



# Full wwPDB X-ray Structure Validation Report ⓘ

Jan 2, 2024 – 11:49 pm GMT

PDB ID : 5DGV  
Title : Complex of yeast 80S ribosome with hypusine-containing/non-modified eIF5A and/or a peptidyl-tRNA analog  
Authors : Melnikov, S.; Mailliot, J.; Shin, B.-S.; Rigger, L.; Yusupova, G.; Micura, R.; Dever, T.E.; Yusupov, M.  
Deposited on : 2015-08-28  
Resolution : 3.10 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.4, CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.36  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

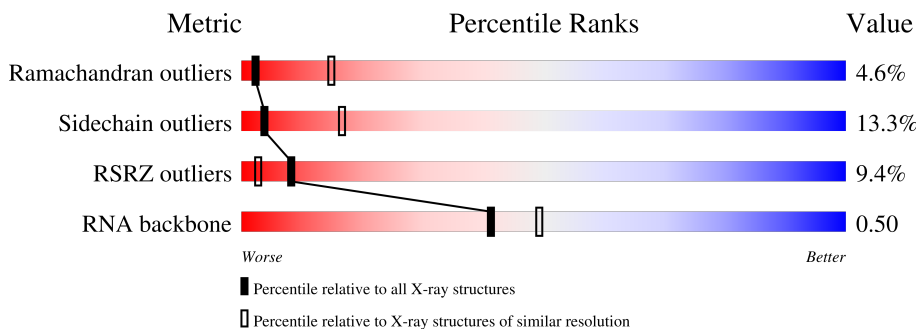
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)
RNA backbone	3102	1116 (3.40-2.80)

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

Mol	Chain	Length	Quality of chain
1	2	1800	8% (poor fit), 73% (0 outliers), 25% (1 outlier), .. (2+ outliers)
1	6	1800	6% (poor fit), 75% (0 outliers), 24% (1 outlier), . (2+ outliers)
2	S0	251	27% (poor fit), 70% (0 outliers), 12% (1 outlier), 18% (2+ outliers)
2	s0	251	12% (poor fit), 66% (0 outliers), 15% (1 outlier), 18% (2+ outliers)
3	S1	254	20% (poor fit), 64% (0 outliers), 18% (1 outlier), . (2+ outliers), 16% (not modelled)
3	s1	254	15% (poor fit), 70% (0 outliers), 14% (1 outlier), . (2+ outliers), 15% (not modelled)

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Mol	Chain	Length	Quality of chain
4	S2	253	6% 73% 13% 14%
4	s2	253	5% 68% 17% 14%
5	S3	239	6% 82% 10% 7%
5	s3	239	13% 79% 14% 7%
6	S4	260	13% 85% 14%
6	s4	260	7% 87% 12%
7	S5	224	25% 80% 11% 8%
7	s5	224	18% 77% 15% 8%
8	S6	236	19% 80% 16%
8	s6	236	10% 78% 14% 8%
9	S7	189	15% 80% 17%
9	s7	189	4% 87% 11%
10	S8	200	20% 80% 13% 6%
10	s8	200	10% 86% 8% 6%
11	S9	196	35% 79% 14% 6%
11	s9	196	17% 79% 14% 6%
12	C0	105	8% 78% 10% 9%
12	c0	105	20% 69% 20% 9%
13	C1	155	10% 88% 11%
13	c1	155	% 76% 17% 6%
14	C2	142	42% 69% 18% 13%
14	c2	142	61% 68% 18% 13%
15	C3	150	17% 87% 11%
15	c3	150	% 85% 15%
16	C4	136	14% 78% 12% 7%

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Mol	Chain	Length	Quality of chain
16	c4	136	4% 79% 14% 6%
17	C5	141	14% 77% 10% 12%
17	c5	141	21% 77% 16% .
18	C6	142	37% 84% 15% ..
18	c6	142	44% 87% 13%
19	C7	136	24% 72% 15% 12%
19	c7	136	27% 72% 12% 14%
20	C8	145	35% 84% 13% .
20	c8	145	14% 81% 17% .
21	C9	143	30% 85% 15%
21	c9	143	24% 88% 11% .
22	D0	120	19% 78% 12% 11%
22	d0	120	42% 76% 15% 8%
23	D1	87	9% 84% 15% .
23	d1	87	6% 86% 13% .
24	D2	129	25% 86% 12% .
24	d2	129	2% 90% 10%
25	D3	144	% 83% 15% .
25	d3	144	88% 12%
26	D4	134	11% 84% 16%
26	d4	134	8% 85% 15%
27	D5	107	14% 47% 18% 35%
27	d5	107	22% 56% 8% 36%
28	D6	97	25% 76% 20% .
28	d6	97	5% 88% 11% .

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Mol	Chain	Length	Quality of chain
29	D7	81	52% 89% 11%
29	d7	81	12% 85% 14%
30	D8	66	9% 79% 17% 5%
30	d8	66	17% 79% 14% 5%
31	D9	55	18% 78% 18%
31	d9	55	25% 82% 15%
32	E0	60	32% 88% 10%
33	E1	76	45% 62% 26% 5% 7%
33	e1	76	49% 63% 32% 5%
34	SR	318	12% 91% 9%
34	sR	318	32% 92% 8%
35	SM	263	11% 53% 7% 40%
35	sM	263	9% 34% 5% 60%
36	1	3396	2% 73% 18% 7%
36	5	3396	2% 73% 19% 7%
37	3	121	88% 12%
37	7	121	% 85% 15%
38	4	158	% 80% 20%
38	8	158	2% 80% 20%
39	L2	253	2% 87% 13%
39	l2	253	2% 84% 15%
40	L3	386	84% 15%
40	l3	386	85% 14%
41	L4	361	85% 14%
41	l4	361	84% 14%

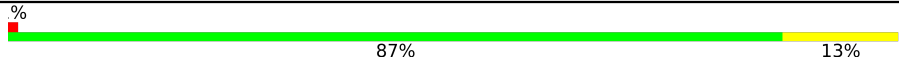
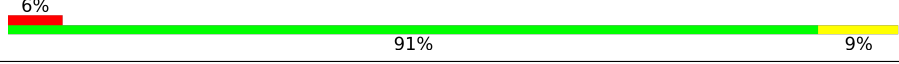
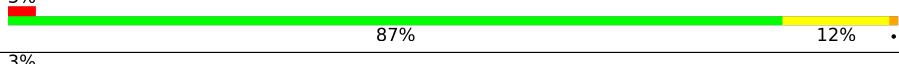


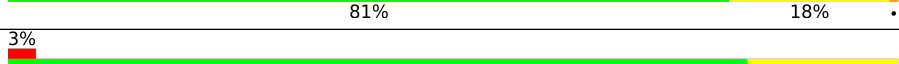
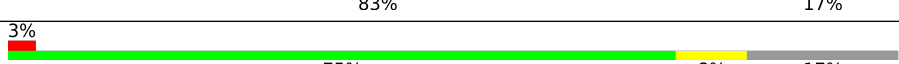
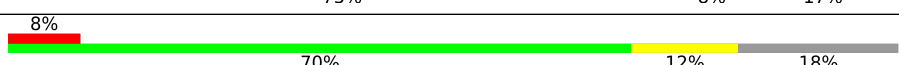
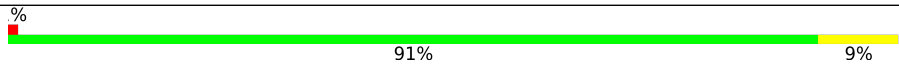
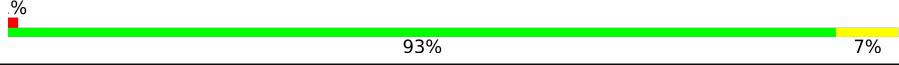

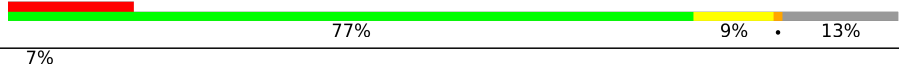
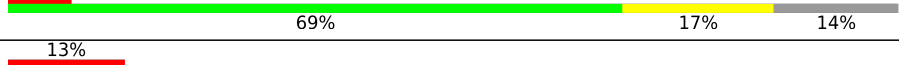

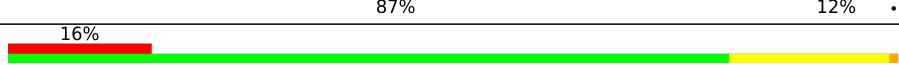







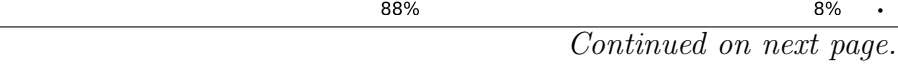


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Mol	Chain	Length	Quality of chain
42	L5	296	17% 85% 14%
42	l5	296	7% 87% 12%
43	L6	175	% 80% 9% 11%
43	l6	175	4% 76% 13% 10%
44	L7	243	% 81% 9% 9%
44	l7	243	84% 7% 8%
45	L8	255	7% 79% 13% 9%
45	l8	255	7% 76% 14% 9%
46	L9	191	5% 84% 16%
46	l9	191	2% 81% 18%
47	M0	220	82% 14%
47	m0	220	2% 80% 16%
48	M1	173	51% 80% 16%
48	m1	173	9% 83% 14%
49	M3	198	4% 83% 13%
49	m3	198	7% 82% 16%
50	M4	137	3% 85% 13%
50	m4	137	88% 12%
51	M5	203	85% 15%
51	m5	203	9% 90% 10%
52	M6	198	% 94% 5%
52	m6	198	% 87% 12%
53	M7	183	5% 86% 14%
53	m7	183	74% 10% 15%
54	M8	185	2% 88% 12%

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Mol	Chain	Length	Quality of chain
54	m8	185	 % 87% 13%
55	M9	188	 6% 91% 9%
55	m9	188	 3% 87% 12%
56	N0	172	 3% 83% 16%
56	n0	172	 4% 85% 15%
57	N1	159	 10% 81% 18%
57	n1	159	 3% 83% 17%
58	N2	120	 3% 75% 8% 17%
58	n2	120	 8% 70% 12% 18%
59	N3	136	 % 91% 9%
59	n3	136	 % 93% 7%
60	N4	155	 20% 57% 6% 37%
60	n4	155	 14% 77% 9% 13%
61	N5	141	 7% 69% 17% 14%
61	n5	141	 13% 67% 17% 15%
62	N6	126	 10% 87% 12%
62	n6	126	 16% 81% 18%
63	N7	135	 24% 87% 12%
63	n7	135	 36% 81% 16%
64	N8	148	 % 84% 16%
64	n8	148	 82% 18%
65	N9	58	 22% 86% 12%
65	n9	58	 16% 79% 19%
66	O0	104	 5% 84% 10% 7%
66	o0	104	 12% 88% 8%

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Mol	Chain	Length	Quality of chain
67	O1	112	15% 82% 12% . .
67	o1	112	9% 77% 21% .
68	O2	129	% 89% 9% .
68	o2	129	3% 87% 11% . .
69	O3	106	87% 13%
69	o3	106	% 85% 14% .
70	O4	119	19% 81% 13% . 6%
70	o4	119	3% 80% 14% 6%
71	O5	119	3% 85% 14% .
71	o5	119	3% 83% 16% .
72	O6	99	82% 16% .
72	o6	99	5% 78% 21% .
73	O7	87	2% 92% 7% .
73	o7	87	3% 82% 18%
74	O8	77	4% 78% 22%
74	o8	77	4% 83% 17%
75	O9	50	4% 86% 14%
75	o9	50	2% 86% 14%
76	Q0	52	12% 85% 13% .
76	q0	52	6% 90% 10%
77	Q1	25	8% 92% 8%
77	q1	25	76% 24%
78	Q2	105	7% 81% 17% .
78	q2	105	2% 89% 10% .
79	Q3	91	88% 12%

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Mol	Chain	Length	Quality of chain
79	q3	91	<p>2% 88% 12%</p>
80	e0	62	<p>5% 82% 16%</p>
81	m2	160	<p>94% 6%</p>
82	p0	311	<p>22% 39% 6% 54%</p>
83	p1	47	<p>100%</p>
84	p2	46	<p>100%</p>
85	C	5	<p>80% 20%</p>
85	D	5	<p>80% 20%</p>

## 2 Entry composition

There are 88 unique types of molecules in this entry. The entry contains 402683 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called *Saccharomyces cerevisiae* S288c RDN37-1 miscRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	2	1781	Total 37970	C 16975	N 6720	O 12493	P 1782	0	1	0
1	6	1795	Total 38260	C 17105	N 6763	O 12596	P 1796	0	1	0

- Molecule 2 is a protein called 40S ribosomal protein S0-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	S0	206	Total 1577	C 1014	N 278	O 283	S 2	0	0	0
2	s0	206	Total 1583	C 1017	N 281	O 283	S 2	0	0	0

- Molecule 3 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	S1	214	Total 1709	C 1084	N 310	O 311	S 4	0	0	0
3	s1	216	Total 1722	C 1091	N 312	O 315	S 4	0	0	0

- Molecule 4 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	S2	217	Total 1635	C 1047	N 289	O 297	S 2	0	0	0
4	s2	217	Total 1635	C 1047	N 289	O 297	S 2	0	0	0

- Molecule 5 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	S3	223	Total 1734	C 1101	N 313	O 314	S 6	0	0	0
5	s3	223	Total 1734	C 1101	N 313	O 314	S 6	0	0	0

- Molecule 6 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	S4	260	Total 2068	C 1316	N 389	O 360	S 3	0	0	0
6	s4	260	Total 2068	C 1316	N 389	O 360	S 3	0	0	0

- Molecule 7 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	S5	206	Total 1609	C 1007	N 300	O 299	S 3	0	0	0
7	s5	206	Total 1609	C 1007	N 300	O 299	S 3	0	0	0

- Molecule 8 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	S6	226	Total 1799	C 1129	N 346	O 321	S 3	0	0	0
8	s6	218	Total 1755	C 1102	N 337	O 313	S 3	0	0	0

- Molecule 9 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	S7	184	Total 1481	C 951	N 265	O 265		0	0	0
9	s7	186	Total 1491	C 957	N 267	O 267		0	0	0

- Molecule 10 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	S8	188	Total 1489	C 925	N 298	O 264	S 2	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	s8	188	1489	925	298	264	2	0	0	0

- Molecule 11 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	S9	185	1494	943	289	261	1	0	0	0
11	s9	185	1494	943	289	261	1	0	0	0

- Molecule 12 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	C0	96	773	500	126	145	2	0	0	0
12	c0	96	762	491	125	144	2	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C0	89	ALA	GLY	conflict	UNP Q08745
c0	91	ALA	GLY	conflict	UNP Q08745

- Molecule 13 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	C1	155	1213	774	230	206	3	0	0	0
13	c1	146	1168	747	221	197	3	0	0	0

- Molecule 14 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	C2	124	892	562	156	172	2	0	0	0
14	c2	124	892	562	156	172	2	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C2	104	ALA	GLY	conflict	UNP P48589
C2	110	ALA	GLY	conflict	UNP P48589
c2	104	ALA	GLY	conflict	UNP P48589
c2	110	ALA	GLY	conflict	UNP P48589

- Molecule 15 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	C3	150	Total	C	N	O	S	0	0	0
			1192	759	224	207	2			
15	c3	150	Total	C	N	O	S	0	0	0
			1192	759	224	207	2			

- Molecule 16 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	C4	127	Total	C	N	O	S	0	0	0
			891	545	182	163	1			
16	c4	128	Total	C	N	O	S	0	0	0
			949	582	188	176	3			

- Molecule 17 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	C5	124	Total	C	N	O	S	0	0	0
			977	622	182	166	7			
17	c5	135	Total	C	N	O	S	0	0	0
			1039	658	196	178	7			

- Molecule 18 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	C6	141	Total	C	N	O	0	0	0
			1105	708	203	194			
18	c6	142	Total	C	N	O	0	0	0
			1111	711	204	196			

- Molecule 19 is a protein called 40S ribosomal protein S17-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	C7	120	Total	C	N	O	S	0	0	0
			926	577	177	170	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	c7	117	906	563	174	167	2	0	0	0

- Molecule 20 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	C8	145	1192	743	237	210	2	0	0	0
20	c8	145	1192	743	237	210	2	0	0	0

- Molecule 21 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
21	C9	143	1112	694	208	208	2	0	0	0
21	c9	143	1112	694	208	208	2	0	0	0

- Molecule 22 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
22	D0	107	855	539	156	159	1	0	0	0
22	d0	110	882	554	161	166	1	0	0	0

- Molecule 23 is a protein called 40S ribosomal protein S21-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
23	D1	87	684	420	125	137	2	0	0	0
23	d1	87	684	420	125	137	2	0	0	0

- Molecule 24 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
24	D2	129	1021	650	188	180	3	0	0	0
24	d2	129	1021	650	188	180	3	0	0	0

- Molecule 25 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	D3	144	Total	C	N	O	S	0	0	0
			1121	708	220	191	2			
25	d3	144	Total	C	N	O	S	0	0	0
			1121	708	220	191	2			

- Molecule 26 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	D4	134	Total	C	N	O	0	0	0
			1073	676	208	189			
26	d4	134	Total	C	N	O	0	0	0
			1073	676	208	189			

- Molecule 27 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
27	D5	70	Total	C	N	O	0	0	0
			563	360	104	99			
27	d5	69	Total	C	N	O	0	0	0
			558	357	103	98			

- Molecule 28 is a protein called 40S ribosomal protein S26-B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	D6	97	Total	C	N	O	S	0	0	0
			769	475	160	129	5			
28	d6	97	Total	C	N	O	S	0	0	0
			769	475	160	129	5			

- Molecule 29 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	D7	81	Total	C	N	O	S	0	0	0
			610	382	110	113	5			
29	d7	81	Total	C	N	O	S	0	0	0
			610	382	110	113	5			

- Molecule 30 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	D8	63	Total	C	N	O	S	0	0	0
			497	306	99	91	1			
30	d8	63	Total	C	N	O	S	0	0	0
			497	306	99	91	1			

- Molecule 31 is a protein called 40S ribosomal protein S29-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	D9	53	Total	C	N	O	S	0	0	0
			442	274	92	72	4			
31	d9	53	Total	C	N	O	S	0	0	0
			442	274	92	72	4			

- Molecule 32 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	E0	60	Total	C	N	O	S	0	0	0
			475	299	98	77	1			

- Molecule 33 is a protein called Ubiquitin-40S ribosomal protein S31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	E1	71	Total	C	N	O	S	0	0	0
			566	362	106	94	4			
33	e1	76	Total	C	N	O	S	0	0	0
			608	388	117	99	4			

- Molecule 34 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	SR	318	Total	C	N	O	S	0	0	0
			2437	1541	418	470	8			
34	sR	318	Total	C	N	O	S	0	0	0
			2442	1544	418	472	8			

- Molecule 35 is a protein called Suppressor protein STM1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
35	SM	159	Total	C	N	O	0	0	0
			1104	652	221	231			
35	sM	104	Total	C	N	O	0	0	0
			681	404	140	137			



- Molecule 36 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	1	3148	Total	C	N	O	P	0	0	0
			67333	30076	12137	21972	3148			
36	5	3149	Total	C	N	O	P	0	0	0
			67354	30085	12140	21981	3148			

- Molecule 37 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	3	121	Total	C	N	O	P	0	0	0
			2579	1152	461	845	121			
37	7	121	Total	C	N	O	P	0	0	0
			2579	1152	461	845	121			

- Molecule 38 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	4	158	Total	C	N	O	P	0	0	0
			3353	1500	586	1109	158			
38	8	158	Total	C	N	O	P	0	0	0
			3353	1500	586	1109	158			

- Molecule 39 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	L2	252	Total	C	N	O	S	0	0	0
			1914	1191	388	334	1			
39	12	252	Total	C	N	O	S	0	0	0
			1912	1190	388	333	1			

- Molecule 40 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	L3	386	Total	C	N	O	S	0	0	0
			3075	1950	584	533	8			
40	13	386	Total	C	N	O	S	0	0	0
			3075	1950	584	533	8			

- Molecule 41 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	L4	361	Total	C	N	O	S	0	0	0
			2748	1729	522	494	3			
41	14	361	Total	C	N	O	S	0	0	0
			2748	1729	522	494	3			

- Molecule 42 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	L5	296	Total	C	N	O	S	0	0	0
			2375	1501	414	458	2			
42	15	294	Total	C	N	O	S	0	0	0
			2359	1489	412	456	2			

- Molecule 43 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	L6	156	Total	C	N	O	S	0	0	0
			1239	800	222	216	1			
43	16	157	Total	C	N	O	S	0	0	0
			1248	806	224	217	1			

- Molecule 44 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	L7	222	Total	C	N	O	S	0	0	0
			1784	1151	324	308	1			
44	17	223	Total	C	N	O	S	0	0	0
			1791	1155	325	310	1			

- Molecule 45 is a protein called 60S ribosomal protein L8-A (eL8).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	L8	233	Total	C	N	O	S	0	0	0
			1804	1151	323	327	3			
45	18	231	Total	C	N	O	S	0	0	0
			1764	1131	316	314	3			

- Molecule 46 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	L9	191	Total	C	N	O	S	0	0	0
			1518	963	274	277	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	19	191	1518	963	274	277	4	0	0	0

- Molecule 47 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	M0	211	1705	1083	322	294	6	0	0	0
47	m0	213	1722	1094	325	297	6	0	0	0

- Molecule 48 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
48	M1	169	1353	847	253	249	4	0	0	0
48	m1	169	1353	847	253	249	4	0	0	0

- Molecule 49 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
			Total	C	N	O				
49	M3	193	1543	962	315	266		0	0	0
49	m3	194	1548	965	316	267		0	0	0

- Molecule 50 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
50	M4	136	1053	675	199	177	2	0	0	0
50	m4	137	1059	678	200	179	2	0	0	0

- Molecule 51 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	M5	203	1720	1077	361	281	1	0	0	0
51	m5	203	1720	1077	361	281	1	0	0	0

- Molecule 52 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
52	M6	197	Total	C	N	O	S	0	0	0
			1555	1003	289	262	1			
52	m6	197	Total	C	N	O	S	0	0	0
			1555	1003	289	262	1			

- Molecule 53 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
53	M7	183	Total	C	N	O	S	0	0	0
			1420	882	281	257				
53	m7	155	Total	C	N	O	S	0	0	0
			1227	764	238	225				

- Molecule 54 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
54	M8	185	Total	C	N	O	S	0	0	0
			1441	908	290	241	2			
54	m8	185	Total	C	N	O	S	0	0	0
			1441	908	290	241	2			

- Molecule 55 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
55	M9	188	Total	C	N	O	S	0	0	0
			1521	935	326	260				
55	m9	188	Total	C	N	O	S	0	0	0
			1521	935	326	260				

- Molecule 56 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
56	N0	172	Total	C	N	O	S	0	0	0
			1445	930	267	244	4			
56	n0	172	Total	C	N	O	S	0	0	0
			1445	930	267	244	4			

- Molecule 57 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	N1	159	Total	C	N	O	S	0	0	0
			1276	805	246	221	4			
57	n1	159	Total	C	N	O	S	0	0	0
			1276	805	246	221	4			

- Molecule 58 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	N2	100	Total	C	N	O	S	0	0	0
			796	516	131	149				
58	n2	98	Total	C	N	O	S	0	0	0
			778	505	127	146				

- Molecule 59 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	N3	136	Total	C	N	O	S	0	0	0
			1003	628	189	179	7			
59	n3	136	Total	C	N	O	S	0	0	0
			1003	628	189	179	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
60	N4	98	Total	C	N	O	S	0	0	0
			699	443	137	118	1			
60	n4	135	Total	C	N	O	S	0	0	0
			1038	651	206	180	1			

- Molecule 61 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
61	N5	121	Total	C	N	O	S	0	0	0
			964	620	169	173	2			
61	n5	120	Total	C	N	O	S	0	0	0
			959	617	168	172	2			

- Molecule 62 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
62	N6	126	Total	C	N	O	0	0	0
			993	625	192	176			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
62	n6	126	993	625	192	176	0	0	0

- Molecule 63 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
63	N7	135	1092	710	202	180	0	0	0
63	n7	135	1092	710	202	180	0	0	0

- Molecule 64 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
64	N8	148	1173	749	231	190	3	0	0	0
64	n8	148	1173	749	231	190	3	0	0	0

- Molecule 65 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
65	N9	58	462	289	100	73	0	0	0
65	n9	58	462	289	100	73	0	0	0

- Molecule 66 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
66	O0	97	743	479	124	139	1	0	0	0
66	o0	100	767	492	128	146	1	0	0	0

- Molecule 67 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
67	O1	109	876	556	167	152	1	0	0	0
67	o1	109	883	559	167	156	1	0	0	0

- Molecule 68 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
68	O2	127	Total	C	N	O	S	0	0	0
			1020	647	205	167	1			
68	o2	127	Total	C	N	O	S	0	0	0
			1020	647	205	167	1			

- Molecule 69 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
69	O3	106	Total	C	N	O	S	0	0	0
			850	540	165	144	1			
69	o3	106	Total	C	N	O	S	0	0	0
			850	540	165	144	1			

- Molecule 70 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
70	O4	112	Total	C	N	O	S	0	0	0
			880	545	179	152	4			
70	o4	112	Total	C	N	O	S	0	0	0
			880	545	179	152	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O4	?	-	LYS	deletion	UNP P87262
o4	?	-	LYS	deletion	UNP P87262

- Molecule 71 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
71	O5	119	Total	C	N	O	S	0	0	0
			969	615	186	167	1			
71	o5	119	Total	C	N	O	S	0	0	0
			965	612	185	167	1			

- Molecule 72 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
72	O6	99	Total	C	N	O	S	0	0	0
			771	481	156	132	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
72	o6	99	Total	C	N	O	S	0	0	0
			770	481	156	131	2			

- Molecule 73 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
73	O7	87	Total	C	N	O	S	0	0	0
			681	414	148	114	5			
73	o7	87	Total	C	N	O	S	0	0	0
			681	414	148	114	5			

- Molecule 74 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
74	O8	77	Total	C	N	O	0	0	0
			612	391	115	106			
74	o8	77	Total	C	N	O	0	0	0
			608	388	114	106			

- Molecule 75 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
75	O9	50	Total	C	N	O	S	0	0	0
			436	272	97	65	2			
75	o9	50	Total	C	N	O	S	0	0	0
			436	272	97	65	2			

- Molecule 76 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
76	Q0	52	Total	C	N	O	S	0	0	0
			417	259	86	67	5			
76	q0	52	Total	C	N	O	S	0	0	0
			417	259	86	67	5			

- Molecule 77 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
77	Q1	25	Total	C	N	O	S	0	0	0
			233	142	63	27	1			
77	q1	25	Total	C	N	O	S	0	0	0
			233	142	63	27	1			



- Molecule 78 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
78	Q2	105	Total 847	C 534	N 170	O 138	S 5	0	0	0
78	q2	105	Total 847	C 534	N 170	O 138	S 5	0	0	0

- Molecule 79 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
79	Q3	91	Total 694	C 429	N 138	O 121	S 6	0	0	0
79	q3	91	Total 694	C 429	N 138	O 121	S 6	0	0	0

- Molecule 80 is a protein called 40S ribosomal protein S30-A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
80	e0	62	Total 491	C 309	N 101	O 80	S 1	0	0	0

- Molecule 81 is a protein called 60S ribosomal protein L12-A (uL11).

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
81	m2	150	Total 750	C 450	N 150	O 150	0	0	0

- Molecule 82 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
82	p0	143	Total 1076	C 686	N 192	O 195	S 3	0	0	0

- Molecule 83 is a protein called 60S ribosomal protein P1 alpha/P2 beta.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
83	p1	47	Total 235	C 141	N 47	O 47	0	0	0

- Molecule 84 is a protein called 60S ribosomal protein P1 alpha/P2 beta.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
84	p2	46	230	138	46	46	0	0	0

- Molecule 85 is a RNA chain called DNA (5'-R(\*CP\*CP\*(8AN)\*(Pro)\*(Pro))-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
85	C	5	73	38	14	19	2	0	0	0
85	D	5	76	38	14	21	3	0	0	0

- Molecule 86 is ZINC ION (three-letter code: ZN) (formula: Zn).

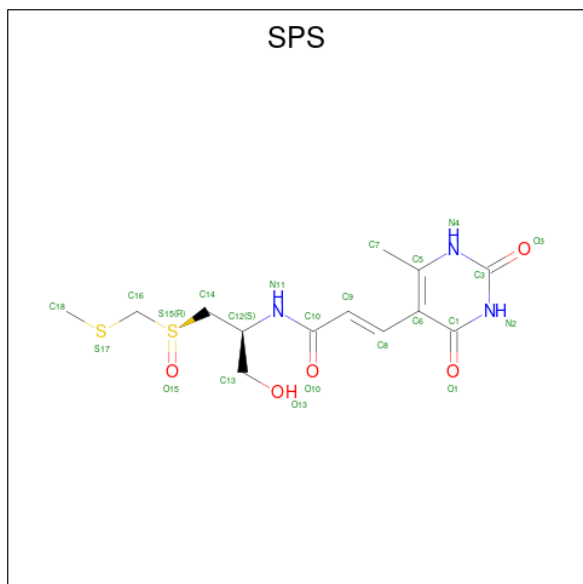
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
86	D6	1	Total 1	Zn 1	0	0
86	D7	1	Total 1	Zn 1	0	0
86	D9	1	Total 1	Zn 1	0	0
86	E1	1	Total 1	Zn 1	0	0
86	O7	1	Total 1	Zn 1	0	0
86	Q0	1	Total 1	Zn 1	0	0
86	Q2	1	Total 1	Zn 1	0	0
86	Q3	1	Total 1	Zn 1	0	0
86	d6	1	Total 1	Zn 1	0	0
86	d7	1	Total 1	Zn 1	0	0
86	d9	1	Total 1	Zn 1	0	0
86	e1	1	Total 1	Zn 1	0	0
86	o7	1	Total 1	Zn 1	0	0
86	q0	1	Total 1	Zn 1	0	0
86	q2	1	Total 1	Zn 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
86	q3	1	Total	Zn	0	0
			1	1		

- Molecule 87 is SPARSOMYCIN (three-letter code: SPS) (formula:  $C_{13}H_{19}N_3O_5S_2$ ).

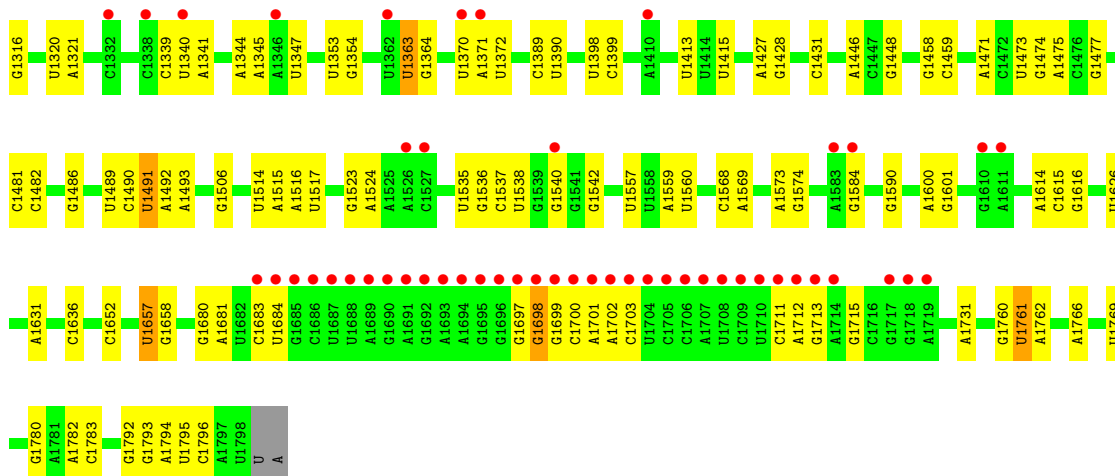


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
87	C	1	23	13	3	5	2	0	0
87	D	1	23	13	3	5	2	0	0

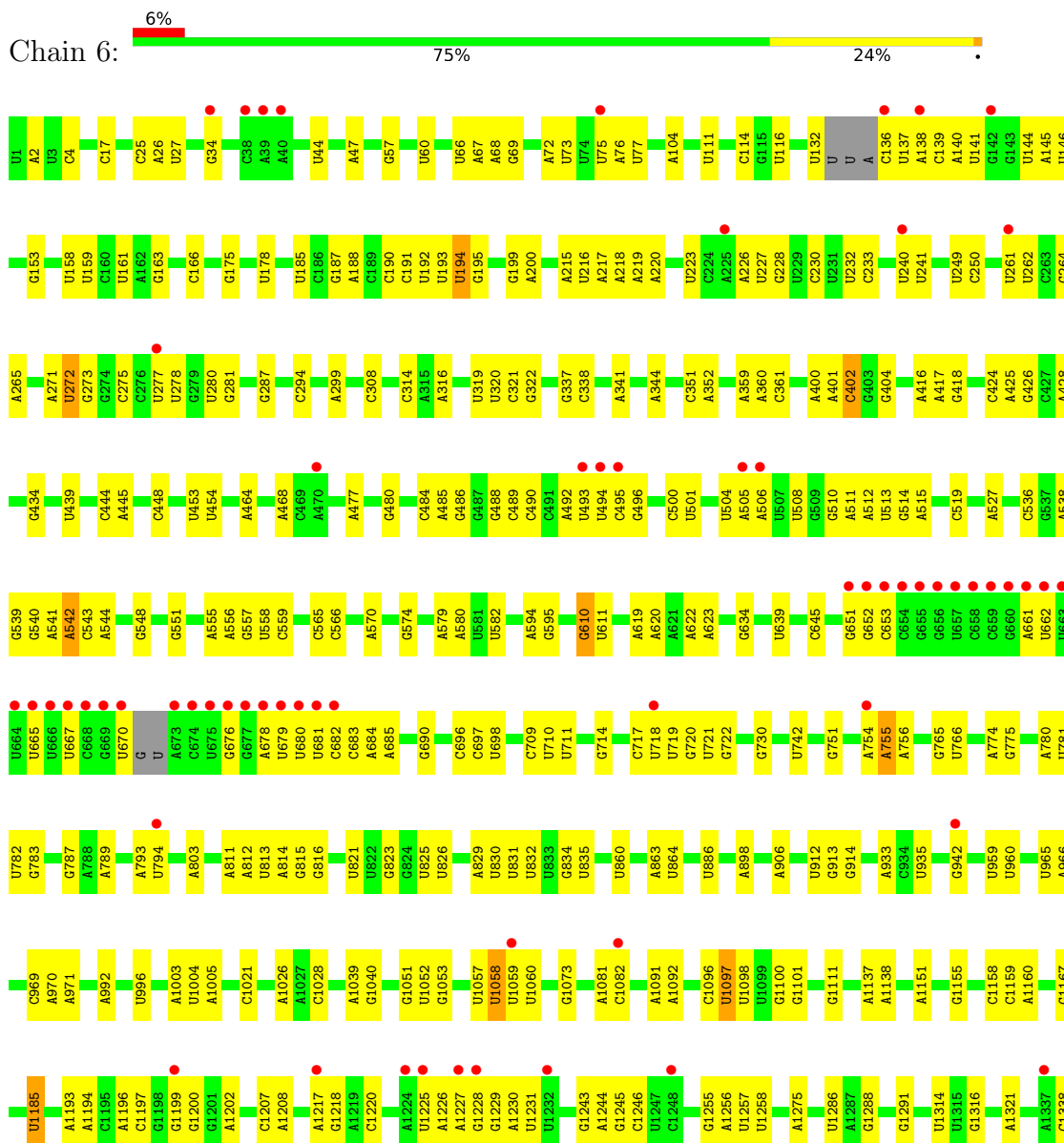
- Molecule 88 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

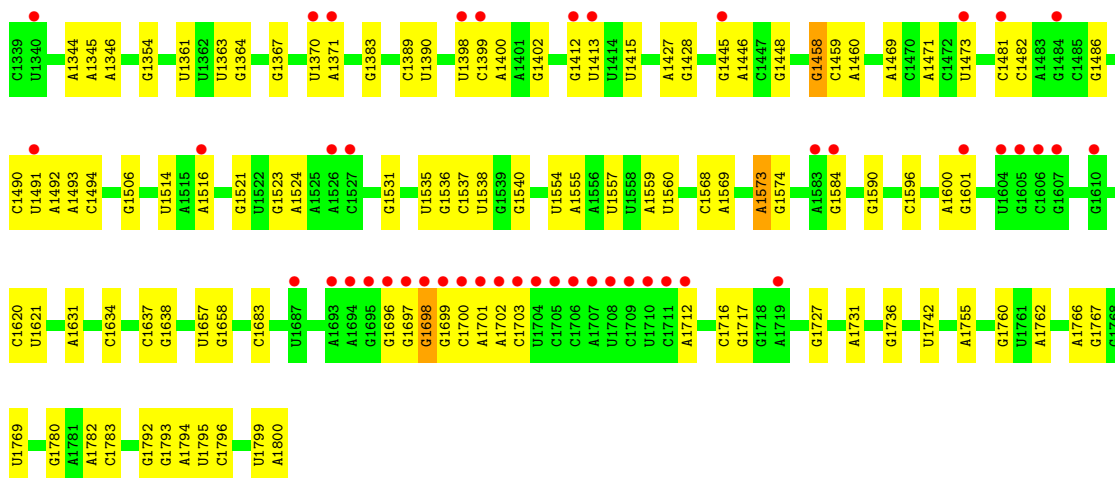
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
88	C	1	Total	Mg	0	0
			1	1		
88	D	1	Total	Mg	0	0
			1	1		



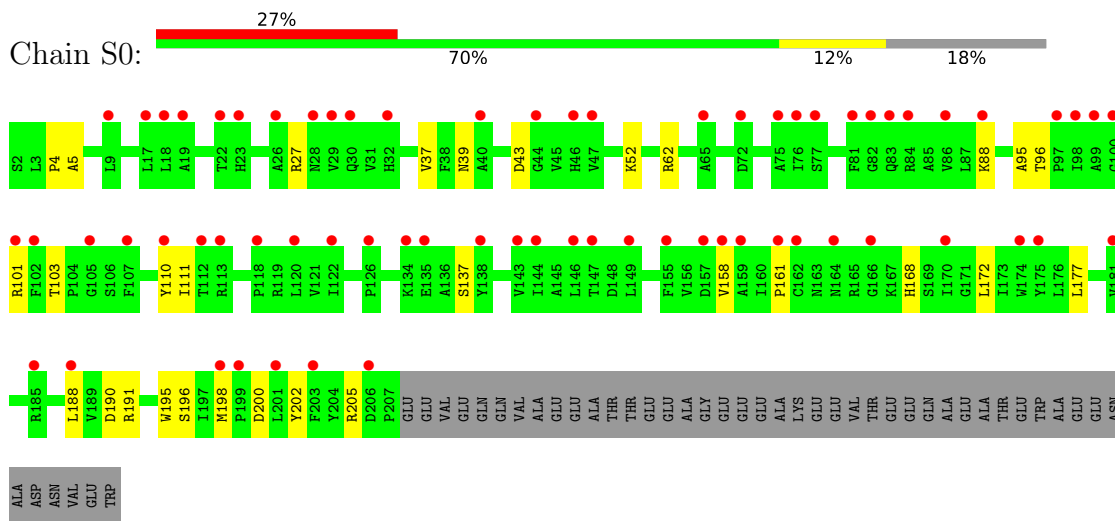


• Molecule 1: *Saccharomyces cerevisiae* S288c RDN37-1 miscRNA

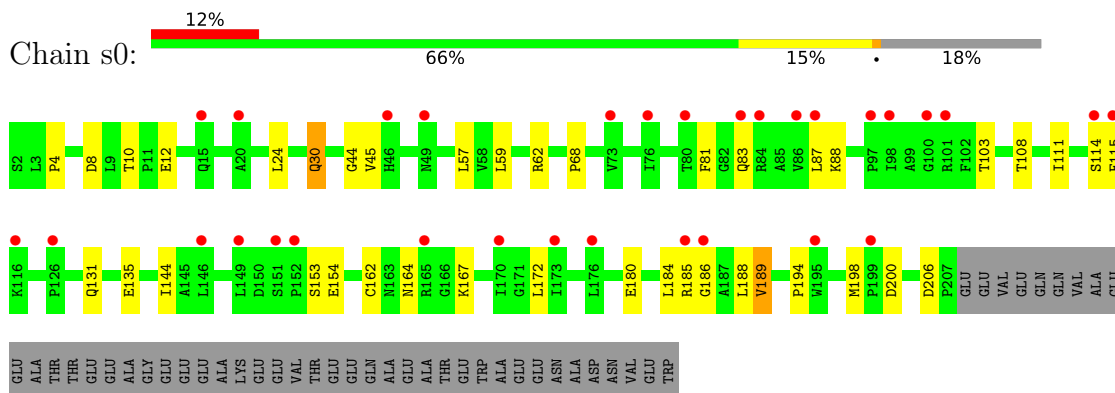




• Molecule 2: 40S ribosomal protein S0-A

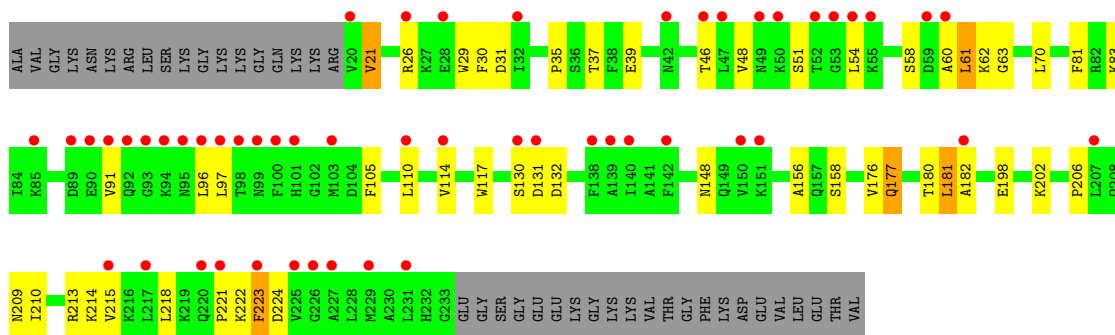


• Molecule 2: 40S ribosomal protein S0-A

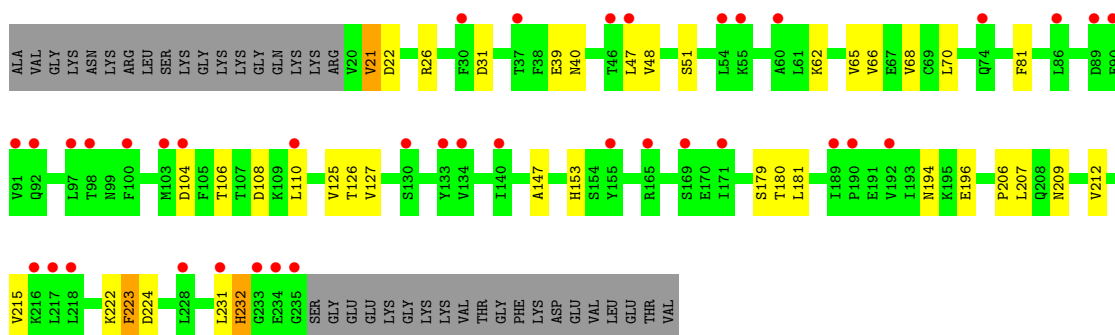
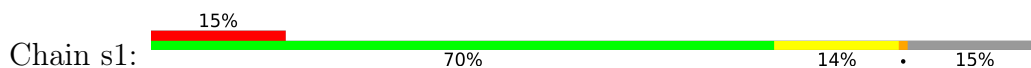


• Molecule 3: 40S ribosomal protein S1-A

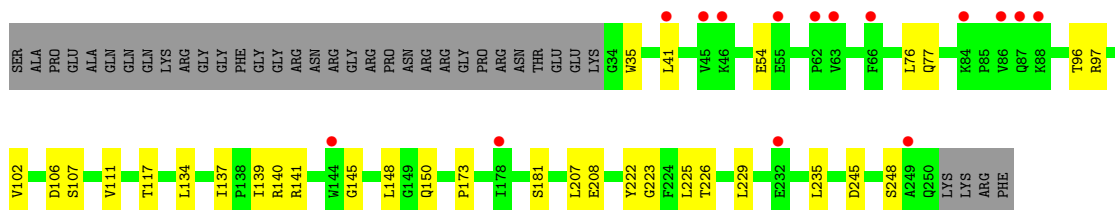
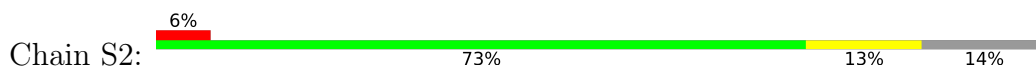




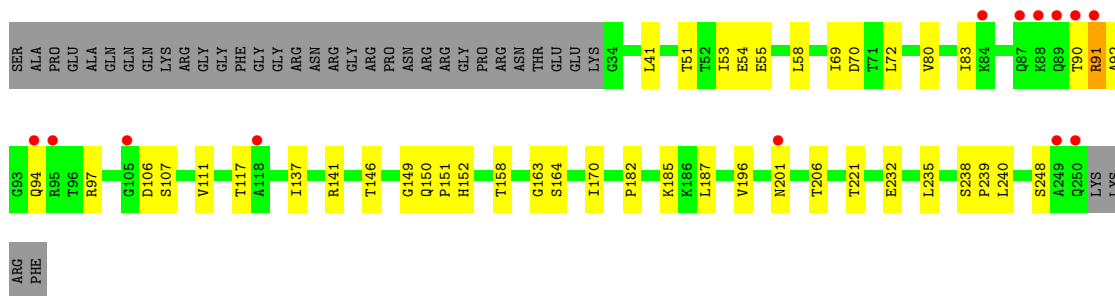
- Molecule 3: 40S ribosomal protein S1-A




- Molecule 4: 40S ribosomal protein S2

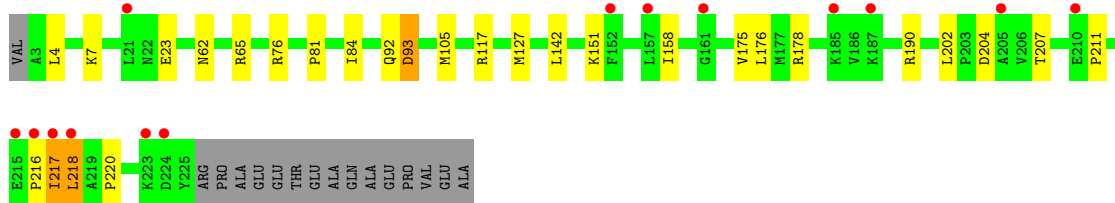


- Molecule 4: 40S ribosomal protein S2




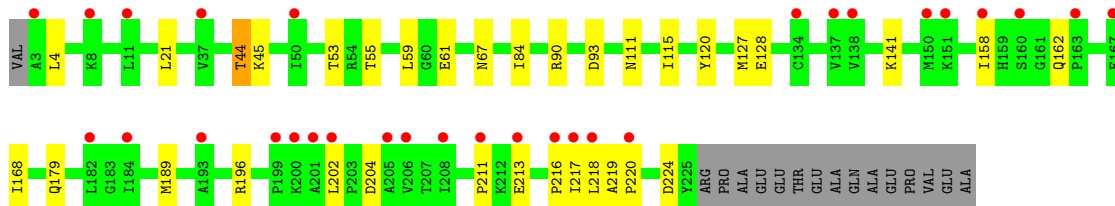
- Molecule 5: 40S ribosomal protein S3

Chain S3: 




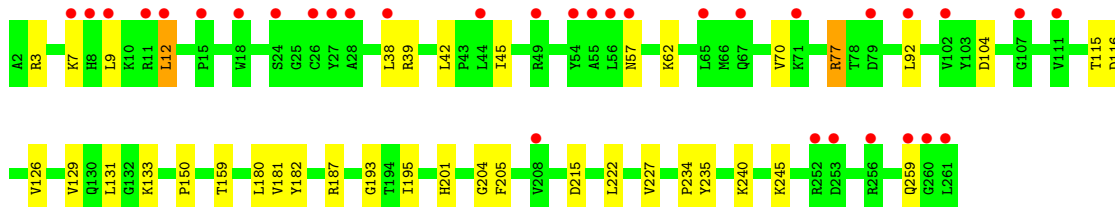
• Molecule 5: 40S ribosomal protein S3

Chain s3: 




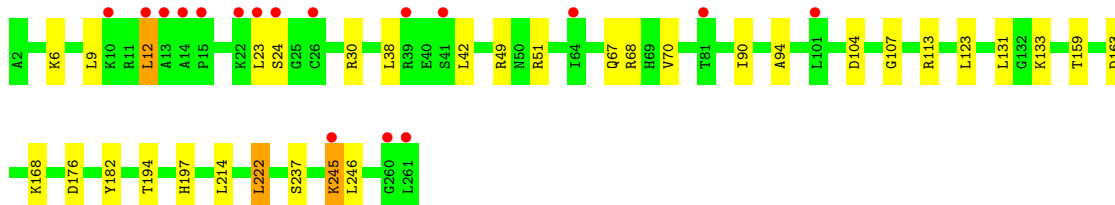
• Molecule 6: 40S ribosomal protein S4-A

Chain S4: 




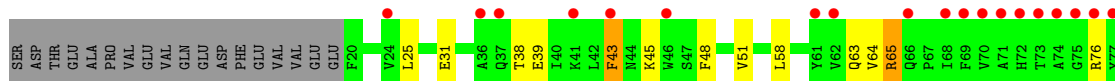
• Molecule 6: 40S ribosomal protein S4-A

Chain s4: 

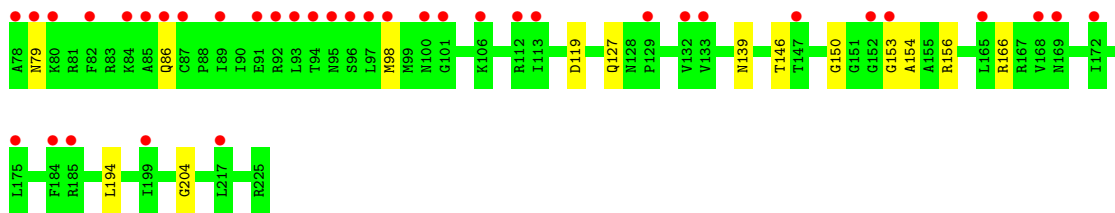


• Molecule 7: 40S ribosomal protein S5

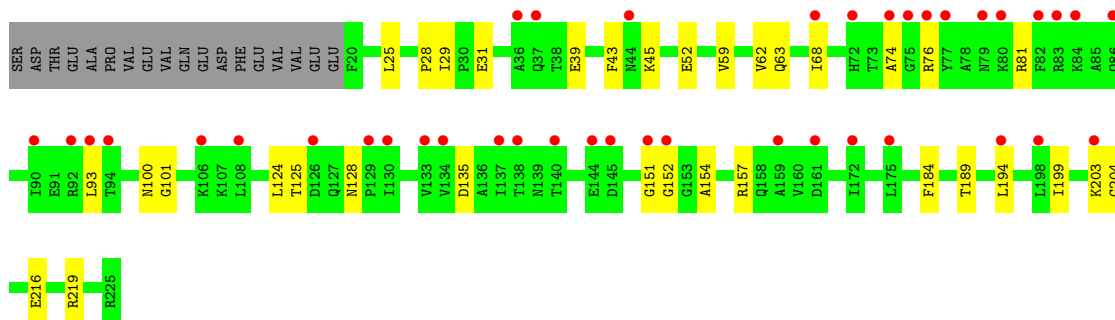
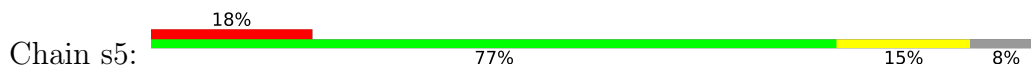
Chain S5: 



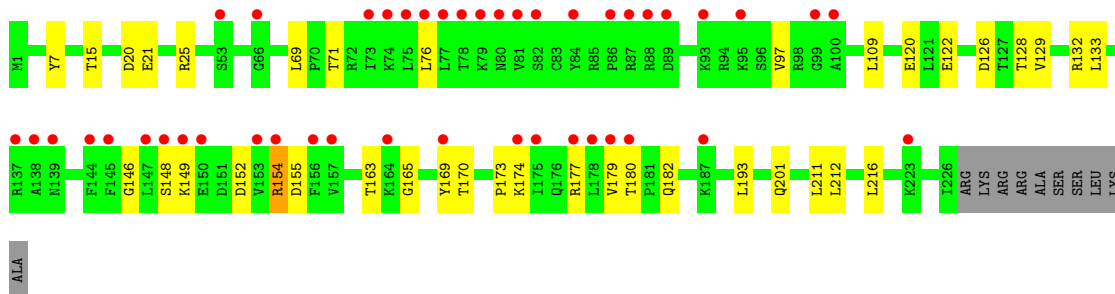
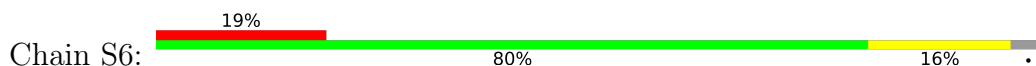




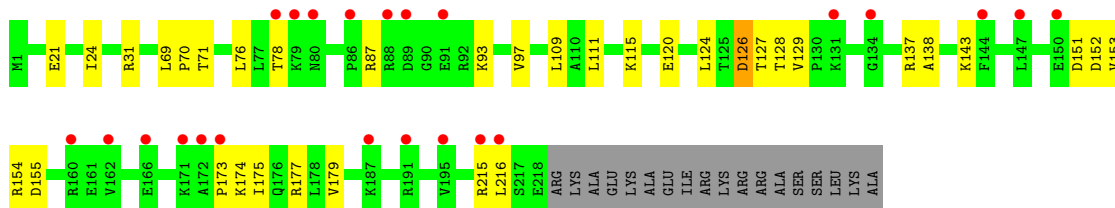
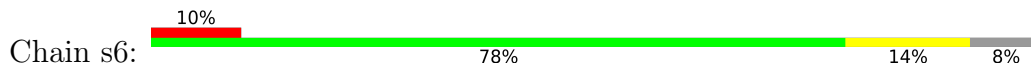
- Molecule 7: 40S ribosomal protein S5



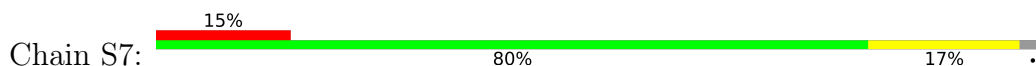
- Molecule 8: 40S ribosomal protein S6-A

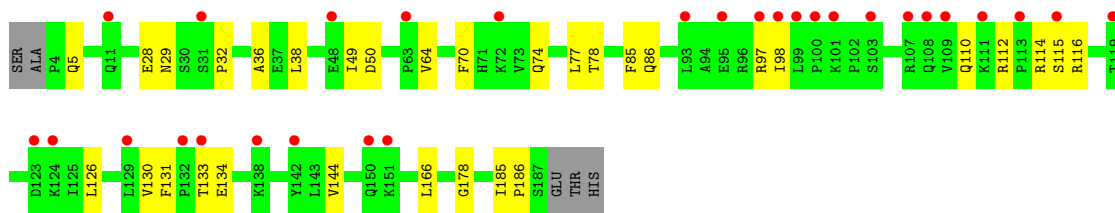


- Molecule 8: 40S ribosomal protein S6-A

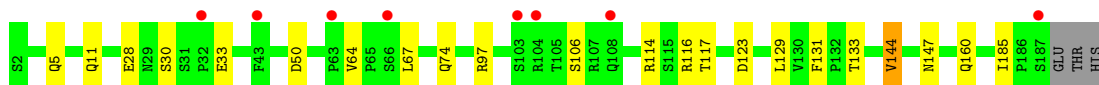
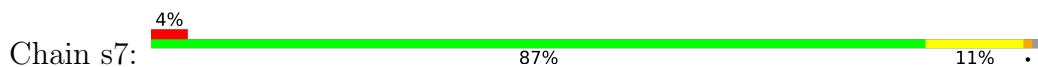


- Molecule 9: 40S ribosomal protein S7-A

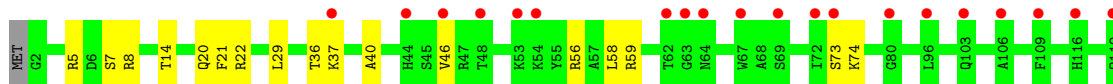
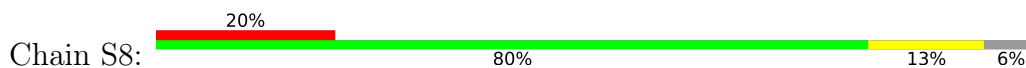




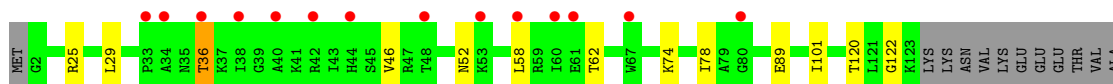
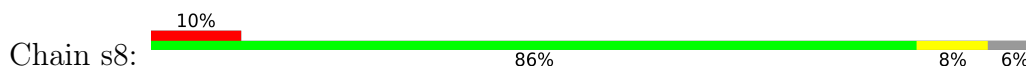
• Molecule 9: 40S ribosomal protein S7-A



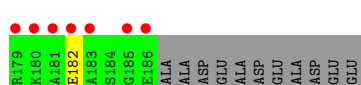
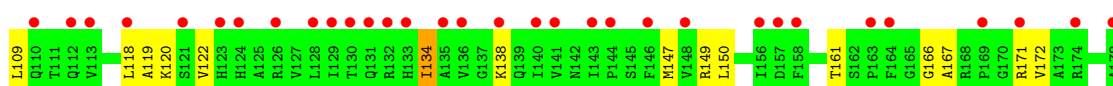
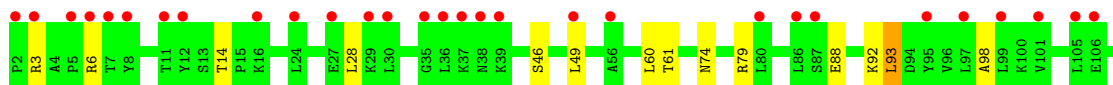
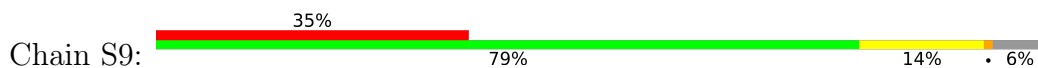
• Molecule 10: 40S ribosomal protein S8-A



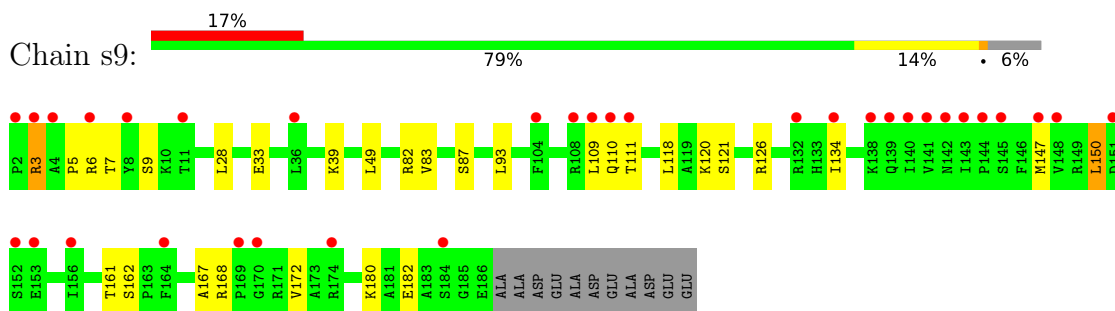
• Molecule 10: 40S ribosomal protein S8-A



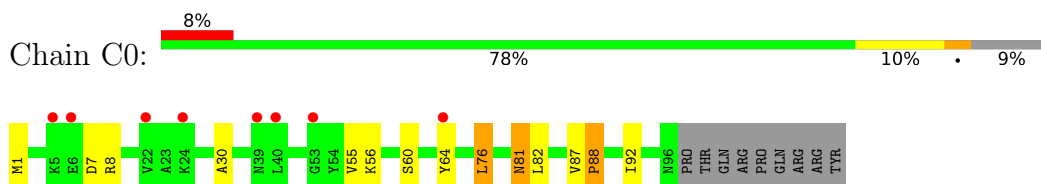
• Molecule 11: 40S ribosomal protein S9-A



