	347	C
34	AA	357	A
34	AA	359	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	360	A
34	AA	382	A
34	AA	384	A
34	AA	386	U
34	AA	395	A
34	AA	400	C
34	AA	409	A
34	AA	410	G
34	AA	412	A
34	AA	413	C
34	AA	431	G
34	AA	432	A
34	AA	433	A
34	AA	439	U
34	AA	440	A
34	AA	445	A
34	AA	448	A
34	AA	449	A
34	AA	450	A
34	AA	451	C
34	AA	458	A
34	AA	459	G
34	AA	462	G
34	AA	463	G
34	AA	466	A
34	AA	490	U
34	AA	495	U
34	AA	497	U
34	AA	501	U
34	AA	502	U
34	AA	504	A
34	AA	505	A
34	AA	506	A
34	AA	520	U
34	AA	521	U
34	AA	522	A
34	AA	530	U
34	AA	532	C
34	AA	543	U
34	AA	547	C
34	AA	552	A
34	AA	573	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	580	A
34	AA	581	C
34	AA	582	U
34	AA	583	U
34	AA	585	C
34	AA	592	C
34	AA	593	A
34	AA	599	G
34	AA	608	A
34	AA	620	U
34	AA	621	C
34	AA	646	A
34	AA	648	U
34	AA	649	U
34	AA	658	U
34	AA	665	U
34	AA	666	U
34	AA	667	U
34	AA	668	U
34	AA	674	U
34	AA	675	A
34	AA	678	A
34	AA	679	U
34	AA	681	U
34	AA	684	G
34	AA	685	U
34	AA	694	U
34	AA	697	A
34	AA	698	G
34	AA	699	U
34	AA	704	U
34	AA	708	A
34	AA	714	C
34	AA	715	U
34	AA	721	U
34	AA	722	G
34	AA	727	A
34	AA	738	A
34	AA	755	A
34	AA	759	U
34	AA	763	U
34	AA	765	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	767	U
34	AA	768	C
34	AA	769	U
34	AA	773	A
34	AA	774	A
34	AA	778	U
34	AA	779	U
34	AA	793	A
34	AA	806	G
34	AA	809	A
34	AA	812	U
34	AA	813	G
34	AA	826	U
34	AA	834	U
34	AA	857	C
34	AA	859	C
34	AA	860	A
34	AA	862	U
34	AA	871	A
34	AA	874	A
34	AA	889	U
34	AA	890	G
34	AA	891	C
34	AA	893	U
34	AA	895	A
34	AA	896	U
34	AA	899	A
34	AA	900	G
34	AA	903	C
34	AA	904	G
34	AA	905	A
34	AA	918	G
34	AA	925	A
34	AA	935	A
34	AA	936	A
34	AA	945	G
34	AA	949	A
34	AA	950	G
34	AA	966	A
34	AA	968	G
34	AA	980	A
34	AA	984	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	986	U
34	AA	988	G
34	AA	993	U
34	AA	998	U
34	AA	999	G
34	AA	1016	A
34	AA	1026	G
34	AA	1027	G
34	AA	1033	A
34	AA	1035	G
34	AA	1036	A
34	AA	1042	C
34	AA	1043	G
34	AA	1044	A
34	AA	1052	A
34	AA	1056	G
34	AA	1063	A
34	AA	1070	A
34	AA	1078	C
34	AA	1100	A
34	AA	1101	A
34	AA	1107	U
34	AA	1108	U
34	AA	1123	U
34	AA	1124	A
34	AA	1132	G
34	AA	1158	G
34	AA	1170	A
34	AA	1172	C
34	AA	1187	A
34	AA	1193	G
34	AA	1194	A
34	AA	1197	U
34	AA	1198	A
34	AA	1199	A
34	AA	1206	U
34	AA	1215	A
34	AA	1218	C
34	AA	1221	A
34	AA	1222	U
34	AA	1223	U
34	AA	1225	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	1229	A
34	AA	1230	A
34	AA	1231	A
34	AA	1243	G
34	AA	1245	G
34	AA	1259	G
34	AA	1272	U
34	AA	1281	C
34	AA	1287	A
34	AA	1296	U
34	AA	1306	A
34	AA	1309	U
34	AA	1310	A
34	AA	1320	G
34	AA	1329	U
34	AA	1337	G
34	AA	1340	G
34	AA	1346	U
34	AA	1417	G
34	AA	1431	A
34	AA	1435	G
34	AA	1436	A
34	AA	1437	U
34	AA	1441	G
34	AA	1445	A
34	AA	1450	G
34	AA	1458	A
34	AA	1476	A
34	AA	1481	A
34	AA	1499	U
34	AA	1503	A
34	AA	1504	A
34	AA	1531	G
34	AA	1535	G
34	AA	1537	G
34	AA	1538	U
34	AA	1539	U
34	AA	1540	G
34	AA	1547	A
34	AA	1550	A
34	AA	1554	G
34	AA	1555	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	1565	G
34	AA	1567	A
34	AA	1575	C
34	AA	1583	G
34	AA	1586	C
34	AA	1595	A
34	AA	1599	G
34	AA	1601	A
34	AA	1602	A
34	AA	1604	U
34	AA	1619	U
34	AA	1630	A
34	AA	1637	G
34	AA	1651	C
34	AA	1657	U
34	AA	1685	G
34	AA	1691	G
34	AA	1693	U
34	AA	1700	U
34	AA	1701	G
34	AA	1703	U
34	AA	1704	U
34	AA	1705	A
34	AA	1706	A
34	AA	1707	A
34	AA	1725	U
34	AA	1730	A
34	AA	1732	A
34	AA	1736	A
34	AA	1737	A
34	AA	1739	C
34	AA	1748	A
34	AA	1749	U
34	AA	1750	U
34	AA	1756	G
34	AA	1762	A
34	AA	1763	G
34	AA	1766	U
34	AA	1767	U
34	AA	1771	A
34	AA	1774	U
34	AA	1783	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	1788	C
34	AA	1797	A
34	AA	1800	U
34	AA	1801	G
34	AA	1806	C
34	AA	1812	C
34	AA	1842	U
34	AA	1855	U
34	AA	1856	U
34	AA	1870	G
34	AA	1881	C
34	AA	1882	U
34	AA	1886	A
34	AA	1899	U
34	AA	1902	A
34	AA	1903	C
34	AA	1904	U
34	AA	1905	C
34	AA	1912	A
34	AA	1914	A
34	AA	1964	G
34	AA	1969	A
34	AA	1970	A
34	AA	1971	U
34	AA	1980	G
34	AA	1981	U
34	AA	1991	U
34	AA	1996	C
34	AA	1997	G
34	AA	1998	A
34	AA	2000	G
34	AA	2018	G
34	AA	2019	A
34	AA	2031	A
34	AA	2034	G
34	AA	2070	U
34	AA	2072	U
34	AA	2073	G
34	AA	2081	U
34	AA	2082	C
34	AA	2084	U
34	AA	2090	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	2092	G
34	AA	2093	U
34	AA	2095	U
34	AA	2096	G
34	AA	2102	A
34	AA	2106	A
34	AA	2107	C
34	AA	2108	A
34	AA	2109	A
34	AA	2125	A
34	AA	2133	C
34	AA	2145	A
34	AA	2146	A
34	AA	2147	A
34	AA	2148	U
34	AA	2154	A
34	AA	2174	G
34	AA	2175	C
34	AA	2180	U
34	AA	2181	A
34	AA	2219	A
34	AA	2220	U
34	AA	2389	G
34	AA	2394	C
34	AA	2395	U
34	AA	2400	A
34	AA	2403	G
34	AA	2404	A
34	AA	2406	A
34	AA	2415	G
34	AA	2424	A
34	AA	2433	U
34	AA	2437	A
34	AA	2451	A
34	AA	2453	A
34	AA	2461	A
34	AA	2463	U
34	AA	2464	G
34	AA	2485	C
34	AA	2500	A
34	AA	2501	A
34	AA	2515	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	2516	A
34	AA	2518	U
34	AA	2521	A
34	AA	2524	C
34	AA	2532	G
34	AA	2537	A
34	AA	2542	G
34	AA	2545	A
34	AA	2549	A
34	AA	2550	C
34	AA	2565	G
34	AA	2566	G
34	AA	2573	A
34	AA	2574	A
34	AA	2591	U
34	AA	2600	G
34	AA	2603	U
34	AA	2606	A
34	AA	2607	U
34	AA	2608	G
34	AA	2627	U
34	AA	2628	G
34	AA	2629	U
34	AA	2652	C
34	AA	2665	A
34	AA	2666	A
34	AA	2667	C
34	AA	2668	G
34	AA	2680	A
34	AA	2681	U
34	AA	2686	G
34	AA	2687	G
34	AA	2690	A
34	AA	2694	A
34	AA	2695	A
34	AA	2696	G
34	AA	2697	A
34	AA	2704	U
34	AA	2705	G
34	AA	2710	U
34	AA	2728	G
34	AA	2745	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	2805	U
34	AA	2810	A
34	AA	2811	A
34	AA	2817	U
34	AA	2823	U
34	AA	2824	A
34	AA	2833	U
34	AA	2835	G
34	AA	2886	A
34	AA	2887	U
34	AA	2920	A
34	AA	2932	A
34	AA	2945	G
34	AA	2946	G
34	AA	2953	G
34	AA	2965	A
34	AA	2987	G
34	AA	2991	U
34	AA	2995	A
34	AA	3013	A
34	AA	3015	A
34	AA	3016	G
34	AA	3018	A
34	AA	3020	U
34	AA	3028	A
34	AA	3030	A
34	AA	3033	A
34	AA	3035	A
34	AA	3061	U
34	AA	3067	G
34	AA	3068	A
34	AA	3073	G
34	AA	3086	A
34	AA	3091	U
34	AA	3092	G
34	AA	3108	A
34	AA	3112	U
34	AA	3116	A
34	AA	3123	C
34	AA	3127	A
34	AA	3128	A
34	AA	3130	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	3131	A
34	AA	3135	A
34	AA	3138	A
34	AA	3141	G
34	AA	3155	G
34	AA	3158	U
34	AA	3159	G
34	AA	3160	A
34	AA	3161	A
34	AA	3169	C
34	AA	3173	G
34	AA	3176	A
34	AA	3187	G
34	AA	3201	C
34	AA	3203	C
34	AA	3204	C
34	AA	3206	A
34	AA	3227	U
34	AA	3228	U
34	AA	3230	G
34	AA	3231	A
34	AA	3246	A
34	AA	3248	C
34	AA	3257	G
34	AA	3258	C
34	AA	3259	A
34	AA	3263	G
34	AA	3270	A
34	AA	3282	U
34	AA	3286	C
34	AA	3292	A
34	AA	3293	A
34	AA	3294	U
34	AA	3295	A
34	AA	3301	C
34	AA	3302	G
34	AA	3306	G
34	AA	3330	A
34	AA	3342	C
34	AA	3349	G
34	AA	3353	A
34	AA	3357	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	3362	A
34	AA	3374	U
34	AA	3375	A
34	AA	3377	A
34	AA	3382	U
34	AA	3384	G
34	AA	3385	U
34	AA	3398	A
34	AA	3414	G
34	AA	3415	A
34	AA	3416	G
34	AA	3421	A
34	AA	3442	C
34	AA	3443	A
34	AA	3459	A
34	AA	3463	G
34	AA	3468	G
34	AA	3471	A
34	AA	3477	A
34	AA	3483	U
34	AA	3485	G
34	AA	3507	A
34	AA	3515	A
34	AA	3516	A
34	AA	3526	U
34	AA	3527	U
34	AA	3548	U
34	AA	3549	U
34	AA	3553	G
34	AA	3555	U
34	AA	3571	A
34	AA	3572	A
34	AA	3573	U
34	AA	3574	G
34	AA	3581	A
34	AA	3582	G
34	AA	3585	A
34	AA	3586	U
34	AA	3588	A
34	AA	3590	A
34	AA	3591	U
34	AA	3594	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	3596	A
34	AA	3615	A
34	AA	3617	A
34	AA	3618	A
34	AA	3624	U
34	AA	3626	A
34	AA	3632	U
34	AA	3635	G
34	AA	3636	U
34	AA	3653	G
34	AA	3658	G
34	AA	3659	C
34	AA	3665	U
34	AA	3666	U
34	AA	3668	U
34	AA	3670	U
34	AA	3683	G
34	AA	3684	A
34	AA	3689	C
34	AA	3698	U
34	AA	3707	U
34	AA	3711	U
34	AA	3712	G
34	AA	3728	A
34	AA	3732	U
34	AA	3733	G
34	AA	3736	A
34	AA	3737	G
34	AA	3740	A
34	AA	3741	A
34	AA	3761	G
34	AA	3770	C
34	AA	3774	A
34	AA	3775	G
34	AA	3783	G
35	AC	5	A
35	AC	6	C
35	AC	16	G
35	AC	36	C
35	AC	38	G
35	AC	39	C
35	AC	43	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	AC	55	A
35	AC	56	A
35	AC	63	A
35	AC	66	C
35	AC	67	G
35	AC	75	A
35	AC	79	G
35	AC	85	A
35	AC	90	G
35	AC	91	A
35	AC	92	A
35	AC	98	A
35	AC	107	A
35	AC	108	A
35	AC	109	U
35	AC	115	C
35	AC	116	U
35	AC	123	A
35	AC	135	G
35	AC	139	A
35	AC	140	G
35	AC	146	C
35	AC	157	A
36	AB	7	G
36	AB	33	U
36	AB	38	U
36	AB	39	C
36	AB	40	A
36	AB	50	A
36	AB	53	U
36	AB	54	A
36	AB	64	A
36	AB	89	G
36	AB	97	G
36	AB	100	A
36	AB	110	G
79	S8	2	G
79	S8	3	C
79	S8	4	G
79	S8	5	G
79	S8	8	U
79	S8	10	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
79	S8	16	C
79	S8	18	G
79	S8	19	G
79	S8	20	U
79	S8	34	C
79	S8	35	A
79	S8	47	U
79	S8	48	C
79	S8	74	C
79	S8	76	A
80	mR	16	A
80	mR	22	G
81	S9	2	C
81	S9	10	G
81	S9	16	U
81	S9	17	C
81	S9	18	G
81	S9	19	G
81	S9	21	A
81	S9	22	G
81	S9	23	A
81	S9	27	G
81	S9	30	G
81	S9	42	C
81	S9	43	C
81	S9	47	U
81	S9	48	C
81	S9	52	G
81	S9	53	G
81	S9	56	C
81	S9	57	G
81	S9	63	G
81	S9	69	G
81	S9	72	C
81	S9	74	C
81	S9	76	A