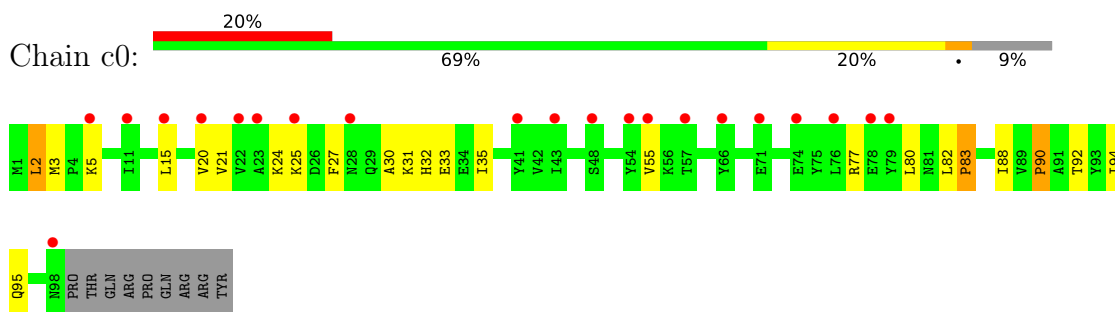
- Molecule 11: 40S ribosomal protein S9-A



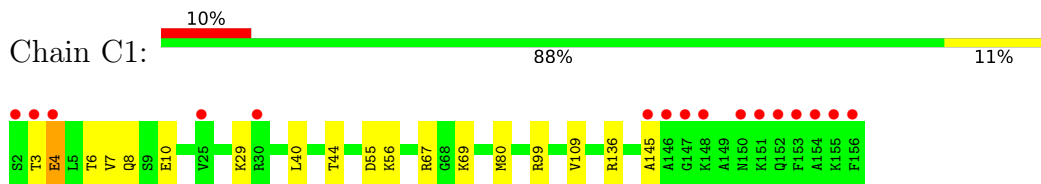
- Molecule 12: 40S ribosomal protein S10-A



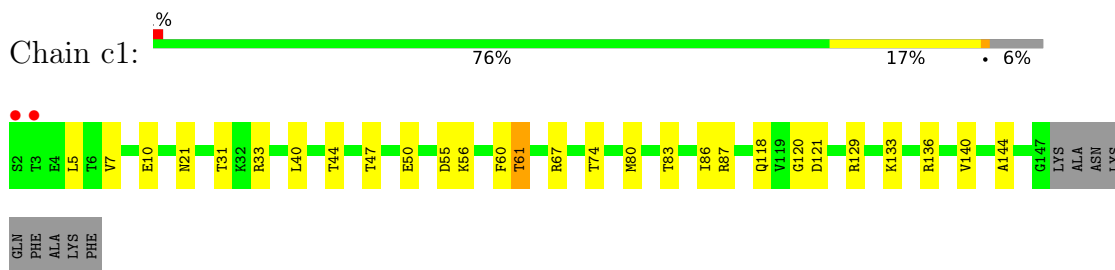
- Molecule 12: 40S ribosomal protein S10-A



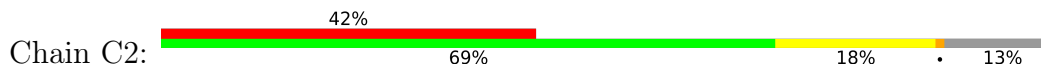
- Molecule 13: 40S ribosomal protein S11-A

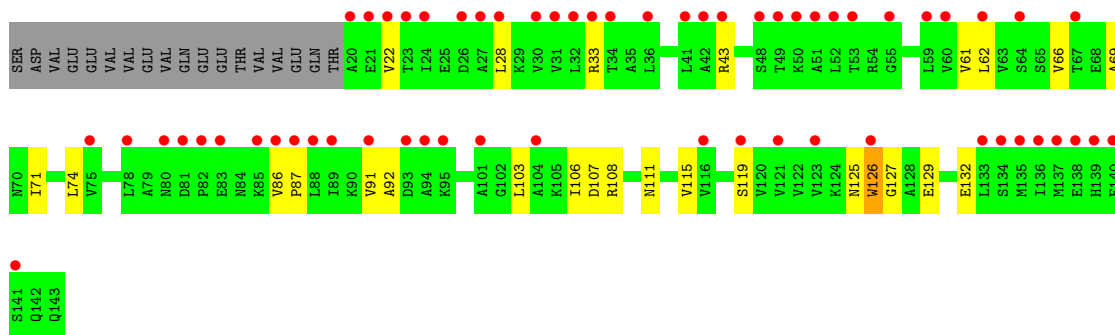


- Molecule 13: 40S ribosomal protein S11-A



- Molecule 14: 40S ribosomal protein S12

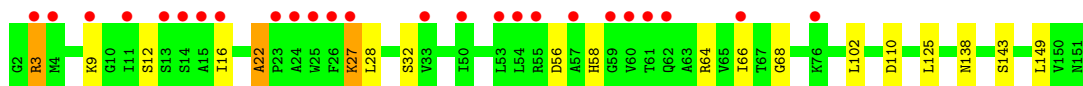
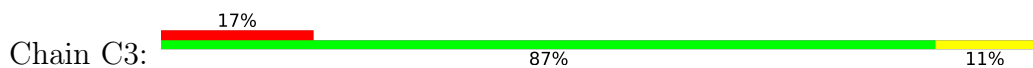




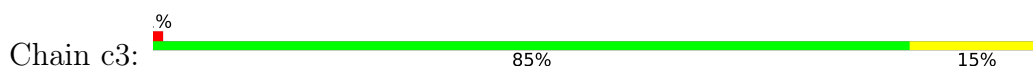
• Molecule 14: 40S ribosomal protein S12



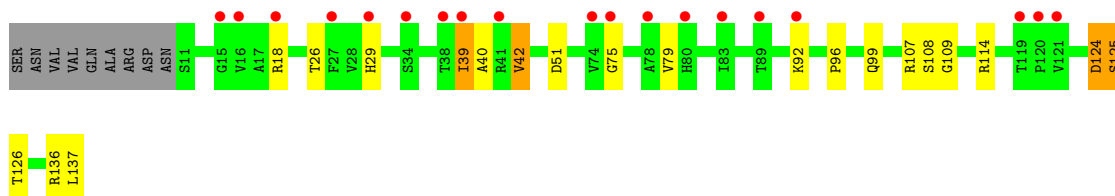
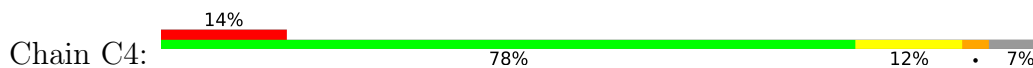
• Molecule 15: 40S ribosomal protein S13



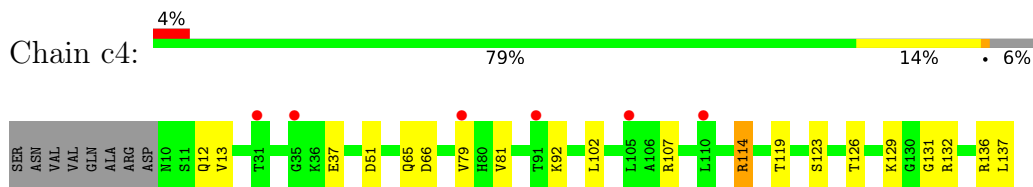
• Molecule 15: 40S ribosomal protein S13



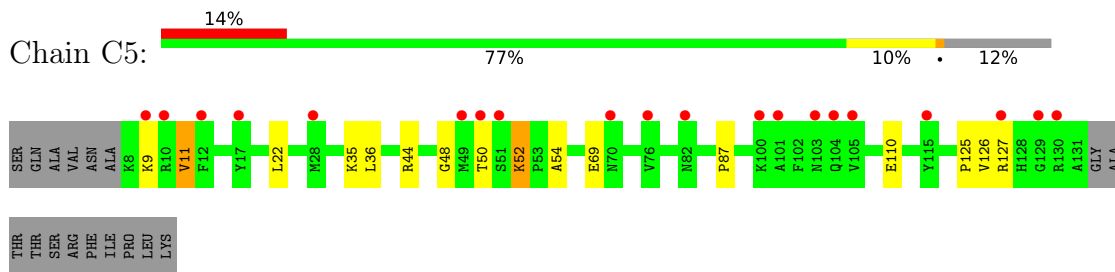
• Molecule 16: 40S ribosomal protein S14-A



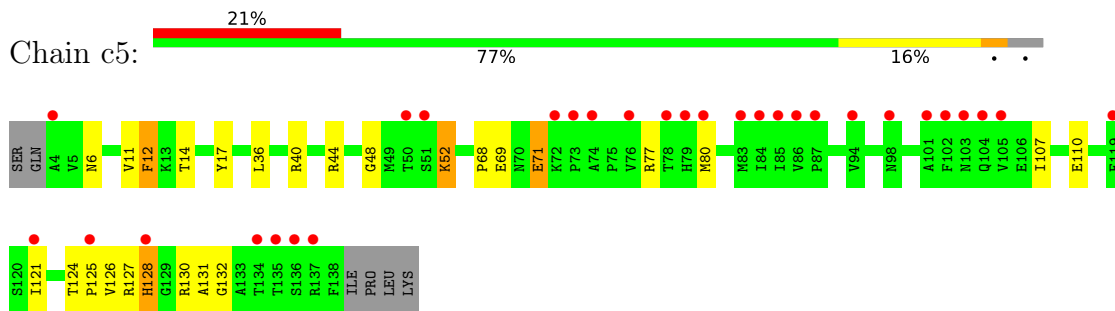
• Molecule 16: 40S ribosomal protein S14-A



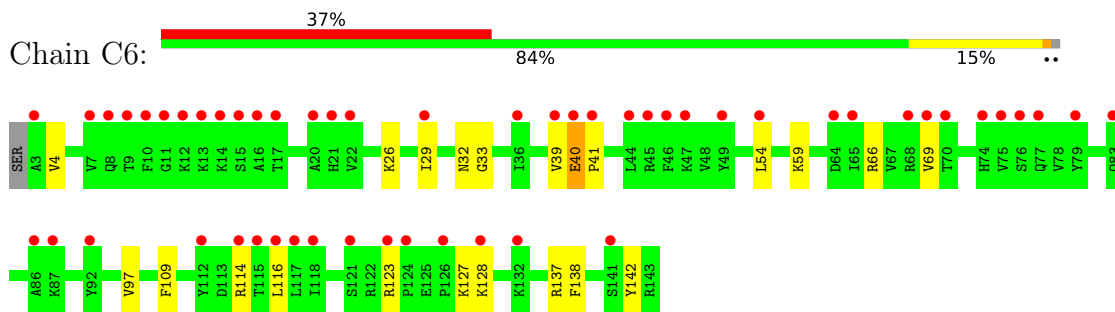
• Molecule 17: 40S ribosomal protein S15



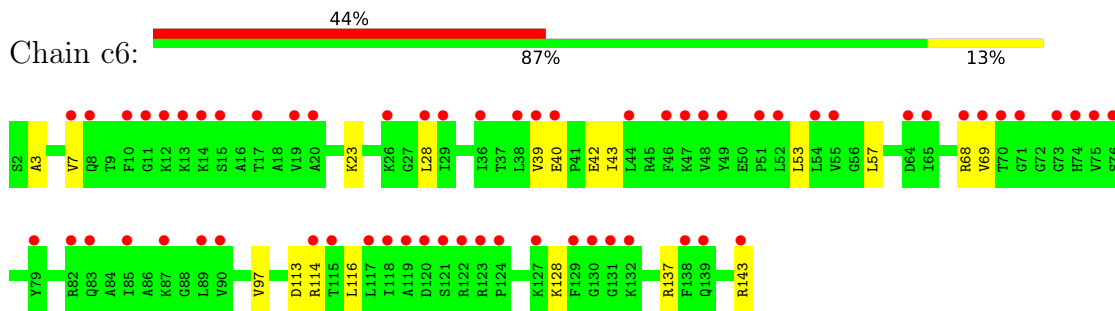
• Molecule 17: 40S ribosomal protein S15



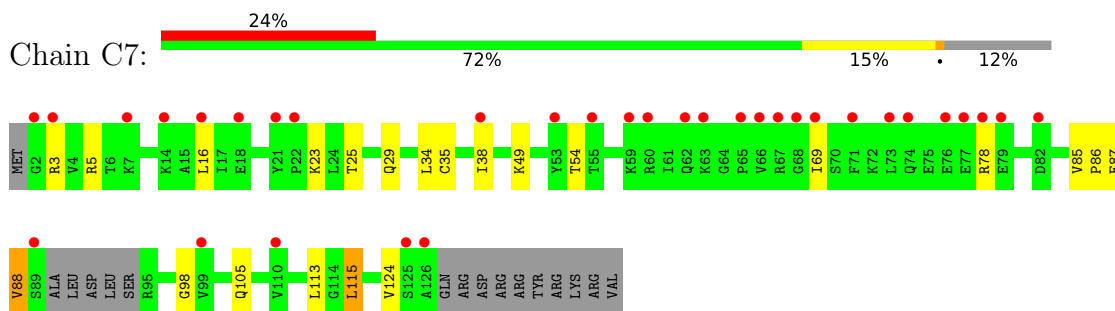
• Molecule 18: 40S ribosomal protein S16-A



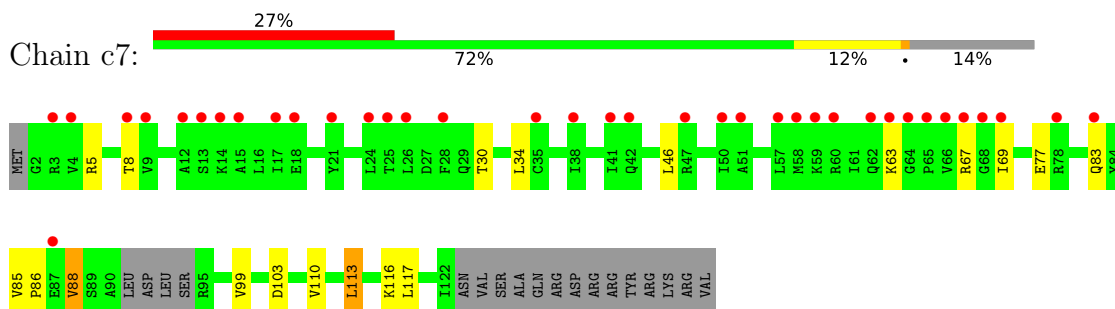
• Molecule 18: 40S ribosomal protein S16-A



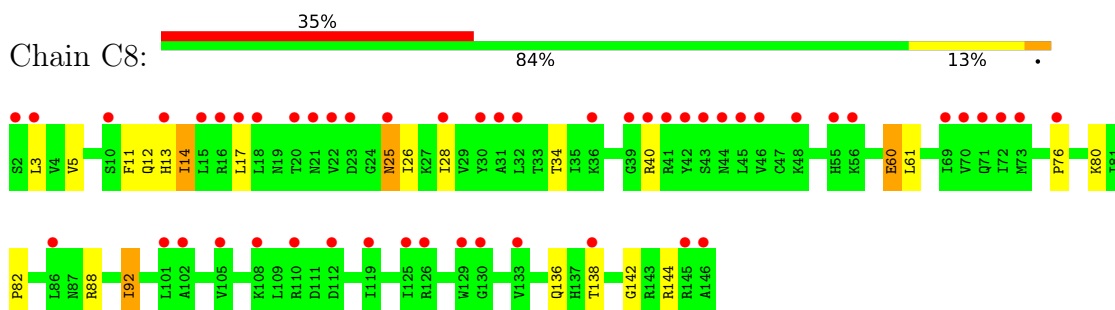
- Molecule 19: 40S ribosomal protein S17-A



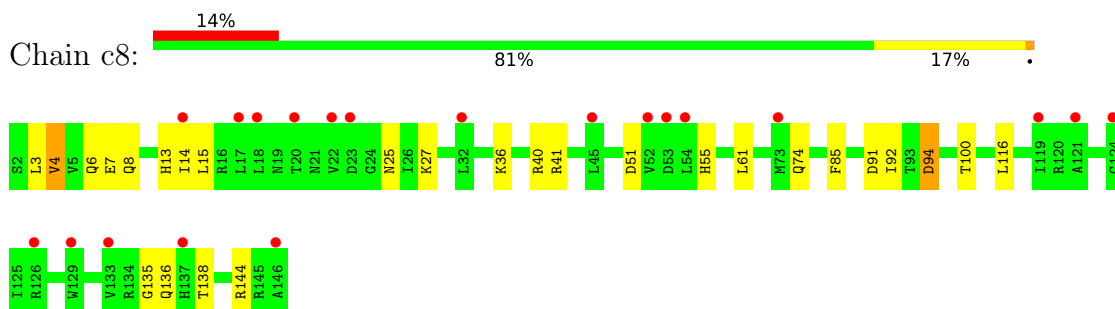
- Molecule 19: 40S ribosomal protein S17-A



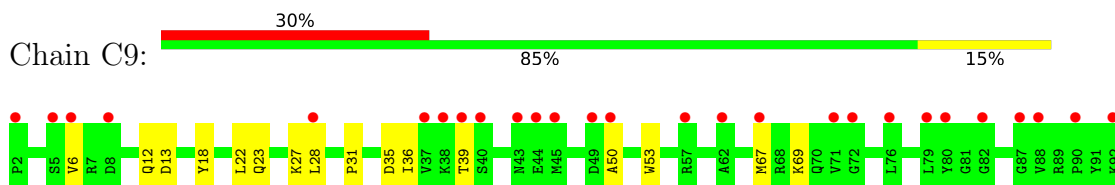
- Molecule 20: 40S ribosomal protein S18-A



- Molecule 20: 40S ribosomal protein S18-A

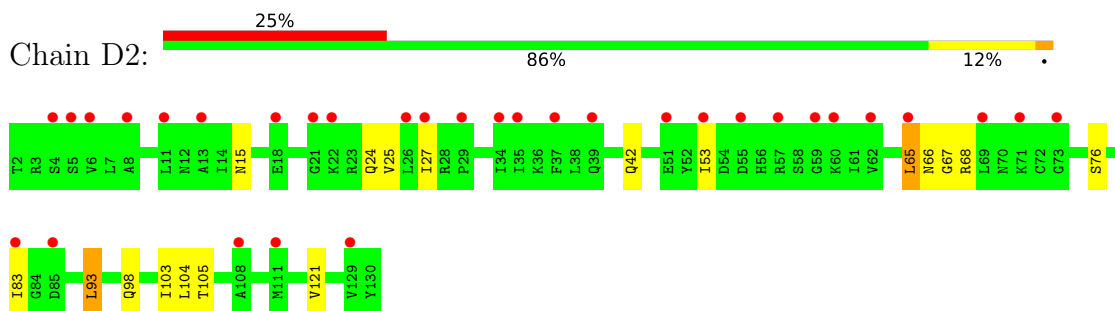


- Molecule 21: 40S ribosomal protein S19-A

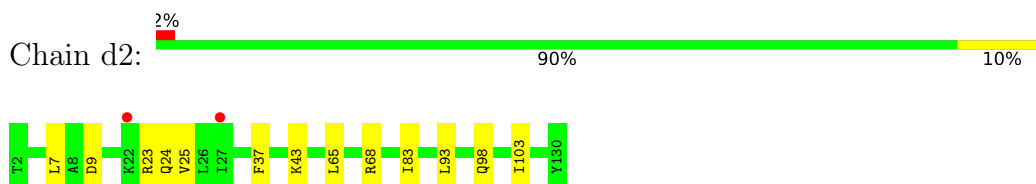




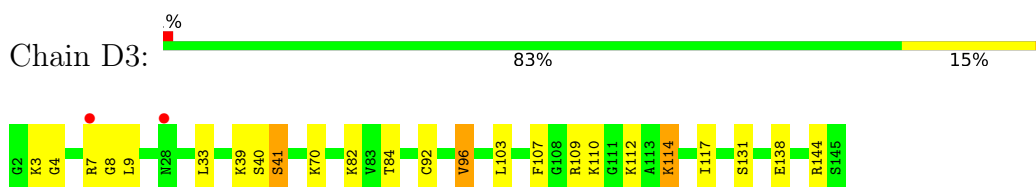
- Molecule 24: 40S ribosomal protein S22-A



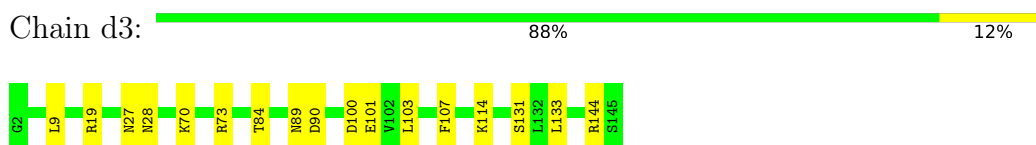
- Molecule 24: 40S ribosomal protein S22-A



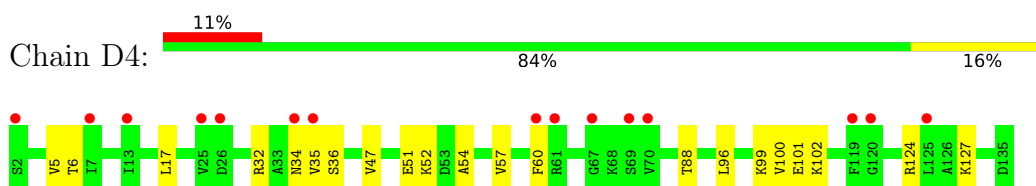
- Molecule 25: 40S ribosomal protein S23-A



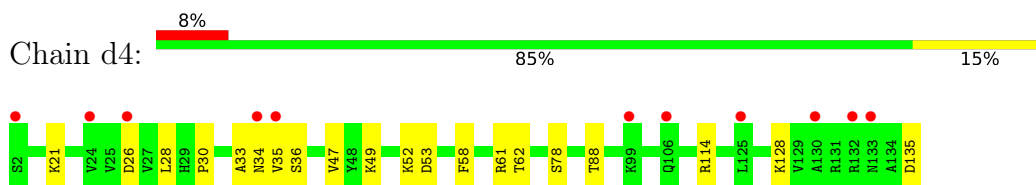
- Molecule 25: 40S ribosomal protein S23-A



- Molecule 26: 40S ribosomal protein S24-A



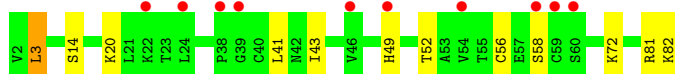
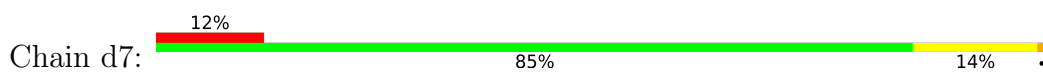
- Molecule 26: 40S ribosomal protein S24-A



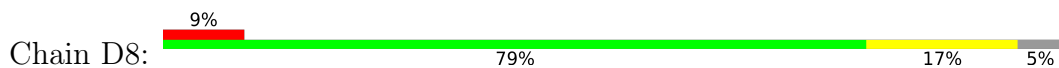
- Molecule 27: 40S ribosomal protein S25-A



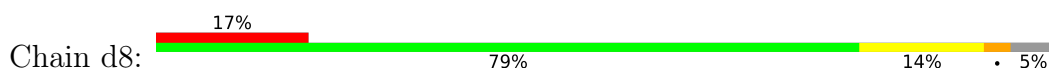




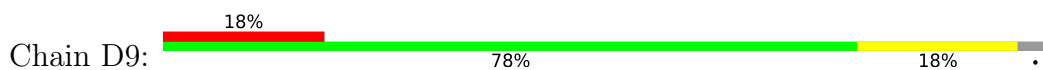
- Molecule 30: 40S ribosomal protein S28-A



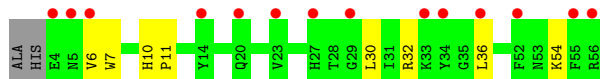
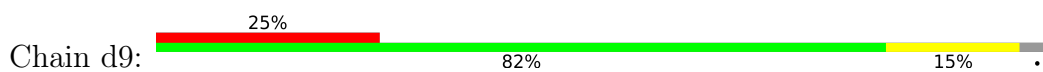
- Molecule 30: 40S ribosomal protein S28-A



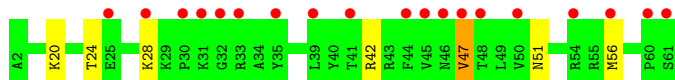
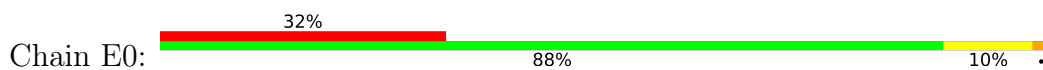
- Molecule 31: 40S ribosomal protein S29-A



- Molecule 31: 40S ribosomal protein S29-A



- Molecule 32: 40S ribosomal protein S30-A

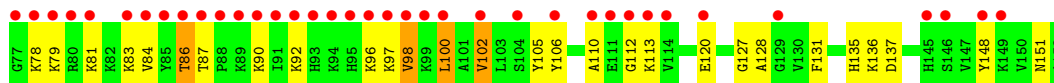


- Molecule 33: Ubiquitin-40S ribosomal protein S31

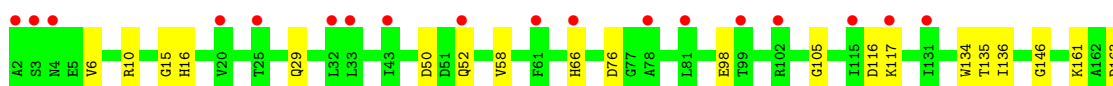


M161  
A162

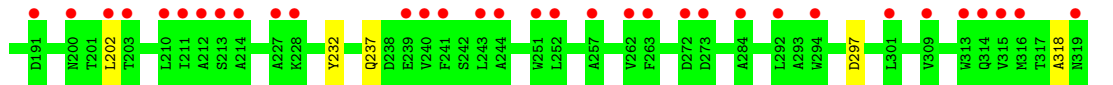
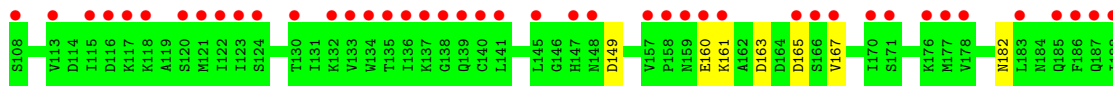
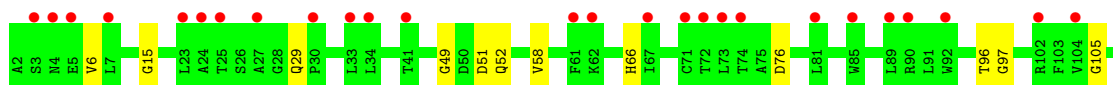
• Molecule 33: Ubiquitin-40S ribosomal protein S31



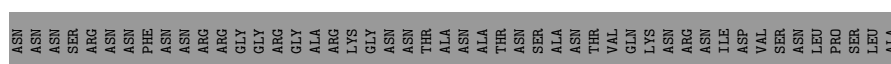
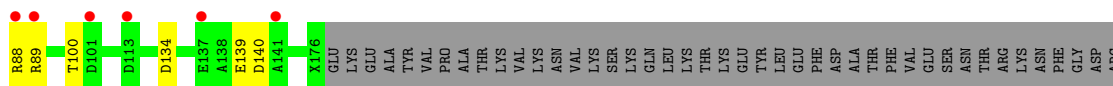
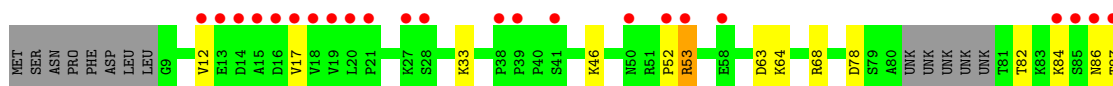
• Molecule 34: Guanine nucleotide-binding protein subunit beta-like protein



• Molecule 34: Guanine nucleotide-binding protein subunit beta-like protein



• Molecule 35: Suppressor protein STM1



• Molecule 35: Suppressor protein STM1

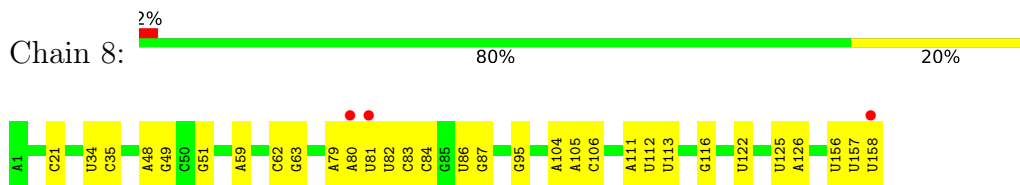




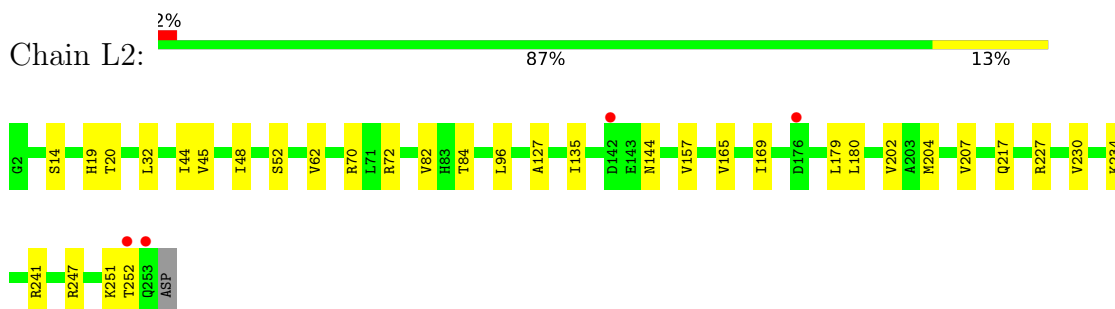




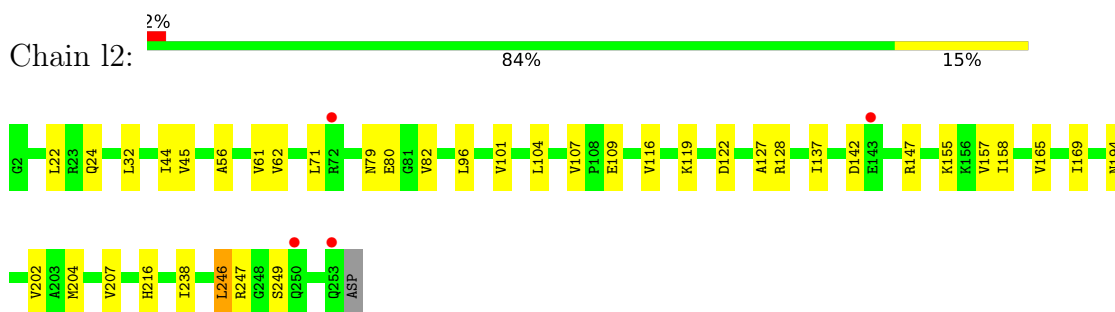
- Molecule 38: 5.8S ribosomal RNA



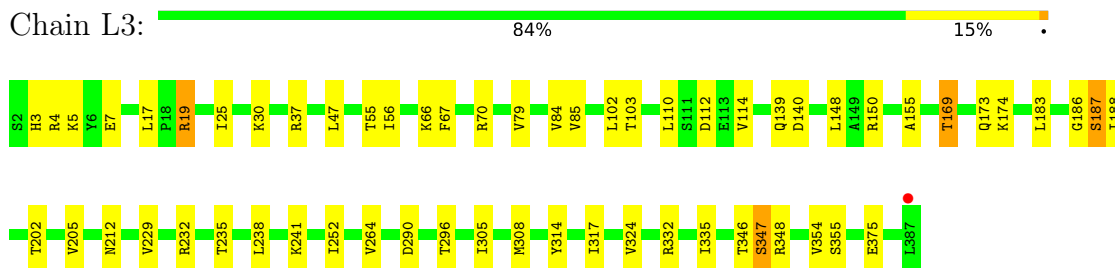
- Molecule 39: 60S ribosomal protein L2-A



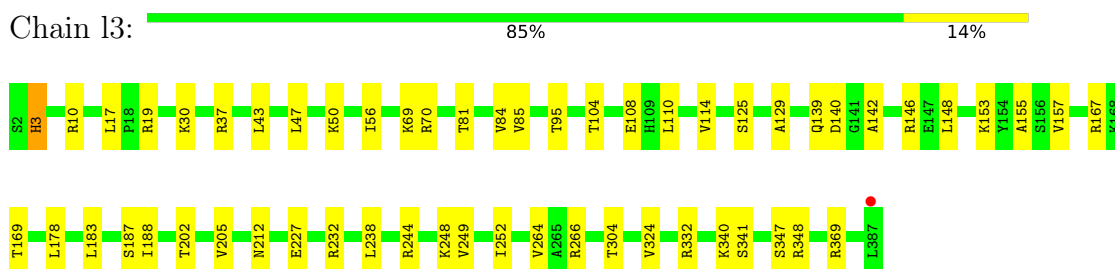
- Molecule 39: 60S ribosomal protein L2-A



- Molecule 40: 60S ribosomal protein L3

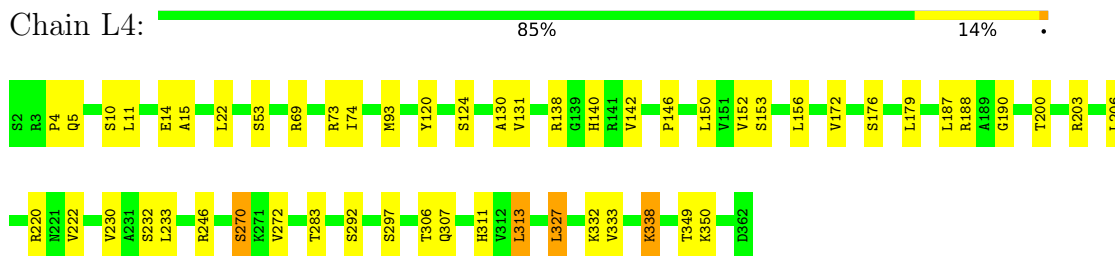


- Molecule 40: 60S ribosomal protein L3

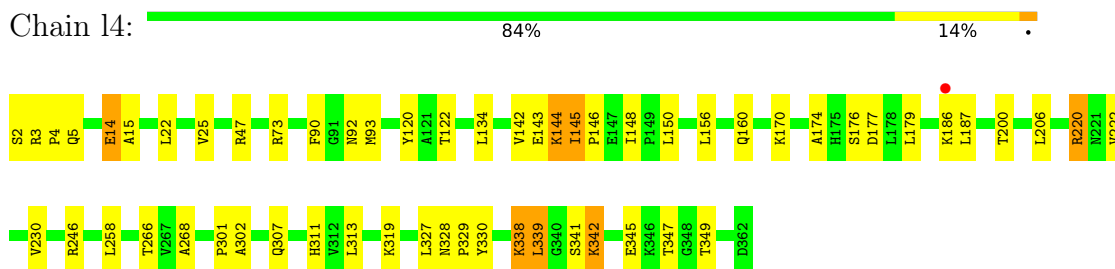




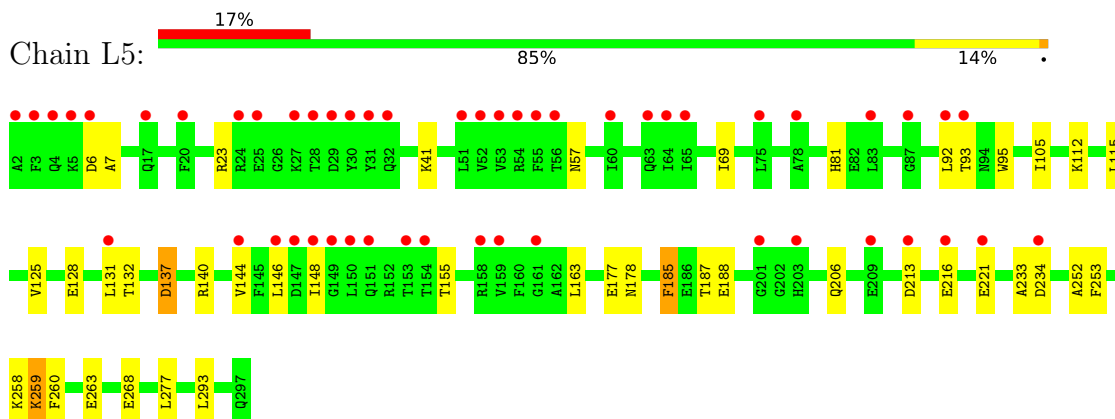
- Molecule 41: 60S ribosomal protein L4-A



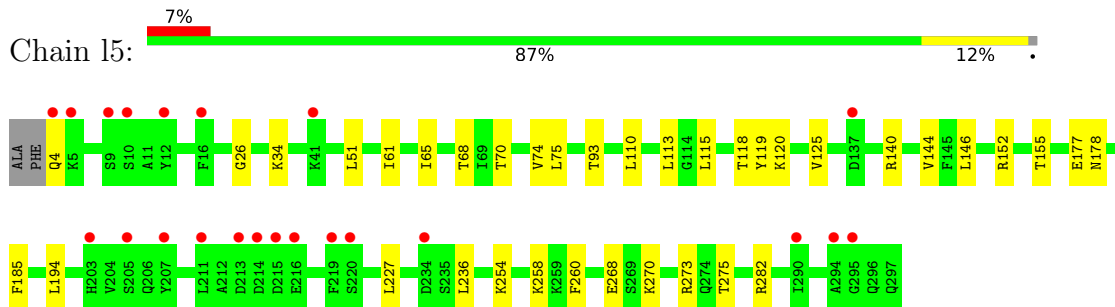
- Molecule 41: 60S ribosomal protein L4-A



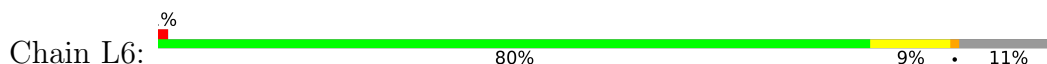
- Molecule 42: 60S ribosomal protein L5

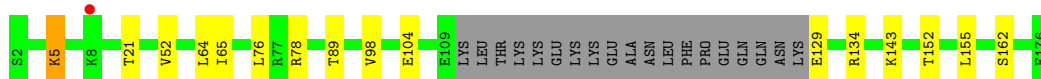


- Molecule 42: 60S ribosomal protein L5

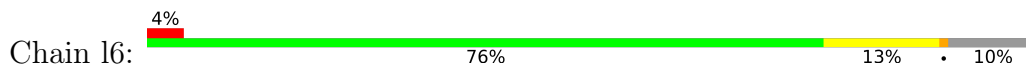


- Molecule 43: 60S ribosomal protein L6-A

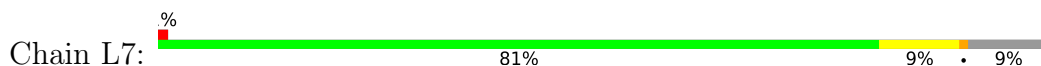




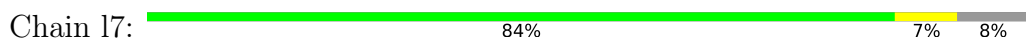
- Molecule 43: 60S ribosomal protein L6-A



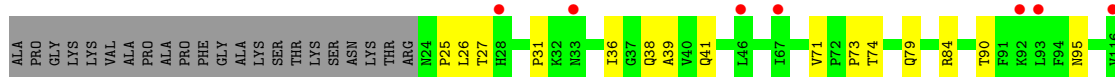
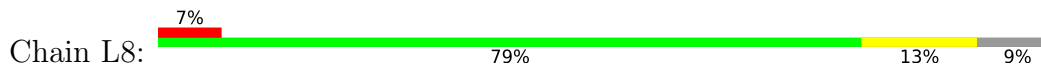
- Molecule 44: 60S ribosomal protein L7-A



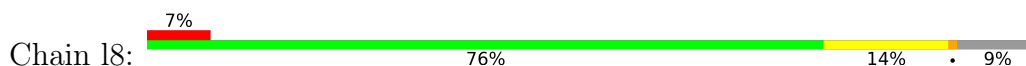
- Molecule 44: 60S ribosomal protein L7-A

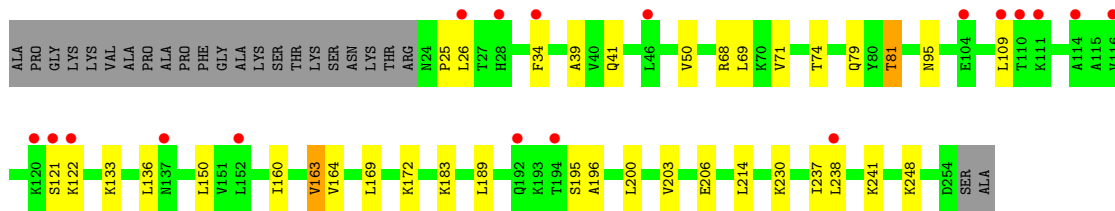


- Molecule 45: 60S ribosomal protein L8-A (eL8)

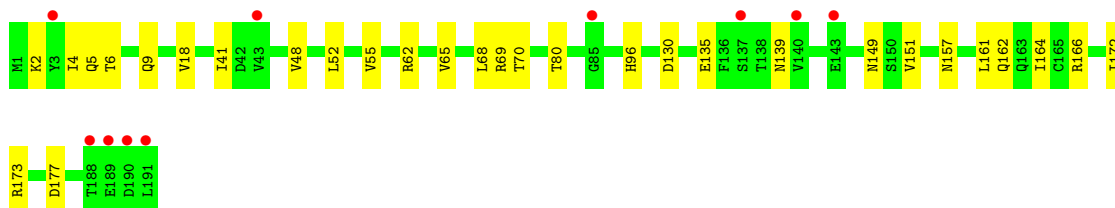
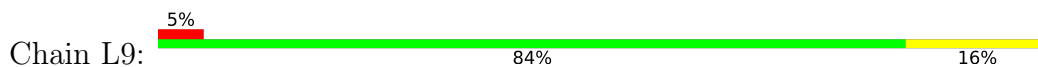


- Molecule 45: 60S ribosomal protein L8-A (eL8)

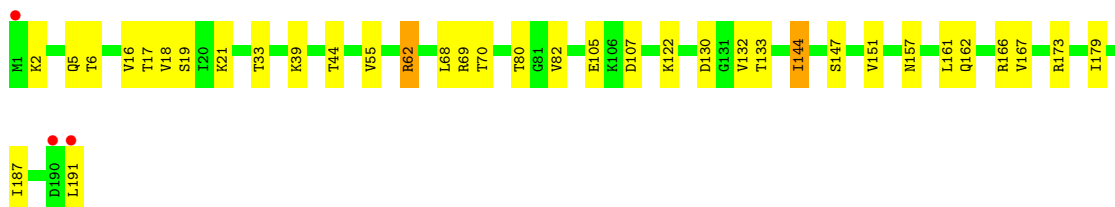
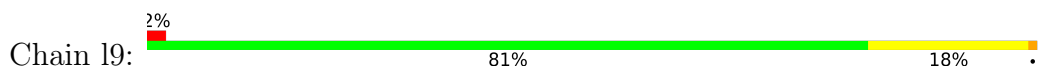




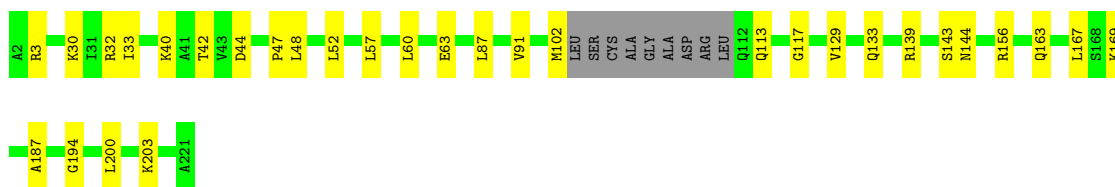
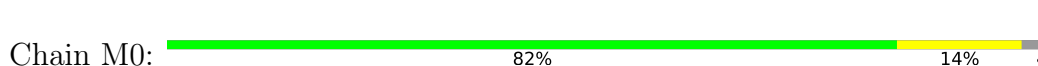
• Molecule 46: 60S ribosomal protein L9-A



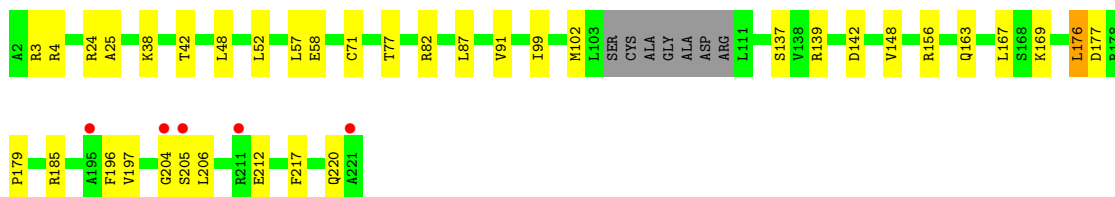
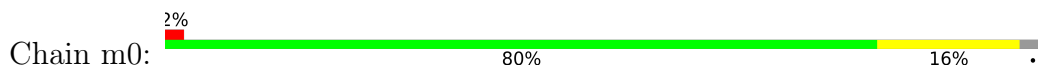
• Molecule 46: 60S ribosomal protein L9-A



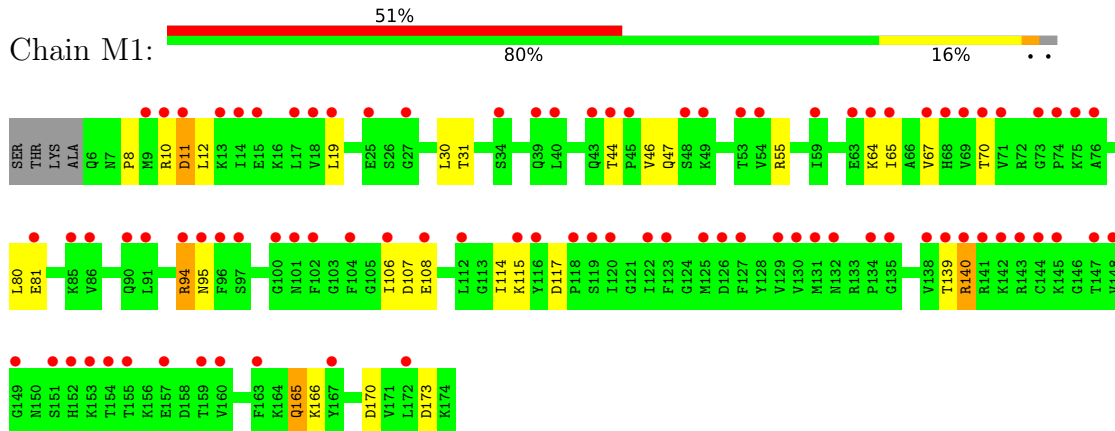
• Molecule 47: 60S ribosomal protein L10



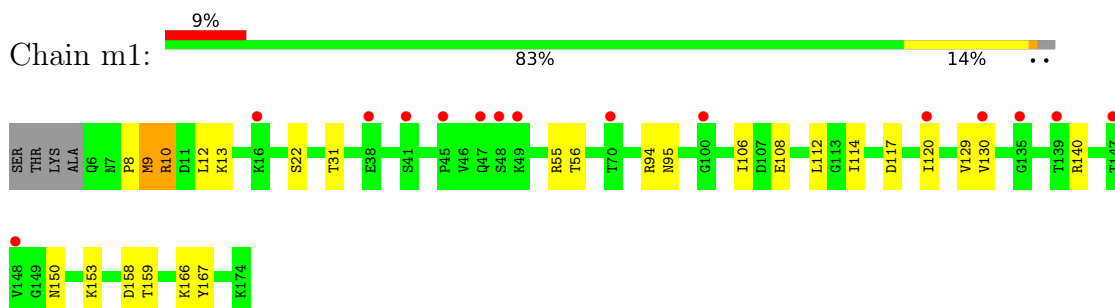
• Molecule 47: 60S ribosomal protein L10



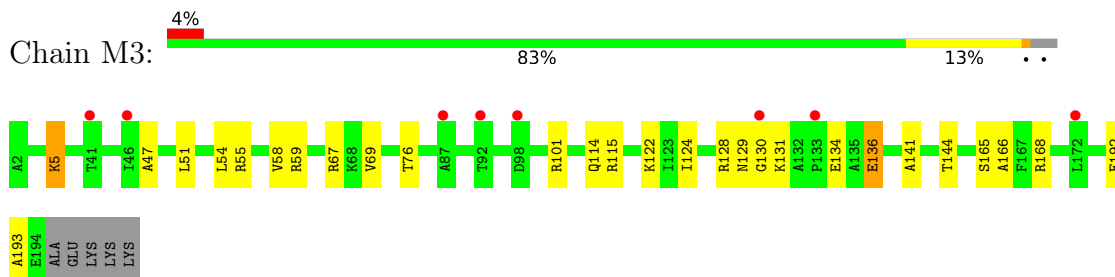
- Molecule 48: 60S ribosomal protein L11-B



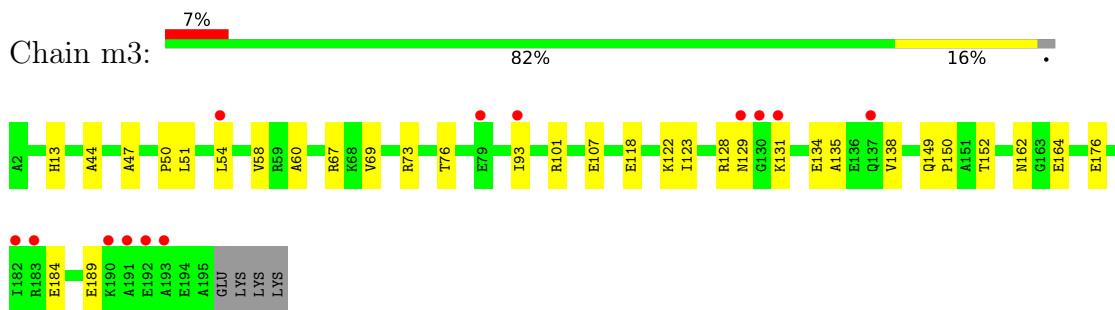
- Molecule 48: 60S ribosomal protein L11-B



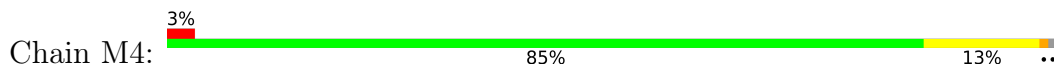
- Molecule 49: 60S ribosomal protein L13-A

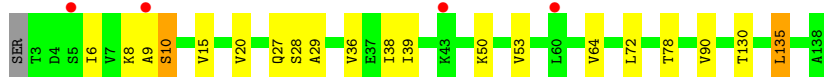


- Molecule 49: 60S ribosomal protein L13-A



- Molecule 50: 60S ribosomal protein L14-A





- Molecule 50: 60S ribosomal protein L14-A

Chain m4: 88% 12%



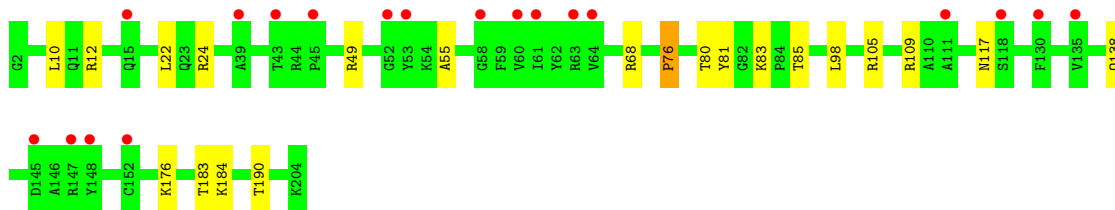
- Molecule 51: 60S ribosomal protein L15-A

Chain M5: 85% 15%



- Molecule 51: 60S ribosomal protein L15-A

Chain m5: 9% 90% 10%



- Molecule 52: 60S ribosomal protein L16-A

Chain M6: % 94% 5% ..



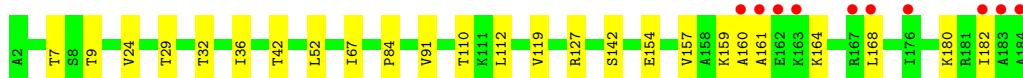
- Molecule 52: 60S ribosomal protein L16-A

Chain m6: % 87% 12% ..




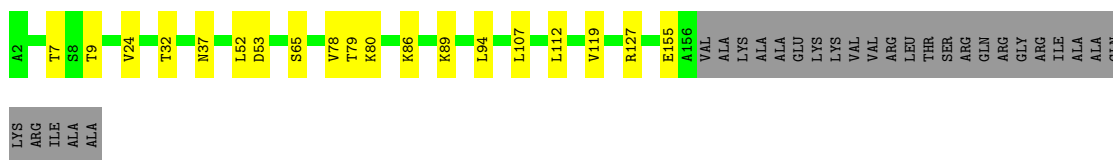
- Molecule 53: 60S ribosomal protein L17-A

Chain M7: 5% 86% 14%




- Molecule 53: 60S ribosomal protein L17-A

Chain m7:  74% 10% 15%




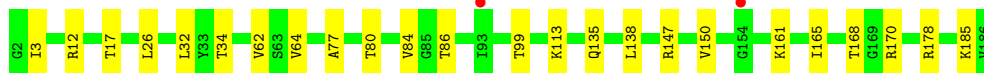
- Molecule 54: 60S ribosomal protein L18-A

Chain M8:  2% 88% 12%



- Molecule 54: 60S ribosomal protein L18-A

Chain m8:  87% 13%




- Molecule 55: 60S ribosomal protein L19-A

Chain M9:  6% 91% 9%




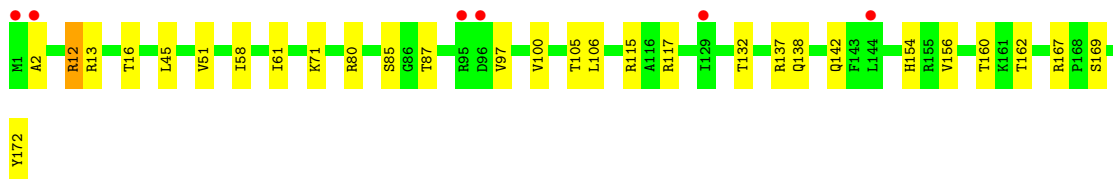
- Molecule 55: 60S ribosomal protein L19-A

Chain m9:  3% 87% 12%

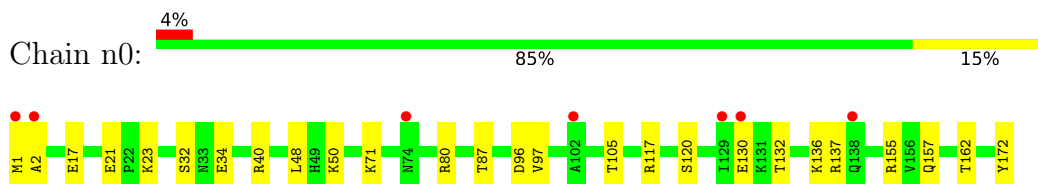


- Molecule 56: 60S ribosomal protein L20-A

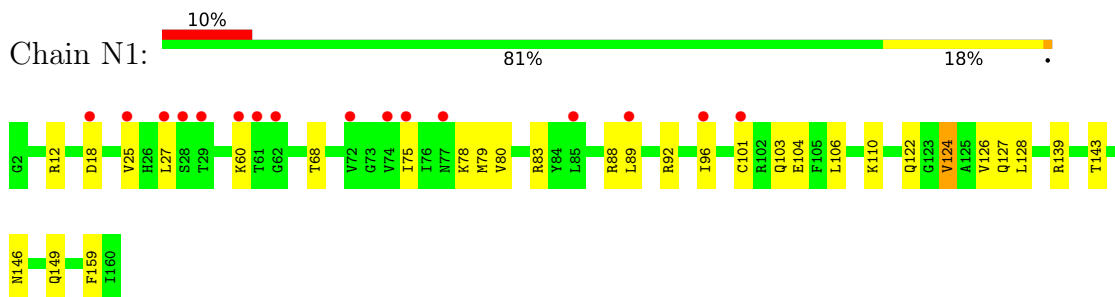
Chain N0:  3% 83% 16%



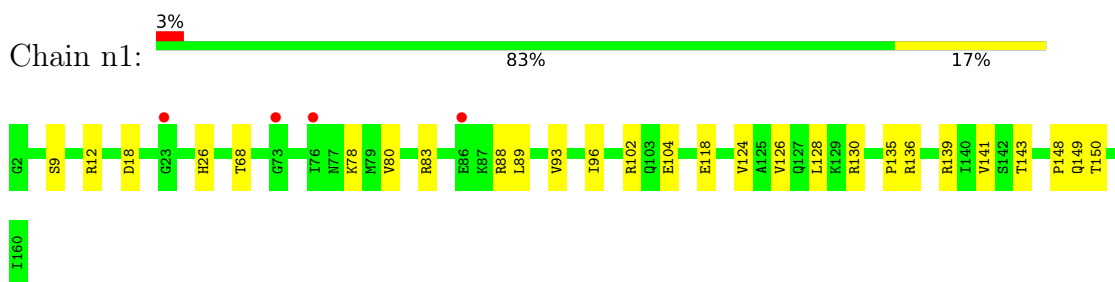
- Molecule 56: 60S ribosomal protein L20-A



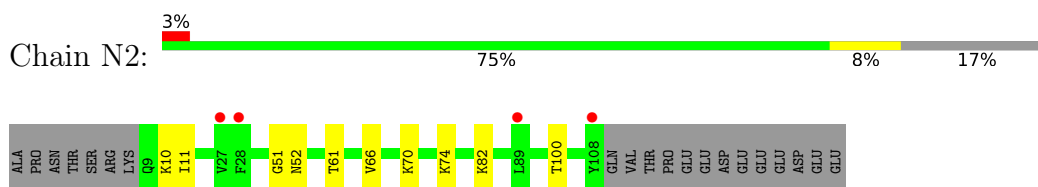
• Molecule 57: 60S ribosomal protein L21-A



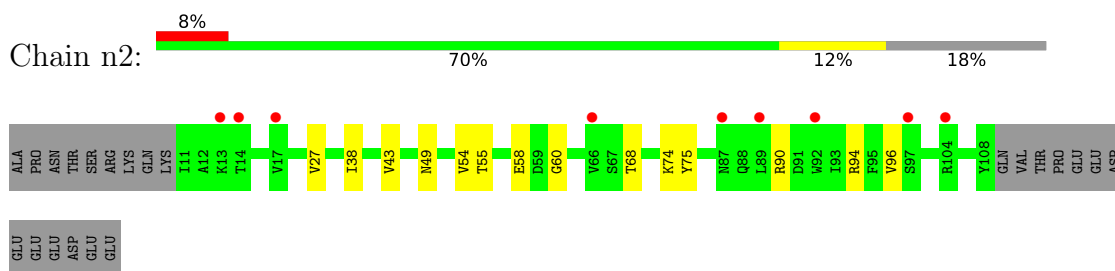
• Molecule 57: 60S ribosomal protein L21-A



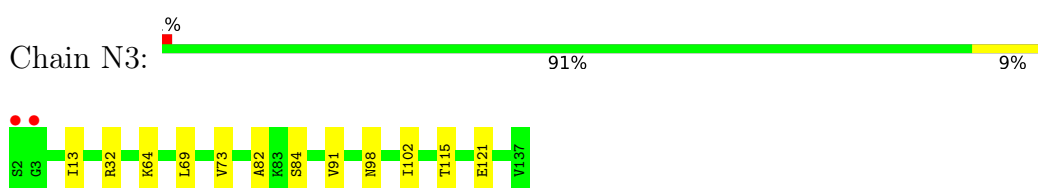
• Molecule 58: 60S ribosomal protein L22-A



• Molecule 58: 60S ribosomal protein L22-A

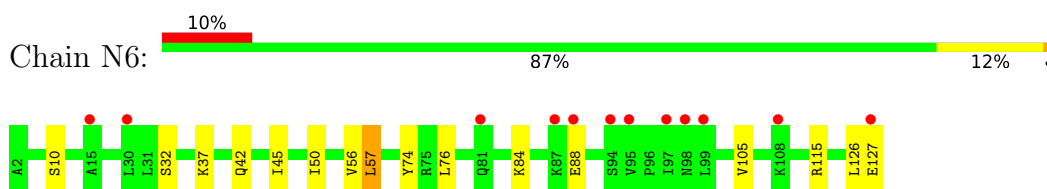


• Molecule 59: 60S ribosomal protein L23-A

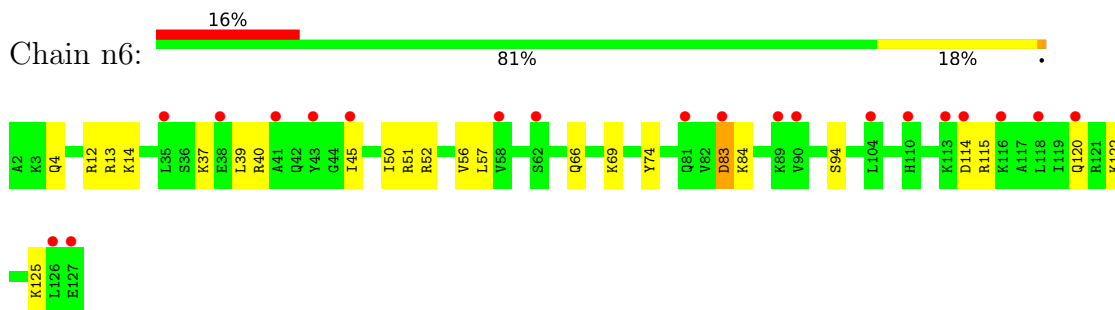




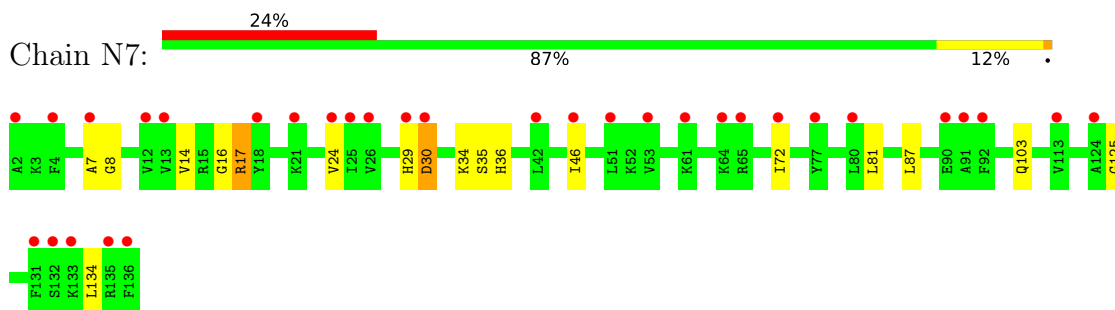




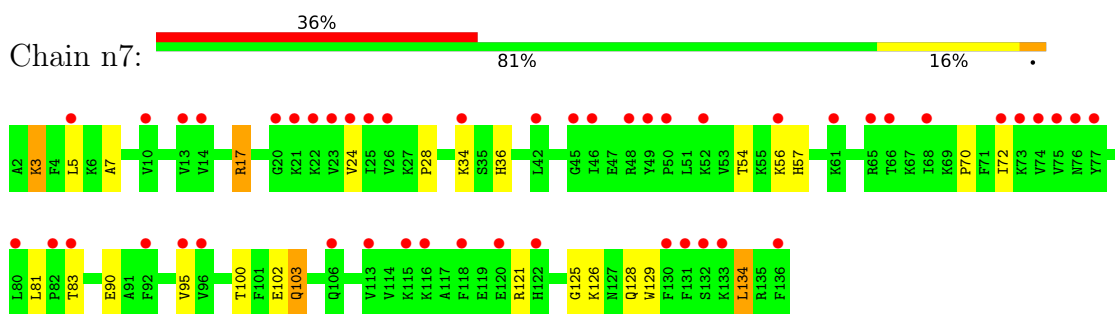
- Molecule 62: 60S ribosomal protein L26-A



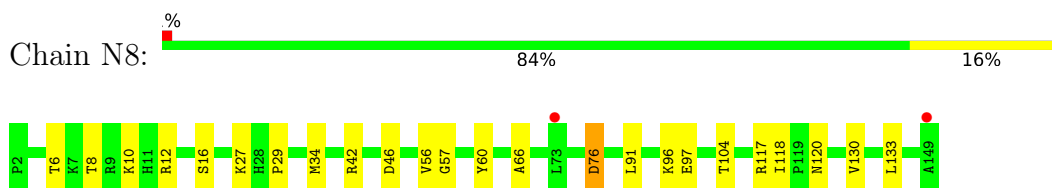
- Molecule 63: 60S ribosomal protein L27-A



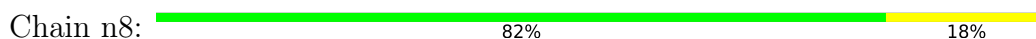
- Molecule 63: 60S ribosomal protein L27-A

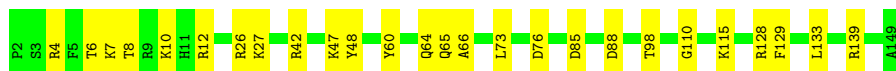


- Molecule 64: 60S ribosomal protein L28

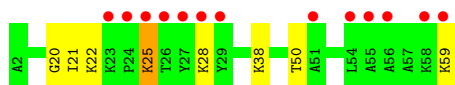
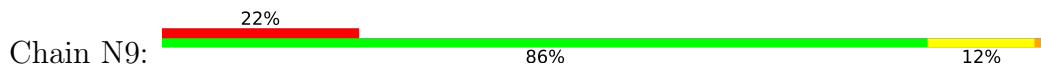


- Molecule 64: 60S ribosomal protein L28

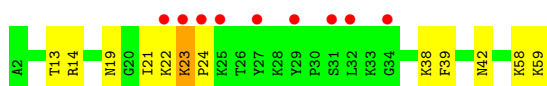
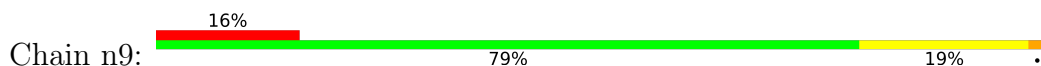




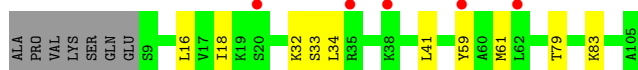
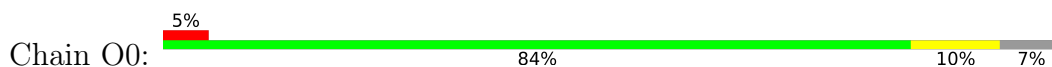
- Molecule 65: 60S ribosomal protein L29



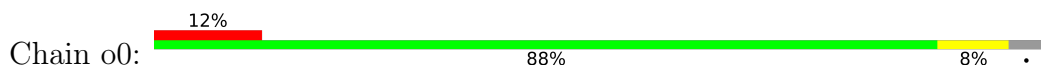
- Molecule 65: 60S ribosomal protein L29



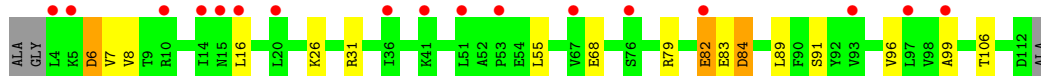
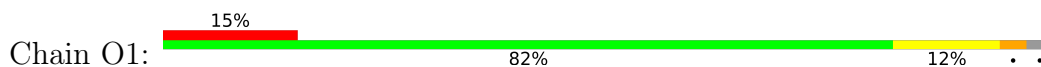
- Molecule 66: 60S ribosomal protein L30



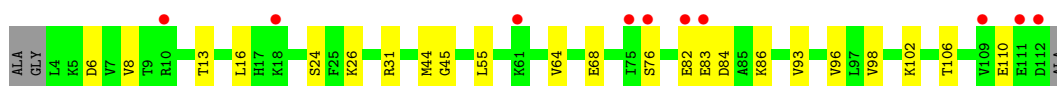
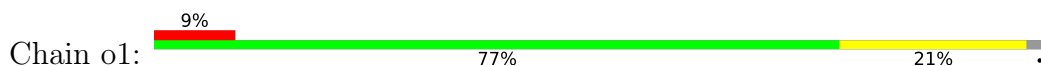
- Molecule 66: 60S ribosomal protein L30



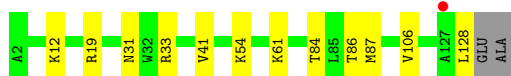
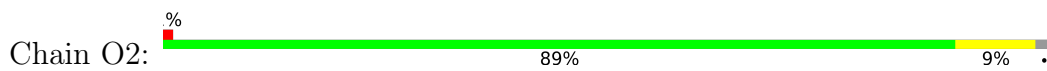
- Molecule 67: 60S ribosomal protein L31-A



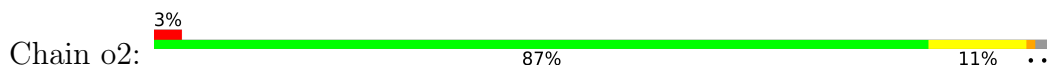
- Molecule 67: 60S ribosomal protein L31-A



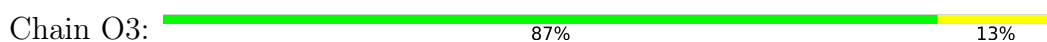
- Molecule 68: 60S ribosomal protein L32



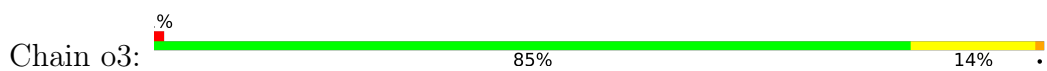
• Molecule 68: 60S ribosomal protein L32



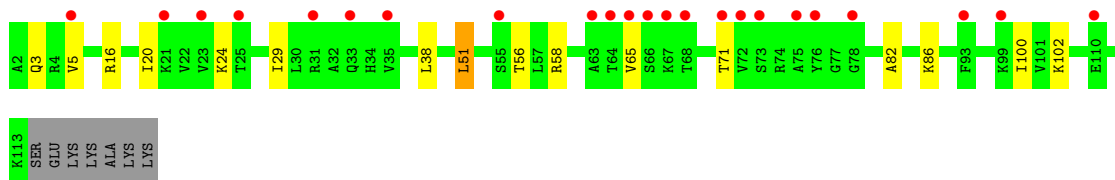
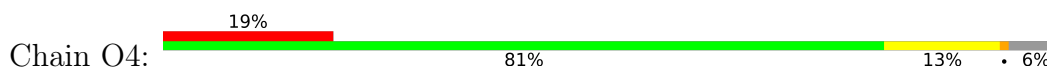
• Molecule 69: 60S ribosomal protein L33-A



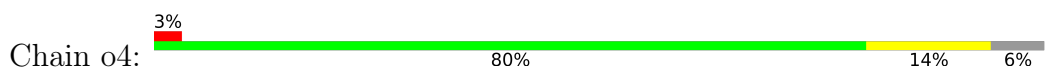
• Molecule 69: 60S ribosomal protein L33-A



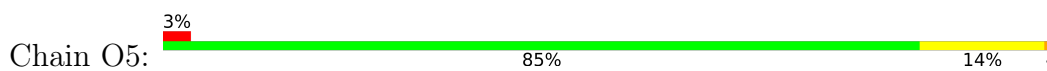
• Molecule 70: 60S ribosomal protein L34-A



• Molecule 70: 60S ribosomal protein L34-A

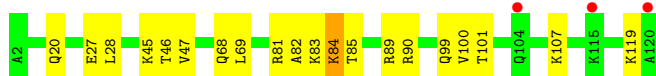
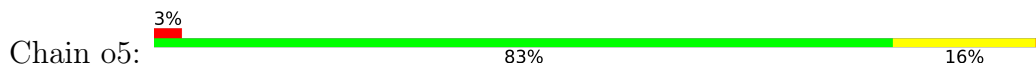


• Molecule 71: 60S ribosomal protein L35-A

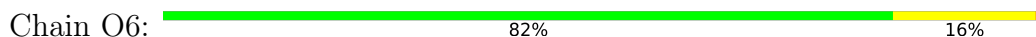




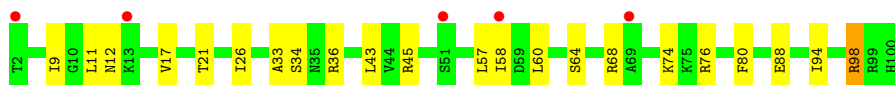
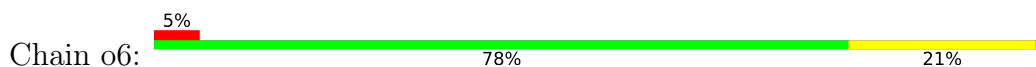
- Molecule 71: 60S ribosomal protein L35-A



- Molecule 72: 60S ribosomal protein L36-A



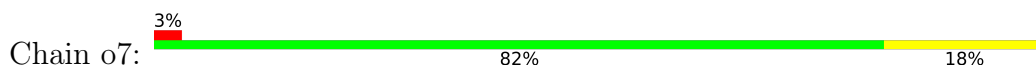
- Molecule 72: 60S ribosomal protein L36-A



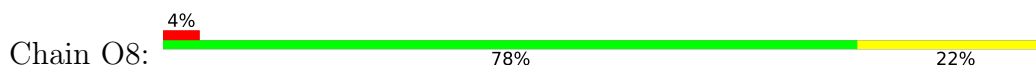
- Molecule 73: 60S ribosomal protein L37-A



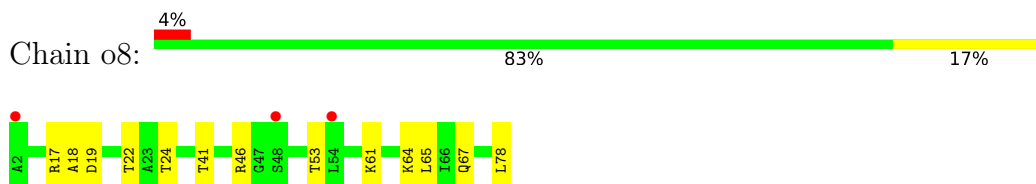
- Molecule 73: 60S ribosomal protein L37-A



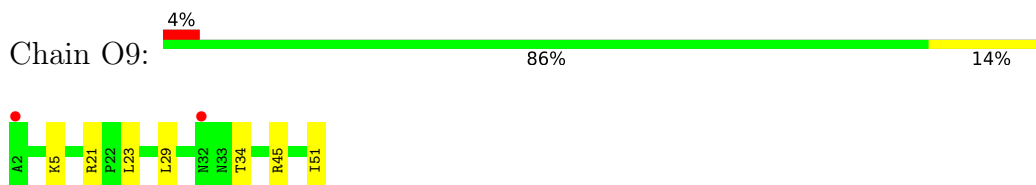
- Molecule 74: 60S ribosomal protein L38



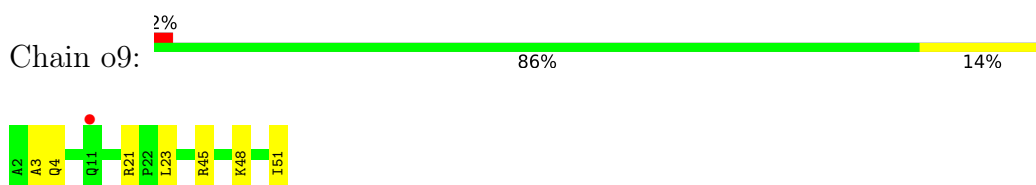
- Molecule 74: 60S ribosomal protein L38



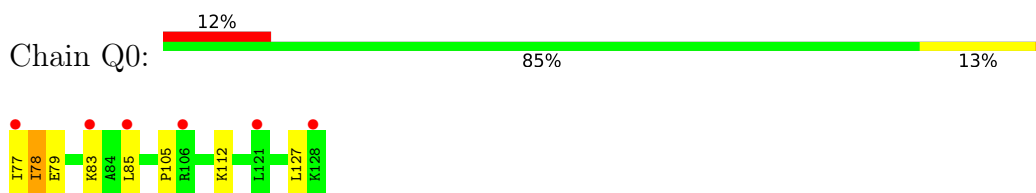
- Molecule 75: 60S ribosomal protein L39



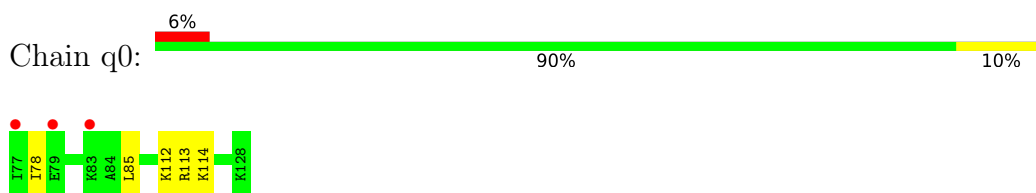
- Molecule 75: 60S ribosomal protein L39



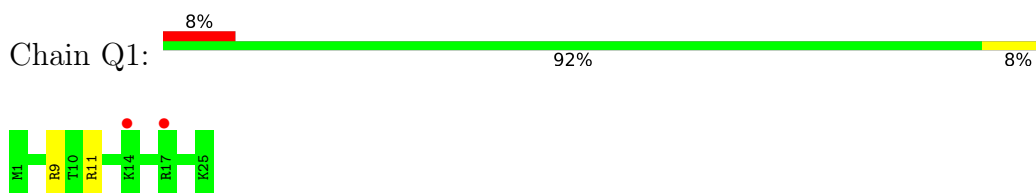
- Molecule 76: Ubiquitin-60S ribosomal protein L40



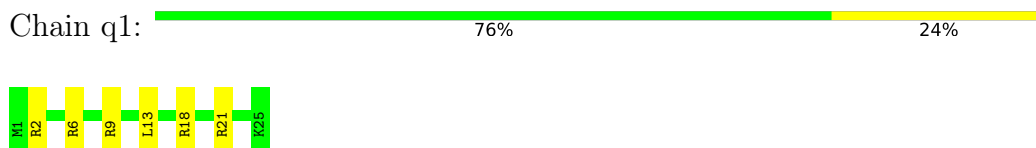
- Molecule 76: Ubiquitin-60S ribosomal protein L40



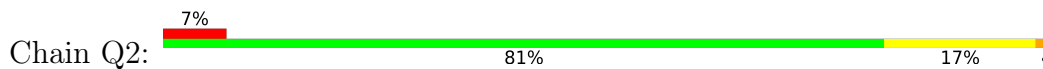
- Molecule 77: 60S ribosomal protein L41-A



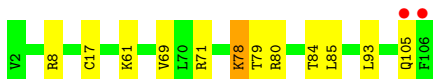
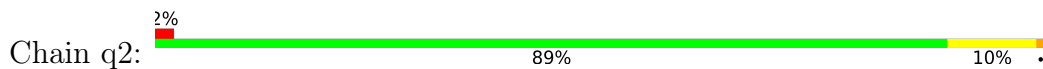
- Molecule 77: 60S ribosomal protein L41-A



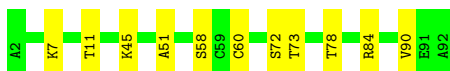
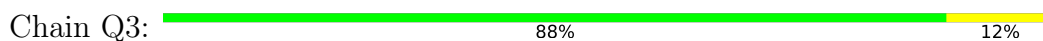
- Molecule 78: 60S ribosomal protein L42-A



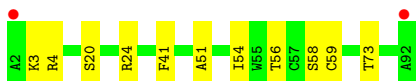
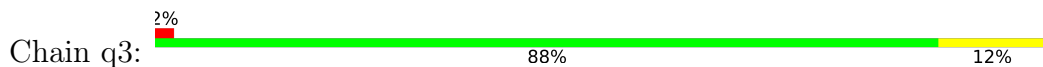
- Molecule 78: 60S ribosomal protein L42-A



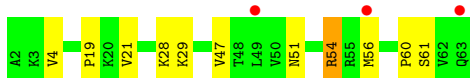
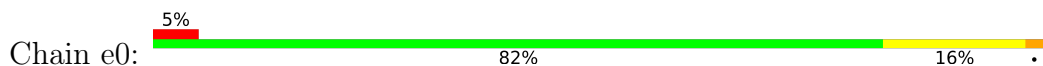
- Molecule 79: 60S ribosomal protein L43-A



- Molecule 79: 60S ribosomal protein L43-A



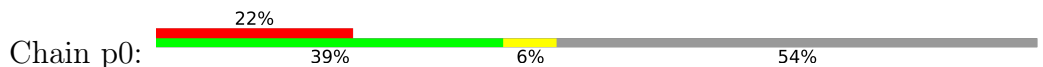
- Molecule 80: 40S ribosomal protein S30-A

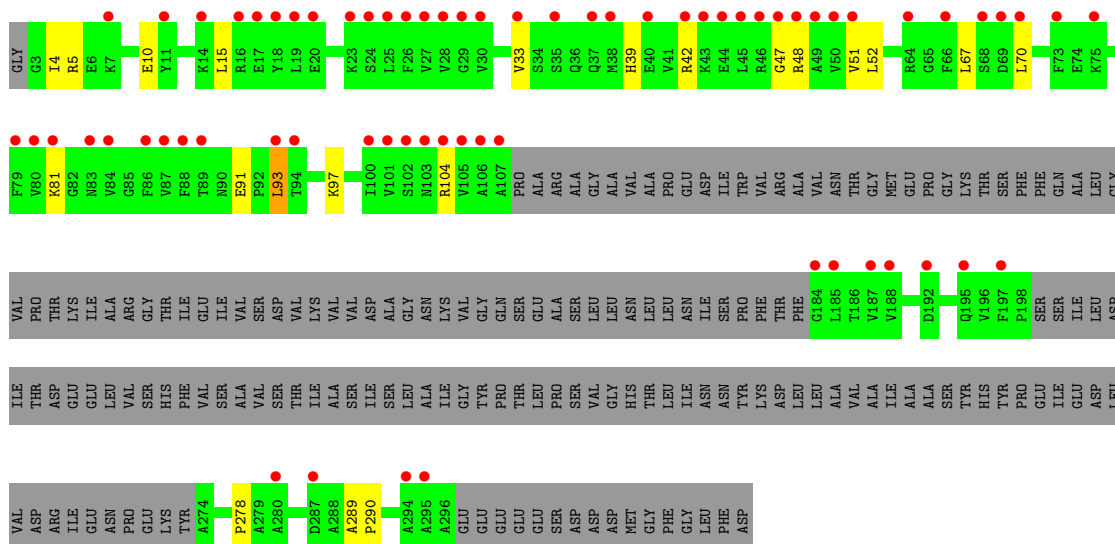


- Molecule 81: 60S ribosomal protein L12-A (uL11)



- Molecule 82: 60S acidic ribosomal protein P0





- Molecule 83: 60S ribosomal protein P1 alpha/P2 beta

Chain p1: 100%

There are no outlier residues recorded for this chain.

- Molecule 84: 60S ribosomal protein P1 alpha/P2 beta

Chain p2: 100%

There are no outlier residues recorded for this chain.

- Molecule 85: DNA (5'-R(\*CP\*CP\*(8AN)\*(Pro)\*(Pro))-3')

Chain C: 80% 20%

C74  
C75  
A76  
P77  
P78

- Molecule 85: DNA (5'-R(\*CP\*CP\*(8AN)\*(Pro)\*(Pro))-3')

Chain D: 80% 20%

C74  
C75  
A76  
P77  
P78

## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	437.14Å 287.91Å 303.85Å 90.00° 98.76° 90.00°	Depositor
Resolution (Å)	149.05 – 3.10 149.04 – 3.10	Depositor EDS
% Data completeness (in resolution range)	99.9 (149.05-3.10) 99.9 (149.04-3.10)	Depositor EDS
$R_{merge}$	0.56	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.50 (at 3.07Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.238 , 0.284 0.244 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	73.7	Xtrriage
Anisotropy	0.085	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 70.6	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.88	EDS
Total number of atoms	402683	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	75.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.44% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



## 5 Model quality i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: 8AN, MG, SPS, ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	2	0.36	0/42467	0.88	40/66169 (0.1%)
1	6	0.41	0/42790	0.91	34/66673 (0.1%)
2	S0	0.25	0/1617	0.47	0/2215
2	s0	0.27	0/1623	0.51	0/2222
3	S1	0.25	0/1735	0.50	0/2335
3	s1	0.30	0/1748	0.52	0/2352
4	S2	0.28	0/1665	0.48	0/2263
4	s2	0.32	0/1665	0.54	0/2263
5	S3	0.27	0/1759	0.46	0/2368
5	s3	0.25	0/1759	0.44	0/2368
6	S4	0.29	0/2109	0.53	0/2839
6	s4	0.30	0/2109	0.54	0/2839
7	S5	0.25	0/1629	0.48	0/2202
7	s5	0.25	0/1629	0.47	0/2202
8	S6	0.29	0/1823	0.48	0/2439
8	s6	0.31	0/1779	0.51	0/2379
9	S7	0.26	0/1506	0.50	0/2028
9	s7	0.27	0/1516	0.48	0/2043
10	S8	0.32	0/1514	0.51	0/2021
10	s8	0.33	0/1514	0.53	0/2021
11	S9	0.27	0/1519	0.47	0/2035
11	s9	0.30	0/1519	0.49	0/2035
12	C0	0.28	0/790	0.53	2/1069 (0.2%)
12	c0	0.27	0/777	0.52	2/1049 (0.2%)
13	C1	0.32	0/1239	0.51	0/1673
13	c1	0.36	0/1194	0.56	1/1610 (0.1%)
14	C2	0.24	0/900	0.46	0/1224
14	c2	0.22	0/900	0.45	0/1224
15	C3	0.29	0/1215	0.51	1/1638 (0.1%)
15	c3	0.32	0/1215	0.51	0/1638
16	C4	0.26	0/901	0.51	0/1217
16	c4	0.31	0/960	0.53	0/1290

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	C5	0.30	0/998	0.51	0/1341
17	c5	0.28	0/1060	0.50	0/1426
18	C6	0.28	0/1125	0.53	1/1510 (0.1%)
18	c6	0.27	0/1131	0.49	0/1518
19	C7	0.27	0/935	0.50	0/1254
19	c7	0.25	0/914	0.49	0/1224
20	C8	0.27	0/1211	0.49	0/1628
20	c8	0.27	0/1211	0.49	0/1628
21	C9	0.27	0/1130	0.45	0/1517
21	c9	0.27	0/1130	0.45	0/1517
22	D0	0.27	0/865	0.48	0/1169
22	d0	0.27	0/892	0.50	0/1205
23	D1	0.27	0/693	0.45	0/935
23	d1	0.28	0/693	0.47	0/935
24	D2	0.30	0/1038	0.57	2/1395 (0.1%)
24	d2	0.33	0/1038	0.54	1/1395 (0.1%)
25	D3	0.35	0/1139	0.56	0/1518
25	d3	0.36	0/1139	0.54	0/1518
26	D4	0.28	0/1087	0.45	0/1449
26	d4	0.30	0/1087	0.52	0/1449
27	D5	0.26	0/571	0.56	0/768
27	d5	0.23	0/566	0.43	0/761
28	D6	0.29	0/782	0.52	0/1047
28	d6	0.32	0/782	0.54	0/1047
29	D7	0.26	0/620	0.49	0/838
29	d7	0.28	0/620	0.51	0/838
30	D8	0.24	0/499	0.45	0/670
30	d8	0.25	0/499	0.48	0/670
31	D9	0.30	0/452	0.51	0/600
31	d9	0.31	0/452	0.52	0/600
32	E0	0.27	0/483	0.45	0/643
33	E1	0.27	0/577	0.56	0/770
33	e1	0.28	0/619	0.61	0/822
34	SR	0.24	0/2490	0.45	0/3389
34	sR	0.22	0/2495	0.42	0/3395
35	SM	0.31	0/984	0.51	1/1323 (0.1%)
35	sM	0.32	0/585	0.48	0/788
36	1	0.55	0/75368	1.03	147/117502 (0.1%)
36	5	0.57	1/75388 (0.0%)	1.04	135/117532 (0.1%)
37	3	0.44	0/2883	0.86	0/4491
37	7	0.56	0/2883	1.00	3/4491 (0.1%)
38	4	0.54	0/3746	0.97	2/5832 (0.0%)
38	8	0.49	0/3746	0.93	0/5832

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
39	L2	0.39	0/1948	0.59	0/2617
39	l2	0.39	0/1946	0.62	1/2614 (0.0%)
40	L3	0.40	0/3146	0.57	0/4228
40	l3	0.43	0/3146	0.59	0/4228
41	L4	0.41	0/2800	0.62	1/3790 (0.0%)
41	l4	0.40	0/2800	0.61	1/3790 (0.0%)
42	L5	0.33	0/2425	0.51	0/3271
42	l5	0.40	0/2408	0.56	0/3248
43	L6	0.38	0/1260	0.54	0/1694
43	l6	0.41	0/1269	0.57	0/1705
44	L7	0.41	0/1821	0.57	0/2451
44	l7	0.43	0/1828	0.61	1/2461 (0.0%)
45	L8	0.32	0/1836	0.53	0/2481
45	l8	0.31	0/1796	0.51	0/2431
46	L9	0.36	0/1539	0.51	0/2073
46	l9	0.38	0/1539	0.56	0/2073
47	M0	0.38	0/1741	0.53	1/2335 (0.0%)
47	m0	0.43	0/1758	0.58	0/2358
48	M1	0.29	0/1374	0.49	0/1842
48	m1	0.37	0/1374	0.57	0/1842
49	M3	0.38	0/1568	0.58	0/2106
49	m3	0.36	0/1573	0.57	0/2113
50	M4	0.37	0/1068	0.56	0/1438
50	m4	0.40	0/1074	0.57	0/1446
51	M5	0.40	0/1757	0.58	0/2354
51	m5	0.36	0/1757	0.54	0/2354
52	M6	0.28	0/1585	0.46	0/2128
52	m6	0.31	0/1585	0.47	0/2128
53	M7	0.42	0/1443	0.58	0/1944
53	m7	0.44	0/1250	0.58	0/1683
54	M8	0.39	0/1465	0.60	0/1965
54	m8	0.40	0/1465	0.61	0/1965
55	M9	0.31	0/1538	0.47	0/2050
55	m9	0.33	0/1538	0.48	0/2050
56	N0	0.39	0/1481	0.55	0/1990
56	n0	0.42	0/1481	0.57	0/1990
57	N1	0.39	0/1300	0.54	0/1743
57	n1	0.45	0/1300	0.56	0/1743
58	N2	0.28	0/812	0.47	0/1099
58	n2	0.30	0/794	0.51	0/1076
59	N3	0.40	0/1018	0.56	0/1369
59	n3	0.46	0/1018	0.64	0/1369
60	N4	0.33	0/712	0.47	0/958

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
60	n4	0.34	0/1052	0.53	0/1398
61	N5	0.34	0/979	0.56	0/1321
61	n5	0.37	0/974	0.57	0/1314
62	N6	0.36	0/1004	0.59	1/1341 (0.1%)
62	n6	0.36	0/1004	0.55	0/1341
63	N7	0.31	0/1118	0.52	0/1497
63	n7	0.30	0/1118	0.50	0/1497
64	N8	0.42	0/1204	0.61	0/1612
64	n8	0.41	0/1204	0.59	1/1612 (0.1%)
65	N9	0.39	0/473	0.53	0/629
65	n9	0.43	0/473	0.76	1/629 (0.2%)
66	O0	0.30	0/751	0.47	0/1008
66	o0	0.30	0/775	0.46	0/1040
67	O1	0.35	0/890	0.51	0/1196
67	o1	0.40	0/897	0.57	0/1205
68	O2	0.42	0/1041	0.59	0/1394
68	o2	0.46	0/1041	0.63	0/1394
69	O3	0.46	0/868	0.57	0/1168
69	o3	0.47	0/868	0.61	0/1168
70	O4	0.35	0/890	0.58	1/1189 (0.1%)
70	o4	0.35	0/890	0.57	0/1189
71	O5	0.37	0/978	0.58	1/1301 (0.1%)
71	o5	0.33	0/974	0.50	0/1297
72	O6	0.35	0/778	0.53	0/1034
72	o6	0.31	0/777	0.52	0/1033
73	O7	0.44	0/696	0.60	0/923
73	o7	0.41	0/696	0.59	0/923
74	O8	0.30	0/618	0.49	0/826
74	o8	0.30	0/614	0.47	0/822
75	O9	0.40	0/443	0.58	0/588
75	o9	0.39	0/443	0.55	0/588
76	Q0	0.44	0/423	0.59	0/562
76	q0	0.47	0/423	0.62	0/562
77	Q1	0.35	0/234	0.68	0/300
77	q1	0.41	0/234	0.56	0/300
78	Q2	0.52	1/860 (0.1%)	0.64	0/1136
78	q2	0.51	1/860 (0.1%)	0.61	1/1136 (0.1%)
79	Q3	0.40	0/701	0.55	0/934
79	q3	0.45	0/701	0.56	0/934
80	e0	0.30	0/499	0.53	0/665
82	p0	0.26	0/1091	0.51	2/1472 (0.1%)
85	C	0.74	0/54	1.28	0/76
85	D	0.47	0/57	0.96	0/80

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.45	3/430695 (0.0%)	0.84	385/632350 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
22	d0	0	1
39	L2	0	1
52	M6	0	1
52	m6	0	1
64	n8	0	1
65	N9	0	1
All	All	0	6

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
78	Q2	17	CYS	CB-SG	8.29	1.96	1.82
78	q2	17	CYS	CB-SG	7.90	1.95	1.82
36	5	1152	G	N9-C4	-6.74	1.32	1.38

All (385) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	1152	G	N3-C4-N9	-15.26	116.84	126.00
36	5	1152	G	N3-C4-C5	14.46	135.83	128.60
36	1	2403	G	N1-C6-O6	10.51	126.21	119.90
36	5	1152	G	C8-N9-C1'	9.79	139.73	127.00
36	1	2617	U	C5-C4-O4	9.68	131.71	125.90
36	5	1152	G	C4-N9-C1'	-9.58	114.04	126.50
36	5	1152	G	C2-N3-C4	-9.38	107.21	111.90
36	1	3278	C	N1-C2-O2	8.95	124.27	118.90
36	1	1308	A	O5'-P-OP1	-8.92	97.67	105.70
36	5	2403	G	O5'-P-OP2	-8.79	97.79	105.70
36	1	3217	C	N1-C2-O2	8.71	124.13	118.90
36	5	2860	U	O5'-P-OP2	-8.60	97.96	105.70
36	5	3245	A	N7-C8-N9	8.55	118.08	113.80
36	1	2945	G	O5'-P-OP2	-8.54	98.02	105.70
36	1	406	G	O4'-C1'-N9	8.44	114.95	108.20
36	1	2355	G	N1-C6-O6	8.39	124.93	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	1	2617	U	N1-C2-N3	8.38	119.93	114.90
36	1	2572	C	N1-C2-O2	8.24	123.85	118.90
36	1	2617	U	C4-C5-C6	8.21	124.62	119.70
36	5	2726	C	C6-N1-C2	-8.13	117.05	120.30
1	2	1363	U	N3-C2-O2	-8.05	116.56	122.20
36	1	3278	C	N3-C2-O2	-8.05	116.26	121.90
36	1	3217	C	C2-N1-C1'	8.00	127.60	118.80
1	2	75	U	C2-N1-C1'	7.94	127.23	117.70
36	1	3217	C	N3-C2-O2	-7.91	116.36	121.90
1	2	1363	U	N1-C2-O2	7.89	128.32	122.80
1	2	75	U	N1-C2-O2	7.89	128.32	122.80
36	5	2278	C	N1-C2-O2	7.88	123.63	118.90
1	2	73	U	O4'-C1'-N1	7.84	114.47	108.20
36	5	922	U	C5-C6-N1	-7.70	118.85	122.70
36	1	1307	G	P-O3'-C3'	7.65	128.88	119.70
36	5	3245	A	C5-N7-C8	-7.65	100.08	103.90
36	1	2355	G	C5-C6-O6	-7.48	124.11	128.60
1	6	1473	U	C2-N1-C1'	7.48	126.68	117.70
36	1	439	C	N1-C2-O2	7.47	123.38	118.90
65	n9	23	LYS	C-N-CD	7.43	144.01	128.40
36	5	2572	C	N1-C2-O2	7.42	123.35	118.90
36	5	2403	G	N1-C6-O6	7.35	124.31	119.90
1	6	453	U	C2-N1-C1'	7.33	126.50	117.70
36	5	1879	A	O5'-P-OP1	7.33	119.50	110.70
36	1	2403	G	C5-C6-O6	-7.33	124.20	128.60
37	7	77	G	O5'-P-OP2	-7.22	99.20	105.70
1	6	453	U	N1-C2-O2	7.17	127.82	122.80
36	5	1208	U	N3-C2-O2	-7.13	117.20	122.20
36	1	2726	C	N3-C2-O2	-7.09	116.93	121.90
36	1	2872	A	P-O3'-C3'	7.08	128.19	119.70
36	1	2572	C	N3-C2-O2	-7.06	116.96	121.90
36	5	1903	U	N3-C4-O4	7.06	124.34	119.40
36	1	2617	U	N3-C2-O2	-7.05	117.26	122.20
1	6	453	U	N3-C2-O2	-7.04	117.27	122.20
36	5	2572	C	C2-N1-C1'	7.04	126.54	118.80
44	17	229	PHE	CB-CG-CD1	7.00	125.70	120.80
36	5	3154	C	N1-C2-O2	6.96	123.08	118.90
36	1	2403	G	C4-C5-C6	6.95	122.97	118.80
36	1	3057	U	N3-C2-O2	-6.93	117.35	122.20
36	1	2971	A	O4'-C1'-N9	6.91	113.73	108.20
36	5	3245	A	C8-N9-C4	-6.91	103.04	105.80
36	1	1484	U	P-O3'-C3'	6.85	127.92	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	2726	C	N3-C2-O2	-6.84	117.11	121.90
1	2	75	U	N3-C2-O2	-6.83	117.42	122.20
38	4	125	U	C2-N1-C1'	6.79	125.85	117.70
36	1	2870	C	C2-N1-C1'	-6.76	111.36	118.80
36	1	2403	G	C6-C5-N7	-6.75	126.35	130.40
36	1	2870	C	C6-N1-C1'	6.73	128.88	120.80
36	5	1152	G	N3-C2-N2	-6.73	115.19	119.90
36	5	2816	G	C8-N9-C4	6.71	109.08	106.40
36	5	806	A	O5'-P-OP1	-6.70	99.67	105.70
36	1	2919	A	O5'-P-OP2	-6.64	99.72	105.70
36	5	835	G	O4'-C1'-N9	6.64	113.51	108.20
36	1	3278	C	C2-N1-C1'	6.63	126.10	118.80
36	5	2899	C	N3-C2-O2	-6.61	117.27	121.90
36	5	2957	G	O5'-P-OP1	-6.57	99.79	105.70
36	5	1495	U	C2-N1-C1'	6.53	125.53	117.70
36	5	2211	U	N3-C2-O2	-6.53	117.63	122.20
1	2	1363	U	C2-N1-C1'	6.52	125.52	117.70
36	5	406	G	O4'-C1'-N9	6.49	113.39	108.20
70	O4	51	LEU	CA-CB-CG	6.45	130.13	115.30
36	5	2381	G	N1-C6-O6	-6.44	116.04	119.90
1	6	813	U	N1-C2-O2	6.42	127.30	122.80
36	1	2714	G	N3-C4-C5	6.42	131.81	128.60
36	5	2816	G	N7-C8-N9	-6.39	109.90	113.10
36	5	1483	G	O4'-C1'-N9	6.39	113.31	108.20
1	2	1761	U	P-O3'-C3'	6.39	127.37	119.70
36	1	1117	G	O5'-P-OP1	-6.39	99.95	105.70
36	1	2871	G	O5'-P-OP2	-6.36	99.97	105.70
12	C0	88	PRO	N-CA-CB	6.34	110.91	103.30
36	1	2314	U	N1-C2-O2	6.32	127.22	122.80
36	1	2978	U	O4'-C1'-N1	6.31	113.25	108.20
1	2	959	U	N3-C2-O2	-6.31	117.78	122.20
36	1	2572	C	C2-N1-C1'	6.29	125.72	118.80
36	5	1481	A	C8-N9-C4	-6.28	103.29	105.80
1	6	1473	U	N1-C2-O2	6.28	127.20	122.80
36	5	880	G	O4'-C1'-N9	6.28	113.22	108.20
36	5	635	G	C5-C6-O6	-6.27	124.84	128.60
36	5	635	G	C4-C5-N7	6.24	113.30	110.80
36	1	1604	G	C4-N9-C1'	6.21	134.57	126.50
36	5	2287	C	N1-C2-O2	-6.21	115.18	118.90
36	1	2617	U	N3-C4-C5	-6.19	110.89	114.60
36	5	2971	A	O4'-C1'-N9	6.19	113.15	108.20
18	C6	40	GLU	C-N-CD	-6.18	107.00	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	873	C	P-O3'-C3'	6.17	127.11	119.70
36	1	2996	U	N1-C2-O2	6.16	127.11	122.80
36	5	1367	G	C5-C6-N1	-6.15	108.42	111.50
36	1	1556	C	N1-C2-O2	6.14	122.59	118.90
36	1	2278	C	N1-C2-O2	6.13	122.58	118.90
36	5	1014	U	C2-N1-C1'	6.12	125.05	117.70
78	q2	17	CYS	CA-CB-SG	6.11	125.00	114.00
36	5	2403	G	C5-C6-O6	-6.11	124.94	128.60
36	5	2816	G	C4-N9-C1'	-6.10	118.57	126.50
1	6	813	U	N3-C2-O2	-6.10	117.93	122.20
1	6	1097	U	P-O3'-C3'	6.08	127.00	119.70
36	5	1887	A	O5'-P-OP2	-6.08	100.23	105.70
36	5	1481	A	P-O3'-C3'	6.08	127.00	119.70
36	1	1556	C	N3-C2-O2	-6.05	117.66	121.90
36	5	2726	C	C5-C4-N4	6.05	124.43	120.20
12	c0	83	PRO	N-CA-CB	6.04	110.55	103.30
41	L4	327	LEU	CA-CB-CG	6.04	129.19	115.30
36	5	3197	G	N3-C4-N9	-6.04	122.38	126.00
36	1	1903	U	N3-C4-O4	6.02	123.61	119.40
36	5	2411	U	N3-C4-O4	-6.02	115.19	119.40
38	4	125	U	N1-C2-O2	6.01	127.01	122.80
1	6	1185	U	N1-C2-O2	6.01	127.01	122.80
36	5	2871	G	O5'-P-OP2	-6.01	100.29	105.70
36	5	282	G	C8-N9-C4	-6.00	104.00	106.40
36	5	3018	C	O5'-P-OP2	-5.99	100.31	105.70
36	5	2272	G	O4'-C1'-N9	5.99	112.99	108.20
36	1	2384	A	N1-C6-N6	5.99	122.19	118.60
39	l2	246	LEU	CA-CB-CG	5.99	129.07	115.30
36	5	3308	C	N1-C2-O2	-5.98	115.31	118.90
36	1	2725	U	C5-C6-N1	-5.98	119.71	122.70
36	1	1536	G	N1-C6-O6	-5.96	116.32	119.90
82	p0	278	PRO	N-CA-CB	5.96	110.45	103.30
36	1	770	G	O4'-C1'-N9	5.95	112.96	108.20
36	1	2725	U	C2-N1-C1'	-5.94	110.57	117.70
37	7	101	G	C5-C6-O6	-5.94	125.03	128.60
36	1	278	U	O5'-P-OP2	-5.93	100.36	105.70
36	1	439	C	N3-C2-O2	-5.93	117.75	121.90
36	1	2816	G	C4-N9-C1'	-5.92	118.80	126.50
36	1	2827	U	C2-N1-C1'	-5.92	110.59	117.70
36	1	2818	U	C5-C6-N1	5.92	125.66	122.70
1	6	194	U	C2-N1-C1'	5.92	124.80	117.70
1	6	402	C	C6-N1-C2	5.92	122.67	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	2	1389	C	N1-C2-O2	5.91	122.45	118.90
36	5	2572	C	N3-C2-O2	-5.90	117.77	121.90
1	6	542	A	P-O3'-C3'	5.90	126.78	119.70
1	6	813	U	C2-N1-C1'	5.89	124.77	117.70
82	p0	290	PRO	N-CA-CB	5.89	110.37	103.30
1	2	1698	G	P-O3'-C3'	5.88	126.76	119.70
36	1	3344	A	O4'-C1'-N9	5.88	112.90	108.20
36	5	644	G	N9-C4-C5	5.86	107.74	105.40
36	5	922	U	N3-C2-O2	-5.86	118.10	122.20
36	1	917	A	O5'-P-OP2	-5.84	100.45	105.70
36	5	3245	A	C6-C5-N7	-5.82	128.22	132.30
36	5	966	U	N3-C2-O2	-5.82	118.13	122.20
36	5	1208	U	N3-C4-O4	-5.81	115.33	119.40
36	1	1556	C	C2-N1-C1'	5.80	125.18	118.80
1	6	1389	C	C2-N1-C1'	5.80	125.18	118.80
1	6	163	G	C8-N9-C4	-5.80	104.08	106.40
36	1	2403	G	O5'-P-OP2	-5.78	100.49	105.70
36	1	922	U	N1-C2-O2	5.78	126.85	122.80
62	N6	57	LEU	CA-CB-CG	5.78	128.59	115.30
1	2	501	U	OP1-P-O3'	5.77	117.90	105.20
36	5	805	G	C8-N9-C4	5.77	108.71	106.40
36	1	2314	U	C2-N1-C1'	5.76	124.62	117.70
1	2	507	U	C2-N1-C1'	5.76	124.61	117.70
36	1	1495	U	C5-C6-N1	-5.76	119.82	122.70
36	5	1208	U	C5-C4-O4	5.76	129.36	125.90
36	5	1495	U	C5-C6-N1	5.76	125.58	122.70
36	5	3154	C	C2-N1-C1'	5.75	125.12	118.80
36	1	3306	U	N3-C2-O2	-5.74	118.18	122.20
36	5	2526	C	N1-C2-O2	5.74	122.34	118.90
12	c0	90	PRO	N-CA-CB	5.74	110.18	103.30
36	1	637	C	P-O3'-C3'	5.73	126.57	119.70
36	1	1192	C	C6-N1-C2	-5.72	118.01	120.30
36	5	2870	C	C6-N1-C2	-5.72	118.01	120.30
36	1	922	U	N3-C2-O2	-5.71	118.20	122.20
36	1	2403	G	N3-C4-N9	5.71	129.43	126.00
1	2	734	A	P-O3'-C3'	5.71	126.55	119.70
36	1	439	C	C2-N1-C1'	5.71	125.08	118.80
36	1	2846	U	N3-C2-O2	-5.70	118.21	122.20
1	2	720	G	OP1-P-O3'	5.70	117.73	105.20
36	5	1592	G	N1-C6-O6	5.69	123.32	119.90
36	5	2553	U	C2-N1-C1'	5.69	124.53	117.70
36	5	2385	G	C4-N9-C1'	-5.68	119.11	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	1582	C	C6-N1-C2	-5.68	118.03	120.30
36	5	2526	C	C2-N1-C1'	5.68	125.05	118.80
1	2	507	U	N1-C2-O2	5.68	126.77	122.80
36	5	2129	U	N3-C2-O2	-5.67	118.23	122.20
36	1	2355	G	C4-C5-N7	5.67	113.07	110.80
36	1	1604	G	C8-N9-C1'	-5.66	119.64	127.00
24	d2	93	LEU	CA-CB-CG	5.66	128.32	115.30
1	2	1241	G	O4'-C1'-N9	5.66	112.72	108.20
36	1	2827	U	C5-C6-N1	-5.66	119.87	122.70
36	1	1367	G	N1-C6-O6	5.65	123.29	119.90
36	1	2314	U	C6-N1-C1'	-5.65	113.29	121.20
36	1	3217	C	C6-N1-C1'	-5.65	114.02	120.80
36	5	1307	G	O4'-C1'-N9	5.64	112.71	108.20
36	1	2572	C	C6-N1-C2	-5.64	118.05	120.30
15	C3	22	ALA	C-N-CD	-5.63	108.20	120.60
36	1	1604	G	N3-C4-N9	5.63	129.38	126.00
36	5	1903	U	C5-C4-O4	-5.63	122.52	125.90
1	2	959	U	N1-C2-O2	5.62	126.74	122.80
36	5	922	U	C2-N3-C4	-5.62	123.63	127.00
36	5	1208	U	N1-C2-O2	5.62	126.73	122.80
36	1	2385	G	N3-C4-C5	5.62	131.41	128.60
36	5	1189	C	N1-C2-O2	-5.61	115.53	118.90
1	2	581	U	C2-N1-C1'	5.61	124.43	117.70
36	5	2385	G	N3-C4-C5	5.61	131.40	128.60
36	1	1115	G	N3-C4-N9	5.61	129.36	126.00
36	5	2978	U	O4'-C1'-N1	5.59	112.67	108.20
1	2	1389	C	C2-N1-C1'	5.59	124.95	118.80
36	1	1604	G	N3-C4-C5	-5.58	125.81	128.60
36	1	2873	U	N1-C2-N3	5.58	118.25	114.90
1	6	1389	C	N1-C2-O2	5.57	122.24	118.90
36	1	1834	U	N3-C4-C5	-5.55	111.27	114.60
36	5	2899	C	C6-N1-C2	-5.55	118.08	120.30
1	6	1596	C	N3-C2-O2	-5.54	118.02	121.90
1	6	1698	G	P-O3'-C3'	5.54	126.34	119.70
1	2	734	A	OP1-P-O3'	5.53	117.37	105.20
36	5	2513	U	P-O3'-C3'	5.53	126.34	119.70
1	2	75	U	C6-N1-C1'	-5.52	113.48	121.20
36	1	1192	C	N3-C4-N4	5.51	121.86	118.00
36	1	1269	U	C2-N1-C1'	5.51	124.32	117.70
36	1	979	U	P-O3'-C3'	5.51	126.31	119.70
36	1	2374	C	C6-N1-C2	-5.50	118.10	120.30
1	2	720	G	P-O3'-C3'	5.50	126.30	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	1	2617	U	C6-N1-C2	-5.49	117.71	121.00
36	5	909	G	N1-C6-O6	-5.49	116.61	119.90
36	5	2843	U	N3-C2-O2	-5.47	118.37	122.20
36	5	1121	U	N3-C2-O2	5.47	126.03	122.20
37	7	1	G	C4-N9-C1'	5.46	133.60	126.50
36	1	2865	U	C5-C4-O4	-5.46	122.62	125.90
36	5	2411	U	C5-C4-O4	5.46	129.18	125.90
36	5	2584	G	OP2-P-O3'	5.46	117.21	105.20
36	1	979	U	N1-C2-N3	5.45	118.17	114.90
1	6	864	U	N3-C2-O2	-5.45	118.39	122.20
36	1	33	G	N1-C6-O6	5.45	123.17	119.90
36	1	2418	G	OP1-P-O3'	5.44	117.18	105.20
36	1	2797	C	N1-C2-O2	-5.44	115.63	118.90
36	1	2816	G	N7-C8-N9	-5.44	110.38	113.10
36	5	3049	A	C8-N9-C4	5.44	107.97	105.80
36	5	909	G	C5-C6-O6	5.43	131.86	128.60
36	5	1127	G	N1-C6-O6	5.43	123.16	119.90
36	1	1355	A	P-O3'-C3'	5.43	126.21	119.70
36	1	2384	A	N9-C4-C5	-5.42	103.63	105.80
36	5	635	G	N1-C6-O6	5.42	123.15	119.90
36	5	644	G	C8-N9-C4	-5.41	104.23	106.40
1	2	934	C	C2-N1-C1'	5.41	124.75	118.80
36	1	2870	C	N3-C4-N4	-5.41	114.22	118.00
1	6	1473	U	N3-C2-O2	-5.41	118.42	122.20
36	5	908	G	O4'-C1'-N9	-5.40	103.88	108.20
36	1	1820	U	P-O3'-C3'	5.39	126.17	119.70
36	1	2385	G	N3-C4-N9	-5.39	122.77	126.00
36	5	1300	G	C5-C6-O6	-5.39	125.37	128.60
1	2	794	U	P-O3'-C3'	5.39	126.17	119.70
24	D2	65	LEU	CA-CB-CG	5.38	127.68	115.30
36	5	2513	U	OP1-P-O3'	5.38	117.04	105.20
36	5	878	G	C5-C6-O6	-5.38	125.37	128.60
36	5	3269	U	P-O3'-C3'	5.38	126.15	119.70
36	1	835	G	O4'-C1'-N9	5.37	112.49	108.20
1	6	1458	G	C4-N9-C1'	5.37	133.48	126.50
36	5	703	G	O5'-P-OP1	-5.37	100.87	105.70
1	2	913	G	P-O3'-C3'	5.36	126.14	119.70
36	5	3309	G	N3-C4-C5	-5.36	125.92	128.60
36	1	880	G	O4'-C1'-N9	5.36	112.49	108.20
36	1	2726	C	C5-C4-N4	5.35	123.95	120.20
36	1	348	A	N1-C6-N6	5.35	121.81	118.60
36	1	776	U	C4-C5-C6	5.35	122.91	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	5	2978	U	N3-C2-O2	-5.35	118.45	122.20
36	1	981	U	C5-C6-N1	5.35	125.37	122.70
36	1	922	U	C2-N1-C1'	5.34	124.11	117.70
36	1	1849	C	O5'-P-OP1	-5.34	100.89	105.70
36	1	65	A	P-O3'-C3'	5.33	126.10	119.70
36	1	2554	A	P-O3'-C3'	5.33	126.10	119.70
36	5	2978	U	C5-C6-N1	-5.33	120.04	122.70
1	6	755	A	P-O3'-C3'	5.33	126.09	119.70
36	1	1581	C	N1-C2-O2	5.32	122.09	118.90
36	5	1367	G	C4-N9-C1'	5.32	133.41	126.50
12	C0	76	LEU	CA-CB-CG	5.31	127.52	115.30
36	1	1367	G	C6-C5-N7	-5.30	127.22	130.40
36	1	2621	G	C5-C6-O6	-5.30	125.42	128.60
47	M0	57	LEU	CA-CB-CG	5.30	127.48	115.30
1	2	1560	U	N3-C2-O2	-5.29	118.50	122.20
1	6	1600	A	OP1-P-O3'	5.29	116.84	105.20
36	5	1926	C	N1-C2-O2	-5.29	115.73	118.90
36	5	1157	G	C4-C5-N7	-5.28	108.69	110.80
36	1	1605	A	O4'-C1'-N9	5.28	112.42	108.20
36	1	15	C	O5'-P-OP2	-5.28	100.95	105.70
1	6	1573	A	OP2-P-O3'	5.28	116.81	105.20
36	5	3154	C	N3-C2-O2	-5.27	118.21	121.90
36	5	1115	G	C4-N9-C1'	5.27	133.35	126.50
36	5	3317	U	N3-C2-O2	-5.27	118.51	122.20
1	6	144	U	N3-C2-O2	-5.26	118.52	122.20
1	6	542	A	O4'-C1'-N9	5.26	112.41	108.20
36	1	3306	U	C5-C4-O4	5.26	129.06	125.90
1	2	158	U	P-O3'-C3'	5.25	126.00	119.70
36	1	3181	C	N3-C2-O2	-5.24	118.23	121.90
1	2	1052	U	C2-N1-C1'	5.23	123.98	117.70
36	5	2870	C	C6-N1-C1'	5.23	127.07	120.80
35	SM	134	ASP	CB-CG-OD2	5.22	123.00	118.30
36	5	2531	C	C2-N1-C1'	5.22	124.54	118.80
36	5	2964	G	N1-C6-O6	-5.22	116.77	119.90
36	1	2872	A	C8-N9-C4	-5.22	103.71	105.80
36	1	3217	C	C6-N1-C2	-5.22	118.21	120.30
36	5	1241	U	OP1-P-O3'	5.22	116.68	105.20
36	1	2816	G	C8-N9-C4	5.21	108.48	106.40
36	1	2385	G	C4-N9-C1'	-5.21	119.72	126.50
1	6	272	U	P-O3'-C3'	5.21	125.95	119.70
36	1	641	C	C5-C4-N4	-5.21	116.55	120.20
36	5	2385	G	O5'-P-OP1	-5.21	101.02	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	1	3382	U	N1-C2-O2	5.20	126.44	122.80
1	6	1097	U	OP2-P-O3'	5.20	116.64	105.20
36	5	1238	C	P-O3'-C3'	5.20	125.94	119.70
36	5	1367	G	N1-C6-O6	5.20	123.02	119.90
36	1	651	G	N3-C4-C5	-5.19	126.00	128.60
36	1	2403	G	N3-C4-C5	-5.19	126.00	128.60
36	1	3344	A	N7-C8-N9	5.19	116.39	113.80
36	5	1200	A	N1-C6-N6	5.19	121.72	118.60
36	5	1604	G	C4-N9-C1'	5.19	133.24	126.50
36	5	640	U	N1-C2-N3	5.19	118.01	114.90
36	1	979	U	C6-N1-C2	-5.18	117.89	121.00
36	5	398	A	O5'-P-OP2	-5.17	101.05	105.70
1	2	287	G	O4'-C1'-N9	5.17	112.33	108.20
24	D2	93	LEU	CA-CB-CG	5.16	127.17	115.30
36	1	3382	U	N3-C2-O2	-5.16	118.59	122.20
36	5	2572	C	C6-N1-C2	-5.16	118.23	120.30
1	2	501	U	P-O3'-C3'	5.16	125.89	119.70
1	2	74	U	O4'-C1'-N1	5.15	112.32	108.20
13	c1	120	GLY	N-CA-C	-5.15	100.22	113.10
1	2	1458	G	C4-N9-C1'	5.13	133.17	126.50
36	5	2833	A	C8-N9-C4	5.13	107.85	105.80
1	6	1473	U	C6-N1-C1'	-5.12	114.03	121.20
1	2	507	U	N3-C2-O2	-5.12	118.62	122.20
36	5	1127	G	C5-C6-O6	-5.12	125.53	128.60
1	6	1560	U	C2-N1-C1'	5.11	123.84	117.70
36	5	1389	G	N1-C6-O6	5.11	122.97	119.90
36	1	2314	U	N1-C2-N3	-5.11	111.83	114.90
36	5	2354	C	N1-C2-O2	-5.11	115.83	118.90
36	1	1858	A	C6-C5-N7	-5.11	128.72	132.30
36	5	3244	A	C8-N9-C4	5.11	107.84	105.80
36	1	3057	U	N1-C2-O2	5.11	126.37	122.80
36	5	3245	A	C4-C5-N7	5.10	113.25	110.70
36	1	1495	U	C2-N1-C1'	-5.10	111.58	117.70
36	5	644	G	C4-C5-N7	-5.10	108.76	110.80
36	5	1911	A	N1-C6-N6	5.09	121.66	118.60
1	2	1657	U	P-O3'-C3'	5.09	125.81	119.70
36	1	327	A	C8-N9-C4	5.09	107.84	105.80
36	1	1064	A	P-O3'-C3'	5.09	125.81	119.70
36	5	170	G	C4-N9-C1'	5.09	133.11	126.50
1	6	264	G	N1-C6-O6	5.09	122.95	119.90
1	6	1058	U	P-O3'-C3'	5.09	125.80	119.70
1	2	1246	C	C2-N1-C1'	5.08	124.39	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	6	965	U	C2-N1-C1'	5.08	123.80	117.70
36	1	2541	U	P-O3'-C3'	5.08	125.80	119.70
64	n8	73	LEU	CA-CB-CG	5.08	126.98	115.30
36	1	1495	U	N1-C2-O2	-5.08	119.25	122.80
36	1	2101	C	P-O3'-C3'	5.08	125.79	119.70
36	1	2298	U	O4'-C1'-N1	5.08	112.26	108.20
36	5	922	U	C4-C5-C6	5.08	122.75	119.70
36	1	2827	U	N1-C2-N3	5.07	117.94	114.90
36	1	2867	C	O5'-P-OP2	-5.07	101.14	105.70
36	1	3022	G	O4'-C1'-N9	5.07	112.26	108.20
41	14	339	LEU	CA-CB-CG	5.07	126.96	115.30
1	2	1491	U	N1-C2-O2	5.06	126.34	122.80
36	1	2227	C	P-O3'-C3'	5.06	125.78	119.70
36	1	1169	A	OP2-P-O3'	5.06	116.33	105.20
36	5	2278	C	N1-C2-N3	-5.06	115.66	119.20
36	5	922	U	N1-C2-N3	5.06	117.94	114.90
36	5	1389	G	C5-C6-O6	-5.06	125.56	128.60
36	1	1495	U	C4-C5-C6	5.05	122.73	119.70
36	5	2772	C	P-O3'-C3'	5.05	125.76	119.70
1	6	610	G	C4-N9-C1'	5.04	133.06	126.50
36	5	1121	U	N1-C2-O2	-5.04	119.27	122.80
71	O5	69	LEU	CA-CB-CG	5.04	126.90	115.30
36	5	1870	C	C6-N1-C2	-5.04	118.28	120.30
36	1	3382	U	C2-N1-C1'	5.04	123.75	117.70
36	1	3092	C	O4'-C1'-N1	5.04	112.23	108.20
1	2	829	A	P-O3'-C3'	5.04	125.75	119.70
36	5	2950	G	O4'-C1'-N9	5.04	112.23	108.20
36	1	1866	C	C6-N1-C2	5.03	122.31	120.30
1	2	1458	G	N3-C4-N9	5.03	129.02	126.00
36	1	2621	G	N3-C2-N2	-5.02	116.38	119.90
36	1	644	G	C5-C6-N1	-5.02	108.99	111.50
36	1	2355	G	N9-C4-C5	-5.02	103.39	105.40
1	2	638	U	C2-N1-C1'	5.00	123.70	117.70

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
39	L2	19	HIS	Peptide
52	M6	110	PRO	Peptide
65	N9	20	GLY	Peptide
22	d0	70	THR	Peptide

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Mol	Chain	Res	Type	Group
52	m6	110	PRO	Peptide
64	n8	66	ALA	Peptide

## 5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

## 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 X-ray entries followed by that with respect to entries of similar resolution.