All (112) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	SA	105	A
8	SA	116	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	SA	246	A
8	SA	248	G
8	SA	291	A
8	SA	423	A
8	SA	525	G
8	SA	752	U
8	SA	805	A
8	SA	844	G
8	SA	981	U
8	SA	998	A
8	SA	1098	U
8	SA	1182	A
8	SA	1362	U
8	SA	1381	C
8	SA	1386	U
8	SA	1413	U
8	SA	1414	A
8	SA	1455	C
8	SA	1673	A
8	SA	1719	U
8	SA	1786	U
8	SA	1818	A
8	SA	1819	U
8	SA	1865	G
8	SA	1897	A
8	SA	1968	A
8	SA	2047	A
8	SA	2048	A
8	SA	2053	U
8	SA	2071	U
34	AA	13	G
34	AA	61	A
34	AA	62	A
34	AA	162	U
34	AA	179	G
34	AA	182	U
34	AA	184	U
34	AA	215	C
34	AA	257	U
34	AA	270	U
34	AA	432	A
34	AA	439	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	500	A
34	AA	501	U
34	AA	504	A
34	AA	505	A
34	AA	579	C
34	AA	580	A
34	AA	581	C
34	AA	582	U
34	AA	607	A
34	AA	620	U
34	AA	648	U
34	AA	674	U
34	AA	697	A
34	AA	698	G
34	AA	703	U
34	AA	721	U
34	AA	764	G
34	AA	859	C
34	AA	888	A
34	AA	965	A
34	AA	1035	G
34	AA	1078	C
34	AA	1197	U
34	AA	1217	U
34	AA	1222	U
34	AA	1435	G
34	AA	1538	U
34	AA	1574	C
34	AA	1736	A
34	AA	1748	A
34	AA	1805	U
34	AA	1841	U
34	AA	1881	C
34	AA	1990	A
34	AA	1996	C
34	AA	1999	A
34	AA	2180	U
34	AA	2219	A
34	AA	2394	C
34	AA	2549	A
34	AA	2651	A
34	AA	2665	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
34	AA	2666	A
34	AA	2816	U
34	AA	2822	U
34	AA	2885	A
34	AA	3137	U
34	AA	3202	U
34	AA	3230	G
34	AA	3413	A
34	AA	3414	G
34	AA	3476	A
34	AA	3526	U
34	AA	3587	U
34	AA	3590	A
34	AA	3658	G
34	AA	3667	C
34	AA	3736	A
35	AC	35	A
35	AC	37	A
35	AC	134	G
35	AC	139	A
35	AC	145	A
36	AB	39	C
36	AB	88	A
79	S8	3	C
79	S8	34	C
81	S9	73	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
63	AW	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AW	154:ASN	C	197:UNK	N	31.43