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	
2	S0	204/251 (81%)	166 (81%)	26 (13%)	12 (6%)	1	10
2	s0	204/251 (81%)	162 (79%)	27 (13%)	15 (7%)	1	6
3	S1	212/254 (84%)	156 (74%)	27 (13%)	29 (14%)	0	1
3	s1	214/254 (84%)	167 (78%)	34 (16%)	13 (6%)	1	9
4	S2	215/253 (85%)	178 (83%)	27 (13%)	10 (5%)	2	14
4	s2	215/253 (85%)	185 (86%)	18 (8%)	12 (6%)	2	11
5	S3	221/239 (92%)	192 (87%)	21 (10%)	8 (4%)	3	20
5	s3	221/239 (92%)	185 (84%)	24 (11%)	12 (5%)	2	12
6	S4	258/260 (99%)	213 (83%)	31 (12%)	14 (5%)	2	12
6	s4	258/260 (99%)	209 (81%)	38 (15%)	11 (4%)	2	16
7	S5	204/224 (91%)	169 (83%)	21 (10%)	14 (7%)	1	7
7	s5	204/224 (91%)	157 (77%)	33 (16%)	14 (7%)	1	7
8	S6	224/236 (95%)	191 (85%)	21 (9%)	12 (5%)	2	12
8	s6	216/236 (92%)	190 (88%)	17 (8%)	9 (4%)	3	16
9	S7	182/189 (96%)	138 (76%)	27 (15%)	17 (9%)	0	3
9	s7	184/189 (97%)	148 (80%)	28 (15%)	8 (4%)	2	16
10	S8	184/200 (92%)	160 (87%)	18 (10%)	6 (3%)	4	21

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	s8	184/200 (92%)	161 (88%)	17 (9%)	6 (3%)	4	21
11	S9	183/196 (93%)	158 (86%)	17 (9%)	8 (4%)	2	15
11	s9	183/196 (93%)	152 (83%)	21 (12%)	10 (6%)	2	11
12	C0	94/105 (90%)	71 (76%)	16 (17%)	7 (7%)	1	6
12	c0	92/105 (88%)	62 (67%)	14 (15%)	16 (17%)	0	0
13	C1	153/155 (99%)	129 (84%)	18 (12%)	6 (4%)	3	18
13	c1	144/155 (93%)	120 (83%)	18 (12%)	6 (4%)	3	16
14	C2	122/142 (86%)	77 (63%)	31 (25%)	14 (12%)	0	2
14	c2	122/142 (86%)	78 (64%)	30 (25%)	14 (12%)	0	2
15	C3	148/150 (99%)	126 (85%)	16 (11%)	6 (4%)	3	16
15	c3	148/150 (99%)	118 (80%)	23 (16%)	7 (5%)	2	14
16	C4	125/136 (92%)	92 (74%)	21 (17%)	12 (10%)	0	3
16	c4	126/136 (93%)	102 (81%)	18 (14%)	6 (5%)	2	14
17	C5	122/141 (86%)	90 (74%)	22 (18%)	10 (8%)	1	5
17	c5	133/141 (94%)	98 (74%)	18 (14%)	17 (13%)	0	1
18	C6	139/142 (98%)	116 (84%)	14 (10%)	9 (6%)	1	8
18	c6	140/142 (99%)	123 (88%)	10 (7%)	7 (5%)	2	13
19	C7	116/136 (85%)	91 (78%)	18 (16%)	7 (6%)	1	9
19	c7	113/136 (83%)	90 (80%)	13 (12%)	10 (9%)	1	4
20	C8	143/145 (99%)	121 (85%)	13 (9%)	9 (6%)	1	8
20	c8	143/145 (99%)	116 (81%)	18 (13%)	9 (6%)	1	8
21	C9	141/143 (99%)	120 (85%)	15 (11%)	6 (4%)	2	16
21	c9	141/143 (99%)	124 (88%)	13 (9%)	4 (3%)	5	25
22	D0	105/120 (88%)	90 (86%)	11 (10%)	4 (4%)	3	19
22	d0	108/120 (90%)	84 (78%)	18 (17%)	6 (6%)	2	11
23	D1	85/87 (98%)	66 (78%)	14 (16%)	5 (6%)	1	10
23	d1	85/87 (98%)	67 (79%)	13 (15%)	5 (6%)	1	10
24	D2	127/129 (98%)	119 (94%)	6 (5%)	2 (2%)	9	37
24	d2	127/129 (98%)	115 (91%)	11 (9%)	1 (1%)	19	54
25	D3	142/144 (99%)	111 (78%)	19 (13%)	12 (8%)	1	5
25	d3	142/144 (99%)	127 (89%)	10 (7%)	5 (4%)	3	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	D4	132/134 (98%)	110 (83%)	13 (10%)	9 (7%)	1	7
26	d4	132/134 (98%)	112 (85%)	12 (9%)	8 (6%)	1	9
27	D5	68/107 (64%)	53 (78%)	8 (12%)	7 (10%)	0	3
27	d5	67/107 (63%)	56 (84%)	9 (13%)	2 (3%)	4	23
28	D6	95/97 (98%)	62 (65%)	19 (20%)	14 (15%)	0	0
28	d6	95/97 (98%)	71 (75%)	18 (19%)	6 (6%)	1	8
29	D7	79/81 (98%)	66 (84%)	11 (14%)	2 (2%)	5	27
29	d7	79/81 (98%)	60 (76%)	16 (20%)	3 (4%)	3	19
30	D8	61/66 (92%)	48 (79%)	12 (20%)	1 (2%)	9	37
30	d8	61/66 (92%)	46 (75%)	11 (18%)	4 (7%)	1	7
31	D9	51/55 (93%)	40 (78%)	9 (18%)	2 (4%)	3	18
31	d9	51/55 (93%)	41 (80%)	7 (14%)	3 (6%)	1	10
32	E0	58/60 (97%)	46 (79%)	10 (17%)	2 (3%)	3	21
33	E1	69/76 (91%)	37 (54%)	18 (26%)	14 (20%)	0	0
33	e1	74/76 (97%)	35 (47%)	20 (27%)	19 (26%)	0	0
34	SR	316/318 (99%)	273 (86%)	30 (10%)	13 (4%)	3	16
34	sR	316/318 (99%)	268 (85%)	38 (12%)	10 (3%)	4	22
35	SM	131/263 (50%)	105 (80%)	16 (12%)	10 (8%)	1	5
35	sM	80/263 (30%)	61 (76%)	8 (10%)	11 (14%)	0	1
39	L2	250/253 (99%)	230 (92%)	15 (6%)	5 (2%)	7	31
39	l2	250/253 (99%)	209 (84%)	32 (13%)	9 (4%)	3	20
40	L3	384/386 (100%)	340 (88%)	28 (7%)	16 (4%)	3	16
40	l3	384/386 (100%)	346 (90%)	30 (8%)	8 (2%)	7	30
41	L4	359/361 (99%)	308 (86%)	32 (9%)	19 (5%)	2	12
41	l4	359/361 (99%)	297 (83%)	39 (11%)	23 (6%)	1	8
42	L5	294/296 (99%)	254 (86%)	22 (8%)	18 (6%)	1	9
42	l5	292/296 (99%)	263 (90%)	22 (8%)	7 (2%)	6	27
43	L6	152/175 (87%)	136 (90%)	14 (9%)	2 (1%)	12	42
43	l6	153/175 (87%)	128 (84%)	21 (14%)	4 (3%)	5	26
44	L7	220/243 (90%)	198 (90%)	14 (6%)	8 (4%)	3	20
44	l7	221/243 (91%)	200 (90%)	17 (8%)	4 (2%)	8	34

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	L8	231/255 (91%)	193 (84%)	29 (13%)	9 (4%)	3	18
45	l8	229/255 (90%)	197 (86%)	20 (9%)	12 (5%)	2	12
46	L9	189/191 (99%)	163 (86%)	24 (13%)	2 (1%)	14	46
46	l9	189/191 (99%)	172 (91%)	13 (7%)	4 (2%)	7	30
47	M0	207/220 (94%)	180 (87%)	21 (10%)	6 (3%)	4	24
47	m0	209/220 (95%)	174 (83%)	27 (13%)	8 (4%)	3	19
48	M1	167/173 (96%)	134 (80%)	21 (13%)	12 (7%)	1	6
48	m1	167/173 (96%)	145 (87%)	10 (6%)	12 (7%)	1	6
49	M3	191/198 (96%)	162 (85%)	18 (9%)	11 (6%)	1	10
49	m3	192/198 (97%)	157 (82%)	22 (12%)	13 (7%)	1	7
50	M4	134/137 (98%)	117 (87%)	8 (6%)	9 (7%)	1	7
50	m4	135/137 (98%)	129 (96%)	6 (4%)	0	100	100
51	M5	201/203 (99%)	186 (92%)	8 (4%)	7 (4%)	3	20
51	m5	201/203 (99%)	179 (89%)	16 (8%)	6 (3%)	4	23
52	M6	195/198 (98%)	182 (93%)	9 (5%)	4 (2%)	7	30
52	m6	195/198 (98%)	181 (93%)	10 (5%)	4 (2%)	7	30
53	M7	181/183 (99%)	151 (83%)	21 (12%)	9 (5%)	2	13
53	m7	153/183 (84%)	141 (92%)	11 (7%)	1 (1%)	22	57
54	M8	183/185 (99%)	164 (90%)	15 (8%)	4 (2%)	6	29
54	m8	183/185 (99%)	162 (88%)	17 (9%)	4 (2%)	6	29
55	M9	186/188 (99%)	169 (91%)	16 (9%)	1 (0%)	29	64
55	m9	186/188 (99%)	168 (90%)	16 (9%)	2 (1%)	14	46
56	N0	170/172 (99%)	156 (92%)	10 (6%)	4 (2%)	6	27
56	n0	170/172 (99%)	159 (94%)	9 (5%)	2 (1%)	13	44
57	N1	157/159 (99%)	140 (89%)	15 (10%)	2 (1%)	12	42
57	n1	157/159 (99%)	145 (92%)	10 (6%)	2 (1%)	12	42
58	N2	98/120 (82%)	81 (83%)	15 (15%)	2 (2%)	7	31
58	n2	96/120 (80%)	83 (86%)	12 (12%)	1 (1%)	15	49
59	N3	134/136 (98%)	123 (92%)	10 (8%)	1 (1%)	22	57
59	n3	134/136 (98%)	126 (94%)	7 (5%)	1 (1%)	22	57
60	N4	96/155 (62%)	80 (83%)	10 (10%)	6 (6%)	1	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
60	n4	133/155 (86%)	110 (83%)	14 (10%)	9 (7%)	1	7
61	N5	119/141 (84%)	107 (90%)	8 (7%)	4 (3%)	3	21
61	n5	118/141 (84%)	98 (83%)	11 (9%)	9 (8%)	1	5
62	N6	124/126 (98%)	113 (91%)	10 (8%)	1 (1%)	19	54
62	n6	124/126 (98%)	114 (92%)	7 (6%)	3 (2%)	6	27
63	N7	133/135 (98%)	114 (86%)	10 (8%)	9 (7%)	1	7
63	n7	133/135 (98%)	99 (74%)	21 (16%)	13 (10%)	0	3
64	N8	146/148 (99%)	120 (82%)	19 (13%)	7 (5%)	2	14
64	n8	146/148 (99%)	129 (88%)	13 (9%)	4 (3%)	5	25
65	N9	56/58 (97%)	47 (84%)	7 (12%)	2 (4%)	3	20
65	n9	56/58 (97%)	41 (73%)	11 (20%)	4 (7%)	1	6
66	O0	95/104 (91%)	89 (94%)	6 (6%)	0	100	100
66	o0	98/104 (94%)	88 (90%)	9 (9%)	1 (1%)	15	49
67	O1	107/112 (96%)	98 (92%)	3 (3%)	6 (6%)	2	11
67	o1	107/112 (96%)	91 (85%)	11 (10%)	5 (5%)	2	14
68	O2	125/129 (97%)	116 (93%)	8 (6%)	1 (1%)	19	54
68	o2	125/129 (97%)	110 (88%)	11 (9%)	4 (3%)	4	22
69	O3	104/106 (98%)	95 (91%)	9 (9%)	0	100	100
69	o3	104/106 (98%)	96 (92%)	5 (5%)	3 (3%)	4	24
70	O4	110/119 (92%)	98 (89%)	11 (10%)	1 (1%)	17	52
70	o4	110/119 (92%)	96 (87%)	11 (10%)	3 (3%)	5	25
71	O5	117/119 (98%)	106 (91%)	10 (8%)	1 (1%)	17	52
71	o5	117/119 (98%)	101 (86%)	12 (10%)	4 (3%)	3	21
72	O6	97/99 (98%)	77 (79%)	15 (16%)	5 (5%)	2	12
72	o6	97/99 (98%)	80 (82%)	13 (13%)	4 (4%)	3	16
73	O7	85/87 (98%)	74 (87%)	9 (11%)	2 (2%)	6	27
73	o7	85/87 (98%)	73 (86%)	8 (9%)	4 (5%)	2	14
74	O8	75/77 (97%)	66 (88%)	6 (8%)	3 (4%)	3	17
74	o8	75/77 (97%)	69 (92%)	5 (7%)	1 (1%)	12	42
75	O9	48/50 (96%)	43 (90%)	5 (10%)	0	100	100
75	o9	48/50 (96%)	44 (92%)	3 (6%)	1 (2%)	7	30

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
76	Q0	50/52 (96%)	44 (88%)	4 (8%)	2 (4%)	3	17
76	q0	50/52 (96%)	47 (94%)	2 (4%)	1 (2%)	7	31
77	Q1	23/25 (92%)	22 (96%)	1 (4%)	0	100	100
77	q1	23/25 (92%)	23 (100%)	0	0	100	100
78	Q2	103/105 (98%)	79 (77%)	21 (20%)	3 (3%)	4	24
78	q2	103/105 (98%)	96 (93%)	6 (6%)	1 (1%)	15	49
79	Q3	89/91 (98%)	76 (85%)	10 (11%)	3 (3%)	3	21
79	q3	89/91 (98%)	82 (92%)	5 (6%)	2 (2%)	6	29
80	e0	60/62 (97%)	38 (63%)	16 (27%)	6 (10%)	0	3
82	p0	139/311 (45%)	120 (86%)	15 (11%)	4 (3%)	4	24
All	All	22291/24121 (92%)	18907 (85%)	2362 (11%)	1022 (5%)	2	15

All (1022) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	S0	4	PRO
2	S0	158	VAL
2	S0	190	ASP
2	S0	191	ARG
3	S1	35	PRO
3	S1	37	THR
3	S1	58	SER
3	S1	60	ALA
3	S1	63	GLY
3	S1	132	ASP
3	S1	181	LEU
3	S1	182	ALA
3	S1	206	PRO
4	S2	106	ASP
4	S2	107	SER
4	S2	148	LEU
5	S3	62	ASN
5	S3	220	PRO
6	S4	234	PRO
7	S5	43	PHE
8	S6	122	GLU
8	S6	154	ARG
8	S6	173	PRO

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
9	S7	64	VAL
9	S7	131	PHE
9	S7	166	LEU
10	S8	149	SER
11	S9	93	LEU
11	S9	98	ALA
11	S9	134	ILE
11	S9	150	LEU
12	C0	60	SER
12	C0	87	VAL
12	C0	88	PRO
13	C1	7	VAL
14	C2	22	VAL
14	C2	126	TRP
14	C2	127	GLY
16	C4	42	VAL
16	C4	125	SER
17	C5	54	ALA
17	C5	87	PRO
17	C5	125	PRO
18	C6	40	GLU
18	C6	41	PRO
18	C6	114	ARG
18	C6	138	PHE
19	C7	85	VAL
19	C7	86	PRO
19	C7	88	VAL
20	C8	14	ILE
20	C8	60	GLU
20	C8	92	ILE
21	C9	31	PRO
21	C9	53	TRP
27	D5	44	GLN
27	D5	71	ILE
27	D5	97	LYS
28	D6	45	VAL
28	D6	82	ARG
28	D6	84	VAL
28	D6	85	ARG
28	D6	86	VAL
32	E0	47	VAL
33	E1	84	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
33	E1	98	VAL
33	E1	103	LEU
34	SR	135	THR
34	SR	318	ALA
40	L3	3	HIS
40	L3	5	LYS
40	L3	19	ARG
40	L3	174	LYS
40	L3	347	SER
41	L4	4	PRO
41	L4	130	ALA
41	L4	131	VAL
41	L4	292	SER
41	L4	311	HIS
42	L5	233	ALA
42	L5	234	ASP
42	L5	252	ALA
45	L8	25	PRO
45	L8	31	PRO
45	L8	122	LYS
45	L8	196	ALA
48	M1	8	PRO
48	M1	11	ASP
48	M1	55	ARG
49	M3	129	ASN
49	M3	166	ALA
50	M4	8	LYS
50	M4	9	ALA
51	M5	74	PRO
51	M5	75	VAL
52	M6	110	PRO
52	M6	111	PRO
53	M7	157	VAL
54	M8	41	ASP
56	N0	13	ARG
58	N2	51	GLY
59	N3	82	ALA
60	N4	64	THR
60	N4	81	PRO
63	N7	7	ALA
63	N7	17	ARG
63	N7	30	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
63	N7	125	GLY
71	O5	119	LYS
74	O8	18	ALA
76	Q0	78	ILE
78	Q2	30	ALA
2	s0	4	PRO
2	s0	164	ASN
2	s0	189	VAL
2	s0	206	ASP
3	s1	106	THR
3	s1	147	ALA
3	s1	223	PHE
4	s2	92	ALA
5	s3	211	PRO
5	s3	220	PRO
6	s4	12	LEU
7	s5	28	PRO
7	s5	43	PHE
7	s5	184	PHE
7	s5	204	GLY
8	s6	173	PRO
8	s6	174	LYS
9	s7	64	VAL
9	s7	106	SER
10	s8	36	THR
12	c0	83	PRO
13	c1	61	THR
15	c3	66	ILE
16	c4	51	ASP
16	c4	126	THR
17	c5	11	VAL
17	c5	17	TYR
17	c5	52	LYS
17	c5	68	PRO
17	c5	80	MET
17	c5	125	PRO
17	c5	126	VAL
18	c6	116	LEU
19	c7	88	VAL
19	c7	99	VAL
19	c7	103	ASP
20	c8	8	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
20	c8	14	ILE
20	c8	91	ASP
20	c8	92	ILE
21	c9	29	GLU
21	c9	33	TYR
24	d2	68	ARG
26	d4	35	VAL
26	d4	78	SER
27	d5	104	ALA
28	d6	13	LYS
30	d8	16	LEU
31	d9	6	VAL
31	d9	7	TRP
80	e0	60	PRO
80	e0	61	SER
33	e1	87	THR
33	e1	92	LYS
33	e1	98	VAL
33	e1	100	LEU
33	e1	102	VAL
34	sR	163	ASP
35	sM	50	ASN
39	l2	24	GLN
39	l2	238	ILE
40	l3	140	ASP
40	l3	347	SER
41	l4	14	GLU
41	l4	301	PRO
41	l4	329	PRO
42	l5	26	GLY
42	l5	258	LYS
42	l5	270	LYS
44	l7	228	SER
45	l8	25	PRO
45	l8	34	PHE
47	m0	25	ALA
47	m0	220	GLN
48	m1	8	PRO
48	m1	10	ARG
48	m1	94	ARG
48	m1	108	GLU
49	m3	47	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
49	m3	51	LEU
49	m3	101	ARG
49	m3	134	GLU
51	m5	55	ALA
51	m5	76	PRO
51	m5	183	THR
51	m5	184	LYS
52	m6	110	PRO
56	n0	2	ALA
57	n1	136	ARG
59	n3	42	SER
60	n4	63	ILE
60	n4	133	THR
61	n5	40	LEU
61	n5	44	PRO
62	n6	125	LYS
63	n7	3	LYS
63	n7	17	ARG
63	n7	125	GLY
63	n7	129	TRP
65	n9	23	LYS
65	n9	39	PHE
67	o1	84	ASP
67	o1	86	LYS
68	o2	6	HIS
69	o3	88	ASN
70	o4	79	SER
72	o6	64	SER
76	q0	78	ILE
2	S0	39	ASN
2	S0	202	TYR
3	S1	26	ARG
3	S1	62	LYS
3	S1	213	ARG
5	S3	93	ASP
6	S4	104	ASP
7	S5	39	GLU
7	S5	63	GLN
7	S5	153	GLY
9	S7	32	PRO
9	S7	110	GLN
9	S7	116	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
12	C0	64	TYR
12	C0	81	ASN
12	C0	92	ILE
13	C1	4	GLU
13	C1	55	ASP
13	C1	145	ALA
14	C2	91	VAL
15	C3	22	ALA
15	C3	27	LYS
15	C3	68	GLY
16	C4	108	SER
16	C4	126	THR
17	C5	48	GLY
19	C7	115	LEU
19	C7	124	VAL
20	C8	61	LEU
20	C8	82	PRO
21	C9	50	ALA
21	C9	69	LYS
22	D0	16	GLN
22	D0	17	GLN
23	D1	7	GLN
23	D1	8	LEU
24	D2	83	ILE
25	D3	3	LYS
25	D3	4	GLY
25	D3	39	LYS
25	D3	96	VAL
25	D3	114	LYS
25	D3	131	SER
26	D4	34	ASN
26	D4	60	PHE
26	D4	100	VAL
27	D5	39	ALA
28	D6	11	ASN
28	D6	18	VAL
33	E1	99	LYS
34	SR	146	GLY
35	SM	12	VAL
35	SM	87	THR
35	SM	140	ASP
39	L2	251	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
40	L3	186	GLY
41	L4	15	ALA
41	L4	140	HIS
41	L4	142	VAL
41	L4	313	LEU
41	L4	338	LYS
42	L5	6	ASP
43	L6	5	LYS
44	L7	24	GLU
44	L7	26	VAL
44	L7	160	ARG
44	L7	163	LEU
45	L8	39	ALA
45	L8	157	VAL
47	M0	113	GLN
48	M1	94	ARG
48	M1	108	GLU
48	M1	165	GLN
49	M3	47	ALA
49	M3	51	LEU
49	M3	76	THR
49	M3	141	ALA
49	M3	165	SER
50	M4	10	SER
51	M5	94	TYR
51	M5	184	LYS
52	M6	89	SER
53	M7	67	ILE
53	M7	110	THR
55	M9	53	LYS
57	N1	124	VAL
57	N1	159	PHE
60	N4	97	LYS
61	N5	50	ALA
61	N5	117	ASN
62	N6	84	LYS
63	N7	16	GLY
64	N8	57	GLY
64	N8	66	ALA
64	N8	96	LYS
64	N8	97	GLU
67	O1	6	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
67	O1	84	ASP
74	O8	33	LYS
78	Q2	100	LYS
2	s0	68	PRO
2	s0	114	SER
3	s1	21	VAL
3	s1	26	ARG
3	s1	39	GLU
3	s1	232	HIS
4	s2	106	ASP
4	s2	163	GLY
4	s2	238	SER
5	s3	61	GLU
5	s3	216	PRO
5	s3	217	ILE
6	s4	94	ALA
6	s4	163	ASP
7	s5	100	ASN
8	s6	70	PRO
8	s6	175	ILE
9	s7	74	GLN
10	s8	122	GLY
11	s9	6	ARG
11	s9	118	LEU
11	s9	147	MET
12	c0	2	LEU
12	c0	24	LYS
12	c0	25	LYS
12	c0	32	HIS
12	c0	80	LEU
12	c0	82	LEU
12	c0	94	ILE
13	c1	121	ASP
13	c1	133	LYS
14	c2	22	VAL
14	c2	89	ILE
15	c3	87	ASP
15	c3	139	TRP
17	c5	48	GLY
17	c5	127	ARG
17	c5	132	GLY
18	c6	42	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
19	c7	67	ARG
20	c8	135	GLY
22	d0	49	ASN
23	d1	44	ARG
25	d3	70	LYS
26	d4	33	ALA
26	d4	52	LYS
26	d4	53	ASP
28	d6	27	SER
28	d6	82	ARG
80	e0	51	ASN
33	e1	79	LYS
33	e1	83	LYS
33	e1	84	VAL
33	e1	105	TYR
33	e1	110	ALA
33	e1	112	GLY
33	e1	137	ASP
34	sR	165	ASP
34	sR	318	ALA
35	sM	42	ALA
35	sM	65	THR
35	sM	124	GLU
39	l2	96	LEU
40	l3	129	ALA
40	l3	142	ALA
40	l3	155	ALA
40	l3	348	ARG
41	l4	15	ALA
41	l4	142	VAL
43	l6	98	VAL
44	l7	229	PHE
45	l8	122	LYS
45	l8	196	ALA
45	l8	203	VAL
46	l9	62	ARG
46	l9	144	ILE
48	m1	95	ASN
48	m1	153	LYS
49	m3	76	THR
49	m3	93	ILE
49	m3	129	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
49	m3	150	PRO
53	m7	37	ASN
54	m8	99	THR
55	m9	35	ALA
60	n4	25	ASP
60	n4	26	SER
60	n4	76	VAL
60	n4	83	THR
61	n5	24	LEU
61	n5	55	ASN
62	n6	83	ASP
62	n6	84	LYS
65	n9	21	ILE
66	o0	10	ILE
67	o1	45	GLY
67	o1	64	VAL
70	o4	82	ALA
71	o5	82	ALA
71	o5	119	LYS
72	o6	98	ARG
73	o7	87	SER
79	q3	4	ARG
82	p0	33	VAL
2	S0	5	ALA
2	S0	95	ALA
2	S0	103	THR
2	S0	195	TRP
3	S1	21	VAL
3	S1	54	LEU
3	S1	61	LEU
3	S1	156	ALA
3	S1	158	SER
3	S1	177	GLN
3	S1	209	ASN
3	S1	221	PRO
3	S1	223	PHE
5	S3	216	PRO
5	S3	218	LEU
6	S4	12	LEU
6	S4	195	ILE
6	S4	204	GLY
6	S4	245	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	S5	31	GLU
7	S5	98	MET
8	S6	148	SER
8	S6	149	LYS
8	S6	152	ASP
8	S6	174	LYS
9	S7	5	GLN
9	S7	29	ASN
9	S7	74	GLN
9	S7	98	ILE
9	S7	133	THR
9	S7	144	VAL
9	S7	186	PRO
10	S8	59	ARG
10	S8	120	THR
11	S9	119	ALA
11	S9	167	ALA
12	C0	30	ALA
13	C1	6	THR
14	C2	69	ALA
14	C2	92	ALA
14	C2	106	ILE
14	C2	107	ASP
14	C2	108	ARG
14	C2	111	ASN
14	C2	119	SER
15	C3	28	LEU
15	C3	138	ASN
16	C4	18	ARG
16	C4	75	GLY
16	C4	114	ARG
17	C5	11	VAL
17	C5	52	LYS
17	C5	69	GLU
17	C5	126	VAL
18	C6	32	ASN
18	C6	39	VAL
19	C7	98	GLY
20	C8	144	ARG
21	C9	39	THR
22	D0	49	ASN
23	D1	44	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
23	D1	82	VAL
25	D3	92	CYS
25	D3	112	LYS
26	D4	6	THR
26	D4	36	SER
26	D4	51	GLU
26	D4	54	ALA
27	D5	43	ASP
28	D6	16	GLY
28	D6	46	GLU
28	D6	81	ALA
28	D6	97	PRO
29	D7	23	THR
32	E0	51	ASN
33	E1	86	THR
33	E1	100	LEU
33	E1	102	VAL
33	E1	118	ARG
33	E1	144	CYS
34	SR	15	GLY
34	SR	16	HIS
34	SR	50	ASP
34	SR	98	GLU
34	SR	163	ASP
35	SM	52	PRO
35	SM	86	ASN
39	L2	14	SER
39	L2	127	ALA
39	L2	144	ASN
39	L2	234	LYS
40	L3	4	ARG
40	L3	140	ASP
40	L3	155	ALA
40	L3	187	SER
41	L4	11	LEU
41	L4	146	PRO
41	L4	232	SER
42	L5	57	ASN
42	L5	137	ASP
42	L5	253	PHE
42	L5	259	LYS
42	L5	260	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	L7	91	GLY
44	L7	212	GLY
47	M0	144	ASN
47	M0	187	ALA
47	M0	194	GLY
48	M1	95	ASN
48	M1	114	ILE
49	M3	130	GLY
49	M3	136	GLU
50	M4	29	ALA
50	M4	36	VAL
51	M5	187	ARG
53	M7	160	ALA
53	M7	161	ALA
58	N2	11	ILE
60	N4	86	SER
63	N7	35	SER
64	N8	76	ASP
67	O1	83	GLU
68	O2	12	LYS
72	O6	34	SER
74	O8	58	ASP
79	Q3	7	LYS
79	Q3	51	ALA
2	s0	30	GLN
2	s0	186	GLY
2	s0	194	PRO
3	s1	206	PRO
4	s2	149	GLY
5	s3	44	THR
5	s3	93	ASP
6	s4	90	ILE
6	s4	104	ASP
6	s4	168	LYS
6	s4	194	THR
7	s5	39	GLU
8	s6	138	ALA
8	s6	152	ASP
8	s6	154	ARG
9	s7	5	GLN
9	s7	30	SER
9	s7	144	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
10	s8	52	ASN
10	s8	62	THR
11	s9	150	LEU
11	s9	167	ALA
12	c0	30	ALA
12	c0	31	LYS
12	c0	92	THR
12	c0	95	GLN
13	c1	55	ASP
14	c2	58	LEU
14	c2	92	ALA
14	c2	101	ALA
14	c2	111	ASN
15	c3	140	LYS
16	c4	12	GLN
17	c5	12	PHE
17	c5	128	HIS
17	c5	131	ALA
18	c6	97	VAL
18	c6	113	ASP
20	c8	7	GLU
22	d0	17	GLN
22	d0	72	ASN
23	d1	2	GLU
28	d6	8	ASN
29	d7	20	LYS
30	d8	33	LEU
31	d9	11	PRO
33	e1	81	LYS
33	e1	128	ALA
33	e1	131	PHE
34	sR	15	GLY
34	sR	160	GLU
34	sR	161	LYS
35	sM	66	ALA
35	sM	88	LYS
35	sM	128	ALA
39	l2	216	HIS
40	l3	3	HIS
40	l3	187	SER
41	l4	5	GLN
41	l4	90	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
41	l4	145	ILE
41	l4	220	ARG
41	l4	302	ALA
41	l4	339	LEU
41	l4	349	THR
42	l5	178	ASN
42	l5	260	PHE
43	l6	10	TYR
44	l7	178	ILE
45	l8	39	ALA
45	l8	69	LEU
45	l8	81	THR
45	l8	121	SER
45	l8	133	LYS
47	m0	82	ARG
47	m0	176	LEU
48	m1	9	MET
49	m3	135	ALA
49	m3	152	THR
52	m6	5	PRO
54	m8	84	VAL
54	m8	113	LYS
60	n4	64	THR
60	n4	72	SER
60	n4	134	GLN
61	n5	45	LYS
61	n5	48	SER
61	n5	108	LEU
63	n7	7	ALA
63	n7	70	PRO
63	n7	103	GLN
63	n7	128	GLN
64	n8	48	TYR
64	n8	129	PHE
67	o1	82	GLU
69	o3	94	PHE
72	o6	33	ALA
74	o8	18	ALA
75	o9	3	ALA
2	S0	161	PRO
3	S1	48	VAL
3	S1	51	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	S1	130	SER
3	S1	224	ASP
4	S2	223	GLY
4	S2	248	SER
5	S3	217	ILE
6	S4	3	ARG
6	S4	205	PHE
6	S4	235	TYR
7	S5	64	VAL
7	S5	65	ARG
8	S6	20	ASP
8	S6	25	ARG
8	S6	69	LEU
9	S7	36	ALA
9	S7	134	GLU
9	S7	178	GLY
10	S8	22	ARG
10	S8	40	ALA
10	S8	152	ILE
11	S9	147	MET
13	C1	3	THR
14	C2	125	ASN
16	C4	40	ALA
16	C4	96	PRO
16	C4	124	ASP
17	C5	9	LYS
18	C6	142	TYR
20	C8	25	ASN
20	C8	76	PRO
21	C9	12	GLN
22	D0	21	LYS
23	D1	10	GLU
25	D3	40	SER
25	D3	41	SER
26	D4	5	VAL
27	D5	41	ILE
33	E1	87	THR
33	E1	109	ASP
33	E1	148	TYR
34	SR	161	LYS
34	SR	194	GLY
34	SR	237	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
35	SM	53	ARG
35	SM	88	ARG
35	SM	139	GLU
40	L3	66	LYS
40	L3	290	ASP
41	L4	5	GLN
41	L4	14	GLU
41	L4	270	SER
42	L5	93	THR
42	L5	188	GLU
42	L5	213	ASP
42	L5	221	GLU
42	L5	258	LYS
43	L6	98	VAL
44	L7	191	VAL
46	L9	96	HIS
48	M1	140	ARG
50	M4	28	SER
52	M6	65	ASN
53	M7	164	LYS
54	M8	98	LYS
54	M8	162	ALA
56	N0	2	ALA
56	N0	154	HIS
61	N5	44	PRO
61	N5	55	ASN
63	N7	103	GLN
64	N8	117	ARG
72	O6	3	VAL
72	O6	27	SER
72	O6	64	SER
73	O7	84	SER
73	O7	85	LYS
2	s0	8	ASP
2	s0	115	PHE
3	s1	207	LEU
3	s1	224	ASP
4	s2	91	ARG
4	s2	235	LEU
4	s2	239	PRO
5	s3	45	LYS
5	s3	179	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	s3	196	ARG
5	s3	204	ASP
5	s3	219	ALA
6	s4	245	LYS
7	s5	29	ILE
7	s5	74	ALA
7	s5	81	ARG
7	s5	154	ALA
9	s7	133	THR
11	s9	3	ARG
11	s9	121	SER
12	c0	35	ILE
13	c1	7	VAL
14	c2	87	PRO
14	c2	106	ILE
14	c2	108	ARG
14	c2	131	ASP
16	c4	37	GLU
16	c4	114	ARG
17	c5	14	THR
17	c5	130	ARG
19	c7	63	LYS
19	c7	86	PRO
19	c7	116	LYS
20	c8	61	LEU
23	d1	42	GLU
26	d4	36	SER
26	d4	58	PHE
27	d5	85	LYS
29	d7	3	LEU
30	d8	61	ARG
30	d8	62	GLU
80	e0	47	VAL
80	e0	54	ARG
33	e1	136	LYS
35	sM	46	LYS
39	l2	56	ALA
39	l2	80	GLU
41	l4	4	PRO
41	l4	144	LYS
41	l4	268	ALA
41	l4	311	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
41	l4	330	TYR
42	l5	119	TYR
43	l6	93	VAL
44	l7	191	VAL
46	l9	2	LYS
46	l9	167	VAL
47	m0	204	GLY
48	m1	167	TYR
49	m3	60	ALA
51	m5	68	ARG
52	m6	65	ASN
55	m9	156	ASN
56	n0	48	LEU
58	n2	60	GLY
61	n5	47	ALA
63	n7	34	LYS
63	n7	134	LEU
64	n8	76	ASP
68	o2	5	PRO
68	o2	125	ARG
71	o5	83	LYS
71	o5	84	LYS
73	o7	58	THR
73	o7	86	ALA
2	S0	205	ARG
3	S1	176	VAL
3	S1	210	ILE
4	S2	35	TRP
4	S2	150	GLN
5	S3	81	PRO
6	S4	57	ASN
6	S4	77	ARG
7	S5	51	VAL
7	S5	58	LEU
7	S5	127	GLN
8	S6	146	GLY
9	S7	112	ARG
11	S9	166	GLY
14	C2	87	PRO
15	C3	3	ARG
16	C4	109	GLY
17	C5	127	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
19	C7	87	GLU
20	C8	142	GLY
25	D3	70	LYS
28	D6	36	ILE
29	D7	51	GLN
31	D9	20	GLN
33	E1	111	GLU
35	SM	63	ASP
41	L4	233	LEU
42	L5	125	VAL
42	L5	185	PHE
44	L7	178	ILE
45	L8	36	ILE
46	L9	2	LYS
48	M1	64	LYS
49	M3	193	ALA
50	M4	135	LEU
54	M8	99	THR
60	N4	80	ARG
63	N7	8	GLY
64	N8	56	VAL
65	N9	25	LYS
67	O1	7	VAL
67	O1	82	GLU
67	O1	99	ALA
78	Q2	17	CYS
2	s0	10	THR
2	s0	103	THR
3	s1	153	HIS
3	s1	179	SER
4	s2	150	GLN
4	s2	182	PRO
6	s4	30	ARG
6	s4	107	GLY
6	s4	222	LEU
8	s6	126	ASP
10	s8	78	ILE
12	c0	3	MET
13	c1	144	ALA
14	c2	39	ASP
14	c2	107	ASP
14	c2	119	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
15	c3	22	ALA
15	c3	47	PRO
17	c5	6	ASN
17	c5	71	GLU
18	c6	40	GLU
19	c7	83	GLN
19	c7	113	LEU
21	c9	34	VAL
21	c9	142	GLU
23	d1	3	ASN
25	d3	89	ASN
25	d3	90	ASP
25	d3	101	GLU
25	d3	133	LEU
28	d6	35	ALA
29	d7	58	SER
80	e0	19	PRO
33	e1	86	THR
33	e1	127	GLY
33	e1	148	TYR
34	sR	237	GLN
35	sM	43	ASP
35	sM	47	ALA
39	l2	127	ALA
41	l4	174	ALA
41	l4	328	ASN
41	l4	341	SER
41	l4	342	LYS
43	l6	11	PRO
45	l8	237	ILE
47	m0	3	ARG
47	m0	179	PRO
47	m0	196	PHE
48	m1	114	ILE
49	m3	44	ALA
51	m5	81	TYR
52	m6	16	VAL
54	m8	77	ALA
63	n7	28	PRO
63	n7	56	LYS
64	n8	110	GLY
65	n9	24	PRO

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
70	o4	78	GLY
79	q3	51	ALA
82	p0	93	LEU
3	S1	114	VAL
3	S1	131	ASP
6	S4	193	GLY
6	S4	201	HIS
7	S5	154	ALA
25	D3	8	GLY
28	D6	64	LEU
30	D8	35	ASP
34	SR	231	MET
40	L3	314	TYR
40	L3	348	ARG
41	L4	190	GLY
42	L5	7	ALA
42	L5	187	THR
48	M1	173	ASP
49	M3	5	LYS
50	M4	6	ILE
51	M5	81	TYR
51	M5	144	ARG
53	M7	159	LYS
56	N0	12	ARG
70	O4	82	ALA
76	Q0	79	GLU
79	Q3	58	SER
2	s0	162	CYS
3	s1	22	ASP
4	s2	107	SER
4	s2	151	PRO
7	s5	62	VAL
7	s5	101	GLY
10	s8	101	ILE
11	s9	162	SER
12	c0	88	ILE
12	c0	90	PRO
18	c6	3	ALA
20	c8	94	ASP
23	d1	4	ASP
26	d4	30	PRO
28	d6	59	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
34	sR	49	GLY
34	sR	97	GLY
35	sM	68	ARG
39	l2	142	ASP
39	l2	194	ASN
41	l4	338	LYS
42	l5	125	VAL
48	m1	12	LEU
57	n1	148	PRO
61	n5	25	LYS
72	o6	34	SER
78	q2	78	LYS
5	S3	211	PRO
6	S4	150	PRO
7	S5	150	GLY
8	S6	165	GLY
26	D4	35	VAL
28	D6	58	VAL
31	D9	11	PRO
34	SR	105	GLY
40	L3	169	THR
40	L3	317	ILE
45	L8	135	GLY
65	N9	21	ILE
14	c2	115	VAL
15	c3	137	PRO
16	c4	131	GLY
34	sR	105	GLY
48	m1	117	ASP
49	m3	50	PRO
63	n7	36	HIS
69	o3	90	PRO
82	p0	47	GLY
7	S5	204	GLY
14	C2	115	VAL
18	C6	33	GLY
24	D2	67	GLY
53	M7	182	ILE
72	O6	21	THR
11	s9	5	PRO
18	c6	39	VAL
19	c7	117	LEU

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Mol	Chain	Res	Type
20	c8	4	VAL
22	d0	51	VAL
4	S2	145	GLY
4	S2	235	LEU
16	C4	39	ILE
33	E1	127	GLY
47	M0	117	GLY
63	N7	36	HIS
2	s0	44	GLY
7	s5	152	GLY
11	s9	168	ARG
22	d0	96	PRO
41	l4	146	PRO
45	l8	163	VAL
68	o2	124	GLY
27	D5	88	ILE
35	SM	17	VAL
41	L4	272	VAL
45	L8	73	PRO
50	M4	39	ILE
53	M7	84	PRO
60	N4	76	VAL
7	s5	151	GLY
22	d0	118	VAL
48	m1	120	ILE
82	p0	289	ALA
4	S2	173	PRO
18	C6	97	VAL
47	M0	47	PRO
48	M1	117	ASP
8	s6	69	LEU
9	s7	131	PHE
73	o7	40	PRO

### 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 X-ray entries followed by that with respect to entries of similar resolution.

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	
2	S0	164/209 (78%)	146 (89%)	18 (11%)	6	25
2	s0	165/209 (79%)	138 (84%)	27 (16%)	2	10
3	S1	191/223 (86%)	164 (86%)	27 (14%)	3	15
3	s1	192/223 (86%)	163 (85%)	29 (15%)	3	12
4	S2	176/204 (86%)	154 (88%)	22 (12%)	4	18
4	s2	176/204 (86%)	143 (81%)	33 (19%)	1	6
5	S3	182/194 (94%)	159 (87%)	23 (13%)	4	18
5	s3	182/194 (94%)	159 (87%)	23 (13%)	4	18
6	S4	221/221 (100%)	194 (88%)	27 (12%)	5	19
6	s4	221/221 (100%)	196 (89%)	25 (11%)	6	23
7	S5	173/190 (91%)	158 (91%)	15 (9%)	10	36
7	s5	173/190 (91%)	153 (88%)	20 (12%)	5	22
8	S6	188/201 (94%)	161 (86%)	27 (14%)	3	14
8	s6	187/201 (93%)	160 (86%)	27 (14%)	3	14
9	S7	165/169 (98%)	150 (91%)	15 (9%)	9	33
9	s7	165/169 (98%)	150 (91%)	15 (9%)	9	33
10	S8	150/161 (93%)	128 (85%)	22 (15%)	3	13
10	s8	150/161 (93%)	138 (92%)	12 (8%)	12	40
11	S9	158/165 (96%)	134 (85%)	24 (15%)	3	12
11	s9	158/165 (96%)	136 (86%)	22 (14%)	3	15
12	C0	77/98 (79%)	69 (90%)	8 (10%)	7	27
12	c0	73/98 (74%)	64 (88%)	9 (12%)	4	19
13	C1	129/136 (95%)	116 (90%)	13 (10%)	7	28
13	c1	129/136 (95%)	107 (83%)	22 (17%)	2	9
14	C2	88/118 (75%)	75 (85%)	13 (15%)	3	13
14	c2	88/118 (75%)	73 (83%)	15 (17%)	2	9
15	C3	127/127 (100%)	112 (88%)	15 (12%)	5	21
15	c3	127/127 (100%)	110 (87%)	17 (13%)	4	16
16	C4	81/104 (78%)	68 (84%)	13 (16%)	2	11
16	c4	97/104 (93%)	82 (84%)	15 (16%)	2	11
17	C5	101/117 (86%)	93 (92%)	8 (8%)	12	40
17	c5	103/117 (88%)	90 (87%)	13 (13%)	4	18

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	C6	117/118 (99%)	104 (89%)	13 (11%)	6	24
18	c6	118/118 (100%)	106 (90%)	12 (10%)	7	27
19	C7	94/124 (76%)	77 (82%)	17 (18%)	1	7
19	c7	92/124 (74%)	81 (88%)	11 (12%)	5	20
20	C8	128/128 (100%)	110 (86%)	18 (14%)	3	15
20	c8	128/128 (100%)	108 (84%)	20 (16%)	2	11
21	C9	115/115 (100%)	100 (87%)	15 (13%)	4	18
21	c9	115/115 (100%)	101 (88%)	14 (12%)	5	19
22	D0	100/113 (88%)	90 (90%)	10 (10%)	7	28
22	d0	103/113 (91%)	90 (87%)	13 (13%)	4	18
23	D1	74/74 (100%)	64 (86%)	10 (14%)	4	16
23	d1	74/74 (100%)	66 (89%)	8 (11%)	6	25
24	D2	110/110 (100%)	94 (86%)	16 (14%)	3	13
24	d2	110/110 (100%)	99 (90%)	11 (10%)	7	28
25	D3	119/119 (100%)	104 (87%)	15 (13%)	4	18
25	d3	119/119 (100%)	107 (90%)	12 (10%)	7	28
26	D4	112/112 (100%)	100 (89%)	12 (11%)	6	26
26	d4	112/112 (100%)	100 (89%)	12 (11%)	6	26
27	D5	61/88 (69%)	47 (77%)	14 (23%)	1	3
27	d5	61/88 (69%)	54 (88%)	7 (12%)	5	22
28	D6	83/83 (100%)	70 (84%)	13 (16%)	2	11
28	d6	83/83 (100%)	76 (92%)	7 (8%)	11	38
29	D7	70/70 (100%)	63 (90%)	7 (10%)	7	28
29	d7	70/70 (100%)	60 (86%)	10 (14%)	3	14
30	D8	56/59 (95%)	46 (82%)	10 (18%)	2	8
30	d8	56/59 (95%)	47 (84%)	9 (16%)	2	10
31	D9	47/48 (98%)	39 (83%)	8 (17%)	2	9
31	d9	47/48 (98%)	42 (89%)	5 (11%)	6	26
32	E0	51/51 (100%)	45 (88%)	6 (12%)	5	21
33	E1	62/66 (94%)	48 (77%)	14 (23%)	1	3
33	e1	66/66 (100%)	53 (80%)	13 (20%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	SR	259/261 (99%)	242 (93%)	17 (7%)	16	47
34	sR	260/261 (100%)	246 (95%)	14 (5%)	22	53
35	SM	97/193 (50%)	87 (90%)	10 (10%)	7	27
35	sM	54/193 (28%)	49 (91%)	5 (9%)	9	32
39	L2	193/195 (99%)	166 (86%)	27 (14%)	3	15
39	l2	192/195 (98%)	162 (84%)	30 (16%)	2	11
40	L3	321/322 (100%)	273 (85%)	48 (15%)	3	12
40	l3	319/322 (99%)	270 (85%)	49 (15%)	2	11
41	L4	288/288 (100%)	250 (87%)	38 (13%)	4	17
41	l4	288/288 (100%)	247 (86%)	41 (14%)	3	14
42	L5	244/244 (100%)	215 (88%)	29 (12%)	5	20
42	l5	243/244 (100%)	213 (88%)	30 (12%)	4	19
43	L6	134/152 (88%)	119 (89%)	15 (11%)	6	24
43	l6	135/152 (89%)	114 (84%)	21 (16%)	2	11
44	L7	186/204 (91%)	165 (89%)	21 (11%)	6	23
44	l7	187/204 (92%)	169 (90%)	18 (10%)	8	31
45	L8	187/207 (90%)	164 (88%)	23 (12%)	4	19
45	l8	177/207 (86%)	150 (85%)	27 (15%)	2	12
46	L9	171/171 (100%)	143 (84%)	28 (16%)	2	10
46	l9	171/171 (100%)	137 (80%)	34 (20%)	1	5
47	M0	177/186 (95%)	153 (86%)	24 (14%)	3	16
47	m0	179/186 (96%)	149 (83%)	30 (17%)	2	9
48	M1	147/150 (98%)	124 (84%)	23 (16%)	2	11
48	m1	147/150 (98%)	131 (89%)	16 (11%)	6	25
49	M3	154/158 (98%)	135 (88%)	19 (12%)	4	19
49	m3	154/158 (98%)	135 (88%)	19 (12%)	4	19
50	M4	107/108 (99%)	94 (88%)	13 (12%)	5	20
50	m4	108/108 (100%)	91 (84%)	17 (16%)	2	11
51	M5	175/175 (100%)	152 (87%)	23 (13%)	4	17
51	m5	175/175 (100%)	159 (91%)	16 (9%)	9	33
52	M6	160/161 (99%)	152 (95%)	8 (5%)	24	57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	m6	160/161 (99%)	139 (87%)	21 (13%)	4	17
53	M7	140/145 (97%)	124 (89%)	16 (11%)	5	23
53	m7	125/145 (86%)	107 (86%)	18 (14%)	3	14
54	M8	150/150 (100%)	130 (87%)	20 (13%)	4	16
54	m8	150/150 (100%)	130 (87%)	20 (13%)	4	16
55	M9	153/153 (100%)	138 (90%)	15 (10%)	8	29
55	m9	153/153 (100%)	130 (85%)	23 (15%)	3	12
56	N0	156/156 (100%)	130 (83%)	26 (17%)	2	9
56	n0	156/156 (100%)	132 (85%)	24 (15%)	2	11
57	N1	136/136 (100%)	107 (79%)	29 (21%)	1	4
57	n1	136/136 (100%)	111 (82%)	25 (18%)	1	7
58	N2	87/106 (82%)	79 (91%)	8 (9%)	9	33
58	n2	85/106 (80%)	72 (85%)	13 (15%)	2	12
59	N3	104/104 (100%)	93 (89%)	11 (11%)	6	26
59	n3	104/104 (100%)	95 (91%)	9 (9%)	10	36
60	N4	57/129 (44%)	53 (93%)	4 (7%)	15	45
60	n4	100/129 (78%)	93 (93%)	7 (7%)	15	45
61	N5	104/117 (89%)	84 (81%)	20 (19%)	1	6
61	n5	104/117 (89%)	85 (82%)	19 (18%)	1	7
62	N6	109/109 (100%)	94 (86%)	15 (14%)	3	16
62	n6	109/109 (100%)	87 (80%)	22 (20%)	1	5
63	N7	115/115 (100%)	104 (90%)	11 (10%)	8	31
63	n7	115/115 (100%)	98 (85%)	17 (15%)	3	13
64	N8	118/118 (100%)	100 (85%)	18 (15%)	2	12
64	n8	118/118 (100%)	98 (83%)	20 (17%)	2	9
65	N9	46/46 (100%)	40 (87%)	6 (13%)	4	18
65	n9	46/46 (100%)	38 (83%)	8 (17%)	2	9
66	O0	81/87 (93%)	71 (88%)	10 (12%)	4	19
66	o0	84/87 (97%)	77 (92%)	7 (8%)	11	38
67	O1	92/96 (96%)	78 (85%)	14 (15%)	3	12
67	o1	94/96 (98%)	76 (81%)	18 (19%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
68	O2	109/110 (99%)	98 (90%)	11 (10%)	7	28
68	o2	109/110 (99%)	97 (89%)	12 (11%)	6	25
69	O3	90/90 (100%)	76 (84%)	14 (16%)	2	11
69	o3	90/90 (100%)	76 (84%)	14 (16%)	2	11
70	O4	95/101 (94%)	80 (84%)	15 (16%)	2	11
70	o4	95/101 (94%)	81 (85%)	14 (15%)	3	13
71	O5	104/104 (100%)	87 (84%)	17 (16%)	2	10
71	o5	103/104 (99%)	86 (84%)	17 (16%)	2	10
72	O6	81/81 (100%)	66 (82%)	15 (18%)	1	7
72	o6	80/81 (99%)	61 (76%)	19 (24%)	0	2
73	O7	70/70 (100%)	64 (91%)	6 (9%)	10	37
73	o7	70/70 (100%)	58 (83%)	12 (17%)	2	9
74	O8	68/68 (100%)	54 (79%)	14 (21%)	1	5
74	o8	67/68 (98%)	55 (82%)	12 (18%)	2	8
75	O9	45/45 (100%)	38 (84%)	7 (16%)	2	11
75	o9	45/45 (100%)	39 (87%)	6 (13%)	4	16
76	Q0	47/47 (100%)	40 (85%)	7 (15%)	3	13
76	q0	47/47 (100%)	43 (92%)	4 (8%)	10	37
77	Q1	23/23 (100%)	21 (91%)	2 (9%)	10	36
77	q1	23/23 (100%)	17 (74%)	6 (26%)	0	1
78	Q2	90/90 (100%)	72 (80%)	18 (20%)	1	5
78	q2	90/90 (100%)	79 (88%)	11 (12%)	5	19
79	Q3	71/71 (100%)	63 (89%)	8 (11%)	6	23
79	q3	71/71 (100%)	62 (87%)	9 (13%)	4	18
80	e0	53/53 (100%)	47 (89%)	6 (11%)	6	23
82	p0	105/253 (42%)	89 (85%)	16 (15%)	3	12
All	All	18727/20169 (93%)	16232 (87%)	2495 (13%)	4	16

All (2495) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	S0	27	ARG
2	S0	37	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	S0	43	ASP
2	S0	52	LYS
2	S0	62	ARG
2	S0	88	LYS
2	S0	96	THR
2	S0	101	ARG
2	S0	110	TYR
2	S0	111	ILE
2	S0	137	SER
2	S0	168	HIS
2	S0	172	LEU
2	S0	177	LEU
2	S0	188	LEU
2	S0	196	SER
2	S0	198	MET
2	S0	200	ASP
3	S1	21	VAL
3	S1	29	TRP
3	S1	30	PHE
3	S1	31	ASP
3	S1	39	GLU
3	S1	46	THR
3	S1	61	LEU
3	S1	70	LEU
3	S1	81	PHE
3	S1	83	LYS
3	S1	91	VAL
3	S1	96	LEU
3	S1	97	LEU
3	S1	105	PHE
3	S1	110	LEU
3	S1	117	TRP
3	S1	148	ASN
3	S1	177	GLN
3	S1	180	THR
3	S1	181	LEU
3	S1	198	GLU
3	S1	202	LYS
3	S1	214	LYS
3	S1	215	VAL
3	S1	218	LEU
3	S1	222	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	S1	223	PHE
4	S2	41	LEU
4	S2	54	GLU
4	S2	76	LEU
4	S2	77	GLN
4	S2	96	THR
4	S2	97	ARG
4	S2	102	VAL
4	S2	111	VAL
4	S2	117	THR
4	S2	134	LEU
4	S2	137	ILE
4	S2	139	ILE
4	S2	140	ARG
4	S2	141	ARG
4	S2	181	SER
4	S2	207	LEU
4	S2	208	GLU
4	S2	222	TYR
4	S2	225	LEU
4	S2	226	THR
4	S2	229	LEU
4	S2	245	ASP
5	S3	4	LEU
5	S3	7	LYS
5	S3	23	GLU
5	S3	65	ARG
5	S3	76	ARG
5	S3	84	ILE
5	S3	92	GLN
5	S3	93	ASP
5	S3	105	MET
5	S3	117	ARG
5	S3	127	MET
5	S3	142	LEU
5	S3	151	LYS
5	S3	158	ILE
5	S3	175	VAL
5	S3	176	LEU
5	S3	178	ARG
5	S3	190	ARG
5	S3	202	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	S3	204	ASP
5	S3	207	THR
5	S3	217	ILE
5	S3	218	LEU
6	S4	7	LYS
6	S4	9	LEU
6	S4	12	LEU
6	S4	38	LEU
6	S4	39	ARG
6	S4	42	LEU
6	S4	45	ILE
6	S4	62	LYS
6	S4	70	VAL
6	S4	77	ARG
6	S4	92	LEU
6	S4	115	THR
6	S4	116	ASP
6	S4	126	VAL
6	S4	129	VAL
6	S4	131	LEU
6	S4	133	LYS
6	S4	159	THR
6	S4	180	LEU
6	S4	181	VAL
6	S4	182	TYR
6	S4	187	ARG
6	S4	215	ASP
6	S4	222	LEU
6	S4	227	VAL
6	S4	240	LYS
6	S4	259	GLN
7	S5	25	LEU
7	S5	38	THR
7	S5	43	PHE
7	S5	45	LYS
7	S5	48	PHE
7	S5	65	ARG
7	S5	76	ARG
7	S5	79	ASN
7	S5	86	GLN
7	S5	119	ASP
7	S5	139	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	S5	146	THR
7	S5	156	ARG
7	S5	166	ARG
7	S5	194	LEU
8	S6	7	TYR
8	S6	15	THR
8	S6	21	GLU
8	S6	71	THR
8	S6	76	LEU
8	S6	97	VAL
8	S6	109	LEU
8	S6	120	GLU
8	S6	126	ASP
8	S6	128	THR
8	S6	129	VAL
8	S6	132	ARG
8	S6	133	LEU
8	S6	154	ARG
8	S6	155	ASP
8	S6	163	THR
8	S6	169	TYR
8	S6	170	THR
8	S6	177	ARG
8	S6	179	VAL
8	S6	180	THR
8	S6	182	GLN
8	S6	193	LEU
8	S6	201	GLN
8	S6	211	LEU
8	S6	212	LEU
8	S6	216	LEU
9	S7	28	GLU
9	S7	38	LEU
9	S7	49	ILE
9	S7	50	ASP
9	S7	70	PHE
9	S7	77	LEU
9	S7	78	THR
9	S7	85	PHE
9	S7	86	GLN
9	S7	97	ARG
9	S7	114	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
9	S7	115	SER
9	S7	126	LEU
9	S7	130	VAL
9	S7	185	ILE
10	S8	5	ARG
10	S8	7	SER
10	S8	8	ARG
10	S8	14	THR
10	S8	20	GLN
10	S8	21	PHE
10	S8	29	LEU
10	S8	36	THR
10	S8	37	LYS
10	S8	46	VAL
10	S8	56	ARG
10	S8	58	LEU
10	S8	73	SER
10	S8	74	LYS
10	S8	123	LYS
10	S8	138	ASN
10	S8	140	GLU
10	S8	151	LYS
10	S8	152	ILE
10	S8	164	ARG
10	S8	184	LEU
10	S8	196	LEU
11	S9	3	ARG
11	S9	6	ARG
11	S9	14	THR
11	S9	28	LEU
11	S9	46	SER
11	S9	49	LEU
11	S9	60	LEU
11	S9	61	THR
11	S9	74	ASN
11	S9	79	ARG
11	S9	88	GLU
11	S9	92	LYS
11	S9	93	LEU
11	S9	109	LEU
11	S9	118	LEU
11	S9	120	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	S9	122	VAL
11	S9	134	ILE
11	S9	138	LYS
11	S9	149	ARG
11	S9	161	THR
11	S9	171	ARG
11	S9	172	VAL
11	S9	182	GLU
12	C0	1	MET
12	C0	7	ASP
12	C0	8	ARG
12	C0	55	VAL
12	C0	56	LYS
12	C0	76	LEU
12	C0	81	ASN
12	C0	82	LEU
13	C1	4	GLU
13	C1	8	GLN
13	C1	10	GLU
13	C1	29	LYS
13	C1	40	LEU
13	C1	44	THR
13	C1	56	LYS
13	C1	67	ARG
13	C1	69	LYS
13	C1	80	MET
13	C1	99	ARG
13	C1	109	VAL
13	C1	136	ARG
14	C2	28	LEU
14	C2	33	ARG
14	C2	43	ARG
14	C2	61	VAL
14	C2	62	LEU
14	C2	66	VAL
14	C2	71	ILE
14	C2	74	LEU
14	C2	86	VAL
14	C2	103	LEU
14	C2	126	TRP
14	C2	129	GLU
14	C2	132	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
15	C3	3	ARG
15	C3	9	LYS
15	C3	12	SER
15	C3	16	ILE
15	C3	27	LYS
15	C3	32	SER
15	C3	56	ASP
15	C3	58	HIS
15	C3	64	ARG
15	C3	66	ILE
15	C3	102	LEU
15	C3	110	ASP
15	C3	125	LEU
15	C3	143	SER
15	C3	149	LEU
16	C4	26	THR
16	C4	29	HIS
16	C4	39	ILE
16	C4	42	VAL
16	C4	51	ASP
16	C4	79	VAL
16	C4	92	LYS
16	C4	99	GLN
16	C4	107	ARG
16	C4	124	ASP
16	C4	125	SER
16	C4	136	ARG
16	C4	137	LEU
17	C5	11	VAL
17	C5	22	LEU
17	C5	35	LYS
17	C5	36	LEU
17	C5	44	ARG
17	C5	50	THR
17	C5	52	LYS
17	C5	110	GLU
18	C6	4	VAL
18	C6	26	LYS
18	C6	29	ILE
18	C6	54	LEU
18	C6	59	LYS
18	C6	66	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
18	C6	69	VAL
18	C6	109	PHE
18	C6	116	LEU
18	C6	123	ARG
18	C6	127	LYS
18	C6	128	LYS
18	C6	137	ARG
19	C7	3	ARG
19	C7	5	ARG
19	C7	16	LEU
19	C7	23	LYS
19	C7	25	THR
19	C7	29	GLN
19	C7	34	LEU
19	C7	35	CYS
19	C7	38	ILE
19	C7	49	LYS
19	C7	54	THR
19	C7	69	ILE
19	C7	78	ARG
19	C7	88	VAL
19	C7	105	GLN
19	C7	113	LEU
19	C7	115	LEU
20	C8	3	LEU
20	C8	5	VAL
20	C8	11	PHE
20	C8	12	GLN
20	C8	13	HIS
20	C8	14	ILE
20	C8	17	LEU
20	C8	25	ASN
20	C8	26	ILE
20	C8	28	ILE
20	C8	34	THR
20	C8	40	ARG
20	C8	60	GLU
20	C8	80	LYS
20	C8	88	ARG
20	C8	92	ILE
20	C8	136	GLN
20	C8	138	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
21	C9	6	VAL
21	C9	13	ASP
21	C9	18	TYR
21	C9	22	LEU
21	C9	23	GLN
21	C9	27	LYS
21	C9	28	LEU
21	C9	35	ASP
21	C9	36	ILE
21	C9	67	MET
21	C9	94	ILE
21	C9	125	SER
21	C9	130	ARG
21	C9	131	ASP
21	C9	144	GLU
22	D0	15	GLN
22	D0	23	ARG
22	D0	31	VAL
22	D0	51	VAL
22	D0	61	LYS
22	D0	67	THR
22	D0	81	THR
22	D0	89	ARG
22	D0	103	ILE
22	D0	116	VAL
23	D1	5	LYS
23	D1	8	LEU
23	D1	11	LEU
23	D1	33	GLN
23	D1	50	TYR
23	D1	60	ARG
23	D1	62	ARG
23	D1	75	ASN
23	D1	78	LEU
23	D1	80	LYS
24	D2	15	ASN
24	D2	24	GLN
24	D2	25	VAL
24	D2	27	ILE
24	D2	42	GLN
24	D2	53	ILE
24	D2	65	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
24	D2	66	ASN
24	D2	68	ARG
24	D2	76	SER
24	D2	93	LEU
24	D2	98	GLN
24	D2	103	ILE
24	D2	104	LEU
24	D2	105	THR
24	D2	121	VAL
25	D3	7	ARG
25	D3	9	LEU
25	D3	33	LEU
25	D3	41	SER
25	D3	82	LYS
25	D3	84	THR
25	D3	96	VAL
25	D3	103	LEU
25	D3	107	PHE
25	D3	109	ARG
25	D3	110	LYS
25	D3	114	LYS
25	D3	117	ILE
25	D3	138	GLU
25	D3	144	ARG
26	D4	17	LEU
26	D4	32	ARG
26	D4	47	VAL
26	D4	52	LYS
26	D4	57	VAL
26	D4	88	THR
26	D4	96	LEU
26	D4	99	LYS
26	D4	101	GLU
26	D4	102	LYS
26	D4	124	ARG
26	D4	127	LYS
27	D5	40	VAL
27	D5	42	LEU
27	D5	48	ASP
27	D5	58	ARG
27	D5	59	TYR
27	D5	60	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
27	D5	67	ASP
27	D5	69	LEU
27	D5	71	ILE
27	D5	75	LEU
27	D5	92	ILE
27	D5	95	HIS
27	D5	98	GLN
27	D5	100	ILE
28	D6	3	LYS
28	D6	12	LYS
28	D6	18	VAL
28	D6	38	ARG
28	D6	41	ILE
28	D6	44	ILE
28	D6	50	VAL
28	D6	61	GLU
28	D6	64	LEU
28	D6	68	TYR
28	D6	82	ARG
28	D6	85	ARG
28	D6	90	GLU
29	D7	3	LEU
29	D7	4	VAL
29	D7	33	LEU
29	D7	48	SER
29	D7	73	LEU
29	D7	75	GLU
29	D7	80	ARG
30	D8	19	THR
30	D8	28	VAL
30	D8	32	PHE
30	D8	33	LEU
30	D8	39	THR
30	D8	48	VAL
30	D8	52	ASP
30	D8	57	MET
30	D8	58	GLU
30	D8	64	ARG
31	D9	5	ASN
31	D9	6	VAL
31	D9	7	TRP
31	D9	19	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	D9	22	ARG
31	D9	25	SER
31	D9	30	LEU
31	D9	36	LEU
32	E0	20	LYS
32	E0	24	THR
32	E0	28	LYS
32	E0	42	ARG
32	E0	47	VAL
32	E0	56	MET
33	E1	86	THR
33	E1	89	LYS
33	E1	91	ILE
33	E1	93	HIS
33	E1	97	LYS
33	E1	98	VAL
33	E1	102	VAL
33	E1	106	TYR
33	E1	108	VAL
33	E1	111	GLU
33	E1	113	LYS
33	E1	126	CYS
33	E1	130	VAL
33	E1	151	ASN
34	SR	6	VAL
34	SR	10	ARG
34	SR	29	GLN
34	SR	52	GLN
34	SR	58	VAL
34	SR	66	HIS
34	SR	76	ASP
34	SR	116	ASP
34	SR	117	LYS
34	SR	134	TRP
34	SR	136	ILE
34	SR	165	ASP
34	SR	191	ASP
34	SR	202	LEU
34	SR	229	LYS
34	SR	238	ASP
34	SR	268	GLN
35	SM	33	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
35	SM	46	LYS
35	SM	53	ARG
35	SM	64	LYS
35	SM	68	ARG
35	SM	78	ASP
35	SM	82	THR
35	SM	84	LYS
35	SM	89	ARG
35	SM	100	THR
39	L2	20	THR
39	L2	32	LEU
39	L2	44	ILE
39	L2	45	VAL
39	L2	48	ILE
39	L2	52	SER
39	L2	62	VAL
39	L2	70	ARG
39	L2	72	ARG
39	L2	82	VAL
39	L2	84	THR
39	L2	96	LEU
39	L2	135	ILE
39	L2	157	VAL
39	L2	165	VAL
39	L2	169	ILE
39	L2	179	LEU
39	L2	180	LEU
39	L2	202	VAL
39	L2	204	MET
39	L2	207	VAL
39	L2	217	GLN
39	L2	227	ARG
39	L2	230	VAL
39	L2	241	ARG
39	L2	247	ARG
39	L2	252	THR
40	L3	7	GLU
40	L3	17	LEU
40	L3	19	ARG
40	L3	25	ILE
40	L3	30	LYS
40	L3	37	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
40	L3	47	LEU
40	L3	55	THR
40	L3	56	ILE
40	L3	67	PHE
40	L3	70	ARG
40	L3	79	VAL
40	L3	84	VAL
40	L3	85	VAL
40	L3	102	LEU
40	L3	103	THR
40	L3	110	LEU
40	L3	112	ASP
40	L3	114	VAL
40	L3	139	GLN
40	L3	148	LEU
40	L3	150	ARG
40	L3	169	THR
40	L3	173	GLN
40	L3	183	LEU
40	L3	187	SER
40	L3	188	ILE
40	L3	202	THR
40	L3	205	VAL
40	L3	212	ASN
40	L3	229	VAL
40	L3	232	ARG
40	L3	235	THR
40	L3	238	LEU
40	L3	241	LYS
40	L3	252	ILE
40	L3	264	VAL
40	L3	296	THR
40	L3	305	ILE
40	L3	308	MET
40	L3	324	VAL
40	L3	332	ARG
40	L3	335	ILE
40	L3	346	THR
40	L3	347	SER
40	L3	354	VAL
40	L3	355	SER
40	L3	375	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
41	L4	10	SER
41	L4	22	LEU
41	L4	53	SER
41	L4	69	ARG
41	L4	73	ARG
41	L4	74	ILE
41	L4	93	MET
41	L4	120	TYR
41	L4	124	SER
41	L4	138	ARG
41	L4	150	LEU
41	L4	152	VAL
41	L4	153	SER
41	L4	156	LEU
41	L4	172	VAL
41	L4	176	SER
41	L4	179	LEU
41	L4	187	LEU
41	L4	188	ARG
41	L4	200	THR
41	L4	203	ARG
41	L4	206	LEU
41	L4	220	ARG
41	L4	222	VAL
41	L4	230	VAL
41	L4	246	ARG
41	L4	270	SER
41	L4	283	THR
41	L4	297	SER
41	L4	306	THR
41	L4	307	GLN
41	L4	313	LEU
41	L4	327	LEU
41	L4	332	LYS
41	L4	333	VAL
41	L4	338	LYS
41	L4	349	THR
41	L4	350	LYS
42	L5	23	ARG
42	L5	41	LYS
42	L5	69	ILE
42	L5	81	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
42	L5	92	LEU
42	L5	95	TRP
42	L5	105	ILE
42	L5	112	LYS
42	L5	115	LEU
42	L5	128	GLU
42	L5	131	LEU
42	L5	132	THR
42	L5	137	ASP
42	L5	140	ARG
42	L5	144	VAL
42	L5	146	LEU
42	L5	148	ILE
42	L5	155	THR
42	L5	163	LEU
42	L5	177	GLU
42	L5	178	ASN
42	L5	185	PHE
42	L5	206	GLN
42	L5	216	GLU
42	L5	259	LYS
42	L5	263	GLU
42	L5	268	GLU
42	L5	277	LEU
42	L5	293	LEU
43	L6	5	LYS
43	L6	21	THR
43	L6	52	VAL
43	L6	64	LEU
43	L6	65	ILE
43	L6	76	LEU
43	L6	78	ARG
43	L6	89	THR
43	L6	104	GLU
43	L6	129	GLU
43	L6	134	ARG
43	L6	143	LYS
43	L6	152	THR
43	L6	155	LEU
43	L6	162	SER
44	L7	24	GLU
44	L7	26	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
44	L7	39	GLU
44	L7	46	GLU
44	L7	60	ARG
44	L7	77	VAL
44	L7	89	ILE
44	L7	93	ASN
44	L7	98	LYS
44	L7	100	ARG
44	L7	101	LYS
44	L7	110	ARG
44	L7	124	LEU
44	L7	151	ARG
44	L7	157	ASN
44	L7	173	LEU
44	L7	178	ILE
44	L7	179	LEU
44	L7	184	LEU
44	L7	239	LEU
44	L7	244	ASN
45	L8	26	LEU
45	L8	27	THR
45	L8	38	GLN
45	L8	41	GLN
45	L8	71	VAL
45	L8	74	THR
45	L8	79	GLN
45	L8	84	ARG
45	L8	90	THR
45	L8	95	ASN
45	L8	134	TYR
45	L8	136	LEU
45	L8	150	LEU
45	L8	156	ASP
45	L8	163	VAL
45	L8	169	LEU
45	L8	180	VAL
45	L8	185	ARG
45	L8	189	LEU
45	L8	190	VAL
45	L8	241	LYS
45	L8	246	MET
45	L8	248	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
46	L9	4	ILE
46	L9	5	GLN
46	L9	6	THR
46	L9	9	GLN
46	L9	18	VAL
46	L9	41	ILE
46	L9	48	VAL
46	L9	52	LEU
46	L9	55	VAL
46	L9	62	ARG
46	L9	65	VAL
46	L9	68	LEU
46	L9	69	ARG
46	L9	70	THR
46	L9	80	THR
46	L9	130	ASP
46	L9	135	GLU
46	L9	139	ASN
46	L9	149	ASN
46	L9	151	VAL
46	L9	157	ASN
46	L9	161	LEU
46	L9	162	GLN
46	L9	164	ILE
46	L9	166	ARG
46	L9	172	ILE
46	L9	173	ARG
46	L9	177	ASP
47	M0	3	ARG
47	M0	30	LYS
47	M0	32	ARG
47	M0	33	ILE
47	M0	40	LYS
47	M0	42	THR
47	M0	44	ASP
47	M0	48	LEU
47	M0	52	LEU
47	M0	60	LEU
47	M0	63	GLU
47	M0	87	LEU
47	M0	91	VAL
47	M0	102	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
47	M0	129	VAL
47	M0	133	GLN
47	M0	139	ARG
47	M0	143	SER
47	M0	156	ARG
47	M0	163	GLN
47	M0	167	LEU
47	M0	169	LYS
47	M0	200	LEU
47	M0	203	LYS
48	M1	10	ARG
48	M1	11	ASP
48	M1	12	LEU
48	M1	19	LEU
48	M1	30	LEU
48	M1	31	THR
48	M1	44	THR
48	M1	46	VAL
48	M1	47	GLN
48	M1	65	ILE
48	M1	67	VAL
48	M1	70	THR
48	M1	80	LEU
48	M1	81	GLU
48	M1	94	ARG
48	M1	106	ILE
48	M1	107	ASP
48	M1	115	LYS
48	M1	139	THR
48	M1	140	ARG
48	M1	165	GLN
48	M1	166	LYS
48	M1	170	ASP
49	M3	5	LYS
49	M3	54	LEU
49	M3	55	ARG
49	M3	58	VAL
49	M3	59	ARG
49	M3	67	ARG
49	M3	69	VAL
49	M3	101	ARG
49	M3	114	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
49	M3	115	ARG
49	M3	122	LYS
49	M3	124	ILE
49	M3	128	ARG
49	M3	131	LYS
49	M3	134	GLU
49	M3	136	GLU
49	M3	144	THR
49	M3	168	ARG
49	M3	192	GLU
50	M4	10	SER
50	M4	15	VAL
50	M4	20	VAL
50	M4	27	GLN
50	M4	38	ILE
50	M4	50	LYS
50	M4	53	VAL
50	M4	64	VAL
50	M4	72	LEU
50	M4	78	THR
50	M4	90	VAL
50	M4	130	THR
50	M4	135	LEU
51	M5	10	LEU
51	M5	15	GLN
51	M5	19	LEU
51	M5	22	LEU
51	M5	38	ARG
51	M5	49	ARG
51	M5	80	THR
51	M5	83	LYS
51	M5	85	THR
51	M5	92	LEU
51	M5	97	SER
51	M5	98	LEU
51	M5	109	ARG
51	M5	117	ASN
51	M5	133	ILE
51	M5	138	GLN
51	M5	151	ILE
51	M5	159	ARG
51	M5	182	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
51	M5	183	THR
51	M5	190	THR
51	M5	196	THR
51	M5	204	LYS
52	M6	34	VAL
52	M6	85	ARG
52	M6	89	SER
52	M6	106	GLU
52	M6	116	LYS
52	M6	117	ARG
52	M6	124	LEU
52	M6	134	LYS
53	M7	7	THR
53	M7	9	THR
53	M7	24	VAL
53	M7	29	THR
53	M7	32	THR
53	M7	36	ILE
53	M7	42	THR
53	M7	52	LEU
53	M7	91	VAL
53	M7	112	LEU
53	M7	119	VAL
53	M7	127	ARG
53	M7	142	SER
53	M7	154	GLU
53	M7	168	LEU
53	M7	180	LYS
54	M8	3	ILE
54	M8	17	THR
54	M8	24	VAL
54	M8	26	LEU
54	M8	32	LEU
54	M8	34	THR
54	M8	41	ASP
54	M8	49	LEU
54	M8	57	ILE
54	M8	66	ARG
54	M8	69	ARG
54	M8	81	VAL
54	M8	86	THR
54	M8	105	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
54	M8	122	ILE
54	M8	135	GLN
54	M8	138	LEU
54	M8	150	VAL
54	M8	170	ARG
54	M8	180	ARG
55	M9	17	VAL
55	M9	25	ASP
55	M9	41	ILE
55	M9	44	LEU
55	M9	55	VAL
55	M9	74	ARG
55	M9	99	LEU
55	M9	103	ARG
55	M9	104	ARG
55	M9	106	LEU
55	M9	116	ASP
55	M9	134	HIS
55	M9	138	LEU
55	M9	153	LYS
55	M9	182	ASP
56	N0	12	ARG
56	N0	16	THR
56	N0	45	LEU
56	N0	51	VAL
56	N0	58	ILE
56	N0	61	ILE
56	N0	71	LYS
56	N0	80	ARG
56	N0	85	SER
56	N0	87	THR
56	N0	97	VAL
56	N0	100	VAL
56	N0	105	THR
56	N0	106	LEU
56	N0	115	ARG
56	N0	117	ARG
56	N0	132	THR
56	N0	137	ARG
56	N0	138	GLN
56	N0	142	GLN
56	N0	156	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
56	N0	160	THR
56	N0	162	THR
56	N0	167	ARG
56	N0	169	SER
56	N0	172	TYR
57	N1	12	ARG
57	N1	18	ASP
57	N1	25	VAL
57	N1	27	LEU
57	N1	60	LYS
57	N1	68	THR
57	N1	75	ILE
57	N1	78	LYS
57	N1	79	MET
57	N1	80	VAL
57	N1	83	ARG
57	N1	88	ARG
57	N1	89	LEU
57	N1	92	ARG
57	N1	96	ILE
57	N1	101	CYS
57	N1	103	GLN
57	N1	104	GLU
57	N1	106	LEU
57	N1	110	LYS
57	N1	122	GLN
57	N1	124	VAL
57	N1	126	VAL
57	N1	127	GLN
57	N1	128	LEU
57	N1	139	ARG
57	N1	143	THR
57	N1	146	ASN
57	N1	149	GLN
58	N2	10	LYS
58	N2	52	ASN
58	N2	61	THR
58	N2	66	VAL
58	N2	70	LYS
58	N2	74	LYS
58	N2	82	LYS
58	N2	100	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
59	N3	13	ILE
59	N3	32	ARG
59	N3	64	LYS
59	N3	69	LEU
59	N3	73	VAL
59	N3	84	SER
59	N3	91	VAL
59	N3	98	ASN
59	N3	102	ILE
59	N3	115	THR
59	N3	121	GLU
60	N4	4	GLU
60	N4	5	ILE
60	N4	19	THR
60	N4	39	LEU
61	N5	27	ARG
61	N5	34	LEU
61	N5	37	THR
61	N5	38	LEU
61	N5	39	LYS
61	N5	40	LEU
61	N5	59	SER
61	N5	63	ILE
61	N5	73	MET
61	N5	77	GLU
61	N5	78	ASP
61	N5	86	VAL
61	N5	108	LEU
61	N5	115	ARG
61	N5	125	ARG
61	N5	127	THR
61	N5	133	LEU
61	N5	135	ILE
61	N5	137	ASN
61	N5	142	ILE
62	N6	10	SER
62	N6	32	SER
62	N6	37	LYS
62	N6	42	GLN
62	N6	45	ILE
62	N6	50	ILE
62	N6	56	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
62	N6	57	LEU
62	N6	74	TYR
62	N6	76	LEU
62	N6	88	GLU
62	N6	105	VAL
62	N6	115	ARG
62	N6	126	LEU
62	N6	127	GLU
63	N7	14	VAL
63	N7	17	ARG
63	N7	24	VAL
63	N7	29	HIS
63	N7	30	ASP
63	N7	34	LYS
63	N7	46	ILE
63	N7	72	ILE
63	N7	81	LEU
63	N7	87	LEU
63	N7	134	LEU
64	N8	6	THR
64	N8	8	THR
64	N8	10	LYS
64	N8	12	ARG
64	N8	16	SER
64	N8	27	LYS
64	N8	29	PRO
64	N8	34	MET
64	N8	42	ARG
64	N8	46	ASP
64	N8	60	TYR
64	N8	76	ASP
64	N8	91	LEU
64	N8	104	THR
64	N8	118	ILE
64	N8	120	ASN
64	N8	130	VAL
64	N8	133	LEU
65	N9	22	LYS
65	N9	25	LYS
65	N9	28	LYS
65	N9	38	LYS
65	N9	50	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
65	N9	59	LYS
66	O0	16	LEU
66	O0	18	ILE
66	O0	32	LYS
66	O0	33	SER
66	O0	34	LEU
66	O0	41	LEU
66	O0	59	TYR
66	O0	61	MET
66	O0	79	THR
66	O0	83	LYS
67	O1	6	ASP
67	O1	8	VAL
67	O1	16	LEU
67	O1	26	LYS
67	O1	31	ARG
67	O1	55	LEU
67	O1	68	GLU
67	O1	79	ARG
67	O1	82	GLU
67	O1	84	ASP
67	O1	89	LEU
67	O1	91	SER
67	O1	96	VAL
67	O1	106	THR
68	O2	19	ARG
68	O2	31	ASN
68	O2	33	ARG
68	O2	41	VAL
68	O2	54	LYS
68	O2	61	LYS
68	O2	84	THR
68	O2	86	THR
68	O2	87	MET
68	O2	106	VAL
68	O2	128	LEU
69	O3	15	SER
69	O3	20	LYS
69	O3	28	SER
69	O3	33	GLU
69	O3	49	ILE
69	O3	58	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
69	O3	59	VAL
69	O3	70	LYS
69	O3	78	SER
69	O3	80	VAL
69	O3	81	VAL
69	O3	86	ARG
69	O3	98	VAL
69	O3	105	SER
70	O4	3	GLN
70	O4	5	VAL
70	O4	16	ARG
70	O4	20	ILE
70	O4	24	LYS
70	O4	29	ILE
70	O4	38	LEU
70	O4	51	LEU
70	O4	56	THR
70	O4	58	ARG
70	O4	65	VAL
70	O4	71	THR
70	O4	86	LYS
70	O4	100	ILE
70	O4	102	LYS
71	O5	20	GLN
71	O5	21	LEU
71	O5	27	GLU
71	O5	28	LEU
71	O5	45	LYS
71	O5	46	THR
71	O5	47	VAL
71	O5	48	ARG
71	O5	49	LYS
71	O5	71	LYS
71	O5	85	THR
71	O5	86	ARG
71	O5	89	ARG
71	O5	90	ARG
71	O5	104	GLN
71	O5	107	LYS
71	O5	119	LYS
72	O6	11	LEU
72	O6	21	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
72	O6	25	LYS
72	O6	26	ILE
72	O6	29	LYS
72	O6	34	SER
72	O6	36	ARG
72	O6	45	ARG
72	O6	57	LEU
72	O6	58	ILE
72	O6	60	LEU
72	O6	68	ARG
72	O6	71	LYS
72	O6	76	ARG
72	O6	88	GLU
73	O7	24	ARG
73	O7	25	ARG
73	O7	36	SER
73	O7	55	ARG
73	O7	67	LEU
73	O7	85	LYS
74	O8	3	ARG
74	O8	5	ILE
74	O8	22	THR
74	O8	24	THR
74	O8	41	THR
74	O8	45	VAL
74	O8	46	ARG
74	O8	50	SER
74	O8	53	THR
74	O8	61	LYS
74	O8	64	LYS
74	O8	65	LEU
74	O8	67	GLN
74	O8	77	ARG
75	O9	5	LYS
75	O9	21	ARG
75	O9	23	LEU
75	O9	29	LEU
75	O9	34	THR
75	O9	45	ARG
75	O9	51	ILE
76	Q0	77	ILE
76	Q0	78	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
76	Q0	83	LYS
76	Q0	85	LEU
76	Q0	105	PRO
76	Q0	112	LYS
76	Q0	127	LEU
77	Q1	9	ARG
77	Q1	11	ARG
78	Q2	3	ASN
78	Q2	4	VAL
78	Q2	8	ARG
78	Q2	9	LYS
78	Q2	21	THR
78	Q2	26	THR
78	Q2	35	LEU
78	Q2	45	ARG
78	Q2	46	LYS
78	Q2	47	GLN
78	Q2	64	THR
78	Q2	78	LYS
78	Q2	83	LEU
78	Q2	84	THR
78	Q2	85	LEU
78	Q2	100	LYS
78	Q2	104	LEU
78	Q2	105	GLN
79	Q3	11	THR
79	Q3	45	LYS
79	Q3	60	CYS
79	Q3	72	SER
79	Q3	73	THR
79	Q3	78	THR
79	Q3	84	ARG
79	Q3	90	VAL
2	s0	12	GLU
2	s0	24	LEU
2	s0	30	GLN
2	s0	45	VAL
2	s0	57	LEU
2	s0	59	LEU
2	s0	62	ARG
2	s0	81	PHE
2	s0	83	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	s0	87	LEU
2	s0	88	LYS
2	s0	108	THR
2	s0	111	ILE
2	s0	131	GLN
2	s0	135	GLU
2	s0	144	ILE
2	s0	153	SER
2	s0	154	GLU
2	s0	167	LYS
2	s0	172	LEU
2	s0	180	GLU
2	s0	184	LEU
2	s0	185	ARG
2	s0	188	LEU
2	s0	189	VAL
2	s0	198	MET
2	s0	200	ASP
3	s1	21	VAL
3	s1	31	ASP
3	s1	40	ASN
3	s1	47	LEU
3	s1	48	VAL
3	s1	51	SER
3	s1	62	LYS
3	s1	65	VAL
3	s1	66	VAL
3	s1	68	VAL
3	s1	70	LEU
3	s1	81	PHE
3	s1	104	ASP
3	s1	108	ASP
3	s1	110	LEU
3	s1	125	VAL
3	s1	126	THR
3	s1	127	VAL
3	s1	180	THR
3	s1	181	LEU
3	s1	194	ASN
3	s1	196	GLU
3	s1	209	ASN
3	s1	212	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	s1	215	VAL
3	s1	222	LYS
3	s1	223	PHE
3	s1	231	LEU
3	s1	232	HIS
4	s2	41	LEU
4	s2	51	THR
4	s2	53	ILE
4	s2	54	GLU
4	s2	55	GLU
4	s2	58	LEU
4	s2	69	ILE
4	s2	70	ASP
4	s2	72	LEU
4	s2	80	VAL
4	s2	83	ILE
4	s2	90	THR
4	s2	91	ARG
4	s2	94	GLN
4	s2	97	ARG
4	s2	111	VAL
4	s2	117	THR
4	s2	137	ILE
4	s2	141	ARG
4	s2	146	THR
4	s2	152	HIS
4	s2	158	THR
4	s2	164	SER
4	s2	170	ILE
4	s2	185	LYS
4	s2	187	LEU
4	s2	196	VAL
4	s2	201	ASN
4	s2	206	THR
4	s2	221	THR
4	s2	232	GLU
4	s2	240	LEU
4	s2	248	SER
5	s3	4	LEU
5	s3	21	LEU
5	s3	44	THR
5	s3	53	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	s3	55	THR
5	s3	59	LEU
5	s3	67	ASN
5	s3	84	ILE
5	s3	90	ARG
5	s3	111	ASN
5	s3	115	ILE
5	s3	120	TYR
5	s3	127	MET
5	s3	128	GLU
5	s3	141	LYS
5	s3	158	ILE
5	s3	162	GLN
5	s3	168	ILE
5	s3	189	MET
5	s3	202	LEU
5	s3	213	GLU
5	s3	218	LEU
5	s3	224	ASP
6	s4	6	LYS
6	s4	9	LEU
6	s4	12	LEU
6	s4	23	LEU
6	s4	24	SER
6	s4	38	LEU
6	s4	42	LEU
6	s4	49	ARG
6	s4	51	ARG
6	s4	67	GLN
6	s4	68	ARG
6	s4	70	VAL
6	s4	113	ARG
6	s4	123	LEU
6	s4	131	LEU
6	s4	133	LYS
6	s4	159	THR
6	s4	176	ASP
6	s4	182	TYR
6	s4	197	HIS
6	s4	214	LEU
6	s4	222	LEU
6	s4	237	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	s4	245	LYS
6	s4	246	LEU
7	s5	25	LEU
7	s5	31	GLU
7	s5	45	LYS
7	s5	52	GLU
7	s5	59	VAL
7	s5	63	GLN
7	s5	68	ILE
7	s5	76	ARG
7	s5	93	LEU
7	s5	124	LEU
7	s5	125	THR
7	s5	128	ASN
7	s5	135	ASP
7	s5	157	ARG
7	s5	189	THR
7	s5	194	LEU
7	s5	199	ILE
7	s5	203	LYS
7	s5	216	GLU
7	s5	219	ARG
8	s6	21	GLU
8	s6	24	ILE
8	s6	31	ARG
8	s6	71	THR
8	s6	76	LEU
8	s6	78	THR
8	s6	87	ARG
8	s6	93	LYS
8	s6	97	VAL
8	s6	109	LEU
8	s6	111	LEU
8	s6	115	LYS
8	s6	120	GLU
8	s6	124	LEU
8	s6	126	ASP
8	s6	127	THR
8	s6	128	THR
8	s6	129	VAL
8	s6	137	ARG
8	s6	143	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
8	s6	151	ASP
8	s6	153	VAL
8	s6	155	ASP
8	s6	177	ARG
8	s6	179	VAL
8	s6	215	ARG
8	s6	216	LEU
9	s7	11	GLN
9	s7	28	GLU
9	s7	33	GLU
9	s7	50	ASP
9	s7	67	LEU
9	s7	97	ARG
9	s7	114	ARG
9	s7	116	ARG
9	s7	117	THR
9	s7	123	ASP
9	s7	129	LEU
9	s7	144	VAL
9	s7	147	ASN
9	s7	160	GLN
9	s7	185	ILE
10	s8	25	ARG
10	s8	29	LEU
10	s8	36	THR
10	s8	46	VAL
10	s8	58	LEU
10	s8	74	LYS
10	s8	89	GLU
10	s8	120	THR
10	s8	152	ILE
10	s8	155	SER
10	s8	183	ILE
10	s8	184	LEU
11	s9	3	ARG
11	s9	7	THR
11	s9	9	SER
11	s9	28	LEU
11	s9	33	GLU
11	s9	39	LYS
11	s9	49	LEU
11	s9	82	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
11	s9	83	VAL
11	s9	87	SER
11	s9	93	LEU
11	s9	109	LEU
11	s9	110	GLN
11	s9	111	THR
11	s9	120	LYS
11	s9	126	ARG
11	s9	134	ILE
11	s9	150	LEU
11	s9	161	THR
11	s9	172	VAL
11	s9	180	LYS
11	s9	182	GLU
12	c0	2	LEU
12	c0	5	LYS
12	c0	15	LEU
12	c0	20	VAL
12	c0	21	VAL
12	c0	27	PHE
12	c0	33	GLU
12	c0	55	VAL
12	c0	77	ARG
13	c1	5	LEU
13	c1	10	GLU
13	c1	21	ASN
13	c1	31	THR
13	c1	33	ARG
13	c1	40	LEU
13	c1	44	THR
13	c1	47	THR
13	c1	50	GLU
13	c1	56	LYS
13	c1	60	PHE
13	c1	61	THR
13	c1	67	ARG
13	c1	74	THR
13	c1	80	MET
13	c1	83	THR
13	c1	86	ILE
13	c1	87	ARG
13	c1	118	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	c1	129	ARG
13	c1	136	ARG
13	c1	140	VAL
14	c2	28	LEU
14	c2	43	ARG
14	c2	45	LEU
14	c2	58	LEU
14	c2	61	VAL
14	c2	62	LEU
14	c2	71	ILE
14	c2	74	LEU
14	c2	85	LYS
14	c2	86	VAL
14	c2	89	ILE
14	c2	91	VAL
14	c2	103	LEU
14	c2	132	GLU
14	c2	140	PHE
15	c3	12	SER
15	c3	16	ILE
15	c3	19	SER
15	c3	20	ARG
15	c3	21	ASN
15	c3	35	GLU
15	c3	60	VAL
15	c3	64	ARG
15	c3	66	ILE
15	c3	67	THR
15	c3	75	LEU
15	c3	84	ILE
15	c3	88	LEU
15	c3	97	SER
15	c3	114	ARG
15	c3	115	LEU
15	c3	125	LEU
16	c4	13	VAL
16	c4	65	GLN
16	c4	66	ASP
16	c4	79	VAL
16	c4	81	VAL
16	c4	92	LYS
16	c4	102	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
16	c4	107	ARG
16	c4	114	ARG
16	c4	119	THR
16	c4	123	SER
16	c4	129	LYS
16	c4	132	ARG
16	c4	136	ARG
16	c4	137	LEU
17	c5	12	PHE
17	c5	36	LEU
17	c5	40	ARG
17	c5	44	ARG
17	c5	52	LYS
17	c5	69	GLU
17	c5	71	GLU
17	c5	77	ARG
17	c5	107	ILE
17	c5	110	GLU
17	c5	121	ILE
17	c5	124	THR
17	c5	128	HIS
18	c6	7	VAL
18	c6	23	LYS
18	c6	28	LEU
18	c6	43	ILE
18	c6	53	LEU
18	c6	57	LEU
18	c6	68	ARG
18	c6	69	VAL
18	c6	114	ARG
18	c6	128	LYS
18	c6	137	ARG
18	c6	143	ARG
19	c7	5	ARG
19	c7	8	THR
19	c7	30	THR
19	c7	34	LEU
19	c7	46	LEU
19	c7	69	ILE
19	c7	77	GLU
19	c7	85	VAL
19	c7	88	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
19	c7	110	VAL
19	c7	113	LEU
20	c8	3	LEU
20	c8	4	VAL
20	c8	6	GLN
20	c8	13	HIS
20	c8	15	LEU
20	c8	25	ASN
20	c8	27	LYS
20	c8	36	LYS
20	c8	40	ARG
20	c8	41	ARG
20	c8	51	ASP
20	c8	55	HIS
20	c8	74	GLN
20	c8	85	PHE
20	c8	94	ASP
20	c8	100	THR
20	c8	116	LEU
20	c8	136	GLN
20	c8	138	THR
20	c8	144	ARG
21	c9	6	VAL
21	c9	27	LYS
21	c9	28	LEU
21	c9	34	VAL
21	c9	37	VAL
21	c9	68	ARG
21	c9	70	GLN
21	c9	71	VAL
21	c9	75	LYS
21	c9	88	VAL
21	c9	123	ARG
21	c9	126	GLU
21	c9	131	ASP
21	c9	139	THR
22	d0	23	ARG
22	d0	34	LEU
22	d0	44	ASN
22	d0	57	ARG
22	d0	60	THR
22	d0	70	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
22	d0	77	LYS
22	d0	81	THR
22	d0	97	VAL
22	d0	99	ILE
22	d0	103	ILE
22	d0	105	GLN
22	d0	115	GLU
23	d1	2	GLU
23	d1	5	LYS
23	d1	10	GLU
23	d1	17	CYS
23	d1	49	GLU
23	d1	52	THR
23	d1	62	ARG
23	d1	78	LEU
24	d2	7	LEU
24	d2	9	ASP
24	d2	23	ARG
24	d2	24	GLN
24	d2	25	VAL
24	d2	37	PHE
24	d2	43	LYS
24	d2	65	LEU
24	d2	83	ILE
24	d2	98	GLN
24	d2	103	ILE
25	d3	9	LEU
25	d3	19	ARG
25	d3	27	ASN
25	d3	28	ASN
25	d3	73	ARG
25	d3	84	THR
25	d3	100	ASP
25	d3	103	LEU
25	d3	107	PHE
25	d3	114	LYS
25	d3	131	SER
25	d3	144	ARG
26	d4	21	LYS
26	d4	26	ASP
26	d4	28	LEU
26	d4	34	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
26	d4	47	VAL
26	d4	49	LYS
26	d4	61	ARG
26	d4	62	THR
26	d4	88	THR
26	d4	114	ARG
26	d4	128	LYS
26	d4	135	ASP
27	d5	41	ILE
27	d5	53	GLU
27	d5	57	TYR
27	d5	60	VAL
27	d5	81	ARG
27	d5	88	ILE
27	d5	102	THR
28	d6	10	ARG
28	d6	26	CYS
28	d6	39	MET
28	d6	46	GLU
28	d6	53	LEU
28	d6	61	GLU
28	d6	82	ARG
29	d7	3	LEU
29	d7	14	SER
29	d7	41	LEU
29	d7	43	ILE
29	d7	49	HIS
29	d7	52	THR
29	d7	56	CYS
29	d7	72	LYS
29	d7	81	ARG
29	d7	82	LYS
30	d8	15	VAL
30	d8	22	ARG
30	d8	32	PHE
30	d8	33	LEU
30	d8	36	THR
30	d8	39	THR
30	d8	54	LEU
30	d8	61	ARG
30	d8	64	ARG
31	d9	10	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	d9	30	LEU
31	d9	32	ARG
31	d9	36	LEU
31	d9	54	LYS
80	e0	4	VAL
80	e0	21	VAL
80	e0	28	LYS
80	e0	29	LYS
80	e0	54	ARG
80	e0	56	MET
33	e1	78	LYS
33	e1	86	THR
33	e1	90	LYS
33	e1	96	LYS
33	e1	97	LYS
33	e1	98	VAL
33	e1	100	LEU
33	e1	102	VAL
33	e1	106	TYR
33	e1	113	LYS
33	e1	120	GLU
33	e1	135	HIS
33	e1	151	ASN
34	sR	6	VAL
34	sR	29	GLN
34	sR	51	ASP
34	sR	52	GLN
34	sR	58	VAL
34	sR	66	HIS
34	sR	76	ASP
34	sR	96	THR
34	sR	149	ASP
34	sR	167	VAL
34	sR	182	ASN
34	sR	202	LEU
34	sR	232	TYR
34	sR	297	ASP
35	sM	43	ASP
35	sM	49	LYS
35	sM	50	ASN
35	sM	74	LYS
35	sM	75	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
39	l2	22	LEU
39	l2	32	LEU
39	l2	44	ILE
39	l2	45	VAL
39	l2	61	VAL
39	l2	62	VAL
39	l2	71	LEU
39	l2	79	ASN
39	l2	82	VAL
39	l2	101	VAL
39	l2	104	LEU
39	l2	107	VAL
39	l2	109	GLU
39	l2	116	VAL
39	l2	119	LYS
39	l2	122	ASP
39	l2	128	ARG
39	l2	137	ILE
39	l2	147	ARG
39	l2	155	LYS
39	l2	157	VAL
39	l2	158	ILE
39	l2	165	VAL
39	l2	169	ILE
39	l2	202	VAL
39	l2	204	MET
39	l2	207	VAL
39	l2	246	LEU
39	l2	247	ARG
39	l2	249	SER
40	l3	3	HIS
40	l3	10	ARG
40	l3	17	LEU
40	l3	19	ARG
40	l3	30	LYS
40	l3	37	ARG
40	l3	43	LEU
40	l3	47	LEU
40	l3	50	LYS
40	l3	56	ILE
40	l3	69	LYS
40	l3	70	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
40	13	81	THR
40	13	84	VAL
40	13	85	VAL
40	13	95	THR
40	13	104	THR
40	13	108	GLU
40	13	110	LEU
40	13	114	VAL
40	13	125	SER
40	13	139	GLN
40	13	146	ARG
40	13	148	LEU
40	13	153	LYS
40	13	157	VAL
40	13	167	ARG
40	13	169	THR
40	13	178	LEU
40	13	183	LEU
40	13	188	ILE
40	13	202	THR
40	13	205	VAL
40	13	212	ASN
40	13	227	GLU
40	13	232	ARG
40	13	238	LEU
40	13	244	ARG
40	13	248	LYS
40	13	249	VAL
40	13	252	ILE
40	13	264	VAL
40	13	266	ARG
40	13	304	THR
40	13	324	VAL
40	13	332	ARG
40	13	340	LYS
40	13	341	SER
40	13	369	ARG
41	14	2	SER
41	14	3	ARG
41	14	14	GLU
41	14	22	LEU
41	14	25	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
41	14	47	ARG
41	14	73	ARG
41	14	92	ASN
41	14	93	MET
41	14	120	TYR
41	14	122	THR
41	14	134	LEU
41	14	143	GLU
41	14	144	LYS
41	14	145	ILE
41	14	148	ILE
41	14	150	LEU
41	14	156	LEU
41	14	160	GLN
41	14	170	LYS
41	14	176	SER
41	14	177	ASP
41	14	179	LEU
41	14	186	LYS
41	14	187	LEU
41	14	200	THR
41	14	206	LEU
41	14	220	ARG
41	14	222	VAL
41	14	230	VAL
41	14	246	ARG
41	14	258	LEU
41	14	266	THR
41	14	307	GLN
41	14	313	LEU
41	14	319	LYS
41	14	327	LEU
41	14	338	LYS
41	14	342	LYS
41	14	345	GLU
41	14	347	THR
42	15	4	GLN
42	15	34	LYS
42	15	51	LEU
42	15	61	ILE
42	15	65	ILE
42	15	68	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
42	15	70	THR
42	15	74	VAL
42	15	75	LEU
42	15	93	THR
42	15	110	LEU
42	15	113	LEU
42	15	115	LEU
42	15	118	THR
42	15	120	LYS
42	15	140	ARG
42	15	144	VAL
42	15	146	LEU
42	15	152	ARG
42	15	155	THR
42	15	177	GLU
42	15	185	PHE
42	15	194	LEU
42	15	227	LEU
42	15	236	LEU
42	15	254	LYS
42	15	268	GLU
42	15	273	ARG
42	15	275	THR
42	15	282	ARG
43	16	8	LYS
43	16	18	LEU
43	16	20	LYS
43	16	21	THR
43	16	35	VAL
43	16	50	LYS
43	16	52	VAL
43	16	62	THR
43	16	64	LEU
43	16	65	ILE
43	16	78	ARG
43	16	79	VAL
43	16	89	THR
43	16	92	SER
43	16	98	VAL
43	16	99	GLU
43	16	109	GLU
43	16	131	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
43	16	152	THR
43	16	155	LEU
43	16	162	SER
44	17	26	VAL
44	17	41	ARG
44	17	45	LEU
44	17	60	ARG
44	17	77	VAL
44	17	83	LEU
44	17	87	VAL
44	17	98	LYS
44	17	110	ARG
44	17	121	LYS
44	17	124	LEU
44	17	130	ILE
44	17	158	LYS
44	17	178	ILE
44	17	179	LEU
44	17	184	LEU
44	17	229	PHE
44	17	239	LEU
45	18	26	LEU
45	18	41	GLN
45	18	50	VAL
45	18	68	ARG
45	18	71	VAL
45	18	74	THR
45	18	79	GLN
45	18	81	THR
45	18	95	ASN
45	18	109	LEU
45	18	136	LEU
45	18	150	LEU
45	18	160	ILE
45	18	163	VAL
45	18	164	VAL
45	18	169	LEU
45	18	172	LYS
45	18	183	LYS
45	18	189	LEU
45	18	195	SER
45	18	200	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
45	18	206	GLU
45	18	214	LEU
45	18	230	LYS
45	18	238	LEU
45	18	241	LYS
45	18	248	LYS
46	19	5	GLN
46	19	6	THR
46	19	16	VAL
46	19	17	THR
46	19	18	VAL
46	19	19	SER
46	19	21	LYS
46	19	33	THR
46	19	39	LYS
46	19	44	THR
46	19	55	VAL
46	19	62	ARG
46	19	68	LEU
46	19	69	ARG
46	19	70	THR
46	19	80	THR
46	19	82	VAL
46	19	105	GLU
46	19	107	ASP
46	19	122	LYS
46	19	130	ASP
46	19	132	VAL
46	19	133	THR
46	19	144	ILE
46	19	147	SER
46	19	151	VAL
46	19	157	ASN
46	19	161	LEU
46	19	162	GLN
46	19	166	ARG
46	19	173	ARG
46	19	179	ILE
46	19	187	ILE
46	19	191	LEU
47	m0	4	ARG
47	m0	24	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
47	m0	38	LYS
47	m0	42	THR
47	m0	48	LEU
47	m0	52	LEU
47	m0	57	LEU
47	m0	58	GLU
47	m0	71	CYS
47	m0	77	THR
47	m0	87	LEU
47	m0	91	VAL
47	m0	99	ILE
47	m0	102	MET
47	m0	137	SER
47	m0	139	ARG
47	m0	142	ASP
47	m0	148	VAL
47	m0	156	ARG
47	m0	163	GLN
47	m0	167	LEU
47	m0	169	LYS
47	m0	176	LEU
47	m0	177	ASP
47	m0	185	ARG
47	m0	197	VAL
47	m0	205	SER
47	m0	206	LEU
47	m0	212	GLU
47	m0	217	PHE
48	m1	9	MET
48	m1	10	ARG
48	m1	13	LYS
48	m1	22	SER
48	m1	31	THR
48	m1	55	ARG
48	m1	56	THR
48	m1	106	ILE
48	m1	112	LEU
48	m1	129	VAL
48	m1	130	VAL
48	m1	140	ARG
48	m1	150	ASN
48	m1	158	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
48	m1	159	THR
48	m1	166	LYS
49	m3	13	HIS
49	m3	54	LEU
49	m3	58	VAL
49	m3	67	ARG
49	m3	69	VAL
49	m3	73	ARG
49	m3	107	GLU
49	m3	118	GLU
49	m3	122	LYS
49	m3	123	ILE
49	m3	128	ARG
49	m3	131	LYS
49	m3	138	VAL
49	m3	149	GLN
49	m3	162	ASN
49	m3	164	GLU
49	m3	176	GLU
49	m3	184	GLU
49	m3	189	GLU
50	m4	3	THR
50	m4	15	VAL
50	m4	20	VAL
50	m4	27	GLN
50	m4	37	GLU
50	m4	43	LYS
50	m4	53	VAL
50	m4	62	GLN
50	m4	64	VAL
50	m4	66	THR
50	m4	69	THR
50	m4	72	LEU
50	m4	80	THR
50	m4	124	ARG
50	m4	130	THR
50	m4	132	LYS
50	m4	135	LEU
51	m5	10	LEU
51	m5	12	ARG
51	m5	22	LEU
51	m5	24	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
51	m5	49	ARG
51	m5	76	PRO
51	m5	80	THR
51	m5	83	LYS
51	m5	85	THR
51	m5	98	LEU
51	m5	105	ARG
51	m5	109	ARG
51	m5	117	ASN
51	m5	138	GLN
51	m5	176	LYS
51	m5	190	THR
52	m6	3	VAL
52	m6	22	VAL
52	m6	25	LYS
52	m6	34	VAL
52	m6	59	ARG
52	m6	67	THR
52	m6	68	ARG
52	m6	74	ARG
52	m6	78	ARG
52	m6	85	ARG
52	m6	89	SER
52	m6	110	PRO
52	m6	117	ARG
52	m6	124	LEU
52	m6	130	LYS
52	m6	151	ASP
52	m6	160	ARG
52	m6	180	SER
52	m6	182	ASN
52	m6	184	THR
52	m6	193	GLN
53	m7	7	THR
53	m7	9	THR
53	m7	24	VAL
53	m7	32	THR
53	m7	52	LEU
53	m7	53	ASP
53	m7	65	SER
53	m7	78	VAL
53	m7	79	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
53	m7	80	LYS
53	m7	86	LYS
53	m7	89	LYS
53	m7	94	LEU
53	m7	107	LEU
53	m7	112	LEU
53	m7	119	VAL
53	m7	127	ARG
53	m7	155	GLU
54	m8	3	ILE
54	m8	12	ARG
54	m8	17	THR
54	m8	26	LEU
54	m8	32	LEU
54	m8	34	THR
54	m8	62	VAL
54	m8	64	VAL
54	m8	80	THR
54	m8	86	THR
54	m8	135	GLN
54	m8	138	LEU
54	m8	147	ARG
54	m8	150	VAL
54	m8	161	LYS
54	m8	165	ILE
54	m8	168	THR
54	m8	170	ARG
54	m8	178	ARG
54	m8	185	LYS
55	m9	5	ARG
55	m9	7	GLN
55	m9	10	LEU
55	m9	20	ARG
55	m9	27	ASN
55	m9	29	THR
55	m9	43	LYS
55	m9	55	VAL
55	m9	63	THR
55	m9	70	LYS
55	m9	88	ARG
55	m9	99	LEU
55	m9	106	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
55	m9	116	ASP
55	m9	117	LYS
55	m9	134	HIS
55	m9	138	LEU
55	m9	143	ILE
55	m9	152	GLU
55	m9	156	ASN
55	m9	164	LEU
55	m9	173	ARG
55	m9	186	LYS
56	n0	1	MET
56	n0	17	GLU
56	n0	21	GLU
56	n0	23	LYS
56	n0	32	SER
56	n0	34	GLU
56	n0	40	ARG
56	n0	50	LYS
56	n0	71	LYS
56	n0	80	ARG
56	n0	87	THR
56	n0	96	ASP
56	n0	97	VAL
56	n0	105	THR
56	n0	117	ARG
56	n0	120	SER
56	n0	130	GLU
56	n0	132	THR
56	n0	136	LYS
56	n0	137	ARG
56	n0	155	ARG
56	n0	157	GLN
56	n0	162	THR
56	n0	172	TYR
57	n1	9	SER
57	n1	12	ARG
57	n1	18	ASP
57	n1	26	HIS
57	n1	68	THR
57	n1	78	LYS
57	n1	80	VAL
57	n1	83	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
57	n1	88	ARG
57	n1	89	LEU
57	n1	93	VAL
57	n1	96	ILE
57	n1	102	ARG
57	n1	104	GLU
57	n1	118	GLU
57	n1	124	VAL
57	n1	126	VAL
57	n1	128	LEU
57	n1	130	ARG
57	n1	135	PRO
57	n1	139	ARG
57	n1	141	VAL
57	n1	143	THR
57	n1	149	GLN
57	n1	150	THR
58	n2	27	VAL
58	n2	38	ILE
58	n2	43	VAL
58	n2	49	ASN
58	n2	54	VAL
58	n2	55	THR
58	n2	58	GLU
58	n2	68	THR
58	n2	74	LYS
58	n2	75	TYR
58	n2	90	ARG
58	n2	94	ARG
58	n2	96	VAL
59	n3	7	GLN
59	n3	13	ILE
59	n3	48	ARG
59	n3	64	LYS
59	n3	88	ARG
59	n3	93	LEU
59	n3	98	ASN
59	n3	108	GLU
59	n3	120	LYS
60	n4	1	MET
60	n4	19	THR
60	n4	39	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
60	n4	63	ILE
60	n4	96	LEU
60	n4	126	GLU
60	n4	127	LYS
61	n5	24	LEU
61	n5	27	ARG
61	n5	34	LEU
61	n5	37	THR
61	n5	38	LEU
61	n5	39	LYS
61	n5	40	LEU
61	n5	56	ARG
61	n5	57	LEU
61	n5	63	ILE
61	n5	71	THR
61	n5	73	MET
61	n5	74	LYS
61	n5	86	VAL
61	n5	109	LYS
61	n5	115	ARG
61	n5	125	ARG
61	n5	135	ILE
61	n5	142	ILE
62	n6	4	GLN
62	n6	12	ARG
62	n6	13	ARG
62	n6	14	LYS
62	n6	37	LYS
62	n6	39	LEU
62	n6	40	ARG
62	n6	45	ILE
62	n6	50	ILE
62	n6	51	ARG
62	n6	52	ARG
62	n6	56	VAL
62	n6	57	LEU
62	n6	66	GLN
62	n6	69	LYS
62	n6	74	TYR
62	n6	83	ASP
62	n6	94	SER
62	n6	114	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
62	n6	115	ARG
62	n6	120	GLN
62	n6	122	LYS
63	n7	3	LYS
63	n7	5	LEU
63	n7	17	ARG
63	n7	24	VAL
63	n7	54	THR
63	n7	57	HIS
63	n7	72	ILE
63	n7	81	LEU
63	n7	83	THR
63	n7	90	GLU
63	n7	95	VAL
63	n7	100	THR
63	n7	102	GLU
63	n7	103	GLN
63	n7	121	ARG
63	n7	126	LYS
63	n7	134	LEU
64	n8	4	ARG
64	n8	6	THR
64	n8	7	LYS
64	n8	8	THR
64	n8	10	LYS
64	n8	12	ARG
64	n8	26	ARG
64	n8	27	LYS
64	n8	42	ARG
64	n8	47	LYS
64	n8	60	TYR
64	n8	64	GLN
64	n8	65	GLN
64	n8	85	ASP
64	n8	88	ASP
64	n8	98	THR
64	n8	115	LYS
64	n8	128	ARG
64	n8	133	LEU
64	n8	139	ARG
65	n9	13	THR
65	n9	14	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
65	n9	19	ASN
65	n9	22	LYS
65	n9	38	LYS
65	n9	42	ASN
65	n9	58	LYS
65	n9	59	LYS
66	o0	8	GLU
66	o0	18	ILE
66	o0	32	LYS
66	o0	61	MET
66	o0	66	LYS
66	o0	86	ARG
66	o0	100	ILE
67	o1	6	ASP
67	o1	8	VAL
67	o1	13	THR
67	o1	16	LEU
67	o1	24	SER
67	o1	26	LYS
67	o1	31	ARG
67	o1	44	MET
67	o1	55	LEU
67	o1	68	GLU
67	o1	76	SER
67	o1	83	GLU
67	o1	93	VAL
67	o1	96	VAL
67	o1	98	VAL
67	o1	102	LYS
67	o1	106	THR
67	o1	110	GLU
68	o2	16	LYS
68	o2	19	ARG
68	o2	33	ARG
68	o2	34	LYS
68	o2	39	ASP
68	o2	61	LYS
68	o2	73	THR
68	o2	75	LEU
68	o2	82	LEU
68	o2	89	THR
68	o2	125	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
68	o2	126	LEU
69	o3	3	GLU
69	o3	4	SER
69	o3	28	SER
69	o3	31	LYS
69	o3	45	LEU
69	o3	59	VAL
69	o3	60	ARG
69	o3	70	LYS
69	o3	81	VAL
69	o3	86	ARG
69	o3	90	PRO
69	o3	98	VAL
69	o3	105	SER
69	o3	107	ILE
70	o4	5	VAL
70	o4	20	ILE
70	o4	21	LYS
70	o4	24	LYS
70	o4	29	ILE
70	o4	31	ARG
70	o4	37	LYS
70	o4	58	ARG
70	o4	65	VAL
70	o4	68	THR
70	o4	71	THR
70	o4	80	ARG
70	o4	88	ARG
70	o4	98	GLN
71	o5	20	GLN
71	o5	27	GLU
71	o5	28	LEU
71	o5	45	LYS
71	o5	46	THR
71	o5	47	VAL
71	o5	68	GLN
71	o5	69	LEU
71	o5	81	ARG
71	o5	84	LYS
71	o5	85	THR
71	o5	89	ARG
71	o5	90	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
71	o5	99	GLN
71	o5	100	VAL
71	o5	101	THR
71	o5	107	LYS
72	o6	9	ILE
72	o6	11	LEU
72	o6	12	ASN
72	o6	17	VAL
72	o6	21	THR
72	o6	26	ILE
72	o6	36	ARG
72	o6	43	LEU
72	o6	45	ARG
72	o6	57	LEU
72	o6	58	ILE
72	o6	60	LEU
72	o6	68	ARG
72	o6	74	LYS
72	o6	76	ARG
72	o6	80	PHE
72	o6	88	GLU
72	o6	94	ILE
72	o6	98	ARG
73	o7	12	HIS
73	o7	17	THR
73	o7	25	ARG
73	o7	33	THR
73	o7	36	SER
73	o7	44	THR
73	o7	46	SER
73	o7	55	ARG
73	o7	59	THR
73	o7	65	ARG
73	o7	75	LYS
73	o7	84	SER
74	o8	17	ARG
74	o8	19	ASP
74	o8	22	THR
74	o8	24	THR
74	o8	41	THR
74	o8	46	ARG
74	o8	53	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
74	o8	61	LYS
74	o8	64	LYS
74	o8	65	LEU
74	o8	67	GLN
74	o8	78	LEU
75	o9	4	GLN
75	o9	21	ARG
75	o9	23	LEU
75	o9	45	ARG
75	o9	48	LYS
75	o9	51	ILE
76	q0	85	LEU
76	q0	112	LYS
76	q0	113	ARG
76	q0	114	LYS
77	q1	2	ARG
77	q1	6	ARG
77	q1	9	ARG
77	q1	13	LEU
77	q1	18	ARG
77	q1	21	ARG
78	q2	8	ARG
78	q2	61	LYS
78	q2	69	VAL
78	q2	71	ARG
78	q2	78	LYS
78	q2	79	THR
78	q2	80	ARG
78	q2	84	THR
78	q2	85	LEU
78	q2	93	LEU
78	q2	105	GLN
79	q3	3	LYS
79	q3	20	SER
79	q3	24	ARG
79	q3	41	PHE
79	q3	54	ILE
79	q3	56	THR
79	q3	58	SER
79	q3	59	CYS
79	q3	73	THR
82	p0	4	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
82	p0	5	ARG
82	p0	10	GLU
82	p0	15	LEU
82	p0	39	HIS
82	p0	42	ARG
82	p0	48	ARG
82	p0	51	VAL
82	p0	52	LEU
82	p0	67	LEU
82	p0	70	LEU
82	p0	81	LYS
82	p0	91	GLU
82	p0	93	LEU
82	p0	97	LYS
82	p0	104	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	S1	148	ASN
3	S1	209	ASN
8	S6	10	ASN
12	C0	32	HIS
23	D1	74	GLN
26	D4	63	GLN
31	D9	48	ASN
39	L2	209	HIS
39	L2	211	HIS
41	L4	296	GLN
42	L5	40	HIS
42	L5	264	GLN
44	L7	244	ASN
47	M0	59	GLN
50	M4	105	GLN
57	N1	146	ASN
57	N1	149	GLN
59	N3	98	ASN
63	N7	128	GLN
3	s1	149	GLN
14	c2	125	ASN
18	c6	83	GLN
20	c8	74	GLN

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Mol	Chain	Res	Type
27	d5	82	HIS
80	e0	17	GLN
45	l8	61	GLN
47	m0	162	GLN
70	o4	3	GLN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1776/1800 (98%)	437 (24%)	50 (2%)
1	6	1792/1800 (99%)	419 (23%)	43 (2%)
36	1	3143/3396 (92%)	618 (19%)	66 (2%)
36	5	3143/3396 (92%)	604 (19%)	63 (2%)
37	3	120/121 (99%)	14 (11%)	1 (0%)
37	7	120/121 (99%)	15 (12%)	0
38	4	157/158 (99%)	32 (20%)	2 (1%)
38	8	157/158 (99%)	31 (19%)	0
85	C	1/5 (20%)	0	0
85	D	1/5 (20%)	0	0
All	All	10410/10960 (94%)	2170 (20%)	225 (2%)