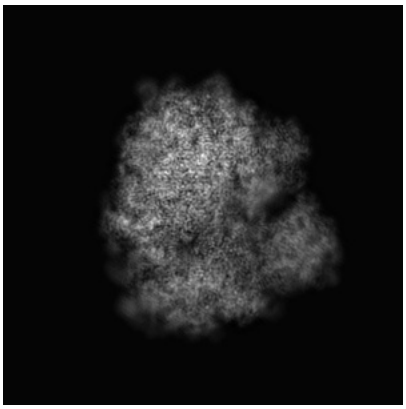
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-44915. These allow visual inspection of the internal detail of the map and identification of artifacts.

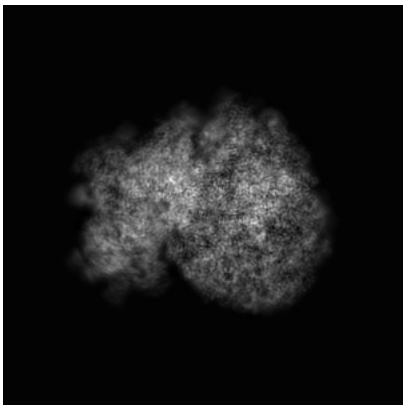
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections (i)

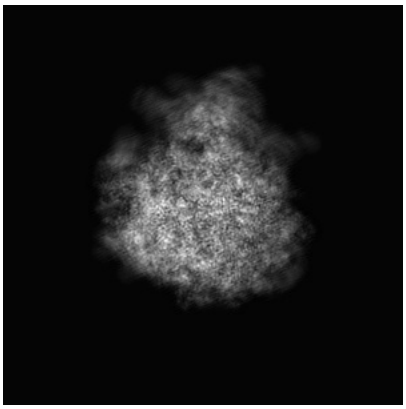
6.1.1 Primary map



X

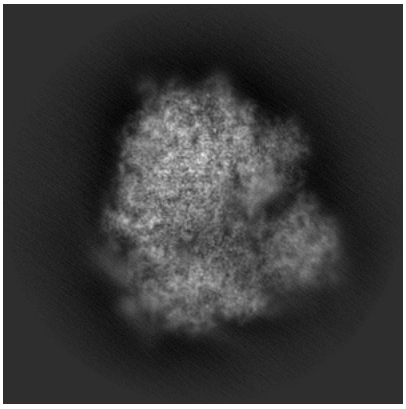


Y

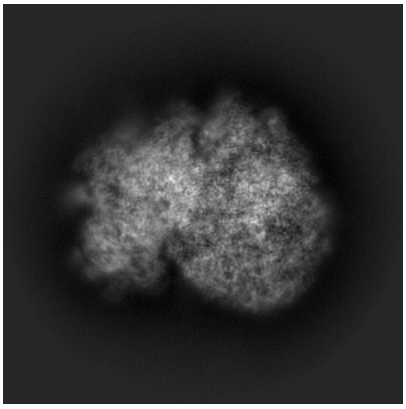


Z

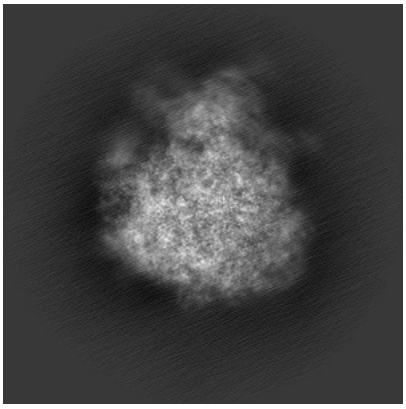
6.1.2 Raw map



X



Y

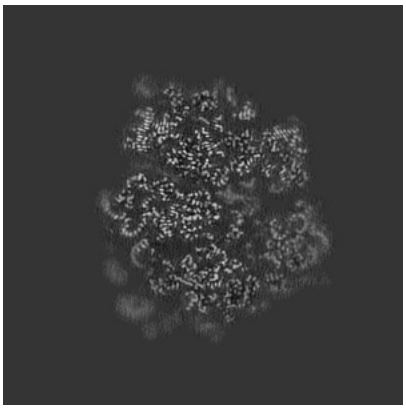


Z

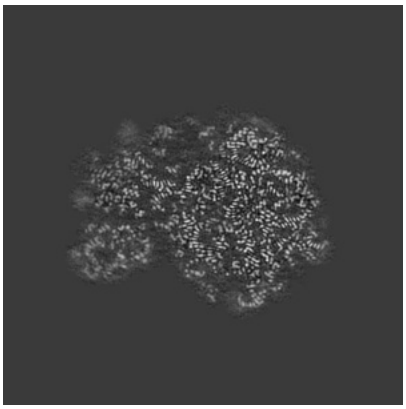
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