All (2170) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A
1	2	4	C
1	2	17	C
1	2	25	C
1	2	26	A
1	2	27	U
1	2	34	G
1	2	42	G
1	2	45	U
1	2	47	A
1	2	50	C
1	2	57	G
1	2	60	U
1	2	67	A
1	2	68	A
1	2	69	G
1	2	72	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	73	U
1	2	75	U
1	2	77	U
1	2	95	G
1	2	104	A
1	2	114	C
1	2	121	U
1	2	131	C
1	2	132	U
1	2	133	U
1	2	134	U
1	2	135	A
1	2	136	C
1	2	137	U
1	2	140	A
1	2	141	U
1	2	144	U
1	2	145	A
1	2	146	U
1	2	153	G
1	2	158	U
1	2	159	U
1	2	178	U
1	2	185	U
1	2	186	C
1	2	187	G
1	2	188	A
1	2	190	C
1	2	191	C
1	2	192	U
1	2	193	U
1	2	194	U
1	2	195	G
1	2	196	G
1	2	197	A
1	2	200	A
1	2	207	U
1	2	215	A
1	2	217	A
1	2	218	A
1	2	219	A
1	2	227	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	228	G
1	2	229	U
1	2	231	U
1	2	233	C
1	2	234	G
1	2	235	G
1	2	238	U
1	2	239	C
1	2	240	U
1	2	241	U
1	2	242	U
1	2	249	U
1	2	250	C
1	2	261	U
1	2	262	U
1	2	265	A
1	2	266	A
1	2	269	G
1	2	271	A
1	2	272	U
1	2	275	C
1	2	276	C
1	2	277	U
1	2	278	U
1	2	279	G
1	2	280	U
1	2	281	G
1	2	288	A
1	2	290	G
1	2	299	A
1	2	302	U
1	2	309	C
1	2	314	C
1	2	316	A
1	2	319	U
1	2	320	U
1	2	321	C
1	2	323	A
1	2	333	A
1	2	337	G
1	2	338	C
1	2	341	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	352	A
1	2	356	G
1	2	359	A
1	2	360	A
1	2	361	C
1	2	363	G
1	2	365	G
1	2	387	A
1	2	397	A
1	2	400	A
1	2	401	A
1	2	402	C
1	2	403	G
1	2	404	G
1	2	416	A
1	2	418	G
1	2	421	A
1	2	424	C
1	2	425	A
1	2	426	G
1	2	428	A
1	2	434	G
1	2	437	A
1	2	439	U
1	2	444	C
1	2	448	C
1	2	450	U
1	2	468	A
1	2	475	A
1	2	477	A
1	2	484	C
1	2	485	A
1	2	488	G
1	2	493	U
1	2	494	U
1	2	495	C
1	2	496	G
1	2	497	G
1	2	498	G
1	2	499	U
1	2	500	C
1	2	502	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	503	G
1	2	504	U
1	2	505	A
1	2	506	A
1	2	507	U
1	2	508	U
1	2	510	G
1	2	511	A
1	2	513	U
1	2	514	G
1	2	515	A
1	2	516	G
1	2	527	A
1	2	534	A
1	2	538	A
1	2	539	G
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	544	A
1	2	548	G
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	559	C
1	2	565	C
1	2	572	C
1	2	579	A
1	2	580	A
1	2	585	A
1	2	594	A
1	2	595	G
1	2	606	A
1	2	610	G
1	2	611	U
1	2	619	A
1	2	620	A
1	2	622	A
1	2	623	A
1	2	630	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	639	U
1	2	640	U
1	2	650	U
1	2	653	C
1	2	654	C
1	2	656	G
1	2	657	U
1	2	658	C
1	2	677	G
1	2	679	U
1	2	680	U
1	2	684	A
1	2	686	C
1	2	694	U
1	2	696	C
1	2	697	C
1	2	700	C
1	2	702	G
1	2	703	G
1	2	704	C
1	2	705	U
1	2	707	A
1	2	709	C
1	2	710	U
1	2	712	G
1	2	713	A
1	2	714	G
1	2	717	C
1	2	718	U
1	2	719	U
1	2	720	G
1	2	721	U
1	2	722	G
1	2	723	G
1	2	725	U
1	2	727	U
1	2	730	G
1	2	731	C
1	2	732	G
1	2	733	A
1	2	734	A
1	2	735	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	736	C
1	2	737	A
1	2	738	G
1	2	742	U
1	2	744	U
1	2	745	U
1	2	754	A
1	2	755	A
1	2	756	A
1	2	765	G
1	2	766	U
1	2	774	A
1	2	775	G
1	2	778	G
1	2	780	A
1	2	781	U
1	2	782	U
1	2	783	G
1	2	784	C
1	2	789	A
1	2	794	U
1	2	795	U
1	2	807	A
1	2	812	A
1	2	815	G
1	2	816	G
1	2	818	C
1	2	820	U
1	2	821	U
1	2	823	G
1	2	824	G
1	2	829	A
1	2	830	U
1	2	831	U
1	2	833	U
1	2	846	G
1	2	848	C
1	2	856	A
1	2	863	A
1	2	864	U
1	2	876	G
1	2	886	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	898	A
1	2	903	U
1	2	912	U
1	2	913	G
1	2	914	G
1	2	915	A
1	2	916	U
1	2	921	U
1	2	933	A
1	2	935	U
1	2	942	G
1	2	944	A
1	2	951	A
1	2	960	U
1	2	966	A
1	2	992	A
1	2	993	A
1	2	997	G
1	2	1003	A
1	2	1004	U
1	2	1005	A
1	2	1020	A
1	2	1021	C
1	2	1026	A
1	2	1028	C
1	2	1031	U
1	2	1039	A
1	2	1040	G
1	2	1052	U
1	2	1053	G
1	2	1058	U
1	2	1060	U
1	2	1061	A
1	2	1074	G
1	2	1081	A
1	2	1082	C
1	2	1091	A
1	2	1092	A
1	2	1096	C
1	2	1097	U
1	2	1100	G
1	2	1109	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	1138	A
1	2	1150	G
1	2	1151	A
1	2	1152	A
1	2	1157	A
1	2	1158	C
1	2	1160	A
1	2	1167	G
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1199	G
1	2	1200	G
1	2	1202	A
1	2	1203	A
1	2	1208	A
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1228	G
1	2	1229	G
1	2	1243	G
1	2	1244	A
1	2	1245	G
1	2	1251	U
1	2	1258	U
1	2	1286	U
1	2	1290	U
1	2	1301	U
1	2	1314	U
1	2	1315	U
1	2	1316	G
1	2	1320	U
1	2	1321	A
1	2	1339	C
1	2	1340	U
1	2	1341	A
1	2	1344	A
1	2	1345	A
1	2	1347	U
1	2	1354	G
1	2	1363	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	1364	G
1	2	1370	U
1	2	1371	A
1	2	1372	U
1	2	1390	U
1	2	1398	U
1	2	1399	C
1	2	1413	U
1	2	1415	U
1	2	1427	A
1	2	1428	G
1	2	1431	C
1	2	1446	A
1	2	1448	G
1	2	1459	C
1	2	1471	A
1	2	1473	U
1	2	1474	G
1	2	1475	A
1	2	1477	G
1	2	1482	C
1	2	1486	G
1	2	1489	U
1	2	1490	C
1	2	1491	U
1	2	1492	A
1	2	1493	A
1	2	1506	G
1	2	1514	U
1	2	1515	A
1	2	1516	A
1	2	1517	U
1	2	1523	G
1	2	1524	A
1	2	1535	U
1	2	1536	G
1	2	1537	C
1	2	1538	U
1	2	1540	G
1	2	1542	G
1	2	1557	U
1	2	1559	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	1569	A
1	2	1574	G
1	2	1584	G
1	2	1590	G
1	2	1600	A
1	2	1601	G
1	2	1614	A
1	2	1616	G
1	2	1626	U
1	2	1631	A
1	2	1636	C
1	2	1652	C
1	2	1657	U
1	2	1658	G
1	2	1680	G
1	2	1681	A
1	2	1683	C
1	2	1684	U
1	2	1697	G
1	2	1698	G
1	2	1699	G
1	2	1700	C
1	2	1701	A
1	2	1702	A
1	2	1703	C
1	2	1711	C
1	2	1712	A
1	2	1713	G
1	2	1715	G
1	2	1731	A
1	2	1760	G
1	2	1762	A
1	2	1766	A
1	2	1769	U
1	2	1780	G
1	2	1782	A
1	2	1783	C
1	2	1792	G
1	2	1793	G
1	2	1794	A
1	2	1795	U
1	2	1796	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	16	A
36	1	24	G
36	1	40	A
36	1	45	A
36	1	49	A
36	1	59	G
36	1	60	A
36	1	65	A
36	1	66	A
36	1	92	G
36	1	93	C
36	1	99	A
36	1	109	A
36	1	110	G
36	1	111	C
36	1	113	C
36	1	116	A
36	1	118	U
36	1	121	A
36	1	122	A
36	1	133	U
36	1	136	G
36	1	147	U
36	1	148	G
36	1	156	G
36	1	157	A
36	1	161	G
36	1	170	G
36	1	187	A
36	1	190	U
36	1	191	U
36	1	192	C
36	1	201	A
36	1	210	U
36	1	211	A
36	1	213	A
36	1	218	G
36	1	219	A
36	1	222	A
36	1	224	C
36	1	240	U
36	1	243	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	245	U
36	1	249	U
36	1	250	U
36	1	251	G
36	1	252	U
36	1	269	G
36	1	282	G
36	1	283	G
36	1	286	U
36	1	295	A
36	1	298	U
36	1	299	G
36	1	305	U
36	1	315	C
36	1	323	A
36	1	329	U
36	1	339	C
36	1	349	A
36	1	350	C
36	1	370	U
36	1	376	G
36	1	398	A
36	1	399	A
36	1	401	U
36	1	402	A
36	1	403	C
36	1	404	G
36	1	421	G
36	1	422	A
36	1	438	A
36	1	439	C
36	1	440	A
36	1	495	G
36	1	518	G
36	1	520	U
36	1	521	A
36	1	523	A
36	1	535	G
36	1	543	C
36	1	544	C
36	1	546	C
36	1	547	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	548	G
36	1	552	G
36	1	555	U
36	1	556	U
36	1	557	A
36	1	559	A
36	1	569	A
36	1	578	A
36	1	579	G
36	1	592	A
36	1	603	A
36	1	604	G
36	1	607	A
36	1	609	G
36	1	611	A
36	1	619	A
36	1	620	U
36	1	621	A
36	1	622	A
36	1	636	C
36	1	638	C
36	1	649	A
36	1	651	G
36	1	654	C
36	1	660	A
36	1	661	G
36	1	677	A
36	1	681	U
36	1	691	A
36	1	705	A
36	1	708	G
36	1	712	G
36	1	715	A
36	1	716	A
36	1	764	U
36	1	765	C
36	1	766	U
36	1	767	U
36	1	774	G
36	1	776	U
36	1	777	U
36	1	781	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	785	G
36	1	806	A
36	1	817	A
36	1	830	A
36	1	842	G
36	1	849	C
36	1	861	C
36	1	870	G
36	1	874	U
36	1	876	A
36	1	878	G
36	1	879	U
36	1	890	C
36	1	896	A
36	1	897	U
36	1	907	G
36	1	908	G
36	1	914	A
36	1	916	G
36	1	917	A
36	1	923	C
36	1	924	G
36	1	925	A
36	1	937	G
36	1	943	U
36	1	944	C
36	1	953	G
36	1	959	C
36	1	960	U
36	1	962	A
36	1	963	G
36	1	979	U
36	1	980	A
36	1	981	U
36	1	982	C
36	1	994	G
36	1	1000	C
36	1	1001	G
36	1	1002	A
36	1	1006	A
36	1	1010	G
36	1	1013	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1017	C
36	1	1018	G
36	1	1020	G
36	1	1024	G
36	1	1025	A
36	1	1029	G
36	1	1037	C
36	1	1047	A
36	1	1049	C
36	1	1064	A
36	1	1065	A
36	1	1072	G
36	1	1079	A
36	1	1081	U
36	1	1082	U
36	1	1093	A
36	1	1094	U
36	1	1095	U
36	1	1096	U
36	1	1097	G
36	1	1098	A
36	1	1103	A
36	1	1104	G
36	1	1112	A
36	1	1117	G
36	1	1131	G
36	1	1144	U
36	1	1153	A
36	1	1159	A
36	1	1160	C
36	1	1178	G
36	1	1179	A
36	1	1180	A
36	1	1181	U
36	1	1182	A
36	1	1192	C
36	1	1201	C
36	1	1209	G
36	1	1217	A
36	1	1221	A
36	1	1222	G
36	1	1225	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1227	C
36	1	1232	C
36	1	1235	U
36	1	1236	G
36	1	1237	G
36	1	1241	U
36	1	1243	G
36	1	1245	A
36	1	1246	G
36	1	1248	C
36	1	1249	G
36	1	1258	U
36	1	1262	G
36	1	1263	A
36	1	1264	G
36	1	1266	G
36	1	1269	U
36	1	1270	A
36	1	1271	A
36	1	1274	A
36	1	1278	A
36	1	1279	C
36	1	1285	G
36	1	1287	A
36	1	1292	C
36	1	1307	G
36	1	1308	A
36	1	1309	U
36	1	1313	G
36	1	1330	A
36	1	1333	C
36	1	1348	U
36	1	1349	G
36	1	1350	A
36	1	1351	U
36	1	1352	A
36	1	1353	U
36	1	1355	A
36	1	1356	U
36	1	1357	G
36	1	1386	A
36	1	1399	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1400	G
36	1	1418	A
36	1	1419	A
36	1	1425	U
36	1	1429	G
36	1	1431	G
36	1	1433	A
36	1	1434	G
36	1	1437	C
36	1	1446	A
36	1	1450	G
36	1	1453	A
36	1	1455	U
36	1	1460	A
36	1	1481	A
36	1	1482	A
36	1	1485	G
36	1	1488	G
36	1	1490	A
36	1	1502	C
36	1	1508	C
36	1	1527	C
36	1	1533	U
36	1	1536	G
36	1	1549	U
36	1	1556	C
36	1	1557	A
36	1	1560	G
36	1	1561	G
36	1	1562	C
36	1	1563	C
36	1	1564	U
36	1	1566	A
36	1	1567	U
36	1	1568	U
36	1	1569	U
36	1	1570	U
36	1	1572	U
36	1	1576	G
36	1	1580	A
36	1	1582	C
36	1	1583	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1589	A
36	1	1593	A
36	1	1596	C
36	1	1605	A
36	1	1620	U
36	1	1629	U
36	1	1633	C
36	1	1639	C
36	1	1643	A
36	1	1657	C
36	1	1683	A
36	1	1688	U
36	1	1716	U
36	1	1717	U
36	1	1724	U
36	1	1725	C
36	1	1729	A
36	1	1736	G
36	1	1742	U
36	1	1746	U
36	1	1750	A
36	1	1751	G
36	1	1762	C
36	1	1765	U
36	1	1766	G
36	1	1770	G
36	1	1775	G
36	1	1778	G
36	1	1780	G
36	1	1781	C
36	1	1797	A
36	1	1810	A
36	1	1814	A
36	1	1816	A
36	1	1817	G
36	1	1819	U
36	1	1820	U
36	1	1821	U
36	1	1839	A
36	1	1842	A
36	1	1846	C
36	1	1849	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1850	A
36	1	1866	C
36	1	1879	A
36	1	1880	U
36	1	1886	A
36	1	1887	A
36	1	1895	A
36	1	1906	G
36	1	1932	A
36	1	1935	G
36	1	1937	U
36	1	1951	C
36	1	1952	G
36	1	1954	G
36	1	2094	C
36	1	2101	C
36	1	2102	U
36	1	2111	G
36	1	2112	U
36	1	2113	A
36	1	2120	A
36	1	2121	G
36	1	2122	G
36	1	2131	A
36	1	2140	U
36	1	2144	A
36	1	2158	A
36	1	2169	G
36	1	2170	U
36	1	2187	G
36	1	2188	A
36	1	2198	A
36	1	2205	U
36	1	2208	A
36	1	2209	U
36	1	2210	G
36	1	2223	A
36	1	2225	U
36	1	2228	A
36	1	2244	A
36	1	2249	G
36	1	2250	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	2255	A
36	1	2256	A
36	1	2272	G
36	1	2273	G
36	1	2279	A
36	1	2281	A
36	1	2284	C
36	1	2288	G
36	1	2298	U
36	1	2299	A
36	1	2307	G
36	1	2310	U
36	1	2313	A
36	1	2314	U
36	1	2315	G
36	1	2334	U
36	1	2336	U
36	1	2372	A
36	1	2373	A
36	1	2374	C
36	1	2375	G
36	1	2385	G
36	1	2391	G
36	1	2392	C
36	1	2393	G
36	1	2394	G
36	1	2397	A
36	1	2403	G
36	1	2404	A
36	1	2411	U
36	1	2418	G
36	1	2419	A
36	1	2435	G
36	1	2444	C
36	1	2445	A
36	1	2502	A
36	1	2503	G
36	1	2511	A
36	1	2514	U
36	1	2515	A
36	1	2522	G
36	1	2529	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	2532	U
36	1	2533	G
36	1	2537	U
36	1	2538	U
36	1	2539	C
36	1	2540	A
36	1	2541	U
36	1	2542	U
36	1	2543	U
36	1	2547	A
36	1	2548	C
36	1	2549	G
36	1	2552	C
36	1	2554	A
36	1	2555	G
36	1	2560	C
36	1	2561	A
36	1	2562	A
36	1	2568	C
36	1	2569	A
36	1	2570	U
36	1	2571	U
36	1	2572	C
36	1	2573	G
36	1	2581	U
36	1	2585	G
36	1	2586	G
36	1	2593	A
36	1	2606	G
36	1	2607	G
36	1	2610	G
36	1	2614	G
36	1	2637	A
36	1	2652	U
36	1	2656	A
36	1	2657	A
36	1	2674	A
36	1	2677	G
36	1	2681	U
36	1	2689	A
36	1	2691	A
36	1	2694	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	2696	A
36	1	2706	G
36	1	2714	G
36	1	2719	U
36	1	2727	A
36	1	2728	G
36	1	2729	U
36	1	2737	C
36	1	2752	U
36	1	2753	G
36	1	2762	A
36	1	2771	U
36	1	2772	C
36	1	2777	G
36	1	2778	G
36	1	2779	A
36	1	2796	G
36	1	2797	C
36	1	2799	A
36	1	2800	G
36	1	2801	A
36	1	2802	A
36	1	2803	A
36	1	2810	C
36	1	2814	G
36	1	2816	G
36	1	2817	A
36	1	2818	U
36	1	2834	G
36	1	2842	U
36	1	2843	U
36	1	2845	A
36	1	2847	A
36	1	2867	C
36	1	2871	G
36	1	2872	A
36	1	2873	U
36	1	2875	U
36	1	2886	U
36	1	2887	A
36	1	2889	C
36	1	2898	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	2899	C
36	1	2904	U
36	1	2914	G
36	1	2923	U
36	1	2927	C
36	1	2935	U
36	1	2936	A
36	1	2942	C
36	1	2945	G
36	1	2947	G
36	1	2951	G
36	1	2971	A
36	1	2973	G
36	1	2978	U
36	1	2979	U
36	1	2983	C
36	1	2990	G
36	1	2992	U
36	1	2996	U
36	1	2997	G
36	1	3006	A
36	1	3012	A
36	1	3025	C
36	1	3030	G
36	1	3056	U
36	1	3059	G
36	1	3078	U
36	1	3079	U
36	1	3080	G
36	1	3086	A
36	1	3091	A
36	1	3092	C
36	1	3104	U
36	1	3122	A
36	1	3123	A
36	1	3129	A
36	1	3130	A
36	1	3131	U
36	1	3141	A
36	1	3142	A
36	1	3143	C
36	1	3150	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	3151	U
36	1	3153	U
36	1	3154	C
36	1	3155	U
36	1	3156	U
36	1	3157	U
36	1	3164	C
36	1	3165	A
36	1	3168	A
36	1	3170	A
36	1	3173	G
36	1	3174	A
36	1	3176	G
36	1	3179	U
36	1	3181	C
36	1	3187	A
36	1	3195	U
36	1	3196	U
36	1	3199	G
36	1	3207	U
36	1	3208	G
36	1	3209	A
36	1	3217	C
36	1	3218	A
36	1	3219	G
36	1	3229	G
36	1	3235	C
36	1	3239	G
36	1	3243	A
36	1	3245	A
36	1	3246	G
36	1	3247	G
36	1	3259	U
36	1	3269	U
36	1	3270	U
36	1	3276	G
36	1	3279	A
36	1	3281	U
36	1	3286	G
36	1	3287	U
36	1	3289	G
36	1	3294	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	3295	A
36	1	3303	G
36	1	3304	U
36	1	3307	A
36	1	3313	U
36	1	3316	A
36	1	3317	U
36	1	3318	G
36	1	3319	U
36	1	3320	A
36	1	3341	U
36	1	3342	A
36	1	3345	G
36	1	3347	A
36	1	3351	U
36	1	3352	U
36	1	3353	G
36	1	3354	U
36	1	3355	U
36	1	3356	G
36	1	3368	U
36	1	3369	G
36	1	3375	A
36	1	3376	A
36	1	3378	C
36	1	3382	U
36	1	3383	G
36	1	3389	U
36	1	3390	G
36	1	3396	U
37	3	7	G
37	3	18	C
37	3	22	A
37	3	26	C
37	3	53	U
37	3	54	U
37	3	65	G
37	3	73	C
37	3	74	C
37	3	76	A
37	3	91	G
37	3	102	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
37	3	112	G
37	3	121	U
38	4	34	U
38	4	35	C
38	4	48	A
38	4	52	A
38	4	57	C
38	4	58	G
38	4	59	A
38	4	62	C
38	4	63	G
38	4	75	G
38	4	80	A
38	4	81	U
38	4	82	U
38	4	83	C
38	4	85	G
38	4	86	U
38	4	87	G
38	4	90	U
38	4	95	G
38	4	104	A
38	4	105	A
38	4	106	C
38	4	111	A
38	4	113	U
38	4	125	U
38	4	126	A
38	4	128	U
38	4	138	A
38	4	152	G
38	4	155	A
38	4	157	U
38	4	158	U
1	6	2	A
1	6	4	C
1	6	17	C
1	6	25	C
1	6	26	A
1	6	27	U
1	6	34	G
1	6	44	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	47	A
1	6	57	G
1	6	60	U
1	6	66	U
1	6	67	A
1	6	68	A
1	6	69	G
1	6	72	A
1	6	73	U
1	6	75	U
1	6	76	A
1	6	77	U
1	6	104	A
1	6	111	U
1	6	114	C
1	6	116	U
1	6	132	U
1	6	137	U
1	6	138	A
1	6	140	A
1	6	141	U
1	6	145	A
1	6	146	U
1	6	153	G
1	6	158	U
1	6	159	U
1	6	161	U
1	6	166	C
1	6	175	G
1	6	178	U
1	6	185	U
1	6	188	A
1	6	190	C
1	6	191	C
1	6	192	U
1	6	193	U
1	6	194	U
1	6	195	G
1	6	199	G
1	6	200	A
1	6	215	A
1	6	216	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	217	A
1	6	218	A
1	6	219	A
1	6	220	A
1	6	223	U
1	6	226	A
1	6	227	U
1	6	228	G
1	6	230	C
1	6	232	U
1	6	233	C
1	6	240	U
1	6	241	U
1	6	249	U
1	6	250	C
1	6	261	U
1	6	262	U
1	6	265	A
1	6	271	A
1	6	272	U
1	6	273	G
1	6	275	C
1	6	277	U
1	6	278	U
1	6	280	U
1	6	281	G
1	6	287	G
1	6	294	C
1	6	299	A
1	6	308	C
1	6	314	C
1	6	316	A
1	6	319	U
1	6	320	U
1	6	321	C
1	6	322	G
1	6	337	G
1	6	338	C
1	6	341	A
1	6	344	A
1	6	351	C
1	6	352	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	359	A
1	6	360	A
1	6	361	C
1	6	400	A
1	6	401	A
1	6	402	C
1	6	404	G
1	6	416	A
1	6	418	G
1	6	424	C
1	6	425	A
1	6	426	G
1	6	428	A
1	6	434	G
1	6	439	U
1	6	444	C
1	6	445	A
1	6	448	C
1	6	454	U
1	6	464	A
1	6	468	A
1	6	477	A
1	6	480	G
1	6	484	C
1	6	485	A
1	6	486	G
1	6	488	G
1	6	489	C
1	6	490	C
1	6	492	A
1	6	493	U
1	6	494	U
1	6	495	C
1	6	496	G
1	6	500	C
1	6	501	U
1	6	504	U
1	6	505	A
1	6	506	A
1	6	508	U
1	6	510	G
1	6	511	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	512	A
1	6	513	U
1	6	514	G
1	6	515	A
1	6	519	C
1	6	527	A
1	6	536	C
1	6	538	A
1	6	539	G
1	6	540	G
1	6	541	A
1	6	542	A
1	6	543	C
1	6	544	A
1	6	548	G
1	6	551	G
1	6	555	A
1	6	556	A
1	6	557	G
1	6	558	U
1	6	559	C
1	6	565	C
1	6	566	C
1	6	570	A
1	6	574	G
1	6	579	A
1	6	580	A
1	6	582	U
1	6	594	A
1	6	595	G
1	6	610	G
1	6	611	U
1	6	619	A
1	6	620	A
1	6	622	A
1	6	623	A
1	6	634	G
1	6	639	U
1	6	645	C
1	6	652	G
1	6	653	C
1	6	661	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	662	U
1	6	665	U
1	6	667	U
1	6	670	U
1	6	676	G
1	6	678	A
1	6	679	U
1	6	680	U
1	6	681	U
1	6	682	C
1	6	683	C
1	6	684	A
1	6	685	A
1	6	690	G
1	6	696	C
1	6	697	C
1	6	698	U
1	6	709	C
1	6	710	U
1	6	711	U
1	6	714	G
1	6	718	U
1	6	719	U
1	6	720	G
1	6	721	U
1	6	722	G
1	6	730	G
1	6	742	U
1	6	751	G
1	6	754	A
1	6	755	A
1	6	756	A
1	6	765	G
1	6	766	U
1	6	774	A
1	6	775	G
1	6	780	A
1	6	781	U
1	6	782	U
1	6	783	G
1	6	787	G
1	6	789	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	793	A
1	6	794	U
1	6	803	A
1	6	811	A
1	6	812	A
1	6	814	A
1	6	815	G
1	6	816	G
1	6	821	U
1	6	823	G
1	6	825	U
1	6	826	U
1	6	829	A
1	6	830	U
1	6	831	U
1	6	832	U
1	6	834	G
1	6	835	U
1	6	860	U
1	6	863	A
1	6	886	U
1	6	898	A
1	6	906	A
1	6	912	U
1	6	913	G
1	6	914	G
1	6	933	A
1	6	935	U
1	6	942	G
1	6	959	U
1	6	960	U
1	6	966	A
1	6	969	C
1	6	970	A
1	6	971	A
1	6	992	A
1	6	996	U
1	6	1003	A
1	6	1004	U
1	6	1005	A
1	6	1021	C
1	6	1026	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	1028	C
1	6	1039	A
1	6	1040	G
1	6	1052	U
1	6	1053	G
1	6	1057	U
1	6	1058	U
1	6	1059	U
1	6	1060	U
1	6	1073	G
1	6	1082	C
1	6	1091	A
1	6	1092	A
1	6	1096	C
1	6	1097	U
1	6	1098	U
1	6	1100	G
1	6	1101	G
1	6	1111	G
1	6	1137	A
1	6	1138	A
1	6	1151	A
1	6	1155	G
1	6	1158	C
1	6	1159	C
1	6	1160	A
1	6	1167	G
1	6	1185	U
1	6	1193	A
1	6	1194	A
1	6	1196	A
1	6	1197	C
1	6	1199	G
1	6	1200	G
1	6	1202	A
1	6	1208	A
1	6	1217	A
1	6	1218	G
1	6	1220	C
1	6	1225	U
1	6	1226	A
1	6	1227	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	1228	G
1	6	1229	G
1	6	1230	A
1	6	1231	U
1	6	1243	G
1	6	1244	A
1	6	1245	G
1	6	1246	C
1	6	1255	G
1	6	1256	A
1	6	1257	U
1	6	1258	U
1	6	1275	A
1	6	1286	U
1	6	1288	G
1	6	1291	G
1	6	1314	U
1	6	1316	G
1	6	1321	A
1	6	1338	C
1	6	1344	A
1	6	1345	A
1	6	1346	A
1	6	1354	G
1	6	1361	U
1	6	1363	U
1	6	1364	G
1	6	1367	G
1	6	1370	U
1	6	1371	A
1	6	1383	G
1	6	1390	U
1	6	1398	U
1	6	1399	C
1	6	1400	A
1	6	1402	G
1	6	1412	G
1	6	1413	U
1	6	1415	U
1	6	1427	A
1	6	1428	G
1	6	1445	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	1446	A
1	6	1448	G
1	6	1458	G
1	6	1459	C
1	6	1460	A
1	6	1469	A
1	6	1471	A
1	6	1481	C
1	6	1482	C
1	6	1486	G
1	6	1490	C
1	6	1491	U
1	6	1492	A
1	6	1493	A
1	6	1494	C
1	6	1506	G
1	6	1514	U
1	6	1516	A
1	6	1521	G
1	6	1523	G
1	6	1524	A
1	6	1531	G
1	6	1535	U
1	6	1536	G
1	6	1537	C
1	6	1538	U
1	6	1540	G
1	6	1554	U
1	6	1555	A
1	6	1557	U
1	6	1559	A
1	6	1569	A
1	6	1573	A
1	6	1574	G
1	6	1584	G
1	6	1590	G
1	6	1601	G
1	6	1621	U
1	6	1631	A
1	6	1634	C
1	6	1637	C
1	6	1638	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	1657	U
1	6	1658	G
1	6	1683	C
1	6	1697	G
1	6	1698	G
1	6	1699	G
1	6	1700	C
1	6	1701	A
1	6	1702	A
1	6	1703	C
1	6	1712	A
1	6	1716	C
1	6	1717	G
1	6	1727	G
1	6	1731	A
1	6	1736	G
1	6	1742	U
1	6	1755	A
1	6	1760	G
1	6	1762	A
1	6	1766	A
1	6	1767	G
1	6	1769	U
1	6	1780	G
1	6	1782	A
1	6	1783	C
1	6	1792	G
1	6	1793	G
1	6	1794	A
1	6	1795	U
1	6	1796	C
1	6	1799	U
1	6	1800	A
36	5	14	U
36	5	15	C
36	5	16	A
36	5	24	G
36	5	26	A
36	5	40	A
36	5	49	A
36	5	59	G
36	5	60	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	65	A
36	5	66	A
36	5	72	C
36	5	73	C
36	5	74	G
36	5	76	G
36	5	83	U
36	5	89	A
36	5	92	G
36	5	96	G
36	5	99	A
36	5	108	A
36	5	109	A
36	5	110	G
36	5	111	C
36	5	116	A
36	5	121	A
36	5	122	A
36	5	133	U
36	5	134	U
36	5	135	C
36	5	136	G
36	5	146	U
36	5	152	U
36	5	156	G
36	5	157	A
36	5	165	A
36	5	170	G
36	5	171	G
36	5	172	G
36	5	173	G
36	5	174	C
36	5	180	C
36	5	182	U
36	5	184	U
36	5	187	A
36	5	190	U
36	5	191	U
36	5	210	U
36	5	218	G
36	5	219	A
36	5	221	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	231	G
36	5	235	A
36	5	236	G
36	5	237	G
36	5	239	G
36	5	240	U
36	5	241	G
36	5	244	G
36	5	248	U
36	5	249	U
36	5	250	U
36	5	251	G
36	5	252	U
36	5	253	A
36	5	254	A
36	5	269	G
36	5	282	G
36	5	283	G
36	5	284	A
36	5	285	A
36	5	286	U
36	5	295	A
36	5	305	U
36	5	315	C
36	5	323	A
36	5	329	U
36	5	338	A
36	5	339	C
36	5	349	A
36	5	350	C
36	5	370	U
36	5	376	G
36	5	398	A
36	5	399	A
36	5	401	U
36	5	402	A
36	5	403	C
36	5	421	G
36	5	422	A
36	5	436	A
36	5	437	G
36	5	438	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	439	C
36	5	441	U
36	5	442	G
36	5	492	U
36	5	495	G
36	5	520	U
36	5	521	A
36	5	546	C
36	5	547	G
36	5	548	G
36	5	555	U
36	5	557	A
36	5	559	A
36	5	569	A
36	5	578	A
36	5	579	G
36	5	581	U
36	5	592	A
36	5	600	G
36	5	604	G
36	5	608	A
36	5	609	G
36	5	611	A
36	5	619	A
36	5	620	U
36	5	621	A
36	5	636	C
36	5	649	A
36	5	651	G
36	5	653	A
36	5	660	A
36	5	661	G
36	5	677	A
36	5	681	U
36	5	683	U
36	5	691	A
36	5	705	A
36	5	712	G
36	5	715	A
36	5	716	A
36	5	725	G
36	5	727	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	736	A
36	5	750	G
36	5	765	C
36	5	766	U
36	5	767	U
36	5	774	G
36	5	775	A
36	5	776	U
36	5	777	U
36	5	780	A
36	5	781	G
36	5	785	G
36	5	786	A
36	5	806	A
36	5	813	G
36	5	817	A
36	5	830	A
36	5	837	A
36	5	846	A
36	5	861	C
36	5	874	U
36	5	879	U
36	5	890	C
36	5	895	A
36	5	896	A
36	5	907	G
36	5	908	G
36	5	914	A
36	5	916	G
36	5	917	A
36	5	923	C
36	5	924	G
36	5	925	A
36	5	937	G
36	5	943	U
36	5	944	C
36	5	959	C
36	5	960	U
36	5	962	A
36	5	963	G
36	5	979	U
36	5	981	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	983	A
36	5	984	G
36	5	993	G
36	5	994	G
36	5	1001	G
36	5	1002	A
36	5	1006	A
36	5	1010	G
36	5	1014	U
36	5	1015	U
36	5	1016	C
36	5	1017	C
36	5	1018	G
36	5	1021	G
36	5	1024	G
36	5	1025	A
36	5	1026	A
36	5	1028	U
36	5	1029	G
36	5	1032	C
36	5	1033	U
36	5	1035	G
36	5	1047	A
36	5	1049	C
36	5	1064	A
36	5	1065	A
36	5	1072	G
36	5	1081	U
36	5	1082	U
36	5	1085	A
36	5	1093	A
36	5	1094	U
36	5	1096	U
36	5	1097	G
36	5	1098	A
36	5	1103	A
36	5	1104	G
36	5	1117	G
36	5	1124	U
36	5	1125	U
36	5	1131	G
36	5	1152	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	1153	A
36	5	1154	A
36	5	1159	A
36	5	1160	C
36	5	1178	G
36	5	1180	A
36	5	1181	U
36	5	1182	A
36	5	1191	U
36	5	1192	C
36	5	1196	C
36	5	1197	A
36	5	1201	C
36	5	1209	G
36	5	1222	G
36	5	1232	C
36	5	1236	G
36	5	1237	G
36	5	1239	C
36	5	1241	U
36	5	1242	G
36	5	1243	G
36	5	1245	A
36	5	1246	G
36	5	1254	C
36	5	1258	U
36	5	1262	G
36	5	1263	A
36	5	1264	G
36	5	1265	U
36	5	1266	G
36	5	1285	G
36	5	1305	U
36	5	1307	G
36	5	1309	U
36	5	1313	G
36	5	1330	A
36	5	1349	G
36	5	1350	A
36	5	1351	U
36	5	1352	A
36	5	1353	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	1356	U
36	5	1357	G
36	5	1385	C
36	5	1386	A
36	5	1399	A
36	5	1400	G
36	5	1418	A
36	5	1419	A
36	5	1433	A
36	5	1434	G
36	5	1437	C
36	5	1446	A
36	5	1450	G
36	5	1481	A
36	5	1482	A
36	5	1487	G
36	5	1490	A
36	5	1508	C
36	5	1527	C
36	5	1536	G
36	5	1539	A
36	5	1549	U
36	5	1553	U
36	5	1554	U
36	5	1555	U
36	5	1556	C
36	5	1557	A
36	5	1560	G
36	5	1561	G
36	5	1562	C
36	5	1566	A
36	5	1567	U
36	5	1569	U
36	5	1570	U
36	5	1571	A
36	5	1572	U
36	5	1574	C
36	5	1575	A
36	5	1576	G
36	5	1577	G
36	5	1578	C
36	5	1581	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	1582	C
36	5	1583	A
36	5	1587	A
36	5	1589	A
36	5	1593	A
36	5	1605	A
36	5	1618	G
36	5	1619	A
36	5	1629	U
36	5	1632	A
36	5	1639	C
36	5	1643	A
36	5	1644	C
36	5	1645	U
36	5	1657	C
36	5	1675	G
36	5	1677	G
36	5	1683	A
36	5	1687	U
36	5	1716	U
36	5	1717	U
36	5	1724	U
36	5	1725	C
36	5	1736	G
36	5	1750	A
36	5	1751	G
36	5	1759	C
36	5	1760	A
36	5	1762	C
36	5	1764	U
36	5	1765	U
36	5	1766	G
36	5	1768	U
36	5	1770	G
36	5	1778	G
36	5	1780	G
36	5	1797	A
36	5	1810	A
36	5	1813	A
36	5	1814	A
36	5	1815	U
36	5	1816	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	1817	G
36	5	1818	U
36	5	1819	U
36	5	1821	U
36	5	1839	A
36	5	1841	A
36	5	1842	A
36	5	1846	C
36	5	1850	A
36	5	1878	G
36	5	1879	A
36	5	1880	U
36	5	1886	A
36	5	1893	A
36	5	1895	A
36	5	1906	G
36	5	1953	G
36	5	2101	C
36	5	2102	U
36	5	2111	G
36	5	2112	U
36	5	2113	A
36	5	2121	G
36	5	2122	G
36	5	2131	A
36	5	2144	A
36	5	2158	A
36	5	2159	U
36	5	2169	G
36	5	2188	A
36	5	2192	C
36	5	2201	G
36	5	2205	U
36	5	2210	G
36	5	2223	A
36	5	2225	U
36	5	2229	A
36	5	2244	A
36	5	2250	G
36	5	2252	A
36	5	2253	G
36	5	2255	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	2256	A
36	5	2257	C
36	5	2258	U
36	5	2269	U
36	5	2270	A
36	5	2273	G
36	5	2276	G
36	5	2279	A
36	5	2288	G
36	5	2298	U
36	5	2303	A
36	5	2307	G
36	5	2310	U
36	5	2313	A
36	5	2315	G
36	5	2324	A
36	5	2335	G
36	5	2336	U
36	5	2366	C
36	5	2367	A
36	5	2373	A
36	5	2374	C
36	5	2375	G
36	5	2385	G
36	5	2393	G
36	5	2397	A
36	5	2403	G
36	5	2404	A
36	5	2411	U
36	5	2412	G
36	5	2418	G
36	5	2419	A
36	5	2435	G
36	5	2436	U
36	5	2438	A
36	5	2439	A
36	5	2441	A
36	5	2443	A
36	5	2444	C
36	5	2505	U
36	5	2507	C
36	5	2508	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	2510	U
36	5	2511	A
36	5	2514	U
36	5	2515	A
36	5	2523	A
36	5	2524	A
36	5	2525	G
36	5	2530	G
36	5	2538	U
36	5	2539	C
36	5	2540	A
36	5	2543	U
36	5	2549	G
36	5	2552	C
36	5	2555	G
36	5	2566	C
36	5	2567	C
36	5	2568	C
36	5	2569	A
36	5	2570	U
36	5	2571	U
36	5	2573	G
36	5	2574	G
36	5	2585	G
36	5	2589	G
36	5	2593	A
36	5	2594	C
36	5	2606	G
36	5	2607	G
36	5	2614	G
36	5	2618	G
36	5	2626	A
36	5	2637	A
36	5	2639	G
36	5	2652	U
36	5	2656	A
36	5	2669	G
36	5	2674	A
36	5	2677	G
36	5	2681	U
36	5	2689	A
36	5	2691	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	2694	A
36	5	2696	A
36	5	2714	G
36	5	2727	A
36	5	2728	G
36	5	2729	U
36	5	2752	U
36	5	2753	G
36	5	2762	A
36	5	2771	U
36	5	2772	C
36	5	2773	C
36	5	2777	G
36	5	2778	G
36	5	2779	A
36	5	2796	G
36	5	2799	A
36	5	2800	G
36	5	2801	A
36	5	2802	A
36	5	2810	C
36	5	2814	G
36	5	2816	G
36	5	2817	A
36	5	2818	U
36	5	2843	U
36	5	2845	A
36	5	2847	A
36	5	2853	A
36	5	2871	G
36	5	2872	A
36	5	2887	A
36	5	2889	C
36	5	2899	C
36	5	2923	U
36	5	2935	U
36	5	2936	A
36	5	2942	C
36	5	2947	G
36	5	2954	U
36	5	2957	G
36	5	2960	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	2970	C
36	5	2971	A
36	5	2974	U
36	5	2983	C
36	5	2990	G
36	5	2996	U
36	5	2997	G
36	5	3012	A
36	5	3048	A
36	5	3054	U
36	5	3056	U
36	5	3059	G
36	5	3078	U
36	5	3079	U
36	5	3086	A
36	5	3092	C
36	5	3113	A
36	5	3116	G
36	5	3122	A
36	5	3130	A
36	5	3131	U
36	5	3142	A
36	5	3143	C
36	5	3150	A
36	5	3153	U
36	5	3155	U
36	5	3156	U
36	5	3157	U
36	5	3158	G
36	5	3164	C
36	5	3165	A
36	5	3168	A
36	5	3171	U
36	5	3172	A
36	5	3173	G
36	5	3174	A
36	5	3176	G
36	5	3178	A
36	5	3179	U
36	5	3181	C
36	5	3187	A
36	5	3195	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	3196	U
36	5	3207	U
36	5	3217	C
36	5	3218	A
36	5	3219	G
36	5	3227	A
36	5	3229	G
36	5	3239	G
36	5	3245	A
36	5	3246	G
36	5	3247	G
36	5	3253	G
36	5	3259	U
36	5	3270	U
36	5	3275	U
36	5	3276	G
36	5	3277	U
36	5	3278	C
36	5	3279	A
36	5	3280	U
36	5	3281	U
36	5	3282	U
36	5	3285	C
36	5	3286	G
36	5	3288	G
36	5	3289	G
36	5	3290	G
36	5	3294	A
36	5	3302	U
36	5	3304	U
36	5	3313	U
36	5	3316	A
36	5	3317	U
36	5	3318	G
36	5	3319	U
36	5	3320	A
36	5	3330	A
36	5	3341	U
36	5	3342	A
36	5	3345	G
36	5	3350	C
36	5	3351	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	5	3354	U
36	5	3356	G
36	5	3358	U
36	5	3369	G
36	5	3378	C
36	5	3389	U
36	5	3390	G
37	7	7	G
37	7	10	C
37	7	22	A
37	7	33	U
37	7	54	U
37	7	60	G
37	7	65	G
37	7	73	C
37	7	76	A
37	7	93	C
37	7	99	G
37	7	102	A
37	7	103	A
37	7	112	G
37	7	121	U
38	8	21	C
38	8	34	U
38	8	35	C
38	8	48	A
38	8	49	G
38	8	51	G
38	8	59	A
38	8	62	C
38	8	63	G
38	8	79	A
38	8	80	A
38	8	81	U
38	8	82	U
38	8	83	C
38	8	84	C
38	8	86	U
38	8	87	G
38	8	95	G
38	8	104	A
38	8	105	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
38	8	106	C
38	8	111	A
38	8	112	U
38	8	113	U
38	8	116	G
38	8	122	U
38	8	125	U
38	8	126	A
38	8	156	U
38	8	157	U
38	8	158	U

All (225) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	25	C
1	2	45	U
1	2	68	A
1	2	74	U
1	2	103	A
1	2	130	C
1	2	131	C
1	2	139	C
1	2	158	U
1	2	218	A
1	2	240	U
1	2	278	U
1	2	280	U
1	2	322	G
1	2	417	A
1	2	484	C
1	2	497	G
1	2	499	U
1	2	501	U
1	2	503	G
1	2	512	A
1	2	555	A
1	2	558	U
1	2	685	A
1	2	704	C
1	2	720	G
1	2	721	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2	734	A
1	2	755	A
1	2	781	U
1	2	794	U
1	2	829	A
1	2	913	G
1	2	1081	A
1	2	1157	A
1	2	1226	A
1	2	1244	A
1	2	1250	U
1	2	1339	C
1	2	1344	A
1	2	1370	U
1	2	1481	C
1	2	1489	U
1	2	1490	C
1	2	1568	C
1	2	1573	A
1	2	1615	C
1	2	1657	U
1	2	1698	G
1	2	1761	U
36	1	65	A
36	1	210	U
36	1	223	U
36	1	239	G
36	1	282	G
36	1	547	G
36	1	637	C
36	1	715	A
36	1	763	G
36	1	873	C
36	1	896	A
36	1	916	G
36	1	979	U
36	1	981	U
36	1	993	G
36	1	1064	A
36	1	1094	U
36	1	1097	G
36	1	1103	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	1273	A
36	1	1307	G
36	1	1329	U
36	1	1348	U
36	1	1352	A
36	1	1355	A
36	1	1481	A
36	1	1484	U
36	1	1562	C
36	1	1582	C
36	1	1589	A
36	1	1716	U
36	1	1815	U
36	1	1820	U
36	1	1846	C
36	1	1849	C
36	1	2101	C
36	1	2112	U
36	1	2209	U
36	1	2227	C
36	1	2249	G
36	1	2281	A
36	1	2297	U
36	1	2372	A
36	1	2418	G
36	1	2513	U
36	1	2537	U
36	1	2541	U
36	1	2554	A
36	1	2585	G
36	1	2728	G
36	1	2801	A
36	1	2818	U
36	1	2872	A
36	1	3078	U
36	1	3121	U
36	1	3195	U
36	1	3218	A
36	1	3228	C
36	1	3269	U
36	1	3316	A
36	1	3319	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	1	3350	C
36	1	3351	U
36	1	3353	G
36	1	3375	A
36	1	3377	G
37	3	52	G
38	4	85	G
38	4	111	A
1	6	25	C
1	6	66	U
1	6	76	A
1	6	114	C
1	6	136	C
1	6	139	C
1	6	145	A
1	6	158	U
1	6	187	G
1	6	217	A
1	6	240	U
1	6	272	U
1	6	400	A
1	6	417	A
1	6	512	A
1	6	542	A
1	6	555	A
1	6	558	U
1	6	651	G
1	6	678	A
1	6	697	C
1	6	717	C
1	6	755	A
1	6	829	A
1	6	834	G
1	6	1051	G
1	6	1058	U
1	6	1081	A
1	6	1097	U
1	6	1196	A
1	6	1207	C
1	6	1244	A
1	6	1255	G
1	6	1344	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	6	1481	C
1	6	1535	U
1	6	1568	C
1	6	1573	A
1	6	1620	C
1	6	1657	U
1	6	1696	G
1	6	1698	G
1	6	1700	C
36	5	151	A
36	5	169	U
36	5	183	G
36	5	210	U
36	5	238	A
36	5	240	U
36	5	282	G
36	5	397	A
36	5	438	A
36	5	588	G
36	5	715	A
36	5	735	A
36	5	765	C
36	5	873	C
36	5	896	A
36	5	916	G
36	5	993	G
36	5	1027	A
36	5	1064	A
36	5	1081	U
36	5	1152	G
36	5	1238	C
36	5	1241	U
36	5	1284	C
36	5	1329	U
36	5	1331	U
36	5	1352	A
36	5	1355	A
36	5	1481	A
36	5	1554	U
36	5	1560	G
36	5	1716	U
36	5	1816	A

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Mol	Chain	Res	Type
36	5	1841	A
36	5	2101	C
36	5	2112	U
36	5	2204	C
36	5	2209	U
36	5	2249	G
36	5	2255	A
36	5	2281	A
36	5	2440	G
36	5	2507	C
36	5	2513	U
36	5	2728	G
36	5	2772	C
36	5	2801	A
36	5	2817	A
36	5	2818	U
36	5	2954	U
36	5	3078	U
36	5	3121	U
36	5	3154	C
36	5	3195	U
36	5	3218	A
36	5	3228	C
36	5	3269	U
36	5	3275	U
36	5	3289	G
36	5	3317	U
36	5	3340	G
36	5	3341	U
36	5	3357	U

## 5.4 Non-standard residues in protein, DNA, RNA chains

2 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
85	8AN	C	76	88,85	19,24,25	1.06	1 (5%)	13,35,38	1.72	3 (23%)
85	8AN	D	76	88,85	19,24,25	1.02	1 (5%)	13,35,38	1.45	3 (23%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
85	8AN	C	76	88,85	-	1/3/25/26	0/3/3/3
85	8AN	D	76	88,85	-	1/3/25/26	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	D	76	8AN	C5-C4	2.37	1.47	1.40
85	C	76	8AN	C5-C4	2.35	1.47	1.40

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	C	76	8AN	C4-C5-N7	-3.30	105.96	109.40
85	C	76	8AN	N3-C2-N1	-3.00	123.99	128.68
85	D	76	8AN	N3-C2-N1	-2.67	124.50	128.68
85	C	76	8AN	C2'-C3'-C4'	2.22	105.78	102.68
85	D	76	8AN	C4-C5-N7	-2.17	107.14	109.40
85	D	76	8AN	C2'-C3'-C4'	2.16	105.69	102.68

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
85	C	76	8AN	C4'-C5'-O5'-P
85	D	76	8AN	C4'-C5'-O5'-P

There are no ring outliers.

No monomer is involved in short contacts.



## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 20 ligands modelled in this entry, 18 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
87	SPS	C	3401	88	20,23,23	3.40	10 (50%)	18,30,30	3.16	10 (55%)
87	SPS	D	3401	88	20,23,23	3.41	11 (55%)	18,30,30	3.15	9 (50%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
87	SPS	C	3401	88	-	2/15/18/18	0/1/1/1
87	SPS	D	3401	88	-	5/15/18/18	0/1/1/1

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
87	D	3401	SPS	C9-C10	-8.01	1.31	1.48
87	C	3401	SPS	C9-C10	-7.93	1.31	1.48
87	C	3401	SPS	C9-C8	7.59	1.52	1.33
87	D	3401	SPS	C9-C8	7.57	1.52	1.33
87	D	3401	SPS	O13-C13	-5.72	1.18	1.42
87	C	3401	SPS	O13-C13	-5.33	1.19	1.42
87	C	3401	SPS	C10-N11	4.42	1.45	1.34
87	C	3401	SPS	O15-S15	4.12	1.65	1.50
87	D	3401	SPS	O15-S15	4.00	1.64	1.50
87	D	3401	SPS	C10-N11	3.58	1.43	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
87	C	3401	SPS	C6-C8	3.21	1.54	1.47
87	C	3401	SPS	O10-C10	-3.08	1.18	1.24
87	D	3401	SPS	O10-C10	-3.06	1.18	1.24
87	D	3401	SPS	O1-C1	-2.40	1.18	1.24
87	D	3401	SPS	C3-N4	-2.37	1.33	1.38
87	D	3401	SPS	C6-C1	-2.35	1.37	1.43
87	C	3401	SPS	O1-C1	-2.32	1.18	1.24
87	C	3401	SPS	C3-N4	-2.30	1.33	1.38
87	D	3401	SPS	C6-C8	2.21	1.52	1.47
87	D	3401	SPS	C3-N2	-2.21	1.33	1.38
87	C	3401	SPS	C3-N2	-2.06	1.34	1.38

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
87	C	3401	SPS	C3-N2-C1	8.19	122.05	115.14
87	D	3401	SPS	C3-N2-C1	6.64	120.75	115.14
87	C	3401	SPS	C6-C1-N2	-6.30	120.01	124.40
87	D	3401	SPS	C12-N11-C10	-5.67	114.57	122.57
87	D	3401	SPS	O15-S15-C14	5.09	113.26	106.09
87	D	3401	SPS	C6-C1-N2	-4.85	121.02	124.40
87	C	3401	SPS	C18-S17-C16	3.69	110.32	100.10
87	C	3401	SPS	C9-C10-N11	3.17	120.66	114.56
87	D	3401	SPS	O10-C10-N11	-3.11	118.25	122.35
87	D	3401	SPS	O13-C13-C12	3.09	119.92	111.95
87	C	3401	SPS	O15-S15-C14	3.07	110.41	106.09
87	D	3401	SPS	C9-C10-N11	2.99	120.30	114.56
87	C	3401	SPS	O13-C13-C12	2.90	119.44	111.95
87	C	3401	SPS	C12-N11-C10	-2.84	118.57	122.57
87	C	3401	SPS	O10-C10-N11	-2.63	118.88	122.35
87	D	3401	SPS	C18-S17-C16	2.62	107.34	100.10
87	D	3401	SPS	C14-C12-C13	-2.49	106.43	111.74
87	C	3401	SPS	C7-C5-N4	2.08	119.70	116.49
87	C	3401	SPS	O15-S15-C16	2.02	108.87	106.47

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
87	D	3401	SPS	C14-C12-C13-O13
87	D	3401	SPS	C12-C14-S15-O15
87	D	3401	SPS	C12-C14-S15-C16

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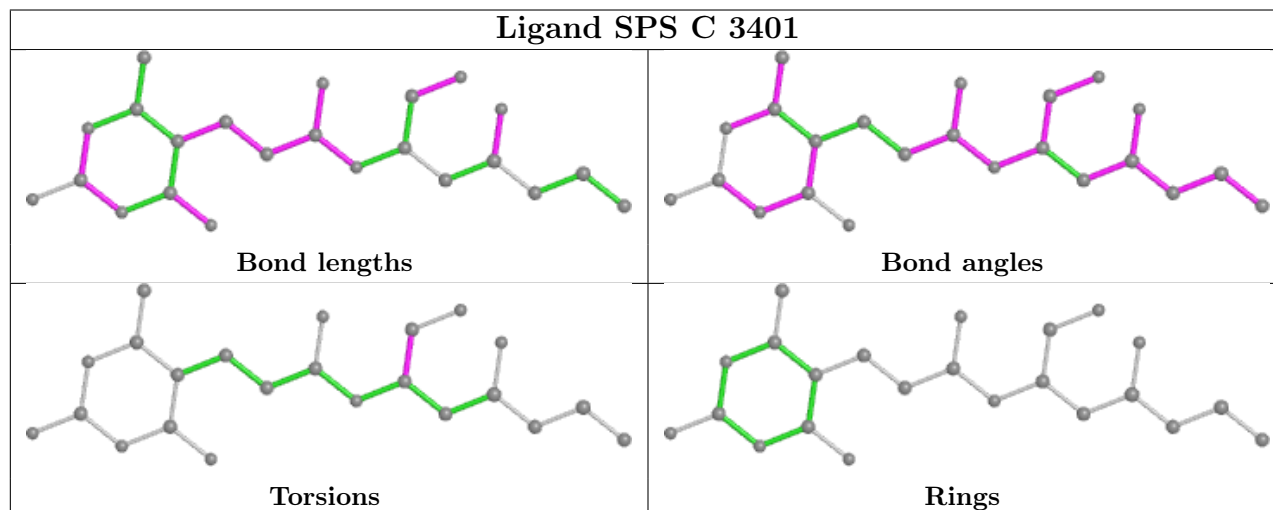
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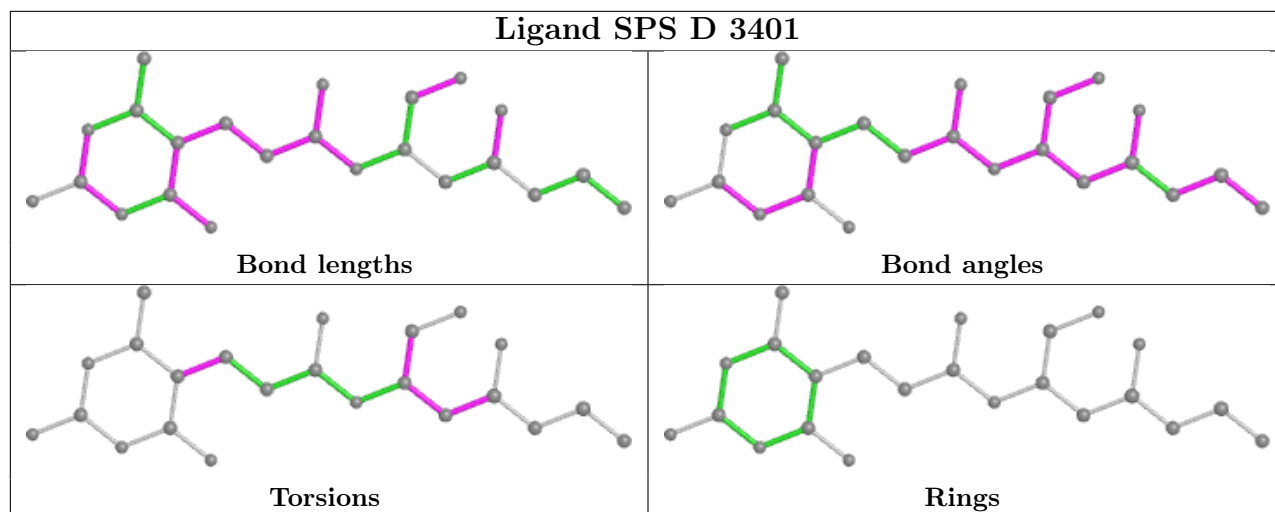
Mol	Chain	Res	Type	Atoms
87	C	3401	SPS	C14-C12-C13-O13
87	C	3401	SPS	N11-C12-C13-O13
87	D	3401	SPS	C5-C6-C8-C9
87	D	3401	SPS	N11-C12-C14-S15

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
81	m2	2
1	2	2
35	sM	1
35	SM	1
12	c0	1
85	C	1
85	D	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	sM	153:ALA	C	154:UNK	N	39.08
1	SM	141:ALA	C	151:UNK	N	25.76
1	c0	84:GLU	C	87:HIS	N	8.48
1	C	77:PRO	C	78:PRO	N	5.78
1	D	77:PRO	C	78:PRO	N	5.62
1	m2	23:UNK	C	28:UNK	N	3.80
1	m2	52:UNK	C	54:UNK	N	3.61
1	2	1716:C	O3'	1717:G	P	3.20
1	2	1685:G	O3'	1686:C	P	3.04

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	2	1781/1800 (98%)	0.79	147 (8%) 11 4	47, 88, 194, 293	0
1	6	1795/1800 (99%)	0.60	108 (6%) 21 10	37, 78, 178, 271	0
2	S0	206/251 (82%)	1.43	68 (33%) 0 0	98, 124, 141, 156	0
2	s0	206/251 (82%)	1.01	31 (15%) 2 1	77, 102, 120, 127	0
3	S1	214/254 (84%)	1.33	52 (24%) 0 0	101, 160, 206, 217	0
3	s1	216/254 (85%)	1.10	38 (17%) 1 0	68, 87, 112, 120	0
4	S2	217/253 (85%)	0.53	15 (6%) 16 7	74, 95, 116, 124	0
4	s2	217/253 (85%)	0.33	13 (5%) 21 10	60, 80, 95, 112	0
5	S3	223/239 (93%)	0.52	14 (6%) 20 8	80, 99, 136, 152	0
5	s3	223/239 (93%)	0.69	30 (13%) 3 1	78, 121, 152, 164	0
6	S4	260/260 (100%)	0.81	33 (12%) 3 1	60, 95, 109, 144	0
6	s4	260/260 (100%)	0.54	17 (6%) 18 8	52, 85, 99, 129	0
7	S5	206/224 (91%)	1.36	56 (27%) 0 0	103, 134, 153, 168	0
7	s5	206/224 (91%)	0.96	40 (19%) 1 0	87, 120, 139, 153	0
8	S6	226/236 (95%)	0.85	44 (19%) 1 0	63, 105, 134, 163	0
8	s6	218/236 (92%)	0.51	23 (10%) 6 2	50, 87, 112, 126	0
9	S7	184/189 (97%)	0.70	29 (15%) 2 1	94, 134, 175, 186	0
9	s7	186/189 (98%)	0.36	8 (4%) 35 17	74, 118, 168, 174	0
10	S8	188/200 (94%)	1.06	40 (21%) 0 0	56, 77, 118, 130	0
10	s8	188/200 (94%)	0.60	19 (10%) 7 2	47, 71, 117, 137	0
11	S9	185/196 (94%)	1.63	68 (36%) 0 0	78, 106, 152, 185	0
11	s9	185/196 (94%)	1.15	33 (17%) 1 0	67, 89, 135, 160	0
12	C0	96/105 (91%)	0.61	8 (8%) 11 4	88, 122, 166, 181	0
12	c0	96/105 (91%)	1.10	21 (21%) 0 0	108, 153, 180, 192	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	C1	155/155 (100%)	0.63	16 (10%) 6 2	61, 74, 133, 148	0
13	c1	146/155 (94%)	0.24	2 (1%) 75 56	52, 69, 101, 130	0
14	C2	124/142 (87%)	2.00	60 (48%) 0 0	162, 188, 207, 214	0
14	c2	124/142 (87%)	3.86	87 (70%) 0 0	211, 238, 259, 264	0
15	C3	150/150 (100%)	0.89	25 (16%) 1 1	70, 89, 114, 119	0
15	c3	150/150 (100%)	0.33	2 (1%) 77 59	56, 74, 96, 99	0
16	C4	127/136 (93%)	0.84	19 (14%) 2 1	68, 155, 181, 187	0
16	c4	128/136 (94%)	0.58	6 (4%) 31 15	48, 90, 104, 109	0
17	C5	124/141 (87%)	0.79	20 (16%) 1 1	82, 102, 124, 162	0
17	c5	135/141 (95%)	1.16	30 (22%) 0 0	73, 105, 118, 128	0
18	C6	141/142 (99%)	1.83	53 (37%) 0 0	83, 118, 125, 128	0
18	c6	142/142 (100%)	1.89	62 (43%) 0 0	74, 113, 131, 136	0
19	C7	120/136 (88%)	1.50	33 (27%) 0 0	91, 114, 151, 157	0
19	c7	117/136 (86%)	1.31	37 (31%) 0 0	80, 106, 135, 150	0
20	C8	145/145 (100%)	1.66	51 (35%) 0 0	77, 114, 154, 160	0
20	c8	145/145 (100%)	0.84	20 (13%) 2 1	87, 102, 141, 147	0
21	C9	143/143 (100%)	1.46	43 (30%) 0 0	87, 114, 133, 142	0
21	c9	143/143 (100%)	1.35	35 (24%) 0 0	81, 103, 127, 136	0
22	D0	107/120 (89%)	1.19	23 (21%) 0 0	74, 120, 154, 157	0
22	d0	110/120 (91%)	2.09	51 (46%) 0 0	75, 132, 171, 177	0
23	D1	87/87 (100%)	0.84	8 (9%) 9 3	98, 107, 135, 144	0
23	d1	87/87 (100%)	0.32	5 (5%) 23 11	75, 89, 116, 124	0
24	D2	129/129 (100%)	1.35	32 (24%) 0 0	70, 88, 96, 104	0
24	d2	129/129 (100%)	0.45	2 (1%) 72 51	58, 71, 78, 87	0
25	D3	144/144 (100%)	0.38	2 (1%) 75 56	61, 67, 77, 101	0
25	d3	144/144 (100%)	0.17	0 100 100	50, 56, 71, 91	0
26	D4	134/134 (100%)	0.85	15 (11%) 5 2	73, 107, 120, 134	0
26	d4	134/134 (100%)	0.64	11 (8%) 11 4	61, 92, 108, 118	0
27	D5	70/107 (65%)	1.36	15 (21%) 0 0	130, 149, 160, 161	0
27	d5	69/107 (64%)	1.56	24 (34%) 0 0	106, 132, 148, 150	0
28	D6	97/97 (100%)	1.11	24 (24%) 0 0	72, 89, 178, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	d6	97/97 (100%)	0.51	5 (5%) 27 12	53, 65, 110, 117	0
29	D7	81/81 (100%)	2.02	42 (51%) 0 0	90, 108, 149, 151	0
29	d7	81/81 (100%)	1.00	10 (12%) 4 1	72, 88, 139, 143	0
30	D8	63/66 (95%)	0.74	6 (9%) 8 2	114, 147, 161, 164	0
30	d8	63/66 (95%)	0.97	11 (17%) 1 0	102, 129, 141, 144	0
31	D9	53/55 (96%)	1.04	10 (18%) 1 0	77, 82, 101, 110	0
31	d9	53/55 (96%)	1.58	14 (26%) 0 0	74, 86, 131, 153	0
32	E0	60/60 (100%)	1.21	19 (31%) 0 0	72, 106, 148, 150	0
33	E1	71/76 (93%)	2.03	34 (47%) 0 0	114, 147, 184, 189	0
33	e1	76/76 (100%)	2.67	37 (48%) 0 0	110, 188, 229, 231	0
34	SR	318/318 (100%)	0.83	37 (11%) 4 2	111, 133, 149, 177	0
34	sR	318/318 (100%)	1.57	102 (32%) 0 0	122, 149, 166, 179	0
35	SM	133/263 (50%)	1.50	29 (21%) 0 0	53, 92, 148, 165	0
35	sM	84/263 (31%)	1.06	23 (27%) 0 0	45, 107, 147, 150	0
36	1	3148/3396 (92%)	0.40	80 (2%) 57 34	29, 49, 128, 262	0
36	5	3149/3396 (92%)	0.39	71 (2%) 60 39	26, 46, 119, 209	0
37	3	121/121 (100%)	0.31	0 100 100	37, 69, 84, 91	0
37	7	121/121 (100%)	0.22	1 (0%) 86 72	30, 49, 60, 72	0
38	4	158/158 (100%)	0.18	1 (0%) 89 78	34, 49, 87, 132	0
38	8	158/158 (100%)	0.22	3 (1%) 66 46	37, 55, 91, 120	0
39	L2	252/253 (99%)	0.37	4 (1%) 72 51	33, 51, 66, 86	0
39	l2	252/253 (99%)	0.23	4 (1%) 72 51	32, 53, 70, 75	0
40	L3	386/386 (100%)	-0.00	1 (0%) 94 88	32, 56, 69, 83	0
40	l3	386/386 (100%)	0.02	1 (0%) 94 88	26, 44, 57, 80	0
41	L4	361/361 (100%)	-0.01	0 100 100	30, 49, 68, 75	0
41	l4	361/361 (100%)	-0.05	1 (0%) 94 88	30, 53, 73, 85	0
42	L5	296/296 (100%)	1.10	51 (17%) 1 0	51, 81, 100, 123	0
42	l5	294/296 (99%)	0.66	22 (7%) 14 5	39, 56, 78, 92	0
43	L6	156/175 (89%)	0.03	1 (0%) 89 78	44, 52, 70, 83	0
43	l6	157/175 (89%)	0.15	7 (4%) 33 16	45, 52, 76, 88	0
44	L7	222/243 (91%)	0.18	3 (1%) 75 56	35, 45, 76, 115	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	l7	223/243 (91%)	-0.02	0 100 100	32, 42, 82, 119	0
45	L8	233/255 (91%)	0.58	17 (7%) 15 6	61, 75, 118, 126	0
45	l8	231/255 (90%)	0.66	18 (7%) 13 5	67, 81, 112, 123	0
46	L9	191/191 (100%)	0.66	10 (5%) 27 12	52, 65, 79, 94	0
46	l9	191/191 (100%)	0.13	3 (1%) 72 51	40, 52, 72, 82	0
47	M0	211/220 (95%)	0.07	0 100 100	39, 61, 96, 108	0
47	m0	213/220 (96%)	0.14	5 (2%) 60 39	33, 54, 75, 96	0
48	M1	169/173 (97%)	2.04	88 (52%) 0 0	63, 84, 99, 104	0
48	m1	169/173 (97%)	0.75	15 (8%) 9 3	42, 60, 72, 78	0
49	M3	193/198 (97%)	0.50	8 (4%) 37 18	33, 58, 97, 118	0
49	m3	194/198 (97%)	0.53	13 (6%) 17 7	36, 64, 106, 125	0
50	M4	136/137 (99%)	0.14	4 (2%) 51 28	49, 55, 69, 80	0
50	m4	137/137 (100%)	0.03	0 100 100	44, 50, 66, 87	0
51	M5	203/203 (100%)	0.32	1 (0%) 91 81	31, 48, 58, 62	0
51	m5	203/203 (100%)	0.84	19 (9%) 8 3	35, 53, 66, 69	0
52	M6	197/198 (99%)	0.22	2 (1%) 82 67	35, 42, 57, 59	0
52	m6	197/198 (99%)	0.20	2 (1%) 82 67	30, 36, 55, 58	0
53	M7	183/183 (100%)	0.39	10 (5%) 25 11	36, 47, 115, 160	0
53	m7	155/183 (84%)	-0.06	0 100 100	33, 41, 58, 78	0
54	M8	185/185 (100%)	0.27	3 (1%) 72 51	37, 49, 66, 79	0
54	m8	185/185 (100%)	0.33	2 (1%) 80 64	36, 52, 62, 67	0
55	M9	188/188 (100%)	0.54	11 (5%) 22 10	51, 67, 166, 188	0
55	m9	188/188 (100%)	0.41	6 (3%) 47 25	46, 60, 154, 171	0
56	N0	172/172 (100%)	0.45	6 (3%) 44 23	43, 53, 68, 72	0
56	n0	172/172 (100%)	0.24	7 (4%) 37 18	37, 45, 58, 67	0
57	N1	159/159 (100%)	0.71	16 (10%) 7 2	37, 52, 95, 105	0
57	n1	159/159 (100%)	0.37	4 (2%) 57 34	32, 42, 77, 85	0
58	N2	100/120 (83%)	0.37	4 (4%) 38 19	86, 104, 112, 116	0
58	n2	98/120 (81%)	0.60	9 (9%) 9 3	74, 91, 101, 106	0
59	N3	136/136 (100%)	0.16	2 (1%) 73 54	40, 52, 66, 76	0
59	n3	136/136 (100%)	0.07	2 (1%) 73 54	30, 42, 55, 62	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
60	N4	98/155 (63%)	2.23	31 (31%) 0 0	52, 64, 164, 171	0
60	n4	135/155 (87%)	1.06	22 (16%) 1 1	42, 96, 146, 170	0
61	N5	121/141 (85%)	0.71	10 (8%) 11 4	49, 62, 75, 108	0
61	n5	120/141 (85%)	0.99	18 (15%) 2 1	49, 63, 79, 92	0
62	N6	126/126 (100%)	1.02	12 (9%) 8 2	40, 58, 69, 76	0
62	n6	126/126 (100%)	1.26	20 (15%) 1 1	43, 59, 74, 81	0
63	N7	135/135 (100%)	1.39	32 (23%) 0 0	71, 88, 99, 102	0
63	n7	135/135 (100%)	1.58	48 (35%) 0 0	75, 91, 103, 108	0
64	N8	148/148 (100%)	0.34	2 (1%) 75 56	28, 50, 72, 83	0
64	n8	148/148 (100%)	0.24	0 100 100	27, 53, 72, 76	0
65	N9	58/58 (100%)	1.16	13 (22%) 0 0	32, 58, 105, 120	0
65	n9	58/58 (100%)	0.82	9 (15%) 2 1	31, 53, 78, 87	0
66	O0	97/104 (93%)	0.43	5 (5%) 27 12	70, 82, 105, 111	0
66	o0	100/104 (96%)	0.87	12 (12%) 4 2	69, 84, 112, 120	0
67	O1	109/112 (97%)	0.97	17 (15%) 2 1	50, 65, 98, 109	0
67	o1	109/112 (97%)	0.85	10 (9%) 9 3	41, 54, 89, 100	0
68	O2	127/129 (98%)	0.24	1 (0%) 86 72	30, 44, 58, 78	0
68	o2	127/129 (98%)	0.33	4 (3%) 49 26	27, 48, 63, 74	0
69	O3	106/106 (100%)	0.07	0 100 100	36, 42, 67, 80	0
69	o3	106/106 (100%)	0.13	1 (0%) 84 69	33, 42, 65, 79	0
70	O4	112/119 (94%)	1.20	23 (20%) 1 0	45, 62, 102, 109	0
70	o4	112/119 (94%)	0.69	3 (2%) 54 31	45, 61, 107, 115	0
71	O5	119/119 (100%)	0.46	4 (3%) 45 24	44, 65, 72, 75	0
71	o5	119/119 (100%)	0.17	3 (2%) 57 34	49, 67, 82, 95	0
72	O6	99/99 (100%)	0.32	0 100 100	55, 64, 97, 112	0
72	o6	99/99 (100%)	0.58	5 (5%) 28 13	58, 70, 95, 115	0
73	O7	87/87 (100%)	0.21	2 (2%) 60 39	33, 39, 59, 68	0
73	o7	87/87 (100%)	0.28	3 (3%) 45 24	34, 43, 69, 81	0
74	O8	77/77 (100%)	0.29	3 (3%) 39 20	72, 87, 111, 117	0
74	o8	77/77 (100%)	0.54	3 (3%) 39 20	71, 87, 102, 105	0
75	O9	50/50 (100%)	0.52	2 (4%) 38 19	43, 48, 53, 54	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
75	o9	50/50 (100%)	0.49	1 (2%) 65 44	43, 49, 57, 59	0
76	Q0	52/52 (100%)	0.96	6 (11%) 4 2	43, 50, 71, 79	0
76	q0	52/52 (100%)	0.59	3 (5%) 23 10	34, 39, 54, 57	0
77	Q1	25/25 (100%)	0.80	2 (8%) 12 5	51, 56, 58, 60	0
77	q1	25/25 (100%)	0.54	0 100 100	43, 46, 48, 49	0
78	Q2	105/105 (100%)	0.20	7 (6%) 17 7	34, 51, 76, 103	0
78	q2	105/105 (100%)	0.01	2 (1%) 66 46	35, 46, 64, 97	0
79	Q3	91/91 (100%)	0.00	0 100 100	41, 56, 73, 81	0
79	q3	91/91 (100%)	0.09	2 (2%) 62 41	37, 53, 67, 78	0
80	e0	62/62 (100%)	0.53	3 (4%) 30 14	57, 88, 121, 129	0
81	m2	0/160	-	-	-	-
82	p0	143/311 (45%)	1.93	68 (47%) 0 0	98, 131, 238, 246	0
83	p1	0/47	-	-	-	-
84	p2	0/46	-	-	-	-
85	C	4/5 (80%)	0.58	0 100 100	34, 36, 37, 37	0
85	D	4/5 (80%)	0.72	0 100 100	33, 34, 34, 39	0
All	All	33054/35334 (93%)	0.64	3097 (9%) 8 3	26, 68, 150, 293	0

All (3097) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	2	1699	G	19.7
14	c2	22	VAL	18.9
60	N4	86	SER	18.4
14	c2	128	ALA	16.9
60	N4	83	THR	15.7
1	2	1696	G	15.3
1	2	656	G	15.0
1	2	1694	A	14.3
1	2	1708	U	13.6
35	SM	14	ASP	13.4
14	c2	103	LEU	13.3
53	M7	161	ALA	12.9
1	2	1709	C	12.5
60	N4	84	GLY	12.3
1	2	1697	G	12.3
1	2	1702	A	12.3

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Mol	Chain	Res	Type	RSRZ
33	e1	85	TYR	12.2
35	SM	15	ALA	12.2
14	c2	102	GLY	12.0
1	2	1698	G	11.9
36	5	1025	A	11.2
1	2	1700	C	11.1
22	D0	120	SER	10.9
14	c2	123	VAL	10.9
33	e1	86	THR	10.8
1	2	1695	G	10.6
14	c2	20	ALA	10.6
60	N4	87	LEU	10.6
60	N4	88	ASP	10.2
1	2	1707	A	10.2
33	e1	89	LYS	10.1
1	2	658	C	10.0
33	e1	88	PRO	10.0
60	N4	72	SER	9.8
1	2	1701	A	9.8
60	N4	89	LEU	9.6
60	N4	75	THR	9.5
53	M7	162	GLU	9.5
14	c2	104	ALA	9.4
36	5	1566	A	9.1
14	c2	92	ALA	9.1
60	n4	69	LYS	9.0
35	SM	19	VAL	9.0
60	N4	81	PRO	9.0
60	N4	85	ALA	9.0
39	L2	253	GLN	8.9
53	M7	184	ALA	8.8
1	2	657	U	8.8
11	S9	186	GLU	8.7
34	sR	166	SER	8.7
36	1	1955	U	8.6
14	c2	105	LYS	8.6
1	6	659	C	8.6
19	C7	74	GLN	8.5
13	C1	146	ALA	8.5
1	2	134	U	8.5
36	1	1570	U	8.5
17	c5	134	THR	8.5

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Mol	Chain	Res	Type	RSRZ
42	L5	2	ALA	8.5
36	5	1565	G	8.5
14	c2	126	TRP	8.5
33	e1	87	THR	8.4
14	c2	121	VAL	8.3
6	S4	261	LEU	8.2
60	n4	68	ALA	8.0
1	2	718	U	8.0
14	c2	112	ALA	8.0
1	2	1705	C	7.9
1	2	1693	A	7.9
36	5	1567	U	7.8
14	c2	93	ASP	7.8
1	2	715	U	7.8
1	6	678	A	7.8
14	c2	36	LEU	7.8
14	c2	113	ARG	7.8
3	S1	92	GLN	7.7
36	1	1569	U	7.7
53	M7	160	ALA	7.7
60	N4	95	SER	7.7
35	SM	16	ASP	7.6
1	2	1703	C	7.6
60	N4	82	ILE	7.6
7	S5	36	ALA	7.6
60	N4	90	ILE	7.5
1	2	1690	G	7.5
1	2	1711	C	7.4
33	e1	77	GLY	7.3
1	6	658	C	7.3
42	L5	3	PHE	7.3
14	c2	33	ARG	7.2
1	6	662	U	7.2
18	C6	114	ARG	7.2
1	2	1706	C	7.2
14	c2	133	LEU	7.2
60	n4	66	GLU	7.1
78	Q2	106	PHE	7.1
33	E1	87	THR	7.1
34	sR	158	PRO	7.0
1	6	676	G	7.0
1	6	1700	C	6.9

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Mol	Chain	Res	Type	RSRZ
1	2	913	G	6.9
1	6	679	U	6.9
22	d0	14	GLN	6.9
36	5	1568	U	6.9
42	L5	6	ASP	6.9
7	S5	71	ALA	6.8
66	o0	6	SER	6.8
14	c2	136	ILE	6.8
14	c2	21	GLU	6.8
32	E0	60	PRO	6.8
22	d0	64	LYS	6.8
45	L8	116	VAL	6.8
15	C3	14	SER	6.8
3	S1	20	VAL	6.7
1	2	1686	C	6.7
8	S6	149	LYS	6.7
7	S5	37	GLN	6.7
1	2	1704	U	6.7
16	C4	75	GLY	6.7
22	D0	121	ASN	6.7
1	6	656	G	6.6
32	E0	61	SER	6.6
18	c6	83	GLN	6.6
1	2	1692	G	6.6
33	e1	94	LYS	6.6
14	C2	141	SER	6.6
14	c2	57	ALA	6.5
1	2	1710	U	6.5
33	e1	80	ARG	6.5
14	c2	110	ALA	6.5
17	c5	135	THR	6.4
34	sR	214	ALA	6.4
14	C2	59	LEU	6.4
14	c2	56	GLU	6.4
14	c2	65	SER	6.4
60	n4	67	VAL	6.4
1	2	506	A	6.4
20	C8	146	ALA	6.4
60	N4	74	LYS	6.3
14	c2	64	SER	6.3
36	1	1568	U	6.3
33	e1	98	VAL	6.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
28	D6	2	PRO	6.2
13	C1	147	GLY	6.2
17	c5	103	ASN	6.2
1	6	666	U	6.1
14	c2	28	LEU	6.1
14	c2	107	ASP	6.1
14	c2	106	ILE	6.1
26	d4	2	SER	6.1
14	c2	118	ALA	6.1
21	c9	55	TYR	6.1
27	d5	89	ILE	6.0
35	SM	13	GLU	6.0
18	c6	124	PRO	6.0
14	c2	96	GLN	6.0
35	SM	89	ARG	6.0
1	2	696	C	5.9
14	c2	26	ASP	5.9
36	1	1564	U	5.9
18	c6	44	LEU	5.9
14	c2	39	ASP	5.9
30	D8	16	LEU	5.9
14	c2	59	LEU	5.9
19	C7	62	GLN	5.8
9	S7	31	SER	5.8
33	E1	145	HIS	5.8
48	M1	148	VAL	5.8
17	c5	78	THR	5.8
60	n4	70	LYS	5.8
67	o1	82	GLU	5.8
18	C6	123	ARG	5.8
33	e1	90	LYS	5.8
19	C7	2	GLY	5.8
18	c6	11	GLY	5.7
36	5	1569	U	5.7
33	E1	86	THR	5.7
27	d5	50	ILE	5.7
35	SM	85	SER	5.7
3	S1	89	ASP	5.7
22	d0	67	THR	5.7
1	2	1370	U	5.7
39	l2	253	GLN	5.7
60	N4	71	ARG	5.7

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Mol	Chain	Res	Type	RSRZ
1	6	663	U	5.6
20	C8	16	ARG	5.6
44	L7	25	GLN	5.6
33	e1	93	HIS	5.6
14	C2	32	LEU	5.6
11	S9	181	ALA	5.6
34	SR	283	LYS	5.6
33	E1	147	VAL	5.6
10	S8	200	LYS	5.6
34	sR	213	SER	5.6
27	D5	58	ARG	5.6
1	6	1694	A	5.5
34	sR	157	VAL	5.5
6	S4	26	CYS	5.5
7	S5	70	VAL	5.5
14	C2	136	ILE	5.5
1	6	675	U	5.5
35	SM	20	LEU	5.5
29	D7	38	PRO	5.5
6	s4	261	LEU	5.5
8	S6	78	THR	5.5
33	e1	96	LYS	5.5
1	6	1695	G	5.5
14	c2	122	VAL	5.4
18	c6	68	ARG	5.4
3	S1	98	THR	5.4
8	S6	148	SER	5.4
63	N7	2	ALA	5.4
1	6	657	U	5.4
13	c1	2	SER	5.4
1	2	133	U	5.4
20	C8	145	ARG	5.4
33	e1	145	HIS	5.4
16	C4	15	GLY	5.4
14	c2	41	LEU	5.3
82	p0	192	ASP	5.3
36	5	2539	C	5.3
20	c8	18	LEU	5.3
36	1	1565	G	5.3
18	C6	40	GLU	5.3
20	C8	44	ASN	5.3
1	2	719	U	5.3

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Mol	Chain	Res	Type	RSRZ
31	d9	29	GLY	5.3
32	E0	56	MET	5.3
20	C8	18	LEU	5.3
15	C3	15	ALA	5.3
60	N4	98	PRO	5.3
1	6	661	A	5.3
18	c6	46	PHE	5.3
5	s3	208	ILE	5.3
3	S1	91	VAL	5.3
82	p0	25	LEU	5.2
19	C7	99	VAL	5.2
22	d0	97	VAL	5.2
35	SM	18	VAL	5.2
20	C8	2	SER	5.2
4	s2	90	THR	5.2
2	S0	98	ILE	5.2
34	sR	187	GLN	5.2
63	N7	132	SER	5.2
36	5	1764	U	5.2
3	S1	131	ASP	5.2
36	5	1016	C	5.2
33	E1	114	VAL	5.2
34	sR	24	ALA	5.2
61	n5	26	VAL	5.1
14	c2	85	LYS	5.1
82	p0	287	ASP	5.1
60	N4	96	LEU	5.1
11	s9	148	VAL	5.1
22	d0	93	LEU	5.1
33	e1	112	GLY	5.1
17	C5	50	THR	5.1
1	6	1696	G	5.1
35	SM	50	ASN	5.1
36	1	1016	C	5.1
36	5	1573	G	5.1
14	C2	41	LEU	5.0
36	1	1567	U	5.0
1	2	1685	G	5.0
2	s0	101	ARG	5.0
1	6	1707	A	5.0
2	S0	28	ASN	5.0
29	D7	19	HIS	5.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
34	sR	165	ASP	5.0
48	M1	127	PHE	5.0
7	S5	86	GLN	5.0
8	S6	80	ASN	5.0
45	l8	109	LEU	5.0
22	d0	54	GLY	5.0
1	2	1691	A	5.0
4	s2	250	GLN	5.0
7	S5	76	ARG	5.0
18	C6	70	THR	5.0
7	s5	133	VAL	5.0
48	M1	90	GLN	5.0
3	S1	52	THR	5.0
14	C2	89	ILE	4.9
36	1	1566	A	4.9
65	N9	55	ALA	4.9
3	s1	54	LEU	4.9
18	C6	15	SER	4.9
13	C1	151	LYS	4.9
14	C2	83	GLU	4.9
3	S1	225	VAL	4.9
35	SM	17	VAL	4.9
35	sM	52	PRO	4.9
1	6	1699	G	4.9
1	2	194	U	4.9
56	N0	1	MET	4.9
27	D5	97	LYS	4.9
20	C8	40	ARG	4.9
1	6	654	C	4.9
34	SR	318	ALA	4.9
11	S9	182	GLU	4.9
56	n0	1	MET	4.9
18	C6	68	ARG	4.9
1	6	667	U	4.9
11	S9	5	PRO	4.9
73	o7	88	ALA	4.8
18	C6	21	HIS	4.8
26	d4	34	ASN	4.8
3	S1	94	LYS	4.8
8	S6	77	LEU	4.8
26	D4	26	ASP	4.8
33	E1	93	HIS	4.8

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Mol	Chain	Res	Type	RSRZ
66	o0	7	GLN	4.8
26	D4	70	VAL	4.8
34	sR	167	VAL	4.8
7	s5	130	ILE	4.8
18	C6	118	ILE	4.8
48	M1	147	THR	4.8
2	S0	188	LEU	4.8
36	5	1564	U	4.8
1	6	677	G	4.8
21	c9	18	TYR	4.7
2	S0	99	ALA	4.7
9	S7	108	GLN	4.7
62	n6	127	GLU	4.7
18	c6	69	VAL	4.7
7	S5	75	GLY	4.7
29	D7	44	THR	4.7
36	1	2095	G	4.7
34	sR	252	LEU	4.7
36	5	1575	A	4.7
34	sR	72	THR	4.7
1	6	652	G	4.7
60	N4	76	VAL	4.7
14	C2	26	ASP	4.7
15	C3	53	LEU	4.7
1	6	664	U	4.7
34	SR	279	ALA	4.7
14	c2	71	ILE	4.7
33	e1	92	LYS	4.7
33	e1	81	LYS	4.6
18	c6	121	SER	4.6
76	Q0	77	ILE	4.6
82	p0	24	SER	4.6
1	2	261	U	4.6
61	n5	142	ILE	4.6
1	2	676	G	4.6
3	S1	53	GLY	4.6
1	6	1701	A	4.6
12	c0	98	ASN	4.6
14	C2	28	LEU	4.6
22	d0	36	ASN	4.6
70	O4	23	VAL	4.6
21	C9	38	LYS	4.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	s9	134	ILE	4.6
19	c7	65	PRO	4.6
70	O4	66	SER	4.6
24	D2	34	ILE	4.5
36	1	2502	A	4.5
29	D7	26	GLN	4.5
27	D5	88	ILE	4.5
19	c7	67	ARG	4.5
20	c8	146	ALA	4.5
60	N4	97	LYS	4.5
34	sR	186	PHE	4.5
17	c5	136	SER	4.5
36	1	1762	C	4.5
3	s1	234	GLU	4.5
1	2	238	U	4.5
2	S0	126	PRO	4.5
3	s1	89	ASP	4.5
18	C6	79	TYR	4.5
14	c2	35	ALA	4.5
33	e1	95	HIS	4.5
13	C1	3	THR	4.5
42	L5	146	LEU	4.5
24	D2	27	ILE	4.5
42	L5	4	GLN	4.5
1	2	173	A	4.5
33	e1	84	VAL	4.5
65	N9	58	LYS	4.5
7	s5	76	ARG	4.5
18	C6	20	ALA	4.5
1	2	679	U	4.5
48	M1	70	THR	4.5
19	c7	42	GLN	4.5
20	C8	32	LEU	4.5
21	C9	110	LYS	4.5
19	c7	69	ILE	4.5
1	6	1697	G	4.5
14	c2	140	PHE	4.4
20	c8	14	ILE	4.4
43	l6	129	GLU	4.4
14	C2	78	LEU	4.4
45	l8	192	GLN	4.4
48	M1	125	MET	4.4

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Mol	Chain	Res	Type	RSRZ
1	6	1709	C	4.4
71	o5	120	ALA	4.4
23	D1	53	TYR	4.4
11	S9	141	VAL	4.4
14	C2	121	VAL	4.4
65	N9	54	LEU	4.4
34	sR	314	GLN	4.4
17	c5	4	ALA	4.4
20	C8	36	LYS	4.4
56	N0	2	ALA	4.4
11	s9	2	PRO	4.4
36	1	1572	U	4.4
48	M1	102	PHE	4.4
10	S8	106	ALA	4.4
30	D8	27	GLN	4.4
82	p0	188	VAL	4.4
18	C6	17	THR	4.4
45	l8	110	THR	4.4
33	e1	83	LYS	4.4
34	sR	123	ILE	4.3
17	c5	137	ARG	4.3
82	p0	104	ARG	4.3
46	L9	190	ASP	4.3
13	C1	152	GLN	4.3
34	SR	131	ILE	4.3
1	2	132	U	4.3
1	2	1059	U	4.3
34	sR	115	ILE	4.3
7	s5	84	LYS	4.3
12	c0	23	ALA	4.3
60	N4	73	ARG	4.3
70	O4	64	THR	4.3
31	d9	52	PHE	4.3
75	O9	2	ALA	4.3
29	D7	41	LEU	4.3
19	c7	59	LYS	4.3
7	s5	68	ILE	4.3
8	S6	175	ILE	4.3
11	S9	185	GLY	4.3
53	M7	183	ALA	4.3
70	O4	73	SER	4.3
15	C3	16	ILE	4.3

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Mol	Chain	Res	Type	RSRZ
42	l5	4	GLN	4.3
7	S5	85	ALA	4.3
36	1	1269	U	4.3
36	1	2205	U	4.3
33	E1	99	LYS	4.3
7	s5	75	GLY	4.3
12	c0	79	TYR	4.3
27	d5	59	TYR	4.3
36	5	2506	U	4.3
19	C7	71	PHE	4.3
22	d0	21	LYS	4.3
27	D5	93	SER	4.3
3	S1	54	LEU	4.3
11	S9	171	ARG	4.3
63	n7	10	VAL	4.3
22	d0	81	THR	4.2
3	S1	217	LEU	4.2
8	s6	162	VAL	4.2
21	c9	93	HIS	4.2
34	sR	170	ILE	4.2
36	1	1954	G	4.2
3	S1	46	THR	4.2
19	c7	62	GLN	4.2
61	N5	24	LEU	4.2
2	S0	122	ILE	4.2
12	C0	5	LYS	4.2
21	C9	92	LYS	4.2
82	p0	68	SER	4.2
61	n5	23	ALA	4.2
36	5	2503	G	4.2
82	p0	27	VAL	4.2
23	d1	87	ARG	4.2
14	c2	114	LYS	4.2
65	n9	23	LYS	4.2
1	2	677	G	4.2
22	d0	22	ILE	4.2
35	sM	90	SER	4.2
35	SM	87	THR	4.2
63	n7	75	VAL	4.2
31	D9	4	GLU	4.2
6	S4	111	VAL	4.2
34	sR	140	CYS	4.2

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Mol	Chain	Res	Type	RSRZ
48	M1	131	MET	4.2
36	5	1763	U	4.2
3	S1	59	ASP	4.2
21	C9	50	ALA	4.2
48	M1	108	GLU	4.2
2	s0	98	ILE	4.2
67	o1	112	ASP	4.2
20	c8	121	ALA	4.2
11	s9	8	TYR	4.2
7	S5	96	SER	4.2
82	p0	20	GLU	4.2
8	S6	154	ARG	4.2
65	N9	25	LYS	4.2
9	S7	98	ILE	4.2
36	5	1580	A	4.1
18	C6	9	THR	4.1
34	sR	3	SER	4.1
14	c2	111	ASN	4.1
82	p0	69	ASP	4.1
22	D0	54	GLY	4.1
11	S9	6	ARG	4.1
1	2	1688	U	4.1
11	S9	128	LEU	4.1
18	c6	8	GLN	4.1
45	L8	256	ALA	4.1
31	d9	55	PHE	4.1
4	s2	88	LYS	4.1
18	C6	12	LYS	4.1
18	C6	128	LYS	4.1
11	S9	2	PRO	4.1
1	6	653	C	4.1
8	S6	145	PHE	4.1
33	E1	85	TYR	4.1
34	sR	116	ASP	4.1
42	L5	148	ILE	4.1
1	6	665	U	4.1
29	D7	47	PHE	4.1
34	sR	33	LEU	4.1
35	SM	53	ARG	4.1
34	sR	227	ALA	4.1
3	S1	90	GLU	4.1
24	D2	60	LYS	4.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	c6	10	PHE	4.1
48	M1	160	VAL	4.1
49	m3	192	GLU	4.1
11	S9	180	LYS	4.1
19	c7	3	ARG	4.1
10	S8	152	ILE	4.1
1	6	1702	A	4.1
61	N5	108	LEU	4.1
8	S6	79	LYS	4.0
14	C2	43	ARG	4.0
36	5	1762	C	4.0
1	6	1610	G	4.0
36	5	1576	G	4.0
34	SR	115	ILE	4.0
14	c2	42	ALA	4.0
1	2	1719	A	4.0
39	L2	252	THR	4.0
34	SR	52	GLN	4.0
30	D8	28	VAL	4.0
17	c5	104	GLN	4.0
22	d0	18	GLN	4.0
62	n6	83	ASP	4.0
17	c5	79	HIS	4.0
27	D5	69	LEU	4.0
42	L5	5	LYS	4.0
5	s3	167	PHE	4.0
36	5	2538	U	4.0
18	c6	54	LEU	4.0
19	c7	60	ARG	4.0
31	d9	56	ARG	4.0
6	S4	54	TYR	4.0
17	C5	104	GLN	4.0
29	D7	70	LYS	4.0
33	E1	146	SER	4.0
3	S1	138	PHE	4.0
8	S6	139	ASN	4.0
14	c2	132	GLU	4.0
5	S3	210	GLU	4.0
14	c2	43	ARG	4.0
18	c6	12	LYS	4.0
36	1	1764	U	4.0
82	p0	93	LEU	4.0

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Mol	Chain	Res	Type	RSRZ
17	c5	101	ALA	4.0
72	o6	58	ILE	4.0
36	5	1572	U	3.9
7	s5	79	ASN	3.9
14	C2	126	TRP	3.9
3	S1	151	LYS	3.9
42	L5	28	THR	3.9
53	M7	176	ILE	3.9
36	5	1026	A	3.9
70	o4	55	SER	3.9
82	p0	103	ASN	3.9
18	c6	79	TYR	3.9
60	N4	66	GLU	3.9
14	C2	60	VAL	3.9
29	D7	18	LYS	3.9
82	p0	43	LYS	3.9
11	S9	101	VAL	3.9
10	S8	179	CYS	3.9
1	2	678	A	3.9
29	D7	51	GLN	3.9
7	S5	89	ILE	3.9
12	c0	78	GLU	3.9
22	d0	83	GLU	3.9
14	C2	52	LEU	3.9
18	C6	74	HIS	3.9
34	sR	210	LEU	3.9
60	n4	65	GLU	3.9
14	c2	58	LEU	3.9
82	p0	19	LEU	3.9
36	1	1027	A	3.9
82	p0	44	GLU	3.9
2	s0	186	GLY	3.9
14	C2	119	SER	3.9
34	sR	161	LYS	3.9
13	C1	156	PHE	3.8
72	o6	2	THR	3.8
31	D9	56	ARG	3.8
7	S5	152	GLY	3.8
36	5	440	A	3.8
36	5	1352	A	3.8
16	C4	18	ARG	3.8
48	M1	59	ILE	3.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	2	717	C	3.8
36	5	1349	G	3.8
18	C6	115	THR	3.8
46	L9	191	LEU	3.8
1	2	708	C	3.8
17	C5	12	PHE	3.8
48	M1	167	TYR	3.8
63	N7	136	PHE	3.8
4	S2	62	PRO	3.8
14	C2	138	GLU	3.8
17	c5	80	MET	3.8
23	D1	32	VAL	3.8
82	p0	38	MET	3.8
34	sR	27	ALA	3.8
63	n7	92	PHE	3.8
36	5	1350	A	3.8
35	SM	27	LYS	3.8
53	M7	182	ILE	3.8
63	n7	56	LYS	3.8
12	c0	22	VAL	3.8
22	d0	98	GLN	3.8
78	q2	106	PHE	3.8
21	c9	94	ILE	3.8
21	c9	84	LYS	3.8
20	C8	15	LEU	3.8
29	d7	24	LEU	3.8
14	C2	55	GLY	3.8
6	s4	23	LEU	3.8
7	s5	83	ARG	3.8
17	c5	51	SER	3.8
60	n4	96	LEU	3.8
1	6	680	U	3.8
63	N7	26	VAL	3.8
3	s1	235	GLY	3.8
34	SR	284	ALA	3.8
42	L5	151	GLN	3.8
27	d5	88	ILE	3.8
35	sM	25	ILE	3.8
36	5	1028	U	3.7
63	n7	76	ASN	3.7
1	2	723	G	3.7
48	M1	53	THR	3.7

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Mol	Chain	Res	Type	RSRZ
34	sR	5	GLU	3.7
27	d5	40	VAL	3.7
17	C5	49	MET	3.7
1	2	137	U	3.7
15	C3	11	ILE	3.7
22	d0	19	ILE	3.7
48	M1	122	ILE	3.7
21	C9	114	VAL	3.7
32	E0	46	ASN	3.7
34	sR	104	VAL	3.7
14	C2	139	HIS	3.7
14	c2	40	GLY	3.7
22	d0	95	ALA	3.7
61	N5	23	ALA	3.7
82	p0	94	THR	3.7
22	D0	64	LYS	3.7
35	sM	34	LYS	3.7
18	C6	64	ASP	3.7
1	2	709	C	3.7
1	6	277	U	3.7
48	M1	96	PHE	3.7
3	S1	28	GLU	3.7
34	sR	74	THR	3.7
35	SM	28	SER	3.7
2	S0	158	VAL	3.7
27	D5	103	ARG	3.7
1	2	1684	U	3.7
12	C0	39	ASN	3.7
33	E1	90	LYS	3.7
82	p0	102	SER	3.7
7	S5	62	VAL	3.7
2	S0	97	PRO	3.7
70	O4	110	GLU	3.7
68	O2	127	ALA	3.7
82	p0	18	TYR	3.7
11	S9	138	LYS	3.7
11	S9	148	VAL	3.7
3	S1	99	ASN	3.7
8	s6	171	LYS	3.7
18	C6	65	ILE	3.7
22	d0	20	ILE	3.7
33	e1	113	LYS	3.7

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Mol	Chain	Res	Type	RSRZ
24	D2	5	SER	3.7
36	1	1259	A	3.7
1	6	1082	C	3.7
1	6	1228	G	3.7
26	D4	61	ARG	3.7
35	SM	88	ARG	3.7
14	C2	53	THR	3.7
7	s5	108	LEU	3.7
8	S6	75	LEU	3.7
29	D7	30	SER	3.7
63	n7	49	TYR	3.7
3	s1	233	GLY	3.6
20	C8	21	ASN	3.7
27	D5	73	GLY	3.6
1	2	195	G	3.6
16	C4	38	THR	3.6
34	SR	25	THR	3.6
7	S5	43	PHE	3.6
17	C5	101	ALA	3.6
48	M1	119	SER	3.6
16	C4	16	VAL	3.6
30	D8	66	LEU	3.6
11	S9	144	PRO	3.6
11	s9	111	THR	3.6
18	c6	118	ILE	3.6
74	o8	2	ALA	3.6
63	n7	21	LYS	3.6
36	5	1574	C	3.6
9	s7	43	PHE	3.6
14	C2	20	ALA	3.6
21	C9	90	PRO	3.6
24	D2	6	VAL	3.6
32	E0	30	PRO	3.6
1	6	670	U	3.6
33	e1	91	ILE	3.6
1	6	1711	C	3.6
14	C2	30	VAL	3.6
35	sM	46	LYS	3.6
63	n7	52	LYS	3.6
1	2	1687	U	3.6
22	d0	78	THR	3.6
82	p0	70	LEU	3.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
27	d5	94	LYS	3.6
3	s1	228	LEU	3.6
21	c9	125	SER	3.6
7	s5	82	PHE	3.6
34	sR	118	LYS	3.6
82	p0	50	VAL	3.6
42	L5	30	TYR	3.6
1	6	495	C	3.6
11	s9	11	THR	3.6
27	d5	46	LYS	3.6
36	1	1270	A	3.6
19	c7	41	ILE	3.6
60	N4	92	GLU	3.6
3	S1	93	GLY	3.6
8	S6	174	LYS	3.6
18	C6	116	LEU	3.6
34	sR	200	ASN	3.6
48	M1	132	ASN	3.6
29	D7	37	CYS	3.6
13	c1	3	THR	3.6
1	6	674	C	3.6
1	2	711	U	3.6
1	6	1712	A	3.6
33	E1	91	ILE	3.6
55	M9	179	GLU	3.6
63	N7	65	ARG	3.6
63	n7	96	VAL	3.6
57	N1	62	GLY	3.6
3	s1	90	GLU	3.6
7	S5	80	LYS	3.6
14	c2	32	LEU	3.6
34	sR	139	GLN	3.6
14	C2	21	GLU	3.6
21	C9	119	LYS	3.6
34	sR	315	VAL	3.6
1	2	174	U	3.6
1	2	1712	A	3.6
2	S0	174	TRP	3.6
32	E0	54	ARG	3.6
2	S0	83	GLN	3.6
4	s2	89	GLN	3.6
21	c9	37	VAL	3.6

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Mol	Chain	Res	Type	RSRZ
42	L5	29	ASP	3.6
14	C2	36	LEU	3.6
15	C3	54	LEU	3.6
48	M1	159	THR	3.6
1	2	697	C	3.5
11	s9	141	VAL	3.5
48	M1	54	VAL	3.5
7	S5	73	THR	3.5
10	S8	63	GLY	3.5
18	c6	123	ARG	3.5
22	d0	87	HIS	3.5
60	n4	95	SER	3.5
65	N9	26	THR	3.5
53	M7	163	LYS	3.5
56	n0	130	GLU	3.5
34	sR	202	LEU	3.5
82	p0	295	ALA	3.5
33	e1	99	LYS	3.5
20	c8	17	LEU	3.5
63	n7	22	LYS	3.5
1	2	1527	C	3.5
82	p0	26	PHE	3.5
19	c7	87	GLU	3.5
17	c5	72	LYS	3.5
19	c7	12	ALA	3.5
20	C8	86	LEU	3.5
40	l3	387	LEU	3.5
63	N7	124	ALA	3.5
18	c6	29	ILE	3.5
27	D5	102	THR	3.5
29	d7	60	SER	3.5
22	D0	15	GLN	3.5
33	e1	100	LEU	3.5
48	M1	112	LEU	3.5
13	C1	154	ALA	3.5
22	d0	102	ARG	3.5
3	s1	217	LEU	3.5
11	s9	145	SER	3.5
18	c6	28	LEU	3.5
14	c2	116	VAL	3.5
22	d0	100	VAL	3.5
31	D9	5	ASN	3.5

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Mol	Chain	Res	Type	RSRZ
16	C4	120	PRO	3.5
36	1	547	G	3.5
60	n4	84	GLY	3.5
19	C7	78	ARG	3.5
20	C8	129	TRP	3.5
22	d0	30	LYS	3.5
33	E1	111	GLU	3.5
18	c6	38	LEU	3.5
19	C7	69	ILE	3.5
36	1	1349	G	3.5
56	N0	129	ILE	3.5
82	p0	185	LEU	3.5
2	s0	100	GLY	3.5
3	S1	42	ASN	3.5
33	e1	97	LYS	3.5
80	e0	63	GLN	3.5
63	n7	13	VAL	3.5
3	s1	97	LEU	3.5
1	6	655	G	3.5
33	E1	116	LYS	3.5
36	5	1577	G	3.5
42	L5	27	LYS	3.5
60	n4	117	LYS	3.5
1	6	493	U	3.5
71	O5	20	GLN	3.5
14	C2	88	LEU	3.5
22	d0	58	LEU	3.5
35	sM	89	LYS	3.5
67	O1	5	LYS	3.5
7	S5	98	MET	3.5
82	p0	88	PHE	3.5
1	6	1708	U	3.4
1	2	145	A	3.4
1	2	1713	G	3.4
16	C4	39	ILE	3.4
23	D1	8	LEU	3.4
27	d5	68	ARG	3.4
33	e1	79	LYS	3.4
36	5	2540	A	3.4
53	M7	168	LEU	3.4
3	S1	32	ILE	3.4
4	S2	88	LYS	3.4

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Mol	Chain	Res	Type	RSRZ
14	c2	31	VAL	3.4
18	c6	132	LYS	3.4
36	1	1571	A	3.4
36	5	1268	G	3.4
5	s3	205	ALA	3.4
29	D7	57	GLU	3.4
7	s5	86	GLN	3.4
9	S7	150	GLN	3.4
34	SR	181	TRP	3.4
29	D7	48	SER	3.4
18	c6	114	ARG	3.4
8	S6	147	LEU	3.4
34	sR	183	LEU	3.4
63	n7	42	LEU	3.4
5	S3	152	PHE	3.4
5	S3	216	PRO	3.4
6	S4	253	ASP	3.4
7	s5	92	ARG	3.4
10	S8	141	ARG	3.4
16	C4	89	THR	3.4
8	S6	138	ALA	3.4
20	C8	17	LEU	3.4
34	SR	167	VAL	3.4
34	sR	301	LEU	3.4
42	L5	159	VAL	3.4
17	c5	121	ILE	3.4
19	C7	65	PRO	3.4
1	6	660	G	3.4
22	d0	29	THR	3.4
7	S5	61	TYR	3.4
18	C6	77	GLN	3.4
66	o0	90	VAL	3.4
20	C8	72	ILE	3.4
43	l6	130	ILE	3.4
34	sR	121	MET	3.4
34	sR	159	ASN	3.4
34	sR	313	TRP	3.4
36	5	1571	A	3.4
48	M1	101	ASN	3.4
1	6	669	G	3.4
3	S1	114	VAL	3.4
21	c9	4	VAL	3.4

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Mol	Chain	Res	Type	RSRZ
22	D0	67	THR	3.4
36	1	1765	U	3.4
48	M1	75	LYS	3.4
48	M1	104	PHE	3.4
33	E1	137	ASP	3.4
1	2	169	A	3.4
2	S0	26	ALA	3.4
2	S0	22	THR	3.4
15	C3	13	SER	3.4
22	D0	82	TYR	3.4
35	SM	41	SER	3.4
48	M1	139	THR	3.4
73	O7	84	SER	3.4
18	C6	29	ILE	3.4
36	1	3155	U	3.4
1	6	38	C	3.4
27	d5	51	LEU	3.4
76	Q0	85	LEU	3.4
45	l8	121	SER	3.4
70	O4	76	TYR	3.4
14	c2	67	THR	3.4
52	m6	184	THR	3.4
2	s0	185	ARG	3.4
58	N2	27	VAL	3.4
70	O4	5	VAL	3.4
33	E1	106	TYR	3.4
3	S1	130	SER	3.4
21	C9	141	GLU	3.4
22	d0	107	THR	3.4
10	S8	109	PHE	3.4
1	2	720	G	3.4
36	5	1560	G	3.4
66	O0	20	SER	3.4
6	s4	15	PRO	3.3
9	S7	100	PRO	3.3
15	C3	57	ALA	3.3
18	C6	10	PHE	3.3
29	D7	42	ASN	3.3
5	s3	202	LEU	3.3
14	c2	23	THR	3.3
14	c2	63	VAL	3.3
20	C8	22	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
63	n7	23	VAL	3.3
1	2	793	A	3.3
11	S9	174	ARG	3.3
11	s9	3	ARG	3.3
2	S0	23	HIS	3.3
11	s9	184	SER	3.3
1	6	668	C	3.3
5	s3	201	ALA	3.3
6	s4	13	ALA	3.3
34	sR	61	PHE	3.3
18	C6	41	PRO	3.3
18	c6	47	LYS	3.3
34	sR	284	ALA	3.3
36	1	1017	C	3.3
49	m3	191	ALA	3.3
19	C7	18	GLU	3.3
19	c7	68	GLY	3.3
11	s9	142	ASN	3.3
7	S5	185	ARG	3.3
60	N4	70	LYS	3.3
22	D0	86	ILE	3.3
32	E0	32	GLY	3.3
18	c6	82	ARG	3.3
35	sM	57	ASN	3.3
36	5	1024	G	3.3
1	6	40	A	3.3
13	C1	145	ALA	3.3
21	C9	2	PRO	3.3
1	6	1706	C	3.3
8	s6	216	LEU	3.3
33	E1	148	TYR	3.3
24	D2	26	LEU	3.3
34	sR	241	PHE	3.3
11	S9	143	ILE	3.3
34	sR	244	ALA	3.3
63	N7	91	ALA	3.3
66	o0	105	ALA	3.3
21	c9	33	TYR	3.3
2	S0	118	PRO	3.3
8	s6	79	LYS	3.3
48	m1	48	SER	3.3
7	S5	93	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
48	M1	19	LEU	3.3
15	C3	62	GLN	3.3
1	6	1698	G	3.3
34	sR	272	ASP	3.3
19	C7	53	TYR	3.3
29	D7	68	GLY	3.3
20	C8	41	ARG	3.3
29	D7	3	LEU	3.3
20	C8	105	VAL	3.3
20	c8	52	VAL	3.3
63	N7	4	PHE	3.3
5	s3	184	ILE	3.3
24	D2	55	ASP	3.3
65	N9	28	LYS	3.3
18	C6	121	SER	3.3
36	1	1563	C	3.3
34	sR	251	TRP	3.3
57	N1	61	THR	3.3
49	M3	98	ASP	3.3
63	N7	7	ALA	3.3
79	q3	2	ALA	3.3
1	2	505	A	3.3
5	s3	11	LEU	3.3
7	S5	184	PHE	3.3
14	c2	30	VAL	3.3
2	s0	116	LYS	3.3
3	S1	50	LYS	3.3
14	c2	135	MET	3.3
21	C9	44	GLU	3.3
36	5	2507	C	3.3
2	S0	100	GLY	3.3
14	c2	127	GLY	3.3
22	D0	20	ILE	3.3
26	d4	26	ASP	3.3
57	N1	27	LEU	3.3
10	S8	151	LYS	3.3
26	D4	35	VAL	3.3
29	D7	32	PHE	3.3
32	E0	44	PHE	3.3
3	s1	46	THR	3.2
4	s2	249	ALA	3.2
3	s1	192	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
18	c6	129	PHE	3.2
19	C7	14	LYS	3.2
45	l8	120	LYS	3.2
14	c2	47	GLU	3.2
35	SM	21	PRO	3.2
14	C2	133	LEU	3.2
18	c6	117	LEU	3.2
34	sR	34	LEU	3.2
57	N1	101	CYS	3.2
27	D5	71	ILE	3.2
35	SM	86	ASN	3.2
9	S7	103	SER	3.2
34	sR	62	LYS	3.2
70	O4	67	LYS	3.2
11	S9	3	ARG	3.2
14	C2	22	VAL	3.2
36	1	1278	A	3.2
14	c2	25	GLU	3.2
3	S1	97	LEU	3.2
7	S5	84	LYS	3.2
21	c9	119	LYS	3.2
42	L5	60	ILE	3.2
31	d9	36	LEU	3.2
2	S0	181	VAL	3.2
3	S1	142	PHE	3.2
18	c6	19	VAL	3.2
1	2	493	U	3.2
33	e1	120	GLU	3.2
67	o1	111	GLU	3.2
36	5	1563	C	3.2
45	L8	46	LEU	3.2
7	S5	74	ALA	3.2
17	c5	74	ALA	3.2
7	s5	77	TYR	3.2
12	c0	28	ASN	3.2
46	L9	43	VAL	3.2
1	6	651	G	3.2
9	s7	108	GLN	3.2
22	d0	119	ALA	3.2
36	1	1025	A	3.2
48	M1	172	LEU	3.2
48	M1	134	PRO	3.2

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Mol	Chain	Res	Type	RSRZ
11	S9	37	LYS	3.2
19	C7	63	LYS	3.2
61	n5	75	LYS	3.2
32	E0	41	THR	3.2
48	M1	10	ARG	3.2
1	2	234	G	3.2
1	2	914	G	3.2
1	6	1225	U	3.2
11	S9	35	GLY	3.2
14	c2	97	LEU	3.2
31	d9	20	GLN	3.2
45	L8	28	HIS	3.2
27	d5	55	PRO	3.2
30	D8	48	VAL	3.2
63	n7	136	PHE	3.2
1	6	1337	A	3.2
21	c9	92	LYS	3.2
31	d9	4	GLU	3.2
5	S3	161	GLY	3.2
6	S4	92	LEU	3.2
20	C8	39	GLY	3.2
20	c8	20	THR	3.2
19	C7	66	VAL	3.2
21	C9	71	VAL	3.2
35	SM	84	LYS	3.2
14	c2	108	ARG	3.2
82	p0	16	ARG	3.2
19	c7	58	MET	3.2
26	d4	125	LEU	3.2
74	o8	54	LEU	3.2
1	2	136	C	3.2
18	c6	87	LYS	3.2
28	D6	3	LYS	3.2
7	S5	72	HIS	3.2
75	o9	11	GLN	3.2
42	L5	221	GLU	3.2
7	S5	172	ILE	3.2
18	C6	14	LYS	3.2
24	D2	35	ILE	3.2
36	5	1027	A	3.2
42	l5	205	SER	3.2
7	s5	94	THR	3.2

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Mol	Chain	Res	Type	RSRZ
7	s5	138	THR	3.2
56	n0	2	ALA	3.2
14	c2	95	LYS	3.2
20	C8	101	LEU	3.2
24	D2	22	LYS	3.2
29	D7	7	LEU	3.2
33	E1	83	LYS	3.2
10	S8	69	SER	3.2
10	s8	176	SER	3.2
1	2	142	G	3.2
45	l8	194	THR	3.2
36	1	1605	A	3.2
36	1	1028	U	3.1
17	c5	102	PHE	3.1
34	sR	133	VAL	3.1
20	C8	10	SER	3.1
18	c6	115	THR	3.1
7	S5	217	LEU	3.1
17	c5	125	PRO	3.1
42	L5	20	PHE	3.1
63	n7	120	GLU	3.1
14	c2	74	LEU	3.1
29	d7	59	CYS	3.1
2	S0	143	VAL	3.1
5	s3	213	GLU	3.1
14	c2	37	VAL	3.1
21	C9	80	TYR	3.1
36	5	1275	C	3.1
19	c7	17	ILE	3.1
49	M3	41	THR	3.1
3	S1	55	LYS	3.1
18	C6	8	GLN	3.1
21	c9	122	ARG	3.1
5	s3	182	LEU	3.1
7	S5	97	LEU	3.1
19	c7	57	LEU	3.1
1	2	1717	G	3.1
19	c7	13	SER	3.1
14	C2	85	LYS	3.1
18	c6	127	LYS	3.1
24	D2	29	PRO	3.1
28	D6	20	PRO	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
14	c2	129	GLU	3.1
18	c6	119	ALA	3.1
78	Q2	100	LYS	3.1
11	S9	133	HIS	3.1
47	m0	205	SER	3.1
14	C2	75	VAL	3.1
21	C9	139	THR	3.1
34	sR	309	VAL	3.1
42	l5	216	GLU	3.1
34	sR	185	GLN	3.1
48	M1	14	ILE	3.1
11	S9	106	GLU	3.1
19	C7	125	SER	3.1
48	M1	74	PRO	3.1
14	c2	124	LYS	3.1
45	l8	122	LYS	3.1
39	l2	250	GLN	3.1
63	n7	118	PHE	3.1
55	m9	181	ARG	3.1
13	C1	150	ASN	3.1
18	c6	48	VAL	3.1
1	6	261	U	3.1
34	SR	4	ASN	3.1
26	d4	99	LYS	3.1
82	p0	45	LEU	3.1
15	C3	50	ILE	3.1
19	C7	3	ARG	3.1
48	M1	39	GLN	3.1
14	C2	86	VAL	3.1
2	S0	159	ALA	3.1
48	M1	73	GLY	3.1
7	S5	106	LYS	3.1
14	c2	137	MET	3.1
46	l9	191	LEU	3.1
67	O1	4	LEU	3.1
1	6	718	U	3.1
6	S4	27	TYR	3.1
8	S6	177	ARG	3.1
33	E1	109	ASP	3.1
34	SR	319	ASN	3.1
45	L8	126	SER	3.1
17	c5	84	ILE	3.1

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Mol	Chain	Res	Type	RSRZ
22	D0	70	THR	3.1
60	N4	67	VAL	3.1
60	N4	69	LYS	3.1
36	1	1026	A	3.1
5	s3	216	PRO	3.0
15	C3	76	LYS	3.0
60	n4	132	GLY	3.0
6	S4	208	VAL	3.0
18	C6	7	VAL	3.0
18	C6	39	VAL	3.0
29	d7	46	VAL	3.0
34	sR	113	VAL	3.0
7	s5	198	LEU	3.0
10	S8	44	HIS	3.0
1	2	733	A	3.0
8	S6	169	TYR	3.0
14	C2	140	PHE	3.0
60	n4	107	GLU	3.0
21	c9	28	LEU	3.0
6	s4	14	ALA	3.0
8	S6	164	LYS	3.0
28	D6	83	ILE	3.0
9	s7	187	SER	3.0
14	C2	33	ARG	3.0
14	c2	60	VAL	3.0
17	C5	76	VAL	3.0
18	c6	76	SER	3.0
21	c9	25	GLN	3.0
34	sR	148	ASN	3.0
55	M9	51	VAL	3.0
62	n6	58	VAL	3.0
38	8	81	U	3.0
48	M1	17	LEU	3.0
14	c2	24	ILE	3.0
22	D0	87	HIS	3.0
19	c7	47	ARG	3.0
48	m1	148	VAL	3.0
1	2	1610	G	3.0
26	D4	69	SER	3.0
34	sR	108	SER	3.0
63	n7	34	LYS	3.0
1	2	138	A	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	C6	36	ILE	3.0
2	S0	161	PRO	3.0
6	s4	26	CYS	3.0
20	c8	54	LEU	3.0
29	D7	73	LEU	3.0
1	2	700	C	3.0
34	SR	2	ALA	3.0
62	n6	41	ALA	3.0
36	1	2096	A	3.0
26	D4	125	LEU	3.0
42	L5	51	LEU	3.0
65	N9	24	PRO	3.0
6	S4	24	SER	3.0
10	S8	149	SER	3.0
29	d7	58	SER	3.0
82	p0	64	ARG	3.0
7	S5	153	GLY	3.0
7	S5	41	LYS	3.0
35	sM	23	LYS	3.0
43	L6	8	LYS	3.0
20	C8	13	HIS	3.0
48	M1	130	VAL	3.0
34	sR	263	PHE	3.0
7	S5	77	TYR	3.0
29	D7	43	ILE	3.0
31	d9	33	LYS	3.0
48	M1	153	LYS	3.0
82	p0	187	VAL	3.0
1	2	716	C	3.0
11	S9	164	PHE	3.0
36	1	1351	U	3.0
36	5	1579	C	3.0
22	d0	52	LYS	3.0
34	sR	134	TRP	3.0
67	o1	61	LYS	3.0
32	E0	25	GLU	3.0
34	SR	199	ILE	3.0
67	O1	82	GLU	3.0
8	S6	81	VAL	3.0
14	c2	70	ASN	3.0
8	S6	156	PHE	3.0
1	6	1491	U	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	S9	29	LYS	3.0
33	e1	149	LYS	3.0
1	6	1371	A	3.0
22	D0	97	VAL	3.0
62	n6	104	LEU	3.0
2	S0	32	HIS	3.0
7	s5	37	GLN	3.0
24	D2	111	MET	3.0
24	D2	59	GLY	3.0
11	S9	183	ALA	3.0
61	n5	27	ARG	3.0
63	n7	68	ILE	3.0
17	c5	76	VAL	3.0
18	C6	132	LYS	3.0
19	c7	28	PHE	3.0
1	2	714	G	2.9
28	D6	9	GLY	2.9
1	2	232	U	2.9
2	S0	146	LEU	2.9
63	N7	13	VAL	2.9
7	S5	66	GLN	2.9
23	D1	10	GLU	2.9
9	S7	129	LEU	2.9
18	C6	13	LYS	2.9
60	n4	128	ALA	2.9
1	2	143	G	2.9
36	5	2543	U	2.9
11	s9	139	GLN	2.9
26	D4	120	GLY	2.9
3	S1	221	PRO	2.9
7	s5	137	ILE	2.9
21	c9	69	LYS	2.9
22	d0	99	ILE	2.9
14	C2	94	ALA	2.9
18	c6	89	LEU	2.9
22	d0	26	LEU	2.9
8	S6	150	GLU	2.9
24	D2	51	GLU	2.9
33	e1	111	GLU	2.9
1	2	1718	G	2.9
2	S0	170	ILE	2.9
36	1	1243	G	2.9

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Mol	Chain	Res	Type	RSRZ
36	5	1233	G	2.9
76	q0	77	ILE	2.9
30	d8	9	LEU	2.9
49	m3	193	ALA	2.9
11	s9	6	ARG	2.9
63	N7	92	PHE	2.9
36	1	2703	A	2.9
82	p0	46	ARG	2.9
8	s6	166	GLU	2.9
2	S0	198	MET	2.9
14	c2	131	ASP	2.9
18	c6	64	ASP	2.9
33	E1	143	LYS	2.9
11	S9	87	SER	2.9
11	S9	112	GLN	2.9
36	5	2504	U	2.9
29	D7	14	SER	2.9
9	s7	32	PRO	2.9
19	c7	51	ALA	2.9
32	E0	45	VAL	2.9
66	O0	62	LEU	2.9
48	M1	116	TYR	2.9
82	p0	86	PHE	2.9
18	c6	13	LYS	2.9
48	M1	157	GLU	2.9
2	S0	76	ILE	2.9
8	S6	73	ILE	2.9
20	C8	69	ILE	2.9
22	d0	34	LEU	2.9
27	D5	89	ILE	2.9
1	2	280	U	2.9
33	E1	102	VAL	2.9
14	c2	94	ALA	2.9
47	m0	195	ALA	2.9
12	c0	57	THR	2.9
63	N7	61	LYS	2.9
82	p0	23	LYS	2.9
42	L5	25	GLU	2.9
30	d8	17	GLY	2.9
6	S4	9	LEU	2.9
8	s6	147	LEU	2.9
20	C8	71	GLN	2.9