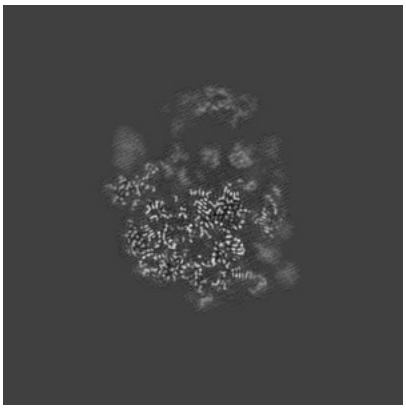
6.2.1 Primary map



X Index: 250

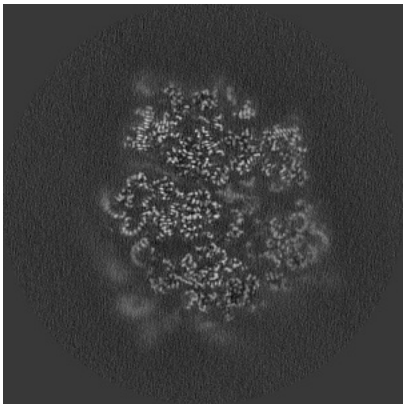


Y Index: 250

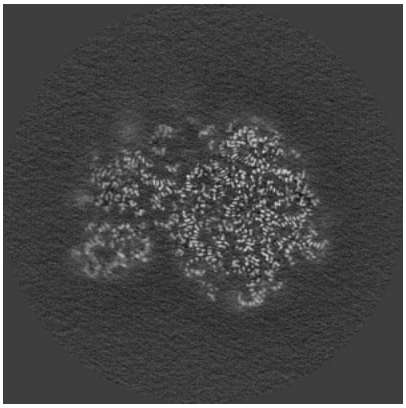


Z Index: 250

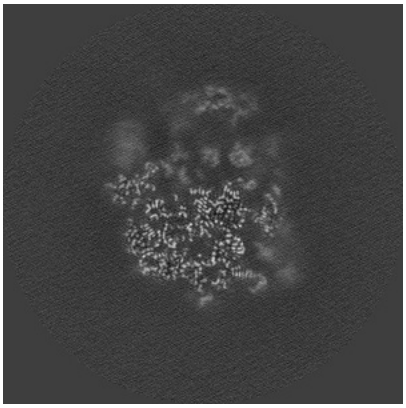
6.2.2 Raw map



X Index: 250



Y Index: 250



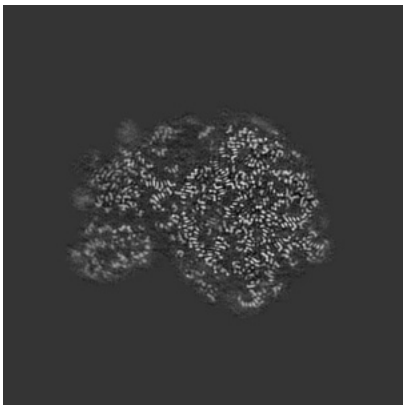
Z Index: 250

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

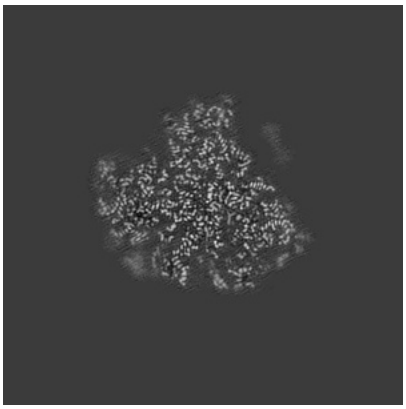
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 275

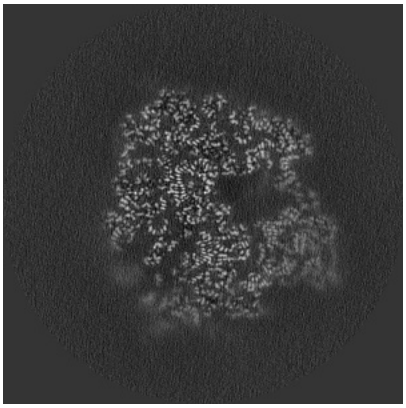


Y Index: 251

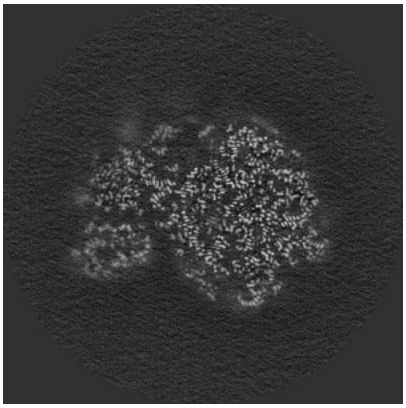


Z Index: 310

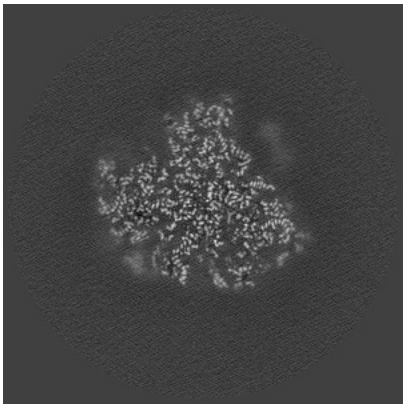
6.3.2 Raw map



X Index: 275



Y Index: 251

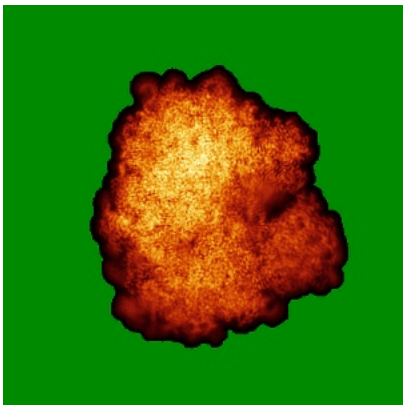


Z Index: 310

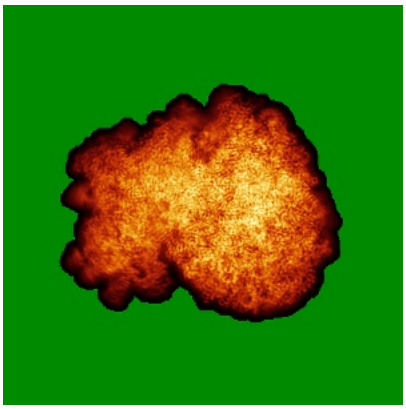
The images above show the largest variance slices of the map in three orthogonal directions.