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Mol	Chain	Res	Type	RSRZ
27	d5	74	SER	2.9
28	D6	76	SER	2.9
49	m3	190	LYS	2.9
6	S4	57	ASN	2.9
14	C2	87	PRO	2.9
12	c0	20	VAL	2.9
49	m3	131	LYS	2.9
51	m5	15	GLN	2.9
82	p0	87	VAL	2.9
19	c7	63	LYS	2.9
1	6	681	U	2.9
1	6	1710	U	2.9
5	s3	163	PRO	2.9
10	s8	61	GLU	2.9
34	sR	30	PRO	2.9
36	1	2537	U	2.9
38	4	158	U	2.9
46	L9	189	GLU	2.9
8	s6	134	GLY	2.9
11	s9	147	MET	2.9
21	c9	15	ILE	2.9
21	c9	17	ALA	2.9
66	o0	12	GLN	2.9
1	2	704	C	2.9
10	S8	140	GLU	2.9
31	d9	5	ASN	2.9
2	S0	149	LEU	2.9
36	5	2542	U	2.9
82	p0	89	THR	2.9
11	s9	164	PHE	2.9
35	sM	35	ALA	2.9
3	S1	100	PHE	2.9
7	S5	147	THR	2.9
22	D0	81	THR	2.9
82	p0	79	PHE	2.9
10	S8	144	ALA	2.9
21	c9	12	GLN	2.9
36	1	1268	G	2.9
48	m1	47	GLN	2.9
2	S0	138	TYR	2.9
61	n5	123	TYR	2.9
65	N9	56	ALA	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
28	d6	19	LYS	2.9
20	c8	32	LEU	2.9
29	D7	33	LEU	2.9
29	D7	49	HIS	2.9
34	SR	66	HIS	2.9
22	d0	28	SER	2.8
29	D7	54	VAL	2.8
30	d8	48	VAL	2.8
46	L9	140	VAL	2.8
3	s1	100	PHE	2.8
31	D9	55	PHE	2.8
10	S8	62	THR	2.8
36	5	1017	C	2.8
33	e1	110	ALA	2.8
60	N4	68	ALA	2.8
63	n7	115	LYS	2.8
29	D7	69	GLY	2.8
48	M1	11	ASP	2.8
20	C8	119	ILE	2.8
8	S6	137	ARG	2.8
48	M1	34	SER	2.8
3	s1	133	TYR	2.8
7	S5	91	GLU	2.8
35	SM	137	GLU	2.8
42	L5	153	THR	2.8
70	O4	63	ALA	2.8
34	SR	33	LEU	2.8
34	SR	280	GLY	2.8
2	s0	199	PRO	2.8
48	M1	129	VAL	2.8
63	n7	26	VAL	2.8
1	2	135	A	2.8
11	s9	104	PHE	2.8
24	D2	37	PHE	2.8
63	n7	82	PRO	2.8
3	S1	49	ASN	2.8
19	c7	15	ALA	2.8
27	d5	93	SER	2.8
60	N4	65	GLU	2.8
65	N9	51	ALA	2.8
63	n7	83	THR	2.8
7	S5	175	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
65	n9	32	LEU	2.8
1	2	870	C	2.8
8	s6	173	PRO	2.8
14	C2	24	ILE	2.8
20	C8	125	ILE	2.8
33	e1	78	LYS	2.8
34	sR	211	ILE	2.8
63	n7	95	VAL	2.8
65	N9	59	LYS	2.8
9	s7	103	SER	2.8
36	1	1350	A	2.8
6	s4	260	GLY	2.8
21	C9	108	LEU	2.8
1	2	820	U	2.8
9	S7	138	LYS	2.8
48	M1	13	LYS	2.8
70	O4	71	THR	2.8
34	SR	278	PHE	2.8
34	sR	122	ILE	2.8
34	sR	188	ILE	2.8
1	2	653	C	2.8
16	C4	29	HIS	2.8
18	c6	20	ALA	2.8
1	2	217	A	2.8
1	6	225	A	2.8
1	6	1224	A	2.8
7	S5	79	ASN	2.8
42	L5	150	LEU	2.8
9	S7	109	VAL	2.8
16	C4	119	THR	2.8
61	N5	107	VAL	2.8
70	O4	68	THR	2.8
82	p0	51	VAL	2.8
82	p0	105	VAL	2.8
11	S9	135	ALA	2.8
14	C2	27	ALA	2.8
14	c2	101	ALA	2.8
22	D0	21	LYS	2.8
32	E0	35	TYR	2.8
1	2	1611	A	2.8
2	S0	72	ASP	2.8
8	S6	86	PRO	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
46	l9	190	ASP	2.8
16	C4	78	ALA	2.8
29	D7	53	ALA	2.8
55	M9	181	ARG	2.8
2	S0	162	CYS	2.8
1	2	239	C	2.8
15	C3	60	VAL	2.8
22	d0	62	VAL	2.8
22	d0	66	SER	2.8
7	S5	92	ARG	2.8
11	S9	11	THR	2.8
20	C8	56	LYS	2.8
25	D3	7	ARG	2.8
67	O1	41	LYS	2.8
2	S0	40	ALA	2.8
24	D2	108	ALA	2.8
44	L7	27	ALA	2.8
62	N6	15	ALA	2.8
63	N7	51	LEU	2.8
14	c2	75	VAL	2.8
21	C9	88	VAL	2.8
2	S0	84	ARG	2.8
10	s8	179	CYS	2.8
2	S0	135	GLU	2.8
14	C2	50	LYS	2.8
21	C9	103	LYS	2.8
60	n4	97	LYS	2.8
82	p0	40	GLU	2.8
21	C9	39	THR	2.8
7	s5	126	ASP	2.8
18	C6	92	TYR	2.8
63	N7	80	LEU	2.8
66	o0	23	TYR	2.8
14	C2	31	VAL	2.8
18	C6	83	GLN	2.8
18	c6	90	VAL	2.8
19	c7	4	VAL	2.8
62	n6	120	GLN	2.8
3	s1	216	LYS	2.8
5	S3	223	LYS	2.8
13	C1	30	ARG	2.8
28	D6	90	GLU	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
33	E1	96	LYS	2.8
62	n6	62	SER	2.8
3	S1	110	LEU	2.8
14	C2	34	THR	2.8
18	c6	52	LEU	2.8
33	E1	134	ASN	2.8
62	N6	99	LEU	2.8
6	S4	8	HIS	2.8
31	d9	6	VAL	2.8
36	1	1029	G	2.8
3	s1	103	MET	2.8
2	S0	110	TYR	2.8
11	s9	4	ALA	2.8
18	C6	11	GLY	2.8
2	s0	97	PRO	2.8
7	s5	129	PRO	2.8
17	C5	130	ARG	2.8
18	C6	46	PHE	2.8
19	C7	82	ASP	2.8
20	C8	55	HIS	2.8
29	D7	52	THR	2.8
34	sR	147	HIS	2.8
34	sR	178	VAL	2.8
19	C7	79	GLU	2.7
22	d0	79	TRP	2.7
3	S1	26	ARG	2.7
9	s7	66	SER	2.7
18	c6	122	ARG	2.7
26	d4	24	VAL	2.7
26	d4	133	ASN	2.7
82	p0	49	ALA	2.7
14	C2	23	THR	2.7
21	c9	90	PRO	2.7
30	d8	7	VAL	2.7
7	s5	161	ASP	2.7
9	S7	123	ASP	2.7
1	6	136	C	2.7
20	c8	73	MET	2.7
2	S0	18	LEU	2.7
19	C7	60	ARG	2.7
45	l8	238	LEU	2.7
1	6	1605	G	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	c6	15	SER	2.7
42	l5	295	GLY	2.7
21	C9	6	VAL	2.7
64	N8	149	ALA	2.7
6	S4	67	GLN	2.7
23	D1	34	ILE	2.7
10	s8	36	THR	2.7
35	sM	24	GLU	2.7
10	S8	199	LYS	2.7
10	s8	143	TRP	2.7
13	C1	148	LYS	2.7
14	C2	137	MET	2.7
14	c2	52	LEU	2.7
15	C3	9	LYS	2.7
20	C8	3	LEU	2.7
22	d0	101	LYS	2.7
82	p0	48	ARG	2.7
17	C5	129	GLY	2.7
34	SR	253	ALA	2.7
48	M1	138	VAL	2.7
63	n7	14	VAL	2.7
11	s9	156	ILE	2.7
21	C9	135	ILE	2.7
18	C6	126	PRO	2.7
36	5	2574	G	2.7
78	Q2	105	GLN	2.7
14	C2	135	MET	2.7
11	S9	178	ALA	2.7
51	m5	58	GLY	2.7
18	c6	36	ILE	2.7
34	sR	67	ILE	2.7
6	S4	11	ARG	2.7
5	S3	21	LEU	2.7
1	6	1199	G	2.7
7	s5	152	GLY	2.7
8	S6	179	VAL	2.7
61	N5	122	ALA	2.7
62	N6	88	GLU	2.7
2	s0	83	GLN	2.7
27	d5	102	THR	2.7
48	m1	100	GLY	2.7
63	N7	131	PHE	2.7

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Mol	Chain	Res	Type	RSRZ
22	D0	119	ALA	2.7
28	D6	35	ALA	2.7
7	S5	68	ILE	2.7
57	n1	76	ILE	2.7
1	6	470	A	2.7
2	S0	199	PRO	2.7
19	c7	24	LEU	2.7
34	sR	89	LEU	2.7
36	1	1576	G	2.7
42	L5	92	LEU	2.7
60	n4	72	SER	2.7
80	e0	56	MET	2.7
3	S1	226	GLY	2.7
6	S4	260	GLY	2.7
2	S0	157	ASP	2.7
9	S7	48	GLU	2.7
10	s8	48	THR	2.7
14	c2	68	GLU	2.7
17	C5	10	ARG	2.7
18	C6	45	ARG	2.7
26	d4	35	VAL	2.7
48	M1	71	VAL	2.7
56	N0	96	ASP	2.7
70	O4	35	VAL	2.7
48	M1	106	ILE	2.7
18	C6	117	LEU	2.7
78	Q2	102	GLN	2.7
2	s0	152	PRO	2.7
11	S9	123	HIS	2.7
17	c5	83	MET	2.7
20	C8	73	MET	2.7
2	S0	185	ARG	2.7
3	S1	215	VAL	2.7
8	s6	215	ARG	2.7
33	E1	95	HIS	2.7
63	n7	132	SER	2.7
82	p0	80	VAL	2.7
1	2	172	C	2.7
45	L8	202	GLU	2.7
58	N2	108	TYR	2.7
63	N7	30	ASP	2.7
3	S1	47	LEU	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	S9	86	LEU	2.7
27	d5	75	LEU	2.7
5	s3	8	LYS	2.7
56	N0	95	ARG	2.7
4	S2	63	VAL	2.7
8	S6	82	SER	2.7
35	sM	55	SER	2.7
70	O4	72	VAL	2.7
18	c6	49	TYR	2.7
2	s0	146	LEU	2.7
36	5	3276	G	2.7
48	M1	155	THR	2.7
2	s0	15	GLN	2.7
10	S8	103	GLN	2.7
62	n6	90	VAL	2.7
19	C7	89	SER	2.7
22	d0	103	ILE	2.7
27	d5	47	TYR	2.7
29	D7	50	ALA	2.7
30	d8	59	SER	2.7
48	M1	97	SER	2.7
57	N1	28	SER	2.7
63	n7	122	HIS	2.7
1	2	231	U	2.7
1	2	770	A	2.7
1	2	1362	U	2.7
5	S3	187	LYS	2.7
7	S5	165	LEU	2.7
10	S8	96	LEU	2.7
11	S9	7	THR	2.7
29	D7	21	LEU	2.7
34	sR	141	LEU	2.7
36	5	1570	U	2.7
38	8	80	A	2.7
42	L5	154	THR	2.7
74	O8	51	LEU	2.7
28	D6	31	PRO	2.7
67	O1	53	PRO	2.7
20	C8	42	TYR	2.6
20	C8	48	LYS	2.6
34	sR	132	LYS	2.6
43	l6	3	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
60	N4	78	ALA	2.7
10	s8	67	TRP	2.6
34	sR	319	ASN	2.6
49	m3	129	ASN	2.6
65	n9	34	GLY	2.6
12	C0	6	GLU	2.6
34	sR	176	LYS	2.6
3	s1	60	ALA	2.6
36	1	1581	C	2.6
63	N7	46	ILE	2.6
34	SR	61	PHE	2.6
1	6	494	U	2.6
42	L5	56	THR	2.6
82	p0	29	GLY	2.6
6	S4	71	LYS	2.6
21	C9	57	ARG	2.6
2	s0	176	LEU	2.6
22	d0	65	ILE	2.6
2	S0	164	ASN	2.6
5	s3	151	LYS	2.6
11	s9	138	LYS	2.6
21	C9	95	ASP	2.6
36	1	1236	G	2.6
36	1	1577	G	2.6
63	n7	113	VAL	2.6
1	2	504	U	2.6
7	s5	172	ILE	2.6
36	5	1353	U	2.6
66	o0	68	TYR	2.6
36	1	2207	A	2.6
4	S2	84	LYS	2.6
58	n2	92	TRP	2.6
8	s6	160	ARG	2.6
21	C9	72	GLY	2.6
61	N5	22	LYS	2.6
65	n9	22	LYS	2.6
46	L9	143	GLU	2.6
48	m1	38	GLU	2.6
82	p0	101	VAL	2.6
28	D6	8	ASN	2.6
62	N6	98	ASN	2.6
2	s0	80	THR	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
10	s8	58	LEU	2.6
12	c0	76	LEU	2.6
19	c7	8	THR	2.6
63	n7	66	THR	2.6
21	c9	80	TYR	2.6
33	E1	110	ALA	2.6
1	2	168	A	2.6
1	2	706	A	2.6
7	s5	151	GLY	2.6
23	d1	43	GLY	2.6
28	d6	45	VAL	2.6
57	N1	25	VAL	2.6
67	O1	93	VAL	2.6
21	C9	43	ASN	2.6
61	n5	113	LEU	2.6
34	sR	228	LYS	2.6
82	p0	280	ALA	2.6
7	S5	69	PHE	2.6
34	sR	90	ARG	2.6
51	m5	147	ARG	2.6
20	C8	133	VAL	2.6
21	c9	42	GLY	2.6
47	m0	204	GLY	2.6
2	S0	201	LEU	2.6
28	D6	33	ASP	2.6
56	n0	129	ILE	2.6
3	S1	95	ASN	2.6
8	S6	180	THR	2.6
11	S9	95	TYR	2.6
61	n5	31	THR	2.6
63	n7	77	TYR	2.6
82	p0	14	LYS	2.6
16	C4	27	PHE	2.6
57	N1	29	THR	2.6
58	n2	14	THR	2.6
60	n4	71	ARG	2.6
63	n7	65	ARG	2.6
1	2	240	U	2.6
8	S6	153	VAL	2.6
57	n1	86	GLU	2.6
82	p0	33	VAL	2.6
24	D2	65	LEU	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
29	D7	62	ILE	2.6
43	l6	2	SER	2.6
21	C9	37	VAL	2.6
48	M1	149	GLY	2.6
7	s5	80	LYS	2.6
27	d5	52	LYS	2.6
62	n6	45	ILE	2.6
11	S9	146	PHE	2.6
13	C1	2	SER	2.6
42	l5	220	SER	2.6
56	n0	74	ASN	2.6
7	S5	132	VAL	2.6
11	S9	130	THR	2.6
13	C1	155	LYS	2.6
14	C2	67	THR	2.6
1	2	713	A	2.6
20	C8	108	LYS	2.6
26	D4	25	VAL	2.6
29	D7	46	VAL	2.6
1	2	768	C	2.6
1	2	494	U	2.6
5	s3	50	ILE	2.6
15	C3	55	ARG	2.6
19	C7	16	LEU	2.6
34	sR	7	LEU	2.6
48	M1	120	ILE	2.6
10	S8	119	GLN	2.6
3	S1	139	ALA	2.6
8	S6	95	LYS	2.6
4	s2	201	ASN	2.6
14	c2	117	GLY	2.6
33	E1	82	LYS	2.6
48	M1	18	VAL	2.6
48	M1	85	LYS	2.6
82	p0	47	GLY	2.6
7	S5	94	THR	2.6
22	D0	96	PRO	2.6
21	C9	124	ILE	2.6
1	2	1583	A	2.6
1	2	910	C	2.6
34	SR	186	PHE	2.6
1	6	1704	U	2.6

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Mol	Chain	Res	Type	RSRZ
6	S4	55	ALA	2.6
19	c7	14	LYS	2.6
33	E1	105	TYR	2.6
22	d0	94	GLU	2.6
43	l6	128	LYS	2.6
55	M9	72	GLU	2.6
58	n2	66	VAL	2.6
61	n5	114	VAL	2.6
2	S0	9	LEU	2.6
10	S8	165	LEU	2.6
11	s9	36	LEU	2.6
34	sR	81	LEU	2.6
57	N1	89	LEU	2.6
49	m3	182	ILE	2.6
5	s3	200	LYS	2.5
10	S8	143	TRP	2.5
63	n7	106	GLN	2.5
82	p0	81	LYS	2.5
16	c4	35	GLY	2.5
20	C8	126	ARG	2.5
9	S7	115	SER	2.5
36	1	1805	C	2.5
63	N7	12	VAL	2.5
82	p0	30	VAL	2.5
22	d0	63	LEU	2.5
2	S0	155	PHE	2.5
17	c5	119	PHE	2.5
19	c7	35	CYS	2.5
63	N7	72	ILE	2.5
22	d0	77	LYS	2.5
10	s8	34	ALA	2.5
14	C2	51	ALA	2.5
2	S0	44	GLY	2.5
8	S6	99	GLY	2.5
2	s0	87	LEU	2.5
11	S9	121	SER	2.5
14	c2	119	SER	2.5
18	C6	141	SER	2.5
45	L8	93	LEU	2.5
9	S7	113	PRO	2.5
24	D2	71	LYS	2.5
36	1	544	C	2.5

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Mol	Chain	Res	Type	RSRZ
42	L5	64	ILE	2.5
15	C3	61	THR	2.5
21	c9	91	TYR	2.5
34	sR	294	TRP	2.5
51	m5	39	ALA	2.5
5	s3	218	LEU	2.5
42	L5	131	LEU	2.5
12	c0	48	SER	2.5
15	c3	14	SER	2.5
2	S0	101	ARG	2.5
3	S1	182	ALA	2.5
26	D4	34	ASN	2.5
45	L8	240	ASN	2.5
34	sR	135	THR	2.5
1	6	1584	G	2.5
1	6	1601	G	2.5
11	S9	30	LEU	2.5
11	S9	39	LYS	2.5
24	D2	69	LEU	2.5
2	S0	102	PHE	2.5
3	S1	140	ILE	2.5
3	S1	223	PHE	2.5
42	L5	54	ARG	2.5
14	C2	48	SER	2.5
36	1	1763	U	2.5
48	M1	81	GLU	2.5
6	S4	259	GLN	2.5
10	S8	177	GLY	2.5
41	l4	186	LYS	2.5
42	L5	52	VAL	2.5
66	O0	59	TYR	2.5
67	O1	15	ASN	2.5
40	L3	387	LEU	2.5
10	s8	60	ILE	2.5
42	l5	219	PHE	2.5
46	l9	1	MET	2.5
6	S4	15	PRO	2.5
21	C9	8	ASP	2.5
3	S1	60	ALA	2.5
11	S9	8	TYR	2.5
29	D7	31	TYR	2.5
33	E1	129	GLY	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
62	N6	87	LYS	2.5
63	n7	61	LYS	2.5
70	O4	21	LYS	2.5
82	p0	11	TYR	2.5
14	c2	125	ASN	2.5
2	S0	147	THR	2.5
16	C4	41	ARG	2.5
36	5	2444	C	2.5
36	5	2572	C	2.5
51	m5	61	ILE	2.5
63	n7	46	ILE	2.5
48	M1	144	CYS	2.5
5	s3	3	ALA	2.5
11	S9	163	PRO	2.5
31	d9	23	VAL	2.5
46	L9	85	GLY	2.5
51	m5	64	VAL	2.5
1	2	74	U	2.5
23	D1	87	ARG	2.5
52	M6	52	LEU	2.5
25	D3	28	ASN	2.5
34	sR	4	ASN	2.5
19	c7	38	ILE	2.5
29	D7	45	THR	2.5
67	O1	36	ILE	2.5
82	p0	100	ILE	2.5
22	d0	35	GLU	2.5
35	sM	88	LYS	2.5
42	l5	41	LYS	2.5
1	2	541	A	2.5
7	S5	101	GLY	2.5
14	C2	42	ALA	2.5
18	c6	75	VAL	2.5
20	C8	30	TYR	2.5
48	M1	67	VAL	2.5
20	C8	45	LEU	2.5
42	l5	211	LEU	2.5
49	M3	87	ALA	2.5
49	M3	172	LEU	2.5
60	n4	131	ALA	2.5
65	n9	24	PRO	2.5
22	d0	121	ASN	2.5

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Mol	Chain	Res	Type	RSRZ
32	E0	28	LYS	2.5
36	5	250	U	2.5
51	m5	130	PHE	2.5
1	6	142	G	2.5
9	S7	119	THR	2.5
57	N1	96	ILE	2.5
8	S6	84	TYR	2.5
1	6	1583	A	2.5
1	6	1606	C	2.5
2	s0	126	PRO	2.5
19	C7	21	TYR	2.5
14	C2	81	ASP	2.5
36	5	1761	C	2.5
2	s0	115	PHE	2.5
9	S7	151	LYS	2.5
21	C9	40	SER	2.5
22	D0	53	LYS	2.5
45	L8	255	SER	2.5
15	C3	66	ILE	2.5
1	2	1540	G	2.5
2	S0	175	TYR	2.5
6	s4	101	LEU	2.5
42	L5	75	LEU	2.5
68	o2	2	ALA	2.5
3	s1	30	PHE	2.5
9	S7	111	LYS	2.5
13	C1	153	PHE	2.5
15	C3	27	LYS	2.5
48	M1	126	ASP	2.5
50	M4	43	LYS	2.5
7	S5	199	ILE	2.5
13	C1	4	GLU	2.5
16	C4	83	ILE	2.5
36	1	1761	C	2.5
3	s1	165	ARG	2.5
6	S4	49	ARG	2.5
53	M7	167	ARG	2.5
1	2	701	U	2.5
14	C2	62	LEU	2.5
14	c2	27	ALA	2.5
32	E0	31	LYS	2.5
5	S3	217	ILE	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
8	S6	89	ASP	2.5
31	d9	27	HIS	2.5
42	L5	203	HIS	2.5
67	O1	14	ILE	2.5
54	M8	167	SER	2.5
68	o2	95	GLU	2.5
55	M9	23	TRP	2.4
26	D4	67	GLY	2.4
42	L5	161	GLY	2.4
63	N7	42	LEU	2.4
11	S9	12	TYR	2.4
27	d5	57	TYR	2.4
58	N2	28	PHE	2.4
9	S7	11	GLN	2.4
11	S9	169	PRO	2.4
19	C7	67	ARG	2.4
20	c8	126	ARG	2.4
54	m8	93	ILE	2.4
58	n2	104	ARG	2.4
82	p0	195	GLN	2.4
24	D2	85	ASP	2.4
27	d5	86	GLU	2.4
34	sR	160	GLU	2.4
7	s5	72	HIS	2.4
34	sR	191	ASP	2.4
62	n6	114	ASP	2.4
6	S4	7	LYS	2.4
20	c8	129	TRP	2.4
33	E1	113	LYS	2.4
34	sR	92	TRP	2.4
14	c2	98	GLY	2.4
33	e1	129	GLY	2.4
36	5	442	G	2.4
1	6	505	A	2.4
3	s1	37	THR	2.4
11	S9	158	PHE	2.4
18	c6	138	PHE	2.4
55	M9	178	ALA	2.4
36	1	198	A	2.4
42	L5	158	ARG	2.4
48	M1	44	THR	2.4
63	n7	50	PRO	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	s0	46	HIS	2.4
21	C9	45	MET	2.4
29	D7	20	LYS	2.4
35	SM	113	ASP	2.4
55	M9	52	LYS	2.4
60	n4	129	LYS	2.4
14	c2	88	LEU	2.4
19	c7	26	LEU	2.4
29	d7	39	GLY	2.4
51	M5	155	VAL	2.4
61	n5	76	VAL	2.4
63	N7	53	VAL	2.4
6	S4	28	ALA	2.4
48	M1	163	PHE	2.4
82	p0	197	PHE	2.4
26	D4	13	ILE	2.4
26	d4	106	GLN	2.4
54	M8	93	ILE	2.4
1	2	171	A	2.4
1	2	740	A	2.4
1	2	1714	A	2.4
1	6	673	A	2.4
6	S4	102	VAL	2.4
22	D0	62	VAL	2.4
23	D1	39	VAL	2.4
27	D5	62	VAL	2.4
2	S0	113	ARG	2.4
8	S6	87	ARG	2.4
29	d7	49	HIS	2.4
34	SR	3	SER	2.4
34	sR	102	ARG	2.4
49	m3	183	ARG	2.4
63	n7	48	ARG	2.4
2	S0	203	PHE	2.4
5	s3	193	ALA	2.4
55	M9	78	TYR	2.4
62	N6	81	GLN	2.4
5	s3	138	VAL	2.4
14	c2	115	VAL	2.4
28	D6	16	GLY	2.4
36	1	1573	G	2.4
36	1	2672	G	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
42	L5	149	GLY	2.4
58	N2	89	LEU	2.4
65	N9	27	TYR	2.4
11	S9	156	ILE	2.4
19	C7	77	GLU	2.4
17	c5	98	ASN	2.4
3	S1	207	LEU	2.4
34	SR	262	VAL	2.4
1	2	192	U	2.4
14	C2	93	ASP	2.4
30	D8	45	LYS	2.4
36	1	252	U	2.4
39	L2	176	ASP	2.4
63	N7	29	HIS	2.4
65	n9	25	LYS	2.4
1	2	483	A	2.4
18	C6	16	ALA	2.4
1	2	655	G	2.4
1	2	957	G	2.4
27	d5	78	ILE	2.4
4	s2	95	ARG	2.4
3	S1	231	LEU	2.4
24	D2	39	GLN	2.4
3	s1	98	THR	2.4
5	s3	37	VAL	2.4
7	S5	100	ASN	2.4
62	n6	118	LEU	2.4
8	S6	66	GLY	2.4
9	S7	133	THR	2.4
1	2	724	C	2.4
4	S2	55	GLU	2.4
6	s4	64	ILE	2.4
8	S6	88	ARG	2.4
11	S9	132	ARG	2.4
16	C4	34	SER	2.4
34	sR	124	SER	2.4
1	6	506	A	2.4
4	s2	94	GLN	2.4
19	C7	7	LYS	2.4
33	e1	114	VAL	2.4
34	SR	185	GLN	2.4
19	C7	68	GLY	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
21	C9	120	GLY	2.4
29	D7	66	PRO	2.4
36	1	1952	G	2.4
49	m3	130	GLY	2.4
45	l8	34	PHE	2.4
4	S2	144	TRP	2.4
19	c7	78	ARG	2.4
47	m0	221	ALA	2.4
51	m5	111	ALA	2.4
24	d2	27	ILE	2.4
36	5	1265	U	2.4
3	s1	231	LEU	2.4
18	C6	75	VAL	2.4
18	c6	39	VAL	2.4
27	D5	65	LEU	2.4
48	M1	48	SER	2.4
18	c6	130	GLY	2.4
48	M1	27	GLY	2.4
51	m5	60	VAL	2.4
56	n0	138	GLN	2.4
1	6	39	A	2.4
1	6	138	A	2.4
12	C0	64	TYR	2.4
34	sR	203	THR	2.4
35	sM	60	ALA	2.4
35	sM	69	ARG	2.4
49	M3	92	THR	2.4
11	S9	129	ILE	2.4
11	s9	140	ILE	2.4
12	c0	43	ILE	2.4
20	C8	23	ASP	2.4
36	1	3286	G	2.4
22	d0	88	LYS	2.4
48	M1	142	LYS	2.4
63	N7	21	LYS	2.4
17	C5	105	VAL	2.4
34	SR	192	PHE	2.4
42	L5	63	GLN	2.4
36	1	1275	C	2.4
76	Q0	106	ARG	2.4
10	S8	139	ALA	2.4
19	c7	18	GLU	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
70	O4	25	THR	2.4
8	s6	89	ASP	2.4
15	C3	25	TRP	2.4
61	n5	82	LEU	2.4
70	O4	65	VAL	2.4
21	c9	23	GLN	2.4
36	5	2573	G	2.4
58	n2	97	SER	2.4
7	s5	106	LYS	2.4
12	c0	74	GLU	2.4
35	SM	39	PRO	2.4
48	M1	118	PRO	2.4
1	6	1705	C	2.4
8	s6	78	THR	2.4
14	c2	38	HIS	2.4
16	c4	91	THR	2.4
20	c8	137	HIS	2.4
34	SR	32	LEU	2.4
34	SR	81	LEU	2.4
34	sR	23	LEU	2.4
80	e0	49	LEU	2.4
1	6	1227	A	2.3
5	S3	224	ASP	2.3
15	c3	8	GLY	2.3
20	C8	70	VAL	2.3
42	l5	213	ASP	2.3
55	M9	74	ARG	2.3
2	S0	30	GLN	2.3
1	6	1687	U	2.3
10	S8	53	LYS	2.3
24	D2	18	GLU	2.3
61	n5	92	LYS	2.3
3	s1	171	ILE	2.3
14	C2	104	ALA	2.3
18	C6	124	PRO	2.3
36	5	1354	G	2.3
45	l8	46	LEU	2.3
48	M1	65	ILE	2.3
8	s6	195	VAL	2.3
18	c6	70	THR	2.3
34	SR	99	THR	2.3
35	sM	29	ASN	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
18	c6	73	GLY	2.3
20	c8	53	ASP	2.3
49	M3	130	GLY	2.3
71	O5	64	GLU	2.3
1	6	1473	U	2.3
33	e1	104	SER	2.3
36	5	252	U	2.3
45	L8	130	TYR	2.3
11	S9	105	LEU	2.3
8	S6	144	PHE	2.3
17	c5	128	HIS	2.3
18	C6	22	VAL	2.3
29	D7	35	VAL	2.3
18	c6	14	LYS	2.3
19	C7	59	LYS	2.3
29	D7	72	LYS	2.3
34	sR	71	CYS	2.3
61	n5	71	THR	2.3
20	C8	112	ASP	2.3
6	S4	65	LEU	2.3
8	s6	88	ARG	2.3
14	c2	46	ARG	2.3
14	c2	72	ILE	2.3
20	C8	31	ALA	2.3
34	SR	43	ILE	2.3
51	m5	148	TYR	2.3
66	O0	35	ARG	2.3
66	o0	10	ILE	2.3
74	o8	48	SER	2.3
8	s6	144	PHE	2.3
24	D2	73	GLY	2.3
30	d8	44	VAL	2.3
58	n2	13	LYS	2.3
82	p0	84	VAL	2.3
14	C2	80	ASN	2.3
32	E0	48	THR	2.3
42	L5	209	GLU	2.3
82	p0	83	ASN	2.3
27	D5	99	ALA	2.3
34	sR	212	ALA	2.3
36	1	1239	C	2.3
42	l5	12	TYR	2.3

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Mol	Chain	Res	Type	RSRZ
42	l5	290	ILE	2.3
2	S0	77	SER	2.3
2	s0	73	VAL	2.3
2	s0	114	SER	2.3
5	s3	137	VAL	2.3
10	S8	160	PHE	2.3
17	c5	86	VAL	2.3
27	d5	97	LYS	2.3
42	L5	144	VAL	2.3
48	m1	130	VAL	2.3
74	O8	21	LYS	2.3
1	2	140	A	2.3
36	1	979	U	2.3
4	S2	232	GLU	2.3
21	C9	49	ASP	2.3
31	d9	34	TYR	2.3
49	m3	93	ILE	2.3
79	q3	92	ALA	2.3
1	2	1096	C	2.3
1	2	279	G	2.3
9	s7	63	PRO	2.3
63	n7	24	VAL	2.3
67	o1	109	VAL	2.3
18	C6	76	SER	2.3
65	n9	31	SER	2.3
82	p0	35	SER	2.3
82	p0	66	PHE	2.3
1	2	144	U	2.3
28	D6	89	ARG	2.3
36	5	3319	U	2.3
48	M1	9	MET	2.3
8	S6	76	LEU	2.3
8	S6	223	LYS	2.3
9	S7	72	LYS	2.3
10	s8	200	LYS	2.3
21	c9	101	ASN	2.3
48	m1	120	ILE	2.3
71	O5	120	ALA	2.3
82	p0	107	ALA	2.3
35	SM	12	VAL	2.3
61	n5	110	VAL	2.3
10	S8	73	SER	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
22	d0	57	ARG	2.3
47	m0	211	ARG	2.3
5	S3	185	LYS	2.3
21	C9	67	MET	2.3
1	2	1584	G	2.3
10	S8	67	TRP	2.3
19	c7	83	GLN	2.3
31	D9	20	GLN	2.3
36	1	2538	U	2.3
49	m3	137	GLN	2.3
21	C9	94	ILE	2.3
1	6	1693	A	2.3
36	1	550	A	2.3
57	N1	77	ASN	2.3
2	S0	206	ASP	2.3
3	s1	104	ASP	2.3
18	c6	120	ASP	2.3
48	M1	69	VAL	2.3
4	s2	91	ARG	2.3
82	p0	184	GLY	2.3
35	SM	38	PRO	2.3
10	S8	176	SER	2.3
42	l5	10	SER	2.3
48	M1	145	LYS	2.3
59	n3	2	SER	2.3
63	n7	116	LYS	2.3
76	Q0	128	LYS	2.3
1	2	1683	C	2.3
1	6	682	C	2.3
11	S9	110	GLN	2.3
11	s9	110	GLN	2.3
45	l8	152	LEU	2.3
56	N0	144	LEU	2.3
63	n7	5	LEU	2.3
19	C7	38	ILE	2.3
22	D0	65	ILE	2.3
4	s2	118	ALA	2.3
7	S5	78	ALA	2.3
7	S5	82	PHE	2.3
7	s5	36	ALA	2.3
33	e1	102	VAL	2.3
34	sR	262	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
1	2	235	G	2.3
19	c7	64	GLY	2.3
20	c8	124	GLY	2.3
21	C9	87	GLY	2.3
27	D5	87	GLY	2.3
48	m1	70	THR	2.3
34	sR	137	LYS	2.3
36	1	1222	G	2.3
48	m1	135	GLY	2.3
2	s0	151	SER	2.3
67	O1	97	LEU	2.3
10	s8	38	ILE	2.3
17	C5	127	ARG	2.3
18	c6	85	ILE	2.3
63	n7	25	ILE	2.3
70	O4	93	PHE	2.3
1	2	710	U	2.3
11	S9	38	ASN	2.3
24	D2	21	GLY	2.3
29	D7	22	LYS	2.3
36	1	2685	C	2.3
22	D0	46	GLU	2.3
48	M1	25	GLU	2.3
63	N7	90	GLU	2.3
71	O5	11	THR	2.3
15	C3	4	MET	2.3
1	2	175	G	2.3
1	6	1719	A	2.3
34	sR	145	LEU	2.3
28	D6	92	ARG	2.3
29	D7	17	ARG	2.3
36	1	1949	G	2.3
4	S2	87	GLN	2.3
8	S6	53	SER	2.3
42	L5	65	ILE	2.3
24	D2	62	VAL	2.3
60	n4	134	GLN	2.3
78	Q2	99	GLN	2.3
17	C5	100	LYS	2.3
60	N4	77	LYS	2.3
11	S9	27	GLU	2.3
21	C9	82	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
62	n6	38	GLU	2.3
73	o7	23	GLY	2.3
20	C8	20	THR	2.3
34	sR	273	ASP	2.3
36	5	1267	U	2.3
36	5	3277	U	2.3
3	s1	86	LEU	2.3
3	s1	218	LEU	2.3
9	S7	107	ARG	2.3
19	C7	22	PRO	2.3
63	N7	135	ARG	2.3
82	p0	42	ARG	2.3
63	n7	73	LYS	2.3
7	s5	134	VAL	2.3
14	C2	101	ALA	2.3
18	C6	112	TYR	2.3
18	c6	74	HIS	2.3
7	s5	144	GLU	2.2
66	o0	8	GLU	2.2
3	s1	47	LEU	2.2
7	S5	112	ARG	2.2
19	C7	55	THR	2.2
21	C9	134	ARG	2.2
4	S2	46	LYS	2.2
7	s5	203	LYS	2.2
42	L5	55	PHE	2.2
4	s2	105	GLY	2.2
14	C2	64	SER	2.2
27	D5	61	SER	2.2
59	N3	2	SER	2.2
61	N5	128	ALA	2.2
62	n6	110	HIS	2.2
66	o0	9	SER	2.2
1	2	225	A	2.2
1	2	1346	A	2.2
14	C2	95	LYS	2.2
24	D2	11	LEU	2.2
34	SR	117	LYS	2.2
24	D2	83	ILE	2.2
33	E1	115	THR	2.2
34	sR	316	MET	2.2
45	L8	92	LYS	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
55	M9	188	ASP	2.2
1	2	742	U	2.2
1	2	912	U	2.2
11	s9	169	PRO	2.2
12	c0	55	VAL	2.2
15	C3	23	PRO	2.2
15	C3	26	PHE	2.2
15	C3	33	VAL	2.2
35	SM	52	PRO	2.2
62	N6	95	VAL	2.2
1	2	1338	C	2.2
3	s1	92	GLN	2.2
8	s6	150	GLU	2.2
21	c9	98	GLY	2.2
35	SM	58	GLU	2.2
35	SM	141	ALA	2.2
45	l8	104	GLU	2.2
56	n0	102	ALA	2.2
62	n6	43	TYR	2.2
78	q2	105	GLN	2.2
6	S4	256	ARG	2.2
11	s9	132	ARG	2.2
27	d5	95	HIS	2.2
33	E1	104	SER	2.2
3	s1	110	LEU	2.2
8	S6	93	LYS	2.2
48	M1	115	LYS	2.2
62	n6	126	LEU	2.2
78	Q2	104	LEU	2.2
2	s0	49	ASN	2.2
26	D4	7	ILE	2.2
31	D9	52	PHE	2.2
36	1	551	A	2.2
16	c4	79	VAL	2.2
30	d8	47	PRO	2.2
34	SR	20	VAL	2.2
34	sR	240	VAL	2.2
1	2	810	G	2.2
2	S0	166	GLY	2.2
3	s1	74	GLN	2.2
10	S8	80	GLY	2.2
17	C5	17	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
34	sR	257	ALA	2.2
36	5	1630	U	2.2
42	L5	87	GLY	2.2
51	m5	63	ARG	2.2
82	p0	37	GLN	2.2
11	S9	16	LYS	2.2
63	N7	133	LYS	2.2
5	s3	160	SER	2.2
21	c9	22	LEU	2.2
34	sR	85	TRP	2.2
36	1	1238	C	2.2
70	O4	55	SER	2.2
2	S0	144	ILE	2.2
5	s3	158	ILE	2.2
17	c5	85	ILE	2.2
31	D9	6	VAL	2.2
34	sR	136	ILE	2.2
1	2	492	A	2.2
2	S0	112	THR	2.2
3	s1	190	PRO	2.2
8	s6	80	ASN	2.2
39	L2	142	ASP	2.2
55	m9	51	VAL	2.2
10	s8	42	ARG	2.2
9	S7	101	LYS	2.2
12	C0	24	LYS	2.2
18	c6	71	GLY	2.2
20	C8	138	THR	2.2
29	D7	27	GLY	2.2
36	5	1103	A	2.2
49	m3	79	GLU	2.2
51	m5	53	TYR	2.2
55	m9	184	LEU	2.2
67	O1	20	LEU	2.2
1	6	1412	G	2.2
26	D4	2	SER	2.2
36	5	3290	G	2.2
36	5	3278	C	2.2
2	s0	165	ARG	2.2
7	S5	24	VAL	2.2
49	M3	46	ILE	2.2
2	S0	134	LYS	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
10	s8	80	GLY	2.2
18	C6	47	LYS	2.2
18	c6	40	GLU	2.2
19	C7	76	GLU	2.2
7	S5	129	PRO	2.2
11	s9	144	PRO	2.2
33	e1	106	TYR	2.2
51	m5	145	ASP	2.2
14	c2	53	THR	2.2
42	l5	294	ALA	2.2
44	L7	23	ALA	2.2
75	O9	32	ASN	2.2
5	S3	218	LEU	2.2
36	1	1241	U	2.2
36	1	2100	A	2.2
3	s1	169	SER	2.2
22	d0	89	ARG	2.2
26	D4	60	PHE	2.2
17	c5	94	VAL	2.2
30	d8	65	ARG	2.2
45	L8	253	SER	2.2
51	m5	118	SER	2.2
63	N7	24	VAL	2.2
63	N7	113	VAL	2.2
57	n1	73	GLY	2.2
82	p0	17	GLU	2.2
1	6	942	G	2.2
5	S3	205	ALA	2.2
8	s6	172	ALA	2.2
17	C5	115	TYR	2.2
21	C9	62	ALA	2.2
21	c9	47	PRO	2.2
42	L5	147	ASP	2.2
63	N7	18	TYR	2.2
48	M1	43	GLN	2.2
72	o6	69	ALA	2.2
11	S9	24	LEU	2.2
11	S9	99	LEU	2.2
5	s3	150	MET	2.2
7	s5	90	ILE	2.2
8	S6	74	LYS	2.2
10	S8	142	LYS	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
12	c0	25	LYS	2.2
24	d2	22	LYS	2.2
42	L5	24	ARG	2.2
42	l5	203	HIS	2.2
48	m1	16	LYS	2.2
61	n5	100	LYS	2.2
63	n7	131	PHE	2.2
82	p0	7	LYS	2.2
18	C6	69	VAL	2.2
45	l8	116	VAL	2.2
2	S0	105	GLY	2.2
48	M1	15	GLU	2.2
59	N3	3	GLY	2.2
7	s5	159	ALA	2.2
21	c9	66	TYR	2.2
5	s3	199	PRO	2.2
10	s8	33	PRO	2.2
20	c8	23	ASP	2.2
52	m6	63	ALA	2.2
55	m9	189	ALA	2.2
82	p0	106	ALA	2.2
21	C9	76	LEU	2.2
28	D6	65	PRO	2.2
36	5	1582	C	2.2
57	N1	85	LEU	2.2
67	O1	16	LEU	2.2
34	sR	41	THR	2.2
48	M1	95	ASN	2.2
42	l5	16	PHE	2.2
2	s0	195	TRP	2.2
16	C4	80	HIS	2.2
27	d5	54	VAL	2.2
34	SR	189	GLU	2.2
34	sR	138	GLY	2.2
36	5	2505	U	2.2
42	L5	216	GLU	2.2
67	o1	83	GLU	2.2
20	C8	43	SER	2.2
46	L9	3	TYR	2.2
65	N9	29	TYR	2.2
72	o6	51	SER	2.2
8	S6	100	ALA	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	S9	118	LEU	2.2
18	C6	3	ALA	2.2
21	c9	107	ALA	2.2
48	M1	40	LEU	2.2
49	m3	54	LEU	2.2
55	M9	44	LEU	2.2
16	C4	92	LYS	2.2
18	C6	87	LYS	2.2
22	d0	59	PRO	2.2
33	E1	92	LYS	2.2
35	sM	39	PRO	2.2
42	l5	215	ASP	2.2
70	O4	31	ARG	2.2
4	S2	66	PHE	2.2
6	S4	18	TRP	2.2
8	s6	91	GLU	2.2
10	S8	46	VAL	2.2
11	S9	113	VAL	2.2
13	C1	25	VAL	2.2
21	C9	115	GLU	2.2
24	D2	53	ILE	2.2
34	SR	211	ILE	2.2
36	1	548	G	2.2
1	6	240	U	2.2
2	S0	75	ALA	2.2
3	S1	227	ALA	2.2
6	s4	24	SER	2.2
11	s9	109	LEU	2.2
12	c0	66	TYR	2.2
20	C8	110	ARG	2.2
24	D2	4	SER	2.2
42	L5	83	LEU	2.2
50	M4	60	LEU	2.2
67	O1	99	ALA	2.2
3	S1	220	GLN	2.2
18	c6	51	PRO	2.2
2	s0	170	ILE	2.2
2	s0	173	ILE	2.2
3	s1	134	VAL	2.2
3	s1	140	ILE	2.2
4	S2	178	ILE	2.2
14	c2	99	GLU	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
58	n2	87	ASN	2.2
63	n7	74	VAL	2.2
67	o1	75	ILE	2.2
76	q0	79	GLU	2.2
11	S9	124	HIS	2.2
6	S4	56	LEU	2.2
8	s6	187	LYS	2.2
12	c0	5	LYS	2.2
37	7	73	C	2.2
18	C6	54	LEU	2.2
24	D2	13	ALA	2.2
26	d4	130	ALA	2.2
48	M1	76	ALA	2.2
1	2	64	U	2.2
36	1	549	U	2.2
36	1	3352	U	2.2
48	M1	45	PRO	2.2
7	S5	168	VAL	2.2
35	sM	61	ILE	2.2
57	N1	72	VAL	2.2
1	2	1526	A	2.2
7	S5	169	ASN	2.2
17	C5	103	ASN	2.2
18	c6	17	THR	2.2
18	c6	131	GLY	2.2
28	D6	82	ARG	2.2
48	M1	141	ARG	2.2
48	M1	152	HIS	2.2
48	m1	139	THR	2.2
60	N4	94	ARG	2.2
74	O8	24	THR	2.2
76	Q0	83	LYS	2.2
7	s5	194	LEU	2.1
8	S6	178	LEU	2.1
34	SR	183	LEU	2.1
34	sR	73	LEU	2.1
61	n5	24	LEU	2.1
63	n7	80	LEU	2.1
34	SR	78	ALA	2.1
26	D4	119	PHE	2.1
36	1	2572	C	2.1
36	1	1950	U	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
42	L5	17	GLN	2.1
67	o1	76	SER	2.1
3	S1	229	MET	2.1
4	S2	86	VAL	2.1
14	C2	82	PRO	2.1
11	s9	151	ASP	2.1
19	c7	66	VAL	2.1
48	M1	143	ARG	2.1
57	N1	75	ILE	2.1
6	s4	22	LYS	2.1
7	S5	87	CYS	2.1
29	d7	22	LYS	2.1
61	n5	25	LYS	2.1
3	S1	101	HIS	2.1
7	s5	175	LEU	2.1
7	s5	74	ALA	2.1
9	S7	142	TYR	2.1
34	sR	25	THR	2.1
48	M1	91	LEU	2.1
2	S0	107	PHE	2.1
4	s2	87	GLN	2.1
4	S2	45	VAL	2.1
8	S6	187	LYS	2.1
11	s9	152	SER	2.1
11	s9	174	ARG	2.1
17	c5	73	PRO	2.1
20	C8	46	VAL	2.1
20	c8	22	VAL	2.1
24	D2	57	ARG	2.1
28	D6	98	PRO	2.1
36	5	1562	C	2.1
39	l2	143	GLU	2.1
45	L8	67	ILE	2.1
48	M1	86	VAL	2.1
48	m1	41	SER	2.1
50	M4	5	SER	2.1
55	m9	165	LYS	2.1
63	N7	25	ILE	2.1
1	2	260	U	2.1
1	2	472	U	2.1
1	6	794	U	2.1
35	SM	101	ASP	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
70	O4	78	GLY	2.1
11	S9	80	LEU	2.1
58	n2	89	LEU	2.1
7	s5	44	ASN	2.1
11	S9	56	ALA	2.1
19	C7	126	ALA	2.1
28	D6	67	THR	2.1
33	e1	148	TYR	2.1
42	L5	93	THR	2.1
50	M4	9	ALA	2.1
1	6	754	A	2.1
4	s2	84	LYS	2.1
11	S9	179	ARG	2.1
22	D0	83	GLU	2.1
30	d8	67	ARG	2.1
32	E0	33	ARG	2.1
65	N9	23	LYS	2.1
18	c6	55	VAL	2.1
23	d1	39	VAL	2.1
58	n2	17	VAL	2.1
5	s3	211	PRO	2.1
17	C5	51	SER	2.1
29	d7	38	PRO	2.1
67	O1	76	SER	2.1
73	o7	84	SER	2.1
1	2	959	U	2.1
1	6	1413	U	2.1
1	6	1703	C	2.1
6	S4	79	ASP	2.1
6	s4	12	LEU	2.1
31	D9	36	LEU	2.1
32	E0	39	LEU	2.1
42	l5	214	ASP	2.1
42	l5	234	ASP	2.1
67	O1	51	LEU	2.1
48	m1	147	THR	2.1
62	n6	113	LYS	2.1
82	p0	294	ALA	2.1
2	S0	47	VAL	2.1
2	s0	86	VAL	2.1
5	s3	217	ILE	2.1
20	C8	28	ILE	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
21	c9	51	GLU	2.1
71	o5	104	GLN	2.1
1	2	1048	G	2.1
1	6	34	G	2.1
10	s8	177	GLY	2.1
14	C2	134	SER	2.1
30	d8	24	GLY	2.1
36	1	2687	G	2.1
49	M3	133	PRO	2.1
54	m8	154	GLY	2.1
1	2	1340	U	2.1
1	6	1398	U	2.1
2	S0	88	LYS	2.1
12	c0	54	TYR	2.1
18	C6	49	TYR	2.1
36	1	1574	C	2.1
36	5	1351	U	2.1
36	5	2570	U	2.1
55	m9	42	ARG	2.1
62	n6	89	LYS	2.1
67	o1	10	ARG	2.1
6	s4	81	THR	2.1
9	S7	95	GLU	2.1
10	S8	187	GLU	2.1
17	C5	70	ASN	2.1
22	d0	91	ILE	2.1
28	D6	18	VAL	2.1
42	L5	32	GLN	2.1
57	N1	74	VAL	2.1
82	p0	28	VAL	2.1
7	s5	93	LEU	2.1
48	M1	100	GLY	2.1
9	S7	132	PRO	2.1
34	SR	102	ARG	2.1
34	sR	117	LYS	2.1
35	sM	40	PRO	2.1
46	L9	137	SER	2.1
48	m1	45	PRO	2.1
9	s7	104	ARG	2.1
22	d0	85	ARG	2.1
26	d4	132	ARG	2.1
62	n6	116	LYS	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
72	o6	13	LYS	2.1
1	2	1371	A	2.1
1	2	1689	A	2.1
48	M1	123	PHE	2.1
45	l8	114	ALA	2.1
65	n9	29	TYR	2.1
1	2	461	G	2.1
2	S0	46	HIS	2.1
27	d5	82	HIS	2.1
36	5	1266	G	2.1
3	s1	189	ILE	2.1
12	c0	11	ILE	2.1
14	C2	91	VAL	2.1
17	C5	82	ASN	2.1
29	D7	67	THR	2.1
45	l8	137	ASN	2.1
10	S8	37	LYS	2.1
10	S8	135	LYS	2.1
35	sM	33	LYS	2.1
45	l8	26	LEU	2.1
63	n7	133	LYS	2.1
2	S0	81	PHE	2.1
8	s6	86	PRO	2.1
3	s1	155	TYR	2.1
21	C9	5	SER	2.1
12	c0	71	GLU	2.1
15	C3	24	ALA	2.1
24	D2	8	ALA	2.1
3	S1	150	VAL	2.1
32	E0	47	VAL	2.1
70	o4	96	GLU	2.1
1	6	1370	U	2.1
18	c6	65	ILE	2.1
70	o4	54	ILE	2.1
1	2	871	G	2.1
1	6	1445	G	2.1
3	S1	85	LYS	2.1
3	s1	55	LYS	2.1
6	S4	44	LEU	2.1
9	S7	97	ARG	2.1
10	S8	64	ASN	2.1
11	S9	49	LEU	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
11	s9	170	GLY	2.1
15	C3	3	ARG	2.1
18	c6	139	GLN	2.1
20	C8	25	ASN	2.1
20	C8	130	GLY	2.1
21	C9	140	LEU	2.1
28	d6	69	ASN	2.1
36	5	2575	G	2.1
46	L9	188	THR	2.1
57	n1	23	GLY	2.1
60	n4	87	LEU	2.1
62	n6	81	GLN	2.1
5	s3	220	PRO	2.1
63	n7	130	PHE	2.1
34	sR	239	GLU	2.1
35	sM	28	SER	2.1
68	o2	93	ALA	2.1
6	S4	12	LEU	2.1
7	S5	46	TRP	2.1
8	s6	191	ARG	2.1
10	S8	72	ILE	2.1
20	c8	133	VAL	2.1
45	l8	111	LYS	2.1
21	C9	28	LEU	2.1
68	o2	4	LEU	2.1
1	6	1526	A	2.1
36	5	1273	A	2.1
52	M6	50	ASN	2.1
1	2	1332	C	2.1
23	d1	42	GLU	2.1
42	L5	31	TYR	2.1
43	l6	11	PRO	2.1
5	S3	215	GLU	2.1
48	M1	63	GLU	2.1
3	s1	91	VAL	2.1
7	S5	113	ILE	2.1
11	s9	143	ILE	2.1
14	C2	116	VAL	2.1
27	d5	41	ILE	2.1
35	sM	51	ARG	2.1
48	M1	64	LYS	2.1
62	N6	108	LYS	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
82	p0	75	LYS	2.1
10	s8	44	HIS	2.1
18	C6	44	LEU	2.1
28	D6	17	HIS	2.1
63	n7	45	GLY	2.1
14	c2	34	THR	2.1
45	L8	33	ASN	2.1
28	D6	32	LYS	2.1
28	D6	73	TYR	2.1
5	s3	206	VAL	2.1
7	S5	133	VAL	2.1
22	d0	56	VAL	2.1
22	d0	114	VAL	2.1
33	E1	98	VAL	2.1
45	L8	210	ALA	2.1
67	O1	10	ARG	2.1
3	s1	130	SER	2.1
19	c7	50	ILE	2.1
36	1	1283	C	2.1
6	S4	107	GLY	2.1
11	S9	97	LEU	2.1
12	C0	40	LEU	2.1
12	C0	53	GLY	2.1
14	c2	62	LEU	2.1
45	L8	121	SER	2.1
45	l8	28	HIS	2.1
51	m5	152	CYS	2.1
70	O4	33	GLN	2.1
82	p0	73	PHE	2.1
1	6	1059	U	2.1
7	S5	95	ASN	2.1
10	S8	48	THR	2.1
11	S9	126	ARG	2.1
11	s9	153	GLU	2.1
48	M1	49	LYS	2.1
16	c4	31	THR	2.1
17	c5	50	THR	2.1
22	D0	71	PRO	2.1
22	d0	31	VAL	2.1
28	d6	63	ALA	2.1
34	SR	201	THR	2.1
2	S0	29	VAL	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
16	C4	121	VAL	2.1
17	c5	87	PRO	2.1
36	1	2509	U	2.1
1	2	1410	A	2.1
4	S2	41	LEU	2.1
9	S7	93	LEU	2.1
16	c4	105	LEU	2.1
62	n6	35	LEU	2.1
1	6	1248	C	2.1
1	6	1481	C	2.1
6	s4	41	SER	2.1
48	M1	151	SER	2.1
11	S9	131	GLN	2.0
42	L5	234	ASP	2.1
2	s0	84	ARG	2.0
70	O4	99	LYS	2.0
2	s0	20	ALA	2.0
1	6	1340	U	2.0
8	S6	157	VAL	2.0
20	C8	102	ALA	2.0
29	d7	54	VAL	2.0
36	1	250	U	2.0
36	1	1015	U	2.0
42	L5	53	VAL	2.0
42	L5	78	ALA	2.0
38	8	158	U	2.0
51	m5	43	THR	2.0
2	S0	120	LEU	2.0
2	s0	76	ILE	2.0
9	S7	99	LEU	2.0
21	C9	79	LEU	2.0
51	m5	45	PRO	2.0
42	L5	201	GLY	2.0
51	m5	52	GLY	2.0
62	N6	30	LEU	2.0
10	S8	54	LYS	2.0
10	s8	53	LYS	2.0
42	l5	9	SER	2.0
63	N7	64	LYS	2.0
42	l5	137	ASP	2.0
73	O7	87	SER	2.0
54	M8	74	GLU	2.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
12	C0	22	VAL	2.0
18	C6	86	ALA	2.0
42	l5	207	TYR	2.0
67	O1	67	VAL	2.0
7	s5	140	THR	2.0
1	6	1607	G	2.0
2	S0	82	GLY	2.0
20	C8	76	PRO	2.0
33	E1	103	LEU	2.0
6	s4	245	LYS	2.0
18	c6	26	LYS	2.0
36	1	1525	G	2.0
76	q0	83	LYS	2.0
6	s4	39	ARG	2.0
28	D6	5	ARG	2.0
45	L8	246	MET	2.0
77	Q1	17	ARG	2.0
7	s5	145	ASP	2.0
11	S9	157	ASP	2.0
23	d1	41	GLU	2.0
33	e1	146	SER	2.0
34	sR	171	SER	2.0
42	L5	213	ASP	2.0
1	2	474	A	2.0
1	6	1527	C	2.0
2	S0	19	ALA	2.0
4	S2	249	ALA	2.0
16	C4	74	VAL	2.0
18	c6	7	VAL	2.0
21	c9	73	VAL	2.0
22	D0	51	VAL	2.0
24	D2	129	VAL	2.0
28	D6	62	TYR	2.0
31	d9	14	TYR	2.0
5	S3	157	LEU	2.0
9	S7	124	LYS	2.0
16	c4	110	LEU	2.0
21	c9	75	LYS	2.0
31	D9	38	ILE	2.0
33	E1	100	LEU	2.0
36	1	1562	C	2.0
48	m1	49	LYS	2.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
61	n5	121	LYS	2.0
62	N6	97	ILE	2.0
63	n7	72	ILE	2.0
48	M1	140	ARG	2.0
59	n3	3	GLY	2.0
66	O0	38	LYS	2.0
6	S4	252	ARG	2.0
23	D1	75	ASN	2.0
39	l2	72	ARG	2.0
78	Q2	36	PHE	2.0
1	6	1604	U	2.0
34	sR	177	MET	2.0
66	o0	55	GLU	2.0
10	S8	116	HIS	2.0
10	S8	155	SER	2.0
21	c9	64	HIS	2.0
34	sR	120	SER	2.0
57	N1	18	ASP	2.0
10	S8	148	ALA	2.0
11	S9	36	LEU	2.0
11	s9	108	ARG	2.0
12	c0	15	LEU	2.0
15	C3	59	GLY	2.0
18	c6	143	ARG	2.0
19	C7	73	LEU	2.0
22	d0	53	LYS	2.0
29	D7	36	LYS	2.0
34	sR	292	LEU	2.0
57	N1	60	LYS	2.0
67	o1	18	LYS	2.0
70	O4	75	ALA	2.0
77	Q1	14	LYS	2.0
1	6	1217	A	2.0
35	sM	48	ARG	2.0
48	M1	94	ARG	2.0
60	N4	93	ARG	2.0
63	n7	20	GLY	2.0
1	2	962	C	2.0
1	6	1399	C	2.0
9	S7	63	PRO	2.0
5	s3	134	CYS	2.0
34	sR	130	THR	2.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
48	M1	154	THR	2.0
61	N5	91	ASN	2.0
60	n4	99	GLU	2.0
1	6	75	U	2.0
1	6	1232	U	2.0
6	s4	10	LYS	2.0
19	C7	110	VAL	2.0
2	S0	17	LEU	2.0
2	S0	65	ALA	2.0
3	S1	96	LEU	2.0
10	s8	40	ALA	2.0
12	c0	41	TYR	2.0
32	E0	50	VAL	2.0
30	d8	33	LEU	2.0
31	D9	25	SER	2.0
35	sM	64	LYS	2.0
48	M1	68	HIS	2.0
61	N5	124	VAL	2.0
11	S9	140	ILE	2.0
20	c8	119	ILE	2.0
21	C9	113	ILE	2.0
21	c9	86	ARG	2.0
21	c9	108	LEU	2.0
28	d6	44	ILE	2.0
34	sR	243	LEU	2.0
62	N6	94	SER	2.0
61	N5	30	ALA	2.0
63	N7	77	TYR	2.0
65	n9	27	TYR	2.0
69	o3	60	ARG	2.0
76	Q0	121	LEU	2.0
1	6	1484	G	2.0
48	M1	135	GLY	2.0
1	6	1516	A	2.0
3	S1	103	MET	2.0
14	C2	49	THR	2.0
17	C5	28	MET	2.0
8	s6	131	LYS	2.0
17	C5	9	LYS	2.0
19	c7	25	THR	2.0
62	N6	127	GLU	2.0
42	l5	5	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
71	o5	115	LYS	2.0
2	S0	86	VAL	2.0
2	s0	149	LEU	2.0
6	S4	38	LEU	2.0
11	S9	136	VAL	2.0
14	C2	123	VAL	2.0
17	c5	105	VAL	2.0
19	c7	9	VAL	2.0
19	c7	21	TYR	2.0
20	c8	45	LEU	2.0
43	l6	15	VAL	2.0
51	m5	135	VAL	2.0
60	n4	109	LEU	2.0
64	N8	73	LEU	2.0
66	o0	59	TYR	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
85	8AN	C	76	22/23	0.97	0.24	34,34,34,34	0
85	8AN	D	76	22/23	0.97	0.22	32,33,34,35	0

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
86	ZN	D7	101	1/1	0.27	0.18	165,165,165,165	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
86	ZN	d7	101	1/1	0.80	0.20	148,148,148,148	0
86	ZN	E1	501	1/1	0.90	0.12	155,155,155,155	0
88	MG	C	3402	1/1	0.90	0.40	34,34,34,34	0
86	ZN	e1	501	1/1	0.92	0.15	200,200,200,200	0
87	SPS	D	3401	23/23	0.94	0.28	29,32,45,48	0
86	ZN	D6	500	1/1	0.94	0.12	88,88,88,88	0
86	ZN	q2	501	1/1	0.95	0.08	72,72,72,72	0
87	SPS	C	3401	23/23	0.95	0.24	29,32,46,48	0
88	MG	D	3402	1/1	0.95	0.38	33,33,33,33	0
86	ZN	Q2	501	1/1	0.97	0.08	75,75,75,75	0
86	ZN	Q0	500	1/1	0.97	0.16	46,46,46,46	0
86	ZN	d9	101	1/1	0.97	0.14	85,85,85,85	0
86	ZN	D9	101	1/1	0.98	0.11	85,85,85,85	0
86	ZN	d6	500	1/1	0.98	0.14	57,57,57,57	0
86	ZN	q3	501	1/1	0.99	0.20	60,60,60,60	0
86	ZN	Q3	501	1/1	0.99	0.16	66,66,66,66	0
86	ZN	o7	501	1/1	0.99	0.18	46,46,46,46	0
86	ZN	q0	500	1/1	0.99	0.15	38,38,38,38	0
86	ZN	O7	100	1/1	0.99	0.15	44,44,44,44	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.