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

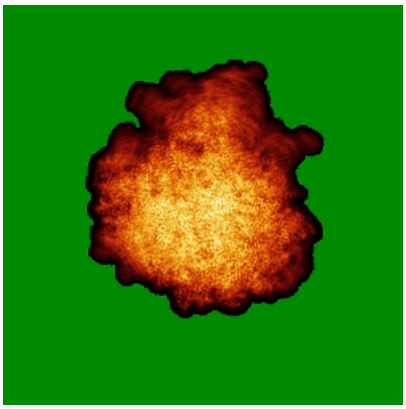
6.4.1 Primary map



X

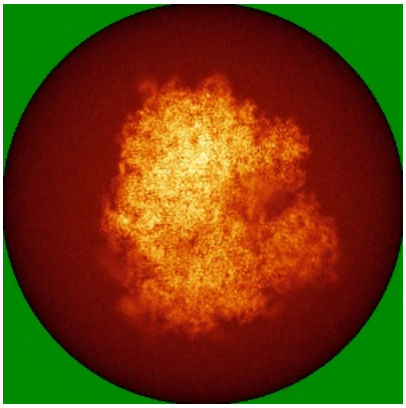


Y

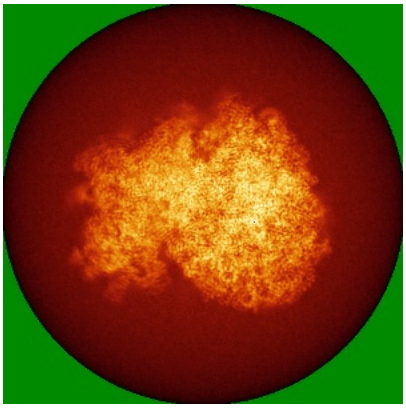


Z

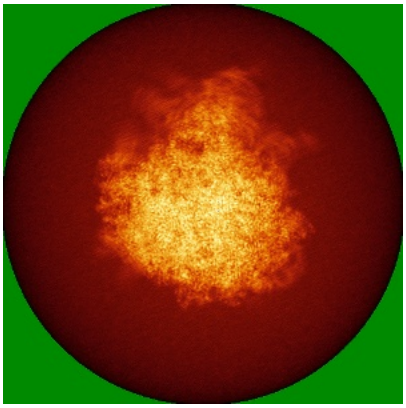
6.4.2 Raw map



X



Y

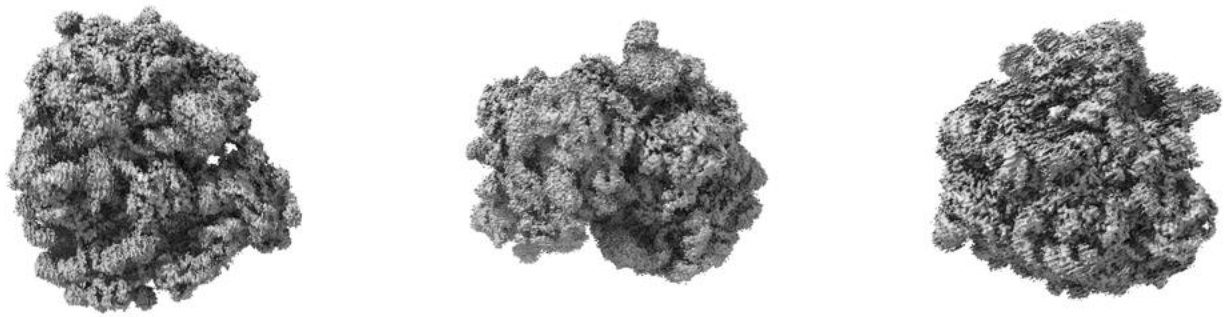


Z

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

6.5 Orthogonal surface views (i)

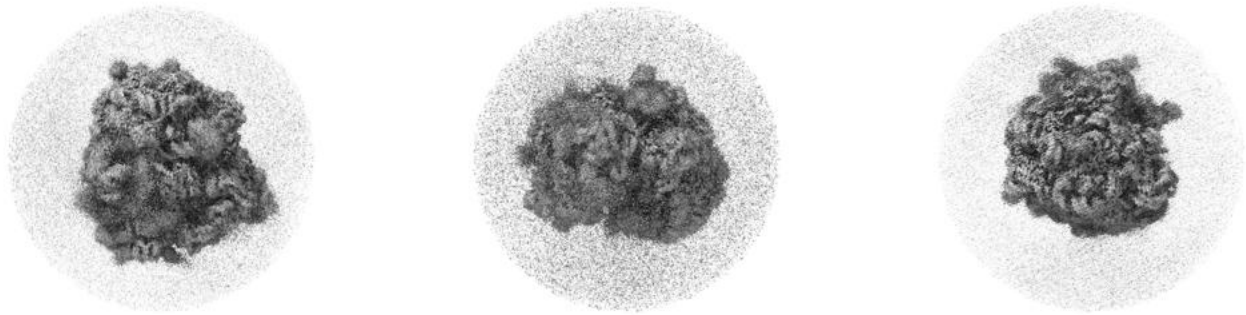
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.00615. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

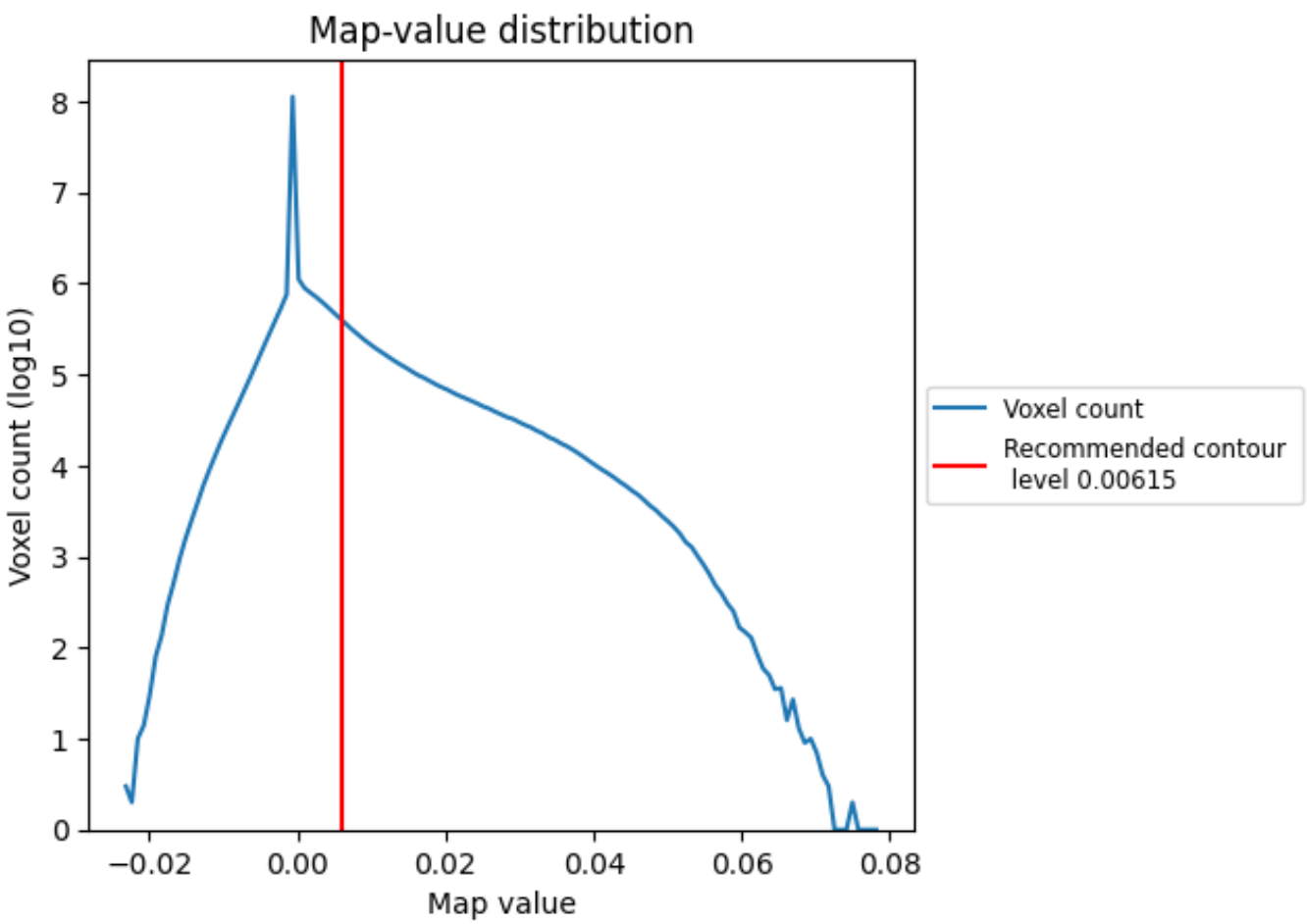
6.6 Mask visualisation (i)

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

7 Map analysis (i)

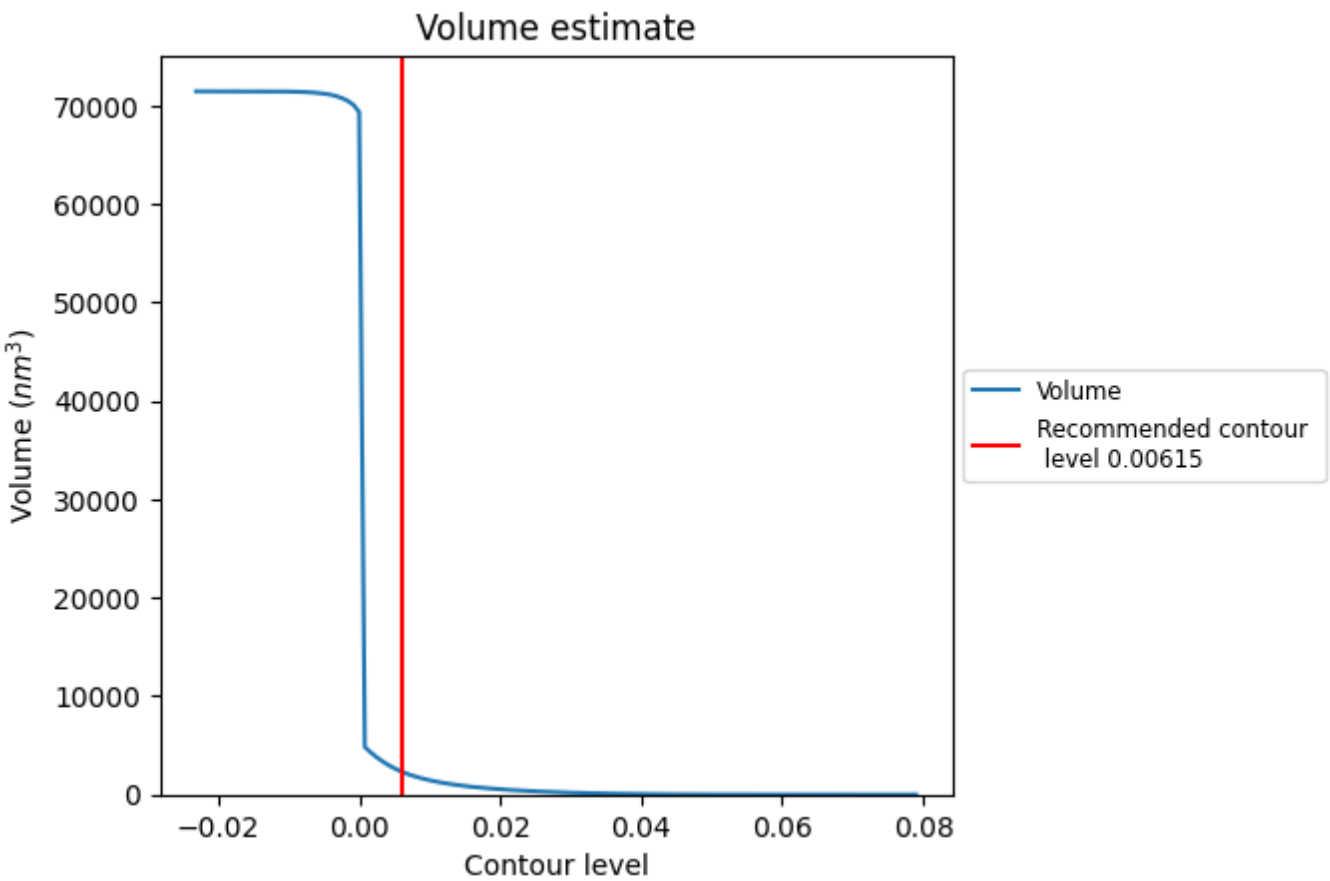
This section contains the results of statistical analysis of the map.

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.

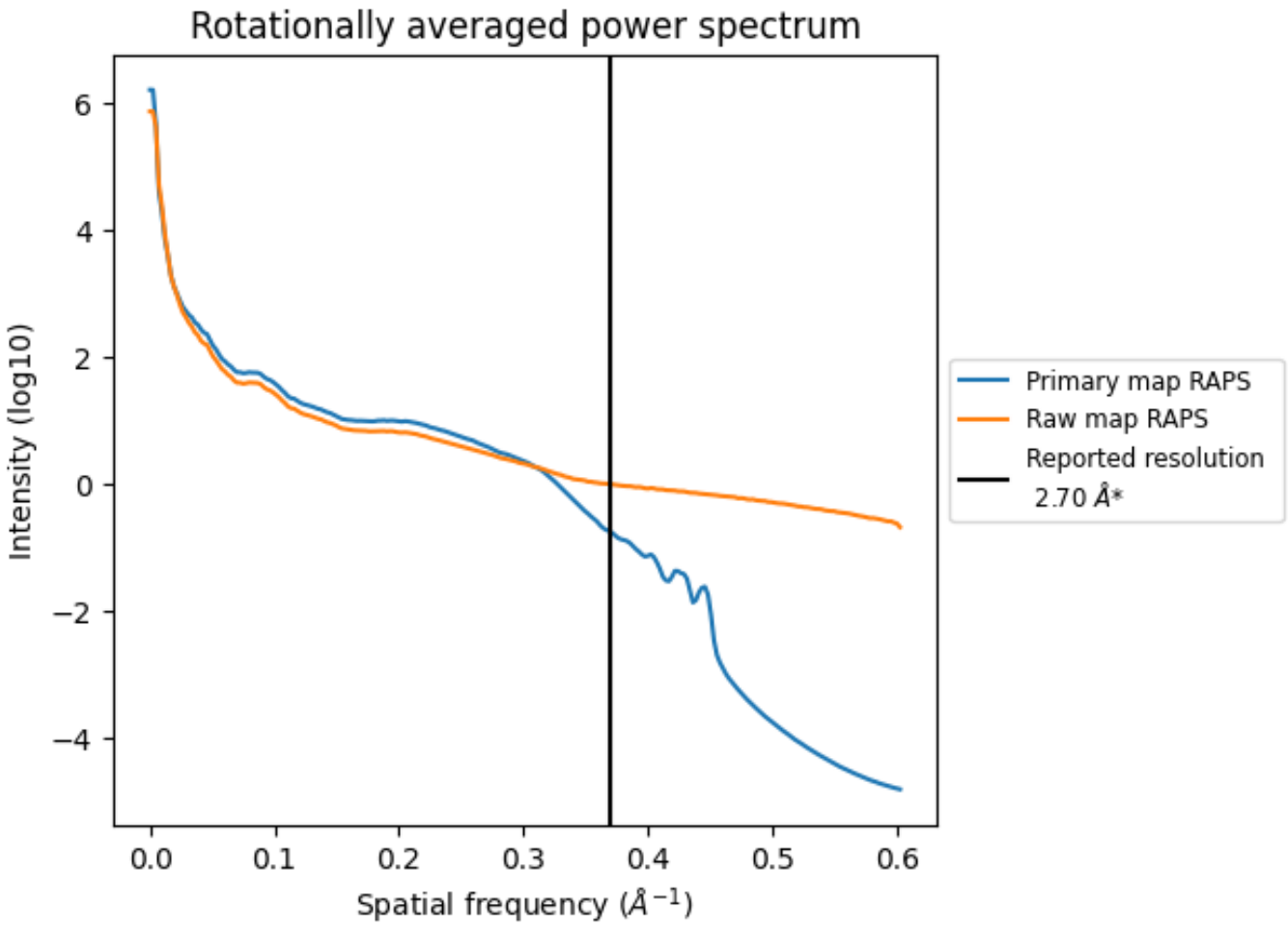
7.2 Volume estimate (i)



The volume at the recommended contour level is 2290 nm^3; this corresponds to an approximate mass of 2068 kDa.

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

7.3 Rotationally averaged power spectrum (i)

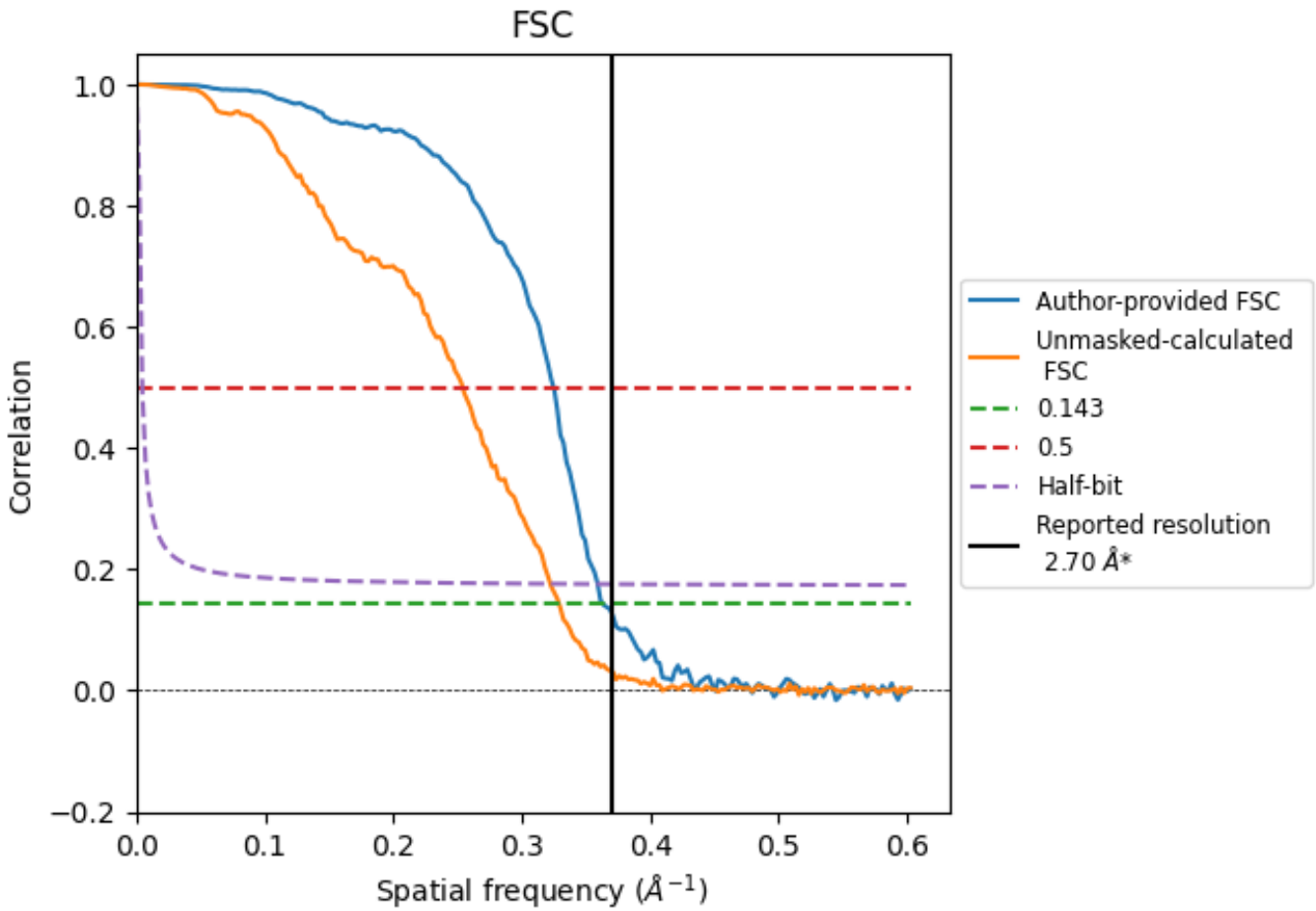


*Reported resolution corresponds to spatial frequency of 0.370 Å^{-1}

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 0.370 Å^{-1}

8.2 Resolution estimates (i)

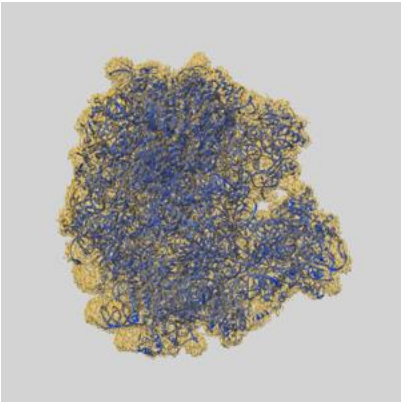
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.70	-	-
Author-provided FSC curve	2.75	3.08	2.78
Unmasked-calculated*	3.04	3.94	3.10

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.04 differs from the reported value 2.7 by more than 10 %

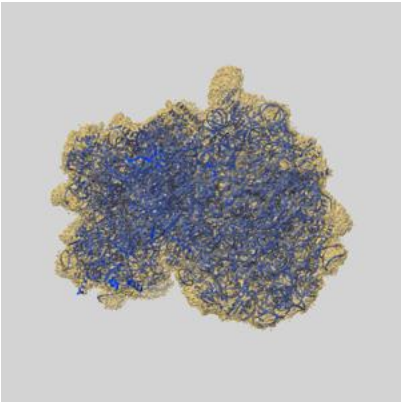
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-44915 and PDB model 9BUP. Per-residue inclusion information can be found in section 3 on page 18.

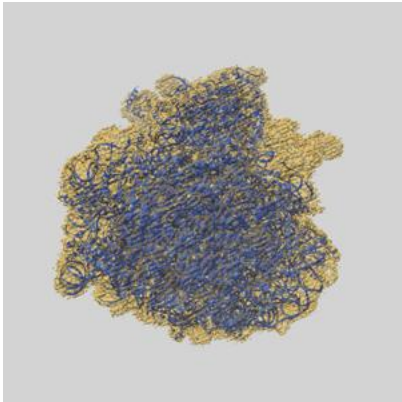
9.1 Map-model overlay (i)



X



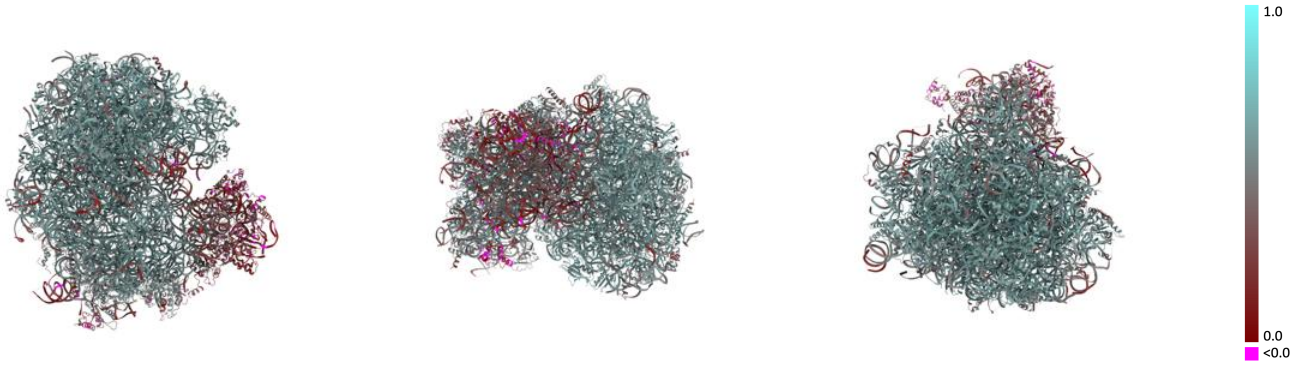
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.00615 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

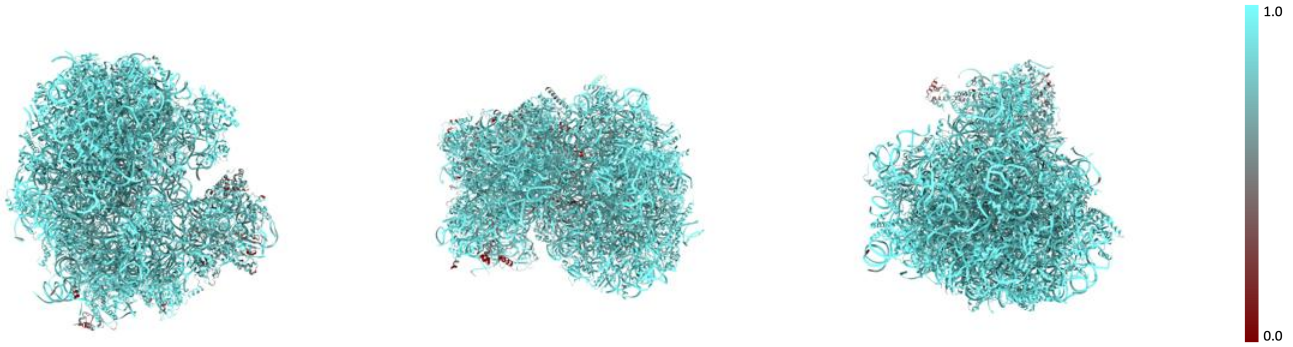
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

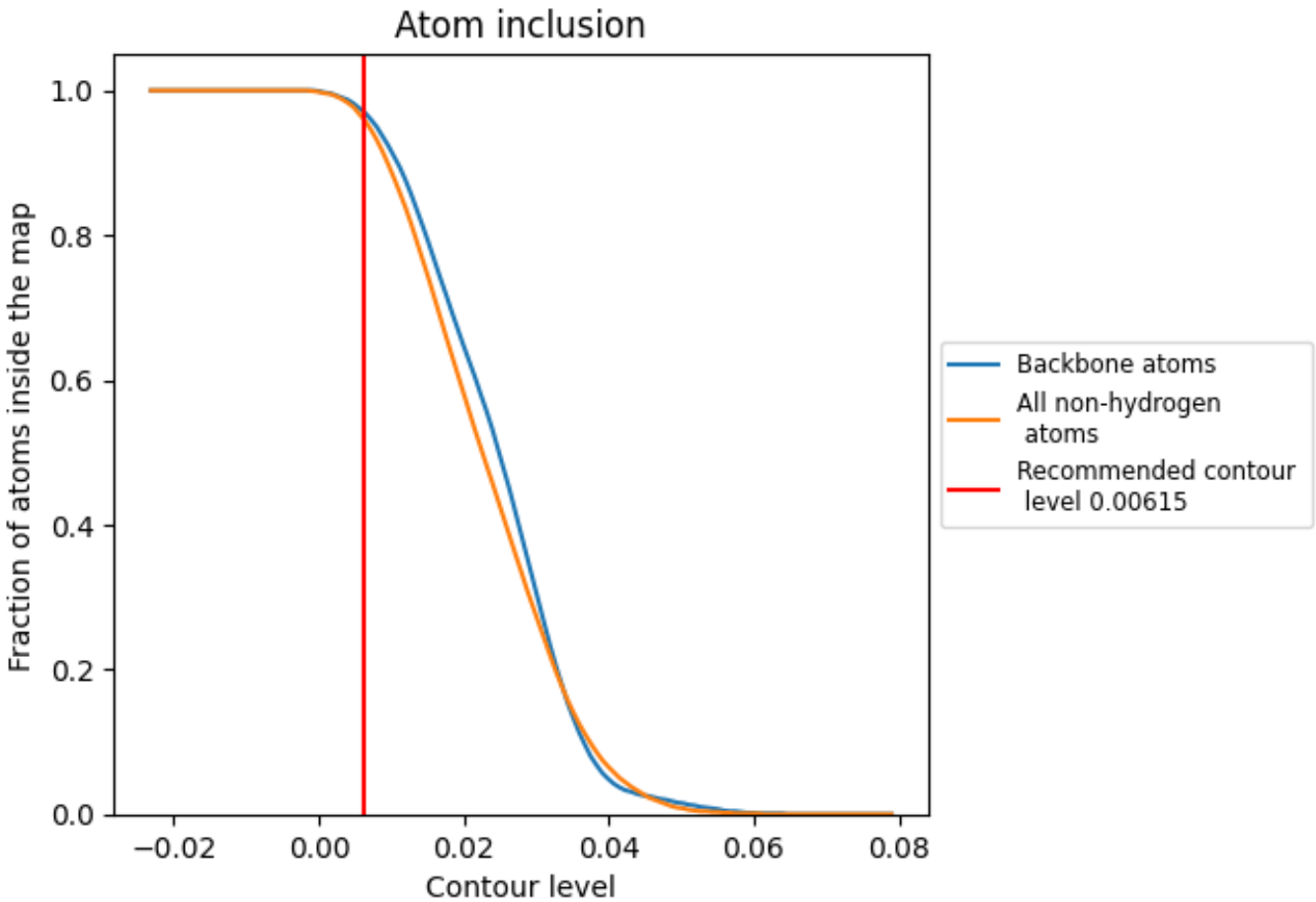
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.00615).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 96% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.00615) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9610	0.5470
A0	0.9620	0.6100
A1	0.9580	0.5480
A2	0.9770	0.5960
A3	0.9890	0.5950
A4	0.9400	0.5580
A5	0.9780	0.6120
A6	0.9660	0.5780
A7	0.9740	0.6130
A8	0.9800	0.6250
A9	0.9920	0.6350
AA	0.9910	0.5950
AB	1.0000	0.6070
AC	0.9970	0.6010
AD	0.9800	0.6330
AE	0.9890	0.6280
AF	0.9460	0.5840
AG	0.9700	0.5390
AH	0.9860	0.6060
AI	0.9770	0.5810
AJ	0.9290	0.5330
AK	0.9880	0.6250
AL	0.9840	0.6100
AM	0.9860	0.6230
AN	0.9750	0.5820
AO	0.9910	0.6370
AP	0.9920	0.6340
AQ	0.9530	0.5890
AR	0.9680	0.5640
AS	0.9840	0.6330
AT	0.9140	0.5620
AU	0.9860	0.6170
AV	0.9830	0.6110
AW	0.9900	0.6210
AX	0.9380	0.5200

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
AY	0.9630	0.5730
AZ	0.9820	0.5860
Aa	0.9660	0.5950
Ab	0.9810	0.5880
Ac	0.9810	0.6230
Ad	0.9880	0.5570
Ae	0.9840	0.6150
Af	0.9900	0.6170
Ag	0.9530	0.5940
Ah	0.9770	0.6290
Ai	0.9760	0.6240
S1	0.9460	0.4900
S2	0.5760	0.1780
S3	0.9690	0.5940
S4	0.7920	0.3820
S5	0.5660	0.2510
S6	0.8850	0.4640
S7	0.9460	0.3380
S8	0.9440	0.4890
S9	0.8770	0.3900
SA	0.9710	0.4890
SB	0.9400	0.5500
SC	0.9340	0.4950
SD	0.8480	0.3420
SE	0.9190	0.5220
SF	0.9570	0.5500
SG	0.9390	0.5280
SH	0.9270	0.4500
SI	0.8550	0.3280
SJ	0.7900	0.4110
SK	0.9640	0.5890
SL	0.9660	0.5700
SM	0.7210	0.2350
SN	0.7800	0.2560
SO	0.8000	0.2350
SP	0.9490	0.5620
SQ	0.9410	0.5660
SR	0.4890	0.1270
SS	0.7320	0.2360
ST	0.8200	0.3490
SU	0.9510	0.5650
SV	0.9380	0.5790

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
SW	0.8100	0.3160
SX	0.7400	0.2530
SY	0.8280	0.2500
SZ	0.9620	0.5440
Sa	0.8330	0.4780
mR	0.9740	0.5510